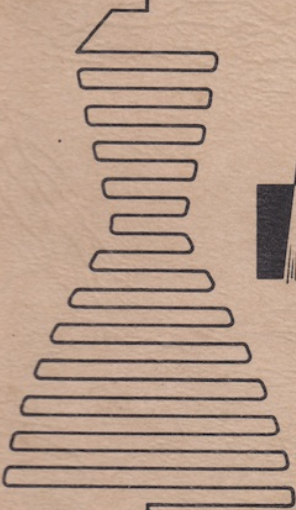


9/94

Happy Birthday
Chris —

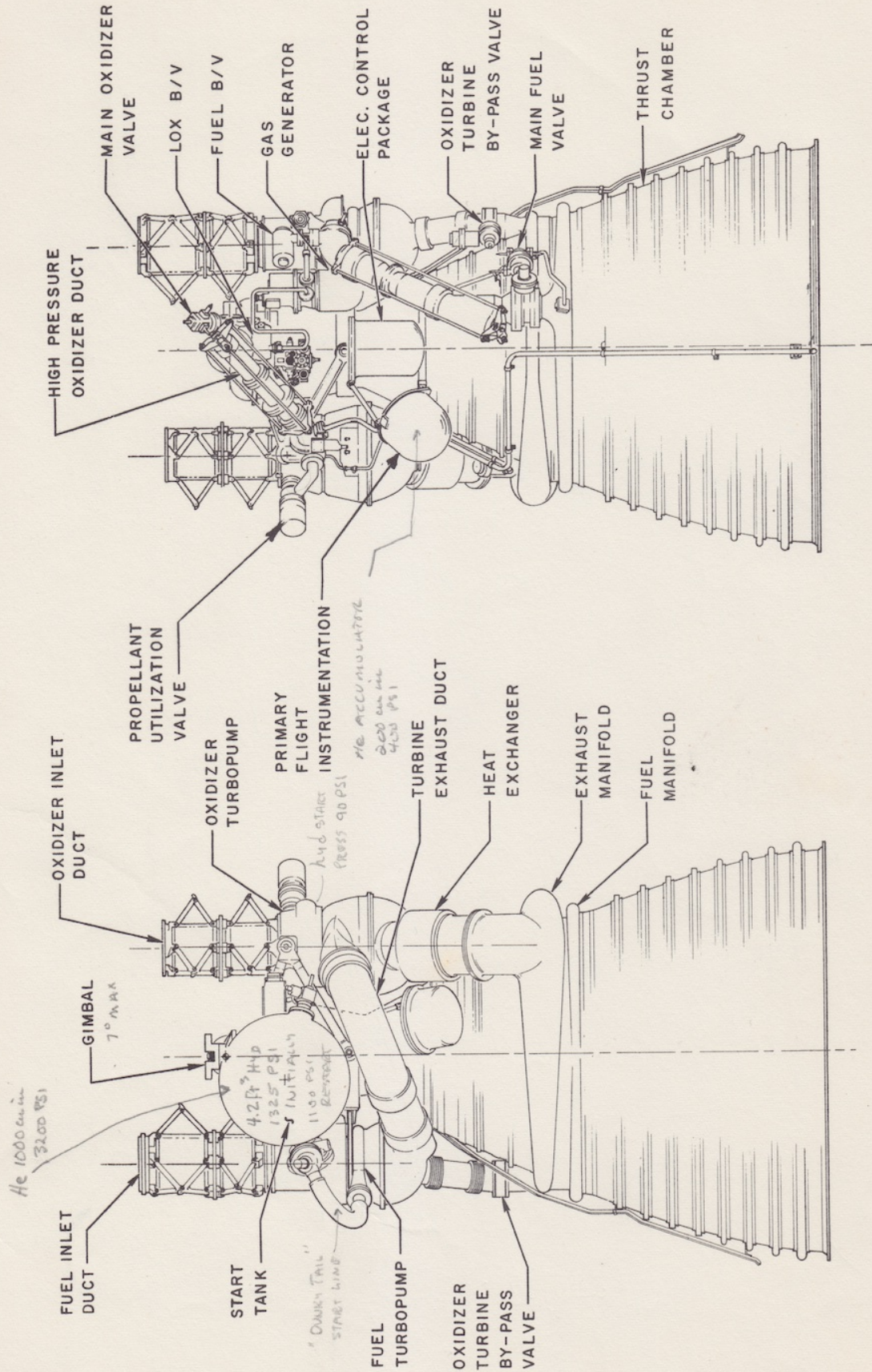
Love
Grandpa

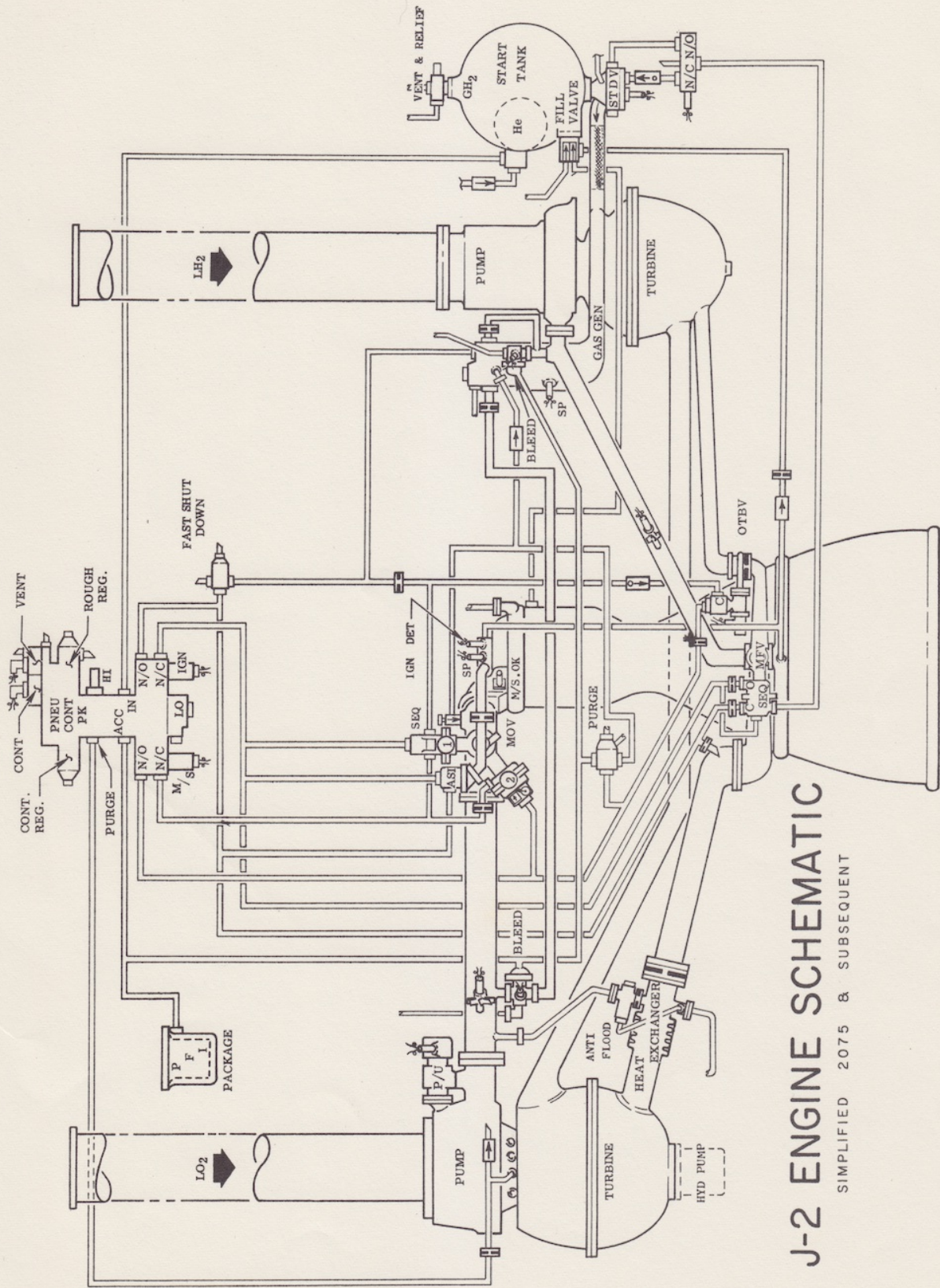


ROCKETDYNE

A DIVISION OF NORTH AMERICAN AVIATION, INC.

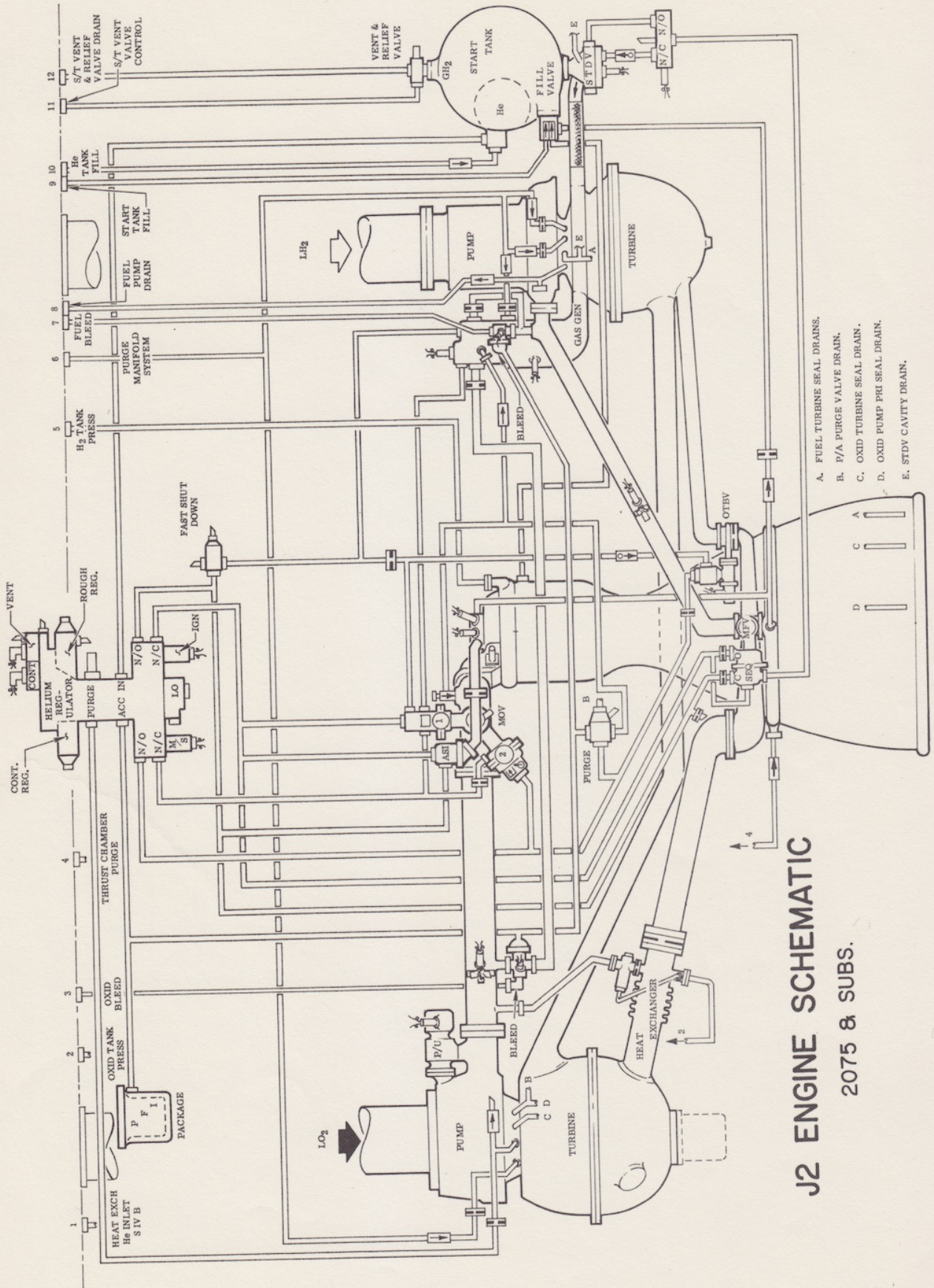
J-2 ENGINE FACT SHEET





J-2 ENGINE SCHEMATIC

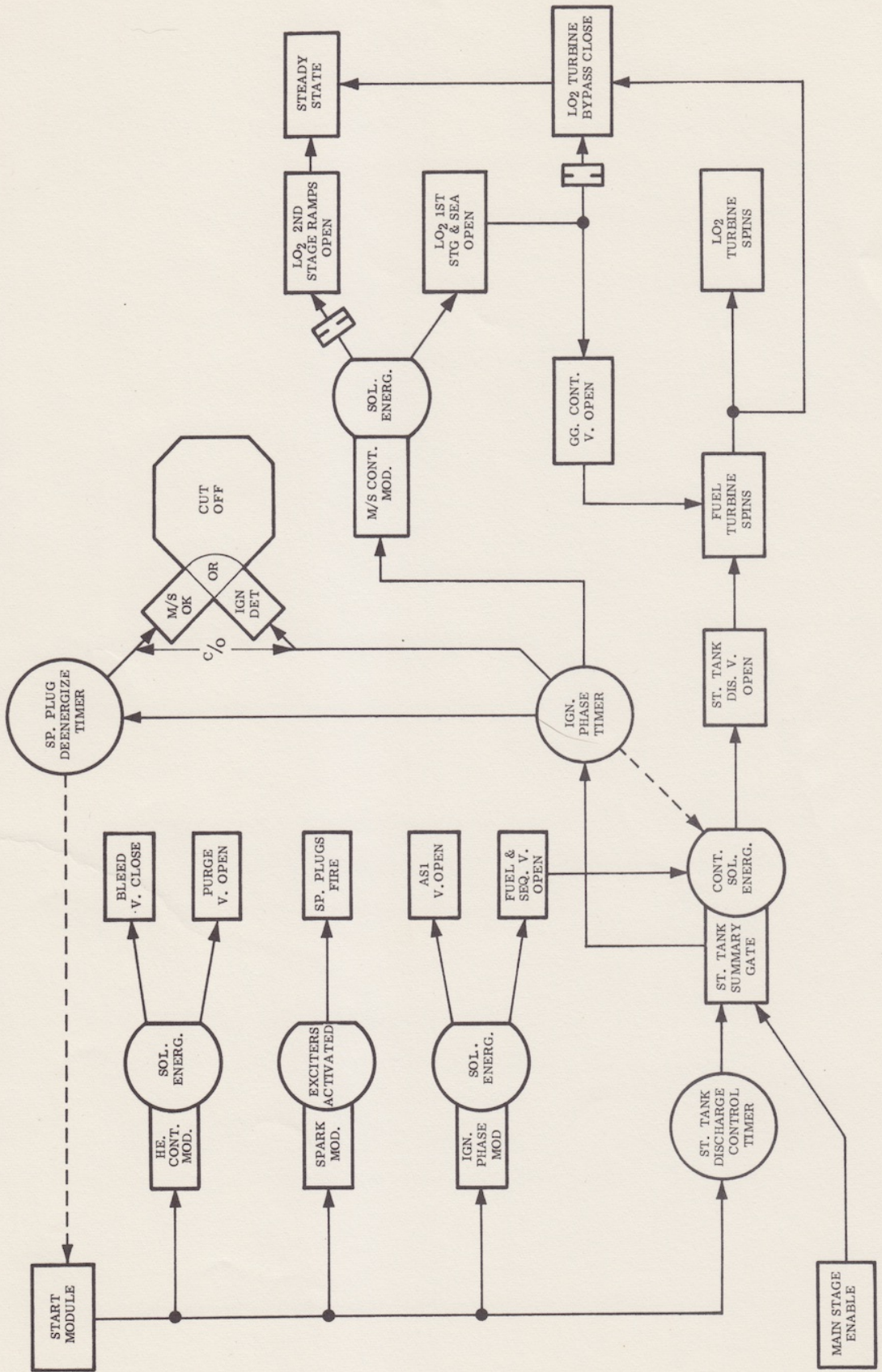
SIMPLIFIED 2075 & SUBSEQUENT



J2 ENGINE SCHEMATIC

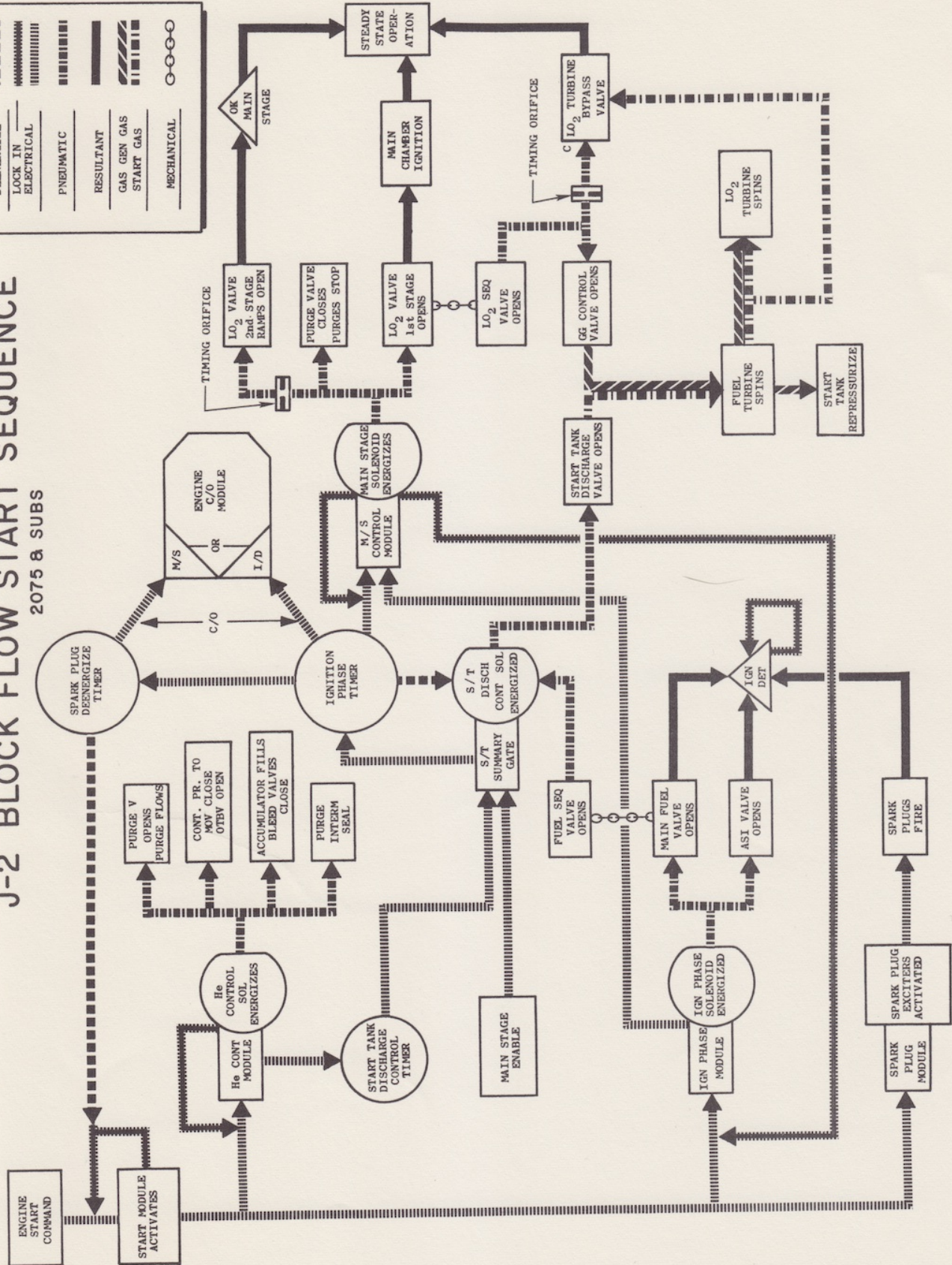
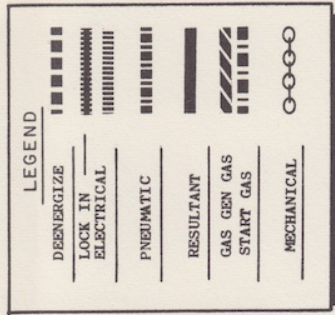
2075 & SUBS.

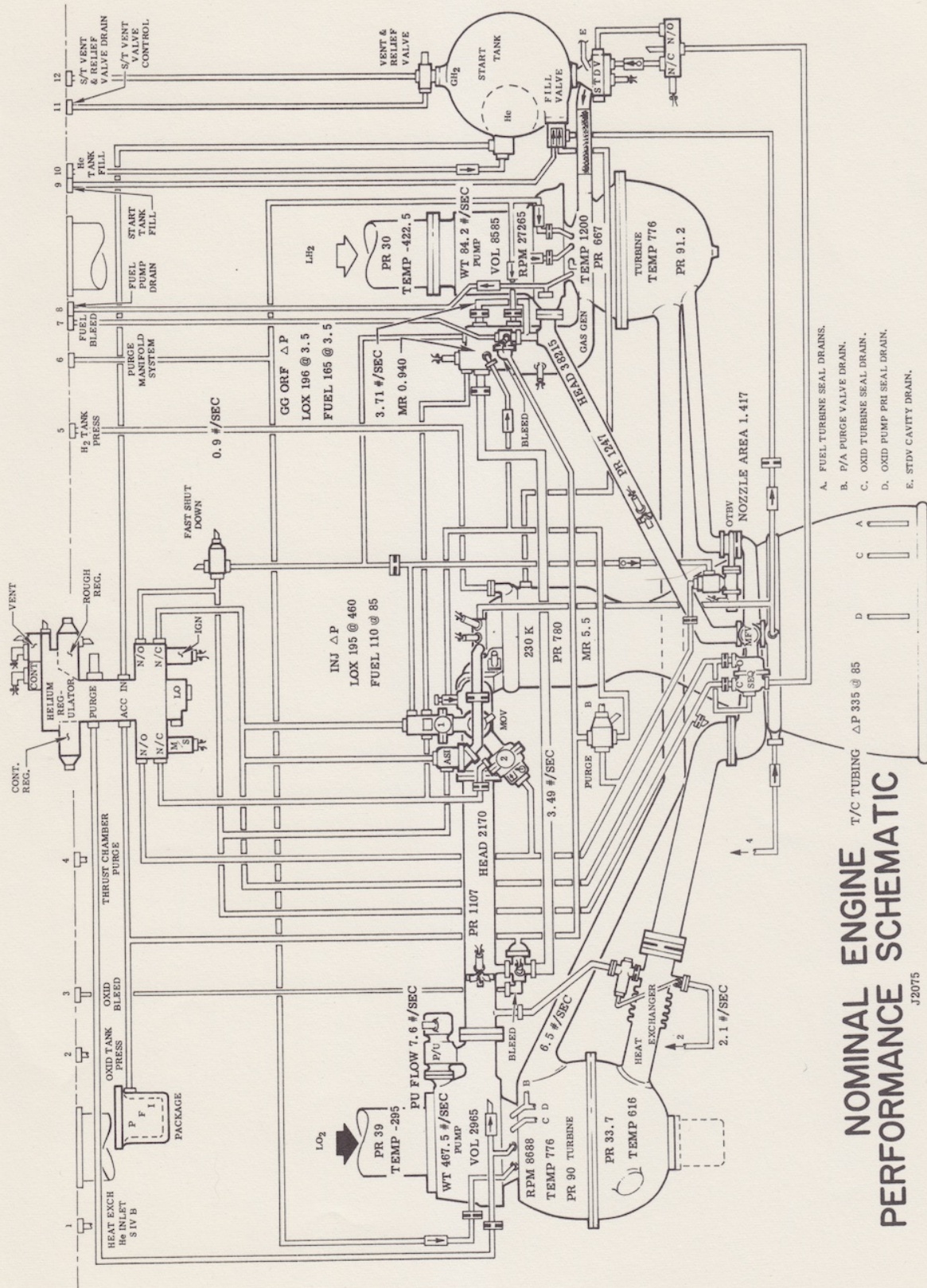
J2 BLOCK FLOW (SIMPLIFIED) 2075 AND SUBS



J-2 BLOCK FLOW START SEQUENCE

2075 & SUBS

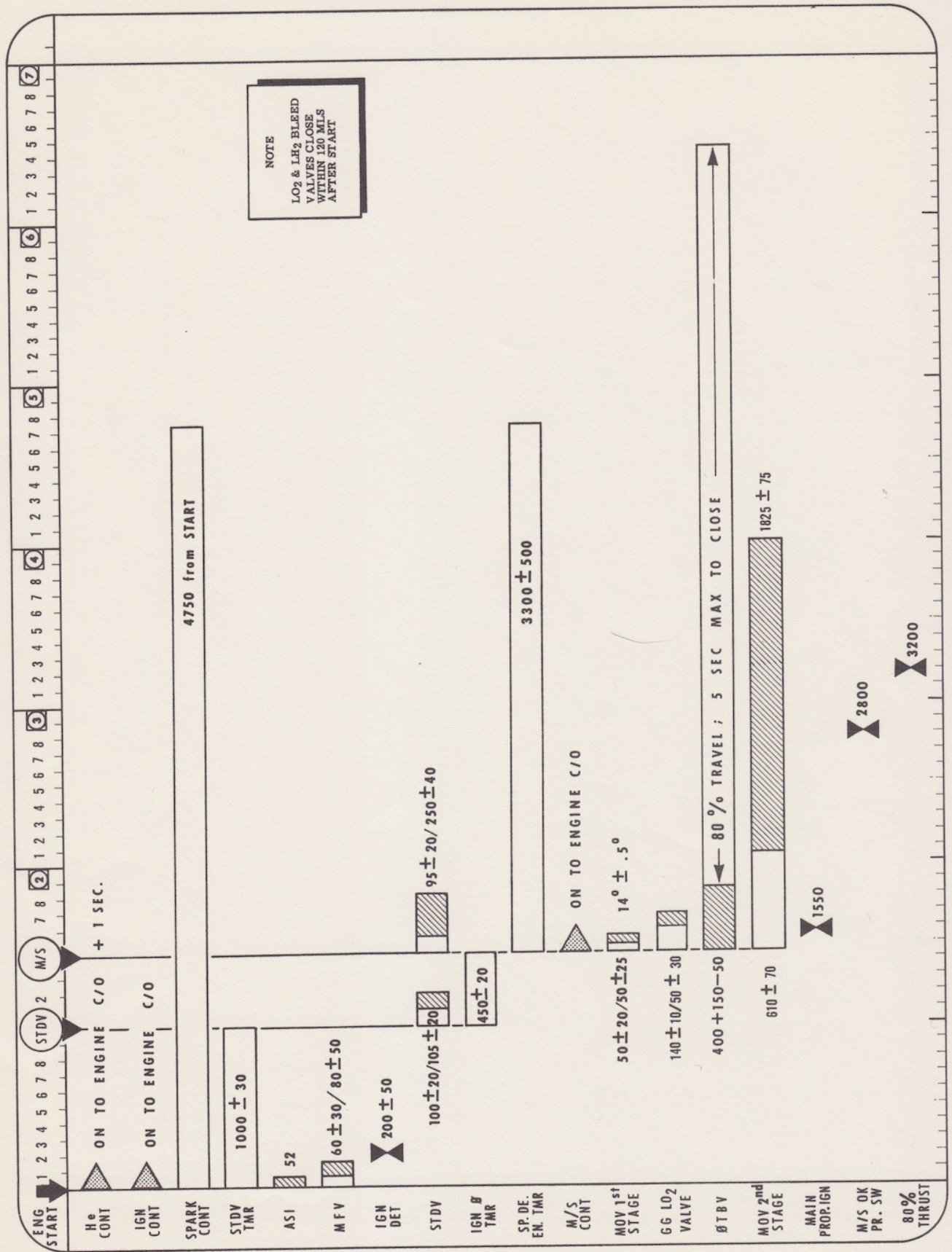




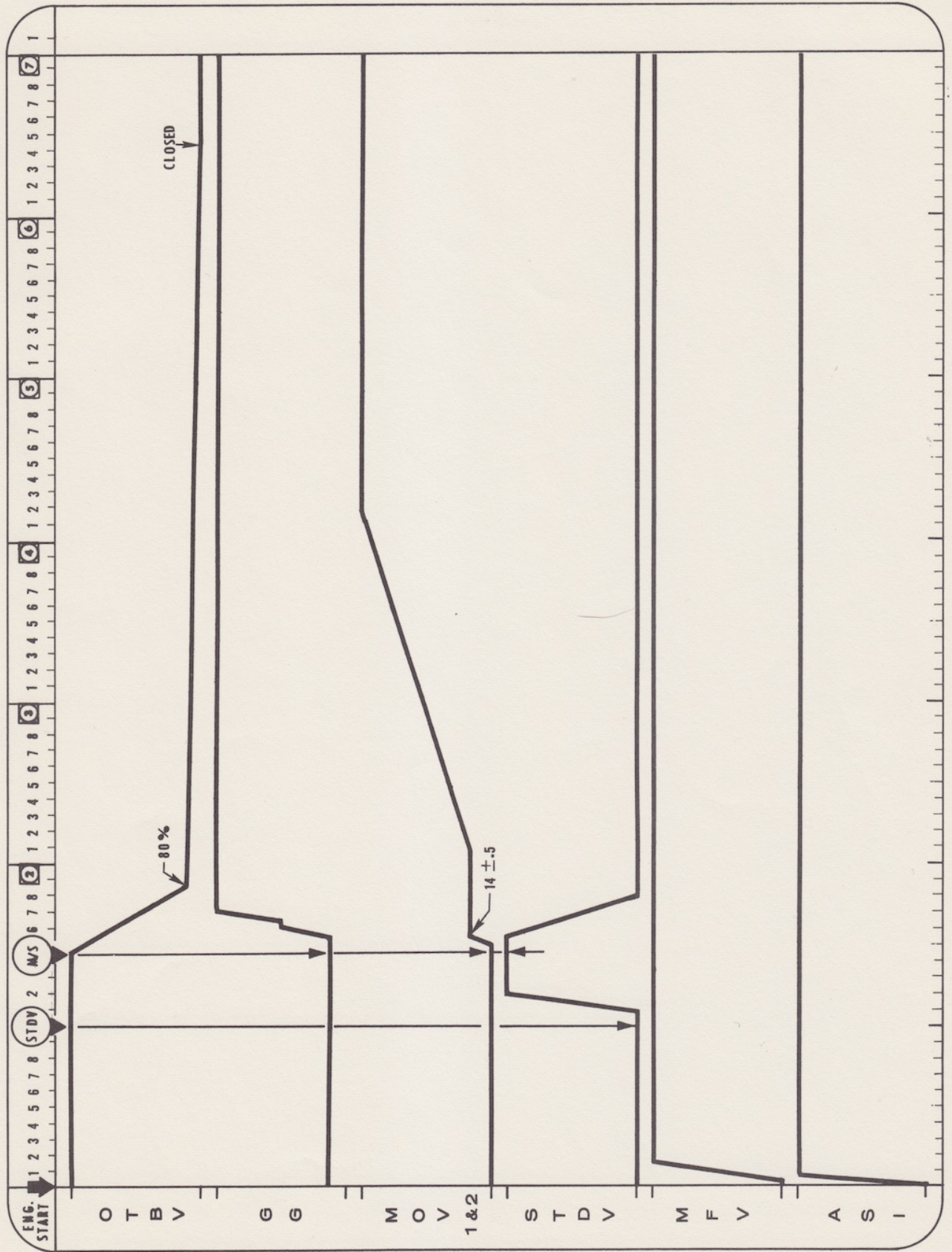
NOMINAL ENGINE T/C TUBING ΔP 335 @ 85 PERFORMANCE SCHEMATIC

