

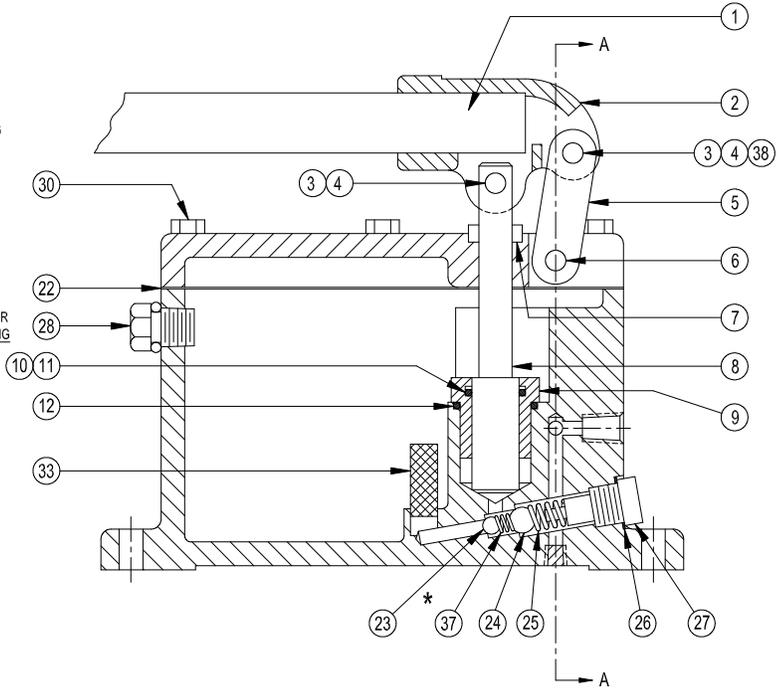
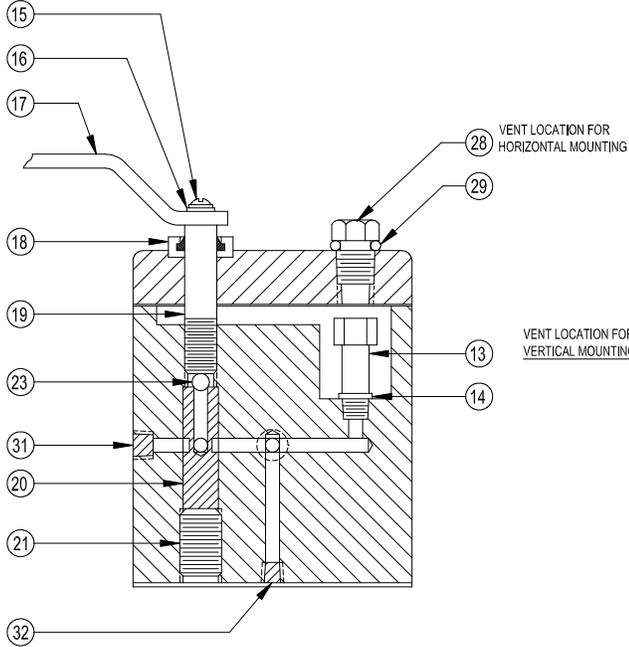
Obsolete Section

Replacement Parts Only

Hydraulic Pump

Replaced with New Design (See Section 35 Page 3D)

PLEASE NOTE: All parts may not be available do to limited supply and may be discontinued without notice.



Assembly Part Number
HP19165MS - Hydraulic Pump

Item	Hydraulic Pump Parts	Part No.
1	Handle	HP19165-01
2	Beam	HP19165-02
3	Snap Ring	HP19165-03
4	Beam Pin	HP19165-04
5	Link	HP19165-05
6	Link Pin	HP19165-06
7	Oil Seal-Piston	HP19165-07
8	Piston	HP19165-08
9	Gland-Piston	HP19165-09
10	O-Ring-Piston	HP19165-10
11	Back-up Ring-Piston	HP19165-11
12	Teflon Seal	HP19165-12
13	Relief Valve	HP19165-13
14	Gasket-Relief Valve	HP19165-14
15	Screw-Release Valve	HP19165-15
16	Washer Set(Star & Flat) Release Valve	HP19165-16
17	Handle-Release Valve	HP19165-17
18	Oil Seal-Release Valve	HP19165-18
19	Stem-Release Valve	HP19165-19

Item	Hydraulic Pump Parts	Part No.
20	Seat-Release Valve	HP19165-20
21	Set Screw-Release Valve Seat	HP19165-21
22	Gasket-Cover	HP19165-22
23	Ball 1/4 Dia.	HP19165-23
24	Ball 3/8 Dia.	HP19165-24
25	Spring-Check Valve	HP19165-25
26	Gasket-Check Valve	HP19165-26
27	Plug-Check Valve	HP19165-27
28	Vented Plug	HP19165-28
29	O-Ring-Vented Plug	HP19165-29
30	Cap Screw 5/16-18x1 1/4	HP19165-30
31	Pipe Plug 1/8 NPT	HP19165-31
32	Pipe Plug 1/16 NPT	HP19165-32
33	Screen	HP19165-33
34	Release Valve Service Kit (18,20,22,23)	HP19165-34
35	Piston Service Kit (10,11,12,22)	HP19165-35
36	Complete Service Kit (3,7,10,11,12,14,18,20,22,23,24,26)	HP19165-36
37*	Spring-Small-Check Valve	HP19165-37
38	Spacer Washer	HP19165-38

* Install for vertically mounted pumps only.

