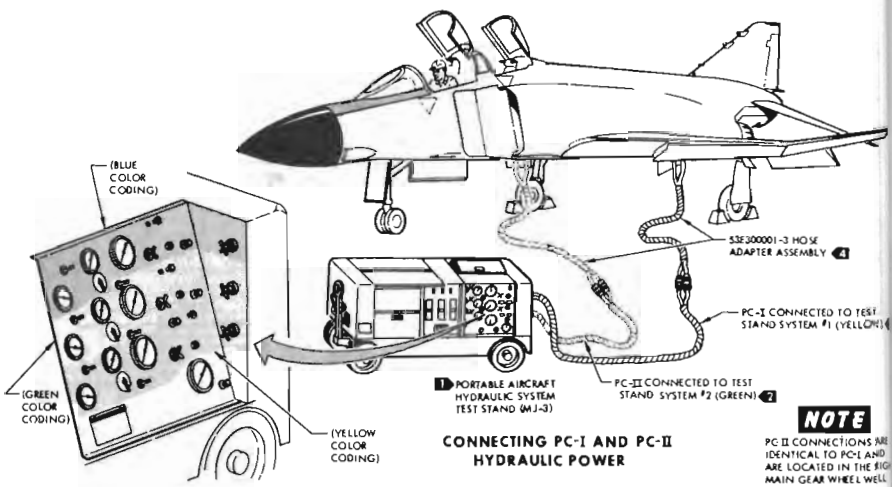
HYDRAULIC POWER CONNECTIONS



CONNECTING PC-I AND PC-II HYDRAULIC POWER

NOTES

1. RECOMMENDED HYDRAULIC TEST STAND IS SHOWN. REFER TO T.O. 33A-2-25-1 FOR OPERATING INSTRUCTIONS. THE TEST STAND SHOULD NOT BE CLOSER TO THE AIRCRAFT THAN REQUIRED TO CONNECT THE HOSE ASSEMBLIES.

2. THE POWER CONTROL I SYSTEM RECEPTACLES ARE LOCATED ON THE INBOARD SIDE OF THE LEFT MAIN LANDING GEAR WELL. THE POWER CONTROL II SYSTEM RECEPTACLES ARE LOCATED ON THE INBOARD SIDE OF THE RIGHT MAIN LANDING GEAR WHEEL WELL.

CAUTION

POWER CONTROL I AND II SYSTEMS SHOULD BE PRESSURIZED JOINTLY WHENEVER POSSIBLE TO AVOID PARTIAL CAVITATION OF THE NONPRESSURIZED SYSTEM DUAL SYSTEM ACTUATORS.

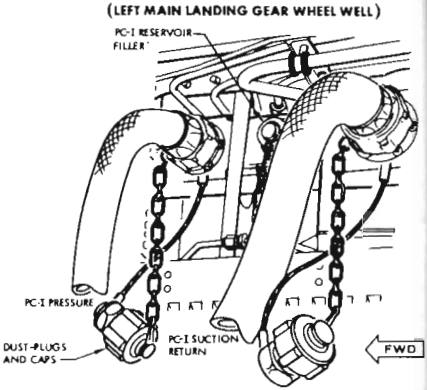
3. ACCESS TO THE UTILITY HYDRAULIC SYSTEM RECEPTACLES IS THROUGH ACCESS DOOR 23.

4. PART OF 53E300001-1 HOSE ASSEMBLY. PRESSURE AND RETURN LINES ARE TAPED TOGETHER.

NOTE

PC-II CONNECTIONS ARE IDENTICAL TO PC-I AND ARE LOCATED IN THE RIGHT MAIN GEAR WHEEL WELL.

(LEFT MAIN LANDING GEAR WHEEL WELL)



SPECIAL TOOLS AND TEST EQUIPMENT

PORTABLE AIRCRAFT HYDRAULIC SYSTEM TEST STAND MJ-3
MJ-3 TEST STAND HOSE ASSEMBLY 53E300001-1

CONNECTING EXTERNAL HYDRAULIC POWER

A BEFORE CONNECTING EXTERNAL HYDRAULIC POWER, CHECK TO MAKE CERTAIN THAT THE RESERVOIR AND THE ACCUMULATOR(S) OF THE SYSTEM(S) CONCERNED ARE PROPERLY SERVICED. REFER TO T.O. 1F-4C-2-2 GROUND HANDLING, SERVICING, AND AIRFRAME MAINTENANCE.

B CONNECT ELECTRICAL POWER TO OPERATE UTILITY HYDRAULIC SUBSYSTEMS AND FOR COCKPIT INDICATION OF PC-I AND PC-II HYDRAULIC SYSTEMS PRESSURE.

C CONNECT THE 53E300001-1 HOSE ASSEMBLIES TO THE HYDRAULIC SYSTEM TEST STAND AS FOLLOWS:

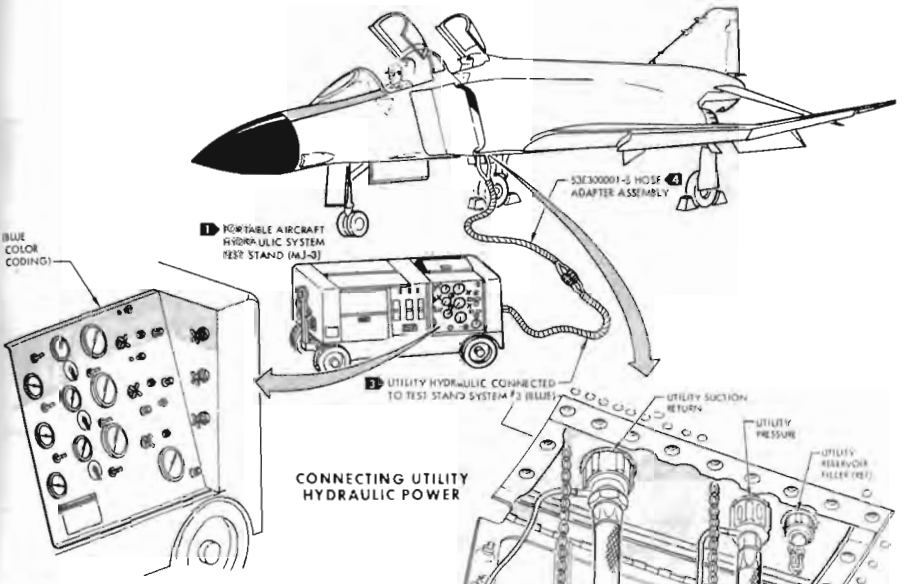
1. CONNECT 53E300001-3 HOSE ASSEMBLY FOR PC-I TO TEST STAND SYSTEM NO. 1 (YELLOW)
2. CONNECT 53E300001-3 HOSE ASSEMBLY FOR PC-II TO TEST STAND SYSTEM NO. 2 (GREEN).
3. CONNECT 53E300001-5 HOSE ASSEMBLY FOR UTILITY SYSTEM TO TEST STAND SYSTEM NO. 3 (BLUE).

D REMOVE DUST CAPS FROM AIRCRAFT PRESSURE AND RETURN RECEPTACLES, REMOVE DUST PLUGS FROM HYDRAULIC TEST STAND HOSES AND CONNECT HOSES TO AIRCRAFT RECEPTACLES AS FOLLOWS:

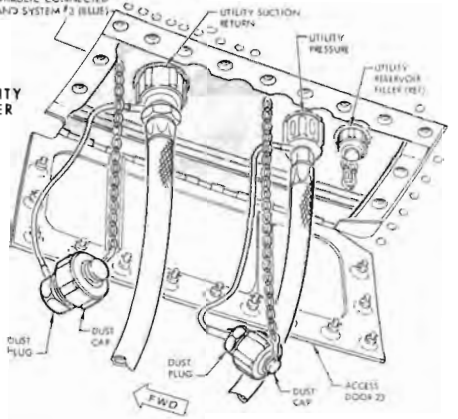
1. TIGHTEN COUPLING NUT CLOCKWISE BY HAND UNTIL THERE IS A DISTINCT CLICKING NOISE AND NUT CANNOT BE TIGHTENED FURTHER BY HAND.
2. TORQUE COUPLING NUT TO THE APPLICABLE VALUE SHOWN BELOW:

CONNECTOR	TORQUE VALUE
PRESSURE (ALL SYSTEMS)	240 INCH-POUNDS
RETURN (ALL SYSTEMS)	360 INCH-POUNDS

25MH53-1308B
(1-2)



CONNECTING UTILITY HYDRAULIC POWER



E CONNECT THE DUST CAPS FROM AIRCRAFT RECEPTACLES TO HYDRAULIC CART HOSE DUST PLUGS AS SHOWN TO PREVENT THEIR CONTAMINATION.

CAUTION

BEFORE APPLYING EXTERNAL HYDRAULIC POWER TO PC1 AND/OR PC11 SYSTEMS, ENSURE THAT THE "MINIMUM STRUCTURAL ACCESS DOOR REQUIREMENTS" IN SECTION II ARE MET.

WARNING

1. APPLICATION OF EXTERNAL HYDRAULIC POWER TO THE UTILITY SYSTEM WITHOUT FIRST APPLYING ELECTRICAL POWER TO THE AIRCRAFT WILL CAUSE THE ENGINE AUXILIARY AIR DOORS TO CLOSE, THE HYDRAULIC MOTOR DRIVEN FUEL TRANSFER PUMPS TO OPERATE, THE SPEED BRAKES (IF OPEN) TO CLOSE, AND (F-4) THE FORWARD MISSILE CAVITY DOORS TO OPEN.
2. WITH ELECTRICAL POWER APPLIED TO THE F-4E, APPLICATION OF UTILITY PRESSURE WILL CAUSE GUN BAY PURGE SCOOP TO CLOSE.

F APPLY HYDRAULIC POWER TO THE AIRCRAFT BY OPERATING THE HYDRAULIC SYSTEM TEST STAND. REGULATE TEST STAND TO THE PRESSURE AND FLOW REQUIREMENTS FOR DESIRED SYSTEM OPERATION. (NOT TO EXCEED LIMITS GIVEN IN HYDRAULIC TESTING SUPPORT EQUIPMENT REQUIREMENTS TABLE BELOW.)

G UPON COMPLETION OF SYSTEM(S) OPERATION, CHECK HYDRAULIC RESERVOIR(S) FLUID LEVEL AND SERVICE (IF REQUIRED) PER INSTRUCTIONS IN APPLICABLE SERVICING PROCEDURE.

DISCONNECTING EXTERNAL HYDRAULIC POWER

WARNING

WITH ELECTRICAL POWER APPLIED TO THE F-4E, WHEN UTILITY PRESSURE IS RELIEVED, THE GUN BAY PURGE SCOOP WILL OPEN.

A TURN HYDRAULIC SYSTEM TEST STAND OFF.

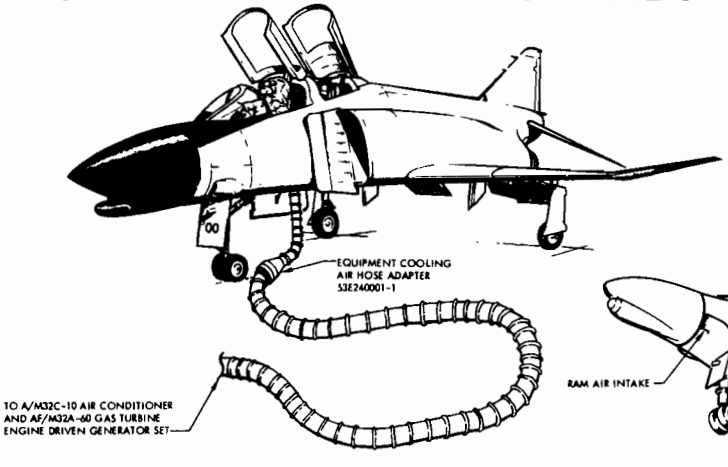
B DISCONNECT HOSES FROM AIRCRAFT RECEPTACLES.

C REPLACE DUST CAPS ON AIRCRAFT RECEPTACLES AND DUST PLUGS ON TEST STAND HOSES. (QUALITY ASSURANCE)

HYDRAULIC TESTING SUPPORT EQUIPMENT REQUIREMENTS

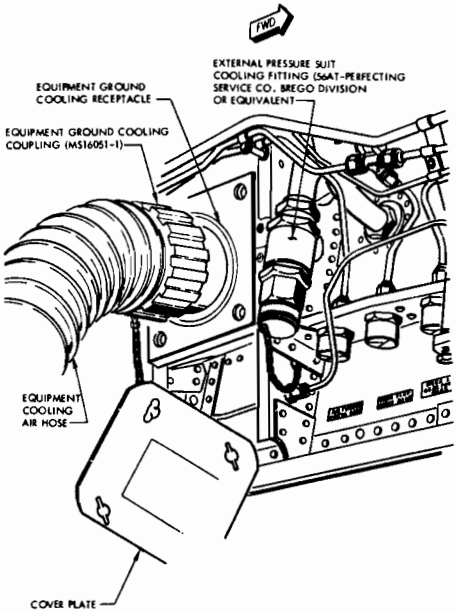
FLUID TYPE OR SPEC	FILTRATION STANDARD	FLOW (MAX)	PRESSURE (MAX)	TEMP (MAX)	CONNECTOR REQUIRED	REMARKS
MIL-H-5606	TRIPHANE NON-BYPASS FILTER 10 MICRONS NOMINAL 25 MICRONS ABSOLUTE	26 GPM (EACH PUMP)	3050 PSI	160°F	PRESSURE – 1SS-SA-12D RETURN – 1SS-SB-16D S2E300001-1 HOSE	TEST AT 3000 PSI CHECK SYSTEM ACCUMULATOR GAGE AND RESERVOIR INDICATOR BEFORE OPERATION

EQUIPMENT COOLING CONNECTIONS



SPECIAL TOOLS AND TEST EQUIPMENT

AIR CONDITIONER	A/M32C-10
EQUIPMENT COOLING AIR HOSE ADAPTER	53E240001-1
GAS TURBINE ENGINE-DRIVEN GENERATOR SET	AF/M32A-60



NOSE WHEEL WELL AREA-LEFT SIDE

EQUIPMENT COOLING CONNECTION PROCEDURE

A REMOVE COVER PLATE FROM EQUIPMENT GROUND COOLING RECEPTACLE BY LOOSENING THE FOUR WINGED QUICK-RELEASE FASTENERS.

B CONNECT AIR HOSE ADAPTER TO AIR CONDITIONING UNIT COOLING AIR HOSE.

C INSERT ADAPTER COUPLING INTO AIRCRAFT RECEPTACLE AND TURN COUPLING NUT CLOCKWISE UNTIL A TIGHT SEAL IS OBTAINED.

D REFER TO GRAPHS (SHEET 2) FOR COOLING AIR REQUIREMENTS.

NOTE

IMMEDIATELY AFTER APPLYING EQUIPMENT GROUND COOLING AIR, CHECK TO BE SURE THE RAM AIR CHECK VALVE IS CLOSED BY FEELING FOR AIR EXHAUSTING OVERBOARD THROUGH THE EQUIPMENT REFRIGERATION UNIT RAM AIR INLET AND EXIT. IF AIR IS DETECTED EXHAUSTING OVERBOARD, THE EQUIPMENT SHOULD BE SHUT OFF TO PREVENT OVERHEATING, AND THE MALFUNCTIONING VALVE CORRECTED.

CAUTION

WHEN A SYSTEM USING COOLING AIR IS REMOVED FROM THE AIRCRAFT, THE COOLING AIR DUCT TO THAT SYSTEM MUST BE PLUGGED OR CAPPED TO PREVENT REDUCTION OF AIR FLOW TO OTHER SYSTEMS.

