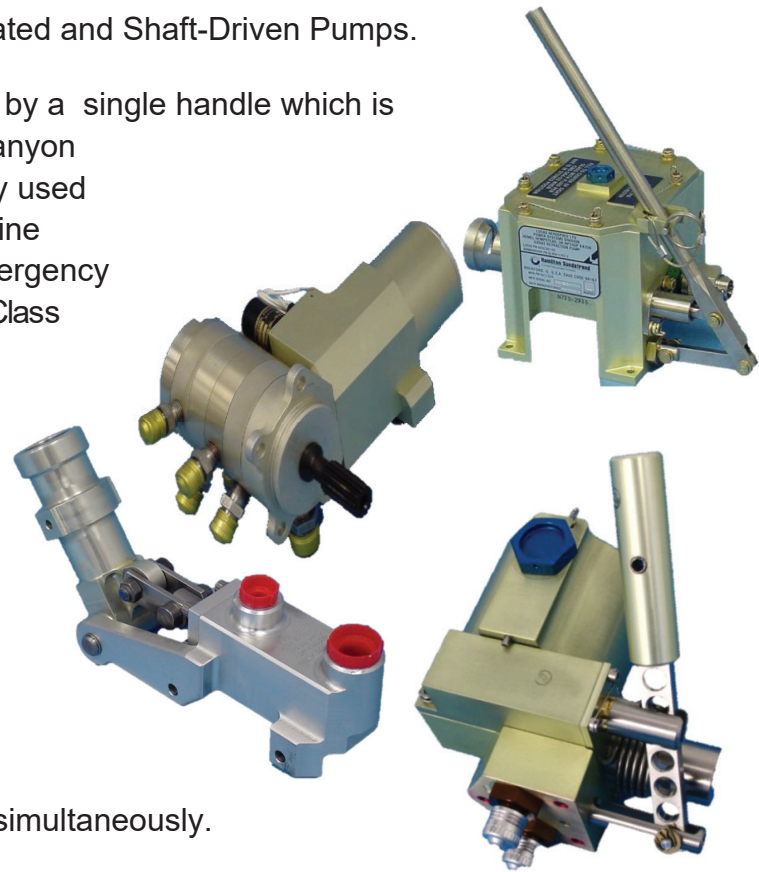


PUMPS

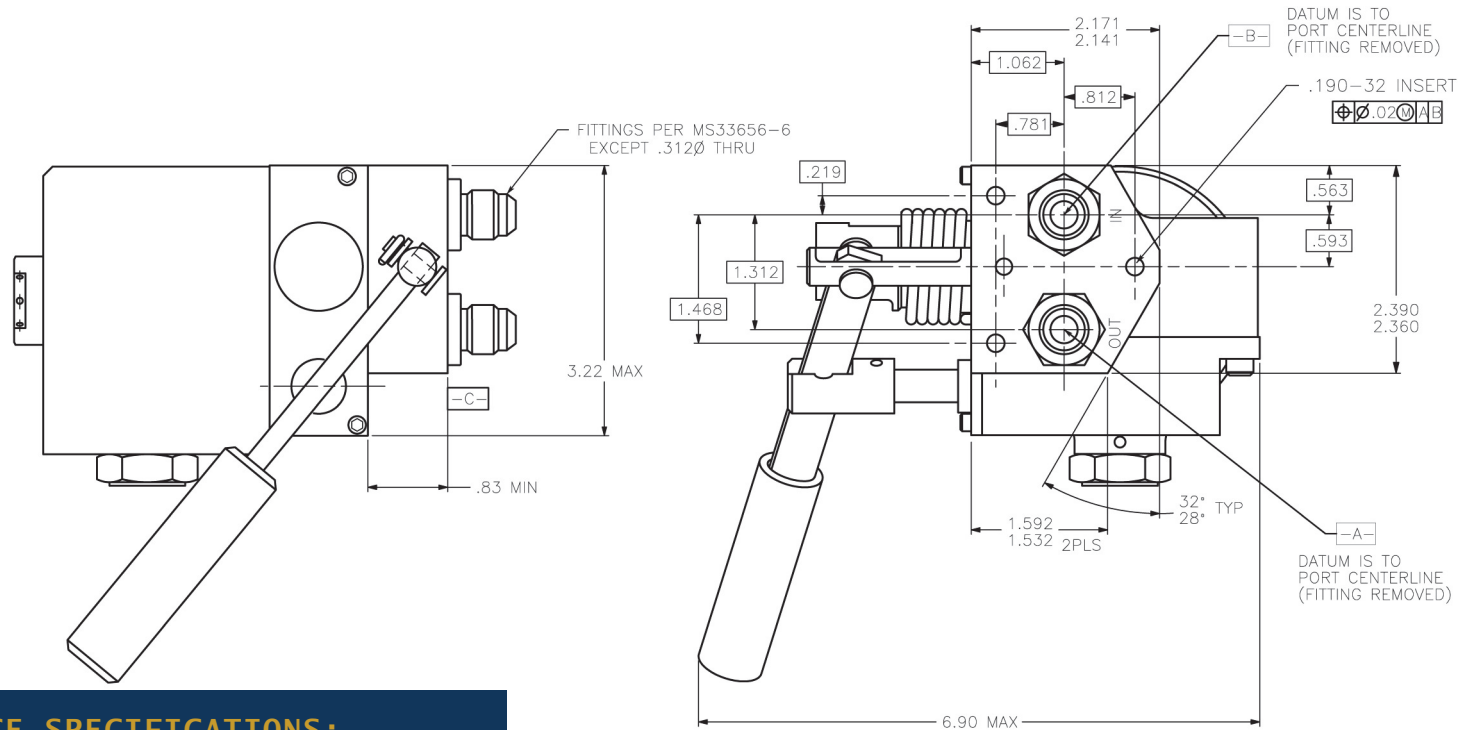
Crissair Inc. designs and manufactures Hand-Operated and Shaft-Driven Pumps.

