TI 4100.24

FAA GENERAL MAINTENANCE MANUAL

AVIATION SYSTEM STANDARDS

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RECORD OF CHANGES

DIRECTIVE NO. **TI 4100.24**

Keep your directives current. After filing revised pages and removing obsolete pages, initial and date the block following the change number. Request any missing changes from your central distribution point.

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CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TI 4100.24
CHANGE 30

SUBJ: AVN General Maintenance Manual (GMM)

Change 30 provides clarity for certain paragraphs and procedures regarding the Aviation System Standards Maintenance Program.

The List of Effective Pages is updated.

The Master Table of Contents is updated.

The Alphabetical Index is updated.

The Glossary of Terms is updated to change "METRACK" to "Electronic Database".

The Chapter I Table of Contents is updated.

Chapter I, Section 6, paragraph B, is revised to add the Challenger CL-601 aircraft (TI 4109) and the Challenger CL-604 aircraft (TI 4102). Paragraph F is revised to change "METRACK" to "the electronic database".

The Chapter III Table of Contents is updated.

Chapter III, Section 17, paragraph C, is revised to change "FAA Logistics Center (AML)" to "Raytheon Aircraft Parts Inventory and Distribution Company (RAPID)".

Chapter III, Section 21, paragraph J, is revised to include VN Forms 4100-108 and 4100-109 to the work package and to delete the paragraph reference regarding work package maintenance.

Chapter III, Section 40, paragraphs A-D, is revised to clarify the Acquisition of Aircraft Parts and Material.

Chapter III, Section 41, paragraphs C, E and F, is revised to include a definition for "LSF Stock", deletes "AML Warehouse Inventory" and inserts "LSF Stock", also changes "AML-3000" to AVN-326".

Chapter III, Section 58, paragraphs A and B, is revised to include ILM as a recipient of discrepancy severity codes.

Chapter III, Section 61, paragraph H, is revised to clarify disposition of ARR components.

Chapter III, Section 70, paragraph G, is revised to specify AVN-300 as the chairperson of the Maintenance Review Board and to clarify affected text.

Chapter III, Section 99, paragraph C, is revised to change "Met/Track" to "electronic database".

Chapter IV, Table of Contents is updated.

Chapter IV, Section 0 is revised to change "Metrack" to "Electronic Database" and to clarify OPR and AVN-328 responsibilities regarding forms.

Chapter IV, Section 27 is revised to change "Metrack" to "Electronics Database".

Chapter IV, Section 28 is revised to change "Metrack" to "Electronic Database".

Chapter IV, Section 121 is initiated for In Check Package Label, VN Form 4100-108.

Chapter IV, Section 122 is initiated for Aircraft Engine Information Label, VN Form 4100-109.

After inserting this Change, enter your initials and the date on the RECORD OF CHANGES PAGE LOCATED AT THE FRONT OF THE MANUAL. File this change notice behind the manual title page.

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Thomas D. Pickle, Director of Maintenance
Aircraft Maintenance and Engineering Division, AVN-300

LIST OF EFFECTIVE PAGES

The List of Effective Pages contains Paragraph A change numbers to the TI 4100.24 and their date of issuance and Paragraph B is a list of manual pages and their current change number. Individual page change numbers can be cross referenced to the list in Paragraph A to determine the date of change.

File this List of Effective Pages behind the Record of Changes page in the front of this Manual.

A.

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Change 06 (consolidated reprint)	04/08/94
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FOREWORD

*This FAA General Maintenance Manual establishes the framework and provides guidance for compliance with the Federal Aviation Regulations and other pertinent aviation directives.

*This Technical Issuance General Maintenance Manual represents the leading edge of aviation safety principles and provides an AVN aircraft maintenance program. This document prescribes the strategy, authority and responsibility of all features of maintenance and management. These provisions shall be applied in conjunction with the current edition of Order 4040.9, FAA Aircraft Management Program.

*The goal of AVN is to foster and achieve the highest degree of FAR compliance in all facets of AVN aircraft maintenance activities. In order to realize this goal, this manual must be strictly complied with.

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*The following abbreviations are to assist Agency personnel utilizing the electronic database and when completing maintenance forms.

A/W	Airworthy
A to D	Analog to Digital
A/C	Aircraft
A.T.	Auto Throttle
A&P	Airframe and Powerplant
AAS	Approved Alteration Station
AC	Alternating Current
ACC	Accessory
ACCEL	Accelerometer
ACCUM	Accumulator
ACFT	Aircraft
ACM	Air Cycle Machine
ACO	Aircraft Certification Office
ACT	Actuator
AD	Airworthiness Directive
ADC	Air Data Computer
ADF	Auto Direction Finder
ADI	Attitude Deviation Indicator
AFIS	Automatic Flight Inspection System
AFM	Airplane Flight Manual
AFT	Airworthiness Flight Test
AGC	Automatic Gain Control
AI	Anti-Ice
AIC	Airborne Interphone Comm
AIL	Aileron
AIRCOND	Air Conditioning
AL	Aircraft Log
ALTER	Alternate
ALTD	Altitude
ALTM	Altimeter
ALTN	Alternator
AMPMTR	Ammeter
AMB	Ambient
*AMED	Aircraft Maintenance and Engineering Division
AMP	Amplifier
ANG	Angle
ANLG	Analog

ANSKD	Anti-Skid
ANT	Antenna
AOA	Angle of Attack
AOG	Aircraft on Ground
A/P	Autopilot
APP	Approach
APU	Auxiliary Power Unit
A/S	Air Speed
ARR	Aeronautical Reliability Reports
ART	Artificial
*	
ASST	Assist
ASSY	Assembly
ASYM	Asymmetry
ATA	Airline Transport Association of America
ATC	Air Traffic Control
ATE	Automated Test Equipment
ATM	Air Turbine Motor
ATT	Attitude
AUG	Augmentation
AUTO	Automatic
AUX	Auxiliary
AV	Avionics
AVN	Aviation System Standards
AWI	Alcohol Water Injection
AWR	Airworthiness Release
BATT	Battery
BC	Bench Check
BCN	Beacon
BEW	Basic Empty Weight
BFS	Bad from Stock
BLD	Bleed
BLDAR	Bleed Air
BLK	Block
BLMTH	Bellmouth
BLR	Blower
BOW	Basic Operating Weight
BPA	Blanket Purchase Agreement
BRC	Brace

BRG	Bearing
BRK	Brake
BRKT	Bracket
BRLESS	Brushless
BSH	Brush
BST	Boost
BSTR	Booster
BT	Bench Test
BTL	Bottle
BYPAS	Bypass

C/W	Clockwise
C/P	Cabin Pressure
CAL	Calibrate or Calibration
CALIB	Calibrator
CAMP	Continuous Airworthiness Maintenance Program
CAPT	Captain
CAR	Civil Air Regulation
CARB	Carburetor
CART	Cartridge
CASP	Continuing Analysis Surveillance Program
CAT	Carburetor Air Temp
CB	Circuit Breaker
CBL	Cable
CBN	Cabin
CC	Card Control
CCW	Counterclockwise
CDI	Course Deviation Indicator
CDU	Control Display Unit
CF	Continuous Flow
CFR	Code of Federal Regulations
CG	Center of Gravity
CHAP	Chapter
CHDO	Certificate Holding District Office
CHT	Cylinder Head Temperature
CK	Check
CKPT	Cockpit
CL	Cooling
CLR	Cooler

CM	Condition Monitoring
CMO	Certificate Management Office
CMPSTR	Compensator
CNTR	Container
COM	Command
COMB	Combustion
COMM	Communication
COMMUT	Commutator
COMP	Compass
COMPR	Compressor
COMPT	Compartment
COMPTR	Comparator
CONS	Console
COND	Conducting
CONDSR	Condenser
CONN	Connect
CONT	Continuous
CONTACT	Contactor
CONVTR	Converter
COORD	Coordinator
CORR	Corrector
CPLR	Coupler
CPT	Copilot
CRG	Carriage
CRMN	Crewman
CRT	Cathode Ray Tube
CSD	Constant Speed Drive
CSHSI	Cycles Since Hot Section Inspection
CSN	Cycles Since New
CSO	Cycles Since Overhaul
CTL	Control
CTR	Center
CUR	Current
CVR	Cockpit Voice Recorder
CW	Complied With
CYC	Cycle
CYCS	Cycles
CYL	Cylinder

DAS	Designated Alteration Station
DBL	Double
DBST	Deboost
DC	Direct Current
DCT	Duct
DDL	Deferred Discrepancy List
DEC	Decrease
DEF	Deferred
DEM	Demand
DEMULPXR	Demultiplexer
DEPR	Depressurization
DER	Designated Engineering Representative
DET	Detector
DEV	Deviation
DF	Direction Finder
DI	Deice
DIFF	Differential
DIG;DIGTL	Digital
DIGIT	Digitizer
DIL	Dilution
DIR	Direct
DIRECT	Direction
DISC	Disconnect
DISCH	Discharge
DIST	Distance
DISTR	Distribution
DISTRB	Distributor
DL	Dual
DLY	Delay
DME	Distance Measuring Equipment
DMET	Distance Measuring Equipment Transmitter
DMG	Damaged
DMI	Deferred Maintenance Item
DMP	Dump
DMPR	Damper
DNLK	Downlock
DNLN	Down Line
DOT	Department of Transportation
DPLR	Doppler
DR	Door

DRG	Drag
DRM	Drum
DRN	Drain
DRV	Drive
DRVN	Driven
DRWG	Drawing
DSPLY	Display
DV	Direct Vision
DVM	Digital Voltmeter
DVTR	Diverter
DWN	Down
DYN	Dynamic

EC	Engine Change
EFIS	Electronic Flight Instrument System
EGT	Exhaust Gas Temperature
EJT	Ejector
ELEC	Electrician
ELECT	Electronic
ELEM	Element
ELEV	Elevator
ELT	Emergency Locator Transmitter
EMER	Emergency
EMPNG	Empennage
ENG	Engine
ENT	Entrance
EO	Engineering Order
EPR	Engine Pressure Ratio
EPTM	Engine Performance Trend Monitoring
EQ	Equalizer
EQUIP	Equipment
ERP	Emergency Readiness Program
ERR	Error
ESS	Essential
EST	Estimated
EVAL	Evaluation
EVAP	Evaporator
EX	Exit

EXC	Exchange
EXCGR	Exchanger
EXH	Exhaust
EXT	External
EXTG	Extinguish
EXTN	Extension

F	Fuel
F.D.	Flight Director
FAA	Federal Aviation Administration
FAAFP	Federal Aviation Administration Flight Program
FAR	Federal Aviation Regulation
FAX	Facsimile Transmission of Document
FBO	Fixed Base Operator
FC	Functional Check
FCC	Federal Communications Commission
FCD	Fleet Campaign Directive
FCU	Fuel Control Unit
FDR	Flight Data Recorder
F & E	Facilities & Equipment
FE	Flight Engineer
FEA	Feathering
FICO	Flight Inspection Central Operations
FIG	Figure
FIL	Filter
*	
FL	Failed
FLO	Flow
FLP	Flap
FLSH	Flasher
FLT	Flight
FLTDK	Flight Deck
FLTR	Flutter
FO	Flight Officer
FOD	Foreign Object Damage
FOSS	Flight Operations Scheduling Supervisor
FPC	Flight Path Computer
FPD	Freezing Point Depressant
FREQ	Frequency

FSDO	Flight Standards District Office
FT	Functional Test
FUS	Fuselage
FW	Firewall
FWD	Forward
GS	Glide Slope
GAL	Gallon(s)
GEN	Generator
GLS	Glass
GMM	General Maintenance Manual
GND	Ground
GOM	General Operating Manual
GOV	Governor
GPU	Ground Power Unit
GRBX	Gearbox
GRND	Ground
GTC	Gas Turbine Compressor
GWT	Gross Weight
HDG	Heading
HF	High Frequency
HI	High
HORIZ	Horizon
HORZ	Horizontal
HP	High Pressure
HRS	Hours
HSI	Hot Section Inspection
HT	Hard Time
HTR	Heater
HYD	Hydraulic
IAS	Indicated Air Speed
IAW	In Accordance With
INBD	Inboard
IC	Inventory Control
ICAP	Interagency Committee for Aviation Policy

IFIO	International Flight Inspection Office
IFR	Instrument Flight Rules
IFS	Integrated Flight System
IGN	Ignition
IIS	Integrated Instrument System
ILS	Instrument Landing System
IN	Inch(es)
INC	Increase
IND	Indicator
INJ	Injector
INLOCK	Interlock
INOP	Inoperative
INRPT	Interrupter
INS	Inertial Navigation System
INSP	Inspection
INST	Instrument
INT	Integrated
INTCLR	Intercooler
INTCON	Interconnect
INTPH	Interphone
INV	Inverter
INVT	Inventory
IPC	Illustrated Parts Catalog
IRAN	Inspect and Repair, as Necessary
IRU	Inertial Reference Unit
ISOL	Isolation
J Box	Junction Box
J	Junction
JET	Jettison
JIT	Jitter
JNT	Joint
KPN	Kit Part Number
KTS	Knots

LAT	Latitude
LAV	Lavatory
LDG	Landing
LDMTR	Loadmeter
LE	Leading Edge
LEFLP	Leading Edge Flap
LEP	List of Effective Pages
LG	Landing Gear
LGE	Large
LH	Left Hand
LIBD	Left Inboard
LKOUT	Lockout
LMAN	Leadman
LMS	Line Maintenance Station
LMT	Limit or Limiting
LMTR	Limiter
LNK	Link
LOBD	Left Outboard
LOC	Localizer
LONG	Longitudinal
LP	Low Pressure
LPG	Log Page
LR	Left Reserve
LRU	Line Replacement Unit
LSM	Line Station Maintenance
LSMS	Line Station Maintenance Section
LT	Left
LUBE	Lubricate/Lubrication
LWR	Lower
LVL	Level

MA	Major Alteration
MAB	Maintenance Analysis Bulletin
M.A.C.	Mean Aerodynamic Chord
MAD	Maintenance Alert Directive
MAFIS	Multiple Automatic Flight Inspection System
MAG	Magnetic
MAINT	Maintenance
MAN	Manual

MANF	Manifold
MAX	Maximum
MB	Marker Beacon
MCO	Maintenance Carry Over
MDI	Magnetic Direction Indicator
MECH	Mechanism
MEL	Minimum Equipment List
MIC	Microphone
MIN	Minimum
MIR	Mechanical Interruption Report
MIS	Mechanical Interruption Summary
MISC	Miscellaneous
MKR	Marker
MLG	Main Landing Gear
MLS	Microwave Landing System
MM	Maintenance Manual
MN	Main
MOD	Modification
MON	Monitor
MOS	Months
MPH	Miles Per Hour
MR	Major Repair
MRB	Maintenance Review Board
MRR	Mechanical Reliability Report
MSU	Mode Select Unit
MT	Mount
MTR	Motor
MULTCPLR	Multicoupler
N2	Nitrogen
N/A	Not Applicable
NAC	Nacelle
NAV	Navigation
NCU	Navigation Computer Unit
NCW	Not Complied With
NDI	Non Destructive Inspection
NDT	Non Destructive Testing
NEG	Negative
NIS	Not In Stock

NIST	National Institute of Standards & Technology
NLG	Nose Landing Gear
NORM	Normal
NOZ	Nozzle
#	Number
NR	Not Required
NRWC	Non Routine Workcard
NTS	Negative Torque Signal
NTSB	National Transportation Safety Board

O2	Oxygen
OAD	Operations Alert Directive
OAT	Outside Air Temperature
OTBD	Outboard
OBI	Omni Bearing Indicator
OBS	Omni Bearing Selector
OBSVR	Observer
OC	On Condition
*ODIR	Open Deferred Items Report
OEM	Original Equipment Manufacturer
OIC	Operations Information Center
OJT	On-the-Job Training
OOT	Out of Tolerance
OP	Operational Check
OPR	Operator
OSC	Oscillator
OSG	Overspeed Governor
OTBD	Outboard
OTS	Out of Service
OUTDCT	Outlet Duct
OUTFLO	Out Flow
OVH	Overhaul
OVHT	Overheat
OVLD	Overload
OVLT	Overvoltage
OVRD	Override
OZ	Ounce(s)

P/N	Part Number
P & D	Pressurizing and Dump
P/L	Power Lever
P.U.	Power Unit
PA	Public Address System
PAH	Parts Approval Holder
PAI	Principal Avionics Inspector
PAX	Passenger(s)
PC	Production Certificate
PCW	Previously Complied With
PDU	Plasma Display Unit
PED	Pedestal
PF	Preflight
PG	Page
PH	Phase
PIC	Pilot in Command
PICT	Pictorial
PIREP	Pilot Report
PKG	Package
PLT	Pilot
PM	Preventative Maintenance
PMA	Parts Manufacturer Approval
PMI	Principal Maintenance Inspector
PMP	Pump
PN	Panel Number
PNEU	Pneumatic
PNL	Panel
PO	Purchase Order
POO	Part On Order
PORT	Portable
POS	Position
POT	Potentiometer
PPI	Plan Position Indicator
PRESS	Pressure
PRE AMP	Preamplifier
PRGM	Program
PRI	Primary
PROP	Propeller
PRTR	Printer
PSI	Pounds per Square Inch

PT	Port
PTN	Piston
PTT	Push-to-Talk
PWR	Power
QA	Quality Assurance
QAS	Quality Assurance Specialist
QC	Quality Control
QEC	Quick Engine Change
QTY	Quantity
QUAD	Quadrant
QUP	Quantity Unit Packaging
R/R	Remove and Replace
R/D	Research and Development
R/T	Receiver/Transmitter
RAD	Radio
RAT	Ram Air Temperature
RBC	Radio Beam Coupler
RCDR	Recorder
RCVR	Receiver
RD	Relief and Dump
RDR	Radar
RECIRC	Recirculate
RECT	Rectifier
RED	Reduction
REF	Reference
REG	Regulator
REL	Release
REM	Remove
REQ	Required
RES	Reserve
RESTR	Restrictor
RET	Retract
REV	Reverse
REVCUR	Reverse Current
RFGN	Refrigeration
RFI	Radio Frequency Interference
RGN	Range

RGSTR	Register
RH	Right Hand
RHEO	Rheostat
RIBD	Right Inboard
RII	Required Inspection Item
RK	Rack
RLF	Relief
RLY	Relay
RMI	Radio Magnetic Indicator
RNAV	Area Navigation
ROBD	Right Outboard
ROC	Rate of Change
RON	Remain Overnight
RP	Replenishment
RPM	Revolutions Per Minute
RPTR	Repeater
RR	Radio Rack
RST	Reset
RSVR	Reservoir
RTRY	Rotary
RTS	Return to Service
RUD	Rudder
RVSM	Reduced Vertical Separation Minimum
RVSR	Reverser
RW	Runway

S/C	Supercharger
S/N	Serial Number
SAFI	Semi-Automatic Flight Inspection
SB	Service Bulletin
SC	Service Check
SCAV	Scavenger
SDR	Service Difficulty Report
SEC	Secondary
SECT	Section
SEL	Selector
SELCA	Select Call
SEMICOND	Semi-Conductor
SEN	Sensor

SENS	Sensitive
SEP	Separator
SEQ	Sequence
SFAR	Special Federal Aviation Regulation
SFT	Shaft
SFTY	Safety
SHK	Shock
SHM	Sheetmetal
SHTL	Shuttle
SIG	Signal
SIL	Service Information Letter
SKD	Skid
SL	Slat
SLD	Slide
SLWIN	Sliding Window
SM	Small
SMP	Sump
SO	Shut-off
SOL	Solenoid
SP	Spare
SPD	Speed
SPEC	Specification
SFP	Special Flight Permit
SPG	Spring
SPK	Speaker
SPL	Spoiler
SPT	Support
SRM	Structural Repair Manual
SRVO	Servo
SSB	Single Side Band
SSI	Structural Significant Item
STA	Station
STAB	Stabilizer
START	Starter
STAT	Static
STBY	Standby
STC	Supplemental Type Certificate
STK	Stick
STNR	Strainer
STR	Steering

STRG	Storage
SUB	Submerged
SUM	Summation
SUP	Supply
SUPV	Supervisor
SURF	Surface
SVC	Service
SW	Switch
SYNC	Synchronizer
SYS	System
T/O	Takeoff
T & B	Turn and Bank
T.D.	Temp Datum
T.I.	Technical Issuance
T.I.T.	Turbine Inlet Temp
TACH	Tachometer
TAI	Thermal Anti-Ice
TAS	True Air Speed
TAT	Total Airframe Time
TBL	Table
TBO	Time Between Overhaul
TC	Type Certificate
TCKR	Tracker
TE	Trailing Edge
TEMP	Temperature
TENS	Tension
TET	Total Engine Time
TFR	Transfer
TGT	Turbine Gas Temperature
THM	Thermal
THST	Thrust
TIA	Technical Instructions Authorization
TK	Tank
TMSTR	Thermister
TORQ	Torque
TP	Tailpipe
TR	Transformer Rectifier

TRAN	Transition
TRBCOMP	Turbo Compressor
TRK	Truck
TRM	Trim
TRQMTR	Torquemeter
TRUN	Trunnion
TRVL	Travel
TSN	Time Since New
TSO	Time Since Overhaul
TSOA	Technical Standard Order Authorization
TSS	Technical Support Section
TSTAT	Thermostat
TT	Total Time
TURB	Turbine
UHF	Ultra High Frequency
UPH	Upholstery
UPR	Upper
UPL	Uplock
UPLN	Upline
V	Volts
VAC	Vacuum
VAR	Variable
VCK	Visual Check
VERT	Vertical
VG	Vertical Gyro
VHF	Very High Frequency
VIB	Vibration
VLV	Valve
VNT	Vent
VNTRI	Venturi
VOLT	Voltage
VOR	Visual Omni Range
VPU	Voice Privacy Unit
VSI	Vertical Speed Indicator

WASC	Walk Around Safety Check
WC	Work Card
WD	Window
WDM	Wiring Diagram Manual
WG	Wing
WGT	Weight
WHL	Wheel
WRN	Warning
WO	Work Order
WPR	Wiper
WTR	Water
WSHLD	Windshield
WX	Weather
WVFRM	Waveform
WW	Wheel Well
XCVR	Transceiver
XDUCER	Transducer
XFEED	Cross Feed
XFER	Transfer
XFMR	Transformer
XMSN	Transmission
XMTR	Transmitter
XOVER	Crossover
XPOINT	Crosspointer
XPONDER	Transponder
YR	Year
ZT	Zero Time

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GLOSSARY OF TERMS

ACCIDENT, AIRCRAFT: An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and until such time as all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

AIRCRAFT: A device that is used or intended to be used for flight in the air.

AIRCRAFT ENGINE: An engine that is used or intended to be used for propelling aircraft. It includes turbo-superchargers, appurtenances, and accessories necessary for its functioning, but does not include propellers.

AIRFRAME: The fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors but excluding propellers and rotating airfoils of engines), and landing gear of an aircraft and their accessories and controls.

AIRCRAFT MAINTENANCE: That work which is required to be performed by certificated persons.

*AIRCRAFT MAINTENANCE AND ENGINEERING DIVISION: An agency activity providing line maintenance, major inspection and overhaul services to the AVN aircraft fleet and equipment.

AIRCRAFT MAINTENANCE BASE or ORGANIZATION: An agency activity performing aircraft and avionics line maintenance functions on AVN aircraft.

AIRCRAFT OUT OF COMMISSION FOR PARTS (AOCP): The status of an aircraft which should be available for service but is not, because of the lack of a part or parts.

AIRPLANE: An engine-driven fixed-wing aircraft heavier than air, that is supported in flight by the dynamic reaction of the air against its wings.

AIRWORTHY: The aircraft must conform to its type design (certificate) and the aircraft must be in condition for safe operation.

APPROVED: Unless used with reference to another person, means approved by the Administrator.

APPROVED DATA: Data that is used to substantiate major repairs and major alterations, derived from the following: Supplemental Type Certificate, Airworthiness Directives, FAA approved manufacturer's maintenance manuals and instructions, FAA Form 337 to be used as a basis for a previous field approval, AC 43.13-1B (as revised) under certain circumstances. Technical Standard Order Authorization (TSOA) parts manufacturing approval (PMA), Designated Engineering Representative (DER) approved data, Designated Alternation Station (DAS) approved data, and SFAR 36, Engineering authorization approved data.

APPLIANCE: Any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight, is installed in or attached to the aircraft and is not part of an airframe, engine or propeller.

AVIONICS MAINTENANCE: That work which is required to be performed by an avionics shop.

AVN AIRCRAFT: For maintenance purposes, includes all AVN-owned, lease-purchase, exclusive-use-lease, bailment and loan aircraft.

BENCH CALIBRATION: The calibration of equipment which is performed in an FAA avionics shop.

BENCH CHECK: The removal of an item of equipment from an aircraft or from stock for (1) a visual check, (2) preventive maintenance, (3) minor repair, and (4) an operational check.

CALIBRATION: Making precise measurements and adjustments to equipment or systems in order to obtain optimum performance and to certify that output data falls within prescribed tolerances.

CALIBRATION INTERVAL: The maximum calendar time an item of test equipment may be used without scheduled recalibration.

COMPONENT: Any self-contained part, combination of parts, subassemblies or units, which perform a distinctive function necessary to the operation of the airframe, powerplant, or propeller.

CONDITION MONITORING (CM): Is a maintenance process for items that have neither "hard time" nor "on condition" as their primary maintenance process. Condition monitoring is accomplished by appropriate means available to AVN for finding and resolving problem areas. These means range from notices of unusual problems to special analysis of unit performance.

CONTINUOUS AIRWORTHINESS MAINTENANCE PROGRAM (CAMP): A combined program of maintenance and inspection functions used to fulfill the total maintenance needs. The program provides a maintenance program adequate to perform the work and an inspection program adequate to perform required inspections. These two organizations are separate.

CONTRACT/AGREEMENT MAINTENANCE: Refers to those functions of a contracting officer's representative or other designated maintenance representative in arranging for and administering contracts or agreements for providing aircraft maintenance services to the agency.

CONTROL LIMITS OR ALERT VALUES: Maximum limits/values which when exceeded requires analysis for possible maintenance action.

DISPATCH FOR MEL OPERATIONS: Dispatch occurs when the flight crew releases the brakes to taxi for the purpose of flight.

*ELECTRONIC DATABASE: A database system utilized in the management of calibration requirements for precision measuring and test equipment. The management is done through three database files: inventory, calibration, repair and location histories. Each file interacts with the other.

ENGINE TIME CHANGES: Those engines which reach maximum operating time between overhaul including engines replaced within 100 hours of maximum permitted operating time to allow replacement during scheduled inspection periods.

ENGINE FAILURE: Any engine requiring unscheduled replacement due to unairworthy condition which cannot be corrected by routine maintenance on the aircraft.

ENGINE CONVENIENCE REMOVAL: Applies to engines removed for update or modification which were operating satisfactorily at time of removal, or airworthy engines removed from aircraft in maintenance or storage for installation on another aircraft to expedite mission accomplishment or engine replaced due to economic impact of maintenance required.

EXCHANGE AND REPAIR (E & R): A reparable item which, when unserviceable, is returned to the FAA Depot in exchange for a serviceable replacement.

FIELD MAINTENANCE: The performance of aircraft and avionic line maintenance at locations other than the Aircraft Maintenance and Engineering Division.

FLIGHT TIME: The time from the moment the aircraft first moves under its own power for the purpose of flight until the moment it comes to rest at the next point of landing.

HARD-TIME: A primary maintenance process that requires an appliance or part be periodically overhauled in accordance with the Agency's maintenance manual or that it be removed from service.

INCIDENT, AIRCRAFT: An occurrence other than an accident associated with the operation of an aircraft, which affects or could affect the safety of operations.

LARGE AIRCRAFT: Aircraft of more than 12,500 lbs. maximum certificated takeoff weight.

LINE MAINTENANCE: Includes routine and non-routine maintenance, bench checks, calibration, and repairs accomplished in support of day-to-day aircraft operations.

LOCAL REPAIR ITEMS: A reparable item which, when unserviceable, is repaired locally either by arrangements with a commercial vendor or in local base shops.

MAINTENANCE INSPECTIONS: Include daily/preflight, segment, safety, service, special, and numbered inspections. These inspections vary in scope and frequency of performance according to types of aircraft.

*MAINTENANCE MANAGER: The person within the specific organizational structure who is directly responsible for the maintenance program. In AMED, the position equates to Branch Level.

MAJOR ALTERATIONS: An alteration not listed in the aircraft, or aircraft engine/propeller specifications that (1) might appreciably affect weight, balance, structural strength, performance, powerplant operations, flight characteristics or other qualities affecting airworthiness or (2) is not done according to accepted practices or cannot be done by elementary operations.

1. AIRCRAFT MAJOR ALTERATIONS: Alterations of the following parts and alterations of the following types, when not listed in the aircraft specifications issued by the FAA, are airframe major alterations:

   Wings
   Tail surfaces
   Fuselage
   Engine mounts
   Control system
   Landing gear
   Hull or floats

   Elements of an airframe including spars, ribs, fittings, shock absorbers, bracings, cowlings, fairings, and balance weights.

   Hydraulic and electrical activating systems and components.

   Rotor blades.

   Changes to the empty weight and balance which result in an increase in maximum certificated weight or center of gravity limits of the aircraft.

   Changes to the basic design of the fuel, oil cooling, heating, cabin pressurization, electrical, hydraulic, de-icing, or exhaust system.

   Changes to the wing or to fixed or movable control surfaces which affect flutter and vibration characteristics.

2. POWERPLANT MAJOR ALTERATIONS: The following alterations of a powerplant, when not listed in the engine specifications issued by the FAA, are powerplant major alterations:

   Conversion of an aircraft engine from one approved model to another involving any changes in compression ratio, propeller reduction gear, impeller gear ratios or the substitution of major engine parts which require extensive rework and testing of the engine.

   Changes to the engine by replacing aircraft engine structural parts with parts not supplied by the original manufacturer or parts not specifically approved by the Administrator.

   Installation of an accessory which is not approved for the engine.

   Removal of accessories that are listed as required equipment on the aircraft or engine specification.

   Installation of structural parts other than the type of parts approved for installation.

   Conversions of any sort for the purpose of using fuel of a rating or grade other than that listed in the engine specifications.

3. PROPELLER MAJOR ALTERATIONS: The following alterations of a propeller when not authorized in the propeller specifications issued by the FAA are propeller major alterations:

   Changes in blade design
   Changes in hub design
   Changes in the governor or control design
   Installation of a propeller governor or feathering system
   Installation of propeller de-icing system
   Installation of parts not approved for the propeller

4. APPLIANCE MAJOR ALTERATIONS: Alterations of the basic design not made in accordance with recommendations of the appliance manufacturer or in accordance with an FAA Airworthiness Directive are appliance major alterations. In addition, changes in the basic design of radio communication and navigation equipment approved under type certification or a Technical Standard Order that have an effect on frequency stability, noise level, sensitivity, distortion, spurious

radiation, AVC characteristics or ability to meet environmental test conditions, and other changes that have an effect on the performance of the equipment are also major alterations.

MAJOR INSPECTION: The performance of a specific segment of the total overhaul requirement in a series of blocks at prescribed long-term intervals.

MAJOR MODIFICATION: A modification that (1) might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities of airworthiness or (2) is not done according to accepted practices or cannot be done by elementary operations.

MAJOR REPAIR: A repair that (1) if improperly done, might appreciably affect weight, balance, structural strength, performance, powerplant operations, flight characteristics, or other qualities of airworthiness; or (2) is not done according to accepted practices or cannot be done by elementary operations.

1. AIRFRAME MAJOR REPAIRS: Repairs to the following parts of an airframe and repairs of the following types involving the strengthening, reinforcing, splicing, and manufacturing of primary structural members of their replacement, when replacement is by fabrication such as riveting or welding are airframe major repairs:

   Box beams
   Monocoque or semi-monocoque wings or control surfaces
   Wing stringers or chord members
   Spars
   Spar flanges
   Members of truss-type beams
   Thin sheet webs of beams
   Wing main ribs and compression members
   Engine mounts
   Fuselage longerons
   Members of the side truss, horizontal truss or bulkheads
   Main seat support braces and brackets
   Landing gear braces or struts
   Axles
   Wheels
   Parts of the control system such as control columns, pedals, shafts, brackets, or horns.
   Repairs involving the substitution of material
   The repair of damaged areas in metal or plywood stressed covering exceeding six inches in any direction.

The splicing of skin sheets.
The repair of three or more adjacent wing or control surface ribs or the leading edge of wings and control surfaces between adjacent ribs.
The repair of portions of skin sheets by making additional seams.
Repair of fabric covering involving an area greater than that required to repair two adjacent ribs.
Replacement of fabric on fabric-covered parts such as wings, fuselages, stabilizers and control surfaces.
Repairing, including rebottoming of removable or integral fuel tanks and oil tanks.

2. POWERPLANT MAJOR REPAIRS: Repairs of the following parts of an engine and repairs of the following types are powerplant major repairs:

Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with an integral supercharger.

Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with other than spur type propeller reduction gearing.

Special repairs to structural engine parts by welding, plating, metalizing or other methods.

3. PROPELLER MAJOR REPAIRS: Repairs of the following types to a propeller are propeller major repairs:

Any repairs to, or straightening of, steel blades.
Repairing or machining of steel hubs.
Shortening of blades.
Repair of propeller governors.
Overhaul of controllable pitch propellers.
Repairs to deep dents, cuts, scars, nicks, etc., and straightening of aluminum blades.
The repair or replacement of internal elements of blades.
Repairs to composition blades.

4. APPLIANCE MAJOR REPAIRS: Repairs of the following types to appliances are appliance major repairs:

Calibration and repair of instruments.
Calibration of radio equipment.

Rewinding the field coil of an electrical accessory.
Complete disassembly of complex hydraulic power valves.
Overhaul of pressure type carburetors and pressure type fuel, oil and hydraulic pumps.

*

MINIMUM EQUIPMENT LIST (MEL): A regulatory authorization to continue to operate an aircraft with inoperable instruments or equipment. The aircraft may be operated under all applicable condition and limitations contained in the minimum equipment list.

MINOR MODIFICATION: A modification that (1) will not affect the quality of airworthiness, or (2) can be done in accordance with accepted practices or can be done by elementary operations. Normally, a minor modification is a modification other than a major modification.

MINOR REPAIR: A repair that (1) will not affect the quality of airworthiness, or (2) can be done in accordance with accepted practices, or can be done by elementary operations. Normally, a minor repair is a repair other than a major repair.

MODIFICATION: A change or series of changes in a completed system to adapt it to another use, correct deficiencies, increase reliability, or improve its effectiveness.

NATIONAL AIRSPACE SYSTEM (NAS): The common network of U.S. airspace; air navigation facilities, equipment and services, airports, or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, manpower, and material. Included are system components shared jointly with the military.

NON-AIRWORTHINESS ITEMS: These are items other than inoperative instruments or equipment which do not affect the airworthiness of the aircraft.

ON CONDITION ITEM (OC): A primary maintenance process requiring repetitive inspection or test to determine the condition of units, systems or portions of structure to assure continued serviceability. Corrective action is taken when required by item condition as determined by analysis of inspection and/or test results.

OPERATIONAL CHECK: An "in motion" or "power on" test for determining that an item of equipment will operate at a specified performance level.

OVERHAUL: The disassembly, cleaning, inspection, necessary replacement or repair of parts, reassembly, adjustment, and testing of an item or equipment in accordance with recommended procedures.

PERFORMANCE STANDARD: A performance measurement expressed numerically which represents an acceptable level of performance.

PICKING TAG: A vendor supplied parts tag issued by the Production Approval Holder for new parts , compentents and materials. Can be used instead of an invoice.

*PRECISION MEASURING EQUIPMENT. All equipment that is listed in the TI 4150 series of the TI checklist.

PREVENTIVE MAINTENANCE: Simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

PROPELLER: A device for propelling an aircraft that has blades on an engine-driven shaft and that, when rotated, produces by its action on the air, a thrust approximately perpendicular to its plane of rotation. It includes control components normally supplied by its manufacturer, but does not include main and auxiliary rotors or rotating airfoils of engines.

PUBLIC AIRCRAFT: Aircraft used only in the service of a government or a political subdivision. It does not include any government-owned aircraft engaged in carrying persons or property for commercial purposes.

QUALITY CONTROL DESIGNEE: A certificated person having the required experience, judgment, and training to perform quality control functions usually in the absence of, or as a supplement to, a quality control organization.

REINSTALLATION: Indicates the removal and reinstallation of the same unit in the same position as removed.

RAMP CALIBRATION: The calibration of an aircraft-installed avionic system.

RELIABILITY PROGRAM: A program which has established time limitations or standards for determining time limitations for overhauls, inspections and checks of airframes, engines, propellers, appliances, and emergency equipment.

REPAIR: The restoration of an item of equipment to a serviceable condition after fault detection.

REPAIRABLE ITEM: An item which, when becoming unserviceable, is usually repaired to reuse. The decision to repair an unserviceable item is based on the economics of discard and replacement versus repair. This includes Exchange and Repair Items, Repair and Return Items, Local Repair Items, and select E & R Equipment.

REPAIR AND RETURN (R&R): A reparable item which, when becoming unserviceable, is returned to the FAA Depot for repair and subsequent return of the same unit to the using facility.

REPLACEMENT: Indicates the removal of unit and the installation of a like serviceable unit.

REQUIRED INSPECTION ITEMS (RII): Includes those maintenance and alterations which could result in a failure, malfunction, or defect endangering the safe operation of the airplane, if not performed properly or if improper parts or material are used.

*ROUTINE MAINTENANCE: Maintenance task involving the periodic inspection, lubrication, and cleaning of aircraft, engines, propellers, rotors, appliances, or other parts at prescribed intervals.

SELECT E & R EQUIPMENT: An avionic reparable item which is specially controlled when unserviceable to ensure that its repair is performed by an avionic shop at an aircraft maintenance base.

SERIOUS INJURY: Any injury which: (1) requires hospitalization for more than 48 hours, commencing within seven (7) days from the date an injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, or nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than five percent of the body surface.

SMALL AIRCRAFT: Aircraft of 12,500 lbs. or less maximum certificated take-off weight.

SPECIAL MAINTENANCE-INSPECTION DESIGNEE: A qualified person who is designated to (1) perform specific maintenance and inspection functions, (2) make specific airworthiness determinations, and (3) release specific items of maintenance to service.

SPECIAL INSPECTIONS: Include inspections to determine airworthiness following hard landings, flight through turbulent air, lightning strikes, or one prescribed by an airworthiness directive, maintenance alert directive or EO.

SUBSTANTIAL DAMAGE: Damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wing tips are not considered substantial damage for the purpose of this manual.

SUBSTANTIAL MAINTENANCE: Any activity involving a C-check or greater maintenance visit; any engine maintenance requiring case separation or tear down; and/or major alterations (excluding major alteration accomplished on avionics components, unless specially defined) or major repairs performed on airframes, engines and propellers.

*TEST EQUIPMENT: Test equipment shall be used for the maintenance of other test equipment, specialized measuring equipment, electronic airborne equipment and electrical equipment. This equipment may also be used to calibrate less accurate items of test equipment providing it's manufacturers environmental performance and storage specifications have not been exceeded. FAA Test Equipment, VN Form 4100-204-3 (Color - Blue).

TIME CHANGE ITEM: An item of equipment which has an established overhaul time which is related to time in service.

TIME CONTROLLED COMPONENT: A part or component which has an established service life, at which time certain maintenance must be performed or the item scrapped. The service life may be based on operating hours, cycles, landings, calendar time, or combinations of these.

TIME IN SERVICE: With respect to maintenance time records, means the time from the moment an aircraft leaves the surface of the earth until it touches down at the next point of landing.

*TRACEABILITY: The ability to relate individual measurement results through equipment whose accuracy has been established via an unbroken chain of calibration records to a standard derived from the National Institute of Standards and Technology (NIST), equipment manufacturer, or other standards approved by the Administrator.

TROUBLE SHOOTING: (1) Determining the probable cause of a malfunction through analysis of data flow logic and (2) employing efficient fault isolation procedures and prescribing or taking corrective action.

TURN-AROUND MAINTENANCE: Refers to an aircraft maintenance base of a higher category providing line maintenance services for an aircraft maintenance base of a lower category.

VISUAL CHECK: Checking an item of equipment for cleanliness, need for lubrication, or painting and deterioration of parts or materials.

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FEDERAL AVIATION ADMINISTRATION
GENERAL MAINTENANCE MANUAL

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CHAPTER I. GENERAL

1. GENERAL

A. BACKGROUND

(1) The FAA has statutory responsibility to maintain a safe, common system for the use of airspace and operation of aircraft therein. To effect a safe air transportation system, FAA pursues an aggressive research and development, test and evaluation program of the air navigation, control, communications and aircraft operations, including standards development and training. To accomplish this responsibility the FAA operates a fleet of aircraft to perform its mission.

(2) AVN aircraft maintenance activities will be conducted in compliance with applicable Federal Aviation Regulations, Agency directives, policies and procedures as stated in this manual. It is the responsibility of all employees to report any known deviation from this policy to their supervisor. Immediate appropriate action will be initiated by the supervisor to resolve the issue. AVN-300 managers will assure employees that they can bring safety related concerns to management without fear of reprisal, and with assurance of thorough and impartial disposition of the issue.

(3) In the event of conflict between a Federal Aviation Regulation and the General Maintenance Manual or other FAA supplied instructions, the Federal Aviation Regulation has precedence. In the application of a Regulation, directive, policy or procedure to a particular situation, safety of persons and property is paramount.

B. ORGANIZATIONAL MISSIONS

(1) Aviation System Standards (AVN) is tasked with the responsibility to manage the AVN Flight Program. This management includes providing policy, delegating authority, establishing procedures and assigning responsibility for operation, maintenance, acquisition and disposal of AVN aircraft.

*(2) Aircraft Maintenance and Engineering Division, AVN-300, is responsible for the management of the AVN Aircraft Inspection and Maintenance Programs set forth by the Director of AVN. AVN-300 shall provide technical support and ensure compliance with the approved aircraft inspection and maintenance programs contained within the system.

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CHAPTER I. GENERAL

2. FAA GENERAL MAINTENANCE MANUAL (GMM) - TI 4100.24

A. PURPOSE

The purpose of this manual is to provide AVN Aircraft Maintenance personnel with a management and procedures document that provides acceptable methods for compliance with the applicable parts of the Federal Aviation Regulations and FAA maintenance policy.

B. SCOPE

This manual provides acceptable methods for the maintenance of assigned AVN aircraft. The scope includes: maintenance management responsibilities, personnel qualifications, inspection procedures, maintenance procedures, and other pertinent information.

C. RESPONSIBILITIES

*All AVN maintenance personnel are required to comply with the duties/responsibilities and procedures contained in this manual. The Manager of Aircraft Maintenance and Engineering Division (AMED), AVN-300, is responsible for the content, accuracy and approval of all revisions. Policies and procedures developed in accordance with regulatory requirements shall be submitted by AVN to the assigned Flight Standards Certificate Holding District Office (CHDO) for approval/acceptance prior to implementation. A master file is maintained by AVN-320.

D. INFORMATION DEFICIENCY

*Any employees finding deficiencies, needing clarification, or having suggested improvements regarding the contents of this GMM, Technical Issuance manuals, maintenance program task cards, or related procedural documents applicable to AMED maintenance programs will identify the item to their supervisor, documented in accordance with the procedures described in Chapter/Section IV.99 and forwarded to AVN-320.

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CHAPTER I. GENERAL

3. MANUAL STRUCTURE

A. GENERAL

*The FAA General Maintenance Manual (GMM) is issued in loose-leaf and electronic form and is structured as follows:

*(1) Record of Change - Provides space for recording insertion of revisions. (VN Form 4100-65)

(2) Foreword - Self-explanatory.

(3) Master Table of Contents - A Master Table of Contents, located in the front of this manual, will list the chapter and section titles and beginning page number and show change status of each page in the Master Table of contents, Abbreviations, Alphabetical Index and the Glossary. It will also show the change status of each chapter and section.

(4) Chapter Table of Contents - A Chapter Table of Contents, located in the front of each chapter, lists the major subjects, page number where located and shows the change status of each page.

*(5) Abbreviations - Located following the Master Table of Contents, provides a list of abbreviations used by FAA/AVN personnel utilizing the electronic database and may be used when completing maintenance forms.

(6) Alphabetical Index - Located following the Abbreviations Section, provides a list of major subjects in alphabetical order and the chapter/section and page number where located.

(7) Chapters - Sequentially numbered, beginning with Roman numeral I (one).

(8) Sections - Sequentially numbered with Arabic numbers beginning with number one (1), as in IV.1.

(9) Glossary of Terms - A Glossary of Terms, located following the Alphabetical Index, provides a definition of terms used throughout this manual.

(10) Pages - Pages are sequentially numbered. Each page number begins with the chapter number followed by a decimal (.), section number followed by a decimal and the page number. This number is located on the lower corner of each page, e.g. II.10.1.

(a) Date - Date of each page will be listed on the top of each page. This signifies the latest revision date for that page. The date format will be listed numerically as month/date/year, e.g., 02/26/93.

(b) Change number - A number will be shown in the corner under the TI number, indicating the revision number of that page.

CHAPTER I. GENERAL

4. REVISION SYSTEM

A. GENERAL

(1) The revision system provides methods to ensure new information can be incorporated into the approved TI manual system. The basic manual is revised on an as-needed basis using one of the following methods.

(a) Routine Revisions - The routine method of revision is done by issuing page changes, as required, which contain all needed changes developed by the date of issue.

(b) Temporary Revisions - A temporary revision is issued to disseminate information which is sufficiently urgent to justify priority and expedited action.

(c) Appendix 1 (Operations Specifications) Revisions: Routine revisions only affecting Operation Specifications.

(2) Action to correct misspelled words or to improve sentence structure will be held until a routine revision is made.

B. ROUTINE REVISIONS

(1) Changes to the basic manual will be issued as "page changes" ready for insertion. A Transmittal Page will accompany all changes issued, and is identified by a black rectangle located in the upper left hand corner with the word CHANGE contained therein. The Transmittal Page will identify the manual being changed, indicate the change number, show the effective date of the change(s), provide a synopsis of the major changes, and include a Page Control Chart to indicate the pages to be removed and/or inserted, as appropriate.

*(2) A RECORD OF CHANGES page, VN Form 4100-65, is included in the front of each manual to record the date the change was inserted into the manual. This page will provide a quick reference for determining the revision status of the specific manual.

(3) If most of the data in a paragraph or section has been revised, an asterisk will be placed at the highest level to indicate that all the data in the section or paragraph has been revised. The asterisk will be removed at subsequent revisions so that only changes made by the current revision are indicated.

C. TEMPORARY REVISIONS

(1) Temporary Revisions (TR's) are issued on blue-colored paper and have the statement "Temporary Revision" shown in the page header. Each TR will show the date of issue, TR number, filing instructions, and an expiration date when appropriate.

(2) Each TR is numbered using the last two digits of the year of issue, a digit or digits which show the current change number of the basic manual at the time the TR is issued, and a number denoting the issue sequence during the year (i.e., 93-04-01. Where 93 is 1993, 04 is the fourth change to the basic GMM, and the 01 is the first TR issued in 1993).

*(3) Temporary Revisions are issued to General Maintenance Manual holders and the Electronic Library.

(4) Temporary Revisions will be filed as per instruction on the Control Page. The TR will be included in the next routine revision.

(5) Each General Maintenance Manual will have a Record of Temporary Revisions sheet (blue colored) which will be filed following the basic manual Record of Revision sheet. The TR revision sheet will be initialed by the person placing the TR in the GMM.

D. GMM APPENDIX 1 REVISIONS

(1) Changes to Operations Specifications will be issued as "page changes" ready for insertion. A transmittal page will accompany all changes issued and will be identified by the heading "FAA GMM Appendix 1 Revision". The transmittal page will identify the changes, indicate the change number, show the effective date of the change(s) (including Certificate Holding District office (CHDO) approval date(s)) and a Page Control Chart to indicate pages to be removed and/or inserted as appropriate.

(2) Each GMM will have a Record of Appendix 1 Changes page (green colored) which will be filed following the Record of Temporary Revisions sheet.

(3) The Record of Appendix 1 Changes sheet will be initialed and dated by the person placing the change in the Appendix.

(4) The Change Transmittal sheet will be filed behind the Record of Appendix 1 Changes sheet.

E. REVISIONS RESPONSIBILITIES

(1) AVN-300 is responsible for:

(a) Assuring the GMM and maintenance training programs meet regulatory compliance.

(b) Standardization of manual format.

(c) Ensuring manufacturer manual changes are incorporated into the applicable Technical Issuance.

(d) Control of changes for this GMM.

(e) Printing of the manual and changes.

(f) Obtaining distribution of the manual and changes.

(g) Soliciting comments and making necessary corrections.

(h) Make the GMM or appropriate portions available to any person performing maintenance or ground operation on AVN aircraft.

(2) Users are responsible for:

(a) Forwarding suggested corrections and changes to AVN-320 for processing.

(b) Maintaining assigned manuals, including changes. Each person issued a copy of this manual is responsible for inserting all revisions and being familiar with its contents.

(c) Personnel making copies of pages in the General Maintenance Manual or off the WEB are reminded that these copies are only valid for immediate use.

NOTE: Any copies or sections of the manual must be destroyed or disposed of after use. These copied pages or sections are not to be stored, filed or stockpiled.

*F. SUGGESTED CHANGES

Suggested manual changes and temporary revisions will be forwarded using Request for Action, VN Form 4100-170 (see Chapter IV) through the employee's supervisor, to the Manager, AVN-320, for review and processing. All proposed changes will be reviewed for compliance with AVN policy and regulatory requirements before submittal to the approving officials.

A copy of all -170 forms incorporated will be retained on file for a period of one year or until the next change in the same area, whichever occurs first.

G. PROCESSING CHANGES

(1) Routine Revisions: Routine revisions to the GMM will be developed from the Temporary revisions and other requests for changes accumulated for that period. All proposed changes will be addressed. Upon completion, the change will be developed and submitted to the Certificate Holding District Office (CHDO). This change will supersede all previously issued Temporary Revisions. The Quality Assurance Branch, AVN-320, is responsible for development, review, revisions, coordination, formatting revision indicators and regulatory compliance before printing and distribution of manual changes.

(2) Temporary Revisions: Temporary revisions will be issued at such times when the program requires urgent changes in order to successfully meet its mission. Temporary revisions will be transmitted to the FSDO for review prior to issuance. The manager of AVN-320 is responsible for the development and coordination of temporary revisions. All temporary revisions will be coordinated with AVN-320 for printing and distribution. Temporary revisions will remain in effect until either a superseding temporary revision is issued or the text is canceled or incorporated in the GMM in a routine revisions.

*(3) Emergency Changes (MAD): The Supervisor of AVN-328 is authorized to issue Maintenance Alert Directive (MAD) when deficiencies are identified that involve personal injury and/or equipment safety. (Reference III.52) MAD Emergency Changes can be issued by electronic media, FAX or in hard copy. Within ten (10) working days after issue, a MAD Emergency Change will be reissued in the form of a Temporary Revision if the conditions referenced in the MAD still exist.

Under the column headed "CHG" the number of the change is listed, for example, 1, 2, 3 followed by the date of the change. No entry or blank in this column denotes the original issue of a page.

(4) GMM Appendix 1 (Operations Specifications) Revisions: Revisions to the Operations Specifications are received, with approval, from the CHDO and will be issued "as received". The Quality Assurance Branch, AVN-320, is responsible for coordination, printing and distribution of the changes.

(5) Chapter Table of Contents: As changes are made to the original manual, the Chapter Table of Contents is changed to include a complete list of basic, changed, deleted and blank pages in numerical sequence in the "CHG" column.

H. LIST OF EFFECTIVE PAGES (LEP)

Each Chapter Table of Contents contains change numbers and date following the page number for each section.

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CHAPTER I. GENERAL

5. DISTRIBUTION AND ACCESS

A. GENERAL

Distribution of manuals will be processed by the Quality Assurance Branch, AVN-320.

Hard copies of the General Maintenance Manual, TI 4100.24, will be maintained at the following offices:

(1) Certificate Holding District Office (CHDO)
(2) Program Standards Section, AVN-328 (Master Copy)

Access to the GMM for other personnel is provided through a website located at "http://avn.faa.gov/index.asp?xml=fimo/eml."

B. LOCATION OF MANUAL AND COPY REQUIREMENTS

*The Quality Assurance Branch, AVN-320, controls and maintains the TI 4100.24 manual and the Distribution List for the TI 4100.24. AVN-320 will make available (as indicated in paragraph A) an electronic copy of the TI 4100.24, or appropriate portions, to any personnel performing maintenance or ground operations on AVN aircraft. AVN-320 identifies the required number of copies to meet distribution requirements.

(1) Each organization receiving a manual will be responsible for its security, maintenance and currency. The person revising the manual will follow the instructions included with the revision as previously outlined in Section 4 of this chapter. Revision to the website will be made as changes are issued.

(2) Request for distribution of the TI 4100.24 manual or additional copies of this manual should be made by written request through the Manager, Quality Assurance, AVN-320.

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CHAPTER I. GENERAL

6. TECHNICAL ISSUANCE SYSTEM CLASSIFICATION NUMBERS

A. GENERAL

The FAA Technical Issuance System is used in the maintenance and operation of AVN aircraft. All manufacturer's maintenance and operational material is incorporated into the applicable Technical Issuance Manual(s) which becomes the approved manual for maintenance and/or operation of the AVN aircraft.

All aircraft and major components in the FAA inventory are assigned a Technical Issuance (TI) Classification Number. These numbers identify the specific manuals necessary for maintenance, inspection and overhaul of the specific type of aircraft, appliance or equipment.

AVN-320 maintains a library of manufacturer manuals that are used as basis for Technical Issuance manuals.

B. CHANGES

(1) Authorized material, revisions or deletions applicable to the TI system will be issued to the affected manual through the use of "Change" pages. These change transmittals will be sequentially numbered and controlled within the individual manuals revision checklist. For example, TI 4102.1, CHG. 1, will identify the first change issued to the basic TI 4102.1.

(2) Technical Issuance System Classification Number Breakdown: The following is a listing of the TI system classification number: (Each number is preceded with TI.)

4100.21 Designated Alteration Station Procedures Manual
4100.24 General Maintenance Manual
*4100.25 AMED Maintenance Reliability Program Manual
*4100.26 AMED Environmental and Safety Operations Manual
4100.27 AVN Repair Station Inspection Procedures Manual
4100.28 ISO 9000 Quality Procedures Manual

4100.29 Electrostatic Discharge Control Program Manual
4100.35 AVN Engine Performance Trend Program Manual (EPTM)
4100.36 Special Federal Aviation Regulation Procedures Manual
4100.40 National Fire Protection Association Codes
4101 Reserved
*4102 Challenger CL-604
4103 Reserved
4104 Reserved
4105 Reserved
4106 Reserved
4107 Lear 60
4108 Beech F90
*4109 Challenger CL-601
4110 Reserved
4111 Beech C90
4112 Reserved
4113 Reserved
4114 Reserved
4115 Reserved
4116 Reserved
4117 Reserved
4118 Reserved
4119 Reserved
4120 Reserved
4121 Reserved
4122 Reserved
4123 Reserved
4124 Reserved
4125 BAe 125-800A
4126 A200
4127 Reserved
4128 Beech 300
4129 thru 4149 Reserved
4150 Aircraft Ground & Test Equipment
4151 NDT Standards
4152-4157 Reserved
4158 Aircraft Accessories
4159 Reserved
4160 Avionics Test Equipment
4161 Navigation Instruments

4162 thru 4164 Reserved
4165 Multi-Purpose Equipment
4166 VOR/Localizer
4167 Glideslope
4168 Marker Beacon
4169 DF/ADF
4170 VHF Comm.
4171 HF Comm.
4172 UHF Comm.
4173 thru 4174 Reserved
4175 Interphone Speaker
4176 TACAN/DME
4177 Doppler Radar
4178 Weather Radar
4179 Radar Beacon
4180/81 Autopilot/Compass/FS
4182 and 4183 Reserved
4184 Oscillograph Recorder
4185 Tape/Audio Recorder
4186 Flight Data Recorder
4187 thru 4189 Reserved
4190 Loran
4191 Radio Altimeter
4192 Inverters
4193 Oscilloscope
4194 Counters/Printers
4195 Telemetry
4196 RFI Equipment
4197 thru 4199 Reserved

*(3) A list of all Technical Issuances by directive number with a breakdown of all Technical Issuances associated with that series and their respective sub-directive number can be obtained at "http://avn.faa.gov/index.asp?xml=fimo/eml", Technical Issuance Checklist. The Checklist is updated by AVN-328.

*

C. MODIFICATIONS

(1) Manual Information. When additional maintenance manual information is required as a result of modification, parts change, wiring change, etc., EO, Part B-II, will be issued. The EO, Part B-II (printed yellow) will be listed on a list of effective pages issued to the affected chapter or manual as applicable. The EO, Part B-II, will remain in the manual until the information is included on the manufacturer's permanent page or deleted when no longer required.

(2) The FAA TI manual system contains manufacturer's manuals. Manufacturer revisions are incorporated into their respective FAA TI manual by means of an FAA Change Sheet.

(3) The EO's and MAD's are transmitted with appropriate filing instructions.

D. LIST OF EFFECTIVE PAGES

A list of effective pages or chapter table of contents identifying the change number and date will be issued for maintenance manual chapters. The MAD's and EO's will not be included in the list of effective pages.

E. ACCESSORY MANUALS

(1) Aircraft. All aircraft accessory manuals will be assigned a 4158.1 series TI number using ATA 100 chapter and identifying sequence number. TI 4158.1 series manuals are included in the TI Checklist which is located on the internet at "http://avn.faa.gov/index.asp?xml=fimo/eml".

F. AIRCRAFT AND AVIONIC GROUND AND TEST EQUIPMENT

Aircraft and avionic ground and test equipment will be maintained and calibrated as prescribed by the agency and/or the manufacturer.

*(1) Aircraft Ground and Test Equipment Manual: The aircraft ground and test equipment maintenance and overhaul manuals will be identified with a TI 4150 code classification number. A schedule ensures that the equipment is maintained and serviced at recommended time intervals. The schedule is entered and maintained in the electronic database.

(2) Avionics Test Equipment Manual: Avionics standard test equipment service/maintenance and overhaul manuals are incorporated into the Technical Issuance (TI) System. The classification code of 4160 is established to identify the various manuals. The official current TI manual inventory is on the AVN web page under Technical Issuance Checklist.

*G. INTERIM AUTHORIZATION TO USE MANUALS NOT COVERED BY THE TI SYSTEM

With the introduction of new and/or different aircraft and equipment into the AVN aircraft fleet, it is recognized that there will be items requiring maintenance/ overhaul which are not yet incorporated into the TI System. AVN-320 will authorize the use of manuals for an interim period (180 days) on items not included in the TI system. Requests to use these manuals must be submitted to AVN-320 including full information regarding part number of items covered, manual publisher, date and revision, and aircraft/equipment affected. AVN-320 will then take action to incorporate the manual into the TI system.

*H. TI CHECKLIST

AVN-328 will make available a computer generated checklist. This checklist will list all authorized publications including change number. The checklist is used to determine if TIs located at a facility are current and authorized. This checklist is accessible via the worldwide web at http://avn.faa.gov/index.asp?xml=fimo/eml".

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CHAPTER II. ORGANIZATIONAL MISSIONS/PERSONNEL QUALIFICATIONS

1. ORGANIZATIONAL MISSIONS

A. AVIATION SYSTEM STANDARDS (AVN-1)

It is the mission of Aviation System Standards (AVN) to provide AVN aircraft for the support of the National Airspace System, Research and Development projects, pilot training, and the transportation of FAA personnel.

The Business offices and principal operations base is located at the Mike Monroney Aeronautical Center, 6500 S. MacArthur Blvd., Oklahoma City, OK 73125.

B. *AIRCRAFT MAINTENANCE AND ENGINEERING DIVISION, AVN-300

*Aircraft Maintenance and Engineering Division (AMED), AVN-300, is tasked with the management of the AVN Aircraft Inspection and Maintenance Programs set forth by the Director of AVN.

(1) AVN-300 is tasked with providing direct maintenance and engineering support for aircraft assigned to Flight Inspection.

(2) Provides for technical support and ensures compliance with the approved aircraft inspection and maintenance programs contained within this manual system, which will be utilized for the Flight Inspection Aircraft.

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CHAPTER II. ORGANIZATIONAL MISSIONS/PERSONNEL QUALIFICATIONS

2. *AIRCRAFT MAINTENANCE AND ENGINEERING DIVISION, AVN-300, DUTIES, RESPONSIBILITIES AND AUTHORITY

A. *DIVISION MANAGER/DIRECTOR OF MAINTENANCE, AVN-300

*(1) Responsible for administrative management and oversight of all maintenance, engineering, quality assurance and safety programs utilized by the Aircraft Maintenance and Engineering Division (AMED) in support of the Aviation System Standards (AVN) Flight Inspection aircraft fleet.

*(2) Responsible for all maintenance issues and matters regarding AVN as a Federal Aviation Regulations (FAR) Part 135 Commercial Air Operator.

*(3) Serves as primary contact for the Principal Maintenance Inspector (PMI) and Principal Avionics Inspector (PAI) having Flight Standards certificate management responsibility for AVN FAR Part 135 operations.

*(4) Responsible for notifying Certificate Holding District Office (CHDO) within ten (10) working days of any change in the Director of Maintenance position.

*(5) Responsible to the Program Director, Aviation System Standards, AVN-1.

*(6) Responsible for ensuring separation of inspection and maintenance functions conducted under FAR Part 135.

B. *QUALIFICATIONS FOR DIVISION MANAGER/DIRECTOR OF MAINTENANCE, AVN-300

(1) Hold a current Mechanic Certificate with both Airframe and Powerplant ratings.

*(2) Have at least five years of diversified maintenance experience on the same category and class of aircraft used under AVN Part 135 certificate. This experience may be with an air carrier, commercial operator or certificated repair station.

*(3) One year supervisory experience.

*(4) Possess a working knowledge of this manual, and the applicable maintenance provision of FAR Part 135.

*

C. AUTHORITY OF DIVISION MANAGER/DIRECTOR OF MAINTENANCE, AVN-300

*(1) Authority to determine and approve administrative functions as related to budget and personnel requirements for the division.

*(2) Final authority for personnel actions for all employees within the division.

*(3) Authority to sign appropriate parts of Operations Specifications applicable to AVN FAR Part 135 maintenance activities.

*(4) Duties of the Division Manager/Director of Maintenance may be delegated in writing to any qualified person. However, such delegation does not relieve him/her from assigned responsibilities. This delegation of duties does not authorize or delegate authority to sign Operations Specifications.

*

D. *ASSISTANT DIVISION MANAGER, AVN 301

*(1) Responsible to the Aircraft Maintenance and Engineering Division Manager, AVN-300.

*(2) Assists in managing the Aircraft Maintenance and Engineering Division, AVN-300.

*

*(3) Serves as Supervisor for the Aircraft Maintenance and Engineering Division Branch Managers.

*(4) Coordinates AVN maintenance issues with each operating entity in the FAA Flight Program.

*

E. *QUALIFICATIONS FOR ASSISTANT DIVISION MANAGER, AVN-301

(1) Hold a current Mechanic Certificate with both Airframe and Powerplant ratings.

*(2) Have at least five years of diversified maintenance experience on the same category and class of aircraft used under AVN Part 135 certificate. This experience may be with an air carrier, commercial operator or certificated repair station.

*(3) One year supervisory experience.

*(4) Possess a working knowledge of this manual, and the applicable maintenance provisions of FAR Part 135.

*

F. *AUTHORITY OF ASSISTANT DIVISION MANAGER, AVN-301

*(1) Has authority and responsibility for management approvals and decisions of the AMED, AVN-300, in the absence of the Division Manager.

*

*(2) Duties of the Assistant Division Manager may be delegated in writing to any qualified person. However, such delegation does not relieve him/her from the assigned responsibilities.

*

*G. MANAGEMENT RESOURCE STAFF, AVN-303

The Management Resource Staff has the responsibility of managing fiscal, human, equipment, facilities and information resources to ensure efficient operation of the aircraft maintenance program.

(1) Manages resources to ensure efficient operations for the division.

(2) Coordinates and manages contractual development for procurement of equipment and services and develops cost estimates and performance work statements to support the type of equipment or services required.

(3) Coordinates and administers human resources, staffing, training, awards and compensation and organizational development programs.

(4) Provides Contracting Officers' Representatives (COR) for domestic and international service contracts.

(5) Advises and assists in the planning and development of logistics and fiscal requirements.

(6) Serves as the franchise program office responsible for customer service agreements, labor distribution, cost accounting, billing and administration of revolving fund accounts.

CHAPTER II. ORGANIZATIONAL MISSIONS/PERSONNEL QUALIFICATIONS

3. LINE STATION BRANCH, AVN-310, DUTIES, RESPONSIBILITIES AND AUTHORITY

A. MANAGER, LINE STATION BRANCH, AVN-310

*(1) Responsible to the Assistant Division Manager, AVN-301

(2) Manages the overall maintenance operation of the Line Station Maintenance Sections; AVN-311, Atlantic City, NJ; AVN-312, Anchorage, AK; AVN-313, Atlanta, GA; AVN-314, Battle Creek, MI; and AVN-316, Sacramento, CA.

(3) Requirements for Manager of Line Station Branch:

(a) Holds a current mechanic certificate with A&P ratings, each of which is currently effective and has been in effect for at least three years.

(b) Has had at least three years of diversified maintenance experience on the category and class aircraft used by AVN. This experience may have been with an air carrier, commercial operator or certified repair station.

(c) At least one year in the capacity of approving aircraft for return to service.

(d) Possess a working knowledge of this manual and the applicable maintenance provision of the FAR.

(4) Responsible for all maintenance performed on aircraft operated from the Line Maintenance Stations in accordance with the maintenance program and this manual. This maintenance is accomplished through but not limited to the following:

(a) Through a Line Station Maintenance Supervisor and qualified maintenance personnel, performs scheduled and unscheduled maintenance of AVN Flight Inspection aircraft, including airframe, powerplants, propellers, instruments, avionics equipment and accessories.

(b) Coordinates, defines and develops annual, long-range and immediate work program requirements and appropriate schedules. Provides staff advisory relative to planning and scheduling.

*

*(c) Coordinates with Flight Inspection Office Managers to provide or obtain maintenance or support to hangar and office complexes that the Line Maintenance Section occupies.

(5) Authority: The Manager of the Line Station Branch has the authority to:

(a) Authorize Code H Authority to Line Station Personnel.

(b) Authorize Flight Tests.

(c) Countermand any decision of maintenance or avionics personnel assigned to the AVN-310 organization.

(6) Duties of the Manager of the Line Station Branch may be delegated to any qualified person in writing. However, such delegation does not relieve him/her of the overall responsibility.

B. LINE STATION MAINTENANCE SECTION

*Requirement for Line Station Maintenance Supervisor:

(a) Hold a current mechanic certificate with A&P ratings, each of which is currently effective and has been in effect for at least three years.

(1) Line Station Maintenance Supervisor supervises the following:

(a) Administratively responsible to and receives technical direction from the Manager, Line Maintenance Branch, AVN-310.

(b) Planning, directing, evaluating and coordinating the aircraft maintenance functions.

(c) Overall supervision of the Line Station Maintenance Section.

(d) Contractual arrangements pertaining to aircraft maintenance made at the Line Station Maintenance level.

(e) Assuring adequate personnel, facilities and equipment are available for maintenance performance.

(f) Coordinates with Flight Inspection Central Operations (FICO) involving aircraft maintenance functions.

(g) Custodian for personnel in use property assigned to the Line Station Maintenance Section.

(h) Duties of the Line Station Maintenance Supervisor may be delegated in writing to any qualified person. However, such delegation does not relieve him/her from the overall responsibility.

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CHAPTER II ORGANIZATIONAL MISSIONS/PERSONNEL QUALIFICATIONS

4. QUALITY ASSURANCE BRANCH, AVN-320, DUTIES, RESPONSIBILITIES AND AUTHORITY

A. MANAGER, QUALITY ASSURANCE BRANCH, AVN-320

*(1) Responsible to the Assistant Division Manager, AVN-301.

*(2) Supervises the following sections: Quality Control, AVN-324, Aircraft Support Section, AVN-326, and Program Standards, AVN-328.

(3) Requirements for Manager of Quality Assurance Branch:

(a) Hold a current mechanic certificate with A&P ratings, each of which is currently effective and has been in effect for at least three years.

(b) Has had at least three years of diversified maintenance experience on the same category and class aircraft used by AVN. This experience may be with an air carrier, commercial operator or certified repair station.

(c) At least one year experience as a Quality Control Inspector.

(d) Possess a working knowledge of this manual and the applicable maintenance provision of FAR.135.

(e) At least one year in the capacity of approving aircraft for return to service.

(4) The Quality Assurance Branch is responsible for the following:

(a) Contractual arrangements.

(b) The inspection portion of the maintenance program (including required inspections).

(c) Approving special flight permits.

(d) All maintenance related Technical Issuance Manuals and forms.

(e) Issuance of Maintenance Alert Directives.

(f) Management of the Continuing Analysis and Surveillance Program (CASP).

(g) Weight and Balance Program.

(h) EO conformity inspections.

(i) Occupational health, environmental safety, and emergency readiness programs.

(5) The Manager of Quality Assurance Branch has the authority to:

(a) Countermand any decision arrived at by any inspection personnel.

(b) Approve Special Authorization (codes - A, B, C, D, E, H, I, & J) for AVN inspection and maintenance personnel.

(c) Determine the necessity of an Engineering Order (EO), when AVN-328 is not able to obtain other acceptable data.

(6) Duties of the Manager of Quality Assurance Branch may be delegated to any qualified person in writing. However, such delegation does not relieve them of overall responsibility.

B. QUALITY CONTROL SECTION, AVN-324

*Requirement for Quality Control Section Supervisor:

(a) Hold a current mechanic certificate with A&P ratings, each of which is currently effective and has been in effect for at least three years.

The Quality Control Section supervisor is responsible for the following:

(1) The inspection portion (including required inspections) of the Continuous Airworthiness Maintenance Program (CAMP).

(2) Evaluates and issues special flight permits.

(3) Evaluates the effectiveness and quality of AVN maintenance programs.

(4) Coordinates and supports evaluations of new aircraft equipment, systems and special projects.

(5) Performs Contracting Officer's Representative (COR) functions to ensure compliance of contractors performing maintenance, repair and modification of AVN aircraft, components and appliances.

(6) Performs Facility Capability Review (FCR) of proposed airframe, powerplant, propeller, and appliance contractors.

(7) Performs nondestructive testing (NDT) inspections of aircraft and components. Certifies field personnel for limited NDT support.

(8) Performs receiving inspections and surveillance of parts, components and material for usage on AVN aircraft to determine if the item can meet the manufacturer's type design and is in airworthy condition.

(9) The audit function of the Continuous Analysis and Surveillance Program (CASP).

(10) Delegate authorization authority for RII.

(11) Approving Special Authorization (codes - A, B, C, D, E, H, I, & J) for AVN inspection and maintenance personnel.

(12) Duties of the Quality Control Section may be delegated to any qualified personnel in writing. However, such delegation does not relieve them of the overall responsibility.

*(13) LINE STATION QUALITY CONTROL INSPECTOR

*Requirement for Line Station Quality Control Inspector:

(a) Hold a current mechanic certificate with A&P ratings, each of which is currently effective and has been in effect for at least three years.

*Line Station Quality Control Inspector performs the following:

(a) Receives technical direction from the Quality Control Section, AVN-324.

(b) The inspection portion (including required inspections) of the continuous airworthiness maintenance program.

(c) Contractual arrangements pertaining to required inspections.

(d) Receiving inspections on all parts, components and material for usage on AVN aircraft.

(e) Authorizing required inspections, one-time limited, to any person (including contractors) in support of AVN aircraft.

(f) Duties of the Quality Control Inspector may be delegated by him/her to any qualified person in writing. However, such delegation does not relieve him/her from the overall responsibility.

(14) Reviews manufacturer service publications, airworthiness directives, alerts, etc., and determines applicability to AVN flight inspection aircraft powerplant, aircraft, and avionics systems and equipment.

*(15) Maintains the official centralized system of maintenance records for AVN aircraft, including aircraft engine, propeller and appliances.

*(16) Perform internal evaluations of the maintenance functions within the AVN Flight Inspection Program.

*C. AIRCRAFT SUPPORT SECTION, AVN-326

The Aircraft Support Section Supervisor is responsible for the following:

(1) Serves as liaison and technical support to the Logistics Center exchange and repair program.

(2) Accomplishes and administers procurement of equipment and services and develops specifications, cost estimates and performance work statements to support the type of equipment or services required.

(3) Manages acquisition and contractual repair of aircraft equipment, components and avionics equipment.

(4) Advises and assists in the planning and development of logistics and fiscal requirements.

(5) Provides direct logistics support for AVN controlled unique flight inspection components and maintains a parts and material stockroom.

(6) Provides for OKC aircraft supplies stock control, property accountability, related purchasing and transportation.

(7) Manages hangar, line and shop equipment program.

(8) Coordinates the GSA sale of AVN-300 surplus items.

*D. PROGRAM STANDARDS SECTION, AVN-328

*Requirement for Program Standards Section Supervisor:

*(a) Hold a current mechanic certificate with A&P ratings, each of which is currently effective and has been in effect for at least three years.

The Program Standards Section supervises the following:

(1) Development and maintenance of aircraft maintenance programs for AVN aircraft, engines, propellers and components for inclusion into Technical Issuance Manuals.

(2) Maintains and keeps current a centralized file of Technical Issuance Maintenance Manuals for AVN aircraft, engines, propellers and appliances. Arranges for printing and distribution of these manuals.

(3) Manages maintenance forms for AVN aircraft, equipment, test equipment and shop usage.

(4) Operates a system for accumulation, display, analysis and investigation of reliability data as it pertains to AVN aircraft, equipment and systems. Develops a means of adjusting maintenance intervals and maintenance processes based upon reliability information.

(5) The Analysis function of the Continuing Analysis and Surveillance Program (CASP).

(6) Perform the initial conversion of manuals to be included in the TI system for operation and maintenance of avionics and flight inspection systems. Establishes avionics and flight inspection system calibration intervals.

(7) Establishment of initial maintenance, calibration intervals and technical publications for the AVN fleet.

(8) Develop, coordinate, and distribute AVN-300 policy, including, but not limited to, General Maintenance Manual, Repair Station Manual, etc.

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CHAPTER II. ORGANIZATIONAL MISSIONS/PERSONNEL QUALIFICATIONS

5. BASE MAINTENANCE BRANCH, AVN-330, DUTIES, RESPONSIBILITIES AND AUTHORITY

A. MANAGER, BASE MAINTENANCE BRANCH, AVN-330

*(1) Responsible to the Assistant Division Manager, AVN-301.

*(2) Supervises Maintenance and Modification Section, AVN-331, Line Maintenance Section, AVN-332, Maintenance and International Support Section, AVN-334 and Accessories and Test Equipment Section, AVN-335.

(3) Requirements for Manager of Base Maintenance:

(a) Holds a mechanic certificate with A&P ratings, each of which is currently effective and has been in effect for at least three years.

(b) Has had at least three years of diversified maintenance experience on the category and class aircraft used by AVN. This experience may have been with an air carrier, commercial operator or certified repair station.

(c) At least one year in the capacity of approving aircraft for return to service.

(d) Possess a working knowledge of this manual and the applicable maintenance provision of the FAR.

(4) Responsible for management of the following:

*(a) All maintenance, alteration and repairs accomplished by AVN-330.

*

*(b) All precision measurement and test equipment.

*(c) Planning, scheduling, and controlling maintenance accomplished by AVN-330.

*

(5) The Manager of the Base Maintenance Branch has the authority to:

(a) Countermand any decision of maintenance or avionics personnel assigned to the AVN-330 organization.

(b) Authorize Code H authority.

(c) Authorize flight tests.

(6) Duties of the Manager of Base Maintenance may be delegated by them to any qualified person in writing. However, such delegation does not relieve that person of the overall responsibility.

(7) The Base Maintenance Branch is divided into the following sections:

*(a) Maintenance and Modification Section, AVN-331.
*(b) Line Maintenance Section, AVN-332.
*(c) Maintenance and International Support Section, AVN-334
*(d) Accessories and Test Equipment Section, AVN-335

B. *MAINTENANCE AND MODIFICATION SECTION, AVN-331

*Requirement for the Maintenance and Modification Section Supervisor:

*(1) Hold a mechanic certificate with A&P ratings each of which is currently effective and has been in effect for at least three years.

*The Maintenance and Modification Section Supervisor is responsible for the following:

*(1) Performs maintenance and modification of AVN aircraft, including airframe, powerplants, propellers, instruments, avionics equipment and accessories.

(2) Monitors work in progress for purposes of expediting accomplishment of maintenance through effective use of resources.

(3) Responsible for maintenance, repair, modification and calibration of flight inspection aircraft. Provides "on call" maintenance assistance to other AVN flight inspection maintenance activities.

(4) Coordinates with Flight Inspection Central Operations (FICO) on matters involving aircraft maintenance functions.

*

*(5) Provides calibration services for military and foreign flight inspection aircraft as required.

*

*C. LINE MAINTENANCE SECTION, AVN-332

*Requirement for the Line Maintenance Supervisor:

(a) Hold a mechanic certificate with A&P ratings each of which is currently effective and has been in effect for at least three years.

(1) Line Maintenance Supervisor supervises the following:

(a) Administratively responsible to and receives technical direction from the Manager, Base Maintenance Branch, AVN-330.

(b) Planning, directing, evaluating and coordinating the aircraft maintenance functions.

(c) Overall supervision of the Line Maintenance Section.

(d) Assuring adequate personnel, facilities and equipment are available for maintenance performance.

(e) Coordinates with Flight Inspection Central Operations (FICO) involving aircraft maintenance functions.

(f) Custodian for personnel in use property assigned to the Line Maintenance Section.

(g) Duties of the Line Maintenance Supervisor may be delegated in writing to any qualified person. However, such delegation does not relieve them from the overall responsibility.

*D. MAINTENANCE AND INTERNATIONAL SUPPORT SECTION, AVN-334

*Requirement for the Maintenance and International Support Section Supervisor:

(a) Hold a mechanic certificate with A&P ratings each of which is currently effective and has been in effect for at least three years.

The Maintenance and International Support Section Supervisor is responsible for the following:

(1) Performs maintenance and modification of AVN aircraft, including airframe, powerplants, propellers, instruments, avionics equipment and accessories.

(2) Monitors work in progress for purposes of expediting accomplishment of maintenance through effective use of resources.

(3) Responsible for maintenance, repair, modification and calibration of flight inspection aircraft. Provides "on call" maintenance assistance to other AVN flight inspection maintenance activities.

(4) Coordinates with Flight Inspection Central Operations (FICO) on matters involving aircraft maintenance functions.

(5) Provides calibration services for military and foreign flight inspection aircraft as required.

*E. ACCESSORIES AND TEST EQUIPMENT SECTION, AVN-335

*Requirement for Accessories and Test Equipment Section Supervisor:

(a) Hold a mechanic certificate with A&P ratings each of which is currently effective and has been in effect for at least three years or a Repairman Certificate that is currently effective and has been in effect for at least three years.

*(1) Performs maintenance and modification of instruments, avionics equipment, test equipment and accessories.

