

SKYLAB
EXPERIMENT BRIEFING

T020 FOOT CONTROLLED MANEUVERING UNIT

Instructor
M. Tanner

SKYLAB CREW PREFLIGHT TRAINING

FOR TRAINING PURPOSES ONLY

MARTIN MARIETTA

DENVER DIVISION

T020 Experiment Objectives....

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OBJECTIVES....

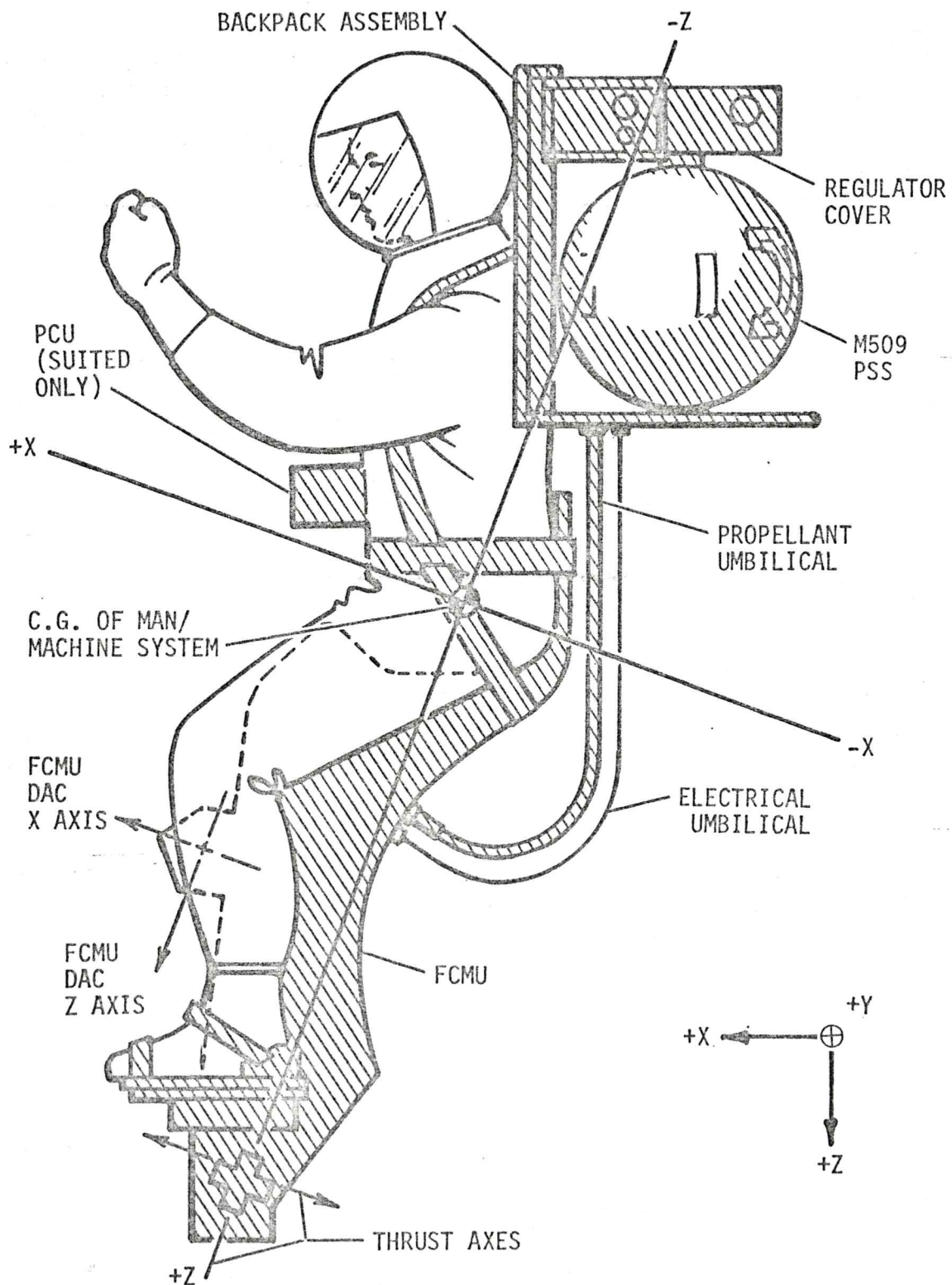
1. EVALUATE THE ABILITY OF THE ASTRONAUTS TO USE THE FOOT CONTROLLED MANEUVERING UNIT FOR:
 - a. ATTITUDE CONTROL
 - b. GROSS MANEUVERING
 - c. PRECISE MANEUVERING
2. DETERMINE THE FEASIBILITY OF APPLYING THE FCMU CONCEPT TO EXTRAVEHICULAR LOCOMOTION IN FUTURE SPACE OPERATIONS AND OBTAIN INFORMATION THAT IS NECESSARY FOR THE DESIGN OF AN OPERATIONAL FCMU.
3. CORRELATE THE FLIGHT EXPERIMENT WITH GROUND SIMULATORS SUCH AS THREE AND SIX DEGREES OF FREEDOM SIMULATORS.

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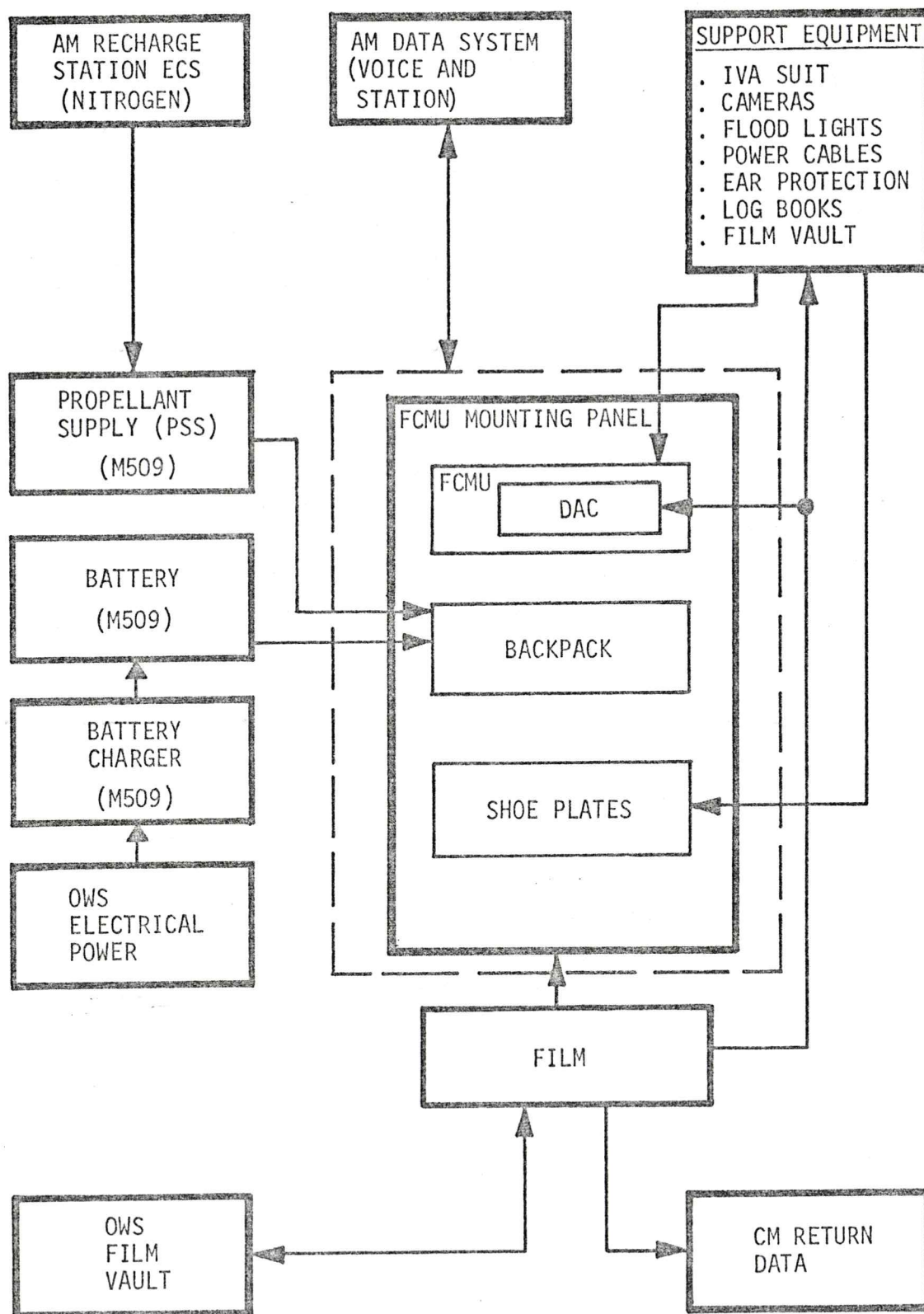
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T020 OPERATIONAL CONFIGURATION



TO20 - INTERFACE SCHEMATIC



Support/Ancillary Equipment....

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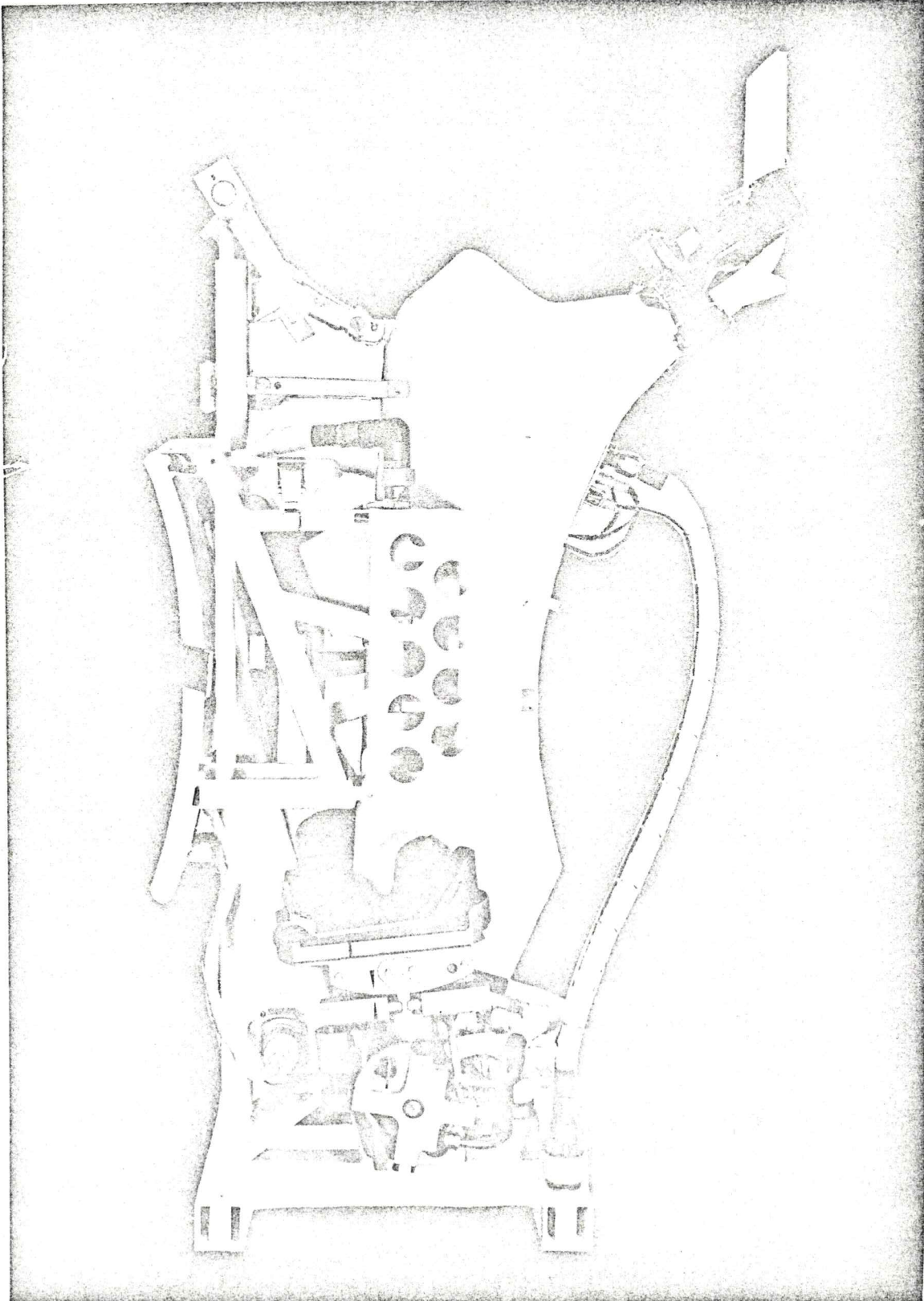
Experiment T020 is dependent on Experiment M509 to provide a rechargeable battery and a propellant supply subsystem. Both components mount on the T020 backpack. Additional support equipment is listed as follows:

- Shirtsleeve garment assembly.
- Skylab extravehicular mobility unit (EMU) and associated equipment (with IVA gloves)
- Life support umbilical (60 feet)
- Bump protection hat
- Molded ear pieces and universal eartubes (3 pr.)
- M509 propellant supply subsystem (3)
- M509 battery (2)
- Camera, 16mm DAC (2)
- 5mm lens for OWS forward dome DAC
- 18mm lens for FCMU DAC (without right angle mirror adapter ring)
- DAC power and remote cables
- One - 400 ft., 16mm film cassette and six 140 ft. 16mm magazines
- DAC transport mechanism
- High intensity lights (2) and power cables
- Spotmeter and battery
- Hasselblad data camera 80mm lens, and 10 frames of 70mm film
- Universal mounts (3)
- Communications carrier (3)