REMOVAL

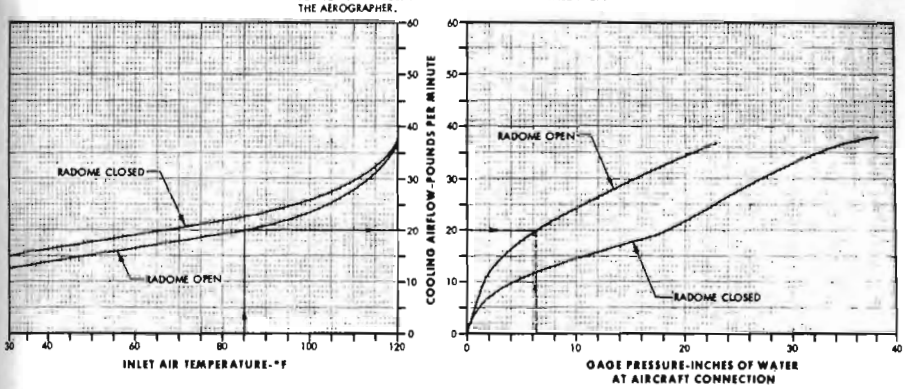
DISCONNECT COOLING AIR HOSE BY REVERSING THE ABOVE PROCEDURE.

CAUTION

EQUIPMENT GROUND COOLING RECEPTACLE COVER PLATE MUST BE INSTALLED WHEN COOLING HOSE IS DISCONNECTED FROM AIRCRAFT TO PREVENT A LOSS OF COOLING AIR DURING SYSTEM OPERATION.

NOTE

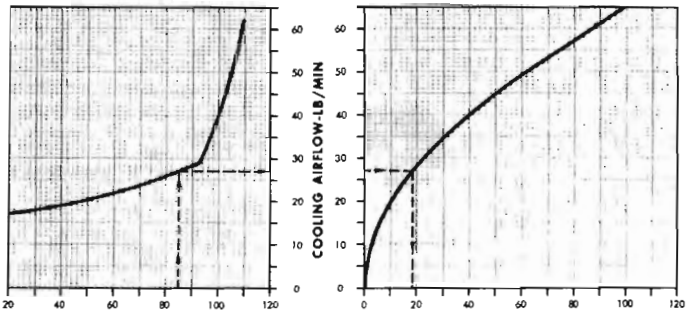
TEMPERATURE MUST BE 5° (MINIMUM) ABOVE WET BULB TEMPERATURE. WET BULB TEMPERATURE MAY BE OBTAINED FROM THE AEROGRAPHER.



EQUIPMENT GROUND COOLING AIR TEMPERATURE AND PRESSURE REQUIREMENTS -F-4

NOTE

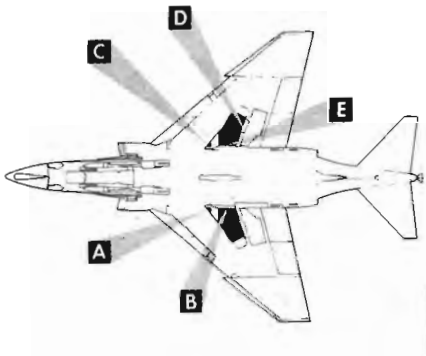
TEMPERATURE MUST BE 5° (MINIMUM) ABOVE WET BULB TEMPERATURE. WET BULB TEMPERATURE MAY BE OBTAINED FROM THE AEROGRAPHER.



EQUIPMENT GROUND COOLING AIR TEMPERATURE AND PRESSURE REQUIREMENTS-RF-4

(7 AND 25)
25MH53-10615E
2-2

HYDRAULIC SYSTEM SERVICING



INDEX NO.	NOMENCLATURE
1	EXTERNAL DISCONNECT SUCTION
2	EXTERNAL DISCONNECT RESERVOIR FILL
3	EXTERNAL DISCONNECT PRESSURE
4	RESERVOIR AIR BLEED VALVE
5	SYSTEM ACCUMULATOR PRESSURE GAGE
6	SYSTEM ACCUMULATOR AIR CHARGE VALVE
7	AIR CHARGE VALVE CONNECTOR
8	HYDRAULIC CART COUPLING
9	HYDRAULIC CART COUPLING
10	HYDRAULIC CART COUPLING
11	RESERVOIR ACCUMULATOR PRESSURE BLEED VALVE
12	RESERVOIR ACCUMULATOR AIR PRESSURE GAGE
13	RESERVOIR ACCUMULATOR AIR CHARGE VALVE

CAUTION

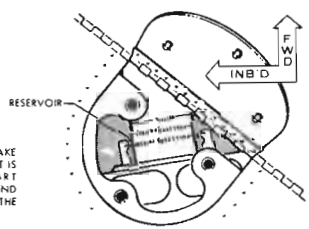
WHEN CONNECTING EXTERNAL HYDRAULIC POWER, MAKE CERTAIN THAT THE SUPPLY (RETURN) LINE DISCONNECT IS PROPERLY CONNECTED BEFORE TURNING ON THE START SWITCH. A CLOSED COUPLING WILL CAUSE PRESSURE AND FLUID LEVEL BUILD UP IN THE RESERVOIR AND BLOW UP THE RESERVOIR.

WHEN STARTING AND UPON COMPLETION OF RESERVOIR FILLING, DEPRESS THE RESERVOIR AIR BLEED VALVE UNTIL A CLEAR STREAM OF FLUID FLOWS.

NOTE

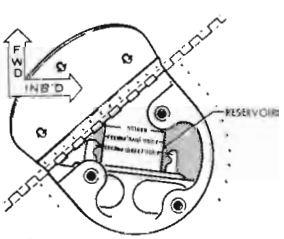
1. F-4C-15 AND RF-4C-17 THRU F/RF-4C-24 AND F-4D-24 BEFORE INCORPORATION OF T.O. 1F-4-559.

POWER CONTROL SYSTEM I

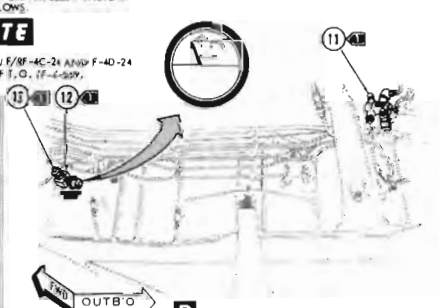


C ACCESS DOOR 76L

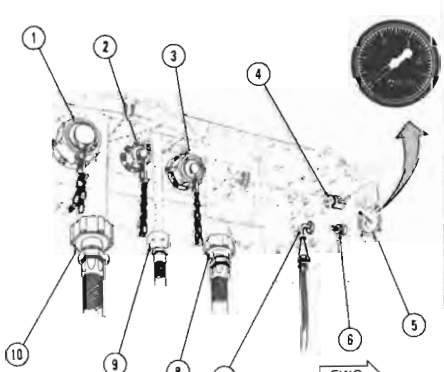
POWER CONTROL SYSTEM II



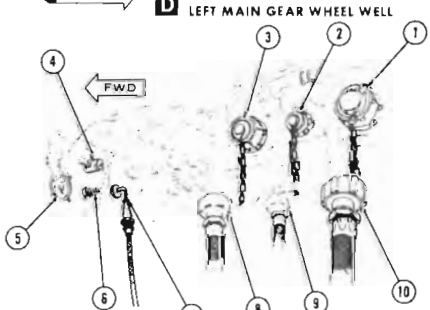
A ACCESS DOOR 76R



D LEFT MAIN GEAR WHEEL WELL

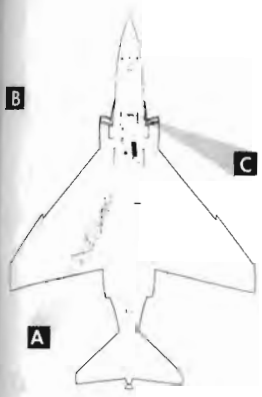


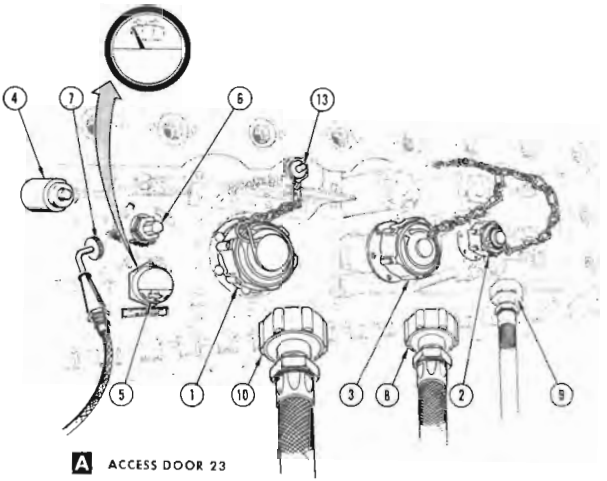
B RIGHT MAIN GEAR WHEEL WELL



E LEFT MAIN GEAR WHEEL WELL

2 AND 6
66H53-10604-A





A ACCESS DOOR 23

CAUTION

WHEN CONNECTING EXTERNAL HYDRAULIC POWER, MAKE CERTAIN THAT THE SUPPLY (RETURN) LINE DISCONNECT IS PROPERLY CONNECTED BEFORE TURNING ON THE START SWITCH. A CLOSED COUPLING WILL CAUSE PRESSURE AND FLUID LEVEL BUILD UP IN THE RESERVOIR AND BLOW UP THE RESERVOIR.

WHEN STARTING AND UPON COMPLETION OF RESERVOIR FILLING, DEPRESS THE RESERVOIR AIR BLEED VALVE UNTIL A CLEAR STREAM OF FLUID FLOWS.

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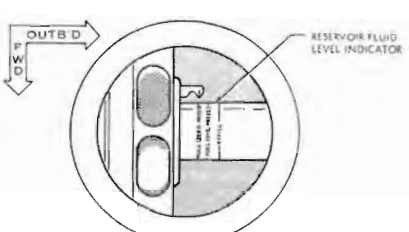
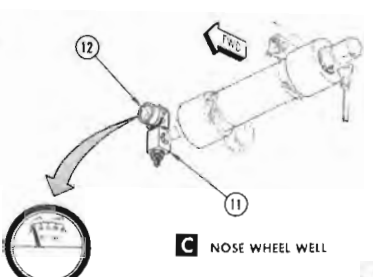
8	HYDRAULIC CART COUPLING
9	HYDRAULIC CART COUPLING
10	HYDRAULIC CART COUPLING
11	BRAKE ACCUMULATOR AIR CHARGE VALVE
12	BRAKE ACCUMULATOR AIR PRESSURE GAGE
13	DOOR SWITCH (REF.)



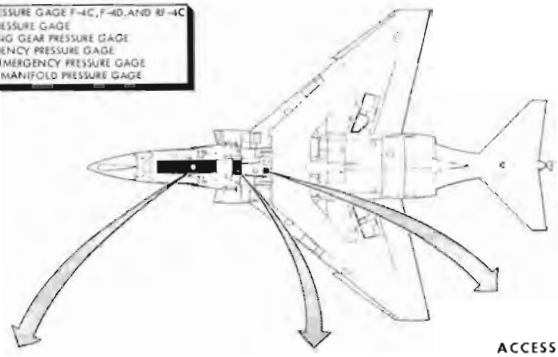
B ACCESS DOOR 15



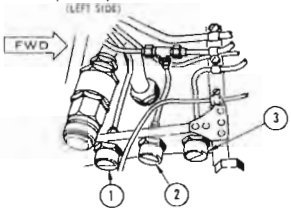
C NOSE WHEEL WELL

PNEUMATIC SYSTEM SERVICING

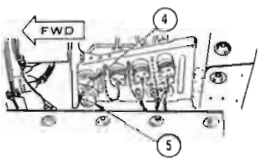
1. RAM AIR TURBINE PRESSURE GAGE F-4C, F-4D, AND RF-4C
2. EMERGENCY FLAP PRESSURE GAGE
3. EMERGENCY LANDING GEAR PRESSURE GAGE
4. AFT CANOPY EMERGENCY PRESSURE GAGE
5. FORWARD CANOPY EMERGENCY PRESSURE GAGE
6. PNEUMATIC SYSTEM MANIFOLD PRESSURE GAGE



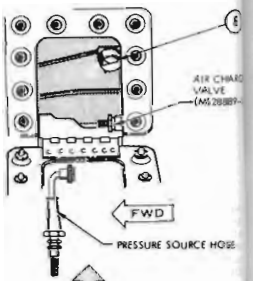
NOSE GEAR WHEEL WELL
F-4C, F-4D, AND RF-4C
(LEFT SIDE)



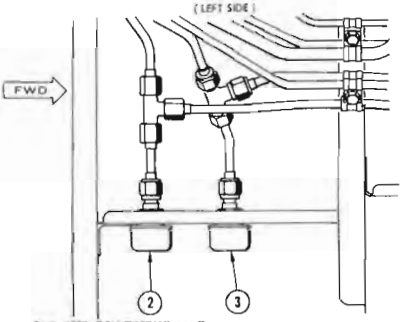
ACCESS DOOR NO. 16

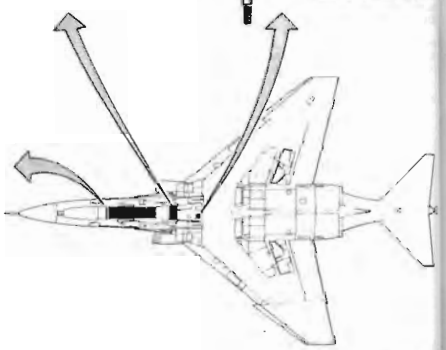


ACCESS DOOR NO. 28R



NOSE GEAR WHEEL WELL
F-4E
(LEFT SIDE)





TOOLS AND EQUIPMENT LIST

REGULATED COMPRESSED AIR OR NITROGEN PRESSURE SOURCE. . . 3000PSI

MATERIALS LIST

NITROGEN (GASEOUS) RF-4C-413a
(ALTERNATE-COMPRESSED AIR) . . . . . TO MICRON FILTERED)

MANPOWER REQUIREMENTS

TWO MEN ARE REQUIRED

SERVICING PROCEDURE

A. OPEN ACCESS DOOR 28R AND CONNECT PRESSURE SOURCE TO BASIC PNEUMATIC SYSTEM AIR CHARGE VALVE.

B. LOOSEN AIR CHARGE VALVE SWIVEL HEX NUT 1 3/4 TURNS MAXIMUM AND CHARGE SYSTEM TO 3000 + 100 -50 PSI.

C. TIGHTEN AIR CHARGE VALVE SWIVEL HEX NUT 50 TO 70 INCH POUNDS.

D. RELIEVE PRESSURE IN PRESSURE SOURCE AND DISCONNECT HOSE FROM AIR CHARGE VALVE.

WARNING

FAILURE TO RELIEVE PRESSURE BEFORE DISCONNECTING AIR HOSE COULD RESULT IN INJURY TO PERSONNEL.