J2075

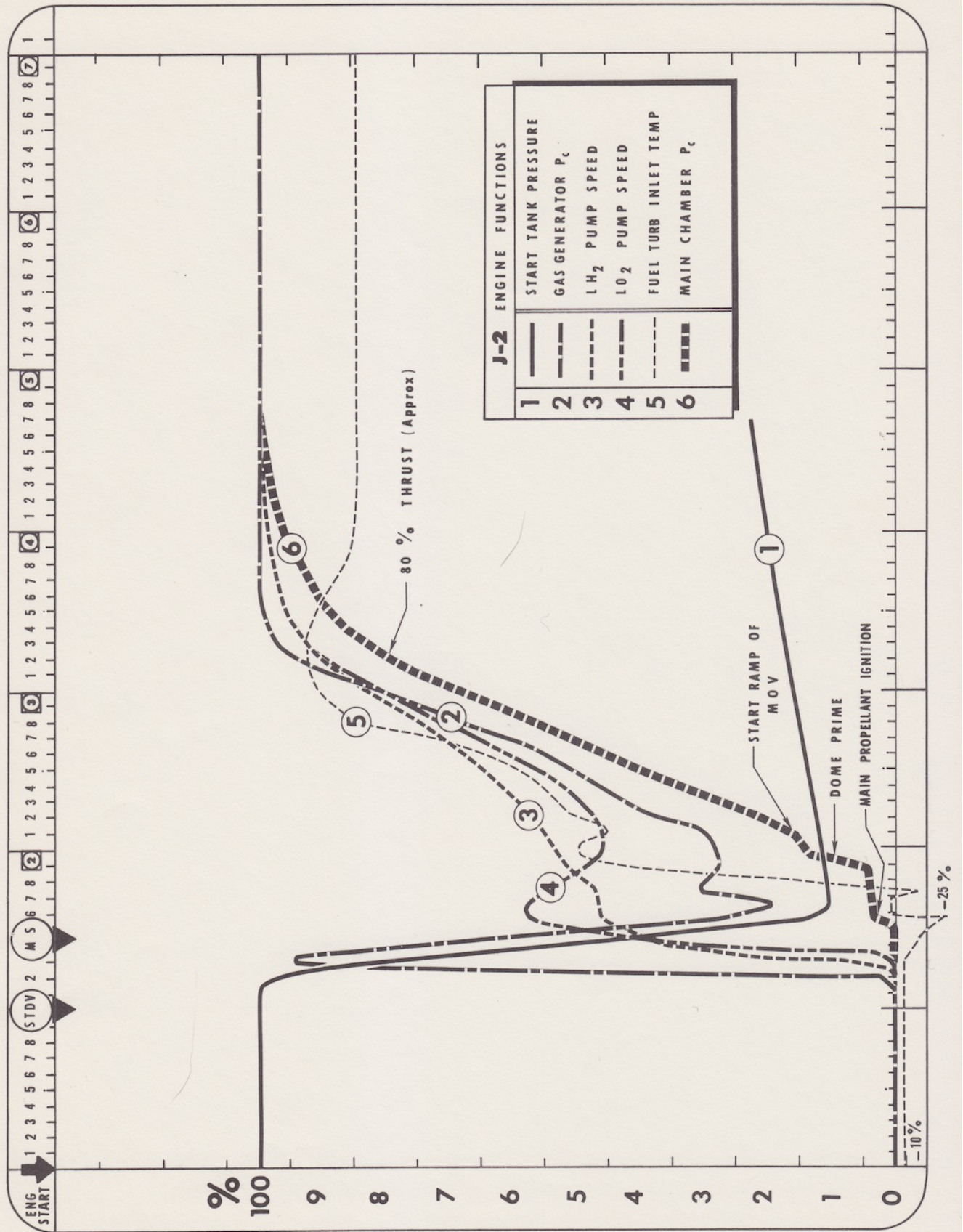
J-2 ENGINE SEQUENCE



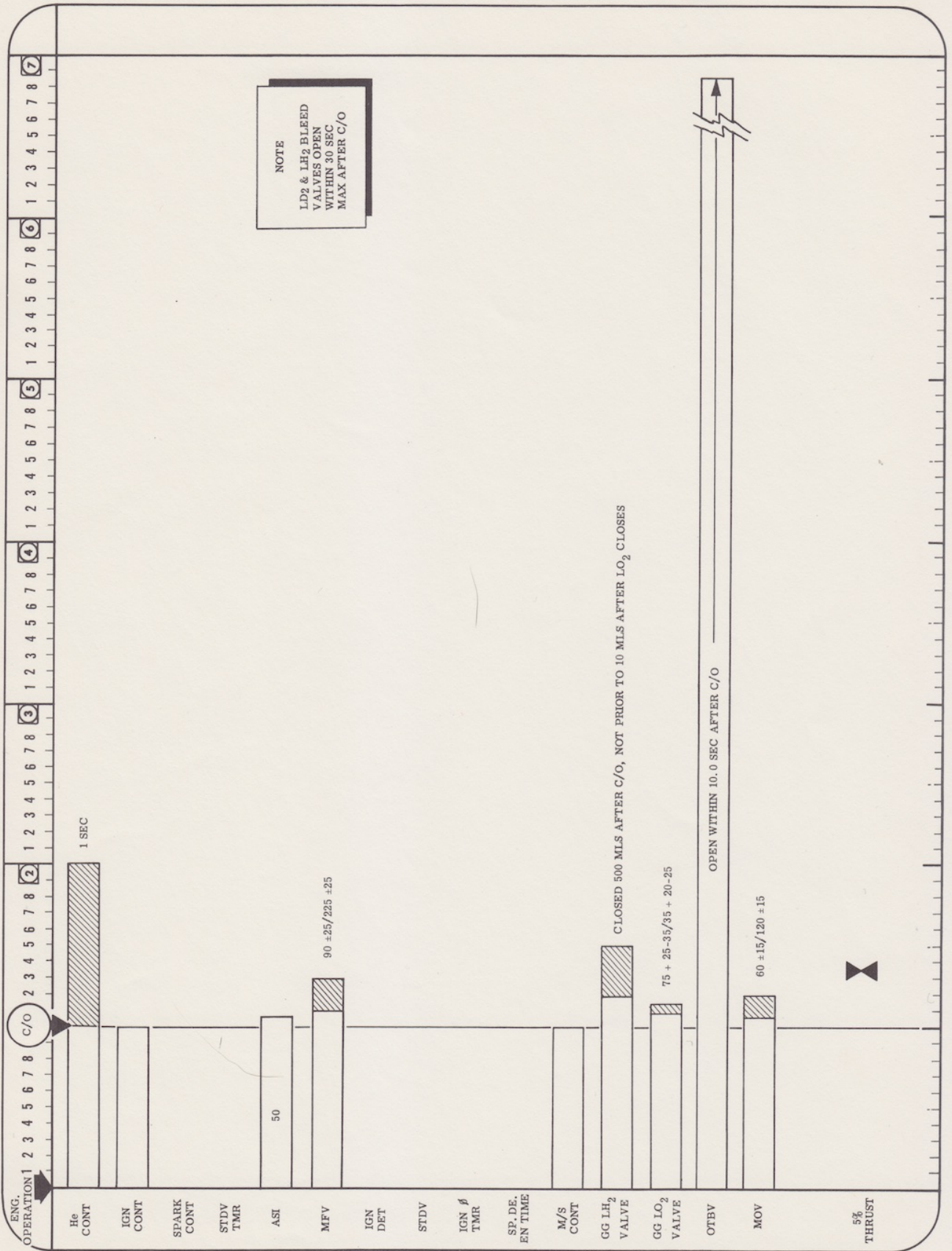
J-2 VALVE POSITION



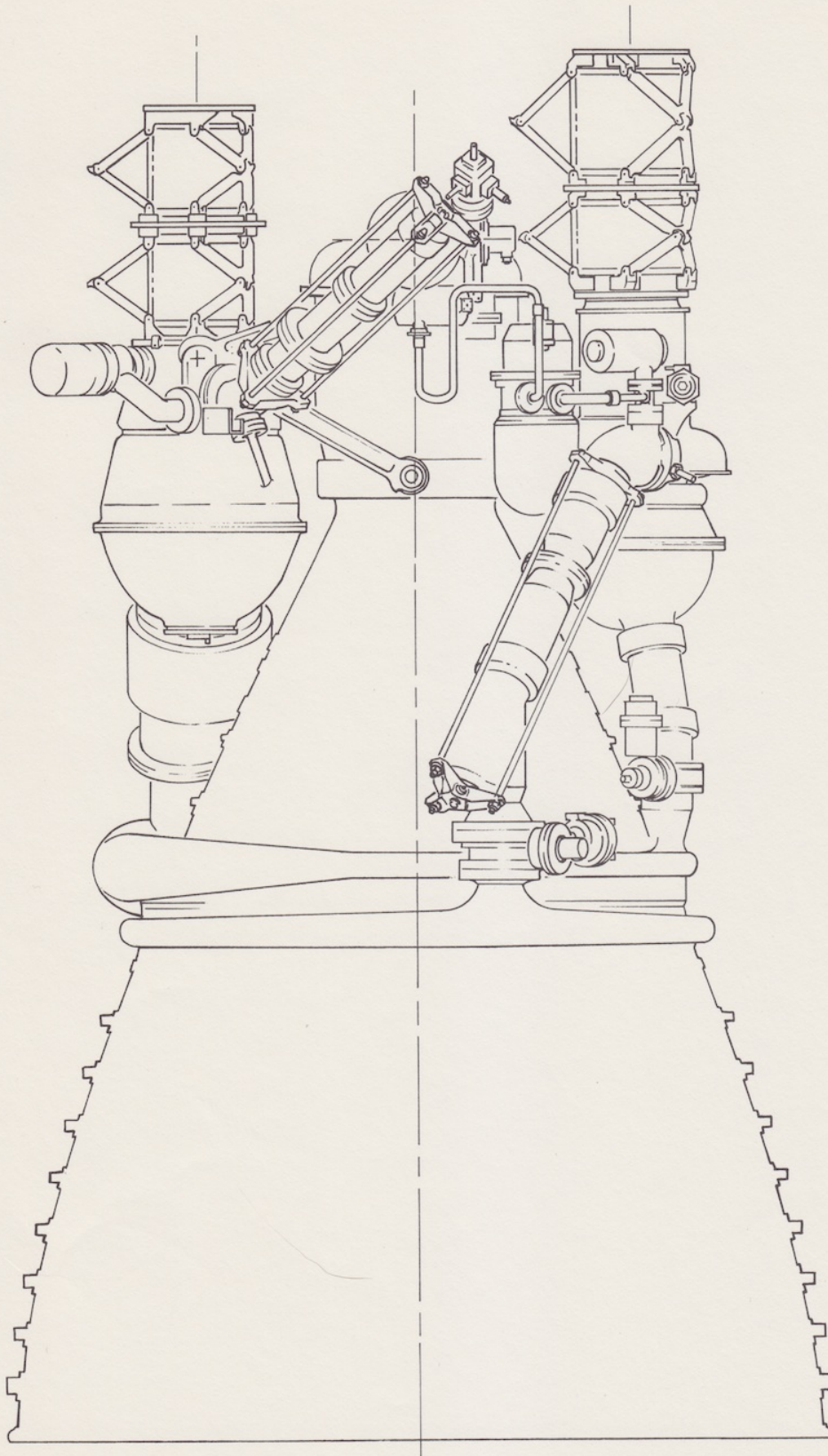
J-2 ENGINE FUNCTIONS

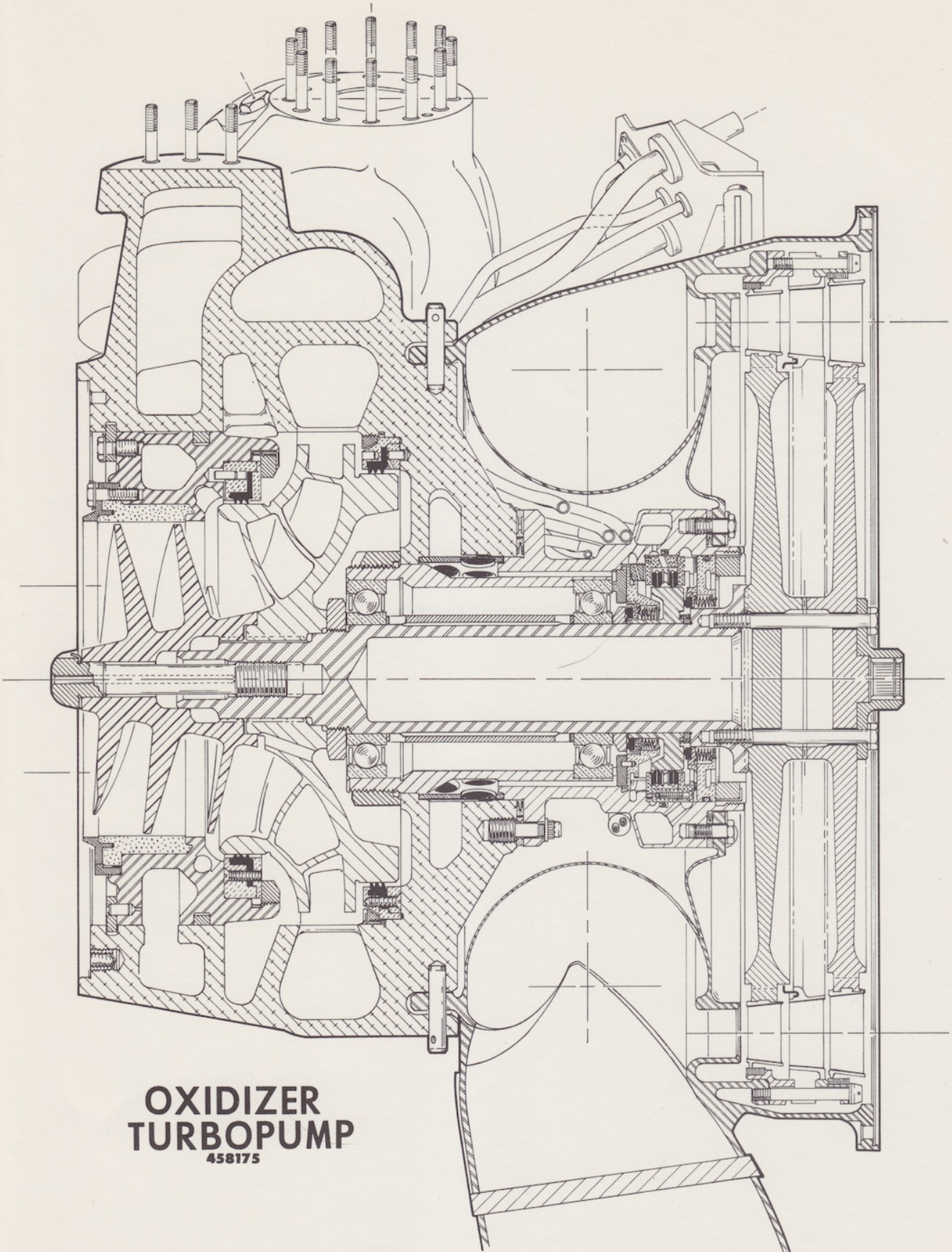


J-2 ENGINE C/O SCHEMATIC



PROPELLANT SYSTEM

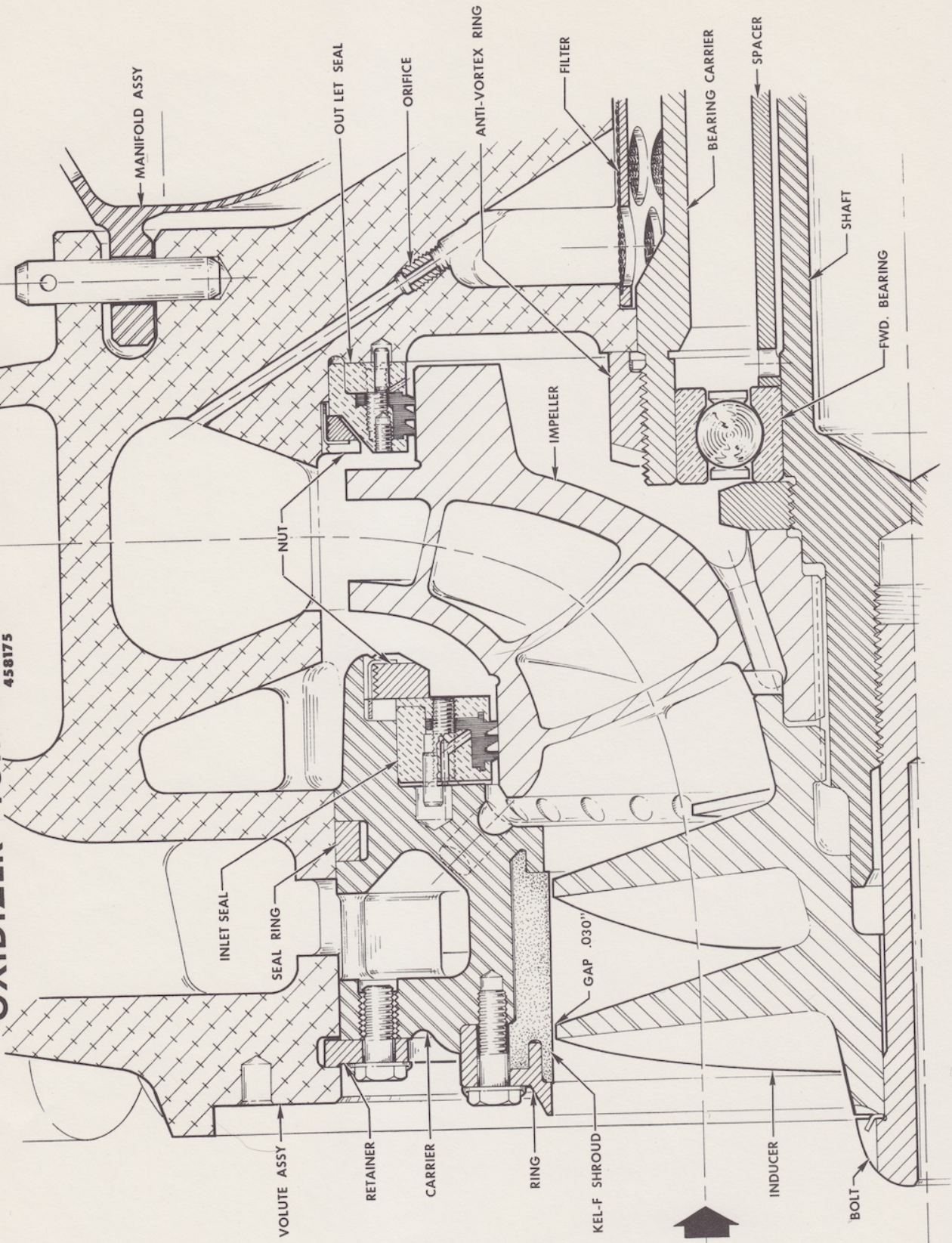




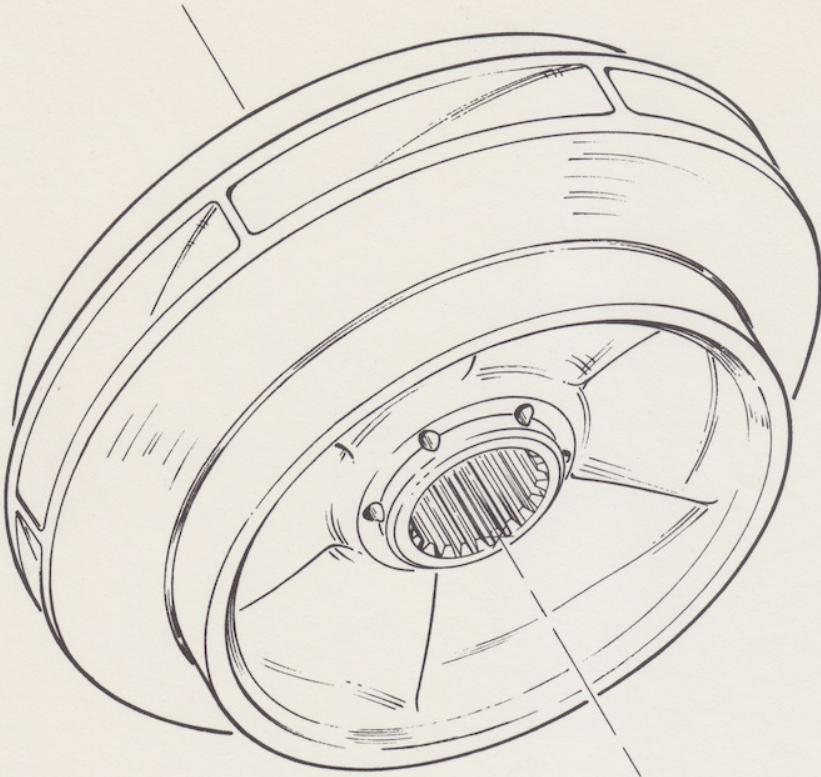
**OXIDIZER
TURBOPUMP**
458175

OXIDIZER TURBOPUMP DETAIL NO 1

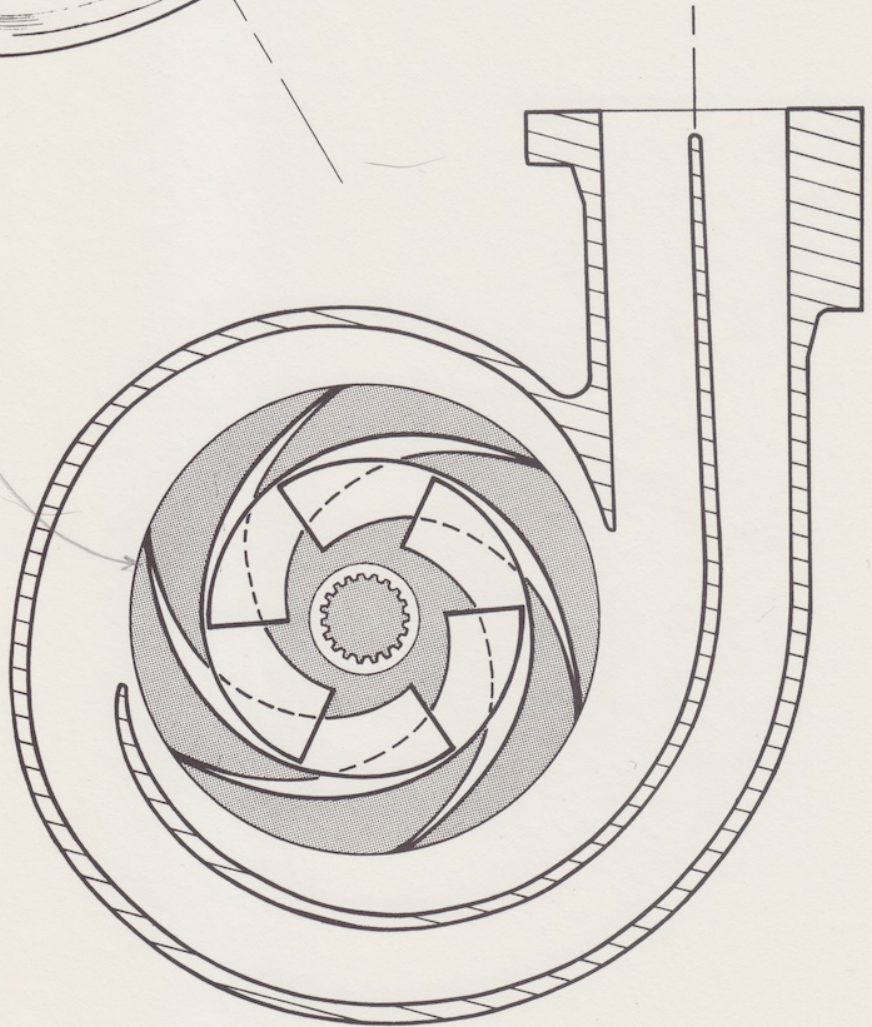
458175



OXID. IMPELLER
456293

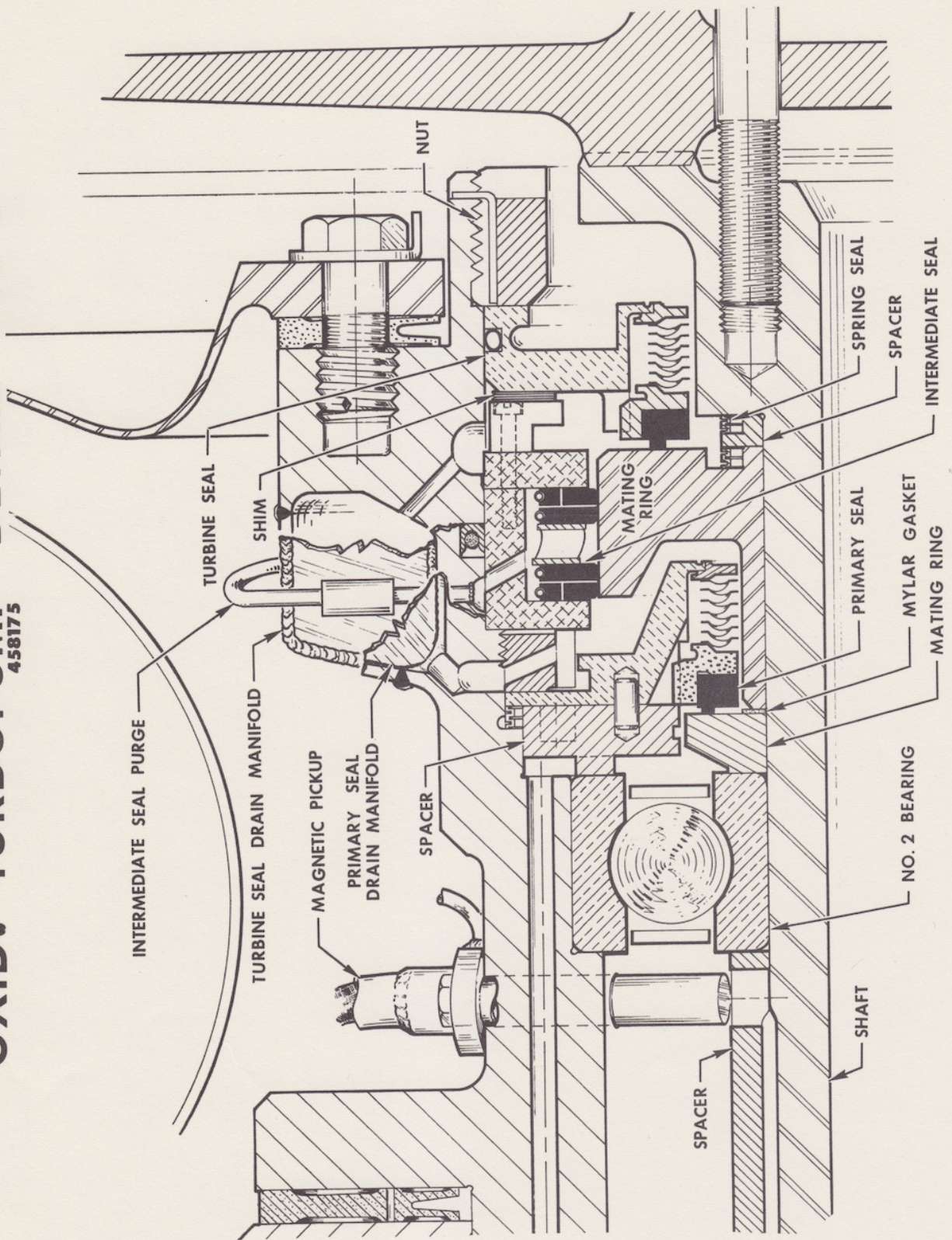


15-10016



OXID. TURBOPUMP DETAIL NO. 2

458175



INTERMEDIATE SEAL PURGE

TURBINE SEAL

TURBINE SEAL DRAIN MANIFOLD

MAGNETIC PICKUP

PRIMARY SEAL DRAIN MANIFOLD

SPACER

NUT

MATING RING

SPACER

SHAFT

NO. 2 BEARING

PRIMARY SEAL

MYLAR GASKET

MATING RING

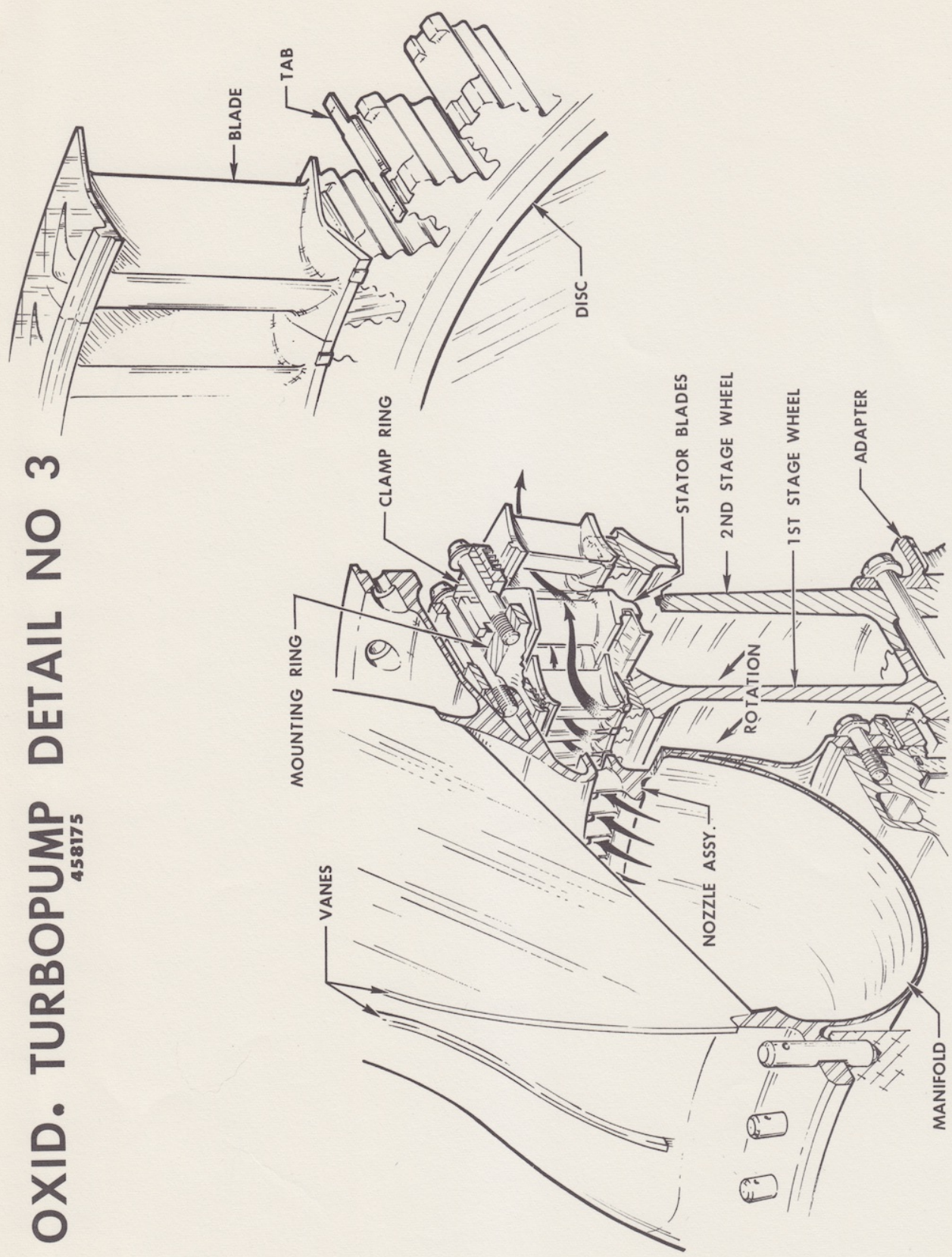
SPRING SEAL

SPACER

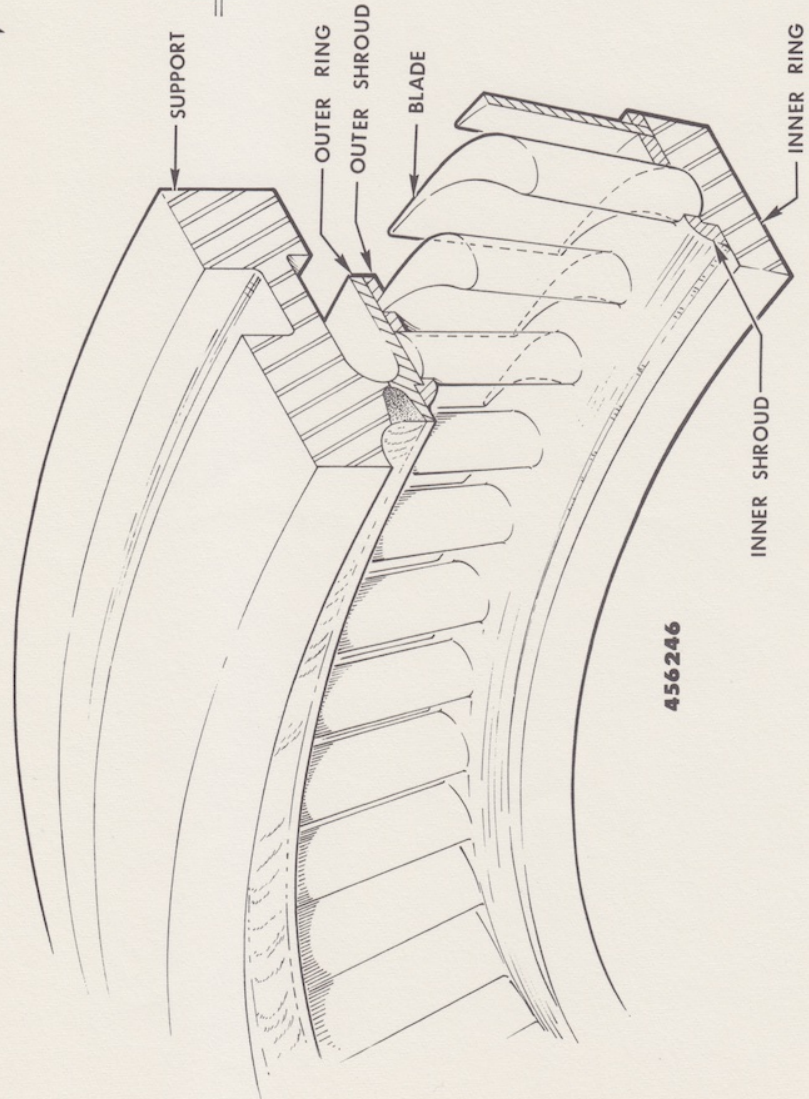
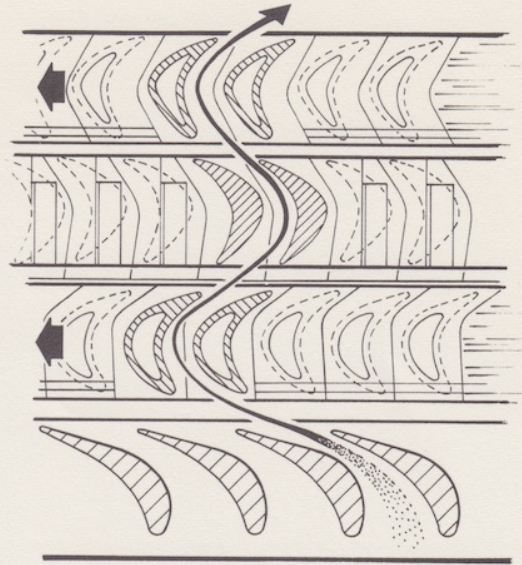
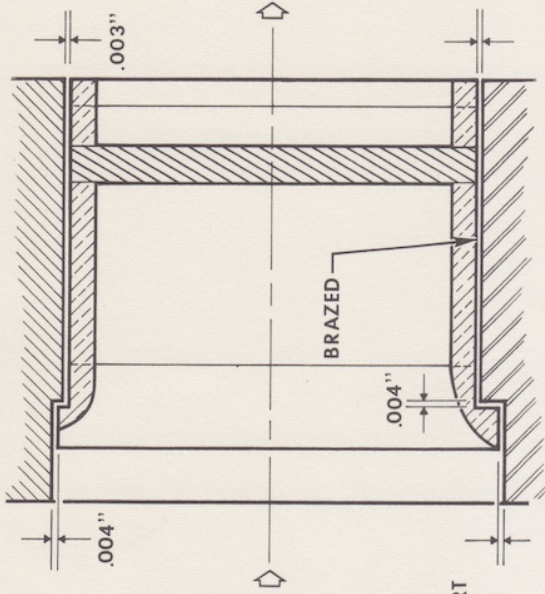
INTERMEDIATE SEAL

OXID. TURBOPUMP DETAIL NO 3

458175



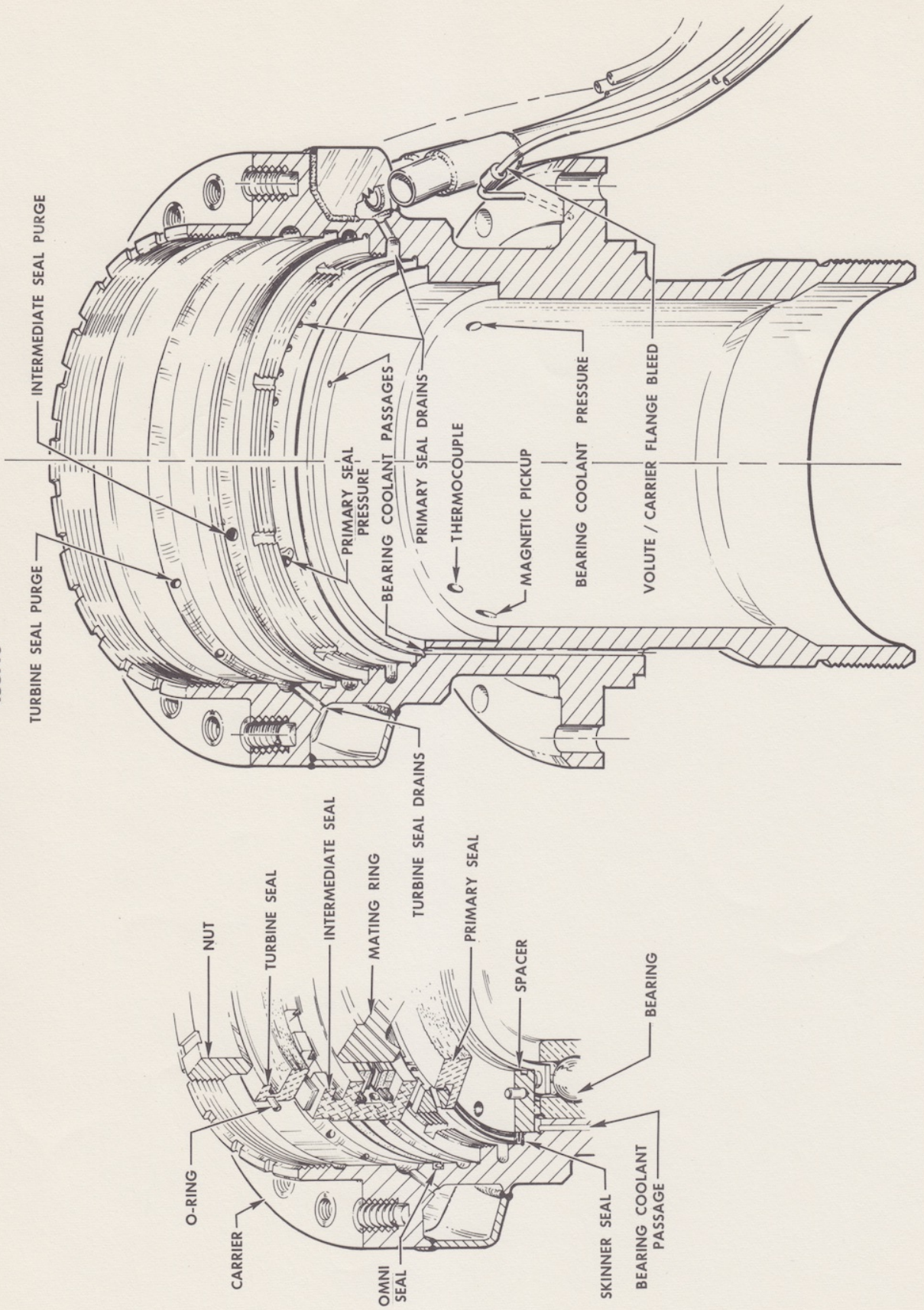
OXIDIZER TURBOPUMP NOZZLE



456246

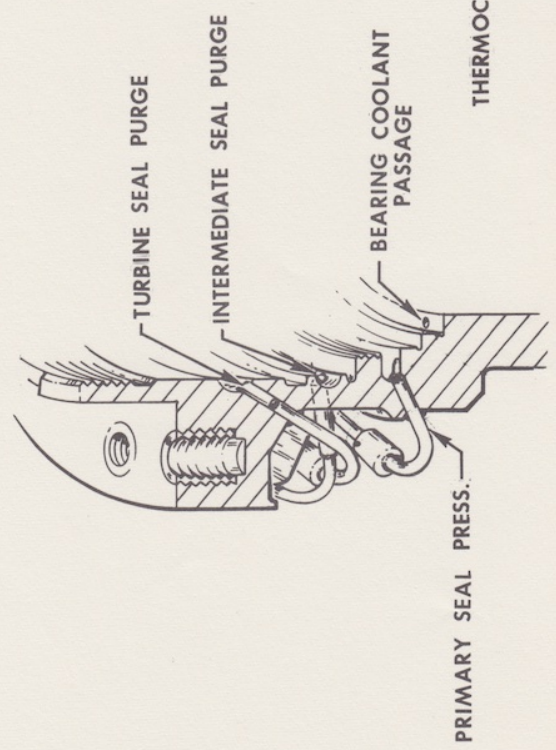
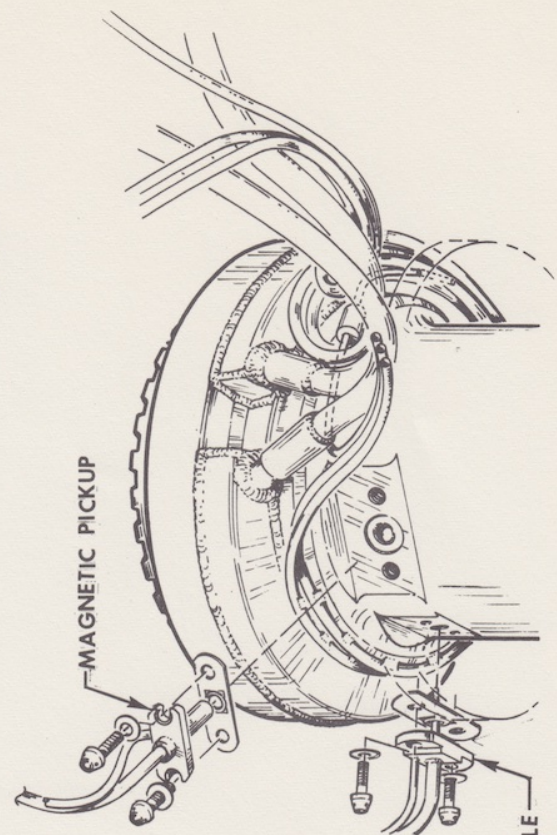
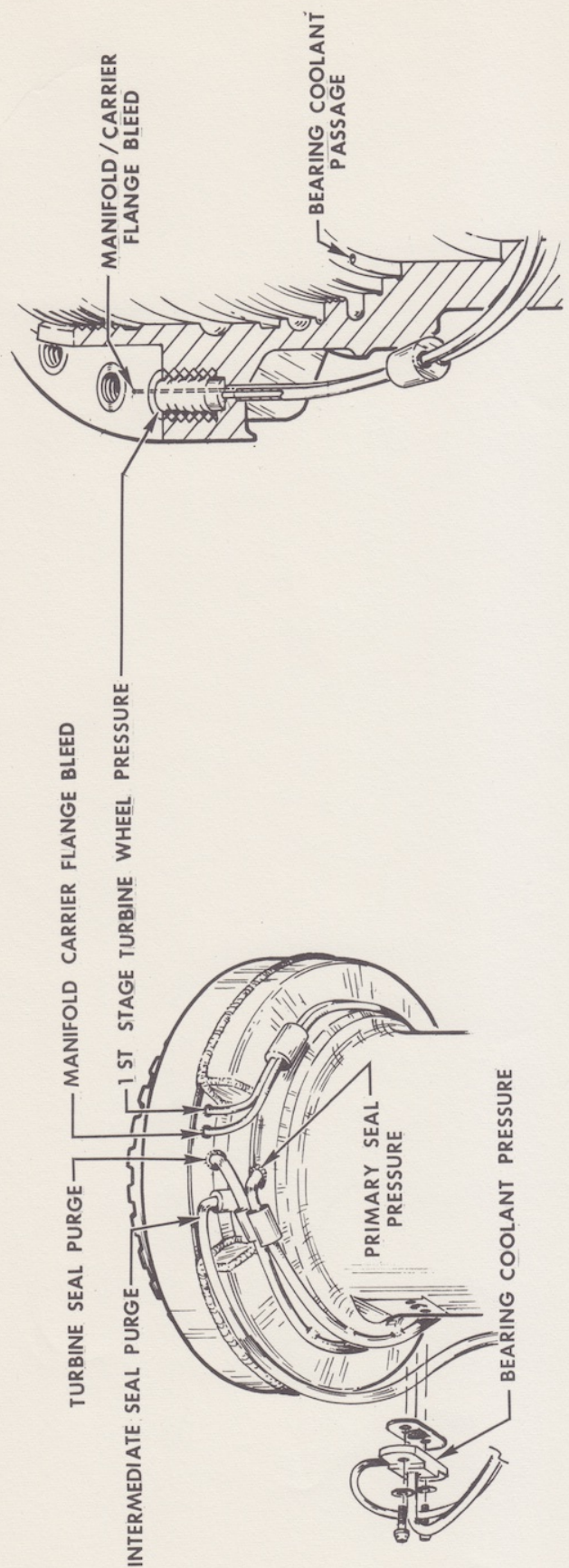
OXID. TURBOPUMP BEARING CARRIER

459140

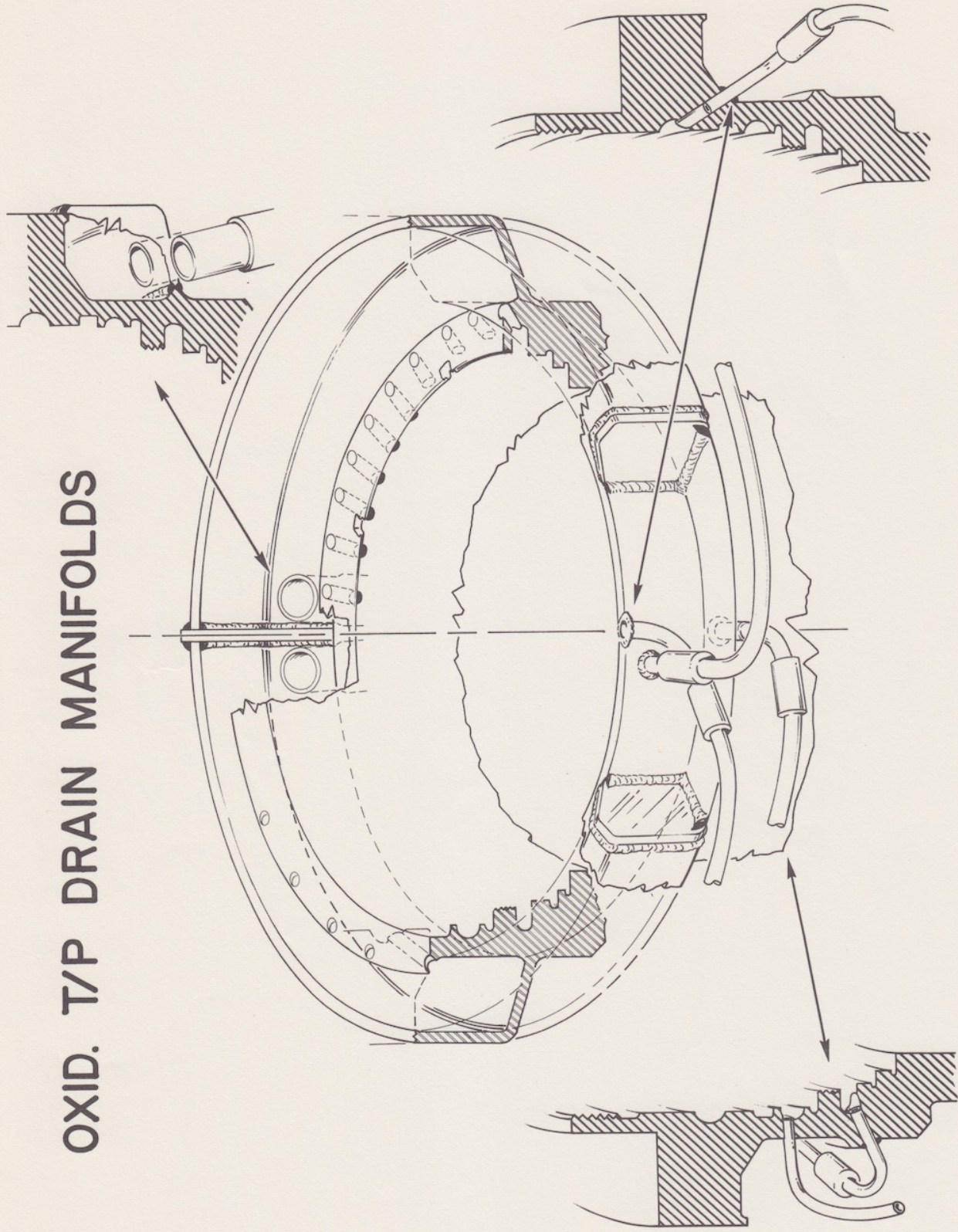


OXID. TURBOPUMP BEARING CARRIER DETAILS

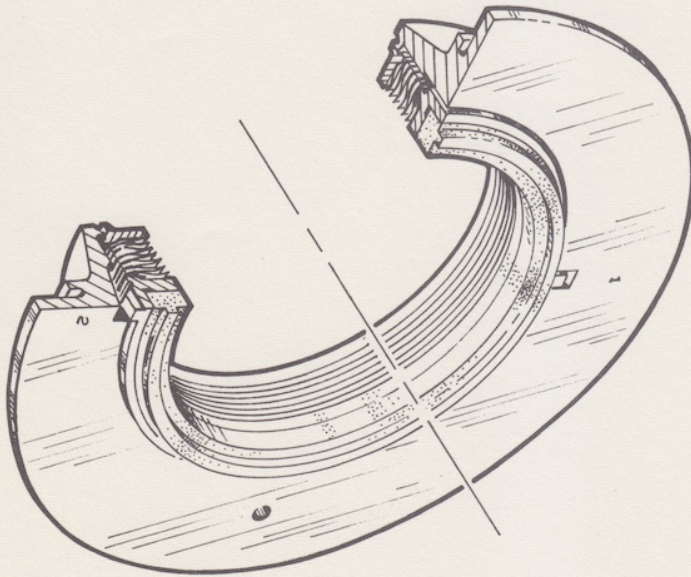
458140



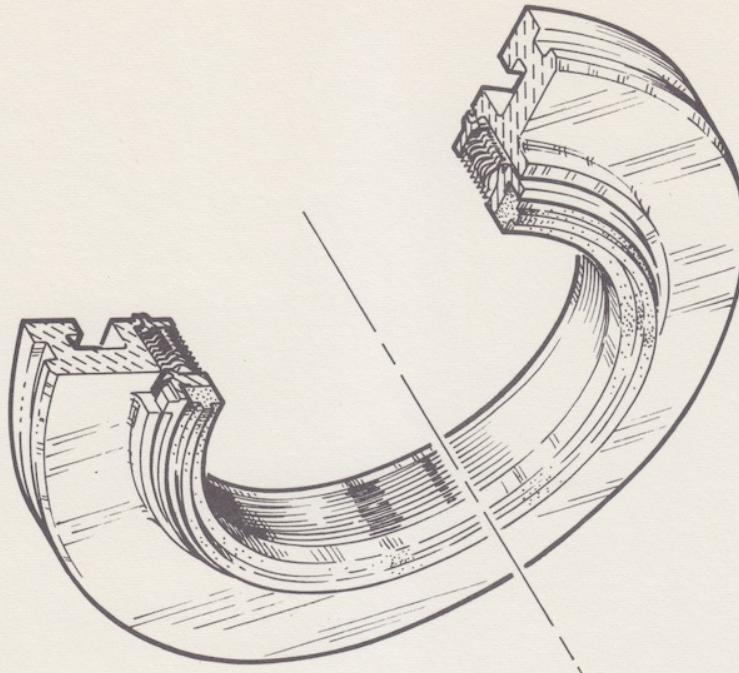
OXID. T/P DRAIN MANIFOLDS



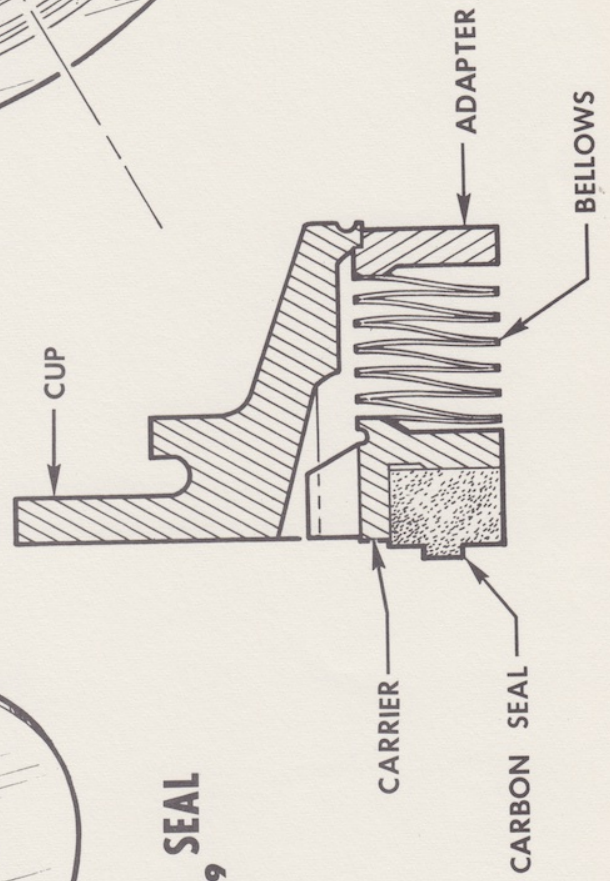
OXIDIZER TURBOPUMP SEALS



PRIMARY SEAL
456259

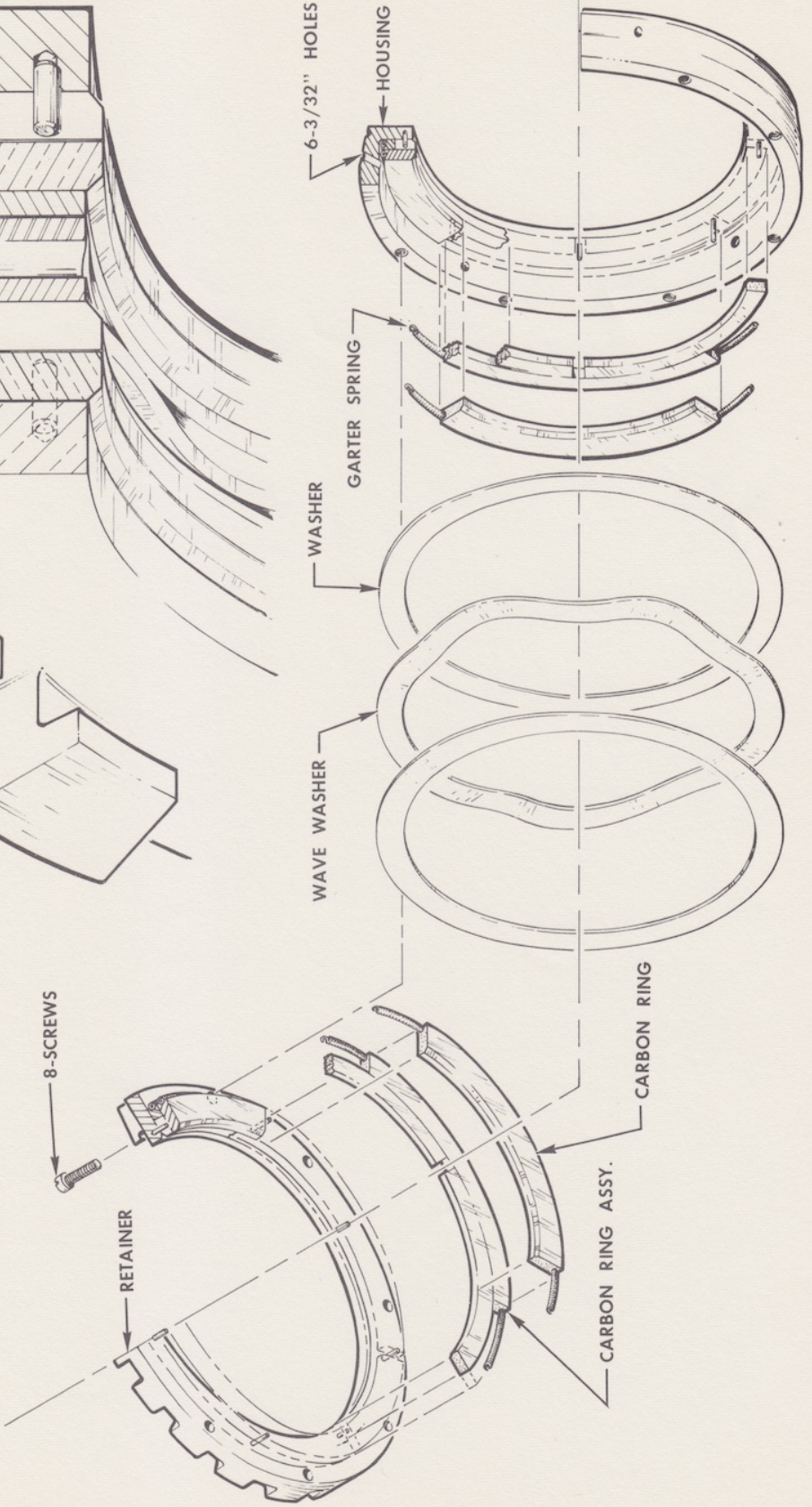
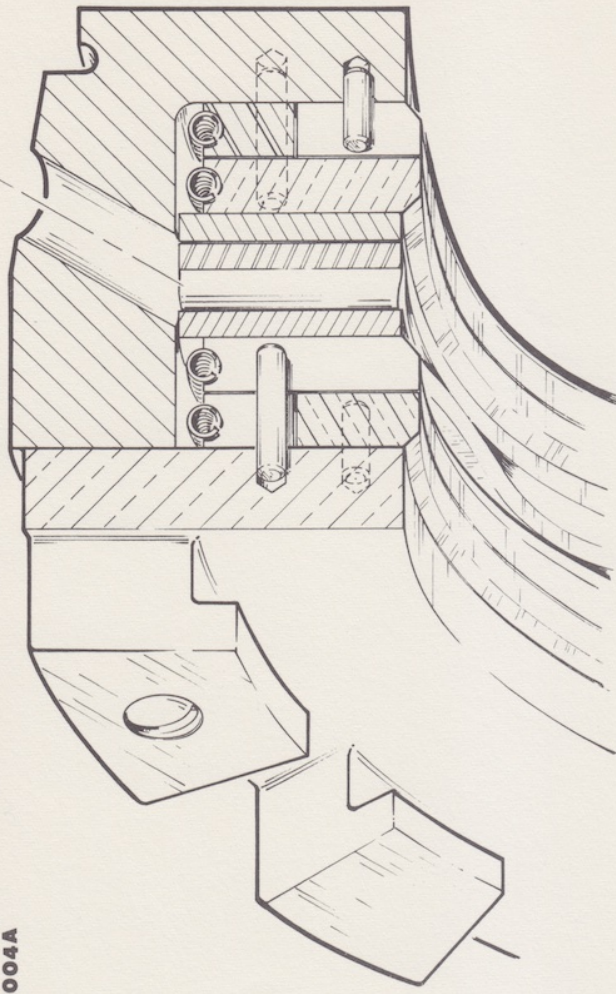


TURBINE SEAL
456267



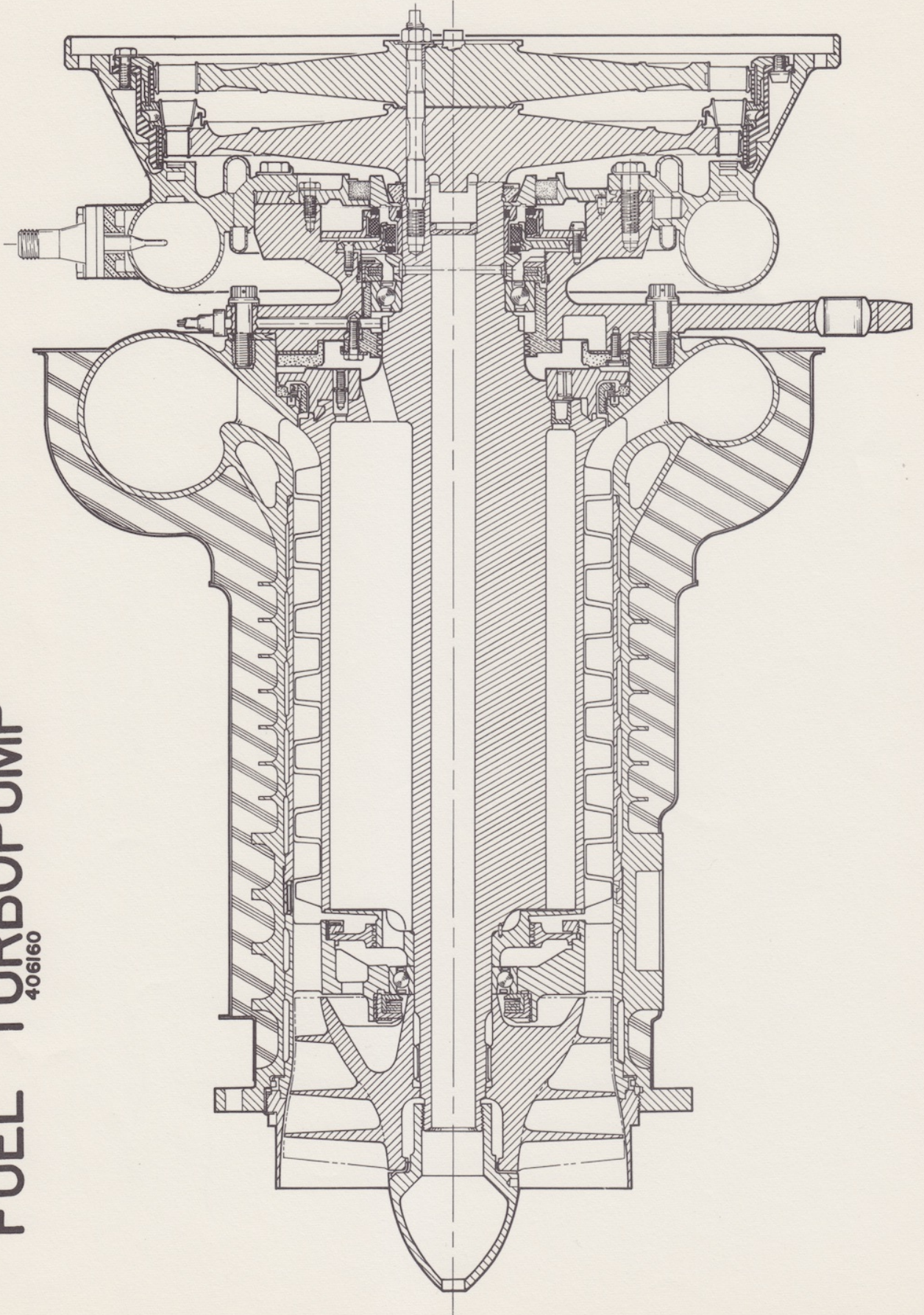
OXIDIZER TURBOPUMP INTERMEDIATE SEAL

NA5-26004A



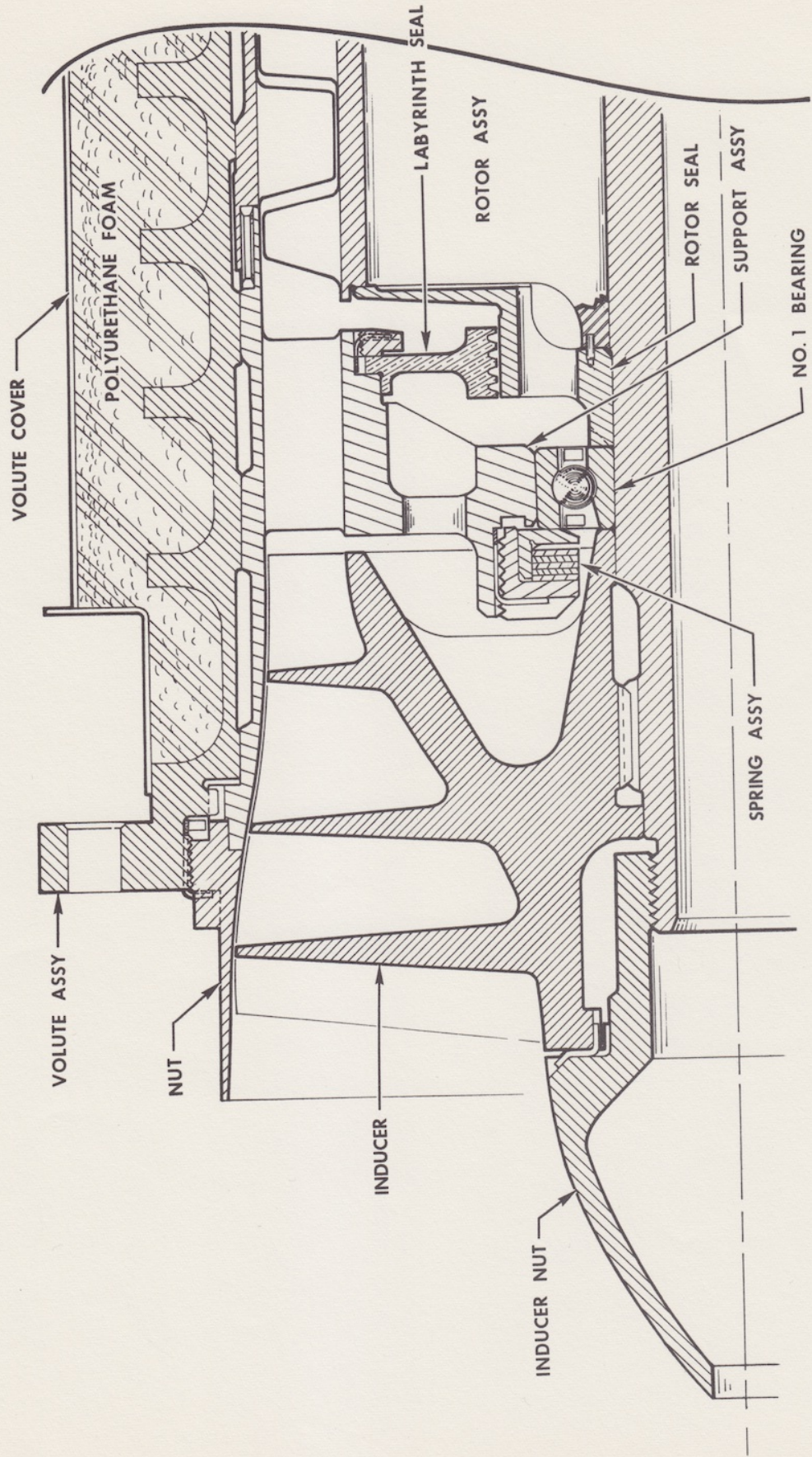
FUEL TURBOPUMP

406160

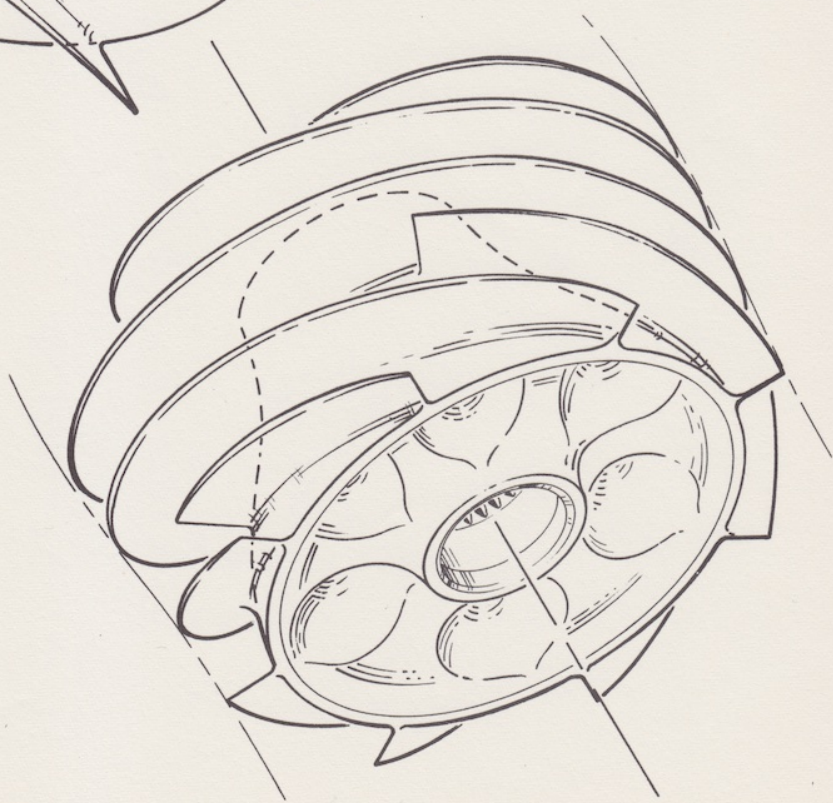
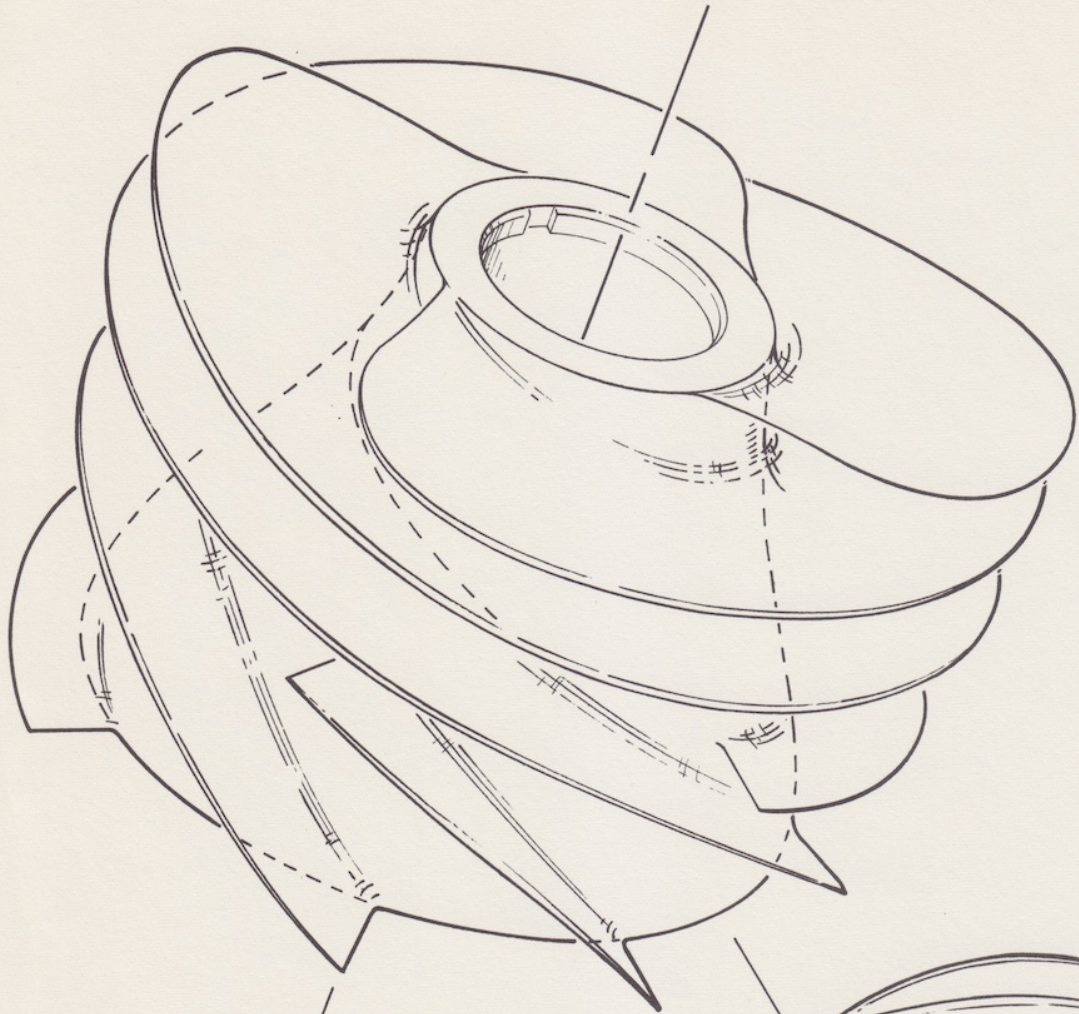