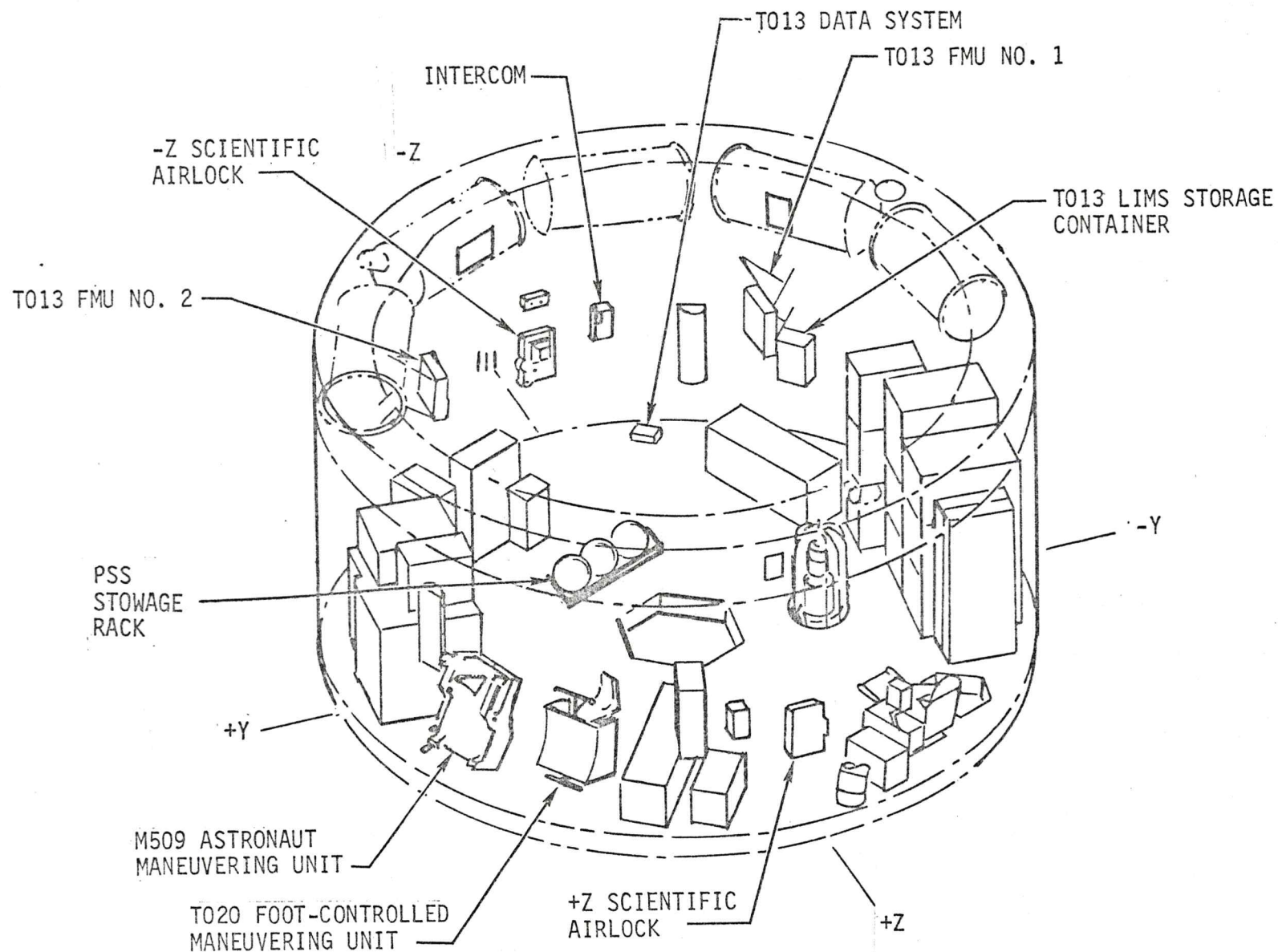
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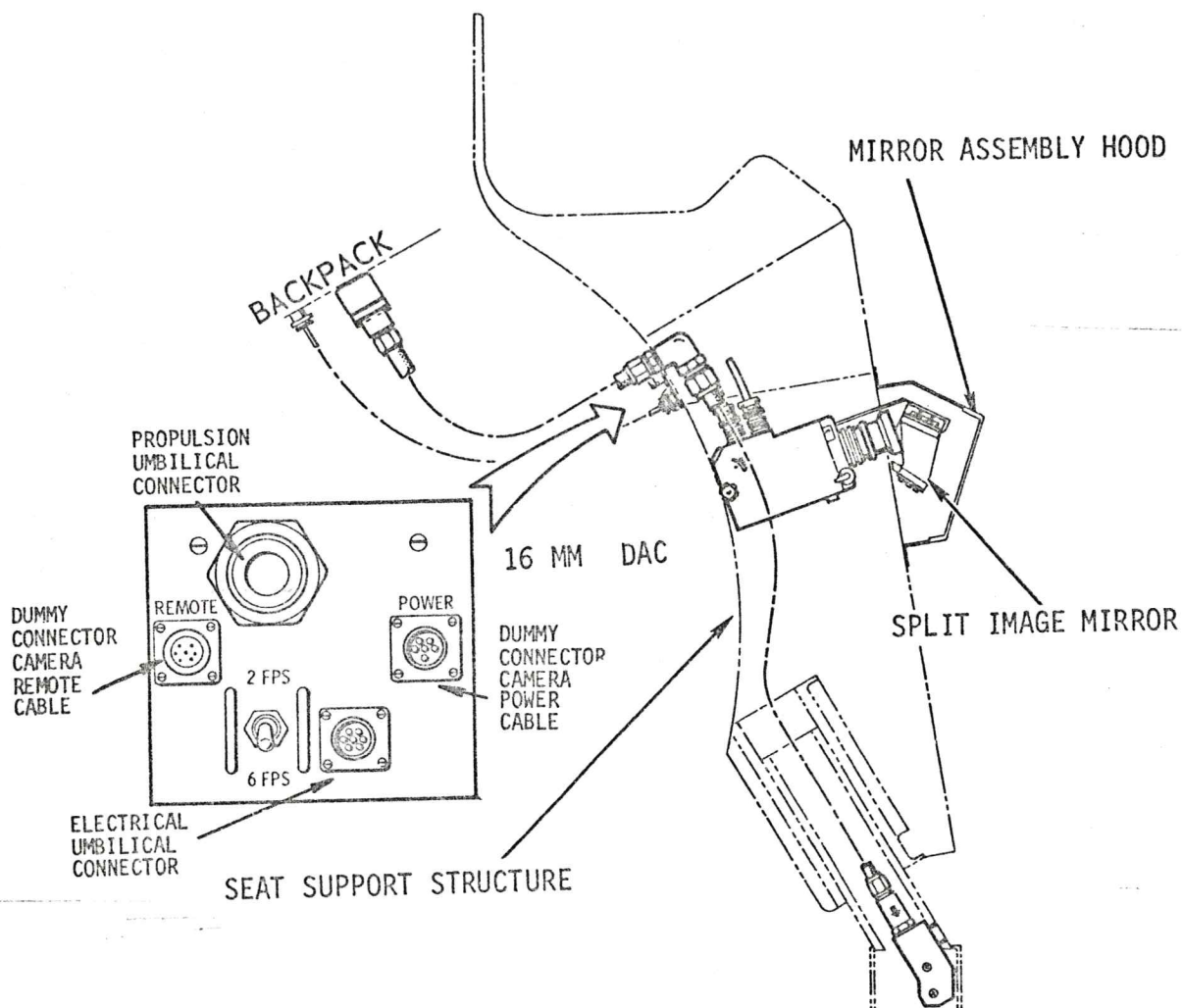
EXPERIMENT T013, T020 & M509 HARDWARE LOCATION



