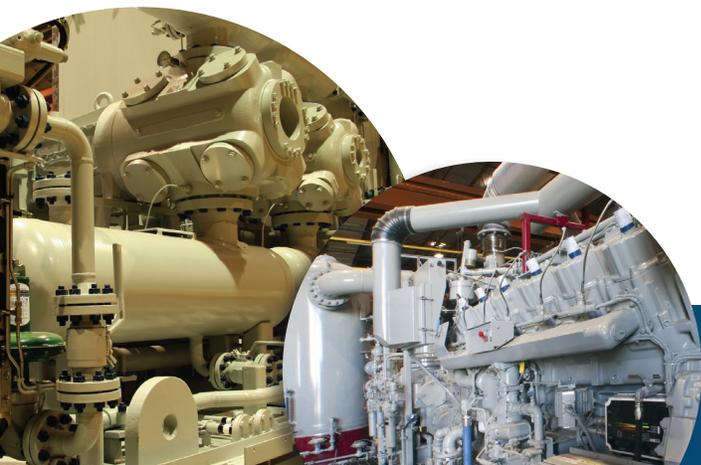
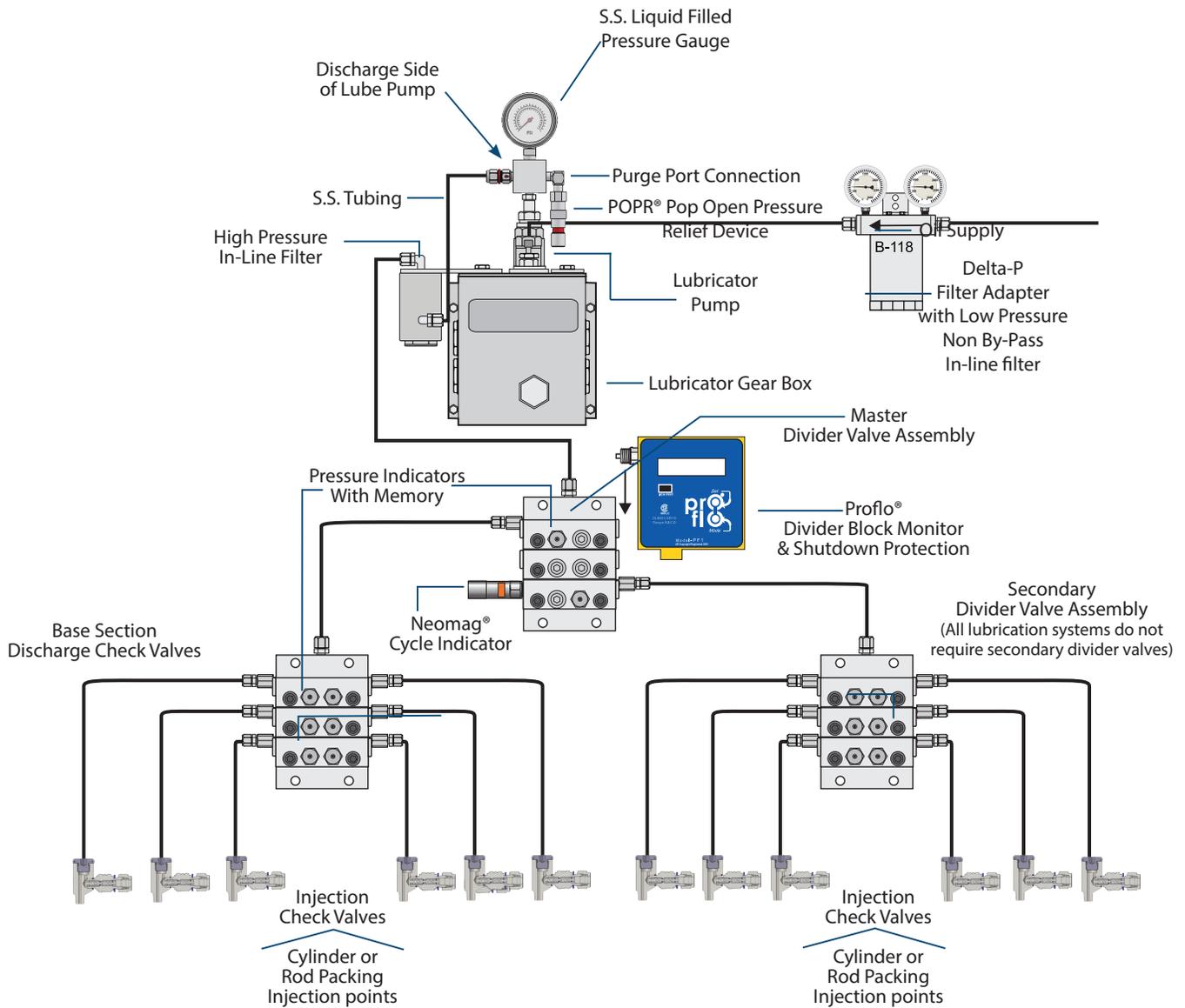


