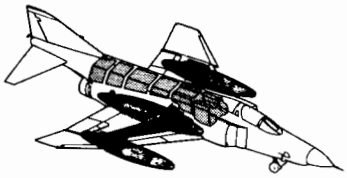
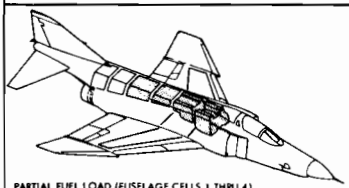
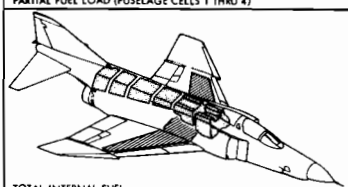
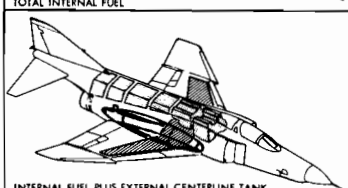
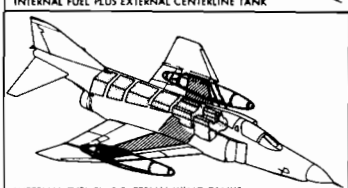
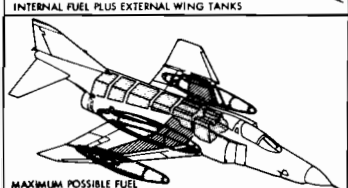
FUEL TANK CAPACITIES



CELL	EFFECTIVITY	APPROXIMATE FUEL CAPACITY			
		U.S. GALLONS	POUNDS JP-4	IMPERIAL GALLONS	LITERS
FUSELAGE CELL NUMBER ONE	F-4C	314	2041	261	1189
	RF-4C F-4D F-4E	231	1501	193	874
FUSELAGE CELL NUMBER TWO	ALL	207	1346	172	787
FUSELAGE CELL NUMBER THREE	ALL	164	1066	137	621
FUSELAGE CELL NUMBER FOUR	ALL	221	1436	184	836
FUSELAGE CELL NUMBER FIVE	ALL	201	1307	167	761
FUSELAGE CELL NUMBER SIX	F-4C RF-4C F-4D	235	1527	196	890
FUSELAGE CELL NUMBER SEVEN	F-4E	104	676	86	393
LEFT INTERNAL WING TANK	ALL	315	2048	262	1192
RIGHT INTERNAL WING TANK	ALL	315	2048	262	1192
LEFT EXTERNAL WING TANK		370	2405	308	1401
RIGHT EXTERNAL WING TANK		370	2405	308	1401
EXTERNAL CENTERLINE TANK		600	3900	500	2271

10MH53-11967B
1-2

TOTAL FUEL CAPACITY

CONDITION	EFFECTIVITY RF-4C/F-4D	UNUSABLE FUEL (U.S. GALLONS)	APPROXIMATE FUEL CAPACITY [2]			
			U.S. GALLONS	POUNDS [1] JP-4	IMPERIAL GALLONS	LITERS
 PARTIAL FUEL LOAD (FUSELAGE CELLS 1 THRU 4)	ALL	25	823	5350	685	3105
 TOTAL INTERNAL FUEL	ALL	33	1889	12,279	1595	7150
 INTERNAL FUEL PLUS EXTERNAL CENTERLINE TANK	ALL	35	2489	16,179	2073	9351
 INTERNAL FUEL PLUS EXTERNAL WING TANKS	ALL	37	2629	17,088	2189	9951
 MAXIMUM POSSIBLE FUEL (TOTAL INTERNAL FUEL PLUS ALL EXTERNAL TANKS)	ALL	39	3229	20,989	2689	12,223

NOTES

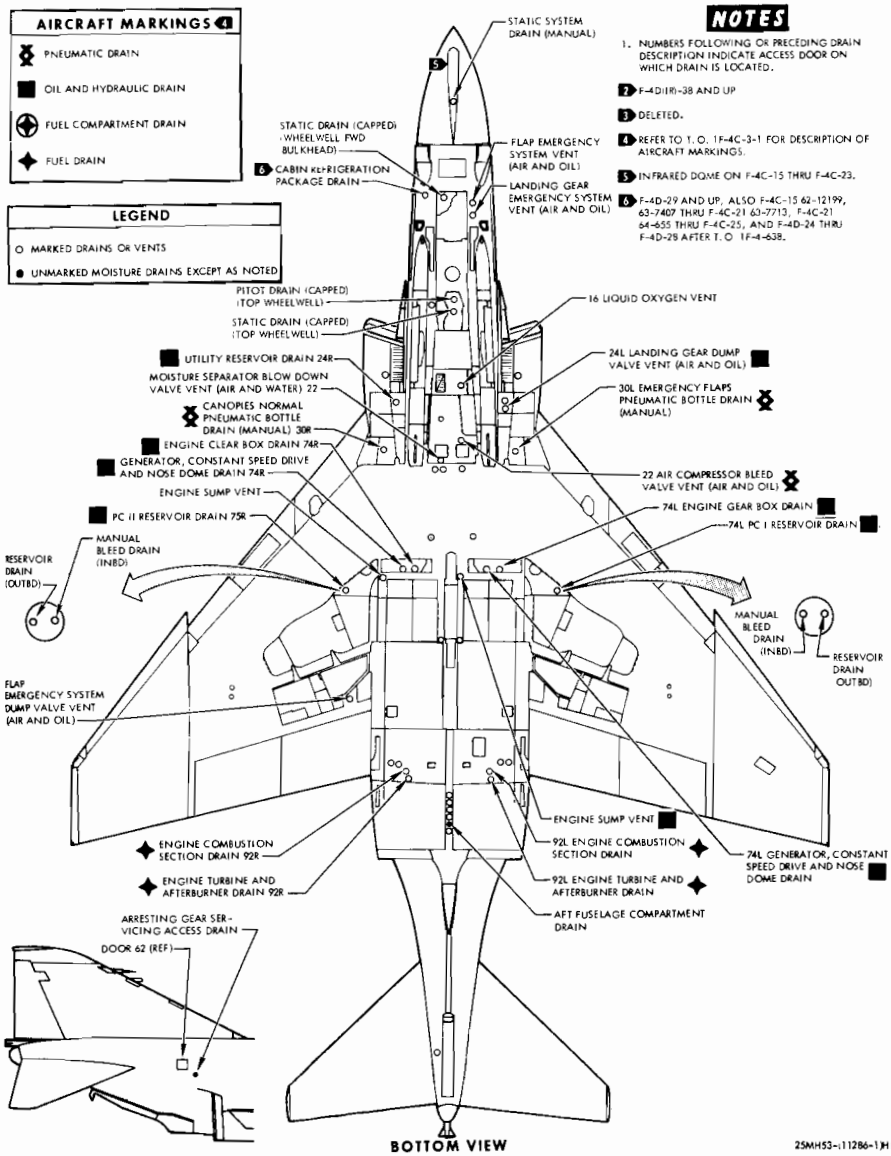
[1] BASED ON 6.5 POUNDS PER GALLON FUEL (59° F. FUEL TEMPERATURE) IF ACCURACY IS REQUIRED THE FUEL DENSITY SHOULD BE DETERMINED.

[2] TOTAL FUEL CAPACITY PLUS UNUSABLE FUEL.

