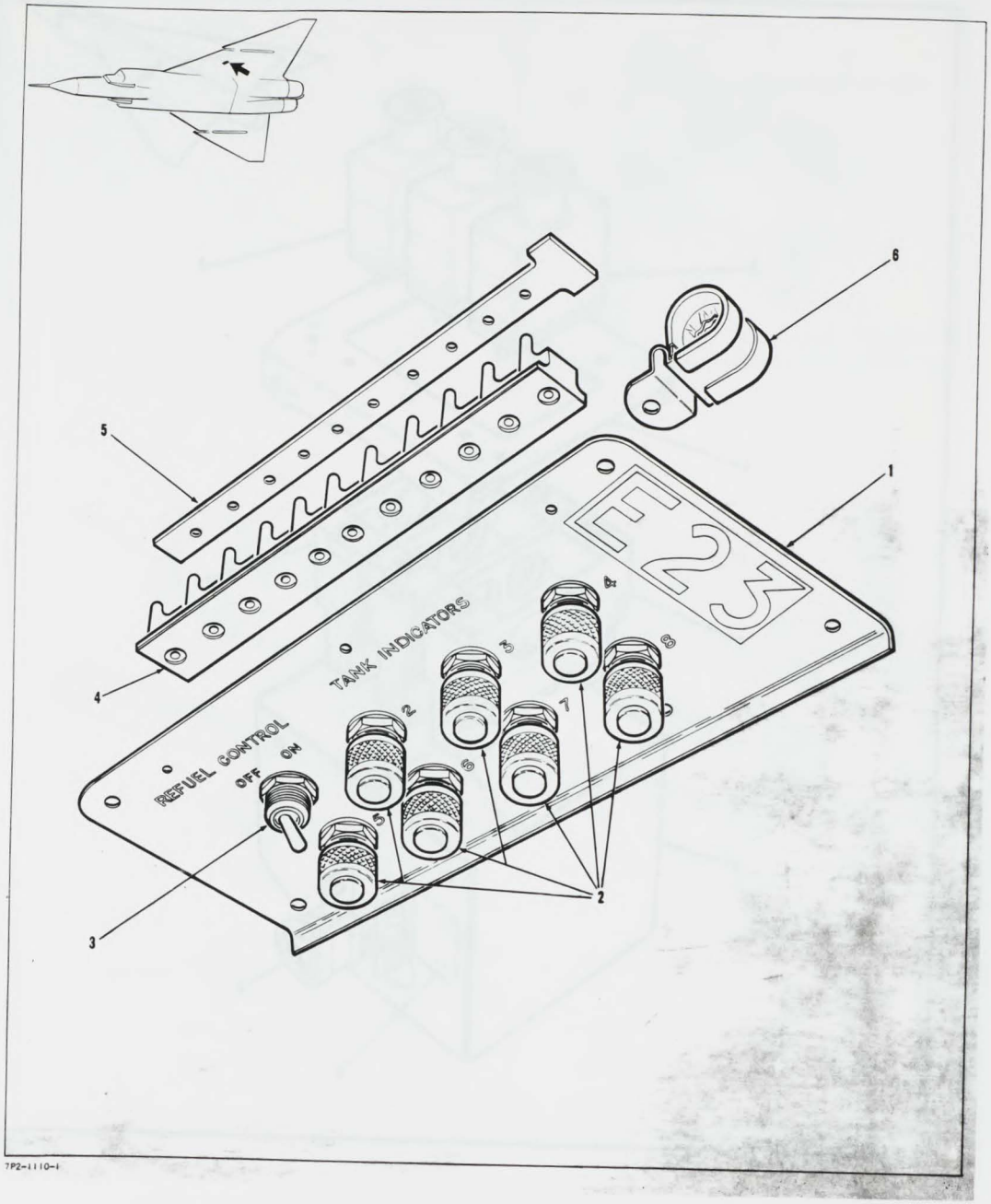
Prologue

Tom Dugelby

Productions

UNPUBLISHED DRAWINGS FROM THE PROPOSED 1961 ARROW 2 SERVICE MANUAL.

UNCLASSIFIED



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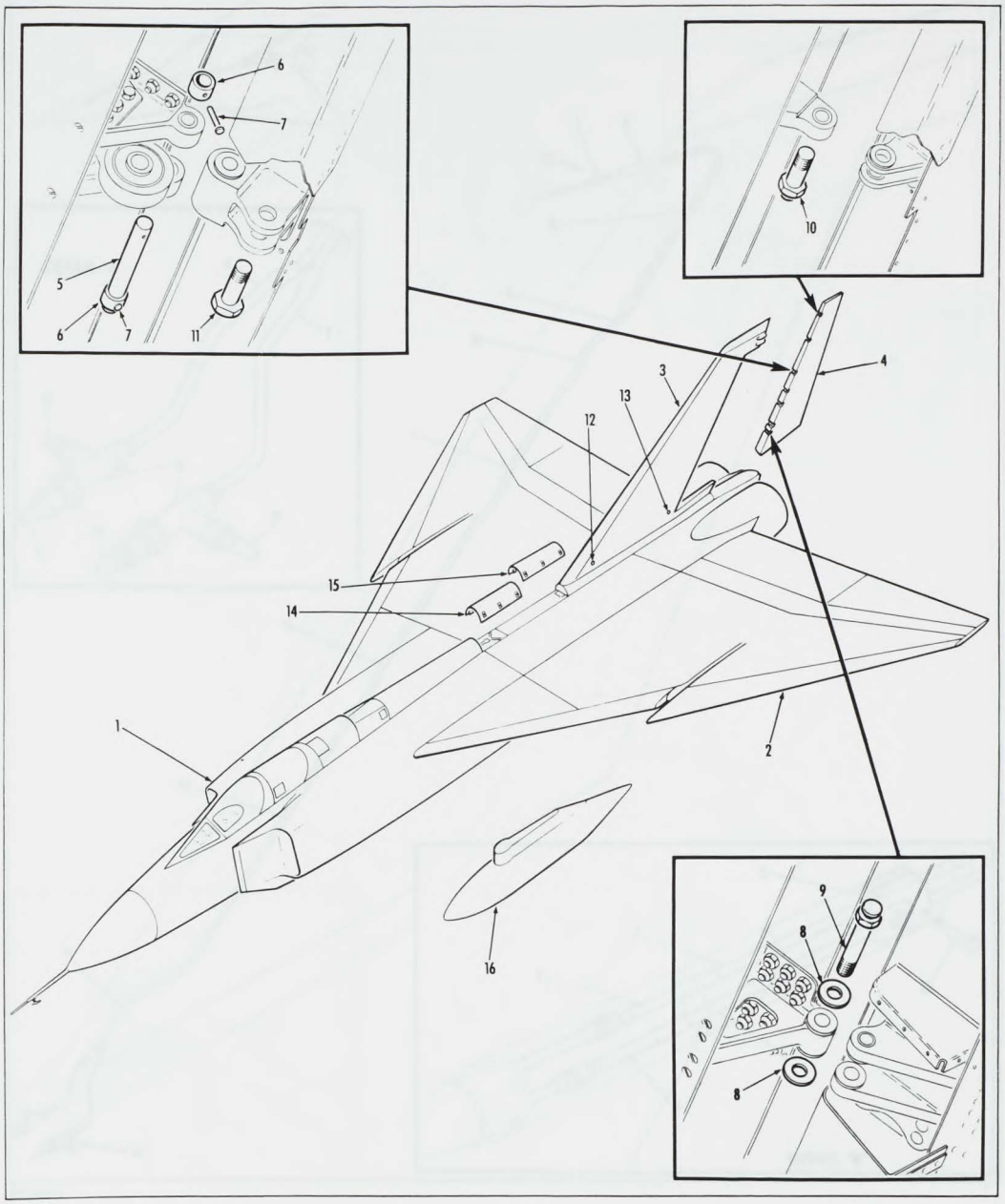
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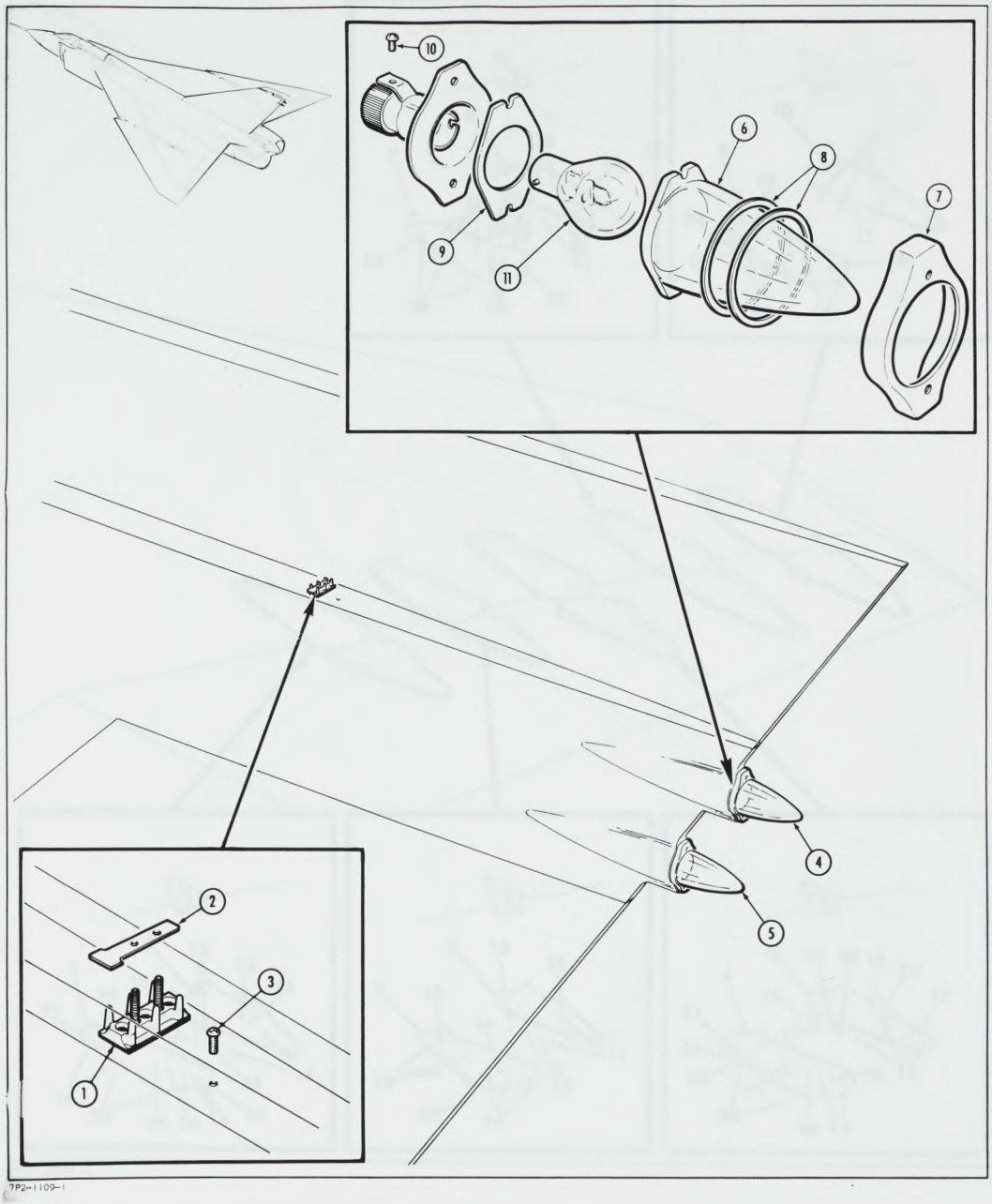