ANNUAL PM GUIDE FOR DIVIDER BLOCK LUBRICATION SYSTEMS



Annual PM Instructions

Unit shall be shut down, depressurized, LOTO & hydrocarbon free to perform lubricator system PM.

ALL SERVICING MUST BE DONE UNDER THE CLEANEST POSSIBLE CONDITONS.

1. Perform thorough visual inspection of system circuit for any existing leaks, damage & anomalies.
2. Replace all filters with NEW.
 - Upstream (low pressure) & downstream (high pressure) of lubricator pump
 - Super drum (bulk oil tank) filter element at grade if applicable
3. Drain, Inspect & fill lubricator pump box with proper lube oil type.
 - Check for wear on cams, gears and integrity of internal parts
 - Clean any debris inside lubricator box
 - Inspect lube pumps for wear
4. IF system is equipped with PF1 monitor (blue box against master divider block), replace AA batteries with NEW (Lithium) be sure to re-install battery sleeves.
5. Check Pressure bypass for every divider block assembly. See Fig A.
 - a. Test each lube outlet separately
 - a. Cap or plug outlet. For best results plug the injection point nut to check tubing integrity during this process
 - a. Pump purge gun "SLOWLY" until all air is removed and 4000 PSI is shown on pressure gauge. If pressure drops off suddenly (verify that there is no leaks in tubing line or fittings), or if any block elements drop 1000 PSI within 30 seconds then replace the divider block assembly
 - a. **DO NOT** remove piston from element or do an "internal" inspection, trash could be introduced into system
6. Inspect/replace all lube point's double ball stainless steel check valves with NEW if found bad.
 - Check valves should open at ≤ 100 psi
 - Check back pressure to see if there is leakage

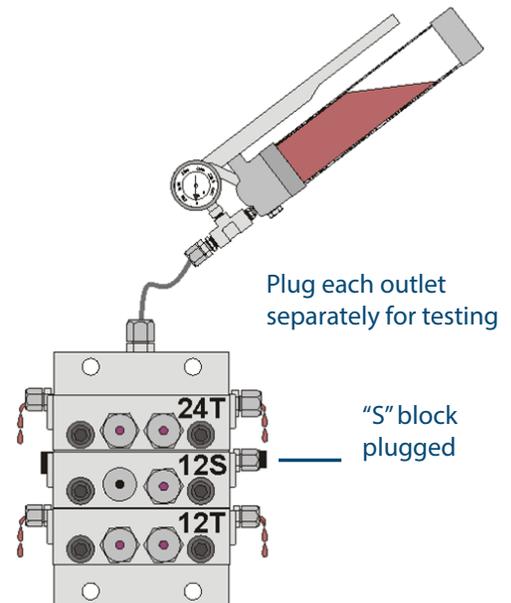


Figure A

Guide continues on next page

Annual PM Instructions cont.