10AH53-11967B
2-2

EXTERIOR DRAINS AND VENTS

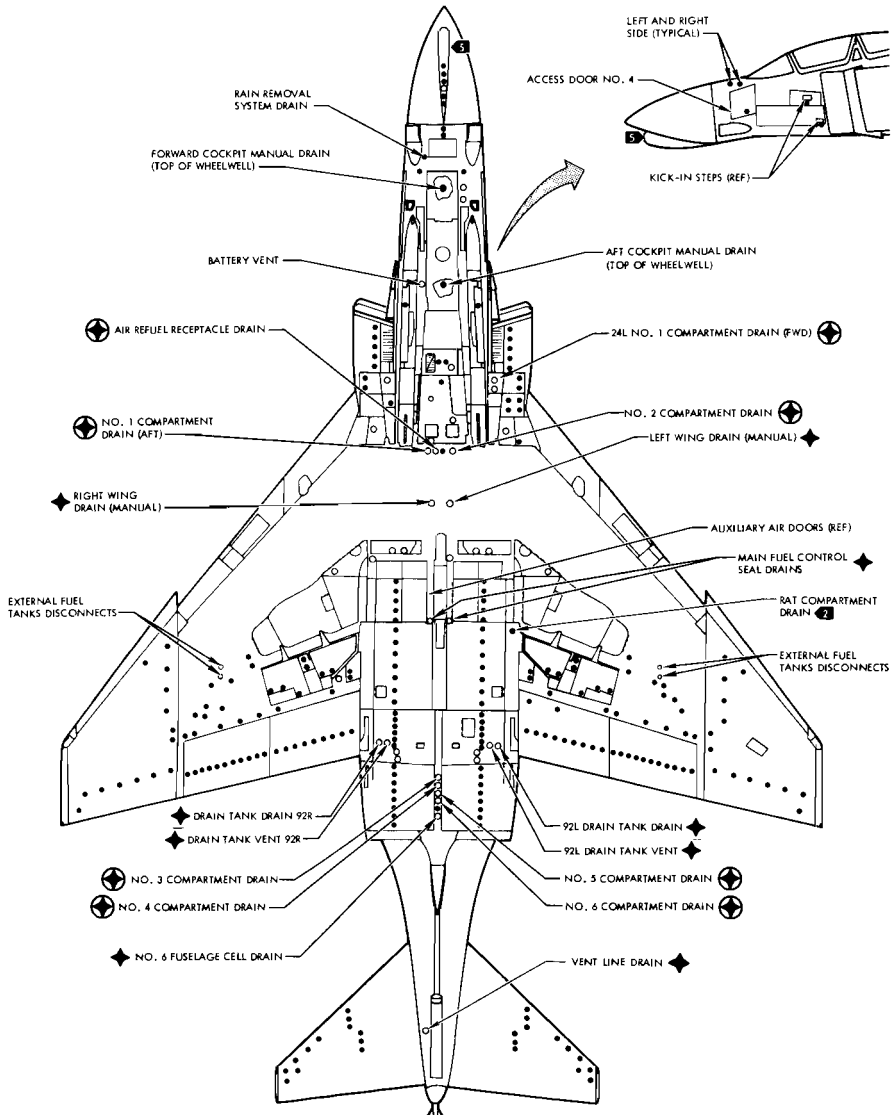
F-4C F-4D



BOTTOM VIEW

25MH53-(11286-1)H

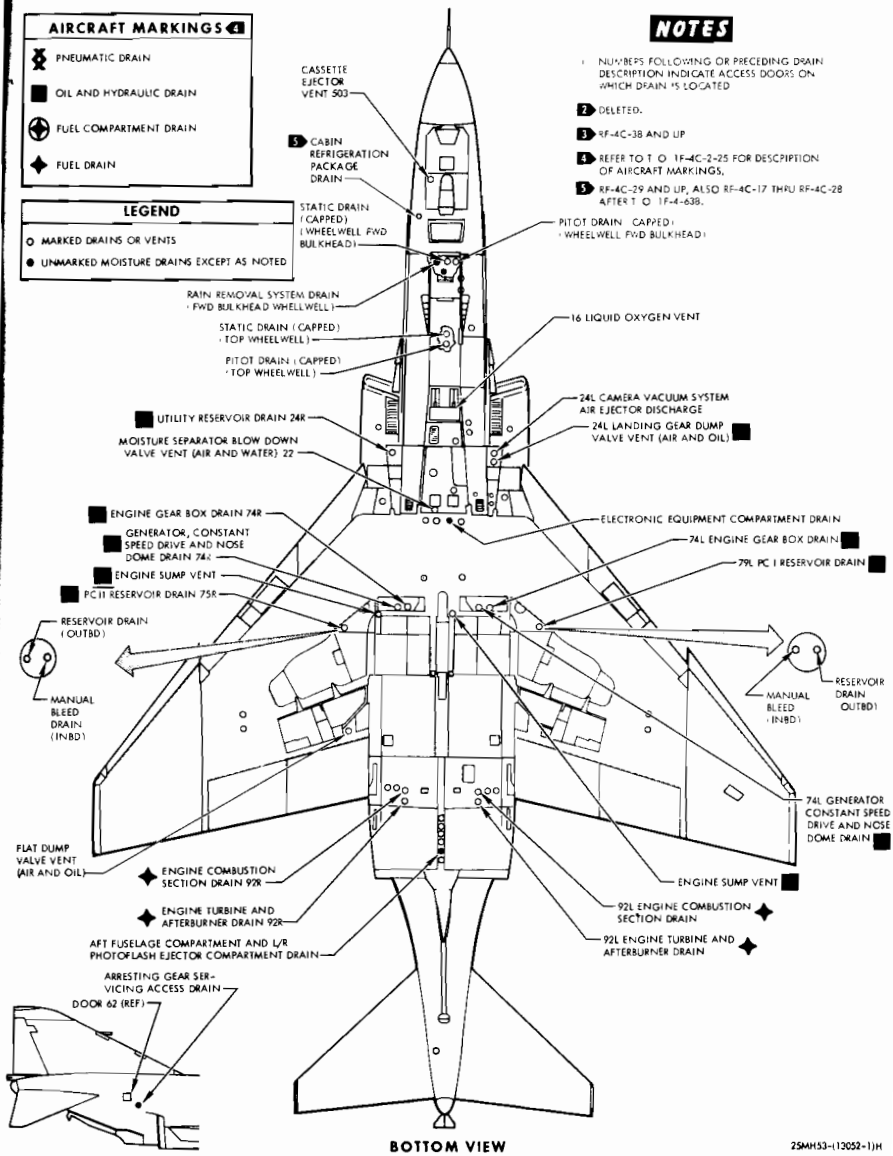
F-4C F-4D



BOTTOM VIEW

25MH53-(11286-2)H

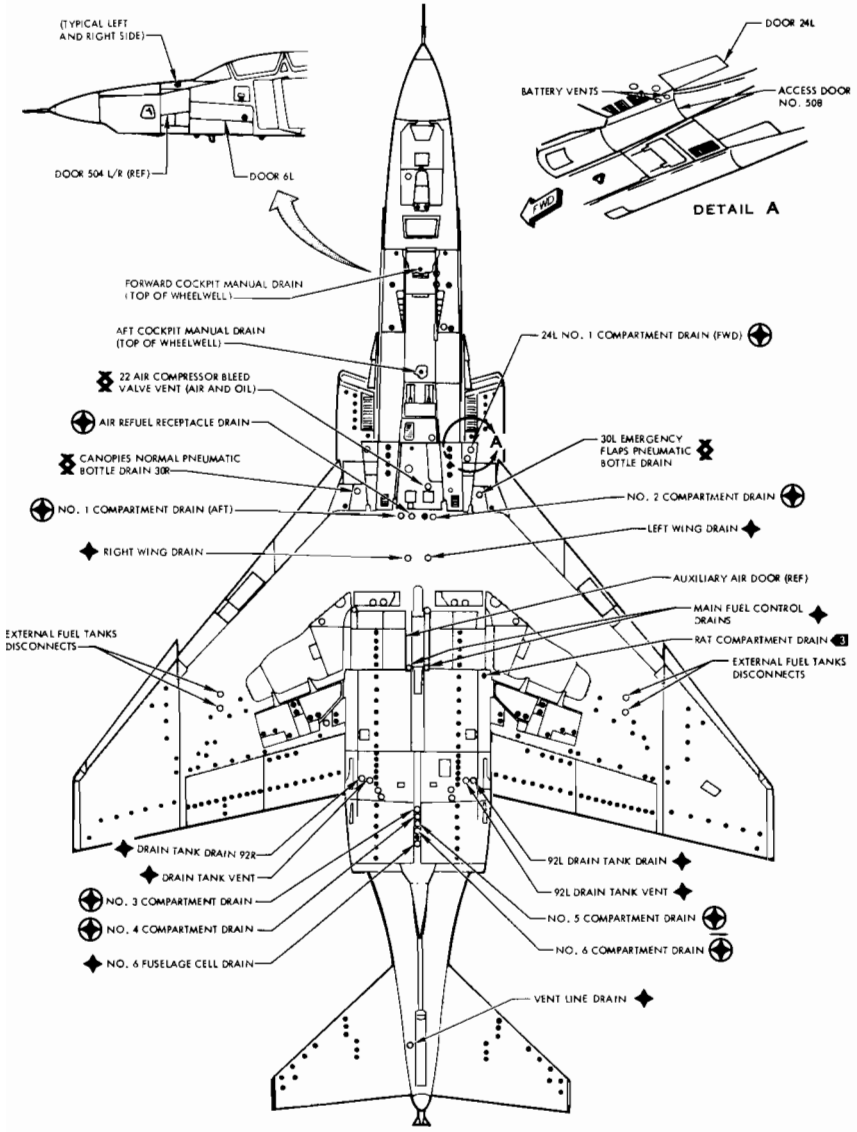
RF-4C



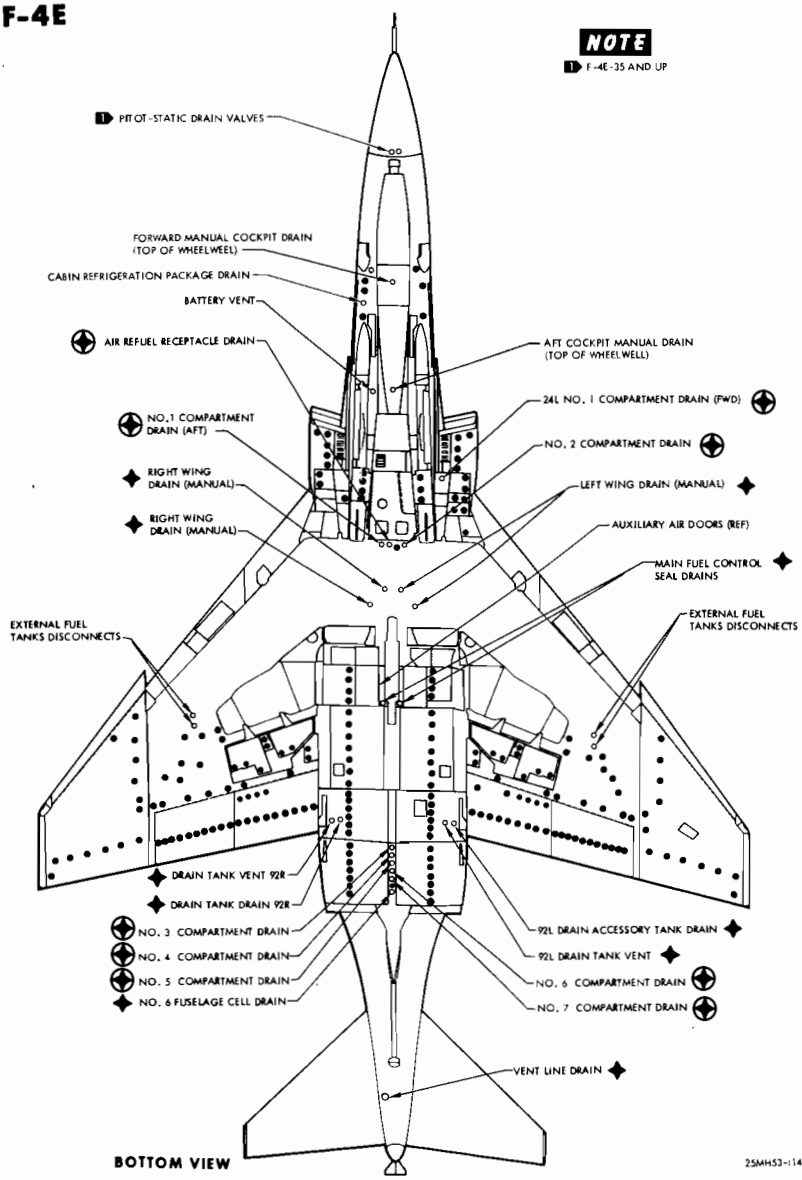
BOTTOM VIEW

25MH53-(13052-1)H

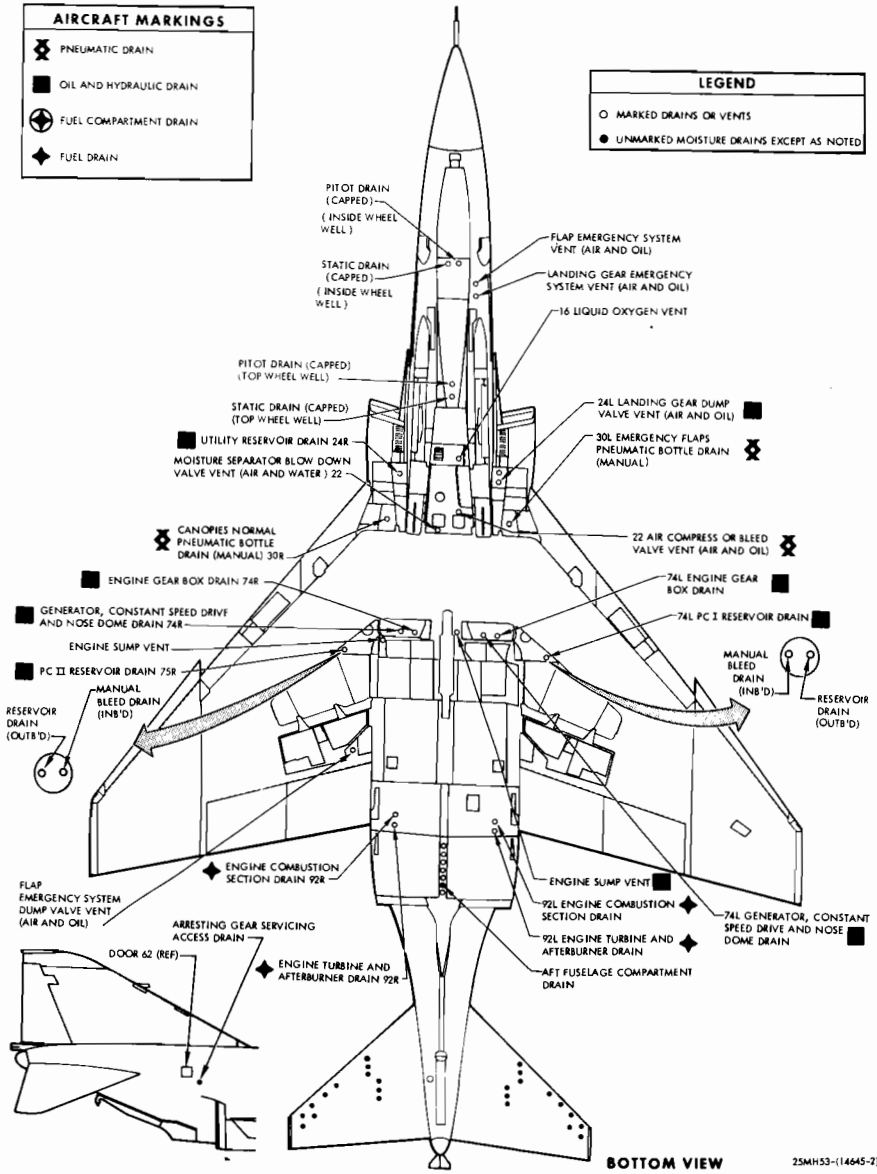
RF-4C


(TYPICAL LEFT AND RIGHT SIDE)
DOOR 504 L/R (REF)
DOOR 6L
DOOR 24L
BATTERY VENTS
ACCESS DOOR NO. 508
FWD
DETAIL A
FORWARD COCKPIT MANUAL DRAIN (TOP OF WHEELWELL)
AFT COCKPIT MANUAL DRAIN (TOP OF WHEELWELL)
22 AIR COMPRESSOR BLEED VALVE VENT (AIR AND OIL)
AIR REFUEL RECEPTACLE DRAIN
CANOPIES NORMAL PNEUMATIC BOTTLE DRAIN 30R
NO. 1 COMPARTMENT DRAIN (AFT)
RIGHT WING DRAIN
24L NO. 1 COMPARTMENT DRAIN (FWD)
30L EMERGENCY FLAPS PNEUMATIC BOTTLE DRAIN
NO. 2 COMPARTMENT DRAIN
LEFT WING DRAIN
AUXILIARY AIR DOOR (REF)
MAIN FUEL CONTROL DRAINS
RAT COMPARTMENT DRAIN
EXTERNAL FUEL TANKS DISCONNECTS
EXTERNAL FUEL TANKS DISCONNECTS
DRAIN TANK DRAIN 92R
DRAIN TANK VENT
NO. 3 COMPARTMENT DRAIN
NO. 4 COMPARTMENT DRAIN
NO. 6 FUSELAGE CELL DRAIN
92L DRAIN TANK DRAIN
92L DRAIN TANK VENT
NO. 5 COMPARTMENT DRAIN
NO. 6 COMPARTMENT DRAIN
VENT LINE DRAIN
BOTTOM VIEW
25MH53-(13052-2)H