See next page for Trouble Shooting Guide.

Obsolete Section

Hydraulic Pump - HP19165MS

TROUBLE SHOOTING

This procedure is intended to help determine where the pump is not functioning properly. Remove release valve handle #17 and unscrew release valve stem #19 using care to unscrew stem through oil seal #18. Do not actuate pump after release valve stem #19 has been removed. Carefully remove cover assembly. Reinstall stem #19 making sure release valve ball #23 is in position. Reassemble handle #17. Drain oil from pump and clean pump with a solvent. Using a second hydraulic pump, pump hydraulic oil in the outlet of pump being repaired and look for one of the following.

1. Leakage past the release valve stem #19. Use service Kit HP19165-34.

Remove release valve handle #17 and unscrew release valve stem #19. Drain oil from pump. Note the release valve ball #23 is free to drop out. Remove set screw #21 and using $\frac{5}{16}$ diameter drift pin gently tap or press out seat #20 from inside the pump. Clean pump with solvent and blow release valve seat area dry. Press or gently tap new seat into pump using medium set liquid thread-lock on outside diameter of seat. Install set screw #21 using medium set liquid thread-lock and allow to dry. Install new $\frac{1}{4}$ " ball from kit and tap lightly to form a seat. Using a new #22 gasket install cover using care to insert piston into gland #9. Replace oil seal #18 and carefully reinstall stem #19. To prevent damage to oil seal, stem should be carefully screwed through this seal. Reassemble handle #17 positioning it 90° to the pump handle when stem is tight on release valve ball. Refill reservoir using a good grade of hydraulic fluid.

2. Leakage past the relief valve #13

Using a $\frac{9}{16}$ socket wrench remove relief valve #13 and replace it with a new HP19165-13 using a new gasket HP19165-14. Remove release valve handle #17 and unscrew release valve stem #19. Using a new #22 gasket install cover using care to insert piston into gland #9. Carefully reinstall stem #19. To prevent damage to the oil seal, stem should be carefully screwed through this seal. Reassemble handle #17 positioning it 90° to the pump handle when stem is tight on release valve ball. Refill pump reservoir.

3. Leakage past the check ball #24. This will show in the piston cavity or through the screen.

Remove check valve plug #27, spring #25 and both #23 and #24 check valve ball. Install new #23 check ball. Gently tap to seat properly, install spring #37 (required for vertically mounted pumps) and new #24 check ball gently tapping to seat properly. Reinstall spring #25 and plug #27 using a new gasket #26. Remove release valve handle #17 and unscrew release valve stem #19. Using a new #22 gasket install cover using care to insert piston into gland #9. Carefully reinstall stem #19. To prevent damage to the oil seal, stem should be carefully screwed through this seal. Reassemble handle #17 positioning it 90° to the pump handle when stem is tight on release valve ball. Refill pump reservoir.

To change the piston seals, follow this procedure. Use Service Kit HP19165-35.

Remove release valve handle #17 and unscrew release valve stem #19. Carefully remove cover. Drain oil from pump. Using a 1" socket wrench remove Gland #9, remove O-Ring #10 and back-up ring #11 from gland and replace with new ones from kit. Reinstall gland using new seal #12. Tighten gland to 30 to 35 foot pounds torque. Using a new #22 gasket install cover using care to insert piston into gland #9. Carefully reinstall stem #19. To prevent damage to the oil seal, stem should be carefully screwed through this seal. Reassemble handle #17 positioning it 90° to the pump handle when stem is tight on release valve ball. Refill pump reservoir.

To service entire pump use the following procedure. Use Service Kit #HP19165-36.

Disassembly

Remove retaining rings #3 from one end of pins #4 and remove beam #2. Remove release valve handle #17 and unscrew release valve stem #19. Carefully remove cover. Drain oil from pump. Note release valve ball #23 is free to drop out. Remove piston rod #8 and gland #9 from pump body. Remove check valve plug #27, spring #25 and both #23 and #24 check valve balls. Remove screen #33. Remove set screw #21 and using a $\frac{5}{16}$ diameter drift pin gently tap or press out seat #20 from inside the pump. Clean all parts with a solvent and blow dry.

Assembly

Note: Use lubrication on all O-Rings or back-up rings and medium set liquid thread-lock when installing release valve seat and set screw.

Press or gently tap new release valve seat #20 into pump using medium set liquid thread-lock on outside diameter of seat. Install set screw #21 using medium set liquid thread-lock and allow to dry. Install new #23 check ball. Gently tap to seat properly, install spring #37 (required for vertically mounted pumps) and new #24 check ball gently tapping to seat properly. Reinstall spring #25 and check valve plug #27 using new #26 gasket. Remove and reinstall new O-Ring #10 and back-up ring #11. Gland #9 should now be installed using new #12 O-Ring. Insert piston #8 into gland. Install relief valve #13 using new #14 gasket. Replace screen #33. Place new $\frac{1}{4}$ dia. ball in release valve and tap to make seat. Plug discharge port and fill pump with approximately 1 $\frac{1}{2}$ pints of hydraulic fluid. Replace oil seals #7 and #18 with new ones from kit. Press in place. Assemble cover to pump using new #22 gasket. Care should be used when placing cover over piston to not damage oil seal. Install release valve stem #19. To prevent damage to the oil seal, stem should be carefully screwed through this seal. Tighten stem to seat ball. Install release valve handle #17 approximately perpendicular to pump body. Assemble beam #2 using new retaining rings from kit. Pump is now ready for use.