7. Flush entire system with fresh clean oil per proper type. Prime & bleed any gas pockets per **Purging Divider Block Systems** instructions.

- Verify all indicators (pressure gages, cycling & pressure pins) are legible & functioning; replace and document if found bad
- Leak check entire system including every pump, divider block, fitting, valves, etc
- Verify all relief & balance valves functioning per setting (springs, rupture disc)

8. Function check system to ensure proper lube rate at every point & proximity probe/phase monitor cycling per requirements. Simulate no flow to verify console alarm activates.

9. Perform housekeeping & ensure lubricator skid is clean, free of oil, debris & foreign objects.

10. Document Inspection findings and completion of PM.

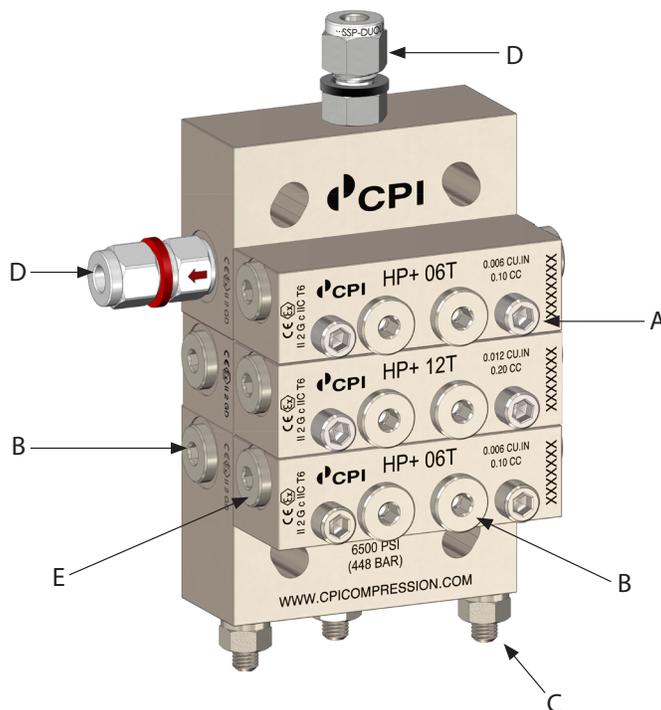
NOTE: All NPT joints need to be sealed with sealing compound. Do not use Teflon tape.

TOOLING NEEDED

- 3/8 drive, In. lb. Torque wrench(s) (range 15 in. lbs – 300 in. lbs.)
- 3/8 drive, Allen plug socket set
- 3/8 drive, socket set
- 3/8 drive, 2", 4" & 8" extension if applicable
- ChannelLock pliers
- Combo wrench set (3/8" – 1" & 1-1/2")
- Allen wrench set, standard
- Filter wrench
- Small precision screwdriver.
- Scraper
- Picks
- Pipe wrench (8" or 10") if applicable
- Non-sparking dead blow hammer
- 7/32nd drill bits
- Cordless drill
- Cordless impact wrench
- 567 Loctite thread sealant

Torque Specifications

HP+ DIVIDER BLOCKS



LOCATION	DESCRIPTION	TORQUE (IN-LBS)	TORQUE (N-m)
A	Element SHCS	120	13.6
B	Element and Base Plate Recessed Hex Head Custom 1/8 ORB Plug	60	6.8
C	Tie Rod Nuts	80	9.0
D	Check Valves, Tube Fittings, Pin Indicators with Custom 1/8 ORB	80	9.0
E	Element Piston Port Recessed Hex Head ORB Plug and Accessories (Neomag® and Shutdown Device Magnet Assembly)	80	9.0

NOTES:

All values have a tolerance of ± 5 in-lbs (0.5 N-m)

All ORB style fittings should have a lubricant applied to the O-Ring prior to assembly to avoid O-Ring damage.