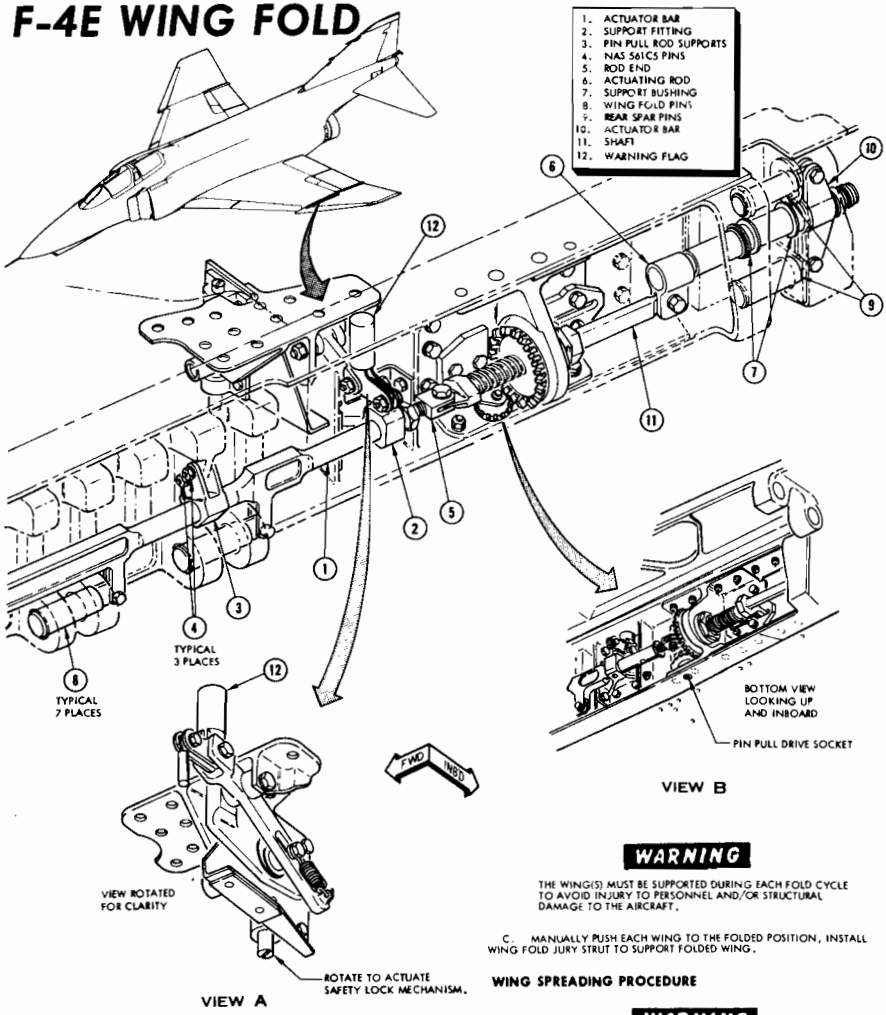
F-4E


NOTE
1 F-4E-35 AND UP
1 PITOT-STATIC DRAIN VALVES
FORWARD MANUAL COCKPIT DRAIN (TOP OF WHEELWEEL)
CABIN REFRIGERATION PACKAGE DRAIN
BATTERY VENT
AIR REFUEL RECEPTACLE DRAIN
AFT COCKPIT MANUAL DRAIN (TOP OF WHEELWELL)
24L NO. 1 COMPARTMENT DRAIN (FWD)
NO. 2 COMPARTMENT DRAIN
NO. 1 COMPARTMENT DRAIN (AFT)
RIGHT WING DRAIN (MANUAL)
RIGHT WING DRAIN (MANUAL)
LEFT WING DRAIN (MANUAL)
AUXILIARY AIR DOORS (REF)
MAIN FUEL CONTROL SEAL DRAINS
EXTERNAL FUEL TANKS DISCONNECTS
EXTERNAL FUEL TANKS DISCONNECTS
DRAIN TANK VENT 92R
DRAIN TANK DRAIN 92R
NO. 3 COMPARTMENT DRAIN
NO. 4 COMPARTMENT DRAIN
NO. 5 COMPARTMENT DRAIN
NO. 6 FUSELAGE CELL DRAIN
92L DRAIN ACCESSORY TANK DRAIN
92L DRAIN TANK VENT
NO. 6 COMPARTMENT DRAIN
NO. 7 COMPARTMENT DRAIN
VENT LINE DRAIN
BOTTOM VIEW
25MH53-(14645-1E

F-4E


AIRCRAFT MARKINGS
PNEUMATIC DRAIN
OIL AND HYDRAULIC DRAIN
FUEL COMPARTMENT DRAIN
FUEL DRAIN
LEGEND
MARKED DRAINS OR VENTS
UNMARKED MOISTURE DRAINS EXCEPT AS NOTED
PITOT DRAIN (CAPPED) (INSIDE WHEEL WELL)
STATIC DRAIN (CAPPED) (INSIDE WHEEL WELL)
FLAP EMERGENCY SYSTEM VENT (AIR AND OIL)
LANDING GEAR EMERGENCY SYSTEM VENT (AIR AND OIL)
16 LIQUID OXYGEN VENT
PITOT DRAIN (CAPPED) (TOP WHEEL WELL)
STATIC DRAIN (CAPPED) (TOP WHEEL WELL)
24L LANDING GEAR DUMP VALVE VENT (AIR AND OIL)
UTILITY RESERVOIR DRAIN 24R
30L EMERGENCY FLAPS PNEUMATIC BOTTLE DRAIN (MANUAL)
MOISTURE SEPARATOR BLOW DOWN VALVE VENT (AIR AND WATER) 22
CANOPIES NORMAL PNEUMATIC BOTTLE DRAIN (MANUAL) 30R
22 AIR COMPRESS OR BLEED VALVE VENT (AIR AND OIL)
ENGINE GEAR BOX DRAIN 74R
74L ENGINE GEAR BOX DRAIN
GENERATOR, CONSTANT SPEED DRIVE AND NOSE DOME DRAIN 74R
74L PC I RESERVOIR DRAIN
ENGINE SUMP VENT
PC II RESERVOIR DRAIN 75R
MANUAL BLEED DRAIN (INB'D)
RESERVOIR DRAIN (OUTB'D)
MANUAL BLEED DRAIN (INB'D)
RESERVOIR DRAIN (OUTB'D)
ENGINE COMBUSTION SECTION DRAIN 92R
FLAP EMERGENCY SYSTEM DUMP VALVE VENT (AIR AND OIL)
ARRESTING GEAR SERVICING ACCESS DRAIN
DOOR 62 (REF)
ENGINE TURBINE AND AFTERBURNER DRAIN 92R
ENGINE SUMP VENT
92L ENGINE COMBUSTION SECTION DRAIN
92L ENGINE TURBINE AND AFTERBURNER DRAIN
AFT FUSELAGE COMPARTMENT DRAIN
74L GENERATOR, CONSTANT SPEED DRIVE AND NOSE DOME DRAIN
BOTTOM VIEW
25MH53-(14645-2)E

F-4E WING FOLD



VIEW A

VIEW B

WARNING

THE WING(S) MUST BE SUPPORTED DURING EACH FOLD CYCLE TO AVOID INJURY TO PERSONNEL AND/OR STRUCTURAL DAMAGE TO THE AIRCRAFT.

WING FOLD PROCEDURE (F-4E)

SPECIAL TOOLS AND TEST EQUIPMENT.

WING FOLD JURY STRUT (2 REQ'D)	MDE3207-1

PROCEDURE

A. USING A SCREWDRIVER, ROTATE THE SAFETY LOCK MECHANISM ON EACH WING FULLY COUNTERCLOCKWISE TO UNLOCK WINGS.

RESULT: THE PIN LOCKS WILL BE WITHDRAWN FROM THE PIN PULL MECHANISM AND EACH PIN LOCK WARNING FLAG WILL PROTRUDE.

B. USING A 1/4 INCH DRIVE SPEED HANDLE, WITHDRAW THE WING LOCK PINS FROM EACH WING BY ROTATING THE PIN PULL MECHANISM FULLY COUNTERCLOCKWISE (APPROXIMATELY 24 REVOLUTIONS).

RESULT: THE NINE WING LOCK PINS WILL BE WITHDRAWN FROM EACH WING, UNLOCKING BOTH OUTER WING PANELS.

C. MANUALLY PUSH EACH WING TO THE FOLDED POSITION, INSTALL WING FOLD JURY STRUT TO SUPPORT FOLDED WING.

WING SPREADING PROCEDURE

WARNING

THE WING(S) MUST BE SUPPORTED DURING EACH SPREAD CYCLE TO AVOID INJURY TO PERSONNEL AND/OR STRUCTURAL DAMAGE TO THE AIRCRAFT.

A. MANUALLY SUPPORT THE WING AND REMOVE THE WING FOLD JURY STRUT.

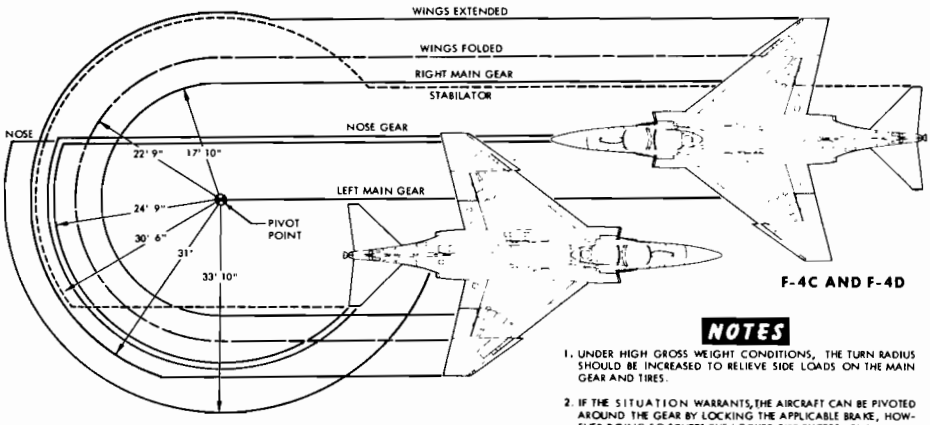
B. CAREFULLY LOWER EACH OUTER WING PANEL TO THE FULLY SPREAD POSITION.

C. USING A 1/4 INCH DRIVE SPEED HANDLE, INSERT THE WING LOCK PINS IN HINGE TANGS BY ROTATING THE PIN PULL MECHANISM FULLY CLOCKWISE (APPROXIMATELY 24 REVOLUTION) ON EACH WING.

D. USING A SCREWDRIVER, ROTATE THE SAFETY LOCK MECHANISM ON EACH WING FULLY CLOCKWISE.

RESULT: EACH PIN LOCK WARNING FLAG WILL RETRACT UNTIL FLUSH WITH THE WING SURFACE.

TAXIING AIRCRAFT



F-4C AND F-4D

NOTES

1. UNDER HIGH GROSS WEIGHT CONDITIONS, THE TURN RADIUS SHOULD BE INCREASED TO RELIEVE SIDE LOADS ON THE MAIN GEAR AND TIRES.
2. IF THE SITUATION WARRANTS, THE AIRCRAFT CAN BE PIVOTED AROUND THE GEAR BY LOCKING THE APPLICABLE BRAKE, HOWEVER DOING SO SCUFFS THE LOCKED TIRE EXCESSIVELY.

