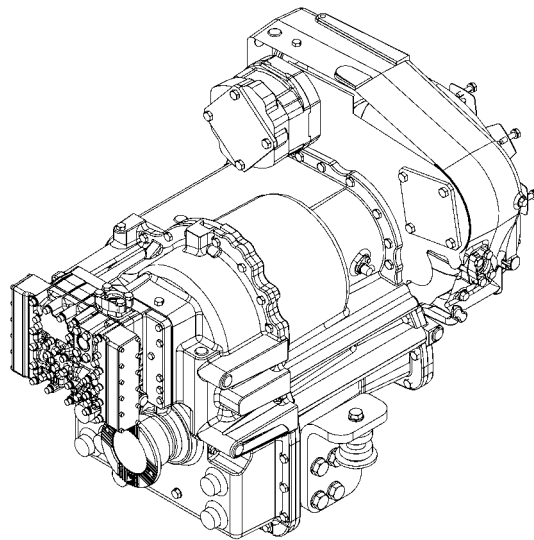


# TRANSMISSION REPAIR

H25-32XM-12, H28XM-16CH,  
H32XM-16CH, H25-32XMS-9  
(H550-700HD, H550-700HDS) [F008];  
H25-32XM-12, H25-30XMS-9  
(H550-700HD, H550-700HDS) [G008]



# **HYSTER**

# SAFETY PRECAUTIONS

## MAINTENANCE AND REPAIR

- When lifting parts or assemblies, make sure all slings, chains, or cables are correctly fastened, and that the load being lifted is balanced. Make sure the crane, cables, and chains have the capacity to support the weight of the load.
- Do not lift heavy parts by hand, use a lifting mechanism.
- Wear safety glasses.
- DISCONNECT THE BATTERY CONNECTOR before doing any maintenance or repair on electric lift trucks. Disconnect the battery ground cable on internal combustion lift trucks.
- Always use correct blocks to prevent the unit from rolling or falling. See HOW TO PUT THE LIFT TRUCK ON BLOCKS in the **Operating Manual** or the **Periodic Maintenance** section.
- Keep the unit clean and the working area clean and orderly.
- Use the correct tools for the job.
- Keep the tools clean and in good condition.
- Always use **HYSTER APPROVED** parts when making repairs. Replacement parts must meet or exceed the specifications of the original equipment manufacturer.
- Make sure all nuts, bolts, snap rings, and other fastening devices are removed before using force to remove parts.
- Always fasten a DO NOT OPERATE tag to the controls of the unit when making repairs, or if the unit needs repairs.
- Be sure to follow the **WARNING** and **CAUTION** notes in the instructions.
- Gasoline, Liquid Petroleum Gas (LPG), Compressed Natural Gas (CNG), and Diesel fuel are flammable. Be sure to follow the necessary safety precautions when handling these fuels and when working on these fuel systems.
- Batteries generate flammable gas when they are being charged. Keep fire and sparks away from the area. Make sure the area is well ventilated.

**NOTE:** The following symbols and words indicate safety information in this manual:



### **WARNING**

**Indicates a hazardous situation which, if not avoided, could result in death or serious injury.**



### **CAUTION**

**Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury and property damage.**

**On the lift truck, the WARNING symbol and word are on orange background. The CAUTION symbol and word are on yellow background.**

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(H550-700HD, H550-700HDS) [F008];  
H25-32XM-12, H25-30XMS-9 (H550-700HD, H550-700HDS) [G008]

## General

This manual provides information on repair of the TE17 transmission as equipped on the F008 and G008 series lift trucks.

Procedures for tests and adjustments are in **Transmission, Operation and Diagnostics** 1300 SRM 1392.

## Transmission Repair

### GENERAL

Before disconnecting hydraulic hoses, make sure to tag the hoses for proper identification for installation. Place caps and plugs on all hydraulic hoses, fittings, and any open ports after disconnecting hoses.

Before disconnecting electrical connectors, make sure to tag the connectors for proper identification for installation.

### REMOVE

1. Place the lift truck on a solid, level surface.
2. Apply the parking brake.
3. Lower the carriage until the lift cylinders are approximately 25 cm (10 in.) before completely retracted position.
4. Tilt the mast completely forward.
5. Shut down the engine.
6. Place blocks on both sides (front and back) of the tires to prevent movement of the lift truck.
7. Turn the key switch to the **ON** position.



