

# Installation, Operation, and Maintenance



## Specifications

Connection .....1" FNPT  
 Seat Ring Orifices . . . .3/32", 1/8", 3/16", 1/4", 3/8", 1/2"  
 Operating Temperature ..... -20°F to 180°F

## Max. Pressure, Differential Pressure & Outlet Pressure Ranges

Outlet Pressure Range	Port Diameter (Inches)	Maximum Inlet Pressure (psig)	Maximum Differential Pressure (psig)
5 to 20 psig	3/32	2000	2000
	1/8	1000	1000
	3/16	750	750
	1/4	500	500
	3/8	300	300
15 to 40 psig	1/2	250	250
	3/32	2000	2000
	1/8	1500	1500
	3/16	1000	1000
	1/4	750	750
35 to 80 psig	3/8	500	500
	1/2	300	300
	3/32	2000	2000
	1/8	2000	2000
	3/16	1750	1750
70 to 150 psig	1/4	1500	1500
	3/8	1000	1000
	1/2	750	750
	3/32	2000	2000
	1/8	2000	2000
	3/16	2000	2000
	1/4	1750	1750
	3/8	1250	1250
	1/2	750	750

## Max. Spring and Diaphragm Housing Pressure

Maximum pressure to avoid leakage to atmosphere or possible damage to internal parts.	250 psi
Maximum pressure to prevent burst of housing or possible damage to internal parts.	375 psi
Maximum diaphragm housing over-pressure (above set point) to avoid damage to internal parts.	60 psi

## Overpressure Protection

As is true with most regulators, the Li'l Lena Regulator has an outlet pressure rating that is lower than the inlet pressure rating. Overpressure protection is needed to avoid overpressure if the actual inlet pressure can exceed the outlet pressure rating.

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## Installation

Before you install the Li'L Lena Regulator, ensure that all tubing and piping have been blown free of debris. Inspect the threads to ensure they are clean and free of debris. Apply pipe thread compound to prevent pressure leaks at the connection and thread the regulator onto the pipe. During installation, take advantage of the Li'L Lena's capability to adjust the housing position in four different ways, optimizing space usage.

Ensure that the body is positioned in a way that prevents the accumulation of moisture or debris in the screened vent. All Li'L Lena regulators come equipped with a 3/4 NPT vent assembly. If needed, the vent assembly can be removed to install a remote vent line. Opt for remote vent lines with the largest practical diameter, keeping them as short as possible with a minimal number of bends or elbows. Take precautions to shield the remote vent opening from rain, snow, or any foreign material that might obstruct the vent or vent line, hindering the proper operation of the regulator. Regularly inspect the vent opening to ensure it remains unobstructed by foreign debris.

Caution: The Li'L Lena does not relieve pressure automatically. If there's a possibility of the outlet pressure exceeding the set point, the excess pressure can damage the regulator. It is advisable to incorporate a pressure relief device on the downstream side of the regulator to mitigate this risk.

## Adjustment / Setting

The permissible pressure settings range is indicated on the nameplate. If an adjustment beyond this range is required, replace the regulator control spring accordingly and update the nameplate to reflect the new pressure range.

Important Note: Always use a pressure gauge to monitor pressure during adjustments.

Adjustment Steps:

1. Remove the adjusting screw cap.
2. Loosen the locknut.
3. To increase the outlet pressure setting, turn the adjusting screw clockwise. To decrease it, turn the adjusting screw counterclockwise.
4. Once the desired pressure is achieved, secure the adjusting screw in place and tighten the locknut.

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## Spring Change

To replace the spring, begin by removing the cap and turning back the adjusting screw. Loosen the bolts securing the spring cover to the housing, using a 7/16" wrench or socket. Swap the existing spring with the desired one, then reattach the spring cover and tighten the bolts. Ensure that the torque applied to the bolts does not exceed 8 ft-lb to prevent any potential cracking of the aluminum spring cover or housing.

Note: Swapping a 10-95 psig spring requires an upper spring seat change due to its larger diameter.

## Soft Goods Replacement

A Li'L Lena repair kit, inclusive of all soft goods and a disk holder assembly, is available. To initiate the replacement of soft goods, start by removing the cap. Unthread the adjusting screw to release tension from the spring. Unscrew the housing from the body using a 1/2" wrench or socket. Extract the stem, stem guide, disk holder assembly, and boost tube. Replace the stem o-ring, boost tube o-ring, and gas-ket. Remove the cotter pin and detach the disk holder assembly from the stem. Reinsert the stem, ensuring it hooks onto the linkage. Insert the stem guide and boost tube. Integrate the new disk holder assembly into the stem, securing it with the cotter pin. Reattach the housing to the body.

