

Haynes Pump



6500 SERIES PUMP

MAINTENANCE INSTRUCTIONS AND PARTS LIST

MANUFACTURED BY:



KERR PUMP AND SUPPLY

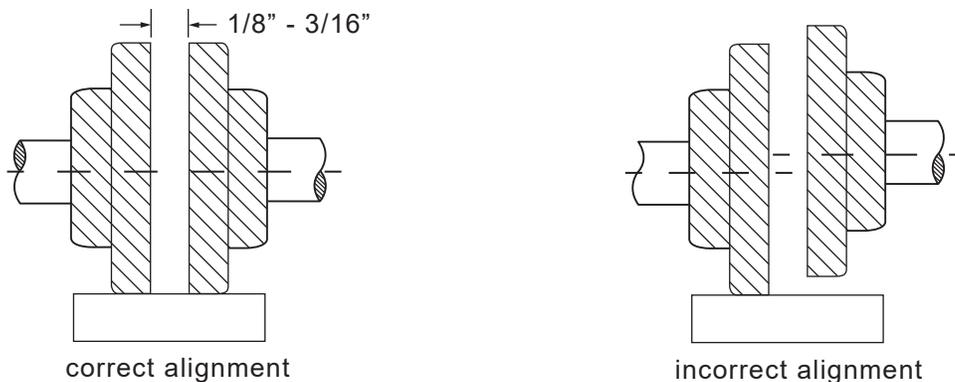
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INSTALLATION

1. The Haynes 6550 Series pumps are completely assembled, carefully adjusted and lubricated at the factory.
Generally, the motor has been mounted and aligned at the factory before shipment. The customer just has to set the unit into place, being certain the support plate is heavy enough to hold the entire unit and is level and resting evenly on its supports.
2. If the customer elects to mount the motor in the field, he should install motor half of coupling on motor shaft, before mounting the motor to the motor support.



3. The weight of the discharge piping must be supported independently of the pump casing to eliminate strain on the pump. **DO NOT** draw pump casing to piping when connecting, as this will cause strain and excessive wear on the unit.
4. Rotate shaft by hand, checking for rubbing or high spots. If either is noted check for
 - (a) Pipe strain
 - (b) Coupling misalignment
 - (c) Improper impeller adjustment
5. Connect power lines to motor in accordance with wiring diagram on the motor. Jog motor control to test for rotation. Rotation should be clockwise looking down on motor.
6. The pump should operate smoothly. If the pump vibrates, there is severe distortion of the pump as a result of excessive strain of the support plate, pipe strain, misalignment between pump and motor, improper impeller adjustment - or a combination of these.

LUBRICATION

1. Pump bearings are properly lubricated at the factory before shipment. Periods of subsequent lubrication depend on local conditions, hours of operation, load, speed, temperature, etc. It is recommended that the ball bearings be periodically inspected and greased.
2. A polyurea base grease of medium consistency with corrosion resistant inhibiting properties must be used for the ball bearings.

MOBIL POLYREX EM, or equivalent, is recommended
As a guide, We would recommend the following frequency.

Pump Service	Ambient Temp.	Lubrication Interval
8 hrs Per day	High	6-8 weeks
	Low	12 weeks
24 hrs Per day	High	3-4 weeks
	Low	6-8 weeks

GENERAL REPAIRS

For Inspection and Repair of Liquid End

1. Disconnect discharge pipe. Remove electric wires from motor and remove motor. Unscrew foundation bolts in the support plate, then lift pump and support plate as a unit from the tank or pit to the floor.
2. Remove cap screws and nuts at the pump discharge flange. Remove suction head or the casing by removing bolts. Place all gaskets in water.
3. Remove the cotter pin and unscrew the impeller nut by turning it counter-clockwise, while holding the shaft with a wrench at the drive coupling. For pumps with straight bored impellers (sizes 3 x 1-1/2 x 12 through 6 x 4 x 15), remove cap screw and washer while holding the shaft as above.
4. To remove impeller from the shaft, use jack bolts 1/2" x 13" x 2-1/2" long. Screw these cap screws into the three tapped holes in the impeller shroud. The cap screws will tighten against the column pipe forcing the impeller and impeller washer off the shaft. Lift the impeller key from its seat. Use wheel puller to remove the impeller from the shaft and pumps with straight bored impellers.
5. Remove the casing for sizes thru 6 x 6 x 10L and pumps with straight bored impellers by removing the four bolts attached to column pipe to the casing.
6. If column closure in the bottom of the column pipe needs replacing, remove bolts holding column pipe to the impeller end shaft. Press out closure.
(For reassembling - see Section D).

To Inspect or Replace Ball Bearings and Seals

1. For pumps with a chair brackets; remove electrical wiring from motor, remove the four cap screws holding the chair bracket to cover plate, then remove motor and chair bracket as a unit. Take buffer and lower half of coupling off the shaft. Shaft key should come off at this time.
2. For pump with motor support; remove electric wiring from motor and remove the four bolts mounting the motor support to the support head, lift motor, motor support, and the top half of coupling will come off at this time. Take buffer and lower half of coupling off the shaft. Shaft key should come off at this time.
3. Dismantle liquid end as described earlier.