(2) Monitors work in progress for purposes of expediting accomplishment of maintenance through effective use of resources.

(3) Responsible for maintenance, repair, modification and calibration of accessories, avionics and test equipment.

(4) Provides calibration services for military and foreign flight inspection aircraft as required.

CHAPTER II. ORGANIZATIONAL MISSIONS/PERSONNEL QUALIFICATIONS

6. ENGINEERING BRANCH, AVN-340, DUTIES, RESPONSIBILITIES AND AUTHORITY

A. MANAGER, ENGINEERING BRANCH, AVN-340

*(1) Responsible to the Assistant Division Manager, AVN-301.

*(2) Manages Avionics Engineering, AVN-343, and Systems and Airframe Engineering, AVN-347, section personnel.

(3) Requirements for Manager, Engineering Branch:

(a) Bachelor of Science University Degree in an aviation related engineering discipline or equivalent.

(b) At least eight years experience in an aviation related engineering field.

(c) Possess a working knowledge of the FAR and aircraft certification requirements.

(4) The Engineering Branch, AVN-340, has the national and international responsibility for development and implementation of the FAA flight inspection system capability necessary to inspect and certify air navigation facilities that support instrument flight procedures; and for providing the engineering necessary for maintenance, repair and alteration of airframe, engines, propellers and appliances.

(5) Duties of the Manager of Engineering Branch may be delegated to any qualified person in writing. However, such delegation does not relieve him/her of overall responsibility.

(6) The Manager of the Engineering Branch is responsible for the accomplishing the following functions through two section level organizations

B. AVIONICS ENGINEERING SECTION, AVN-343

This section performs engineering related to specifications development, acquisition, design, modification, installation and repair of flight inspection aircraft avionics, equipment and supporting test equipment. These include the following functions:

(1) Development and approval of data under the Designated Alteration Station (DAS) approval authority for the issuance of Supplemental Type Certificates.

(2) Development and use of major repair data under Special Federal Aviation Regulation (SFAR) No. 36 authority.

(3) Provide Service Engineering Support for flight inspection aircraft avionics, equipment and supporting test equipment.

*(4) Documentation of all engineering data with Engineering Orders (EO's), engineering reports and drawings.

(5) Provide configuration control of flight inspection systems, navigation, guidance and control systems and equipment.

(6) Development of certification standards and Technical Issuance (TI) Manual information to incorporate new equipment into the flight inspection aircraft maintenance program.

C. SYSTEMS AND AIRFRAME ENGINEERING SECTION, AVN-347

The section performs Engineering related to specifications development, acquisition, design, modification, installation and repair of flight inspection aircraft structures, systems, propulsion systems, and supporting equipment. The section is also responsible for the Aircraft Structural Integrity Programs. These include the following functions:

(1) Development and approval of data under the Designated Alteration Station (DAS) approval authority for issuance of Supplement Type Certificates.

(2) Development and use of major repair data under Special Federal Aviation Regulation (SFAR) No. 36 authority.

(3) Provide Service Engineering support for flight inspection aircraft structures, systems and powerplants.

(4) Documentation of all engineering data with Engineering Orders (EO's), engineering reports and drawings.

*(5) Provide configuration control of AVN aircraft airframe, systems and powerplant.

*(6) Initiate and conduct in-service engineering, feasibility and cost/benefit studies for improving the performance and reliability of AVN flight inspection aircraft, systems and powerplants.

*(7) Development of test standards and Technical Issuance (TI) manual information to incorporate new equipment into the AVN flight inspection aircraft maintenance program.

(8) Provide technical support for the Engine Performance Trend Monitoring (EPTM) program.

(9) Manage and provide technical support for the Aircraft Structural Integrity Program (ASIP).

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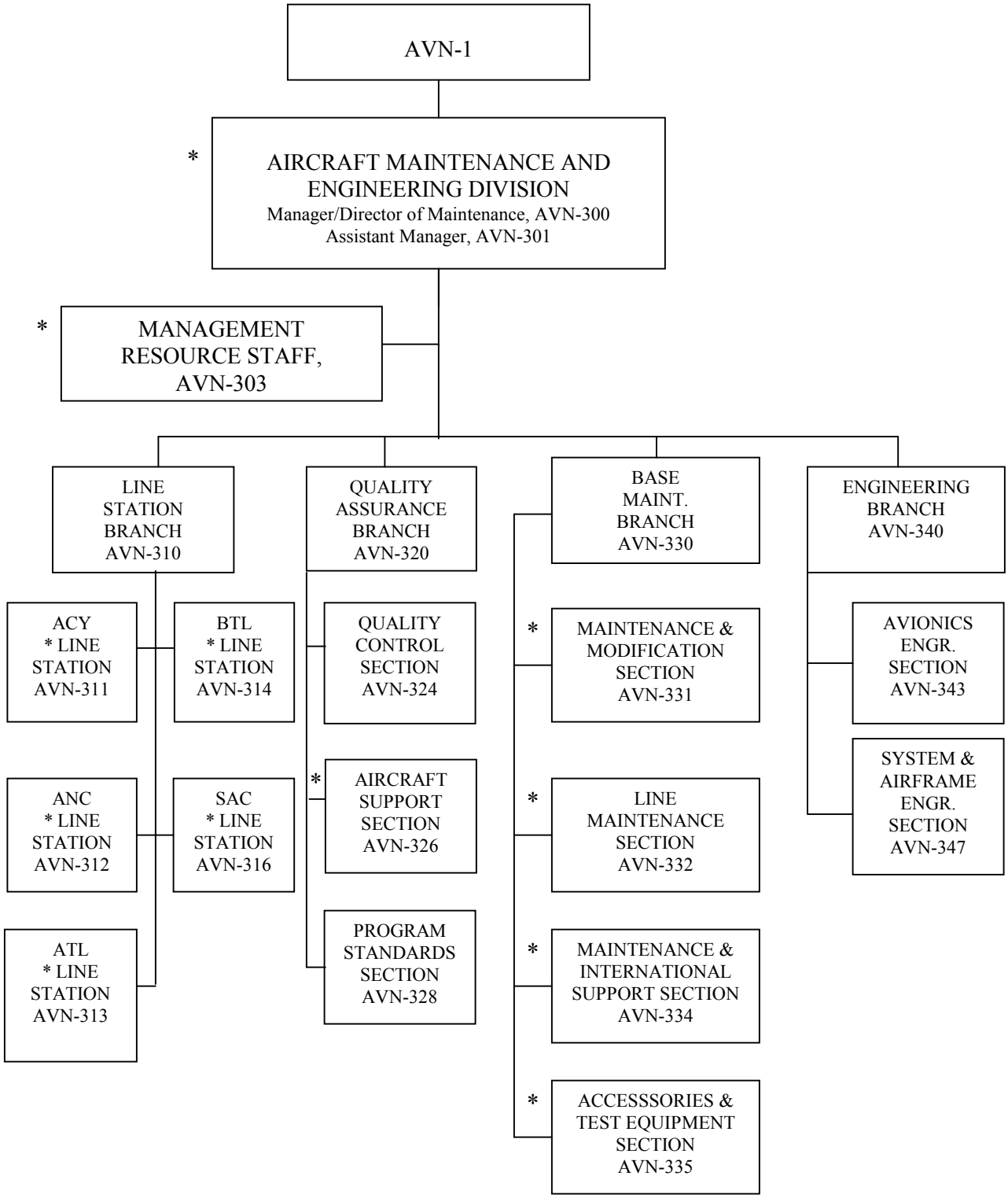
CHAPTER II. ORGANIZATIONAL MISSIONS/PERSONNEL QUALIFICATIONS

9. ORGANIZATIONAL CHART



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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

14. FLIGHT INSPECTION CENTRAL OPERATIONS

A. GENERAL

The Flight Inspection Central Operations Branch, AVN-280, (FICO) has been established in Oklahoma City as a central point of contact for aircrews operating Flight Inspection aircraft. The FICO monitors aircrew duty days, provides flight following and aircraft dispatch functions. The Line Station Branch, AVN-310, has assigned personnel to the FICO, as FICO Maintenance Coordinators, to support aircraft maintenance requirements associated with these functions.

B. RESPONSIBILITIES

FICO Maintenance Coordinators are responsible for monitoring and identifying current maintenance status of the Flight Inspection aircraft fleet. Current status is identified and monitored through an automated AVN Fleet Status program. Information from aircraft crewmembers, dispatchers, and maintenance personnel from AVN-310 and AVN-330 is received by the Coordinators and input into the Fleet Status program. Additionally, the Coordinators shall authorize all MEL/DDL deferrals, coordinate Special Flight Permits, monitor scheduled maintenance requirements, and coordinate/authorize emergency maintenance requirements away from FAA maintenance facilities, fleet-wide.

C. QUALIFICATIONS AND AUTHORIZATIONS

Maintenance Coordinator personnel assigned to the FICO must hold an Airframe and Powerplant certificate and be authorized "Airworthiness Release Authority, Code H". The Maintenance Coordinators will conduct the responsibilities as identified in paragraph B for flight inspection aircraft away from the assigned FAA maintenance facility.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

15. LIST OF PERSONS PERFORMING CONTRACT MAINTENANCE

A. GENERAL

Contract maintenance is sometimes used to extend the maintenance facilities and capabilities of the AVN Flight Program. These arrangements for the performance of maintenance includes contracts with repair stations, certificated mechanics, or other certificated operators to repair, inspect, or overhaul engines, structures, airframes, and/or appliances. Although this maintenance may be performed by a contractor, AVN-300 retains primary airworthiness responsibility regardless of the terms of any contractual arrangement.

B. CONTRACTOR QUALIFICATIONS

To ensure that all contractors utilized by the AVN Flight Program are qualified to perform the requested task and that the tasks are accomplished in accordance with instructions and procedures of the GMM and other pertinent technical issuances, a Contract Monitoring Program has been developed. The details and procedures of the Contract Monitoring Program are contained in Chapter III, Section 17 of this manual.

*A current list of persons with whom the Aircraft Maintenance and Engineering Division (AMED), AVN-300, has arranged for contract maintenance is maintained by the Quality Assurance Branch, AVN-320.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

17. CONTRACTURAL ARRANGEMENTS AND MONITORING

A. PURPOSE

*This section assigns the responsibility and provides procedures for the technical evaluation and monitoring of contract organizations that perform maintenance, inspection, repair or alteration of AVN aircraft, equipment and components.

B. RESPONSIBILITY AND DEFINITIONS

(1) The Quality Assurance Branch, AVN-320, has the responsibility to ensure that:

*(a) Any person contracted to perform maintenance, inspection (to include required inspection), repair, or alteration to AVN aircraft or equipment is qualified, trained, certificated, and authorized to perform the work requested.

*(b) Any person contracted to perform maintenance, inspection, repair, or alteration to AVN aircraft or equipment has adequate facilities and equipment to perform the work requested.

*(2) Definitions of the required functions and references involved in contractual arrangements and monitoring are as follows:

*(a) Technical Specifications. Quality Control Section (AVN-324) reviews all technical specifications relating to procurement of materials or services to be utilized in the operation and maintenance of AVN aircraft prior to their use in solicitations and contracts.

*(b) Facility Capability Review. AVN-324 accomplishes the technical portion of contract Pre-Award Surveys relating to procurement of aircraft maintenance services, aircraft parts and/or materials when requested by the contracting officer or in those cases deemed necessary by AVN-320. This review will ensure those contracted services or products meet the regulatory and program requirements of AVN.

*(c) Contract Monitoring/Audit. AVN-324 or designee will accomplish appropriate review of contract service providers to accurately determine contractor performance and ensure compliance with contract specifications, the General Maintenance Manual (GMM), and the applicable Federal Aviation Regulation (FAR).

*(d) Contractor. Any person with whom AVN has made an arrangement (informal/oral or formal/written), for the performance of any maintenance, inspection, repair, or alteration involving AVN aircraft and/or equipment.

*C. CONTRACTED SERVICES AND RELATED REQUIREMENTS

The requirements for contract monitoring or audit will vary depending on the specific service requested and specified by AVN. The service or work provided through an AVN contractual arrangement and its associated requirements for monitoring or audit, may be categorized and described as follows:

(1) Substantial Maintenance Contract. Any activity involving C-check or greater maintenance check; any engine maintenance requiring case separation or tear down; and/or major alteration or major repairs on airframes, engines, or propellers.

(a) Any substantial maintenance service accomplished through a contractual arrangement will require onsite evaluation. The contractor must have the capability, organizational structure, competent and trained personnel, relevant technical data, and adequate facilities and equipment to do the work in accordance with AVN requirements.

(b) Follow-up and ongoing audit of those contractors providing substantial maintenance services are required annually and are accomplished in accordance with the audit system requirements of the AVN Continuing Analysis and Surveillance Program (CASP). Procedures and information relating to these audits are provided in chapter/section III.70.

(c) AVN aircraft fuel service performed by contractor, when accomplished at AVN maintenance bases on an ongoing basis, will be considered a substantial maintenance contractor and audited annually. Information regarding scope and detail of a fuel service contract is provided in Paragraph E of this section.

(2) Formal Maintenance Contract. Performance of maintenance, preventive maintenance, or alteration of AVN aircraft or equipment as specified through contract arrangement and accomplished on an ongoing basis.

(a) Instructions and requirements identifying the specific work or task to be accomplished are normally provided through a formal contract. Instructions may also be provided through an AVN issued Purchase Order/Request, Work Order, or other documentation provided by a properly authorized AVN representative

NOTE: One time authorizations for performance of unscheduled emergency maintenance is accomplished in accordance with the procedures for Emergency Maintenance, chapter/section III.27. Follow-up monitoring or audit is not required for those contractors performing onetime emergency maintenance.

*(3) Subcontracted Aircraft Parts Provider Services. This type of formal contract service is applicable to contracts with organizations supplying aircraft parts and/or components for use on AVN aircraft. The aircraft parts/components are obtained by the primary contract provider from a subcontract vendor (normally the aircraft manufacturer or prime supplier) and then supplied to AVN in accordance with established contract requirements. AVN utilizes two major contracts of this type through contracts with the Raytheon Aircraft Parts Inventory and Distribution Company (RAPID), and Certified Spare Parts System (CSPS).

(a) Instructions and requirements, as specified by AVN, are provided, through the formal FAA contract process, to ensure all parts/components obtained for AVN's use meet the requirements of the GMM and applicable FAR.

(b) Additional information regarding acquisition of aircraft parts and material and the receiving inspection requirements for incoming parts is provided in chapter/section III.40 and III.41.

*(c) The requirement for ongoing monitoring/audit of the Subcontracted Parts contract service is applicable only to the Primary contract provider (RAPID or CSPS). Audit information is provided in Paragraph E of this section.

*D. FORMAL CONTRACT PRE-QUALIFICATION

Prior to contract award and use of a contractor for the first time, AVN must accomplish an onsite audit of the proposed contractor to determine their capability and the adequacy of their organization to accomplish the work requested. Any alternate means used to pre-qualify formal contractors must be coordinated and approved by the PMI/PAI. The following information will be reviewed by AVN-320 prior to contract award:

(1) Technical Specifications.

(a) AVN-324 will evaluate technical specifications and determine that the task contracted will be accomplished in accordance with applicable FAR and pertinent Technical Issuance manufacturers' specifications.

(b) Listed below are the basic guidelines for evaluation of the specifications.

1 Ensure that all work accomplished and documentation is in accordance with the GMM.

2 Review for the inclusion of any special technical requirements as specified by the AVN maintenance program.

3 Review overhaul procedures to ensure specifications and technical data used meet all requirements of AVN maintenance programs and FAR.

4 Ensure assignment of responsibilities of the prime contractor, and use of any subcontractor services, if applicable.

5 Review the test procedures to ascertain they are adequate to produce an acceptable unit in accordance with applicable technical data.

6 Ensure proper identification of the parts and materials used in conjunction with the repair/overhaul process to ensure conformity with applicable technical specifications.

7 Ensure that technical publications, which are used in part or total, are applicable, current, and appropriate for the work to be accomplished.

(c) Upon completion of contract specification reviews by the Quality Control Specialist, a written report will be provided by AVN-320 to the Contracting Officer.

(2) Facility Capability Review.

(a) AVN-324 personnel will be responsible for determining the technical capabilities of selected contractors to perform proposed work.

(b) After the assigned Contractor Officer has reviewed all offers and determined the competitive range, AVN-324 will be queried concerning the need for a facility capability review(s).

(c) The Office of Acquisition Contracting Officer will be advised by AVN-324 of their representatives' name(s), if technical evaluation is required. The Contracting Officer will coordinate on the proposed schedule and offerors to be inspected. A team composed of the Contracting Officer/other specialist and AVN-324 representative(s) may be formed for the accomplishment of the contract Pre-Award Survey(s).

(d) Prior to contract award, a full Contract Pre-Award Survey, performed as a team with Contracting Officer in charge and the AVN-324 representative responsible only for the technical capabilities, may be conducted to determine an offeror's technical and business capabilities.

(e) During the review, AVN-324 will determine the technical capabilities of the contractor as follows:

1 The facility is equipped with adequate tools and equipment, to include test equipment, necessary to fulfill contract requirements.

2 The contractor is qualified and has adequate staffing to fulfill contract requirements.

3 The contractor has adequate organization to perform the work or service requested.

4 The contractor is properly certificated and rated to perform the requirements of the contract.

5 The contractor has designated personnel that are properly trained and require authorization to perform required inspections (if applicable to the work that is to be performed). Required Inspection requirements are defined and procedures provided in chapter/section III.29.

6 The contractor has an approved drug testing program.

(f) At the conclusion of the facility capability review, the AVN-324 representative will provide the contractor with documentation indicating the results of the review. If further training is required or any item is unsatisfactory, the report will indicate such.

(g) Documentation will be in letter form detailing the satisfactory or unsatisfactory results of the review with a copy provided to the Contracting Officer and a copy filed in AVN-320. If an unsatisfactory evaluation is found, the reasons for the unsatisfactory finding must be detailed.

(h) After contract award and prior to work being performed, AVN-320 will insure that the contractor is trained in the applicable portions of the GMM and on any new equipment involved in the contract. Present the contractor with appropriate portions of the GMM.

*E. FOLLOW-ON CONTRACT MONITORING/AUDIT

(1) AVN-324 will accomplish follow-on audit of formal contract service providers on an as needed basis or at any time of special request by the Contracting Officer. The need and frequency of the follow-on audit of formal contract service providers will be determined by AVN-324.

(a) Prior to audit, the Administrative Contracting Officer will furnish AVN-324 with copies of the contract, purchase orders and specifications with request for delegation of Contracting Officer Representative duties. The Contracting Officer's representative will become familiar with the specifications, delegated authority/limitations, and procedures to accomplish the audit efficiently and effectively.

(b) In addition to those requests made by the contracting officer for contractor audit, AVN-324 will determine the need for audit based on the following information:

1 AVN level of confidence in the contract service provider and their work.

2 Quality and complexity of contracting item and its reliability.

3 Fulfillment of contract technical specifications and quality of records and certification produced.

4 Amendments to the contract made through the contracting officer that may effect changes in procedures, techniques or improvements to the end product; also, amendments to the contract that may cause the change or addition of facilities.

5 Follow-on audit will be documented in accordance with the requirements of Facility Capability Review (reference paragraph D(2) of this section).

(2) The on-site audit by the AVN-324 representative will involve the following:

(a) Monitoring the facility's quality control inspection procedures.

(b) Observing the manufacturing and in-process assembly.

(c) Reviewing technical data, the in-process procedures and final acceptance checks of contracted items to determine quality of product.

(d) Inspecting subcontracted items for compliance for contract specifications.

(e) Inspecting components and units for adequacy of preservation, packaging and packing for storage and shipment as set forth in the contract.

(f) Discussing procedures, maintenance techniques and promoting coordination with contractor and quality control.

(g) Reporting noncompliance of FAR to the Manager, AVN-320.

(h) Notifying the contracting officer when interpretation of the contract is required or changes appear necessary.

(i) Other requirements as specified in the letter of designation as contracting officer's representative.

(j) Verify proper transfer of all maintenance documents or reports between contractor and AVN-300.

(k) Ensure work accomplished is performed by the specified contractor and that the work was done in accordance with AVN GMM, TI 4100.24.

(l) Upon return from contractor's facility, a narrative report will be prepared. Copies of the report will be distributed by AVN-320 and AMQ-300 for information or action. All reports will be maintained on file in AVN-324.

*F. FUEL CONTRACTOR AUDIT

Fuel services accomplished by contractor on an ongoing basis at AVN maintenance base locations will require follow-on audit by AVN-324 on an annual basis. The audit will be accomplished and documented in accordance with procedures provided by Paragraph E of this section. The following information will be used to audit fuel service contractors:

(a) Availability of applicable portions of the GMM.

(b) Compliance with the applicable Aircraft Flight Manual (AFM) or Company Flight Manual (CFM).

(c) Contractor training requirements.

(d) Inspection of fire extinguishers, pressures, seals, recharge date.

(e) Inspection of grounding clips, wires and bonds.

(f) Inspection of emergency shutdown system for proper functioning.

(g) Verification that Millipore checks are being performed.

(h) Inspection of fueling hoses and nozzles for condition.

(i) Verification that filters/separators are changed as required.

(j) Inspection of fueling vehicle's exhaust system for leakage and proper spark arrester.

(k) Inspection of fueling vehicle for general condition.

(l) Inspection of all valves and handles for proper operation.

(m) Check fuel markings.

Document surveillance inspection on a Fuel Service Surveillance Checklist (See Chapter IV, Section 40) and, if discrepancies exist, provide the contractor with a written report.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

21. AIRCRAFT MAINTENANCE AND INSPECTION PROGRAM
Ref. 43.13, 135.411, 135.423, 135,425, 135.427

A. MAINTENANCE AND INSPECTION PROGRAM

*(1) The Aircraft Maintenance and Engineering Division, AVN-300, and all supporting organizations will have only qualified, competent, and authorized personnel perform its maintenance, preventive maintenance, or alterations and ensure that adequate facilities, equipment, and technical data is provided for the accomplishment of those task. AVN will also ensure that each person with whom it arranges for the performance of that work has an organization adequate to perform the work. (Reference Chapter III.17 and III.70.)

*(2) The continuous airworthiness of the AVN aircraft is assured through the aircraft maintenance, inspection, preventive maintenance and alteration programs of the AVN organization. These programs have been developed in accordance with the rules of FAR Part 135. All AVN aircraft will be maintained in accordance with the applicable and current FAR 135 requirement. Aircraft program listing is outlined on Paragraph D.(2) of this section.

(3) The Maintenance and Inspection Program combine the maintenance and inspection functions required to support the operational requirements of the AVN Aircraft Program. This program provides a maintenance organization to perform the work and an inspection organization to perform required inspections. The two organizations, maintenance and inspection, are separated at the branch level, which is below the level of overall administrative control.

B. MAINTENANCE PROGRAM

(1) The maintenance program is comprised of scheduled and unscheduled maintenance, routine and non-routine maintenance, preventive maintenance, and alterations functions.

(a) Scheduled maintenance is the accomplishment of specific maintenance or inspection tasks at predetermined intervals as detailed in individual task cards. These task cards are controlled by an automated task card system. These scheduled maintenance and inspection task are outlined in each aircraft specific maintenance program. The individual maintenance programs are approved through the work content documents Technical Issuance (TI) manuals. The Technical Issuance Classification listing is detailed in Chapter I, Section 6 of this manual.

(b) Nonroutine (unscheduled) maintenance takes place when mechanical irregularities occur. These irregularities can be in the form of aircraft log discrepancies or irregularities discovered during the performance of scheduled maintenance, inspection or other maintenance.

1 Aircraft log discrepancies are entered on Aircraft Log, VN Form 4100-8.

2 Nonroutine maintenance is documented on NonRoutine Work Form, VN Form 4100-155, or electronic equivalent.

(c) Routine maintenance is the performance of maintenance tasks involving the periodic servicing, lubrication, and cleaning of aircraft, engines, propellers, rotors, appliances, or other parts at prescribed intervals. These routine maintenance task are incorporated into each individual aircraft maintenance or inspection program, as outlined in the applicable 4100 series TI manual.

(d) Preventive maintenance is the simple or minor preservation operations and the replacement of small standard parts not involved in complex assembly operations. The preventive maintenance program is incorporated into each individual aircraft maintenance or inspection program in the way of cleaning, corrosion prevention and detection, and the replacement of standard hardware and parts as necessary.

*(e) The alteration and repair program may utilize the resources of the Engineering Branch, AVN-340, and an Engineering Order (EO) system to provide methods and procedures for the accomplishment of modifications (alterations) and repairs to AVN aircraft. Detailed procedures and description of the EO system can be found in Chapter III, Section 77 of this manual.

(f) Modifications (alterations) and repairs must be evaluated to determine whether they are major or minor. This determination will be made in accordance with the Major Alterations and Major Repair Decision Diagrams located in Chapter III, Section 94, of this manual. If the modification or repair is determined to be major and approved data is available, the modification or repair may be performed in accordance with that data. If approved data is not available, the major alteration or repair will be referred to Engineering, AVN-340, for development of approved data. Minor modifications and repairs may be performed in accordance with manufacturers approved/accepted data, such as that provided in the aircraft structural repair manual or a service bulletin; or using other acceptable methods, techniques or practices acceptable to the FAA.

Examples of data sources that may be considered acceptable to the FAA are Engineering Orders developed by the Engineering Branch, AVN-340, FAA Advisory Circulars, FAA Approved Data, industry publications (e.g., ASTM, SAE, and university research), and manufacturers technical information (e.g., service bulletins, service letters, communiques technical correspondence, kits, manuals, etc).

C. INSPECTION PROGRAM

(1) The Inspection portion of the maintenance program is comprised of required inspection and special inspection programs. The Required Inspection Program is detailed in Chapter III, Section 29 of this manual. The Special Inspection Program is detailed in Chapter III, Section 28 of this manual.

*(2) The Aircraft Maintenance and Engineering Division (AMED), AVN-300, and all supporting organizations, including each person(s) with whom it arranges for the performance of that work, will perform all inspections (to include required inspections) in accordance with procedures of this manual. AVN will also ensure that all organizations, including any person(s) outside the FAA, with whom it arranges for the performance of any inspection (to include required inspection), has an organization adequate to perform the work.

D. AIRCRAFT MAINTENANCE/INSPECTION PROGRAMS

(1) The 4100.24, General Maintenance Manual, and the individual 4100 series TI manual used in conjunction contain all the inspection (including structural, special, and corrosion control), maintenance, overhaul, repair, and weight and balance weighing programs required for a Continuous Airworthiness Maintenance Program.

(a) Examples of these 4100 series manuals are as follows: TI 4125.1, BAe 125-800A aircraft; TI 4128.1, Beech 300 aircraft.

(2) Prior to the addition of any new AVN aircraft to the operations specifications, AVN-320 will perform the following:

*(a) Perform aircraft conformity inspection per applicable Type Certificate Data Sheet, and make appropriate aircraft log entry.

(b) Perform aircraft, engine, propeller and appliance record research per Chapter/Section III.73.1 of this manual.

(c) Ensure applicable manuals are current and converted to Technical Issuance Manuals.

(d) Ensure the aircraft equipment list and weight and balance records are current. Weight and Balance will conform to Chapter/Section III.74.1 of this manual.

(e) Phase the maintenance program into an approved continuous maintenance program, establish a Work Content Document and task card system.

*(f) Ensure adequate spare parts are available and conform to Chapter/Section III.40.1 of this manual.

*(3) The following is a list of FAA Flight Inspection aircraft. The aircraft identified by this aircraft listing will be maintained in accordance with the applicable parts of FAR Part 135 and authorized by AVN Operation Specifications (Ref. Appendix 1).

AVN FLIGHT PROGRAM

AIRCRAFT MANUFACTURER	MODEL	SERIAL NUMBER	REGISTRATION NUMBER	ENGINE TYPE
Beechcraft	300	FF-1	N66	P&W PT6A-60A
Beechcraft	300	FF-2	N67	P&W PT6A-60A
Beechcraft	300	FF-3	N68	P&W PT6A-60A
Beechcraft	300	FF-4	N69	P&W PT6A-60A
Beechcraft	300	FF-5	N70	P&W PT6A-60A
Beechcraft	300	FF-6	N71	P&W PT6A-60A
Beechcraft	300	FF-7	N72	P&W PT6A-60A
Beechcraft	300	FF-8	N73	P&W PT6A-60A
Beechcraft	300	FF-9	N74	P&W PT6A-60A
Beechcraft	300	FF-10	N75	P&W PT6A-60A
Beechcraft	300	FF-11	N76	P&W PT6A-60A
Beechcraft	300	FF-12	N77	P&W PT6A-60A
Beechcraft	300	FF-13	N78	P&W PT6A-60A
Beechcraft	300	FF-14	N79	P&W PT6A-60A
Beechcraft	300	FF-15	N80	P&W PT6A-60A
Beechcraft	300	FF-16	N81	P&W PT6A-60A
Beechcraft	300	FF-18	N83	P&W PT6A-60A
Beechcraft	300	FF-19	N84	P&W PT6A-60A
*				
*				
British Aerospace	Bae125-800A	258134	N96	TFE-731-5R-1H
British Aerospace	Bae125-800A	258154	N97	TFE-731-5R-1H
British Aerospace	Bae125-800A	258156	N98	TFE-731-5R-1H
*				
Learjet	LR60	009	N54	P&W 305A
Learjet	LR60	013	N55	P&W 305A
*Learjet	LR60	033	N56	P&W 305A
*Learjet	LR60	039	N57	P&W 305A
*Learjet	LR60	057	N58	P&W 305A
*Learjet	LR60	080	N59	P&W 305A
Canadair	CL600-2B16	5138	N85	CF34-3A1
Canadair	CL600-2B16	5167	N86	CF34-3A1
Canadair	CL600-2B16	5190	N87	CF34-3A1

E. FAA MAINTENANCE AND INSPECTION PERSONNEL

(1) Each person directly in charge of maintenance, preventive maintenance, or alterations of AVN aircraft must be competent, certificated and appropriately rated in accordance with FAR Part 65.

(2) Each supervisor, inspector, technician, and contractor ensuring adequacy of work on AVN aircraft must be competent, familiar with, and understand the requirements of the FAA General Maintenance Manual, the Technical Issuance System, and FAA regulations.

(3) Each person performing work on any AVN aircraft or portion thereof shall use the methods, techniques, and practices prescribed in the publications listed in E.(2) above.

(4) Each person performing work shall do that work in such a manner and use materials of such quality that the condition of the aircraft or appliance worked on will be at least equal to its original or properly altered condition.

(5) Each person performing an inspection shall do so in a manner to determine whether the aircraft or portion thereof meets all applicable airworthiness requirements, and perform the inspection in accordance with the instructions set forth in the inspection program established for the type of aircraft being inspected.

F. QUALIFICATIONS/AUTHORIZATIONS

*Persons signing or stamping "I" Inspection Items are required to be authorized by the Manager of the Quality Assurance Branch, AVN-320, or a designee, using an Authorization Request Form, VN Form 4100-21 (See Chapter IV). A file of all approved personnel will be maintained in an electronic database as code "A" Inspection Authorization. Personnel will meet the requirements and conduct inspections as follows:

(1) Have satisfactorily completed maintenance training or has equivalent experience acceptable to the manager of AVN-320. The equivalent experience must be documented on the individual's training record.

(2) Understand and be familiar with the General Maintenance Manual (GMM), TI 4100.24, policies and procedures.

(3) A list of personnel authorized special privileges and the privileges they hold are maintained in an electronic database as Special Authorizations by Quality Control, AVN-324.

G. AVN AIRCRAFT MAINTENANCE ORGANIZATIONS

(1) Each AVN maintenance organization shall have adequate facilities and equipment and employ sufficient number of persons to perform maintenance, preventive maintenance, inspection, and alteration functions.

(2) Quality Control Section, AVN-324, controls the inspection portion of the maintenance program (including the Required Inspections). The required separation between inspection and maintenance for Required Inspection Items (RII's) is covered in Chapter III.29 of this manual.

*(3) Line Station Branch, AVN-310, and Base Maintenance Branch, AVN-330, are responsible for the performance of maintenance, preventive maintenance and alterations on AVN assigned aircraft. Calibration of precision measuring and test equipment is accomplished at each facility or contracted out.

(4) The Program Standards Section, AVN-328, is responsible for the development, changes/revisions, utilization and control of the aircraft maintenance and inspection programs as detailed in each of the applicable 4100 series manuals as referenced in Chapter I, Section 6. Program Standards also provides for the analysis portion of the Continuing Analysis and Surveillance Program (CASP).

*(5) AVN-300 maintenance personnel at each facility will operate under the Aviation System Standards Operations Specifications. Repairman Certificates will be issued under FAR Part 65. Avionics Repairman will perform or supervise maintenance, preventive maintenance or alterations of AVN Flight Inspection Aircraft and/or components, limited to those functions identified on their Repairman's Certificate. Repairman will use only current instructions of this manual, the appropriate technical issuance manual and the continuous airworthiness maintenance program for each aircraft make and model. The Director of Maintenance or designee will recommend personnel for repairman certificate and provide appropriate documentation to the CHDO PMI/PAI.

H. AVN AIRCRAFT MAINTENANCE AND INSPECTION SYSTEM

(1) The maintenance and inspection system is used to ensure the continued airworthiness of AVN assigned aircraft.

*(2) The basic maintenance and inspection system requires technicians to initial, stamp or use signature for work performed by them prior to submitting the item for final acceptance. Inspectors or leads will indicate their acceptance of the work performed with the application of the inspector's acceptance stamp or signature at the appropriate places on the work card/forms. (Referenced in Chapter /Section III.23).

*(3) Certain persons are authorized to perform repair, overhaul, and return to service of various parts, equipment, systems, aircraft, engines, etc., by the appropriate Supervisor following the procedures in the chapter of this manual pertaining to the special authorizations. A list of personnel and the authorizations are maintained in an electronic database as Special Authorizations by the Quality Control Section, AVN-324.

I. MAINTENANCE SCHEDULING

*(1) The planning, coordination, and scheduling of inspection, maintenance and alteration projects of AVN aircraft is accomplished through the Line Station Branch, AVN-310. AVN-310 serves as the focal point for the planning and scheduling of long and short range work plans for aircraft inspection, maintenance and alteration projects that are accomplished by the AVN-300 organization.

*(a) AVN-310 prepares, publishes, and updates schedules showing the in-work period for aircraft inspection, maintenance and alteration projects. This schedule outlines the forecasted completion time frame for each scheduled maintenance/inspections check, overhaul, major repair or modification of an AVN aircraft.

*(b) Oklahoma City assigned aircraft schedules are reviewed and coordinated with operations functions through Aircraft Planning and Status Meetings conducted by AVN-310. These meetings help to ensure that there will be no scheduled maintenance requirements due prior to an aircraft completing its planned flight schedule.

*1 Assigned aircraft status is determined by query of the electronic database "Maintenance Requirements". This query provides the necessary data indicating the time of the aircraft's next scheduled maintenance requirement, component replacement, MEL/DDL repair interval or special inspection requirement.

J. MAINTENANCE WORK PACKAGE

(1) Aircraft maintenance, repair, and alteration work is controlled through the issuance of work packages that include detailed instructions of the work to be performed. The work package includes a Master Nonroutine Index, VN Form 4100-27, that may list a specific scheduled maintenance check and/or any additional maintenance task that is to be accomplished during that maintenance visit.

*(a) AVN aircraft maintenance, inspection, repair, and alteration work packages will be prepared by the supervisor, or designated individual, of the section or Line Station that is to accomplish the work.

*(b) The contents of a work package is determined by reviewing the aircraft and component data contained in the electronic database. The electronic database provides a means of alerting and identification of a maintenance requirement(s) that are due a specific required task(s). The maintenance requirement(s) may be in the form of a scheduled aircraft or component maintenance/ inspection check, repair, calibration, overhaul, or replacement. Other unscheduled maintenance or alteration task(s) that are to be accomplished during the scheduled visit will also be included in the work package. Maintenance and/or inspection requirements are tracked by electronic database.

*1 Aircraft requirements alert in the electronic database will provide a list of current hard time requirements by aircraft.

*2 Engines and Component removal alert in the electronic database will provide a list of current hard time requirements by aircraft.

(c) The scheduled maintenance check will consist of all inspection/task cards that are required to be accomplished during a specific check/inspection. Control charts are provided by the electronic database that list all cards to be accomplished and a means of assuring the completion of each card. The control chart is also used to control and depicts the status of each card associated with each specific check/inspection.

(d) Other maintenance tasks to be accomplished during a maintenance visit are also listed on the Master Nonroutine Index Form, VN Form 4100-27. These tasks may be as follows:

1 Component overhaul/replacements as documented on Component Replacement Form, VN 4100-155-2. (Reference Chapter IV)

2 Special inspections (as detailed on specific inspection/task cards).

3 Unscheduled (nonroutine) maintenance, as documented on Nonroutine Work Form, VN 4100-155. (Reference Chapter IV)

4 Alterations, repairs, modifications, Service Bulletins or Airworthiness Directives

*Following work package(s) preparation, the maintenance organization will determine the specific initiation date of the scheduled project. These work packages or associated forms contain places for the technician and inspector to attest to the completion of each step and its acceptability. The purpose of the work package is to assure that each item of work is identified, completed in a satisfactory manner, documented, inspected by an authorized inspector when required, and found to be airworthy prior to approval for return to service. Work packages are maintained in each individual aircraft record file as outlined in TI 4100.24, Chapter III, Section 73, Paragraph G. A work package content example is listed in subparagraph (2).

(2) A typical work package (service check) uses a Master Non-Routine Index as the controlling document. The package consists of the following:

(a) Master Non-Routine Index Card, VN Form 4100-27

*1 Scheduled Maintenance Check or Inspection List

*a Service Check Cards

2 Engineering Order (EO) Control Form, VN Form 4100-45

a EO's

b Material Requirements List, VN Form 4100-11-1

3 RAMP Calibration Cards

4 Component Replacement Card, VN Form 4100-155-2

5 A Work Package Envelope

(3) Work accomplished in the shops, such as inspection, maintenance, calibration, repair and alteration of components, parts and appliances are controlled by use of individual work orders and recorded on Job Order, VN Form 4100-135, (Chapter IV). On-going inspections are utilized to assure that all work is inspected and the item is approved for return to service upon completion.

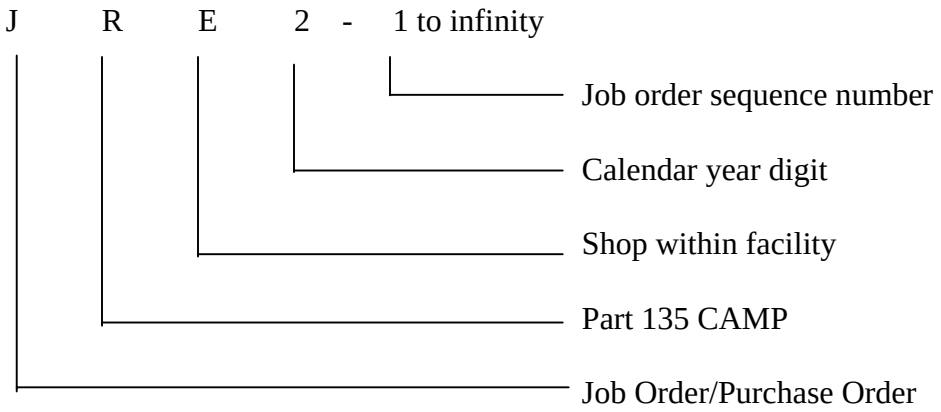
(4) Shop Job Order Numbering System

(a) General

The following paragraphs describe the FAA system that shall be used by all facilities for shop job order numbering. This number is to be entered on the Serviceable Part Tag, VN Form 4100-301, Airworthiness Approval Tag, FAA Form 8130-3, and on the Job Order, VN Form VN 4100-135, retained by the releasing shop (see Chapter IV of this manual).

*(b) Description of System

The system consists of a four position alpha-numeric identifier followed by the job order sequence number as follows:



1 J. The first character of the job order sequence number indicates that it is a job order/purchase order.

2 R. The second character of the job order sequence number indicates Part 135 operators Continuous Airworthiness Maintenance Program (CAMP).

3 Shop Within Facility. The third character is an alphabetical letter that denotes specific shops or locations within a facility. The following designations for this digit are assigned as follows:

Designation	Section	Shop Title
A	AVN-331	Maintenance and Modification Section
B	AVN-332	Line Maintenance Section
C		RESERVED
D		RESERVED
E	AVN-334	Maintenance and International Section
F		RESERVED
G		RESERVED
H	AVN-326	Aircraft Support Section
I	AVN-335	Accessories and Test Equipment Section
J	AVN-324	Quality Control
K	AVN-311	ACY Line Station Section
L	AVN-312	ANC Line Station Section
M	AVN-313	ATL Line Station Section
N	AVN-314	BTL Line Station Section
O	AVN-316	SAC Line Station Section

As additional shops are added, assign a new number and notify Quality Assurance Branch (AVN-320), Attention: AVN-328, and the new digits will be added to the foregoing lists.

*4 Calendar Year/Sequence Number. The last digit of the calendar year shall be the fourth character, i.e., 2 for 2002, 3 for 2003, etc. This digit is followed by a dash and by the number 1 for the first job order issued, 2 for the second, etc. On January 1 of each year, the previous years number sequence is stopped and numbers 1, 2, etc., are used again.

The system enables tracing from a serviceable part tag back to the shop which released it.

(c) Assignment of Job Order Number

The individual shop should maintain a master list of job order (J.O.) numbers and assign them as needed. This list could contain additional information, but it must contain at least the J.O. number to prevent duplicate assignment. Where production control

organizations exist, they may assign job order numbers. A typical master list is shown below, but each facility may design their own to fit local requirements. The first two columns minimum information are required on all master lists. This master list is for job orders only.

MINIMUM INFORMATION (Required By All)		**ADDITIONAL INFORMATION (As Required)**		
J. O. No.	**Date**	**Initial**	**Item**	**Serial No.**
*JRE2-1	1/1	JH	10 AMP	0101
-2	1/3	JH	Tacan B	1095
-3	2/1	GB	Data Recorder	099
-4	2/5	AJ	SP-20 RBC	1215

(5) Upon completion of all required task involved with the specific project, the work package is reviewed for completeness and proper documentation by the person approving the return to service. This review will ensure that all documentation of maintenance and inspection (to include required inspection) has been properly completed. Upon completion of the review and the determination is made that the aircraft is airworthy and has been properly maintained, approval for return to service will be accomplished in accordance with the procedures of Chapter III, Section 25.

K. IMPASSE SITUATIONS

(1) In the event that difference of opinion occur regarding AIRWORTHINESS determinations, resolution will be sought at the next highest level of authority within the Maintenance and Quality Control organization at each facility.

(2) If agreement cannot be reached, the matter will be referred to the Manager, Quality Assurance Branch, AVN-320, and the Maintenance Managers, AVN-310 and 330.

(3) If agreement between AVN-320 and AVN-310/330 cannot be reached, the matter will be referred to the Director of Maintenance, AVN-300.

L. INCOMPLETE MAINTENANCE AND INSPECTION TASK

*(1) Any maintenance task or inspection not completed as a result of a work interruption or shift turnover must be documented to ensure proper completion of the task.

*(2) Each Maintenance Supervisor is responsible for ensuring that technicians, in their assigned section, complete an Incomplete Maintenance Work Turnover, VN Form 4100-154, for any task not completed in their appropriate section as a result of a shift turnover or work reassignment.

*(3) VN Form 4100-154 is to be completed by identifying the status and stage of completion for any required inspection, maintenance, inspection or alteration not completed. The status should be in sufficient detail to enable the technician assuming the work assignment to continue the work without leaving any required steps incomplete.

*(4) Completion of the incomplete maintenance or inspection task will be documented on VN Form 4100-154, Incomplete Maintenance Work Turnover, and be attached to the appropriate work form (Aircraft Log, Non-Routine Work Form, etc.).

*(5) All documentation related to the task (VN Form 4100-154 and appropriate work form) will be maintained with the permanent maintenance records.

M. PARTS STORAGE DURING MAINTENANCE

Parts removed from aircraft undergoing maintenance will be stored as close as possible to the aircraft from which removed. These parts (except large parts), will normally be stored in or on portable storage bins marked with the aircraft registration number. All parts removed and not placed in the portable bins will be marked or tagged with the aircraft registration number.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

22. CONTROL OF COMPUTING AIRCRAFT TIME

A. GENERAL

The Aircraft Log, VN Form 4100-8, is the official document for recording and tracking aircraft flight time and landings/cycles. The electronic database supplements and enhances retrieval of aircraft information.

(1) Aircraft flight hours are entered on the VN Form 4100-8 by the flight crew upon termination of each flight.

(2) Before a log sheet is removed from the Aircraft Log, the person removing the log sheet is responsible for transferring the total Aircraft hours, landings, cycles, etc. to the next log sheet (blue) page.

*(3) Completed log sheets are removed, by the technician who performs the walk around safety check (WASC) or daily inspection (per applicable work content document), and forwarded to AVN-324 in Oklahoma City or the Quality Control Organization at the line station who checks the entries for accuracy of computations and makes electronic database entries. If any errors are found, Quality Control notifies the Maintenance Organization of the error and requests correction to the Aircraft Log.

*(4) AVN-324 audits and corrects the aircraft flight information and inputs the data into the electronic database.

B. MONITORING AIRCRAFT INSPECTION AND COMPONENT TIME CHANGES

*

*(1) The Maintenance Section supervisor is responsible to review the electronic database requirements ensuring that maintenance, inspections, AD's, etc. are not overflown.

C. VALIDATION OF AIRCRAFT TIMES AND CYCLES

Information stored in the electronic database may be used as the source of information for scheduling mandatory maintenance/inspections and component time changes. However, it is the responsibility of each operating organization scheduling person to validate the information in the electronic database with the Aircraft Log information to ensure that requirements are scheduled and complied with on a timely basis.

D. CONTROL OF COMPUTING AUXILIARY POWER UNIT (APU) TIME

The scheduled task card system is used for recording Aircraft, APU S/N, Date, Times/Cycles. The APU Data Base Tracking System supplements and enhances retrieval of APU information.

*(a) Data recorded on the task card is to be forwarded to AVN-324 to be input into the APU Data Base Tracking System.

*(b) The APU Data Base Tracking System is used by AVN-324 to review the Data Base ensuring that maintenance, inspection, AD, SB, and life limit requirements are not exceeded.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

23. INSPECTION/OVERHAUL TASK CARD

A. GENERAL

This section provides a brief explanation of the philosophy used in preparing Inspection and Overhaul Task Cards for AVN aircraft.

B. INSPECTION CARDS FORMAT

(1) All work cards will be printed on 8 1/2 x 11″ paper.

*(2) Card-type forms will be used. The work items on each card will generally be limited to a particular area (like left wing top side). This permits more personnel to work on an aircraft simultaneously, with each person having their own inspection card.

(3) Each card will have a card number in the upper right-hand corner. Whenever a card has a card number(s) printed in the RELATED CARD block, the related card(s) shall be reviewed as the related card may be required to be worked before or in conjunction with the card.

(4) Several blocks are provided for various information at the top of each card, such as DATE, N-NO, WORK ORDER NO., etc. Blocks shall be completed as required in each facility.

*(5) Most cards have dual sign-off columns for technicians and/or inspectors. When there is a requirement or possibility that both a technician and an inspector are required, a TECH/INSP dual column is provided to initial or stamp following completion of <u>each line</u> item. An “M” (Maintenance Technician) or "A" (Avionics Technician) is typed in TECH column when a technician is required. An “I” is typed in INSP column when an inspector is required. Any block of a dual column card not having an “M”, "A", or “I” does not require a technician or inspector sign-off. Some cards may have a single sign-off column only. This column will be for either a technician or an inspector and will not have “M”, “A” or “I” typed for each line item. In this case, <u>each line</u> item requires the stamp or initial indicated at the head of the column. When the item is a required inspection item, as identified in Section III.29, an “RII” is typed in the INSP column.

NOTE: The "I's" in the INSP column reflect the minimum inspector coverage. It is the operator's option to require additional inspector sign off on items when an "I" is not shown in the INSP column.

(6) Each line shall contain sufficient procedures to accomplish the work. When this is not possible (complicated, lengthy procedures are involved), the maintenance manual will be referenced giving specific section, page, etc., as necessary.

*(7) Where illustrations are needed to accomplish the work, they may be printed on the card or reference made to the manual for viewing.

(8) Some method should be developed by each facility to control cards while in work. A rack with status bins or clip boards, etc., could be used.

C. RESPONSIBILITY TO SIGN OFF LINE ITEMS

(1) During accomplishment of task cards, work items that are not applicable shall be marked as "NA" in the sign-off block with the technician or inspector's stamp or signature and an entry explaining reason for NA.

NOTE: To ensure legible sign-offs, maintenance and inspection personnel should be assigned a stamp to use in lieu of signature.

*(2) During the accomplishment of a task card, if an error is found, the Program Standards Section, AVN-328, will be notified utilizing the Request for Action form, VN Form 4100-170.

*D. CARD NUMBERING SYSTEM

(1) The inspection work cards are identified by a four-digit number. The first digit designates the aircraft area; the second is the function and the last two are card identification numbers. The area and function numbers are listed below:

AREA NUMBERS

0 - Aircraft General	5 - Fuselage
1 - Engine/Nacelles	6 - Main Gear/Wheel Wells
2 - Nose Section/Nose Gear	7 - Wings
3 - Cockpit and Flight Deck	8 - Empennage
4 - Cabin	9 - Avionics

FUNCTION NUMBERS

1 - Preliminary	4 - Servicing
2 - Service	5 - Operation
3 - Inspection	6- Final

EXAMPLE: 7606

Area

Function

Card Number

This card pertains to the wing area final function and is card No. 6.

(2) Overhaul cards use the above system except the card number has three digits.

E. TASK CARD DISTRIBUTION

*All inspection/overhaul task cards are supplied to each facility by accessing the Electronic Maintenance Library website, at "http://avn.faa.gov/index.asp?xml=fimo/eml", in the Program Section.

*

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

24. SPECIAL FLIGHT PERMITS FAR 21.197(c) WITH CONTINUING AUTHORIZATION

A. GENERAL

(1) A Special Flight Permit (SFP) may be issued for aircraft that may not meet applicable airworthiness requirements but are capable of safe flight for the purpose of flying aircraft to a base where maintenance or alterations are to be performed.

*(2) A special flight permit may be issued for aircraft maintained under AVN's Continuous Airworthiness Maintenance Program (CAMP).

(3) The SFP is an authorization reflecting the conditions and limitations for flight.

(4) An SFP may not be issued for an aircraft to be operated in the event of a missing Registration and/or Airworthiness Certificate.

(5) An SFP cannot be issued for an aircraft to operate contrary to the provision of an AD unless the AD has provision for the issuance of SFP's.

(6) Aircraft involved in an accident or incident may not be ferried before it is released by the NTSB and the FAA is notified.

B. DEFINITION

Damaged aircraft: An aircraft that has sustained physical damage.

C. FAA AUTHORIZATIONS

AVN-320 is authorized to issue SFP's providing the following procedures are accomplished:

(1) The Pilot in Command will contact the Flight Inspection Central Operations Maintenance Coordinator when the Minimum Equipment List (MEL) does not provide relief for the discrepancy in question.

*(2) Flight Inspection Central Operations Maintenance Coordinators will provide documentation to Quality Control, AVN-324, with the following information:

(a) Aircraft make, model, N number and serial number

(b) Departure airports and letter identifiers.

(c) Destination airport and letter identifiers.

(d) Reasons the aircraft does not meet airworthiness requirements.

(e) Limitations, if any, or other information necessary for determining aircraft operation.

1 Meteorological conditions

2 Airspeed/Mach restriction

3 Altitude/Pressurization restriction

4 Limit on aircraft system or equipment, such as no autopilot, gear down, etc.

5 Maneuvers to which aircraft is limited

6 Route to be flown

(f) Crew and additional authorized personnel

***NOTE:** AVN-324 will determine when additional crew members or other authorized persons may be carried aboard the aircraft

when operating under the provision of a special flight permit. This determination will be based on the aircraft flight characteristics not having been appreciably changed or its operation in flight substantially affected.

*(3) AVN-324 will review and approve the authorization and will transmit the SFP by FAX or other means, as practicable, to the Flight Inspection Central Operations Maintenance Coordinators.

(4) The Maintenance Coordinators will transmit the SFP by FAX or other means, as practicable, to the location from which the aircraft is scheduled to depart.

(5) Upon receipt of the SFP, the pilot will ensure:

*(a) the aircraft is inspected by a certificated technician and this inspection is documented in the aircraft log specifying the aircraft is safe for the intended flight.

*(b) that the log pages with the discrepancy(s) remain in the Aircraft Log until the discrepancy(s) is/are corrected.

(6) The SFP shall be carried aboard the aircraft for the duration of the flight, except for operations described in Paragraph D.

*(7) AVN-324 will provide a copy of the SFP to the CHDO within 72 hours.

(8) AVN is authorized to conduct ferry flights using an SFP with continuous authorization.

(a) This special flight permit with continuous authorization is AVN's authorization to fly any aircraft on its Aircraft List which may not meet applicable airworthiness requirements but is capable of safe flight to a base where the necessary maintenance can be performed.

(b) A copy of the operations specification, which restates this permit, shall be carried onboard the aircraft in the Flight Inspection Operations Manual when operating under an SFP.

(c) Before operating an aircraft that does not meet applicable airworthiness requirements, AVN shall determine that the aircraft can safely be flown to a station where maintenance or alterations can be performed. AVN shall have the aircraft inspected or evaluated according to procedures in its manual and have a certificated technician or repairman certify in the aircraft record that the aircraft is in a safe condition for the flight as specified in the operator's manual. A certificated repairman may certify only for the work appropriate to the job for which he or she is employed.

(d) Only flight crewmembers essential to operations of the aircraft shall be carried aboard during ferry flights where the aircraft flight characteristics may have been appreciably changed or its operation in flight substantially affected.

(e) The operating weight of the aircraft must be the minimum necessary for the flight with necessary reserve fuel load.

(f) Flight shall be conducted according to appropriate special conditions or limitations in CHAPTER III, SECTION 24, PARAGRAPH C of the GMM.

(g) This authorization does not permit operation of a product to which an AD applies, except in accordance with the requirements of that AD.

(h) Aircraft involved in an accident or incident may not be ferried before it is released by the NTSB and the FAA is notified.

(i) AVN shall impose any further conditions or limitations necessary for safe flight.

*(j) The Flight Inspection Operations Division, AVN-200, and Flight Inspection Central Operations (FICO) will provide AVN-300 with additional operational flight restrictions and limitations for all International flights.

D. FOREIGN OPERATIONS

ICAO Annex 8 authorizes operators under FAR 135 to exercise the provisions of an SFP under a continuous ferry authorization to conduct ferry flights for purposes of restoration of the aircraft to an airworthy condition. In those instances, AVN will provide a copy of Part D84 Operations Specifications to be carried aboard the aircraft during those flights.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

25. SPECIAL AUTHORIZATION AND AIRWORTHINESS RELEASE PROCEDURES: REF. 135.443

A. GENERAL

*(1) Any aircraft, aircraft engine, propeller, or appliance that has undergone maintenance, preventive maintenance or alteration must have an airworthiness release by making the appropriate entries in the Aircraft Log, VN Form 4100-8, Serviceable Parts Tag, VN Form 4100-301, or FAA Airworthiness Approval Tag, FAA Form 8130-3. (Reference Chapter IV).

*(2) Persons without an AVN Authority (Code H or I) are required to sign for the maintenance they perform in the corrective action blocks, which will be countersigned in the Technician block by an authorized (Code H or I) person who supervised the work.

(3) The signature of authorized maintenance or inspection personnel in the Aircraft Log, aircraft release or corrective action block is a certification that:

(a) the work was performed in accordance with the requirements of the AVN GMM manual;

(b) all items required to be inspected were inspected by an authorized person who determined that the work was satisfactorily completed;

(c) no known condition exists that would make the aircraft unairworthy; and

(d) so far as the work performed is concerned, the aircraft is in condition for safe operation.

NOTE: The certification for items (a) through (d) above, will be accomplished by verifying that all required signatures or stamps are present on all documents related to the work performed.

B. QUALIFICATIONS/AUTHORIZATIONS

*Persons signing entries in VN Form 4100-8, Aircraft Log, VN Form 4100-301, Serviceable Parts Tag, and FAA Form 8130-3, Airworthiness Approval Tag, must be authorized using an Authorization Request, VN Form 4100-21. (Reference Chapter IV). Personnel who possess the required qualifications may be designated authority to perform Quality Control functions.

C. SPECIAL AUTHORIZATION CODES

Each person's special authority is limited to specific items as listed on Authorization Request, VN Form 4100-21, held in the individual's training records and tracked by electronic database.

Alpha codes are used to identify the authority designated to qualified persons. This code is listed in the electronic database with its limitations. Authority which may be designated include the following:

(1) Code A: This identifies Quality Control or designee personnel that have authority to buy off inspection "I" items on routine task cards.

(2) Code B: This identifies Quality Control or designee personnel authorized to perform Required Inspection Item (RII).

(3) Code C: Identifies quality control personnel authorized to perform an airworthiness release on aircraft, airframes, aircraft engines, propellers, or appliances that have undergone maintenance, overhaul, or alterations.

(4) Code D: Identifies Quality Control or designee personnel performing receiving inspections on components, parts, and material utilized on FAA aircraft.

(5) Code E: Identifies personnel authorized to perform nondestructive testing inspection.

*(6) Code F: Identifies personnel authorized to perform welding.

*(7) Code H: Identifies authorized technicians or repairmen given Airworthiness Release Authority.

*(8) Code J: Identifies designated on the job training instructors (for tracking purposes only).

*(9) Code T: Identifies personnel authorized to perform engine runs and taxi.

D. SPECIAL AUTHORIZATION DOCUMENTATION

(1) A request for special authority will be submitted using an Authorization Request Form, VN Form 4100-21, with current codes/authorization.

*(2) Upon completion of VN Form 4100-21, send one copy to AVN-324 for database entry, one copy to the supervising office or training record and one copy to the employee.

(3) Special authorization database is used to identify personnel authorized to perform special functions with limitations and conditions. This database is maintained and authorization entered by the Quality Control office and will contain the following information.

(a) Name of individual (last, first, middle initials)

(b) Organization to which assigned.

(c) Certificate Number (Repairman or A & P)

(d) Stamp number.

(e) Special Authorization Codes.

E. SPECIAL AUTHORIZATION REQUIREMENTS

*(1) Have satisfactorily completed maintenance training or has equivalent experience acceptable to the manager of the Aircraft Maintenance and Engineering Division, AVN-300, or designee. The equivalent experience must be documented on the individual's training record.

(2) Understand and be familiar with the General Maintenance Manual (GMM), TI 4100.24, policies and procedures.

(3) Personnel directly in charge must be appropriately certificated.

F. APPROVAL FOR SPECIAL AUTHORIZATION

Approval for special authorization will be granted by the following branches:

*(1) Manager, Line Station Branch (AVN-310) for Line Station Maintenance Section personnel (Codes H, J and T).

*(2) Manager, Base Maintenance Branch (AVN-330) for maintenance personnel at Oklahoma City (Codes H, J and T).

*(3) Manager, Quality Assurance Branch (AVN-320) or designee for Quality Control personnel at Oklahoma City and Line Station Maintenance Sections (Codes A, B, C, D, E, F, H, J & T).

G. AIRWORTHINESS RELEASE

There are several ways to perform an airworthiness release:

(1) A signature and date in the corrective action block (Block 23) of the Aircraft Log, VN Form 4100-8, constitutes an airworthiness release only for the work performed for that item by maintenance, repairman or contractors (Code H). This procedure is also used by Quality Control (Code C) personnel for completion of a maintenance check.

(2) A signature and date in (Block 18) of the last incoming page of the Aircraft Log will be signed by a technician, repairman (Code H) or inspector (Code C). This verifies that all maintenance/inspections accomplished from the previous airworthiness release to the current airworthiness release are documented properly and signed off.

***NOTE**: The aircraft log page with the current airworthiness release must remain at the maintenance facility, for processing, after the aircraft has departed.

(3) A signature and date on an Airworthiness Approval Tag, FAA Form 8130-3. This tag is used after maintenance, preventive maintenance, rebuilding, and alterations. (Reference Chapter IV).

H. AIRWORTHINESS RELEASE PROCEDURES

*(1) Before an aircraft, engine, propeller, or appliance is released, the work package will be reviewed for completeness and proper documentation of maintenance/inspection (including required inspections) items and signed off. Prior to signing the airworthiness release, the electronic database will be updated to reflect current aircraft status, by Production Control, Quality Control or designee of the assigned organization.

(2) Person issuing Airworthiness release will check the electronic database to ensure all items are complete. This check is designed to ensure all maintenance requirements are met through the next schedule.

(3) Alternate procedures when the electronic database is inoperative, Production Control, Quality Control, or designee will crosscheck the computer runs used to format the work packages. If all items are completed and signed off, perform an airworthiness release. When the electronic database is operating, proceed with (1) and (2) above to ensure all items are completed.

(4) Flight Inspection unique components or parts repaired by non certificated contractor or vendor without the required documentation will require an airworthiness release. Maintenance may perform a functional check on the item before releasing it. The appropriate functional check must be accomplished in accordance with proper technical data. The specific technical data may be in the form of an EO, maintenance task card, maintenance manual instructions or other data authorized by AVN-340.

NOTE: In the event bench or test equipment is not available due to the uniqueness if the component or part, AVN may utilize an appropriate aircraft as the test device or platform for performing the functional check. The aircraft records should be reviewed prior to performing the test to ensure the applicable aircraft system is fully functional to ensure proper testing.

(5) Following performance of a successful functional check, the component or part shall be issued an appropriate airworthiness release as specified in paragraph G(3).

*(6) Non-FAA employees when authorized to perform emergency maintenance on AVN aircraft will enter their name, date, certificate, or repair station number and their employer's name and station location in the Aircraft Log and sign the entry to approve the aircraft for return to service. Non-FAA personnel are not required to be entered into the electronic database listing.

(7) In cases where a foreign repair station certified under FAR 145, Subpart C, the persons engaged in supervision or final inspection may sign an airworthiness release when authorized by that repair station.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

26. MINIMUM EQUIPMENT LIST AND DEFERRED DISCREPANCY LIST PROGRAM (MEL/DDL)

A. GENERAL

*All discrepancies must be corrected or properly deferred by maintenance prior to the next flight. The repair of certain items may be deferred by the Minimum Equipment List (MEL) or the Deferred Discrepancy List (DDL).

B. MINIMUM EQUIPMENT LIST MANAGEMENT PROGRAM

(1) Management and Responsibility

*(a) AVN is authorized to operate under the provisions of a Minimum Equipment List (MEL), provided the aircraft has an approved MEL and procedures for its use. Deviations from the MEL for operations are not permitted, except under a special flight permit (FAR 21.197).

*(b) The Minimum Equipment List Management Program provides a system for managing and repair of items listed on the approved MEL. The Manager of Quality Assurance, AVN-320, is responsible for the management of this program and the Managers of Line Station Branch, AVN-310 and Base Maintenance Branch, AVN-330, will assure compliance at the maintenance level. An electronic database computer tracks this program under the MEL/DDL Management System and provides current status of the Flight Inspection aircraft fleet.

*(c) The Minimum Equipment List Management Program provides for continued operation when certain systems/equipment are inoperative and specific requirements and procedures are met and accomplished, the aircraft airworthiness is not affected by the discrepancy, and the correction of the discrepancy is scheduled and corrected within the allowable time interval established in the MEL.

(2) Regulatory Requirements

*(a) As a guide to the usage of the MEL, the following is provided to ensure compliance.

1 The pilot in command (PIC) of the aircraft is directly responsible and has the final authority for the operation of the aircraft.

2 Only appropriately certificated and rated maintenance personnel or repair stations, as authorized by this manual, may correct discrepancies and approve an aircraft for return to service.

3 The MEL does not include obviously required items such as control surfaces, engines, etc.; or items which do not affect the airworthiness of the aircraft, such as passenger convenience items. However, it is important for maintenance and operations personnel to be alert that all items which are related to the airworthiness requirements under which the aircraft is type certificated and which are essential for safe operations under all operating conditions of the aircraft and not included on the MEL are required to be operative. (FAR 135.179)

*

(3) MEL Items

*The MEL provides relief for certain inoperative instruments or equipment that does not adversely affect the airworthiness of the aircraft. AVN is authorized to operate under the provisions of a MEL, provided the aircraft has an approved MEL, and an operations specification.

*(a) The MEL authorization provides for continued operation when certain systems or equipment are inoperative and specific requirements and procedures are met:

1 The aircraft airworthiness is not affected by the discrepancy.

*2 The required maintenance (M) or operations (O) instructions have been properly conducted.

3 Correction of the discrepancy is scheduled and corrected within the allowable time interval established in the MEL.

(b) Deviations from the MEL for operations are not permitted, except under a special flight permit (FAR 21.197).

(4) MEL Deferment Procedures

*(a) Discrepancies will be reviewed by the PIC or an authorized maintenance person to determine if relief is provided by the MEL. If the MEL addresses the item, the procedures of the MEL and the MEL Management Program must be properly accomplished prior to placing the discrepancy on the Open Deferred Items Report (ODIR). Authorized AVN maintenance personnel having Code C or H authority (Reference Chapter III.25) must accomplish the MEL deferral.

*(b) For aircraft at an AVN maintenance facility, a properly authorized maintenance person, as referenced in Paragraph B(4)(a), will review the Aircraft's MEL to determine if relief is provided by the MEL Program. The authorizing maintenance person will accomplish the Aircraft Log entry as specified in Paragraph B(4)(f).

1 The maintenance person will enter the discrepancy into the electronic database, and then will contact the Flight Inspection Central Operations (FICO) maintenance coordinators. The FICO maintenance coordinators will defer the discrepancy in the electronic database MEL/DDL Management System.

2 After the MEL Control Number is assigned by the electronic database, it will be forwarded to the maintenance person for entry in the MEL Control Number block on the Aircraft Log.

3 If parts have not been ordered at the time of the initial electronic database entry, the supply document number and estimated delivery date will be entered into the electronic database as soon as the information becomes available.

4 The discrepancy and the MEL Control Number may then be transcribed from the Aircraft Log to the Open Deferred Items Report as detailed in Paragraph F.

*(c) For aircraft away from an AVN maintenance facility, deferrals may be made by electronic media. The PIC will contact the FICO Maintenance Coordinators when a discrepancy is discovered. A maintenance person having proper authorization, as referenced in Paragraph B(4)(a), will determine if MEL relief is provided and authorize the deferral based on the information provided by the PIC. If maintenance determines the discrepancy may be deferred, the PIC will be instructed to accomplish the required procedures. The name of the Maintenance Coordinator authorizing the deferral will be printed at the bottom of the corrective action block by the PIC.

*(d) The PIC or maintenance person will contact the FICO maintenance coordinators as soon as possible after the discovery of a MEL deferrable aircraft discrepancy, with the following information:

1 Aircraft "N" Number

2 Pilot's name

3 Description of discrepancy

4 Station location, date and local time discrepancy was noted

5 Aircraft total hours or landings

6 Aircraft Log page number the discrepancy is written on.

*(e) In the event the electronic database is "out of service" and an MEL Control Number cannot be obtained, a local electronic database will be used to assign a temporary control number. The person authorizing the MEL deferral will assign a number comprised of a "TM" (indicating temporary MEL number), current date (month/day/year), aircraft N-number, and a 001 (indicating the first deferral item). Additional MEL deferrals recorded in the local electronic database will be numbered sequentially. For example,

two MEL items entered in the local electronic database for aircraft N77 and N72 on 02/25/95 using temporary control number would read TM022595N77001 and TM022595N72002. These numbers would be entered in the Corrective Action block of the Aircraft Log.

*1 The local electronic database will be maintained by the organization authorizing the deferral.

2 MEL discrepancies that are assigned temporary control numbers will not be transcribed from the Aircraft Log to the Open Deferred Items Report until a permanent control number can be assigned through the electronic database.

3 Upon the aircraft return to an AVN maintenance facility or as soon as possible, a permanent control number will be obtained through the electronic database as detailed in Paragraph B(4)(b).

*(f) Authorized maintenance personnel or PIC shall make, or have made, the appropriate entries in the Aircraft Log.

1 The aircraft log entry of an authorized MEL deferral item shall include the following:

a A full description of the discrepancy in the Discrepancy/Comment block.

b The ATA system and item number as indicated in the MEL.

c An entry as to the specific actions required by (M) and/or (O) procedures required by the MEL, including signature of authorized person performing the procedure in the corrective action block.

d Identification of any placards required by the MEL in the corrective action block.

e Signature (printed if authorized when the aircraft is away from an AVN maintenance facility) of the appropriately certificated maintenance personnel authorizing the deferral.

*__NOTE__: Inoperative Status Placards, VN Form 4100-63, or Removed Status Placards, VN Form 4100-64, described in Chapter IV of this Manual will be used for placarding inoperative equipment. These placards are stored in the mylar slip cover of the Aircraft Log.

C. MEL DEFERRAL TIME LIMITATIONS

*(1) MEL Time Limits: Except as provided in Paragraph H, the certificate holder shall have items repaired within the time intervals specified for the categories of items listed below:

*(a) Category A: Items in this category shall be repaired within the time interval specified in the remarks column of the certificate holder's approved MEL. (CANNOT BE EXTENDED.)

(b) Category B: Items in this category shall be repaired within three (3) consecutive calendar days (72 hours) excluding the calendar day the malfunction was recorded in the aircraft log and/or record.

EXAMPLE: If a malfunction was recorded at 10:00 a.m. on January 26, the three-day interval would begin at Midnight the 26th and end at Midnight the 29th.

(c) Category C: Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours), excluding the day the malfunction was recorded in the aircraft log and/or record.

*(d) Category D: Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2,880 hours), excluding the day the malfunction was recorded in the aircraft log and/or record. (CANNOT BE EXTENDED.)

D. DEFERRED DISCREPANCY LIST PROGRAM

*Items not addressed by the MEL must be reviewed by an appropriately authorized maintenance person (Reference B(4)(a) to determine if the item may be deferred. Items in this program are called Deferred Discrepancy List (DDL) items. Only those items that will not impact the airworthiness of the aircraft can be deferred. Examples of items that are commonly deferred in this manner are: items that have been previously inspected that were found to be within serviceable limits but may require

further inspection, fuel leak classifications, dent limitations, temporary (airworthy) repairs and passenger convenience items not safety or airworthiness related. These items may warrant a repair at a later time or when items no longer meet serviceable limits. Items warranting repair at a later date will be documented on a Nonroutine Work Card, VN Form 4100-155, tracked in the electronic database and scheduled during the next maintenance check. Any items that are recurrent in nature will be referred to the Maintenance Review Board for review and/or action.

(1) *DDL Deferment Procedures

*(a) Discrepancies will be reviewed by an authorized maintenance person to determine if the discrepancy can be categorized as a DDL deferrable item. DDL Management Program must be properly accomplished prior to placing the discrepancy on the Open Deferred Items Report (ODIR). Authorized AVN maintenance personnel having Code C or H authority (Reference Chapter III.25) must accomplish the DDL deferral.

*(b) For aircraft at an AVN maintenance facility:

1 A properly authorized maintenance person, as referenced in Paragraph B(4)(a) will enter the discrepancy into the electronic database and will then contact the FICO maintenance coordinators. The FICO maintenance coordinators will determine if the item is DDL deferrable, and if so, enter the discrepancy in the electronic database MEL/DDL Management System.

2 After the DDL Control Number is assigned by the electronic database, it will be forwarded to the maintenance person for entry in the Corrective Action block of the Aircraft Log.

3 If parts have not been ordered in time of the initial electronic database entry, the supply document number and estimated delivery date will be entered into the electronic database as soon as the information becomes available.

4 The discrepancy and the DDL Control Number may then be transcribed from the Aircraft Log to the Open Deferred Items Report as detailed in Paragraph F.

*(c) For aircraft away from an AVN maintenance facility, deferrals may be made by electronic media.

1 The PIC will contact Flight Inspection Central Operation (FICO) Maintenance at Oklahoma City when a discrepancy is discovered. A maintenance coordinator having proper authorization, as referenced in Paragraph B(4)(a), will determine if DDL relief is provided and authorize the deferral based on the information provided by the PIC. If the maintenance coordinator determines the discrepancy may be deferred, the PIC will be instructed to accomplish the required procedures. The name of the Maintenance Coordinator authorizing the deferral will be printed at the bottom of the corrective action block by the PIC.

*(d) The PIC or maintenance person will contact the FICO maintenance coordinators as soon as possible after the discovery of a DDL deferrable aircraft discrepancy with the following information:

1 Aircraft "N" Number

2 Pilot's name

3 Description of discrepancy

4 Station location, date, and local time discrepancy was noted

5 Aircraft total hours or landings

6 Aircraft Log page number the discrepancy is written on.

*(e) In the event the electronic database is "out of service" and a DDL control number cannot be obtained, a local electronic database will be used to assign a temporary control number (Reference Chapter IV). The person authorizing the DDL deferral will assign a number comprised of a "TD" (indicating temporary DDL number), current date (month/day/year), aircraft N-number, and 001 (indicating the first deferral item). Additional DDL deferrals recorded in the local

electronic database will be numbered sequentially. For example, two DDL items entered in the local electronic database for aircraft N77 and N72, on 02/25/95 using temporary control number would read TD022595N77001, TD022595N72002. These numbers would be entered in the Corrective Action block of the Aircraft Log.

*1 The local electronic database will be maintained by the organization authorizing the deferral.

*2 DDL discrepancies that are assigned temporary Control numbers will not be transcribed from the Aircraft Log to the ODIR until a permanent control number can be assigned through the electronic database.

*3 Upon the aircraft return to an AVN maintenance facility, or as soon as possible, a permanent control number will be obtained through the electronic database as detailed in Paragraph D(1)(b).

*(f) Authorized and certificated Maintenance Personnel or PIC shall make, or have made, the appropriate entries in the Aircraft Log.

1 The aircraft log entry of an authorized DDL deferral item shall include the following:

a A full description of the discrepancy in the Discrepancy/Comment block.

b An entry in the corrective action block stating "Deferred Discrepancy" and the DDL control number.

c Signature (printed if authorized when the aircraft is away from an AVN maintenance facility) of the appropriately certificated maintenance personnel authorizing the deferral.

*(g) Deferral of items found during maintenance: If the discrepancy meets all the requirements of paragraph D, maintenance will:

*1 Enter the discrepancy from the Nonroutine Work Card (VN Form 4100-155) into the MEL/DDL management system in the electronic database.

*2 Make all required entries on the original Nonroutine Work Card, "Corrective Action" block, include a statement that the item was deferred to the ODIR, station location, date, and signature of the person transcribing the information.

E. *OPEN DEFERRED ITEMS REPORT (ODIR)

*The Open Deferred Items Report is used to provide a list of all deferred discrepancies. This electronic database generated report is attached to the inside of the front cover of the Aircraft Log, VN Form 4100-8, and carried in the aircraft.

*(1) This ODIR will provide maintenance and flight crews with information concerning MEL and DDL discrepancies for a specific aircraft.

*(2) A revised ODIR Report will be printed each time a new discrepancy is entered into the electronic database or a deferred discrepancy is cleared.

*(3) Once a discrepancy has been properly deferred in accordance with the preceding procedure, it may be transcribed from the Aircraft Log to the ODIR in accordance with paragraph F. A copy of the most current report will be maintained in the front cover of the Aircraft Log reflecting the current status of all MEL and DDL items.

F. *TRANSCRIBING MEL/DDL ITEMS FROM THE AIRCRAFT LOG TO OPEN DEFERRED ITEMS REPORT

*Once an MEL or DDL item has been properly entered through the electronic database MEL/DDL Management System it will be transferred from the Aircraft Log to the Open Deferred Items Report. A copy of the most current Open Deferred Items Report will be maintained in the front cover of the Aircraft Log reflecting the status of all MEL and DDL items.

*(1) Discrepancies documented in the Aircraft Log will be transcribed in the following manner:

*

*(a) MEL/DDL control numbers are automatically assigned by completing all required electronic database entries and the generation of an updated ODIR report. (Reference paragraphs B(4)(b or c) for MEL item or D(1)(b or c) for DDL item.

*(b) Enter the MEL or DDL Control Number in the Corrective Action block of the Aircraft Log and complete with a signature and date.

***NOTE**: MEL and DDL discrepancies that are deferred away from an AVN maintenance facility or have temporary control numbers assigned will not be transcribed to the ODIR until the aircraft returns to an AVN maintenance facility or until a permanent control number is assigned through the electronic database.

G. MONITORING MEL/DDL DEFERRALS

*The maintenance supervisor for each facility will be responsible for ensuring that all MEL and DDL deferrals are monitored as follows:

*(1) A review of deferred items by aircraft assigned to their facility, ensuring that the required parts are on order and a valid back order exist with a firm delivery date.

(2) All items have been properly deferred.

(3) Ensure deferred items are corrected within the allowable time periods.

(4) Determine if there are any delays in making repairs, the length of delay and the estimated date and time the item will be repaired.

(5) Any discrepancies assigned "Temporary" control numbers are monitored and entered into the electronic database as soon as possible.

(6) Coordinating the scheduling of the aircraft, availability of parts and the time and place for making repairs.

H. MEL/DDL DEFERRAL TIME LIMITATIONS

(1) MEL deferral time limits are described in paragraph C.

*(2) DDL items may be deferred until the aircraft undergoes the next scheduled inspection or maintenance visit (not including a Service Check) or limitation established by initial deferral. These DDL items will be incorporated into the work package using the following procedures:

*(a) All DDL items will be transcribed to Nonroutine Work Cards and Aircraft Log page for repair at each scheduled maintenance visit.

*(b) The electronic database entries will be made indicating the discrepancy was transcribed to a nonroutine work card, identifying the Aircraft Log page.

*(c) A current ODIR Report should be printed from the electronic database to ensure all MEL and DDL items were properly removed from the ODIR.

*(3) Extension of MEL Repair Time Interval: The Manager of Quality Assurance Branch, AVN-320, has authority to approve extensions to the maximum repair interval for category "B" and "C" items as specified in the approved MEL, in the event that repair of the discrepancy cannot be accomplished within the allocated time frame. Category “A” and "D" items cannot be extended.

*(a) The requests for extensions, MEL Extension Authorization Request, VN Form 4100-310, will be made by the Maintenance Coordinator or maintenance supervisor to the Quality Assurance Branch Manager, AVN-320, or designee for approval.

*(b) The information required for a time extension will include delivery date of the part and/or any other information that justifies the extension.

*(c) If an extension is granted, the VN Form 4100-310 will be signed by the Manager of Quality Assurance Branch or designee stating the limit of the extension authorized. The Manager of Quality Assurance Branch will ensure update of the electronic database and forward a copy of the VN Form 4100-310 to the CHDO within 24 hours of the extension.

*

(4) Extension of DDL Item Repair Time Limitations: If a previously deferred discrepancy could not be corrected during the scheduled inspection due to non-availability of part or tooling, continued deferment may be approved by the Manager of AVN-320.

I. CLEARING MEL/DDL DEFERRALS

If a discrepancy was deferred in the Aircraft Log using the MEL/DDL Program, the following procedures will be complied with to clear the deferred item(s):

*(1) Transcribe the discrepancy from the ODIR to the current Aircraft Log page. Reference the MEL or DDL Control Number and enter in the discrepancy block of the Aircraft Log. Enter corrective action in the Aircraft Log. Remove any MEL placards that were installed (Reference paragraph B(4)(f) NOTE).

