

1M HD Pump Re-assembly

Begin with fluid end and all internal parts removed from the Pump Frame, refer to illustration opposite side.

- 1) Determine which side of the Pump Frame you will be rebuilding.
- 2) Before installing the Crosshead Guide #10 into the Pump Frame, note the circular boss on the bottom. This boss is for locating the guide in its proper position. Align the 4 holes and the boss with the Pump Frame. Use (4) 8-32 x 3/8" screws, tighten to 55 in lb.
- 3) Place a Wear Plate #9 on 2 sides of the Crosshead #6 as shown in the diagram.
- 4) Insert (2) Return Spring #7 into the end holes of the Crosshead.
- 5) Place a small amount of grease on the Wear Plates.
- 6) Carefully slide this assembly of Crosshead, Wear Plates and Return Springs into the Crosshead Guide with the square boss on top of the Crosshead facing out.
- 7) Install Cam #5 with the flat portion of the shaft out, through the slot in the Crosshead. First, you must carefully compress the return springs enough to insert the Cam. When the Cam is all the way in, the curved portion of the Cam will be in contact with the square boss on the crosshead.
- 8) Install the Cam Guide #3 over the end of the Cam shaft and into position in the Crosshead Guide. Position the Cam Guide with the end with 3 holes to the bottom.
- 9) Use (4) 6-32 x 3/8" screws and lock washers. Tighten to 30 in lb.

Refer to diaphragm installation diagram instructions

- 10) Place Stroke Adjustment Knob #1 on the end of the Cam and rotate counter clockwise until the end of the Crosshead is sticking through the end of the Pump Frame about 3/16"
- 11) Install the Diaphragm #8 by threading it into the Crosshead all the way.

DO NOT OVER-TIGHTEN!

- 12) Rotate the Stroke Adjustment Knob in opposite direction (clockwise) bringing Diaphragm at rest against the Pump Frame
- 13) Re-install your Fluid End over the new Diaphragm using the (4) 10-32 x 1-1/2" screws and lock washers. Thread each screw in by hand until it stops. Tighten screws to 40 in lb in the order shown in the diagram. Torque each screw in the pattern. Then repeat the torque sequence only once!

WARNING! FAILURE TO FOLLOW THIS PROCEDURE (10-13) WILL RESULT IN DIAPHRAGM DEFORMATION AND PREMATURE FAILURE.

- 14) Rotate Stroke Adjustment Knob counter clockwise and re-install your drive bearing and snap ring.
- 15) Apply a small amount of the supplied grease to the OD of the drive bearing
- 16) Remove the Stroke Adjustment Knob and install Top Cover #2
- 17) Re-install the Stroke Adjustment Knob. Install Lock Screw #4 through the hole in the bottom of the Top Cover. Tighten the Lock Screw by hand to hold your stroke setting.