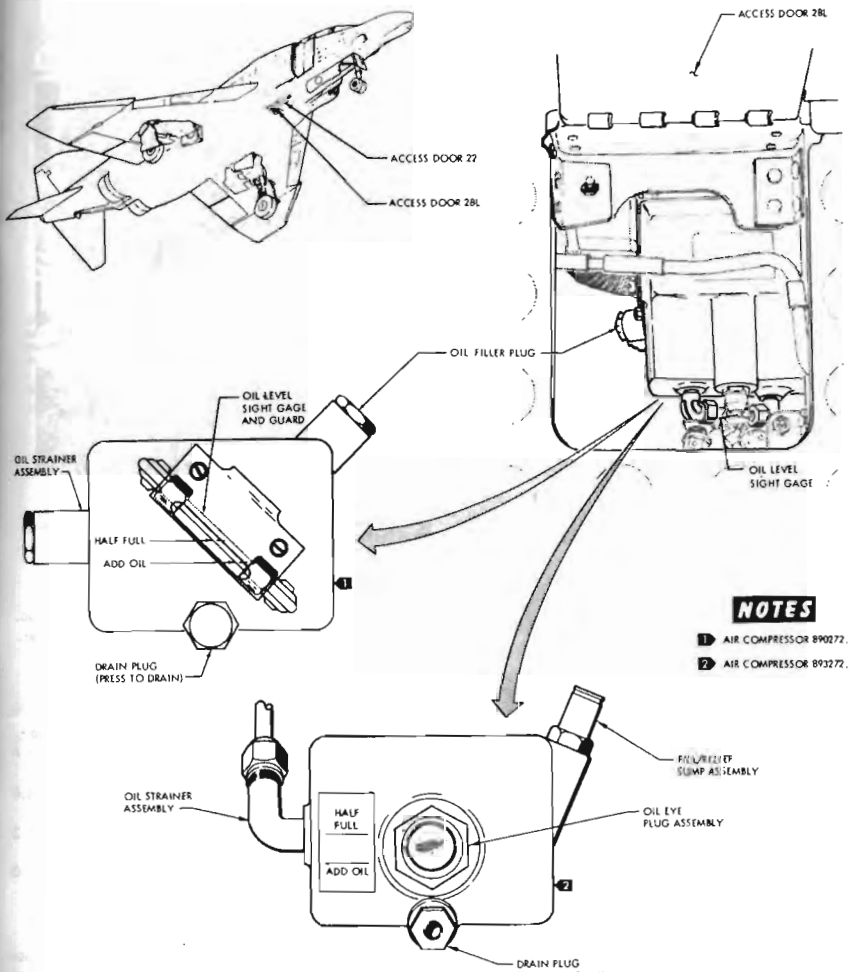
QUALITY ASSURANCE SUMMARY

A. CHECK SYSTEM AND SUBSYSTEMS AIR GAGES 1 THROUGH 6 FOR PROPER PRESSURE INDICATION.

B. AIR CHARGE VALVE CAPPED.

C. SYSTEM LEAKAGE, AS DETERMINED AT SYSTEM MANIFOLD GAGE, SHALL NOT EXCEED 300 PSI PER HOUR.

AIR COMPRESSOR OIL TANK SERVICING



NOTES

1. AIR COMPRESSOR 890272.
2. AIR COMPRESSOR 893272.

TOOLS AND EQUIPMENT LIST

NONE REQUIRED

MATERIALS LIST

"O" RING	MS29561-110
OIL, LUBRICATING AIRCRAFT INSTRUMENT (LOW VOLATILITY)	MIL-O-6085
LOCKWIRE	MS20995NC32

CAUTION

SERVICE ONLY WITH THE OIL (MIL-O-6085) PRODUCED BY THE FOLLOWING MANUFACTURERS. OTHER OILS CONTAIN CERTAIN ADDITIVES THAT ARE DETRIMENTAL TO COMPRESSOR OPERATION.

1. LENNOX CHEMICAL PRODUCTS CO., CHESTERTOWN, MD., TYPE L-407-D.
2. F. L. ANDERSON OIL CO., PORTLAND, CONN., TYPE L-345X.
3. PENOLA OIL CO., PITTSBURGH, PA., FORMULA 3123.

2 AND 6
6MH53-051028

CAUTION

DO NOT USE THE SIGHT GAGE INDICATOR FOR A HANDLE OR FOR A TOOL HOLDER.

SERVICING PROCEDURE

A. OPEN ACCESS DOOR NO. 28L AND REMOVE OIL FILLER PLUG.

NOTE

ACCESS DOOR NO. 27 MUST BE CLOSED IN ORDER TO OBTAIN A CORRECT OIL LEVEL READING.

B. ADD OIL UNTIL TANK OVERFLOWS.

C. INSTALL FILLER PLUG, WITH NEW "O" RING SEAL. TORQUE PLUG 20-25 IN.-LB AND SAFETY WITH LOCKWIRE (MS20995NC32).

QUALITY ASSURANCE SUMMARY

A. FILLER PLUG LOCKWIRED.

B. OIL LEVEL SIGHT GAGE COMPLETELY FILLED.

ENGINE OIL SERVICING MB2

SPECIAL TOOLS AND TEST EQUIPMENT

BREAKER (GRADUATED IN OUNCES)	1 QUART CAPACITY
OIL SERVICING UNIT	MB-2
ADAPTER	ROYLYN 4284
ADAPTER	ROYLYN 7744
AUXILIARY AIR DOOR SAFETY STRUT (2 REQ'D)	MD53253-301

MATERIALS LIST

OIL, LUBRICATING, GAS TURBINE AIRCRAFT MIL-L-7808

NOTES

1. SERVICE ENGINE OIL TANKS AS SOON AS POSSIBLE BUT NOT TO EXCEED 30 MINUTES AFTER SHUTDOWN.
2. THE AIRCRAFT SHALL BE PARKED ON LEVEL GROUND. THE OIL LEVEL IN THE TANK IS AFFECTED BY ENGINE/AIRCRAFT ATTITUDE.
3. PRIOR TO SERVICING THE OIL TANK ASSURE THAT THE OIL SERVICING UNIT IS FILLED WITH ENGINE LUBRICATION OIL (MIL-L-7808).
4. IT IS RECOMMENDED THAT A CHECK VALVE BE INSTALLED IN THE OIL SERVICING UNIT SUPPLY LINE TO PREVENT INADVERTENT DRAINING OF THE OIL TANK.

SERVICING

WARNING

ASSURE THAT AUXILIARY AIR DOOR SAFETY STRUTS ARE INSTALLED BEFORE GAINING ACCESS THROUGH DOORS 81L OR 81R.

A GAIN ACCESS TO THE OIL SERVICING BRACKET CONNECTIONS THROUGH DOORS 81 L/R AND 82 L/R.

B DISCONNECT THE PRESSURE CAPS FROM THE FILL AND DRAIN AND OVERFLOW ADAPTER ASSEMBLIES ON THE ENGINE OIL SERVICING BRACKET.

C CLEAN DIRT, DUST AND OTHER FOREIGN MATTER FROM ADAPTER ASSEMBLIES AND HOSE ADAPTERS.

NOTE

ASSURE THAT OVERFLOW TANK IS EMPTY PRIOR TO CONNECTING RETURN LINE TO ENGINE.

D PLACE THE OIL SERVICING UNIT ON THE GROUND UNDERNEATH THE OIL SERVICING AREA AND PREPARE FOR SERVICING AS FOLLOWS:

(1) DISCONNECT THE SUPPLY NOZZLE SOCKET FROM THE OIL UNIT AND CONNECT IT TO THE FILL AND DRAIN ADAPTER (SMALL ADAPTER) ON THE ENGINE.

(2) REMOVE THE PLUG FROM THE RETURN LINE NOZZLE SOCKET AND CONNECT IT TO THE OVERFLOW ADAPTER ON THE ENGINE.

(3) TURN THE BALL VALVE ON THE OIL UNIT TO THE CLOSED (HORIZONTAL) POSITION AND OPEN THE BY-PASS VALVE (COUNTER-CLOCKWISE) TO RETURN OIL TO THE OIL SERVICING UNIT TANK DURING BUILD-UP OF PNEUMATIC PRESSURE.

(4) OPERATE THE PUMP HANDLE UNTIL IT BUILDS UP A PRESSURE OF 18 PSI. (AIR PRESSURE WILL ESCAPE FROM THE BLEED-OFF VALVE WHEN 18 PSI IS REACHED).

(5) RESET THE FLOWMETER TO ZERO BY TURNING THE VOLUME INDICATOR COUNTERCLOCKWISE.

CAUTION

DO NOT FORCE VOLUME INDICATOR IN A CLOCKWISE DIRECTION. ALWAYS TURN COUNTERCLOCKWISE WHEN RESETTING TO ZERO.

(6) CLOSE BY-PASS VALVE. OPEN BALL VALVE, TO DELIVER OIL TO ENGINE TANK, MAKE CERTAIN THAT UNIT IS NOT REGISTERING AIR.

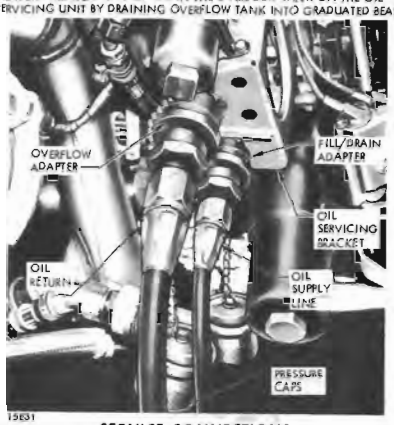
E OPERATE THE PUMP HANDLE TO DELIVER THE OIL TO THE ENGINE OIL TANK, UNTIL OIL IS OBSERVED FLOWING IN THE RETURN LINE. (A FLOW SITE GAGE IS PROVIDED FOR THIS PURPOSE).

F TURN THE BALL VALVE OFF AND DISCONNECT OIL SERVICING UNIT SUPPLY LINE. AFTER OIL FLOW CEASES, DISCONNECT THE RETURN LINE. INSTALL PRESSURE CAPS ON THE FILL AND OVERFLOW ADAPTERS.

CAUTION

A COMMON FILL/DRAIN LINE WILL ALLOW LOSS OF OIL FROM ENGINE TANK IF THE BALL VALVE IS NOT IMMEDIATELY TURNED OFF.

G MEASURE THE QUANTITY OF OIL IN THE OVERFLOW TANK ON THE OIL SERVICING UNIT BY DRAINING OVERFLOW TANK INTO GRADUATED BEAKER.



SERVICE CONNECTIONS

H TABULATE ENGINE OIL CONSUMPTION BY SUBTRACTING THE QUANTITY OF OIL DRAINED FROM THE OVERFLOW TANK FROM THE QUANTITY INDICATED ON THE VOLUME INDICATOR.

NOTE

THE INDICATOR IS GRADUATED IN QUARTS. 1 QUART = 32 OUNCES

J RECORD THE ENGINE OIL CONSUMPTION IN THE APPROPRIATE ENGINE LOG.

K PERFORM A VISUAL INSPECTION OF THE ENGINE AND ENGINE COMPARTMENT FOR INDICATION OF OIL LEAKS.

QUALITY ASSURANCE SUMMARY

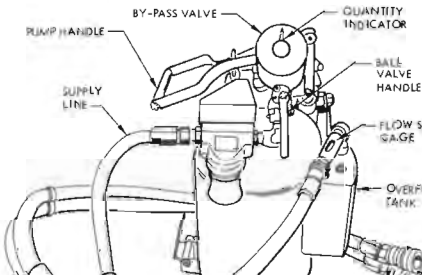
A ASSURE THAT THE ENGINE OIL TANK HAS BEEN PROPERLY SERVICED.

B ASSURE THAT FILL/DRAIN AND OVERFLOW ADAPTERS ARE LOCKWIRED AND PRESSURE CAPS HAVE BEEN INSTALLED.

C ASSURE THAT OIL CONSUMPTION HAS BEEN PROPERLY TABULATED.

D ASSURE THAT OIL CONSUMPTION HAS BEEN RECORDED IN THE ENGINE LOG.

E ASSURE THAT ACCESS DOORS 82L/R ARE CLOSED.



OIL SERVICING UNIT

(2 REQ'D)
BMH53-11249E

PMU-29/E

OIL SERVICING UNIT

SPECIAL TOOLS AND TEST EQUIPMENT

OIL SERVICING UNIT	PMU-29/E
ADAPTER	ROYLYN 4284
ADAPTER	ROYLYN 7744
AUXILIARY AIR DOOR SAFETY STRUT (2 REQ'D)	MDE3253-501

MATERIALS LIST

OIL, LUBRICATING, GAS TURBINE AIRCRAFT	MIL-L-7808
LOCKWIRE	MS20995NC40

NOTES

1. SERVICE ENGINE OIL TANKS AS SOON AS POSSIBLE BUT NOT TO EXCEED 30 MINUTES AFTER SHUTDOWN.
2. THE AIRCRAFT SHALL BE PARKED ON LEVEL GROUND. THE OIL LEVEL IN THE TANK IS AFFECTED BY ENGINE/AIRCRAFT ATTITUDE.
3. PRIOR TO SERVICING THE OIL TANK ASSURE THAT THE OIL SERVICING UNIT IS FILLED WITH ENGINE LUBRICATING OIL. THE PUMP WILL STOP WHEN OIL LEVEL DROPS BELOW THE ADD LINE ON THE UNIT SIGHT GAGE.
4. IT IS RECOMMENDED THAT A CHECK VALVE BE INSTALLED IN THE OIL SERVICING UNIT SUPPLY LINE TO PREVENT INADVERTENT DRAINING OF THE OIL TANK.

SERVICING

WARNING

ASSURE THAT AUXILIARY AIR DOOR SAFETY STRUTS ARE INSTALLED BEFORE GAINING ACCESS THROUGH DOORS 81L OR 81R.

A GAIN ACCESS TO THE OIL SERVICING BRACKET CONNECTIONS THROUGH DOORS 81L/R AND 82L/R.

B DISCONNECT THE PRESSURE CAPS FROM THE FILL/DRAIN AND OVERFLOW ADAPTER ASSEMBLIES ON THE ENGINE OIL SERVICING BRACKET.

C CLEAN DIRT, DUST AND OTHER FOREIGN MATTER FROM ADAPTER ASSEMBLIES AND HOSE ADAPTERS.

D POSITION THE OIL SERVICING UNIT ON THE GROUND UNDER THE OIL SERVICING AREA OF THE AIRCRAFT AND PLACE STABILIZATION LEGS IN DOWN POSITION.

(1) DISCONNECT THE SUPPLY NOZZLE FROM THE OIL UNIT AND CONNECT IT TO THE FILL/DRAIN ADAPTER (SMALL ADAPTER) ON THE ENGINE.

(2) DISCONNECT THE OVERFLOW NOZZLE FROM THE OIL UNIT AND CONNECT IT TO THE OVERFLOW ADAPTER ON THE ENGINE.

(3) SET THE OVERFLOW SIGHT GLASS POINTER AT THE LIQUID LEVEL IN THE OVERFLOW TANK.

(4) OPEN THE BY-PASS VALVE AND CLOSE THE BALL VALVE.

(5) OPERATE THE PUMP HANDLE UNTIL IT BUILDS UP A PRESSURE OF 22 PSI (AIR PRESSURE WILL ESCAPE FROM THE RELIEF VALVE WHEN 22 PSI IS REACHED).

CAUTION

DO NOT FORCE VOLUME INDICATOR IN A CLOCKWISE DIRECTION. ALWAYS TURN COUNTERCLOCKWISE WHEN RESETTING TO ZERO.

(6) WHEN AIR PRESSURE HAS REACHED 22 PSI RESET FLOW METER TO ZERO BY TURNING VOLUME INDICATOR COUNTER CLOCKWISE.

(7) CLOSE THE BY-PASS VALVE AND OPEN THE BALL VALVE TO DELIVER OIL TO ENGINE TANK.

E OPERATE THE PUMP HANDLE TO DELIVER OIL TO THE ENGINE OIL TANK UNTIL OIL IS OBSERVED IN THE OVERFLOW HOSE SIGHT GAGE.