*(2) Sign off the item on the ODIR and indicate the page number and date when the discrepancy was transcribed to the Aircraft Log.

*(3) FICO will clear the discrepancy from the MEL/DDL program, if the aircraft is away from an AVN facility. If the discrepancy is cleared in the electronic database at an AVN facility by the maintenance personnel, that will clear the MEL/DDL from the electronic database system. (Reference paragraph J for report disposition.)

*

(4) The maintenance supervisor shall monitor the MEL/DDL Management System to ensure that the items are being properly deferred and cleared from the electronic database.

J. DISPOSITION

*(1) Retain the ODIR in the Aircraft Log until all items are completed or superseded by a revised ODIR.

*(2) When a revised ODIR is initiated, the completed ODIR may be destroyed.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

27. EMERGENCY MAINTENANCE (UNSCHEDULED MAINTENANCE PERFORMED BY NON-FAA EMPLOYEES)

A. GENERAL

Emergency maintenance and/or inspections will be performed in accordance with current FAR and the procedures in the AVN General Maintenance Manual. When necessary to use non-FAA employee, the person(s) will be authorized by the Oklahoma City maintenance supervisor or line station maintenance supervisor or FICO Maintenance Coordinator. Although maintenance and/or inspections may be contracted/subcontracted, AVN holds primary responsibility for AVN aircraft.

B. USE OF NON-FAA EMPLOYEES AWAY FROM FAA FACILITIES

When maintenance is to be accomplished by non-FAA employees, the following procedures apply:

(1) The discrepancy will be recorded in the discrepancy section of the Aircraft Log.

(2) Each person performing or supervising aircraft and/or avionic maintenance or inspection functions on AVN aircraft must be certificated, authorized and rated in accordance with FAR Part 65, Subpart D or Part 145.

(3) Any person or facility performing maintenance or inspections on AVN aircraft must be a participant in an FAA approved drug testing program. In accordance with FAR 121, Appendix I, XII, if located outside the territory of the United States, this does not apply.

*(4) It is the responsibility of the Authorizing Individual, to ascertain that only qualified persons perform maintenance. An electronic version titled One Time Airworthiness Release For Emergency Maintenance, VN Form 4100-17, will be used to authorize the person. (See Chapter IV).

(5) If the discrepancy involves RII tasks, the Quality Assurance Branch, AVN-320, shall be notified by persons or organizations authorizing contract maintenance. The Quality Assurance Branch will ensure that the following criteria is met:

(a) Possess a valid FAA A&P or Repairman certificate only if authorized by an appropriately certificated and rated repair station.

(b) Have knowledge and understand the applicable FAR involved.

(c) Have recent experience on the aircraft or equipment involved.

(d) Be briefed on the RII requirements of Chapter III.29 of the GMM.

(e) Be provided with the appropriate portions of the GMM and Technical Issuance Manual.

(f) Qualify and authorize the person by letter set forth in Chapter III.29.

*(6) The person performing the repair shall enter, in the corrective action column of the Aircraft Log, a description of the repair, his/her name and certificate number, date, the location where the repair was made and their employer's name and location.

(7) The person performing a required inspection item shall sign and date the RII block of the Aircraft Log.

*(8) Upon completion of maintenance, the contractor or PIC will transcribe time and landings to the forms, remove all completed blue and white pages of VN Form 4100-8, and attach appropriate copies of work/repair orders, parts certification tags, and other pertinent information to the logsheets. The contractor or PIC will then mail the completed forms using the pre-addressed envelopes provided by the PIC.

C. USE OF SUB-CONTRACTORS BY PRIME CONTRACTOR

When an AVN aircraft is maintained under contract and that contractor utilizes a sub-contractor to perform emergency maintenance items, the following procedures apply:

(1) The prime contractor is responsible to ensure that the sub-contractor has the proper FAA certification to perform the services for which they are engaged.

(2) The maintenance supervisor of the FAA facility to which the aircraft is assigned will coordinate with the prime contractor to ensure that the sub-contractor has the proper certification, personnel, equipment and facilities to perform the function. The sub-contractor must be approved in accordance with B. of this section.

(3) When the task to be performed is an RII, the sub-contractor must be approved in accordance with B.(5) of this section.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

28. AIRCRAFT SPECIAL INSPECTIONS

A. GENERAL

During the operation of an aircraft, unusual conditions may occur which require the accomplishment of a special inspection or check to ensure aircraft airworthiness. If any unusual conditions are entered in the Aircraft Log, the referenced inspections will be accomplished.

B. SPECIAL INSPECTIONS

AVN aircraft have specific inspection requirements for special inspections, including lightning strikes, hard landings or turbulent air flights. The manufacturers' procedures have been incorporated into the Technical Issuance System and will be followed by maintenance personnel conducting required inspections.

C. MAINTENANCE PROCEDURES

(1) In the event any damage is detected or suspected by any person involved with the maintenance or operation of aircraft, the maintenance supervisor will be notified and proper notation will be entered in the Aircraft Log.

*__NOTE__: When the task to be performed is an RII, the contractor/subcontractor shall be approved by AVN 320/324 in accordance with Chapter III, Section 27.

(2) Inspection Compliance

(a) The aircraft will be inspected, or the inspection supervised by appropriately certificated, rated, and authorized technician or Repair Station. They will determine what maintenance, if any, will be necessary to release the aircraft for service.

(b) At an out station where flight crew only is available, the crew will contact maintenance and describe the damage or suspected damage for maintenance evaluation prior to any further aircraft operation.

(c) Maintenance will determine, based on crew information and requirements of the Applicable Repair Manual, what inspections and/or maintenance will be performed before further operation.

*D. AIRCRAFT LOG ENTRY

After accomplishment of a special inspection, an appropriate entry will be made in the corrective action section of the Aircraft Log. List the type inspection, applicable repair manual chapter and page, repairs accomplishment, FAA certificate type and number, and signature of person making the entry, including station, date and time.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

29. REQUIRED INSPECTION ITEM LISTS (RII) FAR 135.427b(2), 135.429

A. GENERAL

*(1) Federal Aviation Regulations require the establishment of a Required Inspection Item list. This list must include at least those items of maintenance or alteration that could result in a failure, malfunction or defect endangering the safe operation of the aircraft, if not performed properly or if improper parts or material are used.

*

*(2) Required Inspection Items may not be signed off by the individual that performed the work. A second person is required to sign off any work operation that is listed on the RII list.

NOTE: The person performing the required inspection may give physical assistance such as lifting or holding, but cannot perform any of the critical steps or operations that require safety check, measurement, or sign-off verifying compliance with procedure.

*(3) All work on RII's shall be in accordance with the procedures, standards, and limitations contained in current FAA technical issuance manuals.

*(4) Persons authorized to perform inspection of RII's shall be under the jurisdiction of the Quality Control organization when performing such inspections, regardless of their current position classification.

B. REQUIRED INPSECTION ITEMS (RII) INSPECTION AUTHORIZATION

(1) Qualified individuals may be given authority to perform either full, one-time or limited RII by the Manager of Quality Assurance, AVN-320, or the designated Quality Control Inspector of that FAA facility authorizing the RII authority, after review of the personnel training records. This authority to perform RII will be documented using an Authorization Request Form. The form also specifies the extent of the persons responsibilities, authorities, and inspection limitations.

Procedures for the completion of the Authorization Request Form can be referenced in Chapter IV, Section 44 of this manual. A copy will be furnished to the person being given RII authority and a copy will be maintained in the employee's training records at the facility's Quality Control Office.

(2) RII authority shall be valid until revoked by the Manager of Quality Assurance Branch, AVN-320, or the designated Quality Control Inspector of that FAA facility, or the individual terminates employment with the FAA.

(3) There are three classifications of RII authority:

*(a) Full authority - may inspect all RII items on the specific make and model aircraft for which authorized. This authority to perform RII is granted to qualified full-time personnel. The authority remains in effect until revoked by the issuing authority.

*(b) Limited - may inspect all RII items shown on the Authorization Request Form. This authority to perform RII may be issued to any qualified employee within the AVN maintenance program. This authority is normally issued when a person with "Full Authority" is unavailable to perform RII functions. The authority is issued for specific RII functions and for a specific time frame.

*(c) One-Time Limited - may inspect for only emergency maintenance item and items to be inspected by authorized contractor personnel. This authority to perform RII can be issued to either full-time AVN maintenance personnel or contract personnel. The authority is normally issued for maintenance performed away from an AVN maintenance facility and will be transmitted via Fax or letter. The authority is issued for a specific RII function and may be exercised for only one task.

(4) Required Qualifications

*(a) Understanding and knowledge of FAR and the AVN General Maintenance Manual, TI 4100.24.

(b) Valid FAA Mechanic Certificate with both Airframe and Powerplant ratings or a valid Repairman Certificate.

(c) Satisfactorily completed RII training. (Reference Chapter/Section VII.1)

(d) Be employed by the FAA as a Quality Control Inspector, except as in Paragraph B.(5).

(5) Maintenance personnel may be given limited RII Authority without possessing the qualification (d) in Paragraph B.(4) above. Such limited authority is covered in the preceding Paragraph B.(1). The named individual will sign and date the form accepting the RII authority with the stated limitations. This form will then be routed to the Manager of Quality Assurance or designated Quality Control Inspector and filed in the employee's training file.

*(6) A list of Quality Control personnel having either full or limited RII authority will be entered and maintained in an electronic database by the issuing authority, Quality Assurance, AVN-320. This list is identified as "Designated Special Authorization" Code "B". The list will also include each person's routing symbol and the inspections they are authorized to perform. The Special Authorization Listing may be reviewed by utilizing the electronic database.

C. AUTHORIZATION FOR CONTRACTOR PERFORMANCE OF RII

*(1) When maintenance functions identified as RII items are to be accomplished by a contract organization or person, it will be the responsibility of Quality Control to ensure that the contracting organization or person is appropriately certificated, trained, and authorized to perform the RII inspections in accordance with the AVN General Maintenance Manual, Paragraph D, of this section. Quality Assurance Branch, AVN-320, and Quality Control Section, AVN-324, shall be notified by the person or organization authorizing contract maintenance.

(2) The Manager, Quality Assurance, AVN-320, or the designated Quality Control Inspector of the responsible facility, shall determine if the individual is qualified. A letter will be used to grant authority for that person to conduct RII inspections specifying the extent of the person's

responsibilities, authority, and inspectional limitations. A copy of the letter will be maintained by the Quality Assurance or the Quality Control section or the organization granting the authority for RII.

D. PROCEDURES FOR INSPECTION OF REQUIRED INSPECTION ITEMS

*(1) Required inspection items will be clearly identified as being in the RII category. Identification will be made by marking the Nonroutine Work Card, VN Form 4100-155, with the letters "RII" in the inspector block.

(2) At the completion of maintenance on an RII, the technician performing the maintenance will request that the item be inspected. He will do this after he has signed or stamped the "TECH" or "BY" block on the work card.

(3) The inspector will then perform the required inspection as follows:

(a) Work Cards: If the item is a Required Inspection Item, RII is marked in the Insp. Column, and the inspector will stamp and date the block.

(b) Aircraft Log: If an Aircraft Log write-up requires an RII, the maintenance supervisor or designee will circle the RII block and notify inspection; the inspector will stamp and date the block marked "RII" on the log page after the technician enters the corrective action.

(4) Inspection Buy-back Procedures

*(a) Buy-back procedure for Non-Routine Work Card is as follows:

1 After inspecting the ITEM, the inspector signs in the INSPECTOR block. If the corrective action is not satisfactory, the form shall be signed/ stamped by the inspector, a red diagonal line drawn across the face of the original, and a new form written. The old form number shall be referenced on the new form.

2 The work controller enters the date on the Master Nonroutine Index and separates the completed forms for disposition.

(b) Maintenance/Inspection Task Card: If an item is designated as "RII" and found to be unsatisfactory, the inspector will make a note on the task card that a nonroutine work card, VN Form 4100-155, has been generated. He will then initiate the nonroutine work card indicating the discrepancy and identify it as requiring RII inspection.

(c) Aircraft Log: If an Aircraft Log writeup requiring an RII is not approved for return to service, the inspector will not stamp the "RII" block on the log page. The inspector will make a "Red" diagonal line across the corrective action block (block 23) and reenter the discrepancy in the next discrepancy block (block 22) and advise maintenance of the rejection.

(d) If the item is rejected, the technician will make the designated repairs and then request that it be reinspected.

*(e) In the case of a dispute over the rejection of an item, an inspector's decision may only be countermanded by the following:

INSPECTED BY	COUNTERMANDED BY
Quality Inspector	Quality Control Supervisor
Quality Control Supervisor	Quality Assurance Branch Mgr.
Quality Assurance Branch Manager	Director of Maintenance

1 When a designee is conducting a Required Inspection, he is under the control of the Quality Assurance Branch Manager, AVN-320, or Quality Control organization.

*

2 When Quality Control is required to make a final decision, the inspector stamps and enters the date in the "INSP" block.

(f) Procedures to ensure that required inspections which are not completed as a result of work interruptions are properly completed before the aircraft is released to service are detailed in Chapter III, Section 21, paragraph L, of this manual.

E. REQUIRED INSPECTION ITEMS (RII) FAR 135.427(b)(2) and 135.429

*The following are the designated items of maintenance and alterations which must be inspected by the RII Inspector whenever the type of maintenance identified below is accomplished on the aircraft. Additionally, when any of these RII systems or components are disturbed to gain access to other components, their reinstallation must be an RII. The RII will require checking by a second person before release for flight. The second person cannot be the one who performed the work. Any item may be designated as an RII if it is deemed necessary by AVN-320.

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***NOTE 1**: Installation inspection is defined as an inspection of the final (prior to release for flight) installation, operation, rigging, leak check, etc., as required by the Maintenance Manual or applicable work card.

(1) Doors and Windows

(a) Installation of entry doors and cargo doors.

(b) Maintenance/repair on structure or locking mechanism of entry doors, cargo doors or emergency exits within a pressurized area.

(c) Replacement or reinstallation of any window within a pressurized area.

NOTE: Removal of an emergency exit for ventilation purposes or to facilitate access for maintenance does not require an inspection buy back upon reinstallation.

(2) Flight Controls (Primary or Secondary) - Includes the following for ailerons, elevators, rudders, landing flaps, stabilizers, trim tabs, actuators, slats, spoilers and speed brakes. Excludes maintenance to auto pilot components.

(a) Flight control installation/rig.

(b) Control rod installation/rig

(c) Flight control actuators installation/rig.

(d) Flight control cable installation/rig.

(e) Flight control balance.

*(f) Flap control computer installation/adjustment.

*(g) Spoiler control computer installation/adjustment.

*(h) Flight control computer installation/adjustment.

(3) Landing Gear (not to include warning/indication system)

(a) Landing gear assembly installation/rig (excludes tire, wheels, brakes and servicing.

(b) Installation/rig of any component or actuator that affects extension, retraction or locking function. This inspection must include check of the emergency extension system.

(c) Extension check of emergency extension system following a repair/rig that affects extension or locking.

(4) Powerplants

*(a) Final installation of powerplant, gearboxes or modules, fans and performance runs.

(b) Engine mount installation and torquing.

(c) Control cable/rod installation/rig.

*

*

*(d) Thrust reverser installation.

*

(5) Propeller (not to include adjustment to indicating system)

(a) Inspection of completed installation.

(b) Prop pitch control installation and/or rigging.

(c) Prop governor installation and/or rigging.

(6) Major Repair or Alteration, of Primary Structure or Flight Control Surface

(a) Includes any repair/alteration that substantially affects structural strength or flight characteristics.

(7) Pitot/Static Systems (non-RVSM approved)

Leak check as a result of work performed on any two separate pitot or static systems connected to primary flight instruments, i.e., opening the pilot’s pitot system and the co-pilot's static system at the same time.

NOTE: This requirement does not include quick disconnects.

(8) Altimetry system RII requirements for Reduced Vertical Separation Minimum (RVSM) approved aircraft.

(a) Any maintenance due to alterations or damage in the RVSM critical area which may affect static error such as dents, deformation around the static source. For example:

1 Painting in the RVSM critical area.

2 Sheet metal work in the RVSM critical area.

3 Impact damage such as Bird strikes in the RVSM critical area.

4 Damage to access doors in the RVSM critical area.

(b) The alignment of pitot static probes to include Pitot Static Probe replacement.

(c) Static leak test.

NOTE: Any time the static system lines are broken on an RVSM aircraft, including quick disconnects, a leak check will be performed.

(d) All aircraft RVSM Air Data Computer accuracy checks in the 29,000 to 41,000 foot range.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

30. *SERVICE PUBLICATION COMPLIANCE PROGRAM AND PROCEDURES

A. GENERAL

*(1) Service publications are issued by the manufacturer of an aircraft, aircraft engine, propeller or appliance. The service publications provide instructions or procedures for a repair, alteration, modification, or replacement of a part or component that will improve the performance or operational safety of a product. Service publications will be incorporated at the discretion of the Aircraft Maintenance and Engineering Division (AMED), unless mandated by issuance of an Airworthiness Directive.

(2) Service publications are received in various forms such as service bulletins, service letters, service information notes, etc. Service publications received from the various manufacturers are evaluated by AVN to determine if the service publication should be incorporated on AVN aircraft or equipment. Service publications are approved for implementation if one or more of the following criteria are met:

(a) Required by an AD.

(b) Has aircraft or personnel safety implications.

(c) Results in significant tangible benefits.

(d) Permits full interchangeability of specific electronic and avionics equipment.

(e) When directed by the Maintenance Review Board (MRB).

B. RESPONSIBILITIES AND PROCESSING OF SERVICE BULLETINS

*(1) Service Publication Compliance Program responsibilities are shared by the Quality Assurance Branch, AVN-320, and the Base Maintenance Branch, AVN-330, as delineated in the following paragraphs.

*(2) Quality Control Section, AVN-324, receives all service publications and distributes and tracks the reviewing service of the publication process using the supplied VN Forms.

*(3) AVN-328 is responsible for incorporating applicable service publications into Technical Issuance Manuals and updating the applicable maintenance program. Publications that provide alternate part numbers, maintenance manual changes, etc., are directed to AVN-328 for changes to the appropriate manual.

*(a) AVN-324 will distribute the service bulletins attached to the applicable VN Form, to the respective AVN-324 Quality Control Inspector assigned to that particular aircraft, APU, engine, propeller or appliance. Appliance service bulletins, attached to the supplied VN Form, will be routed to AVN-335 for compliance determination, handling and tracking.

*(b) AVN-324 will determine if the service bulletin is applicable to aircraft, APU, propellers or engines assigned to AMED. Any additional information beneficial in making compliance decisions, such as previous EO compliance, Service Bulletin compliance, and STC installation will be documented on the supplied VN Form that will have an effect on the subject service bulletin. These service bulletins will be routed to AVN-328 for program analysis.

*(c) AVN-330 will determine service bulletins to be complied with, that pertain to purchases, part ordering, etc., on the supplied VN Form. Airframe service publications, attached to the supplied VN Form, will be forwarded to AVN-330 with scheduling due date. All approved aircraft, aircraft engines, APU, propellers and appliance service publications will be entered in the electronic database by AVN-324 and AVN-310 for scheduling and implementation.

(2) Engineering Branch, AVN-340, may be consulted on publications or for applicability to STC's or modifications and may be consulted for assistance on any alternate method of compliance with a service bulletin.

*(3) Service publication compliance by the AMED is accomplished by scheduled or unscheduled maintenance as described in the General Maintenance Manual, TI 4100.24, Chapter III.21. The supplied VN Form is assigned to work packages by AVN-335. If a service publication is to be complied with by a line station, it is forwarded to the appropriate facility by AVN-335.

(4) Base Maintenance Branch, AVN-330, will initiate Maintenance Review Board (MRB) action for service publications requiring more than 24 work hours for accomplishment. They will be reviewed by the MRB to determine method of compliance, compliance date, and action activity.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

31. AIRWORTHINESS DIRECTIVES (AD's)

A. GENERAL

(1) This section specifies Airworthiness Directives (AD's) that apply to aircraft, engines, propellers or appliances. AD's are issued under the provisions of FAR Part 39. These directives are sent to the operator, informing of an unsafe condition in a product or that a condition is likely to exist or develop in other products of the same type design. The AD will provide instructions, conditions and limitations under which the product may continue to be operated.

(2) AD's may contain repetitive inspection and modification requirements. For example, the AD may require a repetitive inspection that can be terminated only after accomplishment of a modification.

B. RESPONSIBILITY

AVN-320 is responsible for AD's. AVN-320 receives, reviews and initiates action to implement applicable AD’s.

C. IMPLEMENTATION

(1) AVN-320 is responsible for receiving all AD's.

*(2) AVN-310 and AVN-330 are responsible for ensuring compliance of all applicable AD's for all aircraft, engines, propellers and appliances assigned to the Aircraft Maintenance and Engineering Division (AMED). The compliance record is issued through the approved Service Publication Compliance Form by AVN-324.

(3) AVN-324 reviews all AD's for applicability. After review, applicable AD's will be entered into the AD database. The applicable AD's, after entry into the database, will have a Service Publication Compliance Checklist attached and will then be forwarded to AVN-310 and AVN-330.

*(4) AVN-310 and AVN-330 will review all applicable AD's and determine the method of compliance, compliance date, action activity and if recurring action is required.

(a) AVN-310 and AVN-330 will complete the Service Publication Compliance Checklist providing clear, detailed instructions for the maintenance log entry statement. A copy of the Service Publication Compliance Checklist and a copy of the AD will be issued to each affected aircraft.

(b) If multiple options are listed for compliance, the options will be presented to the Maintenance Review Board (MRB) for determination.

*(c) AVN-340 will be consulted when an alternate method of compliance is determined to be advantageous to AVN.

*(d) If an alternate method of compliance or adjustment of the compliance time is required, AVN-310 and AVN-330 will notify AVN-320 to coordinate with the CHDO (Certificate Holding District Office).

*(e) AVN-328 may be notified by AVN-310 and AVN-330 of any AD's requiring recurring action or requiring a change to the maintenance program. This notification will include any MRB instruction for implementing the actions within the Continuous Airworthiness Maintenance Program (CAMP).

D. RECORDING AND COMPLIANCE

(1) A record of the current status of applicable AD's will be maintained for each aircraft IAW TI 4100.24, Chapter III.73. This record will include the following information:

(a) Model and registration number by aircraft code.

(b) AD number and revision.

(c) Title.

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(e) Date of compliance.

*(f) Time in service and landings at last AD action.

*(g) For recurring AD's, when the next action is due.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

32. FLIGHT PROGRAM

*A. FLIGHT TEST

(1) General

(a) Maintenance, major alteration, and major repairs may require flight tests unless ground tests or inspections show conclusively that the flight characteristics have not been appreciably changed, or the flight operation of the aircraft has not been substantially affected.

(b) There are two classifications of flight tests for FAA operations:

*1 Operational Check Flight - A check flight for the purpose of testing a system or component following the performance of maintenance. The Operational Check Flight is to be conducted by an appropriately certificated pilot.

2 Certification Flight Test - A flight test for the purpose of verifying that an altered product meets the applicable type certification requirements. A Certification Flight Test shall only be authorized by AVN-300.

*(2) Required Check Flight Items

*(a) AVN-310, AVN-320, AVN-330, or their designee may authorize a check flight in addition to those listed below.

*(b) Aircraft (including components and structures) requiring an Operational Check Flight are:

*1 Aircraft assigned to AVN-300 for scheduled maintenance/inspections/modifications may require an operational check flight to assure all discrepancies have been identified.

2 Replacement or reinstallation of wing, vertical, or horizontal stabilizer.

3 Replacement or reinstallation of any primary control surface where adjustment/rigging of the primary control surface or the associated operating mechanism is accomplished.

4 Repairs, including primary control surface balancing, alterations, or modifications which may have changed the flight characteristics of the aircraft.

*(c) Engine/Propeller items that require an Operational Check Flight are:

1 Replacement of an engine on a single-engine aircraft.

2 Replacement of at least two engines on multi-engine aircraft.

3 Replacement of a propeller on single-engine aircraft.

4 Replacement of more than one propeller on multi-engine aircraft.

5 Replacement of two or more fuel controls on multi-engine aircraft.

6 Replacement of fuel control on single-engine aircraft.

7 Repeated complaints of a condition that cannot be thoroughly checked by inspection or duplicated during ground testing.

B. PROCEDURE

(1) Maintenance Release and Flight Request

(a) AVN-310, AVN-320, AVN-330, or their designee will request the flight test through the FICO maintenance coordinator.

(b) The maintenance technician will review the Aircraft Log to verify all maintenance and entries have been completed. They will then make an entry in the discrepancy/comment block stating what type of flight test is requested and the reason it is required.

(2) Flight Planning

(a) Briefing - A preflight briefing shall be held.

(b) Minimum attendees will be a maintenance technician and the flight crew.

(c) The person releasing the aircraft will brief the requirement for the flight and the specific items to test. The repairs, replacements, adjustments, modifications, or questionable conditions shall be discussed in detail. Particular emphasis will be made concerning involvement with primary flight controls, engines, propellers, landing gear, hydraulic, and electrical systems.

*(d) The person releasing the aircraft will brief the requirements for a Certification Flight Test and the specific item to be tested. A completed copy of the Type Inspection Authorization, FAA Form 8110-1, will be provided to the flight test crew.

NOTE: Certification Flight Tests are restricted to minimum flight crews. The manufacturer's Airplane Flight Manual establishes the minimum flight crew. Authorized flight crews for flight tests are those persons, including technical personnel, required to operate the aircraft and to evaluate the equipment or system requiring a test.

(e) Post Flight Debriefing - Requirements:

1 Minimum attendees shall be a maintenance technician and the flight crew.

2 Post flight debriefings for Certification Flight Test will be attended by AVN-310, AVN-320, AVN-330, or their designee as required.

3 Any elements of flight test which require an explanation or clarification shall be addressed.

*4 The PIC shall make an entry in the Aircraft Log corrected action block indicating if the flight test was satisfactory. If the flight test was not satisfactory, the PIC shall indicate same and enter the flight discrepancy.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

33. SHIPPING OF MATERIALS AND HAZARDOUS MATERIALS ON AVN AIRCRAFT

A. GENERAL

AVN does not transport hazardous materials or dangerous goods. This section contains procedures and information to ensure crewmembers responsible for accepting cargo or packaged materials can recognize and identify such items.

(1) The following terms are considered synonymous:

(a) Dangerous goods.

(b) Hazardous materials (HM).

(c) Regulated materials.

(d) Restricted articles.

(e) Hazardous substances.

(f) Dangerous materials.

*Code of Federal Regulations (CFR), Title 49, Part 175 entitled Hazardous Materials Regulations (HMR) Carriage by Aircraft, contains the Hazardous Materials Regulations. Incorporated by reference are the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air. ICAO and CFR Title 49 requirements are basically the same.

*(2) The passenger notice required by CFR Title 49, Part 175 is not applicable to AVN flight inspection operations since AVN does not issue tickets, carry passengers or cargo for compensation or hire, or have passenger boarding areas. A copy of CFR Title 49, Parts 100-174 will be available at each facility for reference as needed.

*(3) No employee or contractor for the AVN Flight Program may perform any assigned duties, responsibilities involving the acceptance, handling, or carriage of baggage or cargo unless he/she has satisfactorily completed, within the preceding 12 calendar months, the approved AVN Flight

Program initial or recurrent HM recognition training program. The AVN Flight Program will not transport or accept Hazardous Materials for transportation except those materials and items listed as exceptions in CFR Title 49, Part 175.

B. ACCEPTING PACKAGES, CARGO, AND PASSENGER BAGGAGE

*(1) The General Transportation Requirements of CFR Title 49 and ICAO state that shippers of HM must properly declare any such material at the time it is offered for transportation. Therefore, it is acceptable practice to assume that HM packages may be recognized by their conspicuous markings and label, which are required to be displayed upon the outside of the package and by the shipper's tendering of the shipping paper, and certification that must be a part of the offering and must accompany the shipment during transportation.

(2) It must also be accepted that some shippers may be unaware of the requirements for transporting HM in commerce. Therefore, AVN Flight Program personnel accepting air cargo, packages, and passenger baggage must be especially vigilant in scanning all such items, and when appropriate, question persons offering cargo, packages, or luggage as to the contents and, thereby, prevent the inadvertent acceptance and transportation of such unauthorized materials.

*(3) Any package or cargo that displays a HM marking or a label, or otherwise is known or suspected to contain a HM (not excepted by CFR Title 49, Part 175), will not be loaded or carried aboard any aircraft under AVN operational control.

*(4) Any package, cargo, or passenger baggage found to contain a HM after having been offered and accepted as other than a HM will be removed from the transportation environment to a safe location pending notification of management and the shipper for its disposition after which it will be reported to the nearest FAA Civil Aviation Office in accordance with the requirements of CFR Title 49, Part 175, Reports of Discrepancies.

*(5) Any package, cargo, or passenger baggage that contains HM or other material is required to be prepared for shipment in accordance with CFR Title 49, Part 173 (located on Website "http://www.access.gpo.gov/nara/cfr/waisidx-99/49cfrv2_99.html").

C. *HM EXCEPTED FROM APPLICABILITY OF CFR TITLE 49

*The materials listed in CFR Title 49, Part 175 are acceptable for air transportation under the conditions described therein without compromise of AVN Flight Program policy that HM will neither be accepted for transportation nor transported by air.

D. NOTIFICATION OF PILOT-IN-COMMAND

*The PIC will be provided notification in writing of shipping name, hazard class, identification number, the quality of packages, the quantity per package, and the weight and location on Aircraft in accordance with CFR Title 49, Part 175.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

*34. RESETTING OF TRIPPED CIRCUIT BREAKERS (CB)

A. GENERAL

There is a latent danger in resetting a Circuit Breaker (CB) tripped by an unknown cause because the tripped condition is a signal that something may be wrong in the related circuit. Until it is determined what has caused the trip to occur, there is no way of knowing the consequences of resetting a tripped CB. Resetting a tripped CB is a maintenance function conducted on the ground. AVN maintenance personnel will use the following guidelines when encountering a tripped CB condition.

(1) General Procedures

All maintenance personnel are required to follow instructions contained in the applicable aircraft maintenance instructions to reset an uncommanded tripped CB. If maintenance instructions are not available, then it is the responsibility of each mechanic/technician to identify the problem that caused the CB to trip, to ensure resetting the CB will not cause additional damage to the aircraft system.

(2) Procedures During Fueling

Uncommanded tripping of a CB during fueling procedures must be investigated by maintenance personnel prior to further fueling of AVN aircraft. The CB may not be reset by other than AVN flight crew member or maintenance personnel.

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CHAPTER III
* SECTIONS 35 thru 39
RESERVED

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

40. ACQUISITION OF AIRCRAFT PARTS AND MATERIAL

A. GENERAL

(1) All AVN aircraft must be maintained in a condition for safe operation and meet their respective type certificate and/or properly altered condition.

(2) To meet the requirements of paragraph (1) and this manual, all aircraft parts and materials ordered and received must:

(a) Be the part or material as specified by the aircraft's manufacturers illustrated parts listing or FAA approved equivalent.

(b) Be an FAA approved Aeronautical part or material.

(c) Be procured from reliable sources and have proper documentation of their source of origin.

(d) Have a receiving inspection performed (Section III.41).

(e) All parts and material will be stored in an environmentally appropriate storage area.

*(3) All parts and materials will be requested utilizing the electronic database Material Request. Supply employees will then determine the correct source of supply. The sources in relative order of usage are:

(a) Local stock, if available.
*(b) Electronic database transfer request from another AVN line station.
*(c) Free Issue stock from LIS of the FAA Logistics Center.
*(d) Raytheon Aircraft Parts, Inventory and Distribution (RAPID) Company.
*(e) Other vendors as necessary.

B. DEFINITIONS

*(1) The electronic database: AVN's centralized material management system is an on-line computer system by which AVN supply personnel manage their local inventory and the AVN inventory as a whole.

*(2) Free Issue Stock from Logistics Inventory System (LIS): AVN owned assets that are warehoused and issued at no cost to AVN. This inventory will be managed from AVN-326 only.

*(3) Raytheon Aircraft Parts, Inventory and Distribution (RAPID) Company: An online system owned by Raytheon used by AVN to order items in support of aircraft maintenance.

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C. SPECIFIC PART INFORMATION REQUIRED WHEN MAKING REQUEST

*AVN supply personnel require accurate information in order to correctly process a request. To obtain the correct part in a timely and efficient manner, maintenance facilities/organizations when ordering aeronautical parts, material or equipment shall:

(1) Order either the manufacturer's preferred part number or an approved alternate part number that is listed in the manufacturer's Illustrated Parts Manual.

(2) Provide the complete nomenclature of the item as shown in the parts catalog (do not abbreviate).

(3) Identify the manufacturer(s) name, vendor code(s), specific manual, chapter, page number, figure and index reference number, and any other information that may be pertinent.

(4) Specify special handling or packaging requirements. This information is especially important when ordering items such as nitrogen, fire bottles, corrosive items or extremely sensitive equipment. Hazardous material should be properly marked and labeled for identification. (This applies to non-cataloged items only).

*(5) For free issue items. provide the National Stock Number (NSN) when possible. If NSN includes more part numbers than the acceptable part number(s) in its listing, order shall state "no substitute part number(s) acceptable".

D. ORDERING PROCEDURES

*(1) All requests for aircraft parts and supplies will be completed using the electronic database Material Request. Supply personnel will then determine the correct method to fill the request. All requests not filled from a local or remote AVN supply will need a backorder or material request. All backorders and material requests will be monitored by AVN-326.

*(2) AVN-326 will check all line stations to see if the requested part is available. If available, AVN-326 will process a site transfer to move the part where needed. If the part is not available at an AVN line station, AVN-326 will check stock in the LSF and ship the part, if available. If the part needs to be purchased, an electronic Purchase Order (PO) will be created and the part will be purchased and shipped. The creation of a PO will enable Quality Control to receive the part during Receiving Inspection.

*(3) AVN-326 has supply personnel with secure access to the RAPID system to order aircraft parts. All requirements stated above in "C" will be required to place an order through RAPID. In the event the part is not available or has excessive lead times other vendors may be used.

(4) Maintenance facilities/organizations that have authorized Blanket Purchase Agreements (BPA) with suppliers will be responsible for the administration of each agreement in the acquisition of parts/material when it is used in accordance with instructions provided by AMQ-320 Contracting Officer.

(5) Maintenance facilities/organizations that have authorization to use a government credit card will be responsible to see that all purchases are made in accordance with applicable laws and regulations governing its usage.

*(6) Assets stocked at the Logistics Support Facility (AML) shall be ordered through the Aircraft Support Section, AVN-326, only. AVN-326 will be responsible for initiating and controlling all required paperwork necessary for the shipping, tracking and accountability of ordered items for facilities not located at the Mike Monroney Aeronautical Center.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

41. PROCEDURES FOR INCOMING PARTS, COMPONENTS, AND MATERIAL RECEIVING INSPECTION

A. GENERAL

Federal Aviation Regulations require a receiving inspection of all parts, components and material for usage in an aircraft to ensure that they meet the certification requirements and are in condition for safe operation.

B. RESPONSIBILITY

*Quality control or designated personnel are responsible for the performance of receiving inspections. Inspector personnel will be authorized Code "D" authority as outlined in Chapter/Section III.25.

C. DEFINITION OF TERMS

(1) Stock Material: Serviceable or repairable parts, components, and materials that are in storage at the FAA Logistics Center or the maintenance activity using them.

(2) Direct Shipment: Parts, components and material that are direct shipped from the manufacturer or supplier to the maintenance organization who ordered them.

(3) FAA-Approved Aeronautical Part: Aircraft parts, components, and materials manufactured under an FAA-approved Type Certificate (TC), Production Certificate (PC), Parts Manufacturer Approval (PMA) or Technical Standard Order Authorization (TSOA).

(4) FAA Production Approval Holder: The holder of an STC, TC, PC, PMA or TSOA, who controls the design and quality of the part, component or material.

(5) Manufacturer: Person who fabricates an item or who alters any item according to a specification so that it becomes a unique and separate item.

(6) Authorized Supplier: A supplier of an FAA Approval Holder that has been authorized, in writing, authority to ship directly to the user on behalf of the Approval Holder.

(7) Vendor/Distributor: Person agent, or business who sells aircraft parts but is not the Approval Holder or its authorized supplier.

(8) Identification Marking: Required marking or labeling required to properly identify an approved aeronautical part in accordance with FAR 21 and FAR 45.

(9) Repaired/Overhauled: A used part or component that has undergone maintenance to return it to a serviceable condition.

(10) Unit Exchange: Unserviceable part or component that is exchanged as a direct replacement on a one-to-one basis.

(11) Standard Hardware. A part or material manufactured in compliance with, and conforming to, specifications developed by consensus standards organizations or Military/Federal agencies, which include design, manufacturing test and acceptance criteria, and uniform identification requirements. The specification must be published in such a manner that any person may qualify to manufacture the part and be listed in a publication which is readily available to the aviation industry. Examples include, but are not limited to, MS, NAS, AN, SAE, QQC. Standard Hardware does not include proprietary standards.

(12) Fastener: A screw, nut, bolt or stud having internal or external threads, and a load indicating washer.

(13) Rebuilt: A product, part or component which has been disassembled, cleaned, inspected, repaired as necessary, reassembled and tested to the same tolerances and limits as a new item, using either new or used parts that either conform to new part tolerances and limits or to approved oversized or undersized dimensions.

*(14) LSF Stock: AVN owned serviceable or repairable parts, components and materials that are in storage at the FAA Logistics Center.

D. CERTIFICATION DOCUMENTATION

Documentation must be provided and received with parts, components and materials to show traceability to the Production Approval Holder or their authorized supplier or approved Repair Station. This documentation must be in the form and content described below to ensure airworthiness of the item and that it is an approved part. Copies of Certification Documents will be provided to Quality Control, AVN-324, Material Receiving. These documents will be kept on file in AVN-324.

(1) All repaired/overhauled parts or components received must have one of the following:

(a) A properly executed FAA Form 337, Major Repair or Alteration Form; or

(b) A completed FAA Form 8130-3, Airworthiness Approval Tag; or

(c) Certificated repair station's approval for return-to-service tag, signed by an authorized individual identifying the part, accompanied with a document identifying the part/component and a description of work performed; or

*(d) Flight Inspection unique components or military unique components that do not couple to the cockpit, (mission essential) equipment that has been repaired by non-certificated contractors or vendors may not have the required documentation identified in the preceding paragraphs (1)(a)(b)(c). A provisional buy-in for these items will be accomplished by AVN-324, Receiving Inspection. This will ensure prompt payment to the vendor for services rendered. A list of these components by nomenclature and part number will be distributed by AVN-324 and retained in all AVN Receiving Inspection areas, Oklahoma City and Line Stations. In those instances, the following process must be followed:

1 Receiving Inspection will complete an FAA Form 8130-3 for each item, indicating "Documentation Accepted, UNIT MUST BE FUNCTIONALLY TESTED AT TIME OF INSTALLATION".

2 Upon completion of the VN Form 4100-301, Block 20 will reflect "TEST REQUIRED".

*3 Upon installation and functional test of equipment, the technician will return a signed copy of the FAA Form 8130-3 to AVN-324, Receiving Inspection, for filing.

(2) New parts, components or material acquired from a Production Approval Holder must have:

(a) A shipping invoice or picking tag from the Production Approval Holder to the FAA that identifies the part;

(b) Part must have proper identification marking as required. (PMA part per FAR 45.15, TSOA part per FAR 21.607);

(3) New parts, components or material acquired from Production Approval Holder's authorized supplier must have:

(a) A shipping invoice from supplier identifying the part; and

*(b) Certification that the part was produced under the terms of the production approval holder or production approval holders authorization for direct shipments signed by authorized representative of the production approval holder.

(c) For subsequent orders from an authorized supplier, their certification traceable to the Production Approval Holder of the part.

(4) New parts, components or material acquired from a vendor/distributor must have:

(a) shipping invoice from vendor/distributor to FAA identifying part.

(b) copy of original shipping invoice from the Production Approval Holder to vendor/distributor.

(5) New surplus parts from a commercial source may be accepted, provided interchangeability, applicable airworthiness directive compliance, storage times and conditions, and shelf life can be established. Documentation criteria will be the same as that required for new parts.

*(6) Standard hardware, nuts, bolts, washers, fasteners, etc., will meet the following criteria:

(a) Standard hardware will have an invoice from the manufacturer or vendor. Packages will be marked with manufactured date, Lot/Batch number, and manufacturers name or code.

(b) Avionic parts (resistors, capacitors, diodes, transistors, etc.), will have a manufacturer's invoice or certification from a Production Approval Holder, if a proprietary part. Non-TSO requires only invoice from vendor.

(c) Electrical connectors and fittings will have an invoice from the manufacturer or vendor.

(d) Pre-formed packing "O" rings or seals will have an invoice from the manufacturer or vendor. Items must be individually packaged. Each package marked to identify National Stock Number (NSN) if applicable; nomenclature, part number, manufacturer name or code, specification number, cure date, and expiration date and purchase order number, if applicable. On occasion, "O" ring seals may be retained in properly sealed and protected plastic packages; however, a shelf life date will be established from the date of storage up to one year.

(e) Copies of invoices for standard hardware will be retained in Quality Control, AVN-324 receiving section file.

(7) All parts, components or material received, which are manufactured in a foreign country with which the U.S. has a bilateral agreement, must have a Certificate of Airworthiness for Export attached issued by the country of manufacture. (FAR 21.502)

(8) Used aircraft parts, components or materials will not be accepted into serviceable stock, unless serviceability/airworthiness and useful time remaining can be established by AVN-320 prior to use.

(9) Parts/components not manufactured to an FAA production approval which are installed by an approved Engineering Order (EO) do not require certification documentation for acceptance other than invoice and requirements under Notes, Item 3, below.

(10) Tires as per D.(2), (3) or (5). Invoice from manufacturer by serial numbers (S/N) of tires being supplied. Tires must include all TSO identification marking as per FAR 21.607.

(11) Aircraft interior material must have flammability certification from an acceptable test facility or an FAA Certificated Repair Station.

NOTES:

(1) Any new part, component or material received that has been superseded or changed to a new part number must have documentation from the **Production Approval Holder** authorizing the change and verification of the interchangeability.

(2) Unit exchanged parts or components must meet requirements of D(1), (2), (3) or (4).

(3) EO's are controlled by the Engineering Branch, AVN-340. EO's must give part description, national stock number (NSN), if known, manufacturer name or code, or other data necessary to authorize replacement parts.

E. RECEIVING INSPECTION PROCEDURES

(1) All incoming serviceable aircraft parts, components and materials will be placed in a secured area and inspected by Quality Control (QC) or designated receiving personnel.

(2) The Quality Control or designated personnel shall perform and accomplish the following:

(a) Ensure the part number ordered matches the part received.

(b) Ensure part, component or material received is in good condition and has no damage from shipment.

(c) When applicable, ensure the state of preservation, cure date, storage and shelf life limitations are within limits.

*(d) Ensure paperwork or data received is correct for traceability and fulfill requirements as stated in Paragraph D. The designee will not make determinations of compliance with purchase order clauses, other than those relative to airworthiness certification. This is accomplished by checking only the "inspected" and "accepted" blocks found in the "Receiving Report" section of the "Award for Supplies or Services" form, and then complete the five requested fields under the check boxes.

(e) It is AVN policy not to accept any "O" ring seals without a cure date.

(3) Quality Control acceptance of life limited, overhaul, on condition parts and standard hardware will be received in the following manner:

(a) New life limited and overhaul parts and components accepted by QC will have a VN Form 4100-301, Serviceable Part Tag, completed by QC and certification documentation attached. Life limited parts repaired will include a record of work performed and overhaul items that have been repaired or overhauled will require a maintenance release and a record of work performed.

(b) Any non-serialized life limited component received will have a serial number assigned and the part identified with the same. Records of assigned S/N will be maintained by the Quality Control, Receiving Inspection Office in OKC or at the Quality Control, Receiving Inspection Offices at field activities.

NOTE: Excluded from this requirement are Life Limited items either physically too small to accept a serial number; or cables, hardware, fittings, bushings, pins, etc. that are controlled by requirements loaded at the airframe level rather than at the component level.

(c) An assigned serial number will be entered on a logbook in the following manner: The first three letters of the organization, i.e., AVN-300, OKC; Atlantic City, ACY; Anchorage, ANC; Battlecreek, BTL; and Sacramento, SAC. The next numbers will be the year, followed by a three digit number, example: OKC, 95001. The serial number will then be inscribed on the component or part with a permanent ink pen.

(d) Serialized on condition (OC) parts or components (except consumables) will require completion of an VN Form 4100-301, Serviceable Part Tag. Copies of certification documentation for OC components will be accepted and filed in the OKC QC Receiving Office.

(e) Non-serialized standard hardware, subassemblies, resistors, clamps, etc. will include QC stamp on certification documents.

(4) Direct ship items will be accepted at the receiving office at the field facilities and the field facility will attach the proper tag to the item. Copies of Certification Documents will be provided to Quality Control, AVN-324, Material Receiving. These documents will be kept on file in AVN-324.

(5) Customer supplied parts and components are to be stored in a segregated area identified for each customer or in a manner mandated by contractual procedures.

*(6) Rejected items will have discrepancies noted and attached to the item. These items will be placed in a segregated controlled "Discrepant Parts" holding area until serviceability of part can be established or disposition of part determined. When a vendor refuses to provide documentation as required by Paragraph D of this section, the designee must notify AMQ-300 and AVN-326 via E-mail to delete the vendor as an authorized source for acquisition. Additionally, AMQ-300 and AVN-326 must be notified by AVN-324 to delete any vendor as an authorized source that is identified by FAA alerts, handbook bulletins or other official notifications as a vendor/distributor of unapproved parts.

*(7) Parts, components and materials received by maintenance organizations from LSF Stock without documentation paperwork, should have either a Q.C. stamp (reference III.75), completed VN Form 4100-301 or one of the following computer generated labels as shown below. The small label is used when the incoming part has the identifying information already on the package or when the item is too small for the large label. This will signify that Quality Control Section, AVN-324, has performed the incoming inspection and all certification documents required are on file in the incoming inspection section office, Oklahoma City, OK.

DOCUMENTATION APPROVED BY: AVN-320 #

CONTROL NO.:

PART NO.:

NSN NO.:

P. O. #: DATE:

DOCUMENTATION

APPROVED BY

AVN INSPECTOR

#

Date

DOCUMENTATION
APPROVED BY: QC

AUG 15, 1996

NOTES:

(1) Label generated and controlled by Quality Control Section, AVN-324, and used on items not labeled by manufacturer.

(2) A stamp or label may be used on items that are physically too small or quantity too large to attach documents to individual items.

F. DETECTING AND REPORTING SUSPECTED UNAPPROVED PARTS (SUP)

(1) Report of SUP parts issues Forms, Procedures, etc.

*(a) The individual finding the (SUP) part is required to fill out the required information on the FAA Form 8120-11, Suspected Unapproved Parts Form, IAW Chap. IV.

(b) This form will be forwarded to AVN-320 for action.

*(c) Suspected Unapproved Parts Information will be documented on VN Form 4100-34, Maintenance Review Board (MRB) Action form and forwarded to the MRB for their review and action.

*(d) Location and identification of SUP parts will be accomplished by the use of the electronic database by entering the locations, whether installed or on the shelf as spares.

(e) Components or parts identified as suspect that are stored in the FAA warehouse in OKC will be identified by P/N and stock number if applicable and a bin inspection will be conducted. Any suspect items found during bin inspection will be isolated and held in quarantine, within AVN-324 spaces, in the warehouse. These items will be issued by the item managers to the AVN-324 SUP representative.

(2) Storage of suspect or confirmed part(s) issues.

*(a) Location: The storage area for SUP parts will be segregated from all serviceable parts and an VN Form 4100-301-2 Condemned Parts Tag will be attached.

(b) Security: These parts that are in question will be secured in a locked area within AVN-320 spaces.

(c) Evidence: Parts required to be held as evidence will continue to be held in AVN-320 spaces or designated areas until final confirmation is made.

(3) Evaluation of Suspect Parts for Acceptability

(a) Internal: Initial testing of SUP parts may be accomplished within the AVN Repair Station if parts or components are listed on the repair station operation specifications for those components or parts in question. A complete, tear down test/inspection report will be accomplished and photos attached if applicable.

(b) External: A complete test and tear down inspection should be accomplished at the Production Approval Holders facility or their authorized repair facility. A complete tear down report along with photographs witnessed by FAA personnel are required.

(c) Reports: All reports will be sent to Quality Control AVN-324, Oklahoma City, Oklahoma.

(d) Maintenance Review Board (MRB) Results: After reports are completed or a decision made as to the disposition of all SUP parts installed in aircraft or held in stock, notification will be sent to AVN concerned departments as to the steps that are required to be taken.

(e) Maintenance Alert Directive (MAD), VN Form 4100-69: Upon a decision of the Maintenance Review Board to inspect, identify or replace installed components in question, a Maintenance Alert Directive will be issued to involved areas.

(4) Removal of suspect parts from aircraft and spares stock levels.

(a) AVN Stock Room. (OKC):
All (SUP) parts removed from stock will be tagged with a VN Form 4100-301-2 and held in AVN-324, Receiving Inspection and identified as a SUP part not to be issued.

(b) Line Maintenance Station Inventory:
Any components that are removed from standing stock at Line Maintenance Station locations will be identified and tagged as a (SUP) part and not to be issued until released or further disposition has been identified.

*(c) LSF Stock:
All components removed from inventory will be quarantined in AVN-324. These items will also be identified as SUP parts not to be issued and held until released by AVN-320.

(5) Parts listed in the FAA Approved Minimum Equipment List (MEL) procedures may be considered inoperable and deferred with the established MEL procedures.

(6) Disposition of suspected parts from all AVN maintenance locations concerned will be accomplished IAW Advisory Circular (AC) 21-38, Disposition of Unsalvageable Aircraft Parts and Materials.

G. ELIGIBILITY OF CURRENT INVENTORY FOR USE WHEN SUFFICIENT DOCUMENTATION DOES NOT EXIST

The following procedures will be used to declare certain parts are acceptable and safe for use when sufficient documentation is not available. These procedures are applicable to new, overhauled or repaired parts, excluding parts which are cycle or time controlled. The Manager, Quality Assurance Branch, AVN-320, or delegated representative, will make the final determination as to the acceptability of the part and will sign the acceptance tag.

(1) New Parts in Current Inventory (Stock Material)

In order to accept new parts from current inventory without the documentation required by Paragraph D of this section, the following requirements must be met.

(a) Part must be identified with proper part number and/or,

(b) Part must be in the manufacturer's original package in order to determine if the part is new or it must be tagged and identified as a new part by the manufacturer.

(c) Alternate part numbers that are not shown by the manufacturer must be verified acceptable by Engineering, AVN-340, before the part will be considered for use.

(2) Overhauled or Repaired Parts in Current Inventory (Stock Material)

In order to accept overhauled or repaired parts without the necessary documentation, the following must be met:

(a) Parts received from current inventory without work orders must have a properly completed and signed maintenance release from the repair agency attached and inspected by Quality Control, to determine maintenance requirements to authorize use. No part will be accepted without a maintenance release.

(3) Work Stoppage

The following sequence will be used in the event a problem exists with certification of the part or part does not have proper documentation, which may result in a work stoppage.

(a) Request manager, AVN-320, to make determination if part can be used as received.

(b) AVN-320 and AVN-340, when required, will determine what actions are necessary to certify the parts by attaching Serviceable Part Tag, VN Form 4100-301, on part.

(c) AVN-310 or AVN-330 will accomplish the maintenance actions as required. Maintenance actions will be accomplished in accordance with procedures issued by Managers, AVN-320 and AVN-340.

(4) Existing Inventory (Stock Material)

Parts in the existing inventory shall be evaluated using the procedures set forth in Paragraph (1) and (2) above.

H. STORAGE AND TRANSIT OF ESD SENSITIVE COMPONENTS AND EQUIPMENT

Ordinary plastic containers or packing materials shall not be used when transporting ESD sensitive components. Manufacturers' recommendations will be used. The following are other requirements for ESD control:

(1) ESD sensitive components and equipment shall be transported in conductive static-dissapative or anti-static materials.

(2) Shipping information, instructions, and other paperwork, accompanying ESD protected packages, shall be contained in anti-static materials and attached to the outside of the package/container by ESD approved methods.

*(3) Open or damaged ESD packaging containing sensitive components and equipment are unacceptable and should be referred to the AVN-300 ESD coordinator for resolution.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

42. CANNIBALIZATION OF AIRCRAFT PARTS AND/OR EQUIPMENT

A. GENERAL

(1) Cannibalization of aircraft, engine, propeller or appliance parts and equipment to obtain serviceable parts should be resorted to only when the item needed is not in stock and cannot be obtained in time to meet flight schedules or other priority requirements.

(2) A Cannibalization Record, VN Form 4100-22, will be initiated to request authority for cannibalizing a part from an aircraft or engine and to document cannibalization for Aircraft Records.

(3) Before requesting authorization to cannibalize a part, the person making the request will determine that the part is serviceable.

(4) When the part is either hard time or life limited, verify the remaining service life and documentation required by III.41 is available by using the electronic database and entered on the Serviceable Part Tag, VN Form 4100-301. If the documentation is not available, the part cannot be removed for use on another aircraft.

B. APPROVAL AUTHORITY AND CONTROL

(1) The maintenance supervisor of the facility, or personnel delegated by the maintenance supervisor, must approve any cannibalization of parts from an aircraft, engine, propeller, appliance part or equipment prior to removal.

*(2) At the time the cannibalization request is approved, the maintenance supervisor or delegate will ensure that a replacement part has been ordered.

C. AIRCRAFT, ENGINES AND PROPELLER CANNIBALIZATION PROCEDURES

(1) Part or component removed from donor aircraft:

(a) Order required parts or equipment.

*(b) Initiate a Cannibalization Record, VN Form 4100-22.

*(c) Initiate a Serviceable Part Tag, VN Form 4100-301, in block 32, enter the statement "Removed Serviceable" from N____. Sign and date.

*(d) Determine suitability of part for installation by verification of aircraft records, confirming TSO and Time Remaining as appropriate. Signature on Cannibalization Record verifies this check.

*(e) Maintenance personnel will ensure that removal of the part is documented in the electronic database , as appropriate.

*(f) When cannibalizing a part from an aircraft, it is the responsibility of the person removing the component to prepare and install a Red Warning Tag, VN Form 4100-86, on the control wheel of the aircraft from which the part is being removed. The red tag shall contain cautionary information such as: “Do Not Operate Hydraulic System” or “Do Not Apply Electrical Power.” In the case of the latter, a red tag will also be attached to the battery switch and the external power receptacle(s) stating “Do Not Apply Electrical Power.”

(g) An entry shall be made in the donor aircraft log discrepancy block that a part or component was removed for use on another aircraft. The entry shall include the N-Number of the receiving aircraft, the date, and the part name of the part removed. The person removing the part shall print their name in the Entered By block. Enter the four digit ATA number, the part number, and the serial number of the part removed in the **Parts Replacement** block **Off** line. Attach a copy of the Cannibalization Record to the Log page.

*(h) If the part or component was cannibalized during a maintenance check, a Nonroutine Work Card, VN Form 4100-155, will be completed for the donor aircraft. Attach a copy of the Cannibalization Record, VN Form 4100-22, to the work package.

*(i) If shipping to another site, turn in donor part, with Cannibalization Record, VN Form 4100-22, to supply with request to ship the part.

(2) Part or component installed on the recipient aircraft:

(a) Make an Aircraft Log, VN Form 4100-8, entry identifying the item was removed from aircraft N number. In the corrective action block include the date and signature of the person installing the part and the part name. Enter the four digit ATA number, the part number, and the serial number of the part installed in the **Parts Replacement** block **ON** line. Be sure to show what work was performed to install the part and any special tasks associated with it, i.e. leak check, rigging, operational check, etc.

(b) If the part or component is an RII, request a Quality Control buyoff.

(c) Maintenance personnel will ensure that installation of the part is documented in the electronic database.

(d) Attach the completed Cannibalization Record, VN Form 4100-22, to the Aircraft Log, VN Form 4100-8, sheet for records filing.

D. APPLIANCES (Including accessories and equipment)

(1) Order parts or equipment and complete a Cannibalization Record, VN Form 4100-22.

(2) Complete a Nonroutine Work Card, VN Form 4100-155.

*(3) Cannibalization of appliance modules, subassemblies or parts from equipment should not be done unless it is the only means of returning an aircraft to flight status in time to meet scheduled flight.

(4) The technician cannibalizing equipment shall attach a Red Warning Tag, VN Form 4100-86, to the cannibalized unit. The tag should identify the component or part removed, date removed, any other appropriate information and signature of the person removing the part.

(5) The shop or facility cannibalizing a unit is responsible for restoring the unit to serviceable condition, when within the facility's level of maintenance capability.

(6) Cannibalization shall not be carried to the point where it becomes uneconomical to restore the equipment to serviceable condition.

(7) There shall be no cannibalization of avionic equipment being returned to the Aeronautical Center for repair, overhaul or return to stock.

*

CHAPTER III. FORMS

*43. ALERT OPERATIONS AND MAINTENANCE DATA

A. GENERAL

It is imperative that aircraft flight crew and maintenance personnel be alerted when a deviation from normal configuration exists. When aircraft are altered by a prototype modification or a special service test is authorized, temporary operation and maintenance information must be placed aboard the aircraft.

B. PROCEDURES FOR USE OF AIRCRAFT DEVIATION ALERT, VN FORM 4100-76

(1) An Aircraft Deviation Alert Sticker, VN Form 4100-76, shall be placed on the front of the Aircraft Log, VN Form 4100-8, cover to call attention that a deviation from normal conditions exists. This form is used to provide alert information to flight crews and maintenance personnel.

(2) The individual installing the alert sticker shall enter the EO number and title, their "routing symbol", sign and date.

(3) Place the stickers starting at the upper left corner.

(4) Remove the sticker when the condition requiring it is corrected.

C. INOPERATIVE/REMOVED PLACARDS

The following procedures provide a standardized placard and location to identify inoperative or removed avionic and aircraft equipment.

(1) Description

*The "inoperative" and "removed" placards are vinyl, pressure sensitive 1 x 1 placards which can be readily affixed to or removed from glass, plastic or metal. These placards shall be written on with ink.

(2) Use

The "removed" placard, VN Form 4100-63, or the "inoperative" placard, VN Form 4100-64, as applicable, should be affixed in a conspicuous location as close as practicable to the removed control head or related indicator. In aircraft where equipment racks are readily visible and accessible, attach the placard, directly below the equipment location in the rack. The inoperative placard shall include the MEL System and sequence number and the date of deferral.

D. AIRCRAFT LOG SLIP COVERS

A mylar cover, open at one end, is available to slip over the front cover of the log. The slip cover should be identified with the aircraft "N" number.

The deferred Discrepancy List can still be placed in the front cover as before.

*Distribution of the slipcovers has been made to each operating activity. For additional covers, order from AVN-326.

CHAPTER III
*** SECTIONS 44 thru 51**
RESERVED

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

52. MAINTENANCE ALERT DIRECTIVE, VN FORM 4100-69

A. PURPOSE

*Maintenance Alert Directives (MAD's), VN Form 4100-69, will be issued by Quality Assurance Branch, AVN-320, and normally cover urgent situations, i.e., one-time or special inspections, test programs, etc. Every effort shall be made to keep the quantity of MAD's to a minimum and cancel them as soon as they have served their purpose. AVN-320 will utilize FAX, FAA mail, telephone, telegraph or the electronic database to transmit MAD's when the situation warrants.

B. PROCEDURES

(1) When a need to issue an MAD is identified, determine urgency, compliance time, reporting and future action requirements before preparation. MAD's will be coordinated through AVN-324 and approved by the Supervisor, Program Standards Section, AVN-328, or his/her designee prior to issuance. AVN-320 personnel will coordinate with Engineering Branch, AVN-340, and field users, when necessary, to assure compatibility, proper part numbers, etc. Reporting is usually limited to reporting findings to maintenance analysis programs; however, certain applications will require compliance reports.

(2) Prepare MAD, assuring all requirements are covered and expedite issuance.

C. PROCESSING MAD's

(1) When an inspection or maintenance action is specified, the instructions will identify the operating activity required to perform this requirement.

(2) Each MAD will be assigned a number which will be subsequently used on the page issuance.

(3) MAD messages will be prepared in the following format:

(a) Address list

(b) The words "MAD" - original or "MAD" - supplement followed by the appropriate MAD number.

(c) Subject

(d) Applicability

(e) Problem identification (history)

(f) Concise instructions

(g) Compliance and discrepancy reporting requirements

(h) Cancellation of MAD

D. DURATION OF MAD's

Maintenance Alert Directives are temporary, immediate issuances and will be self-canceling upon completion.

E. ISSUANCE AND DISTRIBUTION

(1) Maintenance Alert Directives (MAD's) will be issued to transmit the following types of information:

(a) Notification to add or delete items on inspection checklist.

(b) Request for short notice maintenance actions or to provide information for the maintenance analysis program.

(c) Alert personnel to safety hazards.

*(2) In urgent circumstances, MAD information may be transmitted by telephone/dispatch or FAX.

(3) All FAA maintenance activities shall ensure that all personnel are familiar with the MAD system.

F. MAINTENANCE ALERT DIRECTIVE MASTER INDEX

*(1) Master Index

The Master Index, VN Form 4100-93, located in the Reliability/Standards Section, AVN-328, is a listing by number, subject, approval date and location (manual and chapter) of the general Maintenance Alert Directives issued to FAA operated aircraft.

(2) MAD Number

The MAD number is assigned for control and record keeping purposes. All previously issued MAD's will retain their original designation number. All newly issued MAD's will be numbered in numerical sequence, (i.e. 2-1, 2-2, etc.).

(3) Subject

This is a brief, descriptive title which identifies the general area of work to be accomplished.

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CHAPTER III
SECTIONS 53 thru 57
RESERVED

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

58. SEVERITY CODES

A. PURPOSE

*This chapter provides definition of the Severity Codes to be assigned to aircraft and avionic discrepancies recorded on the Nonroutine Work Form, VN Form 4100-155 (see Chapter IV) and in ILM. These codes are used in the discrepancy analysis system to measure the effectiveness of the AVN aircraft maintenance system.

B. RESPONSIBILITY

*(1) Each person originating a Nonroutine Work Form, VN Form 4100-155 shall determine the severity code level for each discrepancy and enter that code in the designated block on the form and in ILM.

(2) The maintenance supervisor shall review the assigned code to confirm accuracy of severity code determination. This second level review will provide an assurance of accurate input to the discrepancy analysis system.

C. SEVERITY CODE DEFINITION

(1) The degree of seriousness of a discrepancy cannot be defined in precise terms that would eliminate all questions that might occur to persons originating the discrepancy; therefore, each person must exercise his/her own judgment, using the following definitions as a guide:

(a) Code Number 0 - assign this code to programmed time changes, modifications, carry-over discrepancies and removal and replacement instructions not associated with a discrepancy, insignificant appearance items, service items, etc.

(b) Code Number 1 - A Minor Item. Assign this code to:

1 Aircraft appearance items. Small fuel, oil and hydraulic fluid seeps in non-critical areas; small cracks or damage in non-structural metal such as fairings, cowlings, etc.; minor wear of components; and minor adjustments in non-critical systems.

2 Avionic. Cleanliness of avionics equipment, missing placards that are not required by type certificate, burned-out light, etc.

(c) Code Number 2 - A Moderate Item. Assign this code:

1 Aircraft. Large cracks or damage to non-structural metal; small cracks or damage to secondary airframe structure; wear beyond limits or adjustment of components, the failure of which would not cause an in-flight danger to the aircraft.

2 Avionic. Any avionics discrepancy which would not interfere with the aircraft meeting a Priority 1 flight check mission, using the remainder of the working flight check systems, i.e., airspeed at console out of calibration, altimeter at console out of calibration, automatic OBS not functioning properly on automatic but satisfactorily on manual; any item which could be carried forward for a short period due to lack of parts or time, and which does not affect the airworthiness of the aircraft.

(d) Code Number 3 - A Major Item. Assign this code:

1 Aircraft. Large cracks or damage to secondary structure; any cracks or damage to primary structure; wear beyond limits; or adjustment to any components classified as RII items or the failure of which would adversely affect the airworthiness of the aircraft; fuel leaks or seeps in a closed area of the structure causing fuel vapor concentration.

2 Avionic. Any avionics system needing bench calibration; any avionics equipment needing component replacement; any avionics component or system which malfunctions and is required for the aircraft to meet required flight check function; i.e., recorder inoperative, recorder not printing properly, VOR/LOC, TACAN, glide path or marker beacon needing bench or ramp calibration, missing wiring diagram(s), missing maintenance or operations manuals, etc.

3 Missing placard required by type certificate.

D. DISPOSITION OF DISCREPANCY FORMS

*All nonroutine discrepancy data recorded on VN Form 4100-155 for maintenance will be reviewed by AVN-328. VN Form 4100-155 shall be retained with the aircraft record. Quality Assurance Branch, AVN-320, personnel will analyze information for maintenance problems, work-card deficiencies and trends, and initiate corrective actions.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

59. PROCEDURES FOR ADJUSTING MAINTENANCE PROGRAM REQUIREMENTS, INTERVAL ADJUSTMENT AND PROCESS CHANGE

A. GENERAL

This section provides procedures and information relating to the establishment and adjustment of maintenance program requirements, intervals, frequencies, overhauls and/or maintenance processes used to maintain AVN aircraft, engines, propellers, appliances and associated equipment.

NOTE: FAA approved Airworthiness Directives (AD's) and/or the repetitive inspections required by an AD and Life Limited Items listed in Airworthiness Limitations are not addressed in this section.

*B. MAINTENANCE PROGRAM RESPONSIBILITIES

The Program Standards Section, AVN-328, is responsible for establishing the maintenance programs for AVN aircraft. Adjustments or changes to these programs are accomplished by AVN-328 in coordination with the Maintenance Review Board (MRB) review process as described in Chapter/Section III.70.

C. ESTABLISHMENT OF MAINTENANCE PROGRAM REQUIREMENTS (INTERVALS, FREQUENCIES, PROCESSES)

(1) Establishment of maintenance program intervals, frequencies or processes are normally based on manufacturers' recommended inspections and maintenance requirements or applicable maintenance review board reports (MRB) when available.

(2) Maintenance recommendations may be incorporated into the Technical Issuance System.

(3) Manufacturers' recommendations or MRB reports are used to establish specific maintenance processes.

(4) When no recommendations or guidance is available for maintenance program intervals, frequencies or processes, the following information will be used:

(a) Type of equipment and geographical area of operations.

(b) Type of operation and utilization.

(c) Other operators' service experience and service history.

(d) Aircraft System/Component Analysis Method as provided by applicable Maintenance Steering Group (MSG) documents.

(e) Applicable FAA and industry guidance.

D. ADJUSTMENT/CHANGE OF MAINTENANCE PROGRAM REQUIREMENTS (INTERVALS, OVERHAULS, FREQUENCIES AND PROCESSES)

(1) Adjustment/change to established maintenance program intervals, overhaul limitations, frequencies and processes applicable to airframes, powerplants, propellers, appliances and associated equipment are based on statistical and analytical data analysis through a daily and long term monitoring process as described in the Continuing Analysis and Surveillance Program (CASP), Chapter/Section III.70.

*(2) Adjustment/change to maintenance program requirements, intervals, frequencies and overhaul time limitations may be requested as necessary. These adjustments/changes must be properly justified and substantiated by data and analysis applicable to the specific aircraft, engine, propeller, appliance and approved through the MRB process.

(a) The analysis review will be compared to AVN's statistical performance system (hours of operation, numbers of landings, operating cycles, etc.). The additional element of judgment and experience may, in some cases, be required to determine if a maintenance program frequency or interval should be increased or decreased.

(b) When analysis of data indicates that any part or component consistently requires repair, adjustment or other maintenance because of damage, wear or deterioration within the current time limitations, AVN-328 will be responsible for identification of that part or component through the Quarterly Fleet Reliability Report.

(3) Standards used for revision of maintenance program requirements, intervals, overhaul time limitations are identified as follows:

(a) Changes to maintenance program requirements or intervals of aircraft, engines, propellers, appliances or components are based on evaluation of pertinent service records and analysis of at least one aircraft of the model involved that has been operated within five percent of the currently approved requirement or interval.

(b) Increases in overhaul time limitations of engines, propellers, appliances and components are based on satisfactory service experience and teardown examination of at least one sample. The specific sample will have been operated within five percent of the currently approved time limitation. Manufacturer recommended wear limits will be utilized as a comparative standard and must be met or exceeded.

NOTE: Engines, propellers, appliances and components selected as samples for teardown analysis associated with escalation of overhaul time limitations will be identified to the CHDO at time of selection and prior to teardown.

*(c) Maintenance program requirement or interval increases will be adjusted at increments of ten percent. For those calendar increases that result in a fraction of a month, the increase will be to the next whole month. Hourly increases will be made for the initial ten percent if it falls within 25-hour increments. If not, it may be increased to the next 25-hour increment. Increases must be clearly justified by maintenance data and analysis. (Reference paragraph D.(2). Calendar and hourly increases in excess of the foregoing will require approval of the CHDO.

E. DATA COLLECTION SYSTEM

(1) The Program Standards Section, AVN-328, provides daily and long-term data analysis utilizing information collected from the following sources:

(a) Scheduled and unscheduled maintenance

(b) Aircraft maintenance packages

*(c) Nonroutine work cards

(d) Engine and propeller overhaul records

(e) Premature removals (engines and parts)

(f) Component failures

(g) Repetitive malfunctions or adverse trends related to CM, OC, or HT components.

(h) Deferred discrepancies

(i) Aeronautical Reliability Reports

(j) Mechanical Interruption Summary Reports

(k) Shop work orders

(l) Vendor supplied tear down reports

(m) Quality Control shop surveillance reports.

(2) AVN-328 collects and analyzes data daily and publishes a quarterly report identifying the results of this analysis. The MAB process serves as the corrective action system for aircraft components, systems, parts or processes that have been identified as requiring attention.

*(3) When the requirement for adjustment or change to an aircraft system, component or appliance maintenance interval, frequency, overhaul limitation or process is recognized, a Maintenance Analysis Bulletin, VN Form 4100-136, will be generated by AVN-328 requesting review for recommended action.

*(4) Program Standards, AVN-328, shall be responsible for coordinating all requested changes to the maintenance program. All requests will be submitted to the Quality Assurance Branch Manager, AVN-320, or his designee for MRB action. AVN-328 will submit statistical and analytical data for justification or substantiation to support the required action. Maintenance Review Board (MRB) Action Form, VN Form 4100-34, describing the subject, discussion and proposed action will be completed and all applicable data and analysis will be attached.

*(5) The Maintenance Review Board will review all data concerning the proposed action. Upon concurrence, a Maintenance Review Board Compliance Form, VN Form 4100-35, will be initiated to track and coordinate action taken.

F. APPROVAL PROCESS

*(1) Programs Standards Section, AVN-328, shall prepare a cover letter describing the proposed adjustment or change and provide the required information to substantiate and justify the adjustment or change. The request for adjustment or change approval will be routed through the Maintenance Review Board for review and approval and then submitted to the Division Manager/Director of Maintenance, Aircraft Maintenance and Engineering Division, AVN-300, for organizational approval.

(2) All adjustments or changes to an aircraft maintenance program will be implemented through the TI manual revision system. All documentation associated with the change will be maintained by AVN-328 for two years and then purged or stored accordingly.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

60. SHORT-TERM ESCALATION OF OPERATING TIME LIMITS

A. GENERAL

Short-Term Time Escalations may be needed to meet unforeseen scheduling requirements, compelling economic factors, emergency mission requirements and inspection item realignments. Maintenance/inspection intervals and some component items may be eligible for short-term escalations. The short-term escalation procedures will not be used for frequent escalations to compensate for deficiencies in the basic maintenance program. The short-term escalation shall be preceded by sufficient management, technical planning, and analysis. This is required to assure aircraft safety, reliability, and to preclude misuse or too frequent use of the procedure.

B. PROCEDURES

(1) The following action will be taken by the Line Station Branch Manager or the Base Maintenance Branch Manager prior to requesting a short-term escalation of a maintenance function:

*(a) Determine the reason short-term escalation is needed. Discuss the amount and type of request with Quality Assurance personnel to ensure it will be eligible for escalation and not jeopardize the airworthiness of the aircraft or safety of the crew. When both are in agreement, forward the request, VN Form 4100-316 to AVN-320. (Reference Chapter IV).

(2) AVN-328, Program Standards Section, will complete substantiative data analysis prior to short-term escalation approval.

(3) AVN-324, Quality Control Section, upon receipt of request, will only recommend approval after review of the aircraft and component records, as completed. The review will consist of the following:

(a) Previous inspection results.

(b) Supplemental inspections that may be needed to ensure continued airworthiness during the escalation period.

(c) The escalation must not cause items not covered by the escalation to exceed their maintenance intervals.

(d) Calendar time, hours, landings, or cycle intervals requested do not violate any of the prohibitions shown in Paragraph C of this section.

(e) Recent operational history and appropriate reliability data to ensure escalation will not impact safety or airworthiness. Review previous escalation history for indications of abuse. Note any deficiencies on the substantiating data section and recommend approval or disapproval for the AVN-320 Manager and forward for approval/disapproval and signature. A copy of the request is to be retained for the aircraft records if approval was granted.

(f) AVN-320 will approve and provide a copy of the Short Term Escalation Form, VN FORM 4100-316, to the CHDO.

*C. PROHIBITIONS

(1) The procedure for short-term escalation does not apply to the following:

(a) Intervals specified by FAA Airworthiness Directives;

(b) Life limits specified by Type Certificate Data Sheets;

(c) Limitations specified by Minimum Equipment Lists or Configuration Deviation Lists for the aircraft involved;

(d) Manufacturers Airworthiness Limitations;

(e) FAA Maintenance Review Board Limitations;

(f) Requirements of Federal Aviation Regulations;

(g) Structural sample periods imposed by Maintenance Review Boards; and

(h) Production Approval Holders/Manufacturers recommended overhaul/maintenance intervals for safety Survival Equipment.

(2) Short-term escalation of maintenance intervals is listed in the applicable Work Content Document. Escalation of maintenance/inspection intervals must be requested individually for aircraft or components on separate request forms.

NOTE: An individual item may be escalated to a higher figure by an extended short-term escalation predicated on justification presented to the assigned FAA principal airworthiness inspector (maintenance or avionics, as applicable) and subject to approval before exceeding the current short-term escalation limitations.

D. RECORDING

*The approved Short-Term Escalation Request Form, VN Form 4100-316, will be filed with the records of the affected aircraft. A copy of the approved form will be provided to AVN-330 Maintenance Manager and AVN-310, Line Station Branch, who will ensure update of the maintenance programs data after escalation approval.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

61. *AERONAUTICAL RELIABILITY REPORT (MECHANICAL RELIABILITY REPORT) FAR 135.415 AND MECHANICAL INTERRUPTION SUMMARY REPORT, FAR 135.417

A. GENERAL

*The Aeronautical Reliability Report (ARR), VN Form 4100-227, see Chapter IV, is one of several sources for developing system and component reliability data. Information contained in this report contributes to the total data bank. Completion and submission of the Aeronautical Reliability Report, VN Form 4100-227, meets the reporting requirements of FAR 135.415. The ARR is a prime document for identifying problems not generally associated with electronic database controlled components or inspection systems when that component, system or part is causing a significant maintenance problem which needs immediate attention or greater emphasis. AVN-328 will transcribe all applicable information from the ARR to FAA Form 8070-1, Service Difficulty Report, when submitting mandatory information to Flight Standards. The three categories for ARR reporting are listed below.

(1) Reporting mandatory items.

(2) Reporting optional items.

(3) Reporting hard time/life limited items.

B. REPORTING MANDATORY REPORTABLE ITEMS

*(1) Mandatory reportable items, as listed in item (6) of this paragraph, shall be submitted for all aircraft used exclusively in the service of the FAA. This includes aircraft owned, leased, under military bailment or otherwise possessed by the FAA.

*(2) Each operating activity is responsible for the reporting of any item, as listed in paragraph (6) to the Program Standards Section, AVN-328, within 24 hours of occurrence. These activities are Line Station Branch, AVN-310, and the Base Maintenance Branch, AVN-330. AVN-328 is responsible for preparation and submission of FAA Form 8070-1, Service Difficulty Report to the CHDO within 72 hours of the occurrence.

NOTE: A report due on a Saturday, Sunday or Holiday may be submitted on the next workday.

(3) To prevent dual reporting, all contractors will report mandatory reportable items (Reference B(6)) to AVN-328 for processing in accordance with the procedures of this section.

(4) The ARR's should not be withheld even if all information is not available. When additional information is available, i.e., causes, corrective actions, etc., a supplement to the original report and reference to the date and place of submission of the first report will be made as soon as possible.

(5) The initial ARR shall be prepared and reported to the Program Standards Section, AVN-328, as soon as the required information is compiled. This initial reporting can be made by FAX or preferably by VN Form 4100-227, Electronic Version, available at FAA Electronic Document System (FEDS) Web site (http://feds.faa.gov/default.asp). Make a note on the initial ARR indicating the date and time it was reported to AVN-328.

*(6) Mandatory Reportable Items.

AVN-328 shall report the occurrence or detection of each failure, malfunction or defect concerning the following:

(a) Fire during flight and whether the related fire warning system functioned properly.

(b) Fire during flight not protected by a related fire warning system.

(c) False fire warning during flight.

(d) An engine exhaust system that causes damage during flight to the engine, adjacent structure, equipment or components.

(e) An aircraft component that causes accumulation or circulation of smoke, vapor or toxic or noxious fumes in the crew compartment or passenger cabin during flight.

(f) Engine shutdown during flight because of flame-out.

(g) Engine shutdown during flight when external damage to the engine or aircraft structure occurs.

(h) Engine shutdown during flight due to foreign object ingestion or icing.

*(i) Engine shutdown during flight of more than one engine.

*(j) A propeller feathering system or the ability of the system to control overspeed during flight.

*(k) A fuel or fuel-dumping system that affects fuel flow or causes hazardous leakage during flight.

*(l) An unwanted landing gear extension or retraction, or opening or closing of landing gear doors during flight.

*(m) Brake system components that result in loss of brake actuating force when the aircraft is in motion on the ground.

*(n) Aircraft structure that requires major repair.

*(o) Cracks, permanent deformation or corrosion of aircraft structures if more than the maximum acceptable to the manufacturer or the FAA.

*(p) Aircraft components or systems that result in taking emergency action during flight (except action to shut down an engine).

*

NOTE: The structure is any part of the aircraft designed to carry loads or stress.

NOTE: For the purpose of this section, "during flight" means the period from the moment the aircraft leaves the surface of the earth on takeoff until it touches down on landing.

C. ADDITIONAL REPORTING

*In addition to the reports required by paragraph B.(6) of this section, AVN or contract personnel will report any other failure, malfunction or defect in an aircraft, system, component, powerplant or structure that occurs or is detected at any time, if, in their opinion, that failure, malfunction or defect has endangered or may endanger the safe operation of an aircraft. Use the same reporting procedures in paragraph B. above.

EXCEPTION: No ARR's need be submitted for components damaged by the carrier. Damaged shipments will be processed in accordance with appropriate supply management handbooks.

