

## VZ LIFTER™ HD

# VZ Lifter™ SOP

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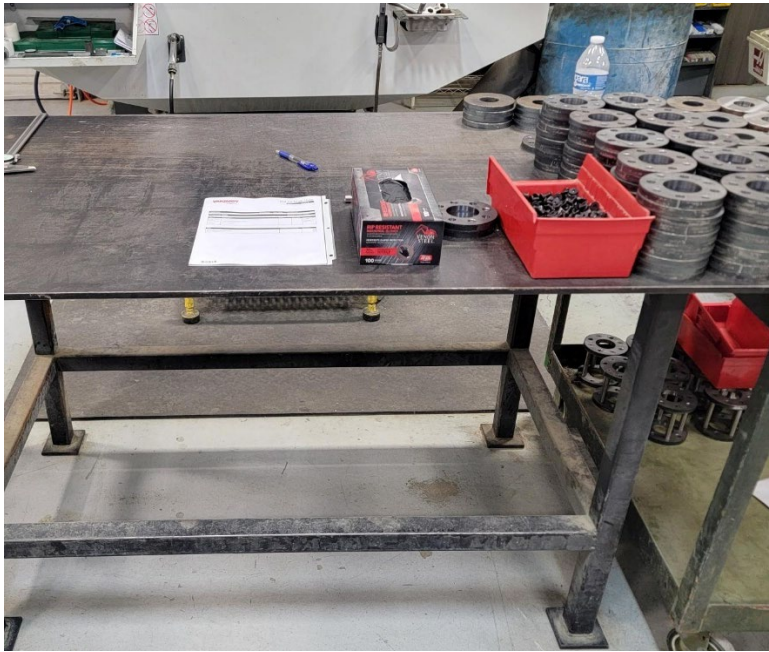
## VZ Lifter™ HD

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## ***1. REQUIRED ASSEMBLY AREA***

### **1.1 METAL OR WOOD WORK BENCH**



### **1.2 VICE WITH APPROPRIATE JAWS**



## 2. REQUIRED TOOLS AND PPE



### ***3. SPECIALTY TOOLS***

#### **3.1 RISER JIG**

Contact Odessa machine shop to order.





## 4. OTHER REQUIRED MATERIALS

### 4.1 OTHER MATERIALS

Lucas Red N Tacky Grease/ Loctite Red and Blue/Anti-seize compound/Carburetor cleaner/Permatex gasket maker.