FUEL TURBOPUMP DETAIL NO 1

460160

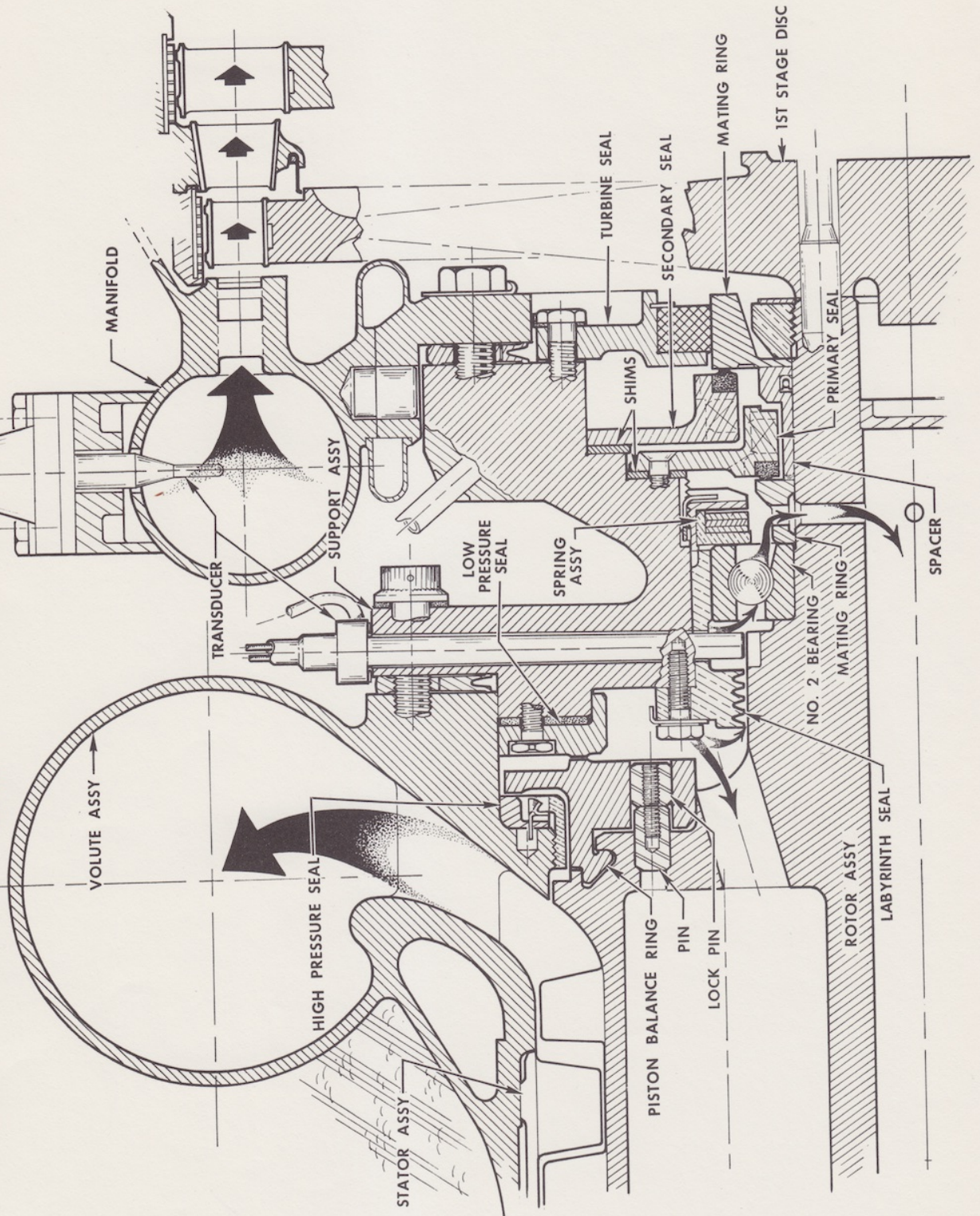


FUEL INDUCER
459005



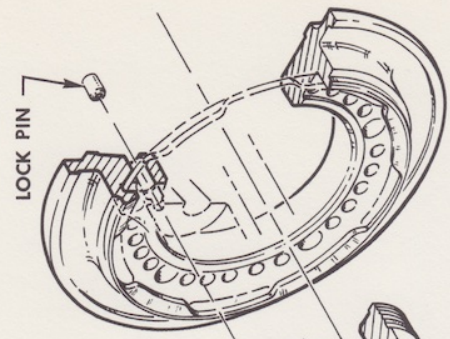
FUEL TURBOPUMP DETAIL NO 2

460160

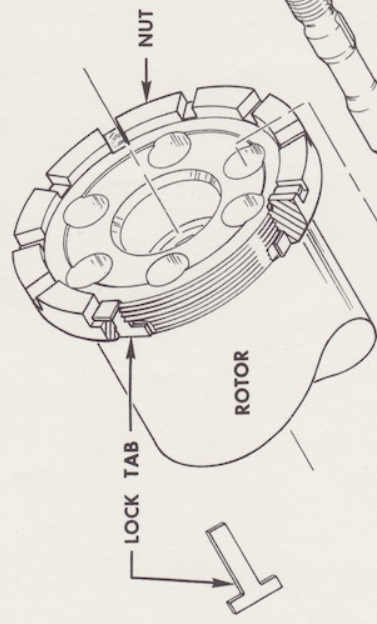


FUEL TURBOPUMP DETAIL NO. 3

460160



BALANCE PISTON
459080



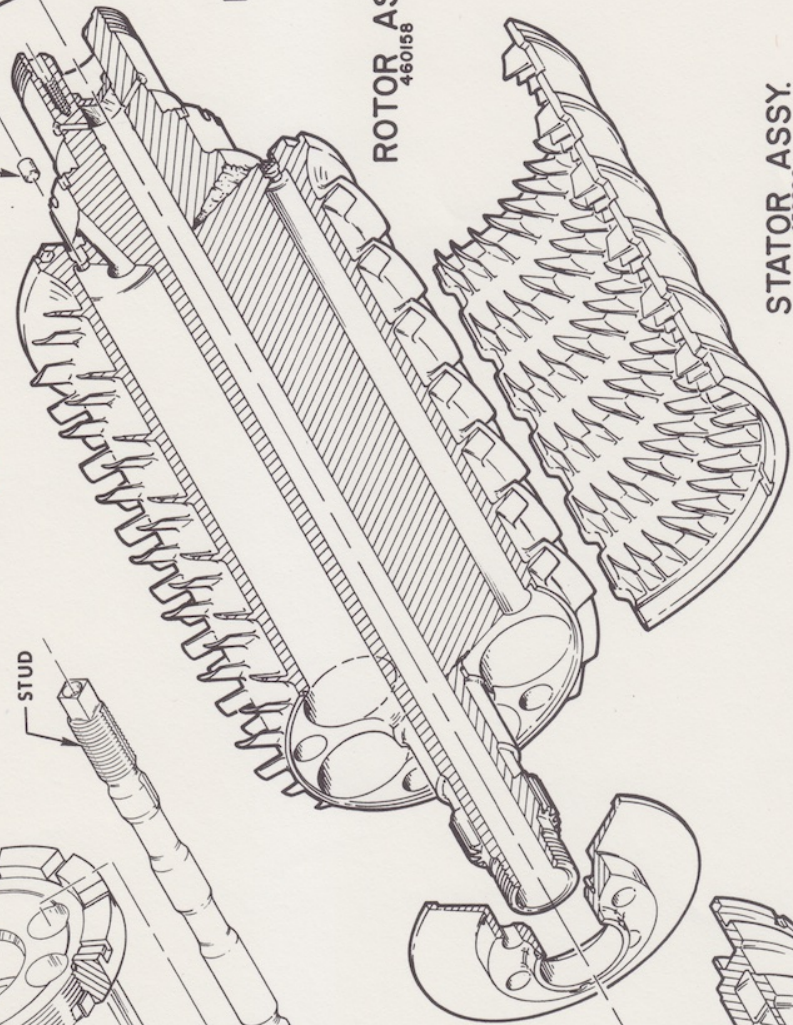
LOCK TAB

NUT

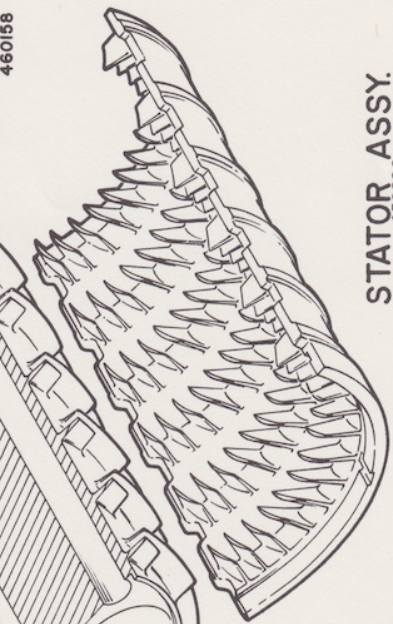
STUD

ROTOR

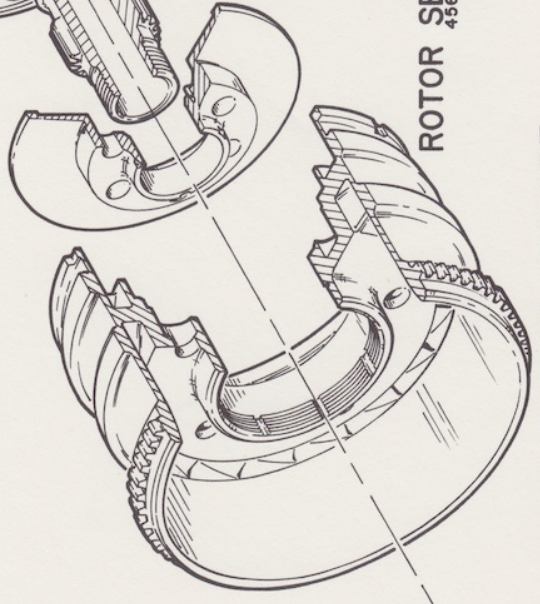
ROTOR ASSY.
460158



ROTOR SEAL ASSY.
456122

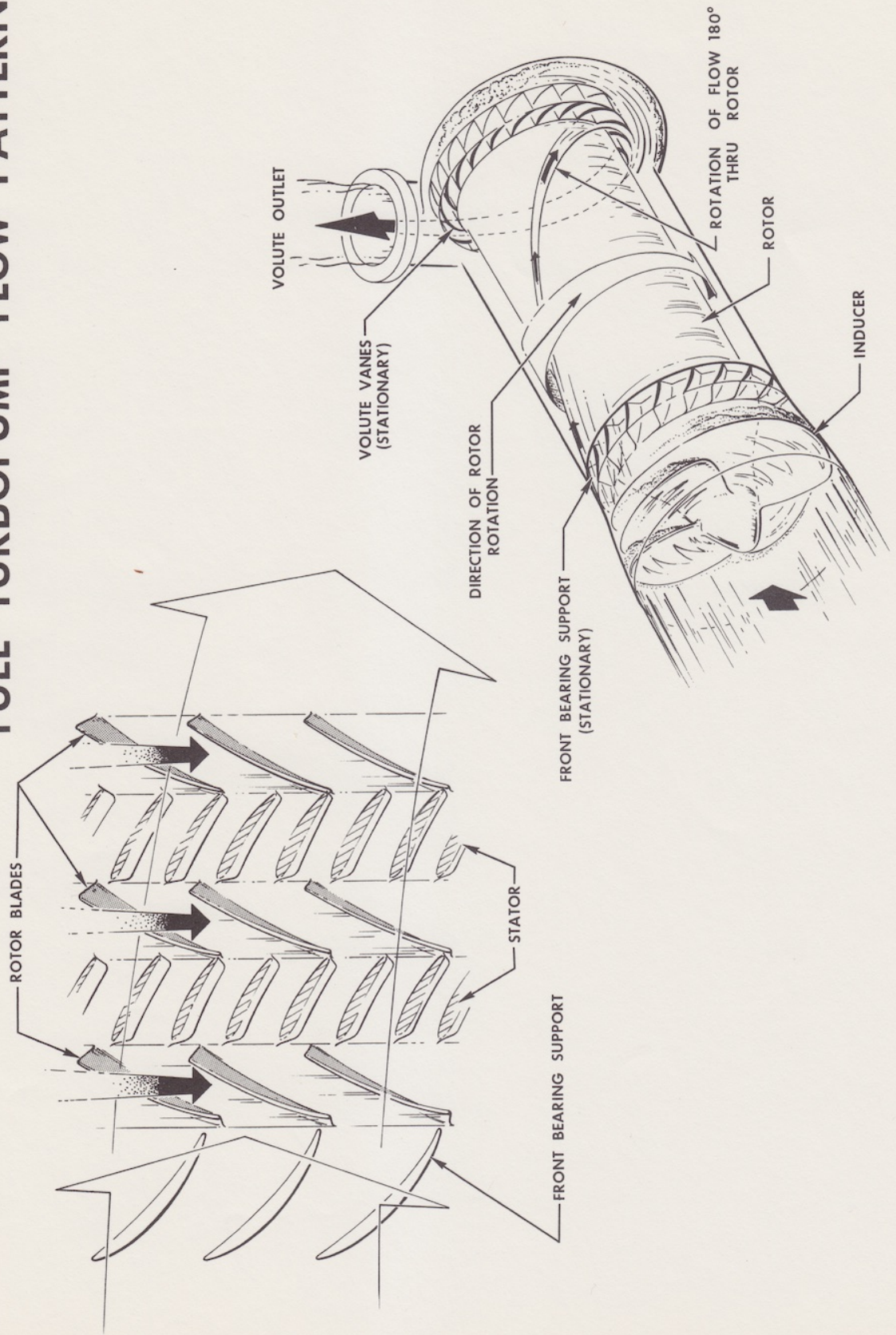


STATOR ASSY.
459026



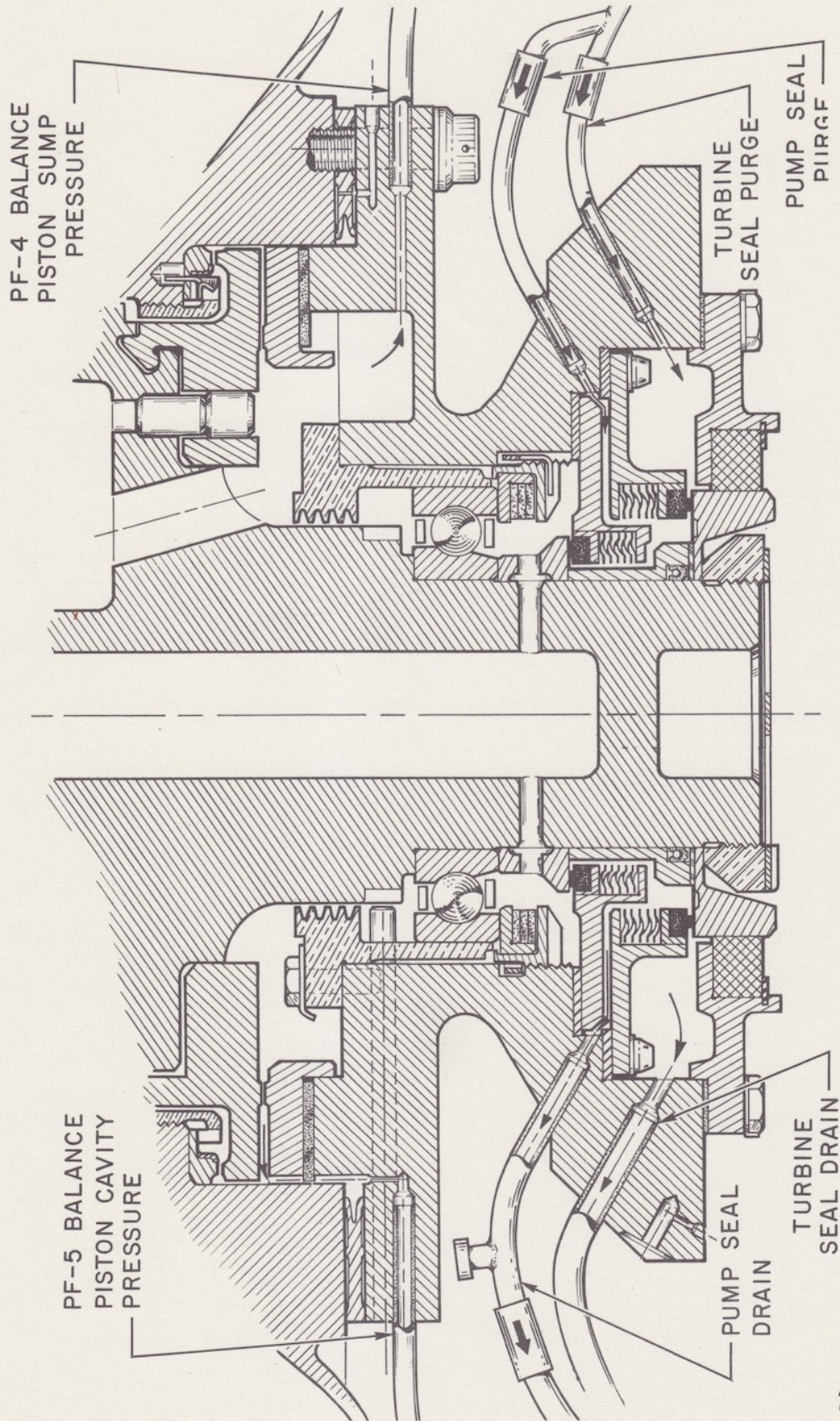
FRONT BEARING SUPPORT
460378

FUEL TURBOPUMP FLOW PATTERN



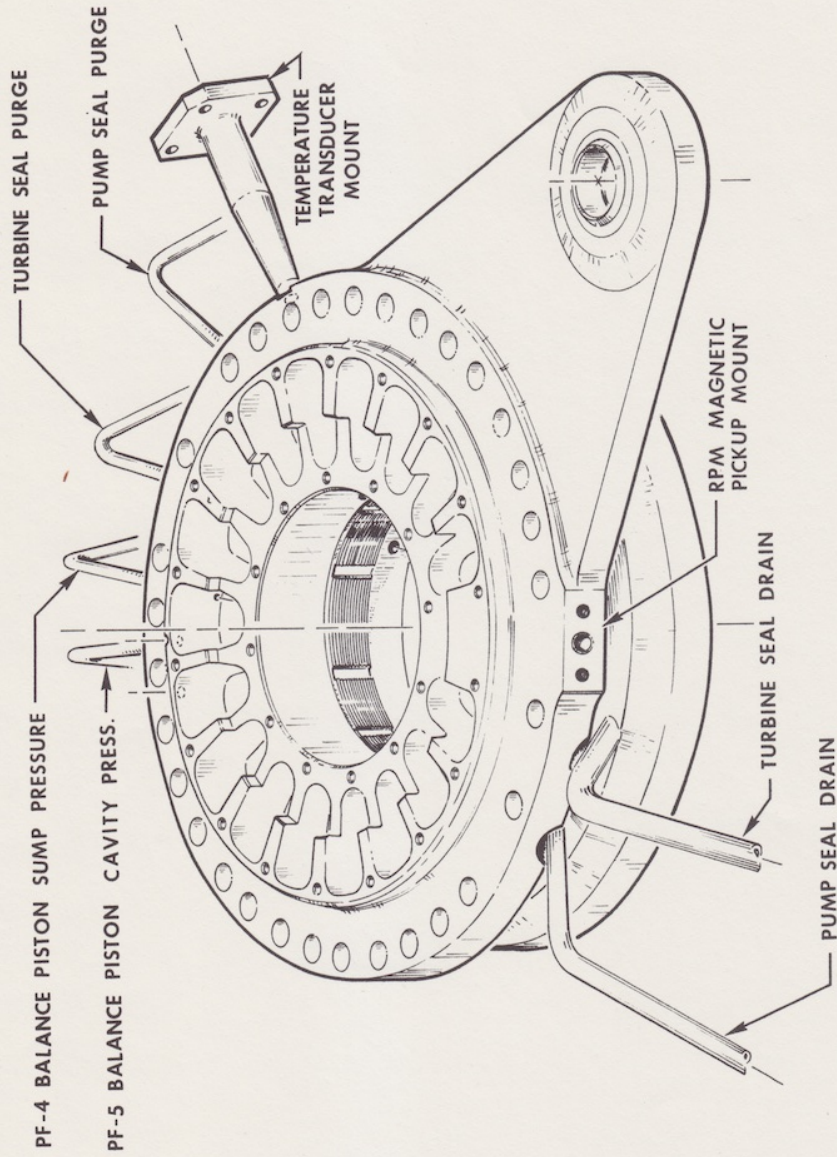
FUEL TURBOPUMP DRAINS

460160

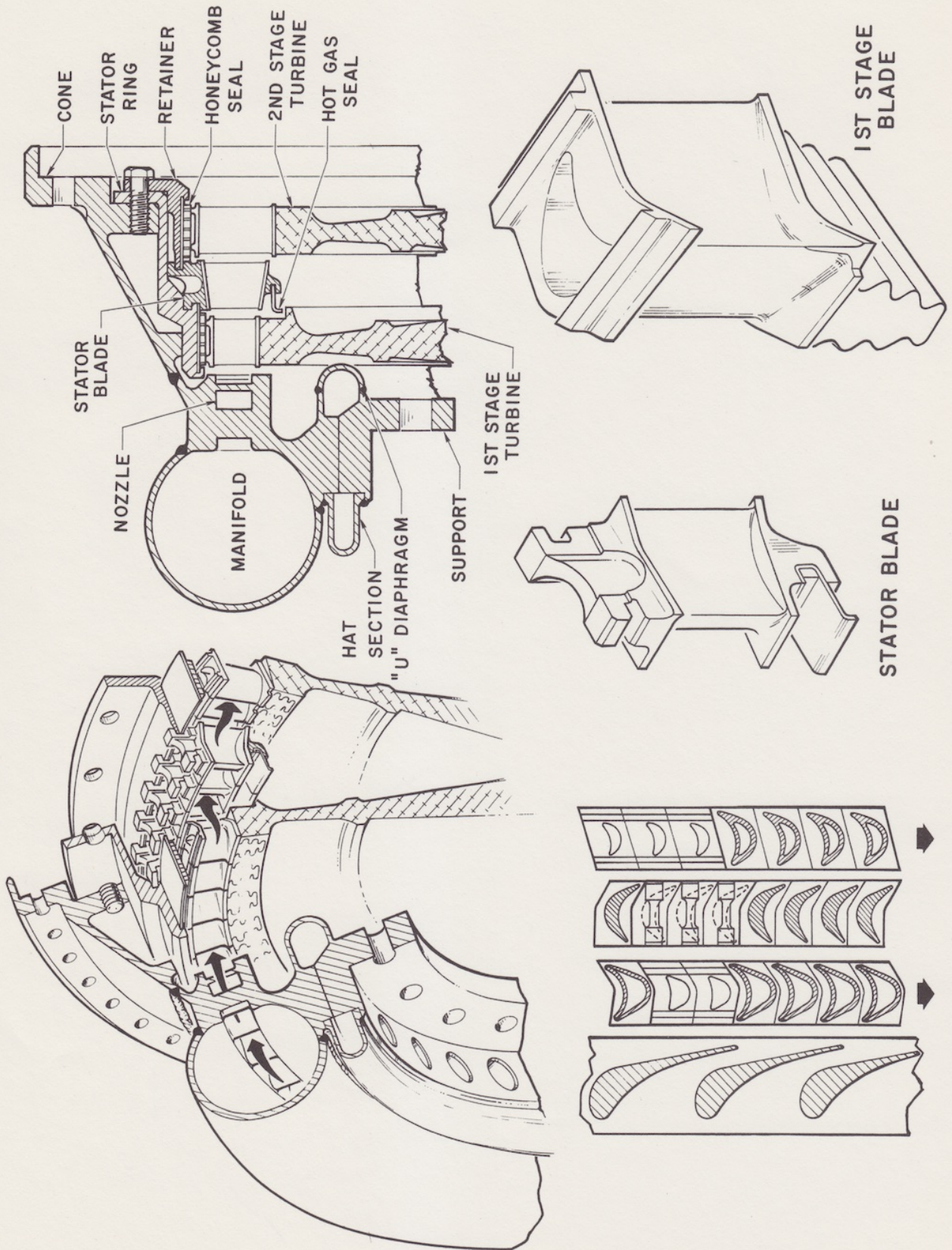


FUEL PUMP REAR BEARING SUPPORT

459010

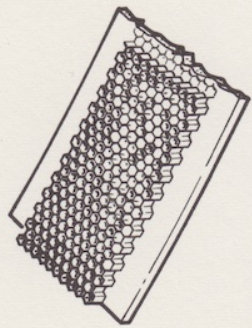
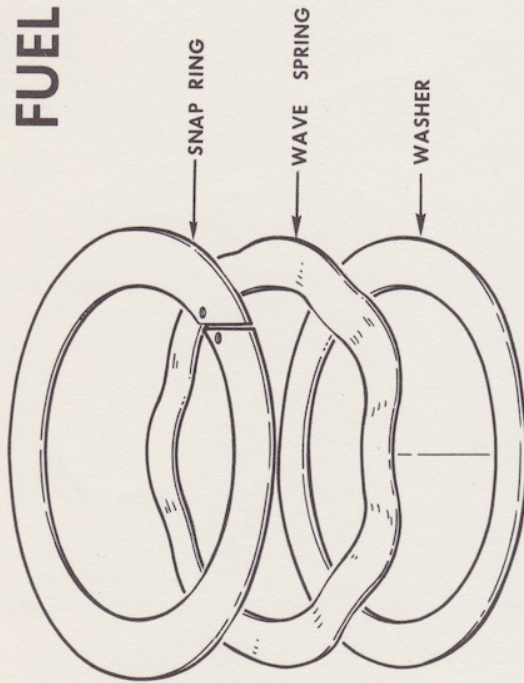


FUEL TURBINE ASSEMBLY

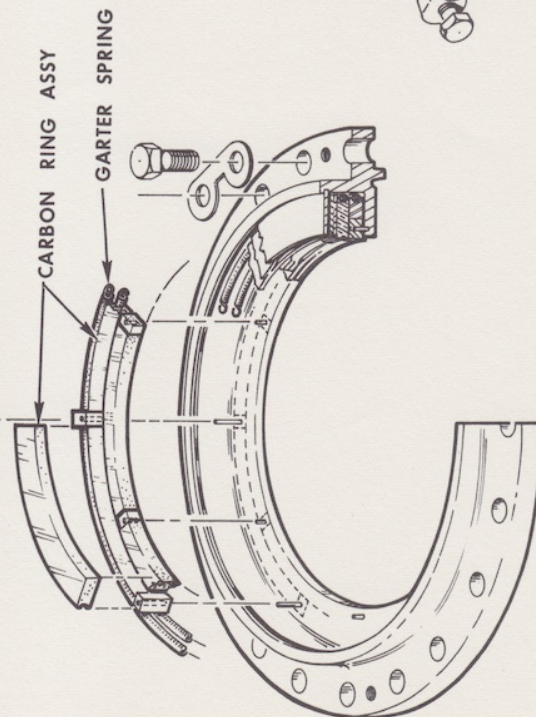


FUEL TURBOPUMP SEALS

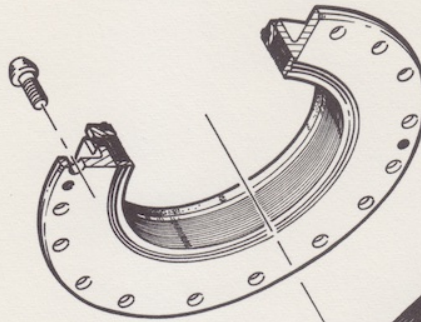
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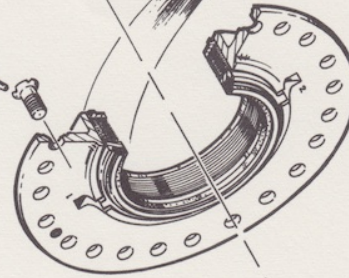
HONEYCOMB SEAL



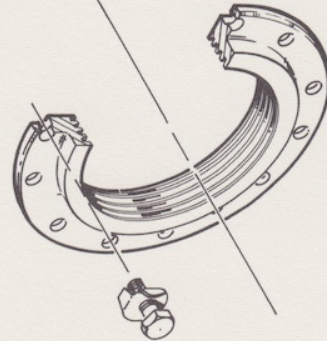
TURBINE SEAL
NA5-26628



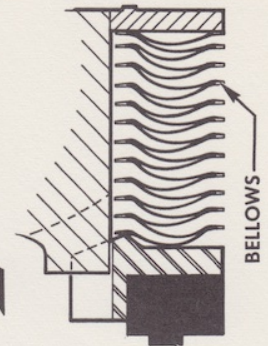
SECONDARY SEAL
NA5-260070



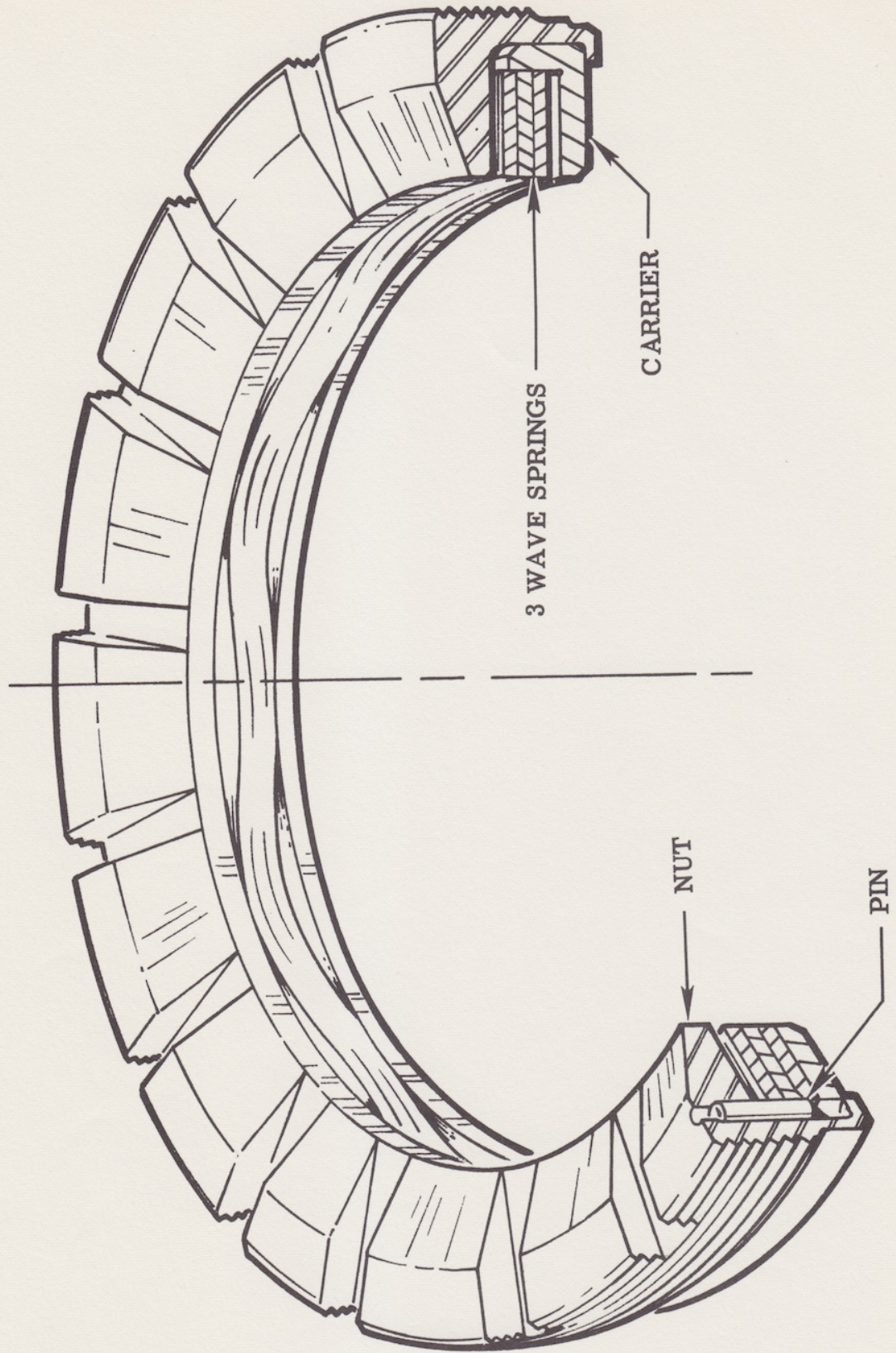
PRIMARY SEAL
NA5-26985



LABYRINTH SEAL
456146

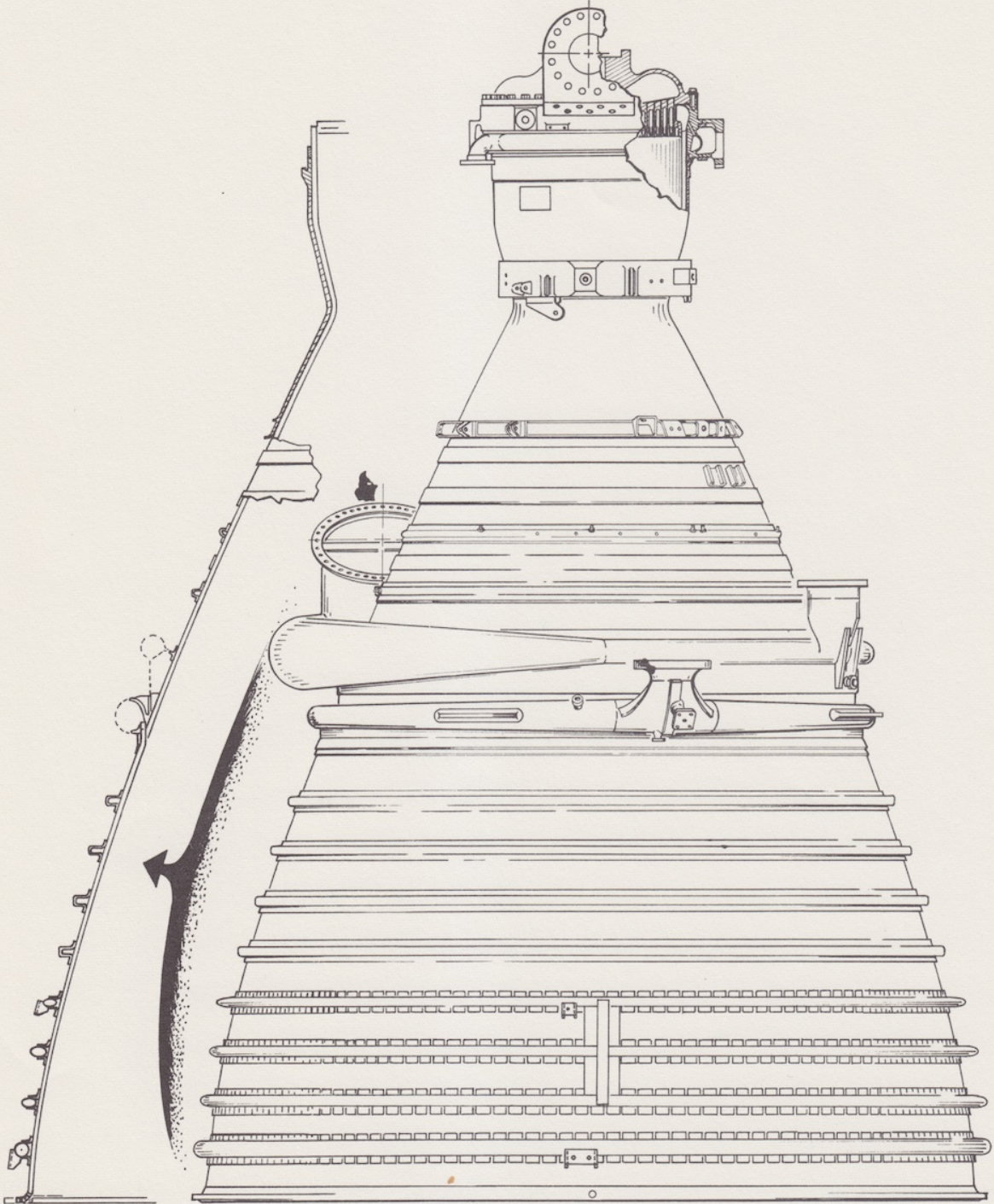


REAR BEARING SPRING ASSEMBLY
459041

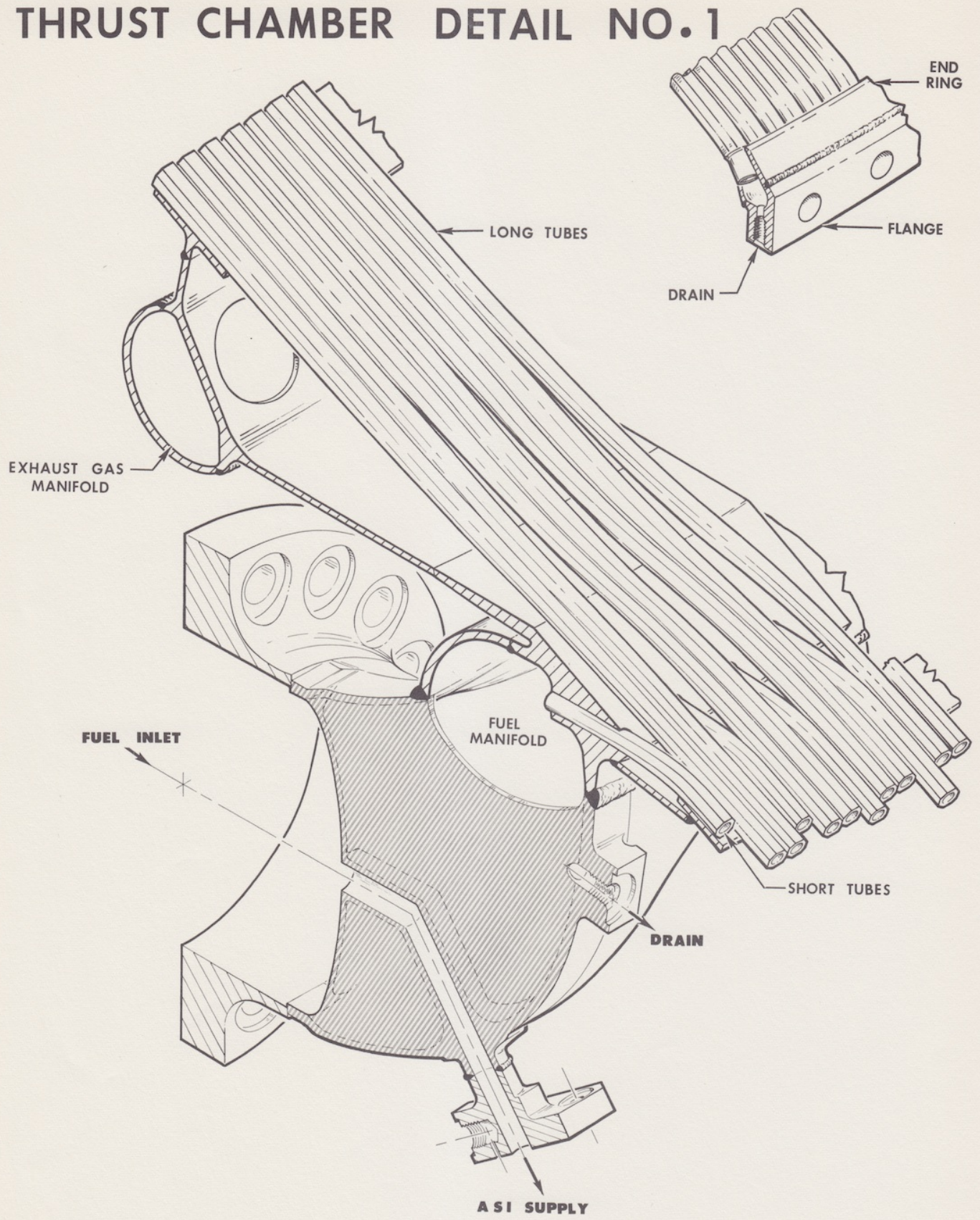


THRUST CHAMBER

206600-91

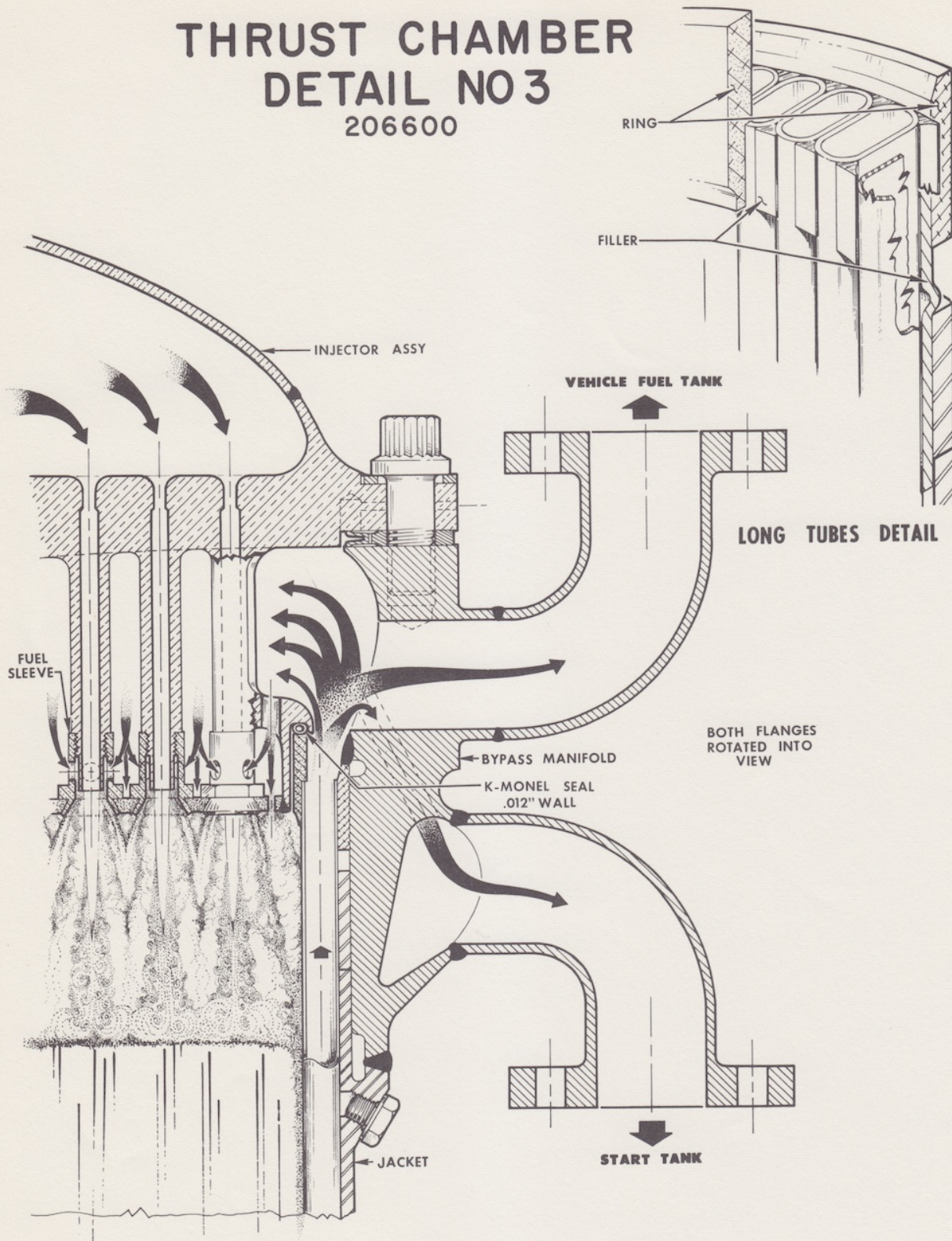


THRUST CHAMBER DETAIL NO. 1



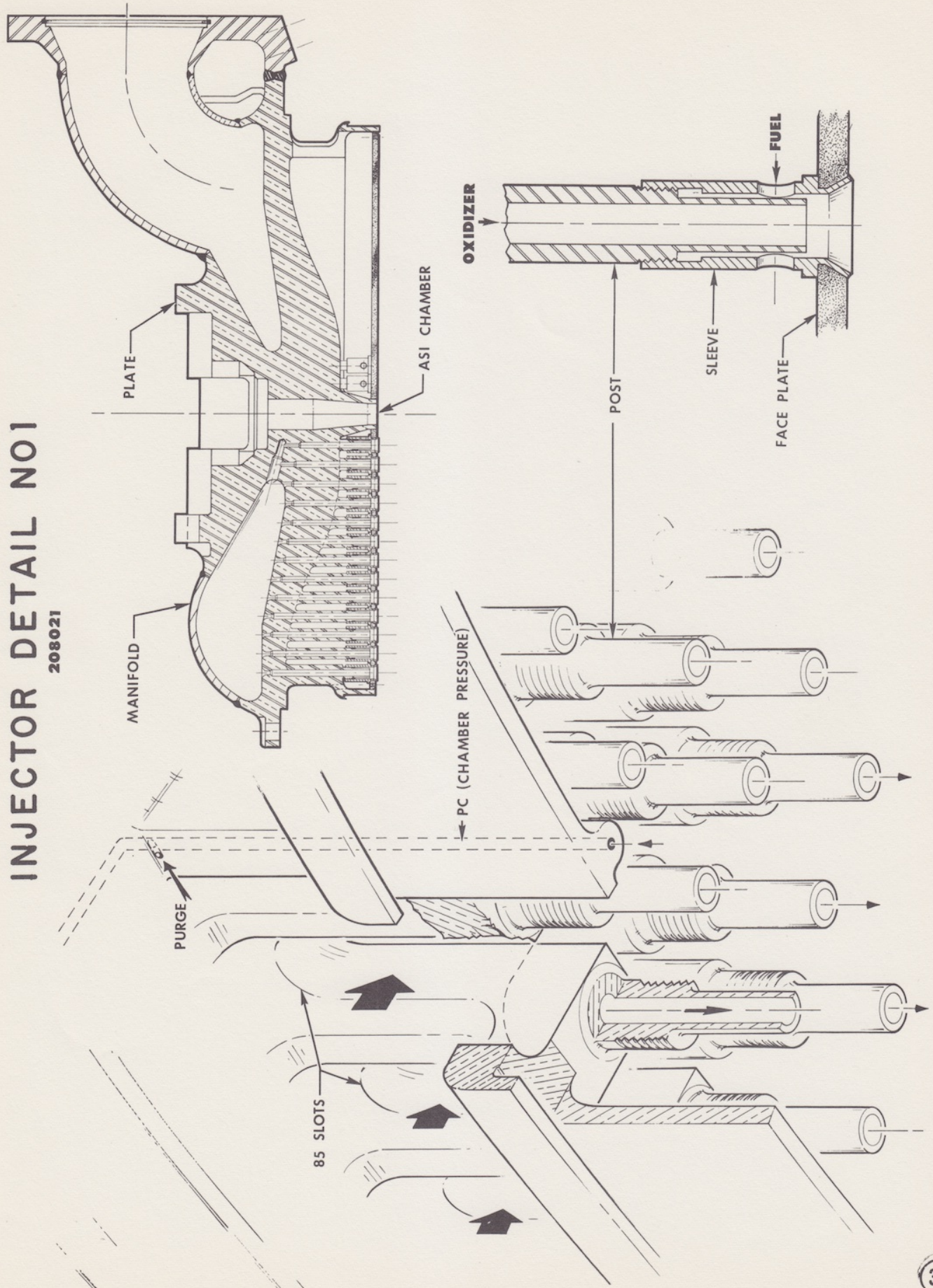
THRUST CHAMBER DETAIL NO 3

206600



INJECTOR DETAIL NO1

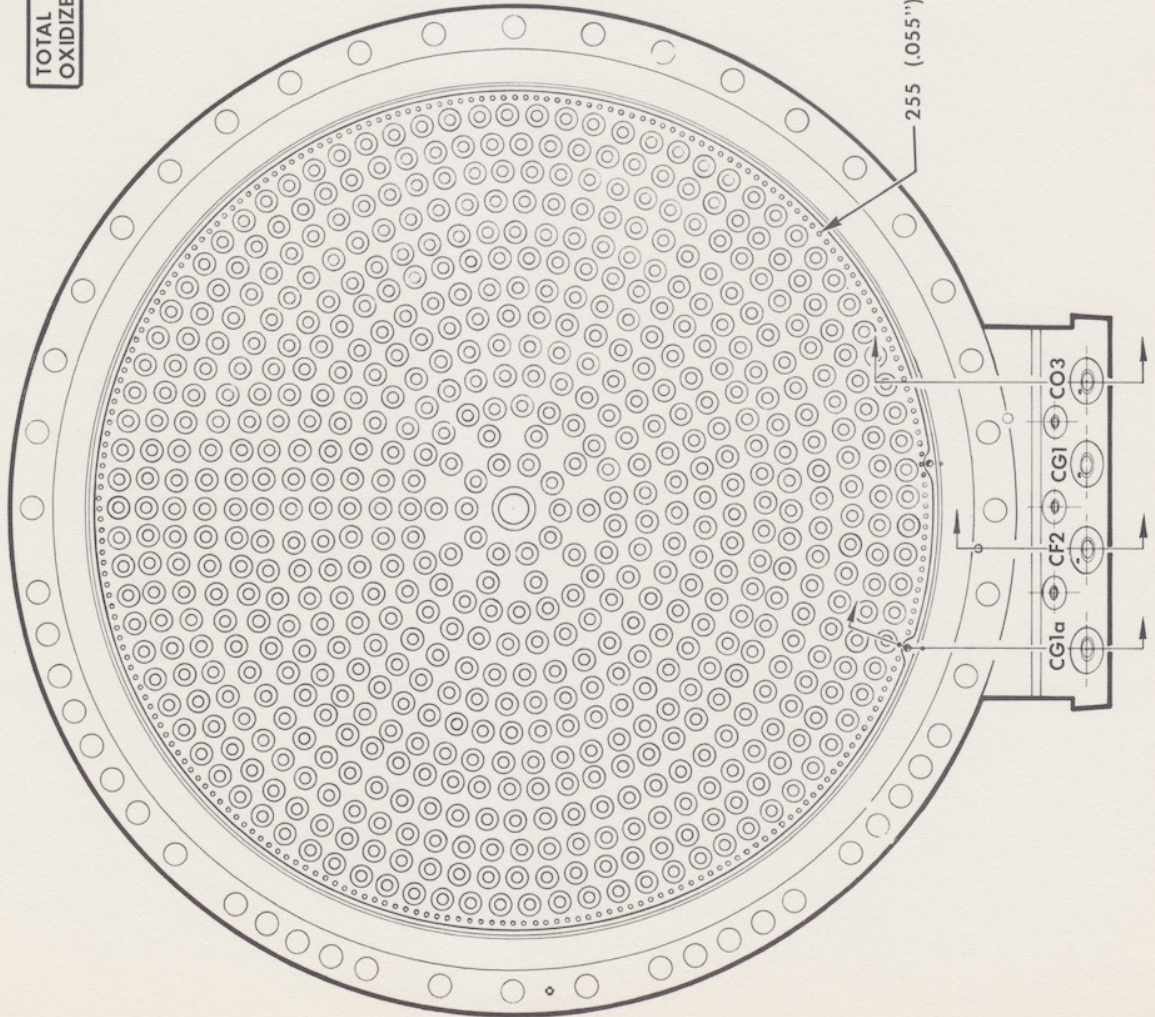
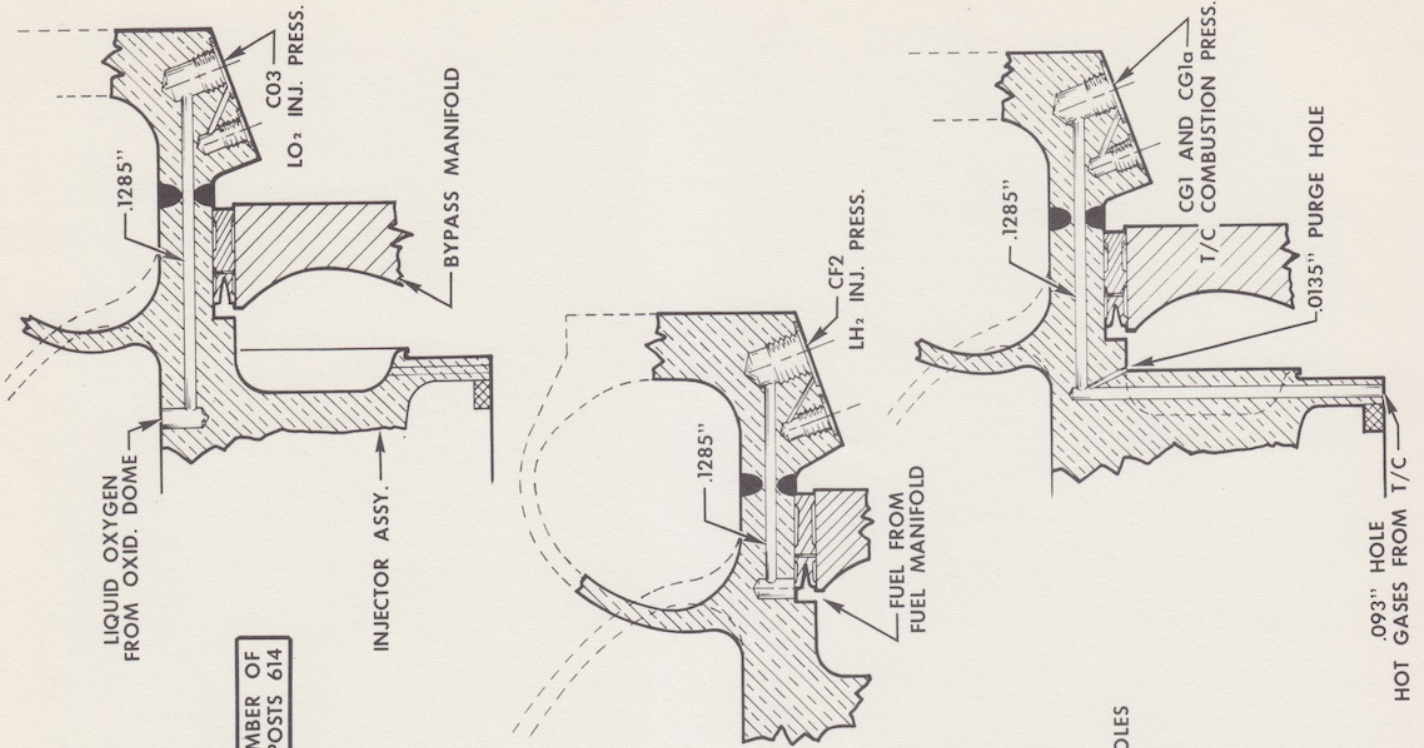
208021



THRUST CHAMBER INJECTOR

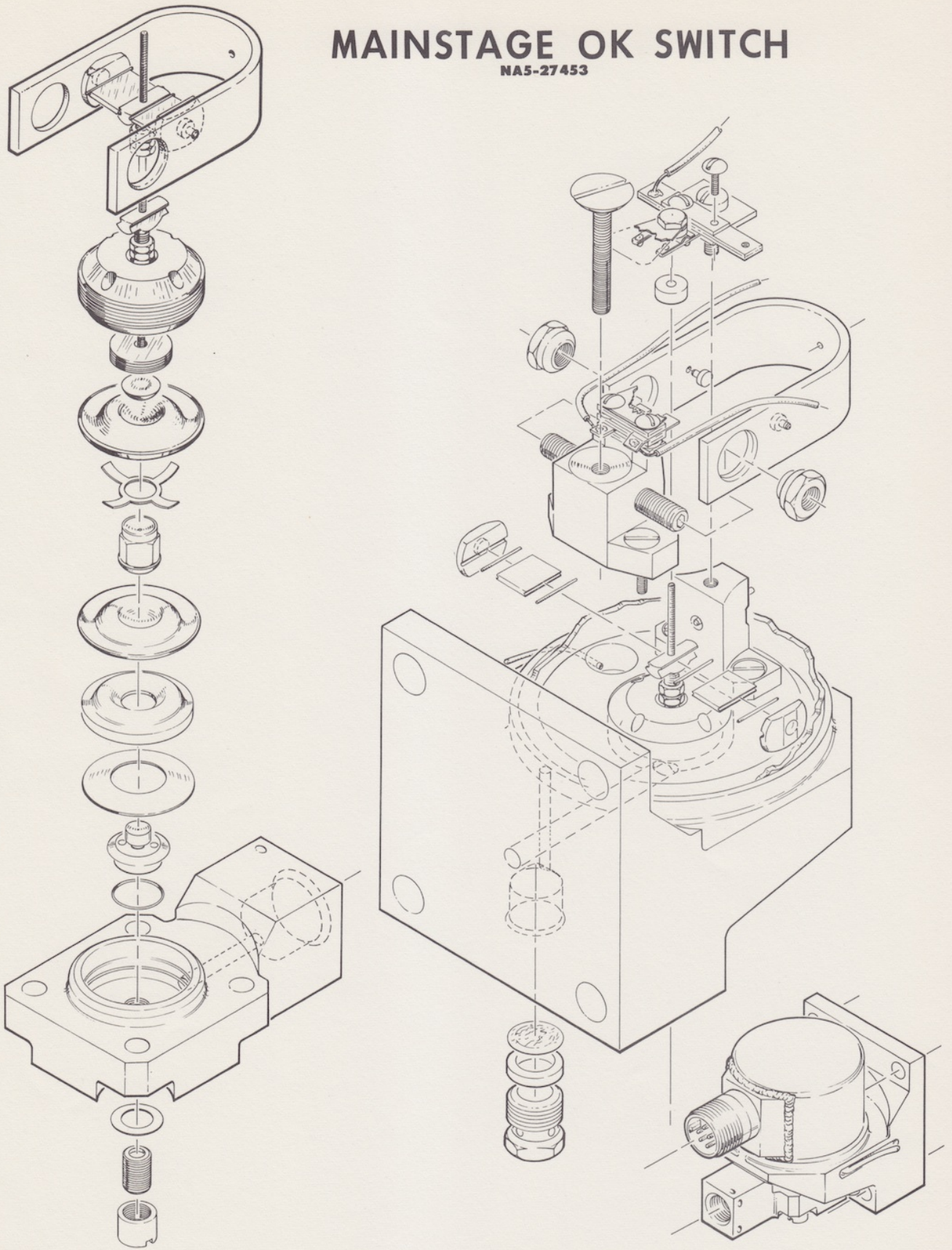
208021

TOTAL NUMBER OF OXIDIZER POSTS 614

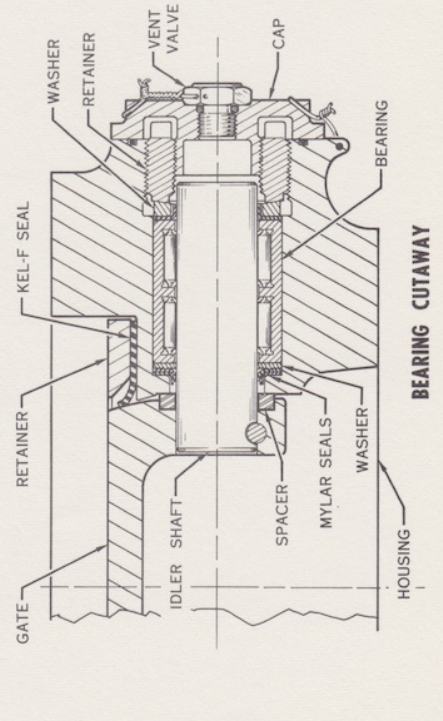
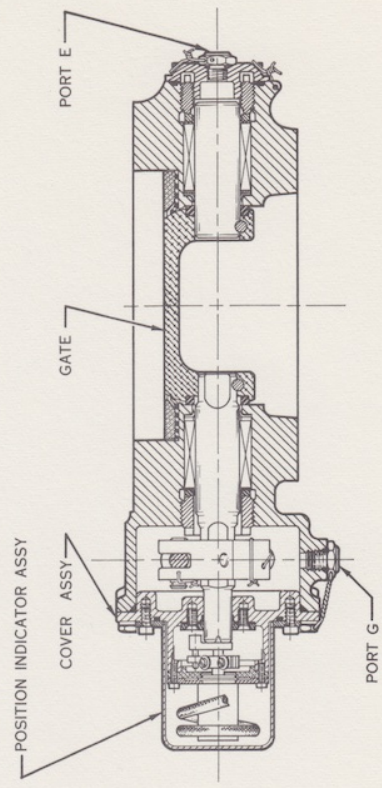
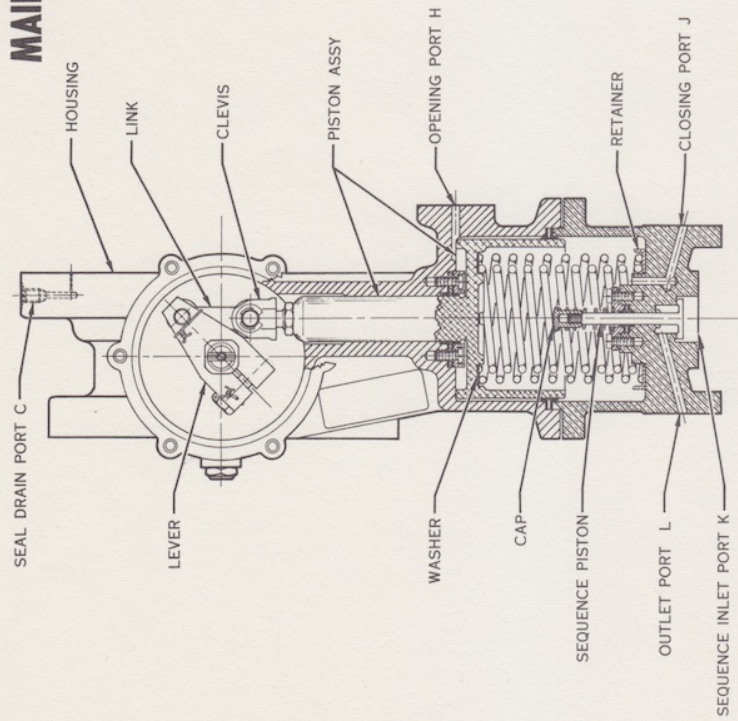
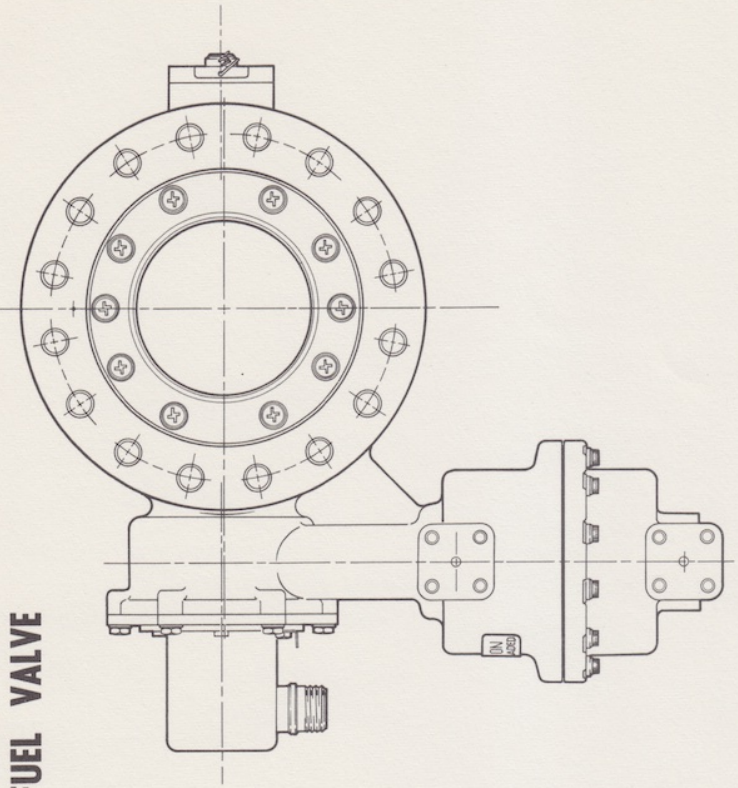