- Hand-Operated Pumps are generally driven by a single handle which is designed for specific extension adapters. Canyon has several Restow Pumps which are widely used on regional jets to Restow the Ram Air Turbine (RAT). Other Hand Pumps are used for emergency power and are designed per MIL-P-5515 D, Class 3000; and AN 6248-3.
- Shaft-Driven Pumps mainly include rotary gear pumps (G-Rotor Pumps). They are mostly used in Gearbox applications where they are considered Lube and Scavenge Pumps. However, in some applications, these pumps are also used to pressurize the lubrication reservoir by pumping air into it. Other applications have used these pumps to pressurize lubrication oil and fuel simultaneously.





PART NUMBER: 40130-X, RESTOW PUMP, DUAL STAGE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER FLUID TYPE IV AND V*

MATERIAL: HOUSING 6061-T6

OPERATING TEMPERATURE: -65°F TO 122°F

OPERATING PRESSURE: 1375 PSIG

PUMP FLOW: 0.30 CUBIC INCHES PER STROKE (1ST STAGE—LOW PRESSURE)
0.075 CUBIC INCHES PER STROKE (2ND STAGE—HIGH PRESSURE)

PUMP PRESSURE: 400 PSIG MAX (1ST STAGE—LOW PRESSURE)
1375 PSIG MAX (2ND STAGE—HIGH PRESSURE)

RELIEF VALVE CRACKING PRESSURE: 1350±25 PSIG

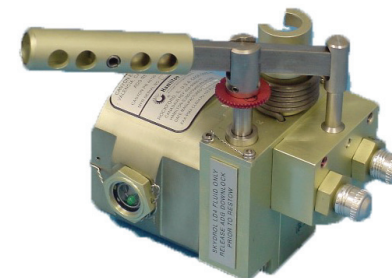
RESERVOIR CAPACITY: 12.5±0.5 CUBIC INCHES

