KOHLER® POWER SYSTEMS

TT–816

INSTRUCTIONS

8/91

Radiator Kit 274965
1200/1500ROZD
Standby Generator Sets

This instruction is intended to finalize assembly of the radiator kit to the generator set. The unit was fully assembled prior to testing and then partially disassembled for shipping. The partial disassembly may vary from the instruction given due to manufacturing procedures. The illustration and parts listing in the this instruction shows **all** components of the radiator kit. The written procedure deals only with the components which require final assembly. See Figure 1.

Accidental starting can cause death or serious personal injury. Turn Generator Master Switch to OFF position, disconnect power to battery charger, and remove battery cables (remove negative lead first and reconnect it last) to disable generator set before working on any equipment connected to generator. The generator set can be started by automatic transfer switch or remote start/stop switch unless these precautions are followed.

INSTALLATION

1. Install four radiator supports 274894 to skid using 32 screws X–6021–1, split lock washers X–24–1, and nuts X–85–3.

2. Install idler bushing 274903 and idler pulley 274904. Lubricate fan shaft and idler shaft bearings, see "Lubrication Procedure" for further information.

3. Mount two radiator support brackets 274893 to radiator supports using 16 screws X–129–19 split lock washers X–24–6, and nuts X–89–8.

4. **NOTE**

   Radiator must be supported during the entire time for Steps 4, 5, and 6.

   Position radiator assembly A–274823 on skid and secure with two radiator brackets 279494 using two screws X–6239–3, two split lock washers X–26–10, and four nuts X–88–12. Do not final tighten hardware at this time.

5. Install radiator assembly to radiator support bracket using eight screws X–6239–3, plain washers X–25–29, split lock washers X–26–10, and nuts X–88–12. Use shims 279497 (7 gauge, 0.179 in.) and 279498 (16 gauge, 0.06 in.), as necessary, to mount radiator so that fan pulley and engine pulley are vertically aligned. See Figure 1 for fan pulley alignment procedure.

6. Adjust radiator brackets 279494 so that radiator is in vertical alignment. Final tighten hardware as referenced in Step 4.