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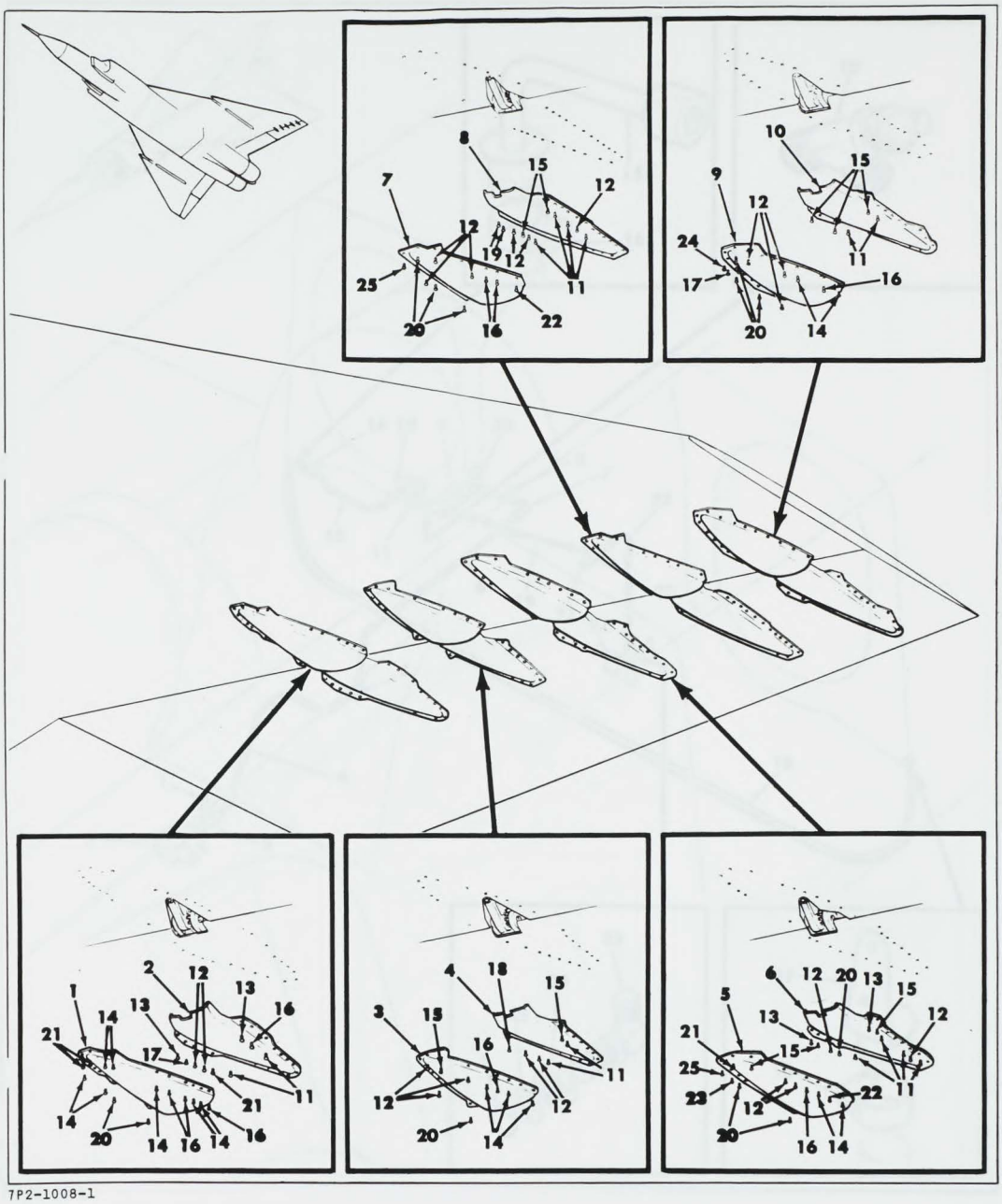
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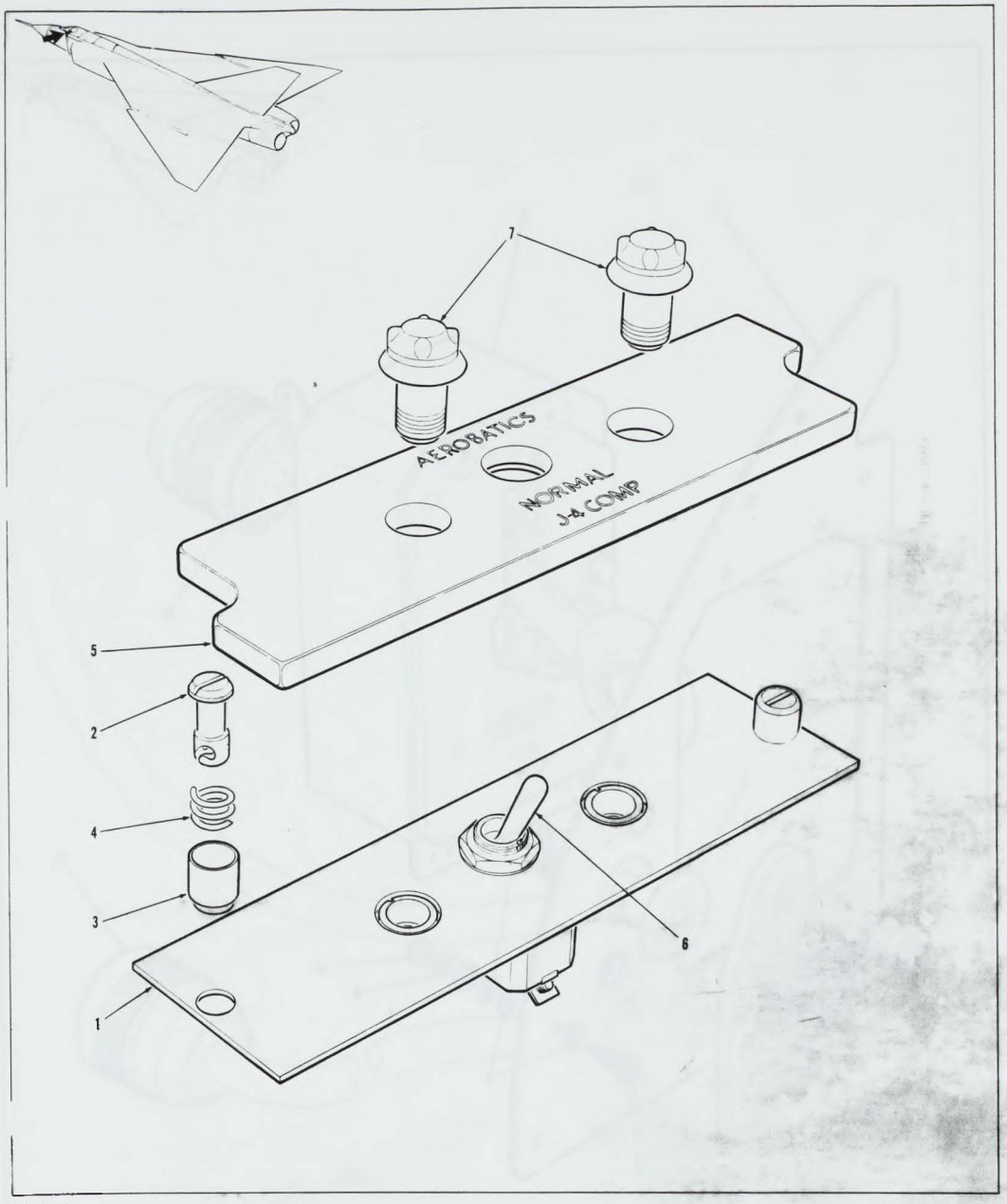

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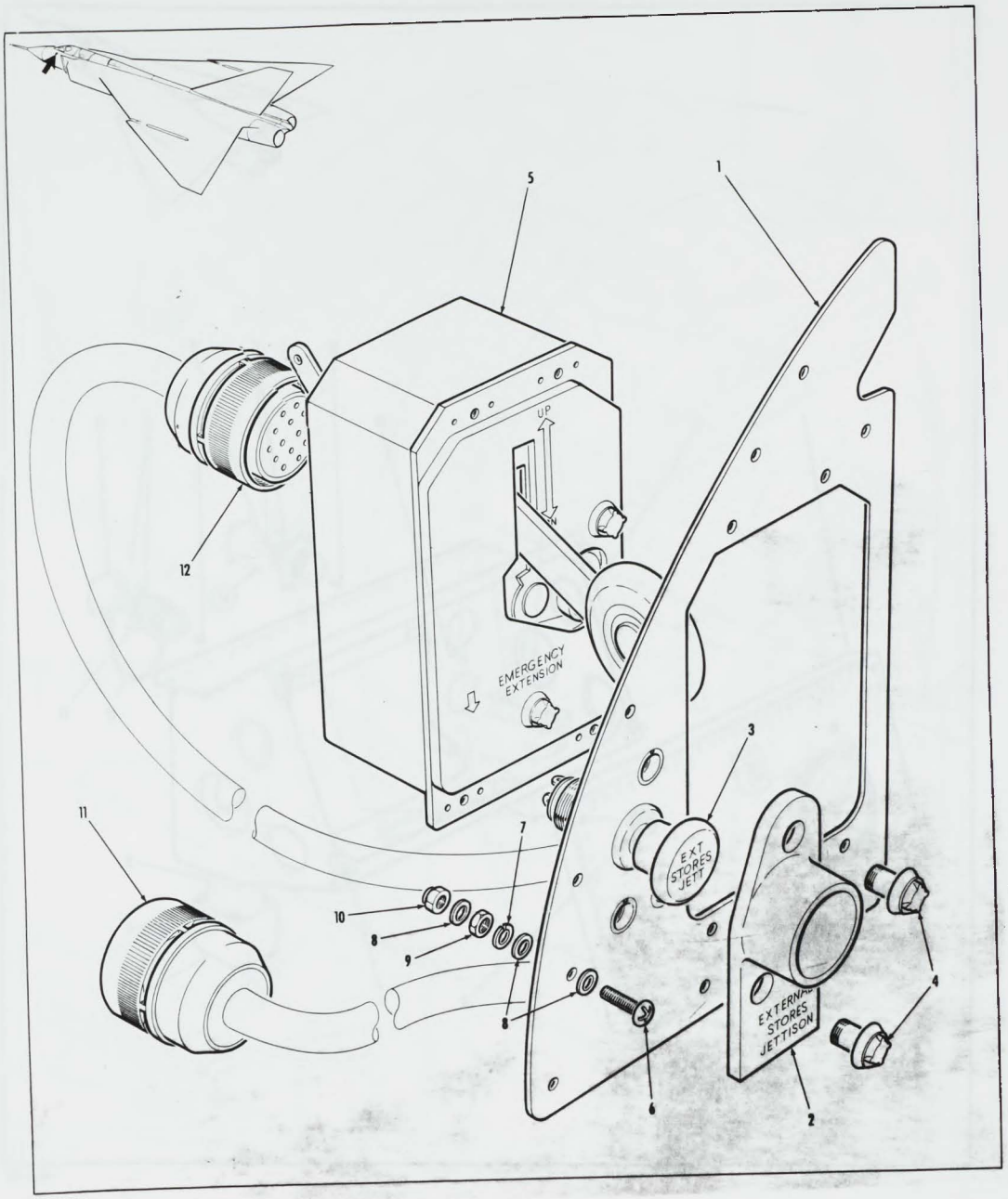
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UP
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EMERGENCY EXTENSION
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EXT. STORES JETT
EXTERNAL STORES JETTISON
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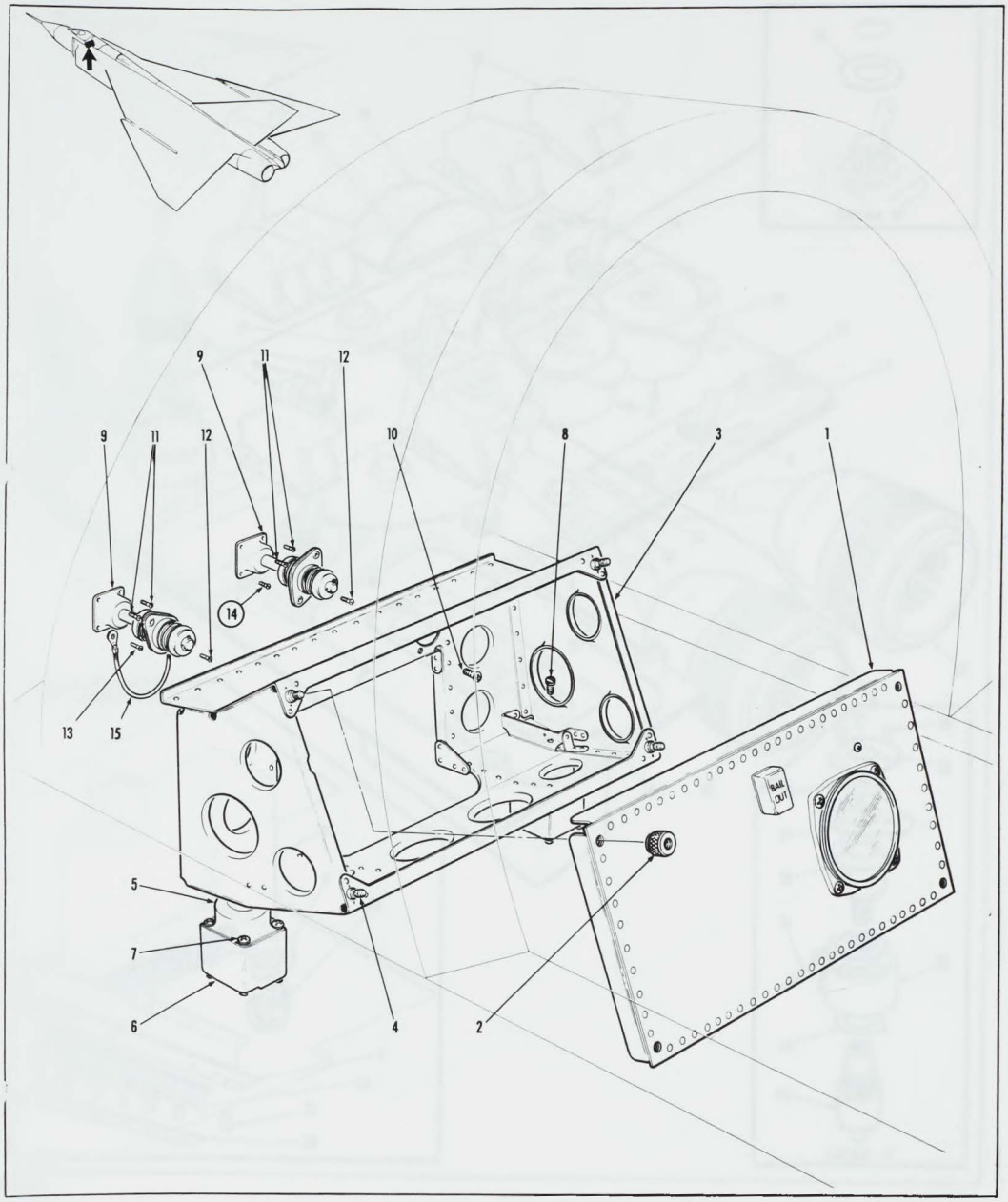
7P2-1210-1