On 6551 through 6553 Series Pumps

4. To remove shaft with bearing housing, unscrew three locking bolts, then pull shaft bearings and bearing housing and bearing cap out of the support head.

On 6554 and larger Series Pumps

1. To remove shaft, unscrew the three locking bolts, remove bearing cap by unscrewing the two clamping screws, remove bearing lock nut by bending up metal locking tabs in bearing lock washer and turn nut counter-clockwise. Lift off bearing lock washer. Pull shaft and bearing housing until it is free of support head. Using a bearing puller, remove ball bearing and housing as a unit. Remove shaft lower bearing and grease seal through bottom of support head.
2. Remove bearing retainer and press radial bearing off of shaft.
To remove top thrust bearing on Series 6551 and 6553 units, unscrew the two clamping screws, remove bearing lock nut by bending up metal locking tabs on bearing lock washer and turn nut counter-clockwise. Press bearing off shaft.
3. When installing new bearings, grease seals should also be replaced.

Note: When ordering top thrust bearing, specify power frame and serial number on unit. **Example:** [Power frame 6552 - Serial No. 1234 \(Mfg.\)](#)

TO REASSEMBLE BALL BEARINGS AND SEALS

On 6551 through 6553 Series Pumps

1. If insert ring was removed, press grease seal into ring with spring side of seal being visible when looking at ring. With the spring side of seal toward the impeller, press grease seal and insert ring assembly into support head from the impeller end, until the insert ring is flush with opening in support head. Apply sufficient grease to top of seal to fill space below ball bearing.
2. Press radial bearing onto shaft, install bearing retainer making sure all lock screws in retainer are tightened. Slide bearing housing onto shaft, press top thrust onto shaft, install bearing lock washer and screw bearing lock nut sufficiently tight to insure bearing lock washer and bearing are secure against shoulder on shaft.

Lock nut in place by bending locking tab on lock washer into slot on bearing nut. Slide bearing housing over bearing until seated in housing. Install bearing cap by screwing two clamping cap screws into bearing housing.

3. Place shaft assembly into support head from motor end. Be careful not to damage the grease seal when inserting shaft through the seal. Install the three cap screws and three locking bolts into support head.

On 6554 and larger Series Pumps

1. Press radical bearing onto shaft, install bearing retainer making sure all lock screws in retainer are tightened.
Install shaft and lower bearing into support head from impeller end. Slide bearing approximately 5/8" beyond face of support head and install grease seal.
2. Install bearing housing by sliding over shaft into support head. Install top thrust bearing onto shaft; using sleeve that fits inner race of bearing, tap into place, making sure bearing is seated against shaft shoulder. Install bearing lock nut, making sure it is securely tight. Install bearing cap, screwing two clamping screws onto bearing housing and install remaining cap screws.

Assembly of Liquid End

1. Press new throttle bushing in column pipe.
2. Place column pipe over shaft and bolt into place.
3. Position casing against column pipe flange with discharge in proper position and tighten bolts securely.
4. Seat impeller key in shaft key-way and place impeller on shaft over impeller key. Place a wooden block over impeller vanes and tap on wood to seat impeller on the shaft taper. Replace impeller washer on the shaft and the castellated impeller nut. Tighten nut securely. Re-tap wood block to make sure impeller is seated properly. Re-tighten impeller nut if necessary.
5. **DO NOT USE IMPELLER NUT TO DRAW IMPELLER ONTO SHAFT**
Replace cotter pin.
For pumps with straight bored impeller; install impeller key, slide impeller on shaft, put on washer, and tighten impeller screw.
6. For pumps with suction head; place gasket on suction head and position suction head on casing. Tighten bolts on suction head.
7. Re-assemble discharge pipe and tighten cap screws on pipe support ring.

Impeller Adjustment and Final Assembly

With unit in vertical position and liquid end completely assembled:

1. Lower unit into place in tank or sump and bolt cover plate down.
2. Replace lower half of coupling and shaft key.

3. Adjust adjusting bolts until shaft and impeller turns freely by hand. When in proper position, tighten locking bolts.
4. Turn shaft again by hand and make certain shaft and impeller turn freely. If shaft binds or impeller rubs, check for pipe strain and if required, raise impeller an additional 1/4 turn. The correct clearance between impeller and suction face is .020" to .030".
5. Install coupling buffer, mount chair bracket and motor, or motor support if provided, and proceed with installation as described in that section. Check coupling alignment as in Installation Instructions.

Note: When ordering parts, specify Model and serial number of the pump for which the parts are required. e.g. Model 6552, Serial No. 1234-0 (Mfg.)