HAMMONDS TECHNICAL SERVICES

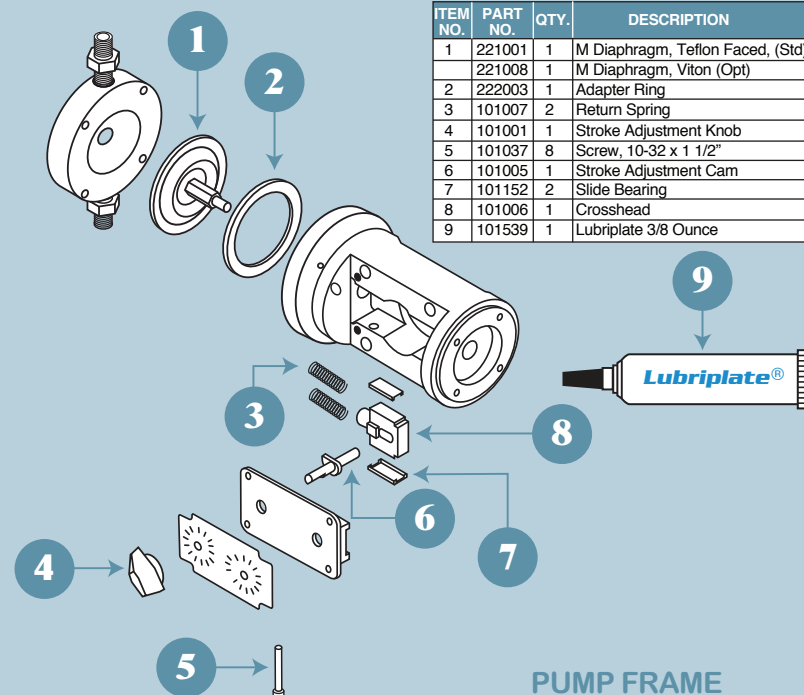
Model 1M HD PumpUp REPAIR KIT

Diaphragm Installation Instructions

Upgrades injectors to factory spec

-KIT CONTENTS-

ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	221001	1	M Diaphragm, Teflon Faced, (Std)
	221008	1	M Diaphragm, Viton (Opt)
2	222003	1	Adapter Ring
3	101007	2	Return Spring
4	101001	1	Stroke Adjustment Knob
5	101037	8	Screw, 10-32 x 1 1/2"
6	101005	1	Stroke Adjustment Cam
7	101152	2	Slide Bearing
8	101006	1	Crosshead
9	101539	1	Lubriplate 3/8 Ounce



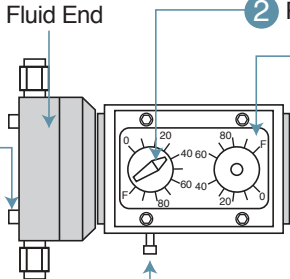
PUMP FRAME
NOT INCLUDED IN KIT

PumpUp REPAIR KIT

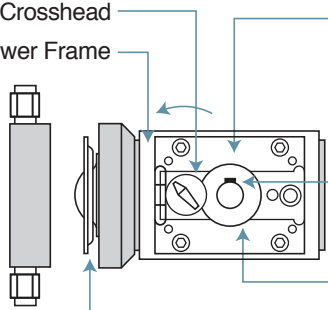
Diaphragm Installation Instructions

FOR TECHNICAL ASSISTANCE CALL
Hammonds Technical Services
(281) 999-2900

NOTE: Mark stroke setting
before removing any part

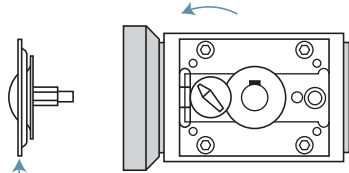
- Remove screws **4**
holding fluid end.
Remove fluid end.
- 2** Remove adjustment knob
- 3** Remove stroke
indicator plate
and cam guide/cover
- 1** Remove lock screw
- 

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- Crosshead
HD Power Frame
- 5** Press dial knob back on and
rotate counter clockwise until
diaphragm has cleared surface
of power frame and crosshead
- 6** Remove snap ring
- 7** Slide drive
bearing off
- 8** Unscrew old diaphragm
- 

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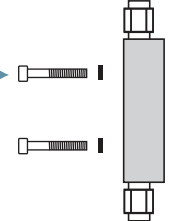
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- 9** With dial set in same counter
clockwise (full out) position,
install new diaphragm, threading
into crosshead all the way.
Do not over-tighten!
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***WARNING**

Failure to torque screws properly
to 40 in. lbs. will reduce pump head
performance, resulting in insufficient
injection ratio.

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- 10** Rotate dial fully in
opposite direction (clockwise)
bringing diaphragm at rest
against power frame.
- 11** Reinstall screws, taking each one down
by hand until it stops. Tighten screws to
40 in. lbs.* in the order show below.
Torque each screw in the pattern,
then repeat the torque sequence
only once!
- WARNING!**
Failure to follow this procedure
will result in poor pump performance
with diaphragm deformation and
premature failure.
- 

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NOTE: After this procedure is complete,
you must recalibrate the injector to your
specifications.

- 12** Rotate dial counter
clockwise enough to
install drive bearing.
Install snap ring.
- 13** Remove dial knob.
Reinstall cam guide/cover
and stroke indicator plate
Reinstall adjustment knob and position
it on original % setting.
Install lock screw, lock dial in place.
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