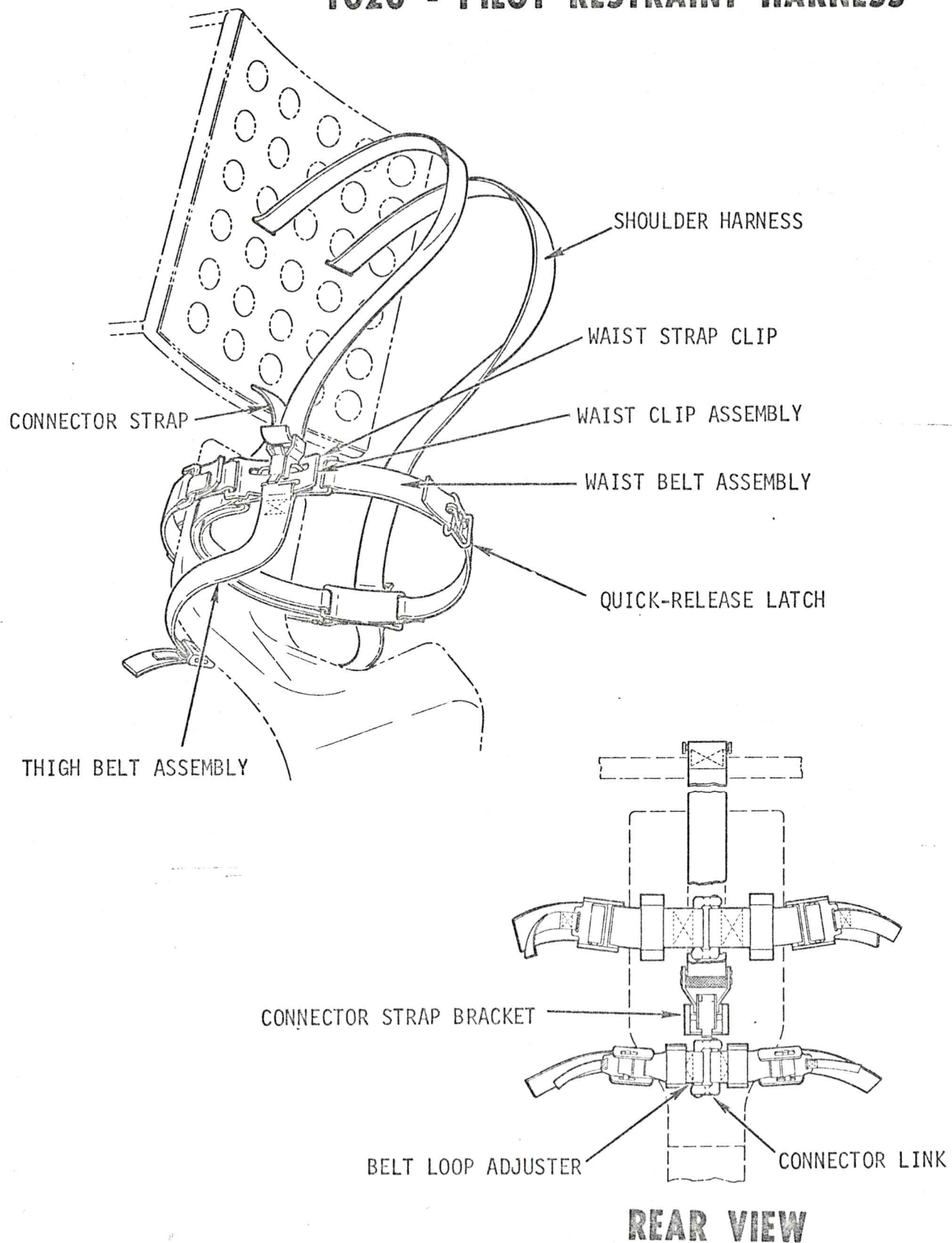
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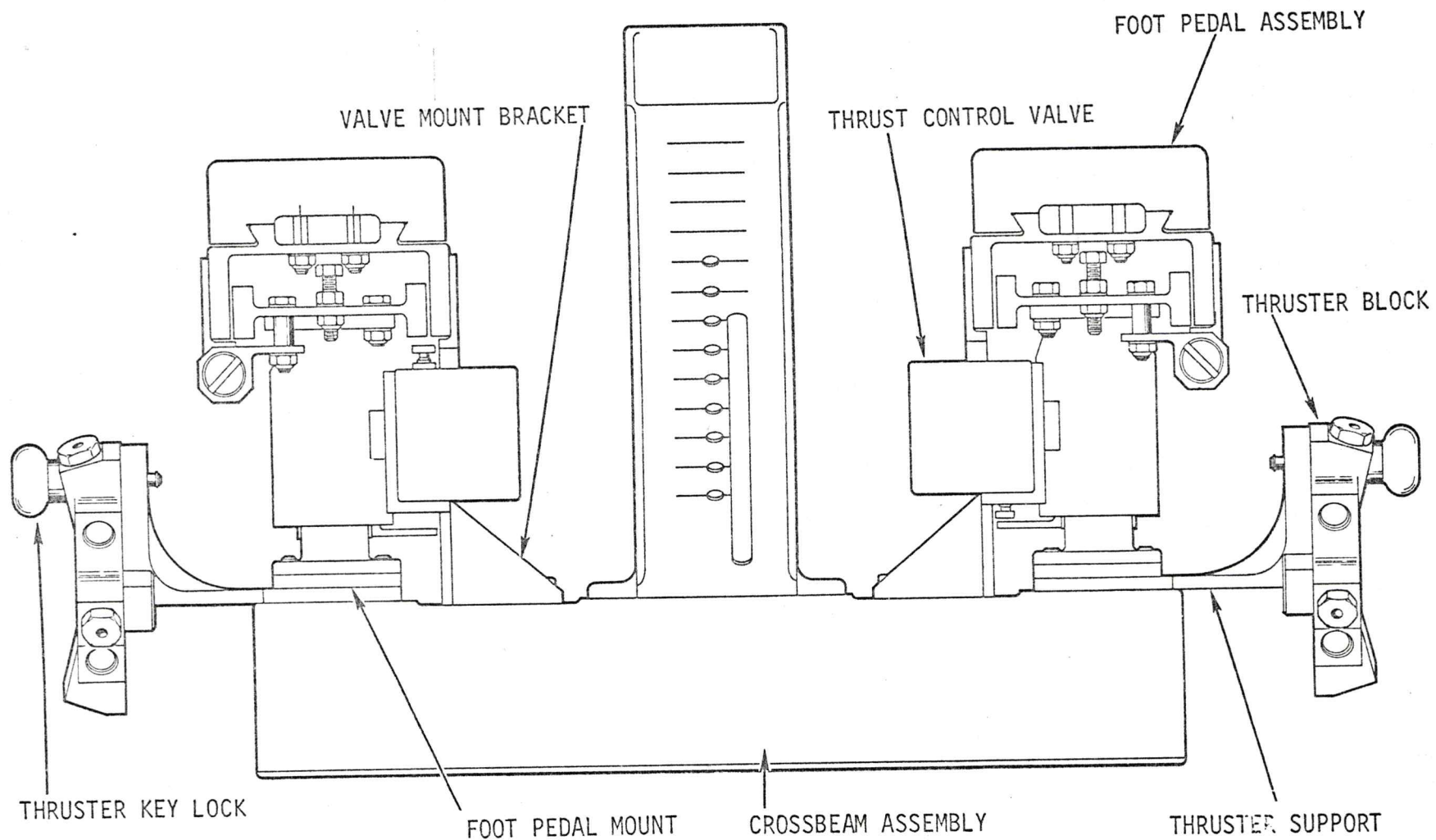
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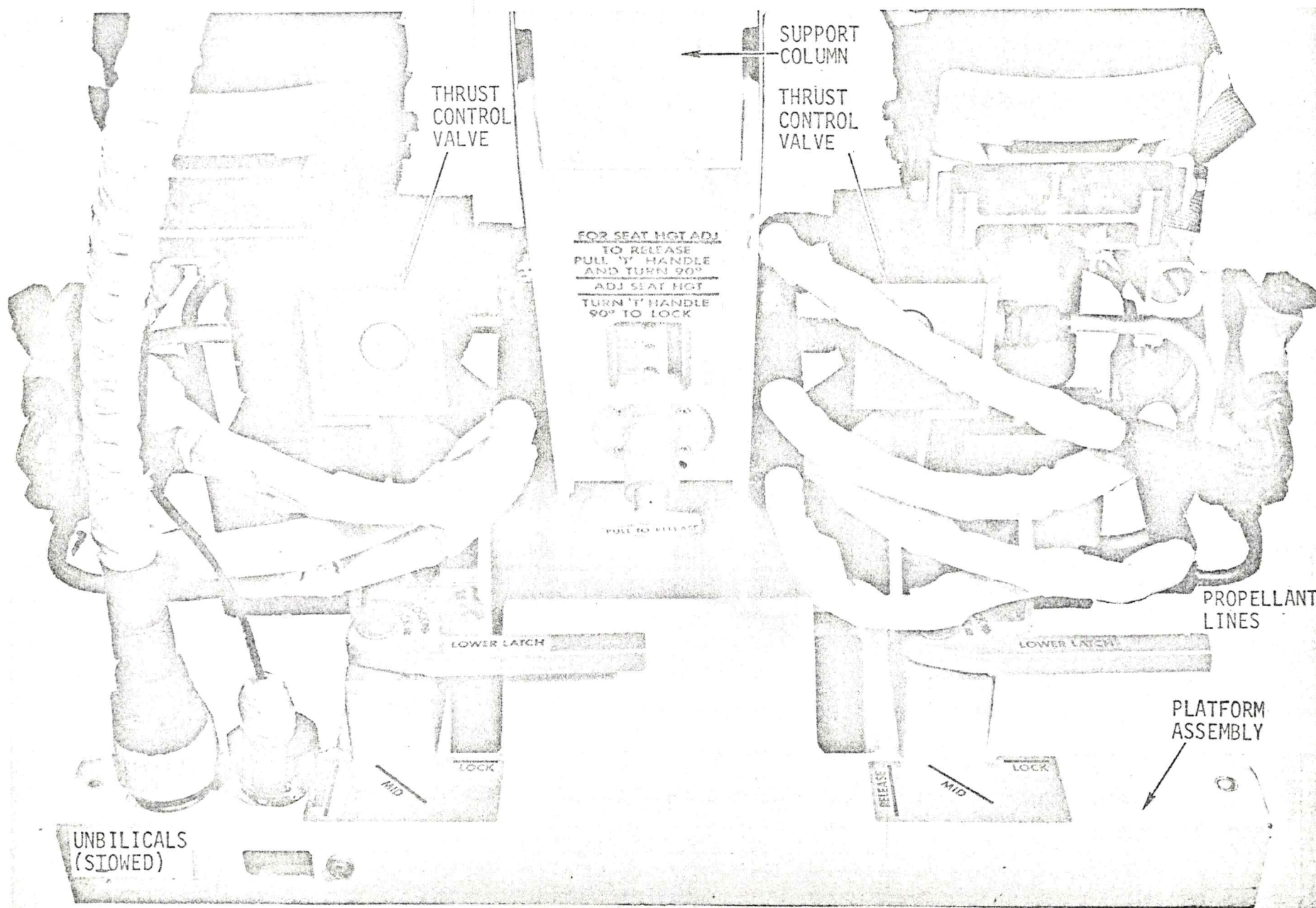