(1) Components reported on an ARR that are to be routed through supply channels or returned to the Aircraft Maintenance and Engineering Division, AVN-300, should be identified in accordance with paragraph G of this instruction.

D. REPORTING NON-SAFETY OF FLIGHT ITEMS

(1) An ARR shall be submitted for each premature failure/removal of all hard time parts (life limited and/or overhauled), such as early component malfunctions, service difficulties, problem areas and product improvement. Also, for deficiencies and other unsatisfactory conditions considered to have a significant adverse effect on aircraft utilization, maintainability or economy. An ARR may be used to report non-safety of flight items for any of the conditions listed above, or for other problems that may be encountered.

(2) Components reported on an ARR that are to be routed through supply channels or returned to the Aircraft Maintenance and Engineering Division, AVN-300, should be identified in accordance with paragraph G of this instruction.

E. ASSIGNING AERONAUTICAL RELIABILITY REPORT SERIAL NUMBERS

*Each report submitted will be assigned a serial number by AVN-310, AVN-320 or AVN-330, consisting of a three position alpha-numeric identifier followed by the ARR sequence number. The ARR serial number shall be developed according to instructions contained in paragraph E.(1)(b). The individual shop should maintain a master list of ARR numbers and assign them as needed. This list could contain additional information, but it must contain at least the ARR number to prevent duplicate assignment. This master list is for ARR's only.

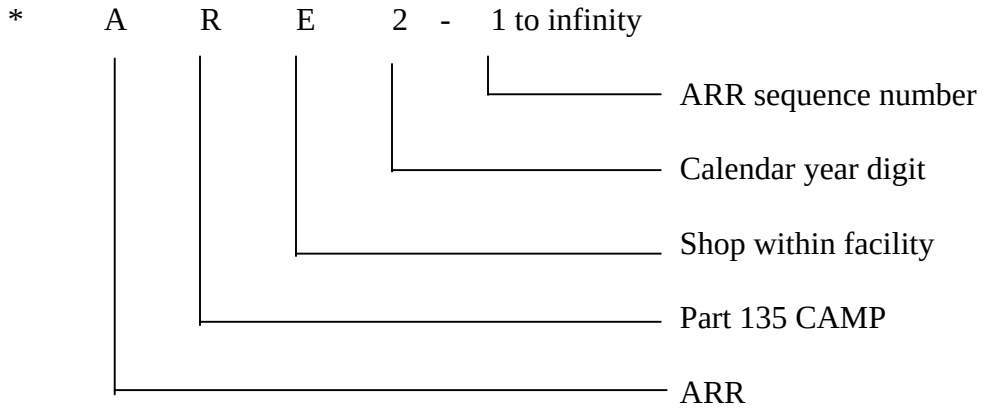
(1) Aeronautical Reliability Report Numbering System

(a) General

The following paragraphs describe the FAA system that shall be used by all facilities for Aeronautical Reliability Report (ARR) numbering. This number is to be entered on the ARR Form, VN Form 4100-227, in the ARR number block.

(b) Description of System

The system consists of a three position alpha-numeric identifier followed by the ARR sequence number as follows:



1 A. The first character of the ARR sequence number indicates it is an ARR.

2 R. The second character of the ARR sequence number indicates Part 135 operators Continuous Airworthiness Maintenance Program (CAMP).

3 Shop Within Facility. The third character is an alphabetical letter that denotes specific shops or locations within a facility. The following designations for this digit are assigned as follows:

Designation	Section	Shop Title
A	AVN-331	Maintenance and Modification Section
B	AVN-332	Line Maintenance Section
C		RESERVED
D		RESERVED
E	AVN-334	Maintenance and International Section
F		RESERVED
G		RESERVED
H	AVN-326	Aircraft Support Section
I	AVN-335	Accessories and Test Equipment Section
J	AVN-324	Quality Control
K	AVN-311	ACY Line Station Section
L	AVN-312	ANC Line Station Section
M	AVN-313	ATL Line Station Section
N	AVN-314	BTL Line Station Section
O	AVN-316	SAC Line Station Section

As additional shops are added, assign a new number and notify Quality Assurance Branch (AVN-320), Attention: AVN-328, and the new digits will be added to the foregoing lists.

4 Calendar Year/Sequence Number. The last digit of the calendar year shall be the fourth character, i.e., 2 for 2002, 3 for 2003, etc. This digit is followed by a dash and by the number 1 for the first ARR issued, 2 for the second, etc. On January 1 of each year, the previous years number sequence is stopped and numbers 1, 2, etc., are used again.

*

*F. DISPOSITION OF COMPLETED ARR FORMS

Submission: Original - Electronic mail to AVN-328
Duplicate: To be retained by originating activity

*G. AERONAUTICAL RELIABILITY REPORT TAPE

(1) Adhesive-backed tape has been obtained to use for identifying packages containing items or components for which an ARR has been submitted. Rolls of tape are available from Logistics Center stock under NSN 9076-00-908-0150.

(2) Each component on which an ARR has been submitted, will have an identifying strip of ARR tape affixed to the outside of the package or box. Sufficient tape should be used to clearly identify containers or packages as containing ARR items to ensure that receiving personnel easily identify ARR components and process them according to procedures outlined in this section, Paragraph G.

*H. DISPOSITION OF ARR COMPONENTS

(1) All components on which an ARR has been submitted will be sent to the Oklahoma City stockroom, AVN-333. Stockroom personnel will receive the part into the electronic database as an ARR item and establish an electronic database Repair Order. The component will be placed in a segregated ARR storage area.

(2) AVN-328 personnel will analyze and enter recommendations to the Item Managers on the electronic database Repair Order in the notes section and on the ARR Parts Disposition Form, VN Form 4100-57. The Item Managers will inform stockroom personnel what action is needed to complete the ARR process.

*I. MECHANICAL INTERRUPT SUMMARY REPORT (MIS) FAR 135.417

Flight Inspection Central Operations (FICO) Maintenance Coordinators will be notified of a scheduled flight, which was unable to complete its mission and return due to:

(1) An interruption to a flight
(2) Unscheduled change of aircraft en route
(3) Unscheduled stop or diversion from a route

(4) Unscheduled engine removal caused by known or suspected mechanical difficulties
(5) Malfunctions that are not required to be reported under FAR 135.415.

Upon notification, the maintenance coordinator will determine if it is a MIS and annotate it as such in the Discrepancies column of the Dispatch Deviation Report.

AVN-324 will review the Dispatch Deviation Reports for MIS notifications, compile them into a monthly MIS Report and forward the monthly report to AVN-328 and the CHDO by the 10th of the following month.

NOTE: A discrepancy reported under ARR, Chapter III.61B, need not be reported.

CHAPTER III
SECTIONS 62 thru 63
RESERVED

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CHAPTER III
*** SECTION 64**
RESERVED

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CHAPTER III
SECTIONS 65 thru 69
RESERVED

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

70. CONTINUING ANALYSIS AND SURVEILLANCE PROGRAM

A. GENERAL

This section provides a Continuing Analysis and Surveillance Program (CASP) that meets the requirements of FAR 135.431 for operation of aircraft utilizing a Continuous Airworthiness Maintenance Program (CAMP).

B. RESPONSIBILITY

The Flight Inspection Maintenance Division (FIMD) is responsible for the overall administration of the Continuing Analysis and Surveillance Program. The Quality Assurance Branch, AVN-320, will be responsible for the management of the CASP program. The Quality Control Section, AVN-324, will provide the audit function and the Program Standards Section, AVN-328, will provide the performance analysis function.

C. SCOPE

The CASP provides full analysis and surveillance capability for the AVN continuous airworthiness maintenance program. The program applies to all AVN maintenance organizations and the assigned aircraft, appliances, systems, and equipment, including avionics and test equipment. The CASP using the audit and analysis systems provide an overall assessment of the AVN maintenance organizations and equipment for their compliance with prescribed policies, procedures, and effectiveness of the continuous airworthiness maintenance program.

D. AUDIT SYSTEM

(1) Audit system provides for a systematic evaluation of all functional areas of the AVN aircraft maintenance program to determine if it is in compliance with all pertinent Technical Issuances, applicable FAR, and FAA directives. AVN-324 shall ensure that audits of AVN organizations and contractors that perform substantial maintenance services on AVN aircraft and/or equipment are performed to ensure:

(a) AVN maintenance organizations and contractors follow prescribed procedures as required by applicable FAR, pertinent technical issuances, and FAA directives.

(b) Any person(s) or organization(s) other than AVN (contractor) that performs maintenance on AVN aircraft or equipment, accomplishes that work in accordance with applicable FAR, pertinent technical issuances, and FAA directives with FICO approval.

(c) Audits are scheduled ongoing and performed as deemed necessary by AVN-320. Audits are performed by evaluating each function of the maintenance organization and program, or if required, a specific area of concern.

(d) Monitoring/Audit of contractor organizations performing substantial maintenance services will be conducted at least annually. A list of those contractors with a record of audit will be maintained by AVN-324 Additional information related to contractor audit is provided in chapter/section III.17.

(2) Audits are performed by utilizing locally developed checklist, individually tailored to the functional area audited. Checklist will be retained by Quality Control in the Audit File. The following are the functional areas to be audited:

(a) FAR 135 Continuous Airworthiness Maintenance Program

(b) Certificated Repair Station (FAR 145)

(c) Line Station Maintenance (FAR 135)

(d) Maintenance Contracts (FAR 135)

(3) Audits will be accomplished by AVN-324, or their designee, using the guidelines (Reference D.(2)) provided in this section.

(4) The Quality Control personnel or designee performing audits, will be familiar with applicable Federal Aviation Regulation, General Maintenance Manual, and the applicable Technical Issuance Manuals.

(5) The functional areas that require on site evaluation of each AVN organization will be scheduled in advance and a report will be provided to AVN-320 with a summary of any information indicating problem areas or deficiencies.

*(6) Information and data required to satisfy the requirements of the CASP may be obtained from previously accomplished Internal Technical Evaluations. Determination for the use of information extracted from these referenced reports must have the approval of the Director of Maintenance, AVN-301, or the Division Manager, AVN-300. Specific information and procedures regarding Contract Monitoring can be found in Chapter III, Section 17 of this manual. If the necessary information or data is not available, audits must be accomplished.

(7) Documentation for each audit accomplished as required by the CASP program, or contractor monitoring/audit requirements of chapter/section III.17, will be maintained by AVN-324. The documentation will identify the following:

(a) The program, the contractor, or the specific function of the AVN maintenance program audited and the basis and reference of the GMM for the audit (CASP, Contractor Monitoring/Audit, Internal Evaluation).

(b) The AVN-324 representative accomplishing the audit and the results of the audit.

(c) Identification of any needed corrective actions, if applicable.

(d) Copy of checklist or guidance used to conduct the audit.

(e) Copy of the correspondence to the applicable manager or contractor containing the results of the audit.

E. ANALYSIS SYSTEM

(1) AVN-328 is responsible for accomplishing the analysis function of the CASP. This analysis system provides a full analysis capability for the AVN aircraft maintenance program. AVN-328, through a continuing

process, collects and analyzes data for the detection and identification of possible problem areas within the AVN aircraft fleet and its maintenance system. The analysis system encompasses aircraft, appliances, systems, equipment, avionics and test equipment.

(2) AVN-328 is responsible for the Engine Performance and Trend Monitoring (EPTM) Program. AVN-333, Aircraft Support Section, is responsible for contract maintenance and engine data collection for elements. Engine data is collected daily through various record sources where analysis is performed which provides feedback for support of maintenance actions. This is used by AVN-328 for support of the CASP program.

The final analysis shall include the following:

(a) Engine tear-down reports

(b) Maintenance actions resulting from EPTM notices.

(c) Contract information.

(d) Hot Section data.

(3) The analysis system is accomplished through emergency response, daily monitoring, and long term monitoring.

(a) Emergency response includes identifying critical situations, determining causes, and formulating a plan to ensure that similar conditions do not exist in like equipment.

1 Emergency situations are in-flight engine failures, propeller feathering due to engine or propeller failure, critical airframe structural failure, and any other item determined as an emergency situation by the Maintenance Review Board.

2 The Flight Inspection Central Operations (FICO), Maintenance Coordinator (AVN-310), will immediately notify AVN-320 as an emergency situation occurs. The notification will provide the pertinent information of the emergency situation.

3 The Manager, Quality Assurance, will determine and ensure that fleetwide inspection and corrective action is implemented following any emergency situation.

(b) Daily monitoring of the maintenance program is accomplished by review of aircraft maintenance records as provided by AVN-333 to AVN-328. In addition, by attendance of Status/Coordination Meetings and weekly Line Maintenance Station telecons, as conducted by the Maintenance Branch, AVN-330. These meetings and telecons will review the following maintenance program information:

1 Aircraft Log discrepancies and corrective actions, deferred maintenance items, scheduled maintenance actions, premature component removals, aircraft delays and cancellations, repeat discrepancies, parts availability, employee resource availability, and aircraft operational and maintenance status.

2 Along with the above information, emphasis will be placed on any indicator that shows adverse trends or repetitive malfunctions of CM, OC, and HT components.

NOTE: Detailed information regarding OC, CM and HT components is found in the applicable work content document.

*(c) Long-Term Monitoring is accomplished by AVN-328 performing analysis of information and data from the electronic database and maintenance documents as provided by AVN-333. This analysis is used to identify trend-related items or areas of concern within the maintenance program. The following data is used for analysis:

1 Scheduled and unscheduled maintenance, aircraft maintenance and inspection packages, non-routine work cards, engine and propeller overhaul records, premature removals (engines, propellers, appliances) of Hard-Time (HT) items , failures, repetitive malfunctions or adverse

trends related to Condition-Monitoring (CM), On-Condition (OC) components, deferred discrepancies, Aeronautical Reliability Reports, Mechanical Interruption Summary Reports, shop work orders, and vendor supplied tear-down reports, facility capability reviews, **QC** audits and contractor monitoring reports.

*2 The automated records are collected and entered in electronic database by ATA code. This allows AVN-328 personnel to segregate and perform analysis of each aircraft system independently and identify specific problem areas.

*3 A discrepancy analysis system is also used to measure the effectiveness of a portion of the AVN continuous airworthiness maintenance program. The system provides for the assignment of a rating factor number (severity code) to each discrepancy found during inspection or maintenance of AVN aircraft and components. This severity code system is implemented through the use of the Non-routine Work Card, VN Form 4100-155. Specific information and procedures in regard to the severity code system is provided in Chapter III, Section 58 of this manual. Specific information and procedures in regard to the non-routine work card, VN Form 4100-155 is provided in Chapter IV.

4 Analysis of major powerplant overhauls, and repair of powerplant related systems accomplished by contractors, will be accomplished by AVN-347 and a report of the information will be forwarded to the AVN-328 for final reporting.

5 Components and accessories supplied by vendor sources will be monitored for premature failures/removals. Whenever a condition exists that requires in-depth evaluation, Quality Control, AVN-324, will be assigned to monitor the facility and obtain the necessary data to evaluate the problems for corrective actions.

*6 Facility Capability Review Reports (Reference Chapter III, Section 17) and Internal Evaluation Audit Reports will be reviewed and analyzed for any trends or specific problem areas affecting the AVN maintenance program.

(d) A Statistical analysis process within the Analysis system is used to monitor performance of the maintenance programs. The statistical analysis process collects and compares mechanical data to an established performance standard or level. Alert values or "alert levels" are then established to provide a signal to identify areas indicating a need for adjustment or change. This adjustment or change may be to a maintenance program requirement, process (HT, OC, CM) or procedure. Mechanical data, classified by Air Transport Association (ATA) system and subsystem codes, is analyzed for problem identification. The following procedures and standards will be used when performing data analysis:

NOTE: The analysis system is an integral part of the "condition monitoring" process as used in AVN continuous airworthiness maintenance programs. Performance of the analysis system in accordance with the following standards and procedures is required to ensure continued use of the CM process as identified by this manual and applicable work content documents.

1 The statistical analysis process establishes performance standards for two specific parameters of mechanical data based on their ability to effectively represent program performance. Acceptable levels of performance are established for pilot discrepancies and non routine discrepancies and referenced by ATA.

2 An alert level is established and assigned to each ATA. Alert levels are based on actual system performance for the previous twelve months and computer calculated utilizing a "standard deviation formula" commonly used in industry reliability programs. These numerical values are multiplied by 2 and added to the average number of discrepancies in each ATA per month for the previous 24 month period (i.e., Arithmetic Mean + 2 Standard Deviations). Detailed information regarding the standard deviation formula and its calculation process is maintained in AVN-328.

3 Alert levels are continually monitored by AVN-328 and recalculated on an annual basis.

4 Alert level adjustment may be considered due to a unique or special circumstances such as aircraft/equipment modifications or environmental considerations. Alert level adjustment under these circumstances must be approved through the Maintenance Review Board process (Ref. paragraph G of this section).

5 The alert level values are compared to the current monthly and quarterly number of discrepancies for each ATA. When alert levels are approached or exceeded by current levels performance, an analysis is initiated to ascertain action is taken to restore an acceptable level of performance.

a Since alert values are based on twelve months history, new aircraft will initially be monitored on a continuous basis for identification of areas of concern or undesirable trends.

b At the end of six months of operation, a temporary alert level will be established based on the six month average.

NOTE: If at any time there is insufficient performance data available due to fleet size or low utilization, temporary alert levels will not be established and continuous monitoring will be continued.

*(e) The Maintenance Analysis Bulletin, VN Form 4100-136, (Chapter IV) and Maintenance Review Board process are the two methods used to resolve problems, deficiencies or areas of concerns identified through the analysis system. These corrective action methods ensure that the appropriate organizational element responsible for taking action is notified.

1 During the analysis process, AVN-328 may require further investigative information regarding a particular problem or area of concern pertaining to a maintenance issue. The Maintenance Analysis Bulletin is used to initiate action and request further investigation and ensure resolution to specific issues.

2 AVN-328 monitors all Maintenance Analysis Bulletins issued for appropriate response and closure. If the actions implemented through a Maintenance Analysis Bulletin fails to restore an acceptable level of performance or resolve a specific issue, the issue will be immediately forwarded to the Maintenance Review Board for action.

F. CASP REPORTING

To ensure an efficient and effective means of reporting information of data collected and analyzed through Emergency, Daily, and Long Term monitoring, two methods of reporting have been developed. The two methods vary in their scope, content, and required accomplishment interval as outlined in the following:

(1) Emergency or daily reporting will be accomplished by AVN-320 when specific maintenance related issues are suspected and/or identified. Pertinent information is reported to AVN-300 and Line Maintenance Stations in the form of a telecon, FAX, or letter, depending on the urgency of the matter, as determined by AVN-320.

*(2) Quarterly CASP reporting will be accomplished by AVN-328 through a maintenance data analysis report and distributed to the Director of Maintenance, Division Manager, Branch Managers, and Flight Standards District Office (FSDO), Principal Maintenance Inspector (PMI). The contents of the report provides for a summary of the analysis of data collected through Daily and Long Term monitoring. Analysis will be done on non-routine and Aircraft Log discrepancies, repetitive malfunctions or adverse trends associated with C/M, O/C or H/T components, component removals, ARR's, and safety related defects. These items will be categorized by ATA system codes and shown by subsystem level for problem identification. When a trend or specific problem is identified, evaluation of the problem will be indicated in the

narrative text. Any problems identified and corrected will have detailed information provided indicating the corrective action. Those items requiring further analysis will be identified as such. Regulatory and safety related issues will be identified for immediate resolution.

G. MAINTENANCE REVIEW BOARD/CASP CORRECTIVE ACTION

*The Maintenance Review Board (MRB) is an integral part of the CASP. The MRB will take an active role in resolving problems, deficiencies, or areas of concern affecting AVN continuous airworthiness maintenance program. AVN-300 or designee is the chairperson of the Maintenance Review Board and the authorizing official for all actions.

*(1) The Chairperson (AVN-300), or qualified designee, will either confer with MRB members on specific issues as they arise, or convene a meeting quarterly, when resolution to a specific issue is required.

*(2) Members of the Board are the Division Manager/Director of Maintenance, the Assistant Division Manager and Branch Managers or their designees with authority to make decisions from the following areas:

*(a) Division Manager/Director of Maintenance, AVN-300, Chairperson

*(b) Assistant Division Manager, AVN-301, Co-Chairperson

(c) Line Station Branch, AVN-310, Member

(d) Quality Assurance Branch, AVN-320, Member

(e) Base Maintenance Branch, AVN-330, Member

(f) Engineering Branch, AVN-340, Member

(3) The AVN-324 and AVN-328 section supervisors will participate in the boards activities to provide information and technical advice where appropriate.

(4) Representatives/specialist from other AVN organizations may participate as required to provide information and technical advice.

(5) The members of the MRB meeting will review issues affecting the continuous airworthiness maintenance programs and make recommendations for corrective actions. Examples of the issues to be reviewed by the MRB are as follows:

(a) Any programs, systems or components identified as an area of concern.

(b) Changes to continuous airworthiness maintenance programs.

(c) Changes to inspection, repair, overhaul frequencies or maintenance processes (OC, CM, and HT).

(d) Changes to training programs.

(e) Operational changes.

(f) Performance of vendors.

(g) CM, OC, HT component processes or limits as specified by the applicable work content document. Specific maintenance process adjustments may be necessary following evaluation of CASP data.

(h) Spares Provisioning.

(6) Corrective actions are implemented by the following means:

(a) Technical Issuance revisions.

(b) Operations Bulletins (MAD, OAD, etc.).

(c) Engineering Order issuance.

(d) Training as needed.

(e) Vendor evaluation.

(f) Task card revision.

(7) The Maintenance Review Board will meet as determined necessary by Quality Assurance, AVN-320. Board members will be given a minimum of five working days notice of each MRB issue prior to the board meeting.

NOTE: The person submitting the MRB action, or his qualified designee, will be present for the board meeting.

(8) All issues submitted to the MRB will be controlled and documented by issuance of a Maintenance Review Board (MRB) Action Form, VN Form 4100-34, Chapter IV.

(a) For each issue a MRB form will be generated describing the subject, discussion and proposed/recommended action, if available.

(b) The MRB form(s) are available on the AVN-300 electronic library web site and can be submitted by anyone to AVN-320 for scheduling and processing. Attachments may be necessary to include technical data/explanations. Coordination is through section/branch. AVN-320 will track and assign control numbers to each form generated.

(c) The VN 4100-34 form will be assigned control numbers as follows:

MRB	NO:	MR
96	10	03
Year	Month	MRB no

(d) AVN-320 may, when deemed necessary, route the form to AVN-328 for analysis, research, and recording. The form will then be returned to the submitter who will return it to AVN-320 for MRB submission.

*(e) Majority approval is required by designated AVN MRB members, with affirmation of the Division Manager/Director of Maintenance, AVN-300, for each change of maintenance/inspection intervals.

(f) Each board meeting must have all board members or qualified designees present.

*(g) Any comments, reports, additional data, or revisions affecting the proposed action must be documented and remain with the original VN Form 4100-34 to ensure proper coordination and future reference.

*(h) A Maintenance Review Board Compliance Form, VN Form 4100-35, reference Chapter IV, will be used to track and coordinate action taken resulting from an MRB meeting.

*(9) AVN-320 will retain a MRB form and any associated information or documentation for one year. This material will be retained for reference and any needed follow-up and will be destroyed at the end of the one year retention.

(10) AVN-328 will conduct follow-up reviews as necessary to determine that the corrective actions implemented through the Continuing Analysis Surveillance Program have provided long term solutions to the areas of concern.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

71. INTERNAL EVALUATION PROGRAM

A. GENERAL

*This chapter prescribes policies and procedures pertaining to Aircraft Maintenance and Engineering Division (AMED), AVN-300, Internal Evaluation Program. The Internal Evaluation Program consists of three sections, a General Section, an Internal Evaluation Program Section and a Voluntary Disclosure Process Section.

(1) Background

*In 1990, the FAA announced a major change in its regulatory and enforcement policy regarding air carrier operators emphasizing voluntary compliance and acknowledging the internal evaluation process. Based on the success of this Industry program, Aircraft Maintenance and Engineering Division, AVN-300, has established its own internal evaluation program to ensure FAA Flight Inspection maintenance operations are safe and in compliance with FAR Part 135 and the General Maintenance Manual, TI 4100.24.

(2) Definitions

(a) Audit - An audit is a methodical, planned review used to determine how business is being conducted and compares results with how business should be conducted in accordance with established procedures. The various techniques that comprise an effective audit are as follows:

1 Interview personnel

2 Review documents

3 Observe operations

4 Select samples

5 Inspect activities

6 Document results

(b) Inspection - An inspection is the act of observing a particular event or action to ensure that correction procedures and requirements are followed during the accomplishment of that event or action. The primary purpose of an inspection is to verify that established standards are followed during an event or action.

(c) Evaluation - An evaluation is an independent review of company policies, procedures, and systems. An evaluation is an anticipatory process, and is designed to correct potential findings before they begin. An evaluation should be a comprehensive and continual process that considers the following:

1 Results of audits

2 Overall effectiveness of the management organization in achieving stated objectives.

3 Ability of management to respond to new technologies, market strategies, and social or environmental conditions.

(d) Controls - Controls are the key procedures, responsibilities, and decision making position within an organization, department, division, or functional area.

(e) Problem - A problem is a conclusion by FAA evaluation personnel that demonstrates non compliance with a specific regulation or directive.

(f) Concern - A concern is a conclusion by FAA evaluation personnel, supported by objective evidence, that does not indicate a condition that may become a problem.

(g) Commendation - A commendation is the acknowledgment of a practice or method that is identified as a significant accomplishment or proves to be particularly effective or efficient.

*(3) Applicability

This program is applicable to Aircraft Maintenance and Engineering Division, AVN-300; Line Station Branch, AVN-310; Quality Assurance Branch, AVN-320; Base Maintenance Branch, AVN-330; Engineering Branch, AVN-340 and Line Station maintenance facilities at Atlanta, GA; Battle Creek, MI; Sacramento, CA; Anchorage, AK; and Atlantic City, NJ.

(4) Objective

*It is the objective of the Aircraft Maintenance and Engineering Division to have an aircraft maintenance program that serves as a model for the aircraft industry while enhancing the safe and efficient operation of AVN aircraft. The Internal Evaluation Program is a management tool that is used to continuously monitor and evaluate practices and procedures.

(5) Responsibilities

*(a) Director of Maintenance, AVN-300, is responsible for oversight of the Aircraft Maintenance and Engineering Division, AVN-300, Internal Evaluation Program.

1 Overall management and operation of the Continuous Airworthiness Maintenance Program (CAMP) in accordance with the Federal Aviation Regulations and established policies.

2 Resolution of assessment problems and concerns as identified.

(b) Quality Assurance Branch, AVN-320, is responsible for management of the AMED, Internal Evaluation Program.

(c) Quality Control Section, AVN-324, is responsible for the following:

*1 Development, implementation and maintenance of the Aircraft Maintenance and Engineering Division, AVN-300, Internal Evaluation Program.

2 Development of an internal evaluation checklist.

3 Scheduling and conducting internal evaluations on maintenance and contract functions.

4 Analyzing and reporting evaluation problems, concerns, and commendations.

5 Preparing and distributing evaluation reports.

6 Monitoring corrective action plans.

7 Establishing and maintaining a tracking system for the collection of evaluation information.

8 Maintaining an internal evaluation historical file.

9 Analyzing and reporting discernible trends in program activity or performance.

10 Investigating and reporting Voluntary Disclosure notifications.

*(6) Line Station Branch, AVN-310; Quality Assurance Branch, AVN-320; Base Maintenance Branch, AVN-330 and Engineering Branch, AVN-340 are responsible for the compliance with procedures associated with the Aircraft Maintenance and Engineering Division, AVN-300, Internal Evaluation Program.

B. INTERNAL EVALUATION PROGRAM

(1) The Internal Evaluation Program is an independent appraisal of maintenance practices of the FAA Flight Inspection Program that is accomplished by personnel within that individual facility or flight operation. The internal evaluation program is intended for managers to assess their respective organization against established maintenance practices, programs, procedures, or processes for compliance.

(a) Maintenance evaluation personnel performing internal evaluations will be independent from Flight Inspection daily maintenance operations.

(b) Evaluation personnel will have straight line reporting to the Director of Maintenance.

(2) Quality Control, AVN-324 internal evaluation personnel shall use the following procedures to accomplish an evaluation of Flight Inspection maintenance organizations:

(a) Draft a yearly schedule of evaluations and distribute a copy to all applicable maintenance branches and AVN-300.

(b) Notify Division and the applicable branch to be evaluated by cc:Mail (for AVN-300 Branches) approximately 10 working days prior to accomplishing the evaluation. Contractors will be notified by letter.

(c) Conduct an informal in-briefing with maintenance management or supervisory personnel.

(d) Perform the evaluation in accordance with the internal evaluation program checklist.

(e) At the conclusion of the evaluation, the internal evaluation team leader will conduct an informal out-briefing, verbally identifying all commendations, problems or concerns identified in the evaluation report.

(3) Following the completion of an internal evaluation, evaluation personnel will:

(a) Review evaluation results and prepare the final written report.

(b) Submit the final report to the responsible branch and the Director of Maintenance.

*(c) Aircraft Maintenance and Engineering Division branch managers shall correct findings of administrative non-compliance within the specified period identified in the report to AVN-320 and provide an information copy to AVN-300. Any significant problem areas discovered will be corrected immediately.

*(d) Ensure proper closing of evaluation problem areas and determine that the action taken will prevent recurrence.

*(e) Establish a data base for the collection of all technical information pertinent to the evaluation.

*C. VOLUNTARY DISCLOSURE PROCESS

The voluntary disclosure process will be accomplished in accordance with Advisory Circular #120-56.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

72. RESPONSIBILITIES FOR AIRWORTHINESS, FAR 135.413

A. GENERAL

*AVN-300 is responsible for the airworthiness of all aircraft assigned to the Flight Inspection Program. The airworthiness of the aircraft includes airframes, engines, propellers, rotors, appliances and parts. All maintenance and inspections will be performed in accordance with the AVN General Maintenance Manual (GMM) and other applicable Technical Issuance (TI) Manual(s). Each facility must ensure that:

*(1) The performance of all maintenance, preventive maintenance, and alterations of its aircraft, including airframe, aircraft engines, propellers, rotors, appliances, emergency equipment and parts, is accomplished in accordance with AVN GMM, other pertinent technical issuance manuals, and applicable FAR.

(2) The repair or proper deferral of aircraft defects between required maintenance visits is accomplished in accordance with the GMM and applicable FAR.

(3) Any person with whom arrangements are made for the performance of maintenance, preventive maintenance, or alteration of its aircraft, performs that maintenance, preventive maintenance or alteration in accordance with the GMM and applicable FAR.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

73. RETENTION OF MAINTENANCE RECORDS
Ref. 135.439, 135.441, 135.443

A. PURPOSE

In order to meet the requirements of FAR 135.439, the following procedures will be utilized for the recording, retention and disposal of AVN aircraft maintenance records.

B. PRIME OFFICE

Quality Assurance Branch, AVN-320.

C. RESPONSIBILITIES

*The review of required electronic database entries and the proper distribution of aircraft records is the responsibility of AVN-324.

*

*

D. RECORDS GENERAL

*All records for AVN Flight Inspection Aircraft are centrally located at AVN-300 and maintained by AVN-324. Any records requested by Flight Standards will be coordinated through the PMI or PAI at the CHDO. Any reports generated from the electronic database at the LSMS level are used for reference only. Official records must be obtained from AVN-324 with appropriate signature and date. The following information, as required by the FAR, is available in an electronic database.

(1) The total time in service of the airframe, engine, propeller, rotor and appliances.

(2) The current status of life-limited parts of each airframe, engine, propeller, rotor and appliance.

(3) The time since the last overhaul of each item installed on the aircraft which is required to be overhauled on a specified time basis.

(4) The current inspection status of the aircraft, including the time since the last required inspection.

(5) The current status of applicable Airworthiness Directives, including the date and methods of compliance, and if the AD involves recurring action, the time and date when the next action is required.

(6) A list of current major alterations and major repairs to each airframe, engine, propeller, rotor, appliance and any FAA Form 337 provided by contractors.

(7) The records specified in D.(1) through (6) will be retained and transferred with the aircraft at the time the aircraft is sold.

(8) All aircraft records required to be kept by this chapter shall be made available to the Administrator or any representative of the National Transportation Safety Board.

*

*E. LIFE LIMITS/OVERHAUL CONTROLLED COMPONENTS

(1) The current status of life-limited and overhaul-controlled components are tracked by the electronic database. A list of installed components may be obtained from the electronic database using Reports, Tracking Detailed - Major Assembly Tracking.

*(2) Installed life limited/overhauled controlled components require an electronic database entry. The VN Form 4100-301 tag will be forwarded to the Aircraft Records office.

*

*(3) The records of the last complete overhaul of each airframe, engine, propeller, rotor and appliance shall be retained until the work is superseded by work of equivalent scope and detail.

*F. MAINTENANCE/INSPECTION RECORDS

(1) Current maintenance and/or inspection status requirements are tracked by the electronic database.

(a) Aircraft requirements status may be obtained from the electronic database using Reports, Tracking, Summary - Airframe Requirement Tracking.

(b) Engines and Component requirements status may be obtained from the electronic database using Reports, Tracking, Detailed - Major Component Assembly Tracking.

*

*

*(2) Maintenance/inspection packages will be sent by Quality Control or designee to the AVN-324 records center. Upon receipt, the packages will be reviewed for Life Limited/Overhaul component replacement, AD compliance and major repair/alteration records. These items will be removed and filed with the permanent aircraft records.

*(3) Maintenance/inspection records will be retained until the work is repeated or superseded by other work or for one year after the work is performed.

*G. AIRWORTHINESS DIRECTIVES (AD)

(1) Current Airworthiness Directive status is maintained in an electronic database. A current listing of aircraft by "N" number may be obtained from this electronic database AD record. This AD record will also include the following information:

*(a) Model and registration number of aircraft.

(b) AD number and revision.

(c) Title.

*(d) Method of compliance.

(e) Date of compliance.

(f) Time in service and landings at last AD action.

(g) For recurring AD's, when the next action is due.

*(2) Compliance with the AD will be recorded in the electronic database, AD record. The maintenance records documenting the compliance of the AD are maintained in the permanent aircraft records by AVN-324.

*H. MAJOR ALTERATION AND REPAIR RECORDS

*(1) A current list of major alteration and repairs for each airframe, engine, propeller, rotor and appliance is kept in each aircraft record. Major alterations and repairs are tracked in an electronic database.

*

*(a) Major alterations accomplished by AVN maintenance organizations shall be accomplished in accordance with approved Supplemental Type Certificate (STC) data. EO's may be used to provide instructions and procedures. The EO's identify major alterations and repairs and include required FAA approved technical data when applicable. Requirements and procedures for EO's are outlined in Chapter III.77 of this manual. Major repairs can also be accomplished by a work order under a Certificated Repair Station using previously approved data or data generated in accordance with SFAR 36 procedures.

***NOTE**: In the electronic database, a major alteration EO number is preceded by an MA and is tracked by the STC number. A major repair EO number is preceded by an MR.

(b) The quality control function of each AVN organization, is responsible for assuring that all technical data used in the accomplishment of major alterations and repairs to AVN aircraft is FAA Approved and that all required documentation is completed.

(c) Any person(s) outside AVN (contractor) that performs a major alteration or repair to an AVN aircraft shall use FAA approved technical data in the accomplishment of that repair or alteration.

*(2) Current major alteration/repair status of each aircraft is tracked by the electronic database. A listing of major alteration/repairs of each aircraft is maintained in the individual aircraft record file.

(a) Compliance record entry will be made in the electronic database when accomplishing a Major Repair/Alteration.

(b) All work packages will be sent to AVN-324 for filing.

(3) Upon receipt of an EO, the requirement will be entered in the applicable electronic database and a list of current major alterations and repairs will be maintained in the record indefinitely. (FAR 135.439).

I. AIRWORTHINESS RELEASE RECORDS

(1) Records used to document an airworthiness release are contained in the aircraft record files and maintained as outlined in this section. The following records are used to issue an airworthiness release:

(a) Aircraft Log, VN Form 4100-8.

(b) Serviceable Part Tag, VN Form 4100-301.

(c) FAA Airworthiness Approval Tag, FAA Form 8130-3.

(2) Records of an Airworthiness Release will be retained until the work is repeated or superseded by other work or 13 months after the work is performed.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

74. WEIGHT AND BALANCE

A. PROCEDURES

The following outlines the basic cumulative empty weight and balance control program on AVN aircraft operated under 135 certificate. The primary goal of this control program is to establish and maintain a master weight and balance file for each aircraft, schedule aircraft for periodic weighing, and provide procedures for the accuracy of basic empty weight and balance during the period between weighing.

Excluded from the cumulative total are piston powered aircraft and helicopters. They will have their weight and C.G. position reestablished when a weight change of one pound or more is performed.

The Quality Assurance Branch, AVN-320, is responsible for the weight and balance control program.

B. GUIDELINES

The guidelines established herein shall be adhered to in the following manner:

(1) Individual aircraft will be weighed at intervals of 36 months or as specified in each applicable TI work content document.

(a) The actual weighing should coincide as much as practical with major inspections or overhauls.

*(b) The scheduling for weighing will be accomplished by the Line Station Branch (AVN-310) or the Base Maintenance Branch (AVN-330).

(c) The responsibility for accountability of basic empty weight and balance changes between periodic weighing is placed with the operating activity.

C. CALCULATING WEIGHT PROCEDURES

*Individual aircraft weight and changes. The weight and C.G. data of each airplane should be reestablished at specific reweighing periods. In addition, each aircraft's weight and C.G. should be reestablished (by computing or reweighing) whenever the cumulative change to the empty weight exceeds plus or minus one-half of one percent of the maximum landing weight or the cumulative change in C.G. position exceeds plus or minus one-half of one percent of the mean aerodynamic chord (MAC). Cumulative weight changes are tracked by Quality Control on an VN Form 4100-20-1, Weight and Balance Change, ensuring the range of MAC is maintained.

*(1) All maintenance activities shall have available and make use of VN Form 4100-20-1. (See Chapter IV).

*(a) The maintenance supervisor working the aircraft is to assure that all items affecting weight and balance are recorded and given to the Quality Control Section to determine if the cumulative total exceeds the criteria specified above. The Quality Control Section will be responsible for maintaining the cumulative total on all Flight Inspection aircraft. When the cumulative total exceeds the above criteria, a new empty weight must be established.

(b) The cumulative weight changes will be monitored on a computer generated form located in the weight and balance master file.

(c) This includes nonroutine and routine work orders covering repairs, alterations, EO's, Airworthiness Directives and service bulletins.

(d) The form shall be prepared in accordance with instructions contained in General Maintenance Manual, TI 4100.24, Chapter IV.

(2) VN Form 4100-20-1 will be used as the official record of basic empty weight and balance of an aircraft by actual weighing or by computations.

D. DEFINITIONS

(1) Basic Empty Weight (BEW) is the weight of the structure, powerplants, furnishings, systems and other equipment list items. This also includes:

(a) Fixed ballast;

(b) Unusable fuel;

(c) Full engine oil tanks and system;

(d) Full hydraulic system;

(e) Other fluids required for normal operation of aircraft systems, except potable water and lavatory recharge water.

(2) Operational Empty Weight (OEW) is the Basic Empty Weight plus the Operational Items.

(3) Operational Items are those personal items, equipment and supplies that are necessary on a particular operation. These items may vary for a particular aircraft configuration according to the operator's allowances for the service intended. These items include:

(a) Air-crew members, passengers and baggage.

(b) Special Flight Inspection Equipment: Theodolite.

(c) Usable drinking and washing water.

(d) Emergency equipment (life rafts, life vests and survival equipment, etc.)

(e) Flight spares, maintenance supplies and equipment.

NOTE: The above items can be removed and reinstalled to meet operator requirements without the issuance of a EO.

(4) Maximum Design Takeoff Weight or Maximum Gross Weight (MDTW or MGW) of an aircraft is the maximum weight authorized by type design for takeoff, this excludes the weight of taxi and run-up fuel.

(5) Maximum Design Taxi Weight (MTW) is the maximum weight allowed for ground maneuvering per type design. This weight includes the weight of taxi and run-up fuel.

(6) Unusable Fuel is that amount of fuel that cannot be delivered to the engines after tanks are empty.

(7) Drainable Unusable Fuel is the Unusable Fuel minus the Trapped Fuel.

(8) Trapped Fuel is the undrainable fuel remaining when the aircraft is defueled and sumped in the static ground attitude, by using the normal means and procedures specified.

(9) Undrainable Fluids is the amount of fluid remaining after draining by the normal means and specified procedures. Undrainable fluids may be Anti-detonate augmentation injection, deicing and lavatory fluids.

(10) Arm is the horizontal distance of any item, pieces of equipment, etc., from the datum line.

(11) Datum is a reference point or line from which distance measurements to objects are taken or began; it could be real or imaginary. A Datum may also be defined as a location on a vertical plane from which all pertinent horizontal measurements are made or indicated when the aircraft is in level flight attitude.

(12) Moment is the product of a weight multiplied by its arm.

(13) Center of Gravity (CG) of an aircraft is the pivotal point about which the nose-heavy and tail-heavy moments are equal in magnitude. It is the point about which the weight of an aircraft or any other object is concentrated.

(14) Center of Gravity Range is the distance between the most forward and most rearward CG indicated in the pertinent aircraft specifications. These limits are determined, at the time of the design and manufacture of the aircraft, as the extreme loaded CG position obtainable within the requirements of the applicable FAR controlling the design of the aircraft.

(15) Tare Weight is the weight of any object that must be added/subtracted from the weight of the item being weighed.

(16) Mean Aerodynamic Chord (MAC) is the average distance from the leading edge to the trailing edge of the wing.

(17) Maximum Zero Fuel Weight is the maximum weight authorized for the

loaded aircraft without wing fuel. The weight of fuel carried in the fuselage, or designated as fuselage weight by the manufacturer, is considered as zero fuel weight.

E. WEIGHING PROCEDURES

Weighing procedures will vary with the aircraft and the type of weighing equipment employed. Performed in accordance with the AVN Maintenance Program as identified in the AVN Maintenance Manual and accomplished as specified by the AVN maintenance task card system. Accepted general procedures when weighing an aircraft are:

(1) Remove dirt, grease, moisture, etc. from the aircraft before weighing.

(2) Defuel aircraft fuel system. The amount of fuel remaining in the tanks and fuel system is termed **unusable fuel** *and is included in the aircraft empty weight.*

(3) Engine oil tanks are to be full, unless otherwise noted in maintenance manual and included in the aircraft empty weight.

(4) Have all items of equipment included in the aircraft equipment list installed in the aircraft when weighing.

(5) Weigh the aircraft inside a closed building to prevent error in scale reading due to wind.

*(6) An AVN pre-weighing checklist task card and AVN aircraft weighing task card will be used and attached to the Weight and Balance Change form, VN Form 4100-20-1.

(7) Ensure the scales are properly calibrated within one year prior to weighing any aircraft. Zero and use the scales in accordance with the scales manufacturer's instructions.

F. WEIGHT AND BALANCE RECORDS

The weight and balance system includes methods which will maintain a complete, current and continuous record of the weight and center of gravity of each aircraft. Such records will reflect all alterations and changes affecting either the weight or balance of the aircraft. The equipment list will be updated to include any changes in equipment, weight and location on the aircraft. This information is available using the LAN Weight and Balance Program and a master file will be maintained in the Quality Control Section Office, AVN-324. *This file will include the weight and balance data history and a current equipment list on each aircraft.* Any equipment changes involving IFR Navigation Systems will be coordinated with AVN-300, Director of Maintenance and AVN-200, Director of Operations for changes to Operations Specifications.

G. *DISTRIBUTION OF VN FORM 4100-20-1, WEIGHT AND BALANCE CHANGE

Copies of the weight and balance change may be electronically transmitted by fax machine, or by overnight mail. These copies will be distributed as follows:

(1) One copy (original) placed in the Airplane Flight Manual or Weight and Balance Manual, aboard the aircraft.

(2) One copy will be maintained as a "Master File" in the Quality Control Section Office, AVN-324.

(3) One copy to the Flight Inspection Central Office (FICO).

*NOTE: VN Forms 4100-20-1, used for tracking cumulative weight changes, will be maintained in the aircraft "Master File" only.

(4) Other copies may be provided to organizations (i.e., academy) having a need for the weight and balance information. Organizations receiving these copies are responsible for the currency of their file.

H. RECORDING WEIGHT AND BALANCE COMPUTATIONS

The assigned Quality Control person responsible for and complying with G.(1) above will:

*(1) Draw a "Red" diagonal line across the last VN Form 4100-20-1 on file, and write or stamp "superseded" across the front.

*(2) Make an entry in the Aircraft Log, VN Form 4100-8, to indicate that a new weight and balance computation has been made and the new computation is on file in the weight and balance manual aboard the aircraft.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

75. CONTROL AND USE OF INSPECTOR AND MAINTENANCE STAMPS

A. GENERAL

The following requirements apply to the issuance and control of ink stamps used by inspectors and technicians. The use of stamps is optional. Since a stamp has the same significance and authority as a person's signature, it is important that strict control be maintained over the issuance and use of each stamp.

B. POLICY

(1) Each stamp must be under the direct control of the individual to whom the stamp is issued at all times. A stamp will be issued to each qualified inspector and technician for his personal use.

(2) The stamp will be valid clearance on all work cards/forms or wherever a signature is required.

NOTE: Stamps are not to be used for any return to service approvals.

*(3) Loss or unsatisfactory condition of a stamp must be reported immediately to the issuer. A replacement stamp that will not have the same sign or number as the previous stamp will be issued to the employee. Stamp authority is limited to the dates of issue as recorded in the stamp log.

(4) When a stamp is revoked, surrendered, or otherwise taken from an employee, the stamp will not be reissued or used for at least six months.

C. PROCEDURES

(1) The manager of the appropriate maintenance organization or his designate, will issue stamps to any qualified technician.

(2) The Manager of the Quality Assurance Branch, AVN-320, will issue stamps to Quality Control Inspectors in the previously described manner. The issuer is responsible for ensuring that no duplicate stamp numbers are issued.

(3) Issuer will maintain an accurate stamp record for each stamp issued, showing employee name, certificate number, date of issuance, routing symbol, and stamp number issued.

(4) The inspector/technician will show receipt of the numbered stamp by signing and initialing the stamp control log.

(5) The issuer will update the Stamp Record in the electronic data base.

D. STAMP IDENTIFICATION

*AVN provides five different types of stamps that are issued to aircraft maintenance personnel, as follows:

(1) Aerospace Engineering (AE) Technician Stamp: Stamp or initial is acceptable in lieu of signature on all work cards/forms in the TECH Boxes, for items which (s)he is qualified.

(2) Avionics Technician Stamp: Stamp or initial is acceptable in lieu of signature on all work cards/forms in the TECH Boxes, for items which (s)he is qualified.

(3) Quality Control Inspector Stamp: This stamp is acceptable in lieu of signature for use only in the INSP Boxes of all work cards/forms, and of those "Required Inspection Item" for which they are approved.

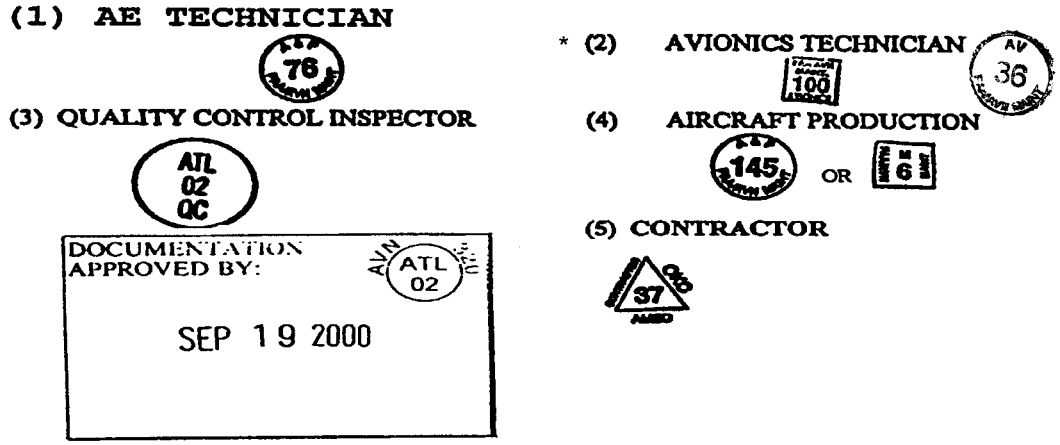
(4) Shops Production Stamp: Stamp or initials is acceptable in lieu of signature for work cards/forms which the individual is approved by the GMM procedures.

(5) Contractor Stamp: This stamp is acceptable in lieu of signature on all work cards/forms in the Tech boxes for items completed by contractor personnel.

NOTE: If a stamp is inadvertently used, the individual may delete it by red lining through the stamp. If there are copies such as a VN Form 4100-8, Aircraft Log, ensure all copies are addressed the same.

(6) On bi-annual basis or as needed, each stamp holder will examine the stamp for cleanliness and legibility after use. If stamp imprint is not legible, stamp must be cleaned or turned in for replacement.

TYPICAL STAMPS ISSUED



E. FIELD OFFICE STAMP IDENTIFICATION

Sacramento, CA

A & P Stamps	Avionics Stamps
71---72---73---74	50---51---52---53---54
75---78---80---81	55---56---57---58---59

Atlanta, Georgia

A & P Stamps	Avionics Stamps
Numbers 2 thru 15	Numbers 1 thru 10

Battle Creek, MI

A & P Stamps	Avionics Stamps
Numbers 16 thru 27	Numbers 11 thru 20

Anchorage, AK

A & P Stamps	Avionics Stamps
Numbers 36 thru 46	Numbers 27 thru 33

Atlantic City, NJ

A&P Stamps	Avionics Stamps
106--108--109--114--115 116--118--119--124	60--64--65--67--73

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

76. SERVICE ENGINEERING SUPPORT

A. GENERAL

*Engineering support with in-service problems related to aircraft maintenance is classed as service engineering. Responsibility for providing such support to the Aircraft Maintenance and Engineering Division (AMED), Regional and Field Maintenance activities is tasked to the Engineering Branch, AVN-340.

B. PROCEDURE

(1) Contact Point(s). When maintenance problems occur that cannot be resolved after all maintenance resources have been exhausted, the Line/Maintenance Supervisor will request assistance from the appropriate Engineering Section.

*

*

(2) Outside Contacts. The assigned engineer will arrange for factory/technical representative assistance when required. All follow-up contacts will be coordinated with the assigned engineer to preclude duplication of calls/contacts.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

77. ENGINEERING ORDER (EO) SYSTEM

A. GENERAL

For the purposes of this manual, the Engineering Order, VN Form 4100-5, is an internal authorizing technical document used to provide instructions for minor repairs, minor modifications (alterations), special inspections, specification data, documentation changes, parts changes or substitutions, manual changes or service tests.

B. ALTERATION AND REPAIR PROGRAM

The alteration and repair program utilizes the EO system as a means of accomplishing minor repairs and modifications to AVN aircraft. The issuance of EO's is the responsibility of the Engineering Branch, AVN-340.

(1) Minor repairs or modifications to AVN aircraft are done in accordance with data provided by the manufacturer, or in accordance with FAR 43.13 or in accordance with EO. Any modification or repairs that are considered major must be done in accordance with FAA approved data. The definition and decision diagram concerning modifications (alterations), and repairs can be found in Chapter III, Section 94 of this manual. The records requirements for major alterations, modifications and repairs are detailed in Chapter III, Section 73 of this manual.

C. RESPONSIBILITIES

(1) The Engineering Branch, AVN-340, will develop and issue EO's.

(2) Quality Assurance Branch, AVN-320, will issue Maintenance Instructions (Part B-II or FAA Supplement) to manual holders by TI change notices.

*(3) Quality Assurance Branch, AVN-320, will notify the appropriate maintenance branch of one-time or recurring EO's, their inspection intervals and effectivity.

(4) AVN-320 will prepare permanent manual material. The Quality Assurance Branch will provide surveillance on stock in the Logistics Center to assure EO compliance.

*(5) Production Control will distribute EO's to affected maintenance activities and coordinate with the appropriate parts supplier in the scheduling of all affected spare components.

D. EO TYPES AND USES

The EO system is comprised of various types of EO issuances. The following is a detailed list of the EO's applicable to this manual and their specific uses.

(1) MINOR /MODIFICATION EO authorizes and directs the minor modifications of an existing aircraft or system.

(2) MINOR REPAIR EO authorizes a specific repair to a damaged aircraft. It can be used more than one time for other occurrences of the same damage. It is designed to assure conformity by all maintenance facilities and supplements the approved repair manuals.

(3) PART CHANGE EO authorizes and directs a part change, substitution, or interchangeability.

(4) SERVICE TEST EO authorizes a facility to test and evaluate a proposed change. This document will contain the dates for installation and removal as appropriate.

(5) SPECIAL INSPECTION EO authorizes and directs special inspections by maintenance activities to determine condition or airworthiness of certain aircraft, parts or equipment.

(6) SPECIFICATION DATA defines specification for aircraft, equipment or components, original calibration, inspection tolerance or procedure, and original standard process or change.

(7) MANUAL CHANGE EO authorizes and directs a change to the existing aircraft and equipment maintenance/service TI manuals.

(8) DOCUMENTATION EO documents a change to AVN aircraft, components, or equipment accomplished by contractor or line maintenance stations (LMS).

E. COMPOSITION OF EO

(1) Approval Log, VN Form 4100-5-0, is used by engineering to control the various parts of the EO. The approval log will contain the EO number, title and appropriate signatures authorizing the various parts of the EO and revisions. Reference Figure 1. The EO Approval Log will not be distributed and will remain filed with the EO original.

(2) Part B-I, VN Form 4100-5-2, provides detailed instructions for accomplishing the work. The type and classification of the work is designated by inserting the appropriate EO application title described by Paragraph A of this Chapter/Section.

(3) Part B-II, VN Form 4100-5-3, is used to transmit maintenance instructions for continued airworthiness.

(4) Part B-III, VN Form 4100-5-4, is used for interim operations instructions.

*(5) Part C-I and C-II, VN Form 4100-11, is used as a material requirement list for supplies and materials required to accomplish the project.

F. EO NUMBERING SYSTEM

The EO numbers are controlled by AVN-340 in categories as follows:

(1) Aircraft Changes

Fiscal Year

Aircraft Type - Use last two digits of TI 41xx system or classification code breakdown indicated in Paragraphs 1, 2, 4 and 5.

EO 96-XX-1

Numerical sequence for that fiscal year.

(2) Airborne Electronic Equipment. EO 96-E-1.

(3) Test Equipment. EO 96-T-1.

(4) Aircraft Equipment. EO 96-C-1.

(5) Miscellaneous Modifications. EO 96-M-1. Covers the modification to an airframe, powerplant, equipment(s) or system(s) that are:

(a) Not covered by other EO types;
or
(b) On airframes, power plants, equipment, or systems that are not in the FAA inventory.

G. SPECIAL MARKINGS

Unapproved copies of Modification/Repair EO's stamped "Preliminary" will be issued for the purpose of developing the initial prototype installation.

H. CONFORMITY INSPECTION

*A copy of modification/repair EO's stamped "Inspection" will be issued for the purpose of conformity of service test and minor modification EO's. Conformity inspection establishes procedures for the inspection of aircraft repairs or alteration/modifications that are accomplished in accordance with the procedures and methods provided by the issuance of an EO. Conformity inspections of the compliance of EO's is the responsibility of the Quality Assurance Branch, AVN-320. This inspection will ensure that:

(1) All necessary instructions and prints associated with the proposed repair or alteration/modification have been included in the EO.

(2) Applicability and requirements are reviewed to ensure correctness and clarity. Line entry changes to the EO contents will be coordinated with AVN-340 for revisions.

(3) During accomplishment of the EO, the installation, repair, or alteration/ modification procedures required by the EO are monitored for proper accomplishment IAW the technical data.

(4) When all accomplishment instructions and required paperwork are completed and stamped or signed by the technician, the AVN-324 inspector will perform the final buy-off inspection of the EO.

I. COMPLIANCE REPORTING

*

*(1) Aircraft, engines, propellers, or components that incorporate manufacturer service bulletins or other service information during major maintenance or overhaul by a contractor, that meet the intent of a prescribed EO may be recorded as such in the appropriate record.

J. DISTRIBUTION

Engineering Branch will provide copies of approved EO's as per Engineering distribution list.

K. REVISIONS

*All changes to approved EO's will be made by formal revision. Parts A, B-1, B-II, B-III will be separately revised with pages revised or added noted in the list of effected pages (LEP) revision log block. A vertical line will be placed in the right margin to denote revised paragraphs. All previous revision marks are removed. Each page changed or added will be dated to coincide with the date of the change. All revisions will be coordinated and signed by the project engineer, engineering supervisor, and engineering manager on the EO Approval Log (the approval log is not distributed).

L. FILING

*(1) EO's are transmitted with appropriate filing instructions. AVN-340 maintains the master EO files and copies can be obtained from them.

*(2) All completed EO work packages will be maintained in the aircraft records and an electronic database.

M. IDENTIFICATION OF NEW EQUIPMENT AND EQUIPMENT RECEIVING MODIFICATION

*Equipment built to FAA specifications or modified for FAA use will be identified by assignment of an FAA part number and affixing an equipment identification and/or modification compliance record plate

*(1) General

This paragraph established procedures to identify equipment used in AVN aircraft or associated shops. Aircraft accessories and associated equipment built to FAA specifications (or modified by the manufacturer to fit FAA requirements) and existing equipment receiving modification will be identified as described herein.

*(2) Procedures

The procedures contained herein explain the use and assignment of FAA part numbers and a method of identifying FAA modified equipment. The method or combination of methods used to identify new or modified equipment will depend on whether the equipment has received a major or a minor modification. A major modification is defined as any change in the physical, electrical or performance characteristics of any equipment to the extent that it is no longer interchangeable with units of the same type. An example of part number identification plates and Modification Compliance Record Plates is shown in Figure 1.

The part number identification system is designed to relate the component to the Manual System. The last two digits of the applicable TI manual will be assigned the first two digits in the identification number. The identification numbers will always be prefixed FA. When a major modification is accomplished to a unit already having an FAA part number, a different part number will be assigned and a new identification plate will be installed to replace the old plate. At this time, the modification document will specify that the unit be checked to ensure that all applicable minor modifications have previously been accomplished. When a new identification number is assigned, it will be necessary at that time to obtain a separate National Stock Number (NSN). This may be done through a request to the FAA Depot, which includes the following data:

*(a) Manufacturer and existing type number.

*(b) Electrical and physical description.

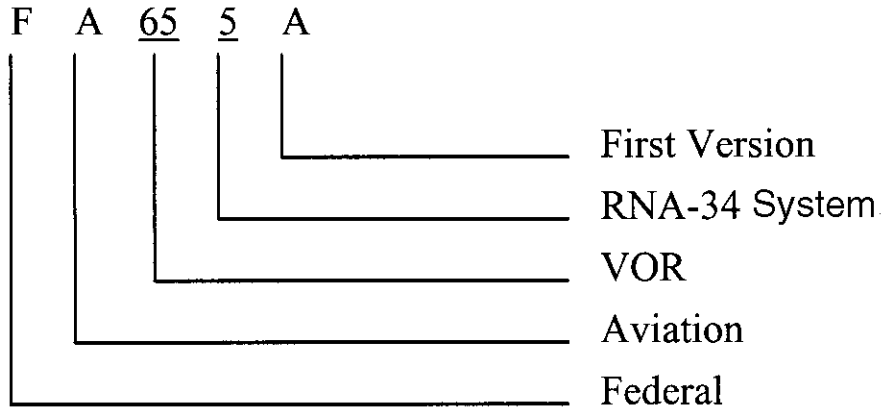
*(c) Previous catalog identification and previous FAA type designation and new type designation.

*Engineering Branch, AVN-340, of the Aircraft Maintenance and Engineering Division is the prime office for control of part number assignments for the identification plates.

Existing equipment which has received minor modifications, such as product improvement modifications, parts changes, etc., will not receive a new IDENTIFICATION plate. Instead, this equipment will retain the original FAA standard Compliance Record Plates until the next major modification, at which time a new modification compliance record plate will be affixed to the unit and marked modification "B". Before affixing the modification compliance record plate, the equipment will be examined to assure that all previous applicable modifications have been accomplished. Each time a minor modification is accomplished, a corresponding circle will be painted on the plate using red lacquer paint. The circles are lettered in alphabetic sequence to maintain continuity.

(3) Example of New Part Number for Airborne Equipment

TI 4165.5 is the manual number assigned to the RNA-34 AF VOR/ILS Receiver System. When necessary to assign identification numbers to the equipment, the numbers for the RNA-34 AF VOR/ILS System would be as follows:



If a major modification or significant change is made to the unit, it would be designated FA65.5B, etc.

There could be some cases where it is desirable to control the identification of a module installed within a major unit. This may be done by assigning a part number to the module in the sequential order of the system components.

*(4) Example of New Part Number for Test Equpment

TI 4160 is the manual number assigned to avionics test equipment. The test equipment category is substantially different than airborne equipment. Several items of test equipment are designed in house by AVN-340 personnel. As an example, VOR test is FA60.20. The first piece of VOR test equipment would be FA60.20A-01. The next piece of VOR test equipment would be FA60.20A-02, and so on. If a significant change is made to a unit, it would become FA60.20B-01. Printed circuit boards, subassemblies or other modules contained within or associated with the test equipment would have FA60.20A-01-01, FA60.20A-01-02, etc. If the subassemblies were changed significantly, they would become FA60.20A-01-01A.

*(5) Typlical Identification and Modification Compliance

Record Plates

Figure 1 shows the size and design of the modification compliance record plates (MCRP). Figure 2 shows typical size and design of the equipment identification plate. Figure 3 shows typical installation of an identification plate and MCRP on an equipment unit.

The equipment identification plate of Figure 2 will be fabricated to the specific size requirements as stated in the modification document.

The MCRP of Figure 1 will be made of mylar "SCOTCHCAL" material or .025 aluminum sheet for application to modules and external use on main units, as required.

The "SCOTCHCAL" plates should be used only on smooth surfaces where adherence to the unit is no problem. A metal plate should be secured to the unit with screws.

TYPICAL IDENTIFICATION AND MODIFICATION COMPLIANCE RECORD PLATES

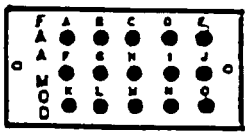
NOTE:
M ADDED TO P/N SHOWN INDICATES METAL PLATES.

A. P/N 6110053-100167

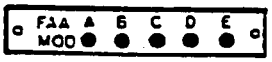
B. P/N 6110053-100168

C. P/N 6110053-100169

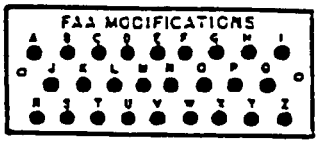
D. P/N 6110053-100170



E. P/N 6110053-100171



F. P/N 6110053-100172



G. P/N 6110053-100173

FIGURE 1.
MODIFICATION COMPLIANCE RECORD PLATES (MCRP)

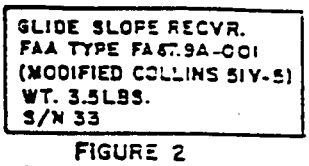


FIGURE 2
TYPICAL EQUIPMENT IDENTIFICATION PLATE.

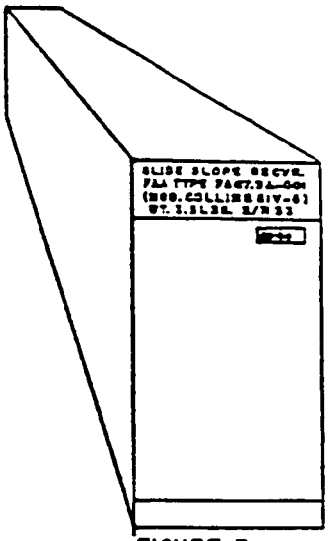
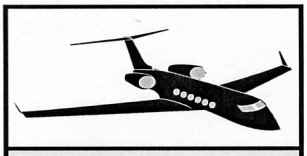


FIGURE 3
TYPICAL INSTALLATION OF IDENTIFICATION PLATE AND MODIFICATION RECORD COMPLIANCE PLATE

*FIGURE 1: ENGINEERING ORDER APPROVAL LOG



ENGINEERING ORDER

APPROVAL LOG

AIRCRAFT MAINTENANCE AND ENGINEERING DIVISION
OFFICE OF AVIATION SYSTEM STANDARDS, FAA/DOT
OKLAHOMA CITY, OK

EO No. (1)

TITLE (2)

FAR CLASS. (21.93) (3)		STC No. (4)	
DAS Engr. Staff	Date	DAS Engr. Coordinator (Major Alteration)	Date

RELEASE APPROVALS (5)

Applicable Parts	Rev. No.	Project Engineer	Engineering Supervisor	Engineering Manager	Approval Date

VN Form 4100-5-0-MOD (5/03)

CHAPTER III
* SECTIONS 78-79
RESERVED

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

80. EO PART B-I - MINOR MODIFICATION

A. PURPOSE

This section establishes procedures for developing instructions and authorizing proper performance of minor modifications in accordance with FAR 135.415.

(1) EO Part B-I uses VN Form 4100-5-2.

*(2) This EO part should fully instruct affected organizations on how to accomplish the job and will be signed by the Manager, Aircraft Maintenance and Engineering Division (AVN-300) or his delegate, authorizing accomplishment to the fleet.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

Fill in appropriate blocks as indicated. (Reference Figure 1, Chapter/Section III.80).

(1) **Block 1**. Approval: AVN-300 Manager or his delegate signs and dates.

(2) **Block 2**. EO PART B-I TYPE: Enter MINOR MODIFICATION.

(3) **Block 3**. Enter EO: Obtained for EO Log.

(4) **Block 4**. Revision: Enter revision number as applicable.

(5) **Block 5**. Date: Enter the date of the original B-I, usually the date the EO number is taken from the log.

(6) **Block 6**.

(a) Enter the page number and the number of pages.

(b) Enter the appropriate ATA number.

(7) **Block 7**. Title: Enter brief descriptive title.

(8) **Block 8**. Effectivity: Enter airframe type, powerplant type, or equipment/appliance type and N number or serial number, as applicable.

(9) **Block 9**. References: Enter all pertinent references such as letters, memos, employee suggestion, etc. Where appropriate, include the date of the document and identify the sender and the recipient. If references are extensive, include them in the body block and indicate this action in the reference book.

(10) **Block 10**. Project Engineer: Enter project engineer's name.

(11) **Block 11**. Design Engineer: Enter the primary design engineer's name.

(12) **Block 12**. FAR classification (135.425):

(13) **Block 13**. STC Number:

(14) **Block 14**. TI Manual: Enter affected TI Manual, if applicable, or mark "N/A".

(15) **Block 15**. Project Number: Enter AVN-300 project number.

(16) **Block 16**. Associated Requirements: Check appropriate items and include related instructions in body of B-I, as required.

(17) **Block 17**. Revision Log: Enter the revision number, date, initials of engineer making revision, brief description of the revision, and list all pages affected by the revision.

(18) **Block 18**. Body of Document:

(a) Purpose and Description. The body must include complete instructions and all referenced data necessary for doing the job. An introductory paragraph shall include a brief statement of purpose and description of modification. The remainder of the body shall be completed in the following sequence and format:

(b) Compliance Date and Action Activity:

1 Modification EO's:

a AVN-340 will recommend compliance date and action activity for EO's that impact safety or that are mission essential or that involve significant cost savings. The Compliance Date and Action Activity statement will include justification for specified compliance date.

b For EO's that do not impact safety or involve significant cost savings, use the following compliance statement.

*"To be scheduled by AVN-310, to coincide with other maintenance."

(c) Associated Requirements. (As required) Any associated requirement items checked "yes" on page 1 must be explained in this paragraph.

1 Company Flight Manual Revision. The Company Flight Manual (CFM) is developed and issued by AVN-200. It contains detailed operating instructions specific to AVN aircraft. Operating instructions within the Part B-III are temporarily incorporated into the CFM through an Operational Alert Directive (OAD); an AFM supplement is temporarily incorporated in its entirety. Both shall be permanently incorporated at the next CFM revision.

2 Flight Inspection Manual Revision. If the EO affects the flight inspection panel operation, a B-III is required. The B-III is written by AVN-340 and is incorporated into the flight inspection manual by AVN-200.

3 Cockpit Checklist Revision. Indicate in the EO what equipment change is made that will affect the checklist. AVN-200 will revise the cockpit checklist per data provided by AVN-340.

4 Electrical Load Revision. Provide a statement as to what revisions are required. The EO shall state the equipment, voltage, current load, and from which bus.

5 Maintenance Manual Revision. Provide a general statement concerning the disposition of any maintenance material contained within the B-II. Provide instructions for disposition of new and revised drawings, not covered in the B-II. Provide instructions for disposition of any other continued airworthiness maintenance instructions that are required to maintain the aircraft or product as a result of the modification or repair. Submit to AVN-328.

*

*6 Maintenance Training: This block identifies any additional maintenance training required as a result of the modification. The means of providing this training (formal training, OJT, etc.) should be included.

*7 Operator Training: This block identifies any additional pilot or panel tech training required as a result of the modification. The organization(s) responsible for providing this training should be included.

*8 Material Required List (MRL): The Engineering Branch, AVN-340, is responsible for initiating each MRL. Material Requirement Lists are actually considered part of the EO (Part C). Refer to section III.93 for details. The Aircraft Support Section, AVN-326, is responsible for ordering and storing all parts listed on the MRL.

*9 Project Test Equipment. This block signifies that the project will require some test equipment other than that accounted for in the HLS group (or other than that presently in the Engineering Lab).

*10 Aircraft Equipment List. The Aircraft Equipment List (AEL) is an inventory of all line replaceable units. The AEL records an item name, manufacturer, type number, part number, and in most cases, the weight arm (station number) and moment for weight and balance information.

*11 Inspection System. This block indicates that a change is required to the Continuous Airworthiness Maintenance Program (CAMP) inspection cards. The Program Standards Section, AVN-328, will issue inspection card changes based on maintenance manual changes through data provided by AVN-340.

*12 Spares Affected. This block indicates that the EO affects spare equipment stored in the depot.

*13 Weight and Balance Change. Use only when applicable. The data in this paragraph is also used to update the Equipment List. An example is provided below:

Equipment Removed

ITEM	DESCRIPTION, MODEL	PART NUMBER	WEIGHT (lbs.)	ARM (in.)	MOMENT (in-lbs.)
1.	VOR/ILS Receiver	FA65.3A	16.4	84	1,378
2.	TACAN Bearing Receiver	FA76.28A	9.5	191	1,815
		TOTALS	25.9		3,193

Equipment Added

ITEM	DESCRIPTION, MODEL	PART NUMBER	WEIGHT (lbs.)	ARM (in.)	MOMENT (in-lbs.)
1.	VOR/ILS Receiver	FA65.3A	16.4	84	1,378
2.	TACAN Bearing Receiver	FA76.28A	9.5	191	1,815
		TOTALS	25.9		3,193

*14 Interdependent EO. Enter the EO number of any and all EO's that are to be accomplished concurrently with or prior to this EO.

*15 Leave Blank.

(d) Required Data. Use only when applicable. List all drawings and manufacturer's instructions, which are required to perform modification. Do not list the EO itself.

*

*(e) Materials Required. Use only when applicable. List all parts required to perform modification,, or state "All parts required are listed on MRL AVN-34X-YY-N".

QTY.	DESCRIPTION	PART NUMBER	MFR. CODE	NSN
3	Resistor, 2K, 1/4 W	RCR07G202JS	81349	5905-00-255-7890

*(f) Special Tools Required. Use only when applicable. List the special tools that may be required.

*(g) Source of Materials. Use only when applicable. Explain how and where to obtain the materials.

*(h) Interchangeability of Modified Units. Use only when applicable. Where applicable, indicate interchangeability limitation of modified units. This information must be included in Part B-II.

*(i) Fabrication Instructions. Use only when applicable. List any fabrication instructions that apply to technicians (cables, circuit board component insertion, etc.) and/or sheetmetal. It is imperative that if instructions are split between technicians and sheetmetal, they are identified. Examples are given below:

Sheetmetal	Tech	Insp
1 Fabricate antenna adapter per drawing 5870982.		
2 Fabricate Data Monitor chassis per drawing 5870092. Anodize chassis in accordance with MIL-STD-583D.		

Avionics	Tech	Insp
1 Fabricate interconnect cable shown on drawing 87-BL-35.		
2 Install printed circuit board FA65.44A-008-7 shown on drawing 87-E-44.		

*(j) Accomplishment Instructions. (Required) List all accomplishment instructions which apply to technicians, sheetmetal, and/or upholstery. It is important that if instructions are split among various groups of workers, they are identified as to whom they apply. Examples are given below:

Sheetmetal	Mech	Insp
1 Cut holes in fuselage for antenna in accordance with drawing 5870092.		
2 Fabricate doubler so that it picks up 3 rivets on each side of hole per drawing 5870092.		
3 Fasten doubler in place using all 7432 rivets.		

Avionics	Tech	Insp
1 Install wiring per 87-B-35.		
2 Assemble data monitor per drawing 87-E-40.		

NOTE: Use alpha symbol to denote the first level of instructions.

A.

Use numeric symbol to denote the second level of instructions.

1.

Use alpha symbol within parenthesis to denote the third level of instructions.

(a)

*(k) Identification of Modified Units. Use only when applicable. Modified units may be identified by one of two methods: (1) a special marking such as painting out a space on a Mod decal, or (2) by noting the change in physical appearance due to the modification.

*(l) Disposition of Surplus Materials. Use only when applicable.

*(m) Special Instructions. Use only when applicable.

1 Special insertion of FAA Approved Flight Manual changes prior to aircraft release.

2 Specify the use of an Aircraft Deviation Alert Sticker, VN Form 4100-76, in accordance with TI 4100.24, Chapter IV.

* FIGURE 1: ENGINEERING ORDER, PART B-I

	ENGINEERING ORDER **PART B-I**	EO No. (3) REV. (4) DATE (5)
APPROVAL (1) MANAGER, AVN-300 DATE_____	MODIFICATION (2) **AIRCRAFT MAINTENANCE AND ENGINEERING DIVISION OFFICE OF AVIATION SYSTEM STANDARDS, FAA/DOT OKLAHOMA CITY, OK**	PAGE 1 of ATA (6)

TITLE (7)

EFFECTIVITY (8)

REFERENCES (9)

PROJECT ENGR (10)	**FAR CLASS. (21.93)** (12)
DESIGN ENGR (11)	**STC No.** (13)
TI MANUAL (14)	**PROJECT No.** (15)

ASSOCIATED REQUIREMENTS (16)

____ Flight Manual Rev.	____ Flight Test	____ Operator Training	____ Inspection System
____ Company Flt. Man. Rev.	____ Electrical Load Rev.	____ Capital Value Change	____ Spares Affected
____ F.I. Manual Rev.	____ Maint. Manual Rev.	____ MRL	____ Weight & Balance
____ Min. Equip. List Rev.	____ Maintenance Plan	____ Project Test Equip.	____ Interdependent EO
____ Cockpit Checklist	____ Maintenance Training	____ Aircraft Equip. List	____ Compliance Reporting

REVISION LOG (17)

Rev.	Date	Init.	Description	LEP
-			Original.	All

VN Form 4100-5-2-MOD (5/03)

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

81. EO PART B-I - PARTS CHANGE

A. PURPOSE

This EO part is to be used to authorize a parts change, substitution, or interchangeability. This document is normally prepared using Category 6 cost code. Normally, it includes only B-I. The B-II and B-III will be prepared only when it is necessary to get information to field immediately.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

*Fill in appropriate blocks as indicated. (Reference Figure 1, Chapter/Section III.80).

*(1) **Blocks 1,3-17**. To be completed as per instructions in Chapter/Section III.80 of this Manual.

(2) **Block 2**. EO PART B-I TYPE: Enter "PARTS CHANGE".

(3) **Body of Document**: Purpose and Description.

(a) Reason for Change. Give brief description of change and reasons therefor.

(b) Parts Description. Give parts description, manufacturer and manufacturer's number, drawing number, or other data necessary to define the changed part.

(c) Interchangeability. List other interchangeable parts and instructions for interchangeability, if applicable.

(d) Parts Obsoleted. List parts obsoleted and state whether parts are to be purged from stock or to be phased out on an attrition basis.

(e) Supply Requirements. Enter initial operation requirements and first year spares or replacement parts needed, if applicable.

(f) Justification. A change can result from a manufacturer's service letter, Service Bulletin, or from Engineering (AVN-340). The description of the change must be entered here and include, where it originated, the specifications it meets, the original manufacturer and the new parts manufacturer.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

82. EO PART B-I - SERVICE TEST

A. PURPOSE

This EO part is used to define the design to test and evaluate a proposed change. The modification or change will instruct removal and specify data, normally B-I only since this is temporary. It is not necessary to issue B-II or B-III; instead, include required instructions in the B-I document.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. ACTION

*Fill in appropriate blocks as indicated: (Reference Figure 1, Chapter/Section III.80).

*(1) **Blocks 1,3-17**. To be completed as per instructions in Chapter/Section III.80 of this manual.

(2) **Block 2**. EO PART B-I TYPE: Enter "SERVICE TEST".

(3) **Body of Document**: Purpose and Description.

(a) Include all necessary instructions and data to install and maintain.

(b) Enter cutoff date for completion of service test.

(c) Outline any special instruction required to complete tests.

*

*(d) Prepare Material Requirement List, Part C-I, if applicable.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

83. EO PART B-I MINOR REPAIR

A. PURPOSE

This section establishes procedures for developing instructions and authorizing proper performance of minor repairs in accordance with FAR 135.425.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

Fill in appropriate blanks as indicated: (Reference Figure 1, Chapter/Section III.80).

(1) **Blocks 1,3-17**. To be completed as per instructions in Chapter/Section III.80 of this manual.

*(2) **Block 2**. EO PART B-I TYPE: Enter "Repair".

(3) **Body of Document**.

(a) **Purpose and Description**: (Required) The Body must include complete instructions and all referenced data necessary for doing the job. An introductory paragraph shall include a brief statement of purpose and description of the repair. The remainder of the body shall be completed in the following sequence and format:

*(b) **Compliance Date and Action Activity**: (Required) AVN-340 will recommend compliance date and action activity for EO's that impact safety or that is mission essential. The Compliance Date and Action Activity statement will include justification for the specified compliance date.

.

(c) **Estimated Time Required**: (Required) Indicate time required to perform repair and/or fabrication. Provide hours for each work classification, i.e., Avionics: 85 employee hours; Sheetmetal: 16 employee hours, etc.

*(d) **Associated Requirements**: (As required) Any associated requirement items checked "yes" on page 1 must be explained in this paragraph. Refer to Chapter/Section III.80 of this manual for instruction on completing this section.

(e) **Required Data**: (As required) Use only when applicable. List all drawings and manufacturer's instructions, which are required to perform the repair. Do not list the EO itself.

(f) **Weight and Balance Change**: (As required) Use only when applicable.

(g) **Materials Required**: (As required) Use only when applicable. List all parts required to perform modification, or state "All parts required are listed on MRL AVN-34X-YY-N".

(h) **Special Tools Required**: Use only when applicable. List the special tools that may be required.

(i) **Source of Materials**: (As required) Use only when applicable. Explain how and where to obtain the materials.

(j) **Fabrication Instructions**: (As required) Use only when applicable. List any fabrication instructions, which apply to technicians and/or sheetmetal. It is imperative that if instructions are split between technicians and sheetmetal, they are identified as to whom they apply.