STOPPING DISTANCE

ESTIMATED DISTANCES REQUIRED TO BRING F/RF-4 SERIES AIRCRAFT TO A STOP FROM TAXIING SPEEDS ARE PRESENTED BELOW FOR VARIOUS RUNWAY CONDITIONS.

GROSS WEIGHT=32,000 LB.

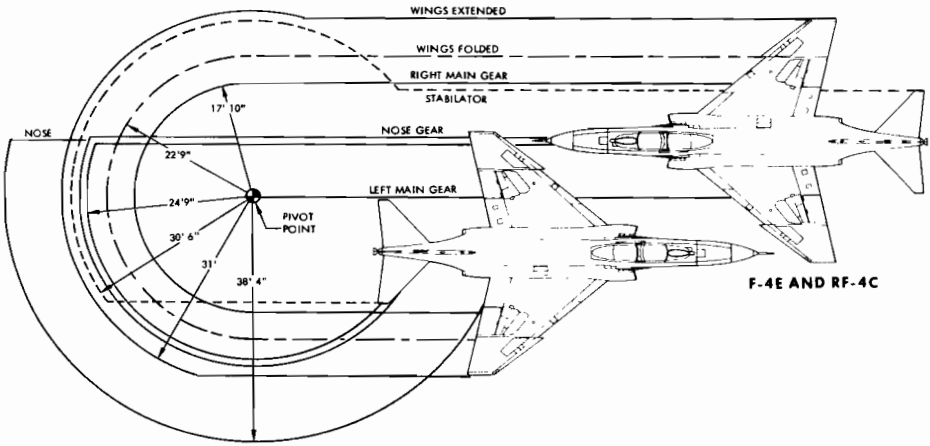
TAXI SPEED (MPH)	DRY RAMP (FT)	WET RAMP (FT)
30	130	202
20	58	91
10	15	23
5	4	6

GROSS WEIGHT=40,000 LB.

TAXI SPEED (MPH)	DRY RAMP (FT)	WET RAMP (FT)
30	137	214
20	61	96
10	15	24
5	4	6

GROSS WEIGHT=48,000 LB.

TAXI SPEED (MPH)	DRY RAMP (FT)	WET RAMP (FT)
30	140	220
20	62	99
10	16	25
5	4	6



F-4E AND RF-4C

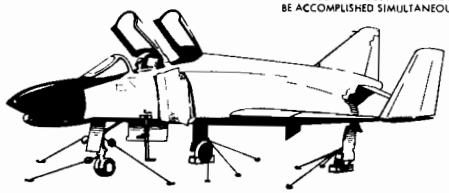
2MH53-13205B

TURN-AROUND REQUIREMENTS

NOTE

THE PROCEDURES, EQUIPMENT, AND TIMES SHOWN HEREIN ARE FOR A BASIC MISSION AIRCRAFT CONFIGURATION OF FOUR SPARROW MISSILES AND TWO WING TANKS. ANY VARIATION FROM THIS CONFIGURATION WILL AFFECT THE TURN-AROUND TIME ACCORDINGLY. OPERATIONS A THRU G MAY BE ACCOMPLISHED SIMULTANEOUSLY.

A



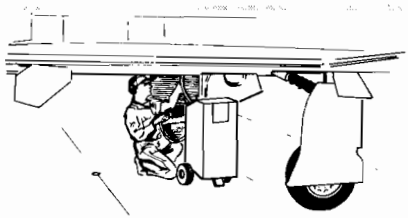
PREPARATION
(OPERATION A)

ACTION: INSTALL GROUND SAFETYING DEVICES, FOLD WINGS AND INSTALL JURY STRUTS.

EQUIPMENT: WING JURY STRUTS MDE 3207-1
EJECTION SEAT SAFETY PINS, MDE32722-301
TIE DOWN CHAINS, SP4092
WHEEL CHOCKS, NAF601628

TIME: 4 MINUTES

B



ENGINE LUBE OIL
(OPERATION B)

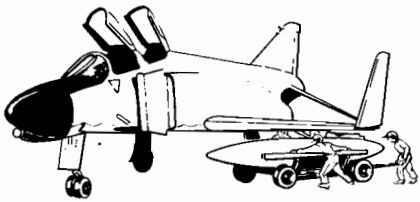
ACTION: *CHECK ENGINE COMPARTMENT FOR LEAKS, SERVICE OIL SYSTEM

EQUIPMENT: POWER PLANT-PRE-OILER, 36-100 (XMA62)

TIME: 8 MINUTES

*OPTIONAL REQUIREMENT

C



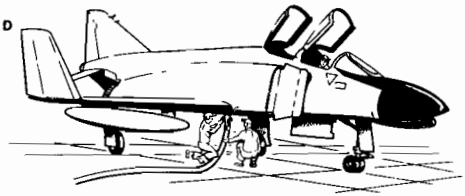
EXTERNAL FUEL TANK
(OPERATION C)

ACTION: INSTALL EXTERNAL WING TANKS

EQUIPMENT: TRAILER, AIRLOG, TYPE 4000A
HANDLING RING ASSEMBLIES (2), MDE32198-1
SPACING BARS (2), MDE3288-11
WING TANK ADAPTER PADS (2), MDE3296-301

TIME: 15 MINUTES

D



FUELING
(OPERATION D)

ACTION: FUEL AIRPLANE (SEE PAGE 93)

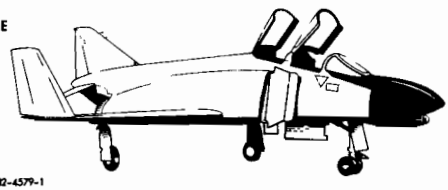
FUEL AIRPLANE (2721 GALLONS) - AIRPLANES 148411h AND UP

EQUIPMENT: EXTERNAL ELECTRICAL POWER, AIR GAUGE, MDE32788

TIME: * APPROXIMATELY 7 MINUTES

* SINGLE POINT REFUELING UTILIZING ONE PUMP. A-C POWER REQUIRED IF CHECK OF AUTOMATIC SHUTOFF SYSTEM DESIRED.

E



LIQUID OXYGEN
(OPERATION E)

ACTION: SERVICE LOX SYSTEM BY REPLACING CONVERTER

EQUIPMENT: NONE

TIME: 3 MINUTES

1.1MH32-4579-1

F

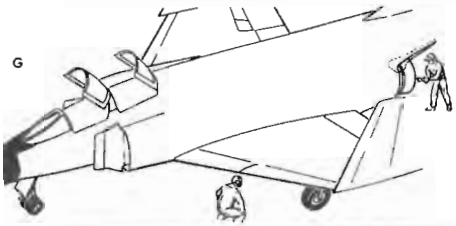
ARMAMENT
(OPERATION F)

ACTION: LOAD 4 SPARROW III MISSILES AND ARM RACKS.

EQUIPMENT: 4 MISSILE SKIDS, AERO 16B
4 SAFETY PINS, MDE32435-1
STRAY VOLTAGE TESTER, 53A5301
(WITH ADAPTER, MDE321732-1)

TIME: 20 MINUTES

G



PRE-FLIGHT INSPECTION
(OPERATION G)

ACTION: PERFORM PRE-FLIGHT INSPECTION PER APPLICABLE WORK CARDS

EQUIPMENT: NONE

TIME: 30 MINUTES (TWO MEN)

H

PILOT AND R O
(OPERATION H)

ACTION: ASSIST PILOT AND R O WITH PRESSURE AND "G" SUIT HOOK-UP. CHECK EJECTION SEAT, GROUND SAFETY DEVICES REMOVED.

EQUIPMENT: NONE

TIME: 4 MINUTES

J

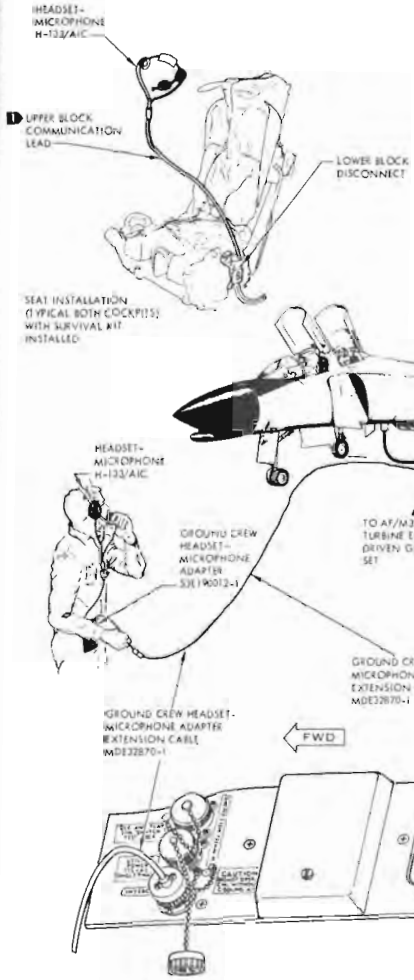
ENGINE START
(OPERATION J)

ACTION: REMOVE JURY STRUTS AND GROUND SAFETYING DEVICES. CHECK INTAKE DUCTS, CONNECT ELECTRICAL POWER, REMOTE CONTROL CABLE AND AIR COMPRESSOR. START ENGINES, SPREAD WINGS.