BYPASS FLOW: (INLET TO OUTLET WITH PUMP DISENGAGED):
8 GPM @ 32 PSID MAX

HANDLE FORCE: 50 LBS MAX

WEIGHT: 3.0 LBS MAX

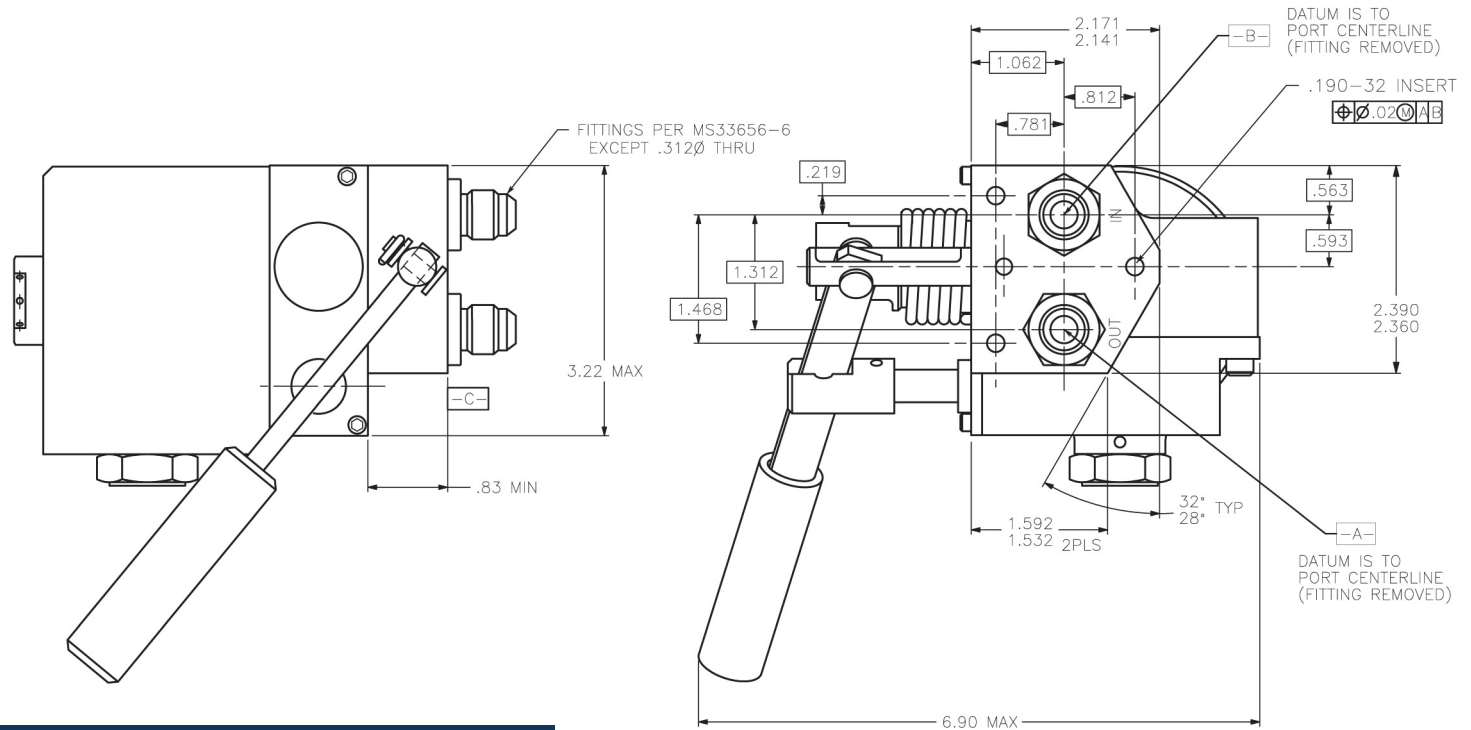
*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE



CATEGORY 8: HAND PUMPS



PART NUMBER: 40380-X, RESTOW PUMP, SINGLE STAGE



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PER-83282*

MATERIAL: HOUSING 6061-T6

OPERATING TEMPERATURE: -65°F TO 122°F

OPERATING PRESSURE: 1375 PSIG MAX

PUMP FLOW: 0.075 CUBIC INCHES PER STROKE

PUMP PRESSURE: 1375 PSIG MAX

RELIEF VALVE CRACKING PRESSURE: 1350 \pm 25 PSIG

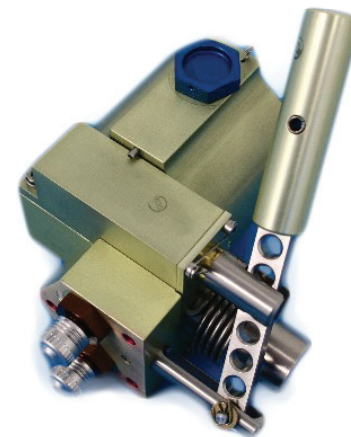
RESERVOIR CAPACITY: 12.5 \pm 0.5 CUBIC INCHES