### WARNING

**Step 8, Step 9, and Step 10 must be performed to relieve the trapped or stored hydraulic pressure from the hydraulic system, or serious personal injury may occur**

8. Apply brake pedal 10 to 20 times until accumulated hydraulic brake pressure is released.
9. Use the emergency lowering button and operate the tilt function fully backward to remove the hydraulic pressure from the tilt system.
10. Use the emergency lowering button and operate the lowering function to remove the hydraulic

pressure from the lift system. Make sure the lift cylinders are completely retracted.

11. Turn the key switch to the **OFF** position.
12. Raise (side tilt) the cab to the fully open position to gain access to the transmission. Refer to the manual **Operator's Cab** 100 SRM 1390.



### CAUTION

**Disconnect the negative (ground) cable first or lift truck damage may occur.**

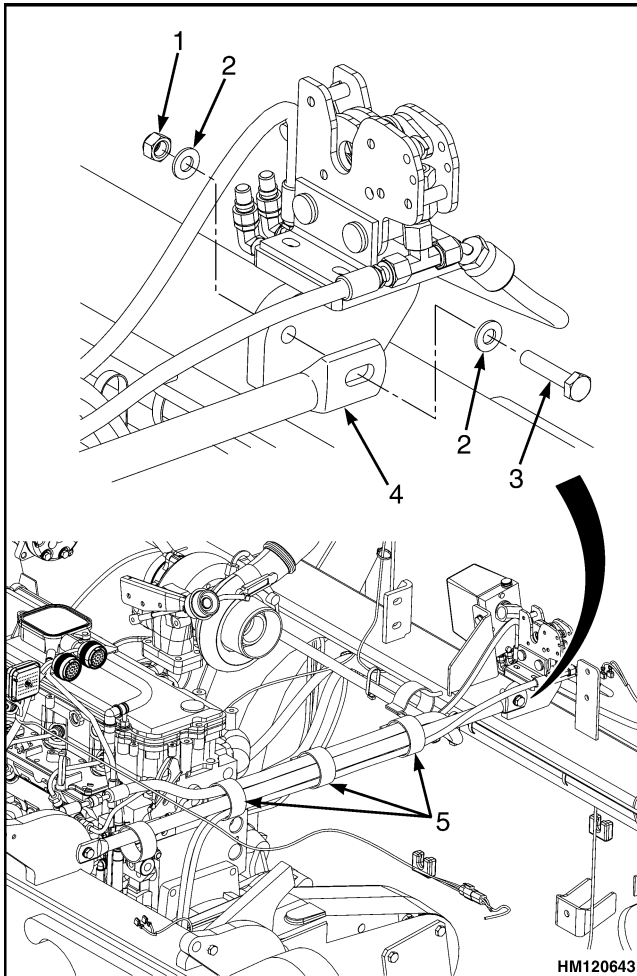
13. Disconnect the negative (ground) cable and positive (power) cable from the batteries.



### CAUTION

**Disposal of lubricants and fluids must meet local environmental regulations.**

14. Place a clean suitable container under the transmission and remove the drain plug to drain the transmission oil from the transmission [approximately 20 liter (5.28 gal) will drain from the transmission].
15. Install the drain plug at the bottom of the transmission.
16. Remove the three straps that retain the heater hoses and cab tilt system hoses to the bar. See Figure 1.
17. Remove the two insulated clamps that retain the fuel hoses to the bar.
18. Remove the capscrews, washers, and nuts that retain the bar to the frame and remove the bar. See Figure 1.



- |             |           |
|-------------|-----------|
| 1. NUT      | 4. BAR    |
| 2. WASHER   | 5. STRAPS |
| 3. CAPSCREW |           |

**Figure 1. Bar Location**

**19.** Reroute the fuel hoses, heater hoses, and cab tilt system hoses over the engine away from the transmission.

**NOTE:** The approximate hydraulic tank capacity for the H25XMS-9, H25XM-12 (H550HDS, H550HD) lift trucks is 237 liter (62.6 gal).

The approximate hydraulic tank capacity for the H28-32XM-12, H28XM-16CH, H32XM-16CH, H28-32XMS-09 (H620-700HD, H620-700HDS) lift trucks is 273 liter (72.1 gal).