Recommended practice to lubricate element bolt threads with oil for improved torque accuracy.

ELEMENT INSTALLATION PROCEDURE:

Step 1: Seat the element by lightly tightening both SHCS to around 30 in-lbs (3.4 Nm)

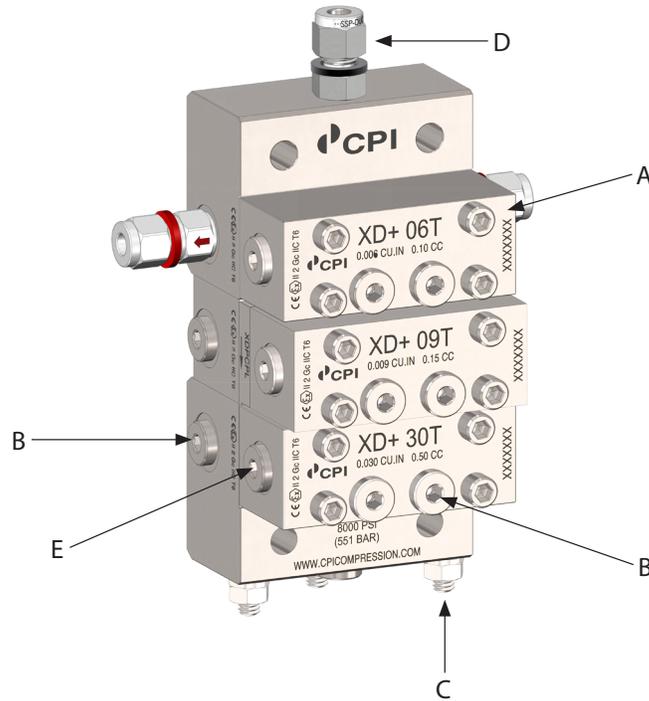
Step 2: Torque both SHCS to 60 in-lbs (6.8 Nm)

Step 3: Torque both SHCS to 120 in-lbs (13.6 Nm)

HP+ divider blocks feature a CPI Custom 1/8 ORB (O-Ring Boss) threaded port for all inlets, outlets, and metering element pin indicator ports. This Custom thread geometry when used with CPI designed check valves, fittings and accessories eliminates the use of thread sealants for a leak free and easy to maintain design. This Custom 1/8 ORB port also allows the use of standard 1/8 NPT fittings to be installed using traditional thread sealant. The CPI Custom 1/8 ORB fittings, check valves and accessories are only available from CPI. Do not use an SAE-03 J514 ORB fitting in this port.

Torque Specifications

XD+ DIVIDER BLOCKS



LOCATION	DESCRIPTION	TORQUE (IN-LBS)	TORQUE (N-m)
A	Element SHCS	60	6.8
B	Element and Base Plate Recessed Hex Head Custom 1/8 ORB Plug	60	6.8
C	Tie Rod Nuts	80	9.0
D	Check Valves, Tube Fittings, Pin Indicators with Custom 1/8 ORB	80	9.0
E	Element Piston Port Recessed Hex Head ORB Plug and Accessories (Neomag® and Shutdown Device Magnet Assembly)	80	9.0

NOTES:

All values have a tolerance of ± 5 in-lbs (0.5 N·m)

All ORB style fittings should have a lubricant applied to the O-ring prior to assembly to avoid O-ring damage.

Recommended practice to lubricate element bolt threads with oil for improved torque accuracy.

ELEMENT INSTALLATION PROCEDURE:

NOTE: TORQUE SHCS IN A "CRISSCROSS" PATTERN.