BYPASS FLOW: (INLET TO OUTLET WITH PUMP DISENGAGED):
8 GPM @ 32 PSID MAX

HANDLE FORCE: 50 LBS MAX

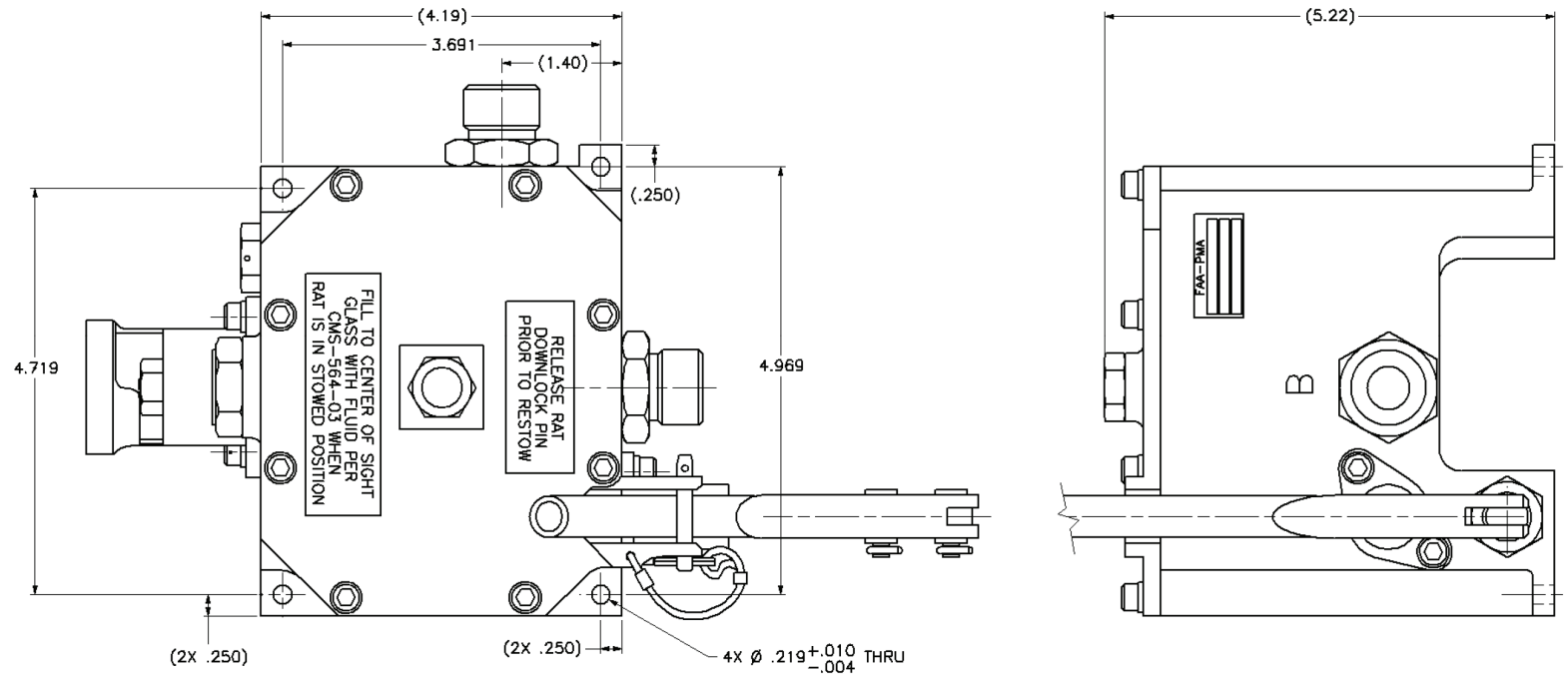
WEIGHT: 3.0 LBS MAX

*FOR PHOSPHATE ESTER BASE TYPE IV OR V CHOOSE PART NUMBER 40400-X





PART NUMBER: 40280-X, HAND PUMP, SINGLE STAGE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER FLUID TYPE IV AND V*