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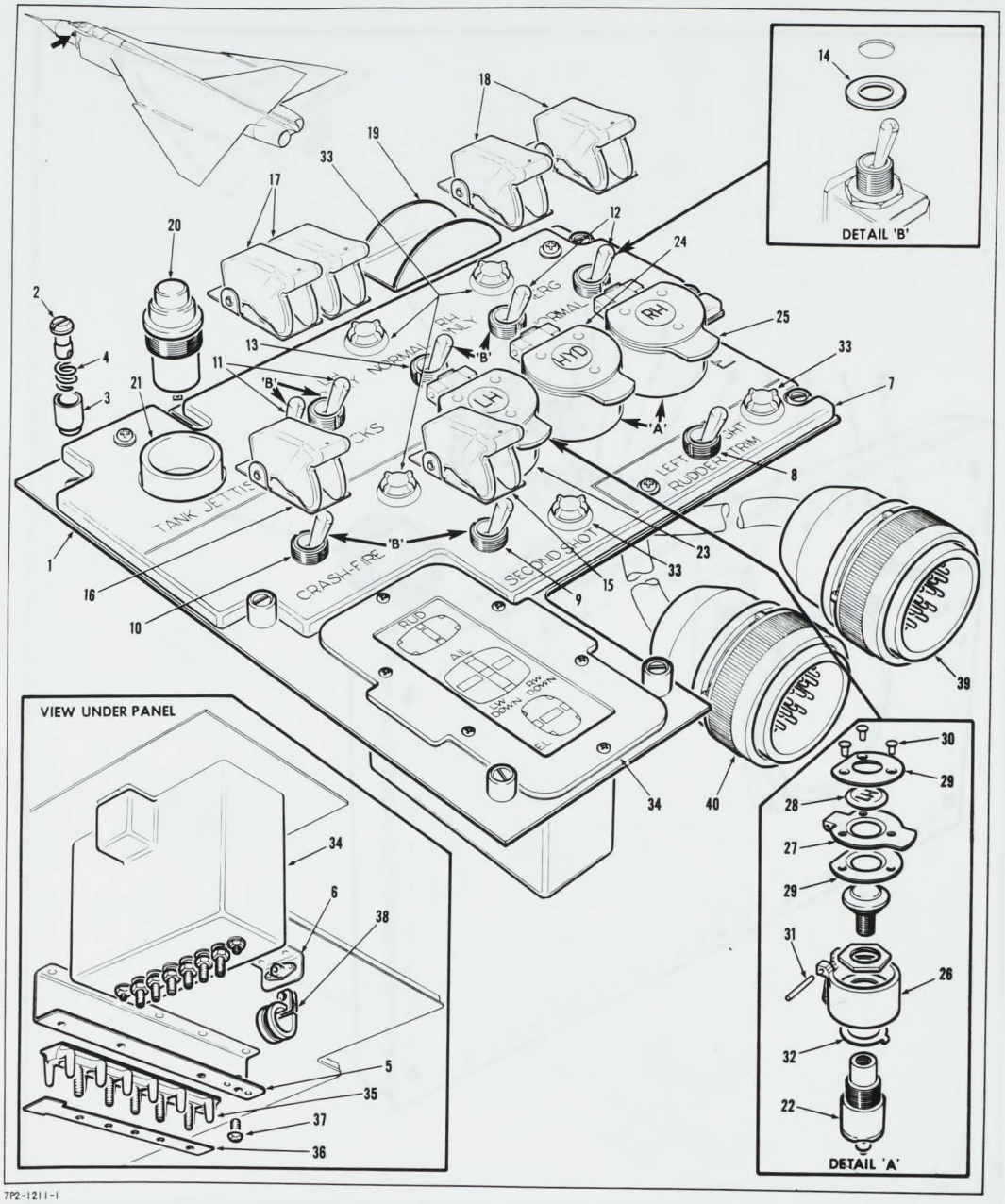
DETAIL 'B'
VIEW UNDER PANEL
DETAIL 'A'
TANK JETTISON
CRASH FIRE
SECOND SHOT
LEFT RUDDER TRIM
RH
LH
HYD
NORMAL
'A'
'B'
RUD
AIL
SW DOWN
RW DOWN
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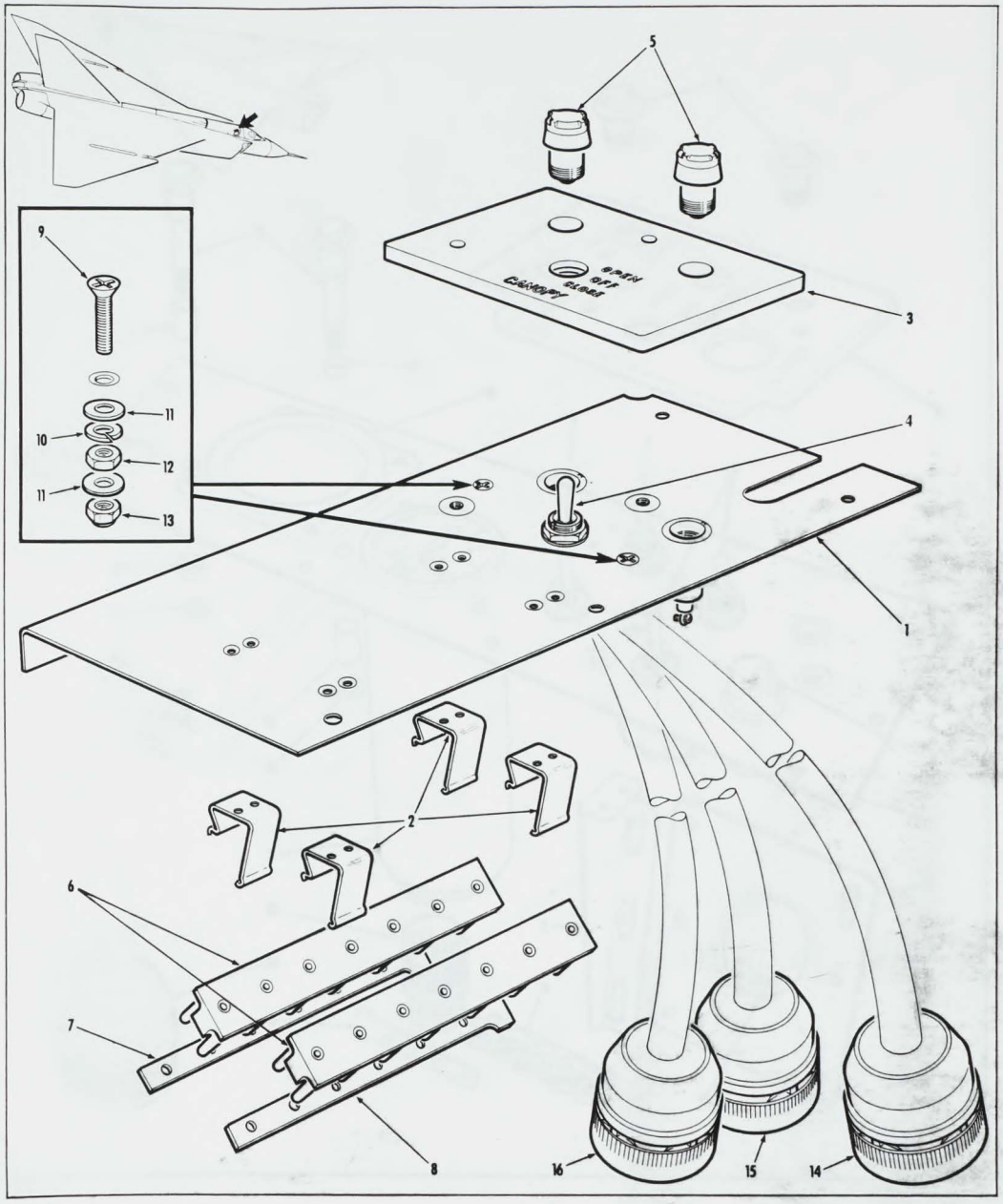

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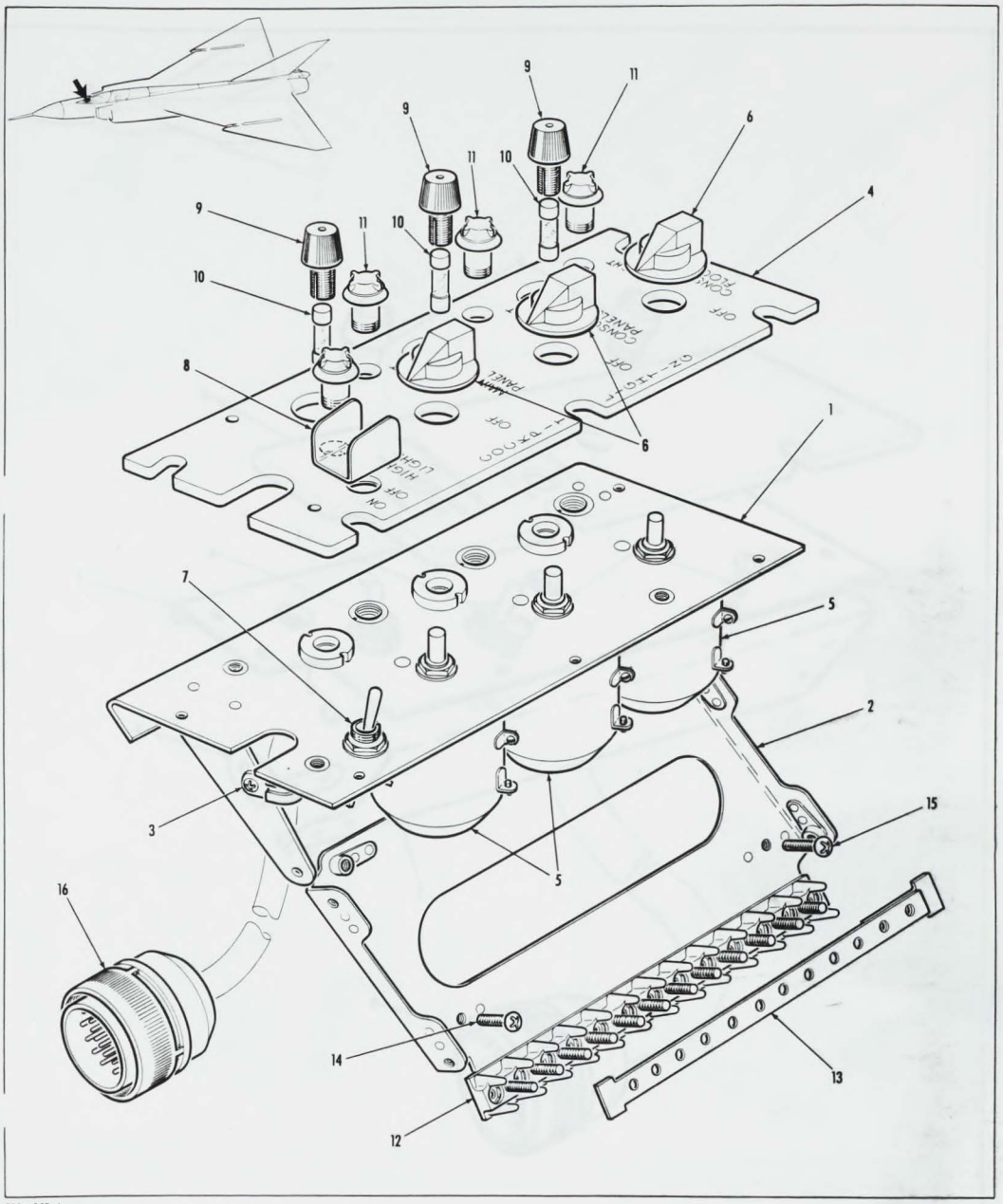

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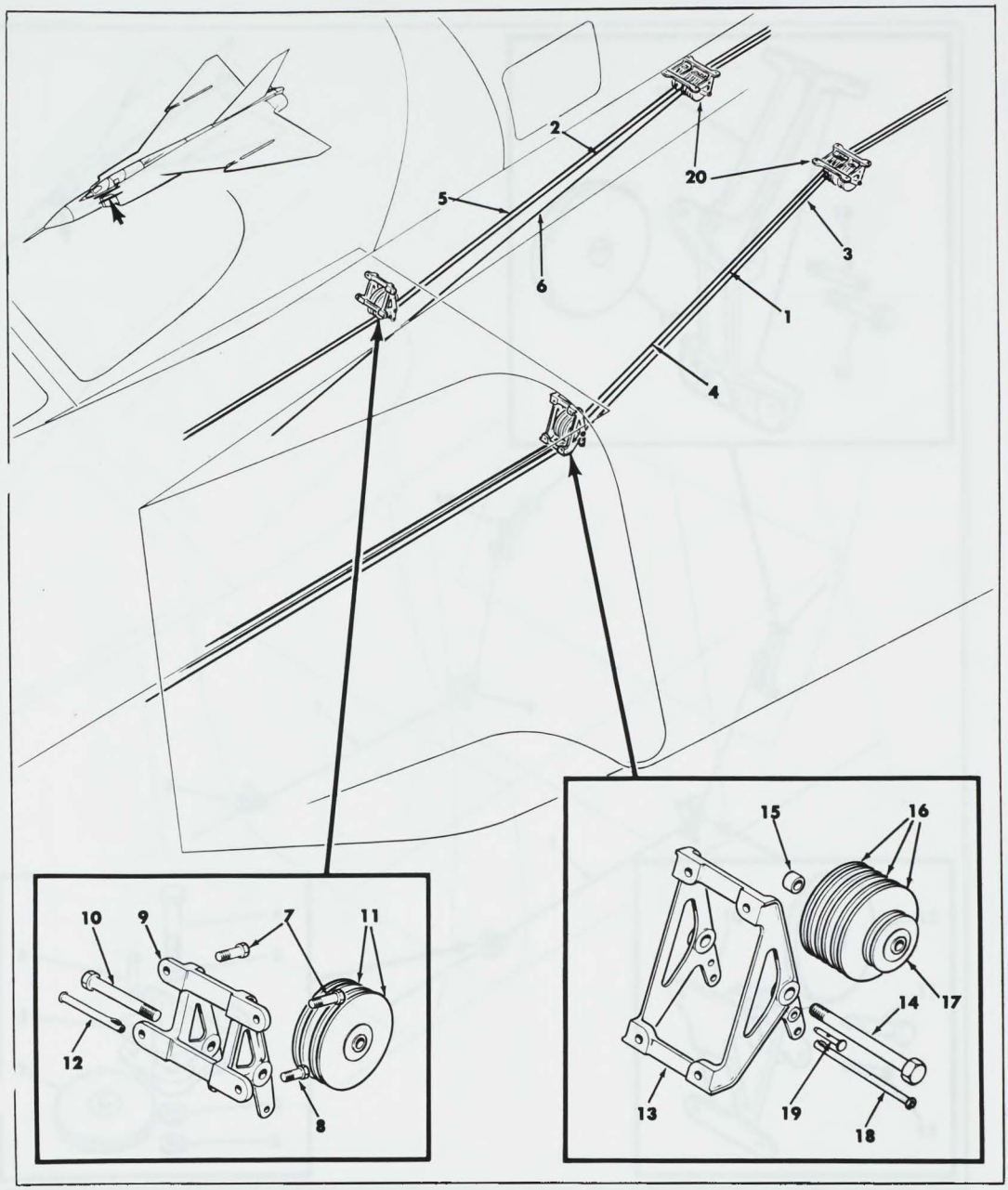

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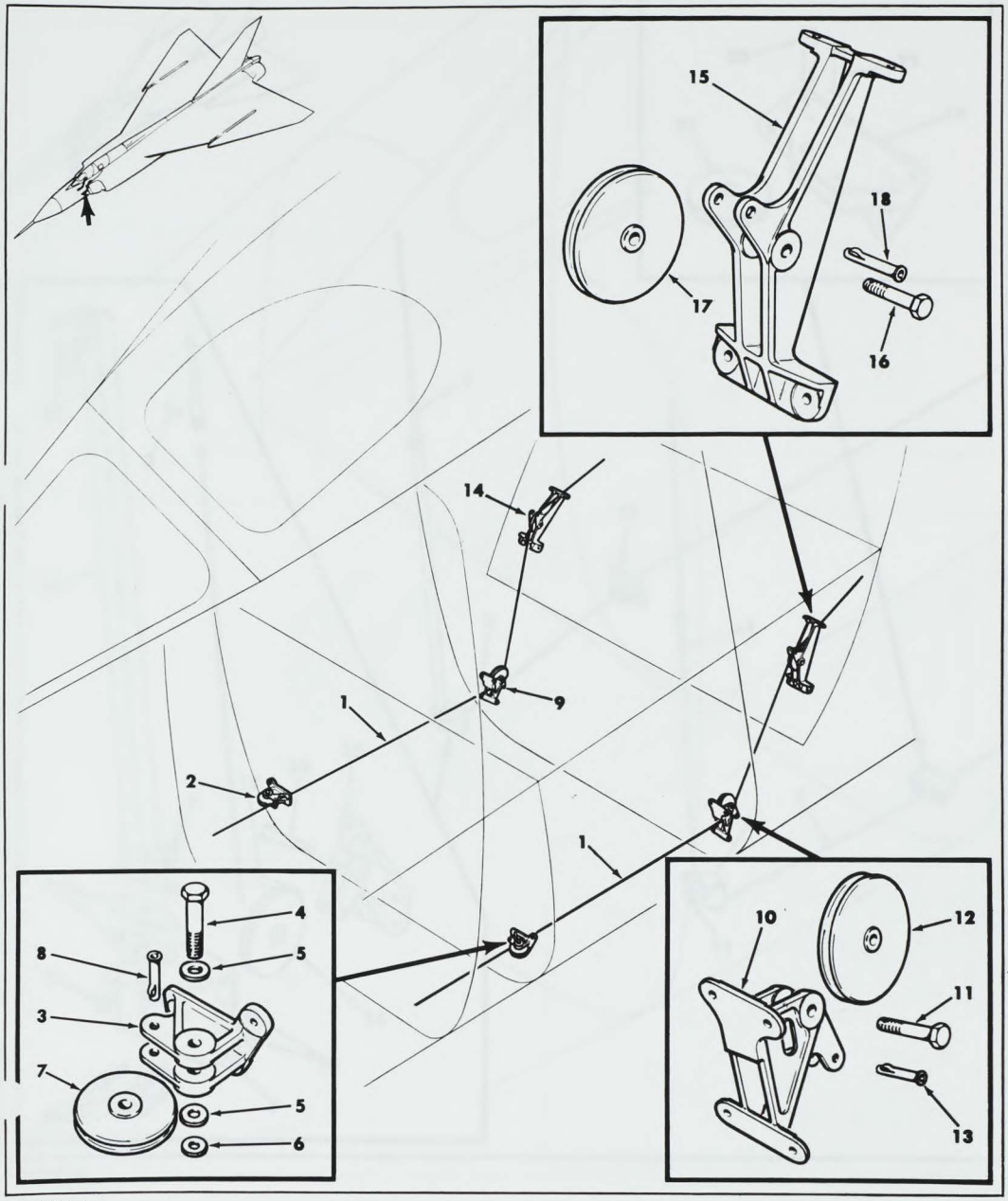