T020 - PILOT RESTRAINT HARNESS

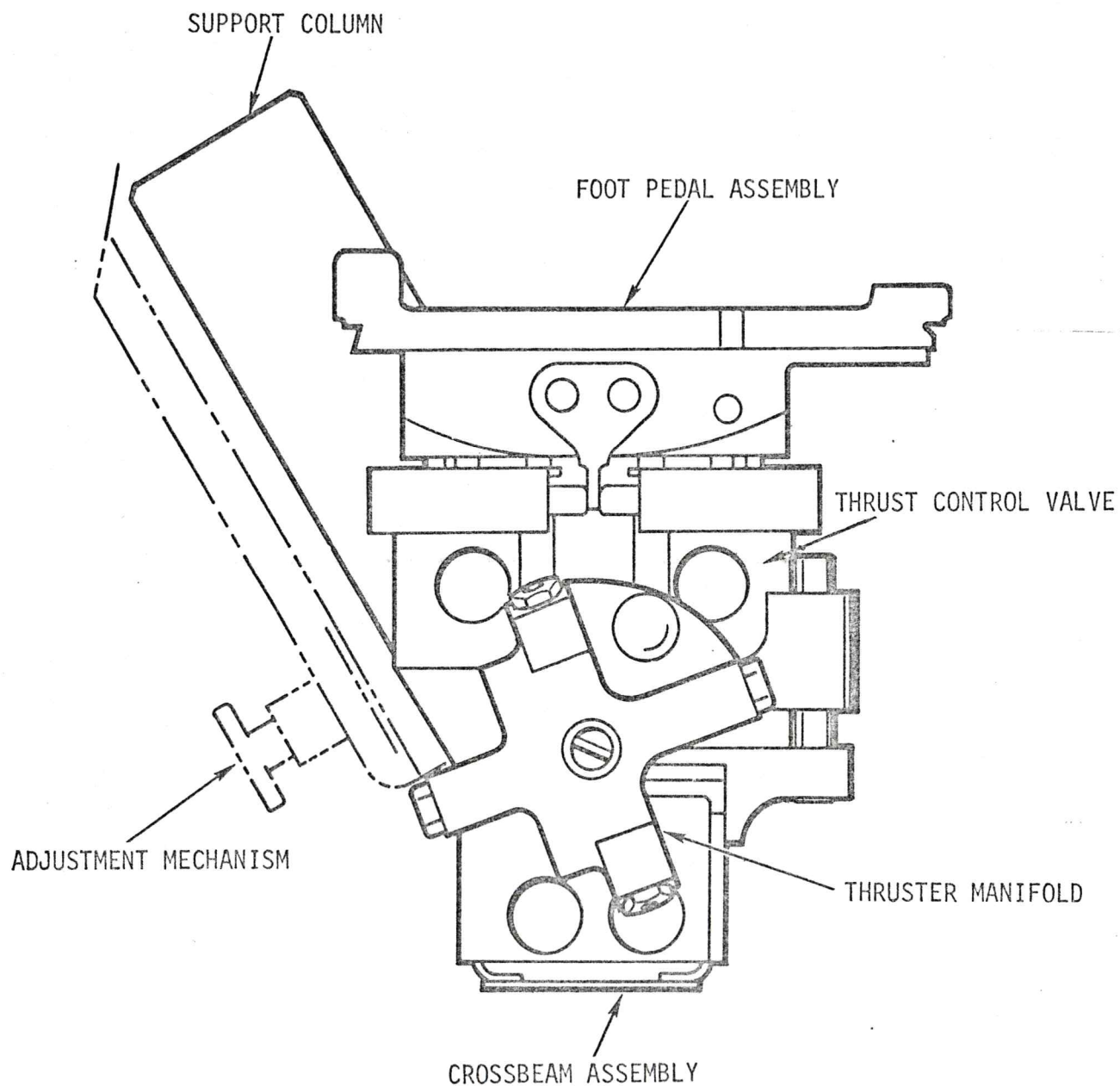


T020 - PLATFORM ASSEMBLY - REAR VIEW





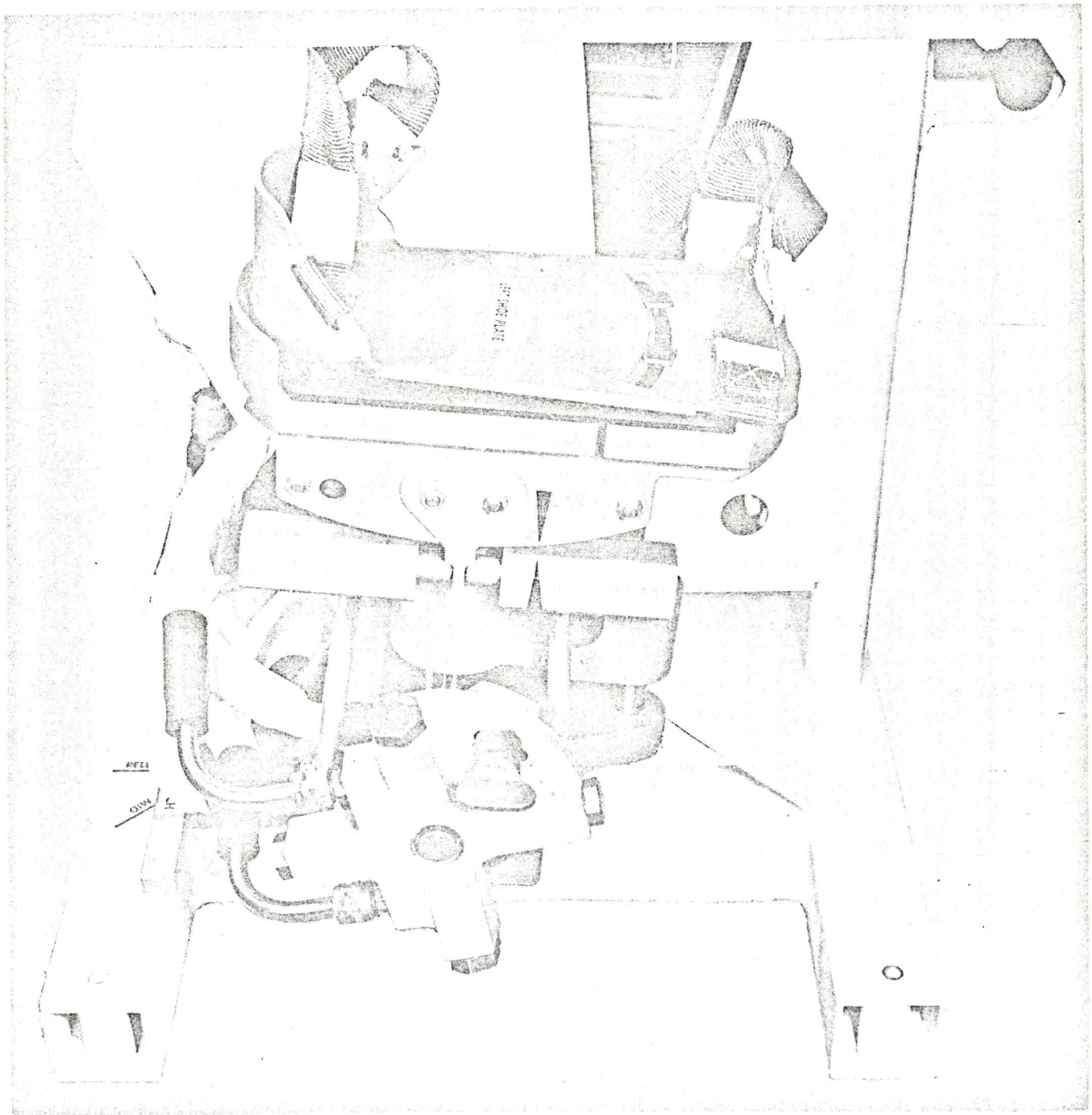
TO20 - PLATFORM ASSEMBLY - SIDE VIEW



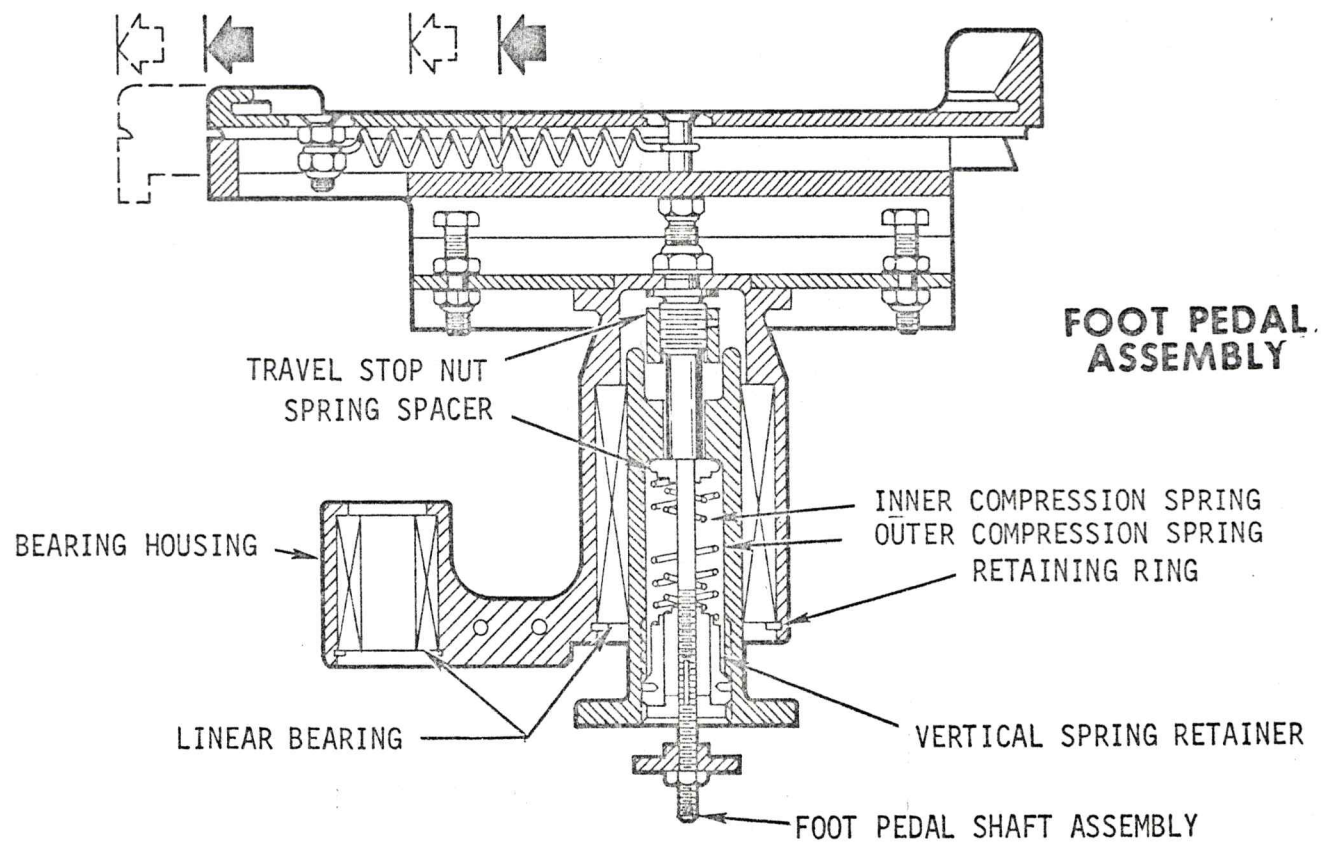
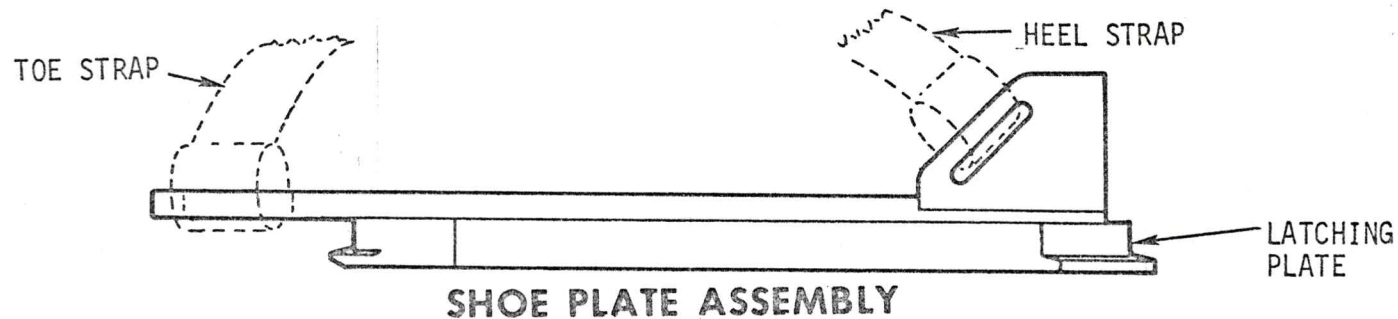
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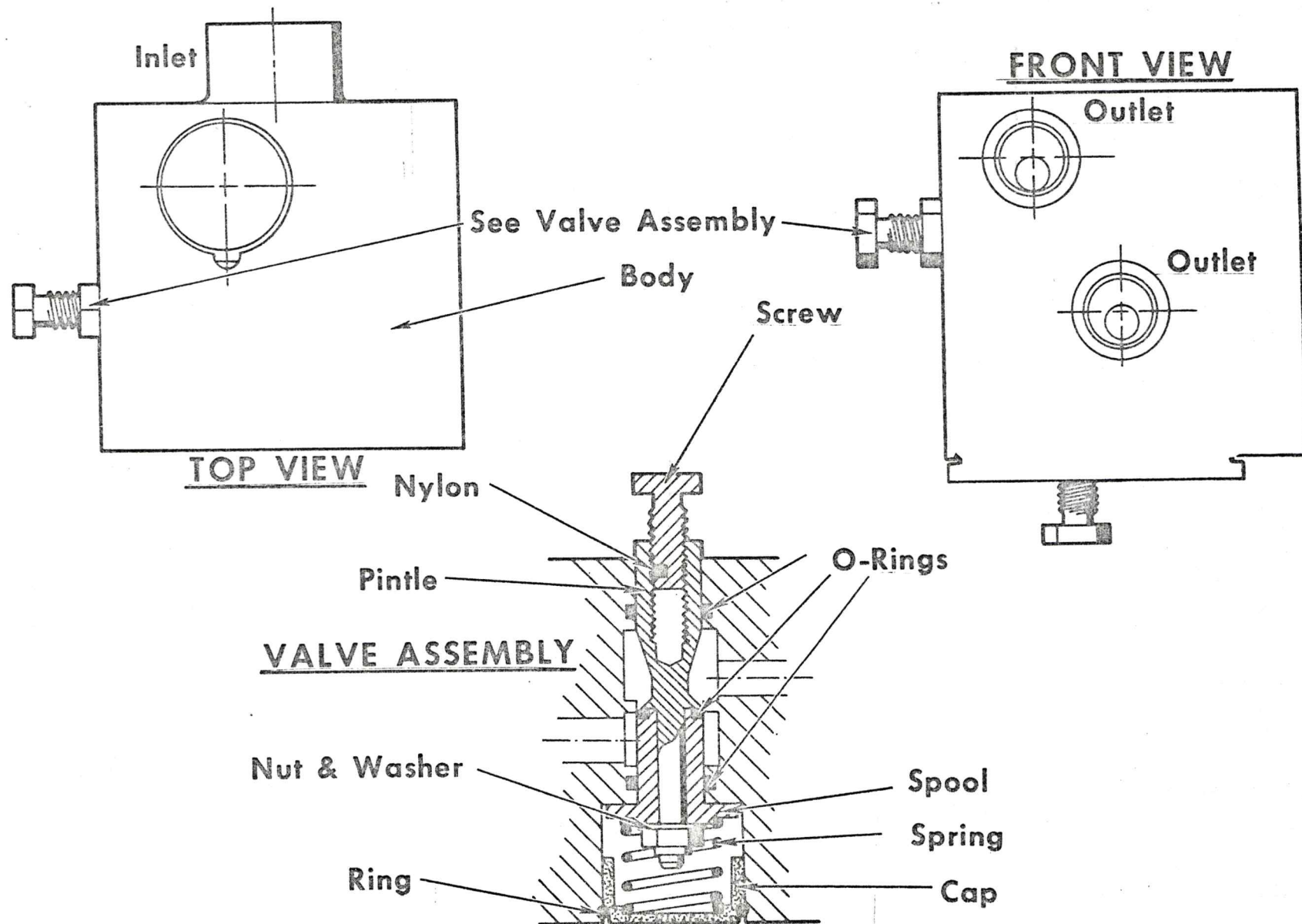
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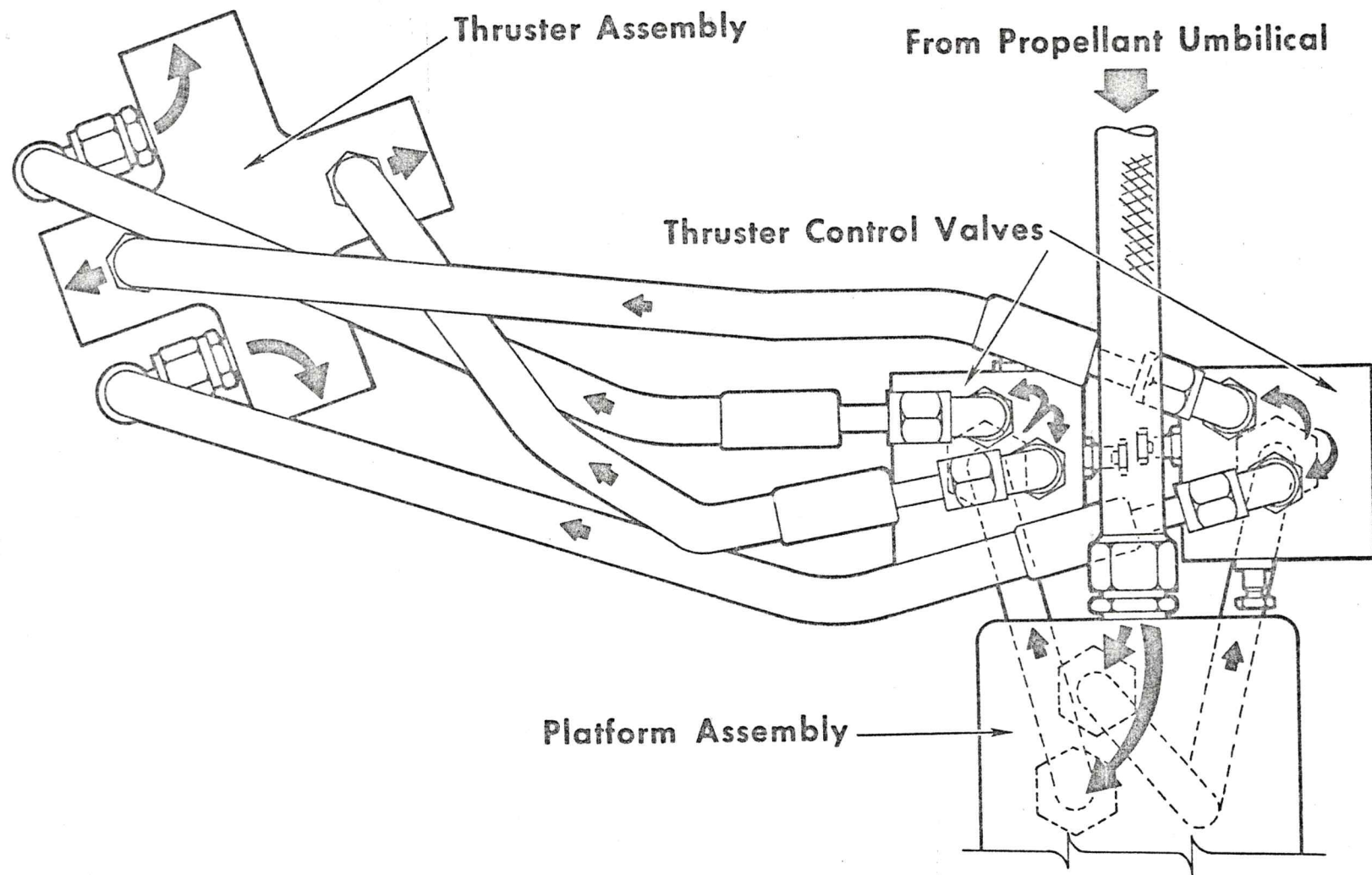
T020 - SHOE PLATE AND FOOT PEDAL ASSEMBLIES