EQUIPMENT: AFM - 32A-60 OR EQUIVALENT

TIME: 6.5 MINUTES

INTERCOMMUNICATION CONNECTION



ICS PANEL-LEFT CONSOLES

NOTES

1. FOR ALTERNATE MICROPHONE/HEADSET EQUIPMENT AND LOCALLY FABRICATED ADAPTER EXTENSION CABLE, REFER TO T.O. 1F-4C-3-16 INTEGRATED ELECTRONIC CENTRAL AN/ASQ-19 (F-4) OR T.O. 1F-4(R)C-2-32 INTEGRATED ELECTRONIC CENTRAL AN/ASQ-88 (RF-4C).
2. F-4C AIRCRAFT WITH SCOTT SURVIVAL KIT NO. 21000-91 WHEN SURVIVAL KIT OR SEAT IS REMOVED FROM THE AIRCRAFT, USE LOWER BLOCK ADAPTER CABLE MDE322982-1.

SPECIAL TOOLS AND TEST EQUIPMENT

1 HEADSET-MICROPHONE (COCKPIT)	H-133/AIC
HEADSET-MICROPHONE (GROUND CREW)	H-133/AIC
GROUND CREW HEADSET-MICROPHONE ADAPTER	53E190012-1
1 GROUND CREW HEADSET-MICROPHONE ADAPTER EXT. CABLE	MDE32870-1
2 LOWER BLOCK ADAPTER CABLE	MDE322982-1
GAS TURBINE ENGINE-DRIVEN GENERATOR SET	AF/M32A-60

PROCEDURE

A APPLY EXTERNAL ELECTRICAL POWER.

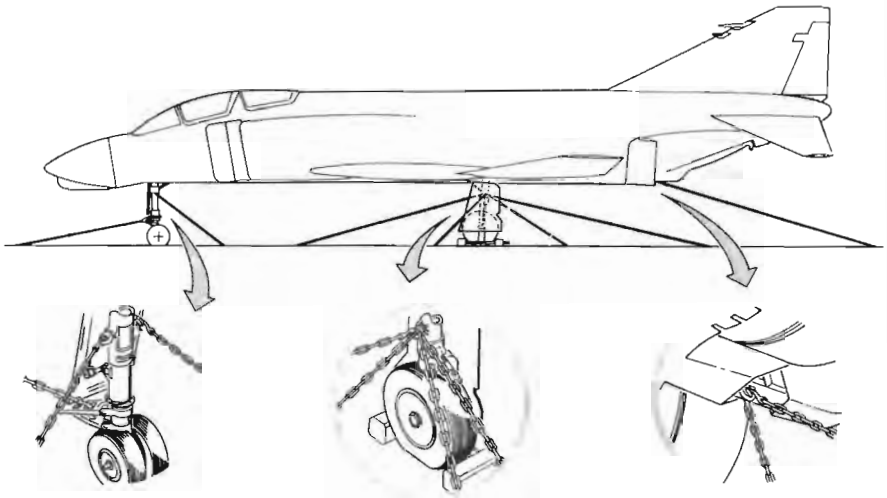
2 B CONNECT COCKPIT HEADSET-MICROPHONE TO UPPER BLOCK COMMUNICATION LEAD (WITH SURVIVAL KIT INSTALLED) OR TO LOWER BLOCK OF EITHER OR BOTH COCKPITS.

C CONNECT GROUND CREW HEADSET-MICROPHONE, ADAPTER AND EXTENSION CABLE TO INTERCOMM CONNECTOR ON INBOARD SIDE OF THE LEFT WHEEL WELL.

D OPERATING INSTRUCTIONS - COCKPIT CONTROLS

(1) POSITION ROTARY SELECTOR TO NOR (NORMAL).
(2) PLACE 3-POSITION SWITCH IN HOT MIC POSITION.
(3) ADJUST VOLUME CONTROL AS REQUIRED.