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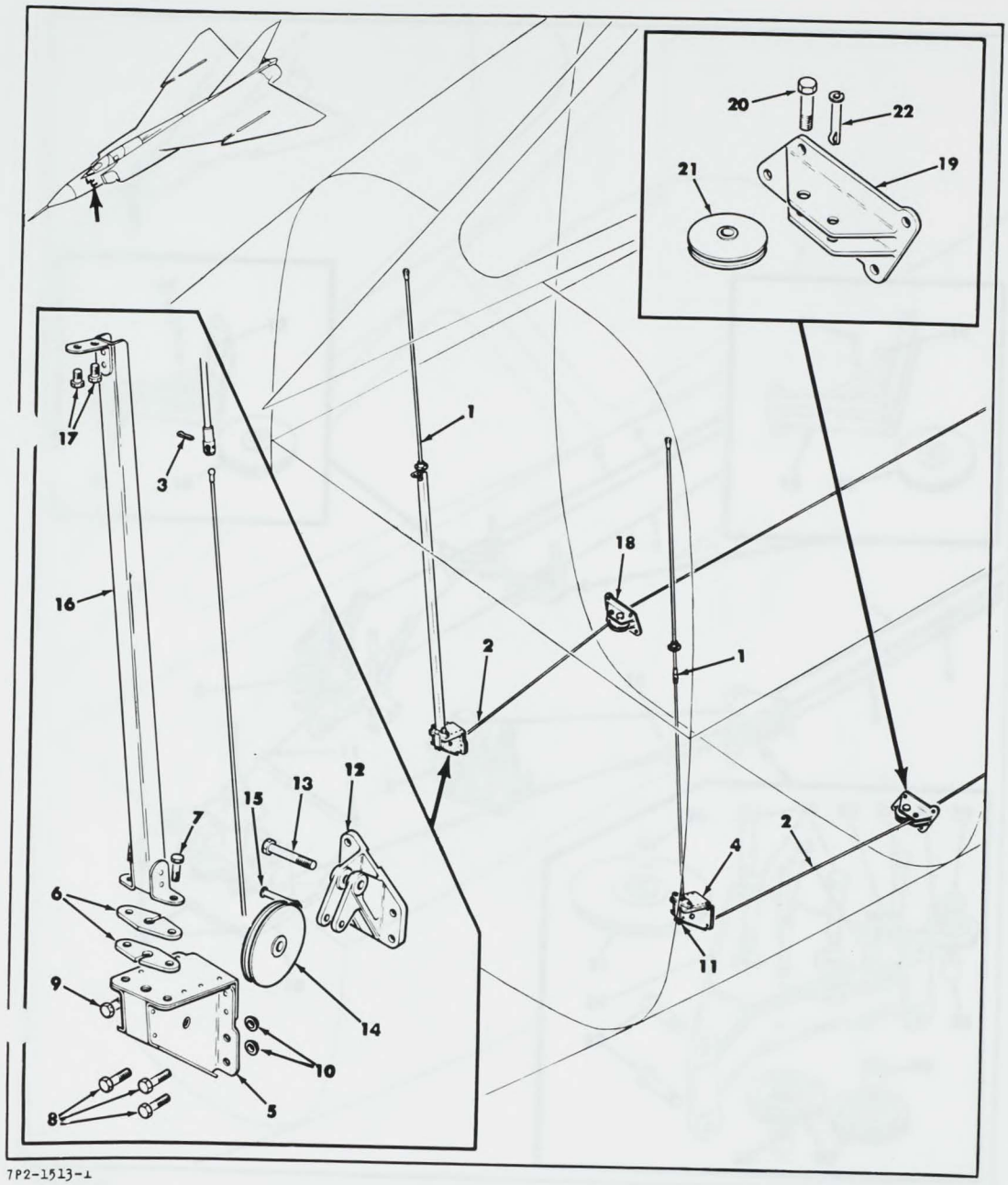

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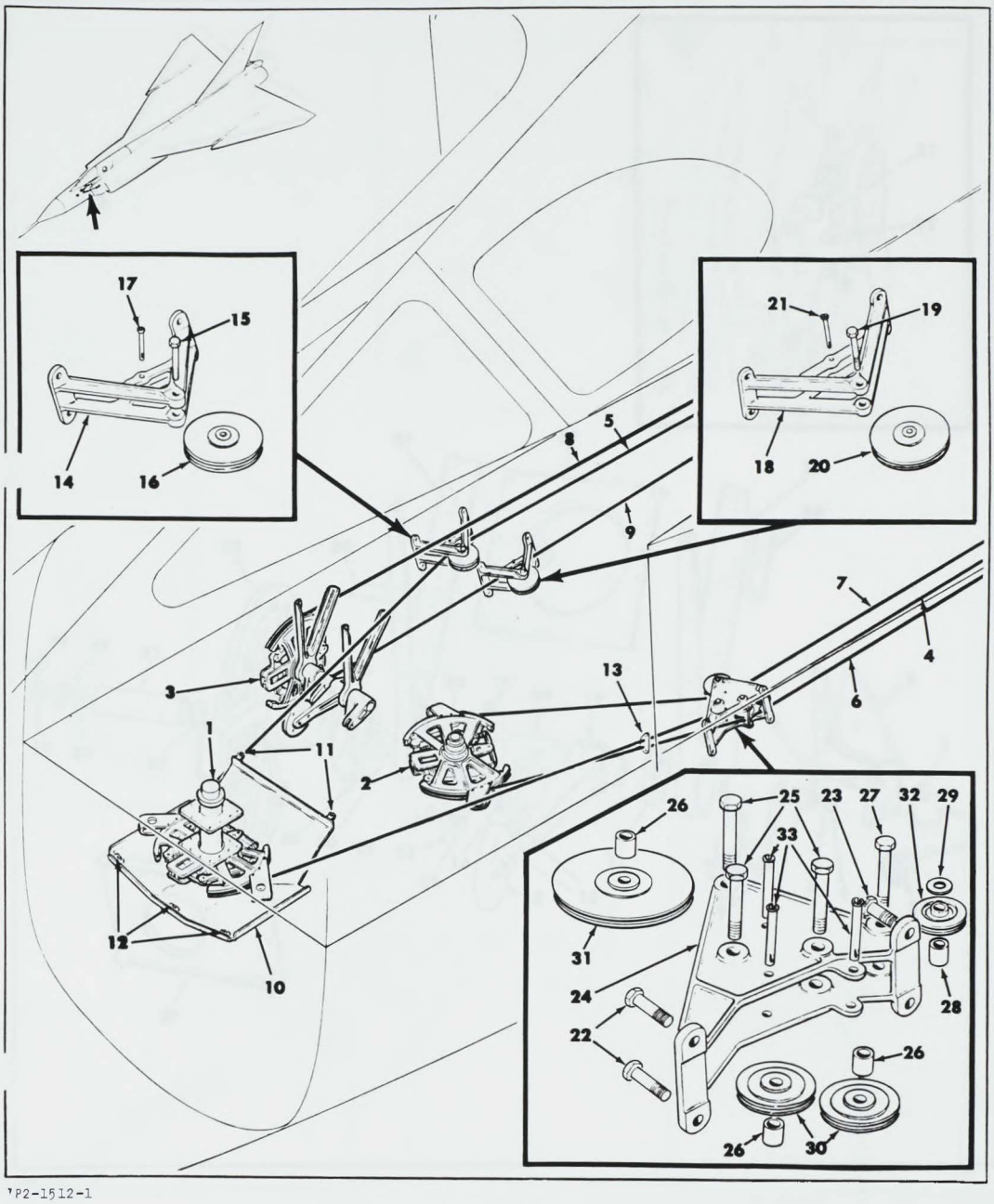
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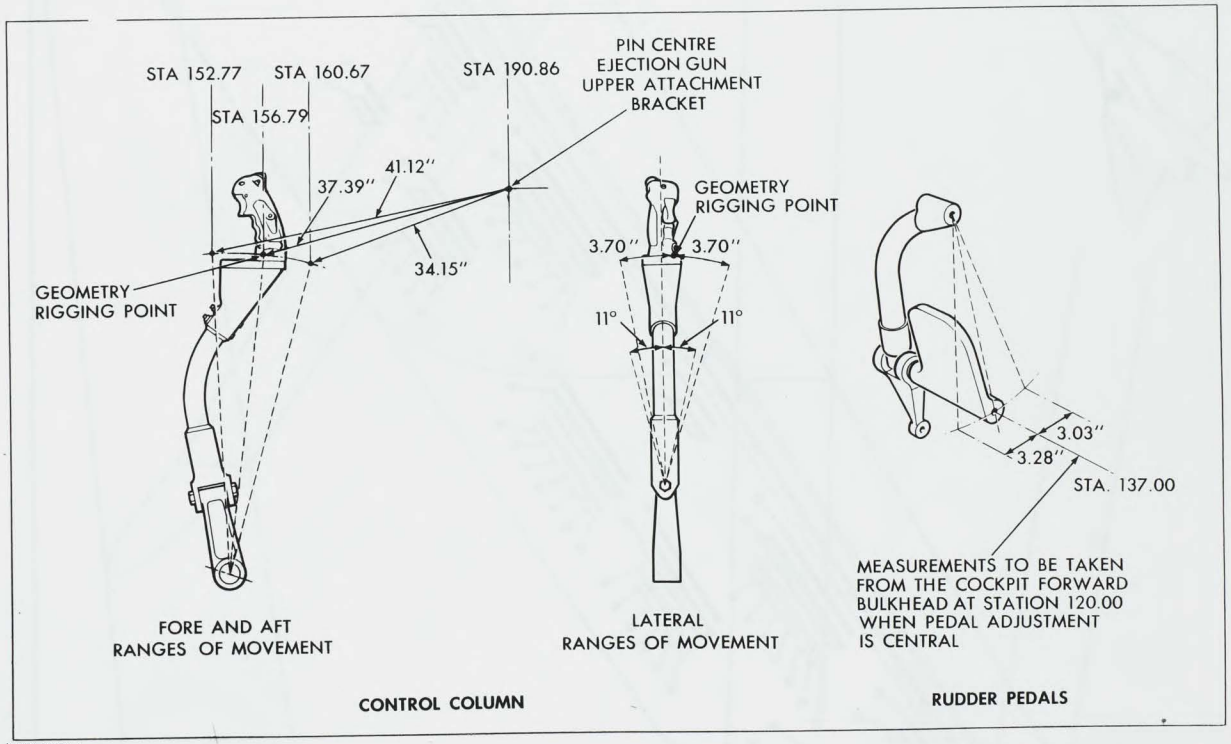
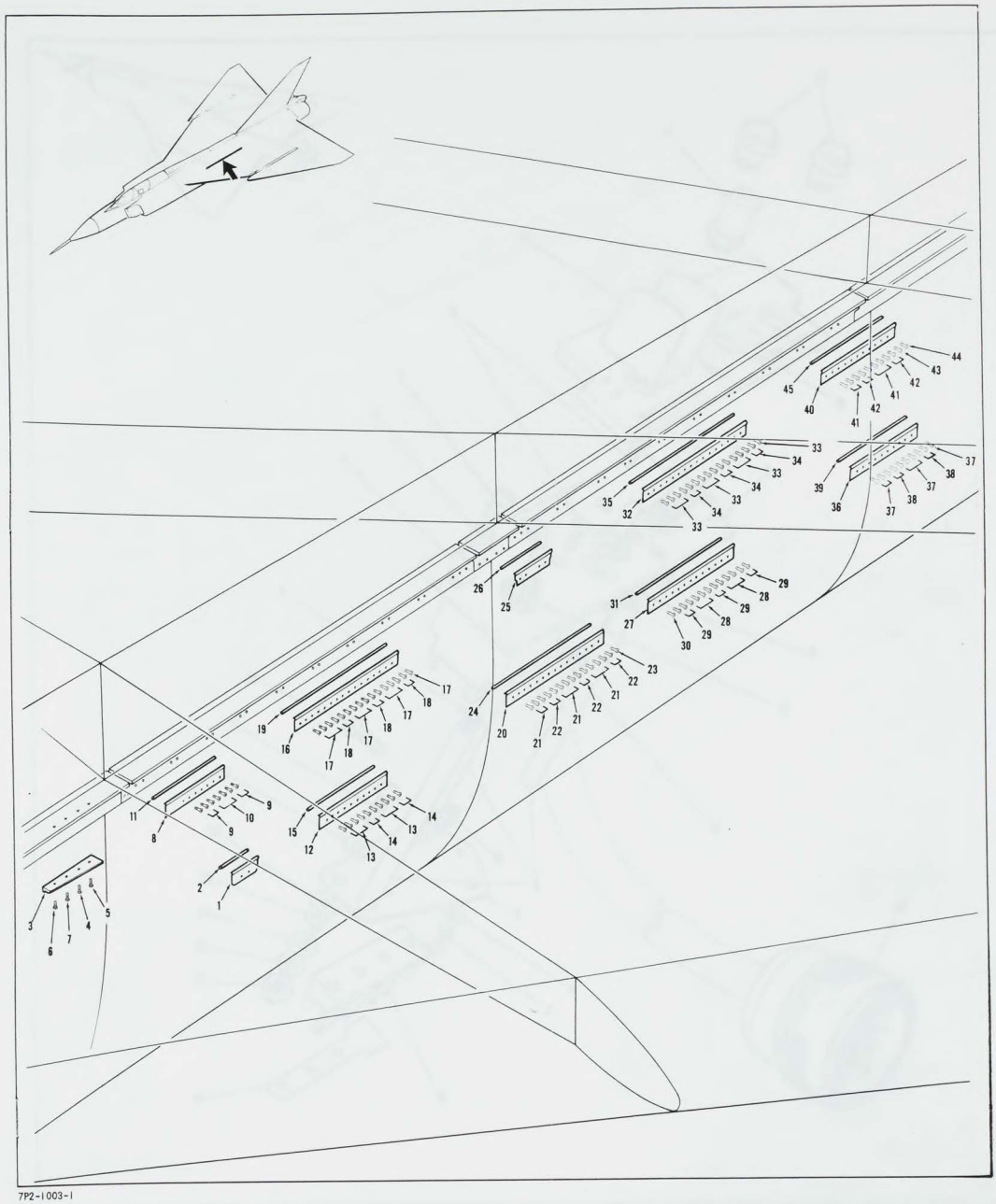
P2-1512-1