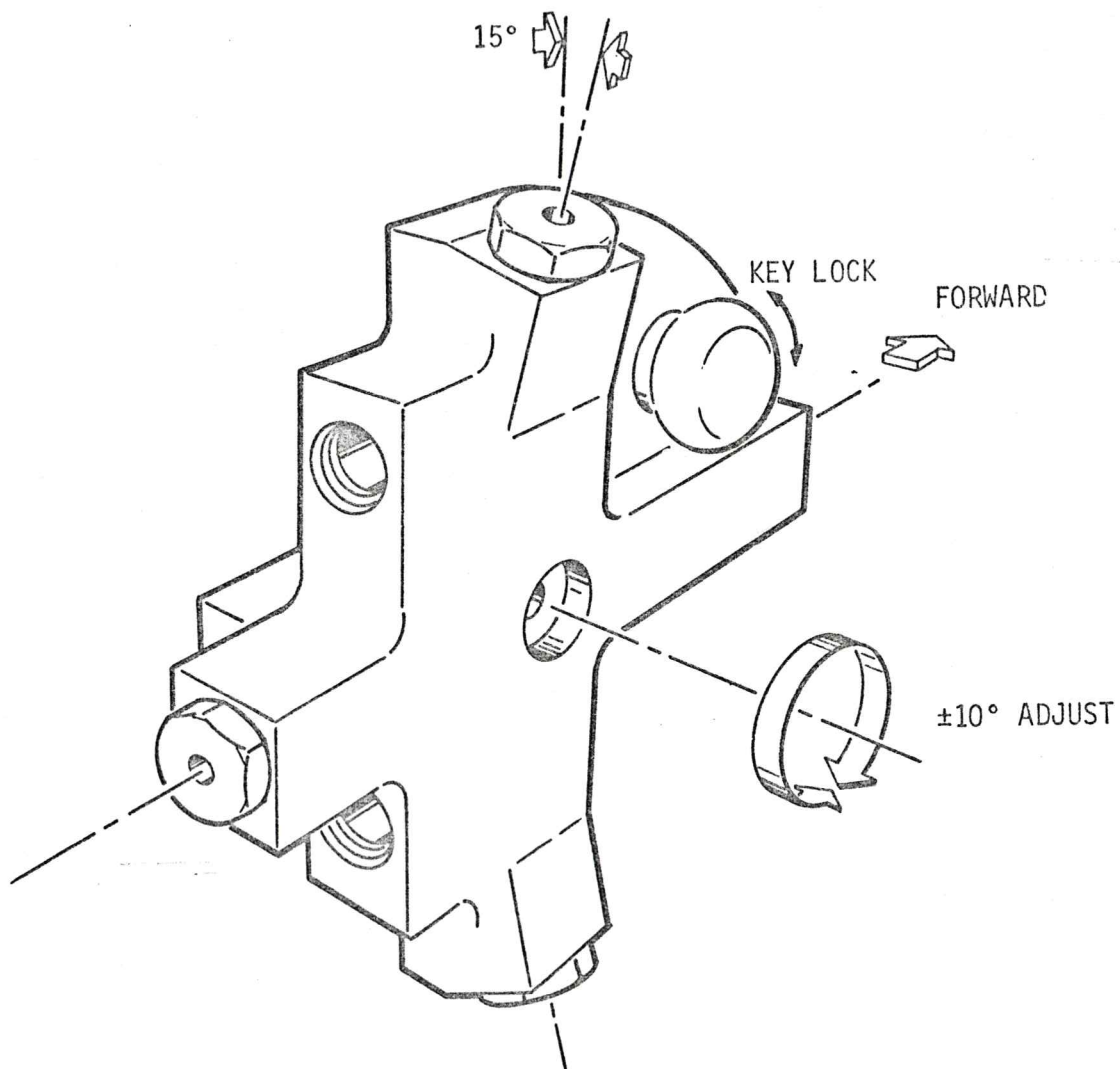
FCMU Valve Thruster Assembly....