CAUTION

A COMMON FILL/DRAIN LINE WILL ALLOW LOSS OF OIL FROM ENGINE TANK IF THE BALL VALVE IS NOT IMMEDIATELY TURNED OFF.

F TURN THE BALL VALVE OFF, DISCONNECT THE OIL SERVICING UNIT SUPPLY LINE FROM THE FILL/DRAIN ADAPTER AND REPLACE PRESSURE CAP.

G ALLOW EXCESS OIL TO DRAIN INTO THE OVERFLOW TANK, THEN DISCONNECT OVERFLOW NOZZLE FROM OVERFLOW ADAPTER AND REPLACE PRESSURE CAP.

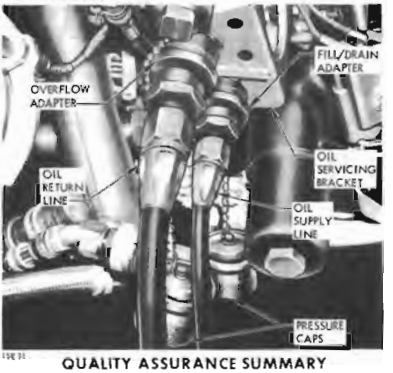
H TABULATE ENGINE OIL CONSUMPTION BY SUBTRACTING THE QUANTITY OF OIL DRAINED IN THE OVERFLOW TANK FROM THE QUANTITY INDICATED ON THE VOLUME INDICATOR.

NOTE

THE INDICATOR IS GRADUATED IN QUARTS. 1 QUART=32 OUNCES.

J RECORD THE ENGINE OIL CONSUMPTION IN THE APPROPRIATE ENGINE LOG.

K PERFORM A VISUAL INSPECTION OF THE ENGINE COMPARTMENT FOR INDICATION OF OIL LEAKS AND SECURITY OF LINES TO FILL/DRAIN AND OVERFLOW ADAPTERS.



QUALITY ASSURANCE SUMMARY

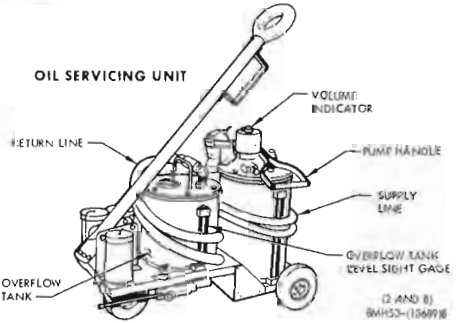
A ASSURE THAT THE ENGINE OIL TANK HAS BEEN PROPERLY SERVICED.

B ASSURE THAT THE FILL/DRAIN AND OVERFLOW ADAPTERS ARE LOCKWIRED AND PRESSURE CAPS HAS BEEN INSTALLED.

C ASSURE THAT OIL CONSUMPTION HAS BEEN PROPERLY TABULATED.

D ASSURE THAT OIL CONSUMPTION HAS BEEN RECORDED IN THE ENGINE LOG.

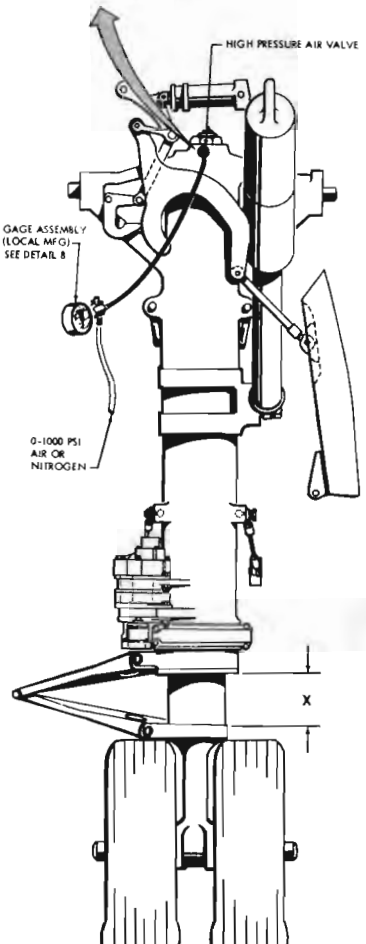
E ASSURE THAT ACCESS DOORS 82L/R ARE CLOSED.



NOSE LANDING GEAR SERVICING

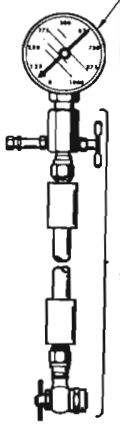
FILLER FITTING
MDE321756-1
SEE DETAIL A

NOSE LANDING GEAR SERVICING



EXTENSION CHART

STRUT EXTENSION X DIMENSION		PRESSURE PSI GAGE
24 1/8 (FULL EXT)		113
8 1/8		314
7 5/8	± 3/8	330
7 1/8		350
6 5/8		370
6 1/8		394
5 5/8	± 5/16	421
5 1/8		452
4 7/8		467
4 5/8		487
4 3/8	± 9/32	505
4 1/8		528
3 7/8		549
3 5/8		575
3 3/8		601
3 1/8	± 7/32	632
2 7/8		663
2 5/8		703
2 3/8		744
1/8 (FULL COMP)		1536



GAGE ASSEMBLY IS LOCALLY MANUFACTURED BY REMOVING THE GAGE FROM THE MIL-G-8348 GAGE ASSEMBLY AND INSTALLING THE GAGE SHOWN ABOVE.

DETAIL B

SPECIAL TOOLS AND TEST EQUIPMENT

GAGE 0-4000 PSI	LOCAL MFG
FILLER FITTING	MDE321756-1
NITROGEN OR CLEAN DRY AIR SOURCE	1000 PSI

MATERIALS

NITROGEN	BB-N-411 (CLASS 1 GRADE "B")
HYDRAULIC FLUID	MIL-H-5606
LOCKWIRE	MS20995NC32

NOTES

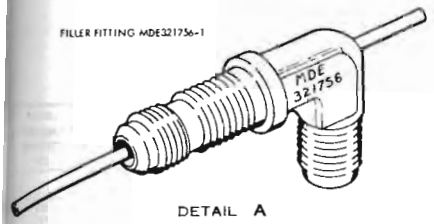
1. NITROGEN IS PREFERRED FOR STRUT SERVICING, HOWEVER, CLEAN DRY AIR MAY BE USED IF NITROGEN IS NOT AVAILABLE.
2. TO SERVICE A STRUT WHICH HAS NOT BEEN PREVIOUSLY SERVICED, FOLLOW STEPS A THRU L.
3. TO SERVICE A PREVIOUSLY SERVICED STRUT, OR TO CHECK FLUID LEVEL, FOLLOW STEPS F THRU L.
4. TO CHECK INFLATION FOLLOW STEPS I THRU L.

CAUTION

IT IS EXTREMELY DIFFICULT TO SERVICE THE STRUT PROPERLY UNLESS THE PROCEDURES ARE CLOSELY FOLLOWED AND THE SPECIAL FILLER FITTING (MDE321756-1) IS USED.

2MH53-13255
1-2

FILLER FITTING MDE321756-1



DETAIL A

SERVICING PROCEDURE

A REMOVE CAP FROM VALVE AT TOP OF STRUT AND CRACK SWIVEL NUT TO BLEED ANY PRESSURE FROM STRUT.

CAUTION

RATE OF DISCHARGE IS CONTROLLED BY AMOUNT SWIVEL NUT IS LOOSENED. VALVE MAY BE DAMAGED IF NUT IS LOOSENED MORE THAN TWO TURNS.

WARNING

AN6287-1 VALVES (WITH VALVE CORE) MAY BE FOUND INSTEAD OF PREFERRED M28889-1 VALVES. IF SO, DEFLATE STRUT AS FOLLOWS: TIGHTEN 5/8 INCH NUT (CLOCKWISE). DEPRESS VALVE CORE TO ASSURE NO PRESSURE PRESENT. REMOVE CORE. LOOSEN 5/8 INCH NUT 1 1/2 TURNS MAXIMUM TO BLEED PRESSURE.

B REMOVE AIR VALVE AND INSTALL FILLER FITTING IN ITS PLACE. SCREW FILLER FITTING INTO STRUT ABOUT FOUR TURNS.

C CONNECT HYDRAULIC PRESSURE SOURCE TO FILLER FITTING AND PUMP HYDRAULIC FLUID INTO THE STRUT UNTIL FLUID RUNS OUT OF THE FILLER FITTING VENT TUBE.

D DISCONNECT HYDRAULIC SOURCE AND REMOVE FILLER FITTING.

E REINSTALL AIR VALVE AND CONNECT NITROGEN OR AIR PRESSURE SOURCE. INFLATE STRUT UNTIL IT EXTENDS 6 TO 10 INCHES, THEN DISCONNECT AIR HOSE AND CRACK SWIVEL NUT TO DEFLATE STRUT TO COMPLETELY COMPRESSED POSITION. A HOSE MAY BE ATTACHED TO THE AIR VALVE TO DIRECT AIR-OIL SPRAY INTO A RECEPTACLE. REPEAT THIS STEP TWO OR THREE TIMES TO DISSIPATE AIR POCKET IN BOTTOM OF STRUT.

F WITH STRUT FULLY COMPRESSED, REMOVE AIR VALVE AND INSTALL FILLER FITTING.

G CONNECT HYDRAULIC PRESSURE SOURCE TO FILLER FITTING AND PUMP HYDRAULIC FLUID INTO THE STRUT UNTIL A STEADY STREAM OF FLUID RUNS OUT OF THE FILLER FITTING VENT.

H DISCONNECT HYDRAULIC PRESSURE SOURCE, REMOVE FILLER FITTING AND INSTALL AIR VALVE.

I ATTACH NITROGEN OR AIR PRESSURE SOURCE TO GAGE AND CONNECT GAGE TO AIR VALVE. INFLATE STRUT UNTIL EXTENSION IS ABOUT FOUR INCHES AND NOTE THE PRESSURE IN THE STRUT.

J FROM THE STRUT EXTENSION CHART, DETERMINE THE PROPER X DIMENSION FOR THE PRESSURE NOTED IN STEP I. INFLATE OR DEFLATE THE STRUT AS NECESSARY TO OBTAIN THE PROPER X DIMENSION. ROCK AIRCRAFT TO HELP OVERCOME O-RING FRICTION WHILE INFLATING OR DEFLATING.

K WHEN PROPER X DIMENSION IS REACHED, RECHECK PRESSURE VERSUS X DIMENSION. REPEAT STEPS I, J, AND K AS NECESSARY TO OBTAIN PROPER X DIMENSION AND PRESSURE.

L TORQUE AIR VALVE BODY TO 60-80 INCH POUNDS AND SWIVEL NUT TO 50-70 INCH POUNDS. SAFETY WITH LOCKWIRE. CHECK FOR LEAKS AND INSTALL VALVE CAP.

2MHS3-13255
2-2

MAIN LANDING GEAR SERVICING

SPECIAL TOOLS AND TEST EQUIPMENT

GAGE (0–4000 PSI) R8G790
GAGE ASSEMBLY (0–2000 PSI) . . . . . LOCAL MFG
NITROGEN OR DRY AIR PRESSURE SOURCE . . . . . 0–2000 PSI

MATERIALS

NITROGEN (TYPE 1 GRADE B) BB-N-411
HYDRAULIC FLUID MIL-H-5606
LOCKWIRE MS20995NC32

NOTE

NITROGEN IS PREFERRED FOR STRUT SERVICING; HOWEVER CLEAN DRY AIR MAY BE USED IF NITROGEN IS NOT AVAILABLE.

SERVICING

A REMOVE VALVE CAP FROM LOWER CHAMBER VALVE (B).

B LOOSEN SWIVEL NUT (TURN COUNTER-CLOCKWISE) TO SLOWLY DISCHARGE AIR FROM HIGH PRESSURE CHAMBER PERMITTING STRUT TO FULLY COMPRESS.

CAUTION

RATE OF DISCHARGE IS ESTABLISHED BY AMOUNT SWIVEL NUT IS LOOSENED. VALVE MAY BE DAMAGED IF SWIVEL NUT IS LOOSENED MORE THAN TWO TURNS.

WARNING

AN6287-1 VALVES (WITH VALVE CORE) MAY BE FOUND INSTEAD OF PREFERRED MS28889-1 VALVES. IF SO, DEFLATE STRUT AS FOLLOWS: TIGHTEN 5/8 INCH NUT (CLOCKWISE). DEPRESS VALVE CORE TO ASSURE NO PRESSURE PRESENT. REMOVE CORE. LOOSEN 5/8 INCH NUT 1 1/2 TURNS MAXIMUM TO BLEED PRESSURE.

C ATTACH GAGE (R8G790) TO NITROGEN OR AIR SOURCE AND CONNECT GAGE TO STRUT LOWER CHAMBER VALVE (B).

D INFLATE LOWER CHAMBER UNTIL STRUT EXTENDS TO AN X DIMENSION OF AT LEAST 3 17/32.

E MEASURE PRESSURE IN LOWER CHAMBER.

F FROM EXTENSION CHART, DETERMINE X DIMENSION WHICH CORRESPONDS WITH PRESSURE READING OBTAINED IN STEP E.

CAUTION

DO NOT INFLATE ABOVE 1890 P.S.I.

G INFLATE LOWER CHAMBER UNTIL DIMENSION OBTAINED IN STEP F IS REACHED.

H TIGHTEN SWIVEL NUT TO 50-70 INCH-POUNDS (TURN CLOCKWISE). REMOVE GAGE AND HOSE. CHECK VALVE FOR LEAKS. REPLACE VALVE CAP AND TIGHTEN TO EXTREME FINGER TIGHTNESS.

I REMOVE VALVE CAP FROM UPPER CHAMBER VALVE (A).

J SLOWLY DISCHARGE ALL NITROGEN OR AIR FROM UPPER CHAMBER BY LOOSENING SWIVEL NUT A MAXIMUM OF TWO TURNS (TURN COUNTER-CLOCKWISE).

K ATTACH HYDRAULIC FILLER HOSE TO VALVE AND PUMP 8-12 FLUID OUNCES (APPROXIMATELY 1/2 TO 1 PINT) OF HYDRAULIC FLUID IN TO STRUT UPPER CHAMBER. LOOSEN HOSE CONNECTION AT INTERVALS TO ALLOW TRAPPED AIR TO ESCAPE.

L CONTINUE FILLING UNTIL A MINIMUM OF EIGHT FLUID OUNCES OF HYDRAULIC FLUID ESCAPES THROUGH THE VALVE WHEN THE FILLER HOSE IS REMOVED. THIS FLOW OF EXCESS FLUID FROM THE VALVE ASSURES THAT THE STRUT UPPER CHAMBER IS COMPLETELY FILLED.

M ATTACH GAGE ASSEMBLY TO VALVE (A) AND INFLATE UPPER CHAMBER.

NOTE

CLOSE GAGE ADAPTER VALVE WHILE INFLATING STRUT. OPEN VALVE TO READ PRESSURE.

N INFLATE UPPER CHAMBER TO 120 ± 2 PSI.

