Deweze Hydraulic Clutch Pump Kit Installation Supplement

This supplement is for general reference when installing Deweze clutch pump kit products. Always use manufacturer specifications for torque if available. Specific instructions included with the kit being installed will supersede this supplement. The information in this supplement should not replace any other manufactures recommendation for their product.

**List of topics:**

**Page 2:** Mounting Bolt Tightening Guide

**Page 3:** Installation guide for all A pump clutches

**Page 4:** Installation guide for AA pump clutches manufactured by Ogura

**Page 5:** Installation guide for AA pump clutches manufactured by Warner

**Page 6-7:** Installation guide for O-ring (SAE) fittings including recommended torque

**Page 8:** Installation guide for JIC (37° flare) fittings including recommended torque

**Page 9:** Metric bolt torque chart from Fastenal

**Page 10:** Standard bolt torque chart from Fastenal
Bracket Bolt Tightening Guide

1. Always start all bracket mounting bolts by hand; and leave bolts loose until all bolts have been started.
2. Thread all bolts in by hand until just contacting the bracket, snug the bolts by hand keeping the bracket flat. Always tighten bolts in a pattern.
3. A standard “X” pattern for 4 bolts is shown below, along with examples for 3 and 2 bolt patterns.
4. Tighten bolt 1 to 25% of the recommended torque, then tighten number bolt 2 to 25% of recommended torque, continue through bolts in the pattern until all bolts have been tightened at 25%.
5. Perform final tightening of mounting bolts, using the pattern, to the recommended torque.
6. These steps ensure the bracket remains flat while being installed.

******Failure to observe proper tightening sequence may result in damage to engine, bracket, or both*****

Recommended Torque for Common Non-Critical Fasteners
(Fasteners without a called out specific torque value in pump kit instructions)
Refer to:
Page 9 for metric bolt torque Chart from Fastenal
Page 10 for standard bolt torque Chart from Fastenal
Installing the A Pump Clutch  
(Oguna or Warner)

**Step 1:**
Mount clutch magnet field coil onto bracket by inserting the supplied 1/4-20 bolts and tightening finger tight. Then torque bolts to 35 IN/LB in an X pattern.

**Step 2:**
Verify threads in the end of the pump shaft are clean and straight; align the key in the pump shaft with keyway in the clutch pulley. Slide clutch pulley onto the shaft until firmly seated on the taper, (pulley should not feel loose on the shaft).

**Step 3:**
Insert the supplied 5/16-24 bolt into the supplied heavy washer. Insert bolt and washer through the pulley into the threaded hole in the pump shaft and tighten hand tight; hold the pulley to keep it from turning, tighten the bolt to 170 IN/LB in one operation.

***** It is important to completely tighten the bolt in a single operation, as the locking compound pre-coated on the bolt can set up if only partially tightened. This will lead to a false torque reading; possibly causing the assumption the bolt is tight, when it is not. This allows the clutch to wobble on the taper of the pump shaft which will destroy the clutch*****

************Important Clutch Replacement Note: ***************

If clutch is being replaced on an existing pump drive, the pump shaft threads must be carefully inspected. Clean the threads with 5/16-24 Tap to remove locking compound residue and any possible rust, both contaminates will stop the bolt from tightening properly and will destroy the replacement clutch.
Installing the Ogura AA clutch

Hub, Coil and Rotor/Pulley are preassembled by Ogura. Armature is shipped loose along with Hardware Kit (consisting of center bolt, washer and shims)

Step 1:
Slide the Hub/Coil/Rotor/Pulley Assembly onto the pump shaft and secure to pump face using pump manufacturer supplied bolts through the two bolt holes.

Step 2:
Place two shims onto pump shaft on top of rotor face. Slide armature onto shaft and measure air gap between the Armature and Rotor. Repeat this step and add shims as needed (more or less than 2) to acquire 0.3 to 0.6mm (.011” to .023”) air gap between the rotor and armature. Check air gap at 3 locations 120° apart.

Step 3:
Fasten center bolt and washer to face of pump shaft and tighten to 85-100 in. lbs. torque.