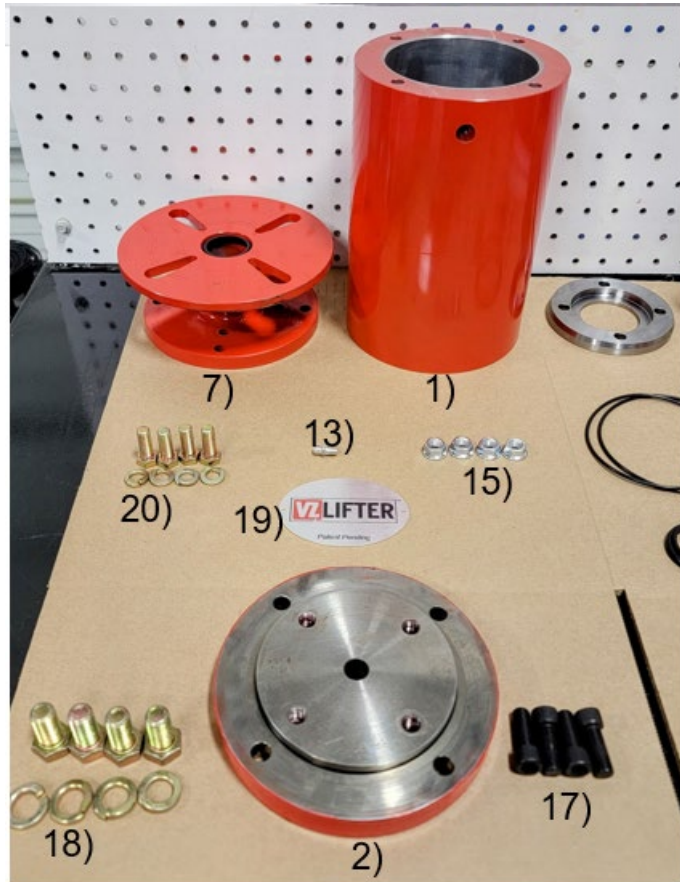


## 5. PARTS REQUIRED

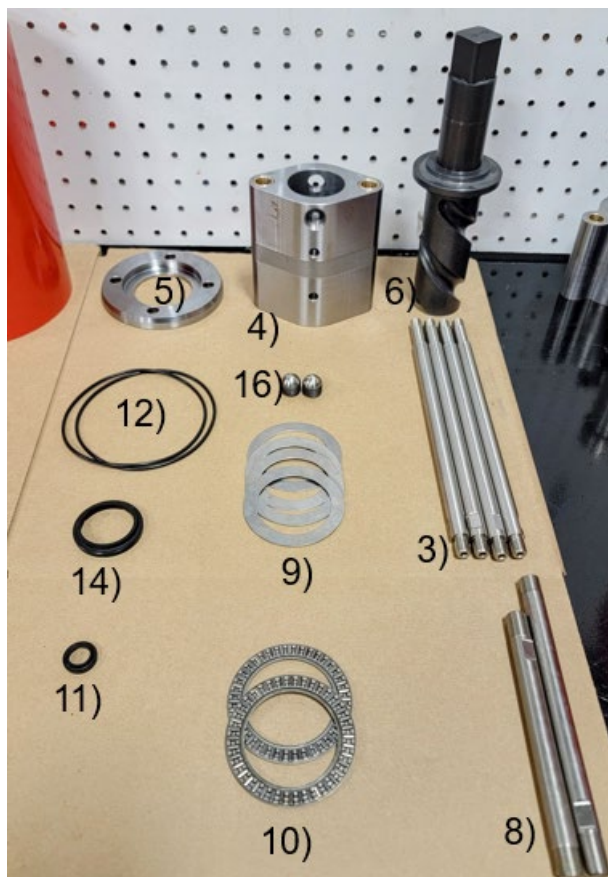
### 5.1 PARTS LIST

	Parts	Qty per lifter
1)	HD DUST COVER	1
2)	HD BASE MOUNTING PLATE	1
3)	GUIDE SHAFT RODS	4
4)	RISER	1
5)	HD BEARING SUPPORT FLANGE	1
6)	ROATORY SHAFT	1
7)	HD top adapter spool	1
8)	PULL SHAFT	1
9)	Thrust washer-5909k81	4
10)	Needle Roller Bearing - Thrust -5909K21	2
11)	1/2 Rod Wiper -9403K55	1
12)	O RING-9452K176	2
13)	grease Zert-1095K42	1
14)	1-3/8 rod wiper -94003k64	1
15)	3/8-24 serrated flange nuts	4
16)	radius set screws-91375A812	2
17)	3/8-24 x 1inch long socket head screws and lock washers	4
18)	1/2-20 x1inch long hex head bolts and lock washers	4
19)	vz lifter tag	1
20)	3/8 Hex head screws x 1 inch and washers	4