MATERIAL: HOUSING 6061-T651

OPERATING TEMPERATURE: -65°F TO 165°F

OPERATING PRESSURE: 550 PSIG

PUMP FLOW: 0.69 CUBIC INCHES PER STROKE

PUMP PRESSURE: 550 PSIG

RELIEF VALVE CRACKING PRESSURE: 500-550 PSIG

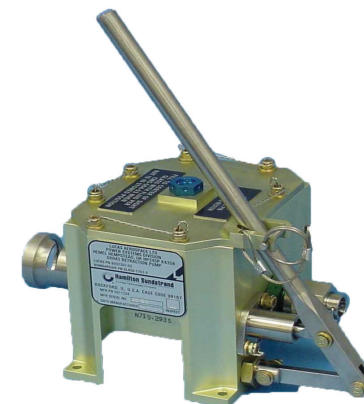
RESERVOIR CAPACITY: 27.5 CUBIC INCHES

BYPASS FLOW: (INLET TO OUTLET WITH PRUMP DISENGAGED):
0.196 SQUARE INCHES MINIMUM

HANDLE FORCE: 50 LBS MAX

WEIGHT: 5.4 LBS MAX

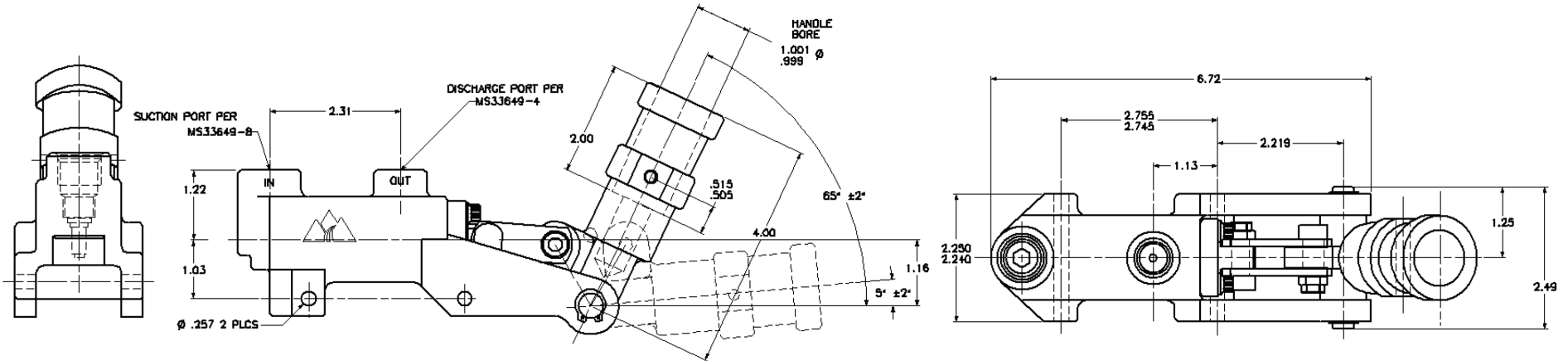
*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE



CATEGORY 8: HAND PUMPS



PART NUMBER: 40310, HYDRAULIC HAND PUMP



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER FLUID TYPE IV AND V*

MATERIAL: BODY 6061-T6

OPERATING TEMPERATURE: -65°F TO 165°F

OPERATING PRESSURE: 3000 PSIG

PUMP FLOW: 0.70 CUBIC INCHES PER STROKE

PUMP PRESSURE: 3000 PSIG MAX

LEAKAGE: 1 DPM MAX AT 3000 PSID

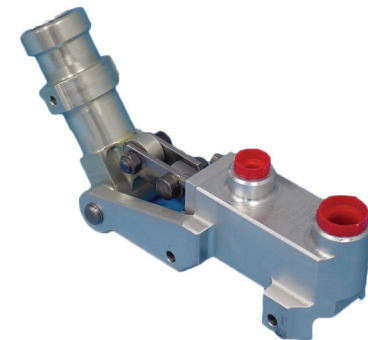
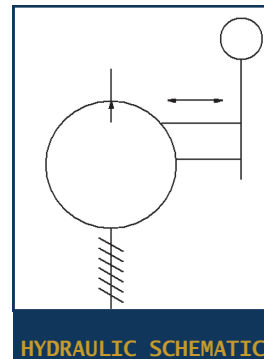
RELIEF VALVE CRACKING PRESSURE: 500-550 PSIG