Locating Trouble

No water delivered

- a - Wrong direction of rotation
- b - Impeller or piping plugged
- c - Discharge head too high
- d - Water level too low

Not enough water delivered

- a - Discharge head higher than expected
- b - Impeller or piping partially plugged
- c - Improper impeller adjustment
- d - Water level too low
- e - Mechanical defect

Not enough pressure

- a - Air in water
- b - Mechanical defect
- c - Impeller diameter too small
- d - Wrong direction of rotation
- e - Impeller not properly adjusted
- f - Discharge head line friction lower than expected

Pump takes too much power

- a - Speed too high for required head and capacity
- b - Head lower than rating, pumping too much water
- c - Liquid either viscous or heavier than water, or both
- d - Mechanical defects, such as bent shaft or impeller binding in casing.
- e - Strain on pump caused by piping misalignment
- f - Impeller not properly adjusted

How to adjust your pump impeller

Note: There are (3) different sets of screws on the bearing cap. See picture below.

- #8 = Bearing Cap - Clamping Screws (2)
- #9 = Bearing Housing Locking Screws (3)
- #10 = Bearing Housing Adjusting Screw (3)

To lower the impeller all the way down:

Loosen (3) #10 Bearing Housing Adjusting Screws - (Loosen like a lug nut on your car).

Loosen (3) #9 Bearing Housing Locking Screws - (Loosen like a lug nut on your car).

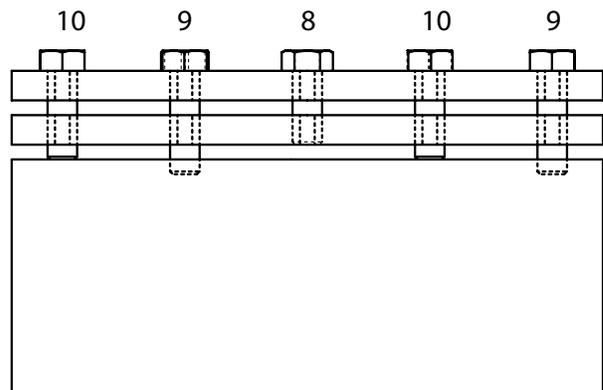
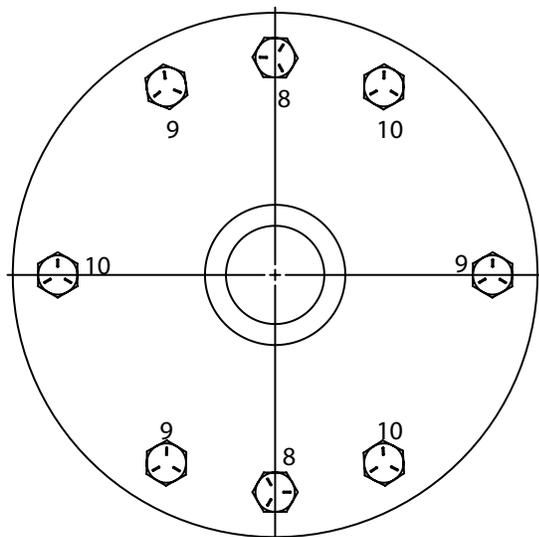
Loosen the #10 Bearing Housing Adjusting Screw until the coupling will not spin any more.

To raise the impeller:

Turn #10 Bearing Housing Adjusting Screw (3) 1/4 turn on each.

Coupling should spin freely. If it does not spin freely, turn the #10 Bearing Housing Adjusting Screws (3) another 1/4 turn on each.

Once the impeller spins freely tighten #9 Bearing Housing Locking Screws (3). This will lock the impeller in place.



- 1 - Motor Support
- 5 - Coupling Assembly
- 6 - Shaft Key - Coupling End
- 7 - Bearing Cap
- 8 - Bearing Cap - Clamping Screws
- 9 - Bearing Housing - Locking Screws
- 10 - Bearing Housing - Adjusting Screws
- 11 - Bearing Cap Seal*
- 12 - Thrust Bearing Lock Nut*
- 13 - Thrust Bearing Lock Washer*
- 14 - Thrust Bearing Housing
- 15 - Thrust Bearing*
- 16 - Shaft

- 17 - Powerframe
- 18 - Nilos Ring*
- 19 - Radial Bearing Lock Nut*
- 21 - Radial Bearing*
- 22 - Grease Seal*
- 23 - Insert Ring*
- 24 - Closure Seal*
- 25 - Cover Plate
- 27 - Column Pipe
- 28 - Throttle Bushing*
- 32 - Casing Adapter
- 33 - Casing Adapter Gasket*
- 34 - Casing

- 35 - Impeller
- 36 - Suction Head Gasket*
- 37 - Suction Head
- 38 - Impeller Washer*
- 39 - Impeller Nut/Bolt*
- 40 - Cotter Pin*
- 41 - Impeller Key*
- 42 - Discharge Flange Gasket*
- 43 - Discharge Elbow
- 44 - Discharge Pipe
- 45 - Support Ring
- 46 - Discharge Flange
- 47 - Concentric Reducer

* Recommended Spare Parts