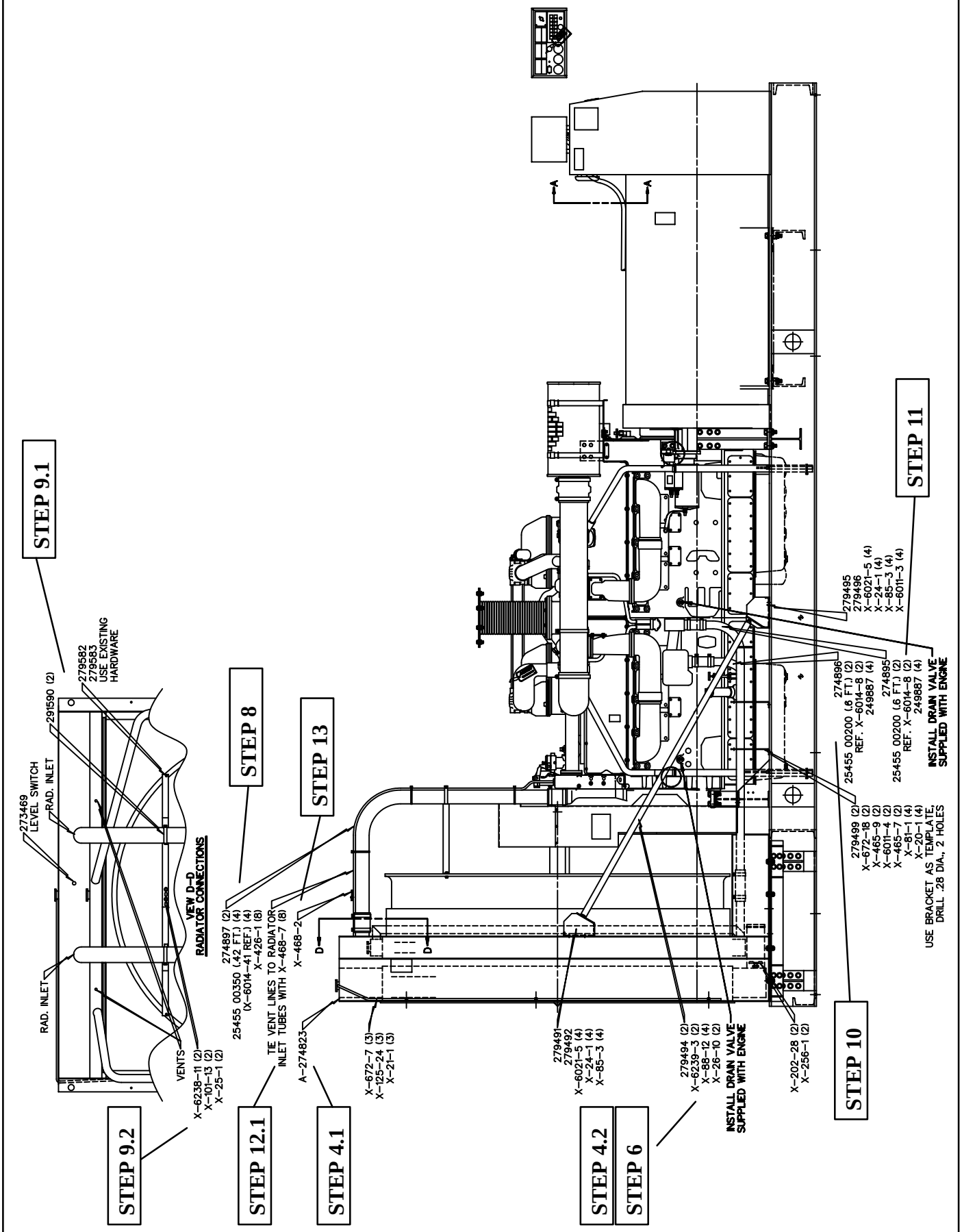


Figure 1a. Installation of Radiator Assembly

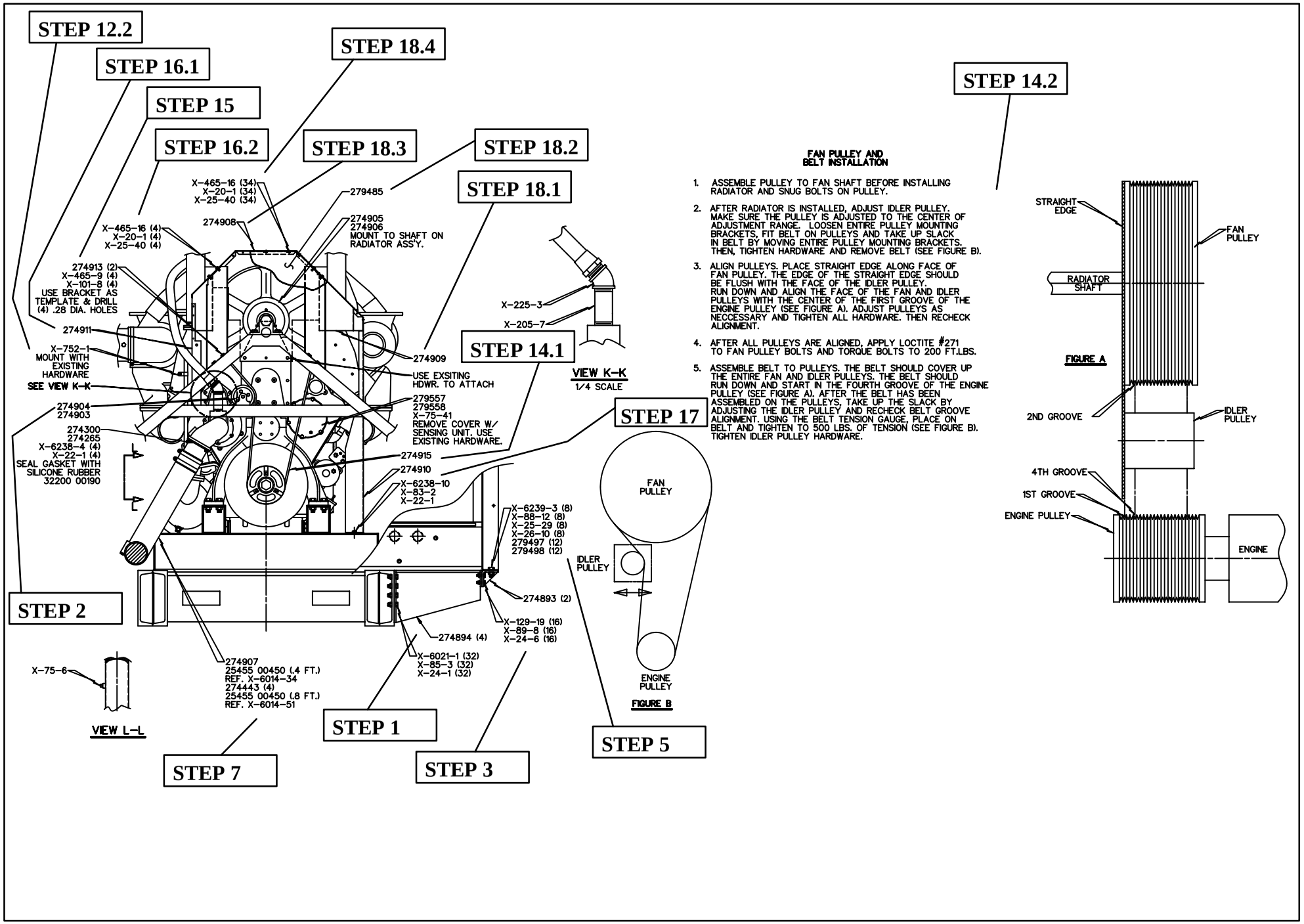


Figure 1b. Installation of Radiator Assembly

7. Attach one end of lower radiator hose X–6014–51 to radiator outlet and the other end to radiator outlet pipe 294907 using two hose clamps 274443. Attach one end of radiator hose X–6014–34 to radiator outlet pipe 294907 and the other end to engine inlet tube using two hose clamps 274443.

8. Install two radiator hoses X–6014–41 on each end of one radiator (inlet) pipe 274897 using two hose clamps X–426–1. Connect this assembly to radiator inlet and engine using two hose clamps X–426–1. Repeat procedure for second radiator pipe.

9. Connect upper radiator hose brace 279582 and upper radiator support brace 279583 to radiator using two screws X–6238–11, plain washers X–25–1, and lock nuts X–101–13. Attach two hose clamps 291590 to secure upper radiator pipes to upper radiator braces.

10. Install radiator hose X–6014–8 on each end of (intercooler supply) pipe 274896 and attach to lower radiator and engine using four hose clamps 249887.

11. Install radiator hose X–6014–8 on each end of (intercooler return) pipe 274895 and attach to lower radiator and engine using four hose clamps 249887.

12. Attach vent lines to upper radiator inlet tubes using eight cable ties X–468–7. Secure right side tube with conduit clip X–752–1.

13. Reconnect wiring harness connector to radiator level switch at top of radiator. Secure wiring harness with cable tie X–468–2.

14. Install poly–V belt 274915. See Figure 1 for belt installation instructions.

15. Install two mounting brackets 274913 to engine using four screws X–465–9 and lock nuts X–101–8. Use bracket as a template and drill four 0.28 in. (7 mm) dia. holes.

16. Install right side belt guard 274911 using four screws X–465–16, split lock washers X–20–1, and plain washers X–25–40.

17. Install lower left side belt guard 274910 using screw X–6238–10, lock washer X–22–1, and nut X–83–2.

18. Install upper left side belt guard 274909, front belt guard 279485, and top belt guard 274908 using 34 screws X–465–16, split lock washers X–20–1, and plain washers X–25–40.

19. Close all coolant drain petcocks and fill with coolant. Reference appropriate literature (specification sheet) for capacity.

20. Consult Installation Guide and Prestart Checklist or additional information regarding generator set installation and initial startup.

