



NOTICE

Do not cut field coil leads.
Reattachment will be rendered
impossible with shorter lengths
of leads.

Disassembly:

Anti-Drive End:

1. Remove ADE front cover plate, nut, washer.
2. The outer ring carrier and attached spiral ring should remain inside the housing until the housing is removed.
3. Remove silicone "plug" sealing the entrance on the outside of the housing where the two field coil leads enter the housing.
4. Remove the top cover plate on the ADE housing.
5. Carefully dig out the potting material inside the control unit cavity with a blunt tool to not damage the internal electrical components. The potting should come loose in chunks. See Figure 1. Remove enough potting to expose the terminal block, the top two wires (field coil wires), and tube. There will be another silicone "plug" sealing the entrance of the plastic tube. The "plug" should be removed.
6. Remove the two screws holding the red F+ and the brown F- field coil leads to the terminal strip.
7. Carefully lift the field coil leads out of the potting. Clean the field coil leads and terminals as much as possible without damaging them. Then gently pull them out of the tube from the outside entrance on the front of the housing. See Figure 2. Ensure that the leads are not damaged when pulling the forked terminals through the tube.
8. Remove the phase leads from the diode studs on the face of the ADE housing. Label each stud for reattachment of phase leads.
9. Scribe marks at the joint of the ADE housing and shell for reassembly.
10. Remove nuts from housing and separate the ADE housing from the shell. Remove ADE bearing from shaft and discard bearing.
11. Remove outer ring carrier located in front of the bearing in the ADE housing from the inside out. If carrier is stuck and spiral ring is lodged inside bore, force the ring carrier out of the bore and save ring carrier and spiral ring.

Red F+ field coil lead is
attached to the terminal
on the left of the brown
lead on terminal strip

Brown F- field coil lead is
attached to the middle terminal
on terminal strip

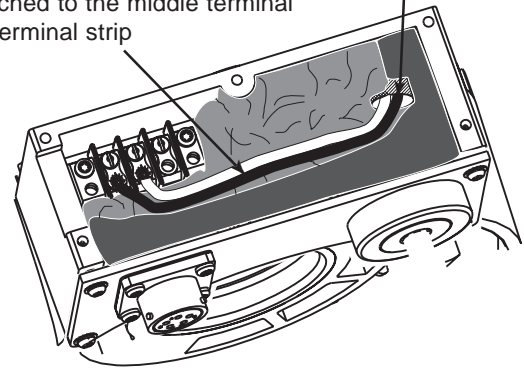


Figure 1 – Interior of Control Unit



Figure 2 – Field Coil Leads Removed
from Control Unit

Assembly:

Anti-Drive End:

1. Install O-rings in grooves in inner bore of ADE housing. Lubricate O-rings with DuPont™ Krytox® GPL 225 or equivalent.
2. Lubricate inner ring carrier (on shaft land) with DuPont™ Krytox® GPL 225 or equivalent.
3. Align scribe marks, then set ADE housing in position, pulling phase leads and field coil leads through vent holes in housing. Rotate shaft to make sure phase leads or field coil leads do not interfere with rotor.
4. Install locknuts on through-studs and use suitable adhesive, such as Loctite® 222. Follow manufacturer's instructions. Torque screws to 5.1 Nm/45 lb. in. Before Loctite® sets, tap around face of housing with plastic-headed hammer to set housing against shell. Re-torque all screws.
5. Attach phase leads to diode studs as marked in Disassembly step 8. Torque nuts to 3.4 Nm/30 lb. in. Coat all diode studs with Dow Corning® 3140 RTV or equivalent. See Figure 3.
6. Press new ADE bearing into bearing bore at bearing inner race. Wind cleaned spiral ring around groove in outer ADE ring carrier. Lubricate spiral ring with DuPont™ Krytox® GPL 225 or equivalent. Set ring carrier into ADE bearing bore.
7. Fasten with hardened washer and locknut. Torque to 65 Nm/50 lb. ft.

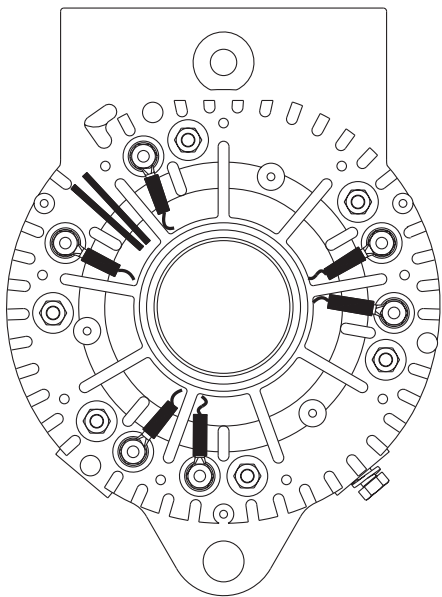


Figure 3 – Phase Lead Connections

8. Feed field coil leads up through tube and into control unit in housing. Fill inside of tube with Dow Corning® 3140 RTV or equivalent until silicone appears at bottom of tube. Smooth away the excess silicone at bottom of tube, forming a seal.

WARNING

Product warranty will be void if tube is not sealed as indicated in step 8.

9. Attach field coil leads to terminals as shown in Figure 1 on page 1. Make sure all wires are pressed inside cavity so that they will not be exposed after cavity is filled with replacement potting.
10. Fill the cavity inside the control housing with GE Silicones® RTV11® silicone 2-part system (see Figure 4):
 - a. Mix 37 drops of cure into 1/4 cup of RTV. Mix well to prevent incomplete deep-set. At this point, there is a half hour before mixture thickens and two hours until mixture deep-sets.
 - b. Pour mixture into cavity until it reaches the top of the old potting. Do not block opening on side of control housing. Make sure all wiring is covered with new potting material.

WARNING

Product warranty will be void if cavity is not filled as indicated in step 10.

11. Install ADE top cover plate. Torque screws to 4.5 - 5 Nm/40-45 lb. in.
12. When RTV has hardened, install ADE cover plate. Torque screws to 4.5 - 5 Nm/40-45 lb. in.

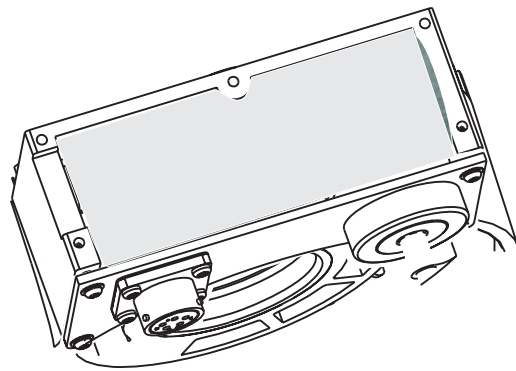


Figure 4 – Control Unit Filled with New Potting