STA 152.77
STA 160.67
STA 156.79
STA 190.86
PIN CENTRE
EJECTION GUN
UPPER ATTACHMENT
BRACKET
41.12"
37.39"
34.15"
GEOMETRY
RIGGING POINT
FORE AND AFT
RANGES OF MOVEMENT
GEOMETRY
RIGGING POINT
3.70"
3.70"
11°
11°
LATERAL
RANGES OF MOVEMENT
3.03"
3.28"
STA. 137.00
MEASUREMENTS TO BE TAKEN
FROM THE COCKPIT FORWARD
BULKHEAD AT STATION 120.00
WHEN PEDAL ADJUSTMENT
IS CENTRAL
CONTROL COLUMN
RUDDER PEDALS

7N2-2510-1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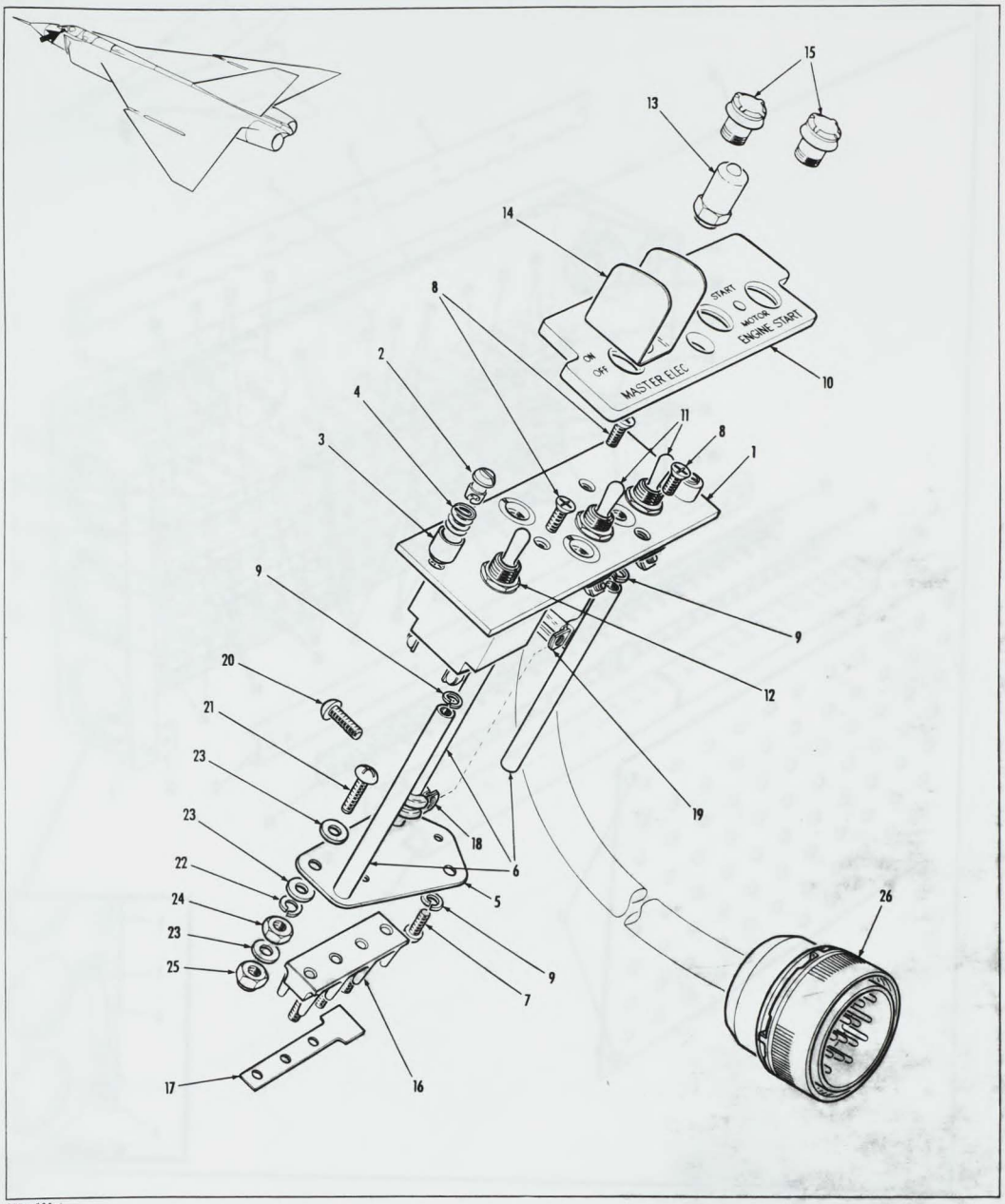
7P2-1003-1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START
MOTOR
ENGINE START
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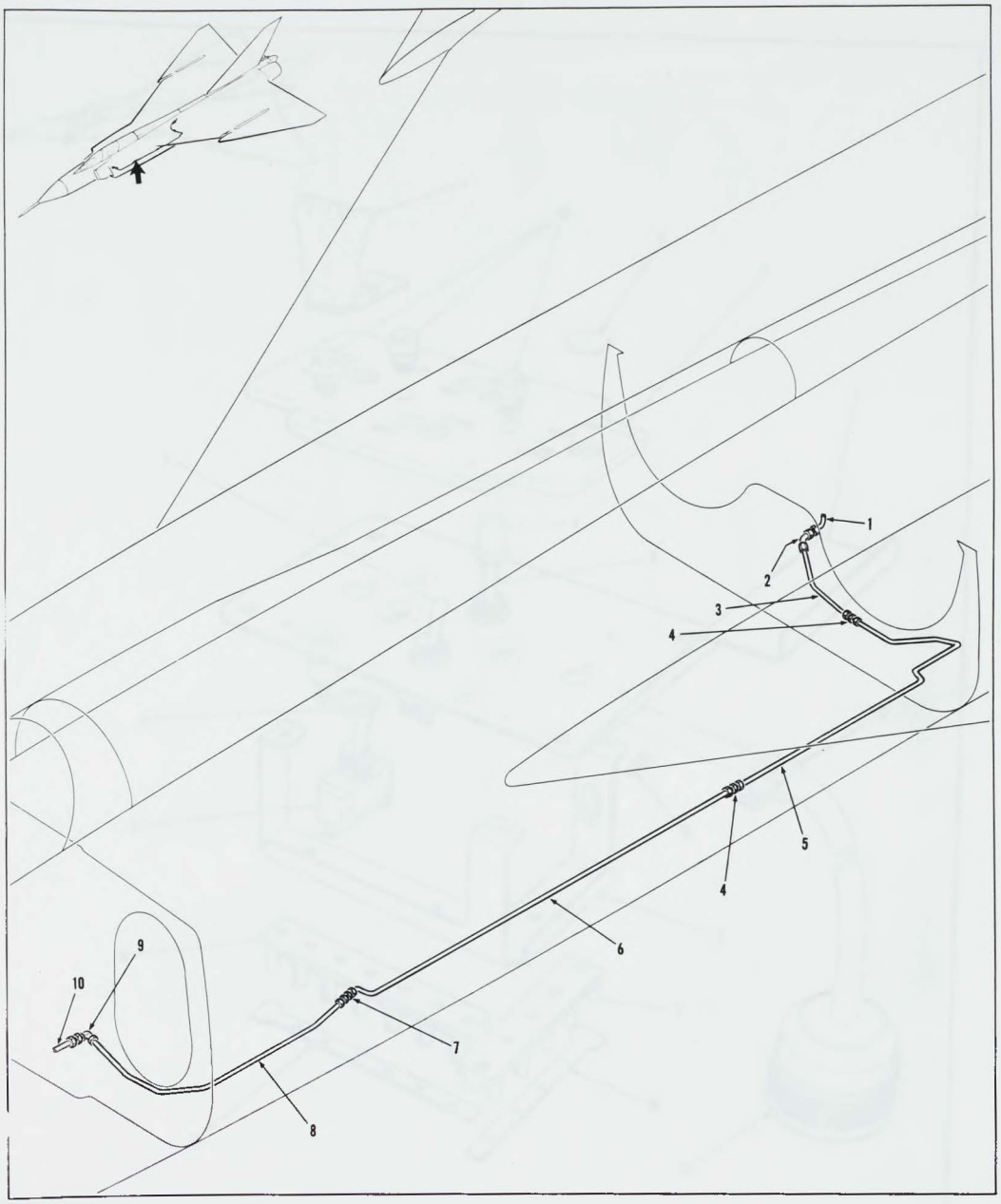
MASTER ELEC

7P2-1206-1



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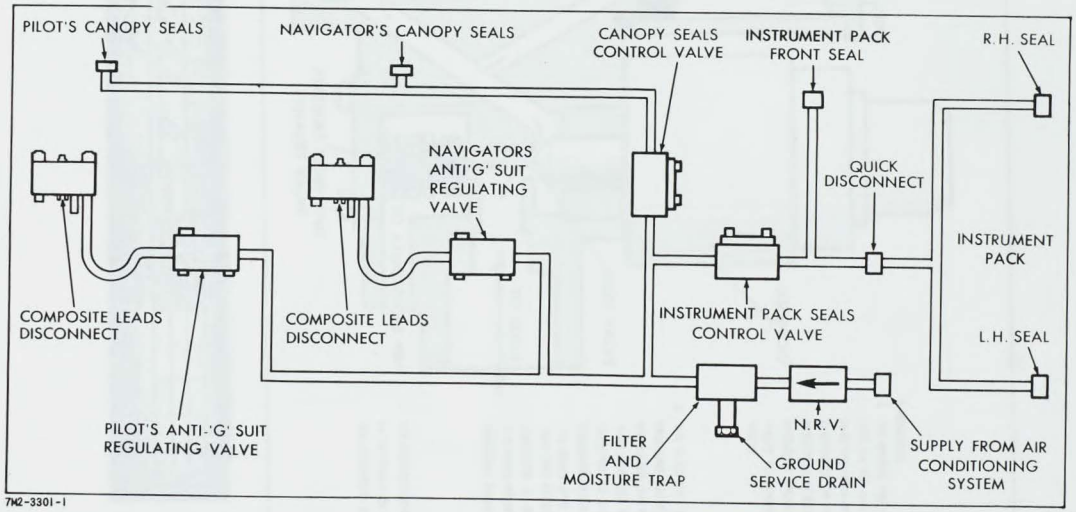
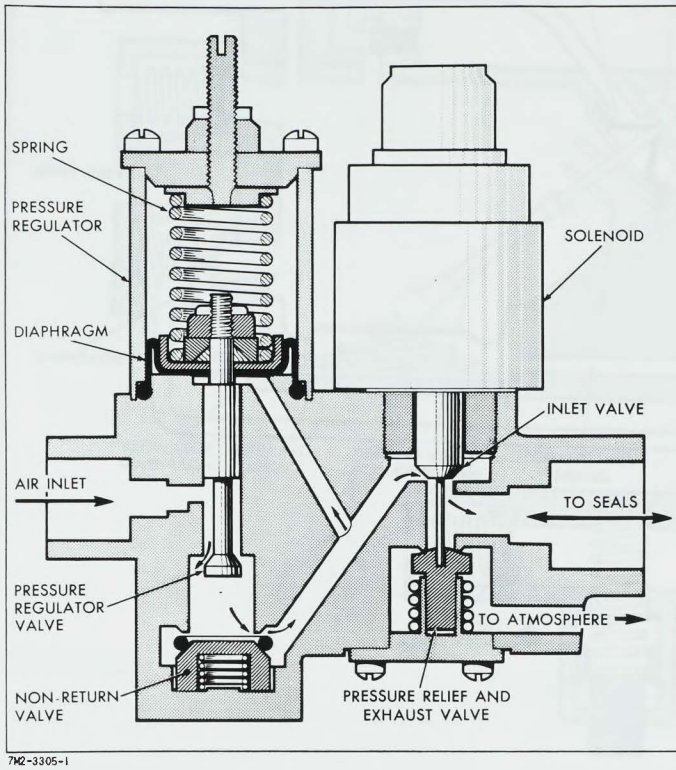

PILOT'S CANOPY SEALS
NAVIGATOR'S CANOPY SEALS
CANOPY SEALS CONTROL VALVE
INSTRUMENT PACK FRONT SEAL
R.H. SEAL
NAVIGATORS ANTI'G' SUIT REGULATING VALVE
QUICK DISCONNECT
INSTRUMENT PACK
COMPOSITE LEADS DISCONNECT
COMPOSITE LEADS DISCONNECT
INSTRUMENT PACK SEALS CONTROL VALVE
L.H. SEAL
PILOT'S ANTI-'G' SUIT REGULATING VALVE
N.R.V.
FILTER AND MOISTURE TRAP
GROUND SERVICE DRAIN
SUPPLY FROM AIR CONDITIONING SYSTEM
7M2-3301-1

7"