**20.** Place a clean suitable container under the hydraulic tank and remove the drain plug at the bottom of the hydraulic tank to drain the hydraulic oil from the hydraulic tank.

**21.** Install the drain plug at the bottom of the hydraulic tank.

**22.** Clean the area around the hydraulic pumps and the hose connections at the hydraulic pumps to avoid dirt entering the hoses and hydraulic pumps.

**NOTE:** Before disconnecting the hydraulic hoses, place a suitable container under the hydraulic hose connections to catch the hydraulic oil from the hydraulic hoses.

**23.** Tag and disconnect the following hoses located at the left side of the frame (see Figure 2). Place caps and plugs on all disconnected hoses and open fittings.

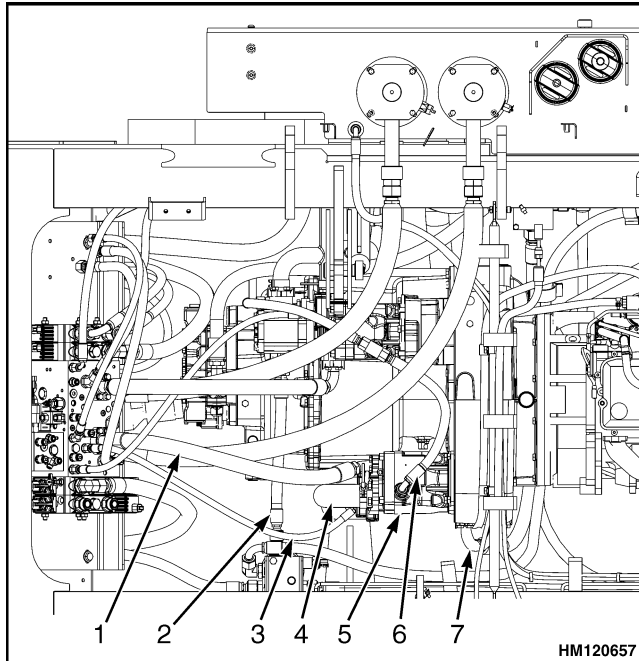
- Hydraulic pump supply hose at the hydraulic pump.
- Brake system supply hose at the hydraulic pump.
- LS hose at the hydraulic pump.
- Hydraulic pump suction hose at the hydraulic pump.
- Hydraulic pump drain hose at the hydraulic pump.
- Transmission cooling hose at the transmission.

**NOTE:** Before disconnecting the hydraulic hoses, place a suitable container under the hydraulic hose connections to catch the hydraulic oil from the hydraulic hoses.

**24.** Tag and disconnect the following hoses located at the right side of the frame (see Figure 3). Place caps and plugs on all disconnected hoses and open fittings.

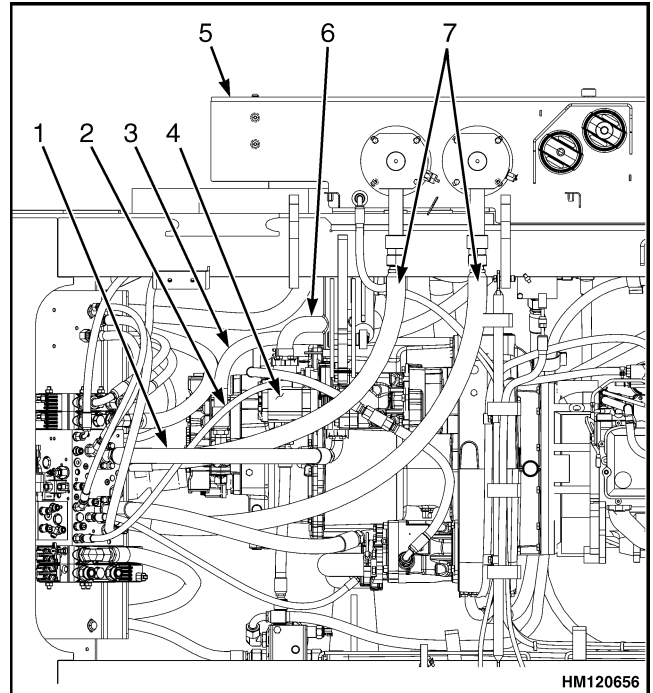
- Hydraulic pump supply hose at the hydraulic pump.
- LS hose at the hydraulic pump.
- Transmission cooling hose at the transmission.
- Hydraulic pump suction hose at the hydraulic pump.
- Two hydraulic tank return hoses at the hydraulic tank.