(k) **Accomplishment Instructions**: (Required) List all accomplishment instructions, which apply to technicians, sheetmetal, and/or upholstery. It is imperative that if instructions are split among various groups of workers, they are identified as to whom they apply. Examples are given below:

*Sheetmetal	Tech	Insp
1 Cut holes in fuselage for antenna in accordance with drawing 5870092.		
2 Fabricate doubler so that it picks up 3 rivets on each side of hole per drawing 5870092.		
3 Fasten doubler in place using all 7432 rivets.		

Avionics	Tech	Insp
1 Install wiring per 87-B1-35		
2 Assemble data monitor per drawing 87-E-40.		

NOTE: Use alpha symbol to denote the first level of instruction

A.

Use numeric symbol to denote the second level of instructions.

1.

Use alpha symbol within parenthesis to denote the third level of instructions.

(a)

(l) **Disposition of Surplus Materials:** (As required) Use only when applicable.

(m) **Special Instructions:** (As required) Use only when applicable.

*(n) **B-II and B-III:** (As required) If applicable, complete other EO parts.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

CHAPTER III
SECTION 84
RESERVED

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

85. EO PART B-I - SPECIAL INSPECTION

A. PURPOSE

This part is used to require special inspection by maintenance activities. These inspections are conducted to determine the condition or airworthiness of certain aircraft parts or the airplane itself. These special inspections originate mostly from a memorandum, letter, telegraph, or telephone call from the manufacturer, the FAA, or from an internal source and will normally require maintenance personnel to accomplish certain tasks or preparing, opening and closing of the airplane. Normally, only B-I is completed. Sign off provision must be included for each step of accomplishment. All urgent special inspections required by airworthiness directives (AD's), alerts, etc., require notification of Quality Assurance Branch (AVN-320) prior to issuance to preclude conflict or duplication of effort.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

*Fill in appropriate blocks as indicated. (Reference Figure 1, Chapter/Section III.80).

*(1) **Blocks 1,3-17**. To be completed as per instructions in Chapter/Section III.80 of this manual.

(2) **Block 2**. EO PART B-I TYPE: Enter "Special Inspection".

(3) **Body of Document**: Purpose and Description.

(a) Give brief background and description, which reflect the need for special inspection.

(b) Give complete instructions on how to accomplish the special inspection and list any applicable references such as service bulletins, service letters, AD's, etc.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

86. EO PART B-I - SPECIFICATION DATA

A. PURPOSE

This EO part is used to define:

(1) An original specification for aircraft, equipment or components.

(2) An original calibration or inspection tolerance.

(3) Any change to an established specification, tolerance or procedure.

(4) An original standard process or change.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

*Fill in appropriate blocks as indicated: (Reference Figure 1, Chapter/Section III.80).

*(1) **Blocks 1,3-17**: (Reference Chapter/Section III.80 for instructions).

(2) **Block 2**. EO PART B-1 TYPE: Enter "Specification Data".

(3) **Body of Document**: Purpose and Description. Include all details necessary for complete and adequate specifications.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

87. EO PART B-I - MANUAL CHANGE

A. PURPOSE

This EO part is used to direct a change to the existing TI manuals when the changes are not associated with any other application of the engineering order (EO). Normally includes B-I only.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

(1) In most cases the EO will be directed to the Program Standards Section, AVN-328, for routine updating of the manual.

(2) The EO will be used on a national basis when it is necessary to direct field activities to make and immediate change to maintenance procedures outlined in the current TI manual.

(3) The EO will be distributed to field activities concerned.

*(4) Fill in appropriate blocks as indicated: (Reference Figure 1, Chapter/Section III.80).

*(5) **Blocks 1,3-17**: To be completed as per instructions in Chapter/Section III.80 of this manual.

(6) **Block 2**: EO PART B-I TYPE: Enter "Manual Change".

(7) **Body of Document**:

(a) **Purpose and Description**: An introductory paragraph shall include a brief statement of purpose and reason for the change.

*(b) **Filing Instructions**: State explicitly where the change is to be filed (section, page number, TI number), i.e., insert this change into TI 4128.5-Y facing page XX. Coordinate filing instructions with the Program Standards Section, AVN-328.

(c) **Change**: Include all changes required, such as existing instructions to be deleted and new instructions to be added to the affected portion of the manual.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

88. EO PART B-I - DOCUMENTATION

A. PURPOSE

*This part is used to document a change or other maintenance action to AVN aircraft, components or equipment. It will normally be issued after the fact and should have had prior approval of Aircraft Maintenance and Engineering Division (AVN-300) by verbal discussion or message. It will include any engineering order (EO) parts required to document the action and assure configuration control. It may require additional follow-up actions to complete the job or requirement, and this action should be noted in the EO body.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

Fill in appropriate blocks as indicated: (Reference Figure 1, Chapter/Section III.80).

(1) **Blocks 1,3-17**. To be completed as per instructions in Chapter/Section III.80 of this manual.

(2) **Block 2**. EO PART B-I TYPE: Enter "Documentation".

Body of Document

(a) **Purpose and Description**: (Required) An introductory paragraph shall include a brief statement of purpose and description of the modification or repair. The remainder of the body shall be completed in the following sequence and format.

(b) **Associated Requirements**: (As required). Any associated requirements items checked "yes" on page 1 must be explained in this paragraph. Refer to III.80 of this manual for instruction on completing this section.

*(c) **Required Data**: (As required) Use only when applicable. List all drawings and manufacturer's instructions, which are required to perform the modification or repair. Any drawings changed or new drawings required by this Documentation EO shall be listed here and filing instructions shall be included in the Maintenance Manual Revision paragraph within the Associated Requirements section of the EO.

(d) **Weight and Balance Change**: (As required) Use only when applicable.

(e) **Materials Required**: (As required) List all parts required to perform this modification or repair.

(f) **Special Tools Required**: Use only when applicable. List the special tools that were required for this modification or repair.

(g) **Source of Materials**: (As required) Use only when applicable. Explain how and where materials were obtained.

(h) **Fabrication Instructions**: (As required) Use only when applicable. List any fabrication instructions, which were used to fabricate parts used in this modification or repair.

(i) **Accomplishment Instructions**: (Required) You are documenting a modification or repair that has been accomplished. List here in detail what was accomplished and by whom.

(j) **Disposition of Surplus Materials**: (As required) Use only when applicable.

(k) **Special Instructions**: (As required) Use only when applicable.

(l) **B-II and B-III**: (As required) If applicable, complete other EO parts.

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CHAPTER III
SECTION 89
RESERVED

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CHAPTER III
SECTION 90
RESERVED

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

91. *EO PART B-II - MAINTENANCE INSTRUCTIONS

A. PURPOSE

*The B-II provides maintenance instructions adequate to maintain the airplane or product. For aircraft and products documented in the Technical Issuance library, the Program Standards Section, AVN-328, shall distribute the B-II to all manual holders. For non AVN aircraft, the Engineering Branch, AVN-340, shall provide disposition of the B-II and any other continued airworthiness maintenance instructions that are required to maintain the aircraft or product as a result of the modification or repair.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

Fill in appropriate blocks as indicated.

(1) **Block 1**. Approval: AVN-300 Manager or his delegate signs and dates.

*(2) **Block 2**. Enter EO number from Part B-I.

(3) **Block 3**. Rev: Enter revision number as applicable.

*(4) **Block 4**. Date: Enter the date of the original B-I, usually the date the EO number is taken from the log.

(5) **Block 5**. Title: Enter brief descriptive title.

(6) **Block 6**. Effectivity: Enter airframe type, powerplant type or equipment/ appliance type and N number or serial number, as applicable.

(7) **Block 7**. Project Engr: Enter project engineer's name.

(8) **Block 8**. TI Manual. Enter affected TI manual, if applicable, or mark "N/A".

(9) **Block 9**. Revision Log: Enter the revision number, date, initials of engineer making revisions, brief description of revision, and list all pages effected by the revision.

(10) **Block 10**. Body of Document:

*(a) This shall be prepared by the AVN-340 section responsible for the project.

*(b) If commercial manuals are required for maintenance, they shall be listed in the B-II.

*(c) If drawings are required, the B-II shall either list the drawings or reference disposition instructions provided within the B-I.

*(d) Separate pages shall be prepared for each affected TI manual page. The TI address shall be included. Example:

Filing Instructions: Insert this page into TI 4121.4, chapter/section 32-10-1, preceding page 2.

*(e) The format shall include four headings: Title, Supersession Instructions (page 1 only), Filing Instructions, and General. A fifth heading, Effectivity, shall be included when the information has limited application.

*(f) The first page shall identify any superseded B-II or FAA supplement pages. Example:

Supersession Instructions: Remove EO 00-25-88, part B-II, pages 2 and 4 from TI 4125.3.

***FIGURE 1: EO PART B-II**

	ENGINEERING ORDER **PART B-II**	EO No. (2) REV. (3) DATE (4)
APPROVAL (1) MANAGER, AVN-300 DATE	MAINTENANCE INSTRUCTIONS AIRCRAFT MAINTENANCE AND ENGINEERING DIVISION OFFICE OF AVIATION SYSTEM STANDARDS, FAA/DOT OKLAHOMA CITY, OK	PAGE 1 of

TITLE (5)

EFFECTIVITY (6)

PROJECT ENGR (7) | **TI MANUAL** (8)

REVISION LOG (9)

Rev.	Date	Init.	Description	LEP
-			Original.	All

Supersession Instructions:

Filing Instructions:

General:

(10)

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

92. EO PART B-III - INTERIM OPERATION INSTRUCTIONS

A. PURPOSE

*This EO part is used to provide operation instruction adequate to operate the aircraft and will serve as operation instructions until complete fleet implementation of the modification or change. Part B-III will be used by AVN-200 to produce an Operations Alert Directive and TI change notice to all manual holders and will be canceled when permanent material is incorporated into the affected TI manual. The AVN Aircraft Flight Manual or Flight Manual Supplement changes are not part of the basic EO and are handled separately. Changes to the Flight Manual or Flight Manual Supplement will be listed in Part B-I with instruction to insert in approved airplane flight manual prior to aircraft release.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

Fill in appropriate blocks as indicated in FIGURE 1.

(1) **Block 1**. Approval: AVN-300 Manager or his delegate signs and dates.

(2) **Block 2**. Enter EO number from Part B-I.

(3) **Block 3**. Revision: Enter revision number as applicable.

(4) **Block 4**. Date: Enter the date of the original B-I, usually the date the EO number is taken from the log.

(5) **Block 5**. Title: Enter brief descriptive title.

(6) **Block 6**. Effectivity: Enter airframe type, powerplant type or equipment/ appliance type and N number or serial number, as applicable.

(7) **Block 7**. Project Engineer: Enter project engineer's name.

(8) **Block 8**. TI Manual: Enter affected TI manual, if applicable, or mark "N/A".

(9) **Block 9**. Revision Log: Enter the revision number, date, initials of engineer making revision, brief description of revision, and list all pages effected by the revision.

(10) **Block 10**. Body of Document:

*(a) This will be prepared by AVN340 and will be made a part of the basic EO.

(b) When Flight Manual Rev. is checked in Block 16 of Part B-I, an STC will be required. The information in the B-III that is to be incorporated into a Flight Manual Supplement will be written in the same form as a flight manual supplement. This will be coordinated with appropriate operations personnel by the project engineer and an agreement will be reached on when material is required.

(c) Separate pages will be prepared for each affected TI manual and/or pages. The TI addresses will be included in the document.

***FIGURE 1: EO PART B-III**

	ENGINEERING ORDER **PART B-III**	EO No. (2) REV. (3) DATE (4)
APPROVAL (1) MANAGER, AVN-300 DATE_____	INTERIM OPERATION INSTRUCTIONS AIRCRAFT MAINTENANCE AND ENGINEERING DIVISION OFFICE OF AVIATION SYSTEM STANDARDS, FAA/DOT OKLAHOMA CITY, OK	PAGE 1 of

TITLE (5)

EFFECTIVITY (6)

PROJECT ENGR (7)	TI MANUAL (8)

REVISION LOG (9)

Rev.	Date	Init.	Description	LEP
-			Original.	All

(10)

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

93. *EO PARTS C-I AND C-II - MRL (PROJECT MATERIALS)

A. PURPOSE

*This EO parts are to be used to order supplies and materials associated with the project. The Part C-I is to be used for Class 26 materials (small parts); the Part C-II is to be used for Class 31 materials (equipment). This list is Logistics Center-furnished material and will be requisitioned using Material Requirement List (MRL), VN Form 4100-11.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. RESPONSIBILITIES

*(1) Engineering Branch will prepare MRL for Class 26 Logistics Center-furnished materials as Part C-I of the EO and will prepare MRL for Class 31 materials as Part C-II. Both will have the same MRL control number.

*(2) Avionics Engineering Section (AVN-343) and Systems and Airframe Section (AVN-347) will prepare five copies of MRL's for all materials associated with authorized projects and forward four copies to Aircraft Support Section (AVN-326), and retain the fifth copy for future reference. This list normally will be submitted 120 days prior to scheduled project start date.

*(3) If any element of the Aircraft Maintenance and Engineering Division (AVN-300) receives or is involved in providing transportation for a SB kit or other project components, the items are to be turned into the stockroom as they arrive.

(4) Additional requirements identified prior to the actual start date on any project will be submitted immediately as numbered supplements to the basic list.

D. ACTION

Fill in appropriate blocks of MRL as indicated in FIGURE 1.

BLOCK NO. EXPLANATION (See page III.93.5)

*(1) **EO Number:** Enter the EO number.

*(2) **Part C:** Enter "I" for Class 26 or "II" for Class 31 materials.

*(3) **Title:** Enter a short title of project.

*(4) **Class of Materials:** Enter "26" for small parts and "31" for equipment.

*(5) **Control Number:** Enter a document control number. This number will be constructed as follows:

AVN-34X-02-1

- Numerical Sequence
- Current Fiscal Year
- Originating Office

***NOTE**: This control number is required to initiate follow-up action with supply personnel. The numerical sequence is controlled by a log in AVN-340.

*(6) **Supplement:** If it is necessary to submit supplements to the basic MRL, enter an alpha character in Block 6.

*(7) **Aircraft/Equipment Type:** Enter aircraft (i.e., BE-300) or equipment (i.e., TACAN Test Panel), whichever is applicable.

*(8) **N:** For aircraft mod, enter aircraft "N" number(s) or leave blank if applicable to all of a given type (i.e., all BE-300's). For equipment mods, leave blank.

(9) **No. of A/C or Eq. (Jobs):** Enter the number of aircraft or units of equipment to be modified/fabricated.

(10) **Type of Inspection:** Enter the number of inspection, if applicable; else leave blank.

(11) **Reimbursable App.:** Enter the project number.

*(12) **SSC:** Stockroom personnel shall enter the supply support code for the location where the project material will be stored (A-69-7C02-) (leave cost center code blank).

(13) **Date:** Enter the date of original form preparation (not date of revision).

(14) **Originator/Phone Ext./Routing:** Enter engineer's name, phone extension and routing symbol (AVN-343 or AVN-347).

*(15) **C.C. Code:** Forward to Aircraft Support Section (AVN-326) for entering appropriate cost code and processing.

(16) **Rev.:** Enter revision number of the document (not to be confused with supplement number). A revision corresponds to a correction or deletion, a supplement corresponds to an addition. When a revision involves the deletion of one or more items, the corresponding row for that item should be left blank, not deleted. Unaffected items should NOT be renumbered. If no revision, leave blank.

(17) **Rev. Date:** Enter the date of the current revision. If no revision, leave blank.

(18) **Project Start Date/Project Completion Date:** Enter the scheduled project start and completion dates, if known, or date material is required.

(19) **NSN:** Enter the national stock number, if known.

(20) **MFR P/N:** Enter the manufacturer's component part number.

(21) **MFR:** Enter the manufacturer assigned Federal supply code number (vendor code).

(22) **Description:** Enter a brief description of the part.

(23) **UI:** Enter unit of issue (EA, BX, HD, etc.).

(24) **QUANTITY Per Job:** Enter the number required for each job (one aircraft or one piece of equipment).

NOTE: If item will be used on all jobs, such as a tool, enter a dash (-) in each of the columns: QTY Per Job, QTY All Jobs, and QTY Spare; and enter the total number required in the QTY Total Req'd column. Take the unit of issue into account when entering quantities. Example: If the total quantity needed is 48 and unit of issue is "one dozen", the "Req'd Qty" is 4.

(25) **QUANTITY All Jobs:** Enter the product of "No. of Jobs" X QTY Per Job".

(26) **QUANTITY Spare:** Enter the total number of spare parts for all jobs.

(27) **QUANTITY Total Req'd:** Enter the sum of "QTY All Jobs" + "QTY Spare".

(28) **QUANTITY AVN-340 On Hand:** Enter the number of parts already on hand.

(29) **QUANTITY To Be Ordered:** Enter the difference of "QTY Total Req'd" - "QTY AVN-340 On Hand".

*(30) **QUANTITY Received:** Reserved for AVN-326 use: the number of parts ordered and received.

*(31) **QUANTITY On Hand + Rec'd.:** Reserved for AVN-326 use: the sum of "QTY AVN-340 On Hand" + "QTY Received".

*(32) **QUANTITY Issued:** Reserved for AVN-326 use: the number of items drawn out by the technicians.

*(33) **Task Card No.:** Reserved for AVN-326 use.

*(34) **"Issued To" Signature:** Reserved for AVN-326 use: signature by the technician to whom parts issued.

*FIGURE 1: MATERIAL REQUIREMENTS LIST, VN FORM 4100-11

MATERIAL REQUIREMENTS LIST

EO No. (1) Part C (2) Title (3) Class of Materials (4) Control Number (5) Supplement (6)

Aircraft/Equipment Type (7) N (8) No. of A/C or Eq. (Jobs) (9) Type Inspection (10) Reimbursable App. (11) SSC (12) Date (13)

Originator (14) Phone Ext. Routing AVN-343 C.C. Code (15) Rev. (16) Rev. Date (17) Project Start Date (18) Project Completion Date (18)

Item No.	NSN (Reference Only)	MFR P/N	MFR	Description	UI	QUANTITY Per Job	All Jobs	Spare	Total Req'd	AVN-340 On-Hand	To Be Ordered	Received	On-Hand + Rec'd	Issued	Task Card No.	"Issued to" Signature
1	(19)	(20)	(21)	(22)	EA (23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
2					EA											
3					EA											
4					EA											
5					EA											
6					EA											
7					EA											
8					EA											
9					EA											
10					EA											

VN Form 4100-11 (1/02)

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

*94. ALTERATION/REPAIR CLASSIFICATION PROCEDURE

A. BACKGROUND

Federal Aviation Regulation (FAR) 135.439(vi) requires that a report of all major alterations be prepared and submitted to the Federal Aviation Administration (FAA). In addition, FAR 135.436(3)(c), requires that a report of each major repair be kept for inspection by the FAA. Consequently, it is necessary to specifically identify major alterations or major repairs as compared to other maintenance actions.

FAR 43.13(a) stipulates that all work performed on a civil aircraft must be accomplished using methods, techniques and practices which are acceptable to the Administrator, with the exception that some maintenance operations must be performed per FAA approved data. FAR 1, 21, 43, 65, 91, 121 and 145 require, in part, that all major alterations and major repairs are accomplished in accordance with FAA approved data. FAA policy restricts approval of major alterations to FAA Field Approvals, Supplemental Type Certificate Approvals or FAA DER Approvals by Designated Engineering Representatives (DERs) authorized to function on behalf of the Type Certificate Owner. Moreover, by definition, major alterations are those which are not listed in the FAA approved Aircraft, Engine, or Appliance Specification and meet other specified criteria. Therefore, alterations that are listed in the applicable FAA approved specification and accomplished in accordance with manufacturer's instructions, are minor regardless of their complexity.

This section provides procedures to classify major alterations and repairs that will be performed through AVN's Continuous Airworthiness Maintenance Program (CAMP) supported by AVN Engineering Orders (EO).

FAR 43 Appendix "A" provides examples of major alterations and repairs for all types of aircraft. FAR 1.1 provides the basis for a functional definition of major alterations and repairs, as well as minor alterations and repairs.

B. DEFINITIONS

NOTE: See FAR 1.1 for definitions in conjunction with the following:

(1) Categories

(a) Alteration: A deliberate action to transform an airworthy configuration into another configuration (i.e., a proactive effort).

(b) Repair: Authorization or restoration of an aberrant or degraded condition (i.e., a reactive effort).

C. CLASSIFICATIONS

(1) Accepted Practices: Are any practices accomplished in accordance with:

(a) Any process or procedure that is FAA approved.

(b) Applicable Manufacturer's Component Maintenance Manual, Engine Manual, Maintenance Manual, Overhaul Manual, Structural Repair Manual or Service Instructions.

(c) Applicable Manufacturer's Process Standards or Technical Operations Policies and Procedures.

(d) FAA Advisory Circulars (e.g., 43.13-1B, 65-9, 65-12 and 65-15).

(e) Methods and guidelines provided by the Manufacturer, FAA Military or Industry publications for activities such as failure mode and effect analysis, systems analysis and stress analysis.

(f) Military and Government handbooks or standards.

(g) Product Manufacturer's specifications.

(2) Aircraft Engine, Propeller or Appliance Specifications: Data inclusive of the following with effectiveness that extends to the specific product:

(a) Manufacturer's manuals, such as: Aircraft Maintenance Manuals, Component Maintenance Manuals, Engine Manuals, Overhaul Manuals, Structural Repair Manuals and Process Specifications.

(b) Manufacturer's production drawings and specifications.

(c) Manufacturer's Service Bulletins.

(d) Type Certificate and Type Certificate Data Sheet.

(3) Appreciable Effects: As they relate to the definition of Major Alteration or Major Repair are those that:

(a) Weight: Increase aircraft or component weight to the point of exceeding maximum certified limits.

(b) Balance: Alter the center of gravity to the point that the aircraft center of gravity limits are exceeded when the aircraft is loaded in accordance with existing loading procedures, or component imbalance limits are exceeded when all authorized adjustments are exhausted.

(c) Structural Strength: Alter structural elements to the point that engineering analysis or tests, beyond the scope of accepted practices, are required to determine the effect on structural strength, stiffness, flutter and/or damage tolerance.

(d) Performance: Alter the aircraft or powerplant configuration to the point that thrust and/or drag variants warrant revision to the published aircraft performance data.

(e) Powerplant Operation: Alter the engine accessories, core engine, nacelle or related controls to the point that powerplant operating limits and/or powerplant reliability are affected.

(f) Flight Characteristics: Alter the aircraft or powerplant to the point that aircraft flight characteristics are reflected in the published Pilots' Operating Manual, Aircraft Operations Manual and AVN Training Department.

(g) Noise: Increase noise levels to the point that certification requirements are exceeded, except that FAR 21.93 allows periods not to exceed 90 days of noncompliance, but otherwise airworthy, operations for maintenance purposes.

(h) Other Airworthiness Qualities: Affect any quality of airworthiness in such a way that there is an increased risk, in comparison to the original design, resulting from malfunction of the altered element or improper accomplishment of the task, as it relates to:

1 Continued safe flight and landing in any type operation for which the aircraft is approved; or

2 Adverse effect on safety of the crew or passengers.

(4) Elementary Operations: Are any operations accomplished in accordance with:

(a) Applicable Manufacturer's Component Maintenance Manual, Engine Manual (except procedures requiring specific source substantiation), Maintenance Manual, Overhaul Manual, Structural Repair Manual, Service Instructions or Standard Practice Manuals.

*

*(b) FAA Advisory Circulars (e.g. 43.13-1B, 65-9, 65-12 and 65-15).

(5) If Improperly Done: Refers to errors that could occur during design, analysis and/or accomplishment that might not be detected by the responsible Engineering, Maintenance or Aircraft Inspection personnel, before the aircraft is returned to service. The impact of improperly accomplished repairs, even though proper inspection techniques may be present, should be considered; an example is a repair in a non-critical area that could propagate into critical areas leading to catastrophic results.

D. SUPPORTING DATA

In addition to the following technical content of substantiating data, the logic and reasoning for the repair should be documented and understandable to all potential readers of the supporting data.

(1) Data Acceptable to the Administrator: Written material or documents used to describe and/or substantiate minor alterations and minor repairs include:

(a) Calculations such as stress analysis and system analysis.

(b) FAA Advisory Circulars (e.g., AC 25.1529-1, 43.13-1B, and 91-56).

(c) FAA approved data.

(d) Industry Publications (e.g., ASTM, SAE and University Research).

(e) Manufacturer's technical information (e.g., Service Bulletins, Kits, Manuals, Service Letters, Technical Correspondence, etc.).

(f) Mil Specs, Military Handbooks, Government Publications, etc., (e.g., MIL-HDBK 5, AMS, MS, NAS and SAE Specs.).

(g) Previously approved Engineering Order (EO).

(h) Recorded description of methods, techniques and practices, which show compliance with the functional requirements of the aircraft.

(i) Technical Standard Order (TSO) data.

(2) FAA Approved Data: Written material or documents used to describe and/or approve major alterations, major repairs or other maintenance actions requiring FAA approval, including the following:

(a) Airworthiness Directives.

(b) Data approved by Designated Alteration Station (DAS).

(c) Data approved by Designated Engineering Representative (DER).

(d) Data approved by the FAA, such as Field Approvals (i.e., FAA 337 Forms or other).

(e) Data approved through SFAR 36 Authority.

(f) Manufacturer's FAA approved data (when so indicated), such as Component Maintenance Manuals, Engine Manuals, Service Bulletins and Structural Repair Manuals.

(g) Supplemental Type Certificates (STC's).

(h) Type Certificate and Type Certificate Data Sheets.

(i) Type Design Data for certified products (i.e.., manufacturer's drawings and specifications).

(3) Substantiating Data: Information that supports and/or describes alterations and repairs, but not limited to, the following:

(a) Calculations and analysis.

(b) Drawings, sketches and/or photographs.

(c) EO's.

(d) Functional and operating limits.

(e) Manufacturer's Service Bulletins, Service Letters, etc.

(f) Material Allowable.

(g) Reports and other published documents.

E. CLASSIFICATION GUIDELINES - ALTERATIONS AND REPAIRS

Due to differences in logic for each category, this paragraph is separated into classification guidelines appropriate to alterations and repairs. Refer to the Logic Diagrams/Figures, as referenced.

(1) Alterations:

(a) The logic diagram shown in Figure 1 shall be used as a checklist for the considerations required to determine whether an aircraft alteration is major or minor.

(b) The logic diagram shown in Figure 2 shall be used as a checklist for the considerations required in determining whether a powerplant alteration is major or minor.

(c) The logic diagram shown in Figure 3 shall be used as a checklist for the considerations required in determining whether an appliance alteration is major or minor.

(d) The logic diagram shown in Figure 4 shall be used as a checklist for the considerations required in determining whether a software alteration is major or minor.

(2) Repairs:

(a) The logic diagram shown in Figure 5 shall be used as a checklist for the considerations required in determining whether an airframe repair is major or minor.

(b) The logic diagram shown in Figure 6 shall be used as a checklist for the considerations required in determining whether an engine repair is major or minor.

(c) The logic diagram shown in Figure 7 shall be used as a checklist for the considerations required in determining whether an appliance repair is major or minor.

FIGURE 1 - AIRCRAFT ALTERATIONS

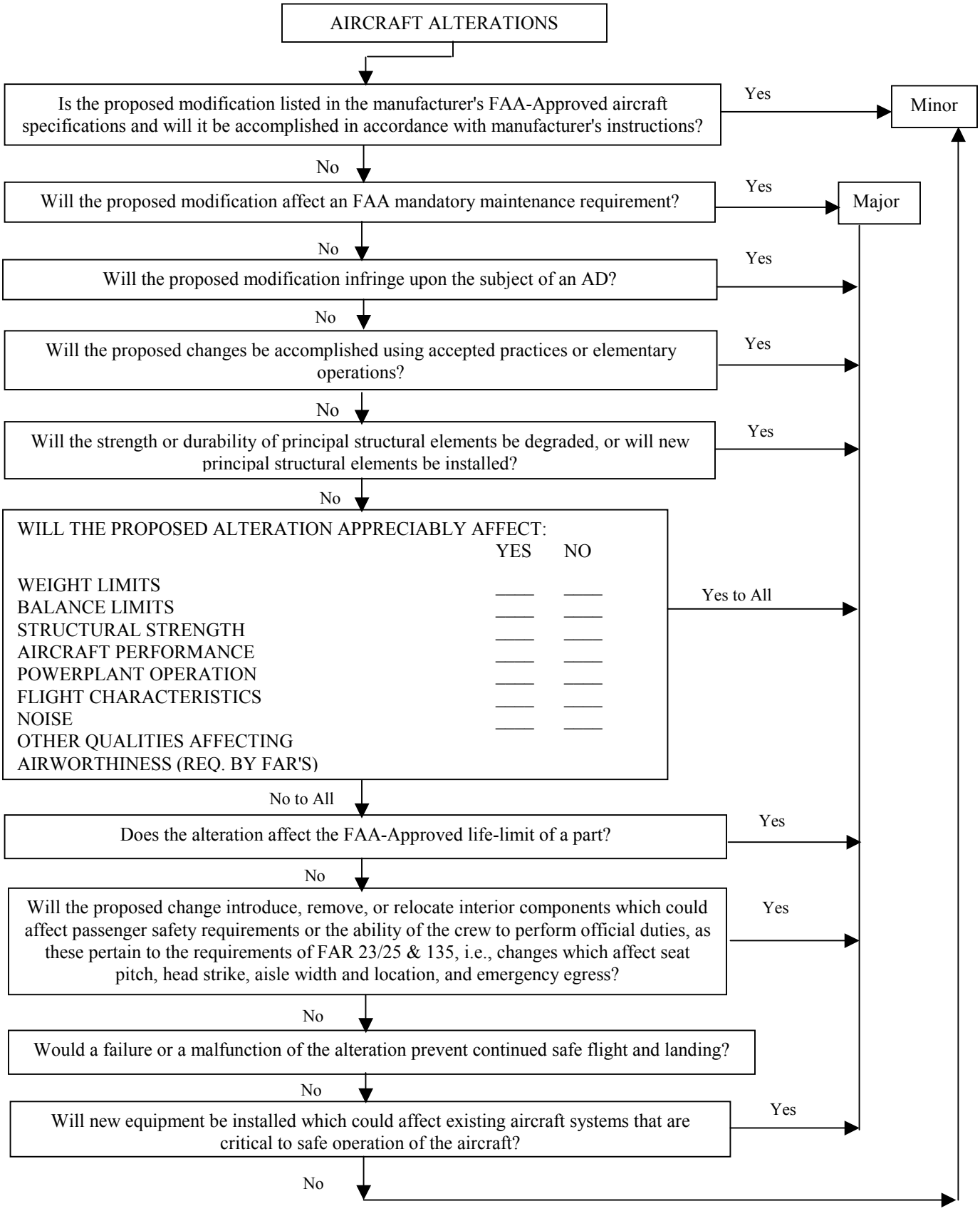


FIGURE 2 - POWERPLANT ALTERATIONS

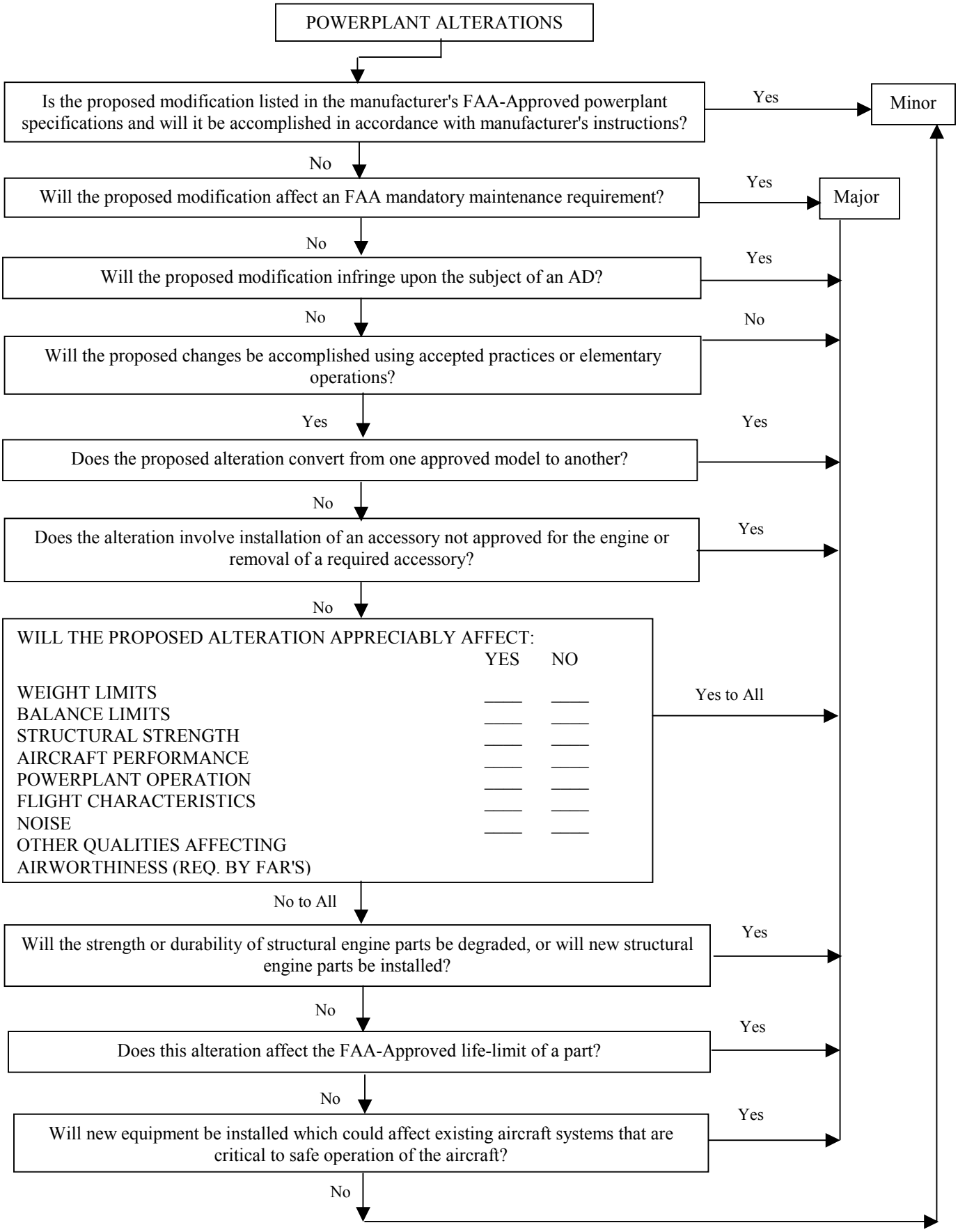


FIGURE 3 - APPLIANCE ALTERATIONS

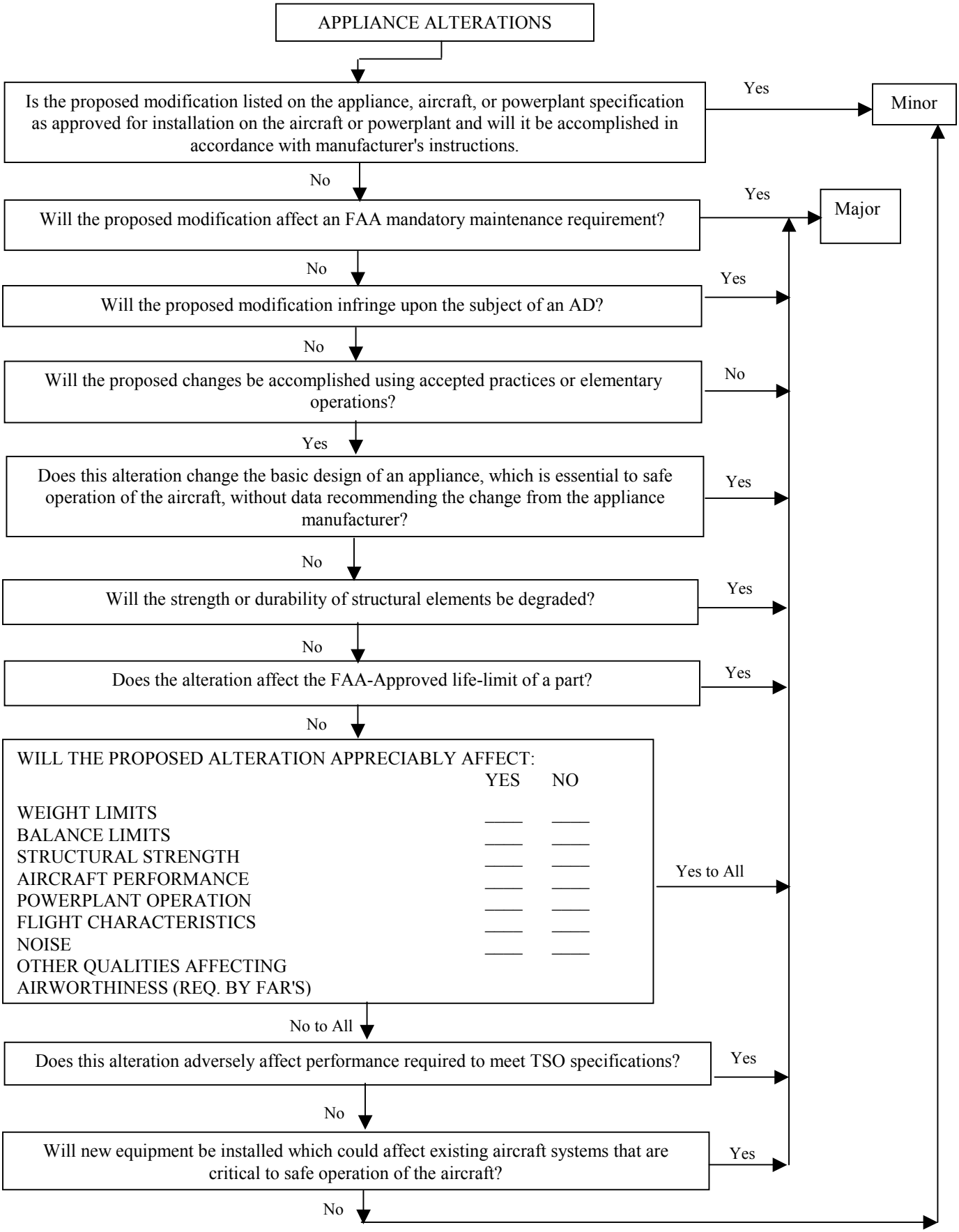


FIGURE 4 - SOFTWARE ALTERATIONS

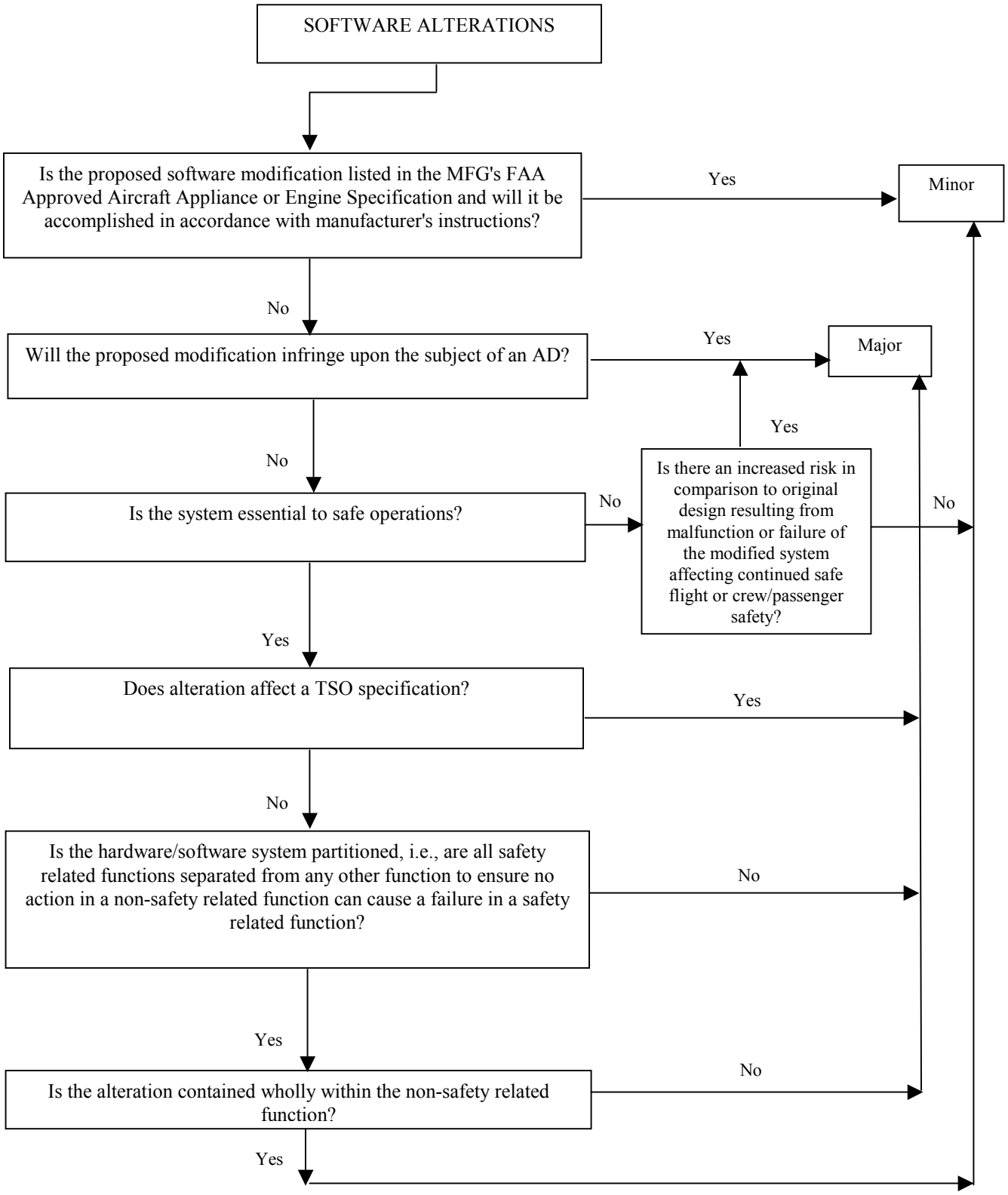


FIGURE 5 - AIRFRAME REPAIR

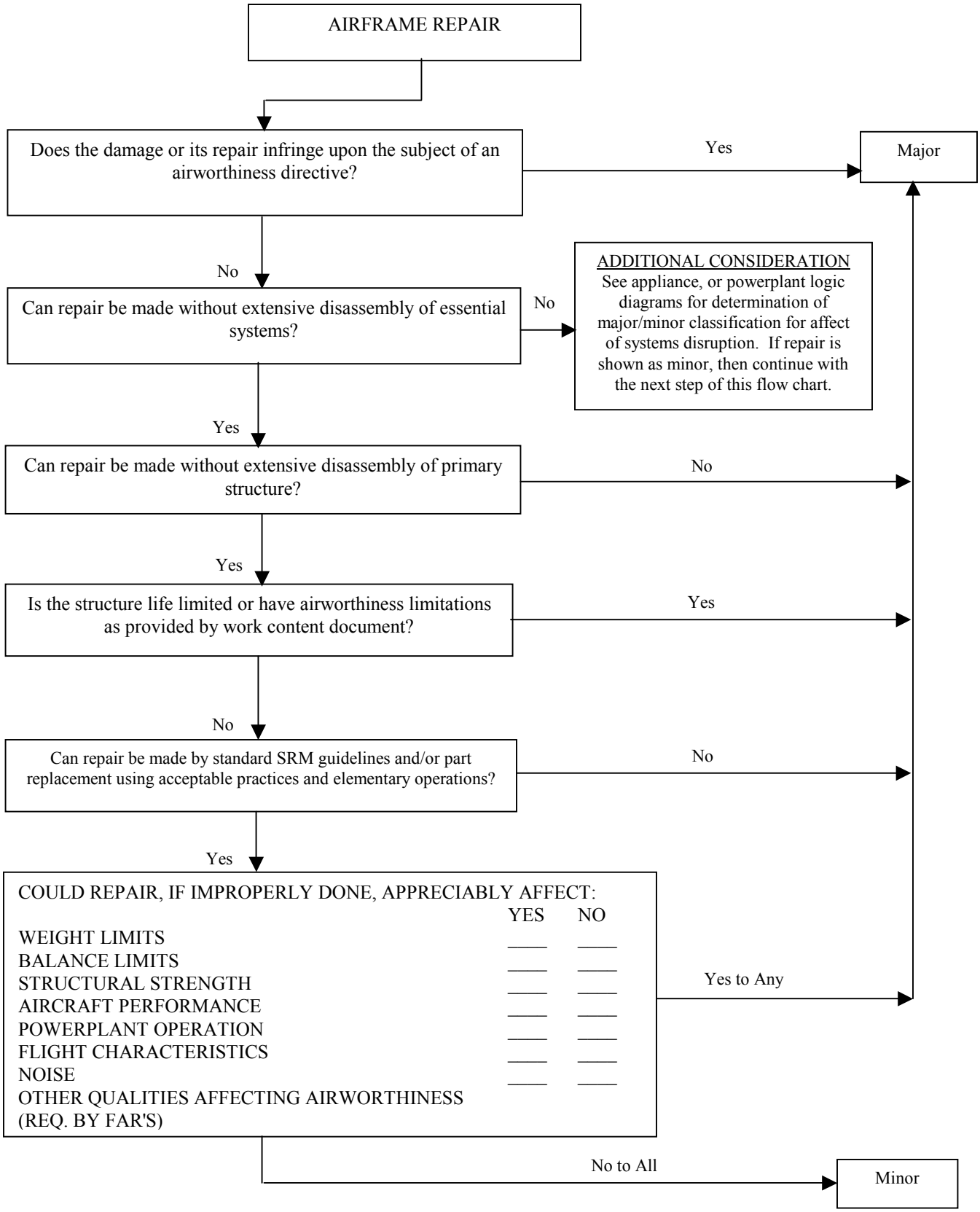


FIGURE 6 - ENGINE REPAIRS

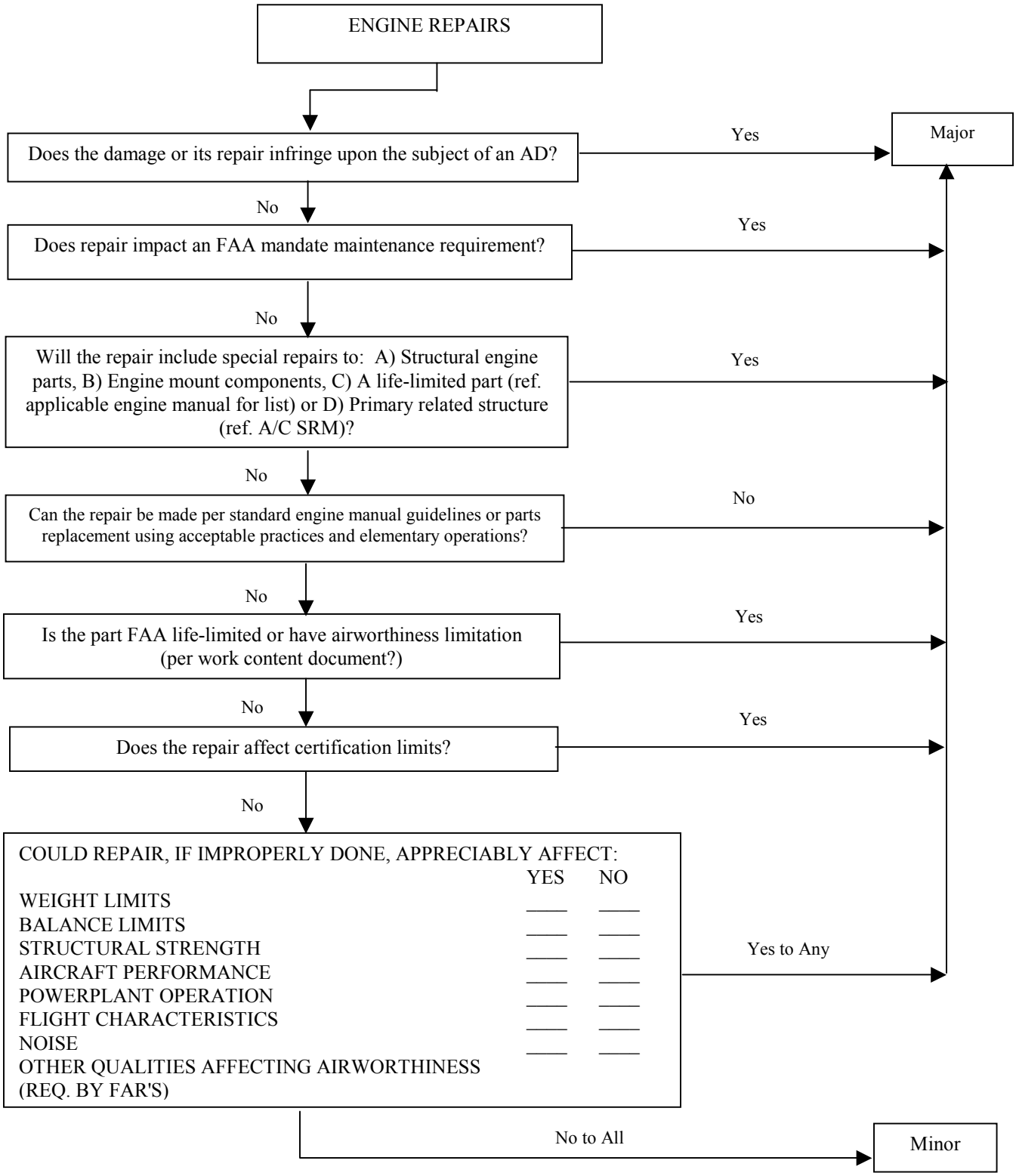
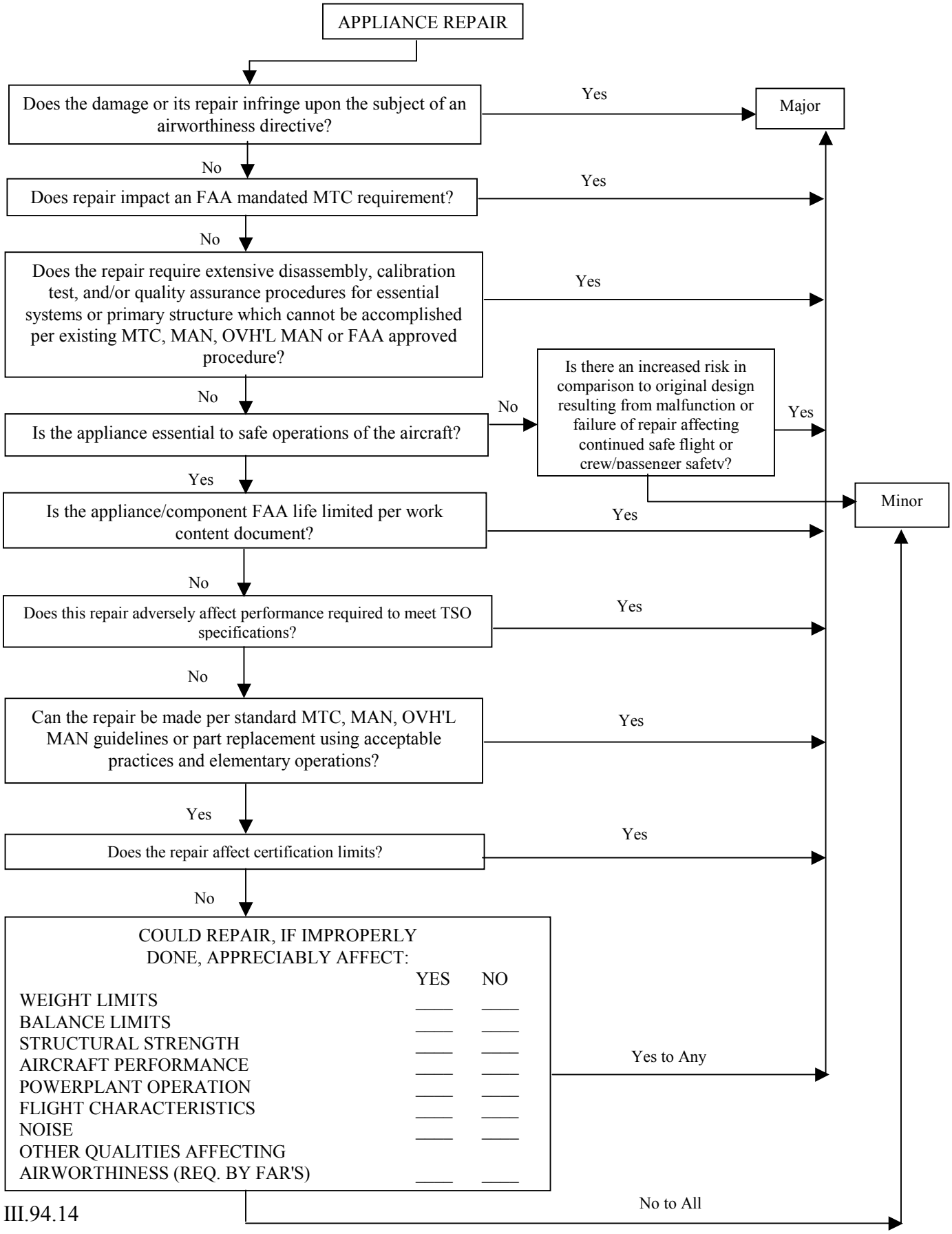


FIGURE 7 - APPLIANCE REPAIR



CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

CHAPTER III
SECTION 95
RESERVED

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

96. PROTOTYPE MODIFICATIONS

A. PURPOSE

This section establishes responsibilities and procedures for the design, fabrication, installation and engineering approval of modifications to AVN aircraft or equipment resulting from in-house design.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. RESPONSIBILITY

(1) Project is approved and established with an approved EO, Part A, or as directed by the approval authority.

(2) Engineering Branch is responsible for design, engineering approval, establishing initial training requirements, and first-year spares. "First year spares" is defined for purposes of this document as the spare equipment, components, etc., necessary to support the item for one year.

(3) Engineering designee classifies EO's as major or minor.

(4) All major modifications will be processed in accordance with the Designated Alteration Station Procedures Manual.

*(5) Project engineer will send two preliminary drawings and two copies of the EO to Accessories and Test Equipment Section, AVN-335. Upon notification by AVN-335 that the installation is complete and ready for inspection, the project engineer will deliver one copy of the EO and each appropriate drawing to the Quality Assurance Branch, AVN-320, for conformity inspection. After AVN-320 completes the conformity inspection, the drawings will be stamped with a conformity stamp and signed by the inspector.

(6) Shops will fabricate and install in exact accordance with drawings and EO unless the project engineer authorizes a deviation by initialing the change.

(7) Material Requirement Lists (MRL's) will be prepared by project engineer and processed in accordance with Chapter/Section III.93.

***NOTE**: Procurement Request, Form DOT-F 4200.1, for equipment will be submitted by Flight Program Acquisition Support Team, AVN-27, to the Office of Acquisition (AMQ-1).

(8) The project engineer is responsible for coordinating design with user organization and obtaining its approval.

*(9) On projects requiring test flights, FICO Maintenance Coordinators will coordinate with FICO Ops for a flight crew.

(10) Quality Assurance Branch will ensure that the installation conforms to the "conformity-stamped" drawings. This act ensures the installation does not affect airworthiness.

(11) Quality Assurance Branch will release aircraft for evaluation flights during flight tests with appropriate restrictions, and when required, issue an experimental certificate. (See Designated Alteration Station Procedures Manual, TI 4100.21.)

(12) If the project is a "major" one, the DAS coordinator will sign the B-I, STC and AFM Supplement prior to AVN-320's release to service. Quality Assurance Branch will release aircraft to normal service ensuring that EO, flight manual, operations manual and maintenance manual material are aboard the aircraft and properly recorded with a statement in the Aircraft Log, VN Form 4100-8: "Modified per EO No. ____". Under exceptional circumstances, the aircraft may be returned to service without the STC approved in accordance with TI 4100.21.

*(13) Modified prototype equipment will be red-tagged by the inspector or engineer signing project engineer block of the EO with the following statement:

ENGINEERING PROTOTYPE
MODIFIED PER EO
DO NOT RETURN TO STOCK
DO NOT INSTALL IN AIRCRAFT EXCEPT AS
PROVIDED IN EO NO. _____.
SIGNATURE AND DATE

NOTE: After verification of the modification and proper marking in accordance with the EO, AVN-320 shall remove this placard and return unit to service/stock as appropriate.

NOTE: Use placard, Part No. 6110053-100278, or equivalent.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

97. EQUIPMENT PARTS/KITS PROCUREMENT AND DISTRIBUTION

A. PURPOSE

This section establishes responsibilities and procedures for procurement and distribution of equipment, parts and/or kits required for modifications to AVN aircraft and associated support equipment. These modifications result from in-house or prototype design.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. PROCEDURE

*(1) Engineering Branch shall prepare a material requirement list (MRL), VN Form 4650-11 (see page III.93.5), for parts and equipment used in the modification. Small parts shall be included on the MRL part C-I and equipment shall be included on the part C-II. The Engineering Branch, AVN-340, shall furnish sufficient information to the Flight Program Acquisition Support Team, AVN-27, and/or the Aircraft Support Section, AVN-326, as appropriate. The MRL shall identify the responsible requisitioning office, by line item, if other than AVN-326.

(a) The requisitioning office shall obtain parts for prototype and total implementation.

*(b) Engineering Branch shall coordinate with AVN-27 for first-year requirements, as appropriate.

(c) The project engineer shall document issuance of MRL, including any supplements and revisions, in the Engineering MRL database.

(d) The requisitioning technician shall document receipt of each MRL, supplement, and revision, in the MRL database.

(e) The requisitioning technician shall enter the due date, of the item having the longest lead-time, in the MRL database.

(f) When the MRL is filled, the requisitioning technician shall mark appropriate checkbox in MRL database.

(g) The project engineer shall issue a formal revision whenever a change is required for an MRL or supplement.

(2) Engineering Branch will furnish all technical data included in kit required for implementation.

*(3) After completion of all kits, AVN-326 will arrange for distribution.

(4) Quality Assurance Branch (AVN-320) will provide inspection surveillance of kit fabrication and/or assembly.

D. FORMS

Form DOT F 4200.1, Procurement Request, NSN 0052-00-812-7000, unit of issue: pad, is available by requisition from supply.

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

98. CAPITALIZED VALUE OF AIRCRAFT AND FLIGHT EQUIPMENT

A. PURPOSE

*It is the responsibility of the Engineering Branch (AVN-340) to define on each engineering order (EO), Part A and Part B-I, when applicable, an engineering estimate of the net change in the capitalized value of an aircraft effected by a modification described and authorized by the document. The EO also will include the asset class code applicable.

B. PRIME OFFICE

Engineering Branch (AVN-340).

C. APPLICABILITY

(1) Only Class 31 equipment and appliance costs will be considered applicable for capital value changes. The following limitations will apply:

(a) Capital change will not be incurred unless a net change of at least $2,000 is realized.

(b) In case of a new installation, the equipment or appliances installed must have a value of at least $2,000.

(c) In case of a system removal, the value of the equipment or appliances removed must be at least $2,000.

(d) If there is both equipment installed and equipment removed, their difference must be at least $2,000. The capital value change will be the difference.

(2) The equipment/appliances to be installed or under consideration for installation will be used to provide a function, use, service, feature or capability the likes of which are not presently available in the aircraft.

(3) Cost incurred in obtaining Class 26 parts, bits, pieces and expenses incurred for labor, travel, transportation, training, spares and test equipment shall not be considered as pertinent to capital value change.

D. PROCEDURES

(1) When issuing an EO, Part A or B-I, the document will specify the increase or decrease in capitalized value of the aircraft affected by the modification. In addition, the EO will specify the asset code applicable for the project. For Part A's the appropriate square shall be checked in Block 5 and, if applicable, then property classification code will be listed in appropriate manner in body of document. For Part B-I, the same shall be accomplished for Block 16 and body of document.

(a) Asset Class 81 indicates aircraft and normally-provided accessories.

(b) Asset Class 82 indicates avionics, including airborne avionics equipment and associated testing, measuring, or simulating equipment required for flight check or air navigation facilities.

*(2) Upon completion of the project, AVN-340 will forward a copy of the EO containing the increase/decrease in capital value to the National Flight Program Oversight Office (ASW-280).

CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

99. PRECISION MEASURING AND TEST EQUIPMENT CALIBRATION PROGRAM

A. GENERAL

(1) This section sets forth policies and procedures for the calibration and maintenance of test equipment and precision measuring equipment used in support of AVN aircraft.

*(2) This section also establishes the responsibilities and procedures for determining the capabilities of the Aircraft Maintenance and Engineering Division (AMED), AVN-300, to accomplish calibration and maintenance on this equipment.

B. GENERAL POLICIES

*(1) Under no conditions will non-calibrated test equipment be used to approve for return to service any aircraft, appliance, or aircraft components. Equipment not used to make quantitative measurements or produce calibrated output will not require periodic calibration. Test equipment capable of making quantitative measurements or producing calibrated output which is not calibrated due to usage (i.e. null indication, waveform monitoring, continuity checking, troubleshooting, etc.) shall be clearly identified as such, with FAA TEST EQUIPMENT, VN Form 4100-204-4 (Color orange). The Maintenance Supervisor or their designee may approve these forms.

(2) TI 4150 and TI 4160 series manuals provide procedures for maintenance and calibration of test equipment.

(3) The Base Maintenance Branch, AVN-330, shall maintain the measurement standards, which provide traceability to National Institute of Standards and Technology (NIST).

(4) All calibrated precision measuring and test equipment will have an asset number clearly visible.

(5) The Accessories and Test Equipment Section, AVN-335, shall provide a designated area where all incoming equipment will be stored and segregated into groups listing their condition, such as serviceable, repairable and condemned.

(6) All precision measuring and test equipment, requiring calibration, will be calibrated at an interval pursuant to the recommendation of the manufacturer. If a recommendation is not provided, the interval will not exceed 12 months.

C. MANAGEMENT OF CALIBRATION REQUIREMENTS

*(1) Electronic Database: Is a database system utilized in the management of calibration requirements for precision measuring and test equipment. The management is done through three database files - inventory, calibration, and repair and location histories. Each file interacts with the other.

*(2) Electronic Database: Use the following instructions to access records.

(a) Run: "PC Anywhere" on the designated computer at the facility.

(b) Use: "PC Anywhere" menus to dial the Met/Track computer.

*(c) When the electronic database calls back, the log-in screen will appear soliciting "code" and "password". Enter your electronic database code and password. A special ID and password for the CHDO may be obtained from AVN-335.

Facility	Password
ACY	ACYFIAO
ANC	ANCFIAO
ATL	ATLFIAO
BTL	BTLFIAO
SAC	SACFIAO
OKC Tool Room	TOOLROOM

*(d) After entering code and password, the "Electronic Database Main Menu" will appear.

(e) Follow menu instructions to view records, make reports and make data entries.

(f) Upon completion of session, be certain to exit "PC Anywhere" by following screen instructions.

D. ORGANIZATIONAL RESPONSIBILITIES

(1) Quality Assurance Branch, AVN-320, is responsible for:

(a) Monitoring test equipment and calibration system for those units undergoing calibration at AMED.

(b) Making the additions, deletions, or changes to the test equipment manuals 4150 and 4160 series entries of the TI Checklist.

(c) Surveillance of test equipment used at all maintenance organizations and will ensure:

1 All test equipment is inspected for deterioration, breakage and general condition.

2 Proper storage and usage is practiced.

3 Calibration is current.

(2) The Base Maintenance Branch, AVN-330, is responsible for:

(a) Ensuring that all measurement standards are calibrated and traceable to NIST and maintaining records of the current calibration.

(b) Accomplishing the calibration and maintenance of AMED test equipment and providing support for other FAA maintenance organizations upon request.

(c) Determining test equipment equivalency, obtaining engineering assistance as necessary.

(d) Coordinating with AVN-320 regarding items listed in the 4150 and 4160 series of the TI Checklist that AVN-330 no longer has the need to support.

(e) Establishing, maintaining and coordinating calibration intervals through the MRB for precision measuring and test equipment.

NOTE: All requests for new, replacement or deletion of equipment will be coordinated with AVN-330 to ensure that the necessary maintenance information is obtained and equipment inventory records are revised.

(3) The Engineering Branch, AVN-340, is responsible for:

(a) Providing assistance to AVN-330, as requested, in determining test equipment requirements and equivalency, developing calibration procedures and providing other technical assistance as may be necessary.

(b) Developing, validating and maintaining master copies of all Automatic Test Equipment (ATE) software.

(c) Maintaining a software configuration control manual for ATE software.

E. CALIBRATION PROCEDURES PROCESS

The test equipment calibration procedures are contained in TI 4150 and TI 4160 series technical issuances. If additional guidance is needed, AVN-340 assistance may be obtained in accordance with Chapter III, Section 76, of this manual.

*F. TEST EQUIPMENT EQUIVALENCY PROCESS

The Base Maintenance Branch, AVN-330, and Line Station Branch, AVN-310, or designees may determine test equipment equivalency by accomplishing the following:

(1) Comparing equipment specifications of proposed substitute to the required equipment manufacturer's recommendations.

(2) Determine that the proposed substitute is capable of performing all required test and can check all required parameters of the unit under test with equivalent results.

(3) Notifying AVN-326 whenever substitutions are made. AVN-326 will coordinate with AVN-328 to update work cards or TI manual.

G. USE

*Each person using calibrated test equipment shall be properly trained and qualified in the use of test equipment required to complete the job correctly, and shall check that the item:

(1) Is identified by serial number.

(2) Has a current calibration label attached and the equipment is in serviceable condition. (VN Form 4100-204-1 or VN Form 4100-204-3).

(3) Is removed from service and tagged (VN Form 4100-301) as unserviceable whenever the item is subjected to conditions that may adversely affect accuracy or if calibration is not current. The unserviceable condition will be annotated on the VN Form 4100-301, Part 2, in the Removed Part Section.

(4) Has been properly protected during shipment.

(5) Is used properly and when not in use, is stored in such a way that the accuracy is maintained.

(6) Is used in a suitable environmental condition so as not to affect the accuracy.

(7) Is appropriate for the application by comparing performance specifications of the test equipment to the requirements of the applications.

(8) Is using appropriate software as defined in software configuration control manual, TI 4160.1-6-1 or applicable TI manual (ATE).

(9) Is turned into the PME or Test Equipment Shops at the required calibration interval.

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CHAPTER III. MAINTENANCE/INSPECTION PROCEDURES

100. RETURN OF SERVICEABLE ITEMS TO STOCK

A. GENERAL

(1) This procedure is established in an effort to reduce the cost of maintenance when replacement of a part or component fails to correct the discrepancy, or when parts are returned to Stock as an Engineering Order (EO) removal action.

(2) It also establishes the responsibilities and procedures for determining continuing "time-in-service" for parts and components used for troubleshooting purposes, or removed by EO.

B. LIMITATIONS

(1) Any part or component, except expendables, that is removed serviceable by EO action, or which is installed for troubleshooting and which fails to correct the discrepancy, is eligible to be returned to stock providing:

(a) The economics of removing the part or components and reinstalling the original justify such action.

(b) The original part "Time Between Overhaul" is sufficient to justify the reinstallation.

(c) Documentation is available or can be established to substantiate serviceability of the original part or component.

NOTE: The Maintenance Supervisor in charge of the activity removing such parts or components is responsible for all actions contained in Paragraph B.

C. PROCEDURE FOR PARTS USED FOR TROUBLESHOOTING

*(1) The original part, when removed for troubleshooting, will be tagged with a Serviceable Part Tag, VN Form 4100-301, with all pertinent information completed. In Block 32 enter "Removed Serviceable" from N____, followed by a signature and date.

(2) The part or component will be held in the maintenance facility until the replacement has accumulated a minimum of ten hours operating time.

(3) If within the ten hour operating period the discrepancy recurs, the original part or component is considered not to be at fault.

(4) The Maintenance Supervisor is then responsible for the actions described in Paragraph B.

(5) If the decision is made to remove the replacement item and return it to stock, an FAA Form 8130-3 will be completed. The FAA Form 8130-3 and all of the original documentation received with the item shall be reattached and the item returned to stock. The "TSO" Block and the "Remarks" Block of the FAA Form 8130-3 shall reflect the time (hours) of operation and a statement to show that the unit was installed for troubleshooting purposes. The "Return to Service" portion of the tag need not be completed, as the original documents contain the maintenance release (Return to Service) statement.

(6) Updating of the electronic database to document the transactions for life limited/overhaul components is the responsibility of the Maintenance Supervisor.

(7) If after the ten hour operating period the discrepancy has not been repeated, the replacement items, VN Form 4100-301, will be completed. The VN Form 4100-301 (reparable part portion) will be attached to the original part or component which has been removed and the item processed for repair/overhaul.

D. PROCEDURE FOR PARTS REMOVED SERVICEABLE BY ENGINEERING ORDER.

*(1) When parts are removed serviceable by Engineering Order, the technician removing the item will return it to supply with a completed FAA Form 8130-3 (reference instructions in Chapter IV, Section 5) with Block 13, Remarks, identifying the item/part as removed from N-_____, Serviceable IAW Engineering Order #_____. Block 13 shall reflect the TSO/TSN/CSN as applicable for those components that are time controlled or life limited. Blocks 19 through 23 will be completed as required. Items will then be sent to Quality Control Receiving inspection for documentation completion and then be returned to serviceable stock by supply personnel.

*(2) To turn in a part removed by an Engineering Order whose condition is not serviceable or is unknown, the following procedure will apply:

(a) Initiate a VN Form 4100-301 by completing blocks 1, 2, 3, 5, 25, 26, 27, 28 (if known), 30 and 32.

NOTE: Block 32 will show: Part removed by Engineering Order and the condition is unknown.

(b) Remove the yellow portion of the tag and discard.

(c) Attach the green copy of the tag to the part and return to supply for disposition.

*(3) The maintenance supervisor or lead technician will attempt to retrieve receipt documentation from the aircraft records. If receipt documentation is not retrievable from aircraft records, a job order must be written to the appropriate shop or vendor to return the item to service, as required. Attach a copy of the Job Order to the FAA Form 8130-3.

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42. AVN-328 INSPECTION CARD/PROGRAM CHANGE, VN FORM 4100-32	IV.42.1	27-05/01/02
A. Instructions for completion of VN Form 4100-32	IV.42.1	27-05/01/02
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43. PERSONNEL QUALIFICATION RECORD, VN FORM 4100-33	IV.43.1	27-05/01/02
A. Instructions for completion of VN Form 4100-33	IV.43.1	27-05/01/02
B. VN Form 4100-33	IV.43.2	27-05/01/02
44. MAINTENANCE REVIEW BOARD (MRB) ACTION, VN FORM 4100-34	IV.44.1	27-05/01/02
A. Instructions for completion of VN Form 4100-34	IV.44.1	27-05/01/02
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45. MAINTENANCE REVIEW BOARD COMPLIANCE FORM (MRBCF), VN FORM 4100-35	IV.45.1	27-05/01/02
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46. UNSCHEDULED ENGINE/PROPELLER REMOVAL REPORT, VN FORM 4100-37	IV.46.1	27-05/01/02
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50. SERVICE PUBLICATION COMPLIANCE, VN FORM 4100-41-1	IV.50.1	27-05/01/02
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51. SERVICE PUBLICATION ENTRY, VN FORM 4100-42	IV.51.1	27-05/01/02
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52. ENGINE SERVICE BULLETIN EVALUATION COMPLIANCE, VN FORM 4100-43	IV.52.1	27-05/01/02
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53. APPPLIANCE SERVICE PUBLICATION EVALUATION/ COMPLIANCE, VN FORM 4100-44	IV.53.1	27-05/01/02
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55. ALTIMETER CALIBRATION CHECKED STICKER, VN FORM 4100-47	IV.55.1	27-05/01/02
A. Instructions for completion of VN Form 4100-47	IV.55.1	27-05/01/02
B. VN Form 4100-47	IV.55.2	27-05/01/02
56. NONDESTRUCTIVE TESTING CERTIFICATION RECORD, VN FORM 4100-48	IV.56.1	27-05/01/02
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B. VN Form 4100-49	IV.57.2	27-05/01/02
58. NONDESTRUCTIVE TESTING LABORATORY REPORT, VN FORM 4100-50	IV.58.1	27-05/01/02
A. Instructions for completion of VN Form 4100-50	IV.58.1	27-05/01/02
B. VN Form 4100-50	IV.58.2	27-05/01/02
59. AMPS 2000 TEST REPORT, VN FORM 4100-51	IV.59.1	27-05/01/02
A. Instructions for completion of VN Form 4100-51	IV.59.1	27-05/01/02
B. VN Form 4100-51	IV.59.2	27-05/01/02
60. N.D.T. ACCESSORY INSPECTION REPORT, VN FORM 4100-52	IV.60.1	27-05/01/02
A. Instructions for completion of VN Form 4100-52	IV.60.1	27-05/01/02
B. VN Form 4100-52	IV.60.2	27-05/01/02
61. COMPONENET REPAIR/OVERHAUL CHECKLIST, VN FORM 4100-53	IV.61.1	27-05/01/02
A. Instructions for completion of VN Form 4100-53	IV.61.1	27-05/01/02
B. VN Form 4100-53	IV.61.2	27-05/01/02
62. RECEIVING INSPECTION, DIRECT SHIP AND DEPOT LOG SHEET, VN FORM 4100-54	IV.62.1	27-05/01/02
A. Instructions for completion of VN Form 4100-54	IV.62.1	27-05/01/02
B. VN Form 4100-54	IV.62.2	27-05/01/02
63. CAPACITY TEST FORM, VN FORM 4100-55	IV.63.1	27-05/01/02
A. Instructions for completion of VN Form 4100-55	IV.63.1	27-05/01/02
B. VN Form 4100-55	IV.63.2	27-05/01/02
64. 10 SECOND HEATER TEST, VN FORM 4100-56	IV.64.1	27-05/01/02
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B. VN Form 4100-56	IV.64.2	27-05/01/02
65. ARR PART DISPOSITION FORM, VN FORM 4100-57	IV.65.1	27-05/01/02
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B. VN Form 4100-59	IV.67.2	27-05/01/02
68. ON-THE-JOB TRAINING CERTIFICATION, VN FORM 4100-60	IV.68.1	27-05/01/02
*A. Instructions for completion of VN Form 4100-60	IV.68.1	28-08/22/03
*B. VN Form 4100-60	IV.68.2	28-08/22/03
69. INDIVIDUAL TRAINING RECORD, VN FORM 4100-61	IV.69.1	27-05/01/02
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70. AIRCRAFT PARTS REQUISITION, VN FORM 4100-62	IV.70.1	27-05/01/02
A. Instructions for completion of VN Form 4100-62	IV.70.1	27-05/01/02
B. VN Form 4100-62	IV.70.2	27-05/01/02
71. INOPERATIVE STATUS PLACARDS, VN FORM 4100-63	IV.71.1	27-05/01/02
A. Instructions for completion of VN Form 4100-63	IV.71.1	27-05/01/02
B. VN Form 4100-63	IV.71.2	27-05/01/02
72. REMOVEDSTATUS PLACARD, VN FORM 4100-64	IV.72.1	27-05/01/02
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A. Instructions for completion of VN Form 4100-65	IV.73.1	27-05/01/02
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78. MAINTENANCE ALERT DIRECTIVE VN FORM 4100-69	IV.78.1	27-05/01/02
A. Instructions for completion of VN Form 4100-69	IV.78.1	27-05/01/02
B. VN Form 4100-69	IV.78.2	27-05/01/02
79. TECHNICAL ISSUANCE CHANGE PAGE, VN FORM 4100-70	IV.79.1	27-05/01/02
A. Instructions for completion of VN Form 4100-70	IV.79.1	27-05/01/02
B. VN Form 4100-70	IV.79.2	27-05/01/02
80. PRODUCTION STAMP LOG, VN FORM 4100-71	IV.80.1	27-05/01/02
A. Instructions for completion of VN Form 4100-71	IV.80.1	27-05/01/02
B. VN Form 4100-71	IV.80.2	27-05/01/02
81. EO ENTRY LOG, VN FORM 4100-72	IV.81.1	27-05/01/02
A. Instructions for completion of VN Form 4100-72	IV.81.1	27-05/01/02
B. VN Form 4100-72	IV.81.2	27-05/01/02
82. AIRCRAFT DEVIATION ALERT, VN FORM 4100-76	IV.82.1	27-05/01/02
A. Instructions for completion of VN Form 4100-76	IV.82.1	27-05/01/02
B. VN Form 4100-76	IV.82.2	27-05/01/02
83. VHF/UHF RECEIVER AUTOMATIC GAIN CONTROL DATA, VN FORM 4100-80	IV.83.1	27-05/01/02
A. Instructions for completion of VN Form 4100-80	IV.83.1	27-05/01/02
B. VN Form 4100-80	IV.83.2	27-05/01/02
84. KAY ATTENUATOR, VN FORM 4100-85	IV.84.1	27-05/01/02
A. Instructions for completion of VN Form 4100-85	IV.84.1	27-05/01/02
B. VN Form 4100-85	IV.84.2	27-05/01/02
85. WARNING TAG, VN FORM 4100-86	IV.85.1	27-05/01/02
A. Instructions for completion of VN Form 4100-86	IV.85.1	27-05/01/02
B. VN Form 4100-86	IV.85.2	27-05/01/02
86. DANGER TAG, VN FORM 4100-87	IV.86.1	27-05/01/02
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B. VN Form 4100-87	IV.86.2	27-05/01/02

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B. VN Form 4100-88	IV.87.2	27-05/01/02
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89. EMERGENCY EQUIPMENT INSPECTION., VN FORM 4100-92	IV.89.1	27-05/01/02
A. Instructions for completion of VN Form 4100-92	IV.89.1	27-05/01/02
B. VN Form 4100-92	IV.89.2	27-05/01/02
90. MAINTENANCE ALERT DIRECTIVE MASTER INDEX, VN FORM 4100-93	IV.90.1	27-05/01/02
A. Instructions for completion of VN Form 4100-93	IV.90.1	27-05/01/02
B. VN FORM 4100-93	IV.90.2	27-05/01/02
91. MAINTENANCE ANALYSIS BULLETIN MASTER INDEX, VN FORM 4100-94	IV.91.1	27-05/01/02
A. Instructions for completion of VN Form 4100-94	IV.91.1	27-05/01/02
B. VN Form 4100-94	IV.91.2	
*92 RESERVED	IV.92.1-IV.92.2	28-08/22/03
93. JOB ORDER, VN FORM 4100-135	IV.93.1	27-05/01/02
A. Instructions for completion of VN Form 4100-135	IV.93.1-IV.93.2	27-05/01/02
B. VN Form 4100-135	IV.93.3	27-05/01/02
94. JOB ORDER CONTINUATION SHEET, VN FORM 4100-135-1	IV.94.1	27-05/01/02
A. Instructions for completion of VN Form 4100-135-1	IV.94.1	27-05/01/02
B. VN Form 4100-135-1	IV.94.2	27-05/01/02
95. MAINTENANCE ANALYSIS BULLETIN, VN FORM 4100-136	IV.95.1	27-05/01/02
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*A. General	IV.96.1	28-08/22/03
*B. Instructions for Use	IV.96.1	28-08/22/03
*C. Disposition	IV.96.1	28-08/22/03
D. VN Form 4100-154	IV.96.2	27-05/01/02
97. NON-ROUTINE WORK, VN FORM 4100-155	IV.97.1	27-05/01/02
A. Instructions for completion of VN Form 4100-155	IV.97.1-IV.97.2	27-05/01/02
B. VN Form 4100-155	IV.97.3	27-05/01/02
98. COMPONENT REPLACEMENT, VN FORM 4100-155-2	IV.98.1	27-05/01/02
A. Instructions for completion of VN Form 4100-155-2	IV.98.1	27-05/01/02
B. VN Form 4100-155-2	IV.98.2	27-05/01/02
99. REQUEST FOR ACTION, VN FORM 4100-170	IV.99.1	27-05/01/02
A. Instructions for completion of VN Form 4100-170	IV.99.1-IV.99.2	27-05/01/02
B. VN Form 4100-170	IV.99.3	27-05/01/02
100. RESERVED	IV.100.1-IV.100.2	27-05/01/02
101. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-1 (Green)	IV.101.1	27-05/01/02
A. Instructions for completion of VN Form 4100-204-1	IV.101.1	27-05/01/02
B. VN Form 4100-204-1	IV.101.2	27-05/01/02
102. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-3 (Blue)	IV.102.1	27-05/01/02
A. Instructions for completion of VN Form 4100-204-3	IV.102.1	27-05/01/02
B. VN Form 4100-204-3	IV.102.2	27-05/01/02
103. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-4 (Orange))	IV.103.1	27-05/01/02
A. Instructions for completion of VN Form 4100-204-4	IV.103.1	27-05/01/02
B. VN Form 4100-204-4	IV.103.2	27-05/01/02
104. AERONAUTICAL RELIABILITY REPORT, VN FORM 4100-227	IV.104.1	27-05/01/02
A. Instructions for completion of VN Form 4100-227	IV.104.1-IV.104.2	27-05/01/02
B. VN Form 4100-227	IV.104.3	27-05/01/02

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105. NI-CAD BATTERY CELL VOLTAGE RECORD, VN FORM 4100-286	IV.105.1	27-05/01/02
A. Instructions for completion of VN Form 4100-286	IV.105.1	27-05/01/02
B. VN Form 4100-286	IV.105.2	27-05/01/02
106. SIERRA TACAN CALIBRATION, VN FORM 4100-293	IV.106.1	27-05/01/02
A. Instructions for completion of VN Form 4100-293	IV.106.1	27-05/01/02
B. VN Form 4100-293	IV.106.2	27-05/01/02
107. VOR/LOCALIZER CALIBRATION DATA, VN FORM 4100-297	IV.107.1	27-05/01/02
A. Instructions for completion of VN Form 4100-297	IV.107.1	27-05/01/02
B. VN Form 4100-297	IV.107.2	27-05/01/02
108. GLIDE SLOPE CALIBRATION DATA, VN FORM 4100-298	IV.108.1	27-05/01/02
A. Instructions for completion of VN Form 4100-298	IV.108.1	27-05/01/02
B. VN Form 4100-298	IV.108.2	27-05/01/02
109. MARKER RECEIVER CALIBRATION, VN FORM 4100-299	IV.109.1	27-05/01/02
A. Instructions for completion of VN Form 4100-299	IV.109.1	27-05/01/02
B. VN Form 4100-299	IV.109.2	27-05/01/02
110. TRANSPONDER SYSTEM RAMP CALIBRATION, VN FORM 4100-300	IV.110.1	27-05/01/02
A. Instructions for completion of VN Form 4100-300	IV.110.1	27-05/01/02
B. VN Form 4100-300	IV.110.2	27-05/01/02
*111. PART 1 SERVICEABLE PART TAG and PART 2 REPAIRABLE PART TAG, VN FORM 4100-301	IV.111.1	27-05/01/02
A. Responsibilities	IV.111.1	29-02/06/04
B. Completion Procedures for Part 1	IV.111.1-IV.111.2	29-02/06/04
C. Completion Procedures for Part 1, Installation Record	IV.111.2-IV.111.3	29-02/06/04
D. Completion Procedures for Part 1, Removed Part Data	IV.111.3-IV.111.4	29-02/06/04
E. Instructions for Use of Part 2, Repairable Part Tag	IV.111.4	29-02/06/04
F. Part 1 Serviceable Part Tag and Part 2 Repairable Part Tag, VN Form 4100-301	IV.111.5	29-02/06/04
112. CONDEMNED PART TAG, VN FORM 4100-302 (Red)	IV.112.1	27-05/01/02
A. Instructions for completion of VN Form 4100-302	IV.112.1	27-05/01/02
B. VN Form 4100-302	IV.112.2	27-05/01/02
113. ADF RECEIVER AGC DATA, VN FORM 4100-303	IV.113.1	27-05/01/02
A. Instructions for completion of VN Form 4100-303	IV.113.1	27-05/01/02
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A. Instructions for completion of VN Form 4100-310	IV.114.1	27-05/01/02
B. VN Form 4100-310	IV.114.2	27-05/01/02
115. VOR/LOC RAMP CALIBRATION DATA, VN FORM 4100-311	IV.115.1	27-05/01/02
A. Instructions for completion of VN Form 4100-311	IV.115.1	27-05/01/02
B. VN Form 4100-311	IV.115.2	27-05/01/02
116. GLIDE SLOPE RAMP CALIBRATION DATA, VN FORM 4100-312	IV.116.1	27-05/01/02
A. Instructions for completion of VN Form 4100-312	IV.116.1	27-05/01/02
B. VN Form 4100-312	IV.116.2	27-05/01/02
117. MARKER RECEIVER CALIBRATION DATA, VN FORM 4100-313	IV.117.1	27-05/01/02
A. Instructions for completion of VN Form 4100-313	IV.117.1	27-05/01/02
B. VN Form 4100-313	IV.117.2	27-05/01/02
118. ADF RECEIVER RAMP CALIBRATION DATA, VN FORM 4100-314	IV.118.1	27-05/01/02
A. Instructions for completion of VN Form 4100-314	IV.118.1	27-05/01/02
B. VN Form 4100-314	IV.118.2	27-05/01/02
119. SHORT TERM ESCALATION REQUEST, VN FORM 4100-316	IV.119.1	27-05/01/02
A. Instructions for completion of VN Form 4100-316	IV.119.1	27-05/01/02
B. VN Form 4100-316	IV.119.2	27-05/01/02
120. HUMAN FACTORS INVESTIGATION (HFI) REQUEST FORM, VN FORM 4100-82	IV.120.1	27-05/01/02
A. Instructions for completion of VN Form 4100-82	IV.120.1	27-05/01/02
B. VN Form 4100-82	IV.120.2	27-05/01/02
*121. IN CHECK PACKAGE LABEL, VN FORM 4100-108	IV.121.1-IV.121.2	30-04/09/04
A. Instructions for Completion of VN Form 4100-108	IV.121.1	30-04/09/04
B. VN Form 4100-108	IV.121.2	30-04/09/04
*122. AIRCRAFT ENGINE INFORMATION LABEL, VN FORM 4100-109	IV.122.1-IV.122.2	30-04/09/04
A. Instructions for Completion of VN Form 4100-109	IV.122.1	30-04/09/04
B. VN Form 4100-109	IV.122.2	30-04/09/04

CHAPTER IV. FORMS

0. FORMS AND REPORTS NUMERICAL INDEX

A. GENERAL

This section provides a numerical index of pertinent FAA and VN forms approved for use in the maintenance of AVN aircraft. This index will contain: the form number, title, old form number in parenthesis under the new form number, form instructions, and the Office of Prime Responsibility (OPR). The forms and the instructions will be electronically linked to the selected information.