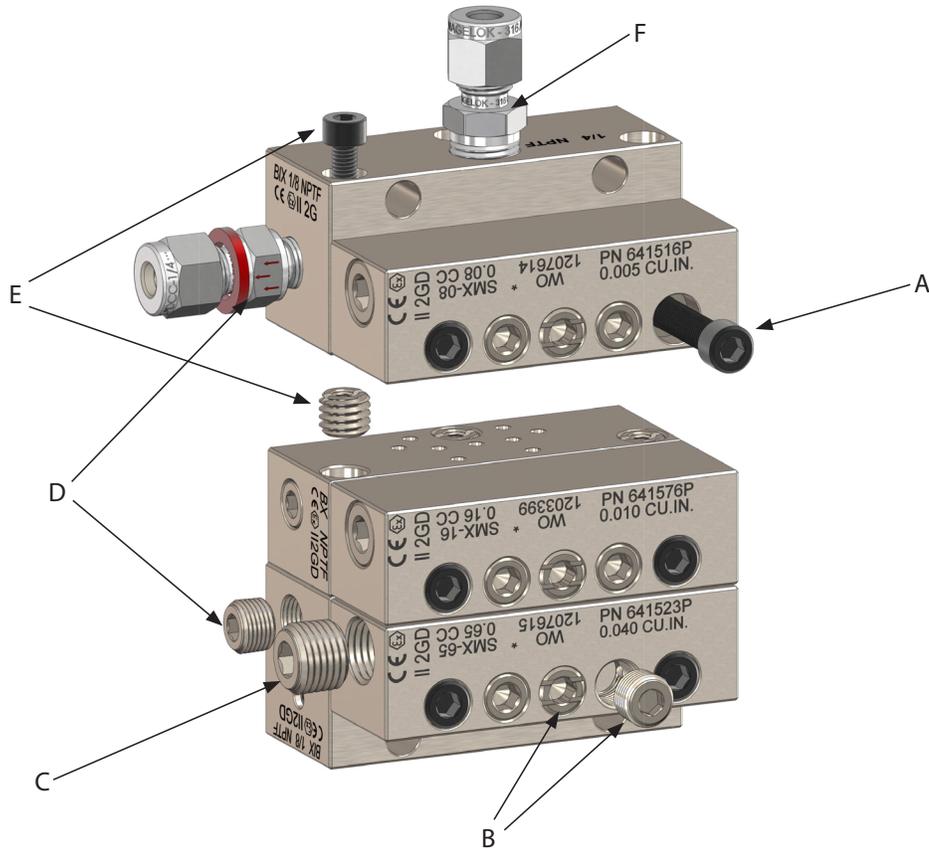
Step 1: Seat the element by lightly tightening each SHCS to around 30 in-lbs (3.4 Nm)

Step 2: Torque each SHCS to 60 in-lbs (6.8 Nm)

XD+ divider blocks feature a CPI Custom 1/8 ORB (O-Ring Boss) threaded port for all inlets, outlets, and metering element pin indicator ports. This Custom thread geometry when used with CPI designed check valves, fittings and accessories eliminates the use of thread sealants for a leak free and easy to maintain design. This Custom 1/8 ORB port also allows the use of standard 1/8 NPT fittings to be installed using traditional thread sealant. The CPI Custom 1/8 ORB fittings, check valves and accessories are only available from CPI. Do not use an SAE-03 J514 ORB fitting in this port.

Torque Specifications

SMX DIVIDER BLOCKS



LOCATION	DESCRIPTION	TORQUE (IN-LBS)	TORQUE (N-m)
A	Element SHCS	60	6.7
B	Pin Indicator Port Plugs and Single/Twin Adapter Plugs	106	12
C	Element Piston Port Plug and Accessories (Neomag® and Shutdown Device Magnet Assembly)	144	16
D	Base Plate Port Plug and Check Valves	144	16
E	Grub Screw and Base Plate SHCS	50	5.6
F	Inlet Tube Fitting	300	34

NOTES:

Values under 100 in-lbs have a tolerance of ± 5 in-lbs (0.5 N-m). Values over 100 in-lbs have a tolerance of ± 10 in-lbs (1.1 N-m).

Recommended practice to lubricate element bolt threads with oil for improved torque accuracy.