MAINSTAGE OK SWITCH

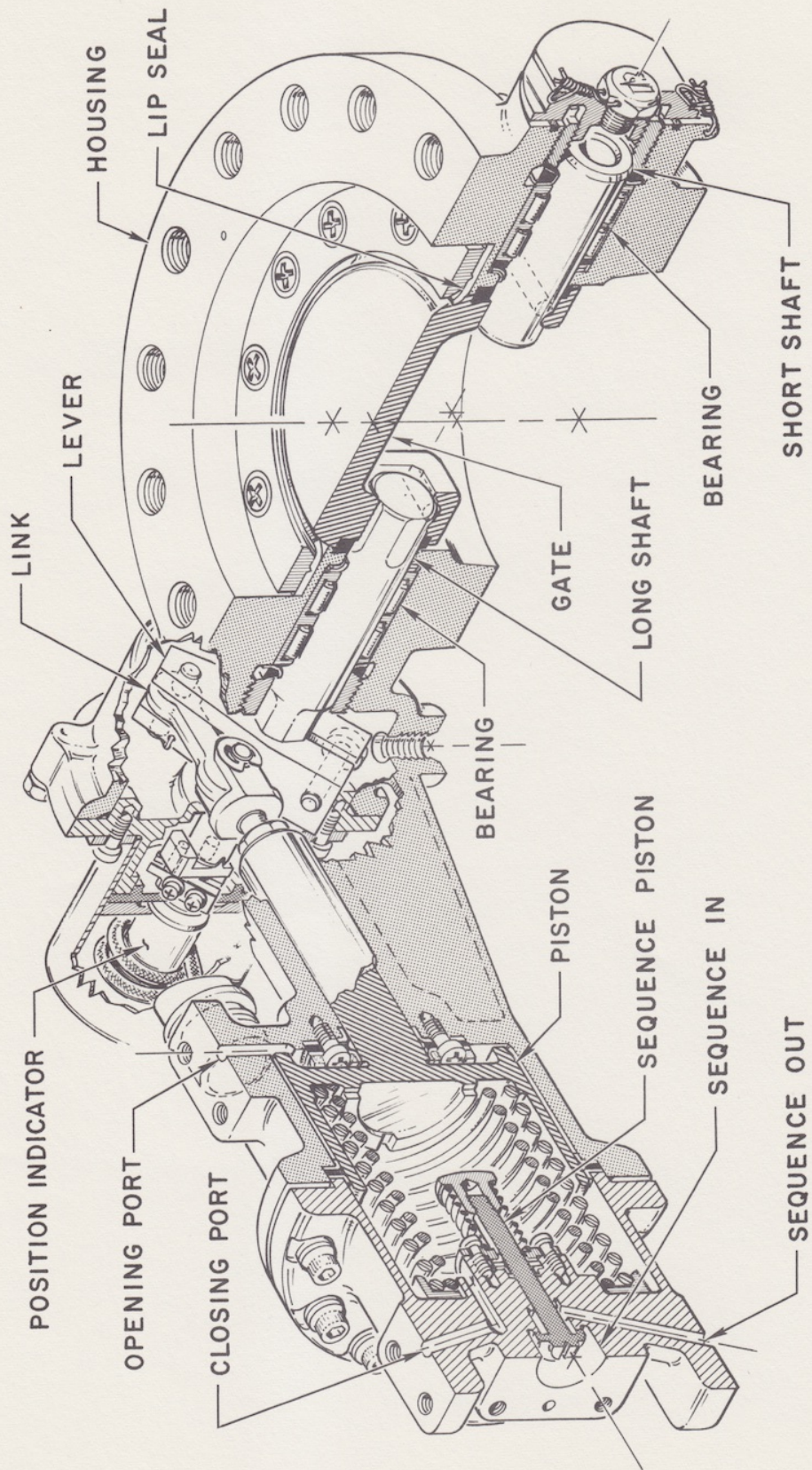
NA5-27453



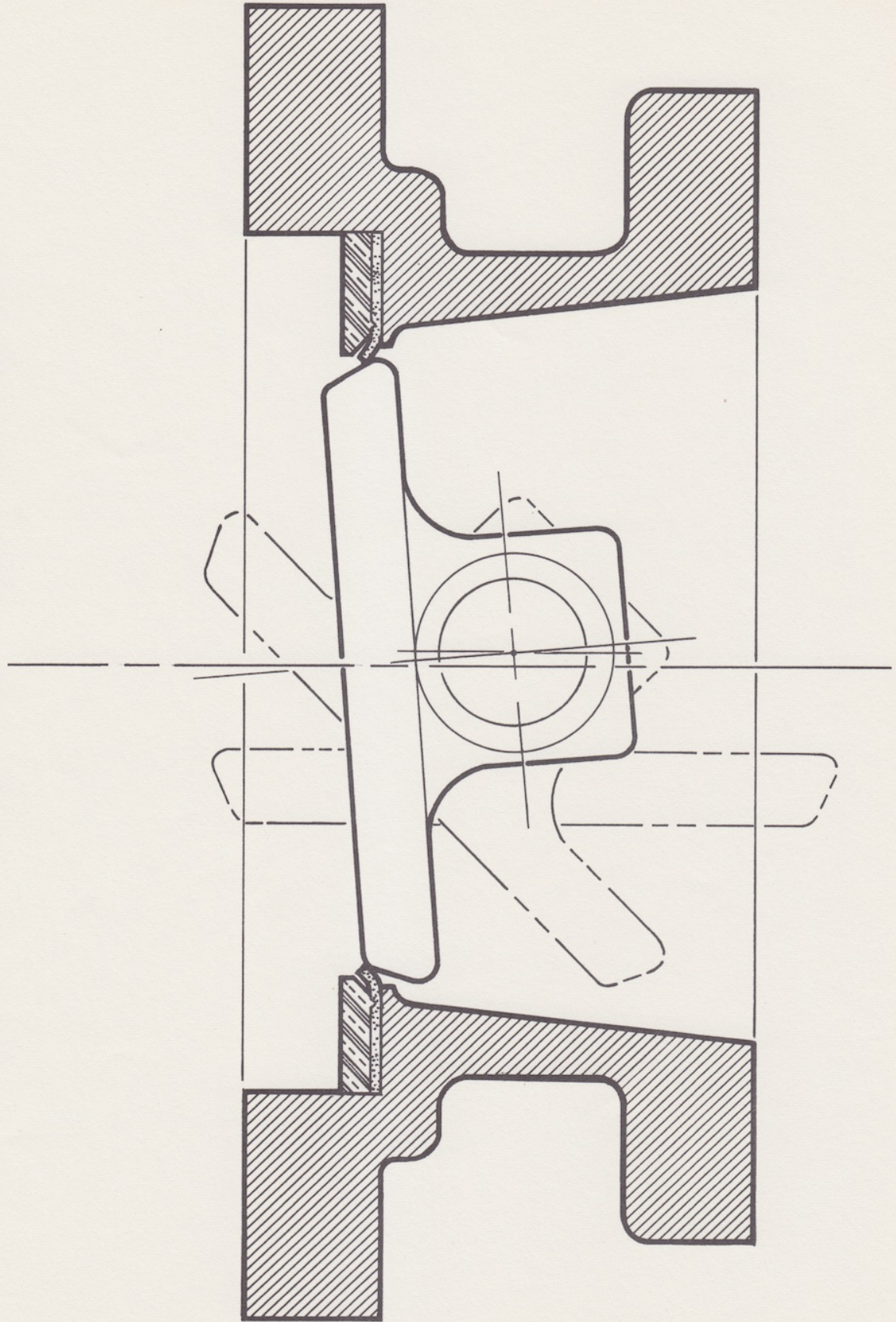
MAIN FUEL VALVE

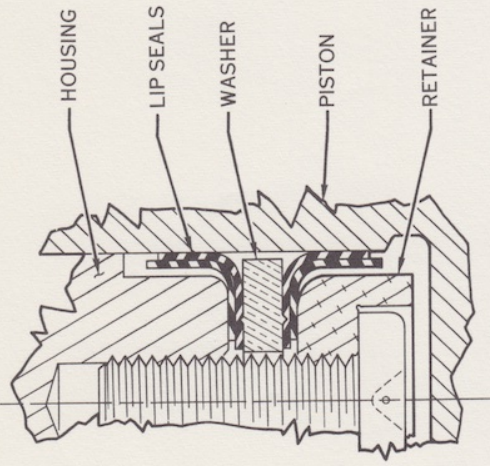


MAIN FUEL VALVE ISOMETRIC (409920)

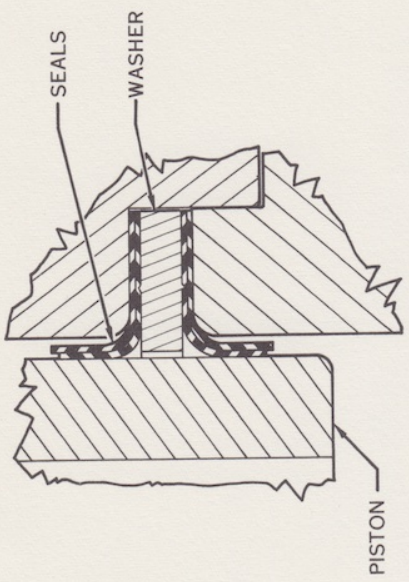


MFV GATE MOVEMENT

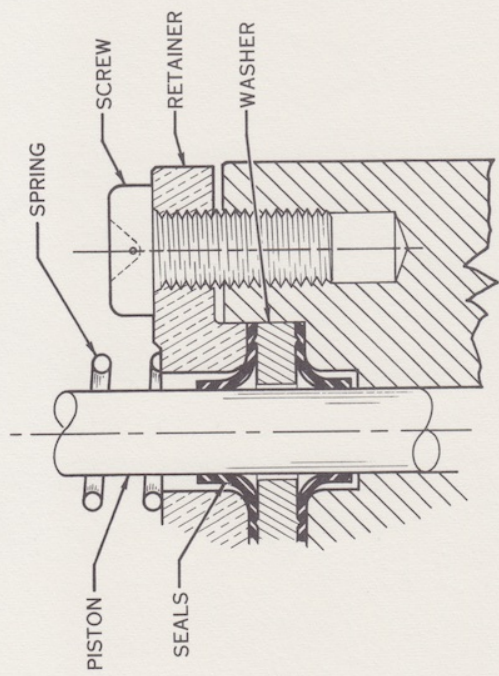




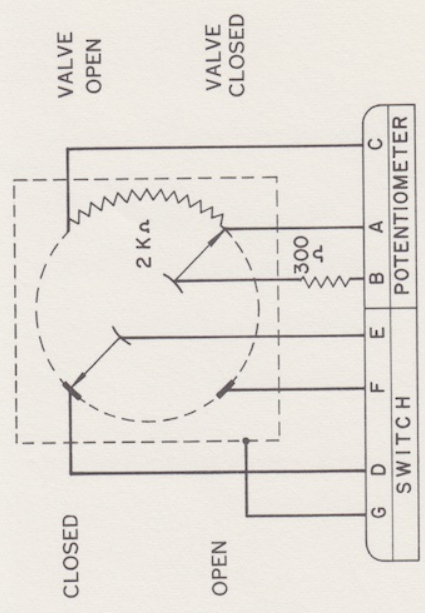
PISTON SH FT SEALS



PISTON SEALS



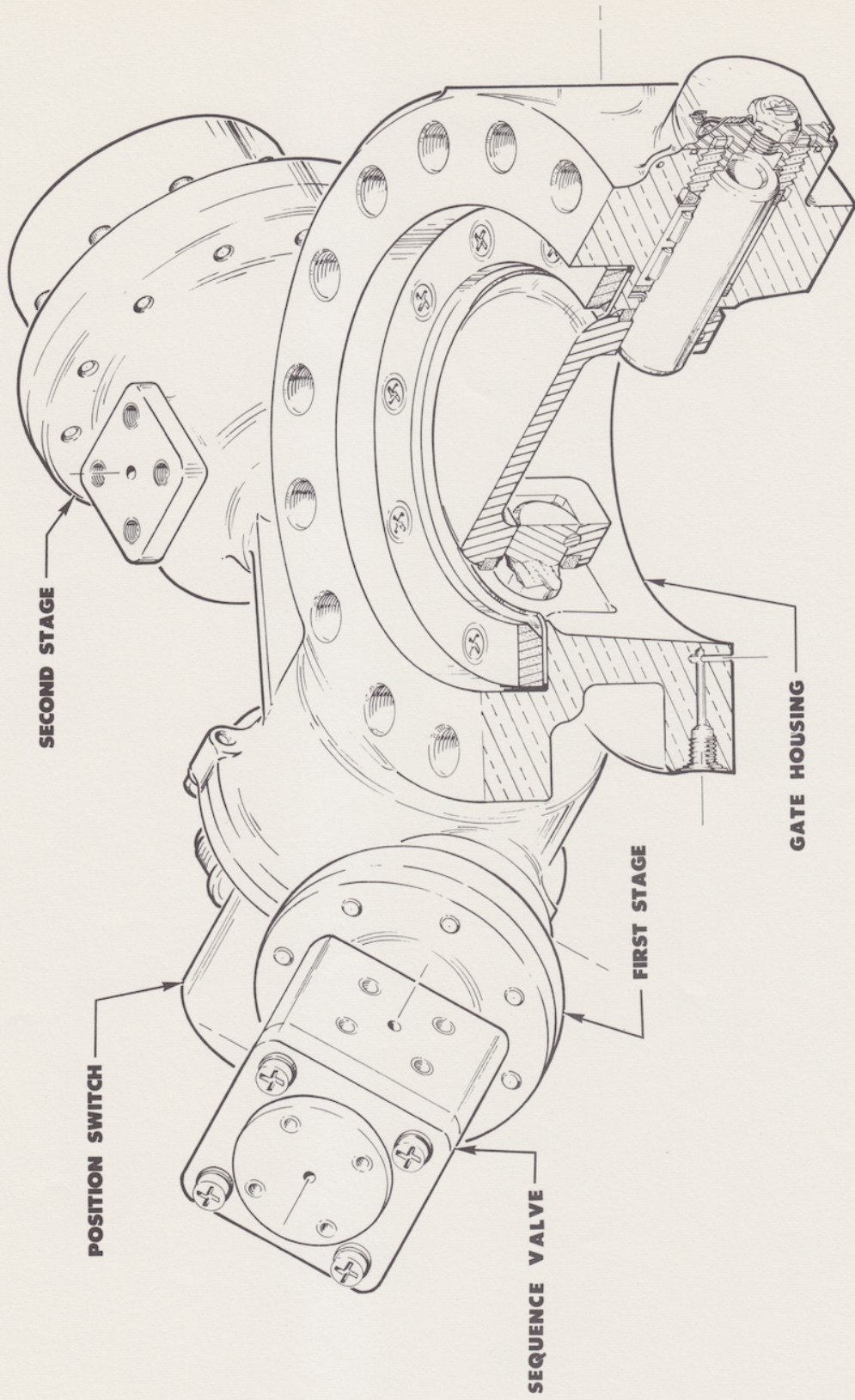
SEQUENCE OUTLET PORT VALVE SEALS



MAIN FUEL VALVE DETAILS

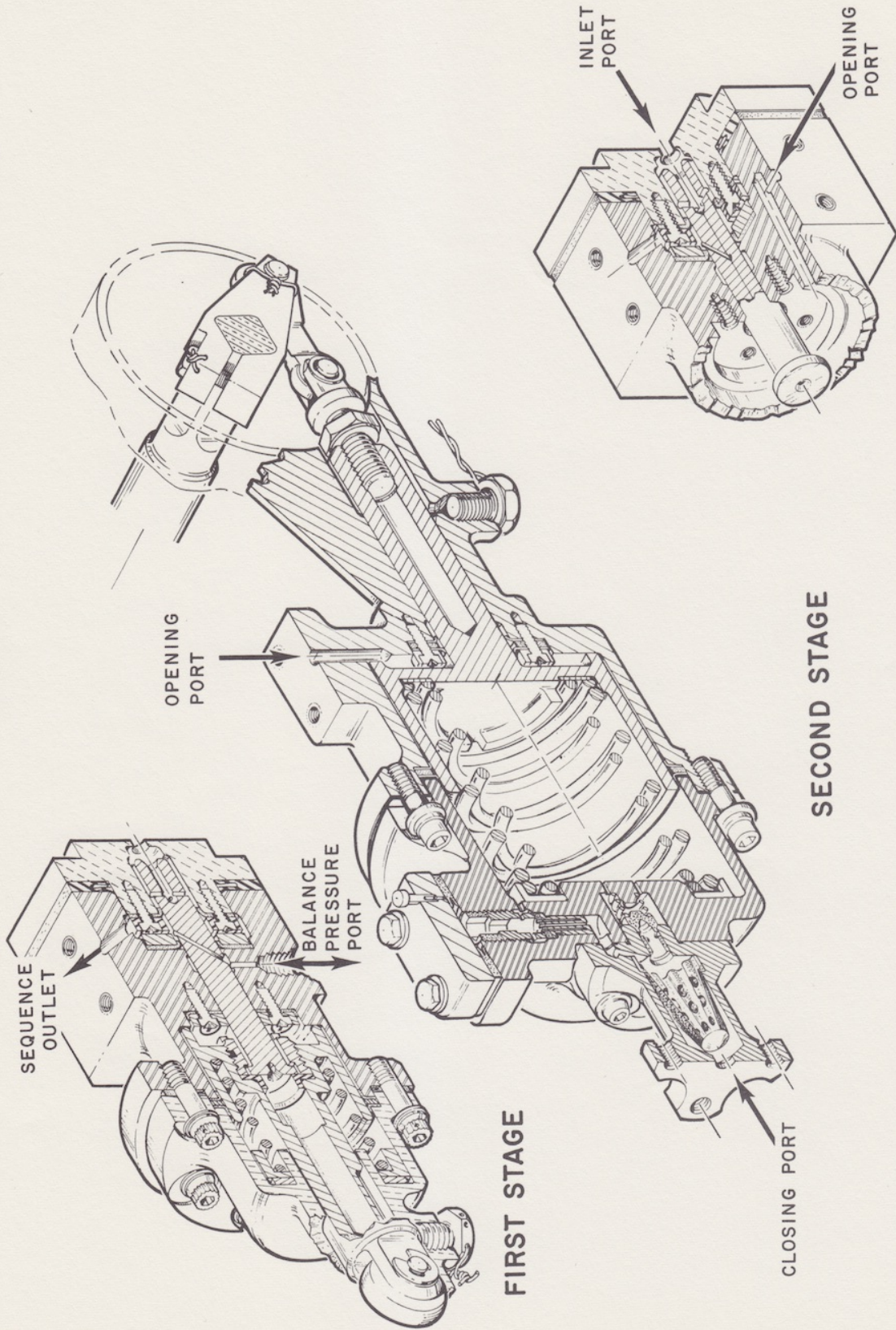
MAIN OXIDIZER VALVE ISOMETRIC NO 1

409939



MAIN OXIDIZER VALVE ISOMETRIC NO 2

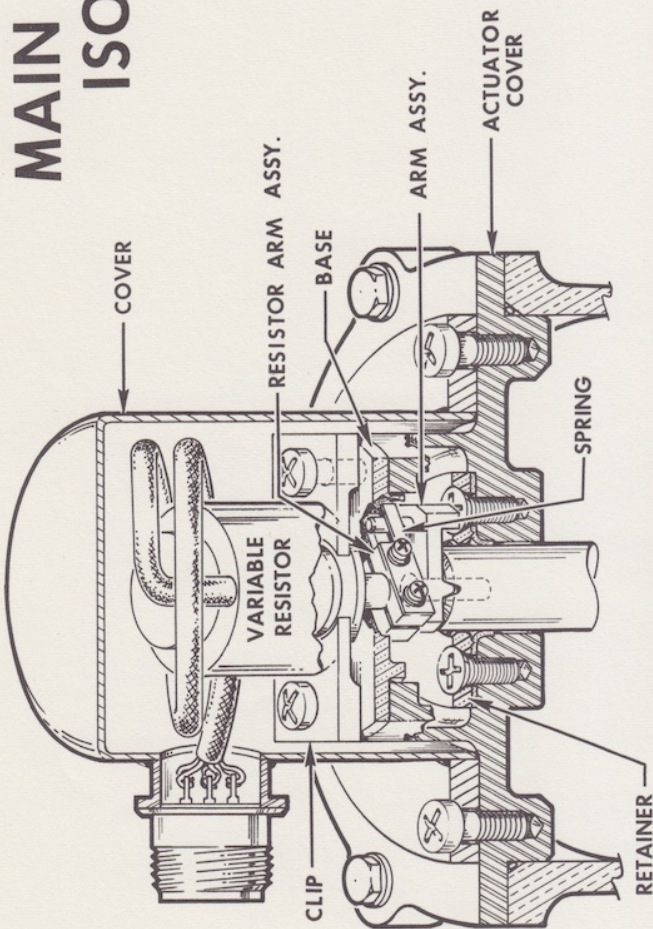
409973



SEQUENCE VALVE

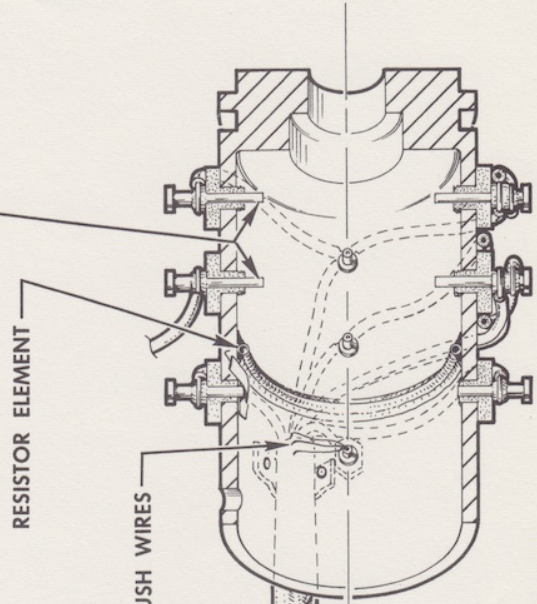
MAIN OXIDIZER VALVE ISOMETRIC NO 3

409939



POSITION INDICATOR

SWITCH CONTACTS



MOVABLE CONTACT

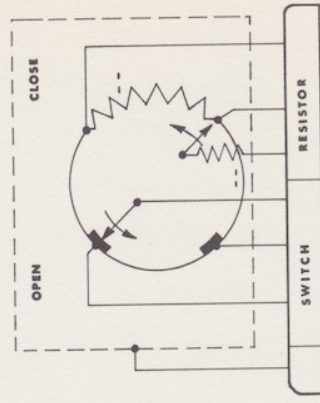
ARMATURE

O RING

BEARING

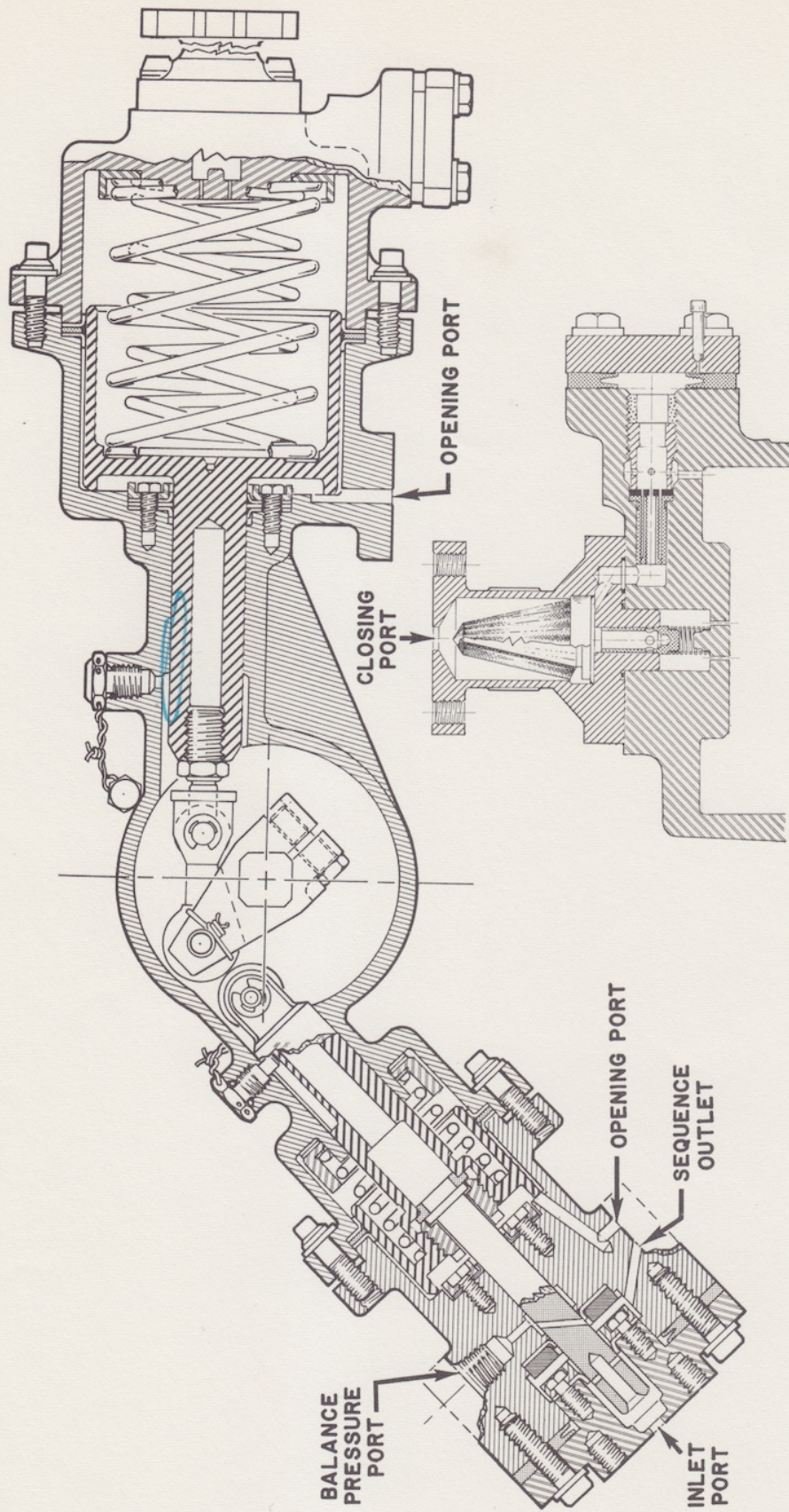
WIPER

RESISTOR SWITCH ASSY



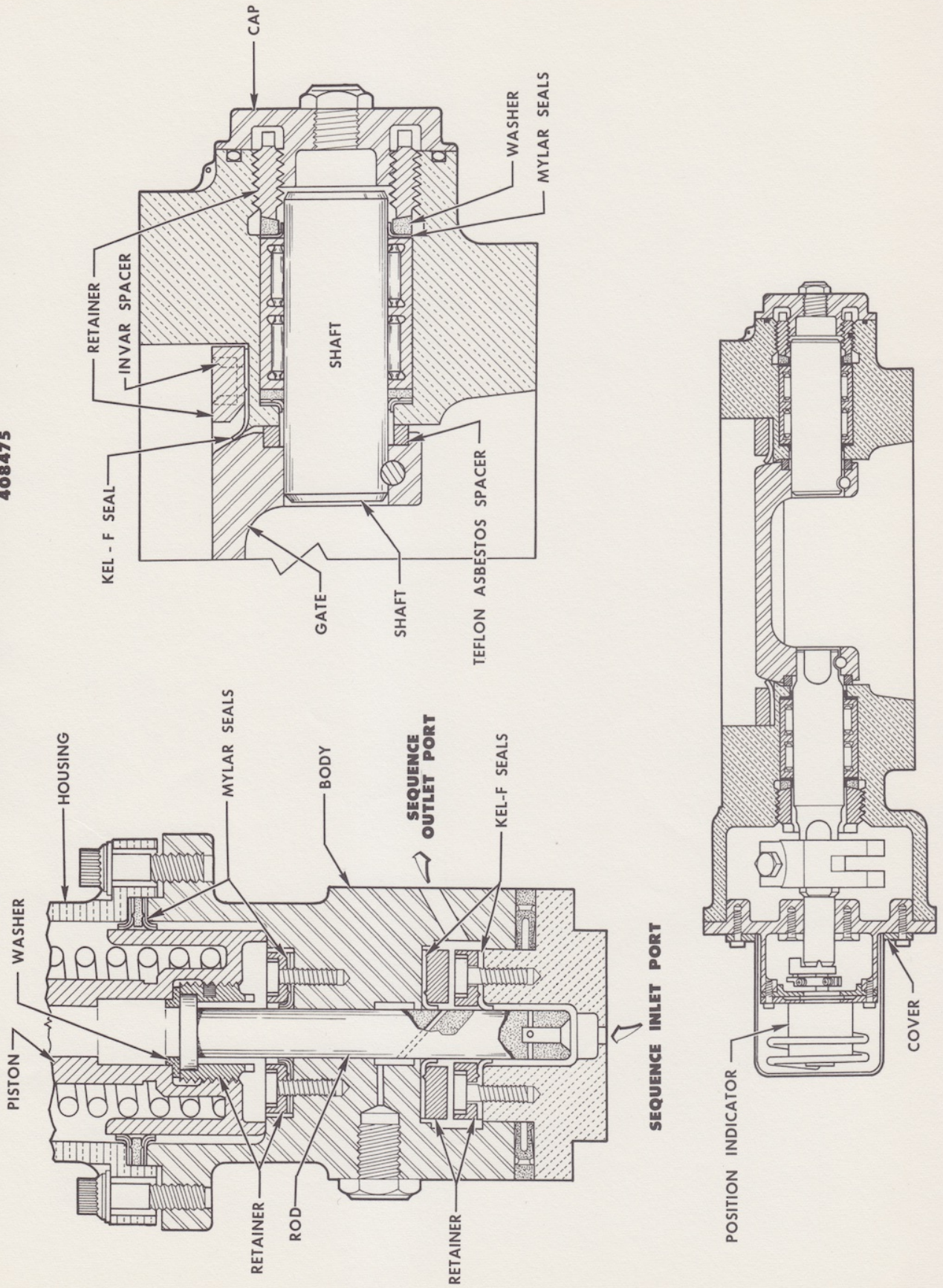
MAIN OXIDIZER VALVE

409973



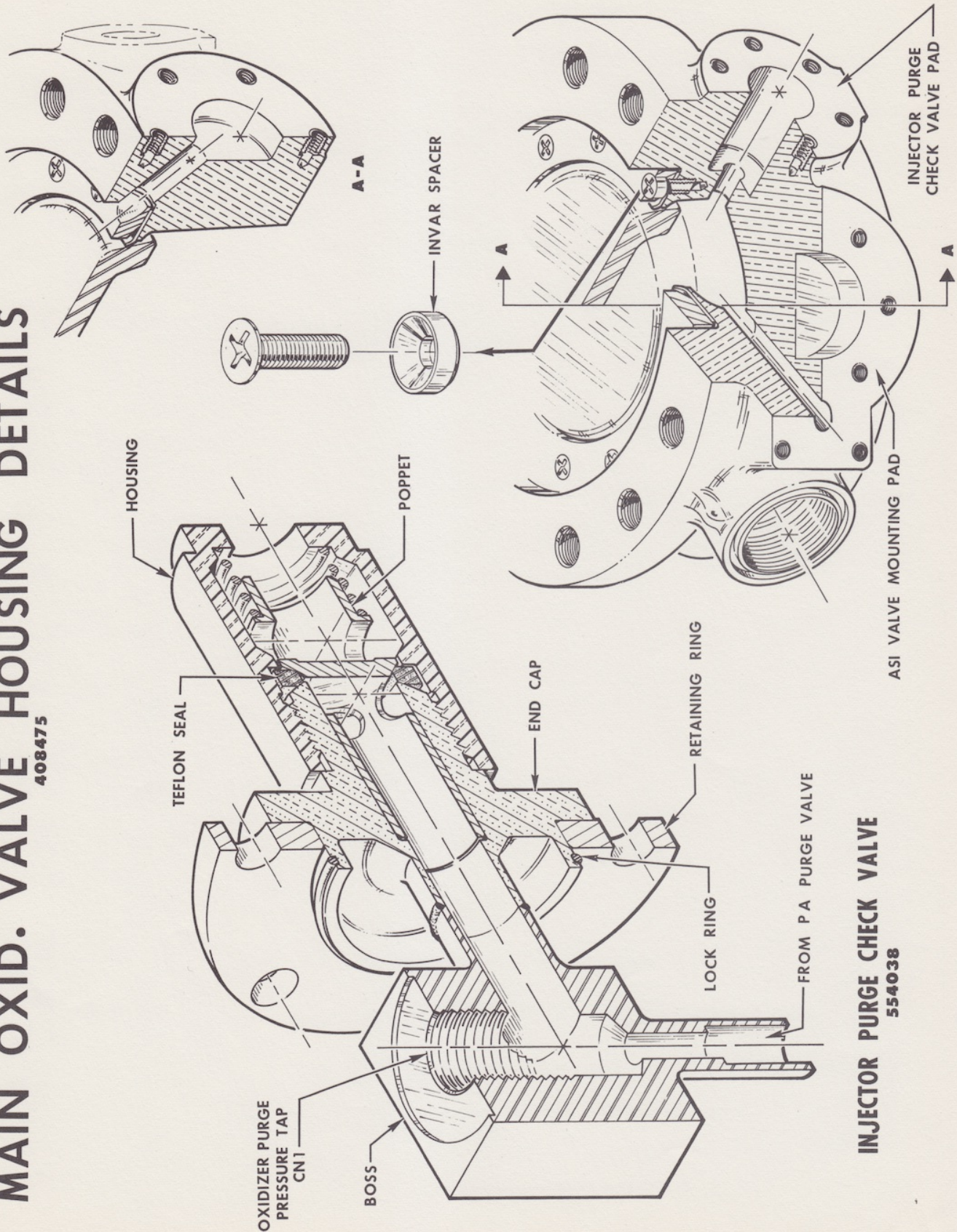
MAIN OXIDIZER VALVE DETAILS

408475



MAIN OXID. VALVE HOUSING DETAILS

408475

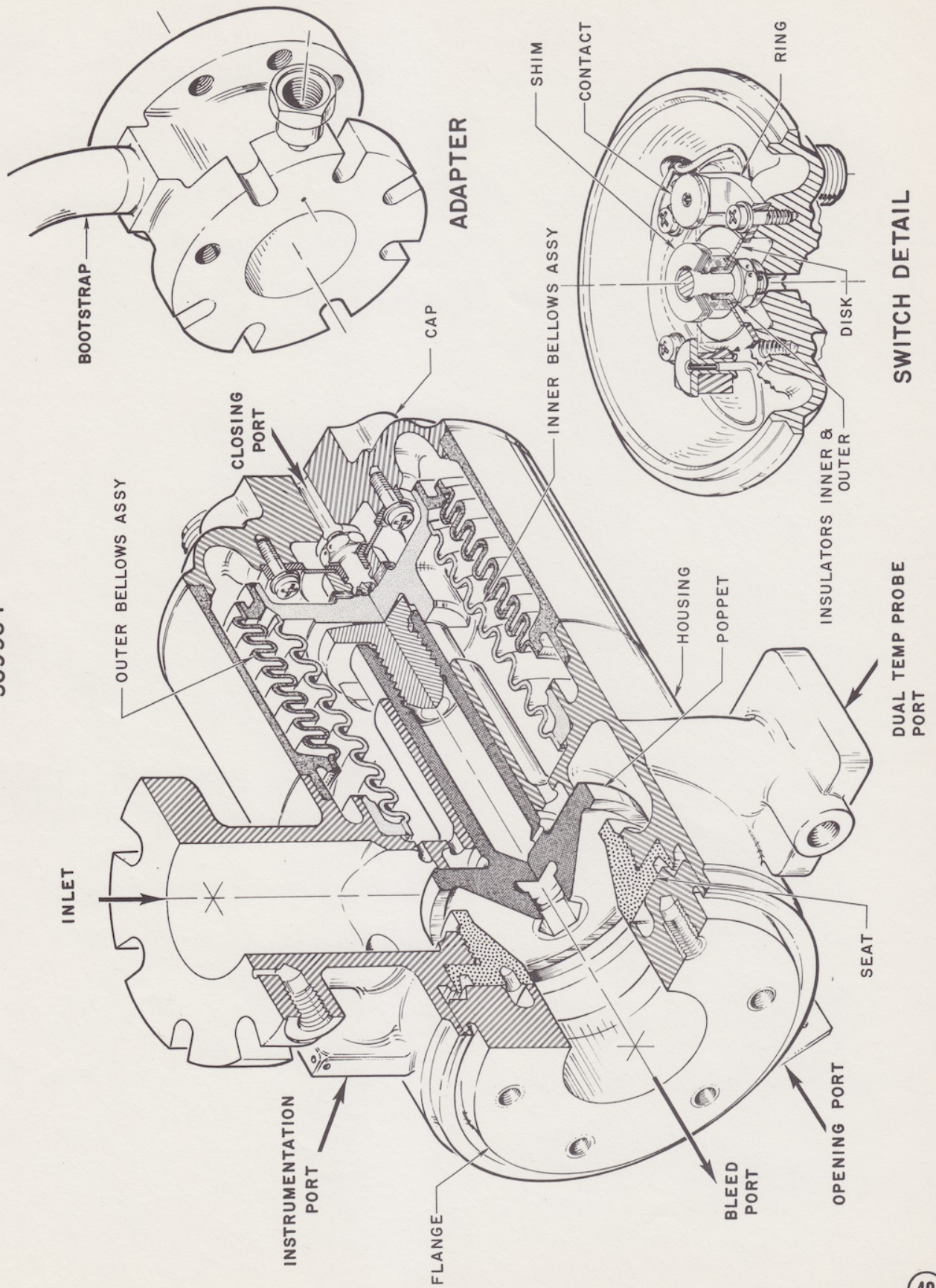


INJECTOR PURGE CHECK VALVE

554038

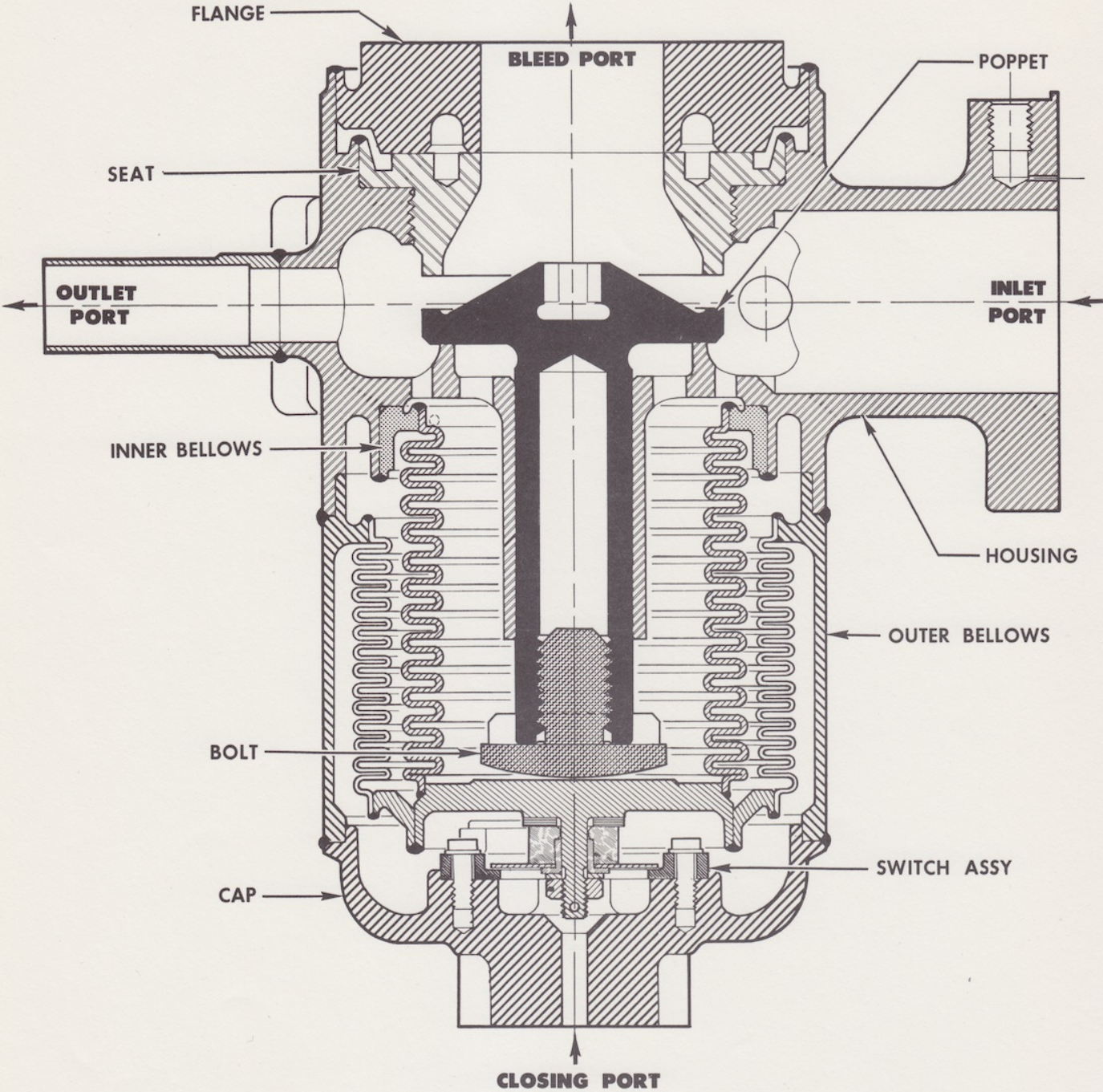
FUEL BLEED VALVE

309934



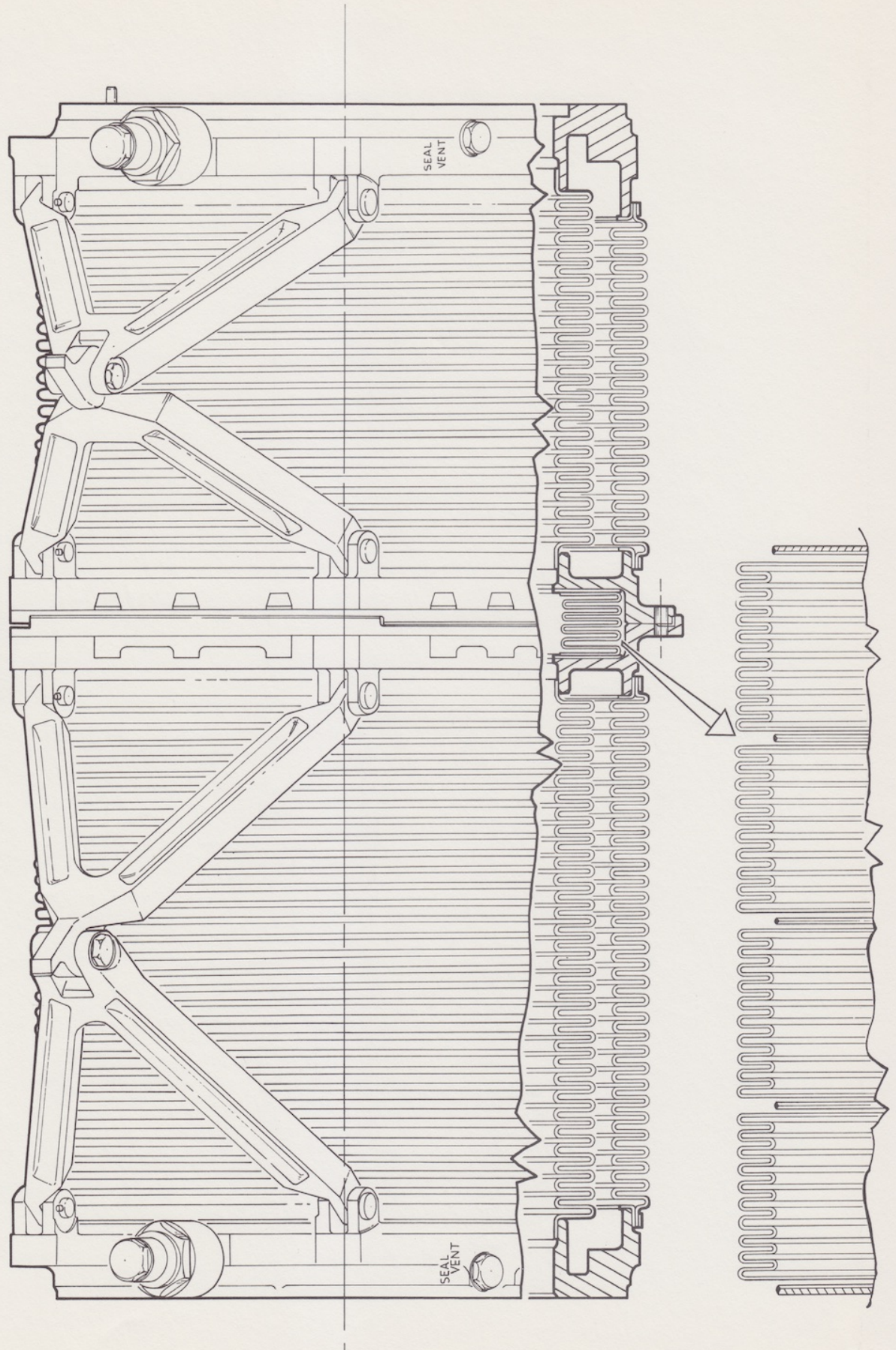
OXIDIZER BLEED VALVE

309029



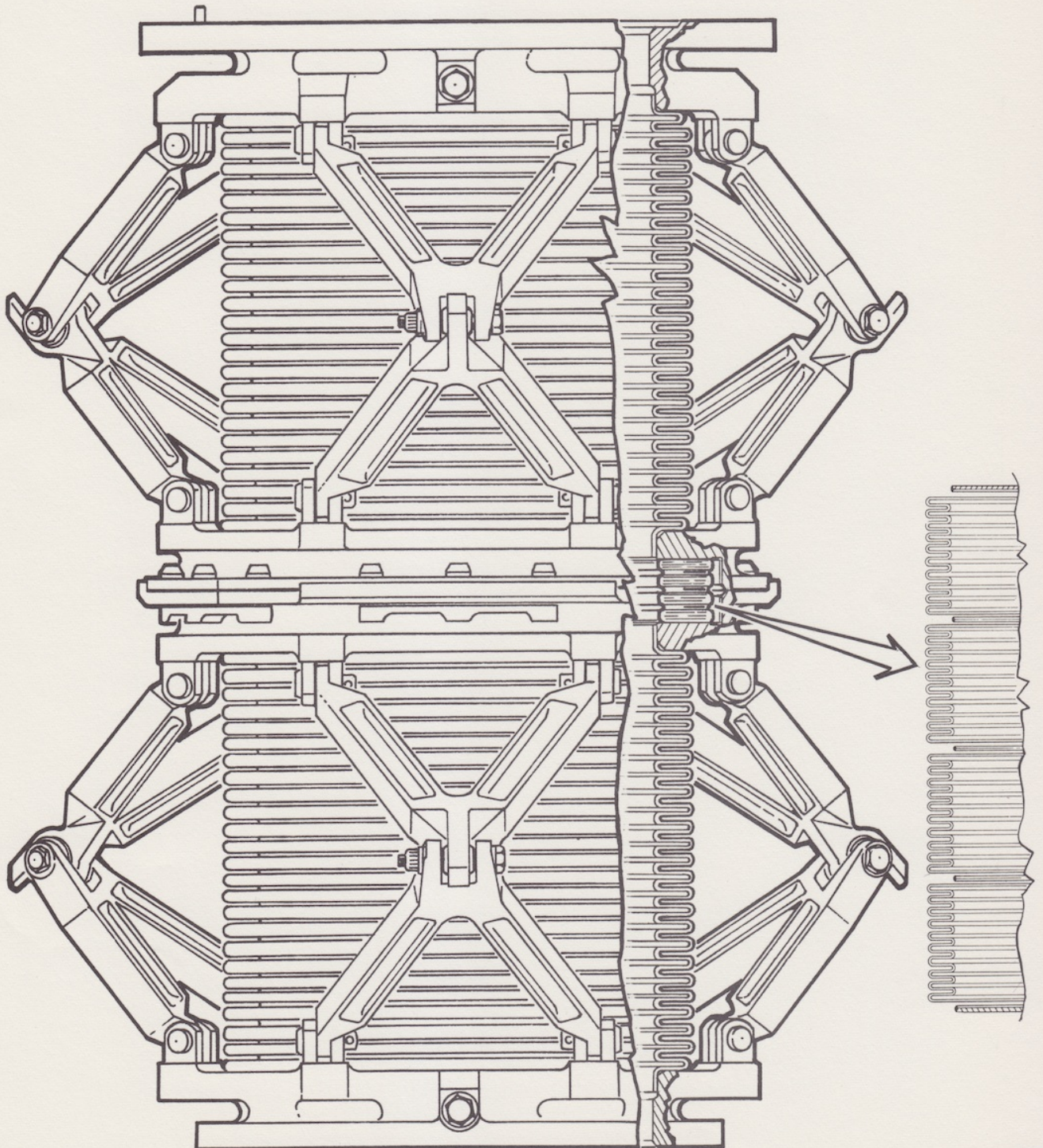
INLET FUEL DUCT ASSY

409320

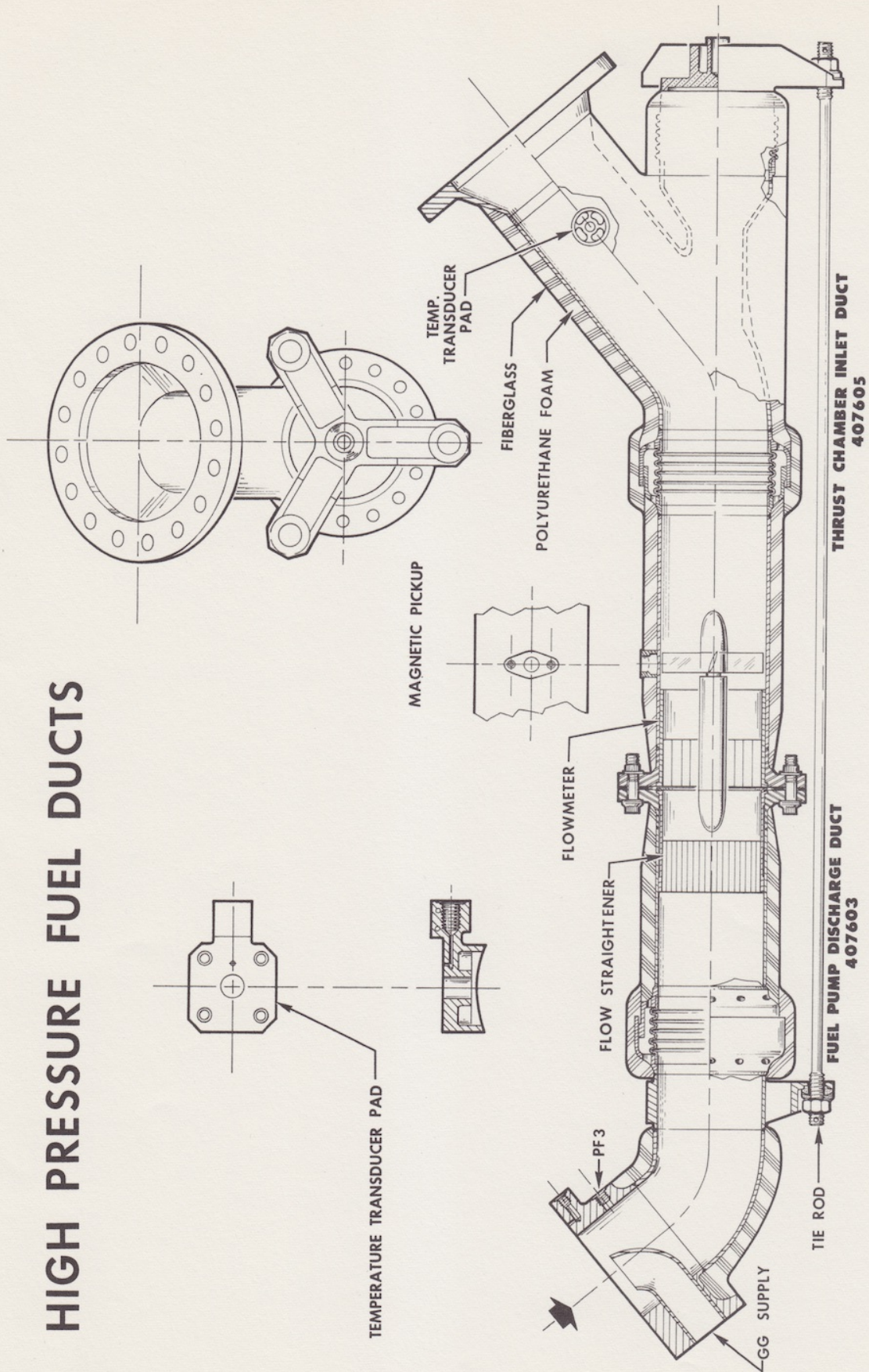


INLET OXID. DUCT ASSY

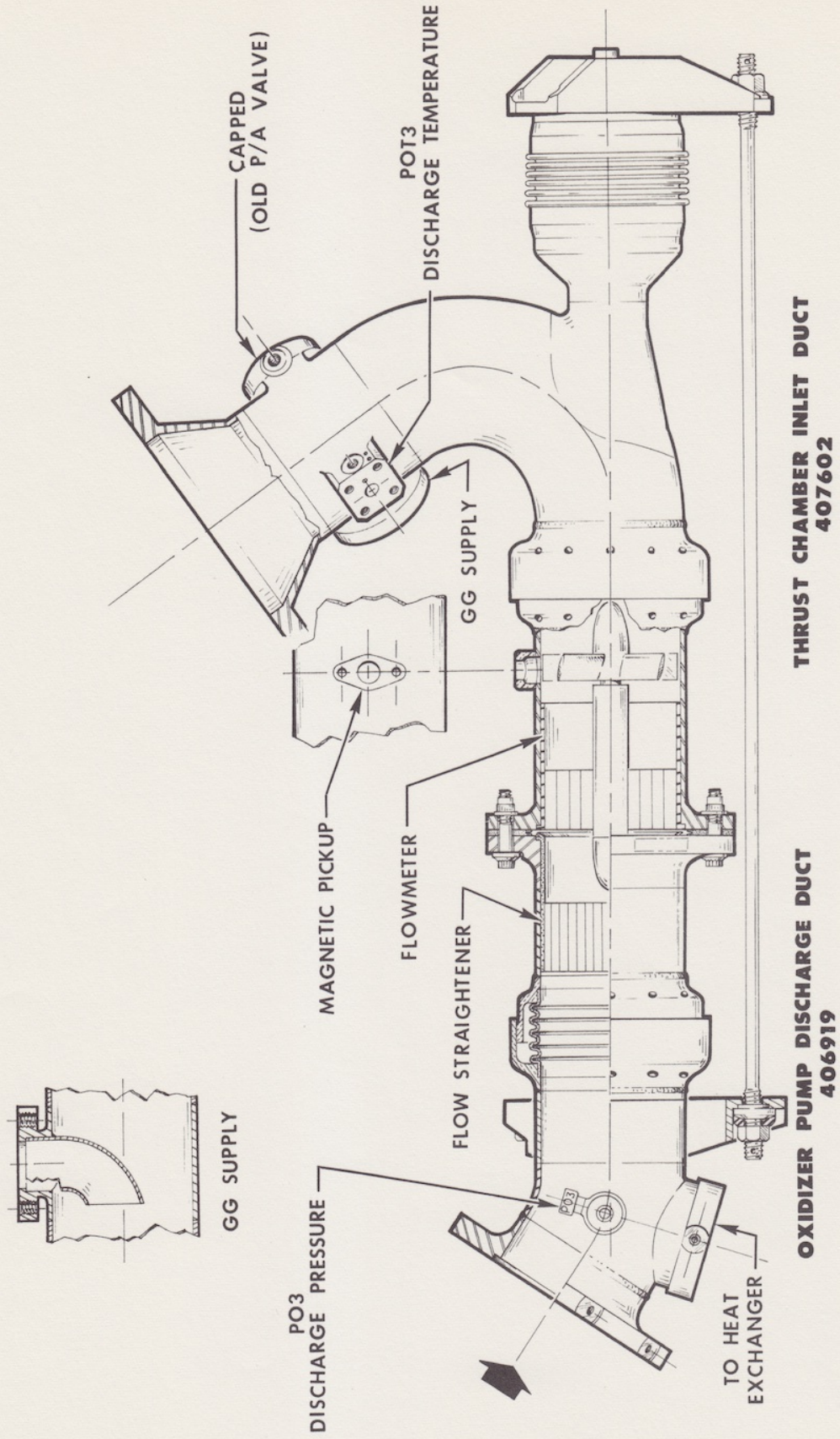
409310



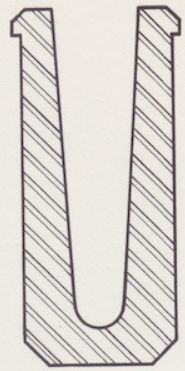
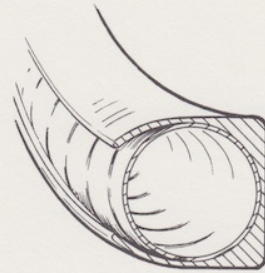
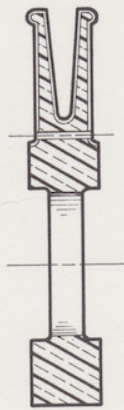
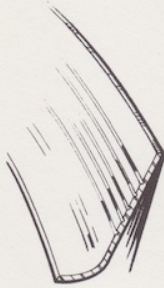
HIGH PRESSURE FUEL DUCTS