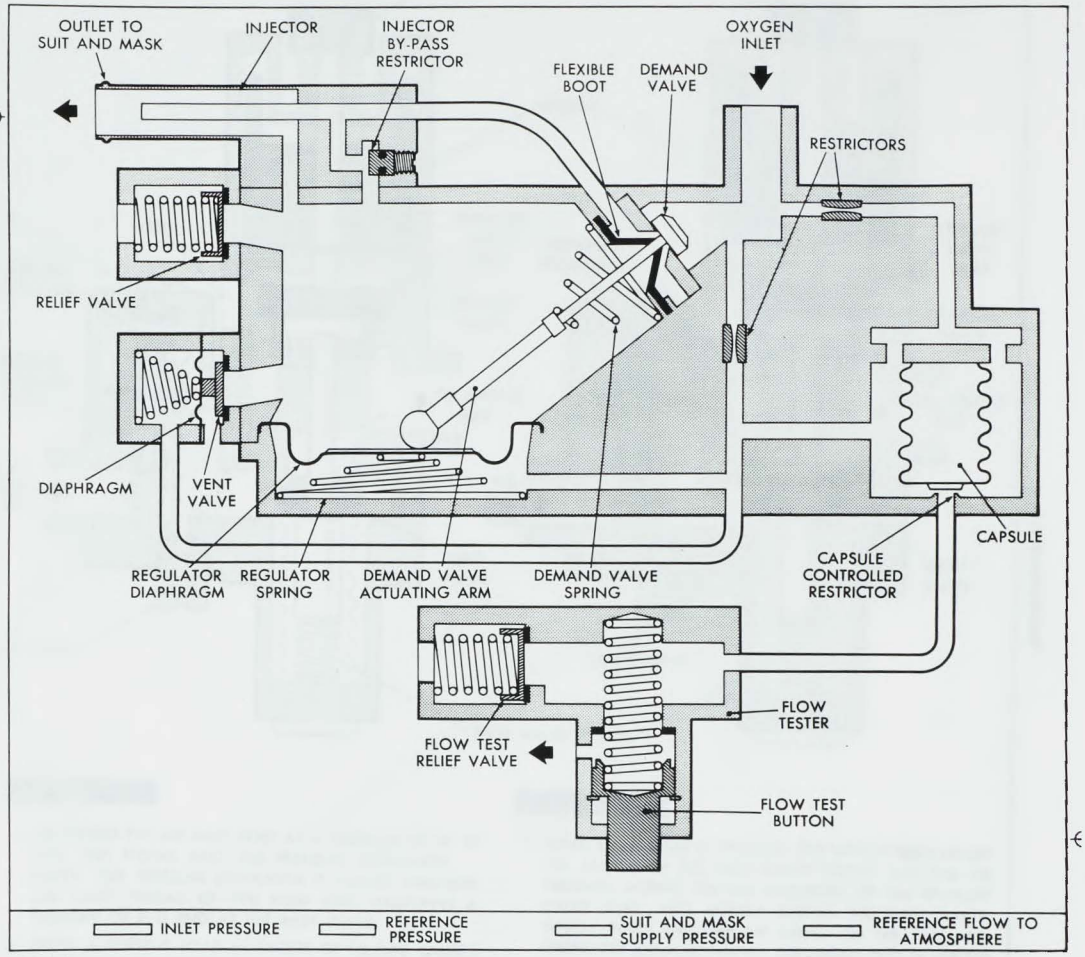
OPERATION

1. AIR ENTERS THE VALVE INLET AT A PRESSURE OF BETWEEN 18 AND 85 PSI AND FLOWS PAST THE PRESSURE REGULATOR VALVE AND THE NON-RETURN VALVE TO THE INLET VALVE AND THE UNDERSIDE OF THE PRESSURE REGULATOR DIAPHRAGM. THE RESULTING FORCE ON THE DIAPHRAGM OPPOSES THE PRESSURE REGULATOR SPRING AND POSITIONS THE REGULATOR VALVE TO MAINTAIN A PRESSURE OF 18 - 22 PSI AT THE INLET VALVE.

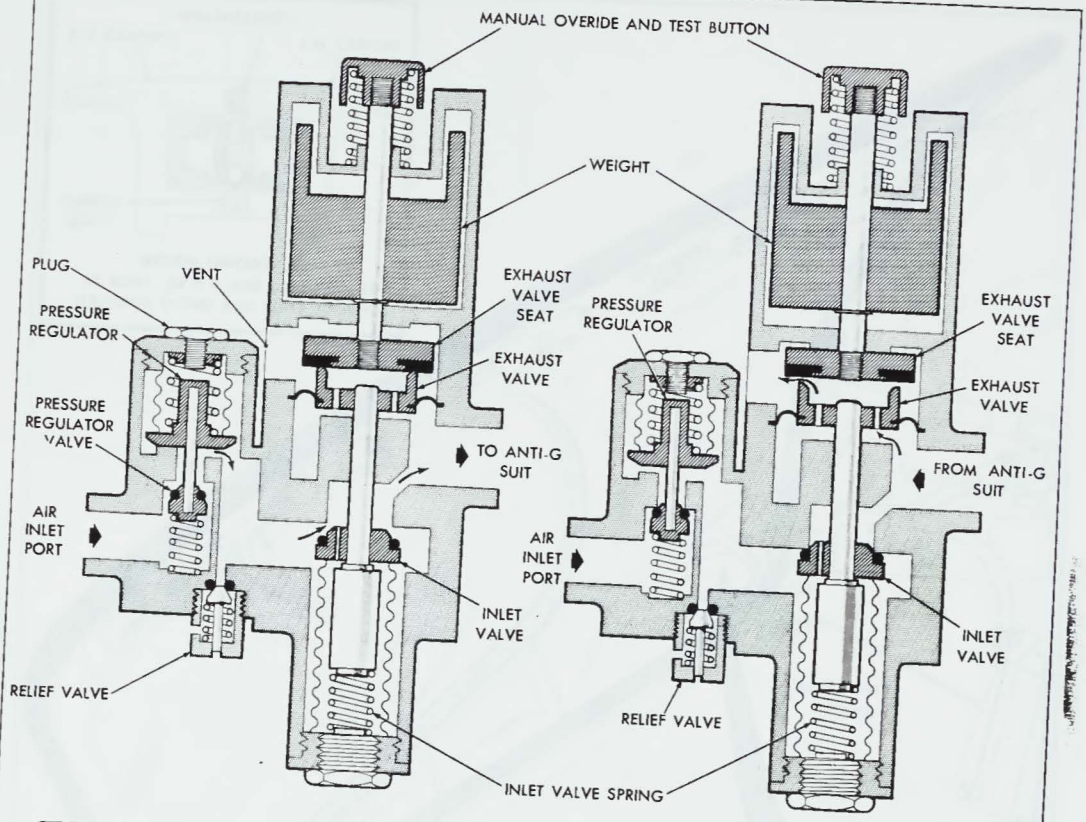
2. THE SOLENOID CONTROLS THE INLET VALVE AND THE PRESSURE RELIEF AND EXHAUST VALVE. WHEN THE SOLENOID IS ENERGIZED, THE INLET VALVE IS OPENED AND THE PRESSURE RELIEF AND EXHAUST VALVE IS CLOSED AND AIR PRESSURE IS DIRECTED TO THE SEALS. IN THE EVENT OF FAILURE OF THE PRESSURE REGULATOR, PRESSURE IN EXCESS OF 22 - 30 PSI TO THE SEALS LIFTS THE PRESSURE RELIEF AND EXHAUST VALVE TO VENT THE EXCESS PRESSURE TO ATMOSPHERE. WHEN THE SOLENOID IS DE-ENERGIZED THE INLET VALVE IS CLOSED AND THE PRESSURE RELIEF AND EXHAUST VALVE OPENED TO VENT THE PRESSURE FROM THE SEALS TO ATMOSPHERE.

3. THE NON-RETURN VALVE, MAINTAINS THE PRESSURE TO THE SEALS IN THE EVENT OF FAILURE OF THE AIR PRESSURE SUPPLY, UNTIL THE SOLENOID IS DE-ENERGIZED.

7M2-3305-1


OUTLET TO SUIT AND MASK
INJECTOR
INJECTOR BY-PASS RESTRICTOR
FLEXIBLE BOOT
DEMAND VALVE
OXYGEN INLET
RESTRICTORS
RELIEF VALVE
DIAPHRAGM
VENT VALVE
REGULATOR DIAPHRAGM
REGULATOR SPRING
DEMAND VALVE ACTUATING ARM
DEMAND VALVE SPRING
CAPSULE
CAPSULE CONTROLLED RESTRICTOR
FLOW TESTER
FLOW TEST RELIEF VALVE
FLOW TEST BUTTON
INLET PRESSURE
REFERENCE PRESSURE
SUIT AND MASK SUPPLY PRESSURE
REFERENCE FLOW TO ATMOSPHERE

7M2-3603-1



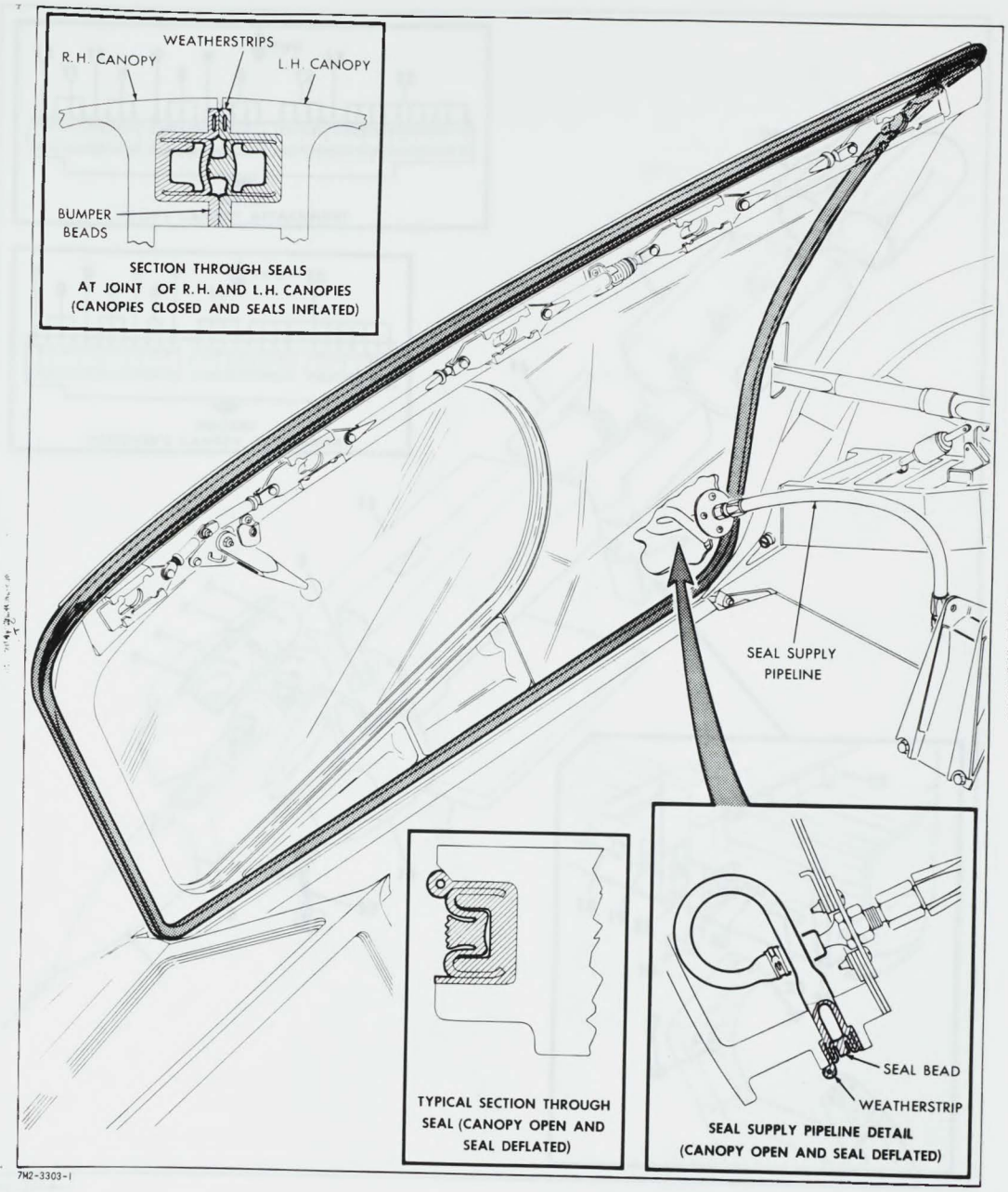
SUIT INFLATING

1. AIR ENTERS THE AIR INLET PORT AT A PRESSURE OF 18-85 PSIG AND FLOWS PAST THE PRESSURE REGULATOR VALVE. THE PRESSURE REGULATOR IS VENTED THROUGH THE SLACK THREAD OF THE PLUG AND MAINTAINS A PRESSURE OF 9-11 PSIG AT THE INLET VALVE.
2. WHEN A POSITIVE LOAD IN EXCESS OF 1.5-1.8G CAUSES THE WEIGHT TO DESCEND, THE EXHAUST VALVE CLOSES AND FORCES THE CENTRAL ROD DOWNWARDS, OPENING THE INLET VALVE. AIR FLOWS THROUGH THE INLET VALVE TO THE ANTI-G SUIT AND TO THE UNDERSIDE OF THE EXHAUST VALVE SEAT. THE G LOAD IMPOSED ON THE WEIGHT AND THE AIR PRESSURE ACTING ON THE UNDERSIDE OF THE EXHAUST VALVE SEAT, POSITION THE INLET VALVE TO SUPPLY THE ANTI-G SUIT WITH PRESSURE IN RATIO TO THE G LOADING.

