

Pump Motor Replacement Kit

Applies to Used Oil Models RA, RAD, RV, and RAB

Application

The purpose of this kit is to replace the gear motor with a motor, pulley, and belt. Kit application varies by model, size, and altitude. Before beginning installation, verify that the kit being installed is appropriate for the unit being serviced.

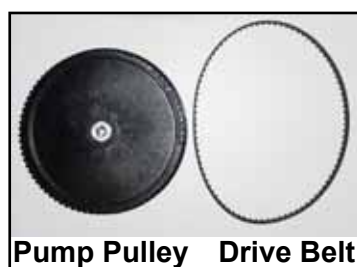
Model	Size	Elevation (check rating plate or high altitude conversion label)		Kit P/N
		Feet	Meters	
RA/RAD	140	0 to 3000	0 to 914	211056
	140 with Option AB11	above 3000 to 7000	above 914 to 2134	211057
RV	225	0 to 3000	0 to 914	211058
RA/RAD	235	0 to 3000	0 to 914	211059
	235 with Option AB11 or DJ1	above 3000 to 7000	above 914 to 2134	211067
	235 with Option AB12 or DJ2	above 7000	above 2134	211060
RV	325	0 to 3000	0 to 914	211061
RA/RAD/RAB	350	0 to 3000	0 to 914	211062
RA/RAD	350 with Option AB11 or DJ1	above 3000 to 7000	above 914 to 2134	211063
RA/RAD/RAB	500	0 to 3000	0 to 914	211064

Components

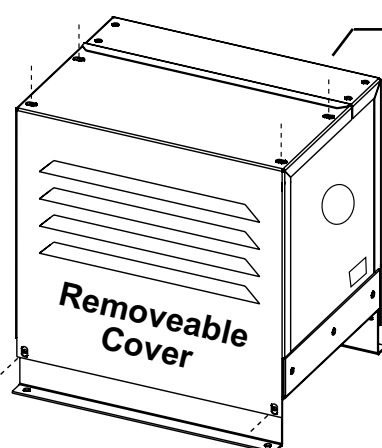
Each kit includes a replacement motor/pump enclosure assembly less the pump and hour meter. The replacement assembly is designed and factory-assembled as a nearly direct changeout for the existing motor/pump assembly enclosure.

Parts listed below are shipped inside the Replacement Pump Enclosure	Kit P/N (see Application above)									
	211056	211057	211058	211059	211060	211061	211062	211063	211064	211067
Pump Pulley	209143			209144				209145		209144
Drive Belt	209146			209147		209148	209149		209150	209147
5/16 x 3/4" lg Hex Head Cap Screw	(2) 16247 (for attaching existing pump to new enclosure assembly in CODE 1)									
5/16 Flat Washer	(2) 1087 (for attaching existing pump to new enclosure assembly in CODE 1)									
5/16-18 Hex Lock Nut	(2) 6554 (for attaching existing pump to new enclosure assembly in CODE 1)									

FIGURE 1 - Components in the Pump Motor Replacement Kit



NOTE: Belt, pulley, hardware, and this instruction sheet are shipped inside the enclosure assembly.



Replacement Pump Enclosure Assembly with Factory Installed Belt/Pulley-Driven Motor

The enclosure assembly is designed for direct changeout with an existing gear motor enclosure without disconnecting the oil lines.

The replacement enclosure does not include a new pump or hour meter.

All new parts are shipped in the enclosure, either installed or loose. Remove the cover as illustrated to find the parts bag.

Instructions

WARNING:

Before starting installation, verify that the disconnect switch on the heater is turned off.

This replacement kit is designed so that it can be installed without disconnecting the oil lines.

1. Turn the disconnect switch on the heater to OFF.
2. Remove and discard the cover from the current remote pump enclosure assembly.
3. Remove parts from the current remote pump enclosure assembly to be re-used.
 - a) Remove the pump with piping attached. Loosen the setscrew on the pump/gear motor coupler. Remove the two bolts and nuts that secure the oil pump. Carefully remove the pump with piping attached. Save the pump. Discard the bolts and nuts.

Instructions (cont'd)

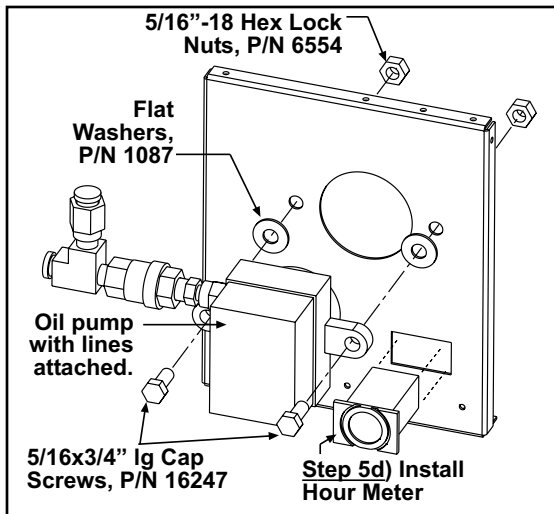
- b) Disconnect the hour meter wires at the hour meter. While squeezing the hour meter clamp on the inside of the enclosure, slide the hour meter out from the outside. Keep the hour meter.