### 5.2 PARTS DIAGRAMS







## 6. ASSEMBLY PROCEDURE

1. Retap the bottom side of the HD base mounting plate with 1/2- 20 Tap All four holes. Flip base over and grab 3/8-24 tap and rethread the four holes.
2. Install 1/2 inch Rod Wipe in the HD base mounting plate inside the grooved bore. Use a flathead screwdriver to install.
3. Install Oil Resistant O-Ring on the outside of the mounting base where there is a groove.
4. Grab HD lifter base plate and put Red Loctite in the four 3/8-24 threaded holes.
5. Grab four of the HD lifter Guide shaft rods. Locate the two flats on the side of the guide shaft rod. This end of the shaft is where you will put Red Loctite on the threads. Proceed to Screw the Rods in the tapped holes, then use a 10MM wrench to tighten them down.
6. Put generous amount of Red Grease on all four of the Guide Shaft Rods. Set this assembly to the side for now.
7. Grab the HD Riser. Grab two 5/8-18 radius Set Screws and screw them into the side of the riser until you can see threads. Then proceed to coat the Threads in Red Loctite. Rotate 180 degrees and proceed to lay down more Red Loctite. Back the screws out and install fixture JIG. Once fixture JIG is in the riser, screw both set screws in until they both touch fixture JIG. Then back off ¼ turn on both set screws. Pull fixture JIG out and set aside.
8. Grab the dial Calipers and measure the width of the set screws points. This measurement should be 1.150-1.165. If it does not then adjust the 5/8-18 radius set screws until you hit the correct measurement.
9. Grab the HD Rotary Shaft and do a drop test into the riser. If the Rotary shaft falls right in you are good to go. Pull Rotary Shaft out and set it to the side.
10. Grab the Riser and put a generous amount of Anti-Seize compound inside the bore of the riser.
11. Grab riser and install it through the guide shaft rods.
12. Grab the assembly and apply a generous amount of red grease on all four sides of the riser.
13. Grab the HD cover and install grease zert with a 8mm wrench into the small pilot hole. Tighten grease zert but do not overtighten.
14. Grab dust cover and slide it over guide shaft rods and riser.

15. Lay down HD assembly and install four socket head 3/8-24 Screws with a 8mm T-Wrench. Tighten with a criss cross pattern.
16. Grab the HD Load Bearing flange, this load bearing flange will have H engraved on top of the load bearing flange. Slide the HD load bearing flange onto the guide shaft rods.
17. Grab a small amount of Red Grease and apply to the edges of the Load Bearing Flange.
18. Grab Oil Resistant O-Ring and stretch it out. Place it on the outside edge of the load Bearing Flange.
19. Grab 1 load washer, 1 needle bearing and 1 load washer, coat all three items in red grease. In this order place all three parts into Load Bearing Flange groove.
20. Grab the HD Rotary shaft and locate the spiral groove end and put a generous amount Anti-Seize compound on it.
21. Set the HD Rotary Shaft on top of the three parts you just installed on line 18.
22. Grab 1 load washer, 1 needle bearing and 1 load washer, coat all three items in red grease. In this order place all three parts onto HD Rotary Shaft Shoulder Lip.
23. Grab HD Top adapter spool and install the 1 3/8 rod wipe into the groove at the top of the HD Top Adapter spool.
24. Apply grease into the Bore of the HD top adapter spool.
25. Apply Permatex Ultra Red gasket maker along the top flat surface of the HD Dust Cover.
26. Grab HD Top adapter spool, and put it over the HD Rotary Shaft, and align the guide shaft rods with the holes on the HD Top adapter spool.
27. You can use a Rubber mallet if needed, to get the Spool down into position.
28. Grab four 3/8-24x1 inch fine thread hex head screws and tighten the HD Spool down into the dust cover threaded holes with a 9/16 wrench.
29. Grab four serrated 3/8-24 Flange nuts and put Blue Loctite inside of the threads and screw them onto the guide shafts rods that are sticking out the top of the HD top adaptor spool.

30. Tighten four screw heads, starting with hex bolts on the outside first . Tighten serrated 3/8-24 flange nuts down also. Use a 9/16 ratchet wrench, to tighten all eight bolts. Use the criss cross pattern to ensure all eight heads are tightened. Make sure they are tight, don't overtighten.
31. Place HD lifter assembly into vise and close vise shut.
32. Grab a crescent wrench and place it on top of the square HD Rotary Shaft. Stroke the lifter with the crescent wrench in your hand to open and close the HD lifter. Do this for about 10 strokes. You should feel some pressure, but it should open and close.
33. The HD lifter will settle at this point. You will need to retighten all 8 screw heads and make sure the lifter can open and close properly. You should feel some pressure, but it should open and close.
34. Grab Pull shaft and install into the bottom of the HD base center hole. Notice the pull shaft has two flats on the end. This end will remain outside of the riser. Use rubber mallet to hit the pull shaft flushed against the riser. Screw in and tightened with 10mm wrench.