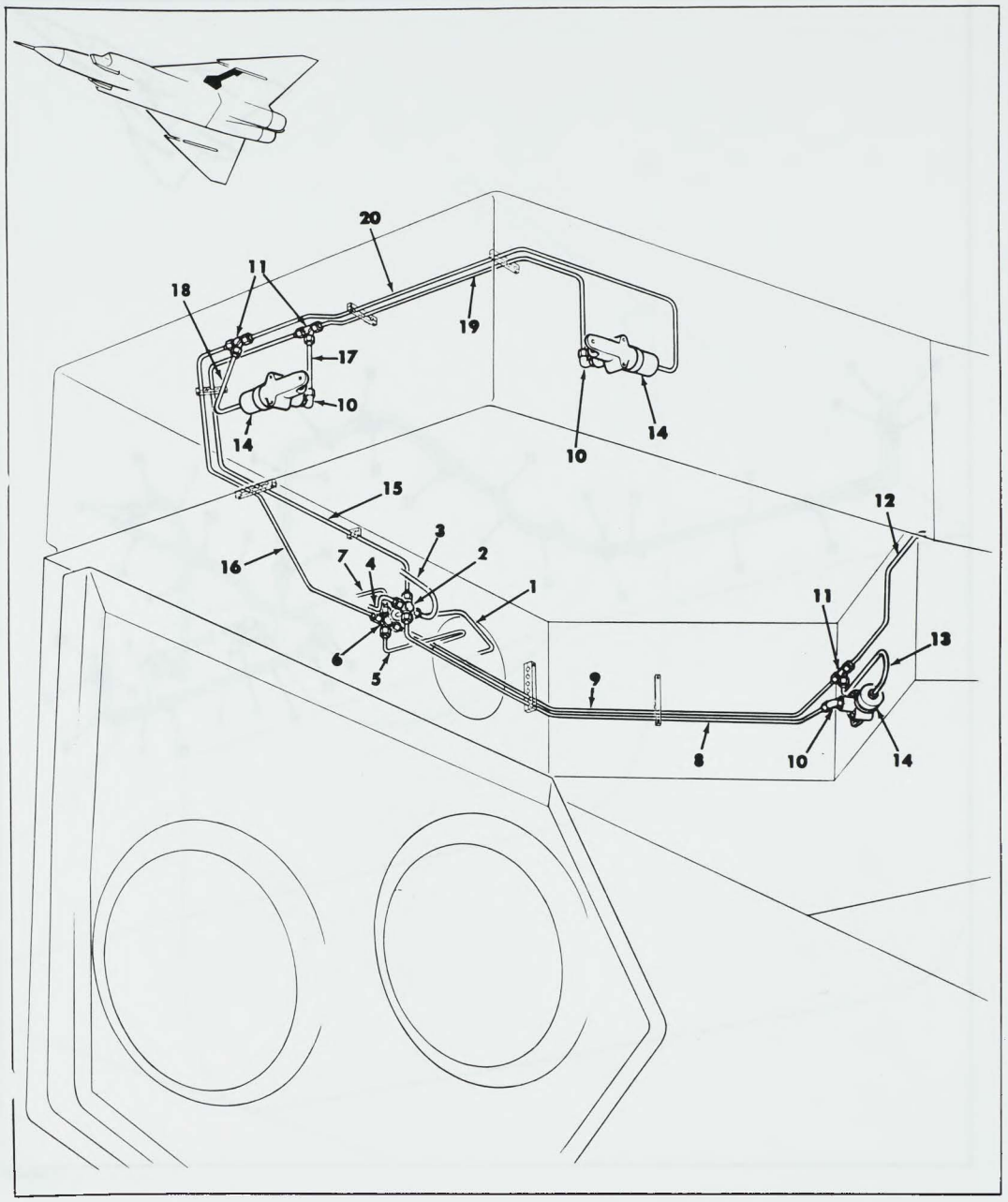
SUIT EXHAUSTING

3. WHEN THE G LOAD IS REMOVED, THE WEIGHT RISES UNDER THE ACTION OF THE INLET VALVE SPRING AND THE AIR PRESSURE ACTING ON THE UNDERSIDE OF THE EXHAUST VALVE SEAT. THIS ACTION CLOSES THE INLET VALVE, WHICH SHUTS OFF THE AIR SUPPLY TO THE SUIT AND OPENS THE EXHAUST VALVE. THE ANTI-G SUIT IS VENTED TO ATMOSPHERE THROUGH THE OPEN EXHAUST VALVE.
4. THE RELIEF VALVE RELIEVES EXCESS PRESSURE WITHIN THE VALVE IN THE EVENT OF FAILURE OF THE PRESSURE REGULATOR.

7H2-3304-1


WEATHERSTRIPS
R.H. CANOPY
L.H. CANOPY
BUMPER BEADS
SECTION THROUGH SEALS AT JOINT OF R.H. AND L.H. CANOPIES (CANOPIES CLOSED AND SEALS INFLATED)
SEAL SUPPLY PIPELINE
TYPICAL SECTION THROUGH SEAL (CANOPY OPEN AND SEAL DEFLATED)
SEAL BEAD
WEATHERSTRIP
SEAL SUPPLY PIPELINE DETAIL (CANOPY OPEN AND SEAL DEFLATED)

7M2-3303-1



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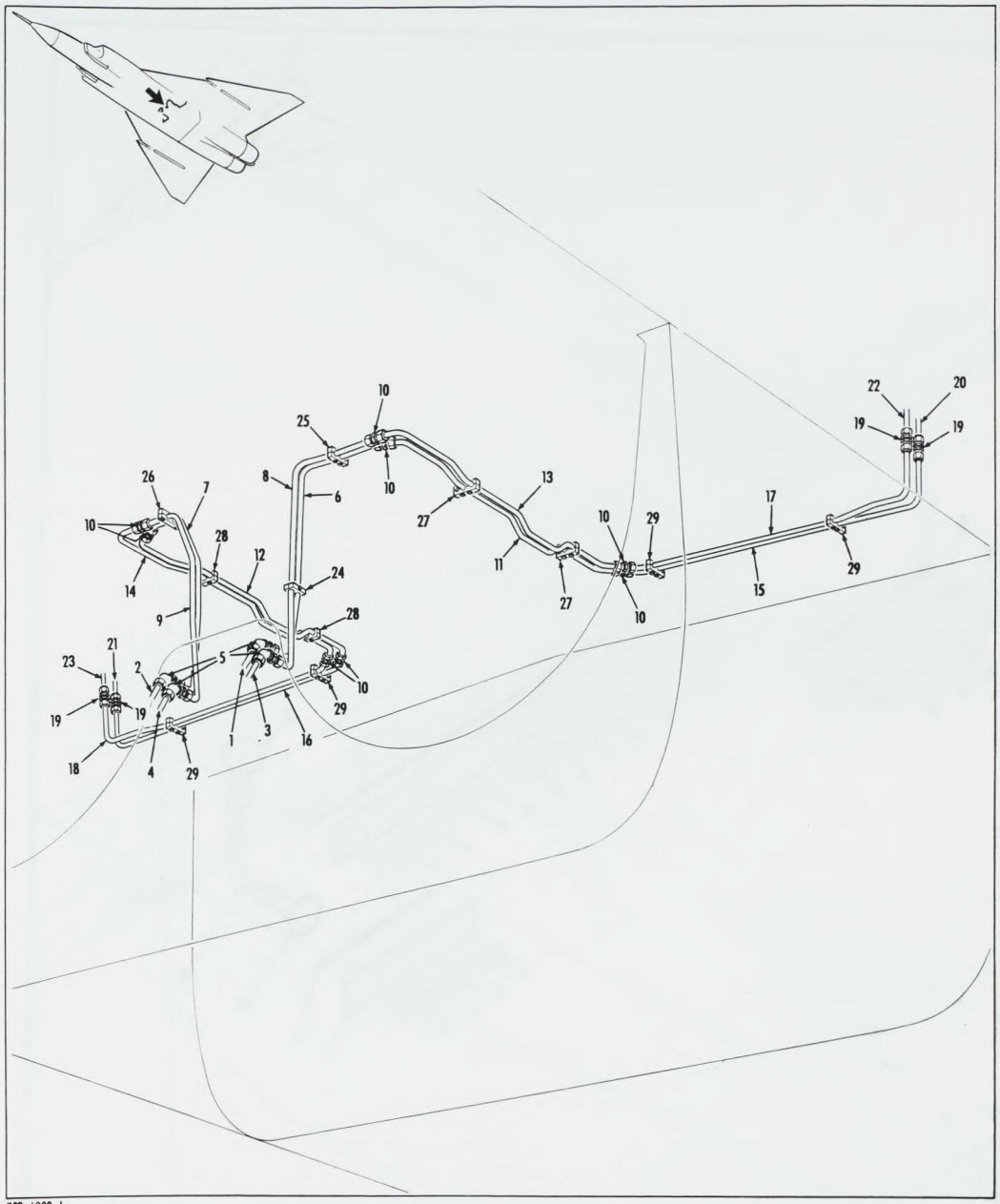
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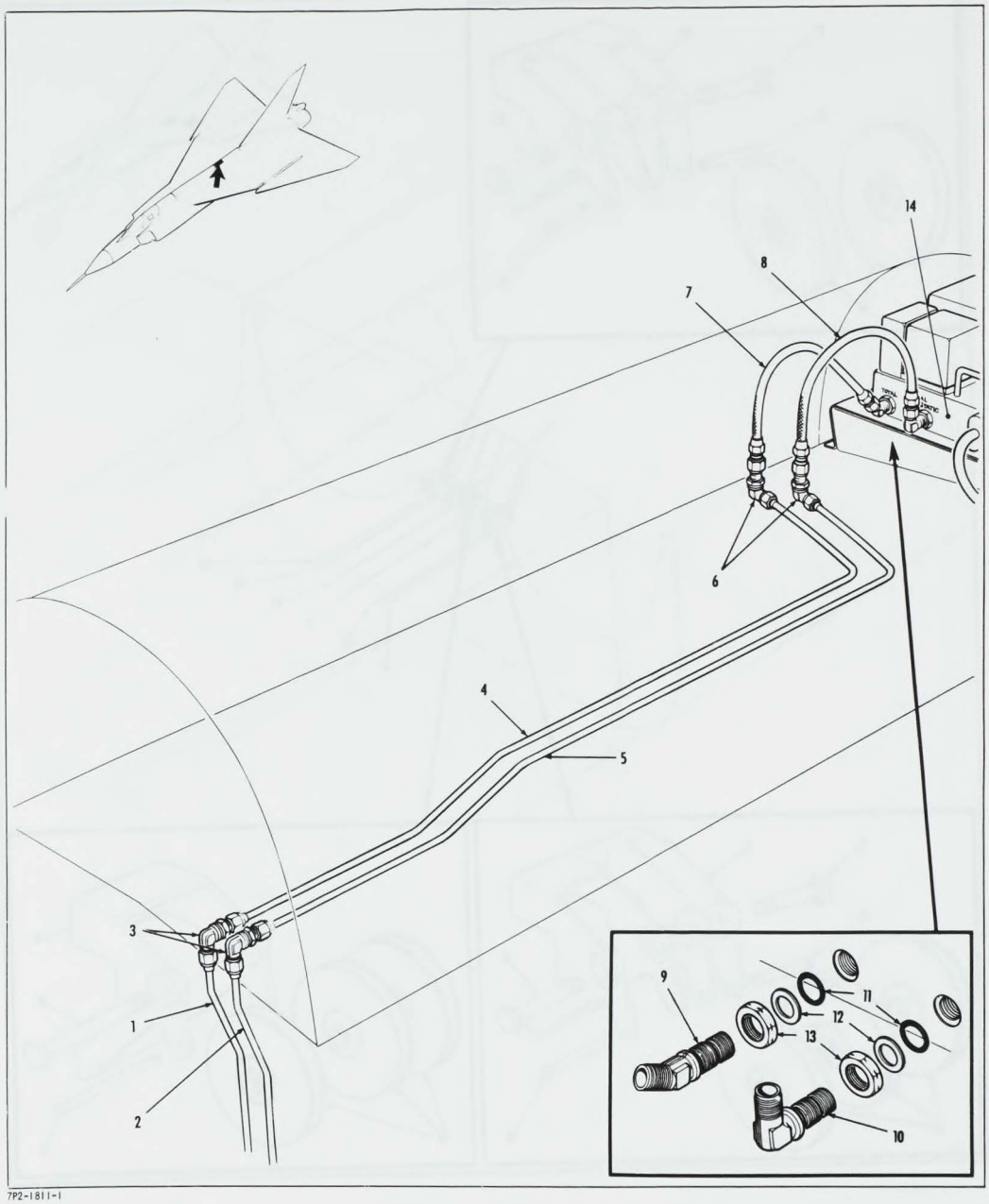
7P2-1902-1



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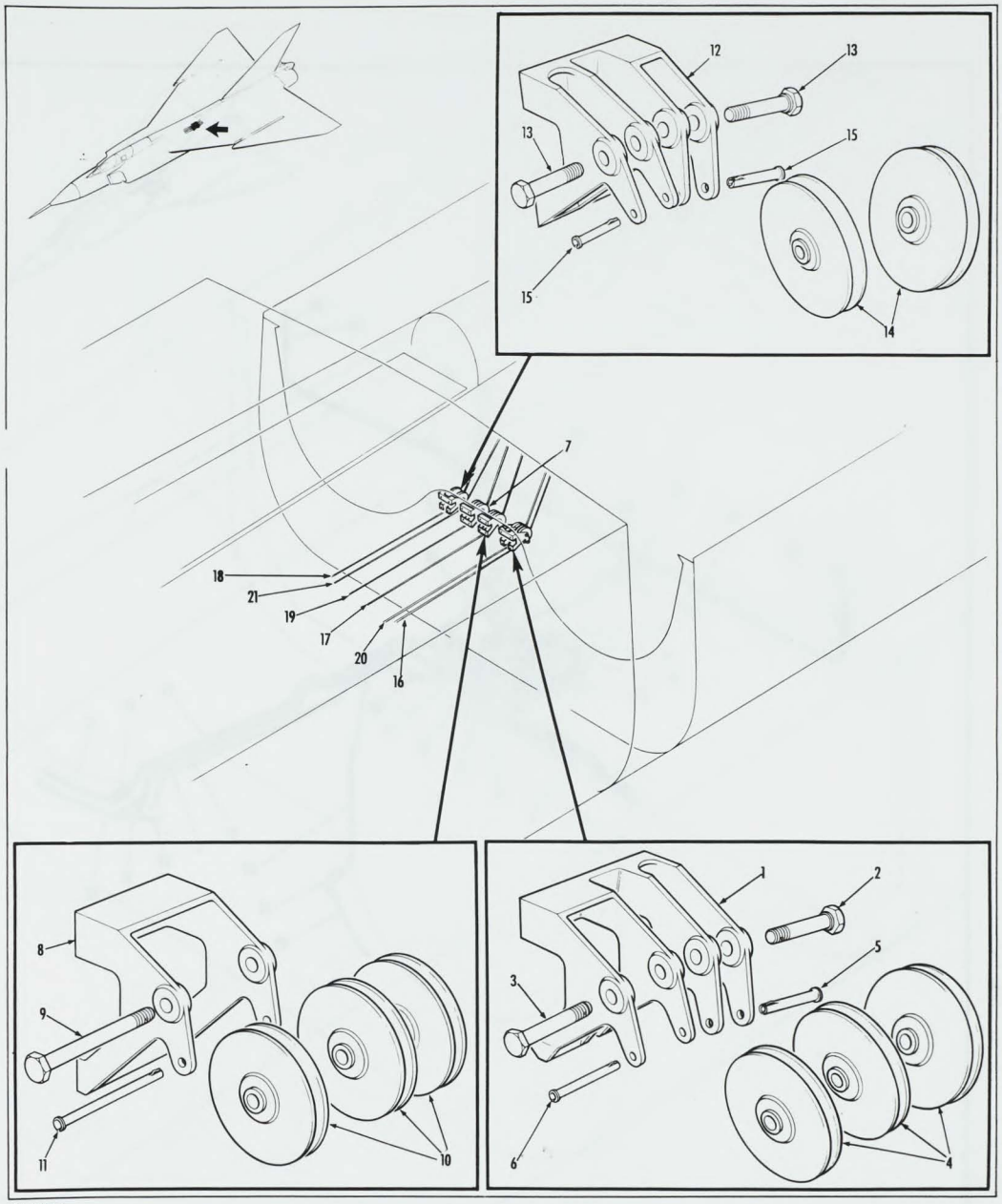