Failing to set the air gap correctly will cause premature pump failure due to axial load placed on the pump shaft.
Installing the Warner AA clutch

Hub, Coil and Rotor/Pulley are preassembled by Warner. Armature is shipped loose along with Hardware Kit (consisting of center bolt, washer and shims)

Step 1:

Slide the Hub/Coil/Rotor/Pulley Assembly onto the pump shaft and secure to pump face using pump manufacturer supplied bolts through the two bolt holes.

Step 2:

Place two shims onto pump shaft on top of rotor face. Slide armature onto shaft and measure air gap between the Armature and Rotor. Repeat this step and add shims as needed (more or less than 2) to acquire 0.02 – 0.04” air gap between the rotor and armature. Check air gap at 3 locations 120° apart.

Step 3:

Fasten center bolt and washer to face of pump shaft and tighten to 85-100 in. lbs. torque.

Failing to set the air gap correctly will cause premature pump failure due to axial load placed on the pump shaft.
O-ring (SAE) Fitting Installation Guide

Adjustable Port End Assembly

1. Inspect components to ensure that male and female port threads and sealing surfaces are free of burrs, nicks and scratches, or any foreign material.

2. If O-ring or seal is not pre-installed to fitting male port end, install proper size O-ring or seal, taking care not to damage it.

3. Lubricate O-ring with light coat of system fluid or a compatible lubricant to help the O-ring slide smoothly into the port and avoid damage.

4. Back off lock nut as far as possible. Make sure back-up washer is not loose and is pushed up as far as possible.

5. Screw fitting into port until the back-up washer or the retaining ring contacts face of the port. Light wrenching may be necessary. **Over tightening may damage washer.**

6. To align the tube end of the fitting to accept incoming tube or hose assembly, unscrew the fitting by the required amount, but not more than one full turn.

7. Using two wrenches, hold fitting in desired position and tighten locknut to the proper torque value.

8. Inspect to ensure that O-ring is not pinched and that washer is seated flat on face of port.

See Torque Chart Next Page
O-ring (SAE) Fitting Installation Guide

Non-adjustable Port End Assembly

1. Inspect components to ensure that male and female port threads and sealing surfaces are free of burrs, nicks, and scratches, or any foreign material.
2. If O-ring or seal is not pre-installed to fitting male port end, install proper size O-ring or seal, taking care not to damage it.
3. Lubricate O-ring with light coating of system fluid or a compatible lubricant to help the O-ring slide past the port entrance corner and avoid damaging it.
4. Screw fitting into port and tighten to proper torque

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Fig. S7 — Non-Adjustable Port End Assembly

Deweze Pump Fitting Assembly Torque

Suction Side O-ring Fitting Torque

<table>
<thead>
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<th>Dash Size</th>
<th>Pump Series</th>
<th>Nominal Size</th>
<th>Thread Size</th>
<th>Torque (FT/LB)</th>
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<td>AA</td>
<td>5/8</td>
<td>7/8 - 14</td>
<td>30</td>
</tr>
<tr>
<td>-16</td>
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<td>1</td>
<td>1-5/16 - 12</td>
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Pressure Side O-ring Fitting Torque

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<td>3/4 - 16</td>
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<tr>
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<tr>
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<td>A</td>
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<td>1-5/16 - 12</td>
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Step 1:
Inspect for possible contamination or damage from shipping or handling. Sealing surface should be smooth.

Step 2:
Lubricate the thread and the entire surface of cone with hydraulic fluid or other light weight lubricant.

Step 3:
Align mating components and turn nut by hand until sealing surfaces make full contact.

Step 4:
Torque nut to the values shown on the following table. If a wrench pad is provided next to nut, place a second wrench on pad to prevent fitting from rotating while being torqued.

Step 5:
When torquing nut onto a straight flared fitting, it may be necessary to also place a wrench on the flared fitting wrench pad to prevent it from turning during assembly.
<table>
<thead>
<tr>
<th>Time (h)</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
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<td>120</td>
<td>160</td>
<td>200</td>
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Note: Values are approximate and may vary based on conditions and equipment. Always consult the manufacturer's specifications for accurate data.

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