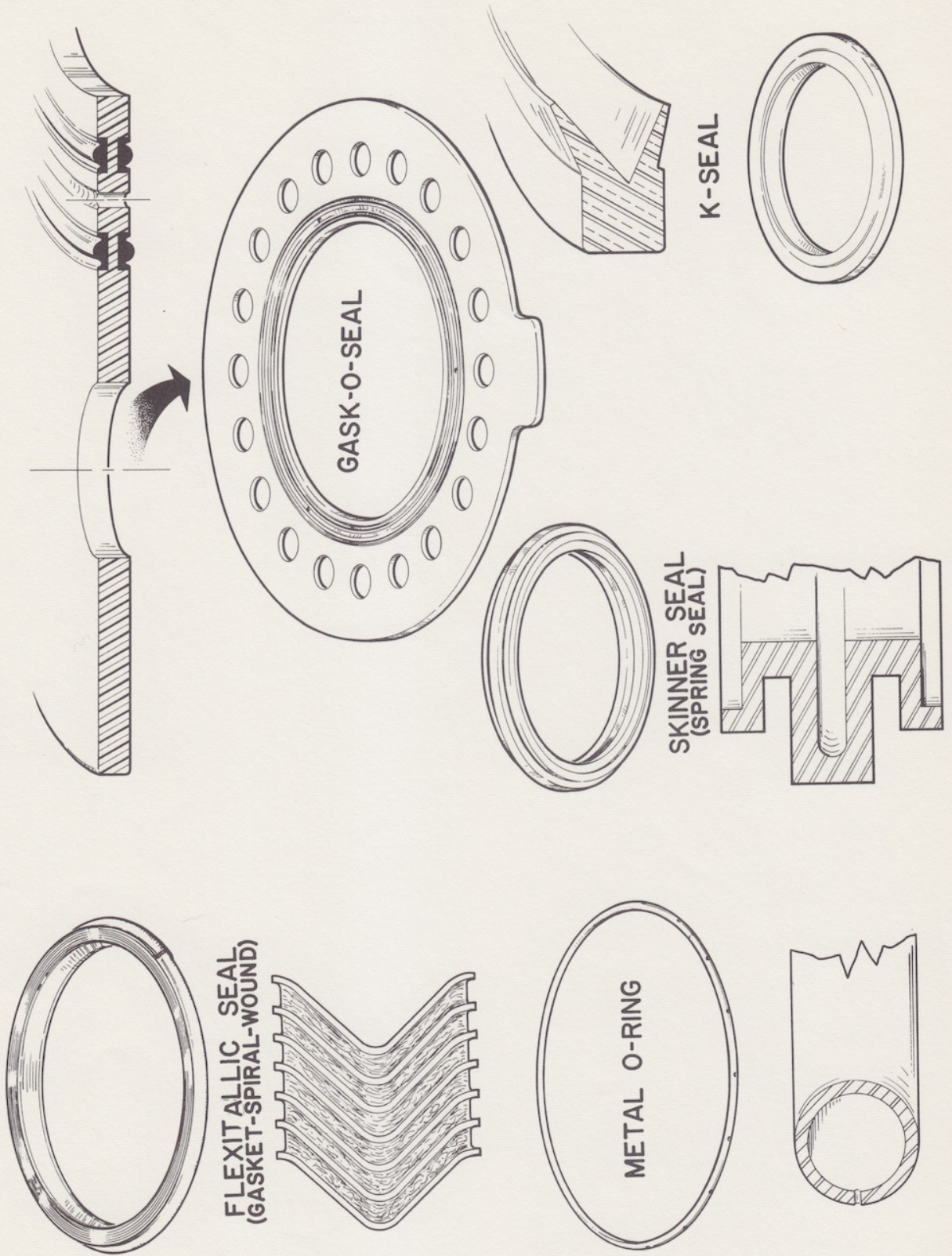
HIGH PRESSURE OXIDIZER DUCTS



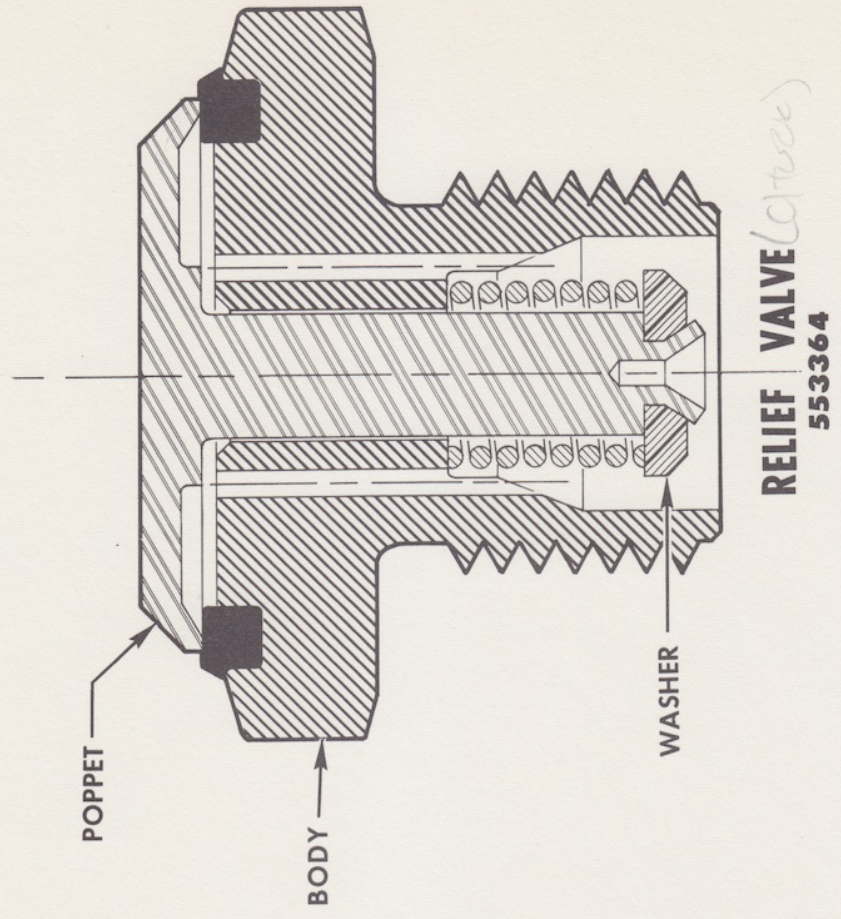
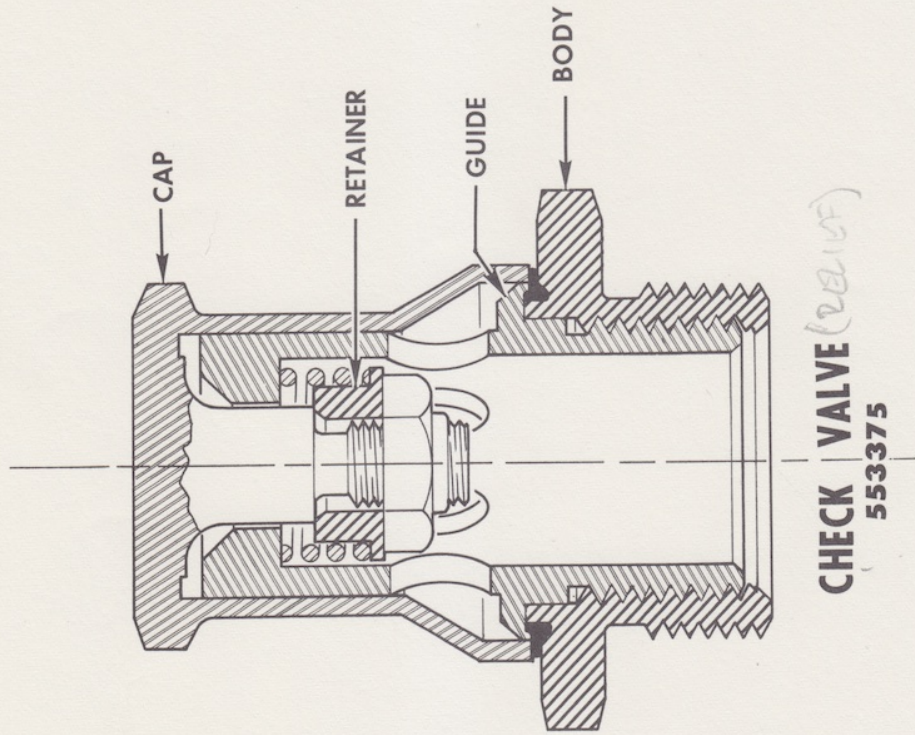
SEAL DETAIL NO 1



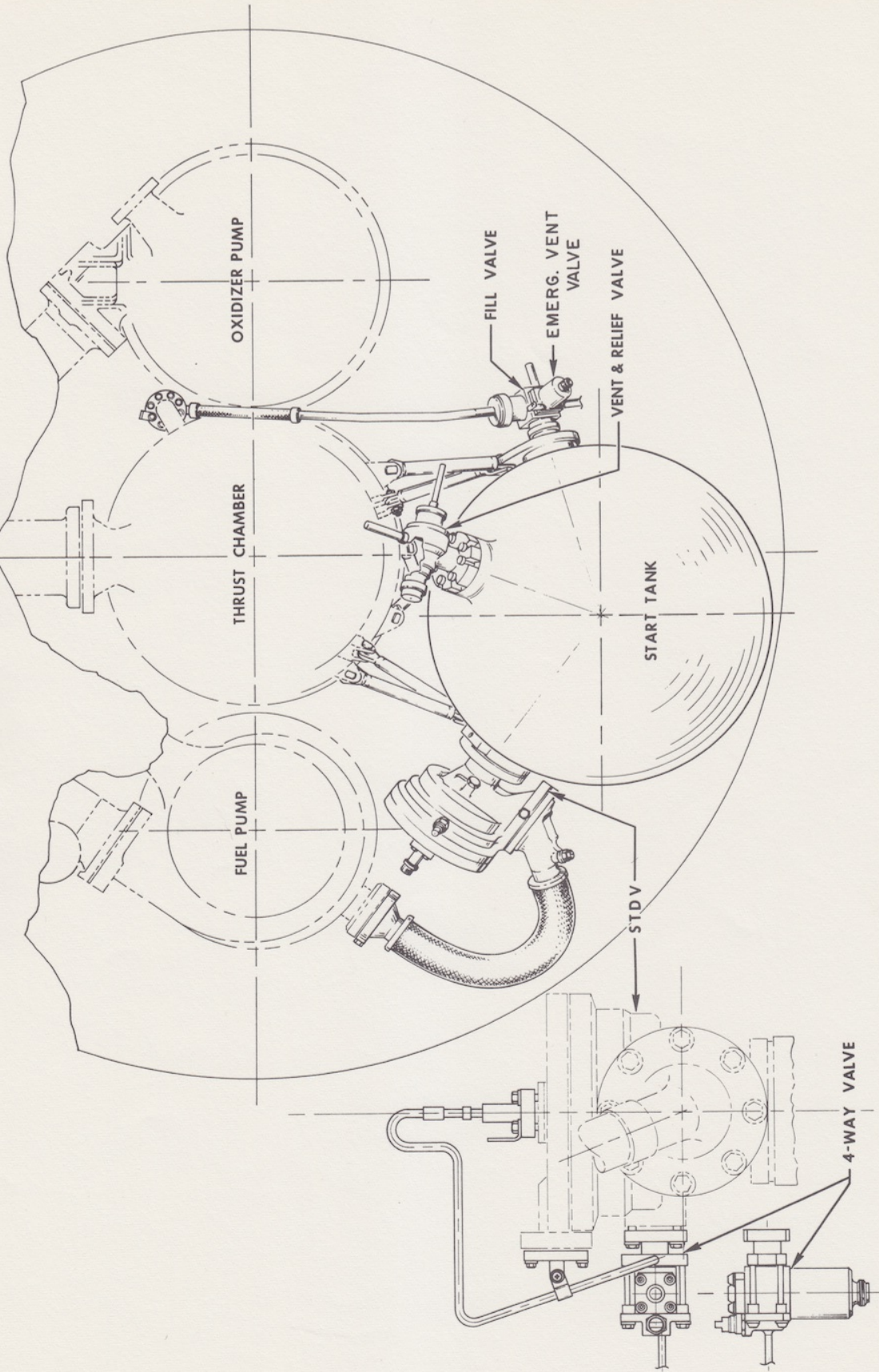
SEAL DETAIL NO 2



VENT PORT VALVES

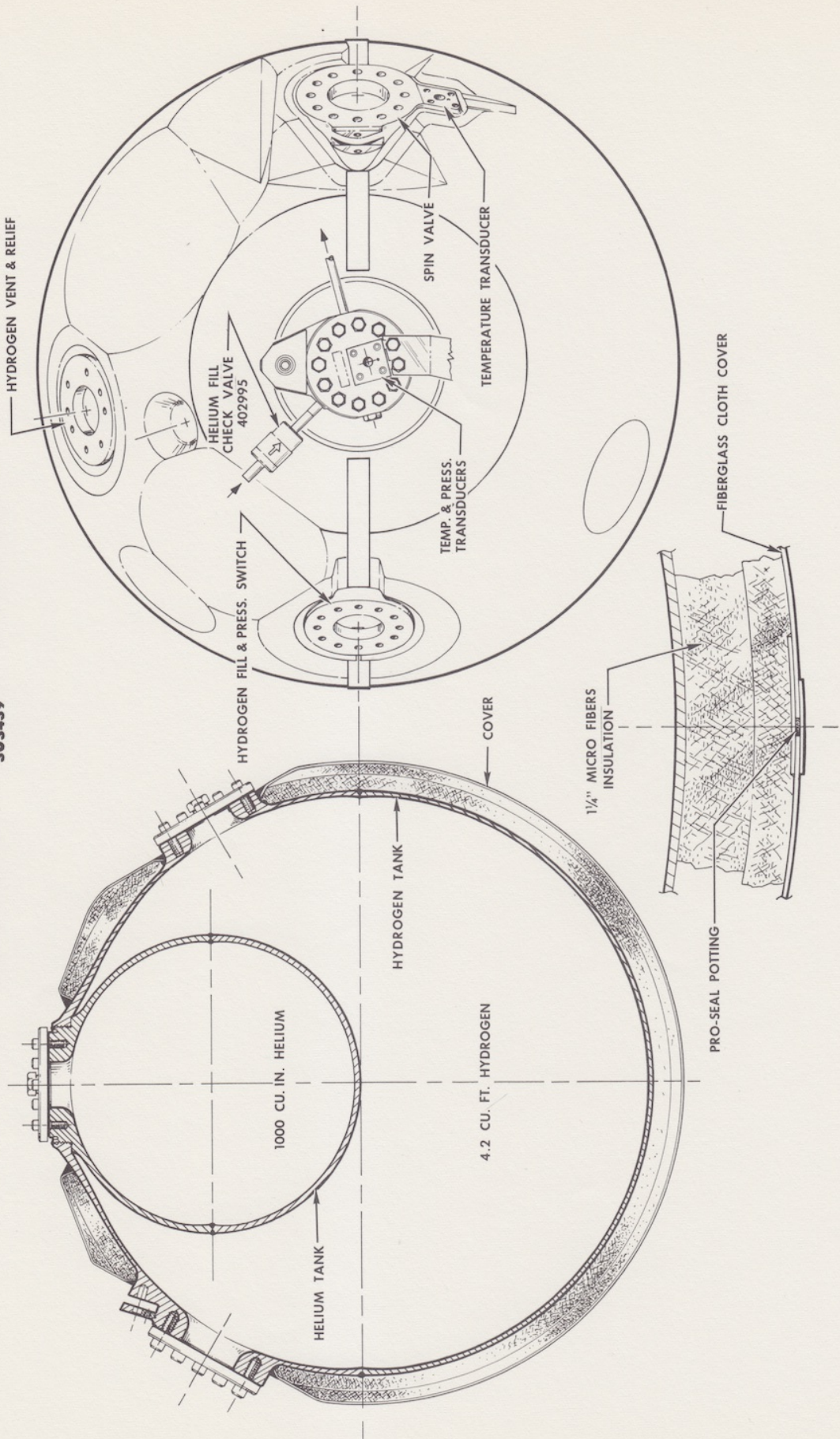


START TANK SYSTEM



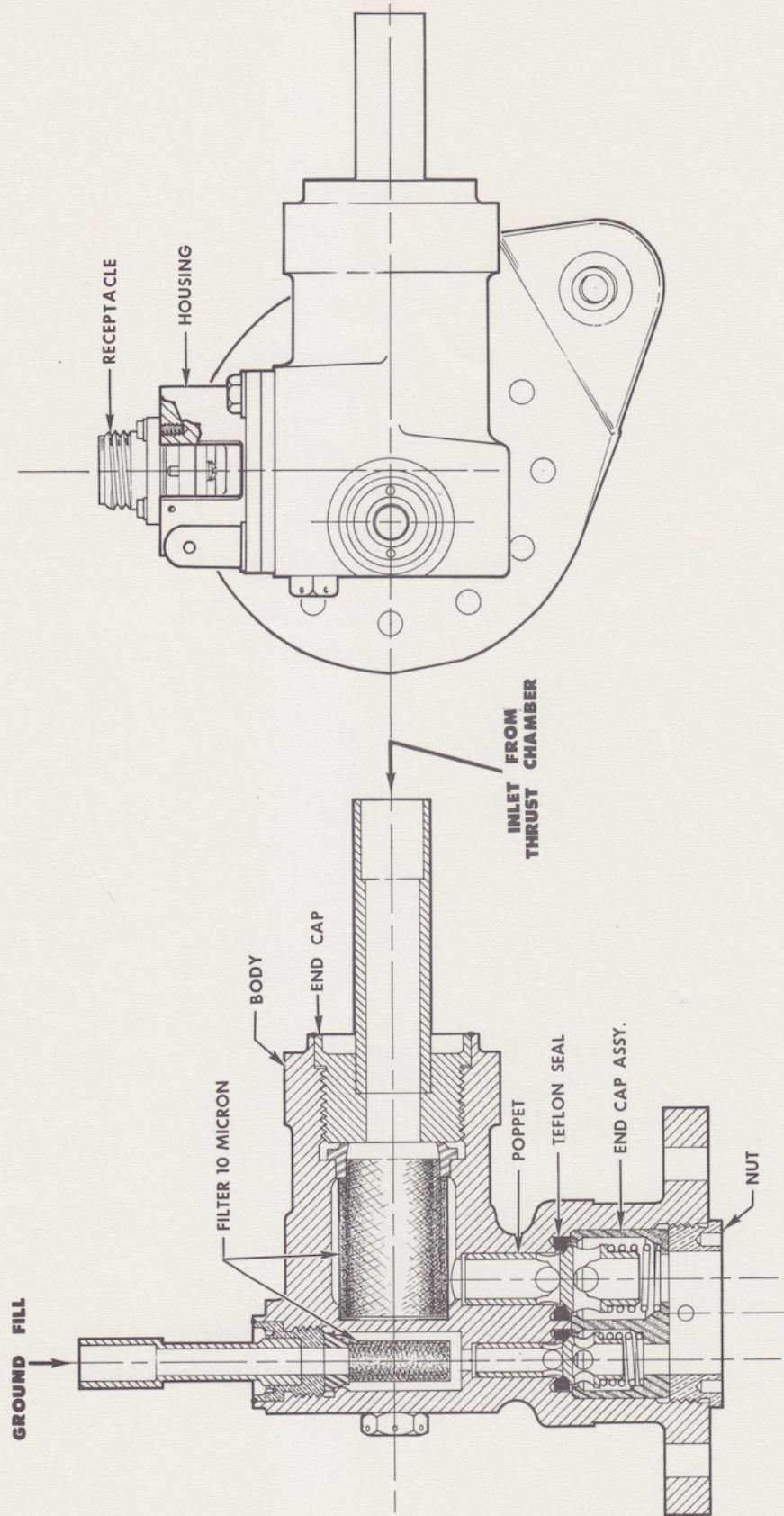
INTEGRAL TANK ASSEMBLY

303439



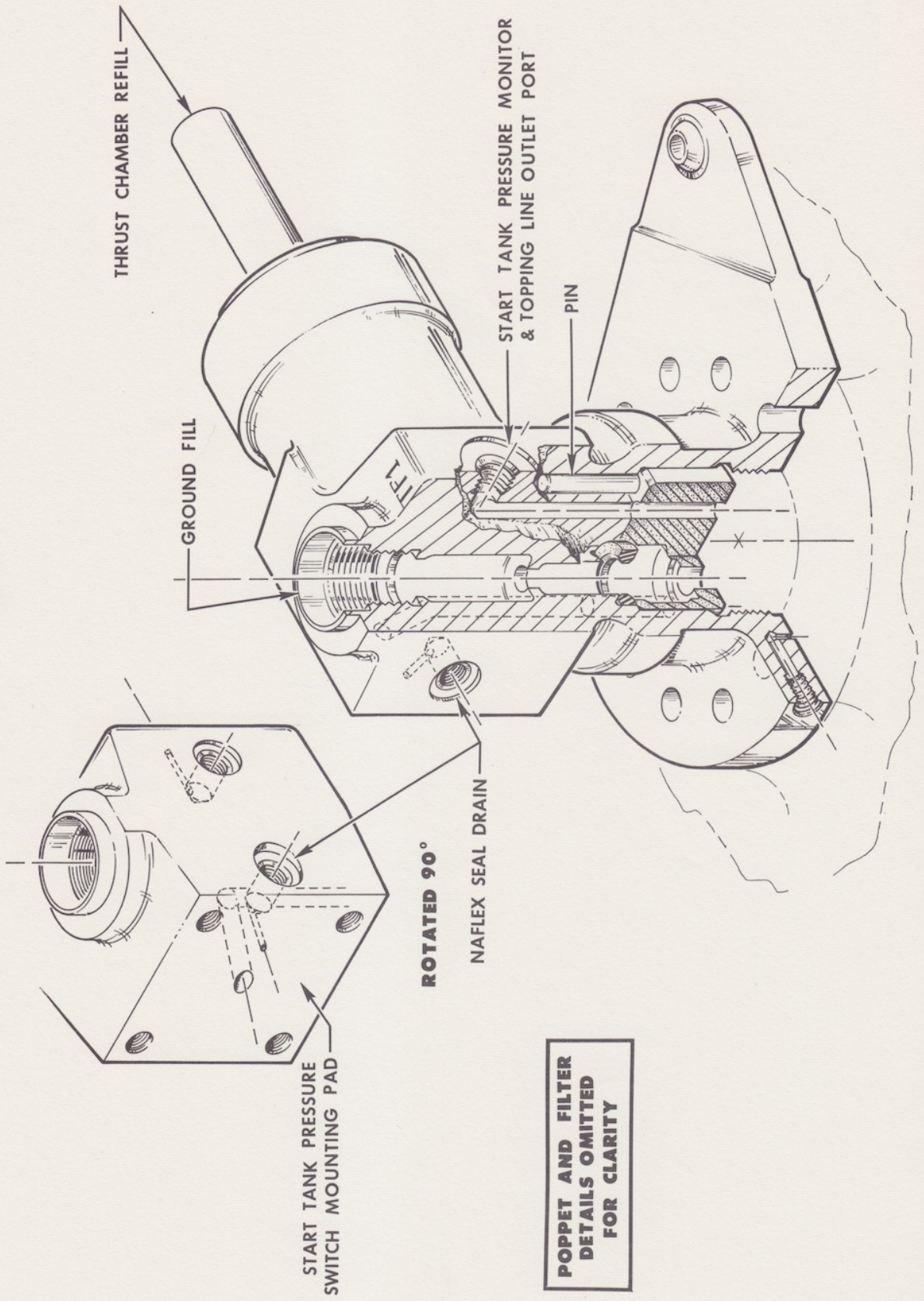
START TANK FILL VALVE

557998



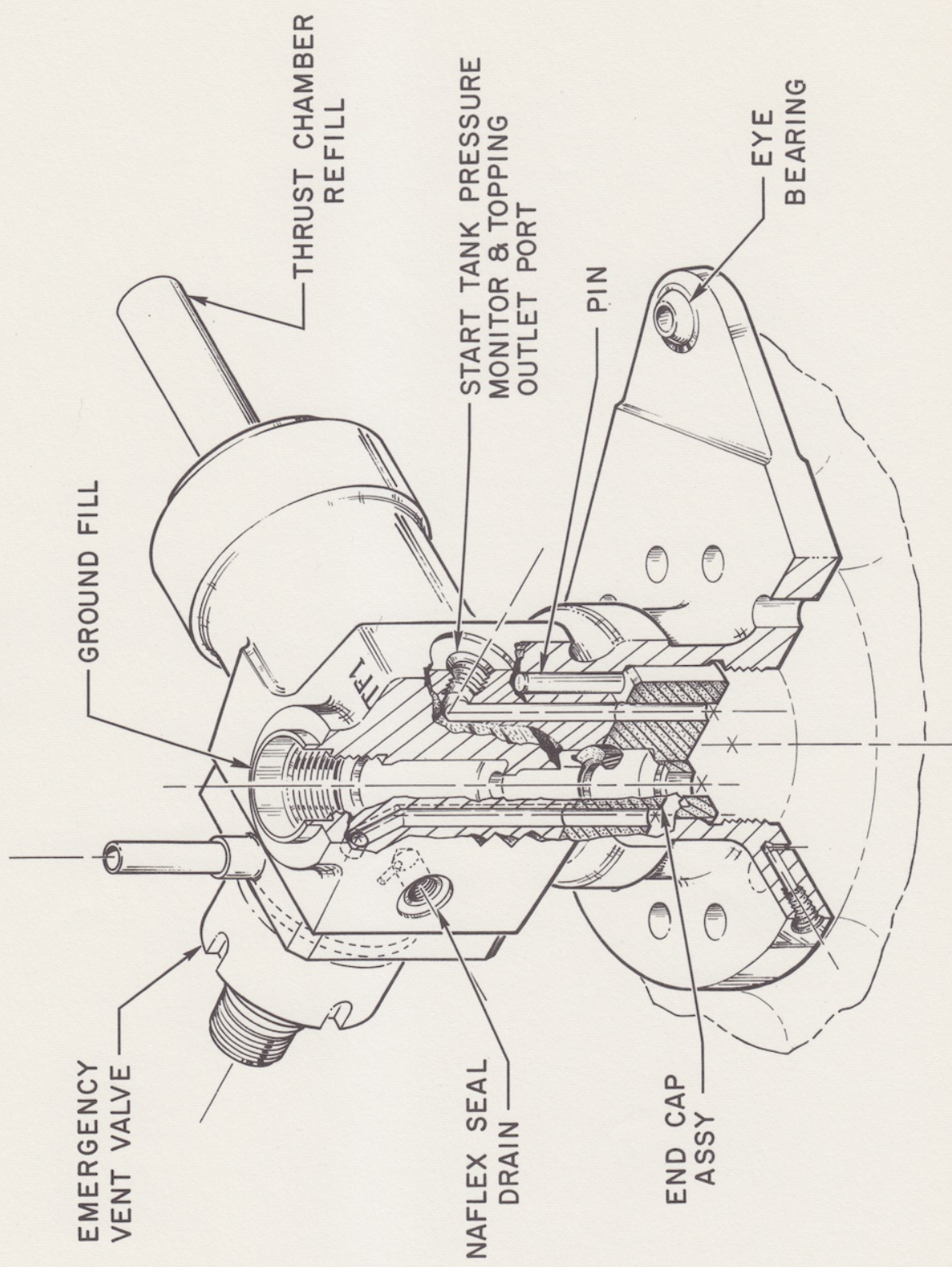
START TANK FILL VALVE DETAIL

557756



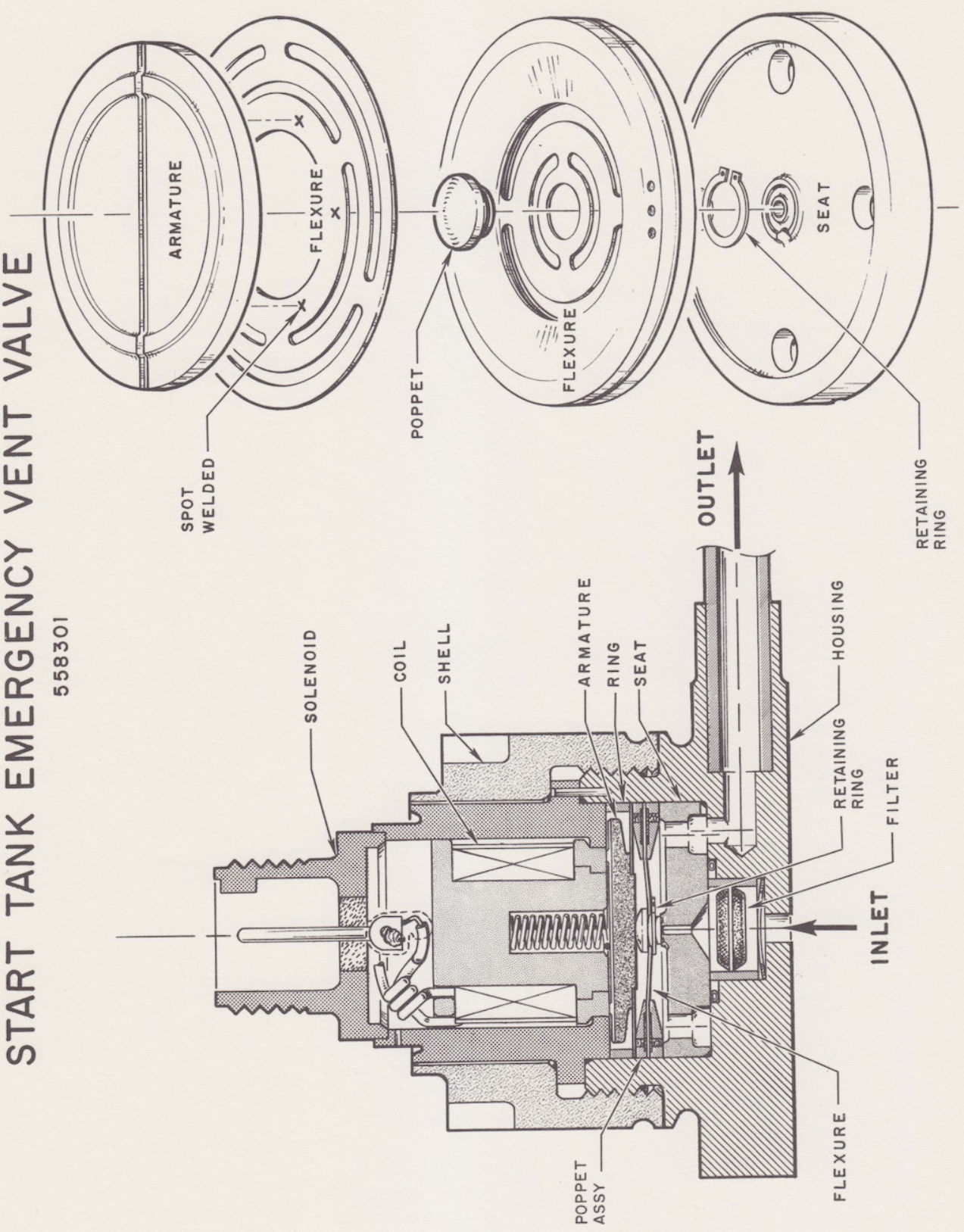
START TANK FILL VALVE DETAIL

557998



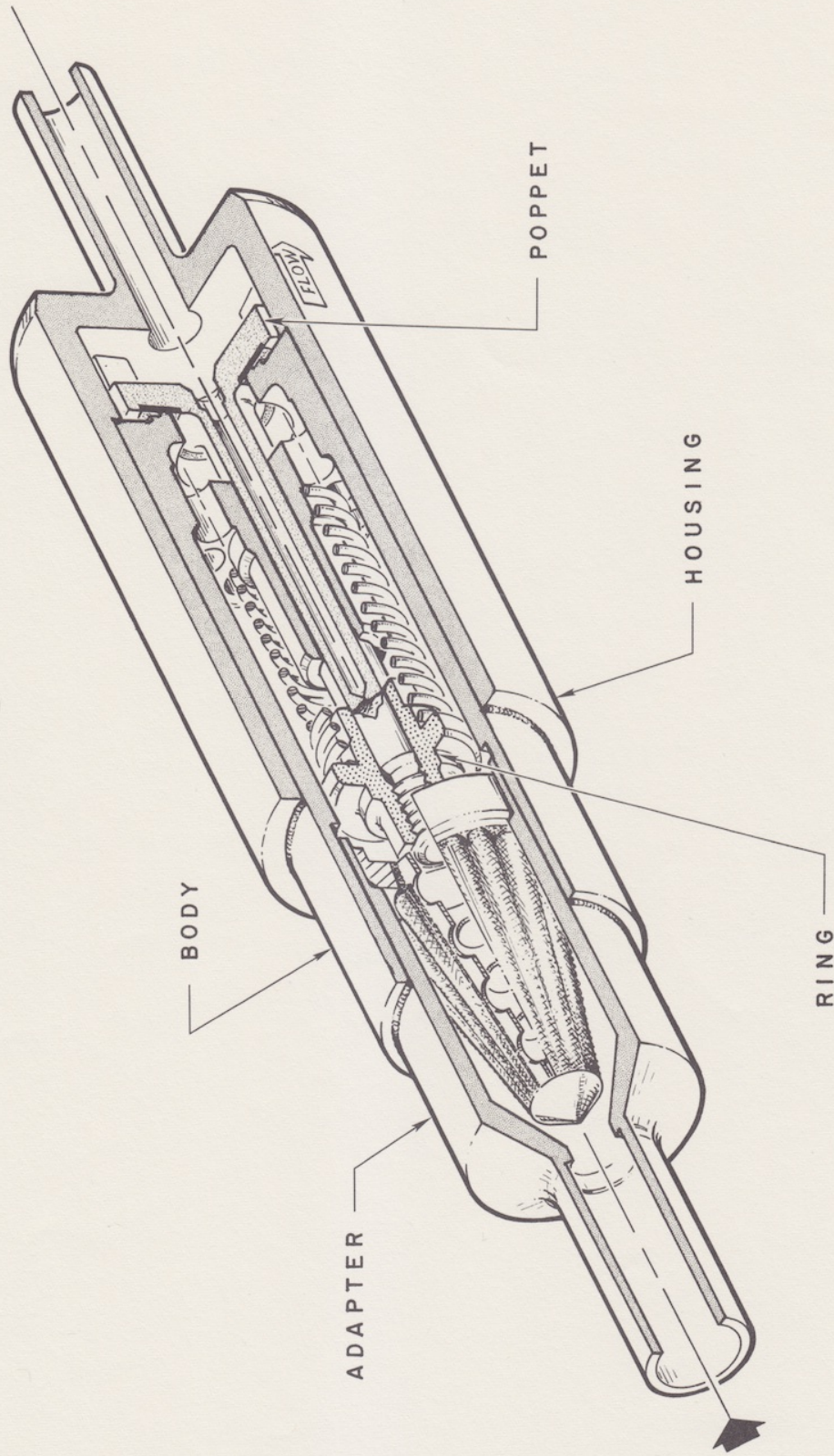
START TANK EMERGENCY VENT VALVE

558301



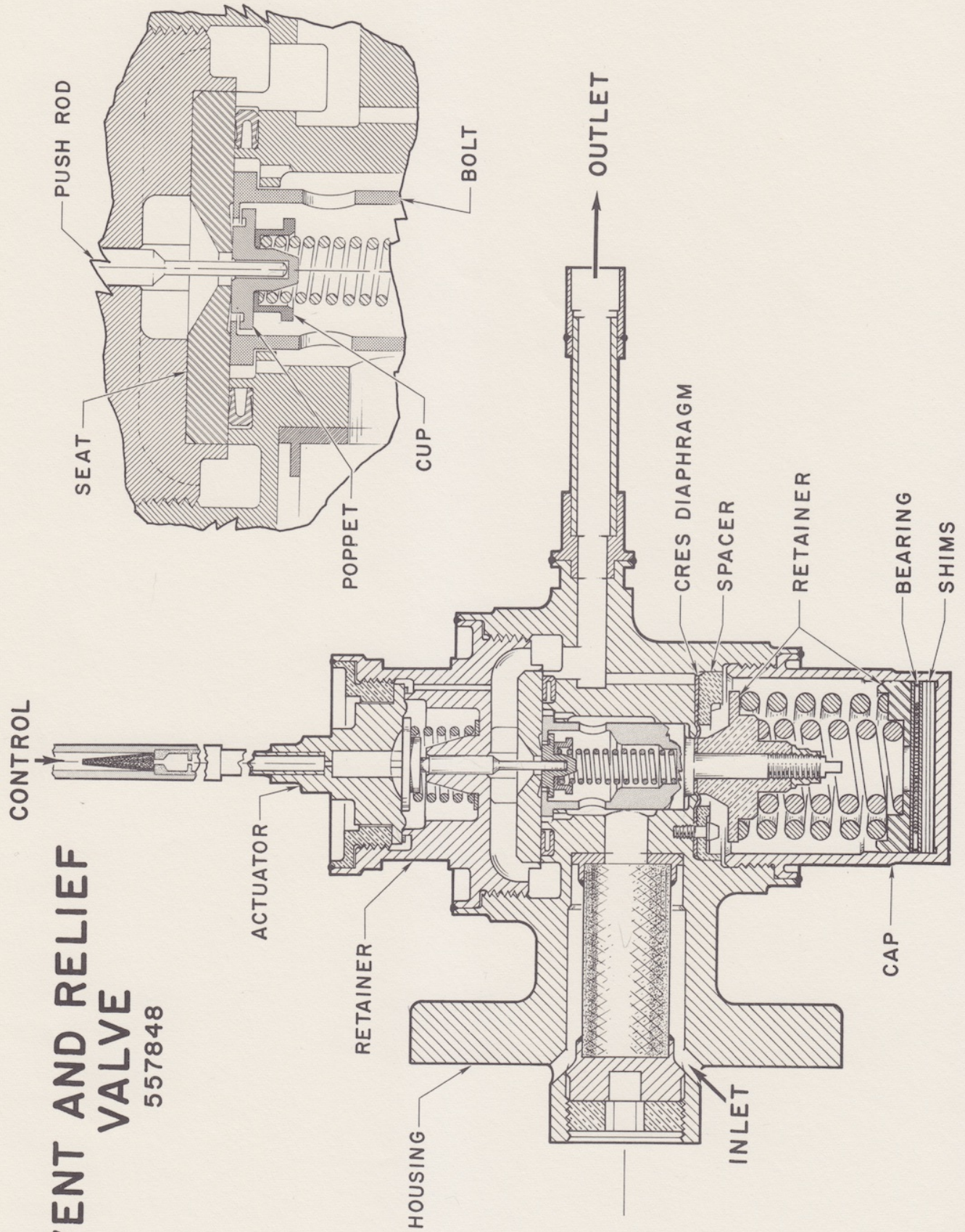
START TANK REFILL CHECK VALVE

309050



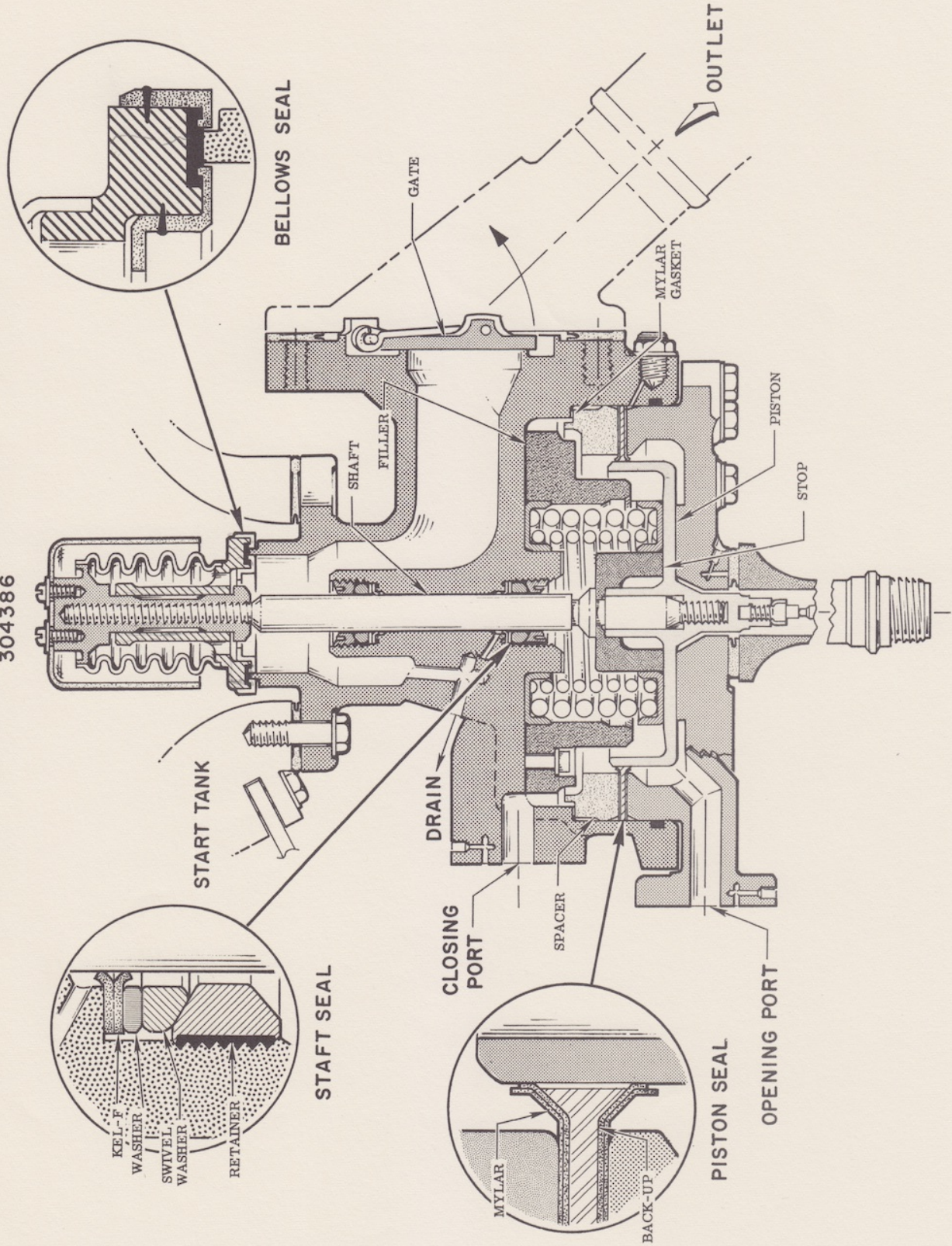
VENT AND RELIEF VALVE

557848



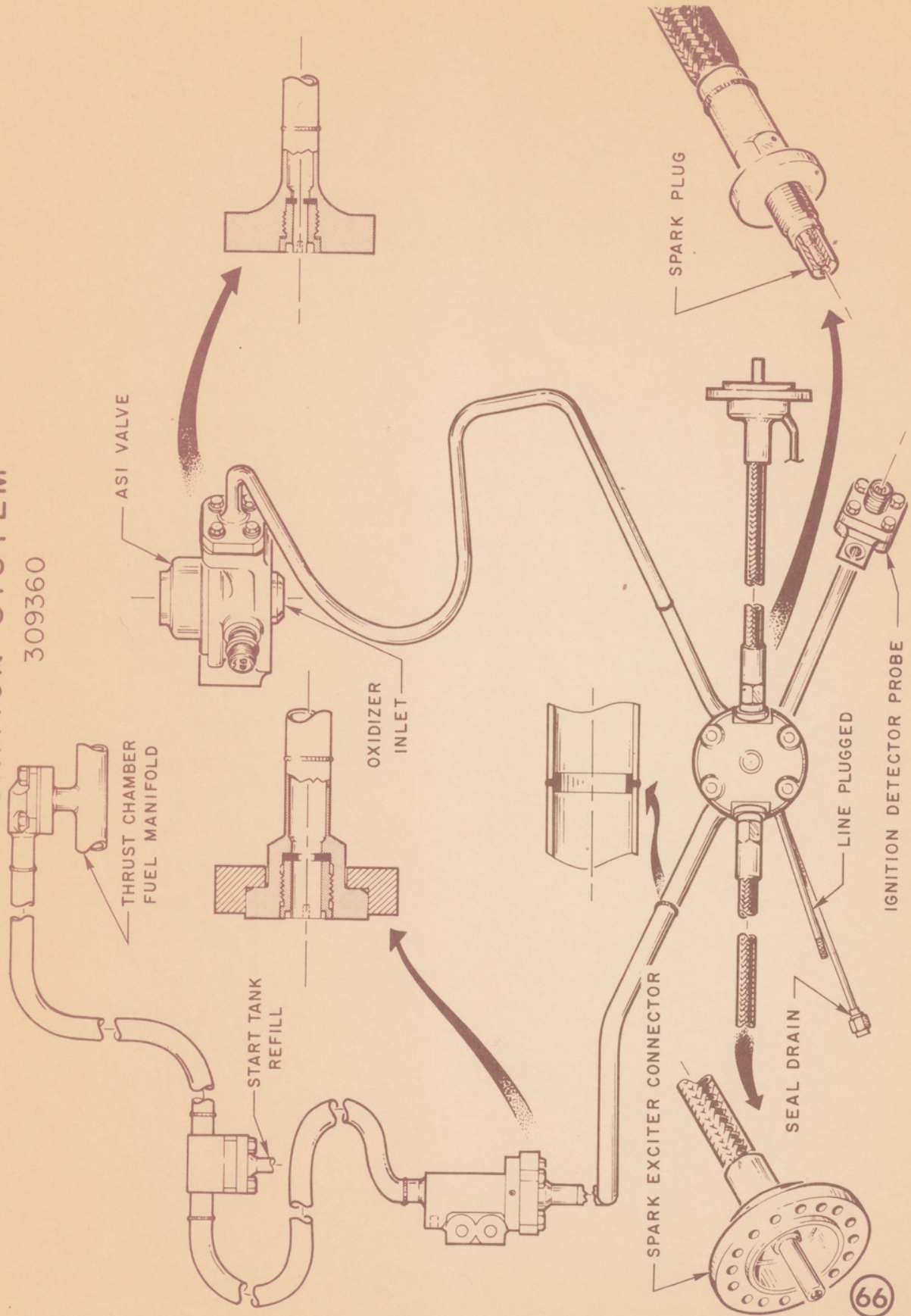
START TANK DISCHARGE VALVE

304386



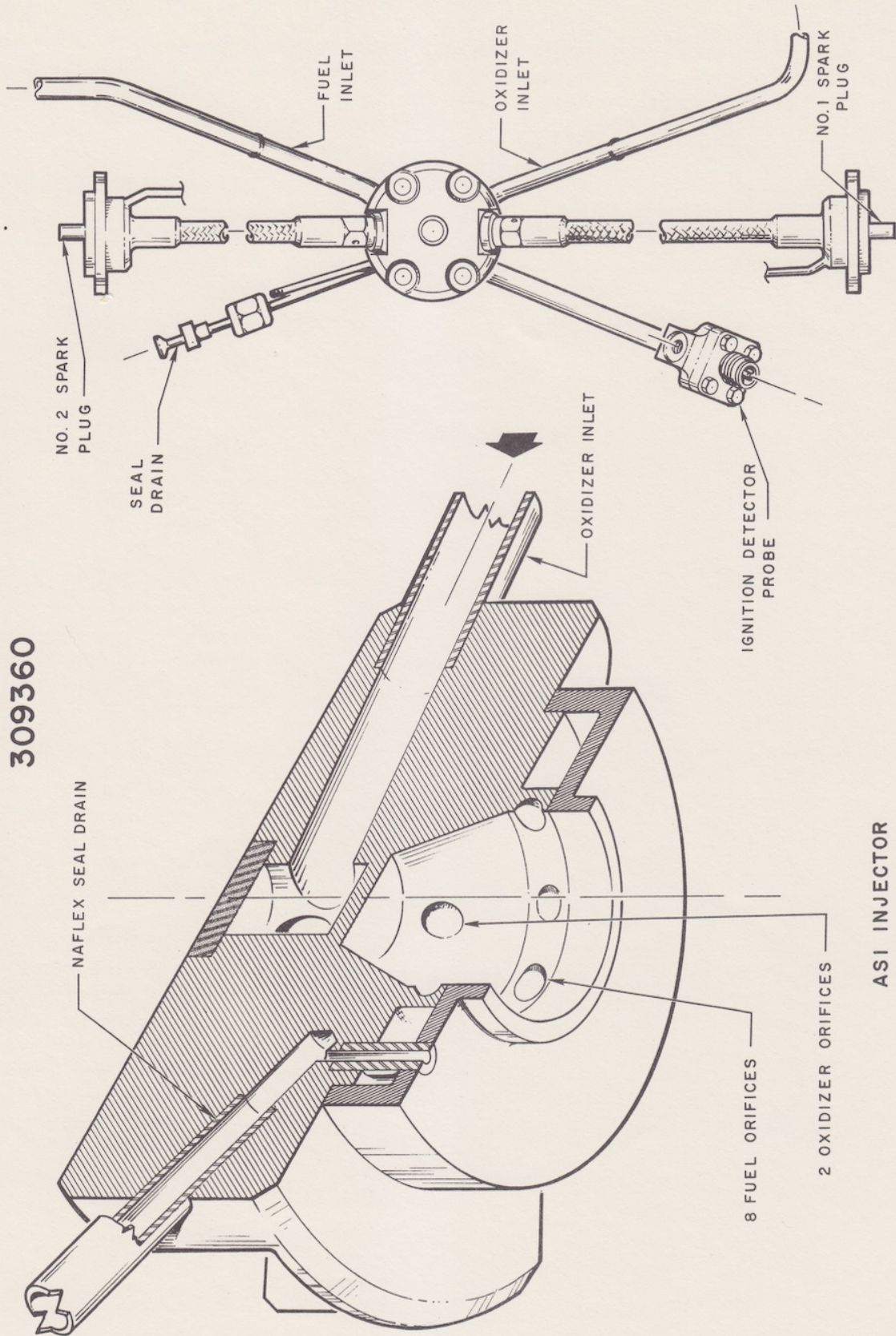
IGNITION SYSTEM

309360



AUGUMENTED SPARK IGNITER

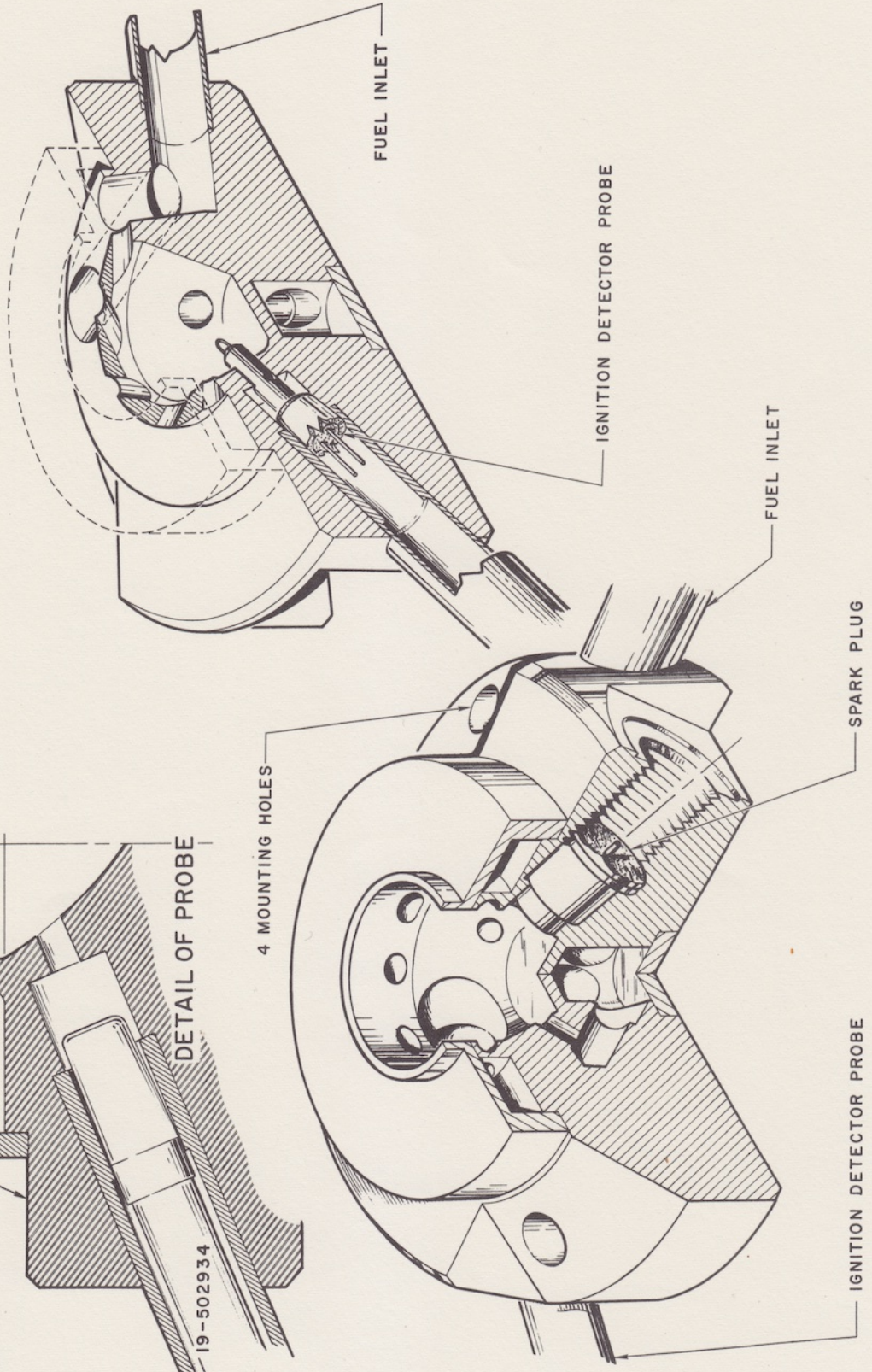
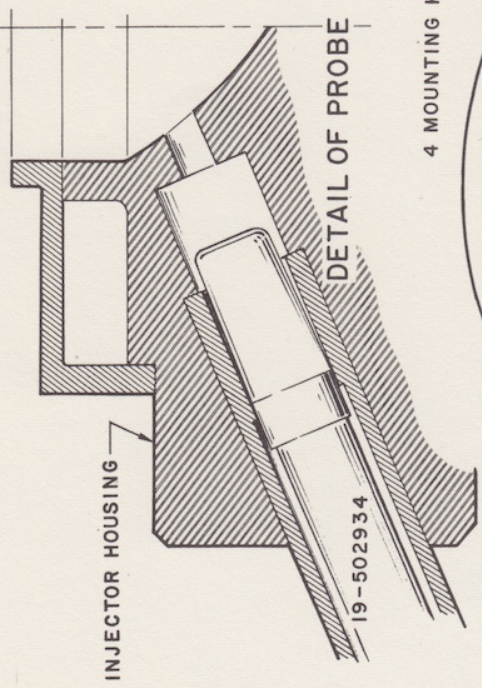
309360



ASI INJECTOR

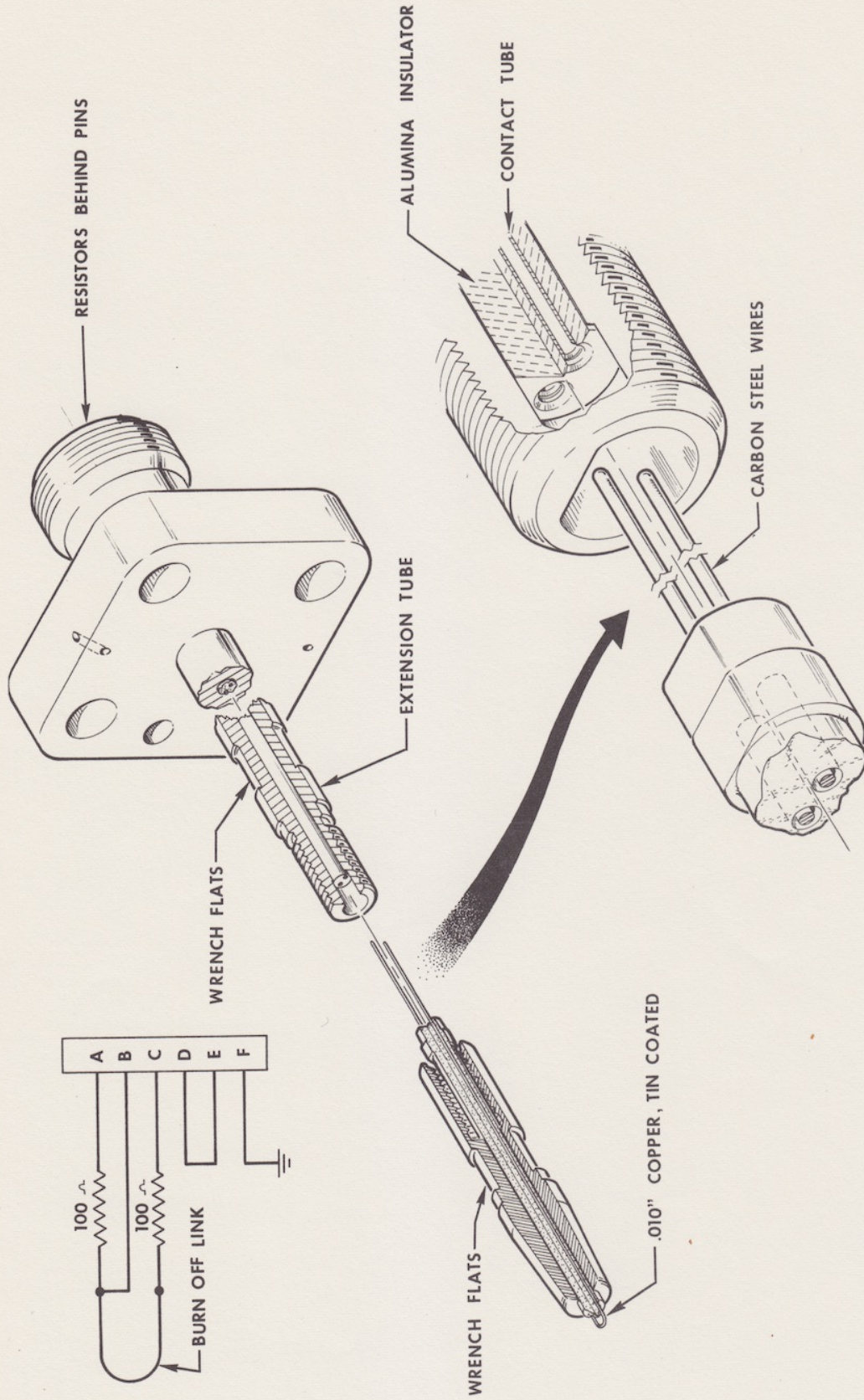
AUGMENTED SPARK INJECTOR

651379



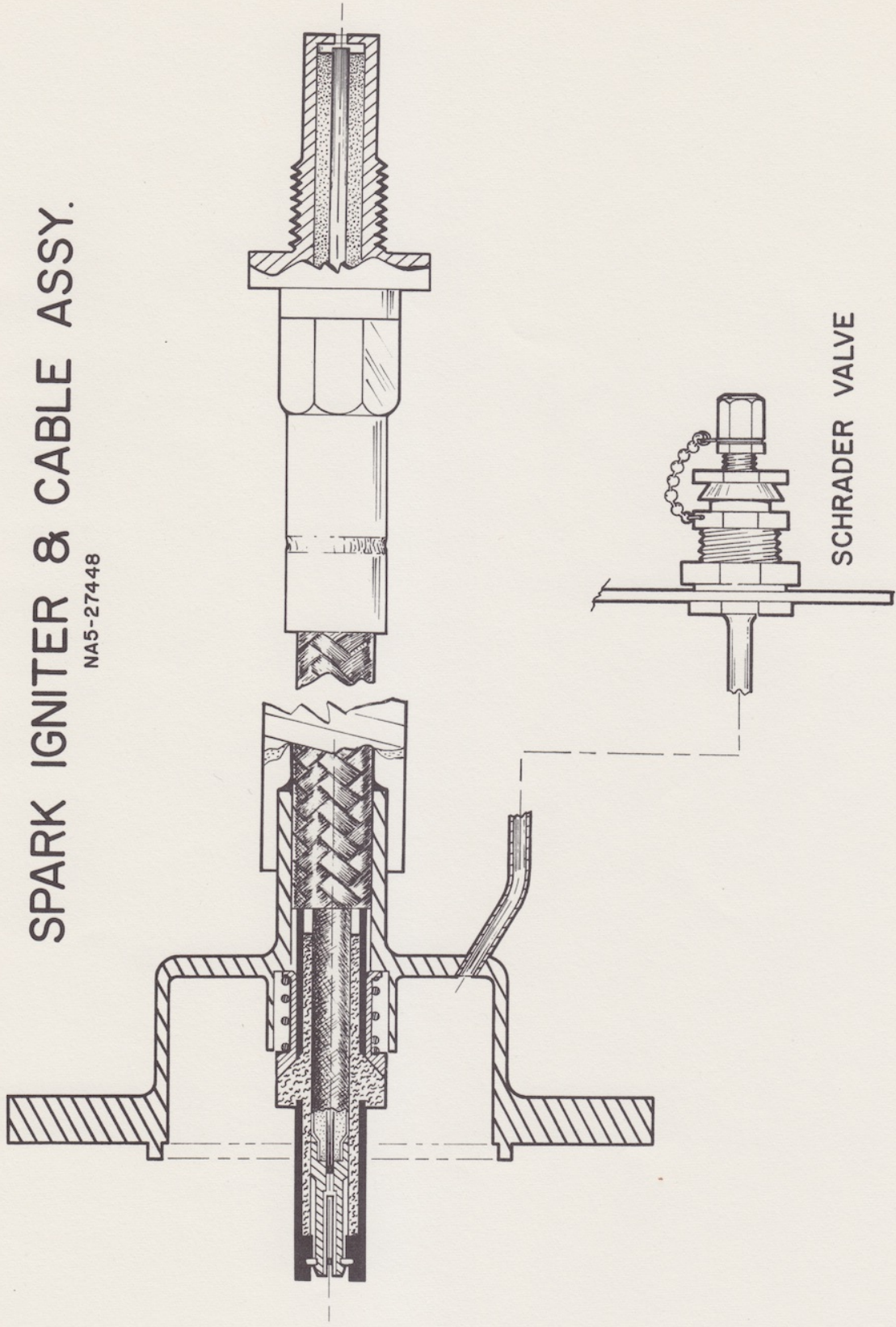
IGNITION DETECTOR PROBE

19-501750



SPARK IGNITER & CABLE ASSY.