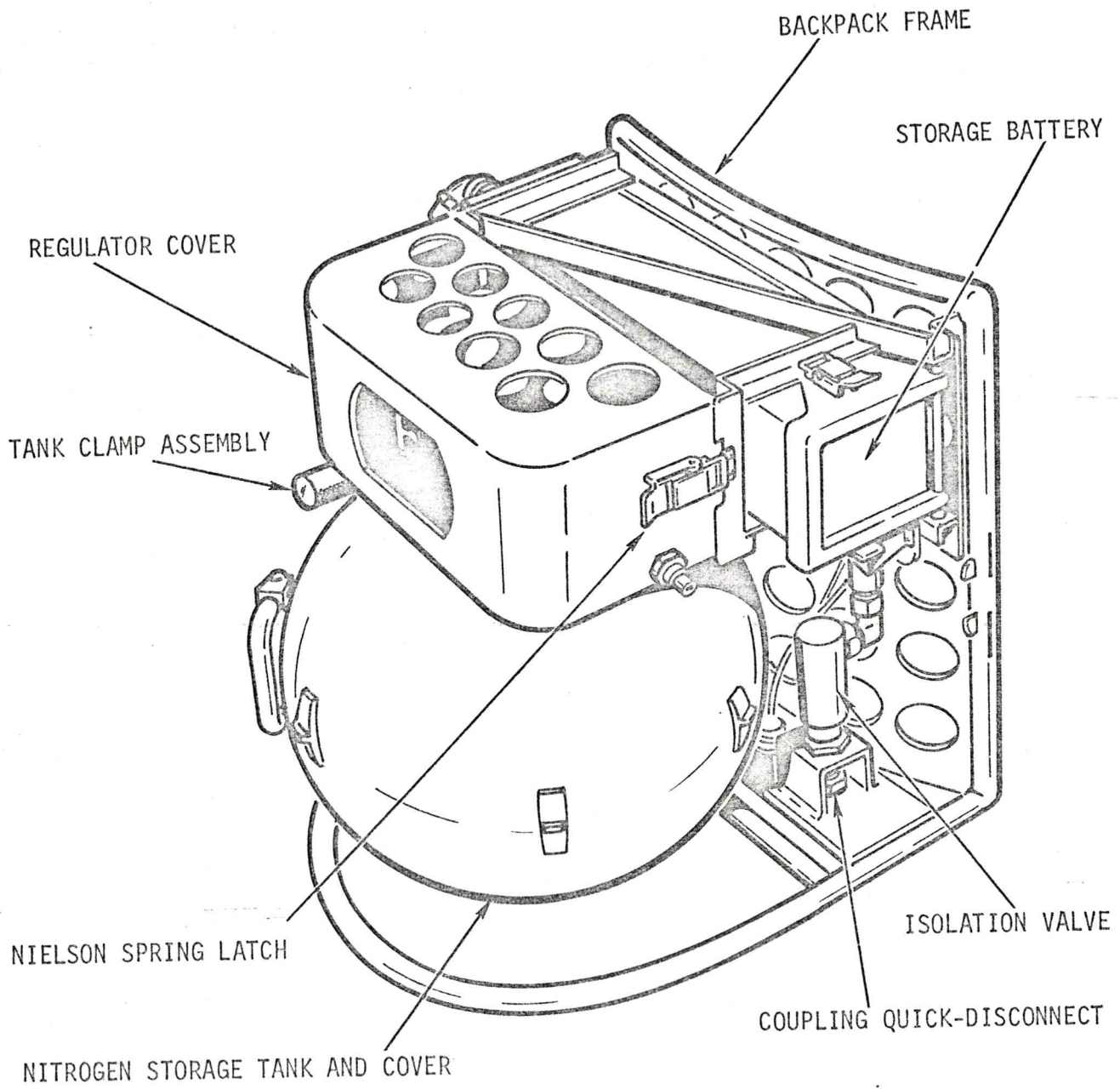
Propellant System



T020 - THRUSTER ORIENTATION - RIGHT SIDE



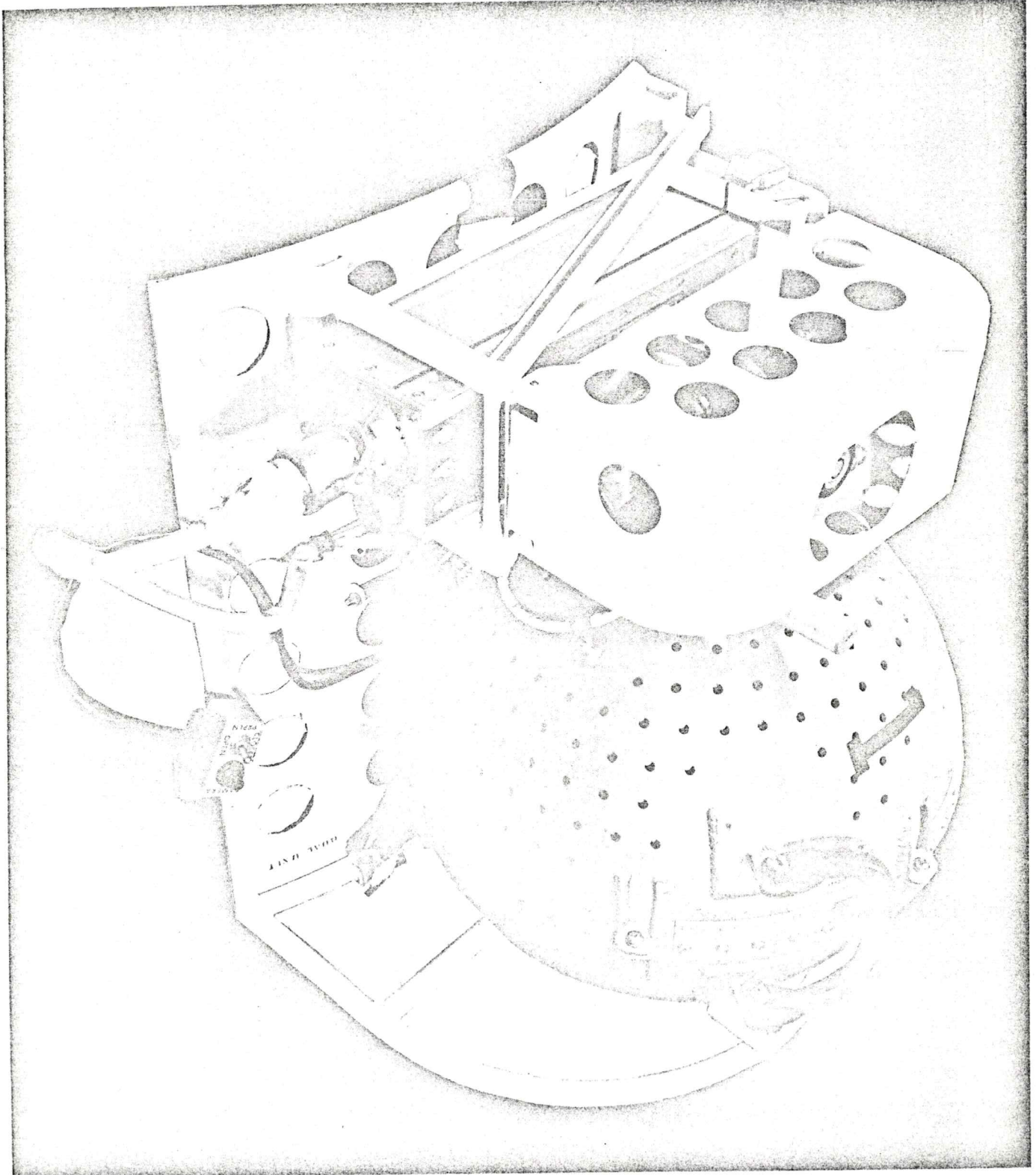
T020 - BACKPACK ASSEMBLY

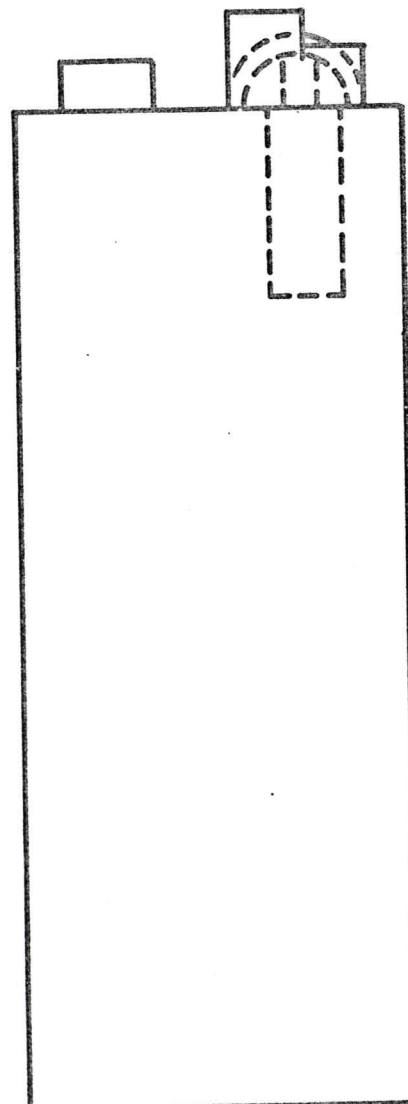
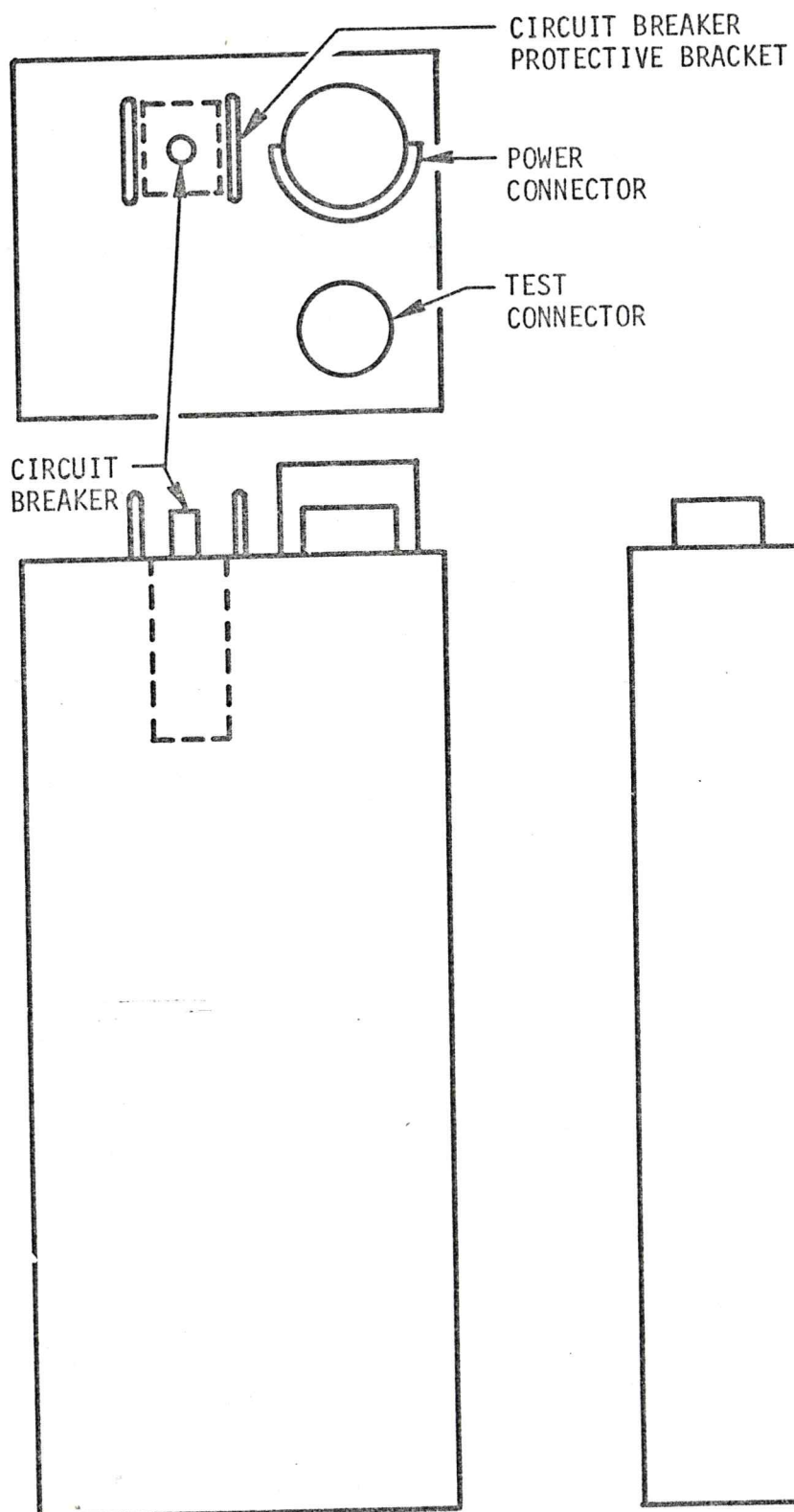


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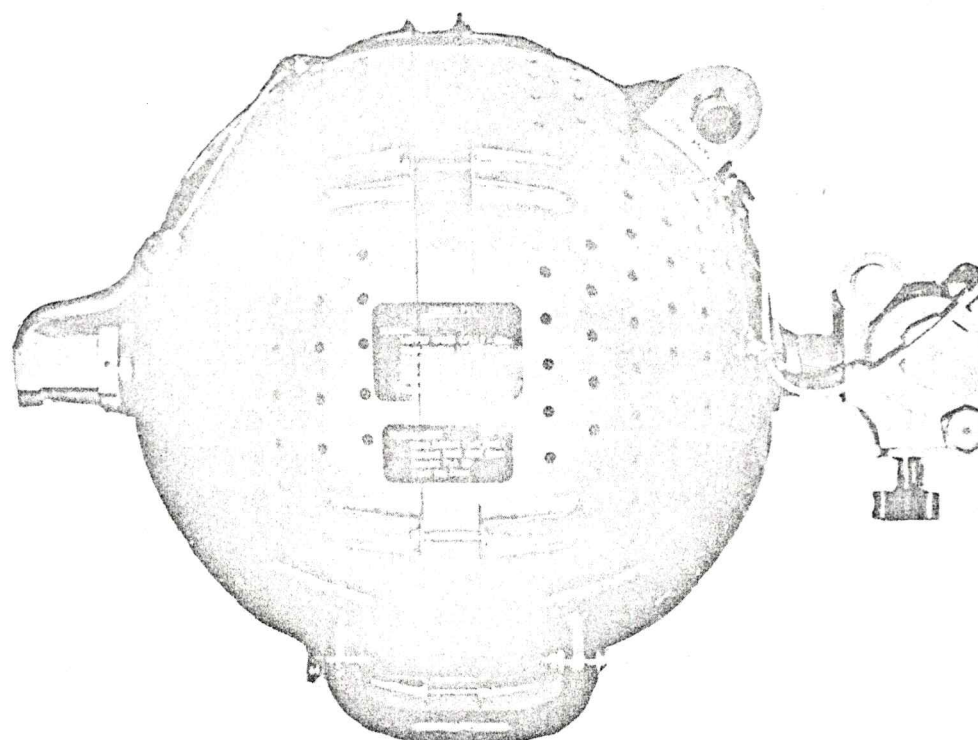


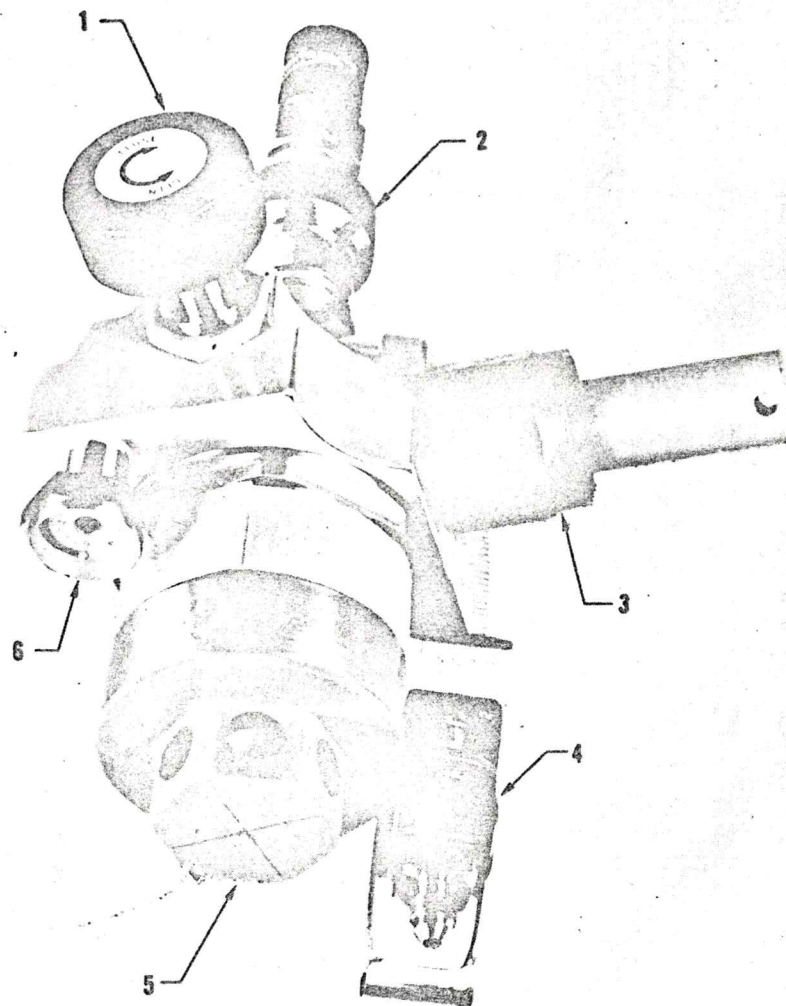


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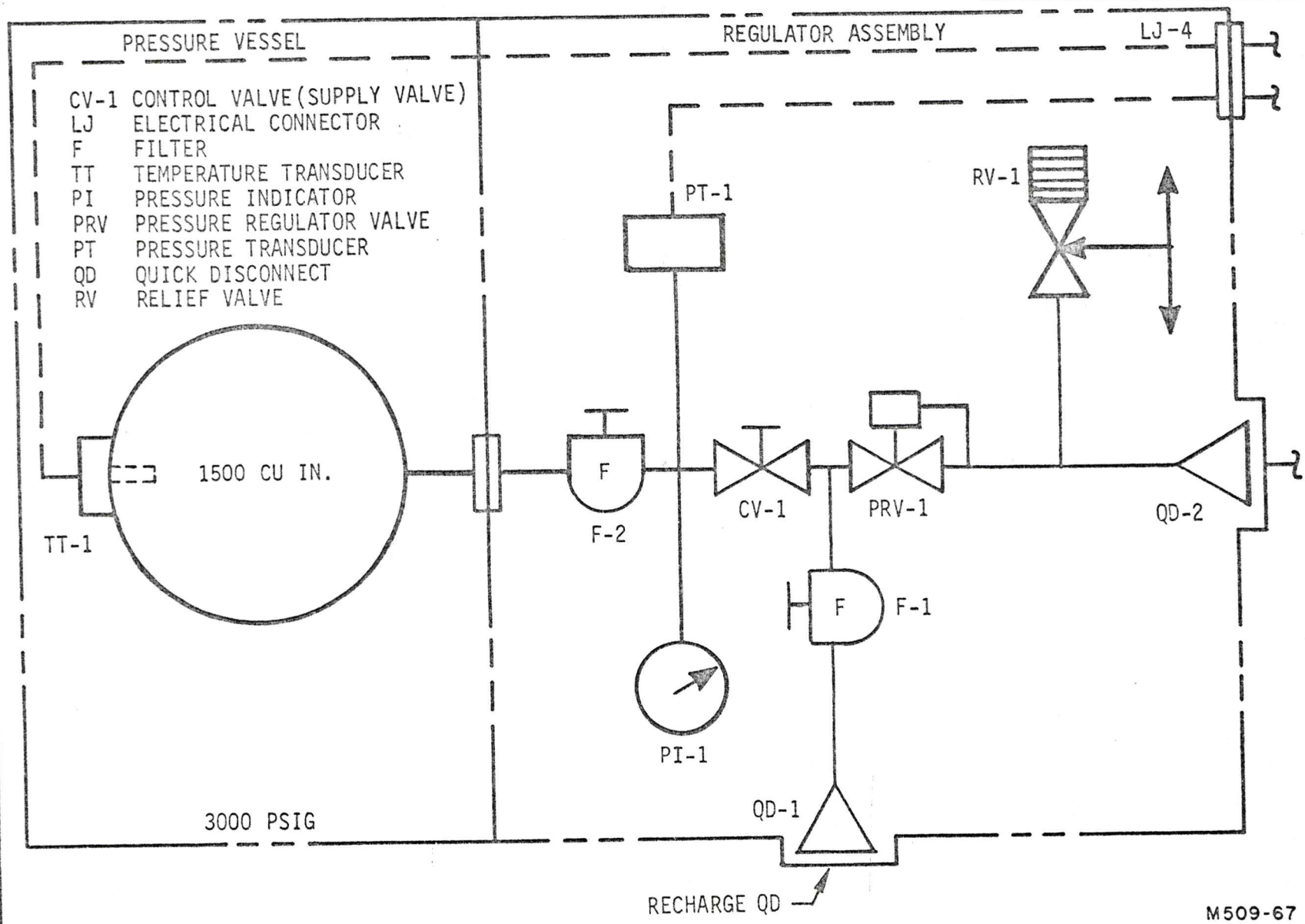




1. SUPPLY VALVE
2. CONNECTION (PS PROPELLANT SYSTEM)
3. TANK CONNECTION (INLET PORT)
4. RECHARGE QUICK DISCONNECT
5. PRESSURE TRANSDUCER
6. PRESSURE GAGE

PSS SCHEMATIC

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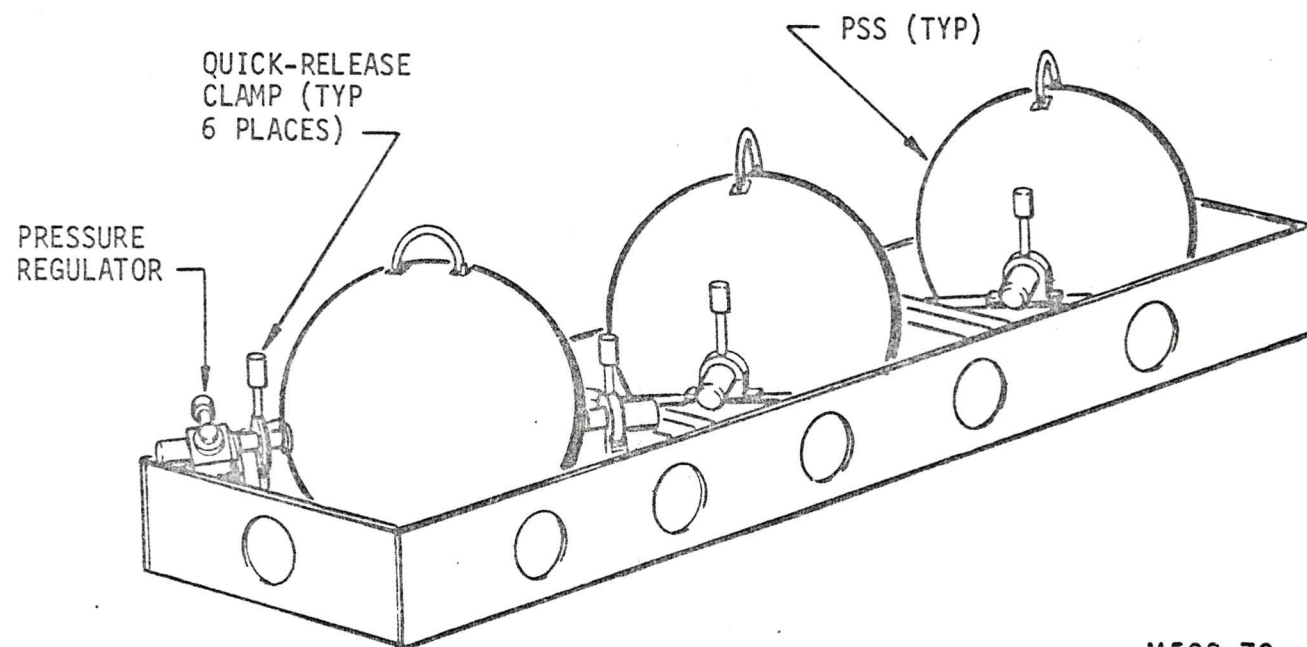