*Forms can be obtained on the FAA Electronic Document System (FEDS) Intranet web site "http://feds.faa.gov", Electronic Maintenance Library web site"http://avn.faa.gov/index.asp?xml=fimo/eml" or the General Maintenance Manual.

Suggested changes to existing forms or new requirements will be recommended to the appropriate OPR for action. The OPR will then submit request to the Program Standards Section, AVN-328, for implementation.

*OPR's are responsible for the content of assigned forms.

*Completed forms are considered to be "Quality Records". Retention of these Quality Records may be found in the associated FAR, FAA Order, or other governing guidance for that particular form. When such guidance does not exist, each Quality Record should be reviewed every two years, if that Quality Record is no longer needed, it should be destroyed by an appropriate means.

B. RESPONSIBILITY

*AVN-328 is responsible for currency and distribution of VN forms referenced in this section.

Form Number (Old Form Number)	Instructions	Title	OPR	Chp/Sec.
FAA Form 337	Instructions	Major Repair and Alteration	Pending	IV.1
FAA Form 8070-1	Instructions	Service Difficulty Report	AAF-230	IV.2
FAA Form 8110-1	Instructions	Type Inspection Authorization	AIR-110	IV.3
FAA Form 8120-11	Instructions	Suspected Unapproved Parts Notification	AIR-220	IV.4
FAA Form 8130-3	Instructions	Airworthiness Approval Tag	AIR-200	IV.5
VN Form 4100-4 (FAA Form 4100-4)	Instructions	Special Check Decal	AVN-335	IV.6

Form Number (Old Form Number)	Instructions	Title	OPR	Chp/Sec.
VN Form 4100-5-0-MOD (VN FORM 4100-5-0-MOD	Instructions	Engineer Order Approval Mod. Log	AVN-340	III.77
VN Form 4100-5-0- Repair	Instructions	Engineer Order Approval Repair Log	AVN-340	III.77
VN Form 4100-5-2-MOD (VN FORM 4100-5-2-MOD	Instructions	Engineering Order Part B-I Modification	AVN-340	III.80
VN Form 4100-5-2-Repair	Instructions	Engineering Order Part B-I Modification	AVN-340	III.83
VN Form 4100-5-3 (VN FORM 4100-5-3)	Instructions	Engineering Order Part B-II Maintenance Instructions	AVN-340	III.91
VN Form 4100-5-4 (VN FORM 4100-5-4)	Instructions	Engineering Order Part B-III Interim Operations Instructions	AVN-340	III.92
VN Form 4100-7	Instructions	Project Data	AVN-326	IV.13
VN Form 4100-8 (VN FORM 4100-8)	Instructions	Aircraft Log	AVN-331	IV.14
VN Form 4100-9	Instructions	EPTM/SI Maintenance Recommendation	AVN-328	IV.15
VN Form 4100-10	Instructions	Engine Trend Monitoring Check	AVN-328	IV.16
VN Form 4100-11 (VN Form 4650-11)	Instructions	Material Requirements List (Eng.)	AVN-340	
VN Form 4100-11-1	Instructions	Material Requirements List (Production Control)	AVN-328	IV.18
VN Form 4100-12	Instructions	AVN Qualifications of Operator for Powered Industrial Trucks and/or Special Purpose Equipment	AVN-331	IV.19
VN Form 4100-17 (Unnumbered)	Instructions	One Time Airworthiness Release for Emergency Maintenance Performed Outside of FAA	AVN-331	IV.26
* VN Form 4100-18	Instructions	Work Order Form (Electronic Database)	AVN-331	IV.27
* VN Form 4100-18-1	Instructions	Shipping Request (Electronic Database)	AVN-331	IV.28
VN Form 4100-20 (6110053-34-188)	Instructions	Compass Correction Card	AVN-331	IV.30
VN Form 4100-20-1 (AC Form 4100-20-1)	Instructions	Weight & Balance Change	AVN-324	IV.31

	Form Number (Old Form Number)	Instructions	Title	OPR	Chp/Sec.
	VN Form 4100-21 (VN FORM 4100-21)	Instructions	Authorization Request	AVN-331	IV.32
	VN Form 4100-22 (Unnumbered)	Instructions	Cannibalization Record	AVN-331	IV.33
	VN Form 4100-23	Instructions	Standby Compass Card	AVN-331	IV.34
	VN Form 4100-24 (Unnumbered)	Instructions	Fuel Service Surveillance Check List	AVN-331	IV.35
	VN Form 4100-25 (Unnumbered)	Instructions	Special Flight Permit	AVN-324	IV.36
	VN Form 4100-27 (AC Form 4100-4)	Instructions	Master Nonroutine Index	AVN-331	IV.37
*	VN Form 4100-28	Instructions	Training File Control Sheet	AVN-303	IV.38
*	VN Form 4100-29	Instructions	Training Needs Assessment	AVN-303	IV.39
*	RESERVED				IV.40
*	RESERVED				IV.41
	VN Form 4100-32	Instructions	AVN-328 Inspection Card/Program Change	AVN-328	IV.42
	VN Form 4100-33	Instructions	Personnel Qualification Record	AVN-324	IV.43
	VN Form 4100-34 (VN Form 320 MRB)	Instructions	Maintenance Review Board (MRB) Action	AVN-328	IV.44
	VN Form 4100-35 (MRBCF)	Instructions	Maintenance Review Board Compliance Form	AVN-328	IV.45
	VN Form 4100-37	Instructions	Unscheduled Engine/Propeller Removal Report	AVN-324	IV.46
	VN Form 4100-38	Instructions	Equipment Qualifications	AVN-324	IV.47
	VN Form 4100-39	Instructions	Data Collection Analysis	AVN-328	IV.48
	VN Form 4100-41	Instructions	Service Bulletin Evaluation/ Compliance	AVN-328	IV.49
	VN Form 4100-41-1	Instructions	Service Publication Compliance	AVN-328	IV.50
	VN Form 4100-42	Instructions	Service Bulletin Entry	AVN-328	IV.51
	VN Form 4100-43	Instructions	Engine Service Bulletin Evaluation/Compliance	AVN-328	IV.52
	VN Form 4100-44	Instructions	Appliance Service Bulletin Evaluation/Compliance	AVN-328	IV.53
	VN Form 4100-45	Instructions	Engineering Order Control Form	AVN-340	IV.54
	VN Form 4100-47	Instructions	Altimeter Calibration Checked Sticker	AVN-331	IV.55
	VN Form 4100-48	Instructions	Nondestructive Testing Certification Record	AVN-324	IV.56
	VN Form 4100-49	Instructions	Nondestructive Testing Annual Recertification	AVN-324	IV.57

	Form Number (Old Form Number)	Instructions	Title	OPR	Chp/Sec.
	VN Form 4100-50	Instructions	Nondestructive Testing Laboratory Report	AVN-324	IV.58
	VN Form 4100-51	Instructions	AMPS 2000 Test Report	AVN-331	IV.59
	VN Form 4100-52	Instructions	N.D.T. Accessory Inspection Report	AVN-324	IV.60
	VN Form 4100-53	Instructions	Component Repair/Overhaul Checklist	AVN-331	IV.61
	VN Form 4100-54	Instructions	Receiving Inspection, Direct Ship and Depot Log Sheet	AVN-331	IV.62
	VN Form 4100-55	Instructions	Capacity Test Form	AVN-335	IV.63
	VN Form 4100-56	Instructions	10 Second Heater Test	AVN-335	IV.64
	VN Form 4100-57	Instructions	ARR Action Form	AVN-328	IV.65
	RESERVED				IV.66
	VN Form 4100-59	Instructions	Maintenance Analysis Bulletin Log	AVN-328	IV.67
*	VN Form 4100-60 (AC Form 3000-46)	Instructions	On the Job Training Certification	AVN-303	IV.68
*	VN Form 4100-61 (AC Form 3000-48 & 48-1)	Instructions	Individual Training Record	AVN-303	IV.69
	VN Form 4100-62	Instructions	Aircraft Parts Requisition	AVN-326	IV.70
	VN Form 4100-63 (Unnumbered)	Instructions	Inoperative Status Placard	AVN-331	IV.71
	VN Form 4100-64 (Unnumbered)	Instructions	Removed Status Placard	AVN-331	IV.72
	VN Form 4100-65 (FAA Form 1320-5)	Instructions	Record of Changes	AVN-328	IV.73
	VN Form 4100-65-1	Instructions	Record of Changes-Continuation Sheet	AVN-328	IV.74
	VN Form 4100-66 (AC Form 4100-201, 287 & 302)	Instructions	Battery	AVN-331	IV.75
	VN Form 4100-67	Instructions	Request for Part (Pink)	AVN-326	IV.76
	VN Form 4100-68	Instructions	Credit Card Request	AVN-326	IV.77
	VN Form 4100-69	Instructions	Maintenance Alert Directive	AVN-328	IV.78
	VN Form 4100-70	Instructions	Technical Issuance Change Page	AVN-328	IV.79
	VN Form 4100-71	Instructions	Production Stamp Log	AVN-324	IV.80
	VN Form 4100-72	Instructions	EO Entry Log	AVN-328	IV.81
	VN Form 4100-76	Instructions	Aircraft Deviation Alert	AVN-331	IV.82
	VN Form 4100-80 (AC Form 6210-1)	Instructions	VHF/UHF Receiver Automatic Gain Control Data	AVN-331	IV.83
	VN Form 4100-85 (61100053-34-212)	Instructions	Kay Attenuator	AVN-331	IV.84
	VN Form 4100-86 (FAA Form 6950-5)	Instructions	Warning Tag	AVN-320	IV.85

	Form Number (Old Form Number)	Instructions	Title	OPR	Chp/Sec.
	VN Form 4100-87 (Unnumbered)	Instructions	Danger Tag	AVN-320	IV.86
	VN Form 4100-88 (FAA Form 3412)	Instructions	Aircraft Ground Operator Qualification/Proficiency Check	AVN-320	IV.87
	RESERVED				IV.88
	VN Form 4100-92 (6110053-25-27)	Instructions	Emergency Equipment Inspection	AVN-331	IV.89
	VN Form 4100-93	Instructions	MAD Master Index	AVN-328	IV.90
	VN Form 4100-94	Instructions	Maintenance Analysis Bulletin Master Index	AVN-328	IV.91
*	RESERVED				IV.92
	VN Form 4100-135 (VN Form 135)	Instructions	Job Order	AVN-331	IV.93
	VN Form 4100-135-1	Instructions	Job Order Continuation Sheet	AVN-331	IV.94
	VN Form 4100-136 (AC Form 4100-135)	Instructions	Maintenance Analysis Bulletin	AVN-328	IV.95
*	VN Form 4100-154 (AC Form 4100-154)	Instructions	Inprogress or Incomplete Maintenance and Work Turnover	AVN-331	IV.96
*	VN Form 4100-155 (AC Form 4100-155 & 155-1)	Instructions	Non Routine Work	AVN-310	IV.97
	VN Form 4100-155-2 (AC Form 4100-155-2)	Instructions	Component Replacement	AVN-331	IV.98
	VN Form 4100-170 (AC Form 4100-170)	Instructions	Request for Action	AVN-328	IV.99
*	RESERVED				IV.100
*	VN Form 4100-204-1 (AC Form 4100-204-1)	Instructions	AVN Test Equipment Decal (Green)	AVN-335	IV.101
*	VN Form 4100-204-3 (AC Form 4100-204-3)	Instructions	AVN Test Equipment Decal (Blue)	AVN-335	IV.102
*	VN Form 4100-204-4 (AC Form 4100-204-4)	Instructions	AVN Test Equipment Decal (Orange)	AVN-335	IV.103
	VN Form 4100-227 (AC Form 4100-227)	Instructions	Aeronautical Reliability Report	AVN-328	IV.104
*	VN Form 4100-286	Instructions	NI-CAD Battery Cell Voltage Record	AVN-335	IV.105
	VN Form 4100-293 (AC Form 4100-293)	Instructions	Sierra Tacan Calibration	AVN-331	IV.106
	VN Form 4100-297 (AC Form 4100-297)	Instructions	VOR/Localizer Calibration Data	AVN-331	IV.107

Form Number (Old Form Number)	Instructions	Title	OPR	Chp/Sec.
VN Form 4100-298 (AC Form 4100-298)	Instructions	Glide Slope Calibration	AVN-331	IV.108
VN Form 4100-299 (AC Form 4100-299)	Instructions	Marker Receiver Calibration	AVN-331	IV.109
VN Form 4100-300	Instructions	Transponder System Ramp Calibration	AVN-331	IV.110
VN Form 4100-301 (AC Form 4100-301, 301-1 & 308)	Instructions	Part 1 Serviceable Part Tag and Part 2 Repairable Part Tag	AVN-331	IV.111
VN Form 4100-302 (AC Form 4100-301-1)	Instructions	Condemned Part Tag (Red)	AVN-331	IV.112
VN Form 4100-303 (AC Form 4100-303)	Instructions	ADF Receiver AGC Data	AVN-331	IV.113
VN Form 4100-310	Instructions	MEL Extension Authorization Request	AVN-324	IV.114
VN Form 4100-311 (AC Form 4100-310)	Instructions	VOR/LOC Ramp Calibration Data	AVN-331	IV.115
VN Form 4100-312	Instructions	Glide Slope Ramp Calibration Data	AVN-331	IV.116
VN Form 4100-313 (AC Form 4100-313)	Instructions	Marker Receiver Calibration Data	AVN-331	IV.117
VN Form 4100-314 (AC Form 4100-314)	Instructions	ADF Receiver Ramp Calibration Data	AVN-331	IV.118
VN Form 4100-316	Instructions	Short Term Escalation Request	AVN-331	IV.119
VN Form 4100-82	Instructions	Human Factors Investigation (HFI) Request Form		IV.120
* VN Form 4100-108	Instructions	In Check Package Label	AVN-328	IV.121
* VN Form 4100-109	Instructions	Aircraft Engine Information Label	AVN-328	IV.122

CHAPTER IV. FORMS

*1. MAJOR REPAIR AND ALTERATION, FAA FORM 337

A. INSTRUCTIONS FOR COMPLETION OF FAA FORM 337

Block 1: Information to complete this block will be found on the aircraft manufacturer's identification plate. "N" number is self-explanatory.

Block 2: Enter the name and address as shown on Certificate of Aircraft Registration, AC Form 8050-3.

Block 3: Leave Blank.

Block 4: Identify the airframe, power plant, propeller, or appliance repaired or altered, as shown.

Block 5: Enter a check mark in the appropriate column to indicate if the unit was repaired or altered.

Block 6:

"A" - Enter name and address of who accomplished the alteration or repair, as shown on the repair stations certificate.

"B" - Enter a check mark in Certificated Repair Station column.

"C" - Enter Repair Station Certificate Number.

"D" - Sign and date by appropriate maintenance supervisor/Quality Control Inspector.

Block 7: Enter check mark in APPROVED block and in Repair Station column. Enter Repair Station Certificate number, sign and date authorized by Quality Assurance Specialist.

Block 8:Enter only EO number and title and STC number, if applicable.

NOTE: Multiple EO numbers can be listed

B. MAJOR REPAIR AND ALTERATION, FAA Form 337 (FRONT)

U.S. Department of Transporation Federal Aviation Administration	**MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller or Appliance)**	Form Approved OMB No. 2120-0020 **For FAA Use Only** Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed $1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make	Model
	Serial No.	Nationality and Registration Mark
2. Owner	Name *(As shown on registration certificate)*	Address *(As shown on registration certificate)*

3. For FAA Use Only

4. Unit Identification				**5. Type**	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	**********(As described in Item 1 above)**********				
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
	☐ U. S. Certificated Mechanic ☐ Foreign Certificated Mechanic ☐ Certificated Repair Station ☐ Manufacturer	

D. I certify that the repair and/or alteration made to the unit(s) identified in Item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date	Signature of Authorized Individual

7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is ☐ APPROVED ☐ REJECTED

BY							Other *(Specify)*
	☐	FAA Flt. Standards Inspector	☐	Manufacturer	☐	Inspection Authorization	
	☐	FAA Designee	☐	Repair Station	☐	Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual

FAA form 337 (4-87)

B. MAJOR REPAIR AND ALTERATION, FAA Form 337 (REVERSE)

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

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CHAPTER IV. FORMS

*2. SERVICE DIFFICULTY REPORT, FAA FORM 8070-1

A. INSTRUCTIONS FOR COMPLETION OF FAA FORM 8070-1

Block N-: Aircraft Registration Number.

Block Aircraft, Powerplant and Propeller: Identify major equipment related to problem. Enter manufacturer, model and serial number per FAA/MANUFACTURER type certificate data sheet. If amateur built, use plan or kit name. Use military model designators when appropriate. Avoid colloquial names and market titles.

Block Date: Give date problem occurred.

Block Text: Whenever possible, describe conditions subsequent to, or leading up to, the reported problem:

(a) Identify the cause for malfunction and emergency measures executed.

(b) Include compliance or noncompliance with Airworthiness Directives, Service Bulletins, STC's, and PMA's.

(c) Provide any significant fact you feel may help to reduce or eliminate recurrence (i.e., cycles, landings and suggested changes).

Block Part Name: Skin, rib, shaft, venturi, transistor, capacitor, etc. Avoid colloquial names.

Block Mfg. Part Number: Alphanumeric part identifiers assigned by manufacturer.

Block Part Condition: Cracked, bent, burned, corroded, shorted, etc.

Block Part/Defect Location: L.H. alternator, audio, R.H. outboard, range switch, etc.

Block Part TT: Total service time on part in whole hours (i.e., 00531).

Block TSO: Service time on part since overhaul in whole hours (i.e., 00200).

Block Comp/Appl: Fuselage, wing, alternator, carburetor, VOR receiver, etc.

Block Manufacturer: Comp/appl manufacturer: Beech, Cessna, Prestolite, Bendix, Collins, etc.

Block Mfg. Model/Number: Alphanumeric model and serial numbers or identifiers assigned by comp/appl manufacturer (i.e., ALU8403, NAS3A1, 51RV1). Do not repeat "MAJOR EQUIPMENT IDENTITY" in these locations.

Block Serial No.: Serial number of item.

Block Submitter: Name of person submitting Service Difficulty Report.

B. SERVICE DIFFICULTY REPORT, FAA Form 8070-1

U.S. Department of Transportation
Federal Aviation Administration

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report
AERONAUTICAL EQUIPMENT

FORM APPROVED
OMB No. 2120-0008

RIS: WS 8070–1

Control No.

ATA | Code

MAJOR EQUIPMENT IDENTITY

Enter pertinent data	MANUFACTURER	MODEL/SERIES	SERIAL NUMBER	N-
AIRCRAFT				
POWERPLANT				
PROPELLER				

PROBLEM DESCRIPTION

DATE	STATUS	CARRIER	ATA	AIRCRAFT TYPE	N-	CONTROL NO.

TEXT

SPECIFIC PART CAUSING PROBLEM

PART NAME	MFG. PART NUMBER	PART CONDITION	PART/DEFECT LOCATION

COMPONENT/APPLIANCE ABOVE PART INSTALLED ON	*Report whole hours*	PART TT	PART TSO

COMP/APPL NAME	MANUFACTURER	MFG. MODEL/NUMBER	SERIAL NO.

SUBMITTED BY

SUBMITTER *(Check one)*	A	B	C	D	E	F	G	H	I	P.S.L.	ALERT	OPER/D.O.
	CARRIER	REP STA	OPER	MECH	AIR TAXI	MFG	FAA	OTHER	*Spec*			

PREC. PROC.	NATURE	STAGE	STAT	ROLL	Frame	SYS.	SYS.

ADDITIONAL COMMENTS

FAA Form 8070-1 (11-84) SUPERSEDES PREFIOUS EDITION

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CHAPTER IV. FORMS

*3. TYPE INSPECTION AUTHORIZATION, FAA FORM 8110-1

A. INSTRUCTIONS FOR COMPLETION OF FAA FORM 8110-1

Block Type Inspection Authorization: Enter the FAA Fight Test and/or Manufacturing office which is requested to perform the flight test and/or ground inspection.

Block Project No.: Enter the FAA project number established for the project.

Block Date: Enter the current date.

Block Name of Applicant: As shown on the project application.

Block Address: As shown on the project application.

Block 1 - Inspection Authorized For: Identify type of product, whether new or altered, and if altered, the original type certificate number.

Block 2 - Certification Basis: List the complete certification basis for the project.

Block 3 - Category: For aircraft only, identify the proper category.

Block 4 - Description of Alteration: For alteration, include a complete description of the alteration being made.

Block 5 thru 10 & 12: Reference page that identifies approved limitations or reference to approved flight manual.

Block 11: Identify location and maximum loads of cargo and baggage compartments.

Block 13: Identify engine information and operating limitations and type certificate data sheet number. For turbine engine operating limitations, reference supplemental page that identifies approved limitations or reference to approved flight manual or engine operating instructions.

Block 14: Identify propeller information and type certificate data sheet number.

Block 15: For rotorcraft, identify rotor rpm limits.

Block 16: Identify if 100 hr inspection has been completed.

Block 17: Identify if equipment list has been verified for correct weight and moment arm of each item of installed equipment.

Block 18 (Part 1): Indicate if the manufacturing inspector is requested to accomplish ground inspection in support of Type Inspection Report, Part 1.

Block 18 (Part 2): Indicate if the Flight Test office is requested to accomplish flight test in support of Type Inspection Report, Part 2

Block 18 (Special): The TIA may contain a section entitled "Operational and Maintenance Requirements" that provides for certain other operational evaluations identified by the AEG.

Originated B: Indicate the project office symbol.

Concurrences: Identify the office symbol of all participating offices. Initials are evidence of office concurrence.

Approval: Identify date and title of approval authority. This may be ACO manager or he/she may delegate to appropriate branch or project manager.

B. TYPE INSPECTION AUTHORIZATION, FAA Form 8110-1

TYPE INSPECTION AUTHORIZATION

PAGE 1 OF ____ PAGES

PROJECT NO.

TO: ☐ FLIGHT _____ (Routing Symbol) ☐ MANUFACTURING _____ (Routing Symbol)

DATE

NAME OF APPLICANT
Aviation System Standards
Flight Inspection Maint. Div., AVN-300

ADDRESS (Number, street, city, state, and ZIP code)
6500 S. MacArthur Blvd.
Oklahoma City, OK 73169

1. INSPECTION AUTHORIZED FOR

☐ AIRPLANE	OTHER (Specify)	☐	NEW MODEL (Give model no.)	
☐ ENGINE				
☐ PROPELLER		☐	ALTERED MODEL (Give name of original mfr. and model no.)	ORIGINAL TC DATA SHEET NO.
☐ ROTORCRAFT				

2. CERTIFICATION BASIS

3. CATEGORY – FOR AIRCRAFT ONLY (Check all applicable items)

☐	NORMAL	☐	UTILITY	☐	ACROBATIC	☐	TRANSPORT	☐	RESTRICTED	☐	OTHER (Specify)

4. DESCRIPTION OF ALTERATION

5. DESIGN SPEEDS – MPH (EAS) – SEE PAGE _____	6. MAXIMUM MACH NO. (DESIGN) – SEE PAGE _____	7. DESIGN WEIGHTS - SEE PAGE _____
8. MAXIMUM OPERATING ALTITUDE (Feet)	9. MAXIMUM CABIN PRESSURE DIFFERENTIAL (p.s.i.)	10. CG LIMITS – SEE PAGE _____

11. CARGO AND BAGGAGE COMPARTMENTS – LOCATION AND MAX. LOADS – SEE PAGE _____	12. STRUCTURAL / MANEUVERING LIMITS – SEE PAGE _____

13. OPERATION LIMITATIONS

ENGINE MAKE AND MODEL (FOR TURBINE ENGINE SEE PAGE _____)

ENGINE DATA SHEET NO.

ITEM	ON TAKEOFF (Specify) _____ (Minutes)	LOW RATIO SUPERCHARGER SEA LEVEL	LOW RATIO SUPERCHARGER ALT. HEIGHT (Specify) _____ (Feet)	HIGH RATIO SUPERCHARGER ALT. (MIN.) (Specify) _____ (Feet)	HIGH RATIO SUPERCHARGER ALT. (MAX.) (Specify) _____ (Feet)
IN. HG.					
RPM					
HP					

MAXIMUM ALLOWABLE TEMPERATURE		°F
CYLINDER HEAD (OR COOLANT OUTLET)	WASHER	
	BAYONET	
CYLINDER BASE		
OIL INLET		
MINIMUM CARBURETOR HEAT RISE REQUIRED AT _____ % MC POWER		

14. PROPELLER

MAKE AND MODEL	DATA SHEET NO.	DIAMETER
HUB MODEL NO. / BLADE MODEL NO.	LIMITATIONS - SEE PAGE _____	

15. ROTORCRAFT	MAXIMUM	MINIMUM
POWER ON ROTOR LIMITS – RPM		
POWER OFF ROTOR LIMITS - RPM		

16. INSPECTION REPORT

100-HOUR INSPECTION COMPLETED	☐	YES
	☐	NO

17. EQUIPMENT LIST

IS EQUIPMENT LIST CORRECT AS TO WEIGHT AND ARM OF EACH ITEM	☐	YES
	☐	NO
EQUIPMENT LIST ATTACHED	☐	YES
	☐	NO
MFR. REPORT NO.		

18. TYPE INSPECTION REPORT (STIR)

☐	COMPLETE APPLICABLE PORTIONS OF TYPE INSPECTION REPORT, PART 1
☐	COMPLETE APPLICABLE PORTIONS OF TYPE INSPECTION REPORT, PART 2
☐	SEE ATTACHED PAGES FOR INSTRUCTIONS
☐	SEE ATTACHED PAGES FOR SPECIAL TESTS (Define divisions of responsibilities)

ORIGINATED BY	CONCURRENCES					
ROUTING SYMBOL	ROUTING SYMBOL	INITIALS	ROUTING SYMBOL	INITIALS	ROUTING SYMBOL	INITIALS

APPROVAL

DATE	TITLE	SIGNATURE

FAA Form 8110-1 (3-66) FORMERLY FAA FORM 316

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CHAPTER IV. FORMS

*4. SUSPECTED UNAPPROVED PARTS NOTIFICATION, FAA FORM 8120-11

A. INSTRUCTIONS FOR COMPLETION OF FAA FORM 8120-11

Block 1: Record the date the suspect part was discovered.

Block 2: Provide the part name or description of the suspected unapproved part.

Block 3: Provide the part number or identification number on the part.

Block 4: Provide the serial number of the part, if applicable.

Block 5: Provide the quantity of suspect parts.

Block 6: Provide the assembly name and assembly number (where the part was or could be installed.

Block 7: Identify what type of aircraft the part was (or could be) installed on.

Block 8: Provide the complete name and address of the company or person(s) who last supplied or repaired the suspect part. Please do not provide a PO Box address, unless this is all you have. Check the appropriate box to designate the type of company. Please provide the certificate number in the space provided, if known.

Block 9: Provide a brief description of the suspect part (discoloration, suspect marking, different material, etc.) and provide a narrative stating why you feel the part is not approved. Provide as much detail as necessary to enable an inspector to determine the status of the part.

Block 10: Provide the complete name and address of the company (or person) where the suspect part was found. Check the appropriate block to reflect the affiliation of the person/company who discovered the part.

Block 11: Record the date the Form 8120-11 is being completed and submitted.

Block 12: Provide the name, address and phone number of the person who is reporting the suspect part. This information is necessary in case the FAA needs to get in touch with the reporter for more information.

Block 13: If you want your name to remain confidential, please check this block.

Block 14: If you do not wish to receive a letter acknowledging receipt of the Form 8120-11 by the FAA, please check this block.

Block 15: If you have provided additional information, photos, parts listing, etc., please check this block.

B. SUSPECTED UNAPPROVED PARTS NOTIFICATION, FAA Form 8120-11

OMB Approved: 2120-0552

SUSPECTED UNAPPROVED PARTS NOTIFICATION

Use the continuation sheet on page 3 to report multiple parts

1. Date Part Was Discovered:		**2. Part Name:**
3. Part Number:		**4. Part Serial Number:**
5. Quantity:	**6. Assembly Name:** **Assembly Number:**	**7. Aircraft Make & Model:**

8. Name, Address, and Description of Company or Person(s) Who Supplied or Repaired the Part:

Name:	**Street Address:**	
City:	**State:**	**Zip:**
Country:	**Phone Number:**	

Check One of the Following Applicable to the Person Who Supplied or Repaired the Part:

☐ **Manufacturer**	☐ **Repair Station #**
☐ **Supplier**	☐ **Air Carrier #**
☐ **Distributor**	☐ **Other**
☐ **FAA Production Approval Holder**	☐ **Owner Operator**

9. Description of Event: (Include why you think the part(s) is not approved.)

10. Name and Location of Company or Person(s) Where the Part Was Discovered :

Name:	**Street Address:**	
City:	**State:**	**Zip:**
Country:	**Phone Number:**	

Check One of the Following Applicable to the Person Who Discovered the Part:

☐ **Air Carrier #**	☐ **FAA Inspector**
☐ **Mechanic**	☐ **DOT/Office of Inspector General**
☐ **Repair Station #**	☐ **Defense Criminal Investigation Service**
☐ **Distributor**	☐ **Other Government Agency**
☐ **Supplier**	☐ **Foreign Civil Aviation Authority**
☐ **Production Approval Holder**	☐ **Other**
☐ **Unknown**	☐ **Owner Operator**

11. Date of This Report:

12. Name and Address of Reporter:

Name:	**Street Address:**	
City:	**State:**	**Zip:**
Country:	**Phone Number:**	

13. ☐ **Check here if you want your identity to be kept confidential.**
14. ☐ **Check here if you do not wish to receive an acknowledgment letter.**
15. ☐ **Check here if you have attached additional information.**

FAA Form 8120-11 (6/2001) Supersedes previous edition **Local reproduction authorized**

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CHAPTER IV. FORMS

5. *AIRWORTHINESS APPROVAL TAG, FAA FORM 8130-3

A. INSTRUCTIONS FOR COMPLETION OF FAA FORM 8130-3

*Block 1: Approving National Aviation Authority/Country, FAA/United States. (Preprinted)

Block 2: Authorized Release Certificate, FAA Form 8130-3, Airworthiness Approval Tag. (Preprinted)

*Block 3: Enter the number established by our numbering system. (ILM Repair Order or Work order number for removed serviceable parts).

*Block 4: Enter name, address of organization, and certificate number.

Block 5: Fill in the work order number, contract number, invoice number related to the shipment list or maintenance release authorization number, and state the number of pages attached to the form, including dates, if applicable.

Block 6: A single item number of multiple item numbers may be used for the same part number. Multiple items must be numbered in sequence.

Block 7: Enter the name or description of the product/part/appliance as shown on the design data.

Block 8: Enter each part number of the product/part/appliance.

*Block 9: Cross-check eligibility with applicable technical data. When the form is used for approval for return to service, enter "N/A".

Block 10: Enter the quantity of each product/part/appliance shipped.

Block 11: Enter the serial number or equivalent on the form for each product/part/appliance shipped.

*Block 12: Enter "NEW" in capital letters for newly manufactured parts and products. Enter "OVERHAULED" for those products that have been overhauled. This includes products that have not been operated or placed in service since overhaul. The other permissible/appropriate terms that can be used in this block are "INSPECTED", "REPAIRED", "REBUILT", ALTERED", or "MODIFIED". Only one term may be entered in Block 12, which should reflect the majority of work performed. Enter "PROTOTYPE" for products/parts submitted to support type certification programs.

Block 13: Enter any information or references to support documentation necessary for the user or installer to make a final determination of airworthiness of the items listed in Block 6.

*Block 14: N/A

*Block 15: N/A

*Block 16: N/A

*Block 17: N/A

*Block 18: N/A

Block 19: Check the appropriate box indicating which regulations apply to the completed work.

Block 20: Signature of the individual authorized by the air agency, air carrier, or manufacturer.

Block 21: Enter the air agency or air carrier certificate number.

Block 22: Enter the typed or printed name of the authorized representative whose signature appears in Block 20.

Block 23: Enter the date Form 8130-3 is signed and the product/part/appliance is approved for return to service.

B. * AIRWORTHINESS APPROVAL TAG, FAA Form 8130-3

1. Approving National Aviation Authority/Country: FAA/United States	2. **AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130–3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number:
4. Organization Name and Address:		5. Work Order/Contract/Invoice Number:

6. Item:	7. Description:	8. Part Number:	9. Eligibility: *	10. Quantity:	11. Serial/Batch Number:	12. Status/Work:

13. Remarks:

14. Certifies the items identified above were manufactured in conformity to:

☐ Approved design data and are in a condition for safe operation.
☐ Non-approved design data specified in Block 13.

19. ☐ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 13

Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block 13 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature:	16. Approval/Authorization No.:	20. Authorized Signature:	21. Approval/Certificate No.:
17. Name (Typed or Printed):	18. Date (m/d/y):	22. Name (Typed or Printed):	23. Date (m/d/y):

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the part/component/assembly.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts parts/components/assemblies from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 14 and 19 do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

FAA Form 8130–3 (6–01) *Installer must cross-check eligibility with applicable technical data. NSN: 0052-00-012-9005

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CHAPTER IV. FORMS

*6. SPECIAL CHECK DECAL, VN FORM 4100-4

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-4

Block Type of Check: Indicate type of check.

Block Date of Check: Date of check.

Bock Next Check Date: Date of next check.

Block Signature: Signature of person performing check.

B. SPECIAL CHECK DECAL, VN FORM 4100-4

SPECIAL CHECK	
TYPE OF CHECK	
DATE OF CHECK	NEXT CHECK DUE
SIGNATURE	

VN Form 4100-4 (03/01) Electronic Version

CHAPTER IV
*** SECTIONS 7 thru 12**
RESERVED

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CHAPTER IV. FORMS

*13. PROJECT DATA, VN FORM 4100-7

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-7

Block 1: Describe purpose of project.

Block 2: Prod Controller: Name of Production Controller.

Block 2: Prime Engineer: Name of Prime Engineer.

Block 3: Not used.

Block 4: Preparer's name.

Block 5: Not used.

Block 6: Other pertinent remarks and data.

Block 7: Not used.

Block 8: Job number.

Block 9: Title of project.

Block 10: Not used.

Block 11: Date.

Block 12: Not used..

Block 13: Signature of Branch Manager.

Block 14: Not used.

Block 15: Not used.

Block 16: Not used.

Block 17: Not used.

B. PROJECT DATA, VN FORM 4100-7

PROJECT DATA

PROJECT DESCRIPTION

PAGE ____ OF ____

2. C/C	M/H	C/C	M/H

PROD. CONTROLLER

PRIME ENGINEER | EXT.

14. ALLOCATIONS
TRAVEL
EQPT.
CONT.SVC.

15. TOTAL COSTS
MAN HRS
OTHER

16. MATERIALS
26-1
26-2

17. PROJECT COST
EST. ACTUAL
FUND IDENT.

10. PROPOSED ☐
APPROVED ☐

3. PRIORITY

WORK FILE MAINT. ACCOMP	DATE	INITIALS

4. PREPARED BY:

12. REV. No.

5. FY _____ IMPLEMENTATION SCHEDULE

JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN

6. REMARKS AND AUTHORITY TRACEABILITY

7. MAN-HOUR COSTS
DIRECT _____
INDIRECT _____

8. JOB No.

9. TITLE

11. DATE

13. AUTHORIZED BY:

VN Form 4100-7 (02/01) Electronic Version

CHAPTER IV. FORMS

*14. AIRCRAFT LOG, VN FORM 4100-8

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-8

Block (1) Date: Date shall be entered as month/day/year.

Block (2) Base: Use the station identifier symbol; for example: "OKC"-Oklahoma City, "ATL"-Atlanta.

Block (3) "N" Number: United States Registry Identification. Example: N1, N92.

Block (4) Crew: The pilot in command (PIC) will enter the names of all crewmembers and any additional passengers.

Block (5) Flight Code: Enter purpose of flight as listed below:

(a) F - Flight Inspection
(b) R - Research and Development
(c) L - Logistics
(d) T - Training
(e) JE - Evaluation
(f) JC - Currency
(g) JT - Transportation
(h) TEST - Test
(i) FERRY - Ferry

Block (6) Station Symbol: Enter the station identifier symbol; for example, "OKC"-Oklahoma City.

Block (7) Flight Time: Flight time will be entered by the pilot as the time OUT from the moment the aircraft first moves under its own power for the purpose of flight and IN the moment it comes to rest at the next point of landing (block-to-block time).

Block (8) Time in Service: Time in service will be entered by the pilot as the time OFF the moment an aircraft leaves the surface of the earth and ON when it touches it at the next point of landing. Enter the time in 24-hour Universal Coordinated Time (UCT). Pilots shall enter total elapsed time in tenths as

follows. If an elapsed time meter is installed, the reading before take-off shall be entered in OFF block and reading after landing is the ON block.

(a)	1 - 2 min = .0	(g)	34 - 39 min. = .6
(b)	3 - 8 min. = .1	(h)	40 - 45 min. = .7
(c)	9 - 14 min. = .2	(i)	46 - 51 min. = .8
(d)	15 - 20 min. = .3	(j)	52 - 57 min. = .9
(e)	21 - 26 min. = .4	(k)	58 - 62 min. = 1.0
(f)	27 - 33 min. = .5		

Block (9) MATGW (Maximum Allowable Take-off Gross Weight): The flight crew will compute this figure from the data contained in the Airplane Flight Manual (AFM) and enter the information in this block.

Block 10 Pilot's Acceptance: Space is provided for pilot to accept the aircraft twice. Pilot will sign the acceptance block as soon as he/she has completed the aircraft preflight and before engine start. Following maintenance releases or crew changes, the Pilot's Acceptance block must be signed.

Block (11) Engine Cycle Credited: The flight crew will enter the total number of engine cycles in this block.

Block (12) Landings Credited: The flight crew shall enter the total number of landings in this block. A touch and go is considered a landing.

Block (13) Aircraft Time (TIS): Total the elapsed time for all flights in the ELAPSED TIME block and enter the total for Time in Service in the "Hours Flown this Page" block. Enter the sum of the "Hours Brought Forward" and "Hours Flown this Page" in the "Total Hours Flown" block.

Block (14) Landings: Add the Total "Brought Forward" landings with the landings on "This Page" and enter the sum into the "Total Forward" box.

Block (15) Engine/Cycle #1: Add the Total "Brought Forward" engine/cycles with the engine/cycles on "This Page" and enter the sum in the "Total Forward" box.

Block (16) Engine/Cycle #2: Add the Total "Brought Forward" engine/cycles with the engine/cycles on "This Page" and enter the sum in the "Total Forward" box.

Block (17) Next Inspection: The next maintenance action and associated time will be carried forward on the next Logsheet by flight or maintenance personnel. Use total aircraft time, not time since overhaul (TSO).

Block (18) Airworthiness Release: This space is provided for a certificated technician to release the aircraft for flight after maintenance has performed a daily/weekly inspection and/or repair.

Block (19) Engine Trend Monitoring Check: Flight crews shall record engine readings for applicable aircraft, during cruise, at least once a day, weather permitting. Additional readings may be recorded on the discrepancy side of the Aircraft Log. Some aircraft require special recording; refer to applicable EO's.

Block (20) Fuel Service: Quantities will be entered in pounds or gallons. Blocks are provided for the amount of fuel added, total fuel aboard the aircraft (indicated by the fuel indicators) and the refuel base's three letter station identifier symbol.

Block (21) Oil Added: Enter oil in pints, quarts, or gallons as appropriate, in space provided.

Block (22) Discrepancy: Discrepancies (preparing for fight, during flight, immediately following flight, and while performing line maintenance) shall be entered in this column.

Block (23) Corrective Action: Enter the corrective action for the discrepancy. Each discrepancy will be signed off with a signature, certificate number, date, and station.

Block (24) MEL Control Number: Enter the MEL Control Number which is generated by an electronic database.

Block (25) RII: This block is for Quality Control personnel to backstamp Required Inspection Items (RII) only. If a RII is required, the word "RII" in the block will be circled in red ink. A stamp in this block indicates that an RII has been accomplished.

Block (26) Parts Replacement: Maintenance will enter position number, part number, and serial number in this block.

B. AIRCRAFT LOG, VN FORM 4100-8

AIRCRAFT LOG	DATE (1)	BASE (2)	N (3)	PAGE 018052

CREW	FLIGHT CODE	STATION SYMBOL	FLIGHT TIME	TIME IN SERVICE
PIC	(5)	(6)	IN (7)	ON (8)
SIC (4)			OUT	OFF
Tech	ELAPSED TIME→		(13)	
ADD P/Tech	MATGW (9)		ENG/CYC CREDITED ↓	LANDINGS CREDITED ↓
PILOTS ACCEPTANCE (10)			(11)	(12)

CREW	FLIGHT CODE	STATION SYMBOL	FLIGHT TIME	TIME IN SERVICE
PIC			IN	ON
SIC			OUT	OFF
Tech	ELAPSED TIME→			
ADD P/Tech	MATGW (9)		ENG/CYC CREDITED ↓	LANDINGS CREDITED ↓
PILOTS ACCEPTANCE				

AIRCRAFT TOTALS	HOURS	LANDINGS	ENG/CYC #1	ENG/CYC #2
BROUGHT FORWARD				
THIS PAGE	(13)	(14)	(15)	(16)
TOTAL FORWARD				
NEXT INSP DUE	(17)			

DATE	TYPE

AIRWORTHINESS RELEASE (18)	DATE

	FUEL ADDED Lbs/gals/lit	TOTAL FUEL	REFUEL BASE	OIL ADDED 1	OIL ADDED 2

ENGINE CONDITION TREND MONITORING DATA

NO	PROP RPM	TORQUE	WF	ITT	N1	N2
1			(19)			
2						

I.A.S.					
PRESS ALT		(20)		(21)	
O.A.T					

1 DISCREPANCY:	1 CORRECTIVE ACTION	MEL# (24)
(22)	(23)	
ENTERED BY:	SIGN, & DATE	R.I.I. (25)

2 DISCREPANCY:	2 CORRECTIVE ACTION	MEL# (24)
(22)	(23)	
ENTERED BY:	SIGN, & DATE	R.I.I. (25)

(26) PARTS REPLACEMENT INFORMATION

POS NO.	PART NO.	SERIAL NO.	POS NO.	PART NO.	SERIAL NO.
OFF			OFF		
ON			ON		

VN Form 4100-8

CHAPTER IV. FORMS

***15. EPTM / SI MAINTENANCE RECOMMENDATION, VN FORM 4100-9**

A. INSTRUCTIONS FOR COMPLETION VN FORM 4100-9

All blocks are self-explanatory.

B. EPTM /SI MAINTENANCE RECOMMENDATION, VN FORM 4100-9

EPTM / SI MAINTENANCE RECOMMENDATION					
Subject	Date of Recommendation		Tracking Number		
To:	Type Aircraft/Engine		N-Number	Acft Hrs	
	Eng Ser. Number	TSO	TSN	Eng Pos.	Eng Hrs
	Signature of Originator				
	Title			Routing Sym.	
Recommendation(s)					
Reply					
Return To:	Reply Requested NLT		Date of Reply		
	Signature				
	Organization		Routing Sym		

VN Form 4100-9 09/00 Electronic Version

CHAPTER IV. FORMS

*16. ENGINE TREND MONITORING CHECK, VN FORM 4100-10

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-10

All blocks are self-explanatory.

B. ENGINE TREND MONITORING CHECK, VN FORM 4100-10

N- _____ **DATE** _____ **A/C HRS** _____

ENGINE TREND MONITORING CHECK										
										O.A.T
NO.	NP/%RPM	%N2	ITT/TIT/EGT	%N1	HP/TORQUE	FUEL PRESS	FUEL FLOW	OIL PRESS	OIL TEMP	
1										I.A.S
2										
1										PRESS. ALT.
2										

ENGINE TREND MONITORING CHECK										
										O.A.T
NO.	NP/%RPM	%N2	ITT/TIT/EGT	%N1	HP/TORQUE	FUEL PRESS	FUEL FLOW	OIL PRESS	OIL TEMP	
1										I.A.S
2										
1										PRESS. ALT.
2										

ENGINE TREND MONITORING CHECK										
										O.A.T
NO.	NP/%RPM	%N2	ITT/TIT/EGT	%N1	HP/TORQUE	FUEL PRESS	FUEL FLOW	OIL PRESS	OIL TEMP	
1										I.A.S
2										
1										PRESS. ALT.
2										

ENGINE TREND MONITORING CHECK										
										O.A.T
NO.	NP/%RPM	%N2	ITT/TIT/EGT	%N1	HP/TORQUE	FUEL PRESS	FUEL FLOW	OIL PRESS	OIL TEMP	
1										I.A.S
2										
1										PRESS. ALT.
2										

ENGINE TREND MONITORING CHECK										
										O.A.T
NO.	NP/%RPM	%N2	ITT/TIT/EGT	%N1	HP/TORQUE	FUEL PRESS	FUEL FLOW	OIL PRESS	OIL TEMP	
1										I.A.S
2										
1										PRESS. ALT.
2										

ENGINE TREND MONITORING CHECK										
										O.A.T
NO.	NP/%RPM	%N2	ITT/TIT/EGT	%N1	HP/TORQUE	FUEL PRESS	FUEL FLOW	OIL PRESS	OIL TEMP	
1										I.A.S
2										
1										PRESS. ALT.
2										

VN Form 4100-10 (09/00) Electronic Document

CHAPTER IV
*** SECTION 17**
RESERVED

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CHAPTER IV. FORMS

*18. MATERIAL REQUIREMENTS LIST, VN FORM 4100-11-1

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-11-1

Block Date: Enter date.

Block Page of : Enter page number.

Block Aircraft/Equipment Type: Enter aircraft or equipment.

Block N-: Enter aircraft N number.

Block Type Inspection: Enter type of inspection.

Block EO #: Enter EO number.

Block Start Date: Enter start date.

Block Originator: Enter document author.

Block Phone: Enter telephone number or originator.

Block Routing: Enter routing symbol of originator.

Block Cost Center: Enter cost center.

Block Job #: Enter job number.

Block Finish Date: Enter projected completion date.

Block Item: Enter sequence number.

Block Federal Stock Number: Enter federal stock number.

Block Manufacturer/Part Number: Enter vending and part number.

Block Nomenclature: Enter description of item.

Block Unit of Issue: Enter unit of issue.

Block Req. Qty.: Enter number of items required.

Block Task Card Number: Enter related task card number.

Block Reference Number: Enter purchase request and/or purchase order number.

Block Qty Available for Issue: Enter number of items on hand.

Block Received by (Signature): Signature of individual who received item.

B. MATERIAL REQUIREMENTS LIST, VN FORM 4100-11-1

MATERIAL REQUIREMENTS LIST

Date: _____ Page ___ of ___

Aircraft/Equip Type: _____ N- ___ Type Inspection: _____ EO #. _____ Start Date: _____

Originator: _____ Phone: _____ Routing: _____ Cost Center: _____ Job #. _____ Finish Date: _____

Item #	Federal Stock Number	Manufacturer Part Number	Nomenclature	Unit of Issue	Req Qty	Task Card Number	Reference Number	Qty Available for Issue	Received by (Signature)

VN Form 4100-11-1 (02/01) Electronic Version

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CHAPTER IV. FORMS

***19. AVN QUALIFICATION OF OPERATOR FOR POWERED INDUSTRIAL TRUCKS AND/OR SPECIAL PURPOSE EQUIPMENT, VN FORM 4100-12**

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-12

All blocks are self-explanatory.

B. AVN QUALIFICATION OF OPERATOR FOR POWERED INDUSTRIAL TRUCKS AND/OR SPECIAL PURPOSE EQUIPMENT, VN FORM 4100-12

AVN

Qualification of Operator for Powered Industrial Trucks and/or Special Purpose Equipment

This is to certify_____AVN-_____ was tested by an AVN Road Examiner and has qualified in the operation of the equipment listed below.

Type of Equipment (Specify tonnage, type of power, gas/electric)	**Signature of Examiner**	**Date**

Supervisor's Signature _____

VN Form 4100-12 (09/00) Electronic Document

CHAPTER IV
*** SECTIONS 20-25**
RESERVED

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CHAPTER IV. FORMS

26. ONE TIME AIRWORTHINESS RELEASE FOR EMERGENCY MAINTENANCE PERFORMED OUTSIDE OF FAA, VN FORM 4100-17

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-17

All blocks are self-explanatory.

*B. DISPOSITION OF FORM

The form shall be attached to the affected logbook page, as referenced by date, and shall be maintained as part of the permanent aircraft records.

*C. ONE TIME AIRWORTHINESS RELEASE FOR EMERGENCY MAINTENANCE PERFORMED OUTSIDE OF FAA, VN FORM 4100-17

ONE TIME AIRWORTHINESS RELEASE FOR EMERGENCY MAINTENANCE PERFORMED OUTSIDE OF FAA

Control Number

In accordance with FAR 135, no certificate holder may operate an aircraft after maintenance, preventive maintenance, or alteration without an airworthiness release of an appropriate entry in the aircraft log.

This form, when completed and signed, will grant authority for the person identified below to perform a one-time airworthiness release for N- ___ .

NAME _____ A&P No.

REPAIR STATION No.

DATE _____ LOCATION

General description of maintenance, preventive maintenance, or alteration performed:

_____
_____
_____

Requirements for one-time airworthiness release:

1. **Must have valid A&P certificate or be a certificated repairman except that a certificated repairman may sign the release or entry only for the work for which he is certificated.**
2. **Demonstrate a thorough knowledge of the aircraft system which will be worked and released to service.**
3. **Must perform an airworthiness release in accordance with FAA General Maintenance Manual, Chapter/Section III.25.**
4. **Must remove all blue and white pages of the aircraft log, up to and including the last incoming page and the current airworthiness release; transcribe the time and landings and mail all copies in a preaddressed envelope provided by the PIC.**

Maintenance Supervisor Authorizing

Print/Type Name

Signature _____

Date _____

VN Form 4100-17 (09/00) Electronic Version

CHAPTER IV. FORMS

*27. WORK ORDER FORM (ELECTRONIC DATABASE), VN FORM 4100-18

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-18

All blocks are self-explanatory.

*B. WORK ORDER FORM (ELECTRONIC DATABASE), VN FORM 4100-18

DATE:_____

WORK ORDER FORM

CAL DUE:

ASSET NUMBER:

MFG:

MODEL:

DESCRIPTION:

SERIAL NUMBER:

TI NUMBER:

WORK ORDER #_____

INTERVAL TYPE:

INTERVAL:

CALIBRATED BY:_____

DATE ISSUED: _____

LOCATION:

TEMP LOC:

TO BE RETURNED TO:

CAL REMARKS

STANDARDS

REPAIR REMARKS

COST ACCOUNT_____

PRINTED ON 03/28/2002

VN Form 4100-18 (09/00)

Computer Generated (METRACK)

CHAPTER IV. FORMS

*28. SHIPPING REQUEST (ELECTRONIC DATABASE), VN FORM 4100-18-1

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-18-1

*All blocks are filled per the electronic database system.

*B. SHIPPING REQUEST (ELECTRONIC DATABASE), VN FORM 4100-18-1

SHIPPING REQUEST

DESTINATION	
MARK FOR	
PRIORITY	
DESCRIPTION	
PART/MODEL NUMBER	
SERIAL NUMBER	
MANUFACTURER	
FED STOCK NUMBER	
ASSET NUMBER	
BAR CODE	

REQUESTED BY_____EXT._____DATE_____

VN Form 4100-18-1 (09/00)

Computer Generated (METRACK)

* CHAPTER IV
SECTION 29
RESERVED

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CHAPTER IV. FORMS

*30. COMPASS CORRECTION CARD, VN FORM 4100-20

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-20

All blocks are self-explanatory.

B. COMPASS CORRECTION CARD, VN FORM 4100-20

COMPASS CORRECTION CARD

N- ___ DATE: _____ BASE: _____ COMPASS _____
TECH: _____

	COMPENSATING SWING			RESIDUAL SWING		
	ACTUAL HDG	ACRFT COMP	DEV'N	ACTUAL HDG	ACRFT COMP	
000						
030						
060						
090						
120						
150						
180						
210						
240						
270						
300						
330						

VN Form 4100-20 (12/00) Electronic Version Part A

N- ___ DATE _____

TO FLY	RADIOS OFF STEER	RADIOS ON STEER
000		
030		
060		
090		
120		
150		
180		
210		
240		
270		
300		
330		

WINDSHIELD HEAT CAUSES DEVIATIONS REATER THAN 10 DEGREES ON ALL HEADINGS

VN Form 4100-20 (12/00) Part B

CHAPTER IV. FORMS

*31. WEIGHT AND BALANCE CHANGE, VN FORM 4100-20-1

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-20-1

Block N: Enter aircraft "N" number.

Block Make/Model: Enter make and model of aircraft.

Block Date: Enter date.

Block Reason for Change: State reason for change.

Block Previous Aircraft Empty Weight/Arm/Moment: Enter previous aircraft weight, arm and moment.

Block On: Check if newly installed item.

Block Off: Check if item removed.

Block Weight: Enter item weight.

Block Arm: Enter item arm.

Block Moment: Enter item moment.

Block Equipment List Rev. Yes/N/A: Enter "yes" if aircraft equipment list has been updated and "N/A" for not applicable.

Block Equipment List Rev. INSP: Inspection will affix stamp or signature per line item.

Block Current Aircraft Empty Weight and Balance Data WEIGHT: Enter aircraft's new weight.

Block Current Aircraft Empty Weight and Balance Data C.G.: Enter aircraft's new C.G.

Block Current Aircraft Empty Weight and Balance Data MOMENT: Enter aircraft's new moment.

Block New Empty % of M.A.C.: Enter new empty weight percent of M.A.C.

Block New Useful Load: Enter new useful load.

Enter Block Max. Allowable Gross WT: new maximum allowable gross weight.

Block C.G. Range (_____) to (_____): Enter C.G. range.

Block % of M.A.C. Range (_____) to (_____): Enter percent of M.A.C.

Block Computed By: Individual accomplished computation.

Block A & P No.: Enter A & P Number

Block Routing Symbol: Enter routing symbol.

Block Checked By: Enter signature and routing symbol of inspector.

B. WEIGHT AND BALANCE CHANGE, VN FORM 4100-20-1

WEIGHT AND BALANCE CHANGE

N-	MAKE/MODEL:	Date:

Reason for Change:

***Previous empty data taken from** _____.

Dated:

ITEM(S) INSTALLED OR REMOVED			WEIGHT	ARM	MOMENT	Equip List Rev.	
ON	OFF	*PREVIOUS AIRCRAFT EMPTY				Yes / N/A	INSP
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						
☐	☐						

Current aircraft empty weight and balance data	WEIGHT	C.G.	MOMENT

NEW EMPTY % OF M.A.C. _____
NEW USEFUL LOAD _____
MAX. ALLOWABLE GROSS WT _____
C.G. RANGE (_____ **) TO (** _____ **)**
% OF M.A.C. RANGE (_____ **) TO (** _____ **)**

COMPUTED BY _____
A & P NO. _____
ROUTING SYMBOL _____
CHECKED BY _____

VN Form 4100-20-1 (01/01) Electronic Version

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CHAPTER IV. FORMS

*32. AUTHORIZATION REQUEST, VN FORM 4100-21

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-21

Block 1: Check appropriate space.

Block 2: Check appropriate space.

Block 3. Name: Enter employee name.

Block 3. Date: Enter date.

Block 3. Certificate No.: Enter FAA Airman or Repairman certificate number.

Block 3. Stamp No.: Enter employee stamp number.

Block 3. Position Title: Enter employee position title.

Block 3. I have reviewed the qualification and find the employee is qualified to perform the following: List qualified items.

Block 3. Request by: Requesting official.

Block 3. Title: Title of requesting official.

Block 3. Facility: Enter facility of application

Block 4. Approving Official Print/Type Name: Print or type name.

Block 4. Signature: Signature of approving official.

Block 4. Approval Date: Date of approval.

B. * AUTHORIZATION REQUEST, VN FORM 4100-21

AUTHORIZATION REQUEST

1. **[Check Appropriate Space(s)]**

A.	Inspection Authority on Task Cards	☐	G.	Repair Station Roster	☐
B.	Required Inspection Item (RII)	☐	H.	Airworthiness Release	☐
C.	Airworthiness Release (QC)	☐	I.	Maintenance Release (Repair Station)	☐
D.	Receiving Inspection	☐	J.	OJT Instructor	☐
E.	Nondestructive Testing	☐	T.	Engine Run & Taxi	☐
F.	Welding	☐			

2. **[Check Appropriate Space(s)]**

	Aircraft Towing	Aircraft Taxi	Engine Run
Challenger	☐	☐	☐
BAe-125	☐	☐	☐
Learjet 60	☐	☐	☐
Beechcraft	☐	☐	☐

3.

Name: _____ **Date:** _____

Certificate No. _____ **Stamp No.:** _____

Position Title: _____

I have reviewed the qualification and find the employee is qualified to perform the following:

_____

_____

_____

Requested by: _____

Title: _____ **Facility:** _____

4.

Approving Official

Print/Type Name: _____ **Signature:** _____

Approval Date: _____

One copy to employee and the original to employee's supervising office.

VN Form 4100-21 (05/03)) Electronic Version

CHAPTER IV. FORMS

*33. CANNIBALIZATION RECORD, VN FORM 4100-22

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-22

Block Date: Enter date.

Block Time: Enter time.

Block Replacement Parts Requisition No.: Enter appropriate tracking number.

Block Part Required P/N: Enter removed part number.

Block Part Required Nomenclature: Enter name of item removed.

Block Part Required FSN: Enter Federal Stock Number of item removed.

Block Part Required: For N-No.: Enter aircraft N Number.

Block Part Required For: ACFT Make and Model: Enter aircraft make and model number.

Block Part Required for: Organization: Enter organization of assigned aircraft.

Block Cannibalized From: ACFT N-No.: Enter aircraft N Number.

Block Cannibalized From Serial No. Part: Enter serial number of part removed.

Block Cannibalized From Eng. Serial No.: Enter engine serial number.

Block Cannibalized From Total Time on Aircraft or Part When it was Removed: Enter total time on aircraft or part when removed.

Block Cannibalized From: Eng. Type/Model: Enter engine type or model.

Block Requested By: Requesting technician will enter signature and routing symbol.

Block Authorized By: Authorizing official will enter signature and routing symbol.

B. CANNIBALIZATION RECORD, VN FORM 4100-22

CANNIBALIZATION RECORD

DATE _____ TIME _____

REPLACEMENT PART REQUISITION NO. _____

PART REQUIRED:

P/N _____

NOMENCLATURE _____

FSN _____

PART REQUIRED FOR:

ACFT N-NO. _____

ACFT MAKE/MODEL_____

ORGANIZATION _____

CANNIBALIZED FROM:

ACFT N-NO. _____

S/N OF PART _____

ENG. SERIAL NO. _____

TOTAL TIME ON AIRCRAFT OR PART WHEN IT WAS REMOVED _____

ENG. TYPE/MODEL _____ _____

REQUESTED BY: _____
NAME OF TECHNICIAN & ROUTING SYMBOL

AUTHORIZED BY: _____
SIGNATURE OF APPROVING OFFICIAL & ROUTING SYMBOL

VN Form 4100-22 (09/00) Electronic Version

CHAPTER IV. FORMS

*34. STANDBY COMPASS CARDS, VN FORM 4100-23

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-23

All blocks are self-explanatory.

B. STANDBY COMPASS CARD, VN FORM 4100-23

Standby Compass Card – Challenger

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

For	000	030	060	090	120	150	180	210	240	270	300	330
Steer												

Date _____ Standby Compass S/N _____ A/C S/N _____

VN Form 4100-23 (09/00) Electronic Version

CHAPTER IV. FORMS

*35. FUEL SERVICE SURVEILLANCE CHECKLIST, VN FORM 4100-24

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-24

All blocks are self-explanatory.

B. FUEL SERVICE SURVEILLANCE CHECKLIST, VN FORM 4100-24

FUEL SERVICE SURVEILLANCE CHECKLIST

SURVEILLANCE INSPECTION	TRUCK NUMBER	NAME OF OPERATOR

N NUMBER OF FUELED AIRCRAFT	DATE INSPECTED	TIME

INSPECTORS NAME	SIGNATURE

	THIS INSPECTION WILL BE PERFORMED WHEN AN AIRCRAFT REFUELING OPERATION IS BEING ACCOMPLISHED. REF. GMM 4100.24 CHAPTER VI.	N/A	YES	NO	REMARKS
1.	Availability of GMM?	☐	☐	☐	
2.	Compliance with the applicable Aircraft Flight Manual (AFM)?	☐	☐	☐	
3.	Contractor training requirements.	☐	☐	☐	
4.	Inspection of fire extinguishers. (Two each required)	☐	☐	☐	
5.	Check fuel markings	☐	☐	☐	
6.	Inspection of grounding clips, wires, and bonds.	☐	☐	☐	
7.	Inspection of emergency shutdown devices for proper function.	☐	☐	☐	
8.	Inspection of fueling hoses and nozzles for condition.	☐	☐	☐	
9.	Inspection of fueling vehicle for general condition	☐	☐	☐	
10.	Inspection of fueling valves and handles for proper operation.	☐	☐	☐	
11.	Inspections of fueling vehicles exhaust system for leakage and proper spark arrestor	☐	☐	☐	
12.	Fuel truck positioned IAW GMM Procedures?	☐	☐	☐	
13.	Static line connected?	☐	☐	☐	
14.	Filter differential pressure (not exceed 15 PSI). NOTE: For single point servicing only.	☐	☐	☐	
15.	Verification that Millipore checks is being performed. (Required Monthly)	☐	☐	☐	

Record the following:

16. Date water drains were last checked? (Required daily prior to fueling)
17. Flow meter calibration date? (Required annually)
18. Filter changed date? (Required annually)
19. Fuel Type?

Document surveillance inspection and, if discrepancies exist, provide the contractor with a written report. NOTE: This Checklist may be used in conjunction with the Continuing Analysis and Surveillance Program	COMMENTS

VN Form 4100-24 (09/00) Electronic Version

CHAPTER IV. FORMS

*36. SPECIAL FLIGHT PERMIT, VN FORM 4100-25

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-25

All blocks are self-explanatory.

B. SPECIAL FLIGHT PERMIT, VN FORM 4100-25

SPECIAL FLIGHT PERMIT

(This authorization must be attached to VN Form 4100-8, Aircraft Flight Log.)

*This Permit, dated _____ , for CONUS ☐ or International ☐ ferry flight of

__Make__ , __Model__ , N-No , Serial No. is authorized

VFR☐ / IFR☐ (Check One) Day☐ / Night☐ (Check One) , from Departure to Destination via _____.

Reason Aircraft does not meet Airworthiness Requirements:

_____

_____

*ATA CODE: _____

The following Operating Limitations apply:

1. Carrying of persons other than flight crew and authorized personnel.
   NOTE: AVN-320 will determine when additional crew members or other authorized persons may be carried aboard the aircraft when operating under the provision of a special flight permit. This determination will be based on the aircraft flight characteristics not having been appreciably changed or its operation in flight substantially affected.

   ☐ No Crew/Passenger restrictions apply.

   ☐ Crew/Passenger restrictions apply. (See Item 7)

2. The flight shall be conducted to avoid congested areas.

3. The flight is not authorized unless a certificated A/P mechanic or appropriately rated repair station has certified in the aircraft records that the aircraft has been inspected and found safe for the intended flight.

4. Landing Gear Operation: ☐ Normal ☐ Extended

5. Flap Operations: ☐ Normal ☐ Retracted

6. Airspeed Limits: ☐ Normal ___ MPH

7. Additional Limitations:

   _____

   _____

8. Any Airworthiness Directive pertinent to this make and model aircraft requiring accomplishment before further flight must be complied with before ferry flight is initiated. This is not applicable to an appliance if the aircraft can be safely operated without the item. The appliance must be rendered inoperative for flight and be so placarded.

Authorization expires upon arrival at destination or _____ (date).

*Note: AVN-200 will provide AVN-300 with additional operational flight restrictions and limitations for international flights.

Date of Issuance 03/21/2002 Signature _____
Quality Assurance Approval, AVN-320

VN Form 4100-25 (09/00) Electronic Version

CHAPTER IV. FORMS

*37. MASTER NON ROUTINE INDEX, VN FORM 4100-27

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-27

Block N-: Enter "N" number of aircraft.

Block Serial #: Enter aircraft serial number.

Block Page __ of __: Enter page number.

Block Area: Enter location of work.

Block Start Date: Enter start date.

Block End Date: Enter scheduled end date.

Block CSN: Enter consecutive sequence number.

Block Skill: Enter skill.

Block Description: Enter description of work.

Block Card Comp.: Enter signature or stamp of technician completing item.

B. MASTER NON ROUTINE INDEX, VN FORM 4100-27

MASTER NON ROUTINE INDEX

Page ____ of ____

N- ___ Serial # _____ Type of Project: _____

Start Date: _____

Area _____ End Date: _____

CSN	SKILL	DESCRIPTION	CARD COMP

VN Form 4100-27 (12/00) Electronic Version

CHAPTER IV. FORMS

*38. TRAINING FILE CONTROL SHEET, VN FORM 4100-28

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-28

All blocks are self-explanatory.

B. * TRAINING FILE CONTROL SHEET, VN FORM 4100-28

TRAINING FILE CONTROL SHEET

Course: _____

Organization: _____

Dates: _____

Vendor Phone: _____

Vendor(s): _____

Vendor Fax: _____

Vendor E-mail: _____

Vendor Point of Contact: _____

1 ☐ Branch Identify Employees and send to Technical Training Coordinator, AVN-303:

2. ☐ Prepare Needs Assessment

3. ☐ Initiate Procurement Request

4. ☐ Certify Funds thru AVN-303

- ☐ Update Shared Spreadsheet
- ☐ Update 303's PR Report
- ☐ Budget Reports
- ☐ Update 303's Enroll Employee(s)

5. ☐ Prepare Training Packet

6. ☐ Forward packet to Training Official for signature.

7. ☐ Technical Training Coordinator forwards packet to Branch Manager.

Notes:

VN Form 4100-28 (04/03) Electronic Version

CHAPTER IV. FORMS

*39. TRAINING NEEDS ASSESSMENT FORM, VN 4100-29

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-29

All blocks are self-explanatory.

B. TRAINING NEEDS ASSESSMENT FORM, VN 4100-29

TRAINING NEEDS ASSESSMENT FORM

I hereby verify that the course in which the below-listed employee will be participating is based on a needs assessment which determined that this training is required to accomplish the program objectives and mission of the division and the agency.

Course Title: _____

Date of Course: _____

Student(s) Name: _____

_____

_____

_____

_____

_____ Manager

_____ Office

VN Form 4100-29 (10/00) Electronic Version

CHAPTER IV
SECTIONS 40 THRU 41
RESERVED

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CHAPTER IV. FORMS

*42. AVN-328 INSPECTION CARD/PROGRAM CHANGE, VN FORM 4100-32

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-32

All blocks are self-explanatory.

B. AVN-328 INSPECTION CARD/PROGRAM CHANGE, VN FORM 4100-32

AVN-328 INSPECTION CARD/PROGRAM CHANGE

Project No. Supr

AIRCRAFT TYPE				AIRCRAFT CODE	REFERENCE				NAME				
UPDT COM PDF V	CK	CARD NO.	CARD DATE	'N' NO.	CARD TITLE	CARD ACTION	FREQ (i.e. M/H AS REQ'D)	AMIS CHANGE	NO. MEN	MAN HRS	DATE ENTERED IN AMIS

___ MAKE "pdf" copy of each card.
___ COPY "doc" & ".pdf" from bi-monthly working folder to appropriate v:\avn328\WebTaskCards "CHECK" folder.
___ Update combined ".pdf"(See instructions) in v:\avn328\WebTaskCards "CHECK" folder.

Init._____ Date ___/___/___

New cards, card title changes, and card deletions must be changed in INAIR.

Init._____ Date ___/___/___

New cards, deletions, title changes, & frequency changes require an update to u:\avn328\Task Card Index\Task Card Index.xls.

Init._____ Date ___/___/___

VN Form 4100-32 (10/00) Electronic Version

CHAPTER IV. FORMS

*43. PERSONNEL QUALIFICATION RECORD, VN FORM 4100-33

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-33

All blocks are self-explanatory.

B. PERSONNEL QUALIFICATION RECORD, VN FORM 4100-33

PERSONNEL QUALIFICATION RECORD

Name: _____ Location: _____

Employee No.: _____ Date Employed: _____

Date: _____ Grade Completed: _____

Record of Training and Certifications:	Composite Score:	Date:

VN Form 4100-33 (10/00) Electronic Version

CHAPTER IV. FORMS

*44. MAINTENANCE REVIEW BOARD (MRB) ACTION, VN FORM 4100-34

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-34

All blocks are self-explanatory.

B. MAINTENANCE REVIEW BOARD (MRB) ACTION, VN FORM 4100-34

*

MRB No. _____

MAINTENANCE REVIEW BOARD (MRB) ACTION

In accordance with TI 4100.24, the following is submitted for MRB review/action. Choose one of the following categories listed below which fits the appropriate action.

- ☐ 1. Change maintenance inspection program, interval, maintenance process, and/or work content specification and areas of concern.
- ☐ 2. Modifications/alterations.
- ☐ 3. Incorporate AD(s)/Service Bulletin(s).
- ☐ 4. On Condition/hard time/overhaul times or limit and repair frequency.
- ☐ 5. Other.

REQUESTED BY: _____

SUBJECT:

_____

_____

_____

DISCUSSION:

_____

_____

_____

RESULT OF ANALYSIS:

_____

_____

_____

FOLLOW-UP ACTION:

_____

_____

_____

	CONCUR	NON-CONCUR	DATE	COMMENTS PROVIDED Yes	No
Chairperson, Div. Mgr./Dir. of Maint., AVN-300				☐	☐
Co-Chairperson, Asst. Div. Mgr., AVN-301				☐	☐
Member, Mgr., Line Station Br., AVN-310				☐	☐
Member, Mgr., Qlty. Assur. Br., AVN-320				☐	☐
Member, Mgr., Base Maint. Br., AVN-330				☐	☐
Member, Mgr., Engineering Br., AVN-340				☐	☐

Prepared by: Date: *Comments must be documented and attached to MRB form

VN Form 4100-34 (03/03) Electronic Version

CHAPTER IV. FORMS

*45. MAINTENANCE REVIEW BOARD COMPLIANCE FORM (MRBCF), VN FORM 4100-35

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-35

All blocks are self-explanatory.

B. MAINTENANCE REVIEW BOARD COMPLIANCE FORM (MRBCF), VN FORM 4100-35

MRB NO: _____

MAINTENANCE REVIEW BOARD COMPLIANCE FORM (MRBCF)

SUBJECT:

ACTION TO BE ACCOMPLISHED:

Please complete the required action and forward this form to the next branch for further action.

COMPLETED ACTION:

☐ AVN-310 SIGNATURE _____ DATE _____

☐ AVN-320 SIGNATURE _____ DATE _____

☐ AVN-328 SIGNATURE _____ DATE _____

☐ AVN-330 SIGNATURE _____ DATE _____

☐ AVN-340 SIGNATURE _____ DATE _____

☐ OTHER SIGNATURE _____ DATE _____

COMMENTS:

_____

_____

_____

_____

_____

_____

RETURN THIS FORM TO AVN-320 BY _____
DATE

VN Form 4100-35 (09/00) Electronic Version

CHAPTER IV. FORMS

*46. UNSCHEDULED ENGINE/PROPELLER REMOVAL REPORT, VN FORM 4100-37

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-37

All blocks are self-explanatory.

B. UNSCHEDULED ENGINE/PROPELLER REMOVAL REPORT, VN FORM 4100-37

UNSCHEDULED ENGINE/PROPELLER REMOVAL REPORT

Prepared By:	Date:	Fiscal Year:	Location:	Dept:
Reviewed By:	Date:	Objective/Project:		

				Q1			Q2			Q3			Q4		
No.	Unit S/N	Aircraft	Discrepancy	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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VN Form 4100-37 (12/00) Electronic Version

CHAPTER IV. FORMS

*47. EQUIPMENT QUALIFICATIONS, VN FORM 4100-38

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-38

All blocks are self-explanatory.