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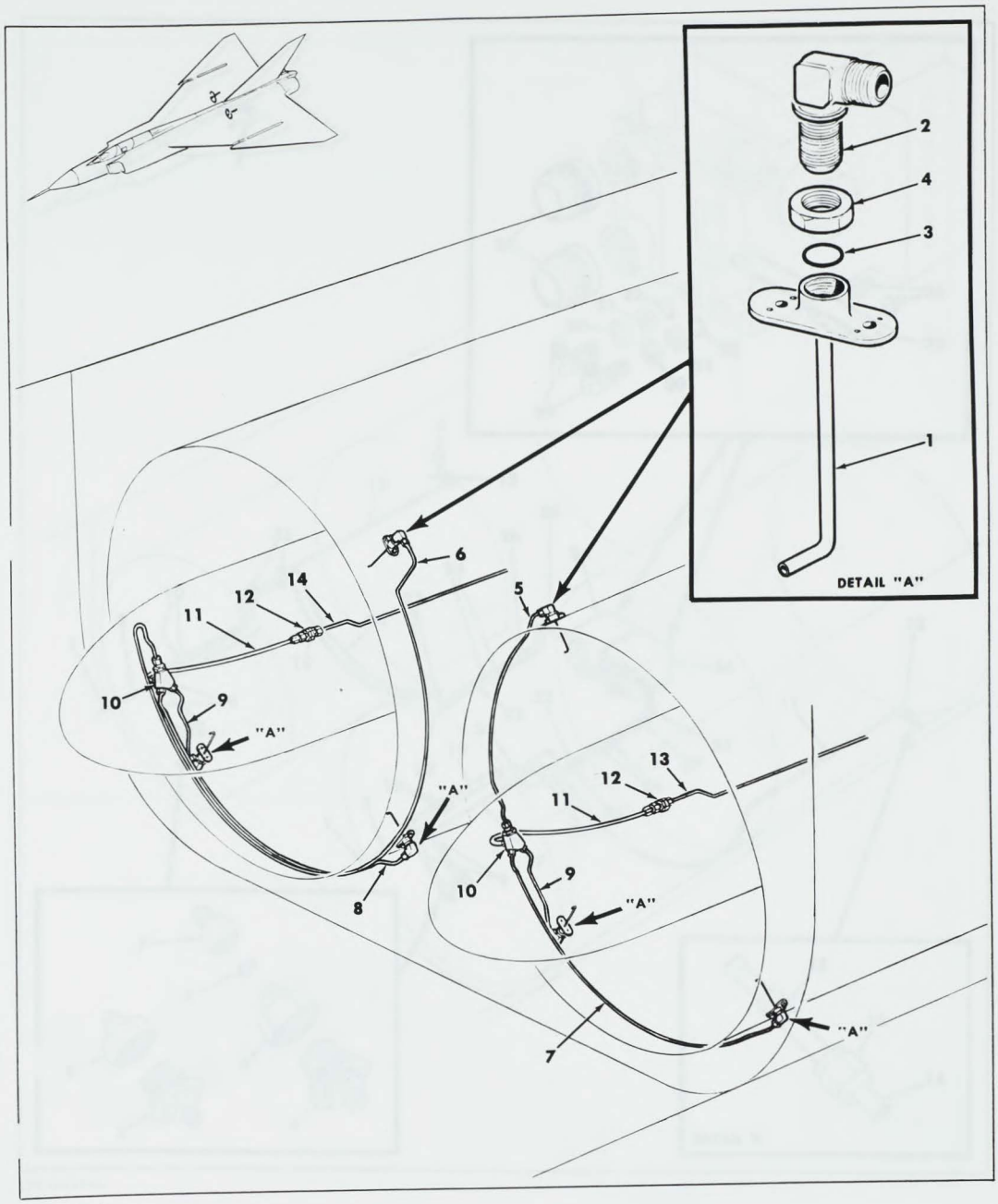

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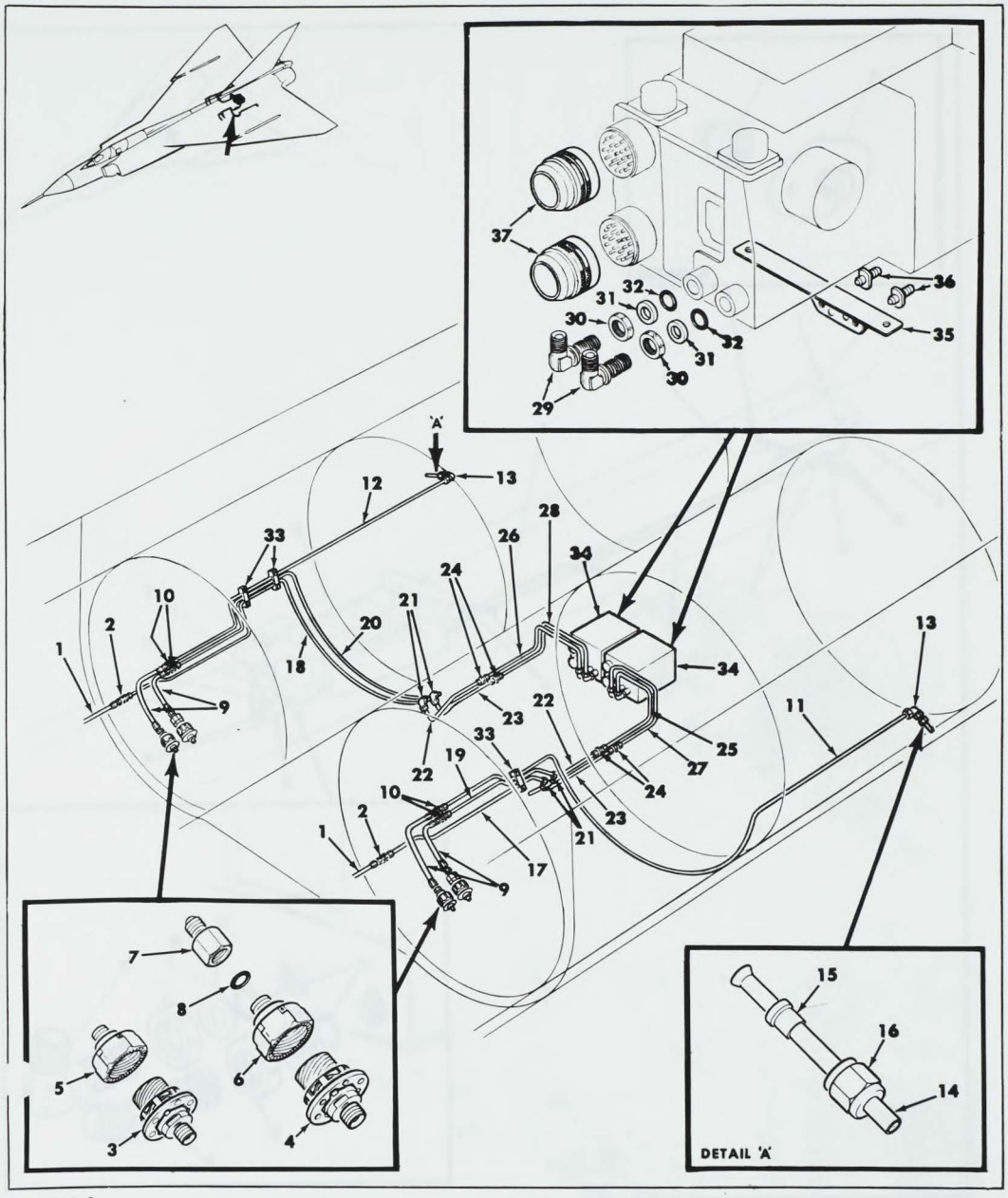
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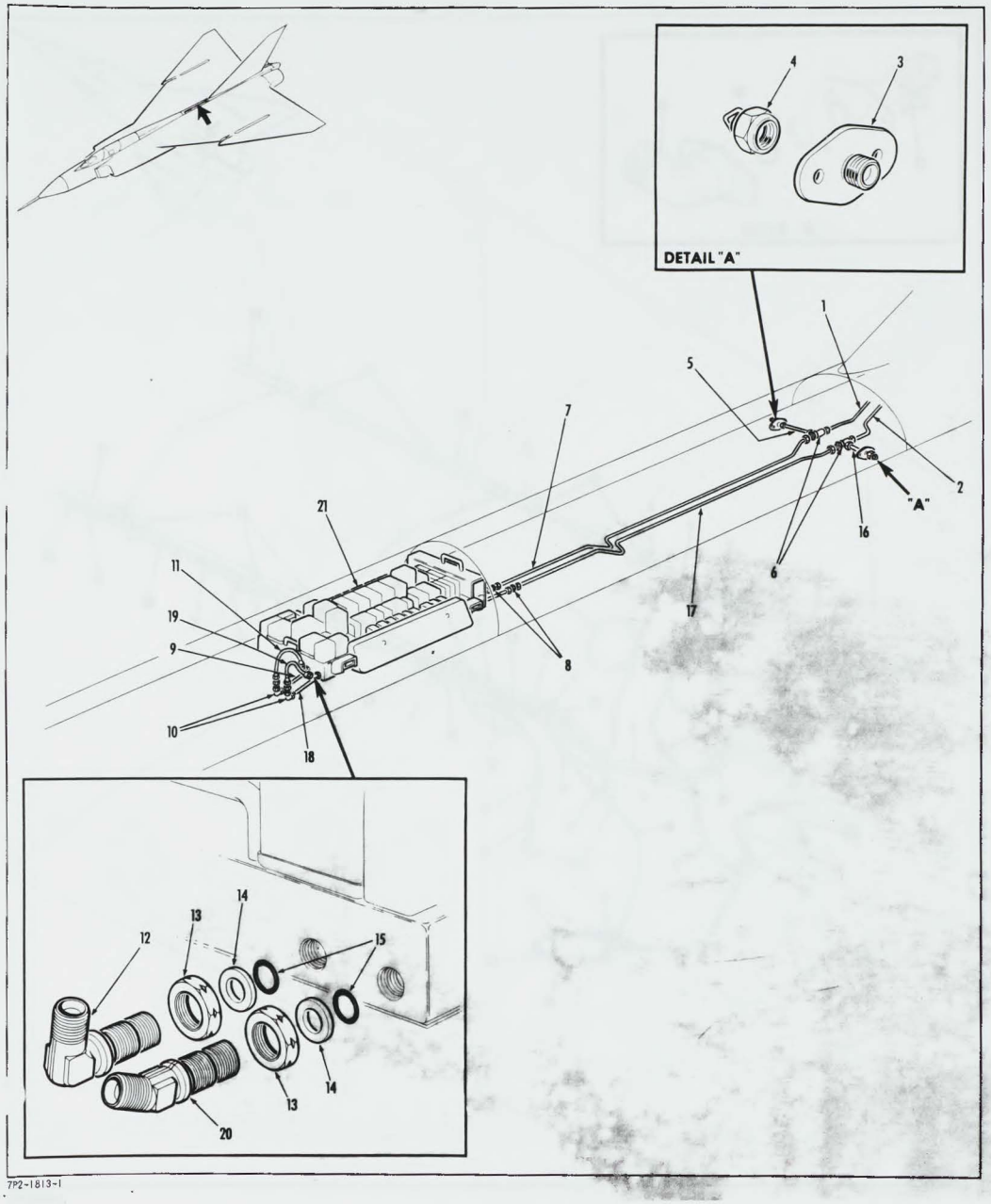
DETAIL 'A'

7P2-1815-1



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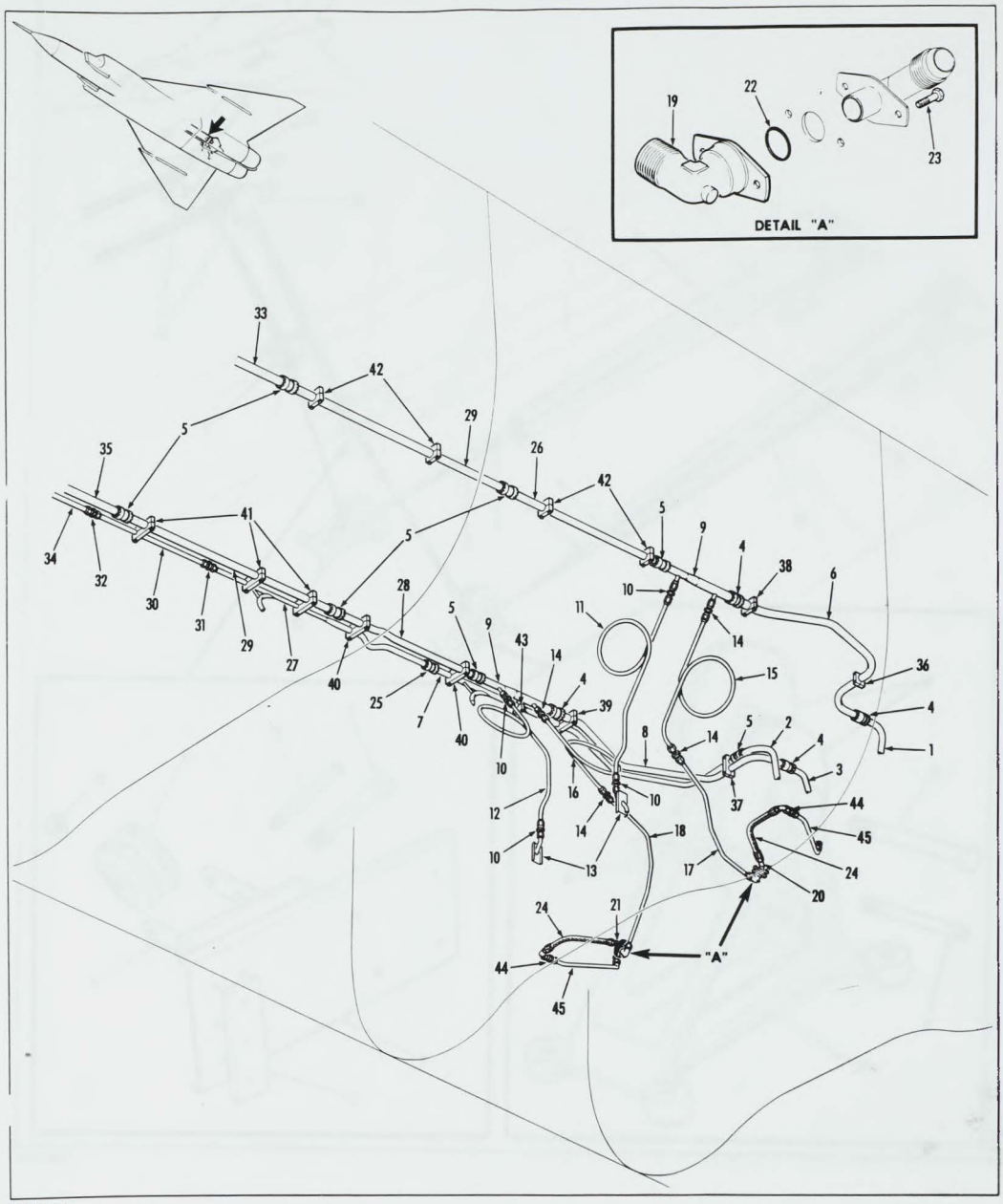

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