M509 PSS STOWAGE RACK

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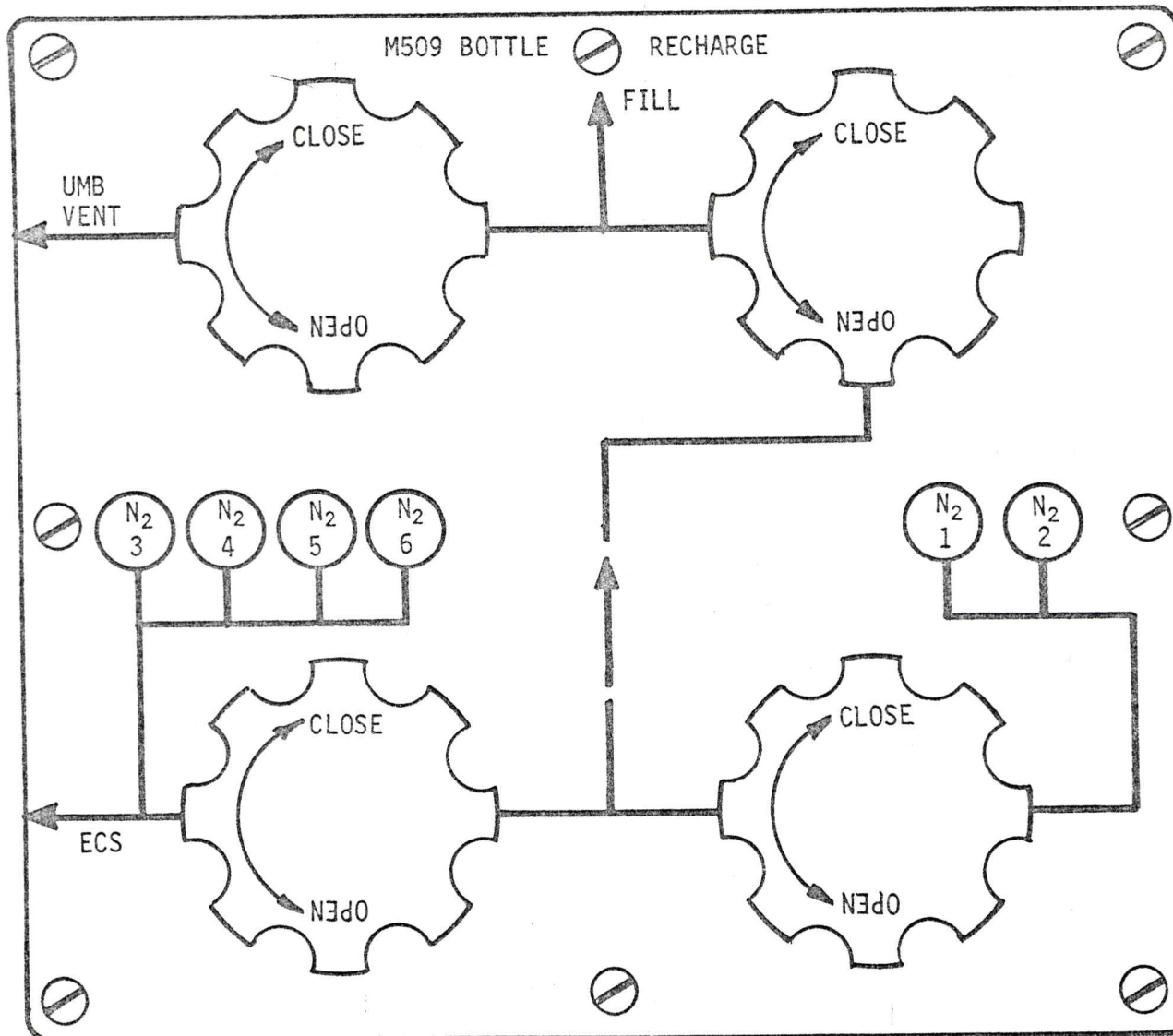


M509-70

CONTROL PANEL 390

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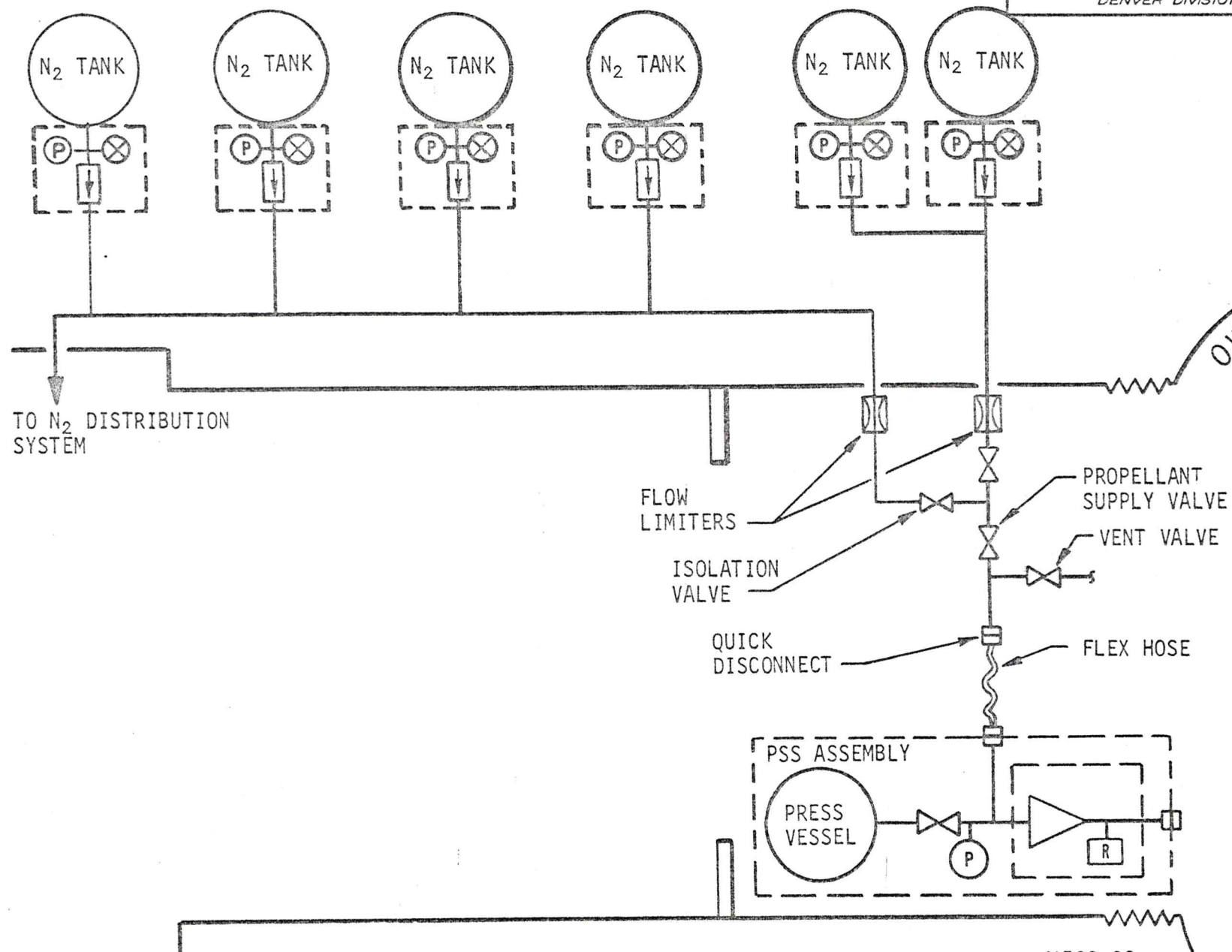
M509-74

RECHARGE STATION SCHEMATIC

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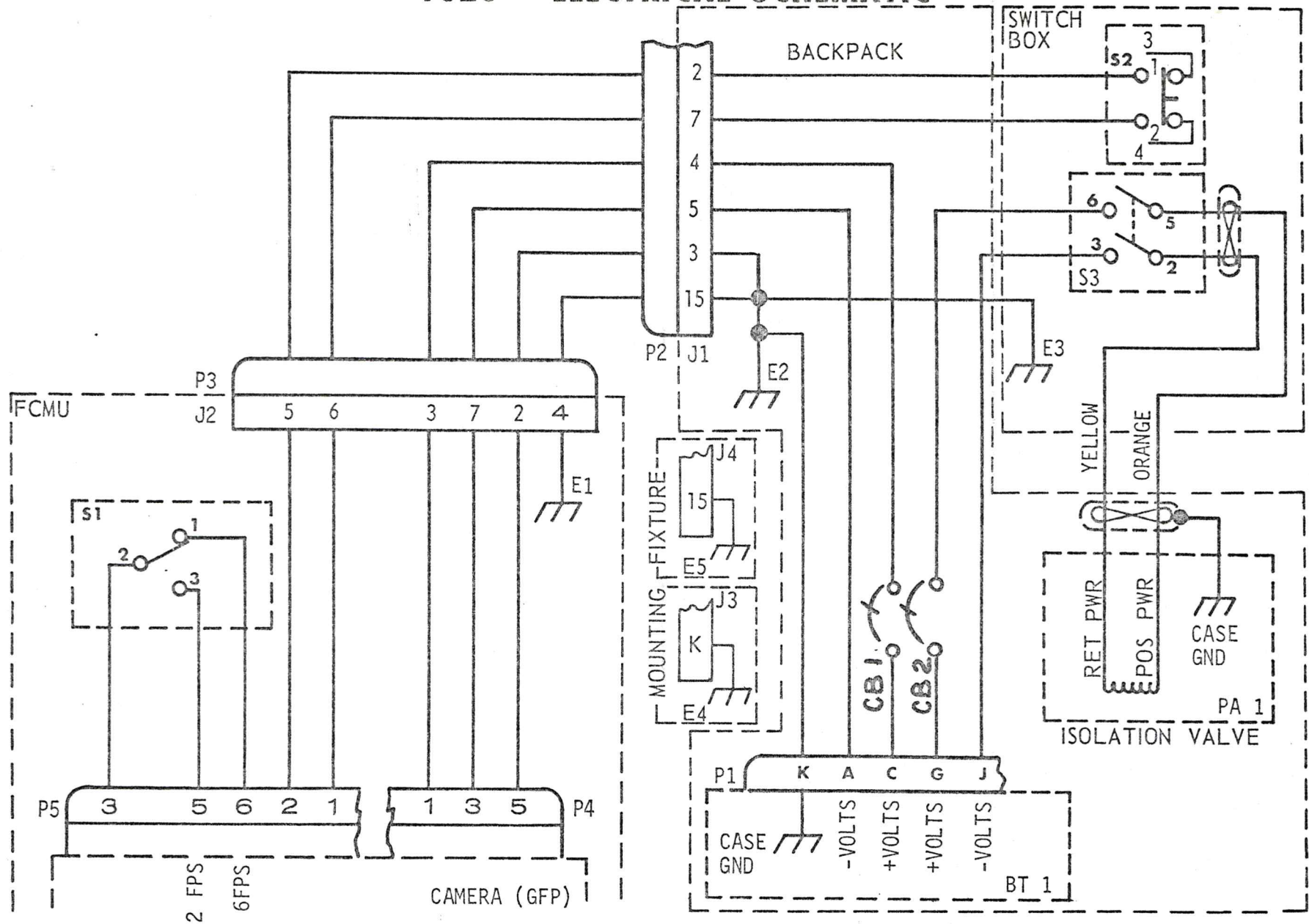
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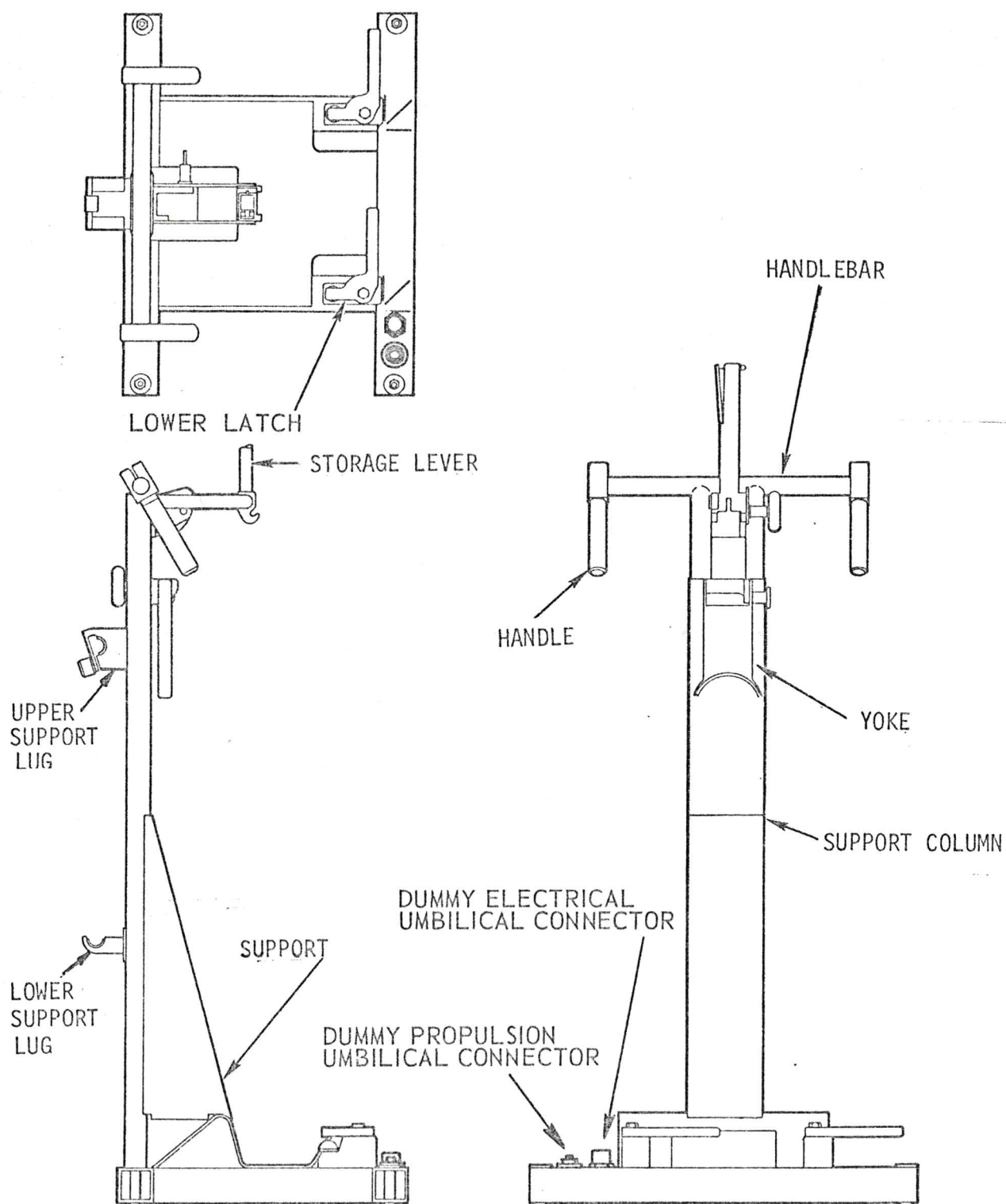