B. EQUIPMENT QUALIFICATIONS, VN FORM 4100-38

EQUIPMENT QUALIFICATIONS

NAME:		ROUTING SYMBOL:	
METHOD	**EQUIPMENT**	**LEVEL III EXAMINER**	**DATE**

VN Form 4100-38 (10/00) Electronic Version

CHAPTER IV. FORMS

*48. DATA COLLECTION ANALYSIS, VN FORM 4100-39

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-39

All blocks are self-explanatory.

B. DATA COLLECTION ANALYSIS, VN FORM 4100-39

DATA COLLECTION ANALYSIS

MRB No. _____ **Date:** ___

Pilot Reports:

Delays and Cancellations:

Engine Performance Trend Monitoring:

Engine Shutdowns:

Unscheduled Engine/Prop Removals:

Non-Routine Work Forms:

Manufacturer and Operator Statistical/Analytical Data:

Analysis of Structural Irregularity History:

VN Form 4100-39 (11/00) Electronic Version

CHAPTER IV. FORMS

*49. SERVICE PUBLICATION EVALUATION/COMPLIANCE, VN FORM 4100-41

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-41

All blocks are self-explanatory.

B. SERVICE PUBLICATION EVALUATION/COMPLIANCE, VN FORM 4100-41

SERVICE PUBLICATION EVALUATION/COMPLIANCE

Date: 3/25/02

Document Number:

Aircraft Model:

N Number Effectivity:

Title:

Requires Maintenance Review Board Action: **Yes** ☐ **No** ☐

Estimated Employee Hours Required to Perform Task:

Suggested Maintenance Record Entry:

Approved: _____ **Date:** _____
Manager, AVN-330

Disapproved: _____ **Date:** _____
Manager, AVN-330

Comments:

VN Form 4100-41 (11/00) Electronic Version

CHAPTER IV. FORMS

*50. SERVICE PUBLICATION COMPLIANCE, VN FORM 4100-41-1

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-41-1

All blocks are self-explanatory.

B. SERVICE PUBLICATION COMPLIANCE, VN FORM 4100-41-1

SERVICE PUBLICATION COMPLIANCE

Date:

Document Number:

Aircraft Model:

Aircraft Registration Number:

Aircraft Serial Number:

'N' Number Effectivity:

Reference:

Title:

Perform the attached publication, and enter the following maintenance record statement:

_____

_____

_____

_____

_____

Maintenance Record Entry Made By: _____ Date: _____

Record Page No. _____

Aircraft Total Time: _____ Total Landings: _____

Comments:

_____

_____

_____

_____

VN Form 4100-41-1 (11/00) Electronic Version

CHAPTER IV. FORMS

*51. SERVICE PUBLICATION ENTRY, VN FORM 4100-42

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-42

All blocks are self-explanatory.

B. SERVICE PUBLICATION ENTRY, VN FORM 4100-42

SERVICE PUBLICATION ENTRY

Date:

Document Number:

Title:

Model:

Manufacturer:

Effectivity:

Cross Reference:

Task Hours:

Requires RII: **Yes** ☐ **No** ☐

Requires 337: **Yes** ☐ **No** ☐

Applicable: **Yes** ☐ **No** ☐

Lead Inspector Initials: _____

Comments:

_____

_____

_____

_____

_____

Date Evaluated: _____

VN Form 4100-42 (11/00) Electronic Version

CHAPTER IV. FORMS

*52. ENGINE SERVICE BULLETIN EVALUATION/COMPLIANCE, VN FORM 4100-43

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-43

All blocks are self-explanatory.

B. ENGINE SERVICE BULLETIN EVALUATION/COMPLIANCE, VN FORM 4100-43

ENGINE SERVICE PUBLICATION EVALUATION/COMPLIANCE

Date:

Document Number:

Engine Type:

Engine Serial Number Effectivity:

Title:

Estimated Employee Hours Required to Perform Task:

Suggested Maintenance Record Entry:

Approve: _____ **Date:** _____
Manager, AVN-330

Disapprove: _____ **Date:** _____
Manager, AVN-330

Comments:

VN Form 4100-43 (11/00) Electronic Version

CHAPTER IV. FORMS

*53. APPLIANCE SERVICE PUBLICATION EVALUATION/COMPLIANCE, VN FORM 4100-44

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-44

All blocks are self-explanatory.

B. APPLIANCE SERVICE PUBLICATION EVALUATION/COMPLIANCE, VN FORM 4100-44

APPLIANCE SERVICE PUBLICATION EVALUATION/COMPLIANCE

Date:

Document Number:

System Description:

Part Number:

Reference:

Serial Number Effectivity:

Title:

Suggested Maintenance Record Entry:

Approved: _____ Date: _____

Disapproved: _____ Date: _____

Comments: _____

VN Form 4100-44 (11/00) Electronic Version

CHAPTER IV. FORMS

*54. ENGINEERING ORDER CONTROL FORM, VN FORM 4100-45

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-45

All blocks are self-explanatory.

B. ENGINEERING ORDER CONTROL FORM, VN FORM 4100-45

ENGINEERING ORDER CONTROL FORM

N-	DATE	CSN	WORK ORDER NO.

ITEM No.	E.O. No. _____ PRELIMINARY ☐ INSPECTION ☐ FINAL (CLEAN) ☐ NOTE: AFTER COMPLETION OF EO, ACCOMPLISH THE FOLLOWING APPLICABLE ITEMS N/A THOSE ITEMS NOT APPLICABLE FOR THIS EO	TECH	INSP
1.	ALL ITEMS ON EO COMPLETED AND SIGNED OFF.	T	I
2.	IF EO IS PRELIMINARY, ENSURE ALL PRELIMINARY EO LINE ENTRY CHANGES ARE COORDINATED WITH ENGINEERING. (GET NAME OF ENGINEER).	T	I
3.	PERFORM A CONFORMITY INSPECTION.		I
4.	COMPLETE THE INSPECTION COPY.		I
5.	UPDATE THE EQUIPMENT LIST.		I
6.	COMPLETE VN FORM 4100-20-1, WEIGHT & BALANCE CHANGE.		I
7.	IF A FLIGHT TEST IS REQUIRED, MAKE AN AIRCRAFT LOG ENTRY.		I
8.	COMPLETE A FAA FORM 337 FOR MAJOR ALTERATIONS	T	I
9.	ENSURE A FINAL CLEAN COPY IS RECEIVED FROM ENGINEERING. FORWARD EO PACKAGE TO PRODUCTION CONTROL.	T	I
10.	ENSURE AN AIRCRAFT LOG ENTRY REFLECTING EO COMPLIANCE. LIST EACH EO BY NUMBER.	T	I

VN Form 4100-45 (02/01) Electronic Version

CHAPTER IV. FORMS

*55. ALTIMETER CALIBRATION CHECKED STICKER, VN FORM 4100-47

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-47

All blocks are self-explanatory.

B. ALTIMETER CALIBRATION CHECKED STICKER, VN FORM 4100-47

ALTIMETER CALIBRATION CHECKED	
TO:	FT.
IN ACCORDANCE WITH CFR 91.411	
DATE:	
W.O. No.	

VN Form 4100-47 (01/01) Electronic Version

CHAPTER IV. FORMS

*56. NONDESTRUCTIVE TESTING CERTIFICATION RECORD, VN FORM 4100-48

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-48

All blocks are self-explanatory.

B. NONDESTRUCTIVE TESTING CERTIFICATION RECORD, VN FORM 4100-48

NONDESTRUCTIVE TESTING CERTIFICATION RECORD
REPAIR STATION No. _____

NAME:	TITLE:	SERIES/GRADE:

ROUTING SYMBOL:	A&P LICENSE:	HIGH SCHOOL:	COLLEGE:

FORMAL NDT TRAINING	HOURS	DATE COMPL	INSTRUCTOR OR SOURCE

ON-THE-JOB TRAINING	HOURS	DATE COMPL	INSTRUCTOR OR SOURCE

INITIAL QUALIFYING NDT EXPERIENCE AND EXAMINATIONS

METHOD	LEVEL	EXPERIENCE DATE	EYE EXAM DATE	GENERAL DATE	SPECIFIC DATE	PRACTICAL DATE

NDT CERTIFICATION

METHOD	LEVEL	LEVEL III EXAMINER	DATE	METHOD	LEVEL	LEVEL III EXAMINER	DATE

VN Form 4100-48 (10/00) Electronic Version

CHAPTER IV. FORMS

*57. NONDESTRUCTIVE TESTING ANNUAL RECERTIFICATION, VN FORM 4100-49

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-49

All blocks are self-explanatory.

B. NONDESTRUCTIVE TESTING ANNUAL RECERTIFICATION, VN FORM 4100-49

NONDESTRUCTIVE TESTING ANNUAL RECERTIFICATION

NAME: **ROUTING SYMBOL:**

METHOD	LEVEL	EQUIPMENT	CONTINUING SATISFACTORY PERFORMANCE	SPECIFIC EXAMINATION	PRACTICAL EXAMINATION	EYE EXAMINATION	LEVEL III EXAMINER	DATE

VN Form 4100-49 (10/00) ElectronicVersion

CHAPTER IV. FORMS

*58. NONDESTRUCTIVE TESTING LABORATORY REPORT, VN FORM 4100-50

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-50

All blocks are self-explanatory.

B. NONDESTRUCTIVE TESTING LABORATORY REPORT, VN FORM 4100-50

NONDESTRUCTIVE TESTING LABORATORY REPORT	LABORATORY CONTROL NO.	DATE
	PART NAME:	
	P/N:	S/N:

INSTRUCTIONS:

PROCEDURES — COMPLETE FOR EACH NDT PHASE USED

X-RAY		ULTRASONIC		EDDY CURRENT	
KV	MA	FREQ.	WAVE	FREQ.	X-DIAL
TFD	TIME	ANGLE	SWEEP	SENS/GAIN	Y-DIAL
ANGLE	VIEWS	PROBE	GAIN	PROBE	
FILM	FILM COUNT	STANDARD		STANDARD	
X-RAY UNIT		ULTRASONIC UNIT		EDDY CURRENT UNIT	

MAGNETIC PARTICLE	AC ☐	DC ☐	WET ☐	DRY ☐	PENETRANT	
CURRENT	BLACKLIGHT				CLEAN METHOD	BLACKLIGHT S/N
TURNS	DEMAG READING				SOAK TIME	

MAGNETIC PARTICLE UNIT	SYSTEM USED

RESULTS:

☐ ACCEPT ☐ REJECT INSPECTOR _____

FOLLOW-UP:

DATE _____ INSPECTOR _____

VN Form 4100-50 (12/00) Electronic Version

CHAPTER IV. FORMS

*59. AMPS 2000 TEST REPORT, VN FORM 4100-51

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-51

All blocks are self-explanatory.

B. AMPS 2000 TEST REPORT, VN FORM 4100-51

AMPS 2000
TEST REPORT

DATE _____ UNIT S/N _____

REASON _____ PACK S/N _____

INITIAL CHARGE: Voltage as received _____

Charge Method:

_____ URDC Test Fixture (Charge time) _____
_____ Other

INITIAL CAPACITANCE TEST: Beginning voltage _____

Capacitance test and recharge method:

_____ URDC Test Fixture
_____ Other
Time to 20 Volts _____ or Amp-Hours _____

Passed _____ (45 Min @ 6 Amp or Equivalent Amp-Hrs)
Failed _____

MAINTENANCE PERFORMED:

_____ Recondition:
Number of charge/discharge cycles _____

_____ Deep cycle (Only after reconditioning fails)

_____ Install new cells: New pack S/N _____

FINAL CAPACITANCE TEST:

Charge Method:

_____ URDC Test Fixtures

_____ CASP 2000 (Reflex)

_____ Other

Capacitance test and recharge method:

_____ URDC Test Fixture (Req'd for unit annual test)

_____ Other

Time to 20 Volts _____ or Amp-Hrs _____

ANNUAL FUNCTIONAL TEST REQUIREMENTS SATISFIED? YES ☐ NO ☐

(Was URDC. Test Fixture used for at least one discharge and charge cycle? YES ☐ NO ☐

VN Form 4100-51 (01/01) Electronic Version

CHAPTER IV. FORMS

*60. N.D.T. ACCESSORY INSPECTION REPORT, VN FORM 4100-52

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-52

All blocks are self-explanatory.

B. N.D.T ACCESSORY INSPECTION REPORT, VN FORM 4100-52

N.D.T. ACCESSORY INSPECTION REPORT

WORK ORDER #-

SERIAL NUMBER:

DATE COMPLETED:

TYPE INSPECTION:

(A) MAGNETIC PARTICLE

(B) FLUORESCENT PENETRANT

(C) EDDY CURRENT

ASSEMBLY PART NUMBER AND NOMENCLATURE

ITEM #	PART NO.	NOMENCLATURE	QTY	TYPE INSP	REJECT	ACCEPT
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐
					☐	☐

VN Form 4100-52 (01/01) Electronic Version

CHAPTER IV. FORMS

*61. COMPONENT REPAIR/OVERHAUL CHECKLIST, VN FORM 4100-53

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-53

All blocks are self-explanatory.

B. COMPONENT REPAIR/OVERHAUL CHECKLIST, VN FORM 4100-53

COMPONENT REPAIR/OVERHAUL CHECKLIST **CAUTION: ALL WORK MUST BE ACCOMPLISHED USING APPLICABLE TI MANUAL RECORD: _____**	**WORK ORDER NO.**	**DATE COMPLETED**
	COMPONENT	
	TOTAL MANHOURS	**SERIAL NO.**

TECH	INSP	WORK TO BE ACCOMPLISHED
		REASON FOR REPAIR OR OVERHAUL:
T		1. Wash/clean component prior to input for work.
T		2. Component defective as reported. ☐ YES ☐ NO ☐ NOT DEFECTIVE
T		3. Disassemble as necessary to facilitate repair or overhaul.
T		4. Clean/strip paint from component parts for detailed inspection.
	I	5. Perform NDT inspection per attached sheet (VN Form 4100-52) and TI 4151.1. Reference: _____
T		6. Perform detailed inspection of parts to ensure all parts are serviceable.
T	I	7. Repair/refinish parts as required.
T	I	8. Assemble in accordance with applicable manual to ensure all clearances and tolerances are within limits.
T	I	9. Perform necessary service in accordance with applicable manual.
T	I	10. Perform necessary testing in accordance with applicable manual.
T		11. Paint or refinish component as necessary
T		12. Clean and preserve component for extended storage.
T	I	13. Final inspection for condition, appearance, and completeness.
T	I	14. All work completed; replacement parts recorded; WORK ORDER VN Form 4100-145, completed and attached, and component prepared for shipment.
		TECHNICIAN COMPLETING WORK: _____ DATE: _____ INSPECTOR: _____ DATE _____

VN Form 4100-53 (01/02) Electronic Version

CHAPTER IV. FORMS

*62. RECEIVING INSPECTION, DIRECT SHIP AND DEPOT LOG SHEET, VN FORM 4100-54

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-54

All blocks are self-explanatory.

B. RECEIVING INSPECTION, DIRECT SHIP AND DEPOT LOG SHEET, VN FORM 4100-54

RECEIVING INSPECTION, DIRECT SHIP AND DEPOT LOG SHEET

Page _____

Date _____

P.O. NUMBER	VENDOR	NOMENCLATURE	PART NUMBER	QTY	ACPT or REJT	SERIAL NUMBERS and or REMARKS
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	
					ACPT ☐ REJT ☐	

VN Form 4100-54 (01/01) Electronic Version

CHAPTER IV. FORMS

*63. CAPACITY TEST FORM, VN FORM 4100-55

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-55

All blocks are self-explanatory.

B. CAPACITY TEST FORM, VN FORM 4100-55

CAPACITY TEST
LEAD ACID ONLY

1. TYPE: CONCORD
2. P/N: RG-390E
3. S/N: _____
4. TAIL # _____ DATE _____ WORK ORDER _____ R/O _____

FIRST TEST

START:

1. CHARGE (28.2 VOLTS) START VOLTS _____
2. CAP TEST ONE HOUR (DISCHARGE) 22 AMPS _____
   A. PASS _____ VOLTS
   B. FAIL _____ VOLTS
3. RECHARGE (14 AMPS)

SECOND TEST

START:

1. CHARGE (28.2 VOLTS) START VOLTS _____
2. CAP TEST ONE HOUR (DISCHARGE) 22 AMPS _____
   A. PASS _____ VOLTS
   B. FAIL _____ VOLTS
3. RECHARGE (14 AMPS)

REMARKS:

VN Form 4100-55 (01/01) Electronic Version

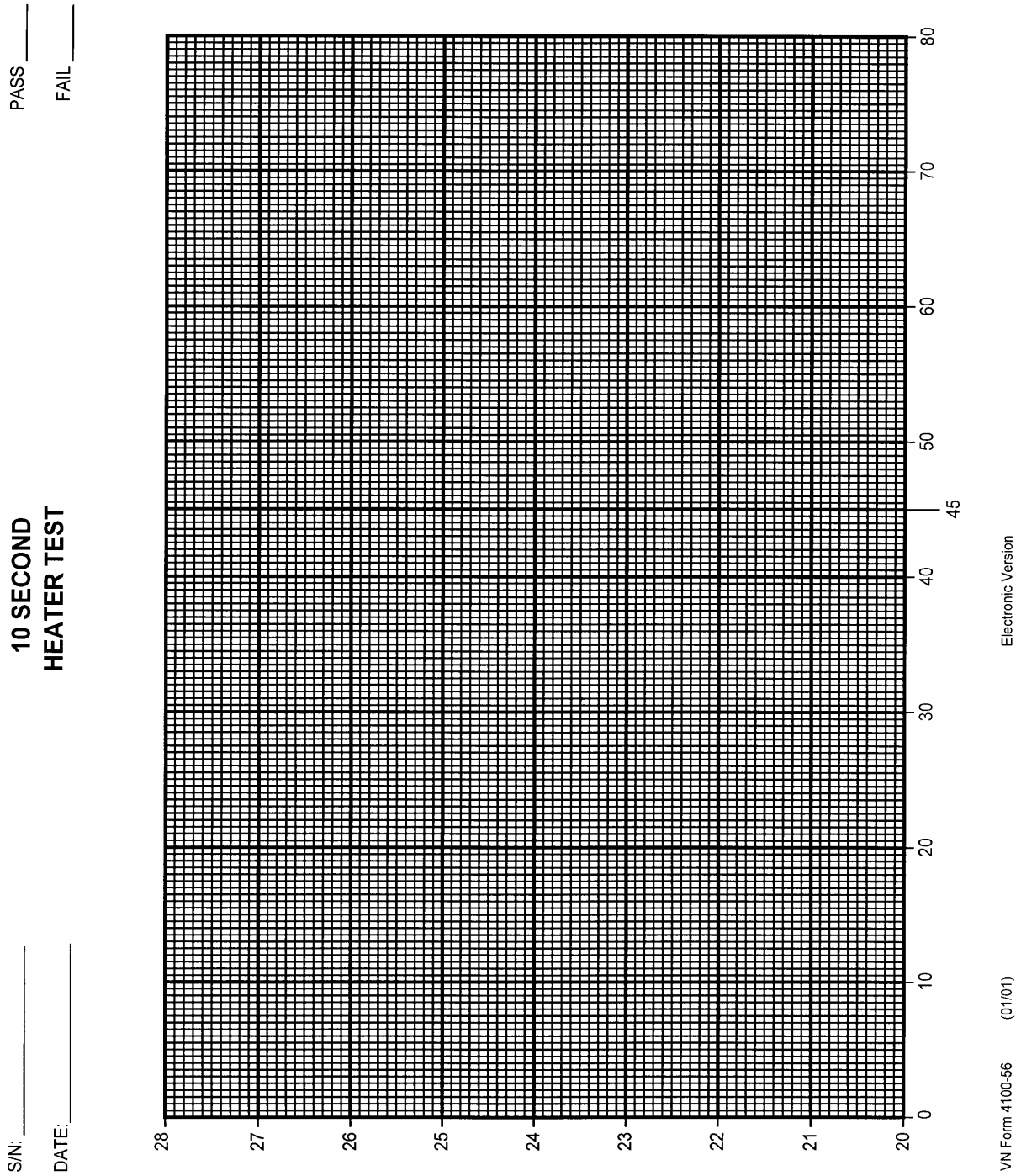
CHAPTER IV. FORMS

*64. 10 SECOND HEATER TEST, VN FORM 4100-56

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-56

All blocks are self-explanatory.

B. 10 SECOND HEATER TEST, VN FORM 4100-56



CHAPTER IV. FORMS

*65. ARR PARTS DISPOSITION FORM, VN FORM 4100-57

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-57

All blocks are self-explanatory.

B. ARR PARTS DISPOSITION FORM, VN FORM 4100-57

ARR Parts Disposition Form

☐ AVN Controlled Item ☐ AML Controlled Item

NOMENCLATURE: _____
PURCHASE ORDER: _____
ARR#: _____
REASON FOR REMOVAL: _____
_____
_____
_____
PN#: _____
NSN#: _____
AVN-328 DISPOSITION: _____
_____
_____
Signature: _____ Date: _____
For Further Information Contact: _____
Phone Number: _____

VN Form 4100-57 01/01 Electronic Version

ARR Parts Disposition Form

☐ AVN Controlled Item ☐ AML Controlled Item

NOMENCLATURE: _____
PURCHASE ORDER: _____
ARR#: _____
REASON FOR REMOVAL: _____
_____
_____
_____
PN#: _____
NSN#: _____
AVN-328 DISPOSITION: _____
_____
_____
Signature: _____ Date: _____
For Further Information Contact: _____
Phone Number: _____

VN Form 4100-57 01/01 Electronic Version

ARR Parts Disposition Form

☐ AVN Controlled Item ☐ AML Controlled Item

NOMENCLATURE: _____
PURCHASE ORDER: _____
ARR#: _____
REASON FOR REMOVAL: _____
_____
_____
_____
PN#: _____
NSN#: _____
AVN-328 DISPOSITION: _____
_____
_____
Signature: _____ Date: _____
For Further Information Contact: _____
Phone Number: _____

VN Form 4100-57 01/01 Electronic Version

ARR Parts Disposition Form

☐ AVN Controlled Item ☐ AML Controlled Item

NOMENCLATURE: _____
PURCHASE ORDER: _____
ARR#: _____
REASON FOR REMOVAL: _____
_____
_____
_____
PN#: _____
NSN#: _____
AVN-328 DISPOSITION: _____
_____
_____
Signature: _____ Date: _____
For Further Information Contact: _____
Phone Number: _____

VN Form 4100-57 01/01 Electronic Version

ARR Parts Disposition Form

☐ AVN Controlled Item ☐ AML Controlled Item

NOMENCLATURE: _____
PURCHASE ORDER: _____
ARR#: _____
REASON FOR REMOVAL: _____
_____
_____
_____
PN#: _____
NSN#: _____
AVN-328 DISPOSITION: _____
_____
_____
Signature: _____ Date: _____
For Further Information Contact: _____
Phone Number: _____

VN Form 4100-57 01/01 Electronic Version

ARR Parts Disposition Form

☐ AVN Controlled Item ☐ AML Controlled Item

NOMENCLATURE: _____
PURCHASE ORDER: _____
ARR#: _____
REASON FOR REMOVAL: _____
_____
_____
_____
PN#: _____
NSN#: _____
AVN-328 DISPOSITION: _____
_____
_____
Signature: _____ Date: _____
For Further Information Contact: _____
Phone Number: _____

VN Form 4100-57 01/01 Electronic Version

Note: Print on Yellow Paper

CHAPTER IV
*** SECTION 66**
RESERVED

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CHAPTER IV. FORMS

*67. MAINTENANCE ANALYSIS BULLETIN LOG, VN FORM 4100-59

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-59

All blocks are self-explanatory.

B. MAINTENANCE ANALYSIS BULLETIN LOG, VN FORM 4100-59

MAINTENANCE ANALYSIS BULLETIN LOG

MAB #	DATE SENT	AIRCRAFT TYPE	SUBJECT	DATE RETURNED

VN Form 4100-59 (02/01) Electronic Version

CHAPTER IV. FORMS

68. ON-THE-JOB TRAINING CERTIFICATION, VN FORM 4100-60

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-60

Block Employee: Enter employee's name.

Block Routing Symbol: Enter employee's routing symbol.

Block (DATE): Enter beginning and ending date of OJT training.

*Block Competency to Perform Task: Enter Title of Task.

Block A. Task Card Number: Enter TASK CARD number.

Block A. Type: Enter aircraft type.

Block B. ATA System: Enter ATA System.

Block B. Subsystem: Enter ATA Subsystem.

Block Type: Enter type of aircraft.

Block OJT Hours Performed: Enter number of OJT hours.

*Block Comments: Enter comments as necessary.

Block Designated OJT Instructor: Signature of OJT instructor.

Block Employee Acknowledgement: Signature of employee.

B. * ON-THE-JOB TRAINING CERTIFICATION, VN FORM 4100-60

ON-THE-JOB TRAINING CERTIFICATION

EMPLOYEE _____ **RTG SYM** _____

ON-THE-JOB TRAINING WAS RECEIVED BY THIS EMPLOYEE ON _____**(date)**_____

AND I CERTIFY THEIR COMPETENCY TO PERFORM THE FOLLOWING TASK:

_____

A. TASK CARD NUMBER _____ **ON TYPE** _____ **AIRCRAFT.**

B. ATA SYSTEM _____ **OR SUBSYSTEM** _____

ON TYPE _____ **AIRCRAFT.**

OJT HOURS PERFORMED: _____

COMMENTS:

_____
_____
_____

_____ _____
Designated O-J-T Instructor **Employee Acknowledgement**

VN Form 4100-60 (05/02) Electronic Version

CHAPTER IV. FORMS

*69. INDIVIDUAL TRAINING RECORD, VN FORM 4100-61

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-61

All blocks are self-explanatory.

B. INDIVIDUAL TRAINING RECORD, VN FORM 4100-61

INDIVIDUAL TRAINING RECORD

NAME _____

VN Form 4100-61 (11/01)(Previous versions acceptable) Electronic Version

☒ Denotes Training Received **Type of Aircraft or Job**	**21 AIR CONDITIONING**	**22 AUTOPILOT**	**23 COMMUNICATIONS**	2310 HF	2311 UHF	2312 VHF	2320 DATA TRANSMISSION (ACARSM SATCIN)	2340 INTERPHONE, PA	2350 AUDIO INTEGRATING	2360 STATIC DISCHARGING	2370 COCKPIT VOICE RECORDER	**24 ELECTRICAL POWER**	**25 EQUIP/FURNISHINGS**	**26 FIRE PROTECTION**	**27 FLIGHT CONTROL**	**28 FUEL SUPPLY**	**29 HYDRAULIC POWER**	**30 ICE/RAIN PROTECTION**	**31 INSTRUMENTS**	3120 INDEPENDENT CLOCKS, ETC.	3130 FLIGHT DATA RECORDER	3170 EPTM	**32 LANDING GEAR**	**33 LIGHTS**	**34 NAVIGATION**
BAe 125-800	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Beech A200, 300, F90, C90	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Challenger	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Learjet 60	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Army 140	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

ATA SYSTEM - SUBSYSTEM OR SKILL

VN Form 4100-61 (11/01)(Previous versions acceptable) Electronic Version Page 2 of 6

ATA SYSTEM - SUBSYSTEM OR SKILL

☒ Denotes Training Received

Type of Aircraft or Job	3410 FLIGHT ENVIRONMENT DATA	3411 PITOT/STATIC SYSTEM	3412 OUTSIDE AIR TEMP/SENSOR	3413 RATE OF CLIMB	3414 AIRSPEED/MACH INDICATING	3416 ALTIMETER/BAROMETRIC/ ENCODER	3417 AIR DATA COMPUTER	3418 STALL WARNING SYSTEM	3420 ATTITUDE & DIRECTION DATA SYSTEM	3421 ATTITUDE GYRO & IND SYSTEM	3422 DIRECTIONAL GYRO & IND SYSTEM	3423 MAGNETIC COMPASS	3424 TURN & BANK/RATE OF TURN	3425 INTEGRATED FLT DIR SYSTEM	3430 LANDING & TAXI AIDS	3431 LOCALIZER SYSTEM	3432 GLIDESLOPE SYSTEM	3433 MICROWAVE LANDING SYS.	3434 MARKER BEACON	3440 INDEPENDENT POSITION DETERMINING SYSTEM	3441 INERTIAL GUIDANCE SYSTEM	3442 WEATHER RADAR SYSTEM	3444 GPWS/RADIO ALTIMETER SYS.	3445 TCAS	3445 NON RADAR WEATHER SYS.
BAe 125-800	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Beech A200, 300, F90, C90	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Challenger	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Learjet 60	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Army 140	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

☒ Denotes Training Received

Type of Aircraft or Job	3450 DEPENDENT POSITION DETERMINING SYSTEM	3451 DME / TACAN	3452 TRANSPONDER	3453 LORAN	3454 VOR	3455 ADF	3457 GPS	3460 FLIGHT MANAGEMENT SYS.	35 OXYGEN	36 PNEUMATIC	37 VACUUM	38 WATER/WASTE	49 AIRBORNE AUXILIARY POWER	51 STRUCTURES	52 DOORS	53 FUSELAGE	54 NACELLES/PYLONS	55 STABILIZERS	56 WINDOWS	57 WINGS	61 PROPELLERS	65 ROTORS	71 POWER PLANT	72 TURBINE-PROP ENGINE (T)	72 RECIPROCATING ENGINE (R)
BAe 125-800	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Beech A200, 300, F90, C90	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Challenger	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Learjet 60	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Army 140	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

ATA SYSTEM - SUBSYSTEM OR SKILL

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☒ Denotes Training Received

ATA SYSTEM - SUBSYSTEM OR SKILL

Type of Aircraft or Job	73 ENGINE FUEL & CONTROL	75 ENGINE AIR	76 ENGINE CONTROLS	77 ENGINE INDICATING	78 ENGINE EXHAUST	79 ENGINE OIL	80 ENGINE STARTING	81 TURBINES	82 WATER INJECTION	83 ACCESSORY GEARBOXES	90 HARDWARE/MATERIALS	91 CHARTS	92 TOOLS/GROUND EQUIPMENT	93 TEST EQUIPMENT	00 FLIGHT INSPECTION	0010 SPEC ANAL, O-SCOPE, DVM	0200 FI VOR/ILS, MKR, TACAN, COMM	0300 FI RECORDERS, CONSOLE MONITOR, RMI, CDI's	0400 THEODOLITE, LASERE ALT, RTT, TVPS	0600 TAPE DR., HD, ADADS NCU, AFIS DISPLAY, K-BRD DATA LOADER	DAILY WALK AROUND SAFETY CHECK	10 DAY SERVICE CHECK-BEECH	30 DAY SAFETY CHECK	PROP BALANCING	
BAe 125-800	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Beech A200, 300, F90, C90	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Challenger	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Learjet 60	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Army 140	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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ATA SYSTEM - SUBSYSTEM OR SKILL

Type of Aircraft or Job																
BENCH CHECK		☐		☐		☐		☐		☐		☐		☐		☐
REPAIR		☐		☐		☐		☐		☐		☐		☐		☐
MODIFICATION		☐		☐		☐		☐		☐		☐		☐		☐
ESD TRAINING		☐		☐		☐		☐		☐		☐		☐		☐

☒ Denotes Training Received

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CHAPTER IV. FORMS

*70. AIRCRAFT PARTS REQUISITION, VN FORM 4100-62

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-62

All blocks are self-explanatory.

B. AIRCRAFT PARTS REQUISITION, VN FORM 4100-62

AIRCRAFT PARTS REQUISITION

Priority	Supply Support Code	P.O. No.	
Date		Job Order No.	
Mark For:		LIS Tracking No.	

National Stock Number	U/I	Quantity	Description	

Technical Data: Equipment Application	Manufacturer/Code No.	Part Number
Technical Issuance	Page	Figure
Location		

VN Form 4100-62 (03/01) Electronic Version (PDF)

CHAPTER IV. FORMS

*71. INOPERATIVE STATUS PLACARDS, VN FORM 4100-63

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-63

All blocks are self-explanatory.

B. INOPERATIVE STATUS PLACARDS, VN FORM 4100-63

INOPERATIVE
Item
ATA
Date
VN Form 4100-63 (02/01)

CHAPTER IV. FORMS

*72. REMOVED STATUS PLACARD, VN FORM 4100-64

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-64

All blocks are self-explanatory.

B. REMOVED STATUS PLACARD, VN FORM 4100-64

REMOVED
Item
ATA
Date
VN Form 4100-64 (02/01)

CHAPTER IV. FORMS

*73. RECORD OF CHANGES, VN FORM 4100-65

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-65

All blocks are self-explanatory.

B. RECORD OF CHANGES, VN FORM 4100-65

RECORD OF CHANGES

DIRECTIVE NO.

Keep your directives current. After filing revised pages and removing obsolete pages, initial and date the block following the change number. Request any missing changes from your central distribution point.

CHG. NO	INITIAL	DATE	CHG. NO.	INITIAL	DATE	CHG. NO.	INITIAL	DATE	CHG. NO.	INITIAL	DATE
1			31			61			91		
2			32			62			92		
3			33			63			93		
4			34			64			94		
5			35			65			95		
6			36			66			96		
7			37			67			97		
8			38			68			98		
9			39			69			99		
10			40			70			100		
11			41			71			101		
12			42			72			102		
13			43			73			103		
14			44			74			104		
15			45			75			105		
16			46			76			106		
17			47			77			107		
18			48			78			108		
19			49			79			109		
20			50			80			110		
21			51			81			111		
22			52			82			112		
23			53			83			113		
24			54			84			114		
25			55			85			115		
26			56			86			116		
27			57			87			117		
28			58			88			118		
29			59			89			119		
30			60			90			120		

VN Form 4100-65 (02/01) Electronic Version

CHAPTER IV. FORMS

*74. RECORD OF CHANGES - CONTINUATION SHEET, VN FORM 4100-65-1

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-65-1

All blocks are self-explanatory.

B. RECORD OF CHANGES - CONTINUATION SHEET, VN FORM 4100-65-1

RECORD OF CHANGES
NO.

DIRECTIVE

Keep your directives current. After filing revised pages and removing obsolete pages, initial and date the block following the change number. Request any missing changes from your central distribution point.

CHG. NO	INITIAL	DATE	CHG. NO.	INITIAL	DATE	CHG. NO.	INITIAL	DATE	CHG. NO.	INITIAL	DATE
121			151			181			211		
122			152			182			212		
123			153			183			213		
124			154			184			214		
125			155			185			215		
126			156			186			216		
127			157			187			217		
128			158			188			218		
129			159			189			219		
130			160			190			220		
131			161			191			221		
132			162			192			222		
133			163			193			223		
134			164			194			224		
135			165			195			225		
136			166			196			226		
137			167			197			227		
138			168			198			228		
139			169			199			229		
140			170			200			230		
141			171			201			231		
142			172			202			232		
143			173			203			233		
144			174			204			234		
145			175			205			235		
146			176			206			236		
147			177			207			237		
148			178			208			238		
149			179			209			239		
150			180			210			240		

VN Form 4100-65-1 (02/01) Electronic Version

CHAPTER IV. FORMS

*75. BATTERY, VN FORM 4100-66

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-66

All blocks are self-explanatory.

B. BATTERY, VN FORM 4100-66

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

Battery VN Form 4100-66 (02-01)
W.O.No._____
Overhaul Date_____
Deep Cycle Date_____
Charge Date_____
Charge Date_____
Charge Date_____
Install Date_____
Replace By_____
A/C Hours_____

CHAPTER IV. FORMS

*76. REQUEST FOR PART, VN FORM 4100-67

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-67

All blocks are self-explanatory.

B. REQUEST FOR PART, VN FORM 4100-67

REQUEST FOR PART

Date _____

Requester Name _____

Part Number _____

Alternate P/N _____

Description _____

Qty _____
A/C _____
Bin Location _____

Issued To: _____

Deleted from Record _____

VN Form 4100-67 (02/01)

REQUEST FOR PART

Date _____

Requester Name _____

Part Number _____

Alternate P/N _____

Description _____

Qty _____
A/C _____
Bin Location _____

Issued To: _____

Deleted from Record _____

VN Form 4100-67 (02/01)

REQUEST FOR PART

Date _____

Requester Name _____

Part Number _____

Alternate P/N _____

Description _____

Qty _____
A/C _____
Bin Location _____

Issued To: _____

Deleted from Record _____

VN Form 4100-67 (02/01)

REQUEST FOR PART

Date _____

Requester Name _____

Part Number _____

Alternate P/N _____

Description _____

Qty _____
A/C _____
Bin Location _____

Issued To: _____

Deleted from Record _____

VN Form 4100-67 (02/01)

CHAPTER IV. FORMS

*77. CREDIT CARD REQUEST, VN FORM 4100-68

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-68

All blocks are self-explanatory.

B. CREDIT CARD REQUEST, VN FORM 4100-68

CREDIT CARD REQUEST

DATE. _____

TO: _____

FROM: _____

ROUTING SYMBOL: _____

EXT: _____

MMAC/FAA
6500 S. MacArthur Blvd
AVN-333 HANGER 9 EAST
OKLAHOMA CITY, OK 73169
ATTEN:

REQUEST THE FOLLOWING ITEM(S) BE PURCHASED WITH THE USA I.M.P.A.C. CREDIT CARD.

PART NUMBER	DESCRIPTION	QTY	U/E	UNIT $	TOTAL

JUSTIFICATION: _____

SOURCE OF SUPPLY: _____

_____
SIGNATURE OF BRANCH MANAGER OR DESIGNEE

_____
SIGNATURE OF FUND CERT. OFFICER

NOTICE: WE ARE AN AGENCY OF THE FEDERAL GOVERNMENT AND THEREBY EXEMPT FROM PAYING SALES TAX. OUR EMPLOYER'S TAX IDENTIFICATION NUMBER IS 73-0588975.

VN Form 4100-68 (02/01) Electronic Version

CHAPTER IV. FORMS

*78. MAINTENANCE ALERT DIRECTIVE, VN FORM 4100-69

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-69

All blocks are self-explanatory.

B. MAINTENANCE ALERT DIRECTIVE, VN FORM 4100-69

MAINTENANCE ALERT DIRECTIVE

Page 1

MAD Number:

Date: 3/25/2002

To:

1. **SUBJECT:**

2. **GENERAL:**

3. **ACTION REQUIRED:**

4. **COMPLIANCE:**

5. **CANCELLATION:**

VN Form 4100-69 (03/01) Electronic Version

CHAPTER IV. FORMS

*79. TECHNICAL ISSUANCE CHANGE PAGE, VN FORM 4100-70

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-70

All blocks are self-explanatory.

B. TECHNICAL ISSUANCE CHANGE PAGE, VN FORM 4100-70

CHANGE

FLIGHT INSPECTION MAINTENANCE DIVISION
FEDERAL AVIATION ADMINISTRATION
Oklahoma City, Oklahoma

TI
CHG

SUBJ: FAA

PAGE CONTROL CHART

Remove from Chap/Sec	Page(s)	Dated	Insert in Chap/Sec	Page(s)	Dated

Filing Instructions:

CHAPTER IV. FORMS

*80. PRODUCTION STAMP LOG, VN FORM 4100-71

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-71

All blocks are self-explanatory.

B. PRODUCTION STAMP LOG, VN 4100-71

PRODUCTION STAMP LOG
Location _____

NAME	STAMP #	SIGNATURE	INITIALS		STAMP

_____
Name of Validator & Date

VN Form 4100-71 (04/01) Electronic Version Page ____ of ____

CHAPTER IV. FORMS

*81. EO ENTRY LOG, VN FORM 4100-72

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-72

All blocks are self-explanatory.

B. EO ENTRY LOG, VN FORM 4100-72

EO ENTRY LOG

EO NO.	ATA CODE	AC TYPE	N NO	SB,AD LTR, ETC.	CMPL RPT	SUBJECT	APPROVAL DATE	STATUS	LOCATION

VN Form 4100-72 (04/01) Electronic Version

CHAPTER IV. FORMS

*82. AIRCRAFT DEVIATION ALERT, VN FORM 4100-76

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-76

All blocks are self-explanatory.

B. AIRCRAFT DEVIATION ALERT, VN FORM 4100-76

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

**********AIRCRAFT DEVIATION ALERT**********

Information to crews on prototype modifications.

DESCRIPTION _____

RTG. SYMB.	SIGNATURE	DATE

VN Form 4100-76 (06/01) Use Avery 8163 or 5163 labels.

CHAPTER IV. FORMS

*83. VHF/UHF RECEIVER AUTOMATIC GAIN CONTROL DATA, VN FORM 4100-80

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-80

All blocks are self-explanatory.

B. VHF/UHF RECEIVER AUTOMATIC GAIN CONTROL DATA, VN FORM 4100-80

VHF/UHF RECEIVER AUTOMATIC GAIN CONTROL DATA (10 µv Input)				AIRCRAFT REG. MARK N			
VHF							
EQUIPMENT NO. 1				EQUIPMENT NO. 2			
		TYPE					
		SERIAL NO.					
		DATE CALIBRATED					
EQUIPMENT NO. 1				EQUIPMENT NO. 2			
FREQ. (Mc)	AGC	EXTENDED RANGE		FREQ. (Mc)	AGC	EXTENDED RANGE	
		FREQ (Mc)	AGC			FREQ (Mc)	AGC
118.0		138.5		118.0		138.5	
119.9		140.0		119.9		140.0	
121.5		146.95		121.5		145.95	
122.95		147.0		122.95		147.0	
124.5		149.975		124.5		149.975	
126.95				126.95			
128.0				128.0			
129.5				129.6			
132.0				132.0			
135.95				135.95			
TECHNICIAN'S SIGNATURE				TECHNICIAN'S SIGNATURE			
UHF							
TYPE		SERIAL NO.		DATE CALIBRATED			
FREQUENCY (Mc)	AGC			FREQUENCY (Mc)	AGC		
225.0				257.8			
233.8				301.4			
236.6				348.6			
243.0				364.2			
255.4				399.9			
TECHNICIAN'S SIGNATURE							

VN Form 4100-80 (09/01) Electronic Version

CHAPTER IV. FORMS

*84. KAY ATTENUATOR, VN FORM 4100-85

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-85

All blocks are self-explanatory.

B. KAY ATTENUATOR, VN FORM 4100-85

SWITCH SETTING _____ dB

CAL DATE _____

61100053-34-212

VN Form 4100-85 (12/01)

CHAPTER IV. FORMS

*85. WARNING TAG, VN FORM 4100-86

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-86

All blocks are self-explanatory.

B. WARNING TAG, VN FORM 4100-86

CHAPTER IV. FORMS

*86. DANGER TAG, VN FORM 4100-87

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-87

All blocks are self-explanatory.

B. DANGER TAG, VN FORM 4100-87

CHAPTER IV. FORMS

*87. AIRCRAFT GROUND OPERATOR QUALIFICATION/PROFICIENCY CHECK, VN FORM 4100-88

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-88

All blocks are self-explanatory.

B. AIRCRAFT GROUND OPERATOR QUALIFICATION/PROFICIENCY CHECK, VN FORM 4100-88

AIRCRAFT GROUND OPERATOR QUALIFICATION/PROFICIENCY CHECK		AIRCRAFT
APPLICANT'S NAME		ROUTING SYMBOL:
WRITTEN EXAM. GRADE	DATE GROUND SCHOOL COMPLETED	RECOMMENDED FOR CHECK BY

GRADES

	ITEM	**SAT.**	**UNSAT.**
1.	ORAL EXAMINATION OF REGS. STANDARD AND EMERGENCY PROCEDURES, AIRCRAFT IN GENERAL	☐	☐
2.	EXTERIOR INSPECTION OF AIRCRAFT	☐	☐
3.	INTERIOR INSPECTION OF AIRCRAFT	☐	☐
4.	KNOWLEDGE AND USE OF PRESTARTING CHECKLIST	☐	☐
5.	UTILIZATION OF FIREGUARD	☐	☐
6.	USE OF AUXILIARY POWER UNIT	☐	☐
7.	ENGINE STARTING PROCEDURE	☐	☐
8.	KNOWLEDGE OF TOWER LIGHT SIGNALS	☐	☐
9.	KNOWLEDGE AND USE OF RADIOS, IF REQUIRED	☐	☐
10.	UTILIZATION OF SEAT BELTS	☐	☐
11.	KNOWLEDGE AND USE OF HAND SIGNALS	☐	☐
12.	TAXIING TECHNIQUE	☐	☐
13.	USE OF BRAKES	☐	☐
14.	NOSE WHEEL STEERING, IF APPLICABLE	☐	☐
15.	USE OF TAXI CHECKLIST	☐	☐
16.	USE OF REVERSE THRUST, IF APPLICABLE *(Not to be used to back aircraft)*	☐	☐
17.	STOPPING TECHNIQUE *(Into wind for run-up)*	☐	☐
18.	REACTION TO SIMULATED EMERGENCIES *(Fire, hydraulic loss, etc.)*	☐	☐
19.	KNOWLEDGE AND USE OF ALL AIRCRAFT LIGHTS, IF APPLICABLE	☐	☐
20.	TECHNIQUE OF RETURNING TO RAMP AND PARKING	☐	☐
21.	ENGINE SHUTDOWN PROCEDURE	☐	☐
22.	AIRCRAFT SECURING AND TIE-DOWN PROCEDURE	☐	☐
23.	TOWING AIRCRAFT	☐	☐
24.	OTHER: (Specify)	☐	☐
		☐	☐
		☐	☐
		☐	☐

DATE	EXAMINER'S SIGNATURE

VN Form 4100-88 (04/02) Electronic Version

CHAPTER IV
*** SECTION 88**
RESERVED

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CHAPTER IV. FORMS

*89. EMERGENCY EQUIPMENT INSPECTION, VN FORM 4100-92

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-92

All blocks are self-explanatory.

B. EMERGENCY EQUIPMENT INSPECTION, VN FORM 4100-92

Emergency Equipment Inspection

Date: _____

N#: _____

S/N: _____

P/N: _____

VN Form 4100-92 (02/02) Electronic Version(MSExcel)

CHAPTER IV. FORMS

*90. MAINTENANCE ALERT DIRECTIVE MASTER INDEX, VN FORM 4100-93

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-93

All blocks are self-explanatory.

B. MAINTENANCE ALERT DIRECTIVE MASTER INDEX, VN FORM 4100-93

MAINTENANCE ALERT DIRECTIVE MASTER INDEX

YEAR:

MAD NUMBER	SUBJECT	APPROVAL DATE	LOCATION MANUAL/CHAPTER	CANCELLATION DATE

VN Form 4100-93 03/02 Electronic Version

CHAPTER IV. FORMS

*91. MAINTENANCE ANALYSIS BULLETIN MASTER INDEX, VN FORM 4100-94

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-94

All blocks are self-explanatory.

B. MAINTENANCE ANALYSIS BULLETIN MASTER INDEX, VN FORM 4100-94

MAINTENANCE ANALYSIS BULLETIN MASTER INDEX

YEAR:

MAB NUMBER	DATE SENT	ROUTED TO	DATE RETURNED	ARR NUMBER	AVN-328 ORIGINATOR	ACFT TYPE	ATA CODE	SUBJECT/ ACTION

VN Form 4100-94 03/02 Electronic Version

CHAPTER IV
* SECTION 92
RESERVED

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CHAPTER IV. FORMS

*93. JOB ORDER, VN FORM 4100-135

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-135

Block Job Order No.: Enter job order number.

Block Document No.: Enter document number.

Block Date: Enter date.

Block N-: Enter aircraft "N" number.

Block Mfr.: Enter manufacturer of aircraft.

Block Mdl: Enter model of aircraft.

Block S/N: Enter serial number of aircraft.

Block A/C Hrs.: Enter aircraft hours.

Block A/C Ldgs.: Enter aircraft landings.

Block Nomenclature: Enter name of item.

Block Mfr.: Enter name of manufacturer.

Block Mdl: Enter model of item.

Block S/N: Enter serial number of item.

Block P/N: Enter part number of item.

Block Work Completed By: Enter name of person who completed the work.

Block Work Accomplished: Enter brief description of work accomplished.

Block Date: Enter date of completed work.

Block Parts Used Nomenclature: Enter name of parts used.

Block Parts Used Part No.: Enter part number of parts used.

Block Qty.: Enter quantity of parts used.

B. JOB ORDER, VN FORM 4100-135

JOB ORDER

Flight Inspection Maintenance Division

CFR Title 14 Part 135 CERT. No.: RU3A796U

6500 S. MacArthur Blvd.
Oklahoma City, OK 73169

Phone (405) 954-4126
Fax (405) 954-6217

Job Order No.: _____
Document No.: _____
Date: _____
Page 1 of 1

AIRCRAFT INFORMATION

N- ___ Mfr: _____ Mdl: _____ S/N: _____ A/C Hrs: _____ A/C Ldgs: _____

COMPONENT INFORMATION

Nomenclature: _____

Mfr: _____ Mdl: _____ S/N: _____ P/N: _____

Work Completed By: _____ Date: _____

Discrepancy:

Work Accomplished :

Parts Used :

	Nomenclature	Part No.	Qty		Nomenclature	Part No.	Qty
1				2			
3				4			
5				6			
7				8			
9				10			
11				12			
13				14			
15				16			
17				18			
19				20			

VN Form 4100-135 (03/00)

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CHAPTER IV. FORMS

*94. JOB ORDER CONTINUATION SHEET, VN FORM 4100-135-1

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-135-1

Block Job Order No.: Enter job order number.

Block Document No.: Enter document number.

Block Date: Enter date.

Block Work Accomplished: Enter brief description of work accomplished.

Block Parts Used Nomenclature: Enter name of item used.

Block Parts Used Part No.: Enter part number of item used.

Block Qty.: Enter quantity of item used.

B. JOB ORDER CONTINUATION SHEET, VN FORM 4100-135-1

JOB ORDER
Continuation Sheet
CFR Title 14 Part 135 CERT. No.: RU3A796U

Job Order No.: _____
Document No.: _____
Date: _____
Page 2 of 2

Work Accomplished (continued):

Parts Used (continued):

	Nomenclature	Part No.	Qty		Nomenclature	Part No.	Qty
21				22			
23				24			
25				26			
27				28			
29				30			
31				32			
33				34			
35				36			
37				38			
39				40			
41				42			
43				44			
45				46			
47				48			
49				50			

VN Form 4100-135-1 (03/00) Electronic Version

CHAPTER IV. FORMS

*95. MAINTENANCE ANALYSIS BULLETIN, VN FORM 4100-136

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-136

Block Subject: Briefly describe the subject and show the type of aircraft or equipment.

Block To: Identify the AVN-300 branch or section.

Block Date of Initial Message: Self-explanatory.

Block Report No.: Assigned by AVN-328.

Block Originator: Name of originator.

Block Telephone: Self-explanatory.

Block Approved By: Supervisor, AVN-328.

Block Organization: Program Standards.

Block Routing Symbol: AVN-328.

Block Concurrence: Additional approvals if required.

Block Problem: A description of the problem or area of concern.

Block Recommendation: Any recommendation based on the analysis data available to AVN-328.

Block Reply Message: This section should contain corrective action taken or additional information that will facilitate appropriate corrective action.

Block From: Self-explanatory.

Block Reply Requested NLT: The originators established suspense.

Block Date of Reply: Self-explanatory.

Block Signature of Replier: Self-explanatory.

Block Organization: Replying organization.

Block Routing Sym.: Reply routing symbol.

B. MAINTENANCE ANALYSIS BULLETIN, VN FORM 4100-136

MAINTENANCE ANALYSIS BULLETIN				
SUBJECT				
TO:		DATE OF INITIAL MESSAGE 03/26/2002		
		REPORT NO.		
		ORIGINATOR		TELEPHONE
APPROVED BY	ORGANIZATION	ROUTING SYMBOL	CONCURRENCES	
PROBLEM:				
RECOMMENDATION:				
REPLY MESSAGE:				
FROM:	REPLY REQUESTED NLT	DATE OF REPLY		
	SIGNATURE OF REPLIER			
	ORGANIZATION		ROUTING SYMBOL	

VN Form 4100-136 (09/00) Electronic Version

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CHAPTER IV. FORMS

96. INCOMPLETE MAINTENANCE WORK TURNOVER, VN FORM 4100-154

*A. GENERAL

This form is used to document incomplete maintenance or inspection work so that the technician/inspector assuming responsibility for the task can ensure the work is completed without overlooking any required steps. It is not necessary to use this form for incomplete inspections when appropriate task cards or inspection forms have specific steps detailed by sign-off columns.

*B. INSTRUCTIONS FOR USE

(1) Description of Job: Enter complete description of the task being performed. Example: Replace Fuel Control.

(2) Work Done: Enter steps completed (description of specific steps or reference to technical data step at which work stopped). Example: Installation complete up to step A (1)©, Page 3, Chapter/Section 50-00-00, Pratt & Whitney Maintenance Manual.

(3) Work Remaining: Enter steps that must be completed to properly finish the task.

*C. DISPOSITION

Completed forms will be attached to the appropriate maintenance record form documenting completion of the task (Aircraft Log, Non-Routine Work Form, etc.) and maintained in the aircraft permanent records.

D. INCOMPLETE MAINTENANCE WORK TURNOVER, VN FORM 4100-154

INCOMPLETE MAINTENANCE WORK TURNOVER	N-
	WORK ORDER NO.
	DATE
DESCRIPTION OF JOB	
WORK DONE	
NAME : _____	
WORK REMAINING	

VN Form 4100-154 (01/01) Electronic Version

CHAPTER IV. FORMS

*97. NON-ROUTINE WORK, VN FORM 4100-155

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-155

Block Originated By: Enter name and/or stamp or initiator. When the item is transcribed from the Aircraft Log or Deferred Discrepancy List, indicate the source. When transcribing flight crew discrepancies to VN Form 4100-155, write "Pilot Report" after the discrepancy or "P.R" in the upper right-hand corner. Al alternate method that is acceptable is lieu of writing "Pilot Report" is to enter 1140 in COST ACCTG. NO. block. Write "N/A" in the Card Number and Item Number boxes.

Block Authorized By: A maintenance supervisor must review each Non-Routine Work Form to determine method of repair and complete AUTHORIZED METHOD OF REPAIR block, if required (see back of form). His/her signature here verifies acceptance and approval of this item for work.

Block Technician: The person completing the corrective action shall stamp or sign their name and enter the time required to complete the item in this block.

Block Inspector: This block shall be signed and/or stamped by the person authorized to accept the corrective action and the time required to inspect the item shall also be entered.

Block P/N On: Enter par number of item installed on the aircraft.

Block S/N On: Enter serial number of item installed on aircraft.

Block S/N Off: Enter serial number of item removed from aircraft.

Block Nomenclature: Ener name of item installed.

Block N-: The originator shall enter the aircraft "N" number in this block.

Block Insp. No.: The originator shall enter the inspection being performed in this block. Example: Number 1 - #1; Number 1 overhaul - #1 Blk., Service - Sve.

Block Date: The originator shall enter the date of item write-up.

Block Card No.: The originator shall enter the section and item number of the routine inspection card to which the discrepancy is related. Mark N/A if not applicable.

Block Item No.: The originator shall enter the section and item number of the Routine Inspection Card to which the discrepancy is related. Mark N/A if not applicable.

Block Severity Code: The originator shall enter a severity code number (reference Chapter III.58 of this manual).

Block Insp. Req.: A quality control inspector or designee shall review all work items entered on VN Form 4100-155 to determine which item will require quality control acceptance. When the inspector decides a physical inspection is not required, NIR (No Inspection Required) will be entered in this block and the inspector making the determination will stamp the Inspector block (8). Those items which are Required Inspection Items will be identified by entering "RII". All other discrepancies will be annotated with an "I" for inspection.

Block Work Order No.: Enter local work order number, if required.

Block Cost Actg. No.: This block provides for input into the FAA cost accounting system. It may be used for any local purpose until the cost accounting system is in place.

B. NON ROUTINE WORK, VN FORM 4100-155

NON ROUTINE WORK

							SKILL	CSN
ORIGINATED BY	ITEM:							
AUTHORIZED BY								
TECHNICIAN								
INSPECTOR								
P/N ON	CORRECTION:							
S/N ON								
S/N OFF								
NOMENCLATURE								
N-	INSP. NO.	DATE	CARD NO.	ITEM NO.	SEV. COD.	INSP. REQ.	WORK ORDER #	COST ACTG #

							SKILL	CSN
ORIGINATED BY	ITEM:							
AUTHORIZED BY								
TECHNICIAN								
INSPECTOR								
P/N ON	CORRECTION:							
S/N ON								
S/N OFF								
NOMENCLATURE								
N-	INSP. NO.	DATE	CARD NO.	ITEM NO.	SEV. COD.	INSP. REQ.	WORK ORDER #	COST ACTG #

							SKILL	CSN
ORIGINATED BY	ITEM:							
AUTHORIZED BY								
TECHNICIAN								
INSPECTOR								
P/N ON	CORRECTION:							
S/N ON								
S/N OFF								
NOMENCLATURE								
N-	INSP. NO.	DATE	CARD NO.	ITEM NO.	SEV. COD.	INSP. REQ.	WORK ORDER #	COST ACTG #

VN Form 4100-155 (01/01) Electronic Version

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CHAPTER IV. FORMS

*98. COMPONENT REPLACEMENT, VN FORM 4100-155-2

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-155-2

All blocks are self-explanatory.

B. COMPONENT REPLACEMENT, VN FORM 4100-155-2

RELATED CARDS		COMPONENT REPLACEMENT				CARD NUMBER	
		N-	DATE		COST ACCT. NO.		
E/H	ITEM NO.	PROCEDURES				TECH	INSP
	1	Record the following:					
		a. Aircraft Type: _____				T	
		b. Component Identification: _____				T	
		c. Position No.: _____				T	
		d. S/N Off _____ S/N On _____				T	
	2	Open up area as required.				T	
	3	Remove component (Reference appropriate TI Manual). _____				T	
	4	Reinstall component (Reference appropriate TI Manual). _____				T	
	5	Inspect complete installation.					I
	6	Accomplish operational or leak check as required.				T	I
	7	Close up and secure area as required.				T	I
	8	Make an aircraft logbook entry reflecting compliance.				T	

VN Form 4100-155-2 (01/01) Electronic Version

CHAPTER IV. FORMS

*99. REQUEST FOR ACTION, VN FORM 4100-170

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-170

Block Subject: Briefly describe subject.

Block RFA Number: Enter RFA number.

Block To: Enter addressee.

Block Date of Initial Message: Enter date of initial RFA.

Block Submitted: Enter author of RFA.

Block Number: Enter TI number.

Block Chapter: Enter TI Chapter number.

Block Page: Enter TI page number.

Block Figure-Index: Enter TI figure/index number.

Block A/C Model: Enter aircraft model number.

Block N #: Enter aircraft "N" number.

Block This is a Tech Tip: Check if item will be a maintenance tip.

Block Reason for Request: The reason for the request shall include all supporting information as to why the request is needed. Describe the condition or circumstances surrounding the recommended changes. Identify the source document if the request is based on, or is the result of, another publication.

Block Suggested Language: Include here, in type, the working and/or step-by-step procedures of the change being submitted. A photocopy of the page(s) requiring change should be used and the recommended insertion point on the page marked clearly.

Block Reply Message: Self-explanatory.

Block From: Returnees address.

Block Replier: Name of reply author.

Block Reply Date: Date of reply.

Block Replier Organization: Name of reply organization.

Block Routing Sym.: Enter routing symbol or replier.

B. REQUEST FOR ACTION, VN FORM 4100-170

REQUEST FOR ACTION

SUBJECT:	RFA NUMBER
TO: Aviation System Standards Program/Standards Section, AVN-328 P.O. Box 25082 Oklahoma City, OK 73125	DATE OF INITIAL MESSAGE 03/26/2002 SUBMITTED BY:

DOCUMENT AFFECTED	NUMBER	CHAPTER	PAGE	FIGURE-INDEX	A/C MODEL	N#	THIS A TECH TIP
							☐

REASON FOR REQUEST:

SUGGESTED LANGUAGE: (Give wording or step by step procedure of subject being submitted)

(Use plain sheet if additional space is required)

REPLY MESSAGE:

FROM:	REPLIER	REPLY DATE
	REPLIER ORGANIZATION	ROUTING SYM.

VN Form 4100-170 (03/00) Electronic Version

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CHAPTER IV
*** SECTION 100**
RESERVED

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CHAPTER IV. FORMS

*101. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-1 (Green)

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-204-1 (Green)

All blocks are self-explanatory.

B. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-1 (Green)

S/N	DATE CAL
W.O. NO.	CAL DUE

VN Form 4100-204-1 (01/01) Green Electronic Version

CHAPTER IV. FORMS

*102. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-3 (Blue)

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-204-3 (Blue)

All blocks are self-explanatory.

B. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-3 (Blue)

S/N	DATE CAL
W.O. NO.	CAL DUE

VN Form 4100-204-3 (01/01) Blue Electronic Version

CHAPTER IV. FORMS

*103. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-4 (Orange)

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-204-4 (Orange)

All blocks are self-explanatory.

B. AVN TEST EQUIPMENT DECAL, VN FORM 4100-204-4 (Orange)

S/N

APPROVED BY

VN Form 4100-204-4 (01/01) Orange Electronic Version

CHAPTER IV. FORMS

*104. AERONAUTICAL RELIABILITY REPORT, VN FORM 4100-227

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-227

Block 1. ARR Date: Enter date of ARR.

Block 2. ARR No.: Enter ARR number.

Block 3. PO No.: Enter Purchase Order number.

Block 4. Aircraft N-: Enter aircraft "N" number.

Block 5. Model: Enter model number of aircraft.

Block 6. S/N: Enter serial number of aircraft.

Block 7. System: Enter system nomenclature.

Block 8. ATA: Enter System ATA code.

Block 9. Component: Enter major component of System.

Block 10. Part No.: Enter part number.

Block 11. Serial No.: Enter serial number.

Block 12. TSO: Enter time since overhaul.

Block 13. TT: Enter total time.

Blocks 14-18.: Check as appropriate.

Block 19. Name: Enter name of submitter.

Block 20. Routing Symbol: Enter routing symbol of submitter.

Block 21. Text: Describe the malfunction or defect and the circumstances under which it occurred. (If additional space is needed, use separate sheet and staple to original copy.

Block 22. Comments/Recommendations: State probable cause, corrective action and recommendations to prevent recurrence. (If additional space is needed, use separate sheet and staple to the ARR).

Block 23. Analyzed By: Analyst name.

Block 24. Phone: Phone number of analyst.

Block 25. Date ARR Closed: Enter date ARR closed.

Block 26. MAD Issue No.: Enter MAD issue number.

Block 27. MAB Issue No.: Enter MAB issue number.

Block 28. SDR Issued No.: Enter SDR issue number.

Block 29. Final Disposition/Comments: Enter final outcome of item.

B. AERONAUTICAL RELIABILITY REPORT, VN FORM 4100-227

AERONAUTICAL RELIABILITY REPORT

(Reference TI 4100.24, Chapter/Section IV.42)

INSTRUCTIONS. This form is to be completed within 24 hours of occurrence and forwarded by eMail to AVN-328 with CC copies to AVN-320 and AVN-324.

1. ARR Date:	
2. ARR No.:	
3. PO No.:	

4. Aircraft N-	**5. Model:**	**6. S/N:**

EQUIPMENT IDENTITY

7. System:	**8. ATA:**	**9. Component:**	
10. Part No.:	**11. Serial No.:**	**12. TSO:**	**13. TT:**
14. Origin of Part:	**Removed from Aircraft** ☐	**Receive from Stock** ☐	

RESULT

15. Delay ☐	**16. Abort Flight** ☐	**17. In-flight Shutdown** ☐	**18. Emergency** ☐

PROBLEM DESCRIPTION

SUBMITTED BY:	**19. Name:**	**20. Routing Symbol:**

21. Text: (Condition, Cause, Findings)

22. Comments/Recommendations:

DISPOSITION **(for AVN-328 use only)**

23. Analyzed By:	**24. Phone:**	**25. Date ARR Closed:**
26. MAD Issued No.	**27. MAB Issued** No.	**28. SDR Issued** No.

29. Final Disposition/Comments

VN Form 4100-227 (02/00) Electronic Version

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CHAPTER IV. FORMS

*105. NI-CAD BATTERY CELL VOLTAGE RECORD, VN FORM 4100-286

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-286

All blocks are self-explanatory.

B. NI-CAD BATTERY CELL VOLTAGE RECORD, VN FORM 4100-286

NI-CAD BATTERY CELL VOLTAGE RECORD

N- ____ AIRCRAFT HOURS ____ TYPE/PART No. ____ SERIAL No. ____

CELL NUMBER

DATE	TIME START	TIME RECORD	FUNCTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	29	TV	RATE

FUNCTION CODE

CHARGE	C
TOP CHARGE	TC
DISCHARGE	D
DEEP CYCLE	DC

Remarks: _____

Technician: _____

Affix Battery Decal VN Form 4100-66

VN Form 4100-286 (01/01) Electronic Version

CHAPTER IV. FORMS

*106. SIERRA TACAN CALIBRATION, VN FORM 4100-293

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-293

All blocks are self-explanatory.

B. SIERRA TACAN CALIBRATION, VN FORM 4100-293

SIERRA TACAN CALIBRATION

TACAN No. 1	RT S/N	DBU S/N	SAU S/N	ABU S/N	CH 59X

AGC			MODULATION @ -50 dbm				
RF Dbm LEVEL	METER RDNG	RCDR DEFL	%	METER RDNG		RCDR DEFL	
				15 Hz	135 Hz	15 Hz	135 Hz
-85			10				
-80 (22μv)			20				
-75			30				
-70			39				

TACAN No. 2	RT S/N	DBU S/N	SAU S/N	ABU S/N	CH 59X

AGC			MODULATION @ -50 dbm				
RF Dbm LEVEL	METER RDNG	RCDR DEFL	%	METER RDNG		RCDR DEFL	
				15 Hz	135 Hz	15 Hz	135 Hz
-85			10				
-80 (22μv)			20				
-75			30				
-70			39				

TECHNICIAN'S SIGNATURE DATE

VN Form 4100-293 (05/00) Electronic Version

CHAPTER IV. FORMS

*107. VOR/LOCALIZER CALIBRATION DATA, VN FORM 4100-297

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-297

All blocks are self-explanatory.

B. VOR/LOCALIZER CALIBRATION DATA, VN FORM 4100-297

VOR/LOCALIZER CALIBRATION DATA								N-	
BENCH ☐ RAMP ☐ CAL DATE:								OBS S/N	
MODEL		SERIAL NO.		FLAG				SYSTEM NO.	
INPUT 100 µv	30 Hz AM	30 Hz FM		9960				COURSE WIDTH	
VOR ERROR 100 µv		AGC CAL. DATA		LOCALIZER INPUT 316 µv					
		µv	AGC	SIG GEN % MOD		% MOD/FLAG			
RADIAL (OBS)	RECVR ERROR	95/4		14/14 (28)					
000		93/5		16/16 (32)					
030									
060		87/10		18/18 (36)					
090									
120		83/15.8		20/20 (40)					
150									
180		81/20		22/22 (44)					
210									
240		79/25		24/24 (48)					
270									
300		73/50		26/26 (52)					
330									
		67/100		LOCALIZER COURSE SENS					
		47/1000		RF µv	150	0	90		
REC SENS		µv		20					
30 Hz AM 25%				316					
30 Hz AM 35%				LOC AGC	RFµv	AGC			
9960 Hz 25%					20				
9960 Hz 35%					316				
5 µv INPUT									
FREQ	AGC	FREQ	AGC	FREQ	AGC	FREQ	AGC	FREQ	AGC
108.0		110.1		112.2		114.3		116.4	
108.3		110.4		112.5		114.6		116.7	
108.6		110.7		112.8		114.9		117.0	
108.9		111.0		113.1		115.2		117.3	
109.2		111.3		113.4		116.5		117.6	
109.5		111.6		113.7		115.8		117.9	
109.8		111.9		114.0		116.1			
TECHNICIAN'S Signature									

VN Form 4100-297 (09/00) Electronic Version

CHAPTER IV. FORMS

*108. GLIDE SLOPE CALIBRATION DATA, VN FORM 4100-298

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-298

All blocks are self-explanatory.

B. GLIDE SLOPE CALIBRATION DATA, VN FORM 4100-298

BENCH ☐ **GLIDE SLOPE CALIBRATION DATA** **RAMP** ☐

N-	SYSTEM NO.	DATE CALIBRATED
GLIDE SLOPE MODEL		SERIAL NO.

% OF MODULATION 700 µv INPUT	RECEIVER MODULATION (FLAG)	COURSE SENSITIVITY			
		INPUT	150	0	90
		14 µv			
		140 µv			
		200 µv			
		700 µv			
		1.25 mv			
		14.0 mv			

.21-DDM DEFL. TEST	150>90	µa	90>150	µa

AUTOMATIC GAIN CONTROL 332.0 MHz

INPUT µv	10	14	15.8	25.1	140	200	700	1.25 mv
AGC								

BELOW COURSE CLEARANCE (150 Hz ONLY) MOD %	RECVR MODULATION/FLAG	
	15.8 µv	140µv
85%		
90%		
95%		

TECHNICIAN'S Signature

VN Form 4100-298 (09/00) (Electronic Form)

CHAPTER IV. FORMS

*109. MARKER RECEIVER CALIBRATION, VN FORM 4100-299

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-299

All blocks are self-explanatory.

B. MARKER RECEIVER CALIBRATION, VN FORM 4100-299

MARKER RECEIVER CALIBRATION

TYPE _____

S/N _____

SHOP DATE	RAMP DATE
DATE _____	DATE _____
TECH _____	TECH _____
D.C. OUTPUT LO	D.C. OUTPUT LO
400 Hz _____ mV	400 Hz _____ mV
1300 Hz _____ mV	1300 Hz _____ mV
3000 Hz _____ mV	3000 Hz _____ mV

REMARKS:

VN Form 4100-299 (02/01) Electronic Version

CHAPTER IV. FORMS

*110. TRANSPONDER SYSTEM RAMP CALIBRATION, VN FORM 4100-300

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-300

All blocks are self-explanatory.

B. TRANSPONDER SYSTEM RAMP CALIBRATION, VN FORM 4100-300

TRANSPONDER SYSTEM RAMP CALIBRATION							
AIRCRAFT ICAO ADDRESS_____							
#1 XPNDR s/n_____				#2 XPNDR s/n_____			
	upper antenna	lower antenna			upper antenna	lower antenna	
LO SENS	_____	_____	dB	LO SENS	_____	_____	dB
HI PWR	_____	_____	watts	HI PWR	_____	_____	watts
LO PWR	_____	_____	watts	LO PWR	_____	_____	watts
Rtg symbol		Signature				Date	

VN Form 4100-300 (5/00)

CHAPTER IV. FORMS

111. PART 1 SERVICEABLE PART TAG and PART 2 REPAIRABLE PART TAG, VN FORM 4100-301

*A. RESPONSIBILITIES

(1) The supervisor is responsible for ensuring that each individual is familiar with the procedures necessary to process the "Serviceable Parts Tag", VN Form 4100-301.

(2) Each employee completing any area of this tag is responsible for entering complete and accurate information and for ensuring that the information transfers through to the second copy.

*B. COMPLETION PROCEDURES FOR PART 1

The Receiving Inspector is responsible for the following entries of PART 1:

Block 8, Part Number: Enter the manufacturer's part number.

Block 9, Serial Number: Enter the item's serial number.

Block 10, Purchase Order: Enter the purchase order, contract or work order number under which the item was requisitioned.

Block 11, Date Overhauled/New/Capacitance Check (CC): Enter the manufacture, current overhaul or appropriate "work done" date. Where repair constitutes overhaul, enter the date of repair.

Block 12, TSO/TSN/CC: Enter the Time Since Overhaul, Time Since New or date of the last Capacitance check.

Block 13, Nomenclature: Enter the part name as obtained from the data plate or the parts catalog.

Block 14, National Stock Number (NSN): Enter the NSN, or NNSN if no national stock number is assigned.

Block 15, W.O. Number: Enter the work order number under which the work was performed, if applicable.

Block 16, Total Landings/Cycles: If the part is controlled by landings or cycles, enter that number here.

Block 17, Unit Total Time: Enter total time, if known.

Block 18, Work Done: Check the appropriate block.

Block 19, O/H/Mfg. By/Repair/CC: Enter the name of the entity performing the work. If the component is serviced in house, enter Aircraft Maintenance and Engineering Division (AMED).

Block 20, Inspection/Test Required if in Storage After: The date entered here will be computed by adding the appropriate storage interval to the date of repair.

Block 21, Accepted By (Insp.): The person accepting the item for stock will legibly sign or stamp this block. Completing this block indicates that the documentation is complete and the item is visually free from defects.

Block 22, Activity: Enter the identifier of the activity performing the receiving inspection:

Repair Stations
ANC - Anchorage
ATL - Atlanta
BTL - Battle Creek
OKC - Oklahoma City
SAC - Sacramento

Block 23, Date: Enter the date the item is accepted into stock.

Block 34, OC: Place an "X" in this block if the item is replaced "On Condition".

Block 35, HT: Place an "X" in this block if the item is "Hard Time".

*C. COMPLETION PROCEDURES FOR PART 1, INSTALLATION RECORD

The person performing the installation will complete the following:

Block 1, A/C No.: Enter the aircraft "N" number.

Block 2, Date: Enter the date installed.

Block 3, A/C Total Time: Enter the aircraft total time when the part is installed.

Block 4, Total Landings: Enter the aircraft total landings.

Block 5, Activity: Enter the identifier for the activity performing the installation.

Repair Stations
ANC - Anchorage
ATL - Atlanta
BTL - Battle Creek
OKC - Oklahoma City
SAC - Sacramento

Block 6, Position No.: Enter the position number of the item if assigned or the ATA code for "on condition" items.

Block 7, Installed By: Enter the name, legibly, of the person performing the installation.

*D. COMPLETION PROCEDURES FOR PART 1, REMOVED PART DATA

The person performing the installation will complete the "Removed Part Daeta" as follows:

Block 24, Overhauled/Manufactured By: Enter the name of the company performing the last repair or the manufacturer's name, if available.

Block 25, ATA: Enter the ATA code for the item. (Use the system ATA code only if the item is not specifically identified).

Block 26, Serial Number: Enter the serial number for the part removed.

Block 27, Person Removing Part: The individual removing the part will **PRINT** their name here.

Block 28, Unit Total Landings/Cycles: Enter the landings/cycles for the part removed, if applicable.

Block 29, Unit TSO/TSN/CC: Enter the part-time since overhaul, time since new, or time since capacitance check, as applicable.

Block 30, Part Number: Enter the part number from the item removed.

Block 31, ARR: Enter the ARR number, if applicable.

Block 32, How Malfunctioned or Defective or Comments: Enter an accurate description of the unit malfunction as possible.

*E. INSTRUCTIONS FOR THE USE OF PART 2, REPAIRABLE PART TAG, VN FORM 4100-301.

PART 2 of the VN Form 4100-301 is green in color and identifies the part as repairable. All required data is carboned through from PART 1. The person completing steps **C** and **D** of this procedure is responsible for ensuring that the PART 1 data is legibly transferred. The parts tag will remain with the unit until the item is repaired or removed from the system. In the event the unit is condemned (not repairable), a VN Form 4100-302, Condemned Part Tag (Red) will be attached to the unit. The item will then be processed as applicable.

*F. PART 1 SERVICEABLE PART TAG and PART 2 REPAIRABLE PART TAG, VN FORM 4100-301

AVN FLIGHT INSPECTION MAINTENANCE DIVISION

INSTALLATION RECORD

1. A/C No.	2. Date	3. A/C Total Time	4. Total Landings
5. Activity	6. Position No.	7. Installed By	

INSTALLED PART DATA

8. Part No.	9. Serial No.	
10. Purchase Order	11. Date OH/New/CC	12. TSO/TSN/CC
13. Nomenclature	14. NSN	
15. Work Order No.	16. Total Ldngs/Cycles	17. Unit Total Time

18. WORK DONE ☐ Tech Insp ☐ Repaired ☐ Funct Test ☐ Cap. Check ☐ Overhauled ☐ New Part

19. O/H Mfg By/Repair/CC

RECEIVING INSPECTION

20. Inspection/Test Req If In Storage After

21. Accepted By (Insp)	22. Activity	23. Date

REMOVED PART DATA

24. O/H Mfg By	25. ATA
26. Part Serial No.	27. Person Removing Part (*Please Print*)
28. Total Ldngs/Cycles	29. Unit TSO/TSN/CC
30. Part Number	31. ARR No.

32. How Malfunction or Defective or Comments

34. OC ☐ 35. HT ☐

PARTS CONTROL TAG
VN FORM 4100-301 (01/01)

PART 1 SERVICEABLE PART TAG

AVN FLIGHT INSPECTION MAINTENANCE DIVISION

REPAIRABLE PART TAG

1. A/C No.	2. Date	3. A/C Total Time	4. Total Landings
5. Activity			

8. Part No.	9. Serial No.
13. Nomenclature	14. NSN

REMOVED PART DATA

24. O/H Mfg By	25. ATA
26. Part Serial No.	27. Person Removing Part (*Please Print*)
28. Unit Total Landings	29. Unit TSO/TSN/CC
30. Part Number	31. ARR No.

32. How Malfunction or Defective or Comments

This certifies that this unit/core is in a repairable condition and has not been subject to severe stress or heat during our possession.

PARTS CONTROL TAG
VN FORM 4100-301 (01/01)

PART 2 REPAIRABLE PART TAG

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CHAPTER IV. FORMS

*112. CONDEMNED PART TAG, VN FORM 4100-302 (Red)

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-302

Block NSN: Enter National Stock Number.

Block Part No.: Enter part number.

Block Ser. No.: Enter serial number.

Block Manufacturer: Enter manufacturer.

Block TSO: Enter Time Since Overhauled.

Block Date Removed: Enter date removed.

Block ARR No: Enter ARR number.

Block Activity: Enter routing symbol of activity rejecting the part.

Block Reason for Rejection: Enter reason for rejection.

Block Rejected By: Enter rejected by signature or stamp of person rejecting the part.

B. CONDEMNED PART TAG, VN FORM 4100-302 (Red)

CHAPTER IV. FORMS

*113. ADF RECEIVER AGC DATA, VN FORM 4100-303

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-303

Block NSN: Enter National Stock Number.

Block Part No.: Enter part number.

Block Ser. No.: Enter serial number.

Block Manufacturer: Enter manufacturer.

Block TSO: Enter Time Since Overhauled.

Block Date Removed: Enter date removed.

Block ARR No: Enter ARR number.

Block Activity: Enter routing symbol of activity rejecting the part.

Block Reason for Rejection: Enter reason for rejection.

Block Rejected By: Enter rejected by signature or stamp of person rejecting the part.

B. ADF RECEIVER AGC DATA, VN FORM 4100-303

ADF RECEIVER AGC DATA		
EQUIPMENT TYPE:	AIRCRAFT N NO. N-	
SER. NO.	DATE CAL:	
FREQUENCY: 310 KHz		
RF LEVEL (Microvolts)	AGC (DC Volts)	
10		
15		
25		
50		
70		
100		
200		
300		
500		
1000		
TECHNICIAN'S SIGNATURE		DATE:

VN Form 4100-303 (05/00) Electronic Version

CHAPTER IV. FORMS

*114. MEL EXTENSION AUTHORIZATION REQUEST, VN FORM 4100-310

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-310

All blocks are self-explanatory.