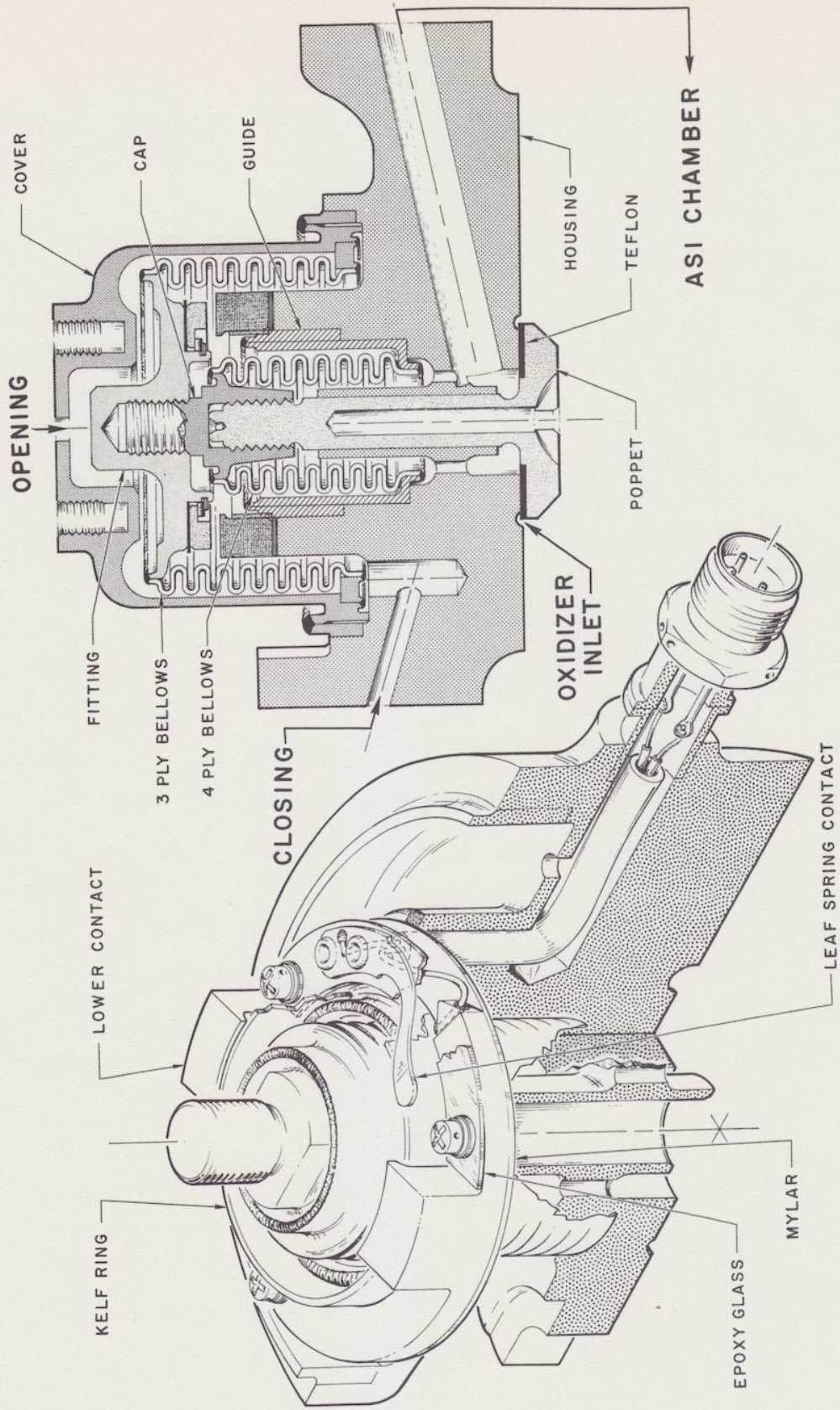
NA5-27448



SCHRADER VALVE

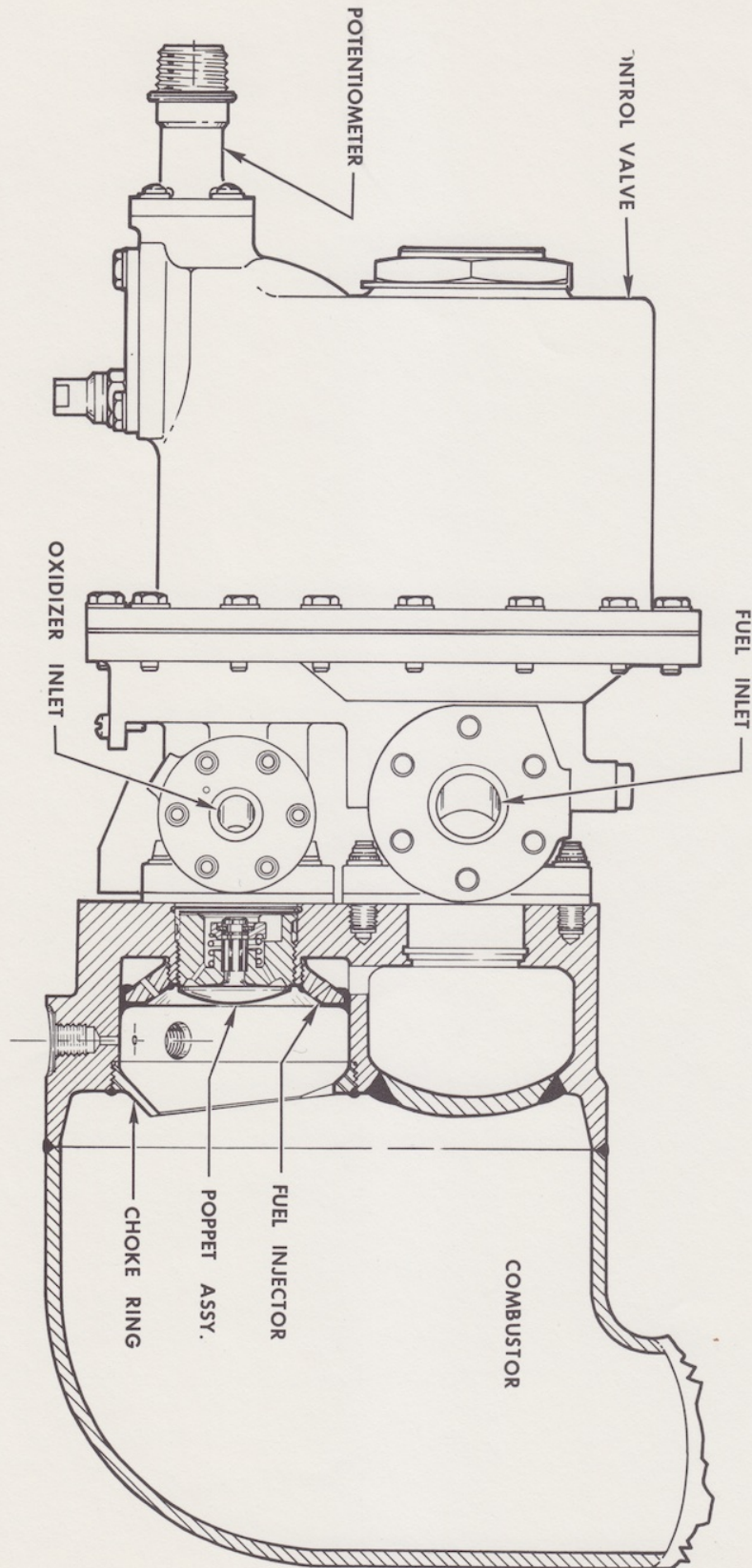
AUGMENTED SPARK IGNITER VALVE

308880



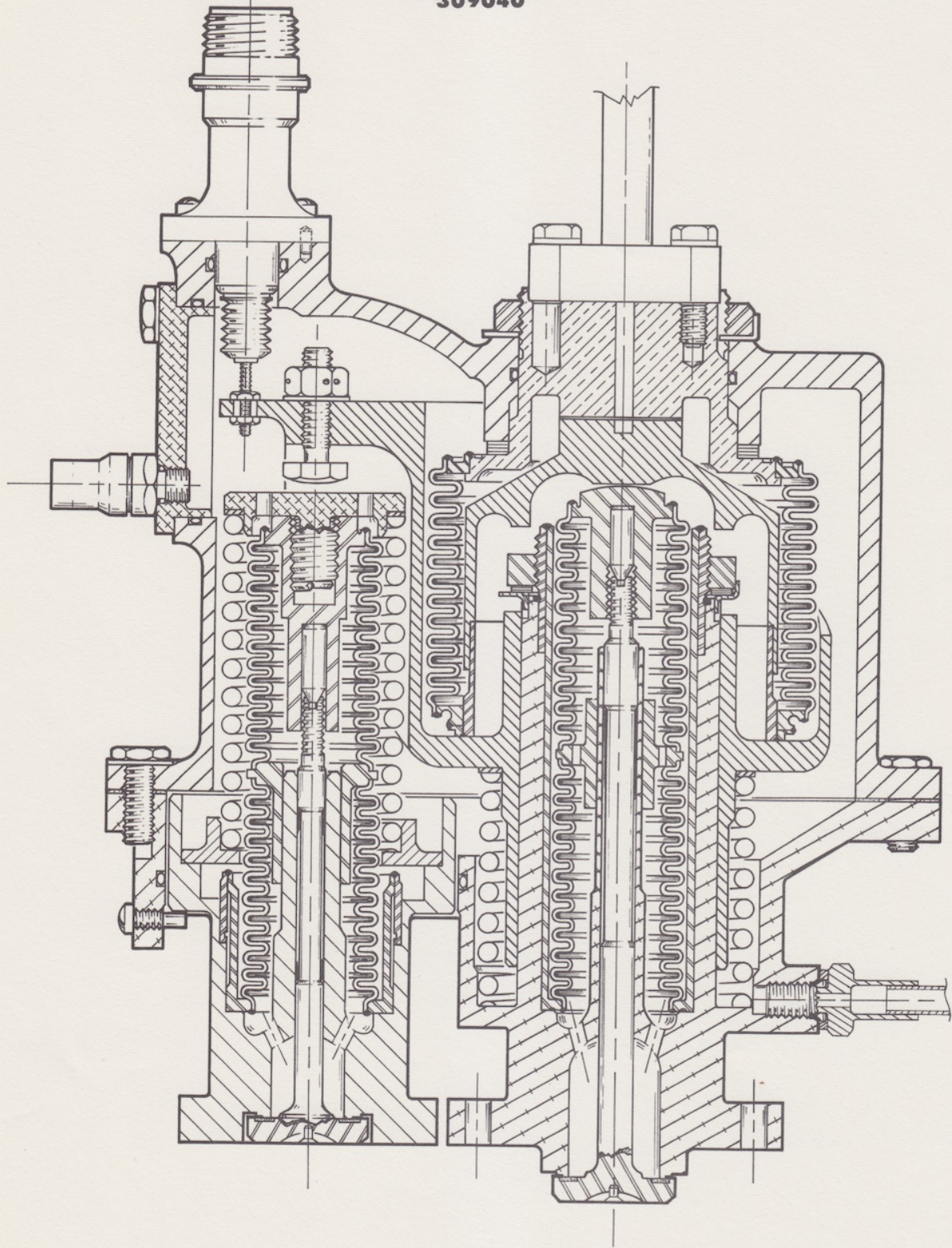
GAS GENERATOR ASSY

PART OF 459000



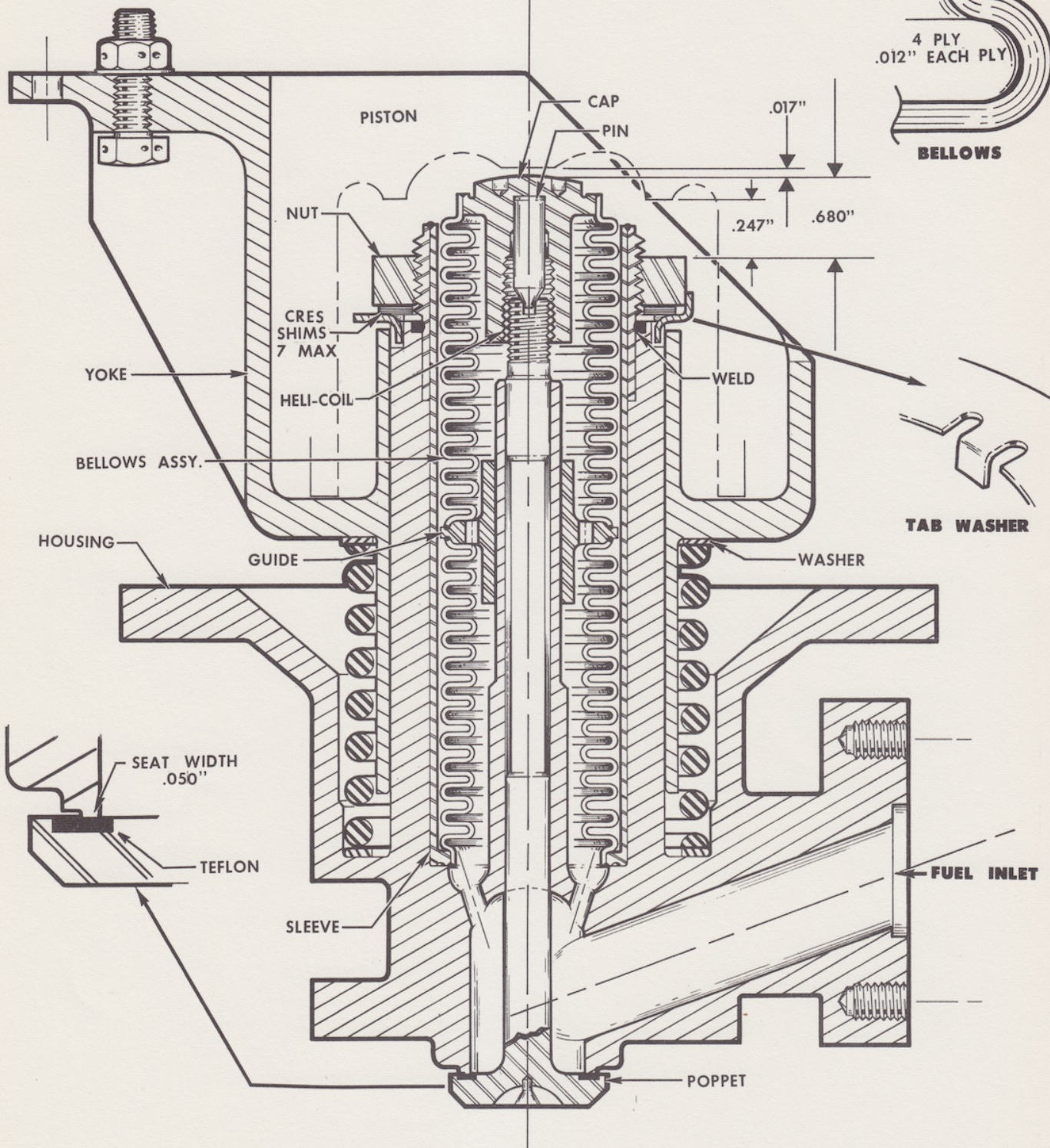
GAS GENERATOR CONTROL VALVE

309040



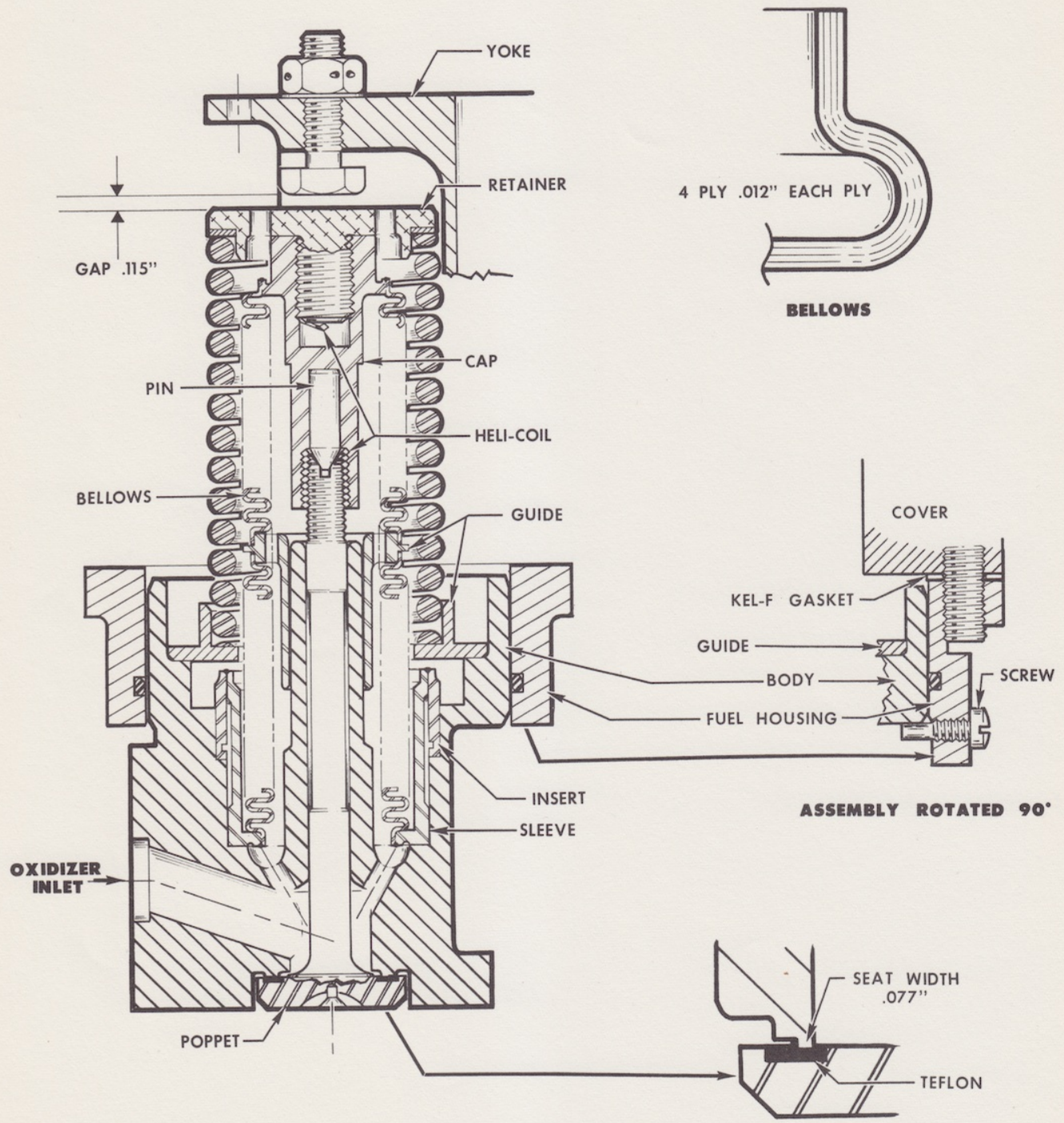
GAS GENERATOR CONTROL VALVE DETAIL NO 1

309005



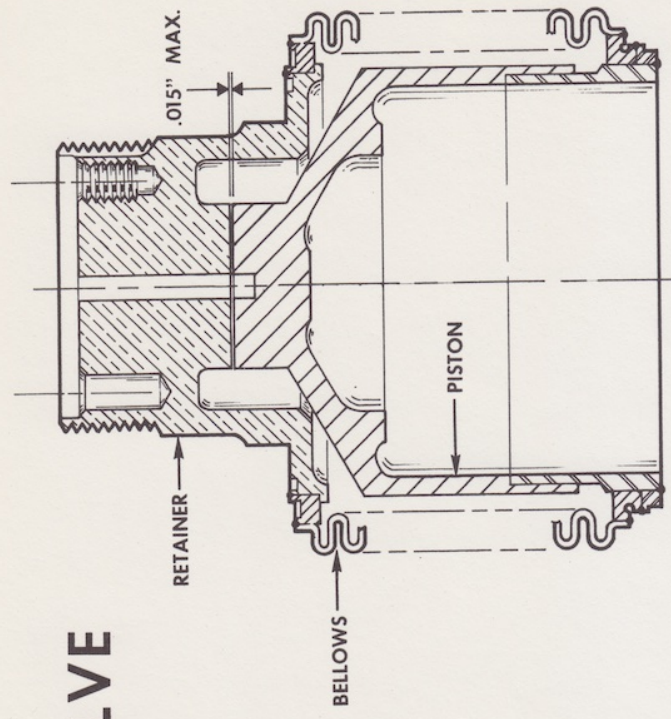
GAS GENERATOR CONTROL VALVE DETAIL NO 2

309005

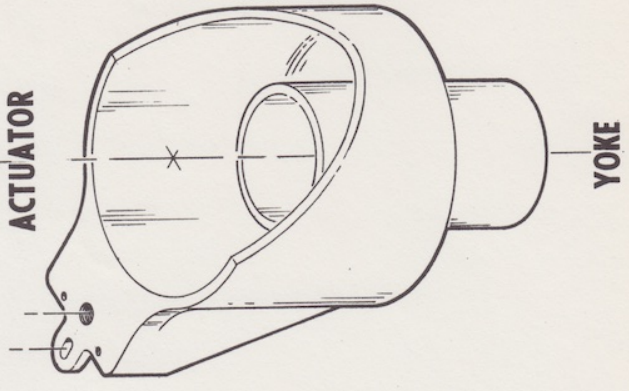


GAS GENERATOR CONTROL VALVE DETAIL NO 3

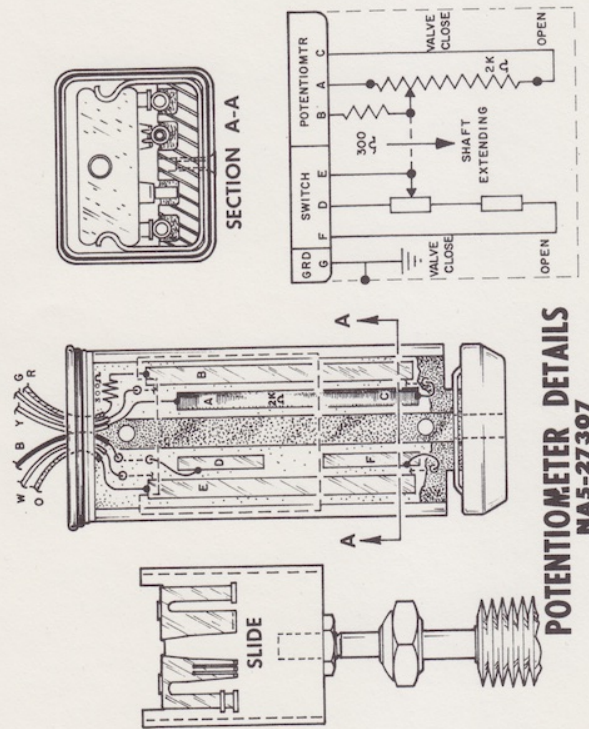
309005



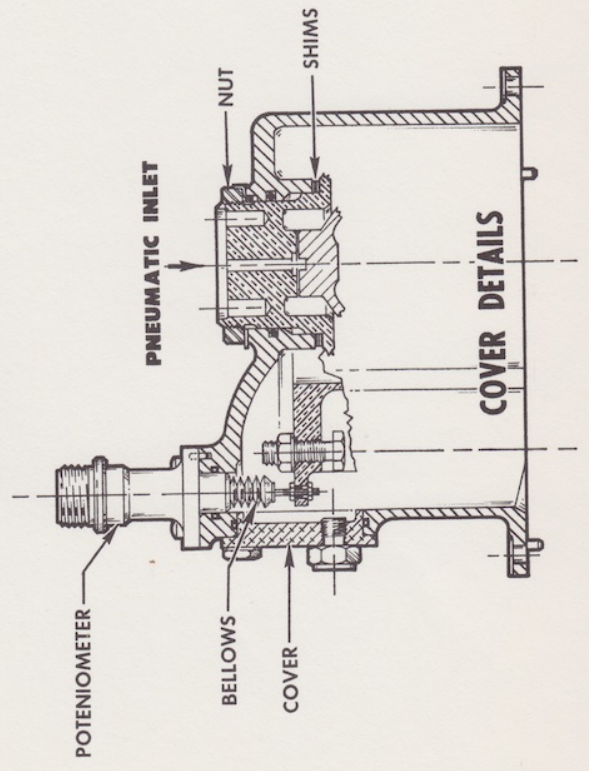
ACTUATOR



YOKE

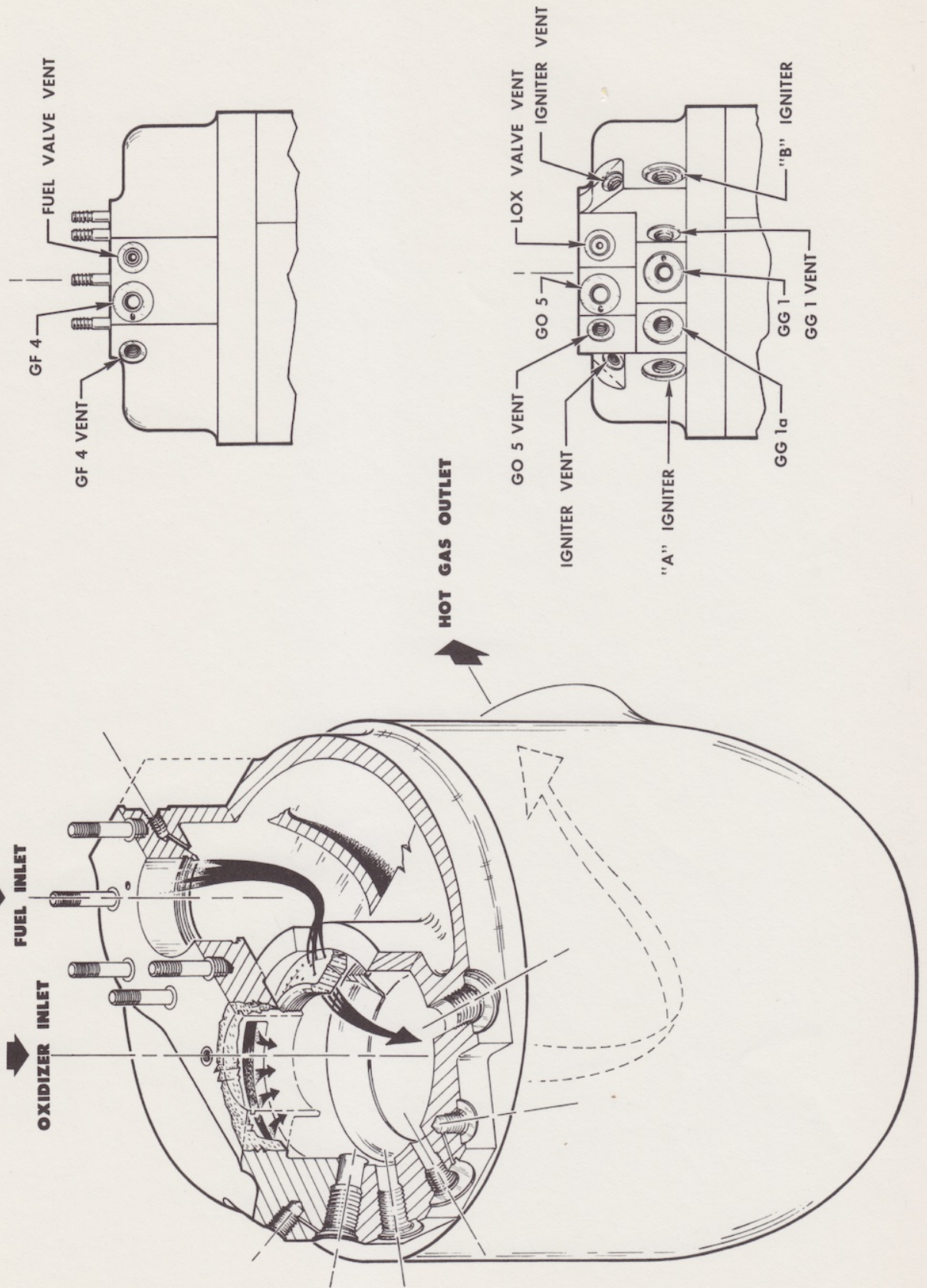


POTENTIOMETER DETAILS
NAS-27307



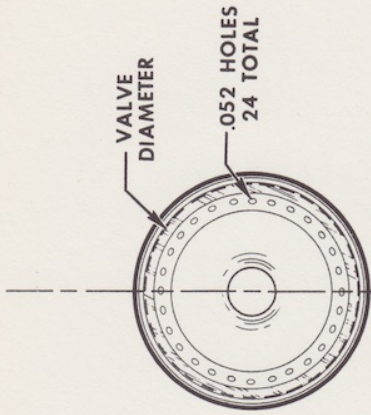
GG FUEL INJECTOR AND COMBUSTOR

308328

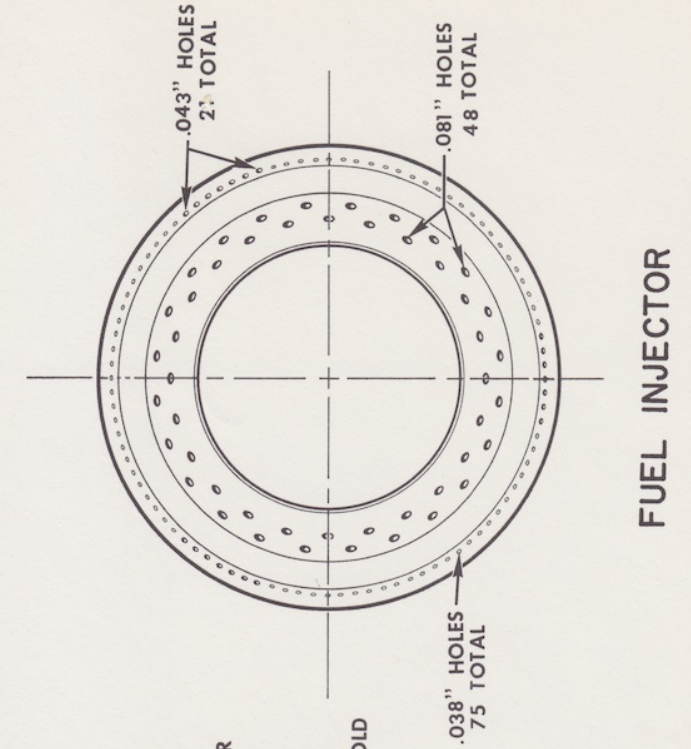


GAS GENERATOR INJECTORS

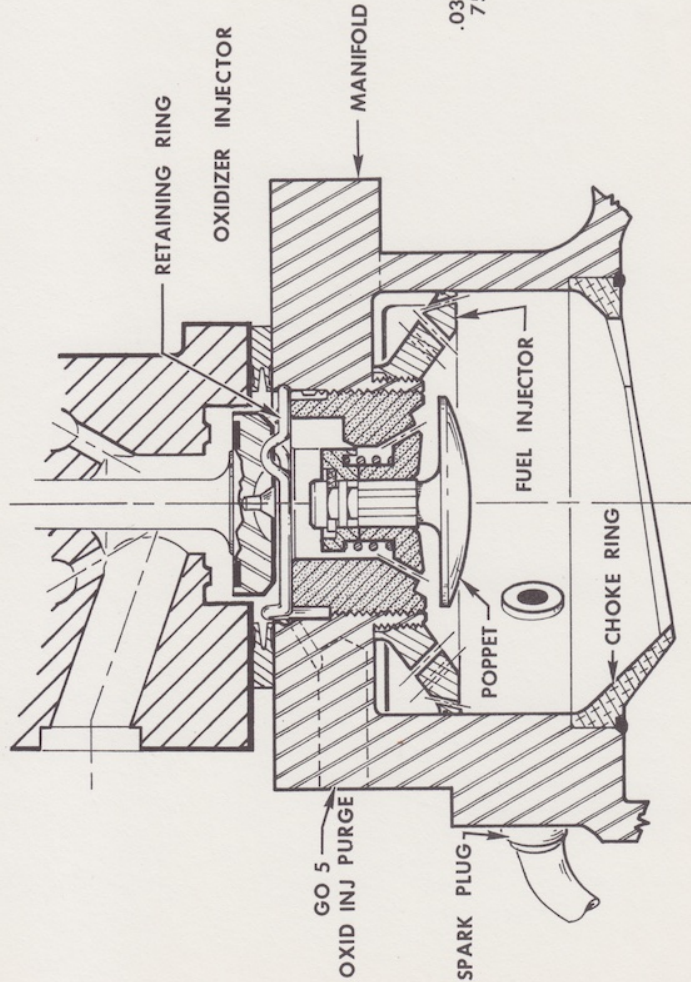
308360



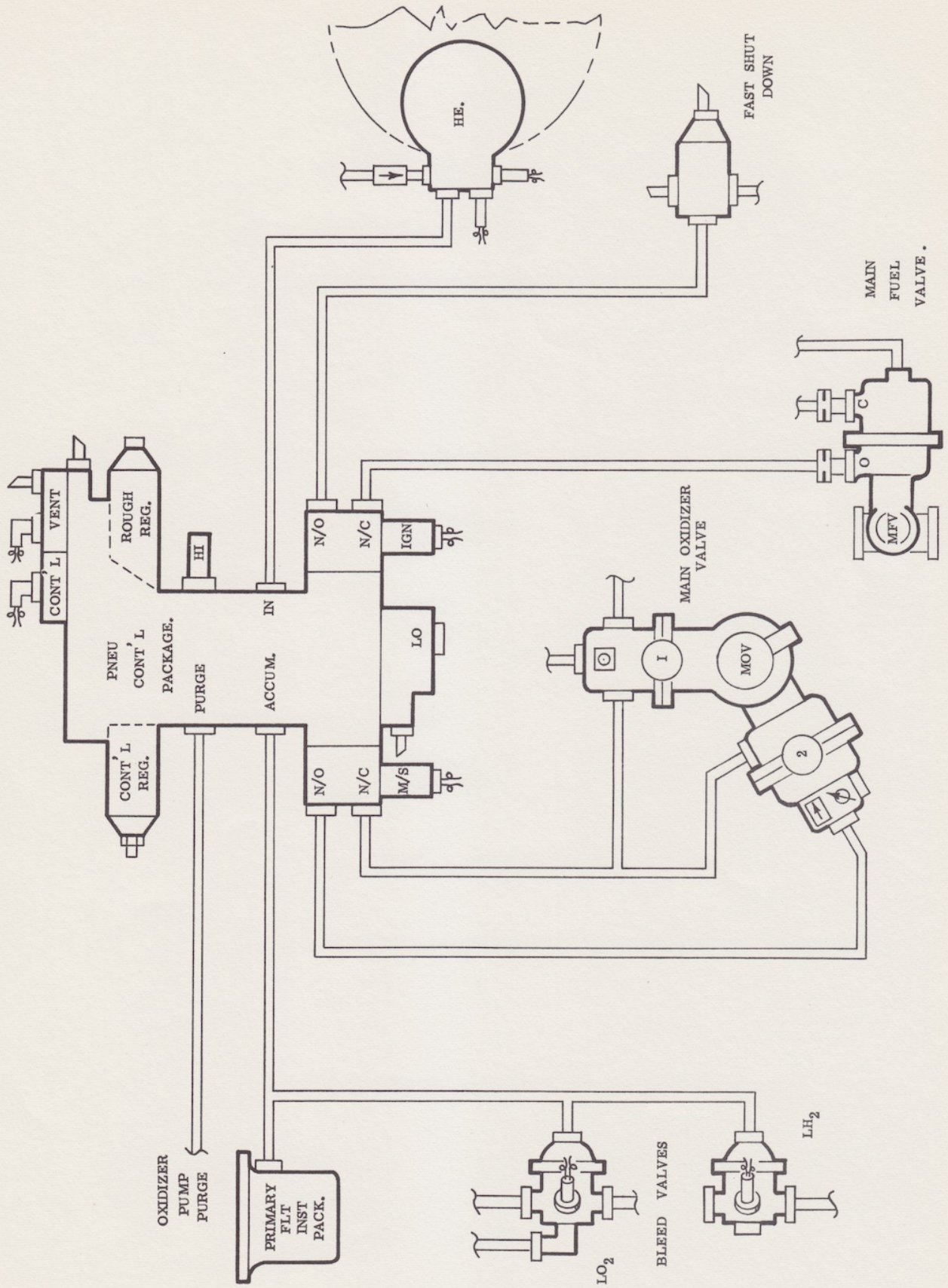
OXIDIZER INJECTOR



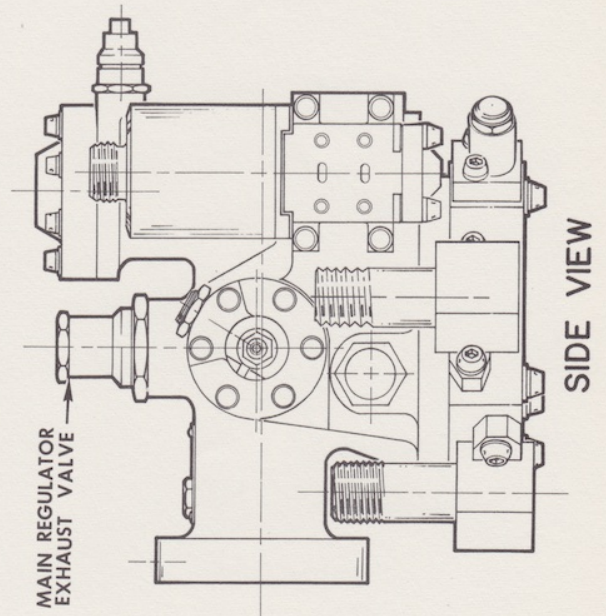
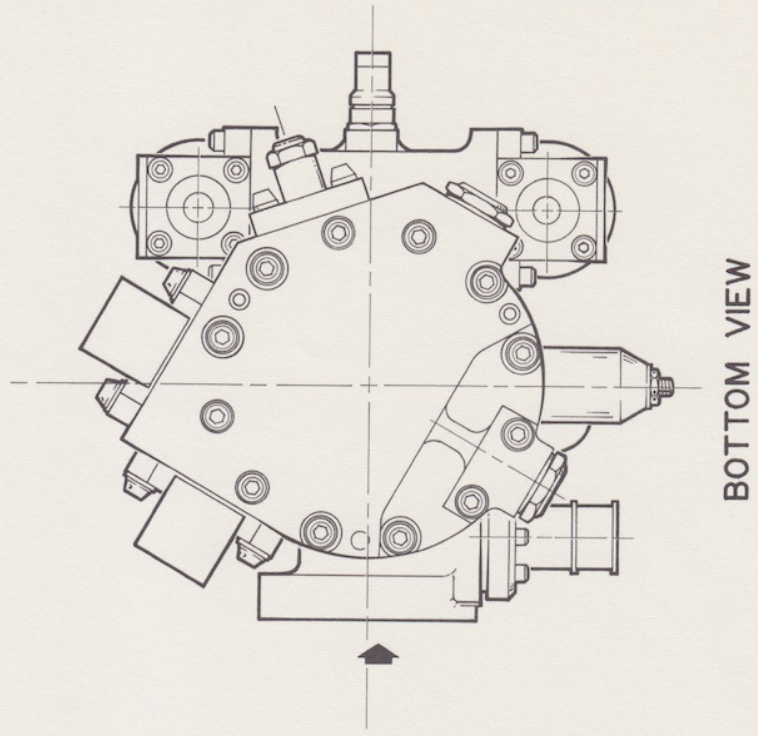
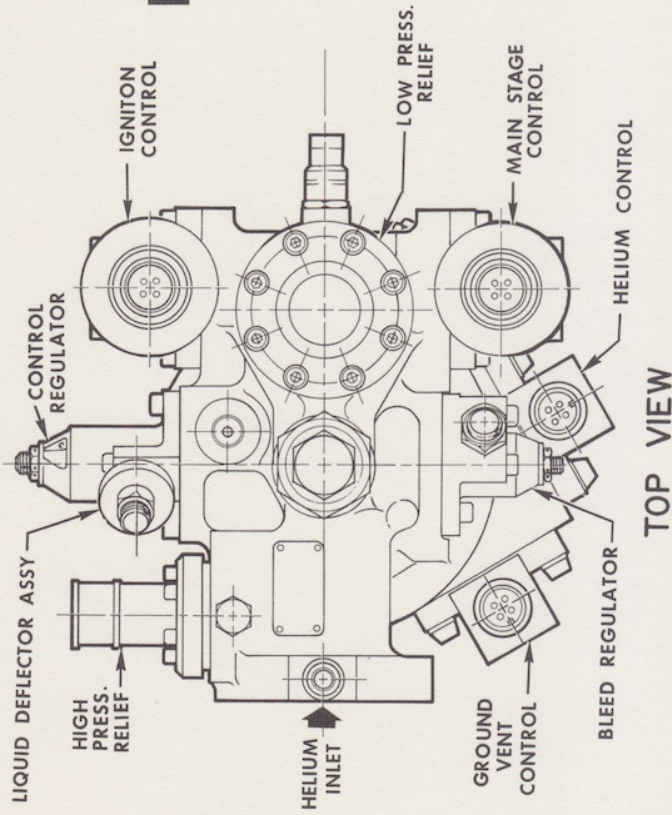
FUEL INJECTOR