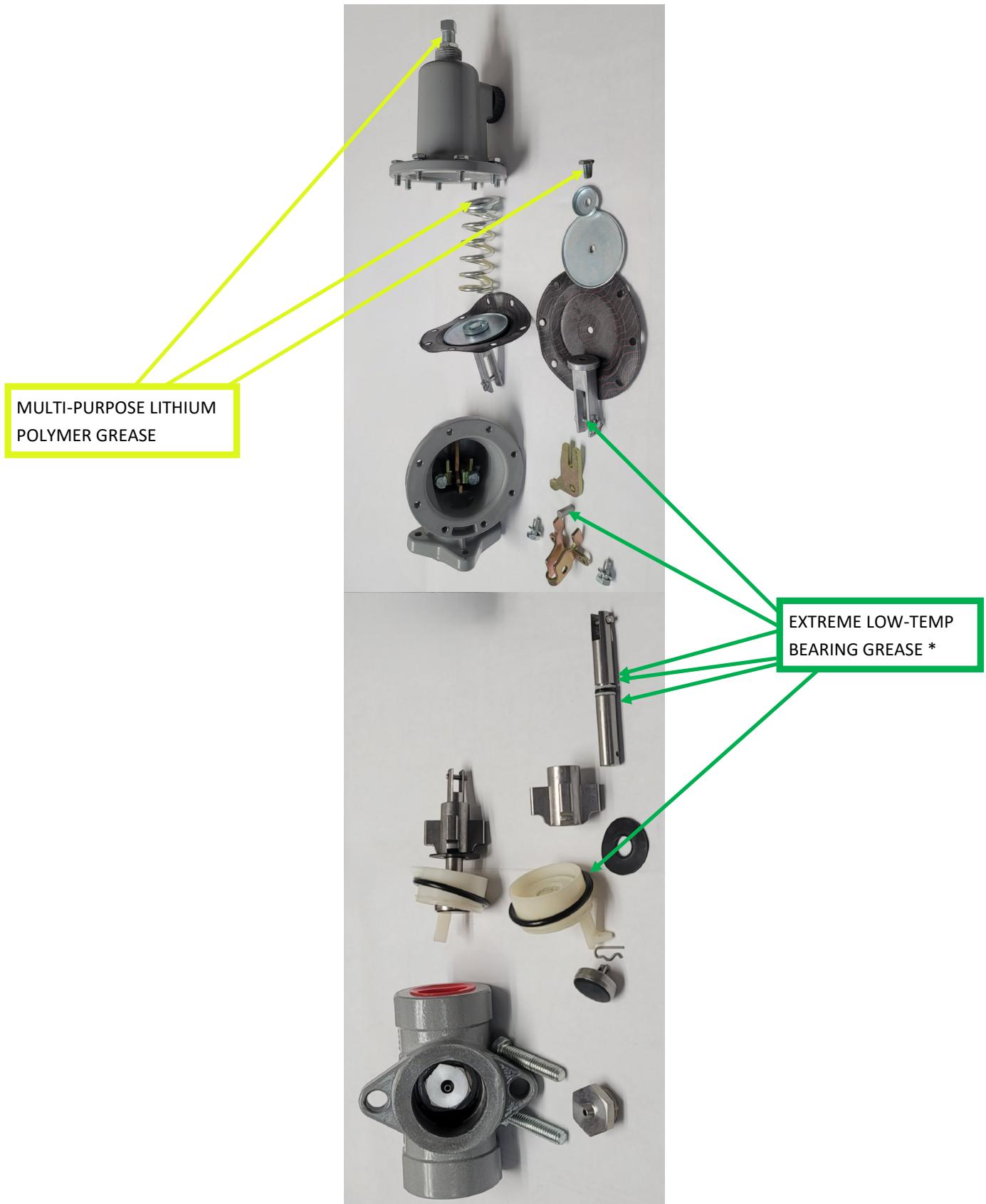
## Diaphragm Replacement

Begin by removing the cap and turning back the adjusting screw to relieve spring tension. Loosen the bolts holding the spring cover to the housing with a 7/16" wrench or socket and remove the spring cover. Take out the spring and unscrew the screw securing the spring retainer and diaphragm plate to the diaphragm plunger using a 1/2" wrench or socket. Replace the old diaphragm with a new one and reinstall it by threading the screw back into the diaphragm plunger. Position the spring over the spring retainer, reattach the spring cover, and tighten the bolts.

