

INSTALLATION INSTRUCTIONS

Original Issue Date: 4/06

Model: 10/15/20EORD/EORZD/REOD/REOZD and 9/12.5/16.5EFORD/EFORZD

Market: Commercial/Recreational Mobile and Industrial

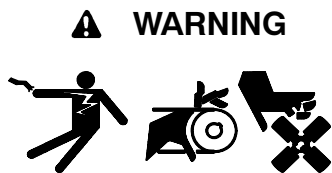
Subject: Remote Radiator Kit GM41790-KP1

Introduction

Installation of this kit allows the generator set radiator to be mounted in a location remote from the generator set. For best performance, it is recommended that the radiator is mounted at the same level as the generator set. If the radiator is mounted at a level lower than the generator set, use of a surge tank is required (not supplied). Recommended maximum radiator mounting distance from generator set is 10 feet.

Radiator mounting location should provide adequate air flow (1400 cfm) to allow proper cooling. See Figure 2 for radiator mounting dimensions and air flow direction information. Use coolant hoses that meet SAE standard SAE 20R4 (minimum) to connect the remote radiator to the generator set.

Safety Precautions



**Accidental starting.
Can cause severe injury or death.**

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or connected equipment, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent starting of the generator set by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer.

Installation Procedure

1. Place the generator set master switch in the OFF position.
2. Disconnect the generator set engine starting battery, negative (-) lead first.
3. Mount the remote radiator assembly (GM41919). Connect the radiator to the generator set engine with coolant hoses (not supplied). See Figure 1 for generator set coolant connection sizes. Secure hoses with hose clamps (not supplied).

Model	Inlet mm (in.) OD	Outlet mm (in.) OD
10EORD/EORZD 10REOD/REOZD 9EFORD/EFORZD	28 (1.1)	28 (1.1)
15EORD/EORZD 15REOD/REOZD 12.5EFORD/EFORZD	28 (1.1)	28 (1.1)
20EORD/EORZD 20REOD/REOZD 16.5EFORD/EFORZD	34 (1.3)	28 (1.1)

Figure 1 Coolant Connection Sizes

Note: When routing coolant hoses, avoid sharp bends that restrict coolant flow. Avoid locating hoses against abrasive or hot surfaces, or sharp edges.

4. Enlarge the mounting hole on the relay (259391) to 9 mm.
5. Locate the 8 mm boss that is near the engine block ground location on the right side of the engine (above the injection pump and next to the fuel filter). Install the K30 relay (259391) with the shorter 8 mm screw (M933-08010-60). See Figure 3, item 4.
6. Connect the ring terminal end of the lead (SWPF-1248-1600) to the starter solenoid located on the left side of the engine. Route the other end of the lead across the alternator to the relay location. Connect this end of the lead to insulink (X-367-7).

7. Install the wiring harness (225683) to the relay and ground as shown in Figure 3, item 5 using a screw (M933-08016-60) and lock washer (X-22-14). Place the lock washer below the terminals, next to the engine.
 8. Install the wiring harness (225682). Remove leads 70 and 70A from the P23 connector (from the fuel shutoff solenoid) and connect leads to the piggy-back connector on the wiring harness. Reconnect leads to the P23 connector. Connect the terminal from leads marked "8" to terminal 86 on the K30 relay. Connect the remaining terminal to terminal 85 on the K30 relay. Attach lead N to ground with a ground screw.
 9. Install the in-line fuse holder (269216). Cut the fuse holder lead to create two equal pieces. Strip approximately 10 mm (0.375 in.) of insulation from the ends of both leads. Install terminal (X-431-25) to one lead and connect to terminal 87 of the K30 relay. Connect the other lead to the insulink connector (X-367-7) on the end of the P lead (from step 6).
 10. Install the 15 amp fuse (283645) in the fuse holder.
 11. Secure all leads with cable ties (not supplied).
 12. Connect the 6-pin connector from wiring harness (225684) to the 6-pin connector on wiring harness (225683). Route leads to the remote radiator fan motor. Strip approximately 10 mm (0.375 in.) of insulation from the lead ends. Connect harness to fan leads with insulink terminals (X-367-3). Secure leads with cable ties (not supplied).
 13. Fill the cooling system to the proper level with fresh coolant. Refer to the Operation Manual for coolant specifications.
- Note:** Cooling system capacity will increase as the distance between the radiator and generator set increases.
14. Reconnect the generator set starting battery, negative (-) lead last.
 15. Test run the generator for a few minutes to check for leaks. Shut off the generator set and allow to cool. Check coolant level to ensure that all air is purged from the system. Add coolant as necessary to fill the system.