PARKING AND MOORING AIRCRAFT

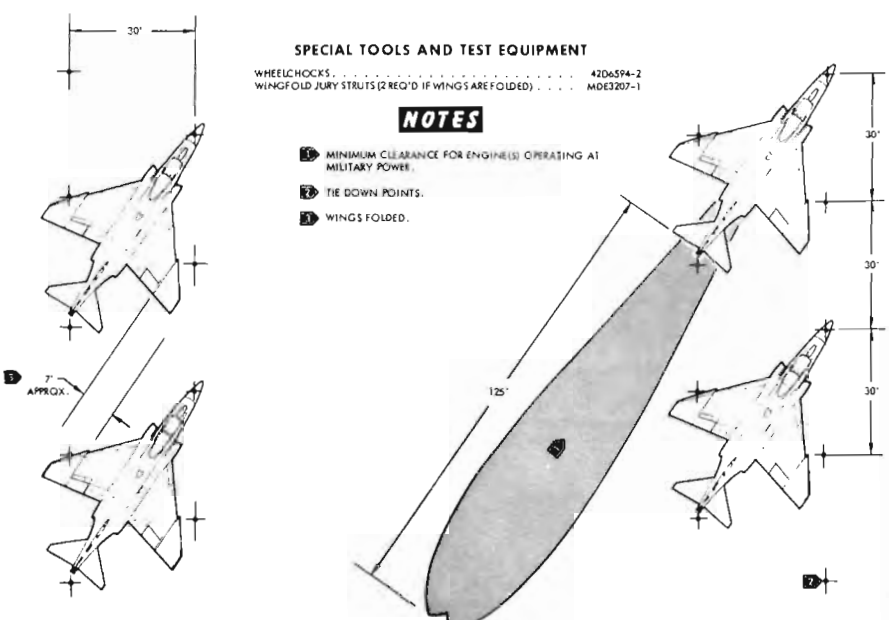


SPECIAL TOOLS AND TEST EQUIPMENT

WHEEL CHOCKS 42D6594-2
WINGFOLD JURY STRUTS (2 REQ'D IF WINGS ARE FOLDED) MDE3207-1

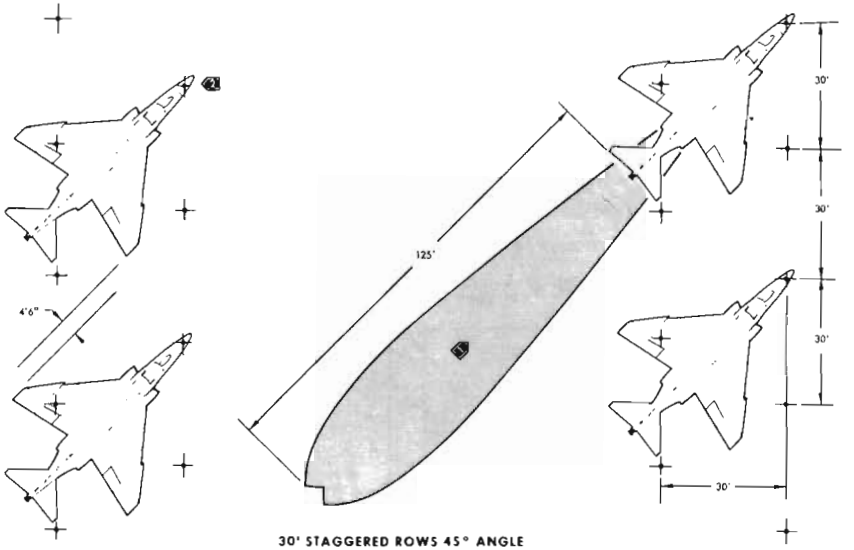
NOTES

1. MINIMUM CLEARANCE FOR ENGINE(S) OPERATING AT MILITARY POWER.
2. TIE DOWN POINTS.
3. WINGS FOLDED.

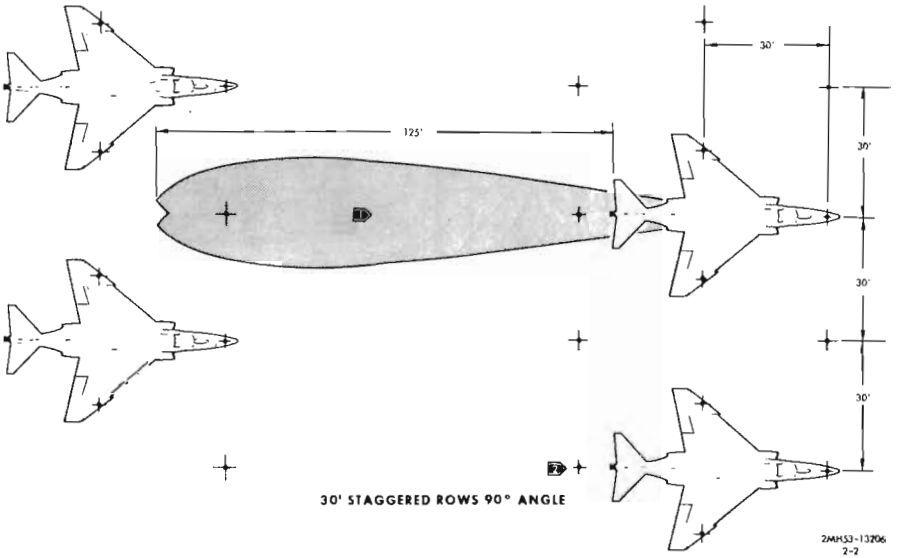


30' STAGGERED ROWS 35° ANGLE

2MH53-13206
1-2



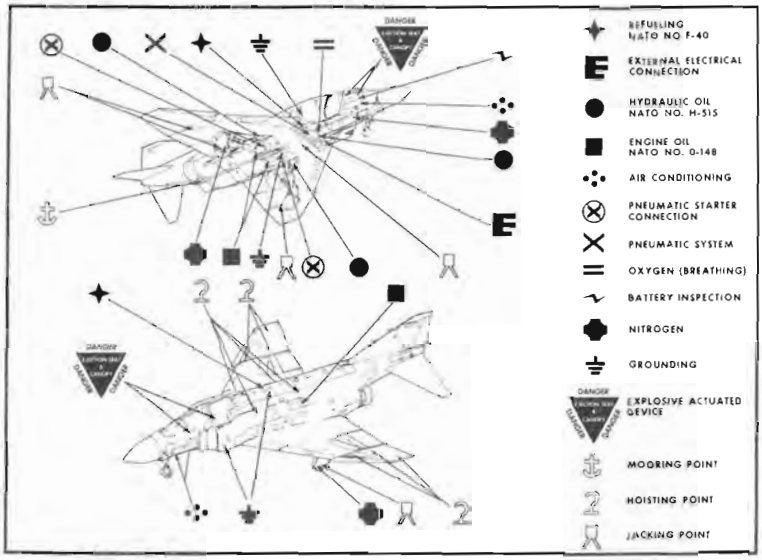
30' STAGGERED ROWS 45° ANGLE



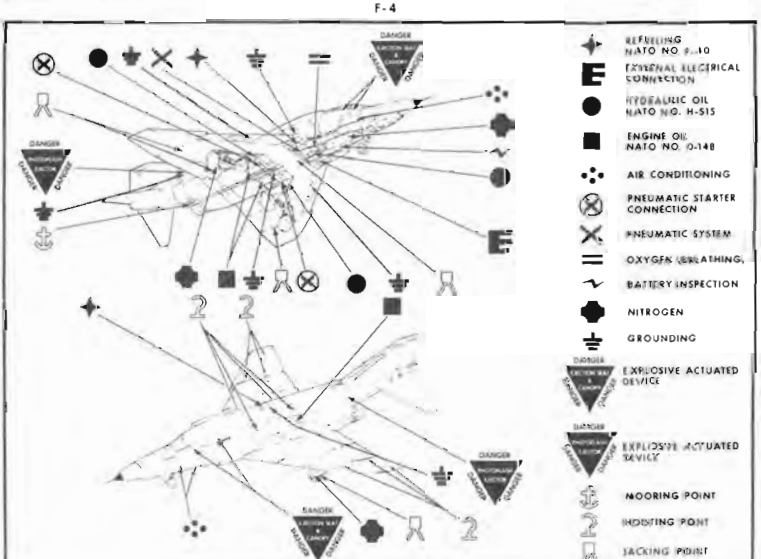
30' STAGGERED ROWS 90° ANGLE

2MHS3-13206
2-2

SERVICING AND HANDLING MARKINGS

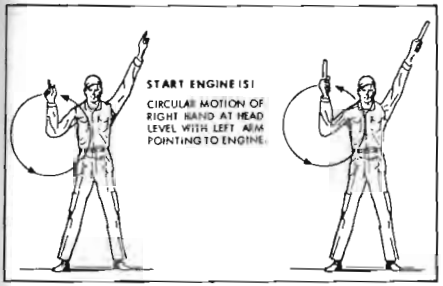


F-4



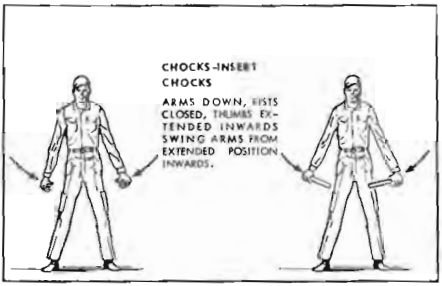
RF-4C

AIRCRAFT MARSHALING SIGNALS



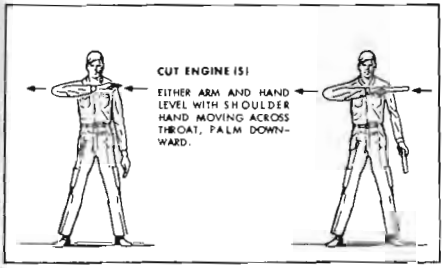
START ENGINE (S)

CIRCULAR MOTION OF RIGHT HAND AT HEAD LEVEL WITH LEFT ARM POINTING TO ENGINE.



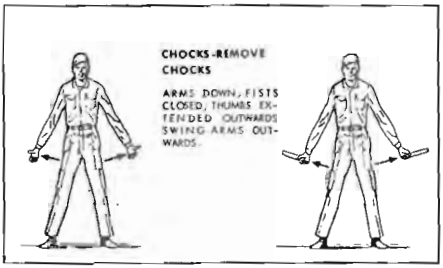
CHOCKS-INSERT CHOCKS

ARMS DOWN, FISTS CLOSED, THUMBS EXTENDED INWARDS SWING ARMS FROM EXTENDED POSITION INWARDS.



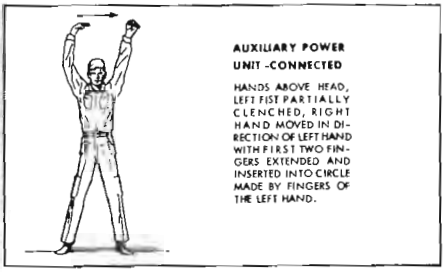
CUT ENGINE (S)

EITHER ARM AND HAND LEVEL WITH SHOULDER HAND MOVING ACROSS THROAT, PALM DOWNWARD.



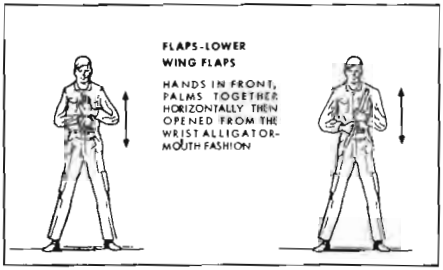
CHOCKS-REMOVE CHOCKS

ARMS DOWN, FISTS CLOSED, THUMBS EXTENDED OUTWARDS SWING ARMS OUTWARDS.



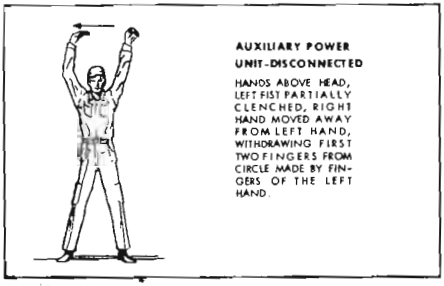
AUXILIARY POWER UNIT-CONNECTED

HANDS ABOVE HEAD, LEFT FIST PARTIALLY CLENCHED, RIGHT HAND MOVED IN DIRECTION OF LEFT HAND WITH FIRST TWO FINGERS EXTENDED AND INSERTED INTO CIRCLE MADE BY FINGERS OF THE LEFT HAND.



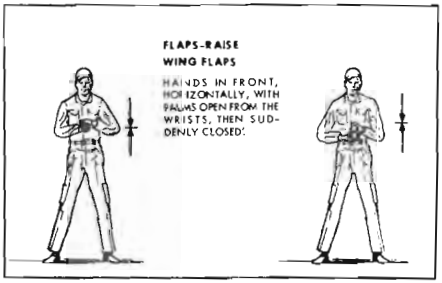
FLAPS-LOWER WING FLAPS

HANDS IN FRONT, PALMS TOGETHER HORIZONTALLY THEN OPENED FROM THE WRIST ALLIGATOR-MOUTH FASHION



AUXILIARY POWER UNIT-DISCONNECTED

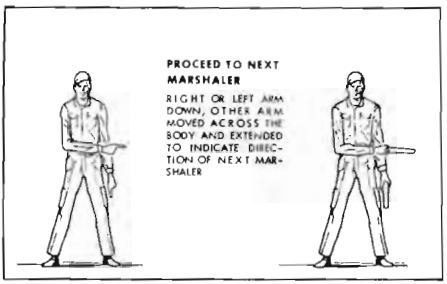
HANDS ABOVE HEAD, LEFT FIST PARTIALLY CLENCHED, RIGHT HAND MOVED AWAY FROM LEFT HAND, WITHDRAWING FIRST TWO FINGERS FROM CIRCLE MADE BY FINGERS OF THE LEFT HAND.