Parts Listing
(* Radiator Kit Components Requiring Installation)

	Qty.	Description	Part No.
*	1	Radiator assembly	A–274823
*	4	Nut, 1/4–20 lock	X–101–8
*	2	Nut, 3/8–16 lock	X–101–13
	3	Screw, 5/16–18 x 1–1/4	X–125–24
*	16	Screw, 1/2–13 x 1–1/2	X–129–19
*	38	Washer, 1/4 split lock	X–20–1
	4	Washer, 1/4 split lock	X–20–1
	2	Bushing, 3/8 F NPT x 1/2 M NPT reducer	X–202–28
	1	Nipple, pipe 1–1/2 NPT x 4 in.	X–205–7
	3	Washer, 5/16 split lock	X–21–1
*	1	Washer, 3/8 split lock	X–22–1
	4	Washer, 3/8 split lock	X–22–1
	1	Elbow, 1–1/2 NPT F 45 deg.	X–225–3
*	32	Washer, 5/8 split lock	X–24–1
	8	Washer, 5/8 split lock	X–24–1
*	16	Washer, 1/2 split lock	X–24–6
*	2	Washer, 7/16 x 1 x 5/64 plain	X–25–1
*	8	Washer, 13/16 x 1–15/16 x 9/16 plain	X–25–29
*	38	Washer, 9/32 x 5/8 x 1/16 plain	X–25–40
	2	Valve, drain 3/8 NPT	X–256–1
*	10	Washer, 3/4 split lock	X–26–10
*	8	Clamp, 3–3/4 hose	X–426–1
	2	Screw, 1/4–20 x 1	X–465–7
	2	Screw, 1/4–20 x 1–1/2	X–465–9
*	38	Screw, 1/4–20 x 3/4	X–465–15
	2	Screw, 1/4–20 x 1	X–465–7
*	4	Screw, 1/4–20 x 1–1/2	X–465–9
*	1	Tie, 4 in. cable	X–468–2
*	8	Tie, 21 in. cable	X–468–7
	4	Washer, .68 ID beveled	X–6011–3
	2	Washer, .44 ID beveled	X–6011–4
*	1	Hose, 4–1/2 ID x 5 radiator	X–6014–34
*	4	Hose, 3–1/2 ID x 5 radiator	X–6014–41
*	1	Hose, 4–1/2 ID x 10 radiator	X–6014–51
*	4	Hose, 2 I.D. x 8 in.	X–6014–8
*	32	Screw, 5/8–11 x 1–3/4	X–6021–1
	8	Screw, 5/8–11 x 2–1/4	X–6021–5
	4	Screw, 3/8–16 x 1–1/4	X–6238–4
*	1	Screw, 3/8–16 x 3/4	X–6238–10
*	2	Screw, 3/8–16 x 1	X–6238–11
*	10	Screw, 3/4–10 x 2	X–6239–3
	3	Clamp, .44 ID insulated	X–672–7
	2	Clamp, 2–1/8 ID insulated	X–672–18
	1	Plug, pipe 3/4 NPT	X–75–6
	1	Plug, 1/4 NPT F recess. hex. pipe	X–75–41
*	1	Clip, conduit	X–752–1
	4	Nut, 1/4–20	X–81–1
*	1	Nut, 3/8–16	X–83–2
*	32	Nut, 5/8–11	X–85–3
	8	Nut, 5/8–11	X–85–3
*	12	Nut, 3/4–10	X–88–12
*	16	Nut, 1/2–13	X–89–8
*	8	Clamp, 2–1/2 in. hose	249887
	1	Switch assembly, level	273469
	1	Tube, inlet	274265
	1	Gasket, inlet	274300
*	4	Clamp, 4–7/8 in. hose	274443
*	2	Support, radiator support	274893
*	4	Support, radiator	274894
*	1	Pipe, intercooler return	274895
*	1	Pipe, intercooler supply	274896
*	2	Pipe, radiator inlet 90 deg.	274897
*	1	Bushing, idler	274903
*	1	Pulley, idler	274904
	1	Bushing, pulley	274905
	1	Pulley	294906
*	1	Pipe, radiator outlet	274907
*	1	Guard, belt (top)	274908
*	1	Guard, belt (upper left–side)	274909
*	1	Guard, belt (lower left–side)	274910
*	1	Guard, belt (right–side)	274911
*	2	Bracket, mounting	274913
*	1	Belt, poly–V	274915
*	1	Guard, belt	279485
	1	Support, radiator (upper right–side)	279491
	1	Support, radiator (upper left–side)	279492
*	2	Bracket, radiator	279494
	1	Support, radiator (lower right–side)	279495
	1	Support, radiator (lower left–side)	279496
*	12	Shim, 7 ga. (.179)	279497
*	12	Shim, 16 ga. (.0598)	279498
	2	Bracket, mounting	279499
	1	Gasket, pressure sensor	279557
	1	Cover, pressure sensor	279558
*	1	Brace, upper radiator hose	279582
*	1	Brace, upper radiator support	279583
*	2	Clamp, hose	291590

