
INSTALLATION INSTRUCTIONS

Original Issue Date: **10/95**
 Model: **900-1000 kW**
 Market: **Industrial**
 Subject: **Wiring Harness Kit 328916**

The wiring harness kit replaces the engine wiring harness on 900-1000 kW industrial generator sets.

The wiring harness supplied may not be identical to the original engine wiring harness. Installation of this new replacement harness requires either relocating sensors or modifying lead lengths.

Do not remove the original wiring harness from the engine prior to installing the new replacement harness if possible. Use the original harness as a guide for installing the new harness.



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

Disconnect battery cables before working on generator set (negative lead first and reconnect it last).

Accidental starting can cause severe injury or death. Turn generator set 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 set. The generator set can be started by automatic transfer switch or remote start/stop switch unless these precautions are followed.

Hazardous voltage can cause severe injury or death. Whenever electricity is present, there is the hazard of electrocution. Open main circuit breaker on all power sources before servicing equipment. Electrically ground the generator set and electrical circuits when in use. Never come into contact with electrical leads or appliances when standing in water or on wet ground, as the chance of electrocution is increased under such conditions.

Hazardous voltage can cause severe injury or death. Disconnect generator set from load by opening line circuit breaker or by disconnecting generator set output leads from transfer switch and heavily taping ends of leads. If high voltage is transferred to load during test, personal injury and equipment damage may result. Do not use the safeguard circuit breaker in place of the line circuit breaker.

⚠ WARNING



**Hot coolant and steam.
 Can cause severe injury or death.**

Before removing pressure cap, stop generator set and allow it to cool. Then loosen pressure cap to relieve pressure.

⚠ WARNING



**Hot engine and exhaust system.
 Can cause severe injury or death.**

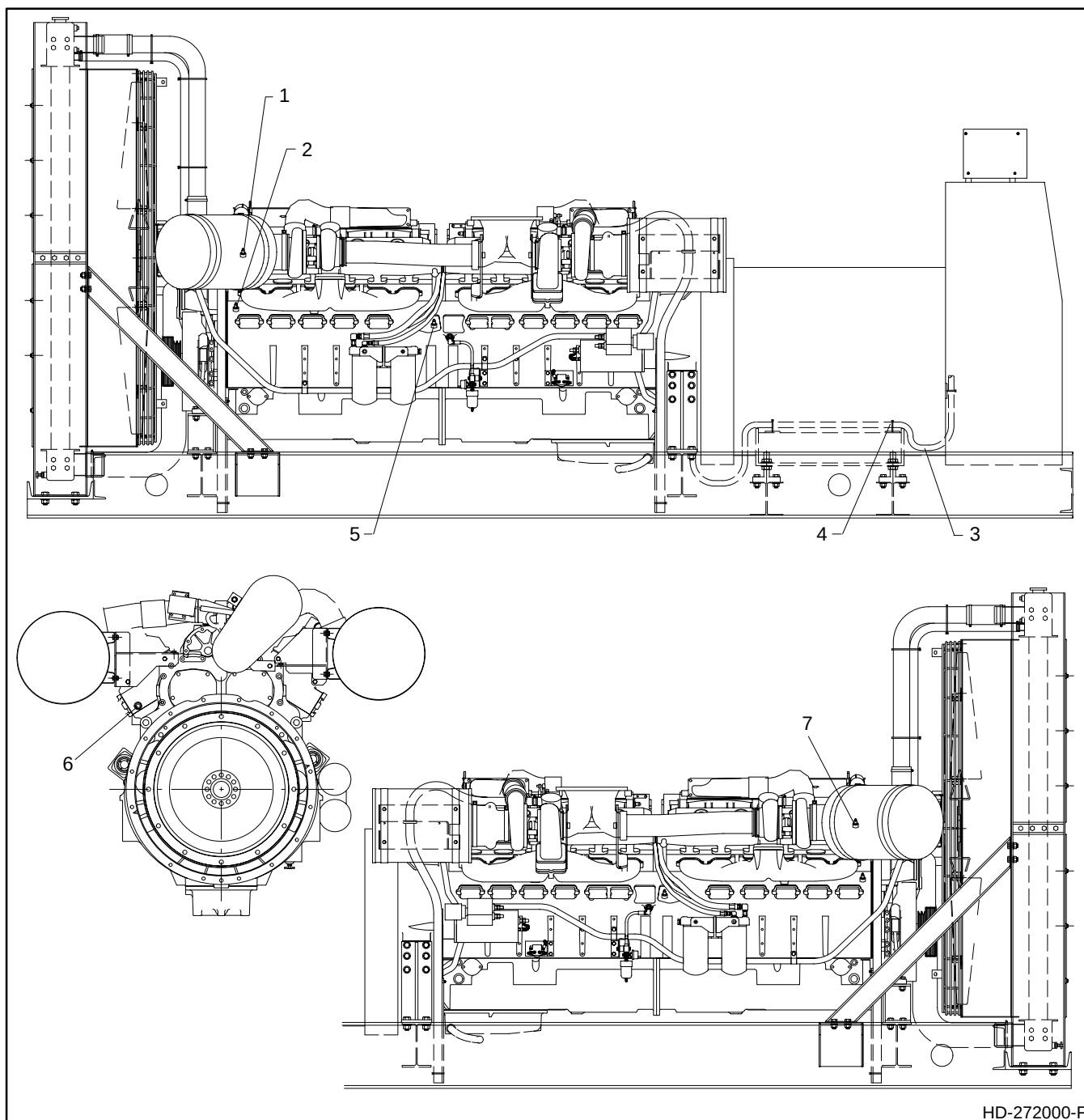
Do not work on generator set until it is allowed to cool.