J2 CONTROL SYSTEM

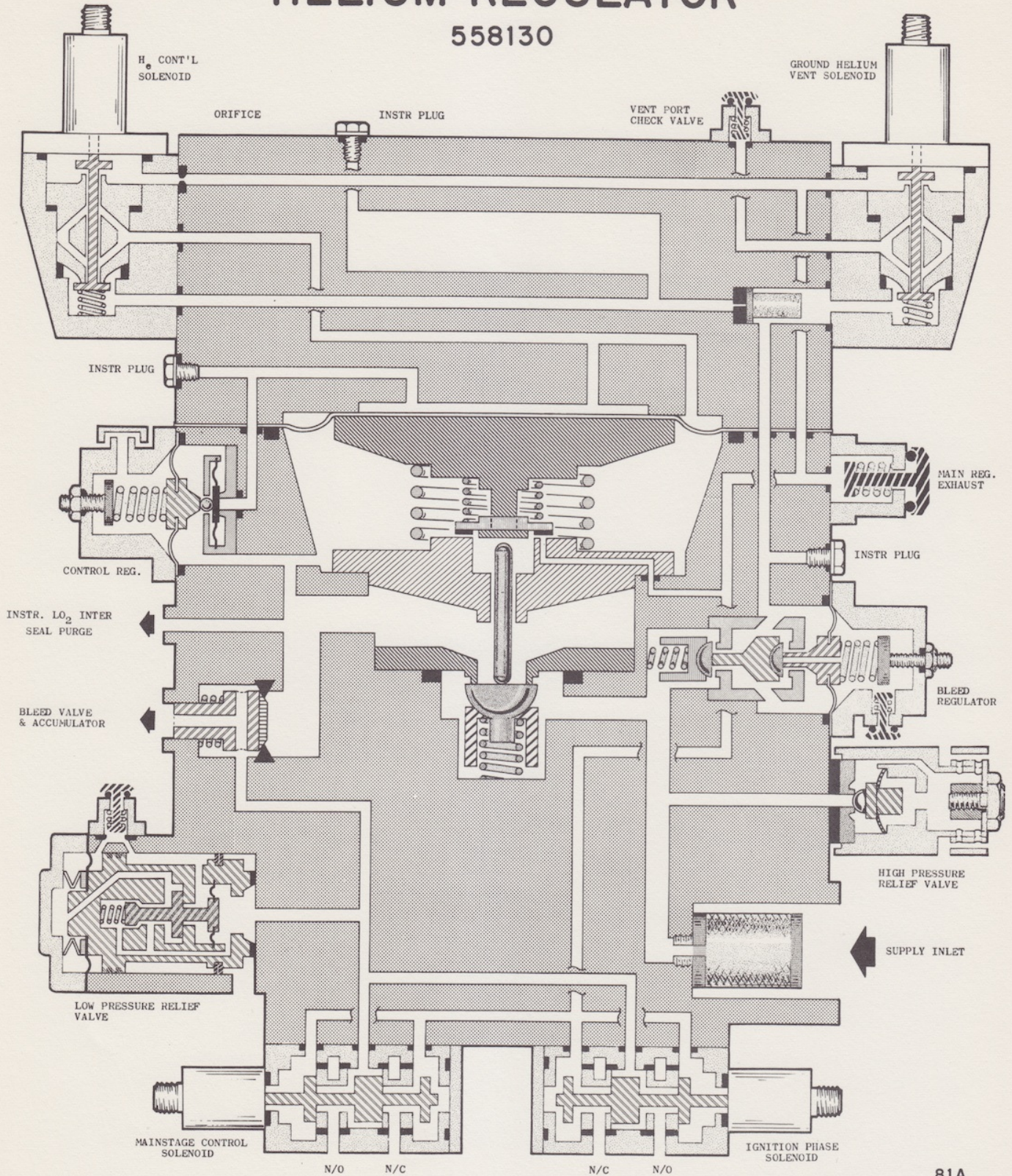


HELIUM REGULATOR



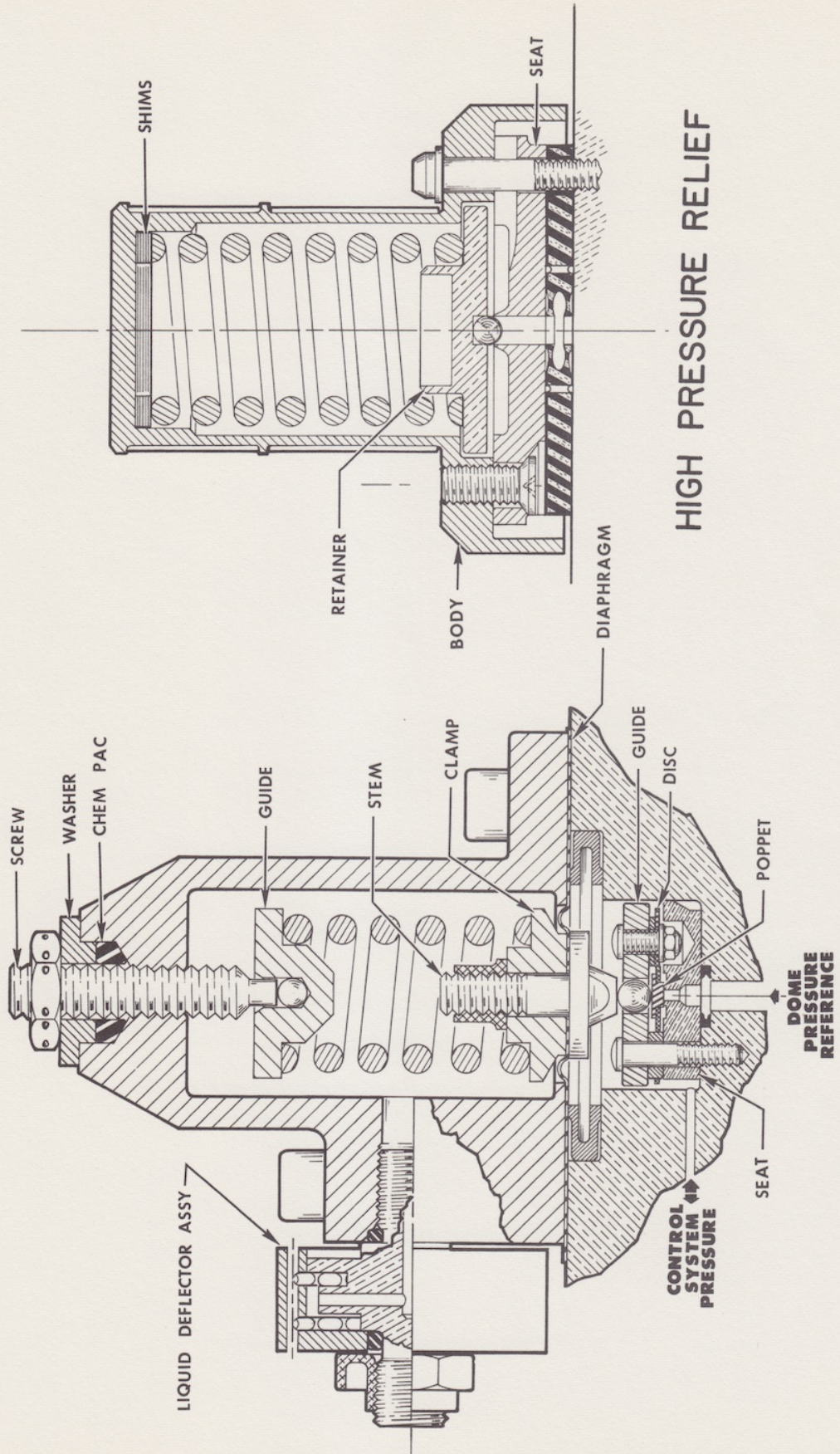
HELIUM REGULATOR

558130



HELIUM REGULATOR DETAIL NO 1

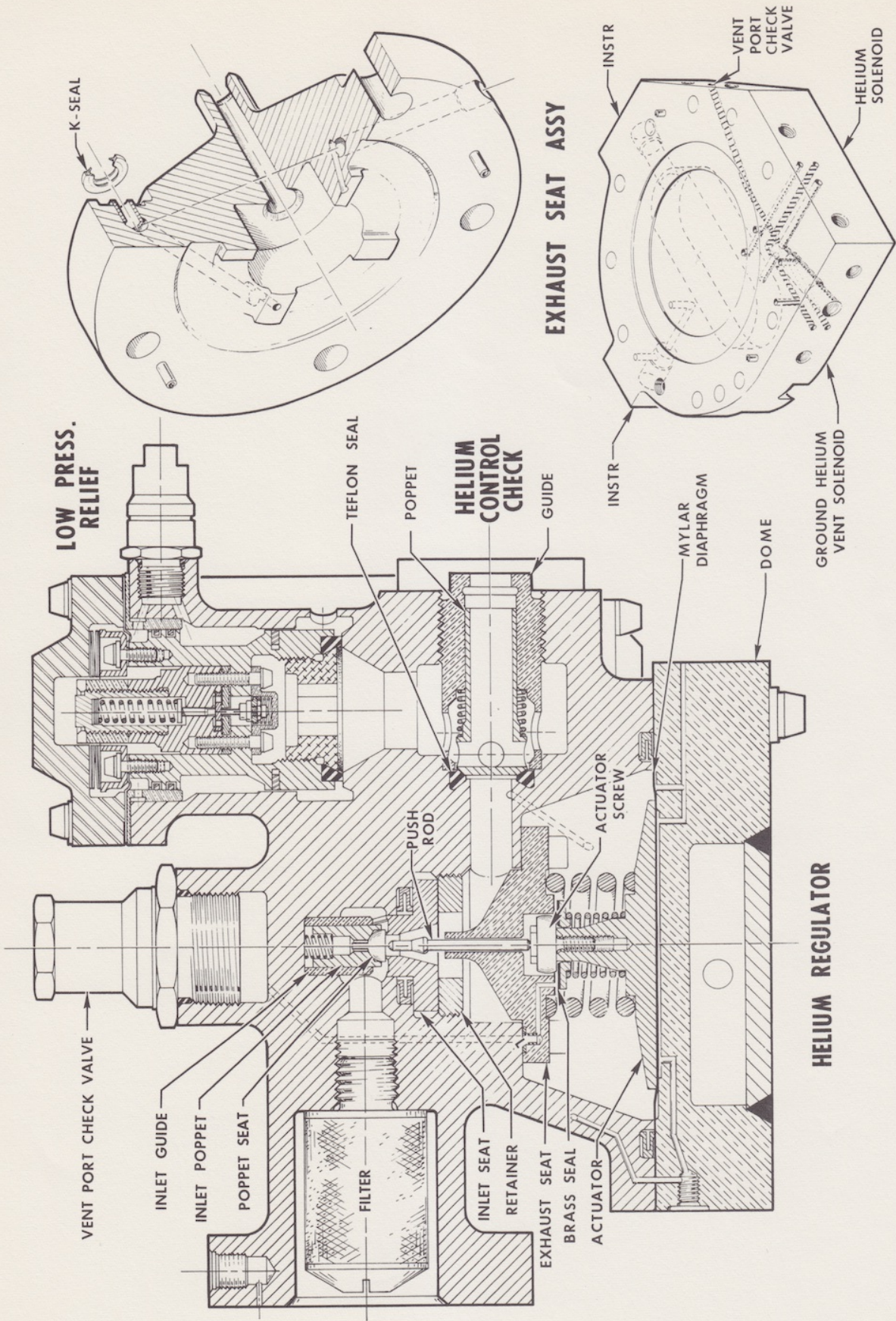
558100



CONTROL REGULATOR

HELIUM REGULATOR DETAILS NO 2

556949



LOW PRESS. RELIEF

K-SEAL

TEFLON SEAL

POPPET

HELIUM CONTROL CHECK

GUIDE

EXHAUST SEAT ASSY

INSTR

MYLAR DIAPHRAGM

DOMES

GROUND HELIUM VENT SOLENOID

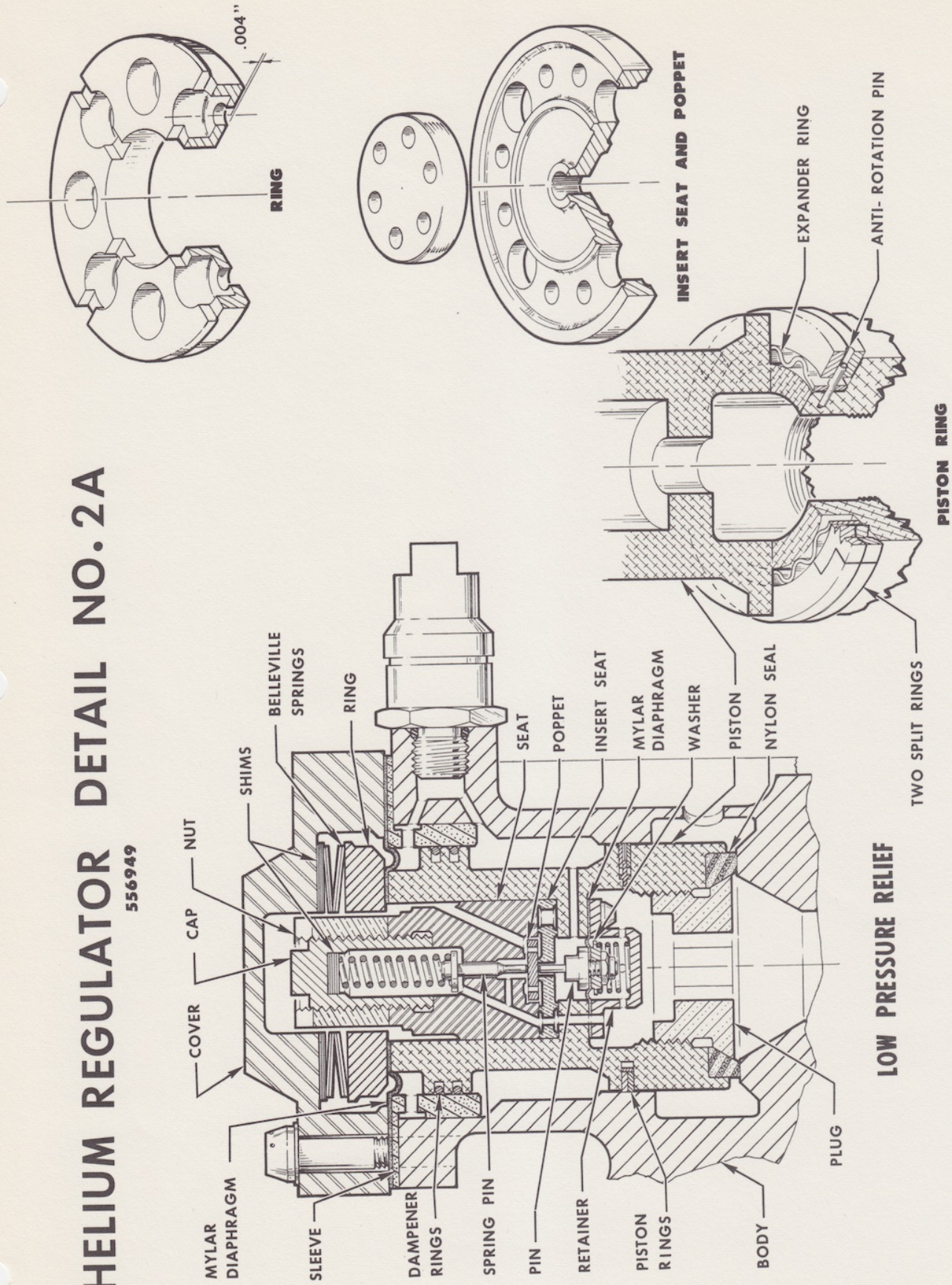
HELIUM SOLENOID

DOMES

HELIUM REGULATOR

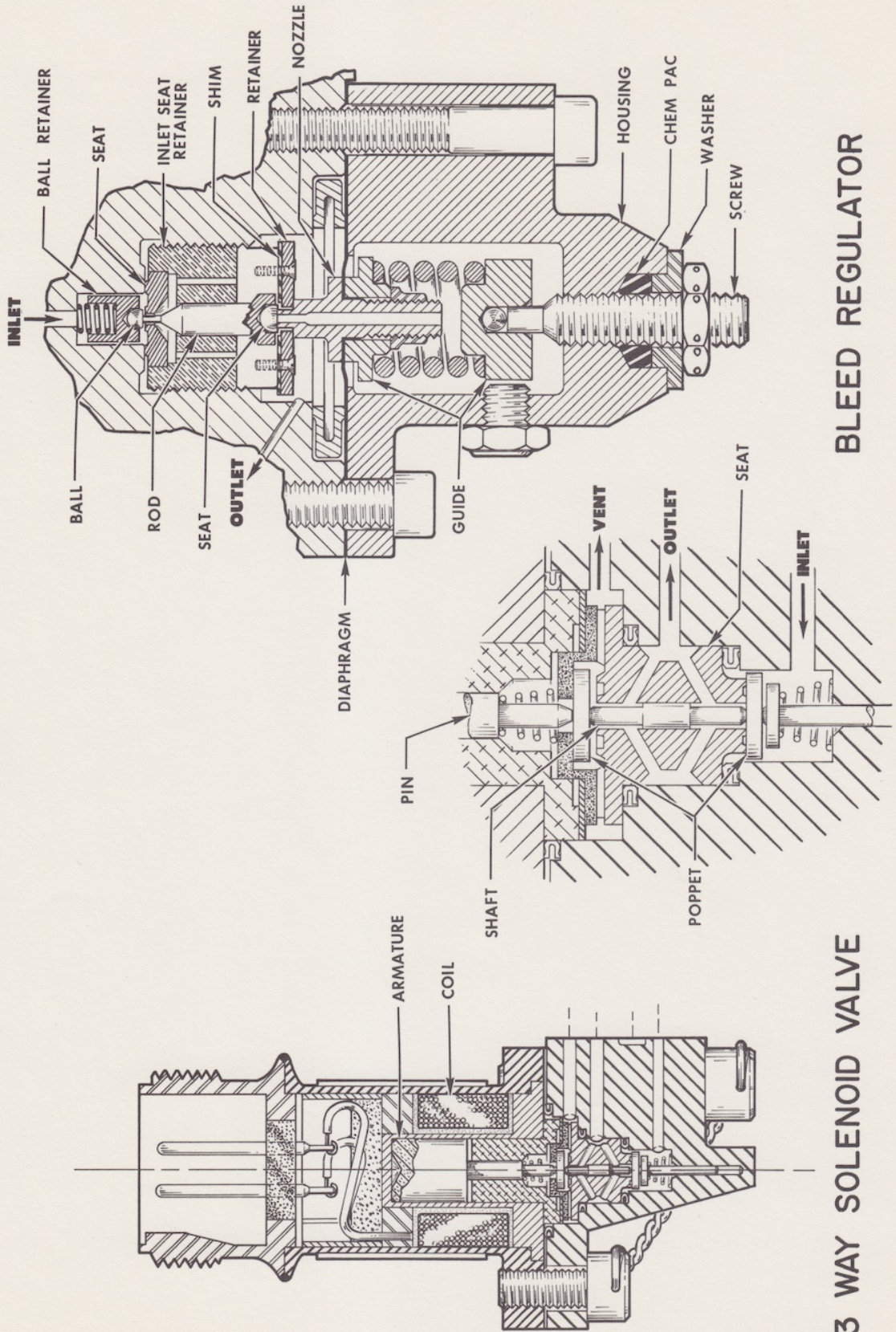
HELIUM REGULATOR DETAIL NO. 2A

556949



HELIUM REGULATOR DETAILS NO 3

558100

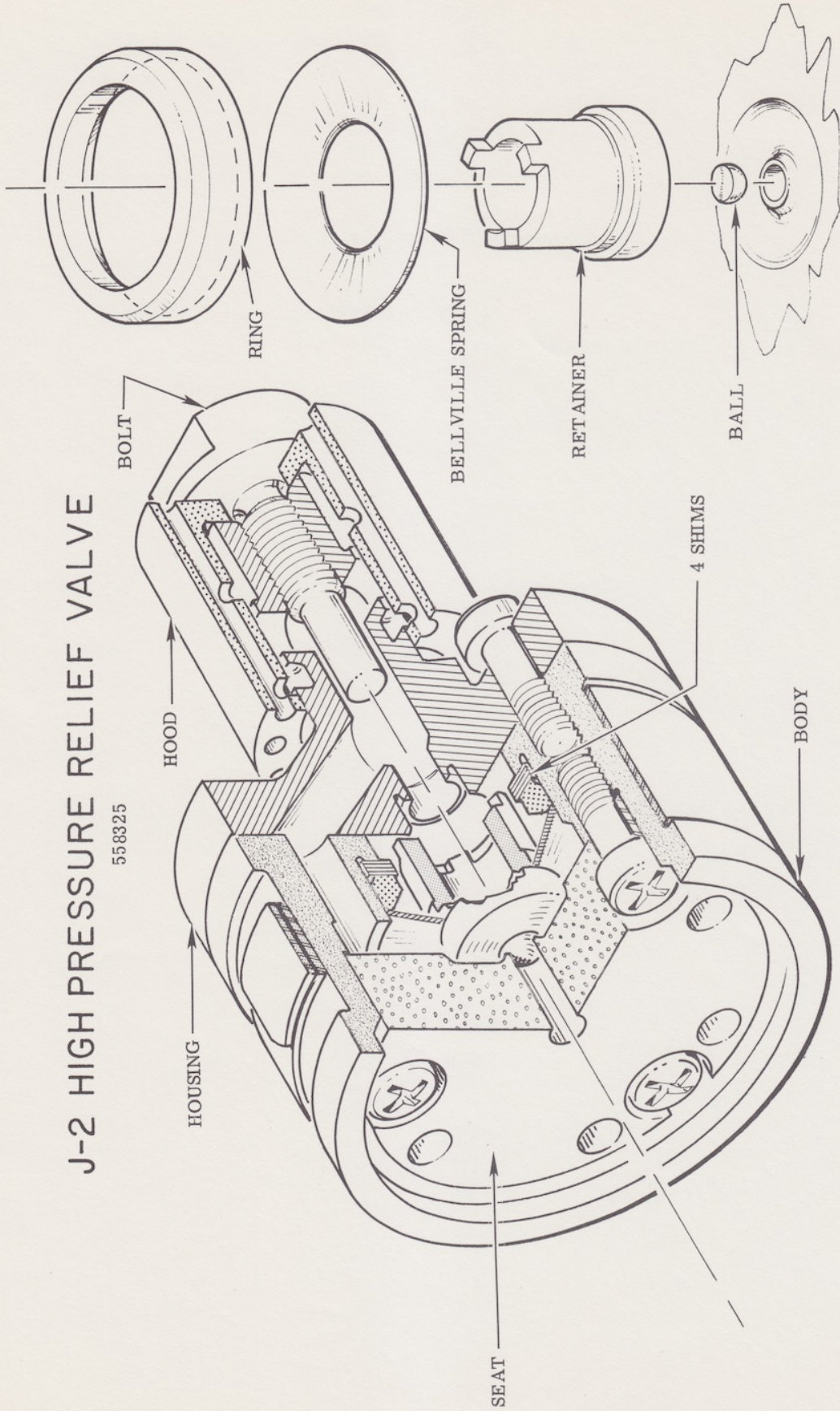


BLEED REGULATOR

3 WAY SOLENOID VALVE

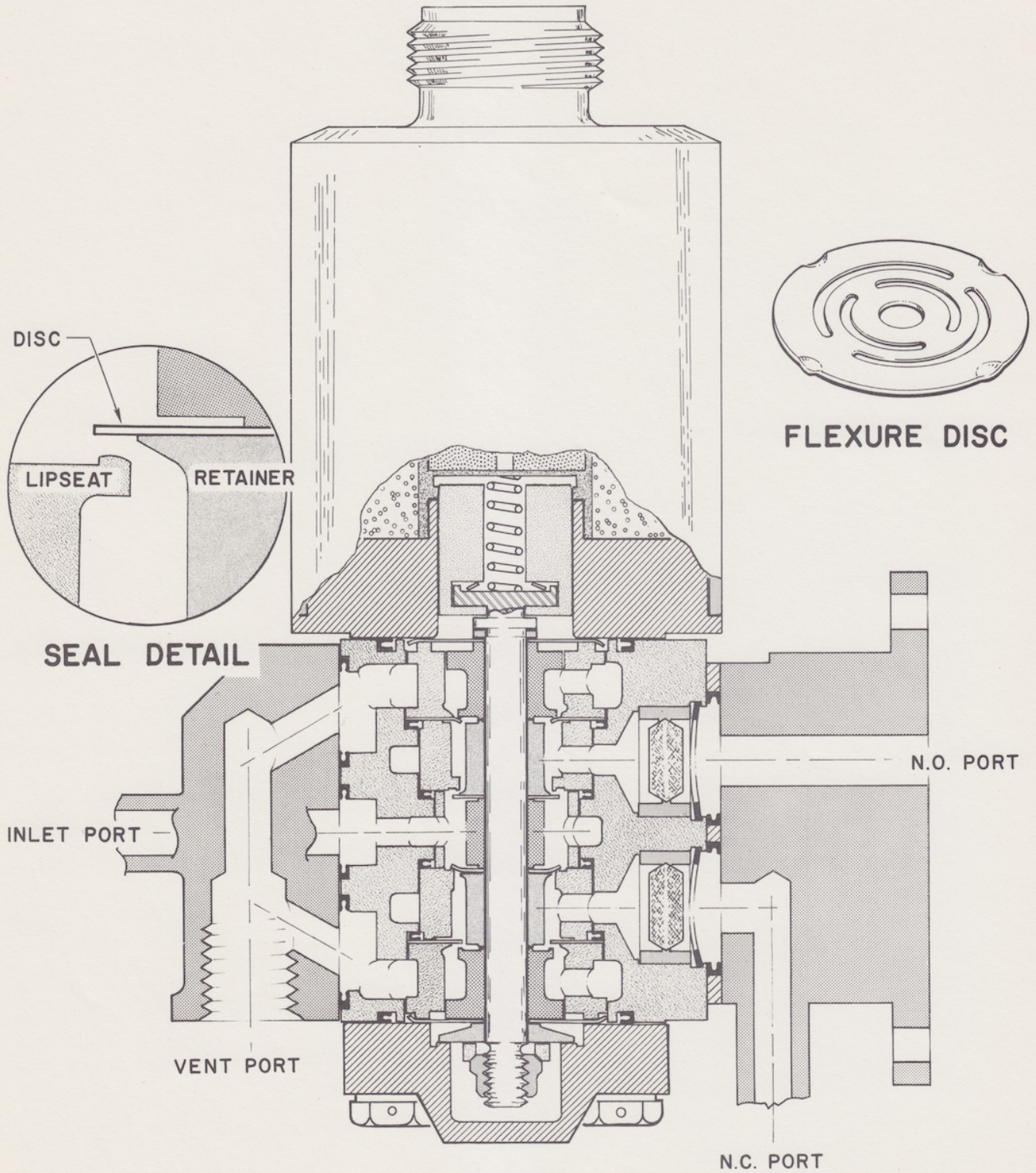
J-2 HIGH PRESSURE RELIEF VALVE

558325



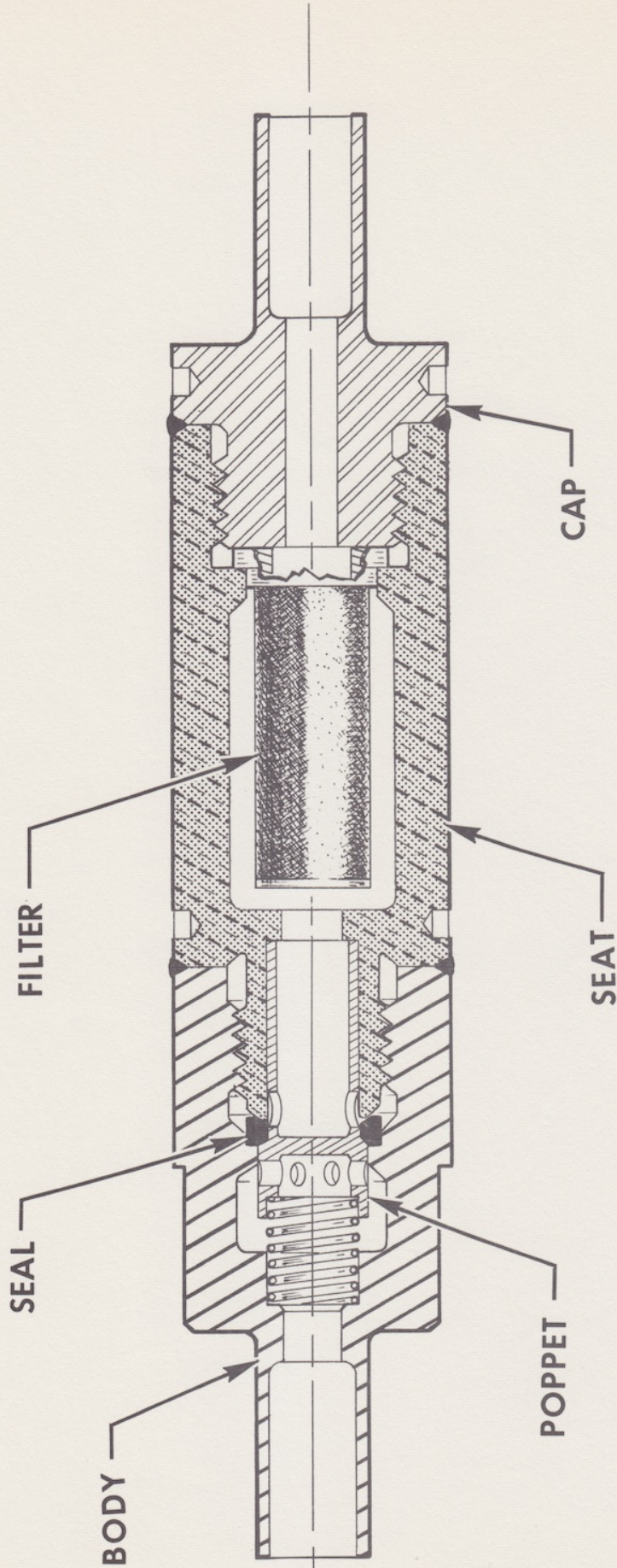
FOUR WAY CONTROL VALVE

558070



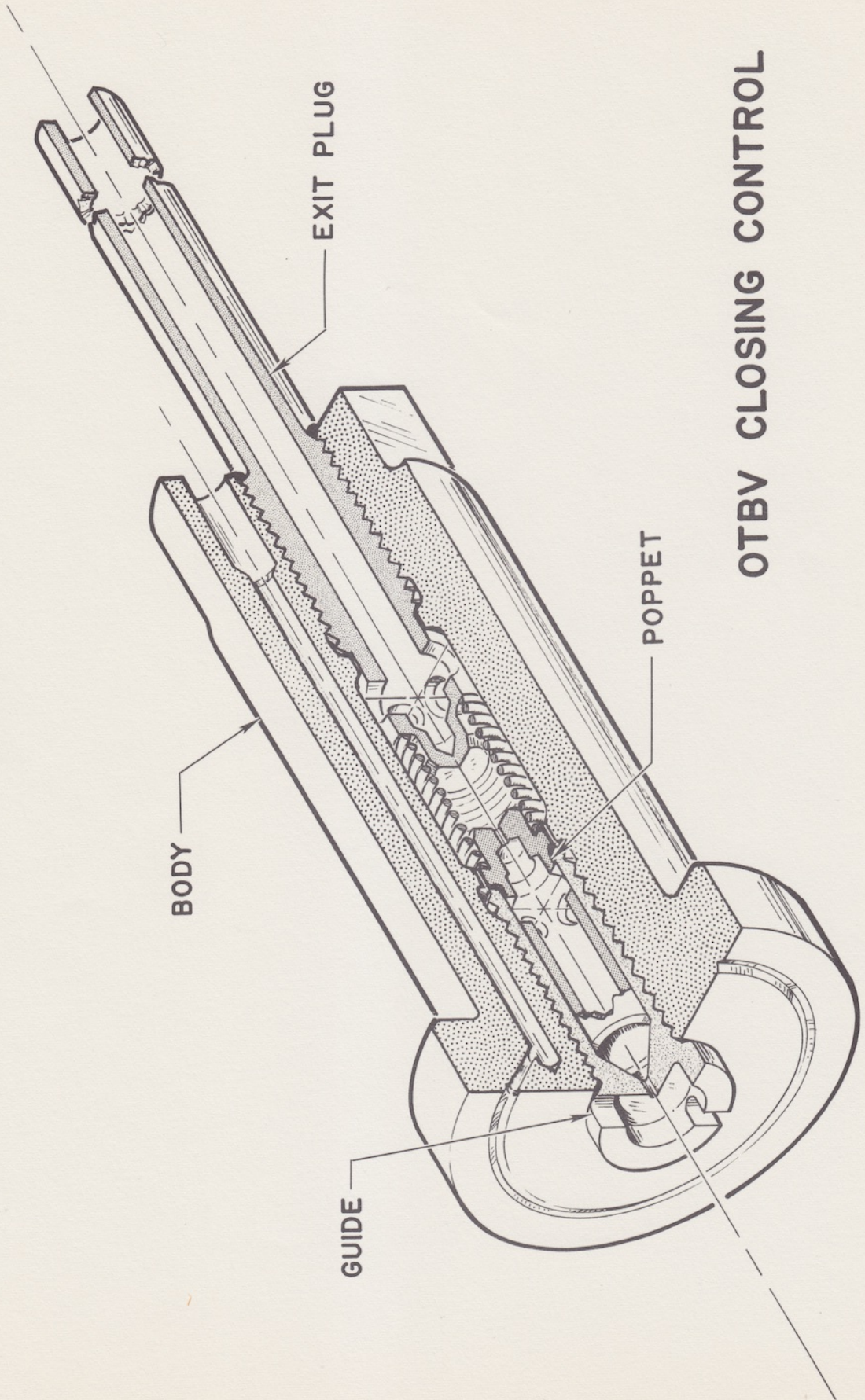
HELIUM FILL CHECK VALVE

558022



RESTRICTOR CHECK VALVE

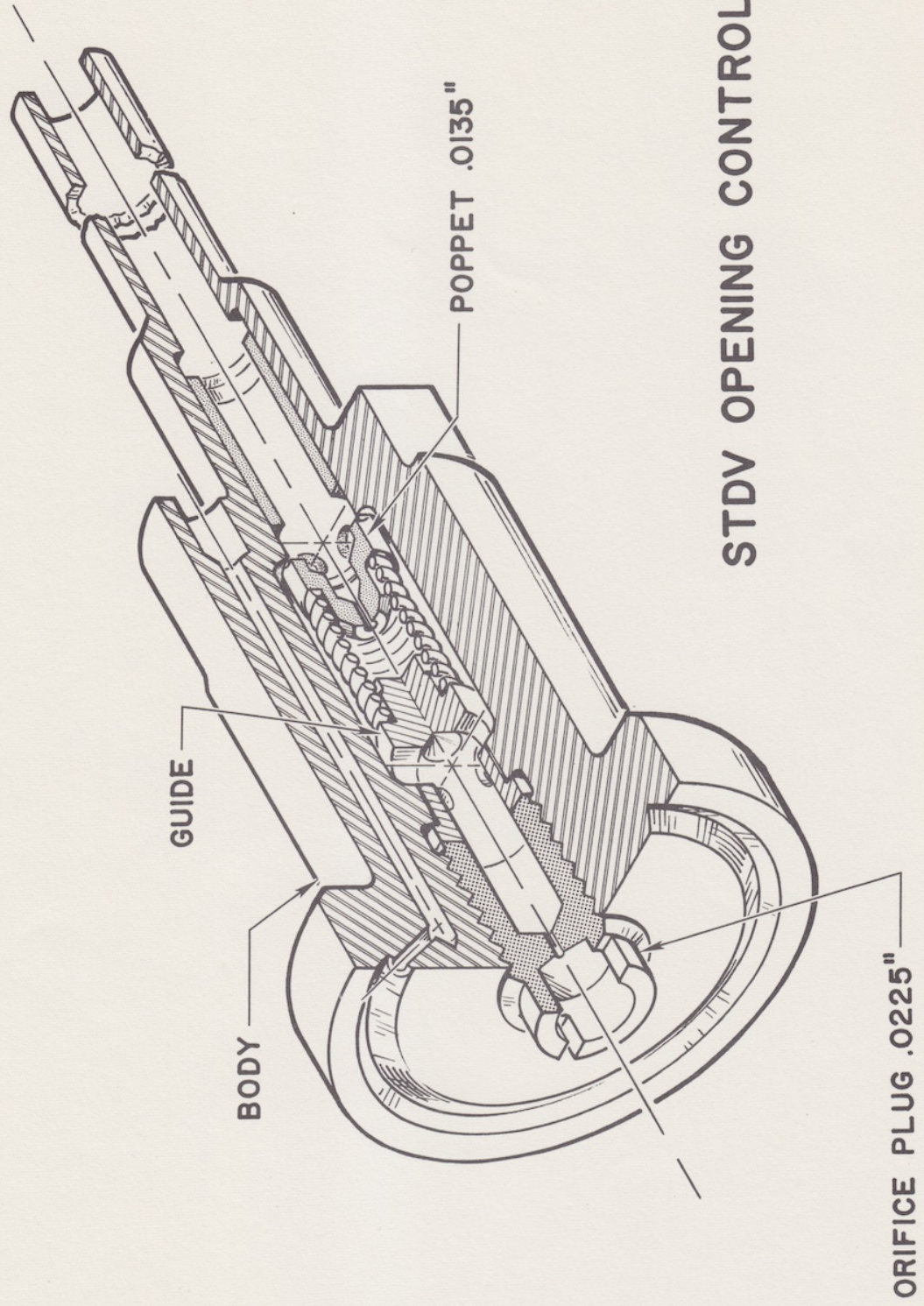
558020



OTBV CLOSING CONTROL

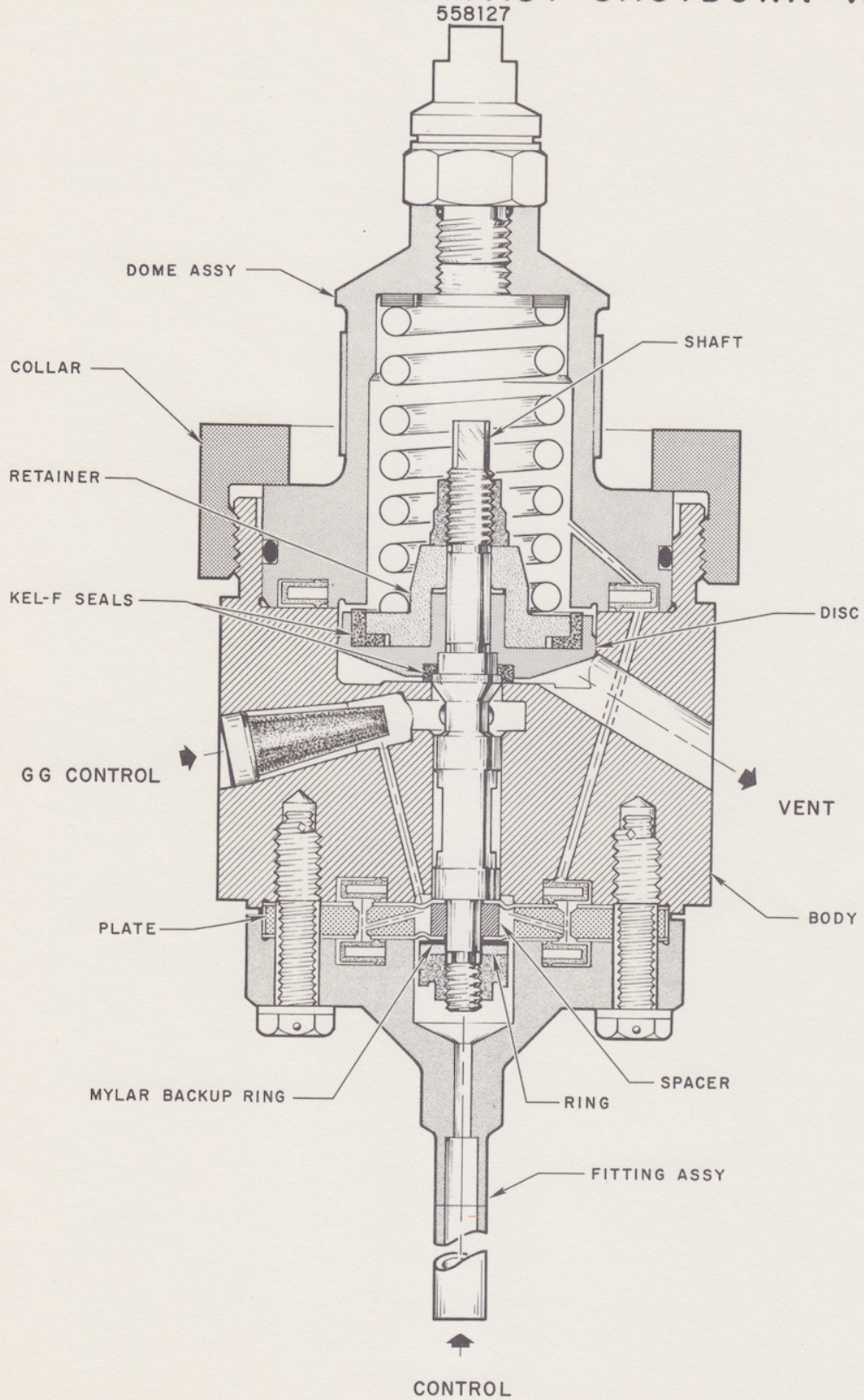
TWO-WAY RESTRICTOR CHECK VALVE

556426



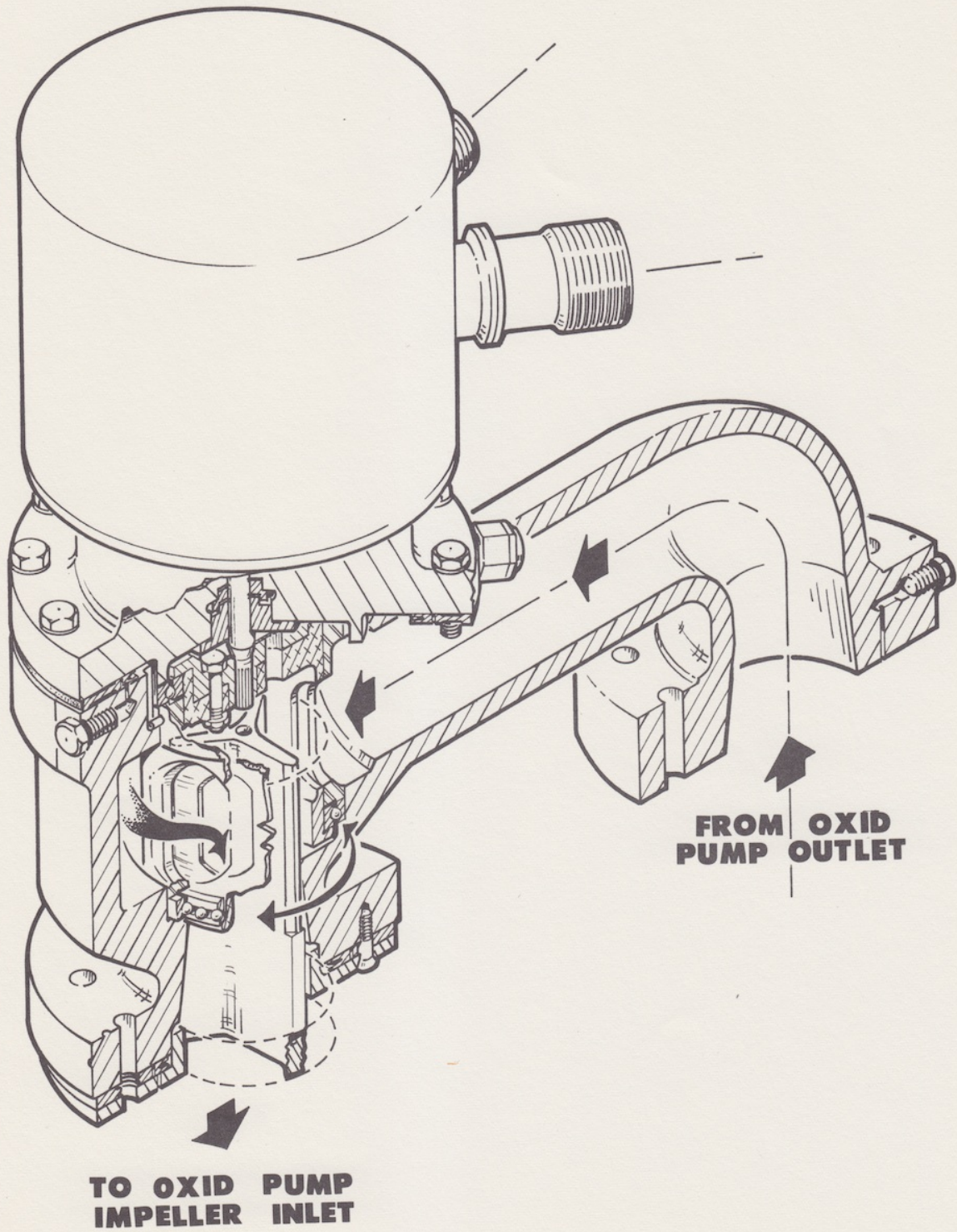
STDV OPENING CONTROL

PRESSURE ACTUATED FAST SHUTDOWN VALVE



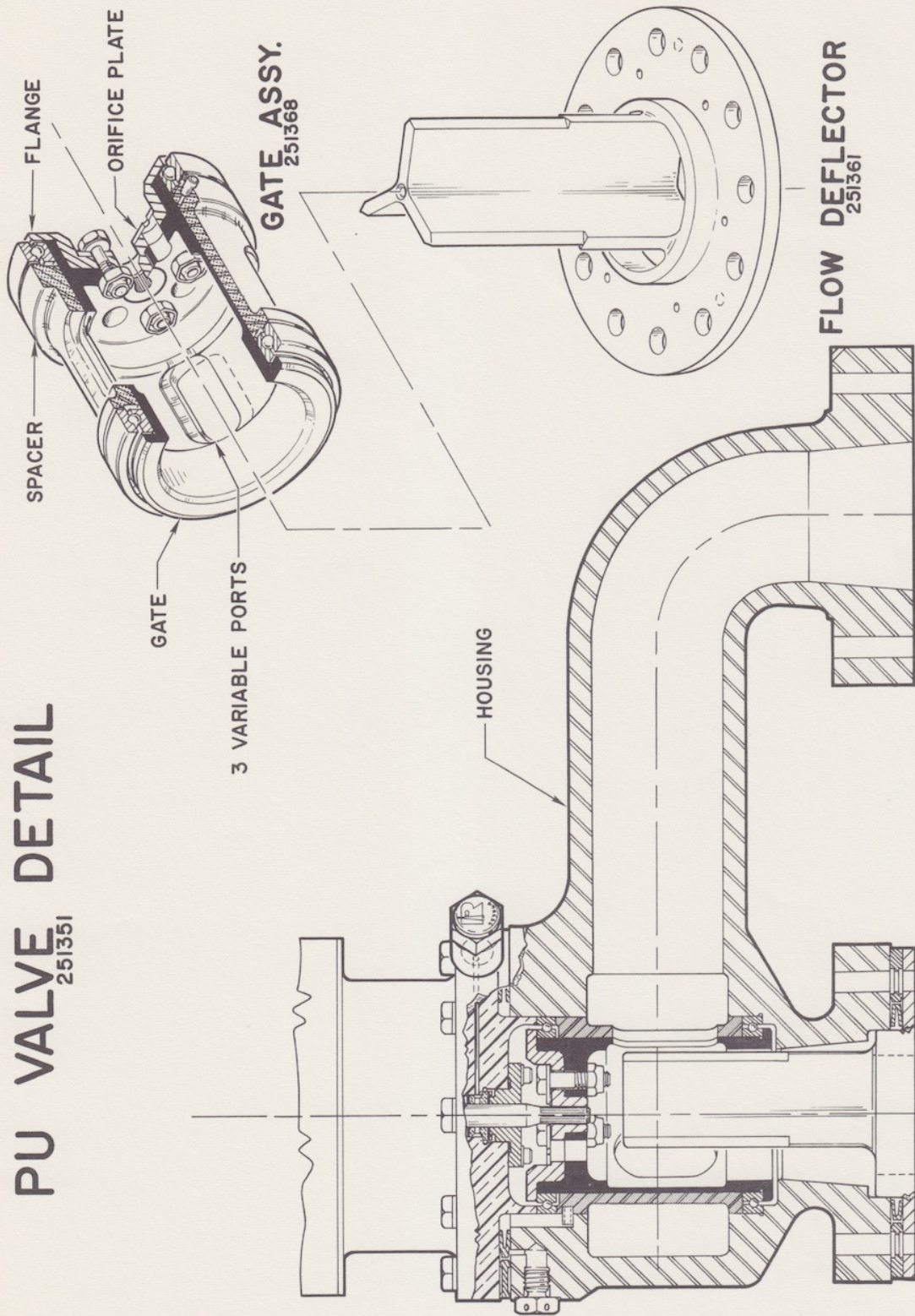
PROPELLANT UTILIZATION VALVE

251351

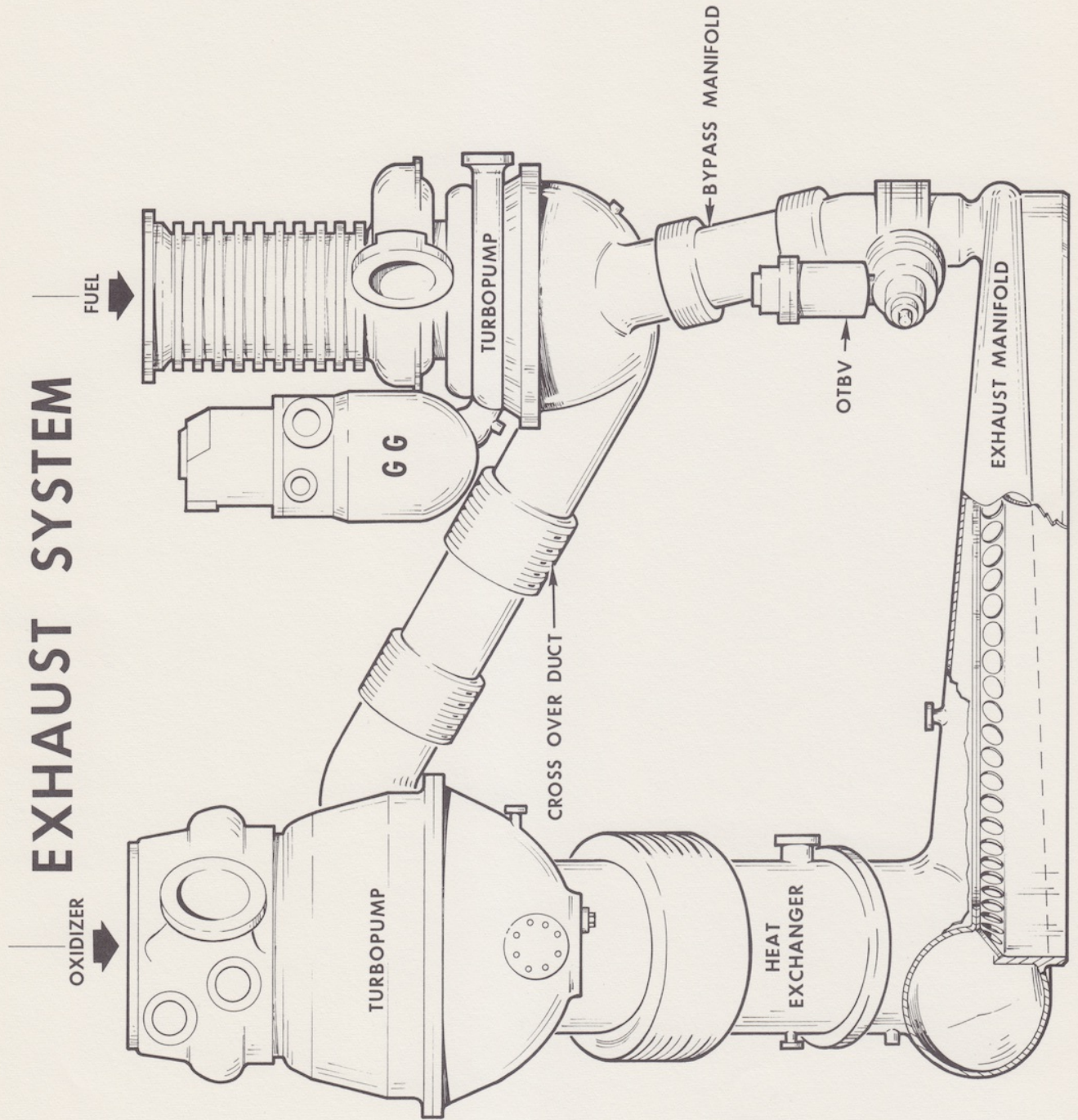


PU VALVE DETAIL

251351

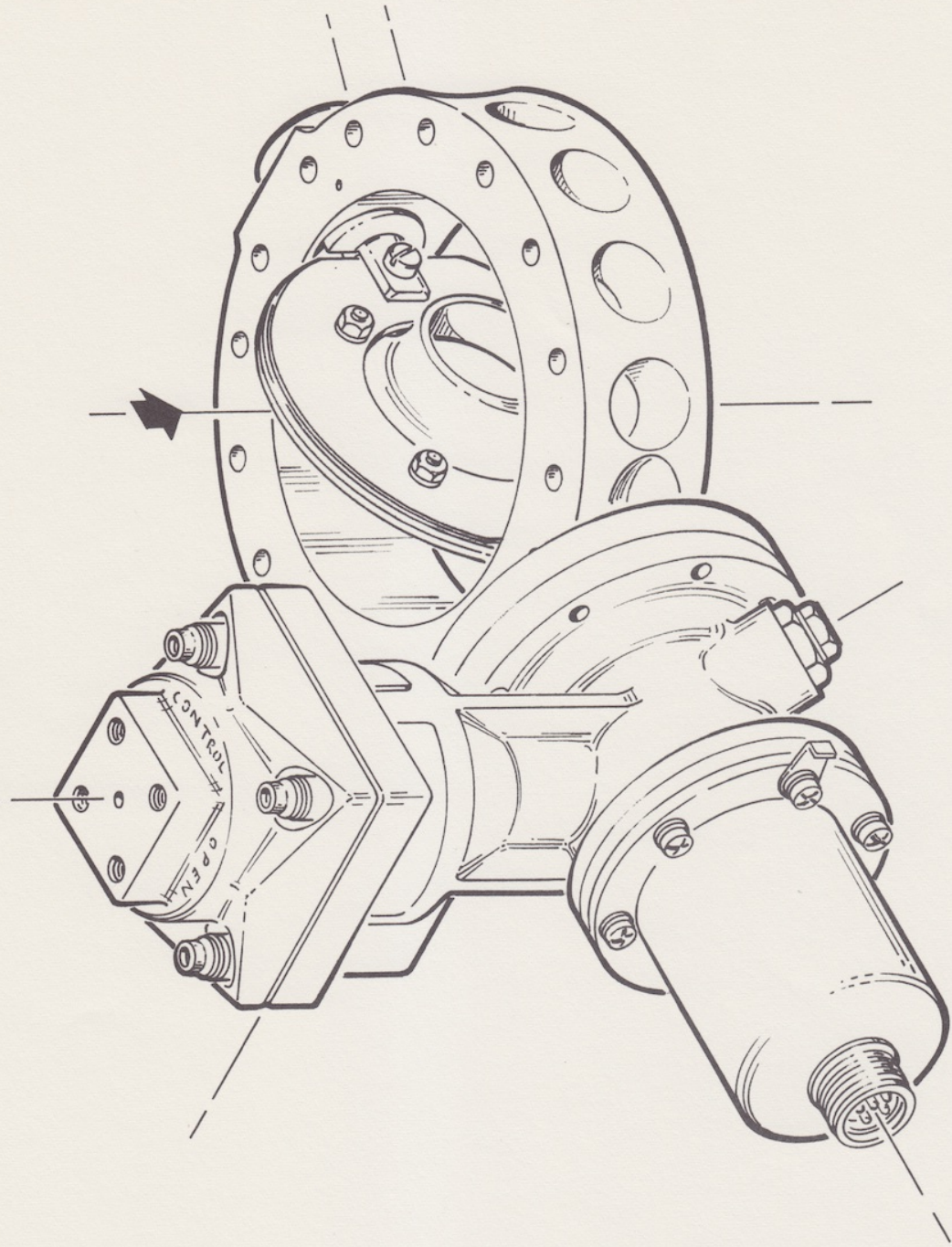


EXHAUST SYSTEM



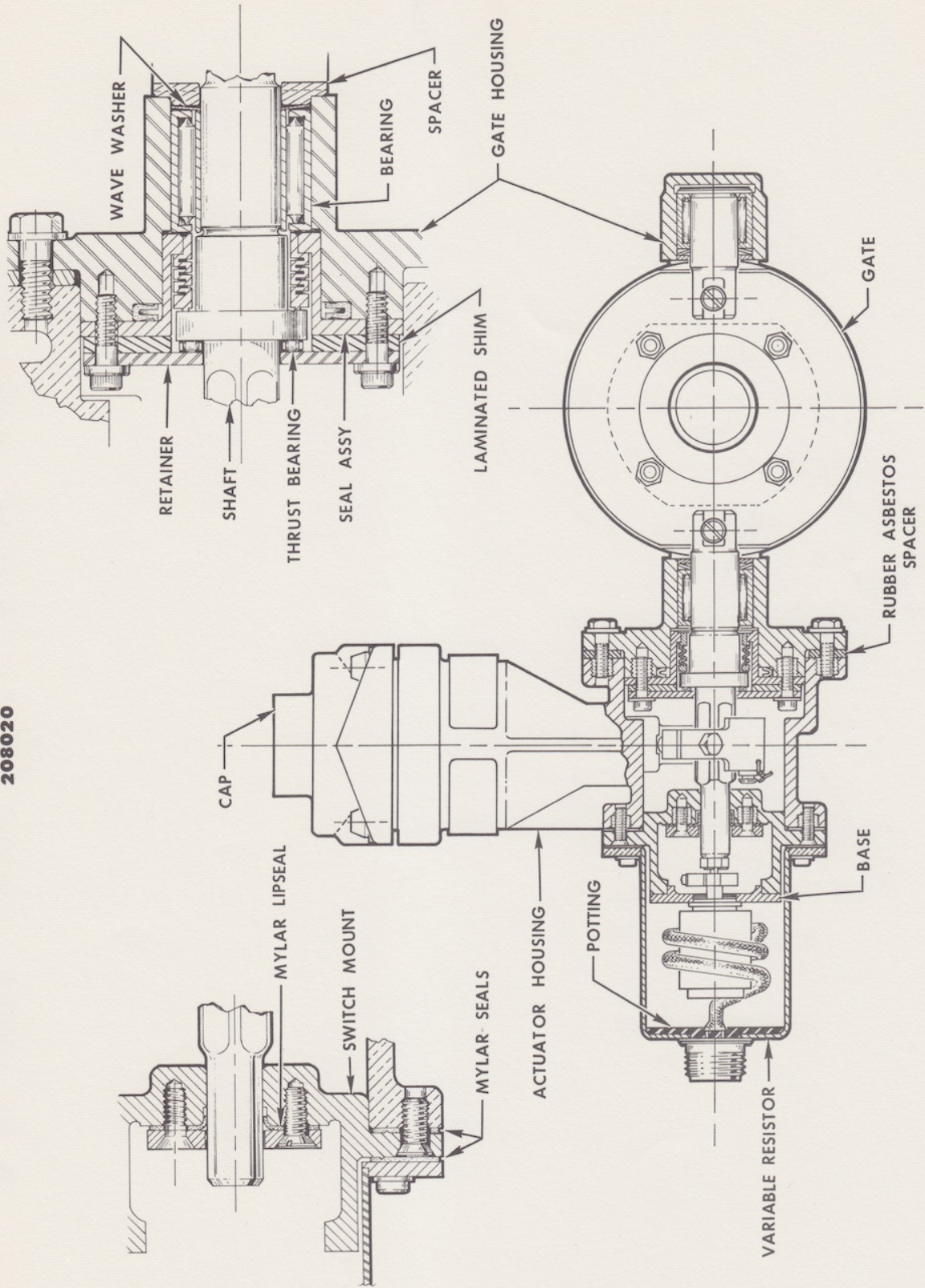
OTBV ISOMETRIC

409940



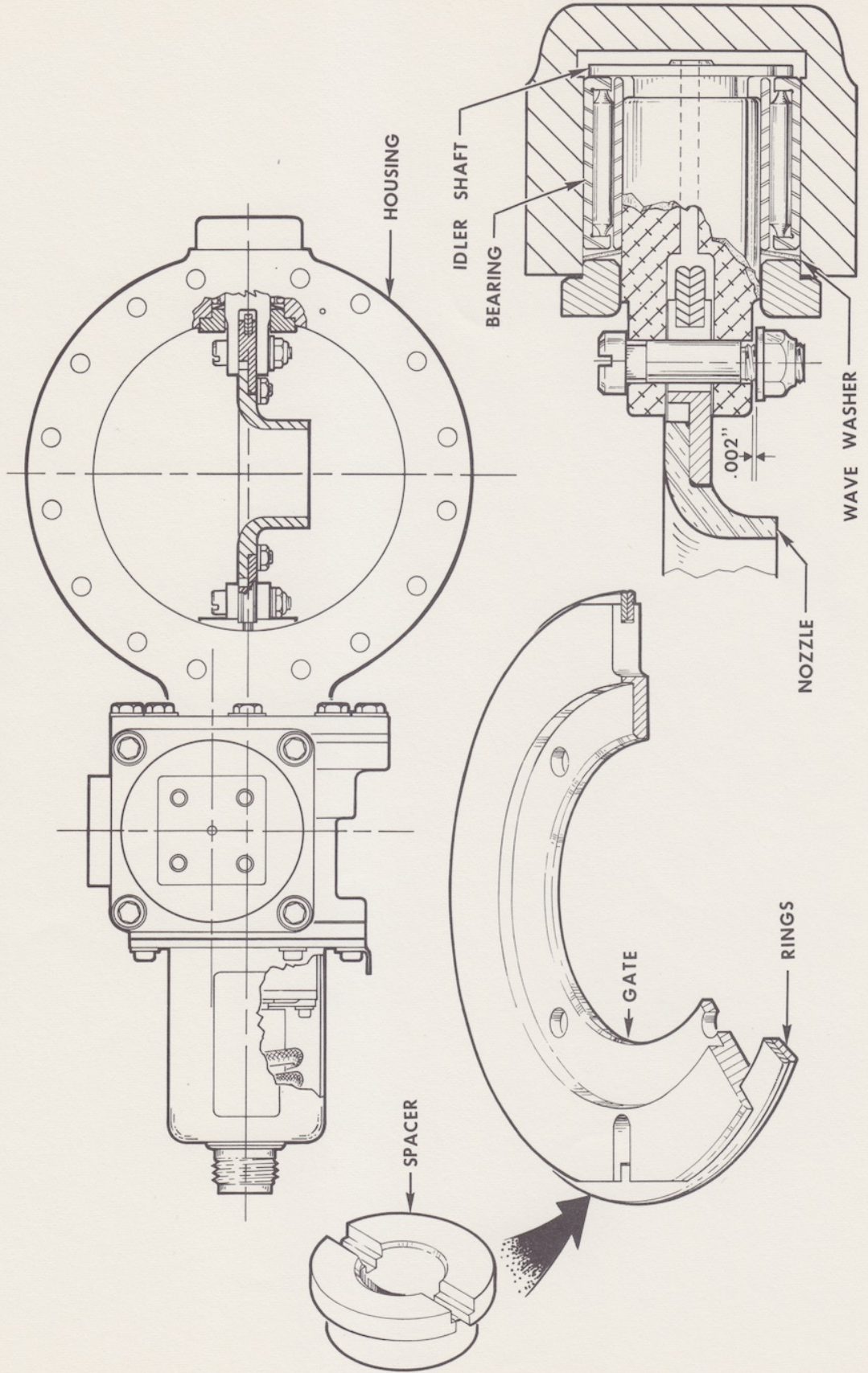
OXYGEN TURBINE BYPASS VALVE

208020



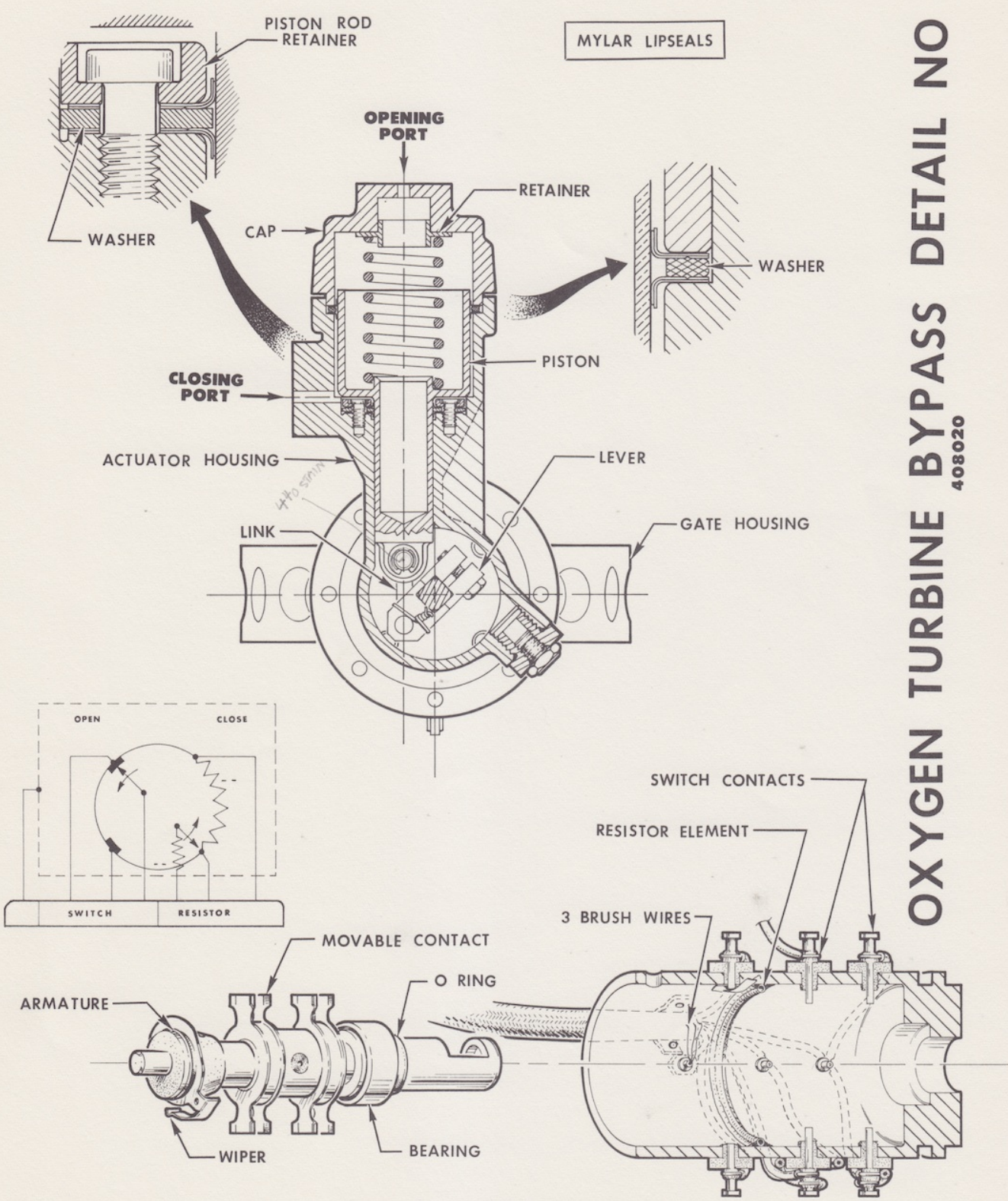
OXYGEN TURBINE BYPASS DETAIL NO 1

408020



OXYGEN TURBINE BYPASS DETAIL NO 2

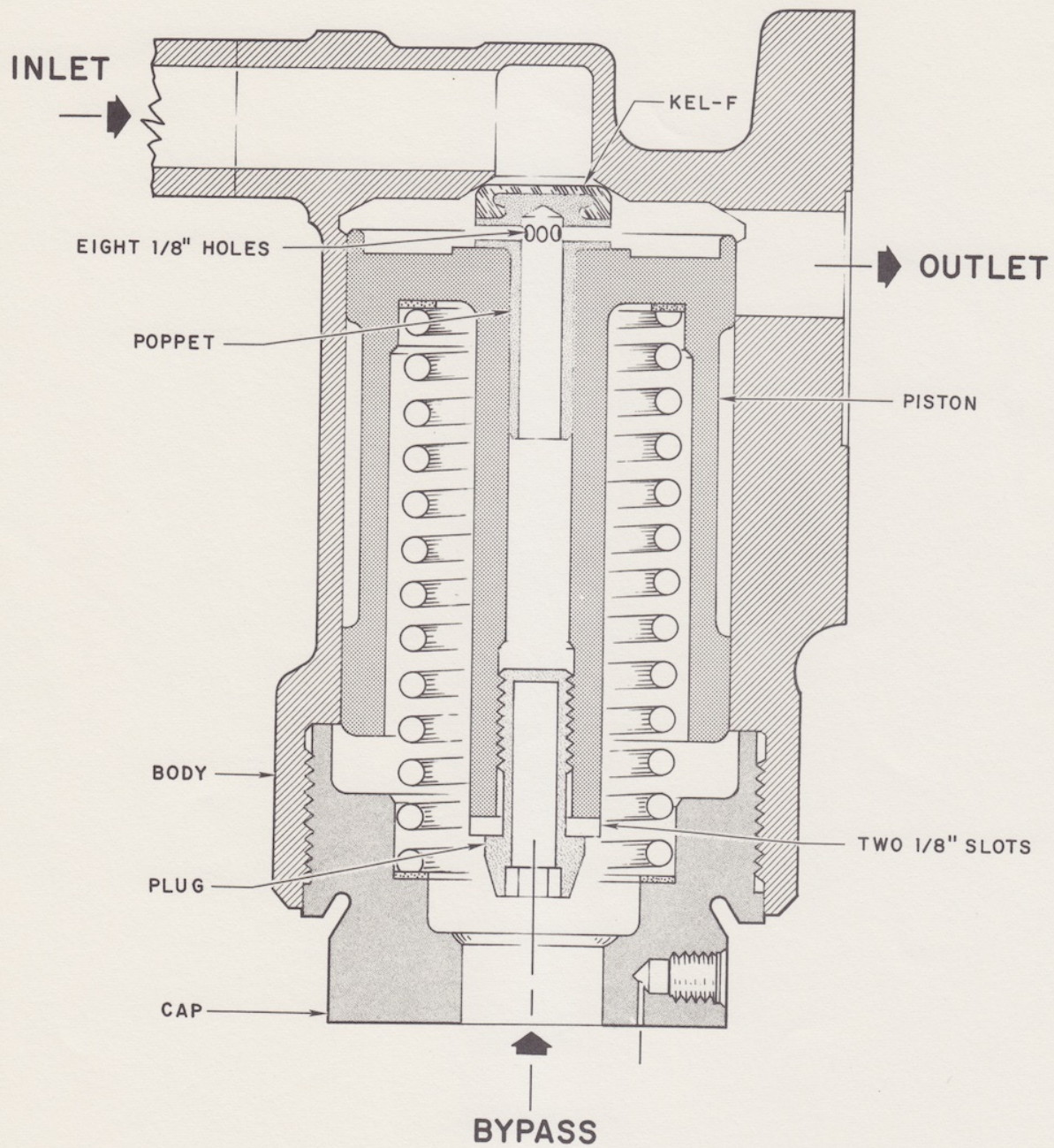
408020



RESISTOR SWITCH ASSEMBLY

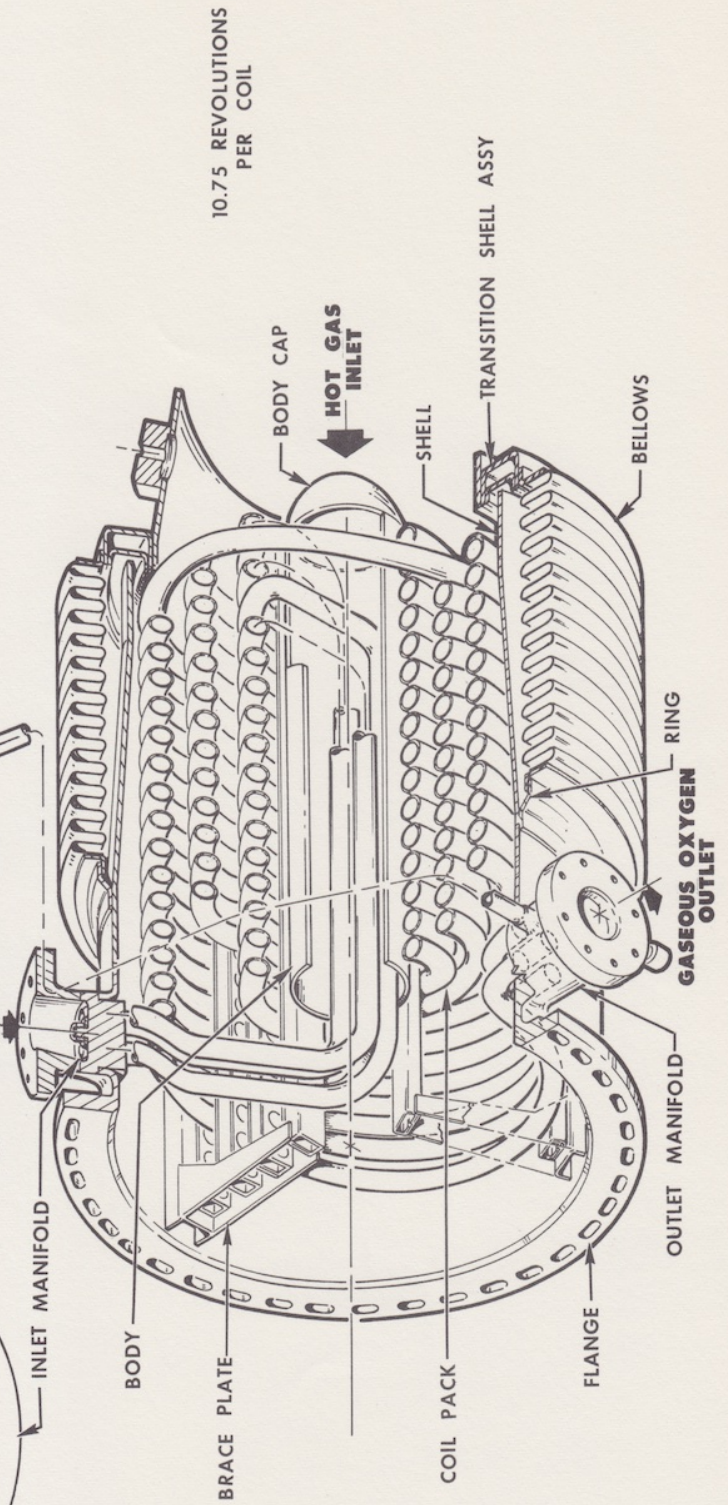
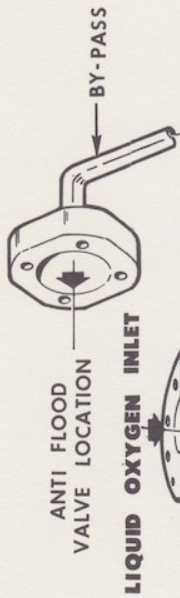
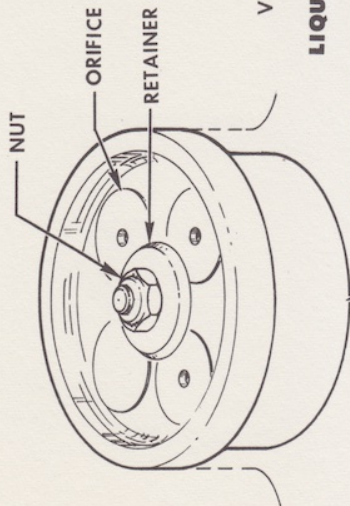
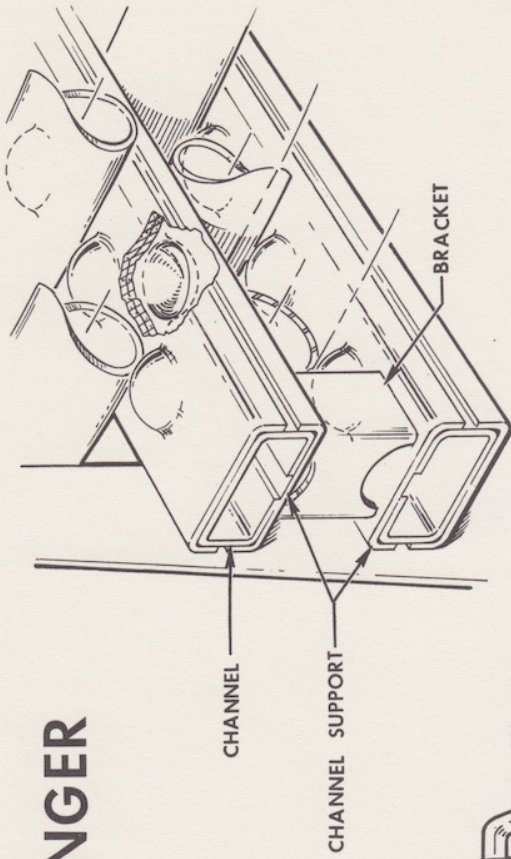
ANTI FLOOD CHECK VALVE