MEETS OR EXCEEDS MIL-P-5515-P D, CLASS 3000; AND AN 6248-3

HANDLE FORCE: 50LBS MAX

WEIGHT: 2.1 LBS MAX

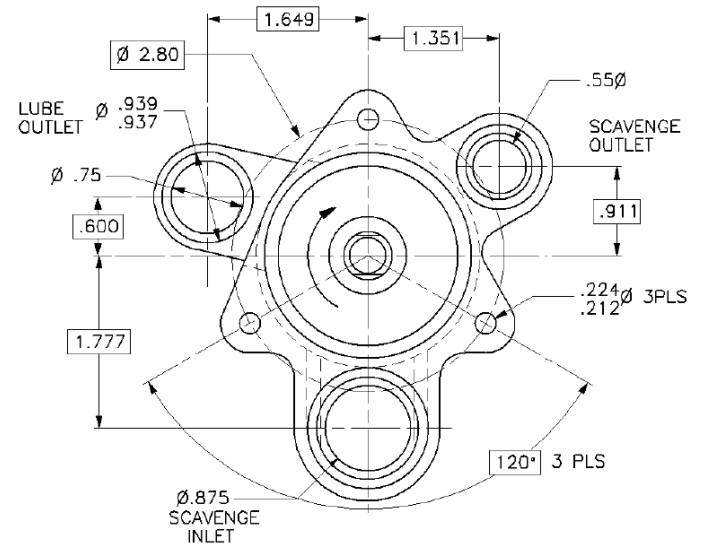
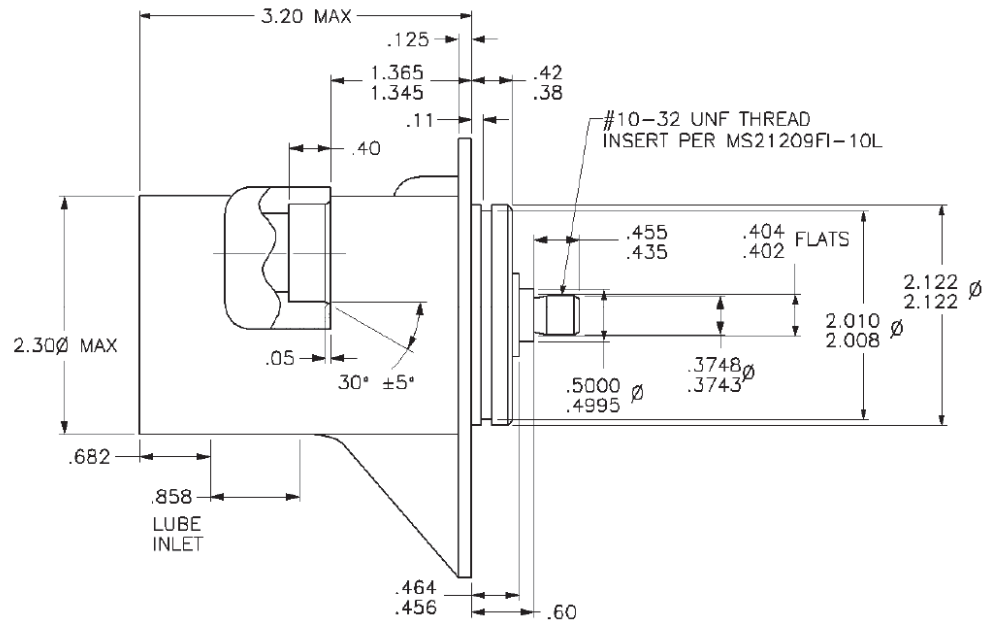
*MIL-PRF-83282 FLUID CHOOSE PART NUMBER 40770



CATEGORY 8: HAND PUMPS



PART NUMBER: 40090-X, LUBE AND SCAVENGE PUMP



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-23699 OR MIL-L-7808

MATERIAL: HOUSING A356-T6

OPERATING TEMPERATURE: -40°F TO 300°F

PERFORMANCE:

ELEMENT	SPEED (RPM)	INLET PRESSURE (PSIA)	DISCHARGE (PSIG)	FLOW (GPM)
LUBRICATION	11653	14.7	270	4.3 MAXIMUM
	11653	7.4	270	3.5 MAXIMUM
SCAVENGE	11653	7.4	15	7.0 MAXIMUM