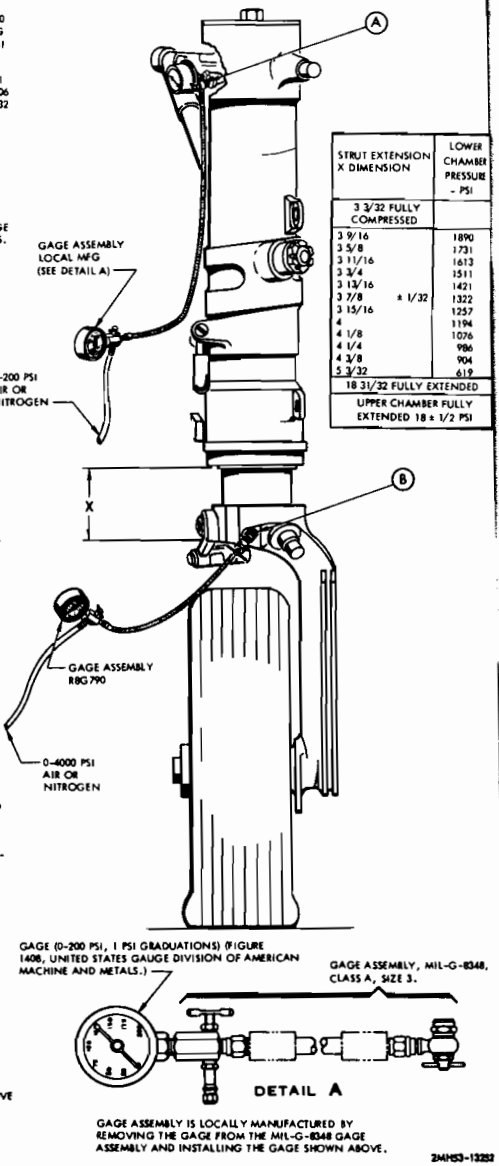
CAUTION

DO NOT USE INDICATOR GAGE MOUNTED ON STRUT TO MEASURE PRESSURE.

O TIGHTEN SWIVEL NUT (TURN CLOCKWISE) TO 50-70 INCH-POUNDS. REMOVE GAGE AND HOSE. CHECK VALVE FOR LEAKS. REPLACE VALVE CAP AND TIGHTEN TO EXTREME FINGER-TIGHTNESS.

P SAFETY UPPER AND LOWER CHAMBER VALVE SWIVEL NUTS WITH LOCKWIRE.

STRUT EXTENSION X DIMENSION		LOWER CHAMBER PRESSURE - PSI
3 3/32 FULLY COMPRESSED		
3 9/16		1890
3 5/8		1731
3 11/16		1613
3 3/4		1511
3 13/16		1421
3 7/8	± 1/32	1322
3 15/16		1257
4		1194
4 1/8		1076
4 1/4		986
4 3/8		904
5 3/32		619
18 31/32 FULLY EXTENDED		
UPPER CHAMBER FULLY EXTENDED 18 ± 1/2 PSI		

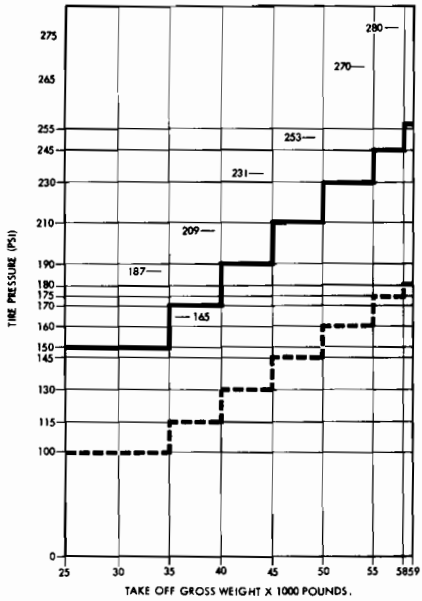


GAGE ASSEMBLY IS LOCALLY MANUFACTURED BY REMOVING THE GAGE FROM THE MIL-G-8348 GAGE ASSEMBLY AND INSTALLING THE GAGE SHOWN ABOVE.

24H53-13252

TIRE SERVICING

FUSELAGE MOUNTED MISSILES	WEIGHT (POUNDS)
AIM-7D SPARROW III	402
AIM-7E SPARROW III	455
WING MOUNTED MISSILES	**WEIGHT (POUNDS)**
AIM-9D SIDEWINDER IC	190
AIM-9B SIDEWINDER 1A	155
AGM-12B GAM-83A	580
AGM-45A SHRIKE	400
SPECIAL STORES	**WEIGHT (POUNDS)**
MK-28 EX	2040
MK-28 RE	2170
MK-43 MOD. 0	2060
MK-43 MOD. 1	2120
MK-57	500
MK-61	600
SUU-16/A GUN POD (EMPTY)	1052
SUU-16/A GUN POD (FULL AMMO)	1072
MN-1A	622
RMU-8A REEL LAUNCHER	2078
CONVENTIONAL WEAPONS	**WEIGHT (POUNDS)**
MK-81 L.D. BOMB	270
MK-82 L.D. BOMB	525
MK-83 L.D. BOMB	1000
MK-117 G.P. BOMB	805
M-116 FIRE BOMB	700
BLU-1/B FIRE BOMB	697
MC-1 CHEM. BOMB	740
M-129E/LEAFLET BOMB	180
MLU-10/B LAND MINE	660
CBU-1/A DISPENSER	779
CBU-2/A DISPENSER	863
LAU-3A ROCKET POD	427
LAU-10A ROCKET POD	521
LAU-18A ROCKET POD	462
TOW TARGETS	**WEIGHT (POUNDS)**
RLGU-8/A	1000



MAIN LANDING GEAR TIRES OPERATING FROM RUNWAYS WITH LESS THAN 10,000 FEET IN LENGTH.

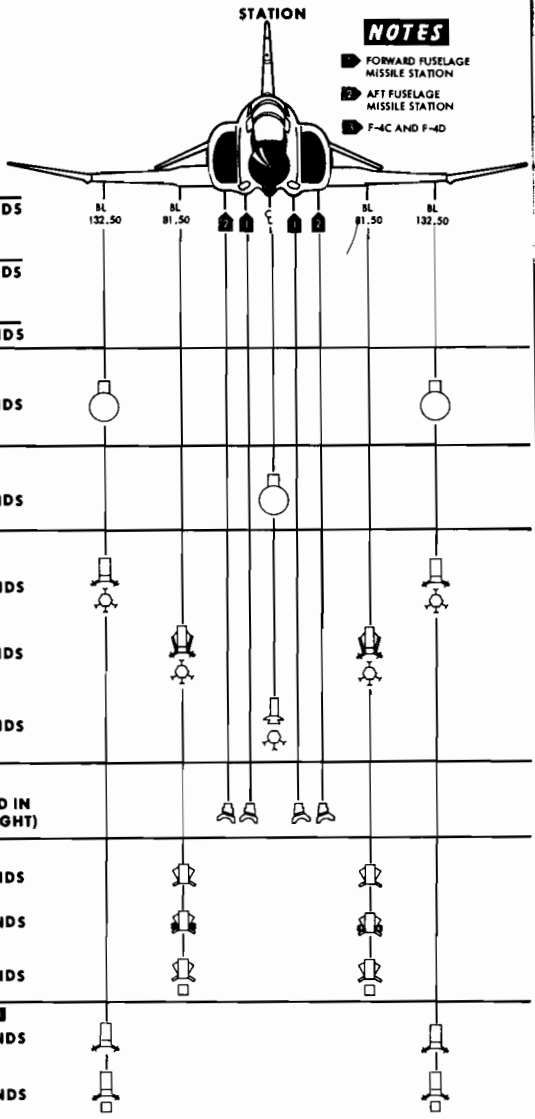
NOSE LANDING GEAR TIRES

MAIN LANDING GEAR TIRES OPERATING FROM RUNWAYS 10,000 FEET IN LENGTH OR LONGER

NOTE

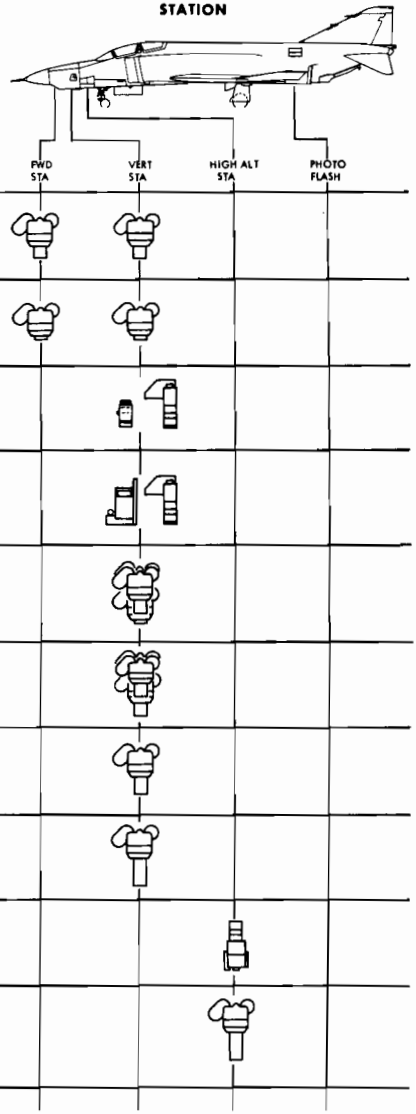
1. ARMAMENT WEIGHTS ARE FOR SINGLE ITEMS.

COMPONENT	WEIGHT
BASIC AIRCRAFT	
F-4C:	
BASIC AIRCRAFT LESS USEABLE FUEL	28957
INTERNAL FUEL (1972 GAL.)	12818
	41775 POUNDS
F-4D:	
BASIC AIRCRAFT LESS USEABLE FUEL	29632
INTERNAL FUEL (1889 GAL.)	12279
	41911 POUNDS
RF-4C:	
BASIC AIRCRAFT LESS USEABLE FUEL	29327
INTERNAL FUEL (1889 GAL.)	12279
	41606 POUNDS
EXTERNAL WING TANK- L AND R	
TANKS FUEL (740 GAL.)	**5490 POUNDS**
EXTERNAL CENTER LINE TANK	
AERO 27A - EJECTOR BOMB RACK TANK FUEL (600 GAL.)	**4200 POUNDS**
MULTIPLE WEAPONS MER/TER RACKS (3)	
OUTBOARD ARMAMENT PYLONS MULTIPLE EJECTOR RACKS (MER)	**820 POUNDS**
INBOARD ARMAMENT PYLONS TRIPLE EJECTOR RACKS (TER)	**718 POUNDS**
AERO 27A - EJECTOR BOMB RACK MULTIPLE WEAPONS ADAPTER MULTIPLE EJECTOR RACK (MER)	**321 POUNDS**
AERO-7/A MISSILE LAUNCHERS (4) (4)	**(INCLUDED IN BASIC WEIGHT)**
INBOARD WING STATION PYLONS-L AND R (1)	
INBOARD ARMAMENT PYLONS	**528 POUNDS**
INBOARD ARMAMENT PYLONS LAU-7/A MISSILE LAUNCHERS (4)	**876 POUNDS**
INBOARD ARMAMENT PYLONS LAU-34/A MISSILE LAUNCHERS	**700 POUNDS**
OUTBOARD WING STATION PYLONS-L AND R (1)	
OUTBOARD ARMAMENT PYLONS	**380 POUNDS**
OUTBOARD ARMAMENT PYLONS LAU-34/A MISSILE LAUNCHERS	**552 POUNDS**



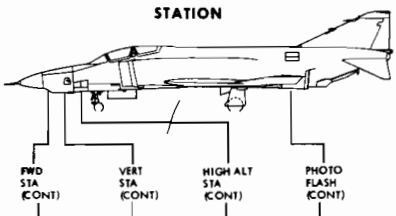
2MH53-1156SD (2-4)

COMPONENT (RF-4C)	WEIGHT
FORWARD OBLIQUE OR VERTICAL	
STILL PICTURE CAMERA KS-72	52.3 POUNDS.
CAMERA LENS CONE, 6" LA-280A	3.7 POUNDS.
THIN BASE FILM, 1000 FT. *	20.0 POUNDS.
	76.0 POUNDS.
FORWARD OBLIQUE OR VERTICAL	
STILL PICTURE CAMERA KS-72	52.3 POUNDS.
CAMERA LENS CONE, 3" LA-279A	2.7 POUNDS.
THIN BASE FILM, 1000 FT. *	20.0 POUNDS.
	75.0 POUNDS.
LOW ALTITUDE PANORAMIC	
STILL PICTURE CAMERA KA-56	46.1 POUNDS.
FILM TAKEUP PROCESSING CASSETTE	36.9 POUNDS.
THIN BASE FILM, 1000 FT. *	20.0 POUNDS.
	103.0 POUNDS.
LOW ALTITUDE PANORAMIC	
STILL PICTURE CAMERA KA-56A	46.1 POUNDS.
AERIAL PHOTOGRAPHIC FILM EJECTOR ASSEMBLY LA-298A	43.9 POUNDS.
THIN BASE FILM, 250 FT. *	10.0 POUNDS.
	110.0 POUNDS.
TRI-MET ARRAY	
STILL PICTURE CAMERA KS-72 (3)	156.9 POUNDS.
CAMERA LENS CONE, 6" LA-280A (2)	7.4 POUNDS.
CAMERA LENS CONE, 3" LA-279A(1)	2.7 POUNDS.
THIN BASE FILM, 3000 FT. *	60.0 POUNDS.
	227.0 POUNDS.
TRI-MET ARRAY	
STILL PICTURE CAMERA KS-72 (3)	156.9 POUNDS.
CAMERA LENS CONE, 6" LA-280A (3)	11.1 POUNDS.
THIN BASE FILM, 3000 FT. *	60.0 POUNDS.
	228.0 POUNDS.
LEFT OR RIGHT OBLIQUE	
STILL PICTURE CAMERA KS-72	52.3 POUNDS.
CAMERA LENS CONE, 12" LA-281A	12.7 POUNDS.
THIN BASE FILM, 1000 FT. *	20.0 POUNDS.
	85.0 POUNDS.
LEFT OR RIGHT OBLIQUE	
STILL PICTURE CAMERA KS-72	52.3 POUNDS.
CAMERA LENS CONE 18" LA-288A	10.7 POUNDS.
THIN BASE FILM, 1000 FT. *	20.0 POUNDS.
	83.0 POUNDS.
HIGH ALTITUDE PANORAMIC	
STILL PICTURE CAMERA KA-55A	90.0 POUNDS.
AIRCRAFT CAMERA MOUNT SET LS-58A	99.0 POUNDS.
THIN BASE FILM, 1000 FT *	20.0 POUNDS.
	209.0 POUNDS.
HIGH ALTITUDE FRAMING	
STILL PICTURE CAMERA KS-72	52.3 POUNDS.
CAMERA LENS CONE, 18" LA-288A	10.7 POUNDS.
AIRCRAFT CAMERA MOUNT SET LS-58A	99.0 POUNDS.
THIN BASE FILM, 1000 FT. *	20.0 POUNDS.
	182.0 POUNDS.