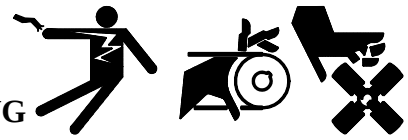
SCHEDULED MAINTENANCE

Refer to the generator operation manual and engine operation manual for specific periodic service regarding the generator set.

The fan shaft and idler shaft bearing on this radiator kit must be lubricated regularly to avoid bearing damage. Lubrication of the bearings is required every 200 hours of operation when the generator set is run in ambient temperatures less than 85° F (29° C). Lubricate the bearings every 100 hours of operation if the generator is operated at ambient temperatures greater than 85° F (29° C), or if the generator set is run in dusty, humid environment. Lubricate the bearings at the specified interval according to the following procedure.

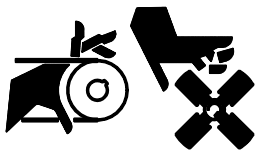
NOTE

It may be convenient to remember to lubricate the radiator fan shaft and idler shaft bearings whenever the engine lube oil is changed.



⚠ WARNING

Accidental starting can cause death or serious personal injury. Turn Generator Master Switch to OFF position, disconnect power to battery charger, and remove battery cables (remove negative lead first and reconnect it last) to disable generator set before working on any equipment connected to generator. The generator set can be started by automatic transfer switch or remote start/stop switch unless these precautions are followed.



⚠ WARNING

Exposed moving parts can cause severe injury. Keep hands, feet, hair, and clothing away from belts and pulleys when unit is running. Replace guards, covers, and screens before operating generator set.

Lubrication Procedure

The fan shaft and idler shaft bearings should be lubricated with a lithium–complex base, multi–purpose grease with anti–rust, anti–foam, extreme pressure additives and a minimum dropping point of 400° F (204° C). Mobil Mobilith AW2 NLGI, Grade 2 is one lubricant suitable for this application.

1. Place generator master switch to OFF position. Disconnect starting battery(ies), negative lead first and disconnect power to battery charger.

2. Remove belt guards to expose fan shaft and idler shaft bearings.

3. Using a grease gun filled with specified grease, inject grease into the two bearings on the fan shaft block and the two bearings on the idler shaft block. See Figure 2. Inject grease until a 1/8–1/4 in. (3–6 mm) grease column shows at the bearing pressure relief port.

   NOTE

   The fan shaft and idler shaft bearings are equipped with pressure relief ports to prevent bearing damage if the bearings are ”over–lubricated.”

4. Use a rag to wipe off excess grease from bearing pressure relief ports.

5. Inspect fan drive belt for damage or wear, replace if necessary. Check fan belt tension using a poly–V belt tension gauge and adjust if necessary. Proper tension for a new belt is 500 lbs. (227 kg) and for a used belt is 250–300 lbs. (113–136 kg).

6. Reinstall belt guards using original hardware.

7. Reconnect starting battery(ies), negative lead last. Reconnect battery charger and place generator master switch to RUN to start generator set.

8. Listen for noise (squeal) from fan belt indicating a slipping belt. If fan belt is slipping, stop and disable generator set. Readjust belt tension to eliminate slippage.