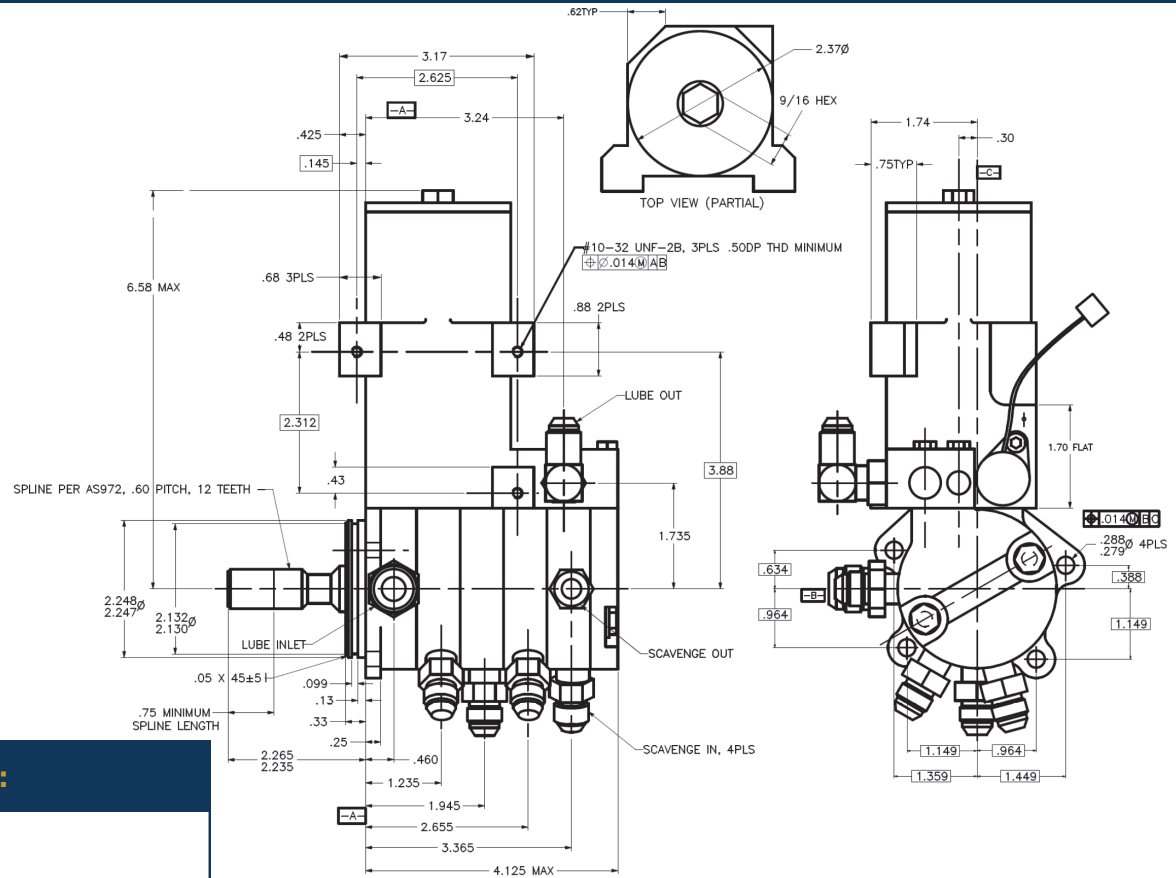
WEIGHT: 1.65 LBS MAX



CATEGORY 8: G-ROTOR PUMPS



PART NUMBER: 40250-X, LUBE AND SCAVENGE PUMP (WITH PRESSURE SWITCH, FILTER AND REGULATOR)



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-L-23699

MATERIAL: HOUSING 6061-T6

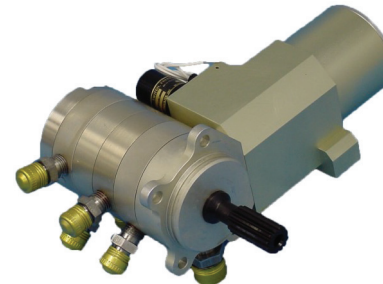
OPERATING TEMPERATURE: -25°F TO 330°F

REGULATION FUNCTION: 48 TO 58 PSIG AT 4500 TO 6000 RPM

PERFORMANCE:

ELEMENT	SPEED (RPM)	INLET PRESSURE (PSIA)	DISCHARGE (PSIG)	FLOW (GPM)
LUBRICATION	4500-6000	14.7	53	3.2 REFERENCE
	4500-6000	8.3	53	2.4 MINIMUM
SCAVENGE	4500-6000	14.7	15	2.5 REFERENCE
	4500-6000	8.3	15	2.0 MINIMUM