* PROCESSING MAT HAS APPROXIMATELY THE SAME WEIGHT AS THIN BASE FILM

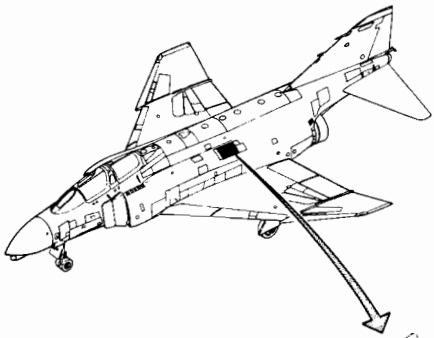
2MH53-1154SD
3-4

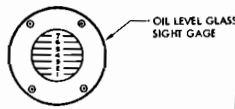


COMPONENT (RF-4C)	WEIGHT
SPLIT VERTICAL	
STILL PICTURE CAMERA KS-72 (2)	104.6 POUNDS.
CAMERA LENS CONE, 6" LA-280A (2)	7.4 POUNDS.
SPLIT VERTICAL MOUNT ASSEMBLY	135.0 POUNDS.
THIN BASE FILM, 2000 FT. *	40.0 POUNDS.
	287.0 POUNDS.
SPLIT VERTICAL	
STILL PICTURE CAMERA KS-72 (2)	104.6 POUNDS.
CAMERA LENS CONE, 18" LA-288A (2)	21.4 POUNDS.
SPLIT VERTICAL MOUNT ASSEMBLY	135.0 POUNDS.
AIRCRAFT CAMERA MOUNT SET LS-58A	99.0 POUNDS.
THIN BASE FILM, 2000 FT. *	40.0 POUNDS.
	400.0 POUNDS.
SPLIT VERTICAL	
STILL PICTURE CAMERA KS-72 (2)	104.6 POUNDS.
CAMERA LENS CONE, 18" LA-288A (2)	21.4 POUNDS.
SPLIT VERTICAL MOUNT ASSEMBLY	135.0 POUNDS.
THIN BASE FILM, 2000 FT. *	40.0 POUNDS.
	300.0 POUNDS.
MAPPING CAMERA	
MAPPING CAMERA TYPE T-11	74.3 POUNDS.
AIRCRAFT CAMERA MOUNT SET LS-58A	99.0 POUNDS.
FILM, 390 FT.	14.5 POUNDS.
	187.8 POUNDS.
PHOTOFLASH CARTRIDGE EJECTION	
1. PHOTOFLASH CARTRIDGE EJECTOR LA-308A (4)	100.0 POUNDS.
PHOTOFLASH CARTRIDGE, M112 (104)	130.0 POUNDS.
	230.0 POUNDS.
2. PHOTOFLASH CARTRIDGE EJECTOR LA-308A (2)	50.0 POUNDS.
PHOTOFLASH CARTRIDGE EJECTOR LA-307A (2)	48.0 POUNDS.
PHOTOFLASH CARTRIDGE, M112 (52)	65.0 POUNDS.
PHOTOFLASH CARTRIDGE, M123 STEEL CASE (20)	140.0 POUNDS.
	303.0 POUNDS.
3. PHOTOFLASH CARTRIDGE EJECTOR LA-308A (2)	50.0 POUNDS.
PHOTOFLASH CARTRIDGE EJECTOR LA-307A (2)	48.0 POUNDS.
PHOTOFLASH CARTRIDGE, M112 (52)	65.0 POUNDS.
PHOTOFLASH CARTRIDGE, M123 ALUMINUM CASE (20)	80.0 POUNDS.
	243.0 POUNDS.
4. PHOTOFLASH CARTRIDGE EJECTOR LA-307A (4)	96.0 POUNDS.
PHOTOFLASH CARTRIDGE, M123 STEEL CASE (40)	280.0 POUNDS.
	376.0 POUNDS.
5. PHOTOFLASH CARTRIDGE EJECTOR LA-307A (4)	96.0 POUNDS.
PHOTOFLASH CARTRIDGE, M123 ALUMINUM CASE (40)	160.0 POUNDS.
	256.0 POUNDS.

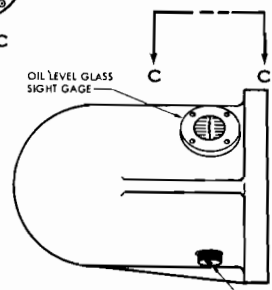
2MH53-11545D
4-4

RAM AIR TURBINE SERVICING

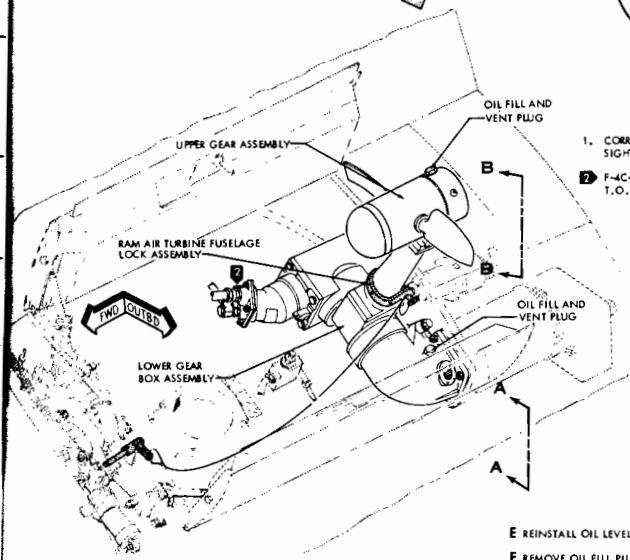


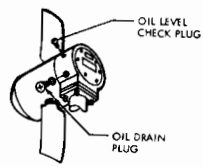


VIEW C-C



VIEW A-A





VIEW B-B

NOTES

1. CORRECT OIL LEVEL SHALL BE BETWEEN GRIDS 5 AND 6 ON SIGHT GAGE.

2 F-4C-15 AND RF-4C-17 THRU F/RF-4C-24 AND F-4D-24 BEFORE T.O. 1F-4-569.

TOOLS AND EQUIPMENT LIST

RAM AIR TURBINE LOCK ASSY MDE32127-1

MATERIALS LIST

LUBRICATING OIL MIL-L-7808
"O" RING S8316K6

RAM AIR TURBINE SERVICING

A EXTEND RAM AIR TURBINE BY PLACING R.A.T. IN R.A.T. OUT HANDLE DOWN.

B INSTALL RAM AIR TURBINE FUSELAGE LOCK ASSEMBLY.

C REMOVE OIL LEVEL CHECK PLUG FROM UPPER GEAR BOX ASSEMBLY.

D REMOVE OIL FILLER PLUG AND ADD OIL AS REQUIRED TO BRING UPPER GEAR BOX OIL LEVER EVEN WITH THE BOTTOM OF THE CHECK PORT.

E REINSTALL OIL LEVEL CHECK PLUG AND FILL PLUG.

F REMOVE OIL FILL PLUG FROM THE LOWER GEAR BOX.

G INSERT A CLEAN "DIP STICK" STRAIGHT DOWN AND FEEL FOR THE HIGHEST POINT OF THE BEARING CARRIER (IN THE GEAR BOX). WITHDRAW THE "DIP STICK", WIPE IT CLEAN, THEN CHECK OIL DEPTH ABOVE THE HIGH POINT OF THE BEARING CARRIER. ADD OIL, AS REQUIRED, SO THAT OIL LEVEL IS 0.2 INCH ABOVE THE BEARING CARRIER.

H INSTALL "O" RING AND OIL FILLER PLUG. TORQUE TO 75-125 IN.LB AND SAFETY WITH LOCKWIRE.

QUALITY ASSURANCE SUMMARY

A ALL PLUGS PROPERLY SECURED.

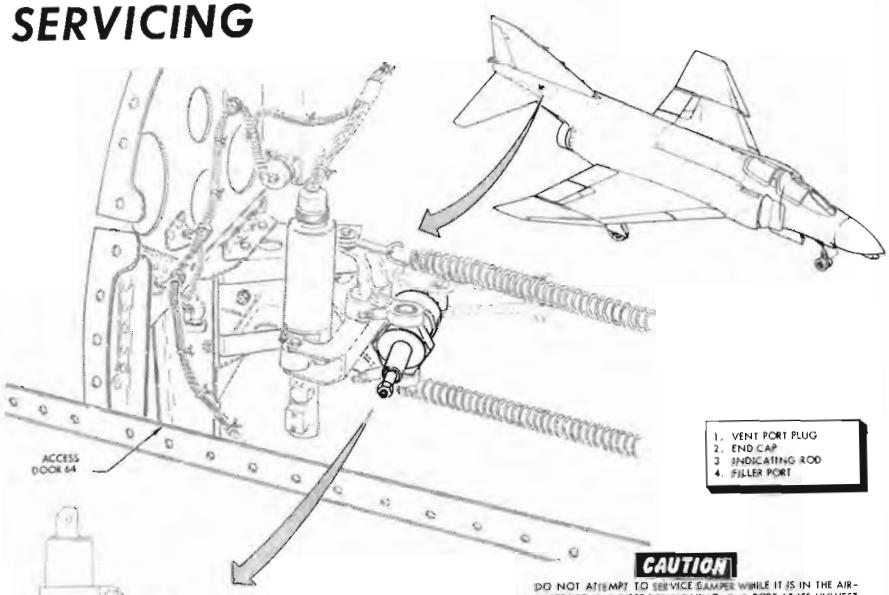
B PNEUMATIC SYSTEM PRESSURE AT LEAST 2000 PSI PRIOR TO RETRACTING RAM AIR TURBINE.

C RAM AIR TURBINE FUSELAGE LOCK ASSEMBLY REMOVED.

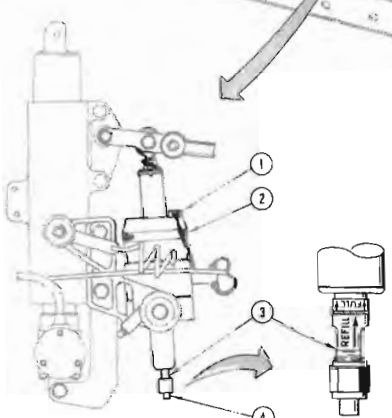
D RAM AIR TURBINE RETRACTED.

(2&6)
6MH53-05097D

STABILATOR VISCOUS DAMPER SERVICING



1. VENT PORT PLUG
2. END CAP
3. INDICATING ROD
4. FILLER PORT



INDICATING ROD
VIEW A

CAUTION

DO NOT ATTEMPT TO SERVICE DAMPER WHILE IT IS IN THE AIRCRAFT WITHOUT FIRST POSITIONING VENT PORT AT ITS HIGHEST POINT. THE MOUNTING POSITION DOES NOT PERMIT PROPER BLEEDING OF AIR FROM THE DAMPER.

SERVICING PROCEDURE

NOTE

SERVICE THE STABILATOR VISCOUS DAMPER WHEN THE INDICATING ROD REACHES THE REFILL LEVEL. REFER TO SHOP MAINTENANCE SECTION FOR SERVICING PROCEDURE WHEN DAMPER IS OUT OF AIRCRAFT.

A REMOVE ACCESS DOOR 64.

B UNSCREW END CAP (2) UNTIL THE VENT PORT PLUG (1) IS POSITIONED AT ITS HIGHEST POINT.

C REMOVE VENT PORT PLUG (1).

D HAND PUMP HYDRAULIC FLUID (MIL-H-5606) THROUGH THE FILLER PORT (4).

E REPLACE VENT PORT PLUG (1) AND SAFETY WITH LOCKWIRE (MS20995NC32).

F HAND TIGHTEN END CAP (2) AND SAFETY WITH LOCKWIRE (MS20995NC32).

G CHECK POSITION OF FULL MARK ON INDICATING ROD (3). BLEED OFF FLUID THROUGH THE FILLER PORT (4) UNTIL CORRECT INDICATION IS SHOWN.

NOTE

OVERFILLING OF DAMPER WILL PRESSURIZE THE FLUID IN DAMPER, RESULTING IN EXCESSIVE FRICTION AND POSSIBLE PISTON SEAL FAILURE.

H PERFORM AN OPERATIONAL CHECK OF THE STABILATOR FEEL TRIM SYSTEM.

I INSTALL ACCESS DOOR 64 AFTER QUALITY ASSURANCE INSPECTION.

TOOLS AND EQUIPMENT LIST

HYDRAULIC HAND PUMP	STANDARD

MATERIALS LIST

HYDRAULIC FLUID	MIL-H-5606
LOCKWIRE	MS20995NC32

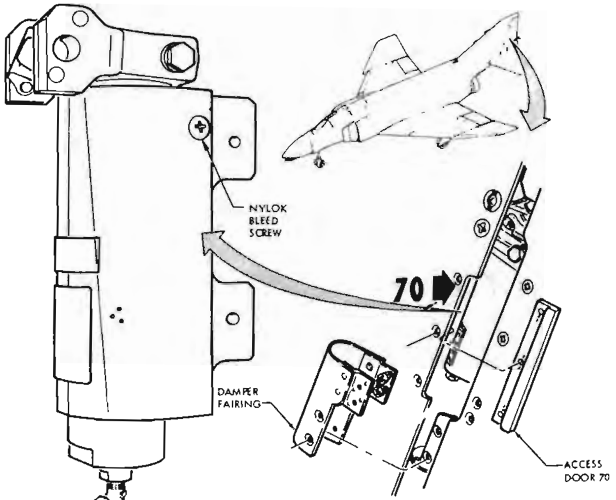
QUALITY ASSURANCE SUMMARY

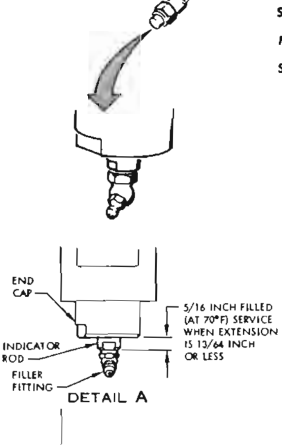
A CHECK FOR HYDRAULIC LEAKAGE.

B ENSURE DAMPER IS PROPERLY SAFETIED.

4MH53-06P25A

RUDDER ROTARY DAMPER SERVICING





SPECIAL TOOLS AND TEST EQUIPMENT

GREASE GUN (CLEAN). . . . . STANDARD

MATERIALS LIST

HYDRAULIC FLUID MIL-H-5606

SERVICING

A. FILL A CLEAN GREASE GUN WITH HYDRAULIC FLUID (MIL-H-5606).

CAUTION

SERVICE THE ROTARY DAMPER WITH MIL-H-5606 HYDRAULIC FLUID ONLY. DO NOT USE GREASE.

B. REMOVE ACCESS DOOR 70 AND THE DAMPER FAIRING.

C. HOLD THE GUN NOZZLE UPWARD AND PUMP OUT A SMALL AMOUNT OF FLUID TO ELIMINATE AIR BUBBLES.

D. APPLY GUN NOZZLE TO FILLER FITTING AND ADD HYDRAULIC FLUID UNTIL THE INDICATOR EXTENDS 5/16 INCH.

NOTE

THE GUN NOZZLE MUST REMAIN CONNECTED TO THE FILLER FITTING THROUGHOUT THE SERVICING AND BLEEDING PROCEDURE TO PREVENT AIR ENTRAPMENT IN THE DAMPER. REPEAT THE SERVICING PROCEDURE IF CONNECTION IS NOT MAINTAINED.

E. ACTUATE THE RUDDER TEN TIMES THROUGH ITS FULL TRAVEL AT MAXIMUM SPEED.

F. LOOSEN THE NYLOK BLEED SCREW.

G. SLOWLY ACTUATE THE RUDDER THROUGH ITS FULL TRAVEL UNTIL ALL SIGNS OF AIR ESCAPING AROUND THE BLEED SCREW DISAPPEAR.

NOTES

1. DO NOT ALLOW THE INDICATOR ROD TO RETRACT LESS THAN 13/64 INCH DURING BLEEDING. ADD HYDRAULIC FLUID AS REQUIRED DURING BLEEDING WITHOUT DISCONNECTING THE GUN FROM THE FILLER FITTING.