9. Reconnect starting battery(ies), negative lead last. Reconnect battery charger and place generator master switch to normal operating position (RUN or AUTO).

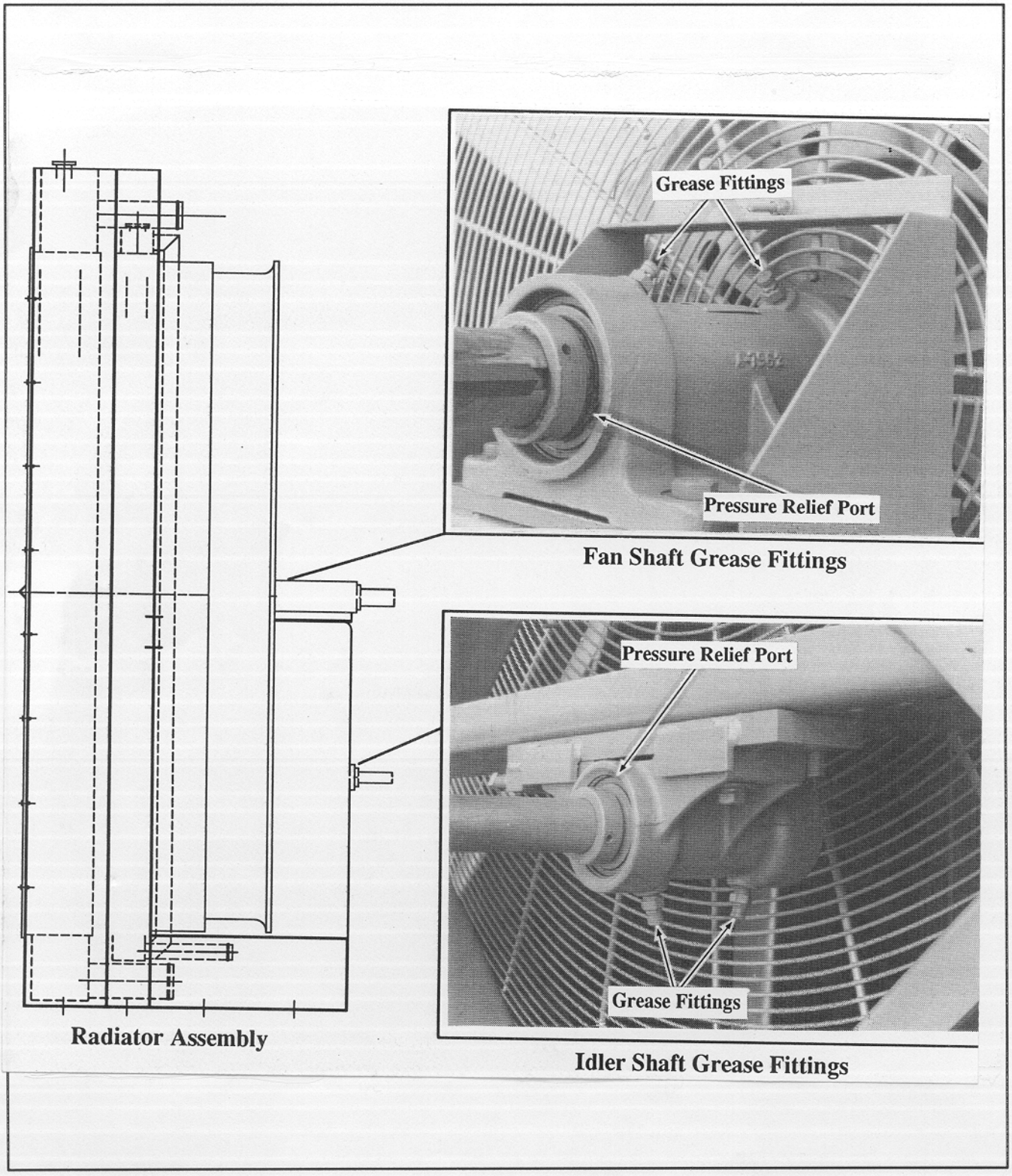


Figure 2. Radiator Fan Bearings and Pressure Relief Ports