4. Remove the current pump enclosure assembly and attach the replacement.

- a) In the wiring section of the current remote pump enclosure assembly, disconnect the power wires and slide them out of the box. Remove the mounting hardware that attaches the enclosure assembly to its mounting surface. Discard the assembly; save the hardware.
- b) Using the same mounting hardware, attach the new pump enclosure assembly in the same location.

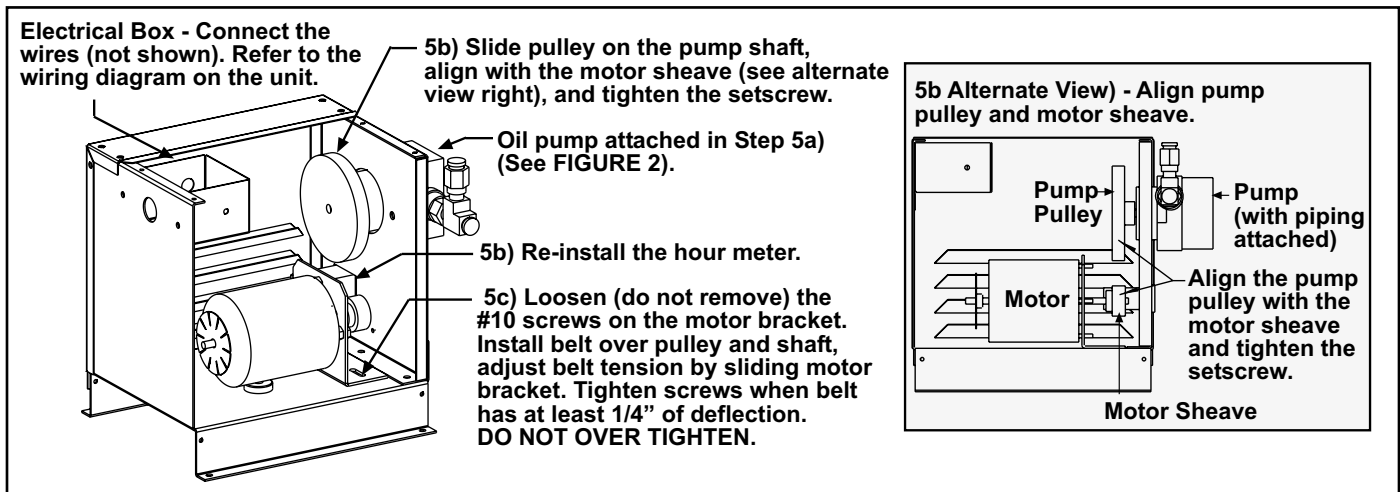
5. Connect the pump and the new motor, re-install the hour meter, and re-connect the wiring.

FIGURE 2 - Step 5a) Attach the pump to the new enclosure installed in Step 4b).



- a) Use the hardware in the bag to attach the oil pump to the new enclosure as illustrated in **FIGURE 2**. Handle the pump and attached lines carefully.
- b) With the high edge facing the pump, slide the pulley onto the pump shaft. Align the pulley with the motor sheave (See **FIGURE 3**). Tighten the setscrew.
- c) Loosen but do not remove the two #10 screws that secure the slots in the motor bracket. Slide the bracket and motor enough to install the belt. Slide the bracket back to adjust the belt tension. Adjust the belt tension so that there is at least 1/4" deflection in the belt. **DO NOT OVERTIGHTEN THE BELT.** Tighten the two screws.
- d) Re-install the hour meter (**FIGURES 2 and 3**) and connect the wires.
- e) Connect the supply wires to the pump motor and connect the hour meter wires. Be sure to connect the ground wire. Wire connections are the same as for the gear motor. Consult the wiring diagram on the unit for connections.

FIGURE 3 - Steps 5b-e) Assemble Belt Drive; Install Hour Meter; Connect Wires



6. Turn the power back on to the heater and once the heater is ready to fire (a 10-minute warmup time could be required for the oil pre-heater), check the operation of the pump assembly.

After proper operation has been verified, re-attach the enclosure cover (See **FIGURE 1**, page 1.).

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