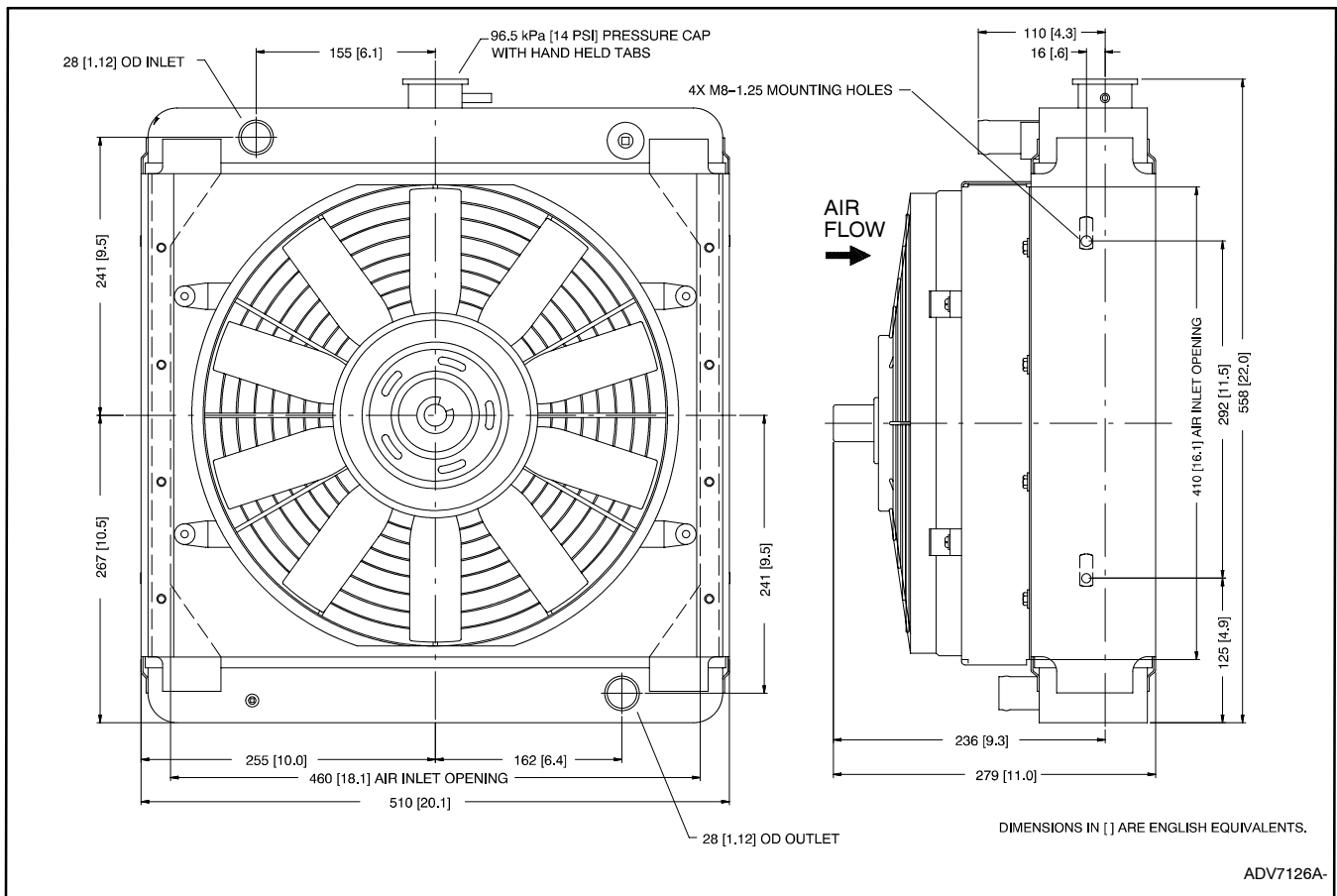


Figure 2 Remote Radiator Mounting Dimension

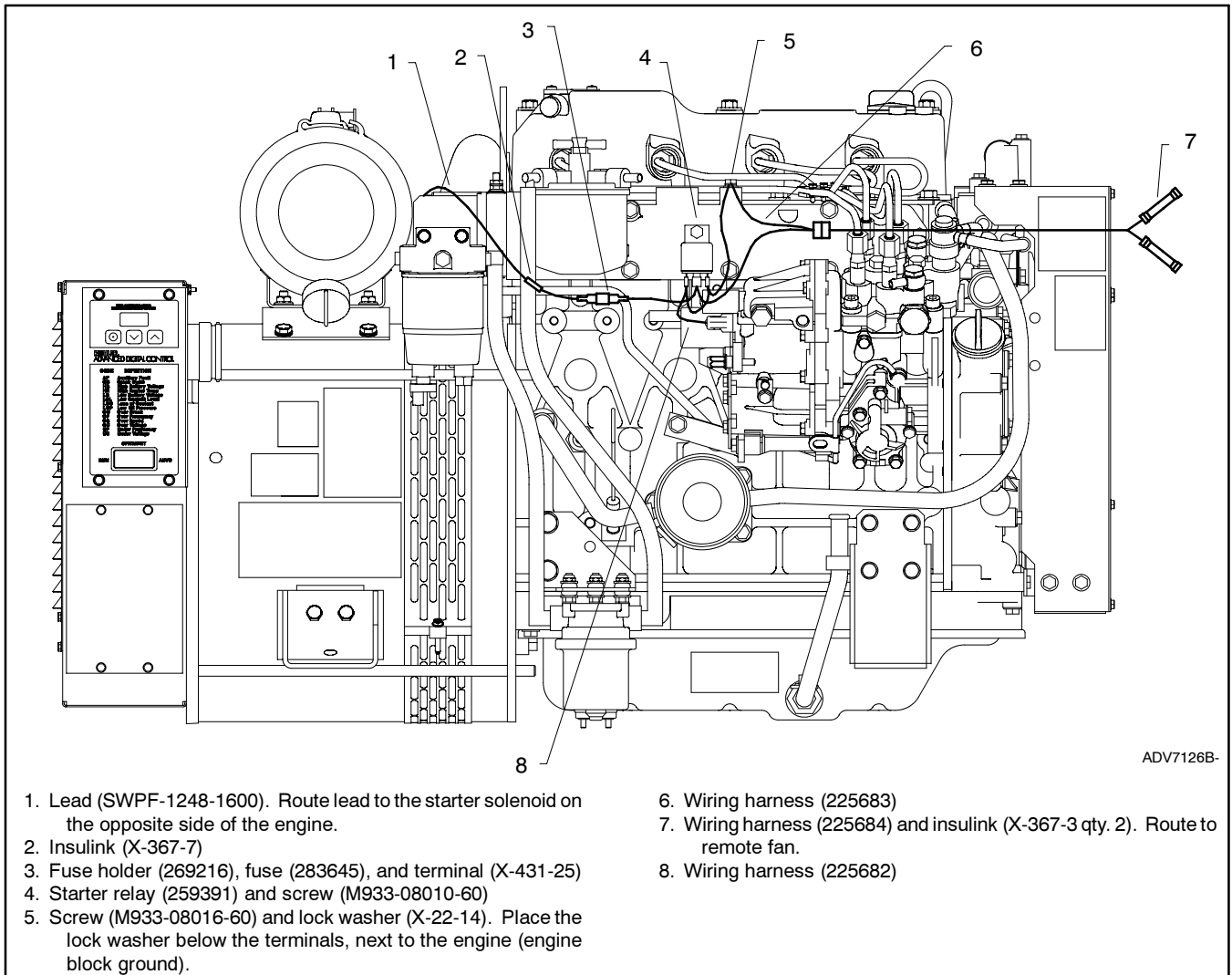


Figure 3 Wiring Assembly

Parts List

Remote Radiator Kit

Kit: GM41790-KP1		
Qty.	Description	
1	Wiring harness (see Figure 4)	225682
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1	Starter relay	259391
1	Fuse holder, inline	269216
1	Fuse, 15 amp, 250 volt	283645
1	Radiator assembly, remote	GM41919
1	Screw, hex cap (M8 x 10 mm)	M933-08010-60
1	Screw, hex cap (M8 x 16 mm)	M933-08016-60
1	Lead	SWPF-1248-1600
1	Washer, lock 0.391 ID x 0.975 in. OD	X-22-14
2	Insulink (1.265 in.)	X-367-3
1	Insulink (1.656 in.)	X-367-7
1	Terminal, female 18-22 awg	X-431-25