556446



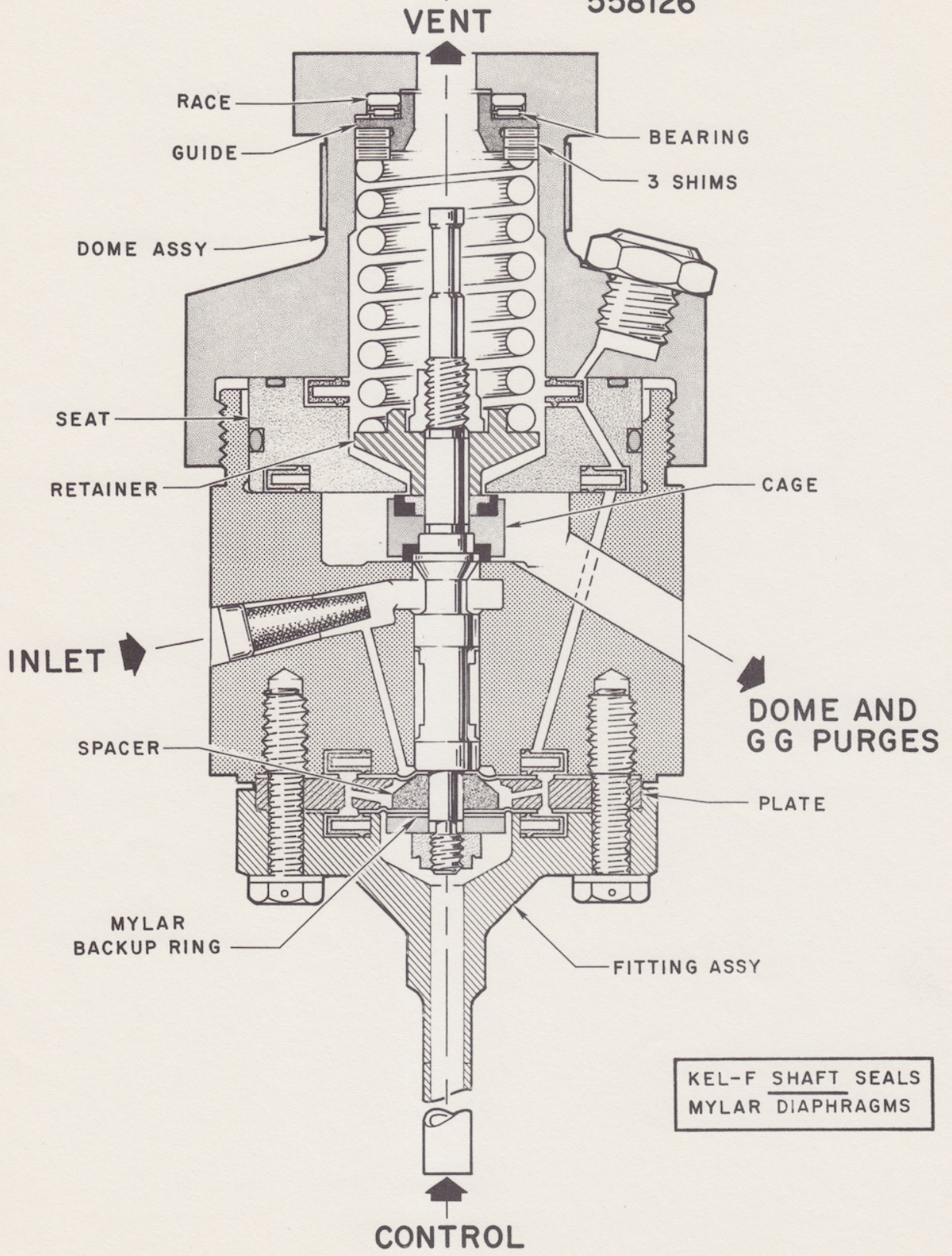
HEAT EXCHANGER

4 COIL
307704



P. A. PURGE VALVE

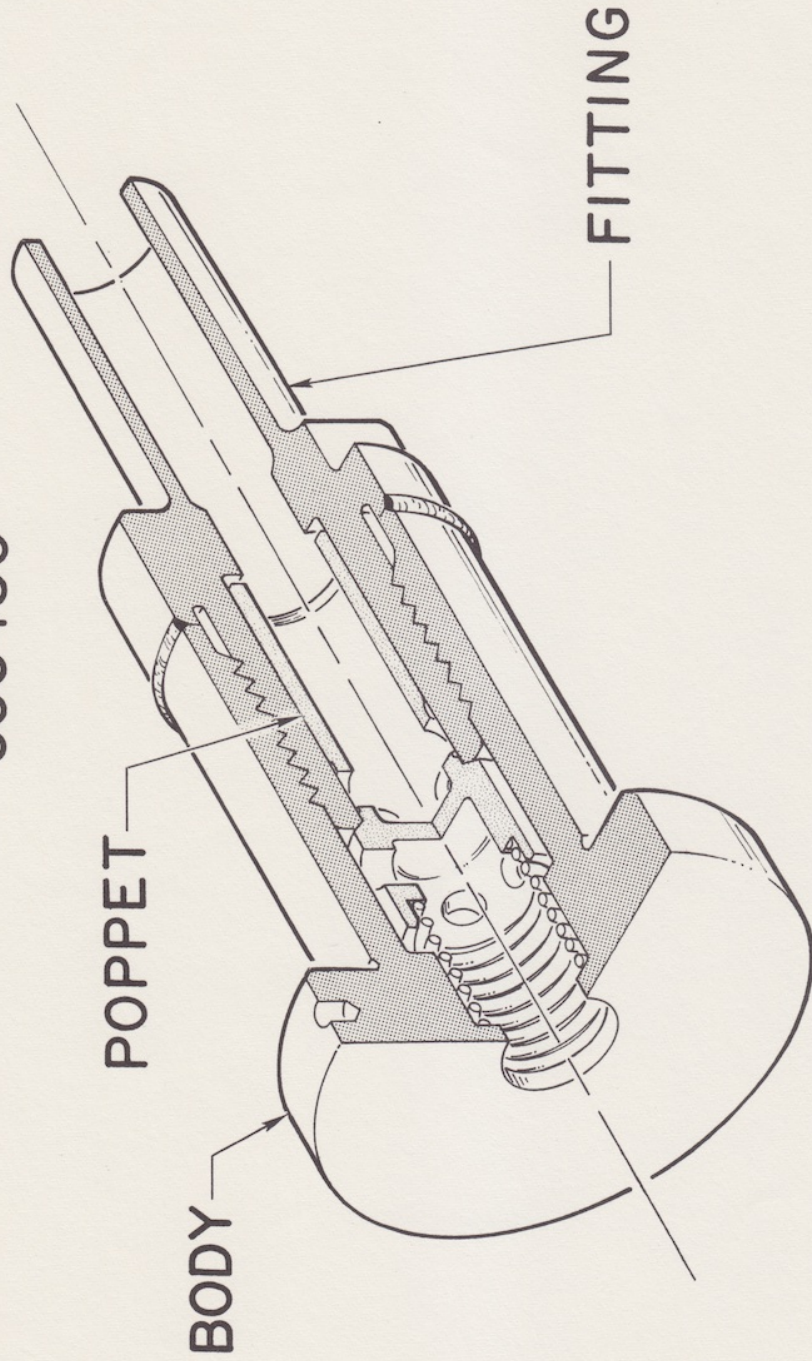
558126



KEL-F SHAFT SEALS
MYLAR DIAPHRAGMS

FUEL JACKET PURGE CHECK VALVE

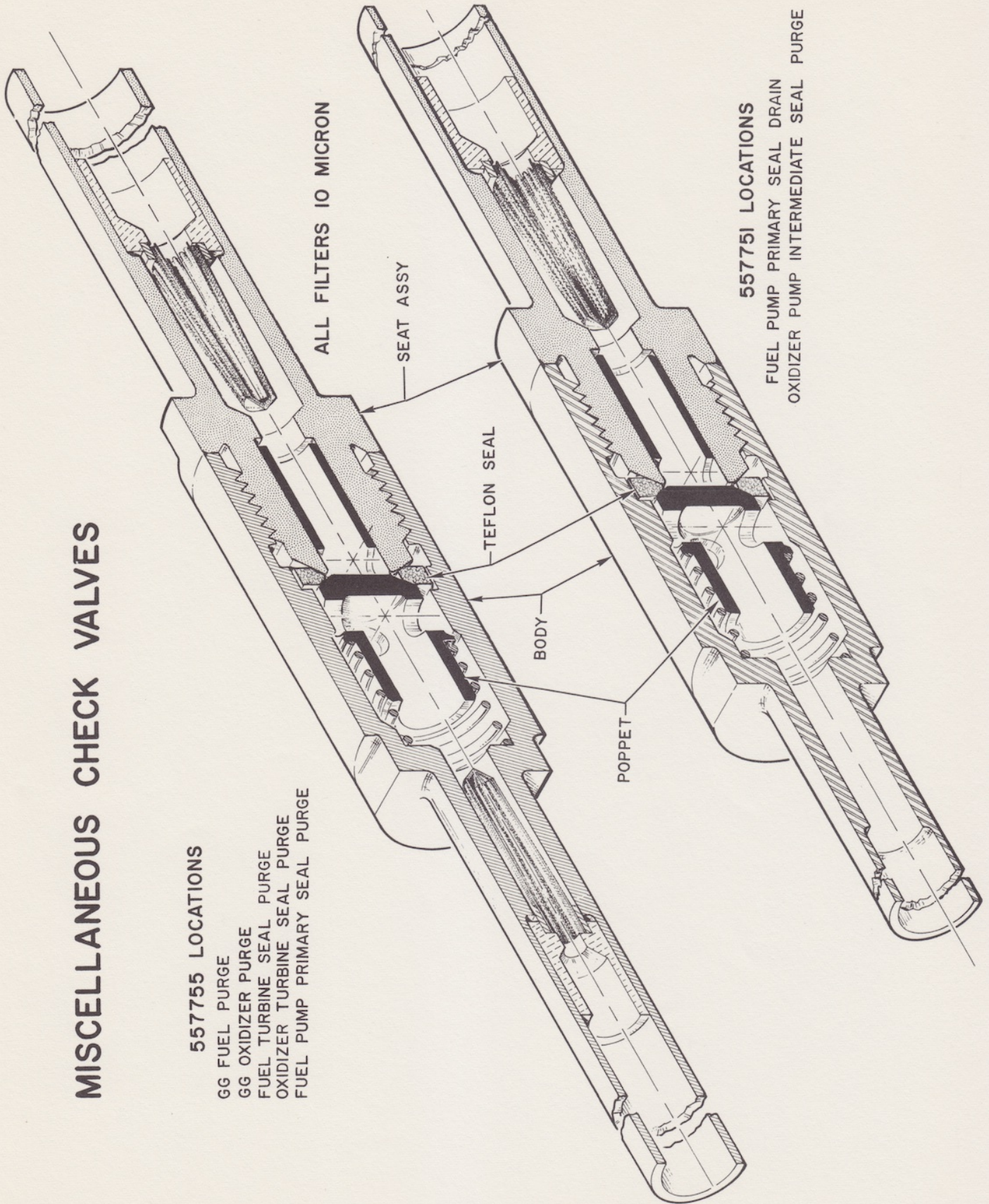
556450



MISCELLANEOUS CHECK VALVES

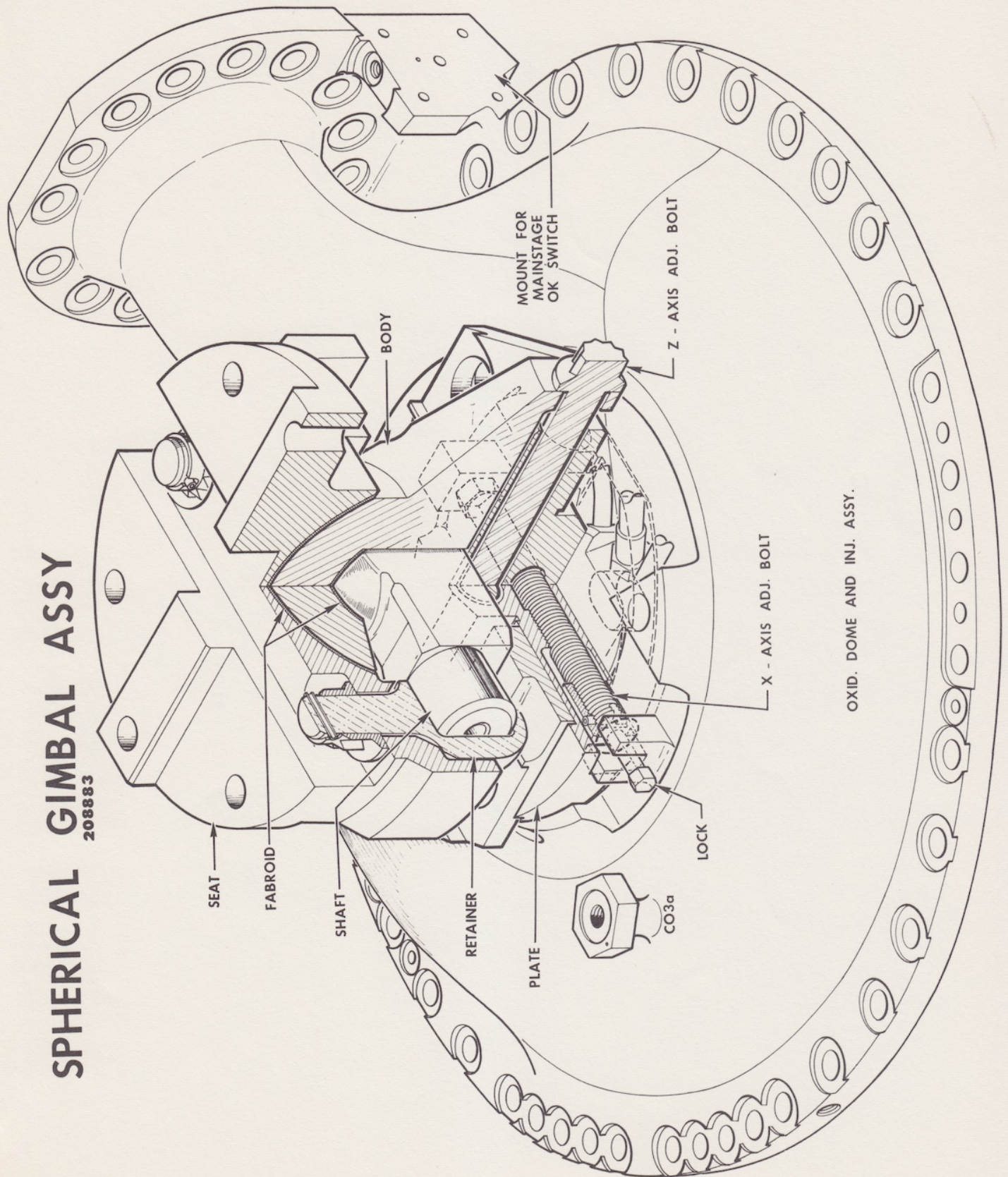
557755 LOCATIONS

- GG FUEL PURGE
- GG OXIDIZER PURGE
- FUEL TURBINE SEAL PURGE
- OXIDIZER TURBINE SEAL PURGE
- FUEL PUMP PRIMARY SEAL PURGE



SPHERICAL GIMBAL ASSY

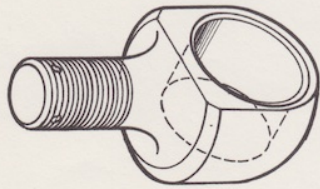
208883



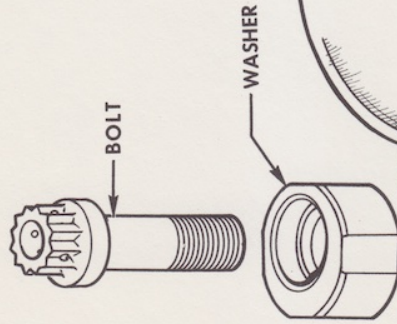
OXID. DOME AND INJ. ASSY.

GIMBAL ASSY DETAIL NO 1

208883

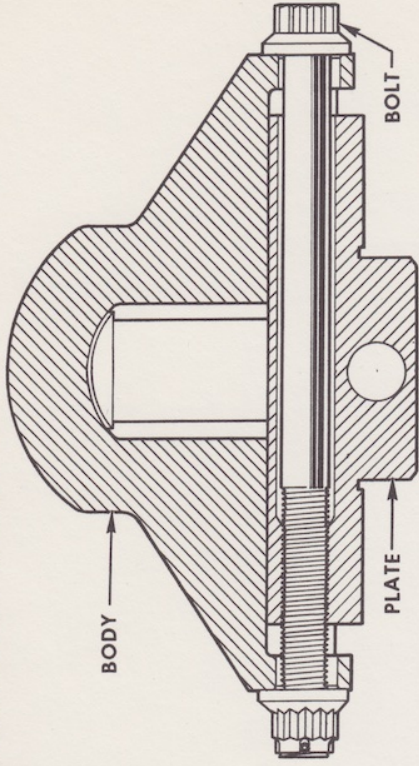


RETAINER



BOLT

WASHER

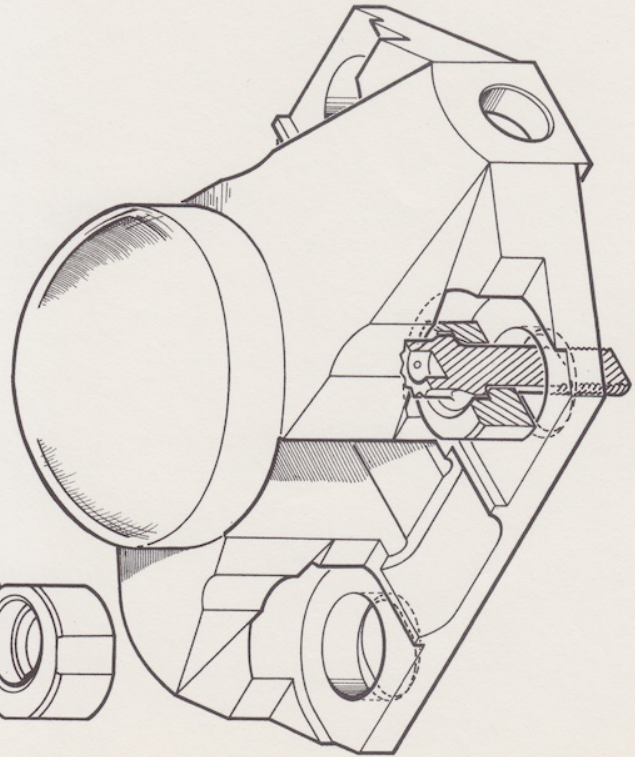


BODY

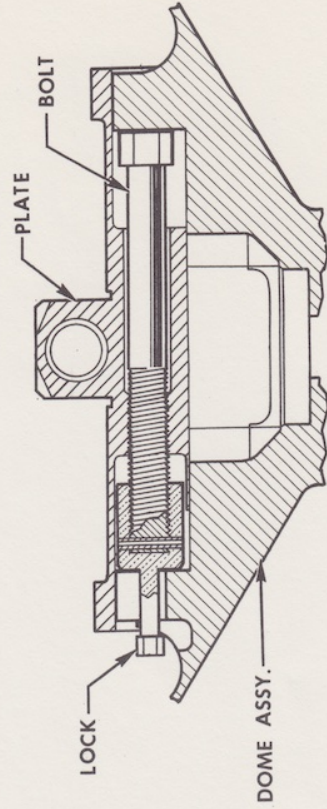
PLATE

BOLT

Z AXIS ADJ



BODY DETAIL



PLATE

BOLT

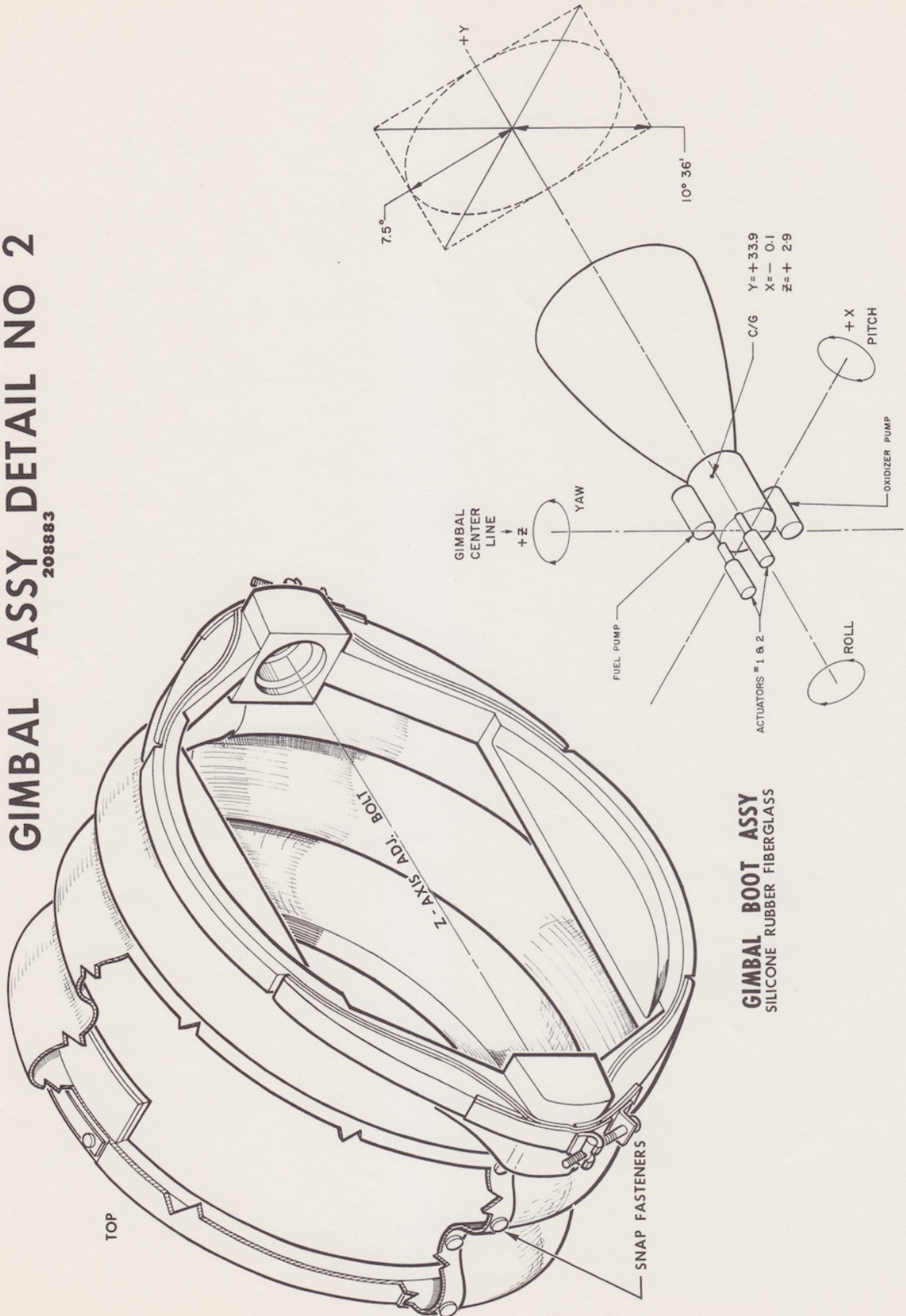
LOCK

DOME ASSY.

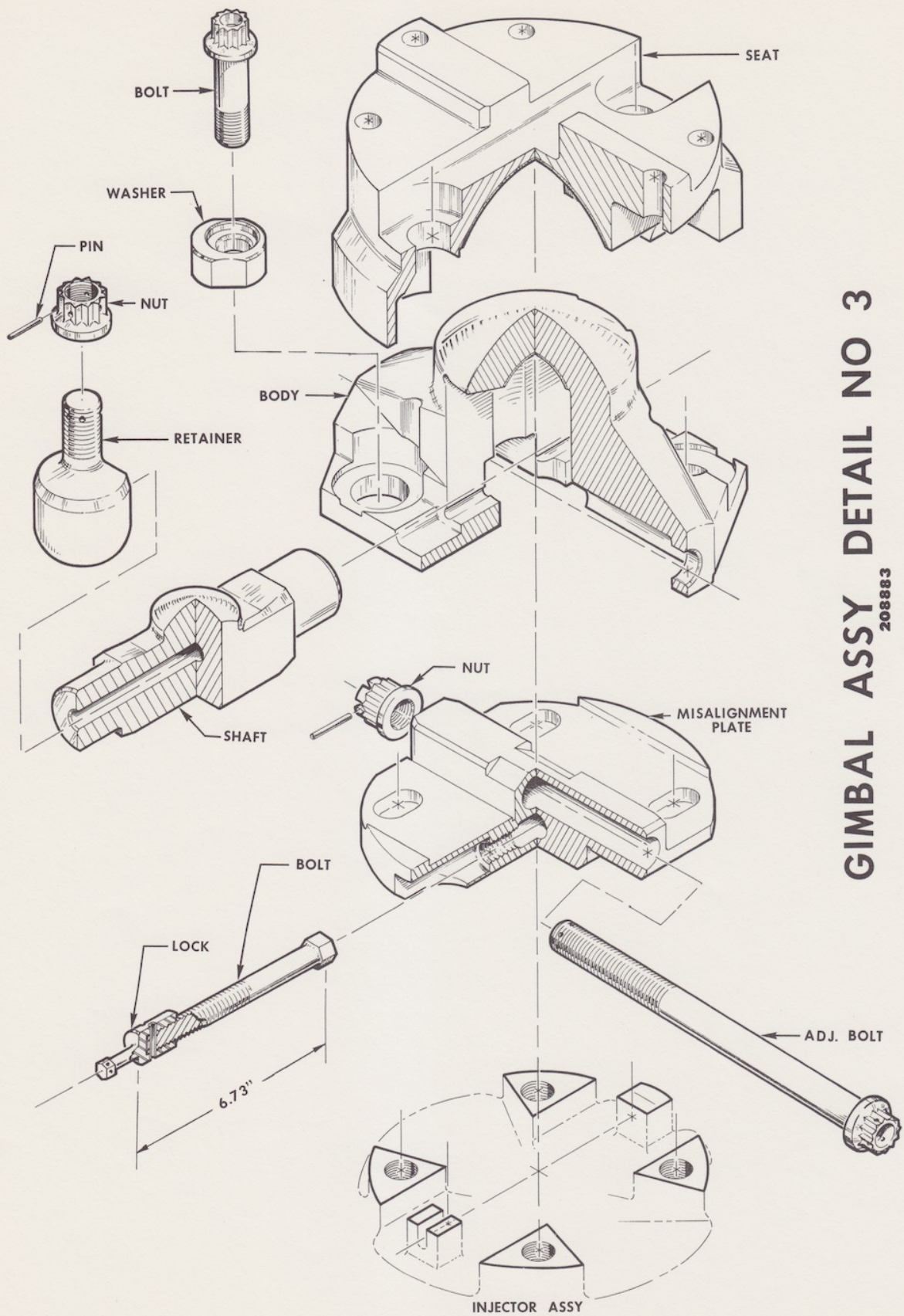
X AXIS ADJ

GIMBAL ASSY DETAIL NO 2

208883



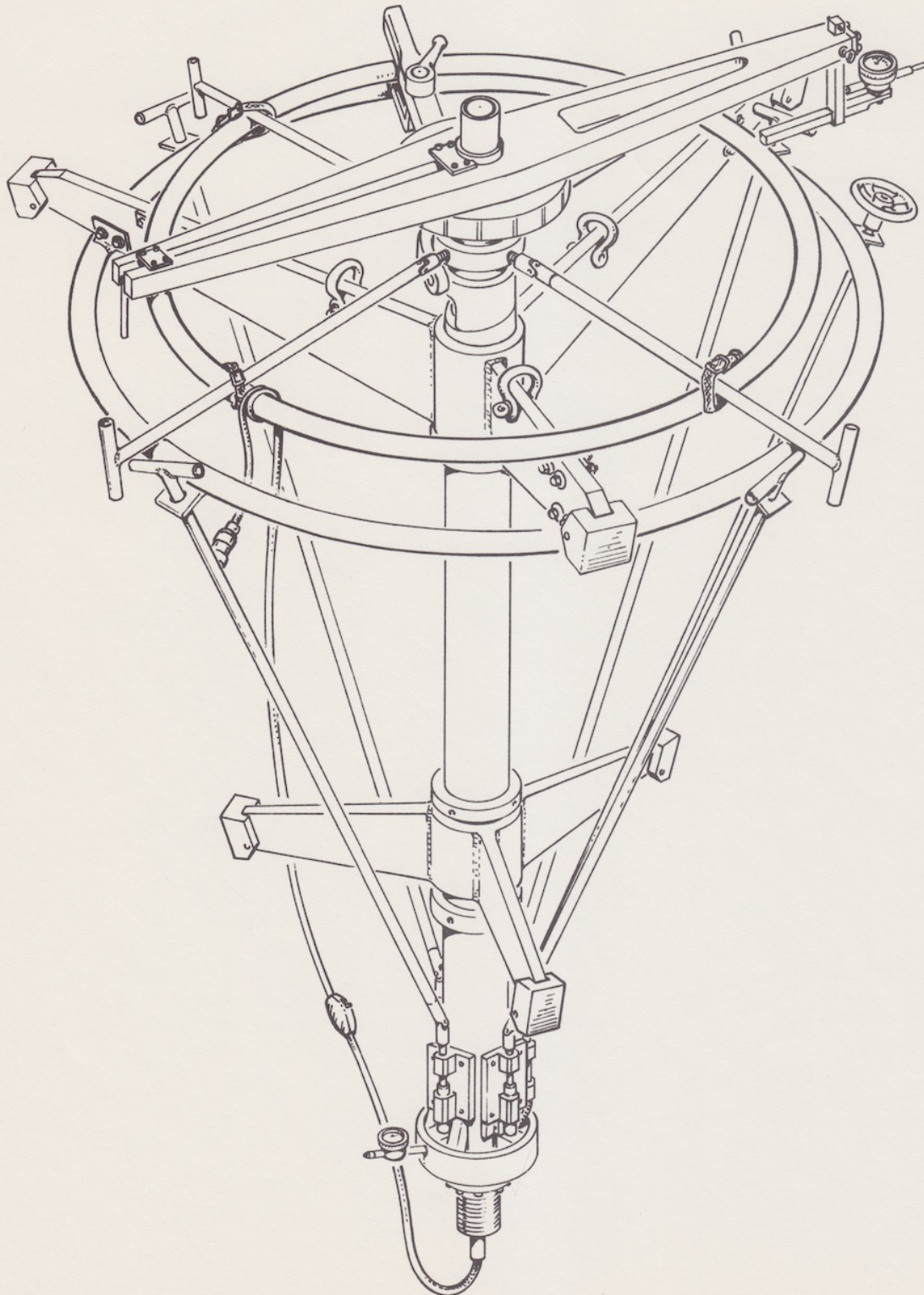
GIMBAL BOOT ASSY
SILICONE RUBBER FIBERGLASS



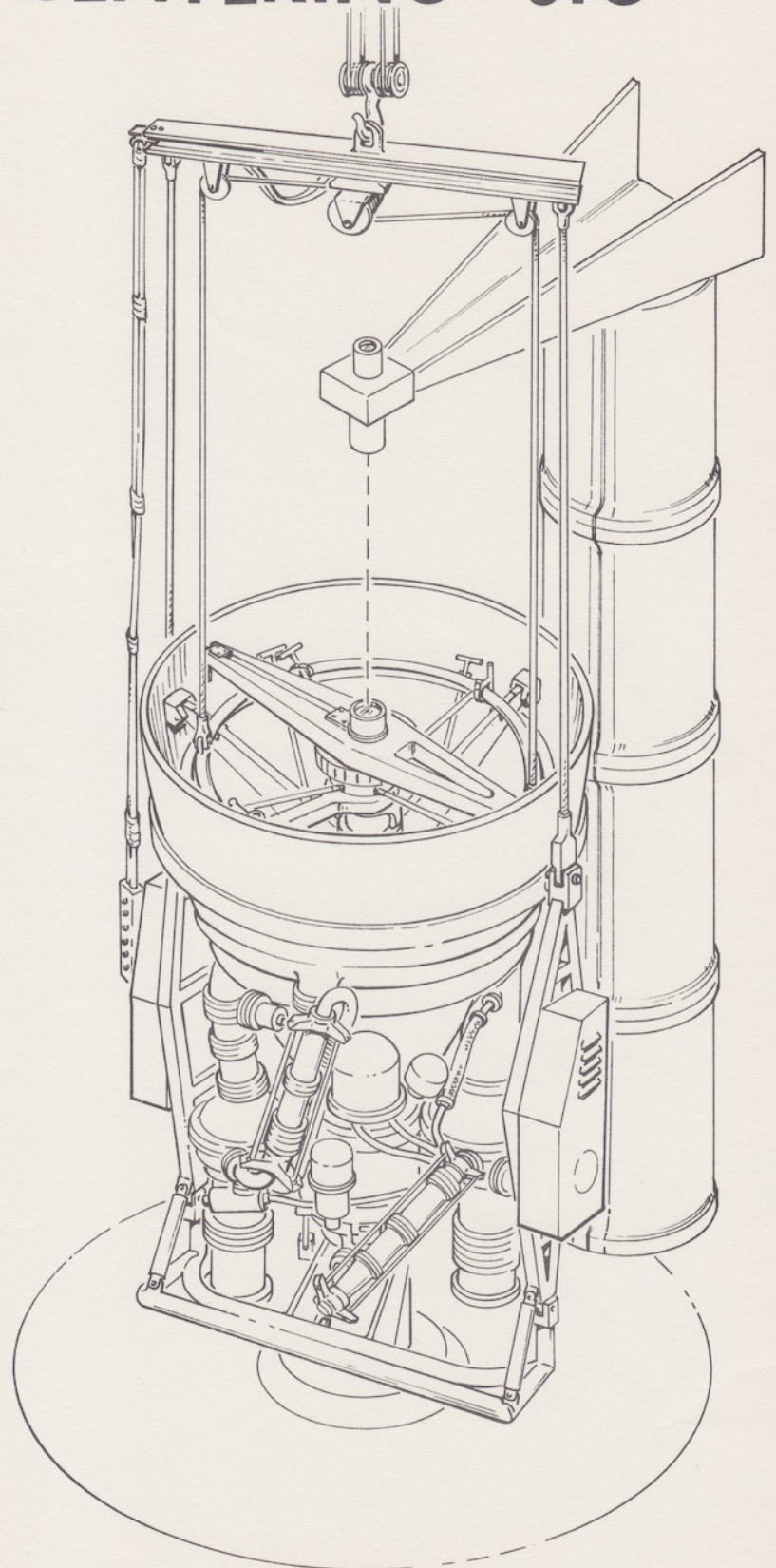
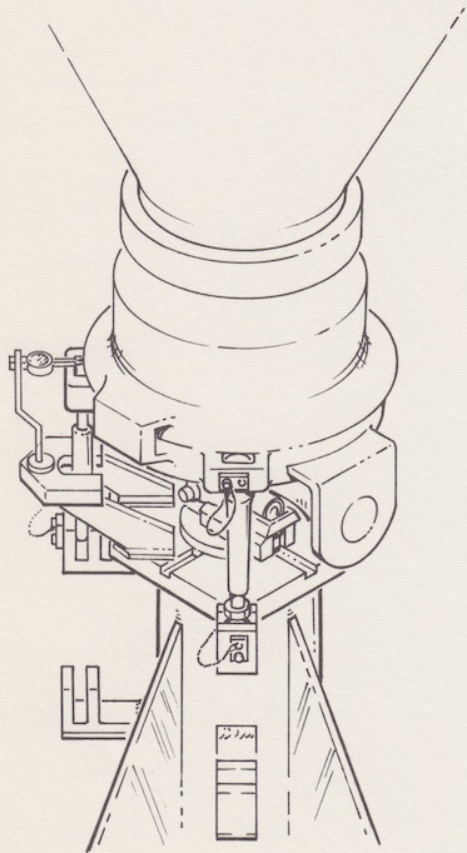
GIMBAL ASSY DETAIL NO 3
 208883

J-2 ALIGNMENT SPIDER

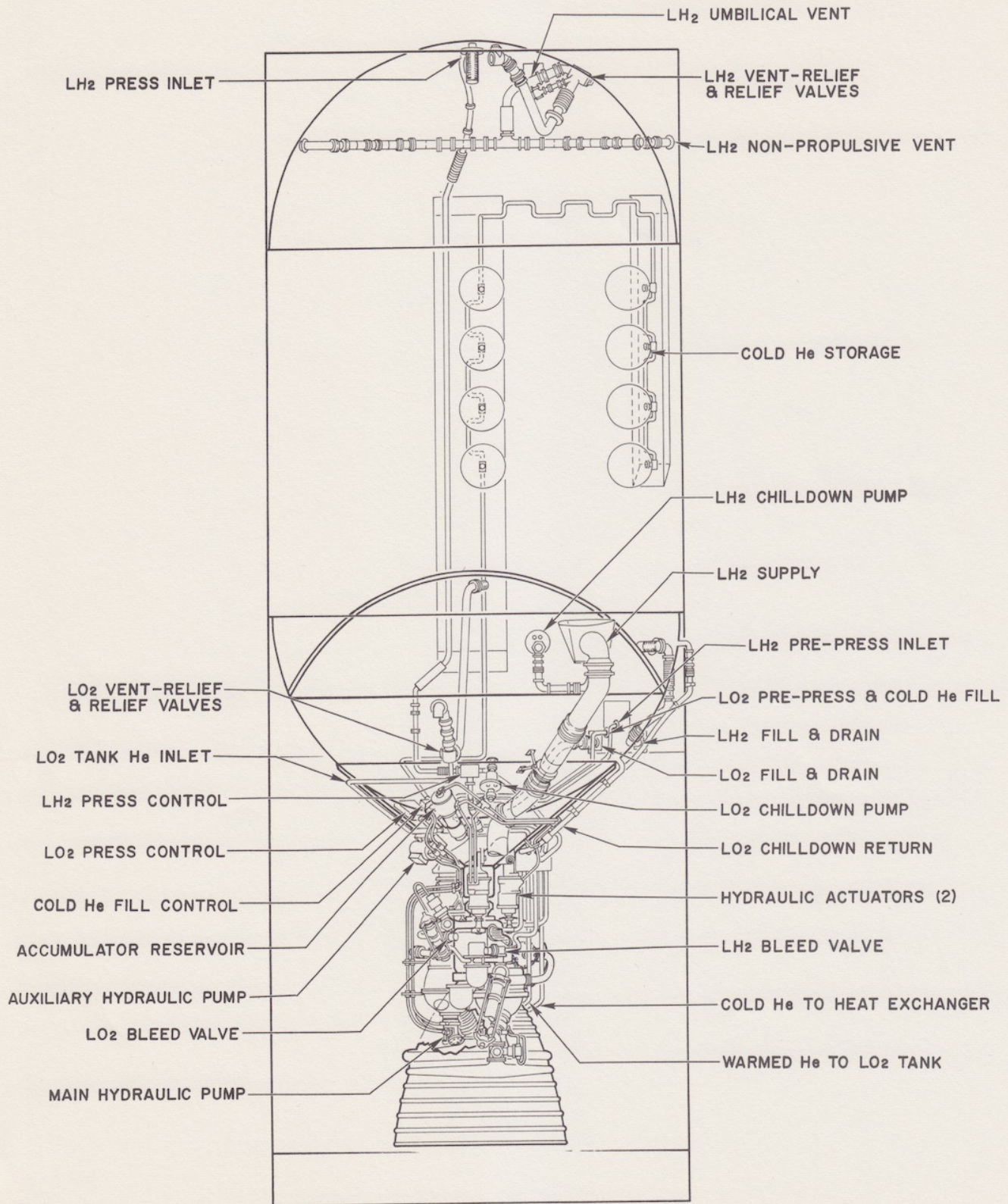
T-5030780



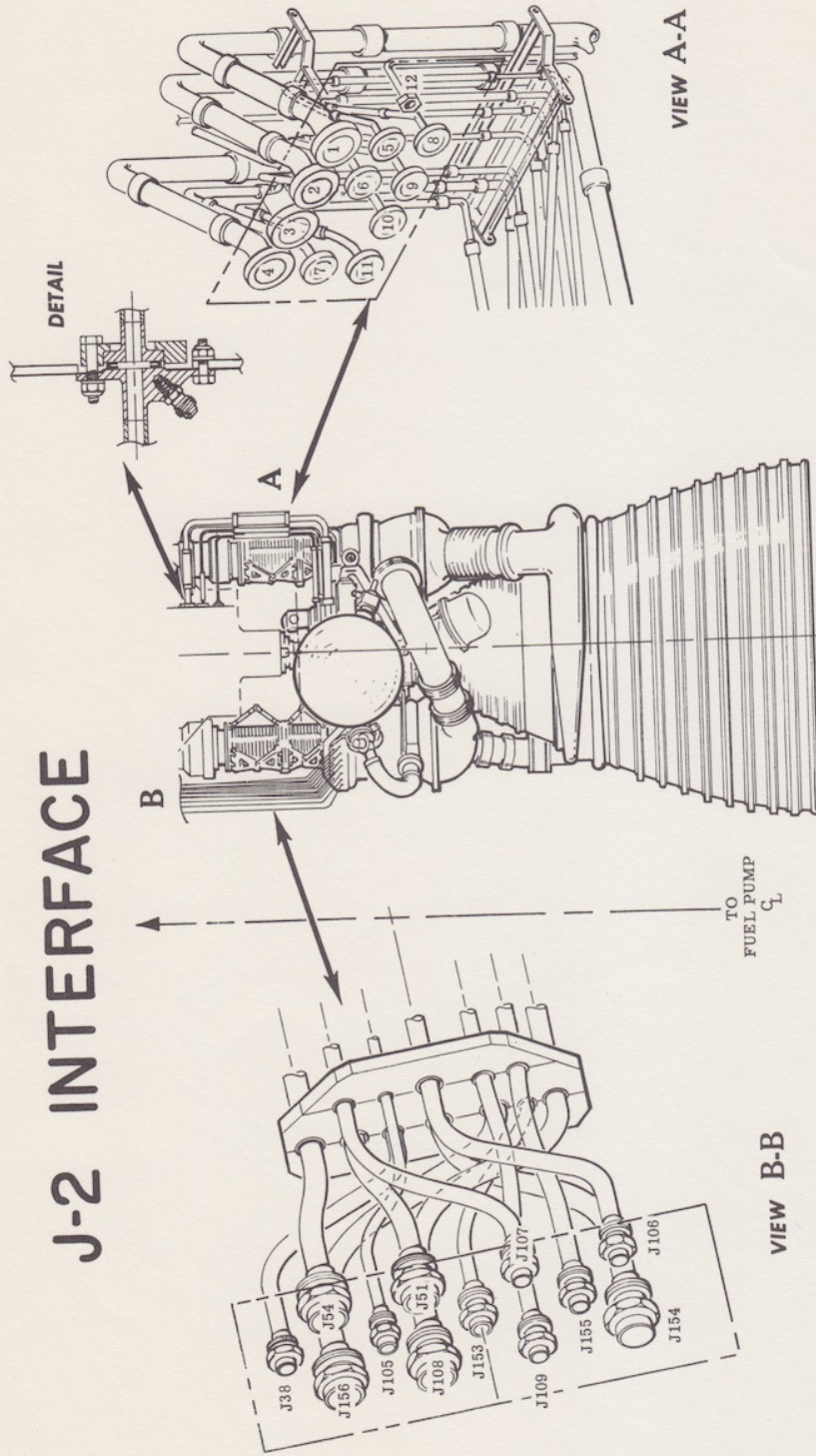
J-2 BORE CENTERING JIG



S-IV B INTERFACE



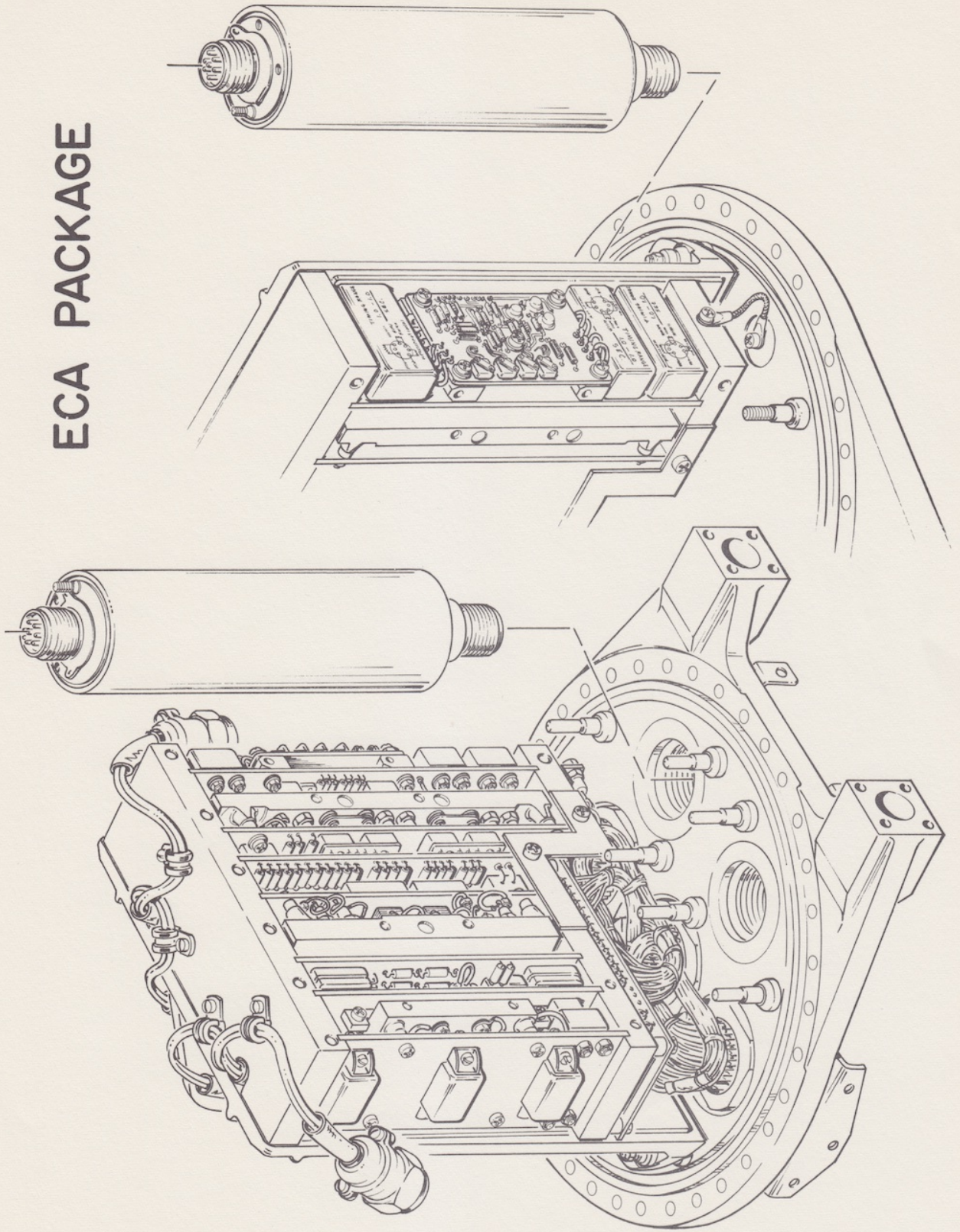
J-2 INTERFACE



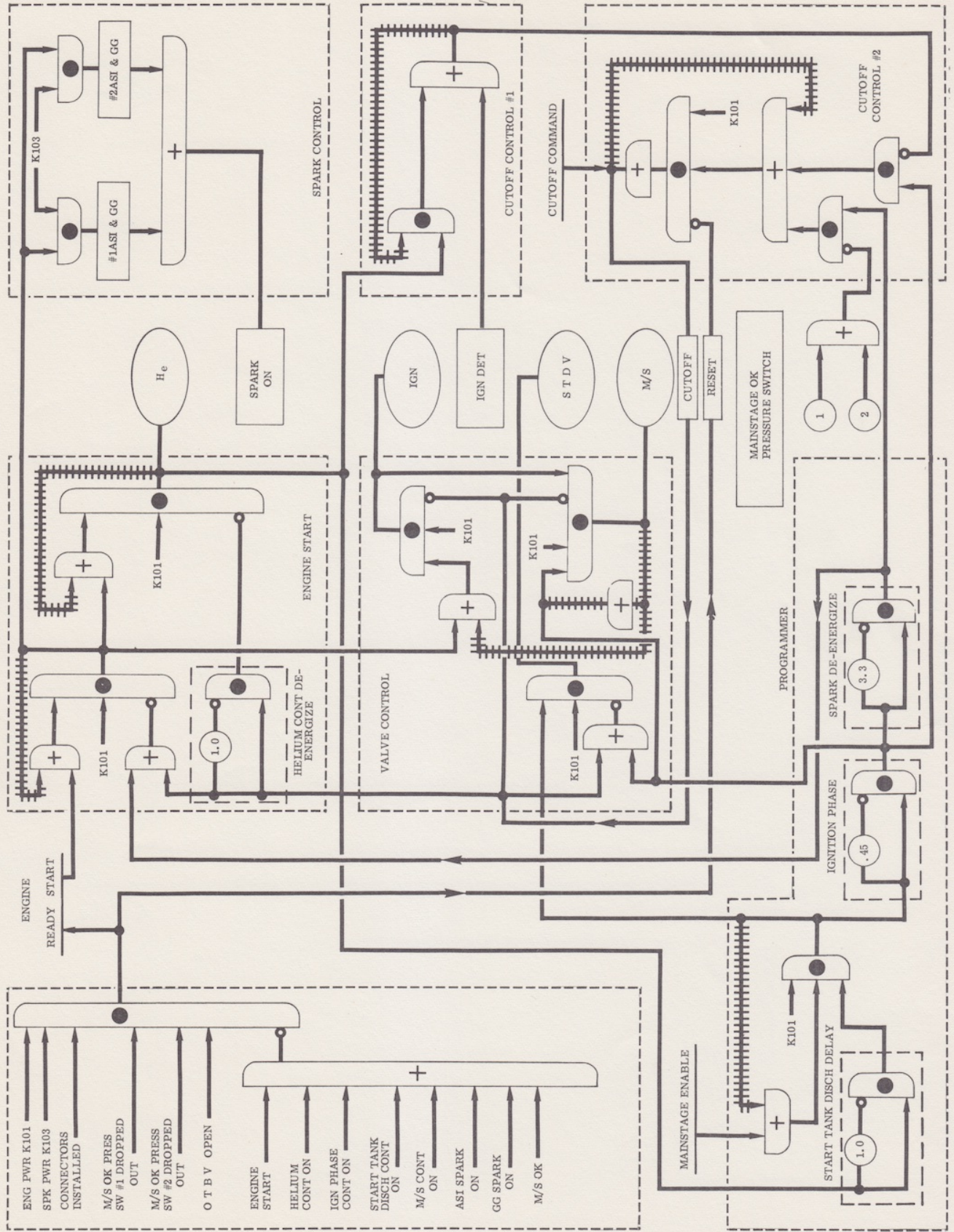
ELECTRICAL INTERFACE PANEL	
CONNECTOR	FROM
P-38	P-36 PROP. UTILIZATION
P-51	P-1 ENG. CONT. PKG.
P-54	P-2 ENG. CONT. PKG.
P-105	P-100 PRL INST. PKG. P-101
P-106	P-103 PRL INST. PKG.
P-107	P-104 PRL INST. PKG.
P-108	P-122 THRU P-131 TEMP. PICKUPS
P-109	P-110 THRU P-113 PROP. FLOWRATES & PUMP SPEEDS
P-153	P-150 AUX. PKG.
P-154	P-151 AUX. PKG.
P-155	P-152 AUX. PKG.
P-156	P-157 THRU P-159 & P-161 THRU P-163 TEMP. PICKUPS.

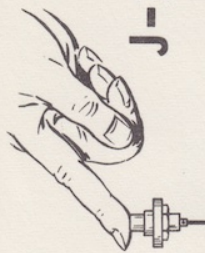
PLUMBING INTERFACE PANEL	
NO.	DESCRIPTION
1.	OXIDIZER BLEED
2.	OXIDIZER TANK PRESS
3.	HYDROGEN BLEED
4.	HYDROGEN TANK PRESS
5.	FUEL PUMP DRAIN
6.	PURGE MANIFOLD
7.	START TANK FILL
8.	START TANK VENT VALVE CONTROL
9.	HELIUM TANK FILL
10.	START TANK VENT & RELIEF VALVE DRAIN
11.	THRUST CHAMBER JACKET PURGE
12.	CALIPS LINE

ECA PACKAGE



J-2 ENGINE LOGIC (SIMPLIFIED)





J-2 ENGINE LOGIC

502175