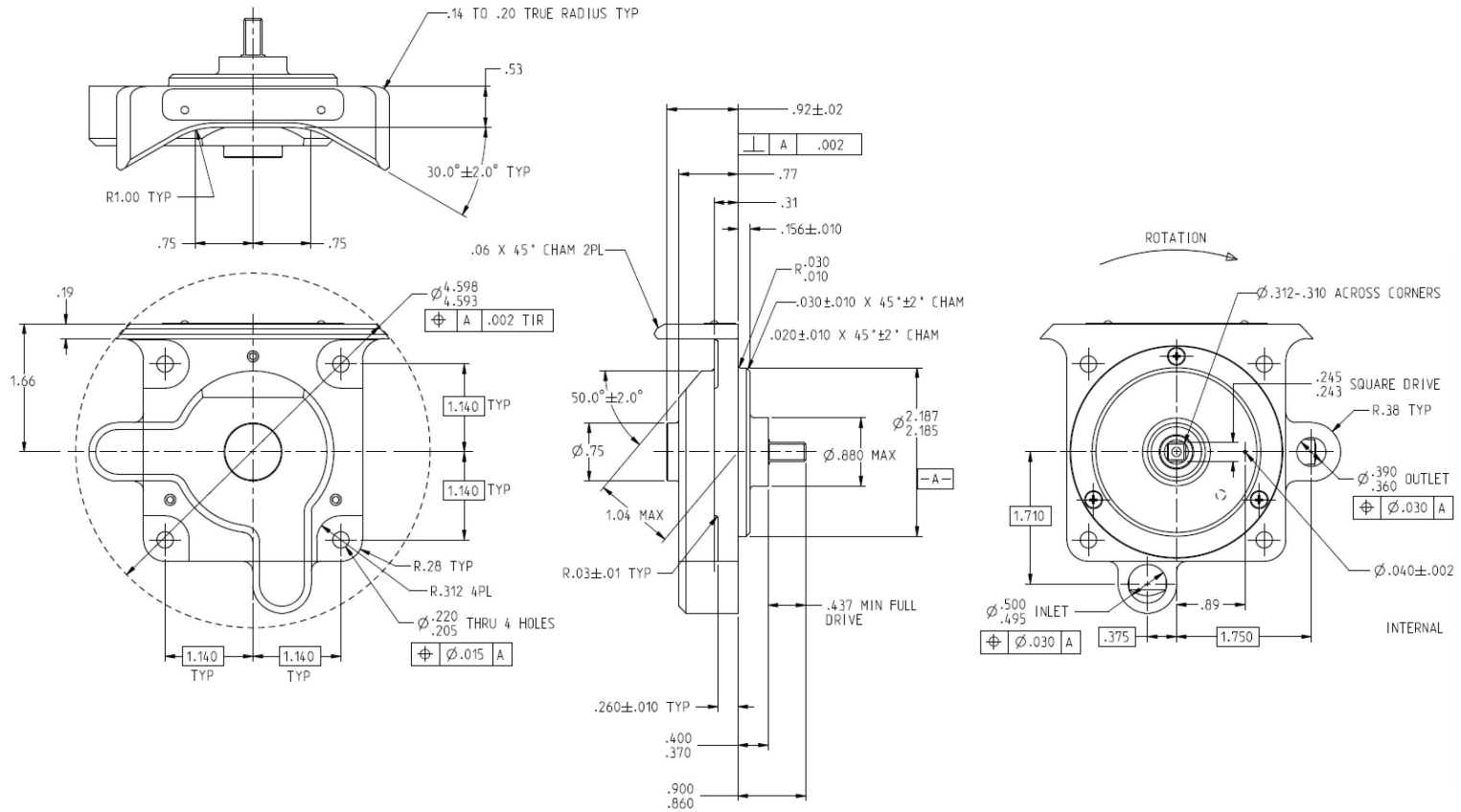
WEIGHT: 5.0 LBS MAX



CATEGORY 8: G-ROTOR PUMPS



PART NUMBER: 40360-X, SCAVENGE PUMP



PERFORMANCE SPECIFICATIONS:

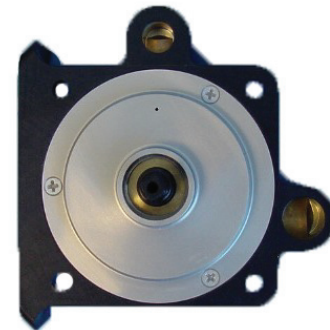
FLUIDS: MIL-PRF-23699

MATERIAL: HOUSING 6061-T6

OPERATING TEMPERATURE: -65°F TO 275°F

PERFORMANCE: 4.60 ± 0.3 GPM AT 6019 ± 50 RPM AND 10-20 PSIG

WEIGHT: .80 LBS MAX



CATEGORY 8: G-ROTOR PUMPS



CRISSAIR HAS VARIOUS OTHER PUMPS NOT LISTED IN THE
CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

CONTACT CRISSAIR FOR ADDITIONAL INFORMATION/DRAWINGS AT

(661) 367-3300 OR SALES@CRISSAIR.COM.

YOU CAN ALSO VISIT WWW.CRISSAIR.COM.