### **Maximum Torque Values**

Parts List Item#	Description	Max Torque Ft-lbs
2	Seat/Orifice	25
3	Body Cap Screws	16
18	Lever Cap Screws	8
31	Upper Housing Screws	8
33	Diaphragm Screw	8

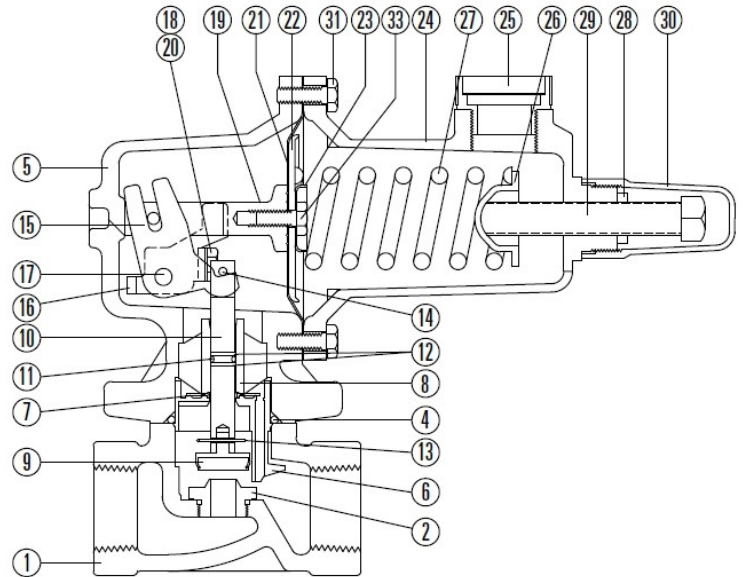
# Lubrication



\*Lubricants must be selected that meet the service condition temperature requirements. Desco Therm-O-Plate 220 Anti-Seize Coating is recommended on rebuilds to cover most applications.

## Parts List

Item	Description	Qty.
1	BODY, 1"NPT ,STEEL WCB	1
2*	SEAT, 316SS, 3/32"	1
	SEAT, 316SS, 1/8"	1
	SEAT, 316SS, 3/16"	1
	SEAT, 316SS, 1/4"	1
	SEAT, 316SS, 3/8"	1
	SEAT, 316SS, 1/2"	1
3	CAP SCREW, STEEL PLATED (NOT SHOWN)	2
4*	O-RING, VITON	1
5	DIAPHRAGM CASE, ALUMINUM	1
6	BOOST BODY, NYLON	1
7	STABILIZER, NITRILE	1
8	STEM GUIDE	1
9*	DISK ASSEMBLY/NEOPRENE	1
	DISK ASSEMBLY/NYLON	1
10	STEM, STAINLESS STEEL	1
11*	O-RING, VITON	1
12	BACK UP RING, TFE	2
13	HAIR PIN CLIP, STAINLESS STEEL	1
14	PIN, STAINLESS STEEL	1
15	LEVER, STEEL PLATED	1
16	LEVER RETAINER, STEEL PLATED	1
17	LEVER PIN, STAINLESS STEEL	1
18	LEVER CAP SCREW	2
19	POST, & PIN ASSY.	1
20*	LOCK WASHER	2
21	DIAPHRAGM, NITRILE	1
22	DIAPH. HEAD, STEEL PLATED	1
23	SPRING SEAT, STEEL PLATED	1
24	UPPER HOUSING, ALUMINUM	1
25	VENT ASSEMBLY, PLASTIC	1
26	UPPER SPRING SEAT, STEEL	1
27	SPRING, 5-20 psig (yellow)	1
	SPRING, 15-40 psig (green)	1
	SPRING, 35-80 psig (blue)	1
	SPRING, 10-95 psig (blue)	1
	SPRING, 70-150 psig (red)	1
28	JAM NUT, STEEL	1
29	ADJUSTING SCREW, STEEL	1
30	CAP, PLASTIC	1
31	CAP SCREW, STEEL PLATED	8
32	NAME PLATE, ALUMINUM (NOT SHOWN)	1



**\*Recommended Spare Part**

## Part Number Matrix

Example Model # LL1TA3805

Li'L Lena Regulator, 1" Body, Threaded Female NPT Connection, 316SS Seat, CR Disc, Viton Seals, 3/8" Orifice, 5 to 20 psi Outlet Spring Range.