FLAPS-RAISE WING FLAPS

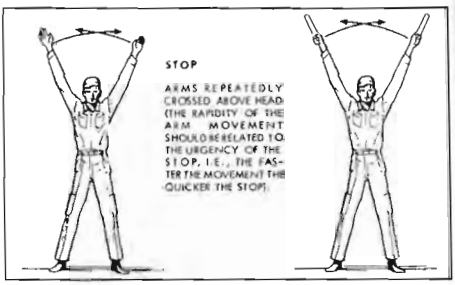
HANDS IN FRONT, HORIZONTALLY, WITH PALMS OPEN FROM THE WRISTS, THEN SUDDENLY CLOSED.

2MH53-10417
(1-2)



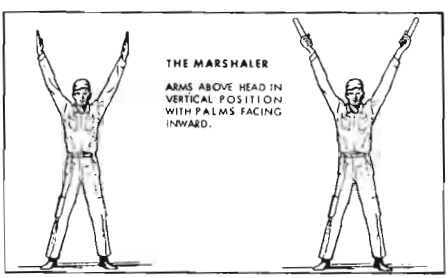
PROCEED TO NEXT MARSHALER

RIGHT OR LEFT ARM DOWN, OTHER ARM MOVED ACROSS THE BODY AND EXTENDED TO INDICATE DIRECTION OF NEXT MARSHALER



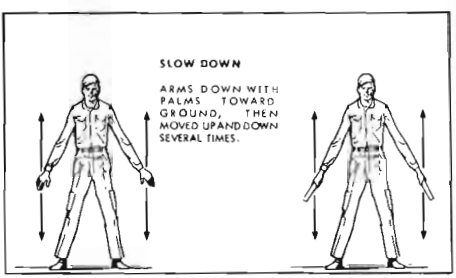
STOP

ARMS REPEATEDLY CROSSED ABOVE HEAD (THE RAPIDITY OF THE ARM MOVEMENT SHOULD BE RELATED TO THE URGENCY OF THE STOP, I.E., THE FASTER THE MOVEMENT THE QUICKER THE STOP)



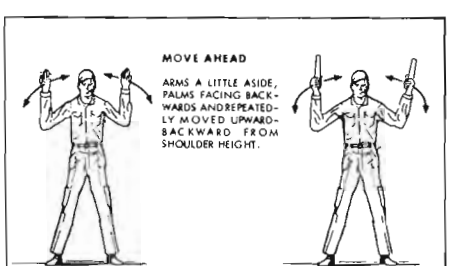
THE MARSHALER

ARMS ABOVE HEAD IN VERTICAL POSITION WITH PALMS FACING INWARD.



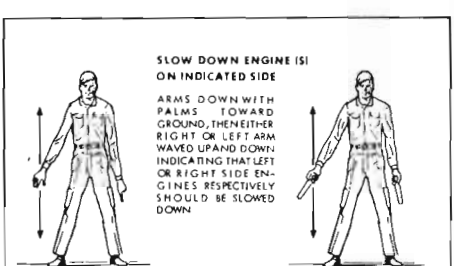
SLOW DOWN

ARMS DOWN WITH PALMS TOWARD GROUND, THEN MOVED UP AND DOWN SEVERAL TIMES.



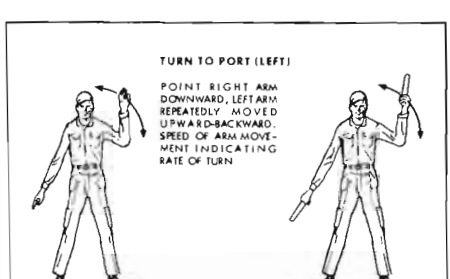
MOVE AHEAD

ARMS A LITTLE ASIDE, PALMS FACING BACKWARDS AND REPEATEDLY MOVED UPWARD-BACKWARD FROM SHOULDER HEIGHT.



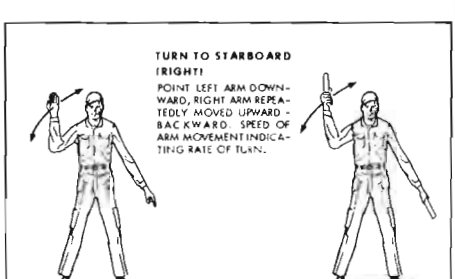
SLOW DOWN ENGINE (S) ON INDICATED SIDE

ARMS DOWN WITH PALMS TOWARD GROUND, THEN EITHER RIGHT OR LEFT ARM WAVED UP AND DOWN INDICATING THAT LEFT OR RIGHT SIDE ENGINES RESPECTIVELY SHOULD BE SLOWED DOWN



TURN TO PORT (LEFT)

POINT RIGHT ARM DOWNWARD, LEFT ARM REPEATEDLY MOVED UPWARD-BACKWARD. SPEED OF ARM MOVEMENT INDICATING RATE OF TURN



TURN TO STARBOARD (RIGHT)

POINT LEFT ARM DOWNWARD, RIGHT ARM REPEATEDLY MOVED UPWARD-BACKWARD. SPEED OF ARM MOVEMENT INDICATING RATE OF TURN.

2MHS3-10417
(2-2)

SAFETY PRECAUTIONS

As for as personnel safety precautions go, the Phantom is about the same as any other late model jet fighter. A few things, however, are peculiar to the Phantom. Complete, detailed safety warnings and caution notes are given in the handbooks, of course. For quick reference, however, here are the main points to watch out for in general aircraft handling.

CANOPIES

These are air operated and will actuate any time there is pressure in the bottle. Make sure personnel are clear before opening or closing the canopies. If you are in the cockpit, don't lean out to use the external buttons; if you are outside don't lean in to use the cockpit buttons. The canopy might close faster than you expect.

CONTROLS

As with any power control system, stay well clear of all movable surfaces any time hydraulic power is applied to the aircraft.

EJECTION SEATS

Leave the safety pins in place at all times. Don't forget that this seat has a drogue gun as well as a seat catapult. Above all, know the handbook before you attempt any work on the seat.

LANDING GEAR

Before working on the gear or in the wells, bleed off the utility system accumulator by pumping the brake pedals. Make sure the gear handle is in and down, and pull the gear circuit breakers. See that all gear safety pins and struts are in place.

After all landings or taxi runs beware of tire blowouts from overheated brakes.

ARRESTING GEAR

When the hook is up, don't get underneath it.

SPEED BRAKES

The Phantom has no speed brakes safety switch, since the selector valve cannot be disabled electrically to prevent the brakes from closing. Keep jury struts installed whenever possible, and stay well clear of the brakes whenever there is hydraulic pressure in the utility system.

ENGINE DUCT MOVABLE RAMP

To avoid any possibility of getting squeezed while working in the duct, inactivate the ramp by pulling the ramp circuit breaker.

LIQUID OXYGEN

Don't handle it at all unless you are trained and authorized. Always wear protective clothing and make sure the area is clean and free of fuel, oil, or any greasy substance. These will ignite spontaneously on contact with liquid oxygen.

FOREIGN OBJECT DAMAGE

The subject of damage to jet engines caused by foreign objects has been covered so well and so often in officiol and unofficiol Novy publications, and in contractor publications of all kinds, that it shouldn't be necessary to bring it up here.

However, it seems that it is necessary. Foreign object damage is still occurring. Excluding birds and small flying saucers, there is only one cause of FOD; and that is carelessness. A little bit of carelessness can cause a big lot of trouble. For instance, not long ago "Approach" printed a very spectacular picture showing a Deman which burned down to a skeleton after the engine exploded when it tried to eat a pair of long-nose pliers.

Avoiding foreign object damage is a simple job but not an easy one. And it's not the kind of job that can be done once and then forgotten; it takes steady, unceasing work.

Here, for about the thousandth time but not the last time, are the important points:

POINT 1. - DON'T LEAVE ANYTHING IN THE INTAKE DUCTS

This especially applies to tools and parts used in maintenance. These account for 80% of foreign object damage. Don't use the duct lip as a handy parking place for sunglasses, ear muffs, lunch boxes, etc.

POINT 2. - INSPECT THE DUCTS CAREFULLY BEFORE EVERY ENGINE START

This is in case somebody has ignored Point One, as somebody eventually will.

POINT 3. - KEEP STARTING AREAS CLEAN

They should be clean all the time, not cleaned just before you plan to start an airplane. Somebody might sneak up on you and taxi in during happy hour.

Don't throw anything down on the ramp in the starting area. A gum wrapper won't hurt a J-79, but it leads to bad habits. A discarded half-inch bolt will hurt a J-79 or any other jet.

POINT 4. - KEEP TAXI-WAYS AND RUNWAYS CLEAN

Some comments as in Point Three, except that out here you will also have dirt, rocks, and tumbleweeds to cope with.

POINT 5. - LEAVE DUCT SCREENS IN PLACE AS LONG AS POSSIBLE

When you remove the screens will depend on local policy; but the longer they're on, the safer the engine is.

POINT 6. - DON'T GET SUCKED IN YOURSELF

This short rough trip has never been popular, but a few people are still taking it.

Don't ever stand or walk in front of a running engine, even at idle. The J-79 accelerates to military like a World War Two reciprocating engine.

Once more, leave the screens on whenever possible. If you have to run engines with the screens off, be careful.

NOTES

NOTES

NOTES

NOTES

A PRODUCT SUPPORT PUBLICATION