B. MEL EXTENSION AUTHORIZATION REQUEST, VN FORM 4100-310

MEL EXTENSION AUTHORIZATION REQUEST

MEL CONTROL NUMBER: _____ REQUEST NO.: _____

AIRCRAFT: N-_____ ATA CODE: _____ MEL ITEM NO.: _____

MEL NOMENCLATURE: _____ CATEGORY: _____

TIME RECORDED IN AIRCRAFT LOG: _____ DATE: _____

REPAIR INTERNAL EXPIRATION TIME: _____ DATE: _____

SUPPLY DOC. NO.: _____ ESTIMATED DELIVERY DATE: _____

JUSTIFICATION FOR EXTENSION:

MAINTENANCE SUPERVISOR: _____

AMOUNT OF EXTENSION AUTHORIZED IS NOT TO EXCEED: _____

EXPIRATION TIME: _____ DATE: _____

FIRST EXTENSION AUTHORIZED BY:

_____ DATE: _____
MANAGER, QUALITY ASSURANCE BRANCH, AVN-320

*NOTE: FAA CHDO MUST BE NOTIFIED WITHIN 24 HOURS OF THE APPROVAL OF THIS EXTENSION.

VN Form 4100-310 (01/01) Electronic Version

CHAPTER IV. FORMS

*115. VOR/LOC RAMP CALIBRAION DATA, VN FORM 4100-311

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-311

All blocks are self-explanatory.

B. VOR/LOC RAMP CALIBRATION DATA, VN FORM 4100-311

VOR/LOC RAMP CALIBRATION DATA **CAL DATE:**										**N-**
MODEL			SERIAL NO.							SYSTEM NO.
INPUT -67dBm/100 μv		30 Hz AM		30 Hz FM DEV R						9960
VOR ERROR -67dBm/100 μv		AGC CAL. DATA		LOCALIZER INPUT –57dBm/316μv						
		-dBm/μv	AGC	S.G. % MOD						RECVR % MOD
RADIAL (OBS)	RECVR ERROR	95/4		14/14 (28)						
000		93/5		16/16 (32)						
030										
060		87/10		18/18 (36)						
090										
120		83/15.8		20/20 (40)						
150										
180		81/20		22/22 (44)						
210										
240		79/25		24/24 (48)						
270										
300		73/50		26/26 (52)						
330										
		67/100		LOCALIZER COURSE SENS						
		47/1000		RF –dBm/μv	150	0	90			
		REC SENS -dBm		-81/20						
30 Hz AM 25%				-57/316						
30 Hz AM 35%				LOC AGC	RF –dBm/μv		AGC			
9960 Hz 25%					-81/20					
9960 Hz 35%					-57/316					
-93 dBm/5 μv										
FREQ	AGC	FREQ	AGC	FREQ	AGC	FREQ	AGC	FREQ	AGC	
108.0		110.1		112.2		114.3		116.4		
108.3		110.4		112.5		114.6		116.7		
108.6		110.7		112.8		114.9		117.0		
108.9		111.0		113.1		115.2		117.3		
109.2		111.3		113.4		116.5		117.6		
109.5		111.6		113.7		115.8		117.95		
109.8		111.9		114.0		116.1				
TECHNICIAN'S Signature										

VN Form 4100-311 (09/00) Electronic Version

CHAPTER IV. FORMS

*116. GLIDE SLOPE RAMP CALIBRATION DATA, VN FORM 4100-312

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-312

All blocks are self-explanatory.

B. GLIDE SLOPE RAMP CALIBRATION DATA, VN FORM 4100-312

GLIDE SLOPE RAMP CALIBRATION DATA		
N-	SYSTEM NO.:	CAL DATE:
MODEL:		SERIAL NO.:

SIG GEN %MOD	REC MOD	COURSE SENSITIVITY			
-50 dBm/ 700 µv	%	INPUT -dBm/µv	150	0	90
30/30 (60)		-84/14			
35/35 (70)		-64/140			
40/40 (80)		-61/200			
45/45 (90)		-50/700			
		-45/1250			

.21-DDM DEFL. TEST	150>90	µa	90>150	µa

AUTOMATIC GAIN CONTROL 332.00 MHz

INPUT -dBm/µv	-87 10	-84 14	-83 15.8	-79 25.1	-64 140	-61 200	-50 700	-45 1250
AGC								

TECHNICIAN'S
Signature

VN Form 4100-312 (05/00) (Electronic Version)

CHAPTER IV. FORMS

*117. MARKER RECEIVER CALIBRATION DATA, VN FORM 4100-313

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-313

All blocks are self-explanatory.

B. MARKER RECEIVER CALIBRATION DATA, VN FORM 4100-313

MARKER RECEIVER CALIBRATION DATA

N-	MODEL	SERIAL NO.

SHOP CALIBRATION

Frequency	Sensitivity	Lamp Voltage
400 Hz	Low	3.3+- 1V
400 Hz	High	3.3+- 1V
1300 Hz	Low	3.3+. 6V
1300 Hz	High	3.3+. 6V
3000 Hz	Low	3.3+. 6V
3000 Hz	High	3.3+. 6V

AGC VOLTAGE

Signal (dbm/uv)	Volt.	Signal (dbm/uv)	Volt.
-50/707		-35/3980	
-45/1260		-30/7070	
-42/1780		-25/12600	
-40/2240		-20/22400	

DATE	TECHNICIAN'S Signature

RAMP CALIBRATION
AGC Voltage

Signal (dbm/uv)	Volt.	Signal (dbm/uv)	Volt.
-50/707		-35/3980	
-45/1260		-30/7070	
-42/1780		-25/12600	
-40/2240		-20/22400	

DATE	TECHNICIAN'S Signature

VN Form 4100-313 (01/01) Electronic Version

CHAPTER IV. FORMS

*118. ADF RECEIVER RAMP CALIBRATION DATA, VN FORM 4100-314

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-314

All blocks are self-explanatory.

B. ADF RECEIVER RAMP CALIBRATION DATA, VN FORM 4100-314

ADF RECEIVER RAMP CALIBRATION DATA		
N-	MODEL	SERIAL NO.
FREQUENCY 310 KHz		CAL DATE:
RF Level (dbm/μv)	AGC (DC Volts)	
-80/22.4		
-75/39.8		
-70/70.7		
-65/126		
-60/224		
-55/398		
-50/707		
-45/1260		
-40/2240		
TECHNICIAN'S Signature		

VN Form 4100-314 (01/01) Electronic Version

CHAPTER IV. FORMS

*119. SHORT TERM ESCALATION REQUEST, VN FORM 4100-316

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-316

All blocks are self-explanatory.

B. SHORT TERM ESCALATION REQUEST, VN FORM 4100-316

FLIGHT INSPECTION MAINTENANCE DIVISION
SHORT TERM ESCALATION REQUEST

A/C N-_____ A/C MAKE/MODEL: _____ DATE: _____

TYPE OF INSPECTION: _____ CURRENT LIMIT: _____

ENGINE POSITION: _____ SERIAL NUMBER: _____

COMPONENT NAME: _____ POSITION: _____

PART NO.: _____ CURRENT LIMIT: _____

TIME REQUESTED: _____
HRS/CYC/CAL

REASON:

_____
_____
_____

SHORT TERM ESCALATION LIMIT: 1) _____ Hours 2) _____ Cycles 3) _____ Calendar Days

REQUESTED BY: CONCUR:

_____ _____ _____ _____
LINE MAINTENANCE SUPERVISOR DATE MAINTENANCE MANAGER DATE

AVN-328, RELIABILITY PROGRAM SUBSTANTIATING DATA:

_____
_____
_____

CONCUR: _____ NON-CONCUR: _____ DATE: _____
Initials Initials

AVN-324, QUALITY CONTROL LIMITATION VERIFICATION (TI 4100.24, III.60):

_____
_____
_____

CONCUR: _____ NON-CONCUR: _____ DATE: _____
Initials Initials

SHORT TERM ESCALATION OF _____ IS APPROVED BY:

_____ DATE _____
MANAGER, QUALITY ASSURANCE BRANCH, AVN-320

VN Form 4100-316 (05/00) Electronic Version

CHAPTER IV. FORMS

*120. HUMAN FACTORS INVESTIGATION (HFI) REQUEST FORM, VN FORM 4100-82

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-82

All blocks are self-explanatory.

B. HUMAN FACTORS INVESTIGATION (HFI) REQUEST FORM
VN FORM 4100-82

Human Factors Investigation (HFI) Request Form

To: Routing Symbol:		From: Routing Symbol:		
Location of Occurrence:	Hanger, In Flight, Etc.	Date of Occurrence:	Aircraft Type:	N-Number:
Description of Occurrence:				
Information obtained during a Human Factors Investigation shall not be used for disciplinary action. ☐ APPROVED FOR HUMAN FACTORS INVESTIGATION. ☐ DISAPPROVED REASON FOR DISAPPROVAL:				
Typed Name Will Substitute For Signature When Sending Electronically Signature:		RETURN TO AVN-328 Date:		

VN Form 4100-82 (11/01) Electronic Version

CHAPTER IV. FORMS

*121. IN CHECK PACKAGE LABEL, VN FORM 4100-108

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-108

All blocks are self-explanatory.

NOTE: Use Avery Label #5168, for best results use Avery Design Pro Limited software available at http://www.avery.com.

B. IN CHECK PACKAGE LABEL, VN FORM 4100-108

In Check Package

AIRCRAFT N #_____ **WORK NOTICE #**_____
REPAIR STA. #_____ **COST ACCT #**_____
WORK ASSIGNMENT_____

_____

NTE_____

_____

ACFT HRS C/W_____
ACFT LDGS C/W_____
DATE C/W_____
NAME_____

VN Form 4100-108 **(03/04)** **Electronic Version**

In Check Package

AIRCRAFT N #_____ **WORK NOTICE #**_____
REPAIR STA. #_____ **COST ACCT #**_____
WORK ASSIGNMENT_____

_____

NTE_____

_____

ACFT HRS C/W_____
ACFT LDGS C/W_____
DATE C/W_____
NAME_____

VN Form 4100-108 **(03/04)** **Electronic Version**

In Check Package

AIRCRAFT N #_____ **WORK NOTICE #**_____
REPAIR STA. #_____ **COST ACCT #**_____
WORK ASSIGNMENT_____

_____

NTE_____

_____

ACFT HRS C/W_____
ACFT LDGS C/W_____
DATE C/W_____
NAME_____

VN Form 4100-108 **(03/04)** **Electronic Version**

In Check Package

AIRCRAFT N #_____ **WORK NOTICE #**_____
REPAIR STA. #_____ **COST ACCT #**_____
WORK ASSIGNMENT_____

_____

NTE_____

_____

ACFT HRS C/W_____
ACFT LDGS C/W_____
DATE C/W_____
NAME_____

VN Form 4100-108 **(03/04)** **Electronic Version**

CHAPTER IV. FORMS

*122. AIRCRAFT ENGINE INFORMATION LABEL, VN FORM 4100-109

A. INSTRUCTIONS FOR COMPLETION OF VN FORM 4100-109

All blocks are self-explanatory.

NOTE: Use Avery Label #5168, for best results use Avery Design Pro Limited software available at http://www.avery.com.

B. AIRCRAFT ENGINE INFORMATION LABEL, VN FORM 4100-109

In Check Package

AIRCRAFT N # _____ WORK NOTICE # _____
CERTIFICATE # _____ COST ACCT # _____
WORK ASSIGNMENT _____

NTE _____

ACFT HRS C/W _____
ACFT LDGS C/W _____
DATE C/W _____
NAME _____

VN Form 4100-108 (04/04) Electronic Version

In Check Package

AIRCRAFT N # _____ WORK NOTICE # _____
CERTIFICATE # _____ COST ACCT # _____
WORK ASSIGNMENT _____

NTE _____

ACFT HRS C/W _____
ACFT LDGS C/W _____
DATE C/W _____
NAME _____

VN Form 4100-108 (04/04) Electronic Version

In Check Package

AIRCRAFT N # _____ WORK NOTICE # _____
CERTIFICATE # _____ COST ACCT # _____
WORK ASSIGNMENT _____

NTE _____

ACFT HRS C/W _____
ACFT LDGS C/W _____
DATE C/W _____
NAME _____

VN Form 4100-108 (04/04) Electronic Version

In Check Package

AIRCRAFT N # _____ WORK NOTICE # _____
CERTIFICATE # _____ COST ACCT # _____
WORK ASSIGNMENT _____

NTE _____

ACFT HRS C/W _____
ACFT LDGS C/W _____
DATE C/W _____
NAME _____

VN Form 4100-108 (04/04) Electronic Version

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CHAPTER V. TIME LIMITS

1. AIRCRAFT MAINTENANCE TIME LIMITS

A. GENERAL

* The applicable Technical Issuance manuals (TI 4107.1, TI 4108.1, TI 4109.1, TI-4111.1, TI-4125.1, and TI-4128.1) as shown in Chapter/Section I.6 will contain the maintenance/inspection time limits.

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CHAPTER V. TIME LIMITS

2. AGE CONTROL OF AIRCRAFT PARTS AND EQUIPMENT

A. GENERAL

This chapter prescribes allowable time limits for storage, issue and shipment of specific items and categories of aircraft parts and equipment managed by the FAA Logistics Center under National Stock Numbers and prescribes the action to be taken at the end of such time limits.

B. RESPONSIBILITIES

The line maintenance supervisor of each AVN aircraft maintenance facility, receiving, storing and issuing aircraft and avionics parts and equipment is responsible to ensure that qualified personnel are assigned to:

(1) establish and maintain identification, condition and status of aircraft parts and equipment;

(2) make systematic inspection of aircraft parts and equipment being received, shipped and in storage to determine if the age control period has expired or if obvious or suspected damage or deterioration has occurred which may render parts and equipment unfit for use;

(3) establish age control time limits for other than FAA Logistics Center managed aircraft parts and equipment that meet the age control criteria set forth in Paragraph D;

(4) ensure that appropriate inspection, maintenance or disposal action is accomplished on parts and equipment requiring such action.

C. DEFINITIONS

(1) "Age Control" is the designation of a specific maximum period of age after cure date or assembly date, based on proper preservation and method of packaging, that will assure parts or equipment will not become unserviceable due to deterioration prior to issue for use.

(2) "Cure Date" is the date that an uncured compound is cross linked to change the physical properties and produce an elastomeric or rubber like material.

(3) "Assembly Date" is the date applicable parts are installed in an appliance, accessory or higher assembly.

(4) "Functional Test" is a test using equipment and procedures specified in the appropriate overhaul, repair or inspection manuals to determine serviceability.

(5) "E & R Items" are those exchange and repairable items which, when unserviceable, are returned to the FAA Logistics Center for a serviceable replacement.

D. CRITERIA

(1) Experience shows that certain items deteriorate while in storage. Such items require inspection, functional test or other maintenance action prior to issue or shipment if the specified age control period has elapsed since manufacture, last inspection or overhaul. Age control periods shown in this manual are considered maximum safe time limits. Where assemblies listed herein contain items subject to age control, the age control period of such separate items will normally apply to the complete assembly. When an assembly is subject to age control, subassemblies will be subject to the same control.

(2) Criteria for applying age control to aircraft parts and equipment.

(a) Assemblies or components which have a direct affect on safety of flight and/or life sustaining equipment will be subject to age controls if factual data indicates that premature failure may occur as a result of deterioration while in storage.

(b) For new parts or equipment entering the inventory, experience gained on like parts or equipment will be used to establish age control limits. If no factual shelf life deterioration data is available, such items shall not be subjected to age control until experience dictates. Other items, which factual data indicates serviceability has deteriorated due to shelf life, will be considered for age control.

(c) Age controls will not be applied to items containing silicone, neoprene or Teflon merely because of the presence of these materials in the part or assembly.

*(d) Each person concerned with storage, issue or use of aircraft parts and equipment is encouraged to submit Request for Action, VN Form 4100-170, to propose additions, deletions or changes to the age control program.

(e) Supplements will be issued as necessary to provide current age control instructions.

E. PERIODIC INSPECTION AND FUNCTIONAL TEST

(1) Parts or equipment listed in Paragraph H (STORAGE PERIODS BY NSN AND PROPERTY CLASSES) require specific action be taken while materials are in storage or prior to issue to ensure that the designated age limit has not elapsed and the item is serviceable. If an item is not specifically listed in this manual, it is "on condition" and must be visually inspected prior to installation and a complete functional and operational test performed after installation to determine serviceability. The following codes indicate the type of action to be taken to ensure serviceability.

(a) A single asterisk (*) adjacent to the age limit of an item indicates that the item requires a functional test and the required maintenance action be performed prior to issue if the designated limit has elapsed.

NOTE: Those items determined to be serviceable as a result of functional test (and maintenance action as necessary) shall have the shelf life expiration date extended for one year from the date of such test. Retest and further extension of shelf life limits, if justified, shall be accomplished each succeeding year. The functional test shall consist of appropriate procedures necessary to determine operational serviceability of the part or equipment. This test will be performed at any maintenance base where adequate facilities are available or by local certificated contractor if more expedient or economical than returning the item to the Logistics Center. When such facilities are not available, E&R items shall be

processed locally. All such items returned to the Logistics Center shall have the original serviceable parts tag and/or certification attached and appropriate reparable part tag bearing the note: "Functional Test Due."

(2) A double asterisk (**) adjacent to the age limit of an item indicates that the item requires maintenance action prior to issue if the designated limit has elapsed. Maintenance action will include the replacement of all gaskets, diaphrams, seals and other components containing natural or synthetic rubber and, when necessary, bearings, lubricants and any other components and/or reconditioning required to place the item in a serviceable condition. After such reconditioning, the item is eligible for issuance and use for the full term of the designated age limit shown in Paragraph H.

NOTE: For water/antifreeze fire extinguishers, refer to TI 4158.1-26-1 for shelf life renewal.

NOTE: Where regional facilities are not equipped to provide this maintenance, E&R items shall be returned to the Logistics Center; non-E&R items shall be processed locally. All such items shall have the original serviceable parts tag and/or certification attached and appropriate reparable part tag bearing the note: "Has exceeded storage time; maintenance action required."

(3) Three asterisk (***) adjacent to the age limit of an item indicates that the item is considered unsuitable for its intended use at the expiration of the designated period and shall be removed from stock for processing as administratively condemned parts and/or equipment.

(4) Items not identified by asterisks will be inspected and/or tested when the designated age limit has elapsed. Those items determined by quality control personnel to be serviceable shall have the shelf life expiration date extended for one year from the date of such determination. Redetermination of serviceability and further extension of shelf life limits, if justified, shall be limited to one additional year. Total allowable extension is two years. If during these inspections or tests there is evidence an item is unserviceable, it shall be appropriate tagged and processed accordingly.

*(a) Reinspection due dates by day, month and year will be entered in the applicable block of the AVN Serviceable Part Tag, VN Form 4100-301, upon completion of inspection or maintenance actions prescribed. The reinspection due date for items found to be serviceable by inspection or functional test shall be one year from the date such action was taken. For items having undergone replacement of seals, gaskets and relubrication, etc., the reinspection due date shall be calculated from the date such maintenance action was accomplished.

F. SHIPPING LIMITATIONS

*Age of shelf-life controlled items shall be determined by storage expiration dates entered on VN Form 4100-301. Logistics Center managed, age-controlled items are to be issued or shipped subject to the following limitations:

(1) Items requiring reinspection no earlier than the next 120 days may be shipped to overseas and continental activities for stock and reissue.

(2) Items requiring reinspection no earlier than the next 60 days may be shipped or issued to a contractor's facility for use as government furnished property (GFP) or government furnished aircraft equipment (GFAE).

(3) Items requiring reinspection no earlier than the next 30 days may be shipped for immediate use. This requirement can be waived only when the parts requester declares an emergency need, such as a grounded aircraft.

(4) Outdated items which require only visual or functional check may be shipped for emergency use when specifically authorized by the requester, provided that the requester assumes the responsibility for the performance of the required check prior to use.

EXCEPTION: Altimeters shall not be supplied to the field with less than six months' serviceable time remaining.

G. INSPECTION AND DISPOSITION OF SYNTHETIC RUBBER

(1) Personnel assigned responsibility for surveillance of parts and equipment in storage will screen stocks of age-controlled synthetic rubber parts once annually or more frequently, if necessary, to disclose parts suspected to be deteriorated or which will be over-age prior to next inspection.

(2) Expendable items determined to be unserviceable by designated quality control personnel shall not be issued for use on aircraft or aircraft accessories. Fuel cells (E&R items) determined to be unserviceable but reparable in accordance with applicable maintenance or repair instructions may be repaired by any facility having such capability or returned to the FAA Logistics Center for appropriate action. Whenever inspection of any expired-age fuel cell reveals no evidence of unserviceability, the reinspection date may be extended for one year, after which the fuel cell may be reinspected and time extended for one more year, if still serviceable. Total allowable extension is two years. The age limit for bulk and precut hose and hose assemblies may be extended by being visually inspected. Total allowable extension is one year.

(3) Whenever an accessory is accepted into the FAA supply system without evidence of cure date, date of manufacture, overhaul or test, the date the item entered the system shall be used to calculate the age control limit.

*

CHAPTER V. TIME LIMITS

3. AGE CONTROL OF AVIONIC PARTS AND EQUIPMENT

A. PURPOSE

This chapter prescribes shelf time limits for avionic equipment while in storage, based on the method of preservation, defines methods of preservation and prescribes the maintenance action necessary when storage time limits have expired.

B. GENERAL

(1) The time limits, preservation methods, and maintenance action prescribed herein are established to prevent deterioration of avionic equipment while in storage and are considered to be safe maximum limits for all geographic areas and storage.
(2) All avionics items listed shall receive maintenance action as prescribed in the storage limit tables upon expiration of the applicable storage time limit.

C. PREFERRED PACKAGING AND/OR PRESERVATION

The method of preferred packaging and/or preservation for each item is identified under column "B" of the storage limit table and must be complied with if the longer storage limit table afforded by preferred packaging is to be utilized. A brief description of methods of preservation is given below. Military specification MIL-P-116 fully describes the methods and will be used as reference.
(1) Method I - Preservative coating (with grease-proof wrap as required).
(2) Method IA - Water/vapor proof enclosure (with preservative as required).
(3) Method IB - Strippable compound coating (hot dip).
(4) Method IC - Waterproof barrier (with preservative as required).
(5) Method II - Water/vapor proof barrier with desiccant (with contact preservative when required).
(6) Method III - Packaged for mechanical and physical protection only.

D. MAINTENANCE ACTION AND INSPECTIONS

(1) All items listed under the storage limit table require a specific maintenance action to be taken upon expiration of the storage-time limit. Codes shown under column "A" of the storage limit table indicate the action to be taken as follows:

(a) Lack of an asterisk indicates a requirement for a visual inspection to determine condition. Whenever there is evidence that the item is unserviceable, appropriate maintenance action shall be taken to restore its serviceability.

(b) A single asterisk (*) indicates a requirement for an operational check which shall consist of performing all necessary test procedures, utilizing a suitable test stand or mockup, to determine that the item is operating properly. Items found not to be operating properly shall receive additional maintenance action as necessary to restore their serviceability.

(c) A double asterisk (**) indicates a requirement for an inspection, including any necessary disassembly, to determine the operational reliability of the item. Maintenance performed during this inspection shall include removal of any rust or corrosion detected; relubrication of gear trains; replacement or repacking of bearings; reforming or replacement of electrolytic capacitors; replacement of deteriorated seals, gaskets, or rubber goods; and the replenishment of liquid levels as necessary to assure the item's reliability. The item shall be given a complete operational check utilizing a suitable test stand or mockup upon completion of any required maintenance and prior to returning to storage.

*(2) New reinspection dates will be entered on the Serviceable Part Tag, VN Form 4100-301, and on the special check sticker (when required) upon completion of the maintenance action. Such dates will be computed by adding the appropriate storage period time interval specified in Paragraph F to the date upon which the prescribed action was accomplished.

(3) All maintenance actions and inspections shown may be performed at any FAA maintenance activity when adequate facilities are available. Items which, because of expired storage time, require maintenance action which

exceeds the capability of a regional maintenance base will be appropriately identified and returned to the Aeronautical Center for the performance of such services.

E. ISSUING LIMITATIONS

The personnel assigned responsibility for surveillance of avionic parts and equipment in storage will ensure that all serviceable property is stored and issued in a manner which will provide for the issuance of oldest items first.

F. AVIONIC EQUIPMENT STORAGE LIMIT TABLE

*	NOMENCLATURE	PART NO.	"A"
*			
*			
*			
*	Power Supply	AMPS-2000	1/
*	Emergency Battery Pack	Secureplane XL246-A	2/
*			
*	Power Supply	PS-835D	3/
*			

*1/ Check every 4 months in accordance with TI 4161.4.

*2/ Check every 3 months in accordance with TI 4161.8.

*

*3/ Check every 4 months in accordance with TI 4161.1.

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CHAPTER V. TIME LIMITS

4. AIRCRAFT SEALANTS AND ADHESIVES SHELF LIFE LIMITS

A. GENERAL

This chapter provides procedures for storage and shelf life of aircraft sealants and adhesives used for maintenance of aircraft.

(1) Storage - Adhesives and sealers stored at temperatures recommended by the manufacturer are less subject to deterioration. Storage at uncontrolled temperatures decreases the shelf life. Temperatures above 80 degrees F usually accelerate the deterioration of these materials by polymerization.

(2) Shelf Life - This term refers to the maximum period of time, beginning from the date of manufacture or date of shipment, which a packaged material can be stored at specified temperatures and remain suitable for use. The date of manufacture or date of shipment, whichever is applicable, will be marked on the container.

*(3) Aircraft Sealants and Adhesives will be inspected periodically for shelf life. Any item that reflects less than thirty days remaining of shelf life will be removed and disposed of according to local policy.

*(4) The shelf life inspection will be documented in a log and signature of person or persons that made the inspection reflecting the date completed.

*(5) Items for inspection or test must be isolated until testing or inspection is accomplished as per manufacturer's instructions or product standards to determine suitability for extension of the product. Products identified for reinspection that do not have a specified standard must be inspected to ensure seals and containers have not been broken and no contamination of the product has occurred. Items identified for retest must be coordinated with AVN-340 to develop test criteria for continued use.

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CHAPTER VI. SERVICING

1. ACCIDENT AND FIRE REPORTING

A. GENERAL

This section establishes reporting procedures to ensure compliance with FAA Order 3900.24A, Accident and Fire Reporting. The reporting of all accidents, injuries, damage to government property and fire is required by this order.

B. RESPONSIBILITY

(1) Each employee, including contract employees, while at the work site will notify their supervisor immediately of any accident in which they are involved or observe, regardless of the severity.

(2) The supervisor will investigate and prepare the required reports within 24 hours of all accidents involving their employees or visitors.

C. DISTRIBUTION

All required forms will be forwarded through the normal chain of command to the FAA Senior Flight Safety Officer, AVN-9, and one copy to Flight Inspection Maintenance Division, AVN-300. Depending upon the severity of the accident or fire, other reporting organizations may need to be notified.

For detailed submission and procedural guidance, refer to instructions in FAA Order 3900.24A.

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CHAPTER VI. SERVICING

2. AIRCRAFT FUELING PROCEDURE

A. GENERAL

All personnel will follow these standard practices used in conjunction with the instructions contained in the Approved Flight Manual (AFM) on board each specific type aircraft to be serviced.

(1) When aircraft are located and serviced at an FAA Maintenance Facility, a maintenance person will oversee the fueling operation. The maintenance person will coordinate and ensure that the standard practices and procedures in this manual are followed. For servicing away from an FAA Maintenance Facility and when maintenance is not available, the pilot in command will have responsibility for servicing operations.

B. POSITIONING OF AIRCRAFT FUEL SERVICING VEHICLES

(1) Position the servicing vehicle so that a path of egress from the aircraft is maintained. The fuel servicing vehicles shall not be positioned under the wing of the aircraft during overwing fueling. Fuel servicing vehicles shall not be positioned within a 10-foot radius of aircraft fuel system vent openings. Minimum distance between aircraft being serviced and other aircraft shall be as follows: For large aircraft a minimum of 20 feet and for a small aircraft a minimum of 10 feet shall be maintained.

(2) When approaching an aircraft to be fueled, the tank truck driver should approach the aircraft parallel to the wings, unless single point locations on the aircraft require a different approach.

NOTE: The servicing vehicle shall not be driven or parked under any portion of the aircraft.

(3) Position mobile fueling equipment so it can either be rapidly driven or towed away from the aircraft in the event of an emergency. Do not park ramp equipment where it will obstruct the movement of the fuel truck.

C. BONDING

(1) Prior to making any fueling connection to the aircraft, the fueling equipment shall be bonded to the aircraft by use of a cable, thus providing a conductive path to equalize electrical potential between the fueling equipment and aircraft. The bond shall be maintained until fueling connections have been removed.

(2) In addition to the above, when fueling overwing, the nozzle shall be bonded to a metallic component of the aircraft that is metallically connected to the tank filler port. The bond connection shall be made before the filler cap is removed. If there is no plug receptacle or means for attaching a clip, the operator shall touch the filler cap with the nozzle spout before removing the cap so as to equalize the electrical potential between the nozzle and the filler port. The spout shall be kept in contact with the filler neck until the fueling is completed.

(3) Bonding and fueling connections shall be disconnected in the reverse order of connection.

D. FIRE EXTINGUISHER

Each aircraft fuel servicing vehicle shall have at least two fire extinguishers, that are accessible during fueling operations.

E. PREVENTION AND CONTROL OF SPILLS

(1) Fuel servicing equipment will be maintained in safe operating condition. Leaking or malfunctioning equipment shall be removed from service.

(a) Fuel nozzles shall not be dragged along the ground.

(b) Pouring or gravity flow shall not be permitted from a container with a capacity of more than five gallons.

(c) When a spill is observed, the fuel servicing shall be stopped immediately by release of the dead-man controls. In the event that

a spill continues, the equipment emergency fuel shutoff shall be actuated. The supervisor shall be notified at once and the operation shall not be continued until the spill has been cleared and it is determined to be safe.

(d) The airport fire crew shall be notified if a spill occurs which continues to flow, or is otherwise a hazard to persons or property. This spill shall be investigated to determine the cause, whether emergency procedures were properly carried out, and what corrective measures are required.

F. EMERGENCY FUEL SHUTOFF

(1) Access to emergency fuel shut-off control shall be kept clear at all times.

(2) Emergency fuel shutoff devices shall be functionally checked periodically.

G. EQUIPMENT AROUND AIRCRAFT

(1) Internal combustion engine powered equipment, other than those performing aircraft coordination or servicing functions, shall not be permitted within 50 feet of aircraft during fuel servicing operations.

(2) Equipment performing aircraft servicing functions shall not be positioned within a 10-foot radius of aircraft fuel system vent openings.

(3) During overwing aircraft fuel servicing where aircraft fuel system vents are located on the upper wing surface, equipment shall not be positioned under the trailing edge of the wing.

H. ELECTRICAL EQUIPMENT USED ON AIRCRAFT SERVICING RAMPS

(1) Battery chargers shall not be connected, operated, or disconnected while fuel servicing is being done on the aircraft.

(2) Aircraft ground-power generators or other electrical ground-power supplies shall not be connected or disconnected while fuel servicing is being done on the aircraft.

(3) Electric tools or similar tools likely to produce sparks or arcs shall not be used while fuel servicing is done on the aircraft.

(4) Photographic equipment shall not be used within 10 feet of fueling equipment or of the fill or vent points of aircraft fuel systems.

(5) Battery-powered vehicle equipment shall not be operated within 10 feet of fueling equipment or spills.

(6) Communications equipment used during aircraft fuel servicing operations within 10 feet of fueling equipment or of the fill or vent points of aircraft fuel systems shall be intrinsically safe (see ANSI/UL 913-1988).

*(7) Uncommanded tripping of a circuit breaker during fueling procedures must be investigated by maintenance personnel prior to further fueling of AVN aircraft. The circuit breaker may not be reset by other than an AVN flight crewmember or maintenance personnel.

I. OPEN FLAMES ON AIRCRAFT FUEL SERVICING RAMPS

(1) Open flames on aircraft fuel servicing ramps or aprons within 50 feet of any aircraft fuel servicing operation or fueling equipment shall be prohibited.

(2) The category of open flames and lighted open-flame devices shall include, but not be limited to, the following:

(a) Lighted cigarettes, cigars, pipes.

(b) Exposed flame heaters, liquid, solid, or gaseous devices, including portable and wheeled gasoline or kerosene heaters.

(c) Heat-producing welding or cutting devices and blowtorches.

(3) Lighters or matches are prohibited on or in fueling equipment.

J. LIGHTNING PRECAUTIONS

Fuel servicing operations shall be suspended when there are lightning flashes in the immediate vicinity of the airport.

K. FUELING

(1) Prior to starting fueling operations, a check will be made to ensure that the fuel in the tanker is the correct grade for the aircraft. Also verify that

adequate procedures have been used to prevent water in the tanker from being serviced into the aircraft fuel system. Prior to daily fueling operations, fuel should be sumped into a clean white porcelain or enamel bucket to determine if water or other contaminants are present. Fuel samples should have a clear and bright appearance.

(a) Jet Fuel

Jet fuels are of two distinct types. The Jet A and Jet A-1 are low volatility fuels of the kerosene type. Jet B is a wide cut gasoline type made from parts otherwise used to make both kerosene and gasoline. These three grades vary in color from white to light yellow. Jet engines will operate on all three grades under most conditions, but each grade of fuel has characteristics which require that it be left separate. It is also desirable to make a clear distinction between the low volatility Jet A-1 and Jet A and the more volatile Jet B. The naming system for the jet fuels is painted in white letters on a black background for contrast to the gasoline color code which is painted in white letters on a red background. Circular bands of an identifying color are painted or taped around the piping at intervals as one part of the marking code. For jet fuel, bands of black, gray, and yellow are used to identify Jet A, Jet A-1 and Jet B respectively.

(b) Reduce the rate of fuel flow as fuel nears the top of the tank to prevent fuel spill.

(2) The fueling operator shall monitor the panel of the fueling equipment and the aircraft control panel during pressure fueling or shall monitor the fill port during overwing fueling.

(3) Fuel flow shall be controlled by use of a dead-man control device.

(4) When single point fueling, check fuel vents for obstructions, and that air is escaping when fuel is being pumped.

L. FUEL SPILLS

The following actions are appropriate in the event of a fuel spill, although each spill will have to be treated individually because of such variables as: size of the spill, type of flammable or combustible liquid involved, wind and weather conditions, equipment arrangement aircraft occupancy, emergency equipment,

and personnel available. Refer to National Fire Protection Association (NFPA) 407 Standard for Aircraft Fuel Servicing for thorough discussion of fuel spills.

(1) Terminate the fueling operation; stop the flow of fuel if possible.

(2) Halt any operations in progress until a determination is made they may be continued safely.

(3) Evacuate the aircraft if the spill is such as to pose a fire threat.

(4) Mobile fueling equipment and other mobile equipment should be withdrawn or left as is until the fuel spill is removed or made safe.

(5) Notify supervisory personnel and the airport fire crew if the spill presents a fire hazard.

(6) Order AC 1050.4, "Spill Prevention and Response Plan," should be referenced when a fuel spill occurs. This order meets the Environmental Protection Agency clean-up requirements for aircraft fuel spills.

CHAPTER VI. SERVICING

3. DEFUELING PROCEDURES

A. GENERAL

The following practices and procedures shall be used in conjunction with the instructions set out in the maintenance manual for each specific type aircraft to be serviced. It will be the responsibility of the person in charge to see the following safety practices are complied with.

(1) When aircraft are located and serviced at an FAA Maintenance Facility, a Maintenance person will oversee the fueling operation. The maintenance person will coordinate and ensure that the standard practices and procedures in this manual are followed. For servicing away from an FAA Maintenance Facility and when maintenance is not available, the pilot in command will have responsibility for servicing operations.

B. POSITIONING DEFUEL TRUCK

(1) When positioning an aircraft to be defueled, due consideration should be given to the wind to prevent fuel vapor from being carried downwind toward a source of ignition. Aircraft being defueled shall be positioned at least 25 feet from other aircraft and buildings.

(2) The tank truck driver will approach the aircraft parallel to the wings, unless single point locations on the aircraft require a different approach.

NOTE: Unless absolutely necessary, because of the type of aircraft involved, the servicing vehicle shall not be driven or parked under any portion of the aircraft.

(3) Position the defuel truck so it can either be driven or towed away from the aircraft in the event of an emergency. Do not park ramp equipment where it will obstruct the movement of the tank truck.

C. BONDING

(1) Always make the correct bonding connections before defueling.

(2) Connect a bonding cable from the fuel tanker to the aircraft. Do not attach cable to propellers or radio antenna.

(3) Before removing any aircraft fuel tank filler cap, connect the bonding cable attached to the fuel hose nozzle to a metallic component of the aircraft.

(4) All containers used in the defueling of aircraft will be grounded.

D. FIRE EXTINGUISHER

Portable fire extinguishers (dry chemical or CO2) shall be available on the ramp or apron in case of a fuel spill or fire to provide an immediate means of fire protection. The prominent and strategic positioning of fire extinguishers is essential so they may be of maximum value in the event of an emergency. In some situations it may be desirable to position an extinguisher near an aircraft. In this situation, locate the extinguisher upwind within 50 feet of the aircraft.

E. USE OF GROUND POWER UNITS

(1) Position ground power units upwind from the defueling operation as far distant as possible.

(2) Do not obstruct the path of the defuel truck.

F. DEFUELING

(1) Prior to starting defueling operations, a check will be made to ensure that the fuel in the aircraft is the same grade as in the defuel truck.

(2) Make certain storage tank, compartment, receptacle, etc., are clean and of sufficient capacity to hold the amount of fuel to be drained.

(a) Reduce rate of defueling as fuel nears top of storage container, to prevent overflow and subsequent hazardous fuel spillage.

(b) A second man will be required at the fuel truck to monitor tank level during defueling to prevent spillage.

(3) When single point defueling, check fuel vents for obstructions.

NOTE: Defueling shall be stopped whenever lightning or severe thunderstorms are noted in the immediate area of the defueling procedure.

G. FUEL SPILLS

The following actions are appropriate in the event of a fuel spill, although each spill will have to be treated individually because of such variables as: size of the spill, the flammable or combustible liquid involved, wind and weather conditions, equipment arrangement, aircraft occupancy, emergency equipment, and personnel available. Refer to National Fire Protection Association (NFPA) 407 Standard for Aircraft Fuel Servicing for a thorough discussion of fuel spills.

(1) Terminate the defueling operation; stop the flow of fuel if possible.

(2) Halt any operations in progress until a determination is made that they may be continued safely.

(3) Evaluate the aircraft if the spill is such as to pose a fire threat.

(4) Mobile fueling equipment and other mobile equipment should be withdrawn or left as is until the fuel spill is removed or made safe.

(5) Notify supervisory personnel and the airport fire crew if the spill presents a fire hazard.

(6) Order AC 1050.4, Spill Prevention and Response Plan, should be referenced when a fuel spill occurs.

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CHAPTER VI. SERVICING

4. AIRCRAFT FUEL CONTAMINATION CONTROL

A. GENERAL

Aircraft fuel, especially turbine fuel, is susceptible to water contamination. Under certain conditions any water remaining in the tanks can freeze and clog the fuel screen(s). The presence of water also supports bacterial growth which can clog fuel system components and cause corrosion. The following procedures are provided to minimize problems in this area. Depending on geographic location, some activities will have more water contamination problems and require additional precautions to minimize contamination from water.

B. WHEN TO TEST FOR WATER - WHAT METHOD TO USE

Aircraft fuel sumps are to be drained in accordance with the specific aircraft maintenance/inspection program requirements.

The fuel sample drain should be of sufficient quantity to be inspected for contaminants.

NOTE: BECAUSE WATER SETTLES MORE SLOWLY THROUGH TURBINE FUEL THAN THROUGH GASOLINE, AFTER REFUELING IT IS DESIRABLE TO ALLOW TIME FOR ANY FREE WATER WHICH MAY BE PRESENT TO SETTLE TO THE SUMP(S) BEFORE TAKING FUEL SAMPLE. A 15-MINUTE WAIT IS ADEQUATE, BUT A LONGER SETTLING PERIOD IS BETTER WHEN TIME PERMITS. THE DRAINED FUEL SAMPLE SHALL NOT BE RETURNED TO THE FUEL TANKS.

C. VISUAL CHECK FOR CONTAMINATION

Visually examine the sample in a clean container, preferably in sunlight. Look for visible water (cloudy, droplets, emulsion, or separate layer). If any free water or other foreign matter is present, it will tend to collect at the bottom of the container. If water is detected, drain sufficient fuel from the tank sumps until visual check reveals no water contamination.

(1) Take additional action as indicated by the situation after informing the appropriate supervisor. This should normally include repetition of test before resuming fueling to check if the procedure during the test was at fault.

(2) Report the incident to the immediate supervisor with all pertinent details.

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CHAPTER VI. SERVICING

5. AIRCRAFT EMERGENCY EQUIPMENT PROCEDURES

A. GENERAL

*This section establishes procedures for storage, installation, and replacement of life rafts and life vests used for FAA flight inspection aircraft.

(1) Life vests will be stored, tracked, and issued under a single part and serial number but when used on an aircraft will be issued in a lot of four to five vests under the serial number of the vest with the earliest inspection expiration date.

(2) Life rafts will be combined, stored, tracked and issued with a serviceable Mod-1 Kit under Part number 4001-9/95M01-2. This combined kit will be tracked in the electronic database using the serial number and inspection expiration date of the life raft.

*

*

B. TRACKING

*Tracking of all emergency items will be accomplished by the Production Control unit under AVN-335 using the electronic database.

Since all emergency equipment is being tracked as hardtime items, maintenance personnel must accomplish cannibalization paperwork when moving emergency items from one aircraft to another. Additionally, maintenance must pay close attention to ensure that kits are not broken into separate units when moving the kits from aircraft to aircraft. Note: This action will invalidate the kit.

*AVN-335 will monitor and issue all requirements to change emergency items when inspections are approaching expiration.

*(1) Life vests will be tracked in the electronic database as a hard time aircraft item under a single position number using the serial number of the vest with the earliest inspection expiration date.

*(2) The combined Mod-1 kits will be tracked in the electronic database as a hard time aircraft item under a single position number using the expiration date of the life raft.

*(3) Exposure kits will be tracked in the electronic database as a hard time aircraft item under a single position number using the serial number of the exposure suit with the earliest inspection expiration date.

*C. EMERGENCY EQUIPMENT IDENTIFICATION

All emergency equipment must have an Emergency Equipment Inspection Label, VN Form 4100-92, affixed noting all inspection accomplishment data. (Reference Chapter IV.)

CHAPTER VI. SERVICING

6. AIRCRAFT INTERIOR FABRIC COVERINGS

A. GENERAL

*This section establishes Aircraft Maintenance and Engineering Division (AMED), AVN-300, procedure regarding disposition of soiled aircraft interior fabric coverings, i.e., seat covering, floor covering, overhead and sidewall covering, window covering, etc.

B. PROCEDURE

When aircraft interior fabric coverings become soiled, they will be removed and replaced or recovered with appropriately certified material. Aircraft interior material must meet burn and fire blocking and/or flame resistance requirements under which the aircraft was certificated or operated. Substitution of material with similar material is acceptable if the burn and flame resistance requirements are determined adequate.

***NOTE**: Aircraft interior fabric coverings will not be cleaned by any method other than dry brushing, wiping or vacuuming.

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CHAPTER VI
SECTIONS 7 thru 8
RESERVED

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CHAPTER VI. SERVICING

9. AIRCRAFT GROUND HANDLING SAFETY

A. GENERAL

This chapter established safety practices for taxiing, towing, application of external electrical power and engine run-up. Where the safety requirements of this section cannot be met, a waiver shall be secured from the division manager or facility manager, specifically stating the conditions which exist within the facility that causes a need for a waiver to be issued.

NOTE: When removing chocks from an aircraft for towing or taxi, the chocks must be removed and stored in a readily accessible location other than the aircraft. **Do not temporarily hang or store chocks in landing gear wheel well areas or on wings while repositioning aircraft.**

B. RESPONSIBILITY

*Activities operating and/or maintaining AVN aircraft will adhere to the provisions of this chapter.

(1) Taxiing of aircraft should be held to a minimum.

(2) Extra caution should be observed when movement of aircraft is necessary during darkness and/or inclement weather. Marshalls shall use illuminated wands when guiding aircraft at night.

(3) Except in emergencies, aircraft will not be moved or operated unless the minimum approved ground crew, as specified in this chapter, is available and utilized.

C. SAFETY OBSERVER

For initial engine run after maintenance, a properly trained individual will be stationed near the aircraft prior to engine starting. The individual will serve as a safety observer and shall stand by until all engines are operating and the danger of fire during start no longer exists.

D. COCKPIT

The appropriate cockpit checklist shall be used for starting, operating and trouble shooting of aircraft engines. The outlined procedures shall be followed before, during, and after the operation.

E. EXTERNAL GROUND POWER UNITS

Ground Power Units, electrical heating and air-conditioning units shall be located as far as practical from refueling facilities, fuel tanks vents and drains. Only authorized personnel shall start, operate ground power and auxiliary power units.

F. ENGINE RUN-UP

When performing maintenance with engines running, personnel must exercise extreme caution. When making engine adjustments with cowling opened or removed, there must be direct communications between the person at the controls and the person making the adjustments. Preoccupation with the maintenance task may distract attention from spinning propellers or intake and exhaust hazards.

G. PREVENTING INADVERTENT OPERATIONS OF AIRCRAFT SYSTEMS UNDERGOING MAINTENANCE

(1) To prevent personal injuries from the unexpected startup or operation of aircraft systems, either a lock-out device or tag-out device, FAA Form 6950-5, will be used to isolate or render the system inoperative. This applies to electrical, mechanical, pneumatic or hydraulic systems, or the activation of flight control systems, landing gear or doors during installation, servicing or maintenance.

(2) A lock-out device that holds the system undergoing maintenance in a safe position, and which ensures the system cannot be operated until it is removed, shall be used where possible.

(3) Tag-out devices are essentially warning devices affixed to the circuit breaker, junction box, power lever, throttle, control switch, head, handle, knob, etc., of the system(s) undergoing maintenance. When tag-out devices are used they must be RED colored, securely attached to the system controls, and indicate that the system being controlled may not be operated until the tag-out device is removed. The tag must also identify the authorized person attaching it.

(4) Avionic technicians, aircraft technicians, engineering technicians, or any person servicing or performing maintenance on AVN aircraft are authorized to install and/or attach lock-out or tag-out devices. A Nonroutine Work Form will be initiated to record attachment of lock-out or tag-out devices.

(5) When necessary to temporarily remove the lock-out or tag-out device to test or position a system, the following sequence shall apply.

(a) Clear the area of equipment, tools, and materials which may be affected by movement.

(b) Advise all employees in the area that the lock-out or tag-out device is being removed and the system is to be tested.

(c) Remove the lock-out/tag-out device.

(d) Energize and proceed with testing or positioning.

(e) Deenergize system and reapply lock-out/tag-out device if additional maintenance is to be performed.

(f) Advise all employees working in the area that lock-out/tag-out control is in effect.

*(6) During shift or personnel changes, the oncoming personnel will be advised that a lockout/tagout situation exists by completing an Incomplete Maintenance Work Turnover, VN Form 4100-154.

(7) When all work on the affected system is completed the Nonroutine Work Form will be signed off to indicate removal of all installed lock-out or tag-out devices.

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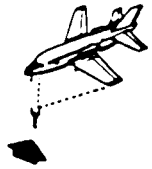
CHAPTER VI. SERVICING

10. APPROVED MARSHALING HAND SIGNALS

A. ASSUMING GUIDANCE OF AIRCRAFT

The marshall person indicates "I am your marshall - am properly positioned and assuming guidance of the aircraft." Both arms are raised vertically to full length.



SIGNALMAN'S POSITION

B. COME AHEAD SIGNAL

The marshall person indicates the aircraft should proceed straight ahead. Both hands slightly above eye level, elbows at shoulder level. Motion with the forearms upward through the vertical position for the aircraft to come ahead. The signal will be repeated until the aircraft approaches the stop position.

C. RIGHT TURN

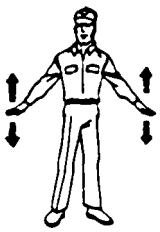
The marshall person points their left arm at the right wheel of the aircraft around which it is to pivot while continuing the "Come Ahead" signal. The sharpness of the turn may be varied by increasing or decreasing the rapidity of the come ahead motion.

D. LEFT TURN

The marshall person points their right arm at the left wheel of the aircraft around which it is to pivot while continuing the "Come Ahead" signal. The sharpness of the turn may be varied by increasing or decreasing the rapidity of the come ahead motion.

E. SLOW DOWN

The marshall person requests a decrease in taxi speed by extending the arms out sideways from the body, hands and wand pointing downward. With elbows slightly bent he makes a downward repetitive motion.



F. STOP SIGNAL - BRAKES ON

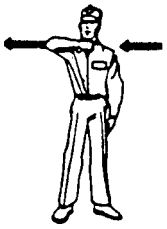
(1) Under normal conditions the stop signal should flow naturally from either the "Come Ahead" or "Slow Down" signals. Beginning with arms extended horizontally, sideways, the marshall person modulates the closure rate of the aircraft to the parking spot by raising arms toward the vertical. The nose wheel should stop on the spot as the wands cross. The "Stop" signal will be used when necessary to hold the aircraft away from the normal parking position.

(2) Engine(s) will not be shut down until the "Cut Engine(s)" signal is given.

(3) The brakes will be held "ON" until the Chocks "IN" signal is given.

G. CUT ENGINE(S)

Engine(s) will not be shut down until this signal is given. The marshall person draws one hand and wand horizontally across the neck in cutting motion. If only one engine is to be cut, the marshall person will point other hand at the engine to be shut down.



H. CHOCKS INSERTED - BRAKES OFF

(1) FAA operations require the operator to hold pressure on the foot brakes until chocks have been inserted. His signal advises the operator that chocks are in and they may resume their other duties. Hands are held aside and outward from the body with wands pointed across the body. A downward motion is made bringing the tips of the wand together.

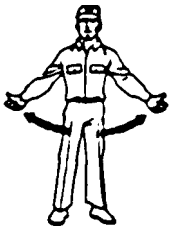
(2) The operator will acknowledge by showing marshall person both fists, thumbs extended toward each other.

I. SET BRAKES

The marshall person requests the parking brakes be set by pointing both arms held shoulder high at the aircraft with wands pointed toward each other, tips touching. Slight up and down motion with the arms may be used to attract operators attention.

J. CHOCKS REMOVED

The marshall person advises the operator that chocks have been removed by reversing "Chocks Inserted" motion. Hands are held straight down with wands pointed outward. A sweeping motion upward and outward is made to shoulder level.



K. START ENGINES

Engine starting by hand signal will be used if headset is unavailable. The marshall person will point the engine to be started while extending the other shoulder level and rotating forearm, hand, and wand.

CHAPTER VI. SERVICING

11. TAXIING AIRCRAFT

A. GENERAL

*Authorized technicians or appropriately rated pilots shall be permitted to taxi AVN aircraft. Taxiing operations shall be performed in accordance with all applicable FAA and local directives. Taxi authorization for A&P technicians will be requested using an Authorization Request Form, VN Form 4100-21, (Chapter IV), and will be issued in accordance with instructions of Chapter VII, Section 1 of this manual. A person authorized to taxi aircraft shall be familiar with radio communications procedures and airport control tower or ground control frequencies.

(1) The person in charge of taxiing is responsible to ascertain that all existing procedures, regulations, and standards are complied with.

(2) Brakes shall be checked for proper operation and hydraulic pressures will be constantly monitored.

(3) Reverse thrust shall not be used for backward movement of the aircraft.

(4) Weather, wind, and ramp conditions shall be considered and good judgment exercised before taxiing any aircraft. Light twin aircraft will not be taxied by maintenance personnel when surface winds are above 25 MPH. When wind conditions are above 25 MPH, taxi test should be delayed or performed by pilot personnel.

(5) Position the flight controls to compensate for existing wind and/or terrain as specified in the appropriate Aircraft Flight Manual or Pilots Operating Handbook.

(6) Wing walkers shall be utilized in congested areas. Minimum power should be used to prevent damage to surrounding aircraft and equipment.

(7) Prior to any movement of aircraft across runways or taxiways, clearance must be obtained from the airport Air Traffic Control or determined visually on airports without radio control facilities. Airport ground control frequencies shall be monitored at all times during taxi and run-up operations. The receiver volume shall be adjusted high enough to be heard above the sound of the engines.

(8) When taxiing at night, turn position lights, landing lights, and anti-collision light ON, strobe lights should be turned OFF.

(9) Taxi speed shall be held to minimum, especially when utilizing wing walkers or taxiing in congested areas. Taxing speed shall not exceed a persons normal walking pace.

B. STANDARD TAXI LIGHT SIGNALS

LIGHTS	MEANING
Flashing Green	Cleared to Taxi
Steady Red	Stop
Flashing Red	Taxi clear of runway in use
Flashing White	Return to starting point on airport
Alternating Red and Green	Exercise extreme caution

C. PARKING OF AIRCRAFT

(1) Aircraft shall be parked in designated parking areas as specified in the local authorized parking plan.

(2) Transient aircraft will be directed to a suitable parking area with voice communication when radio facilities are available and in use, at other times hand signals or follow-me vehicle will be used.

(3) Aircraft parked in hangars will be positioned clear of hangar doors at all times. During severe weather conditions, aircraft will be hangared. During normal weather conditions, the following criteria will be adhered to when there is a requirement to park an aircraft across the threshold of hangar doors.

(a) The aircraft will be securely chocked in position to secure minimum sway motion.

(b) Adequate clearance will be given between hangar doors and aircraft to allow maximum sway motion of aircraft and still not contact the hangar doors.

(c) Hangar door position will be secured by locking the control switches of power-operated doors and chocking the rollers on manually-operated doors.

(4) Designated parking areas are to be utilized for the purpose of performing engine test/run operations. When engine speeds are to be higher than idle, the person performing the engine run will ensure that the aircraft is parked in an area that is safe for all engine speeds.

(5) Wheel chocks shall be placed fore and aft of main landing gear or nose wheels, as applicable.

(6) Internal or external control locks shall be engaged.

(7) Landing gear down-lock safety pins shall be installed, if applicable.

(8) Install pitot covers.

(9) Aircraft parked in a hangar shall be statically grounded.

(10) Install intake and exhaust plugs on turbine powered aircraft.

(11) Maintenance equipment utilized in parking areas shall be removed and secured clear of the area after use.

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CHAPTER VI. SERVICING

12. AIRCRAFT TOWING/REPOSITIONING

A. GENERAL

Aircraft ground handling personnel shall be thoroughly familiar with all procedures pertaining to the type of aircraft being towed or repositioned and the local operating procedures regarding the ground movement of aircraft. New maintenance personnel will complete on-the-job training program before being authorized to ground handle aircraft.

NOTE: When removing chocks from an aircraft for towing, the chocks must be removed and stored in a readily accessible location other than the aircraft. **Do not temporarily hang or store chocks in landing gear wheel well areas or on wings while repositioning aircraft.**

(1) During normal duty hours a minimum of four personnel shall be utilized when towing aircraft in a congested area. The tow vehicle operator will be in charge of the operation. The person in charge shall ensure that members of the towing crew are familiar with their assignments. The wing and tail marshaling may be dispensed with when the aircraft is being moved in an area where no contact with objects are probable.

(2) A tail marshall shall be assigned when moving large aircraft with high vertical stabilizers into or out of hangers where it is necessary to guide the stabilizers through a narrow cutout door. A tail marshall shall be utilized whenever clearances are close and the possibility of contact with objects exist.

(3) The towing vehicle operator shall be responsible for operating his/her vehicle in a safe manner and shall obey emergency stop instructions given by any team member. When operating a government vehicle the operator shall be a qualified driver and, if at the Aeronautical Center, have a current U.S. Government Motor Vehicle Operators Identification Card, OF-346, reflecting qualifications for a tug/tractor.

(4) Each member of the towing team must be aware of who is in charge and the wing and/or tail marshall shall be prepared to relay clearances and guidance signals to him/her.

(5) The operator of the towing vehicle is responsible for using the services of a guideman whenever vision is restricted or the aircraft is being positioned into a close or congested area. The operator must take hand signals from ONE GUIDEMAN.

(6) Only one person, the GUIDEMAN, shall relay signals to the operator of the tow vehicle. Because verbal signals are easily misunderstood, the marshallmen shall avoid using them. All hand signals shall be standard and given with both arms. One-handed signals shall not be used. Hand signals may be supplemented with a shrill police type whistle.

(7) A qualified person shall be utilized in the pilot's seat of the aircraft being towed to observe and operate the brakes as required by the towing team. When necessary, another person shall be stationed to watch and maintain hydraulic pressure if the person in the pilots seat is unable to do so. All persons shall be familiar with normal and emergency braking procedures.

(8) Operating or towing of aircraft on taxiways or runways requires radio communication be established between the tow vehicle or a lead vehicle and the airport tower or ground control and maintained until terminated by tower or ground control personnel.

(a) The aircraft brakesman in the cockpit may utilize the aircraft radio for tower or ground control communications provided they also have two-way communication with the driver of the tow vehicle via interphone or hand-held radio.

(b) Towing of an aircraft with inoperable radios is permissible by utilizing a lead vehicle that has two-way radio communication with tower or ground control personnel.

(9) The person in charge of the towing operation shall verify that the nose gear torque link or rudder lock are disengaged when applicable prior to towing the aircraft. Rudder lock and/or torque links shall be reengaged after towing.

(10) Under no circumstances shall personnel walk between the nose wheel of a moving aircraft and the towing vehicle nor ride on the outside of a moving aircraft. To avoid personal injury, no person (except in an emergency situation) shall attempt to board or leave a moving aircraft or towing vehicle. All personnel shall be seated on installed seats during towing operations.

(11) The towing speed of the aircraft shall not exceed that of the walking team members. The aircraft engine shall not be operated at any time the aircraft is being towed into position.

(12) If necessary, the aircraft brake systems shall be charged before each towing operation. When towing aircraft with faulty brakes, personnel must be located by each main gear with chocks in hand for emergency use. Chocks shall be readily available in case of emergency during any towing operation. Aircraft brakes should be operationally checked prior to towing operations.

(13) To avoid possible injury and aircraft damage during towing operations, entrance ladders shall be retracted and gear-down locks installed, if applicable.

(14) When towing aircraft, the vehicle operator should not jerk the aircraft or start and stop suddenly. Cockpit personnel shall not apply aircraft brakes during towing operations unless an emergency exists. Upon completion of the towing operation, the tug driver shall notify the brakeman to set brakes if applicable.

(15) Aircraft shall be parked in specified areas only. Generally, the distance between rows of parked aircraft shall be enough to allow immediate access of emergency vehicles in case of fire and also permit free movement of equipment and materials.

(16) Prior to any movement of aircraft across runways or taxiways, contact shall be made with the airport control tower or ground control for clearance to proceed.

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CHAPTER VI.
SECTIONS 13 thru 75
RESERVED

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CHAPTER VI. SERVICING

76. AIRCRAFT DEICING/ANTI-ICING COLD WEATHER GROUND OPERATION

A. GENERAL.

*It is AVN-300's policy to hangar all Flight Inspection Aircraft. Information regarding aircraft deicing/anti-icing cold weather ground operation can be found in TI 4040.50A, Flight Inspection Operations Manual.

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CHAPTER VI.
SECTIONS 77 thru 81
RESERVED

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CHAPTER VI. SERVICING

82. CHEMICAL TOILETS

A. GENERAL

Chemical toilets will be serviced following procedures given in the aircraft maintenance manual applicable to the aircraft being serviced. As with any other maintenance function, safety measures should be followed carefully during this procedure.

WARNING: CHEMICAL CONCENTRATE USED IN TOILETS MAY CAUSE IRRITATION IF IT CONTACTS EYES OR SKIN. IF CONCENTRATE CONTACTS EYES OR SKIN, FLUSH WITH CLEAN WATER. IF IRRITATION PERSISTS, SEEK MEDICAL AID.

(1) The following materials and equipment will be utilized to accomplish servicing efficiently and safely. Chemical toilets will be serviced with a mixture of 75% propylene glycol and 25% water, in lieu of straight water, during temperatures below freezing. This is in addition to all other requirements that may be specified in the aircraft maintenance manual.

(a) Approved toilet servicing unit.

(b) Neoprene or natural rubber gloves.

(c) Face shield and water proof apron.

(d) Approved deodorant/disinfectant chemical.

(2) Aircraft being operated in temperatures below freezing will be serviced in accordance with the requirements stated in the aircraft maintenance manual.

(3) Care should be taken to prevent any spills on the ramp area or hangar floor.

(4) All waste will be disposed of in an approved waste disposal receptacle in accordance with local, city, and state requirements.

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CHAPTER VI. SERVICING

83. AIR CONDITIONING UNITS

A. GENERAL

Each aircraft requires different servicing procedures and system components will be located at different points on the aircraft. The appropriate aircraft manufacturers maintenance manual will be referenced for servicing instructions.

(1) The following safety measures will be adhered to:

WARNING: CHARGED FREON SYSTEMS ARE UNDER HIGH PRESSURE. THE UNEXPECTED RELEASE OF FREON MAY CAUSE PERSONAL INJURY. EXERCISE CAUTION WHEN CHECKING FOR LEAKS AND/OR MAKING REPAIRS WHEN THE SYSTEM IS CHARGED.

(a) A face shield will be worn by all personnel in the immediate area when freon systems are being serviced.

(b) When it is necessary to remove or replace any component in a freon system which requires the depletion of the freon charge, an EPA approved freon reclamation unit will be utilized. This will prevent the loss of freon into the atmosphere.

CAUTION: REMAIN CLEAR OF ANY COMPONENT THAT MAY BE INADVERTENTLY OR UNEXPECTEDLY ACTIVATED DURING THE SERVICING OF ELECTRICALLY OPERATED AIR CONDITIONING SYSTEMS.

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CHAPTER VI.
SECTION 84 thru 86
RESERVED

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CHAPTER VI. SERVICING

87. HYDRAULIC AND OIL SERVICING

In addition to the requirements outlined in the Aircraft Maintenance Manual the following shall apply to hydraulic/oil servicing of aircraft, engines, and APU.

A. SERVICING EQUIPMENT

(1) Avoid spilling oil or hydraulic fluid on aircraft surface or maintenance stands.

(2) Ground aircraft and servicing vehicles prior to making servicing connections. Hand operated hydraulic and oil servicing carts need not be grounded during servicing operations.

(3) Position servicing equipment as far from any portion of the aircraft as cables/hoses will allow. Maintenance stands shall be properly positioned to obtain easy access to filler caps.

***CAUTION: SOME AVN AIRCRAFT USE SKYDROL HYDRAULIC FLUID WHICH IS NOT COMPATIBLE WITH STANDARD RED MIL-H-5606. MAKE SURE THAT THE AIRCRAFT MAINTENANCE MANUAL REQUIREMENTS ARE FOLLOWED TO PREVENT CONTAMINATION.**

B. SERVICING CONTAINERS

(1) When servicing from cans or drums, ensure that cleanliness and product integrity are maintained.

(2) Keep each product segregated and properly identified.

(3) Carefully read the label before dispensing oil and hydraulic products to ensure the correct product is being used.

(4) Personnel will not use fluids obtained from permanent or temporary storage containers which are not properly identified.

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CHAPTER VI. SERVICING

88. HIGH PRESSURE GAS CYLINDER SERVICING PROCEDURES

A. GENERAL

The following procedures are provided to reduce the inherent danger of servicing high pressure gas cylinders.

*(1) Before servicing any aircraft, technicians shall consult the specific aircraft maintenance manual to ascertain the proper type of servicing equipment to be used.

(2) Two employees shall be required to service the aircraft with gaseous nitrogen. One person shall be stationed at the control valves of the servicing equipment and one person stationed where they can observe the pressure in the aircraft system. Communication between the two employees is required in case of an emergency.

(3) Aircraft shall not be serviced with oxygen during fueling, defueling or other maintenance work which could provide a source of ignition.

(4) Insure that the cylinder to be serviced is well anchored and secured against any motion due to failure of regulator.

(5) Remove cover plate from the valve of the cylinder to be charged. Rotate cam so that valve is in the open position.

(6) Connect the hose from the supply cylinder to a pressure gauge and then to the cylinder to be charged. Charge cylinder to the pressure recommended in the specific Aircraft Maintenance Manual.

(7) Open valve on supply cylinder slowly, charge slowly to prevent receiving cylinder from getting too hot.

(8) Close valve on the cylinder being charged by turning cam to closed position. Close valve on the supply cylinder. Remove cylinder from the hose and gauge.

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CHAPTER VI. SERVICING

89. SERVICING OF AIRCRAFT OXYGEN SYSTEMS

A. GENERAL

Several cases of serious fires while servicing high-pressure oxygen systems have occurred. Certain precautions must be taken to minimize the occurrence of accidents during high-pressure replenishment.

B. SERVICING OF OXYGEN SYSTEMS

The following precautions shall be taken whenever aircraft oxygen systems are being serviced:

(1) Before servicing any aircraft with oxygen, (MIL-0-27210D) consult the specific aircraft service manual to determine the type of equipment required and procedures to be used.

(2) Personal cleanliness and good housekeeping are imperative when working with oxygen. Oxygen under pressure and petroleum products create spontaneous results when they are brought in contact with each other. Service people should be certain to wash oil and grease (including lip salves, hair oil, etc.) and dirt from their hands before working around oxygen equipment. It is also essential that clothing and tools are free of oil, grease, and dirt.

(3) Aircraft with permanently installed oxygen tanks usually requires two persons to accomplish servicing of the system; one stationed at the service equipment control valves, and the other stationed where he can observe the aircraft system pressure gauges.

(4) For aircraft with removable oxygen tanks, remove the tanks and service in accordance with procedures in Chapter VI, Section 88.

(5) No personnel shall be on board the aircraft other than those required to service the oxygen system.

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CHAPTER VII. TRAINING

1. AIRCRAFT MAINTENANCE AND INSPECTION TRAINING PROGRAM FAR 135.433

A. GENERAL

*(1) The Aircraft Maintenance and Engineering Division (AMED) Training Program will be used to ensure that each person (including inspection personnel) determining the adequacy of work done is fully informed about the procedures, techniques, and any new equipment used by the AVN Flight Program.

*(2) The AMED Training Program will also ensure that each person performing maintenance or inspection on AVN aircraft are competent to perform those duties.

B. RESPONSIBILITIES

(1) The Director of Maintenance of the FI Maintenance Program is responsible for the overall content, quality, and administration of the AVN Aircraft Maintenance and Inspection Training Program.

*(2) The section supervisor is responsible for the determination of the training needs of each individual assigned to their respective section. The section supervisor will also ensure that all requirements of the Training Program are satisfactorily completed as required.

C. EQUIVALENT TRAINING EXPERIENCE

In lieu of training, the Section Supervisor, may accept documents, certificates, and authorizations an employee received during previous employment which reflects equivalent training received or experience gained. The previous experience or training gained must be carefully evaluated, using manufacturers' manuals or other appropriate technical publications, by the manager or supervisor to ensure its applicability to the job the person is to perform.

D. METHODS OF TRAINING

(1) Formal Classroom (Academy or out of agency)

(a) This is formal classroom type training that is performed under the supervision of an instructor in the FAA Academy or at an out of Agency training facility.

(b) Formal classroom training may be supported by classroom mockups, visual aids, videos or practical demonstrations.

(c) Documents and certificates will be presented to the student upon satisfactory completion of the course and will be entered in the student's permanent training record.

(2) OJT (On-the-Job Training)

(a) OJT is conducted at the work site by a supervisor, designated instructor, or manufacturer representative. This type of training is limited to the demonstration of a maintenance operation or the direct supervision of an employee performing a maintenance operation.

(b) OJT is accomplished by utilizing the applicable technical publications that contain the approved/accepted procedures for the maintenance or inspection task to be accomplished. The instructor assigned to conduct the individual OJT will ensure that all applicable technical information for the specific OJT is used.

*(c) The instructor will complete an On-the-Job Training Certificate, VN Form 4100-60 (reference Chapter IV) after satisfactory completion of the training. The instructor will document the OJT that was accomplished and the specific technical information that was used as a basis for the training. The completed VN Form 4100-60 is verification that the technician has been trained and is competent to perform maintenance or inspection of the particular system or equipment. The technician will sign the form verifying the satisfactory completion of the training. After the supervisor has verified the training was accomplished, VN Form 4100-60 will then be filed in the individual's training record.

(d) OJT instructors must be authorized and designated by the Quality Assurance Branch, AVN-320. OJT instructors must meet the following requirements:

1 Individual must be currently qualified by training or experience on the specific make/model of aircraft or engine, system, or appliance for which the OJT will be conducted.

*2 Individual must be recommended for the OJT instructor designation by his/her immediate supervisor, the branch manager and accepted by the Quality Assurance Branch, AVN-320.

3 A list of designated OJT instructors will be maintained by the Quality Assurance Branch, AVN-320.

(3) Direct Study

Direct study training is not required but is recognized as being an integral part of an employee's career progression. There are various forms of directed study courses. Some examples of this type training are CBT (Computer Based Training) and Correspondence Courses. If a direct study training course is evaluated by the Manager, AVN-320, and determined to be directly applicable to the job a person is assigned, it may be accepted as formal training when a means for determining satisfactory completion of the course can be established.

E. TRAINING REQUIREMENTS

(1) Maintenance/Avionics Inspection Orientation Course

A CBT FAR 135/145 Differences Course has been developed for AVN maintenance personnel who perform maintenance and are involved in the support of the Flight Inspection aircraft fleet. It consists of eight hours of CBT instruction.

(a) The course content is as follows:

General Maintenance Manual, TI 4100.24, Organizational Mission, Responsibilities and Structure.
FI Maintenance/Inspection Program
Technical Issuance System/Revision and Distribution.
Aircraft Log, VN Form 4100-8
Component Replacement and Return to Service
Required Inspection Items (RII)
Aeronautical Reliability Report (ARR)
Minimum Equipment List (MEL)
Special Flight Permit
Test/Evaluation Flights
Cannibalization
Engineering Order (EO) System
Weight and Balance
Special Inspection
Precision Measuring Equipment

*(b) The intent of the above course is to provide an increased awareness of the requirement for each employee to comply with the policies and procedures contained in this GMM.

(2) Technical Training

(a) Any person authorized to perform maintenance or inspections and that ensures adequacy of work on Flight Inspection aircraft or equipment must be fully informed about procedures, techniques and new equipment. Training on specific make and model airframe, powerplant, propeller, class of avionics equipment, or aircraft accessories is obtained through Formal training, OJT training, Directed Study or equivalent experience.

1 The formal training may be accomplished by attending a technical training course conducted by a manufacturer, a contract training organization or the FAA Academy. The FAA Academy and out-of-agency courses are listed in the FAA Catalog of Training.

Satisfactory completion of these courses requires documentation such as a diploma or certificate of completion.

2 OJT will be accomplished per paragraph D of this section.

3 Informal training, depending on experience, may be tailored towards the individual, i.e., reading or reviewing of pertinent information, technical publications, GMM procedures, etc.

*4 When new equipment is introduced into the AVN Maintenance System, the Engineering Order (EO) will identify training required.

(3) Required Inspection Training

(a) The Flight Inspection Maintenance Program will not use any person to perform required inspections (RII items) unless that person performing the inspection has been properly trained, qualified, and authorized to do so.

(b) Prior to Required Inspection authorization, personnel must complete Required Inspection training.

(c) RII training will be accomplished by the Quality Control Section Supervisor, AVN-324, or appropriate designee.

(d) RII training consists of a review of the General Maintenance Manual, Chapter III.29 and the following items:

1 A discussion of the duties and responsibilities of an RII inspector and the accountability to the Quality Control Section.

2 The procedures for reinspection of work (Rejection, Buy-back procedures). Reference General Maintenance Manual, Chapter III.29.

3 Procedures for inspection and calibration of precision tools, test equipment, and the proper use of this equipment. Reference General Maintenance Manual, Chapter III.99.

*4 Procedures to ensure that required inspection work, which is incomplete at shift change or because of other work interruptions, is properly completed before the aircraft is released to service. Reference General Maintenance Manual, Chapter III.21, Paragraph L.

*(e) After an individual satisfactorily completes RII training, the Quality Control Section Supervisor, AVN-324, will prepare an Authorization Request, VN Form 4100-21 (reference Chapter IV, Section 32). The designation and any limitations will be documented on the form and maintained by the Quality Control office.

(4) Recurrent Training

(a) Recurrent training is required for personnel having RII Authorization. Personnel having Full or Limited RII authorization will receive recurrent training when program changes affecting RII requirements occur.

(b) Recurrent training consists of a review of required inspection procedures as outlined by the GMM, TI 4100.24, Chapter III, Section 29.

(c) Recurrent training will be documented in the individual's training record.

(5) Aircraft Ground Operator Training

*(a) Any person that performs engine run-up or taxi of FI aircraft must be trained and authorized to perform the task. Each maintenance supervisor will ensure that any person under his supervision that performs engine run-up and taxi duties is properly trained and authorized.

*(b) Each person must be recommended by the maintenance supervisor for run-up and taxi authorization. Also, each person must successfully demonstrate, to a designated OJT instructor, the ability to meet the requirements set forth on the Aircraft Ground Operator Qualification/Proficiency Check, VN Form 4100-88 (Reference Chapter IV.)

(c) Prior to the required demonstration, each individual will be familiar with the following areas:

1 Qualification and authorization requirements of the General Maintenance Manual, TI 4100.24.

2 Maintenance records and Aircraft Logs

3 Aircraft exterior and interior inspection

4 Aircraft checklist

5 Fireguard

6 Pre-start procedures

7 Aircraft and engine limitations

8 Radio/Communications

9 Hand signals

10 Brakes and steering

11 Engine shutdown

12 Aircraft securing

*(d) The designated OJT instructor will forward VN Form 4100-88 and completed test to the individual's supervisor for inclusion in the employee's training records. The supervisor or designated personnel should ensure that AVN-324 makes the required electronic database entries for personnel authorizations. A current list of authorized taxi/engine run-up personnel will be compiled and maintained in the electronic database.

*(e) The designated OJT instructor may be any qualified individual who has received formal training in the make and model aircraft for which authority is being sought.

*

F. CONTRACT TRAINING

(1) Technical training may be contracted to an operator, manufacturer, or in the case of a specialized process, to a person knowledgeable in that special process.

*(2) The AMED will ensure that the content and quality of such training is in accordance with the requirements of the Aircraft Maintenance and Inspection Training Program.

(3) Established training organizations such as equipment manufacturers or recognized training facilities listed in the FAA Catalog of Training can be accepted without further evaluation by AVN-300.

*(4) In the case of training for a specialized process, special procedure or by a contractor whose training performance is not known or established, an on-site evaluation will be required by the specific branch requesting training. This evaluation will ensure:

(a) Qualified instructors are available.

(b) Appropriateness of reference material.

(c) Adequacy of facilities.

(d) Content and quality of training syllabus.

*(5) This evaluation will be documented and maintained by the evaluating branch.

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*G. INSTRUCTOR QUALIFICATIONS

*(1) Formal training conducted by the FAA Academy or out-of-agency organizations listed in the FAA Catalog of Training are evaluated and approved by the FAA. This approval ensures that the training meets required standards and qualified instructors are used. Any out-of-agency or contract training that is not listed in the FAA Catalog of Training will be evaluated by the Branch which needs the training to ensure that the training meets requirements and qualified instructors are used.

*(2) OJT instructors must be currently trained or experienced on the specific make and model of aircraft/engine, system, or appliance for which the training is to be conducted. A list of authorized OJT instructors will be maintained by the Quality Assurance Branch, AVN-320, within the electronic database, and identified by a Code J Special Authorizations for tracking purposes only.

*H. TRAINING RECORDS

*(1) Formal training is maintained in the Integrated Personnel and Payroll System (IPPS). Completion of formal training is entered by the assigned organization, AVN-303, into the IPPS system. After completion of Formal Training, each Branch should send a copy of the training certificate, complete with beginning and ending dates and total training hours, to the training department in AVN-303 for entry into the IPPS system.

(2) Formal training will also be documented along with OJT, RII, and Recurrent Training on Individual Training Record, VN Form 4100-61 (Reference Chapter IV), IPPS, electronic database generated training records, and maintained by the appropriate branch or individuals assigned organization. The supervisor of the individual is responsible for the completion of VN Form 4100-61, and available through normal distribution.

*I. ON-THE-JOB TRAINING CERTIFICATE, VN FORM 4100-60

(1) General

This form is to be used by a supervisor, designated OJT instructor, or manufacturer representative. The VN Form 4100-60 will be used to document that an individual has completed on the job training under the instruction of a supervisor, OJT instructor or manufacturer representative.

(2) Instructions for completing VN Form 4100-60

*After satisfactory completion of the on the job training, the instructor will document the OJT that was accomplished and the specific technical information that was used as a basis for the training. The technician will sign the form verifying the satisfactory completion of the training. After the supervisor has verified the training was accomplished, VN Form 4100-60 will then be filed in the individual's training records and an "X" will be placed on the VN Form 4100-61 under the appropriate ATA code, when applicable.

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*J. AIRCRAFT GROUND OPERATOR QUALIFICATION/PROFICIENCY CHECK, VN FORM 4100-88

(1) General

*This form is to be used by AVN aircraft examiners when checking maintenance personnel for their proficiency in engine run-up and taxiing of specific aircraft types. After completion of VN Form 4100-88, the examiner will forward the results to AVN-324 for inclusion in the electronic database. After entry into the database, a signed or initialed copy of the form (VN Form 4100-88) will be placed in the individuals training records.

(2) Instructions for Completing Form

All items on the form are self-explanatory. (Reference Chapter IV).

(3) Disposition of Form

Completed forms will remain on file at the appropriate maintenance activity and will be transferred with the employee when required.

*K. INDIVIDUAL TRAINING RECORD, VN FORM 4100-61

(1) General

*This form is to be used by the training coordinator (AVN-303), a supervisor, designated instructor, or an individual designated by the supervisor to maintain department training records. The VN Form 4100-61 may be used to document that an individual has completed Formal Training (FT) or On-the-Job-Training (OJT) on a particular aircraft or ATA System, under the instruction of a supervisor, OJT instructor, manufacturer representative, or contract instructor. Upon completion of training, the VN Form 4100-61 must be updated to reflect currency level of each individual.

(2) Instructions for completing VN Form 4100-61.

*Refer to Chapter IV for examples of VN 4100-61.

(a) Under the TYPE OF AIRCRAFT OR JOB, enter the aircraft make and model (Beech 30) etc. To the right of the aircraft name, place an "X" in the appropriate square under the applicable ATA code that applies to the OJT training or FT training for each aircraft the individual has been trained on.

ATTENTION: All ATA Systems "X"ed off or initialed on VN Form 4100-61 must be backed up with a Formal Training Certificate, an IPPS (Integrated Personnel Payroll System) generated training record, or a completed OJT certification, VN Form 4100-60. (Reference Chapter IV.)

(b) Each completed form will be maintained in the individuals training folder during active employment by AVN-300. When the individual is no longer employed by AVN-300, the file will be retained for one (1) year and then destroyed by shredding.

CHAPTER VII
* SECTION 2
RESERVED

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