Hot coolant can cause severe injury or death. Allow engine to cool and release pressure from cooling system before opening pressure cap. To release pressure, cover the pressure cap with a thick cloth; then slowly turn it counterclockwise to the first stop. Remove cap after pressure has been completely released and the engine has cooled. Check coolant level at tank if generator set is equipped with a coolant recovery tank.

Hot parts can cause severe injury or death. Do not touch hot engine parts. An engine gets hot while running and exhaust system components get extremely hot.

Installation

1. Turn the generator set master switch to OFF. Disconnect the generator set engine starting battery, negative (–) lead first.
2. If generator set is equipped with prealarm senders continue to step 3. If generator set is not equipped with prealarm senders proceed to step 14.
3. Allow generator set to cool completely before proceeding.
4. Drain radiator coolant into a suitable container. Drain enough coolant so that coolant level is below switch openings. Keep coolant clean so it can be reused.
5. See Figure 1 for the original location of the low water temperature (LWT) and the high water temperature (HWT) switches.
6. Disconnect and remove the LWT switch.
7. Apply pipe sealant to threads of pipe plug (X-75-3) and install where LWT switch was removed.
8. Remove pipe plug for LWT switch. See Figure 1 for location.
9. Apply pipe sealant to threads of LWT switch and connect it to reducer bushing (153659). Coat threads of reducer bushing and install LWT switch and reducer bushing into engine. See Figure 1 for location.
10. Disconnect and remove the HWT switch.
11. Apply pipe sealant to threads of pipe plug (X-75-3) and install where HWT switch was removed.
12. Remove pipe plug for HWT switch. See Figure 1 for location.
13. Apply pipe sealant to threads of HWT switch and connect it to reducer bushing (153659). Coat threads of reducer bushing and install HWT switch and reducer bushing into engine.
14. Install engine wiring harness according to wiring diagram in generator wiring diagram book. Refer to Figure 1 for location and routing of harness.
15. Install tie wrap bases as shown in Figure 1.
Use cable ties as necessary to secure wiring harness from exhaust components and moving parts.
16. Locate wiring harness leads that were not used. Tape lead ends and secure them to the harness to avoid electrical damage.
17. Reconnect generator set starting battery, negative (–) lead last. Verify that the generator set starts/stops and operates according to the controller features of the generator set operation manual or switchgear literature if so equipped. If generator set operation is not correct, immediately shut down generator set and disconnect engine starting battery, negative (–) lead first. Consult wiring diagram and verify lead connections.



HD-272000-F

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| 1. Water temperature sender (268298) | 5. Low water temperature switch (anticipatory) (153659, 290090) |
| 2. High water temperature switch (anticipatory) (240976, 153659) | 6. Low water temperature switch (anticipatory) original location |
| 3. Engine wiring harness (328608) | 7. High water temperature switch (anticipatory) original location |
| 4. Cable tie (298776) | |

Figure 1. Wiring Harness Routing and Connections

Engine Wiring Harness Kit Parts List		
KIT 328916		
Qty.	Description	Part Number
2	Plug, pipe 1/2 in. (12 mm)	X-75-3
2	Bushing, reducer 3/4 x 1/2 in. (19 x 12 mm)	153659
3	Base, tie wrap	298776
1	Harness, wiring	328608