M509-62

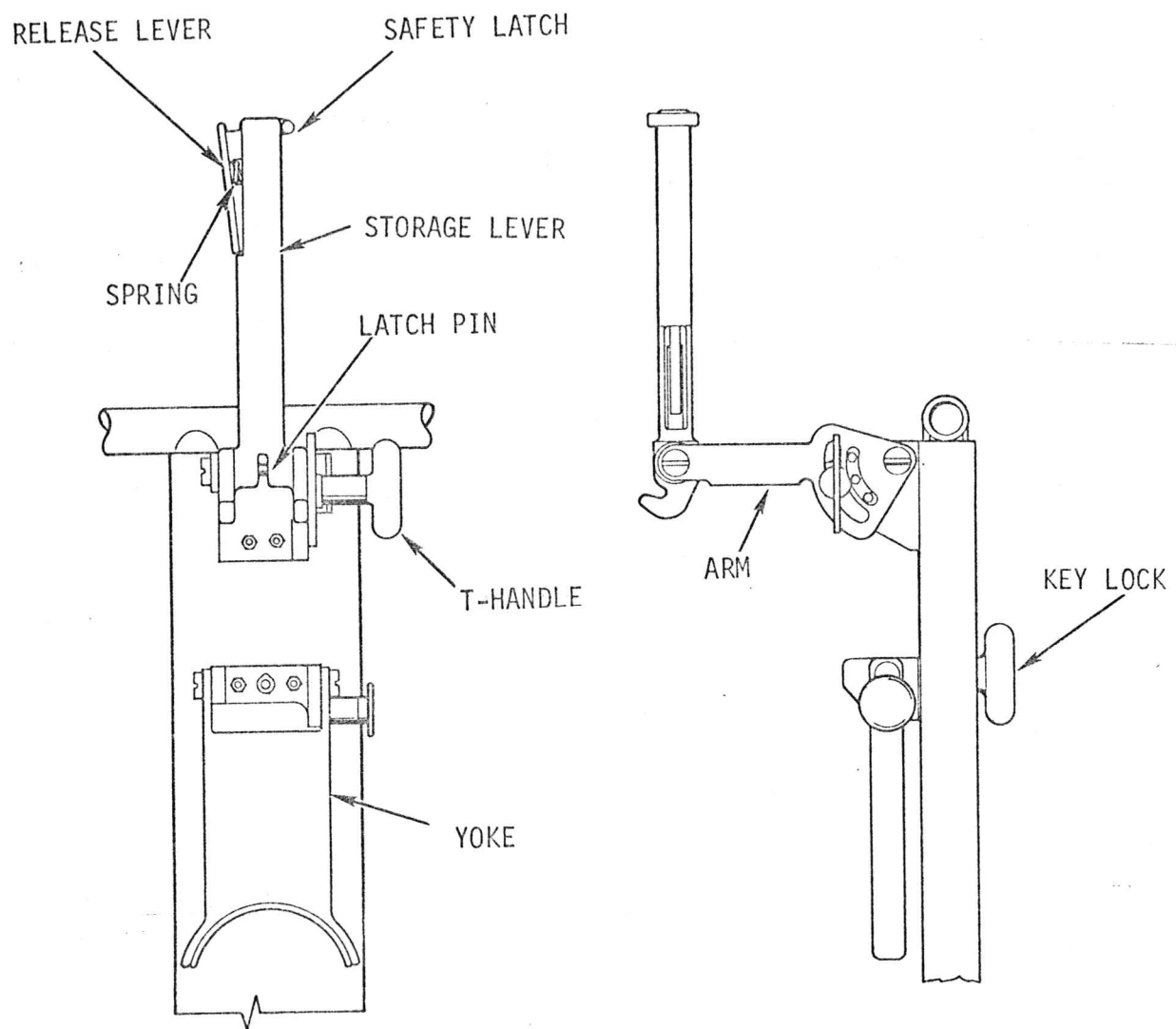
T020 - ELECTRICAL SCHEMATIC



T020 - STOWAGE ASSEMBLY



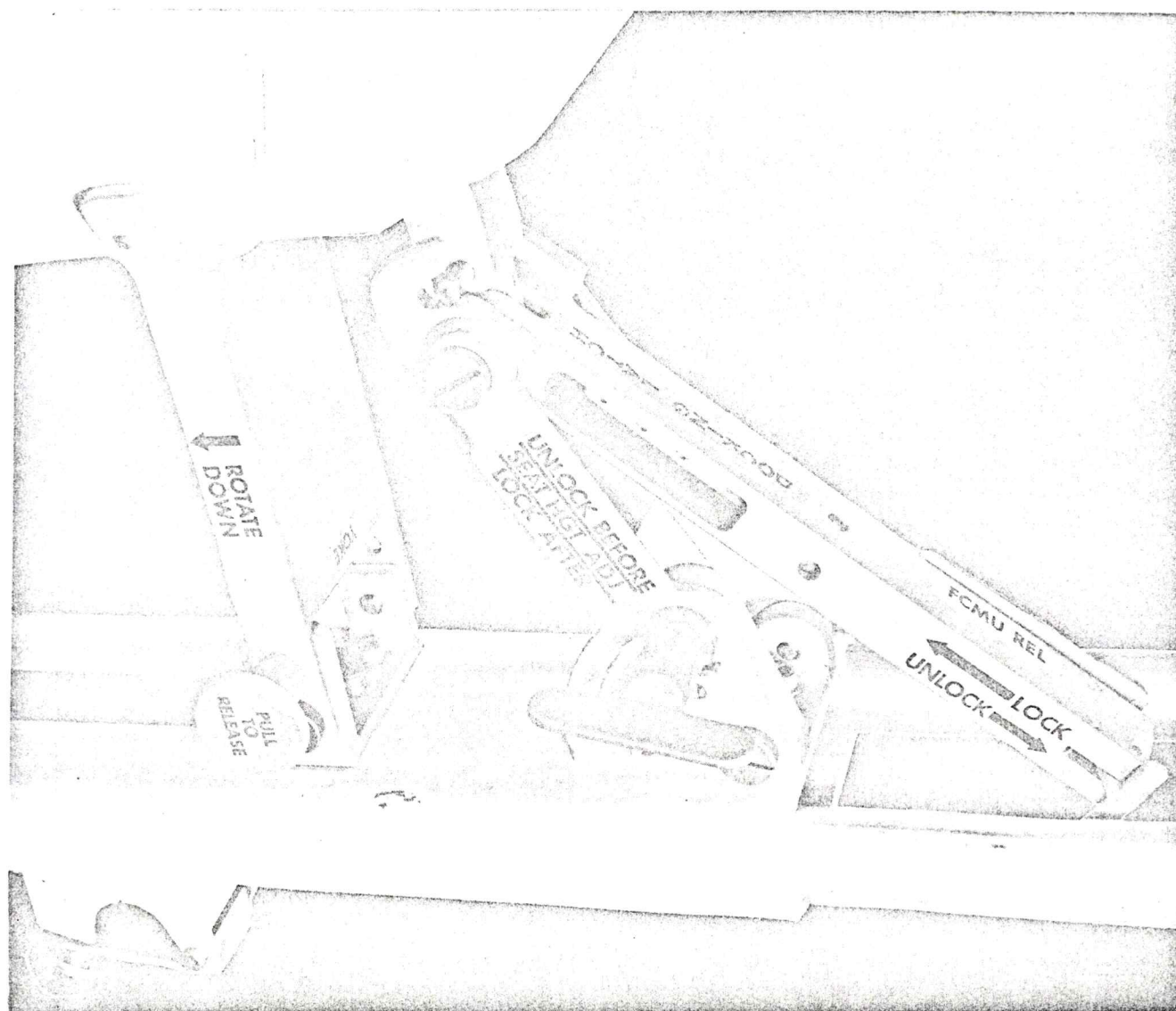
T020 - STOWAGE ASSEMBLY DETAILS



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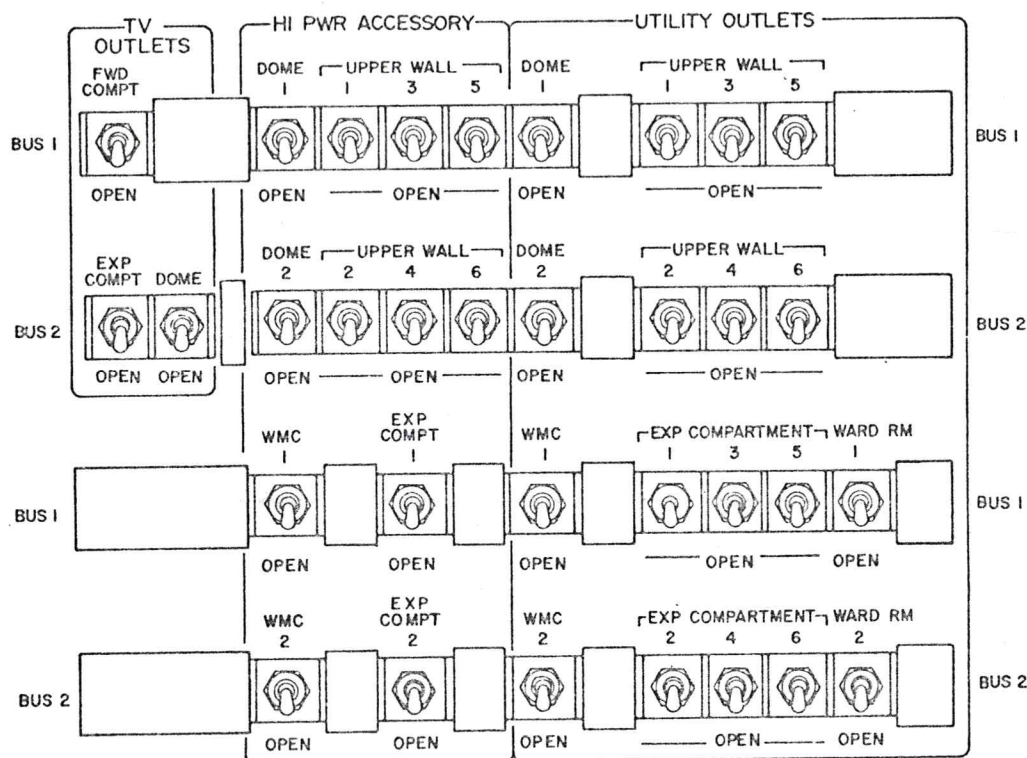
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