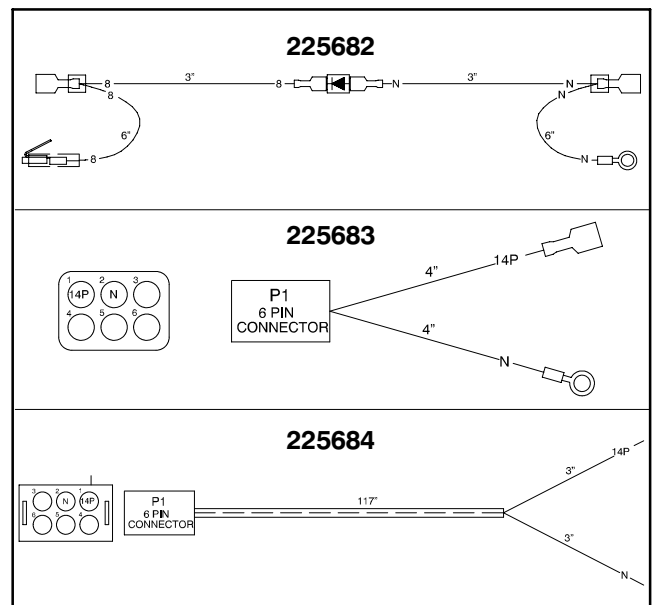


Figure 4 Wiring Harness Identification

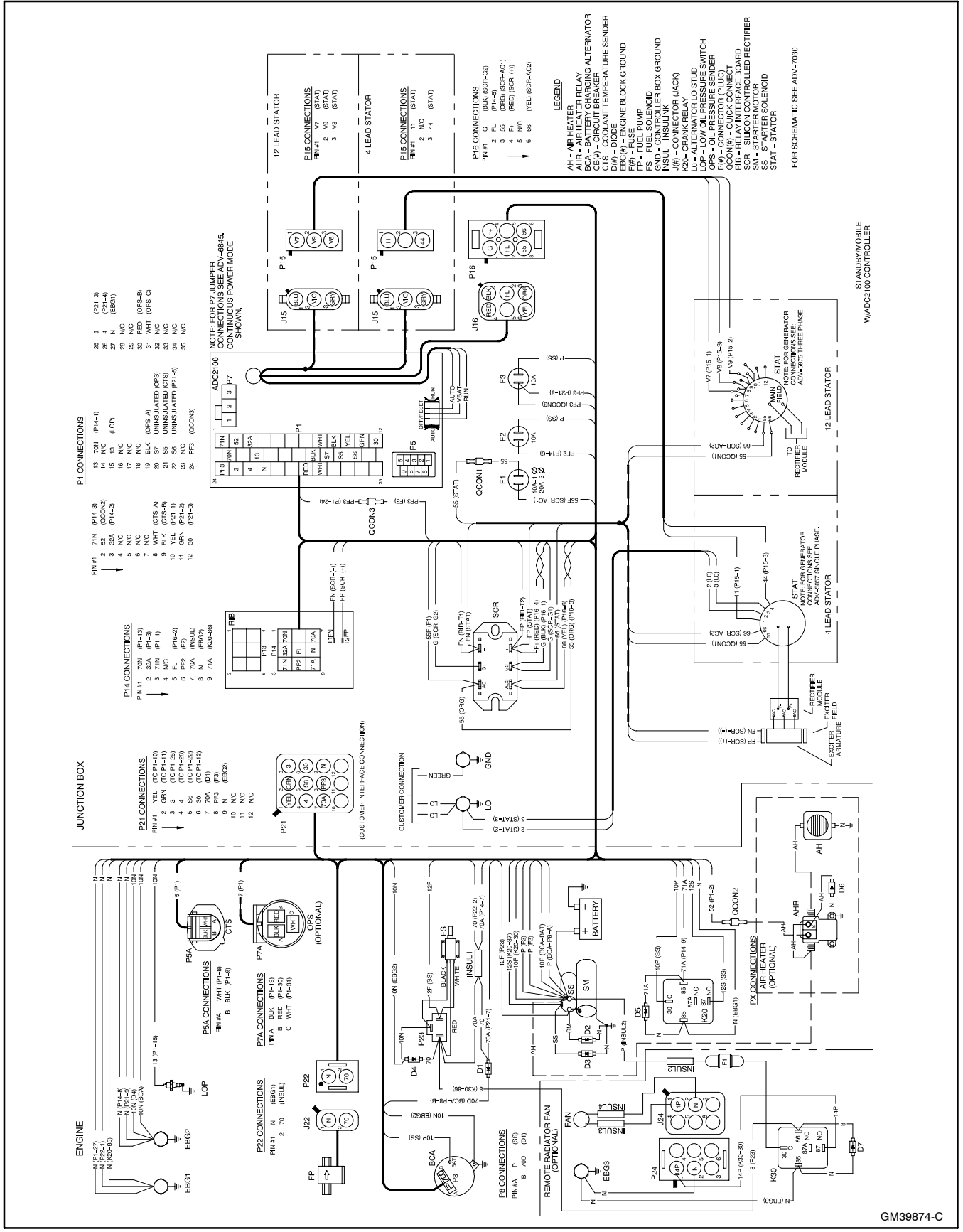


Figure 5 Wiring Diagram