2. IT MAY BE NECESSARY TO REPEAT STEPS E THROUGH G IF AN EXCESSIVE AMOUNT OF AIR IS TRAPPED IN THE DAMPER.

H. TIGHTEN THE BLEED SCREW AND ADD FLUID TO EXTEND THE INDICATOR 5/16 INCH.

I. INSTALL THE DAMPER FAIRING AND ACCESS DOOR 70.

QUALITY ASSURANCE SUMMARY

A. ENSURE INDICATOR EXTENDS 5/16 INCH.

B. ENSURE RUDDER ROTARY DAMPER DOES NOT LEAK.

(6 & 2)
4AH53-05105F

LIQUID OXYGEN SERVICING

SPECIAL TOOLS AND TEST EQUIPMENT

LIQUID OXYGEN SERVICE TRAILER	MA-1
PROTECTIVE BOOTS	MIL-B-5117A
INDUSTRIAL FACE SHIELD	FSL-F-136 STYLE B
GENERAL PURPOSE APRON	MIL-A-41809
LEATHER GLOVES	FSKK-G-486 TYPE II
COVERALLS	MIL-C-14610

MATERIALS

LIQUID OXYGEN . . . . . MIL-O-27210, TYPE II

MANPOWER REQUIREMENTS

TWO MEN ARE REQUIRED.

[redacted]

DUE TO THE HAZARDS INVOLVED WHEN HANDLING LIQUID OXYGEN, THE FOLLOWING SAFETY PRECAUTIONS MUST BE EXERCISED DURING THE SERVICING OPERATION. (1) THE AREA IN THE VICINITY OF THE AIRCRAFT MUST BE OPEN, WELL VENTILATED, AND FREE OF OIL, GREASE, AND OTHER HIGHLY COMBUSTIBLE LIQUIDS. (2) THE AIRCRAFT MUST NOT BE REFUELED DURING LIQUID OXYGEN SERVICING. (3) ELECTRICAL POWER SHOULD NOT BE APPLIED AND THE AIRCRAFT MUST BE WELL GROUNDED. (4) AT LEAST TWO QUALIFIED MEN MUST BE PRESENT DURING THE OPERATION. (5) SERVICING PERSONNEL MUST WEAR SPECIAL PROTECTIVE CLOTHING AND MUST BE QUALIFIED TO HANDLE LIQUID OXYGEN. (6) A CO_2 EXTINGUISHER SHOULD BE AVAILABLE AND ANY FLAME PRODUCING ACTIVITY MUST NOT BE LESS THAN FIFTY FEET FROM THE SERVICING OPERATION.

GENERAL

REFER TO T.O. 35D3-6-2-1, AND SAFETY SUPPLEMENT T.O. 35D3-6-2-SS-1-1 FOR OPERATION, SERVICE AND REPAIR OF LIQUID OXYGEN TRANSFER AND STORAGE TANKS, TYPES MA-1, 3-1, AND C-1.

SERVICING CONVERTER INSTALLED IN AIRCRAFT

A PLACE LIQUID OXYGEN SERVICING TRAILER IN A SUITABLE LOCATION ON THE RIGHT HAND SIDE OF THE AIRCRAFT.

B OPEN ACCESS DOOR 16 AND LOWER DOOR TO THE FIRST DETENT OF DOOR HOLDING BRACKETS AS SHOWN IN VIEW A.

NOTE

ON RF-4C AIRCRAFT, LOWER ACCESS DOOR 16 TO THE SECOND DETENT OF THE DOOR HOLDING BRACKETS.

CAUTION

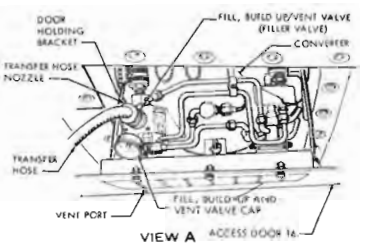
EXERCISE EXTREME CARE TO PREVENT DEFORMATION OF VENT LINE AND SUPPLY LINE. MINIMUM BEND RADIUS FOR VENT LINE IS 5.50 INCHES, FOR SUPPLY LINE 3.00 INCHES.

C REMOVE CAP FROM CONVERTER FILL, BUILD-UP AND VENT VALVE AND PLACE A CLEAN CONTAINER UNDER THE VALVE VENT PORT.

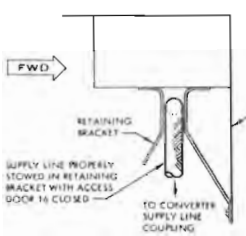
D PRESSURIZE SERVICING TRAILER TO 30 PSI, AND PURGE TRANSFER HOSE (REFER TO T.O. 35D3-6-2-1).

E CONNECT TRANSFER HOSE TO CONVERTER. OPEN FILL-DRAIN VALVE ON SERVICING TRAILER SLIGHTLY. ALLOW A SMALL AMOUNT OF LIQUID OXYGEN TO COOL TRANSFER HOSE AND CONVERTER. THEN SLOWLY OPEN FILL-DRAIN VALVE TO TRANSFER LIQUID OXYGEN TO CONVERTER.

F WHEN A CONTINUOUS STREAM OF LIQUID OXYGEN FLOWS FROM THE VENT PORT, CLOSE FILL DRAIN VALVE ON SERVICING TRAILER AND REMOVE TRANSFER HOSE FROM CONVERTER.



VIEW A



VIEW B
(LOOKING INBOARD)

NOTES

THE FILLING TIME FOR THE CONVERTER MUST NOT EXCEED SIX MINUTES AT A FILLING PRESSURE OF 30 PSI.

DUE TO MOISTURE FROZEN WITHIN THE FILLER VALVE, THE CHECK VALVE (LOCATED WITHIN THE FILLER VALVE) MAY STICK OPEN AFTER THE TRANSFER HOSE IS REMOVED CAUSING VALVE LEAKAGE. IF THIS CONDITION IS PRESENT, PLACE CAP ON FILLER VALVE AND ALLOW THE VALVE TO WARM UP FOR SEVERAL MINUTES. REMOVE CAP AND CHECK VALVE FOR LEAKAGE. IF LEAKAGE HAS CEASED, REPLACE CAP AND INSURE PRESSURE BUILD-UP OF THE SYSTEM IS NORMAL PRIOR TO FLIGHT.

G INSTALL CAP ON FILL, BUILD-UP/VENT VALVE AND CLOSE ACCESS DOOR 16. INSURE THAT THE SUPPLY LINE SLIPS INTO ITS RETAINING BRACKET AS DOOR 16 IS BEING CLOSED. SEE VIEW B.

QUALITY ASSURANCE SUMMARY

A ACCESS DOOR 16 CLOSED AND ALL FASTENERS PROPERLY SECURED.

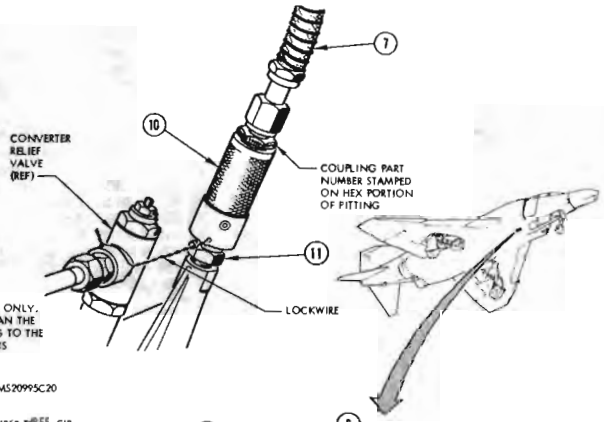
SERVICING BY CONVERTER REPLACEMENT

INSTALL A FULLY SERVICED LIQUID OXYGEN CONVERTER IN THE AIRCRAFT. REFER TO LIQUID OXYGEN CONVERTER REMOVAL & INSTALLATION.

(2 AND 3)
TMH53-04173C

LIQUID OXYGEN CONVERTER

1. ACCESS DOOR 16
2. WING NUT AND SWIVEL BOLT
3. VENT QUICK DISCONNECT COUPLING
4. VENT LINE QUICK DISCONNECT COUPLING
5. VENT LINE
6. PROBE LEAD CONNECTORS
7. SUPPLY LINE
8. DOOR HOLDING BRACKETS
9. CARRYING HANDLE
10. SUPPLY LINE QUICK DISCONNECT COUPLING
11. SUPPLY QUICK DISCONNECT COUPLING
12. SELF-LOCKING RING
13. PROBE LEADS
14. PROBE LEAD WIRE BUNDLE CLIP
15. VENT LINE CONNECTOR NUT
16. FILL BUILD-UP AND VENT VALVE
17. FILL BUILD-UP AND VENT VALVE CAP
18. LIQUID OXYGEN CONVERTER



NOTE

THIS VIEW IS TYPICAL FOR ARO OXYGEN CONVERTERS ONLY. ON AIRCRAFT EQUIPPED WITH CONVERTERS OTHER THAN THE ARO, IT WILL BE NECESSARY TO SAFETY THE COUPLING TO THE NEAREST SECURING POINT ON THE CONVERTER THAT IS MECHANICALLY FEASIBLE.

MATERIALS

LOCK WIRE MS20995C20

REMOVAL

A. PULL THE OXYGEN GAGE CIRCUIT BREAKER ON THE NUMBER THREE CIRCUIT BREAKER PANEL IN THE AFT COCKPIT.

CAUTION

EXERCISE EXTREME CARE TO PREVENT DEFORMATION OF VENT AND SUPPLY LINES. MINIMUM BEND RADIUS FOR VENT LINE IS 5.50 INCHES AND FOR SUPPLY LINE IS 3.00 INCHES.

B. LOWER ACCESS DOOR 16 UNTIL CLIP (14) IS VISIBLE THEN DISCONNECT THE CLIP FOR THE CONVERTER.

CAUTION

CLIP (14) MUST BE DISCONNECTED FROM THE CONVERTER PRIOR TO LOWERING ACCESS DOOR 16 TO THE SECOND DETENT OF THE DOOR HOLDING BRACKETS TO PREVENT WIRE DAMAGE TO THE PROBE LEADS AT THE CONNECTORS.

C. LOWER ACCESS DOOR 16 TO THE SECOND DETENT OF THE DOOR HOLDING BRACKETS.

D. CUT AND REMOVE LOCKWIRE FROM COUPLING (10) IF COUPLING IS SAFETIED.

E. DISCONNECT PROBE LEAD CONNECTORS (16) FROM CONVERTER BY PULLING LIGHTLY ON KNURLED SLEEVE AND ROTATING SLEEVE COUNTERCLOCKWISE. DISCONNECT SUPPLY LINE (7) AND VENT LINE (5) FROM CONVERTER AT QUICK DISCONNECT COUPLINGS.

F. ON AIRCRAFT EQUIPPED WITH COUPLINGS (4) THAT ARE NOT KNURLED, LOOSEN CONNECTOR NUT (15) PRIOR TO DISCONNECTING VENT LINE FROM CONVERTER.

NOTE

COUPLING (4) THAT ARE NOT KNURLED DO NOT SWIVEL. WITH THIS TYPE COUPLING INSTALLED, NUT (4) MUST BE LOOSENED PRIOR TO DISCONNECTING COUPLING (4) TO PREVENT TWISTING OF VENT LINE (5).

G. SUPPORT CONVERTER AND LOOSEN WING NUT UNTIL SWIVEL BOLT CAN BE ROTATED DOWNWARD.

H. PULL CONVERTER DOWNWARD WHILE HOLDING THE CARRYING HANDLE.

I. INSTALL PROTECTIVE COVERS ON QUICK DISCONNECT COUPLINGS OF SUPPLY LINE, VENT LINE, AND CONVERTER.

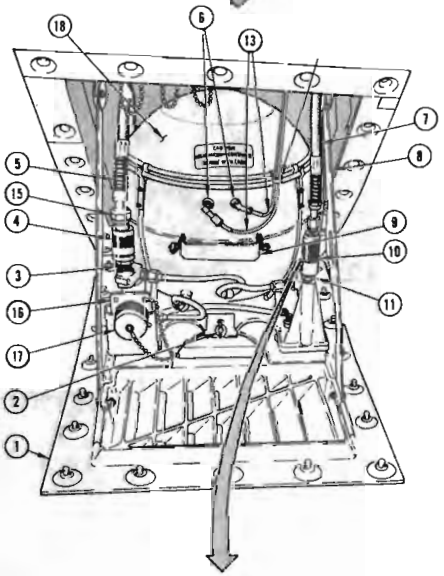
INSTALLATION

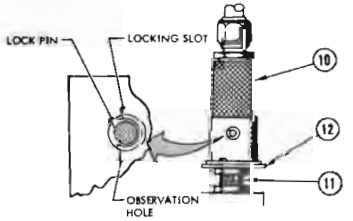
A. PLACE CONVERTER IN MOUNTING BRACKET ON ACCESS DOOR 16. ROTATE SWIVEL BOLT UP AND TIGHTEN WING NUT.

B. CONNECT VENT LINE (5) AND SUPPLY LINE (7) TO CONVERTER. INSURE SUPPLY AND VENT LINES ARE NOT TWISTED.

C. TIGHTEN CONNECTOR NUT (15) IF COUPLING (4) IS NOT KNURLED.

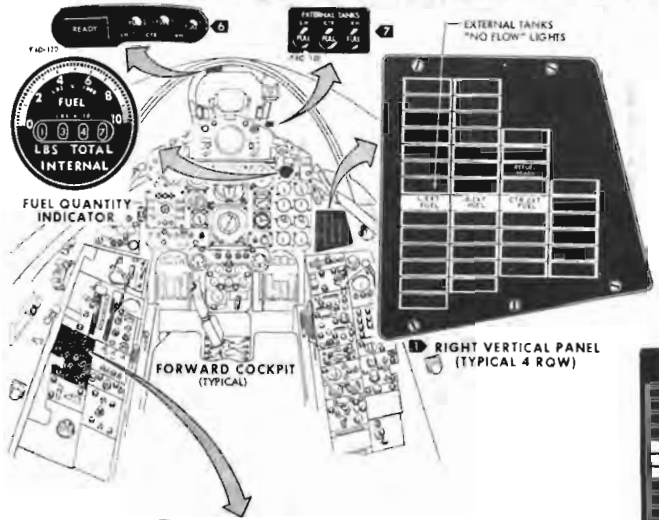
D. CHECK COUPLING (10) FOR PROPER CONNECTION TO COUPLING (11) BY OBSERVING LOCKPIN ENGAGEMENT IN LOCKING SLOT AS SHOWN IN VIEW A. (QUALITY ASSURANCE)





7 & 2
7M353-04174H

NORMAL REFUELING AND DEFUELING



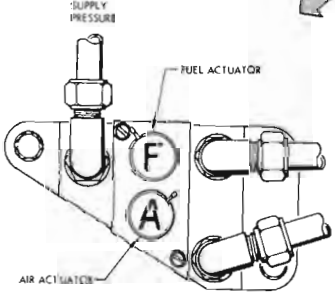
NOTES

1. F-4D-28 AND SUBSEQUENT, RF-4C-28 AND SUBSEQUENT, AND F-4E.
2. F-4D-24 THRU F-4D-27, AND RF-4C-17 THRU RF-4C-27, ALSO F-4C.
3. F-4E
4. F/RF-4C-15 THRU F/RF-4C-18
5. F/RF-4C-19 AND SUBSEQUENT. ALSO F-4D AND F-4E.
6. F-4D AND F-4E.
7. F-4C AND RF-4C.

1 RIGHT VERTICAL PANEL (TYPICAL 4 ROW)

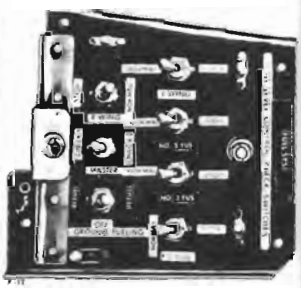
2 RIGHT VERTICAL PANEL (TYPICAL 3 ROW)

FUEL CONTROL PANEL



3 NO. 7 FUEL CELL ACTUATORS

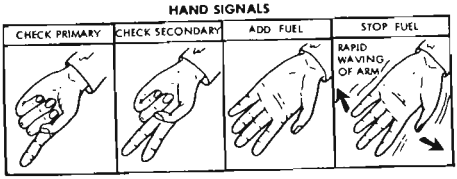
4 RIGHT WHEEL WELL SWITCH PANEL ASSEMBLY

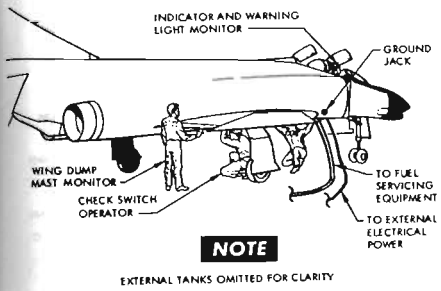


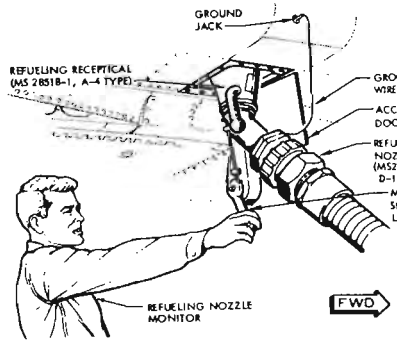
5 RIGHT WHEEL WELL SWITCH PANEL ASSEMBLY

2MHS2-14501
1-2

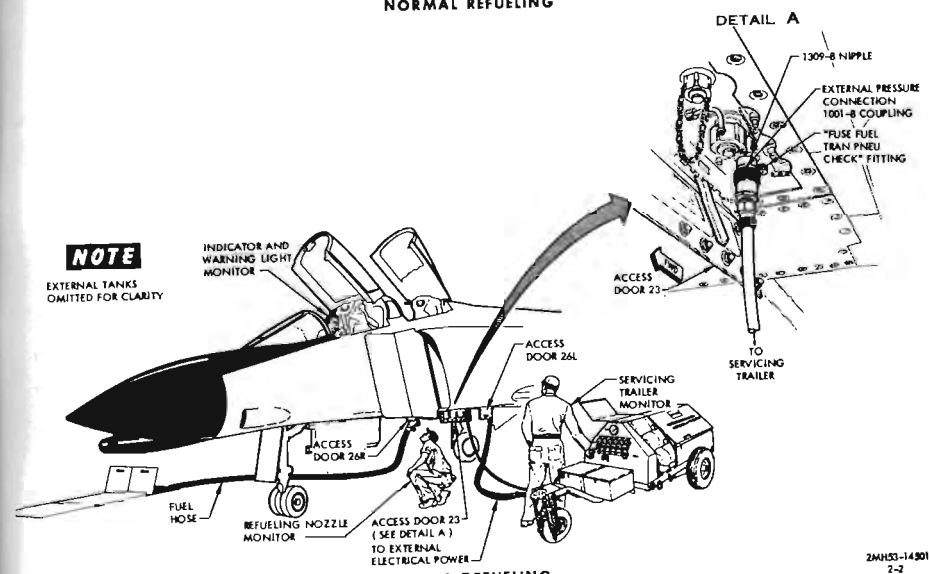
HAND SIGNALS







NORMAL REFUELING



NORMAL DEFUELING

2MH53-14301
2-2

NORMAL REFUELING

CAUTION

THE FOLLOWING PRECAUTIONS SHOULD BE OBSERVED DURING REFUELING OPERATIONS. SPECIFIC INSTRUCTIONS GOVERNING THE HANDLING, USE, AND DISPOSITION OF FUELS ARE CONTAINED IN T.O. 42B-1-1, QUALITY CONTROL OF FUELS AND LUBRICANTS. THE GROUND SERVICING OF AIRCRAFT AND POSITIONING OF EQUIPMENT IS CONTAINED IN T.O. 00-25-172D, GROUND SERVICING OF AIRCRAFT AND POSITIONING OF EQUIPMENT.

A. GROUND THE AIRCRAFT, REFUELING EQUIPMENT, AND EXTERNAL POWER EQUIPMENT.

B. REFUELING SHOULD NOT BE CONDUCTED WITHIN 100 FEET OF AN AIRCRAFT WITH ENGINES OPERATING, EXCEPT WHEN THE AIRCRAFT IS TO BE SERVICED WITH ENGINE(S) OPERATING.

C. REFUELING SHOULD NOT BE CONDUCTED WITHIN 100 FEET OF OPERATING AIRBORNE RADIO OR RADAR EQUIPMENT OR WITHIN 300 FEET OF GROUND RADAR EQUIPMENT.

D. INSPECT THE FUEL SYSTEM VENT MAST AND DUMP MASTS FOR OBSTRUCTIONS.

E. INSURE THAT ADEQUATE FIRE FIGHTING EQUIPMENT IS AVAILABLE.

REFUELING PRECAUTIONS

A. POSITION SWITCHES ON FUEL CONTROL PANEL AS FOLLOWS:

SWITCH	POSITION
INT WING TRANS	NORMAL
INT WING DUMP	NORMAL
EXT TRANSFER	OFF
AIR REFUEL	RETRACT

B. POSITION ENGINE MASTER SWITCHES (L/R) TO OFF.

C. OPEN ACCESS DOOR 26R AND ATTACH GROUNDING WIRE FROM THE REFUELING NOZZLE TO THE AIRCRAFT.

D. INSERT REFUELING NOZZLE INTO REFUELING RECEPTACLE BY PUSHING UP AND TURNING CLOCKWISE INTO LOCKED POSITION.

E. OPEN ACCESS DOOR 26L AND APPLY EXTERNAL ELECTRICAL POWER TO AIRCRAFT.

REFUELING PROCEDURE

F. POSITION GROUND FUELING SWITCH (RIGHT WHEEL WELL) TO REFUEL.

CAUTION

FUEL PRESSURE FROM SERVICING EQUIPMENT MUST NOT EXCEED 55 PSI.

WHEN EXTERNAL TANKS ARE BEING REFUELED, ENSURE AIR FLOWS FROM BOTH WING DUMP MASTS.

G. SELECTIVE REFUELING MAY BE ACCOMPLISHED AS FOLLOWS:

REFUEL	SWITCH	POSITION
TOTAL INTERNAL AND EXTERNAL	REFUEL SELECTION	ALL TANKS
TOTAL INTERNAL FUSELAGE CELLS ONLY	REFUEL SELECTION	INT ONLY
	REFUEL SELECTION L/R WING	INT ONLY STOP
FUSELAGE CELLS 1 THRU 4 ONLY	REFUEL SELECTION	INT ONLY
	L/R WING	STOP
	5 FUS	STOP

NOTE

STEPS I AND J SHOULD BE PERFORMED WITHIN FIRST MINUTE OF REFUELING.

H. START SERVICING EQUIPMENT AND BEGIN REFUELING. IF REFUELING NOZZLE HAS A MANUAL SHUTOFF LEVER, IT MUST BE LOCKED FULLY OPEN.

CAUTION

IF FLOW DOES NOT STOP IN THE FOLLOWING SHUTOFF CHECKS, DISCONTINUE REFUELING UNTIL DISCREPANCY HAS BEEN ISOLATED AND CORRECTED.

I. HOLD MASTER FUEL LEVER CONTROL CHECK SWITCH IN CHECK 1 POSITION. FLOW MUST STOP BEFORE AN ADDITIONAL 45 GALLONS ON THE FLOWMETER, OR 300 POUNDS AS READ ON THE COUNTER PORTION OF THE PILOT FUEL QUANTITY INDICATOR, HAS BEEN ADMITTED TO THE AIRCRAFT. HOLD SHUTOFF FOR 30 SECONDS.

J. REPEAT STEP I FOR CHECK 2 POSITION.

K. IF THE SHUTOFF CHECKS ARE ACCEPTABLE, CONTINUE REFUELING UNTIL FUEL FLOW STOPS AUTOMATICALLY.

L. OBSERVE THE FUEL QUANTITY INDICATOR FOR CORRECT FUSELAGE AND INTERNAL WING TANK CAPACITY. THE TOP SECTOR OF THE INDICATOR SHOWS FUSELAGE FUEL ONLY, AND THE COUNTER SHOWS TOTAL INTERNAL FUEL.

NOTE

ON F-4E AIRCRAFT, FUEL CAN BE WITHHELD FROM THE NUMBER 7 FUSELAGE TANK BY DEPRESSING AND LOCKING BOTH AIR "A" AND FUEL "F" ACTUATORS.

M. IF EXTERNAL TANKS ARE BEING REFUELED, OBSERVE THAT THE EXTERNAL FUEL NO FLOW LIGHTS ON THE PILOT'S RIGHT VERTICAL PANEL ILLUMINATE, INDICATING THAT THE CORRESPONDING EXTERNAL TANK HAS FILLED. A FULL INDICATOR IS PROVIDED ON THE EXTERNAL TANKS FOR AN ADDITIONAL QUANTITY READING.

N. PLACE THE GROUND FUELING IN THE OFF POSITION AND TURN OFF SERVICING EQUIPMENT.

NOTE

IF AT ANY TIME THE FUEL SYSTEM BECOMES CONTAMINATED REFER TO SECTION V, GENERAL AIRFRAME MAINTENANCE, FOR DECONTAMINATION PROCEDURES.

O. REMOVE THE REFUELING NOZZLE, DISCONNECT THE GROUND WIRE, AND CLOSE ACCESS DOOR 26L.

QUALITY ASSURANCE SUMMARY

A. INSURE THAT ALL TANKS BEING REFUELED HAVE BEEN FULLY SERVICED.

B. INSURE THAT THE GROUND FUELING SWITCH IS IN THE OFF POSITION, AND THAT ACCESS DOOR 26R IS CLOSED.

DEFUELING PRECAUTIONS

CAUTION

THE FOLLOWING GENERAL PRECAUTION SHOULD BE OBSERVED DURING THE DEFUELING OPERATION. SPECIFIC INSTRUCTIONS GOVERNING THE HANDLING, USE, AND DISPOSITION OF FUELS ARE CONTAINED IN T.O. 42B-1-1, QUALITY CONTROL OF FUELS AND LUBRICANTS. THE GROUND SERVICING OF AIRCRAFT AND POSITIONING OF EQUIPMENT IS CONTAINED IN T.O. 00-25-172D. GROUND SERVICING OF AIRCRAFT AND POSITIONING OF EQUIPMENT.

A. GROUND THE DEFUELING EQUIPMENT, AIRCRAFT AND EXTERNAL POWER EQUIPMENT.

B. DEFUELING SHOULD NOT BE CONDUCTED WITHIN 100 FEET OF AN AIRCRAFT WITH ENGINES OPERATING.

C. DEFUELING SHOULD NOT BE CONDUCTED WITHIN 100 FEET OF OPERATING AIRBORNE TYPE RADIO OR RADAR EQUIPMENT, OR WITHIN 300 FEET OF GROUND RADAR EQUIPMENT.

D. INSPECT THE FUEL SYSTEM VENT MAST AND DUMP MASTS FOR OBSTRUCTIONS.

E. INSURE THAT ADEQUATE FIRE FIGHTING EQUIPMENT IS AVAILABLE.

DEFUELING PROCEDURES

A. OBSERVE ALL DEFUELING PRECAUTIONS.

B. INSURE THAT THESE SWITCHES ON THE FUEL CONTROL PANEL ARE IN THE FOLLOWING POSITIONS:

SWITCH	POSITION
INT WING TRANS	NORMAL
INT WING DUMP	NORMAL
EXT TRANSFER	OFF
REFUEL SELECTION	ALL TANKS
AIR REFUEL	RETRACT
ENGINE MASTER	OFF

C. OPEN ACCESS DOOR 26R AND ATTACH THE GROUND WIRE FROM THE DEFUELING NOZZLE TO THE AIRCRAFT. INSERT THE NOZZLE INTO THE REFUELING RECEPTACLE BY PUSHING UP AND TURNING CLOCKWISE TO THE LOCKED POSITION.

D. OPEN ACCESS DOOR 26L AND APPLY EXTERNAL ELECTRICAL POWER TO THE AIRCRAFT.

E. OPEN ACCESS DOOR 23.

F. PLACE THE GROUND FUELING SWITCH, LOCATED IN THE RIGHT WHEEL WELL IN THE DEFUEL POSITION.

G. APPLY EXTERNAL NITROGEN PRESSURE TO THE FUEL SYSTEM USING THE SERVICING TRAILER. SEE DETAIL A.

H. ADJUST THE PRESSURE REGULATOR ON THE SERVICING TRAILER TO 250 PSI.

I. INSURE THAT EXTERNAL AIR PRESSURE DOES NOT EXCEED 250 PSI.

NOTE

IF EXTERNAL TANKS ARE NOT INSTALLED OR ARE NOT BEING DEFUELED OMIT STEPS J AND K.

THE MAXIMUM ALLOWABLE TIME FOR TRANSFERRING THE INTERNAL WING TANK FUEL INTO EMPTY FUSELAGE CELL IS 10-12 MINUTES.

J. PLACE THE EXT TRANSFER SWITCH ON THE PILOT'S FUEL SYSTEM CONTROL PANEL TO THE CENTER AND OUTBD POSITIONS TO TRANSFER THE EXTERNAL TANKS TO THE FUSELAGE FUEL CELLS. CONTINUE TRANSFERRING UNTIL THE EXTERNAL TANKS NO FLOW LIGHTS ILLUMINATE, INDICATING THAT THE TANK HAS EMPTIED.

K. RETURN THE EXT TRANSFER SWITCH TO OFF POSITION.

L. WHEN DEFUELING IS COMPLETE, AS INDICATED BY THE FUEL QUANTITY INDICATOR, PLACE THE GROUND FUELING SWITCH IN THE OFF POSITION.

M. REMOVE THE DEFUELING NOZZLE, DISCONNECT THE GROUND WIRE, AND REMOVE EXTERNAL AIR PRESSURE.

N. RETURN THE GROUND FUELING SWITCH TO THE OFF POSITION.

NOTE

TO FACILITATE INSTALLATION OF O-RINGS, COAT LIGHTLY WITH A SUITABLE LUBRICANT SUCH AS PETROLATUM (VV-P-236).

ASSEMBLY AND INSTALLATION

CAUTION

IF THE FILTER ELEMENT IS INSTALLED IN THE REVERSED POSITION, THE FILTER WILL BYPASS FUEL CONSTANTLY.

A. INSTALL THE FILTER ELEMENT SO THAT THE RETAINING BOLT GOES THROUGH IT AND THE FILTER BOWL.

B. INSTALL THE NUT ON THE BOLT TO SECURE THE FILTER ELEMENT. TORQUE FROM 60 TO 70 INCH-POUNDS. (QUALITY ASSURANCE)

C. INSTALL THE AFT END OF THE FILTER BOWL UP THROUGH THE SPACE BETWEEN THE AIRFRAME AND THE INLET FUEL DISCONNECT ASSEMBLY.

D. TURN THE FORWARD END OF THE FILTER BOWL COUNTER-CLOCKWISE IN AN ELLIPTICAL MOVEMENT AS VIEWED FROM THE REAR AND ALIGN THE FILTER BOWL WITH THE MAIN FUEL PUMP.

E. INSTALL THE V-BAND CLAMP AND TORQUE NUT FROM 60 TO 70 INCH-POUNDS. (QUALITY ASSURANCE)

F. INSTALL DRAIN PLUG, TORQUE 40-65 INCH-POUNDS AND SECURE WITH LOCKWIRE. (QUALITY ASSURANCE)