**25.** Tag and disconnect the lift hose and the two auxiliary hoses from the hydraulic control valve (see Figure 4). Place caps and plugs on all disconnected hoses and open fittings.



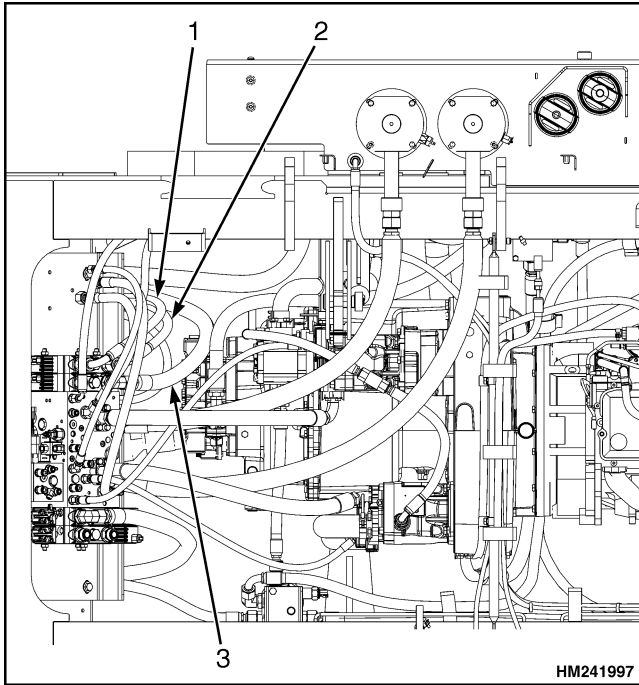
1. HYDRAULIC PUMP SUPPLY HOSE
2. BRAKE SYSTEM SUPPLY HOSE
3. LOAD SENSE (LS) HOSE
4. HYDRAULIC PUMP SUCTION HOSE
5. HYDRAULIC PUMP
6. HYDRAULIC PUMP DRAIN HOSE
7. TRANSMISSION COOLING HOSE

**Figure 2. Hydraulic Hoses Located at Left Side of Frame**



1. HYDRAULIC PUMP SUPPLY HOSE
2. LOAD SENSE (LS) HOSE
3. TRANSMISSION COOLING HOSE
4. HYDRAULIC PUMP
5. HYDRAULIC TANK
6. HYDRAULIC PUMP SUCTION HOSE
7. HYDRAULIC TANK RETURN HOSES

**Figure 3. Hydraulic Hoses Located at Right Side of Frame**



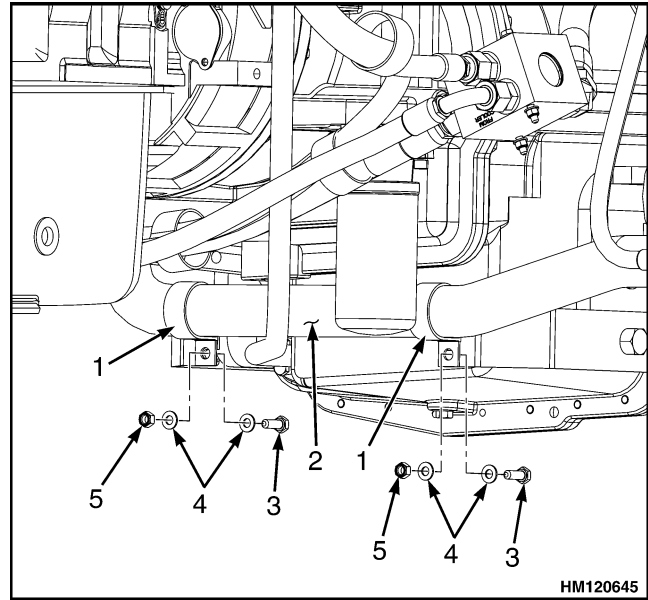
1. AUXILIARY HOSE B
2. AUXILIARY HOSE A
3. LIFT HOSE

**Figure 4. Auxiliary and Lift Hoses**

**26.** Remove the capscrews, washers, and nuts that retain the two insulated clamps and the supply hose underneath the transmission. See Figure 5.

**27.** Tag and disconnect the following electrical connectors located on the left side of the transmission (see Figure 6):

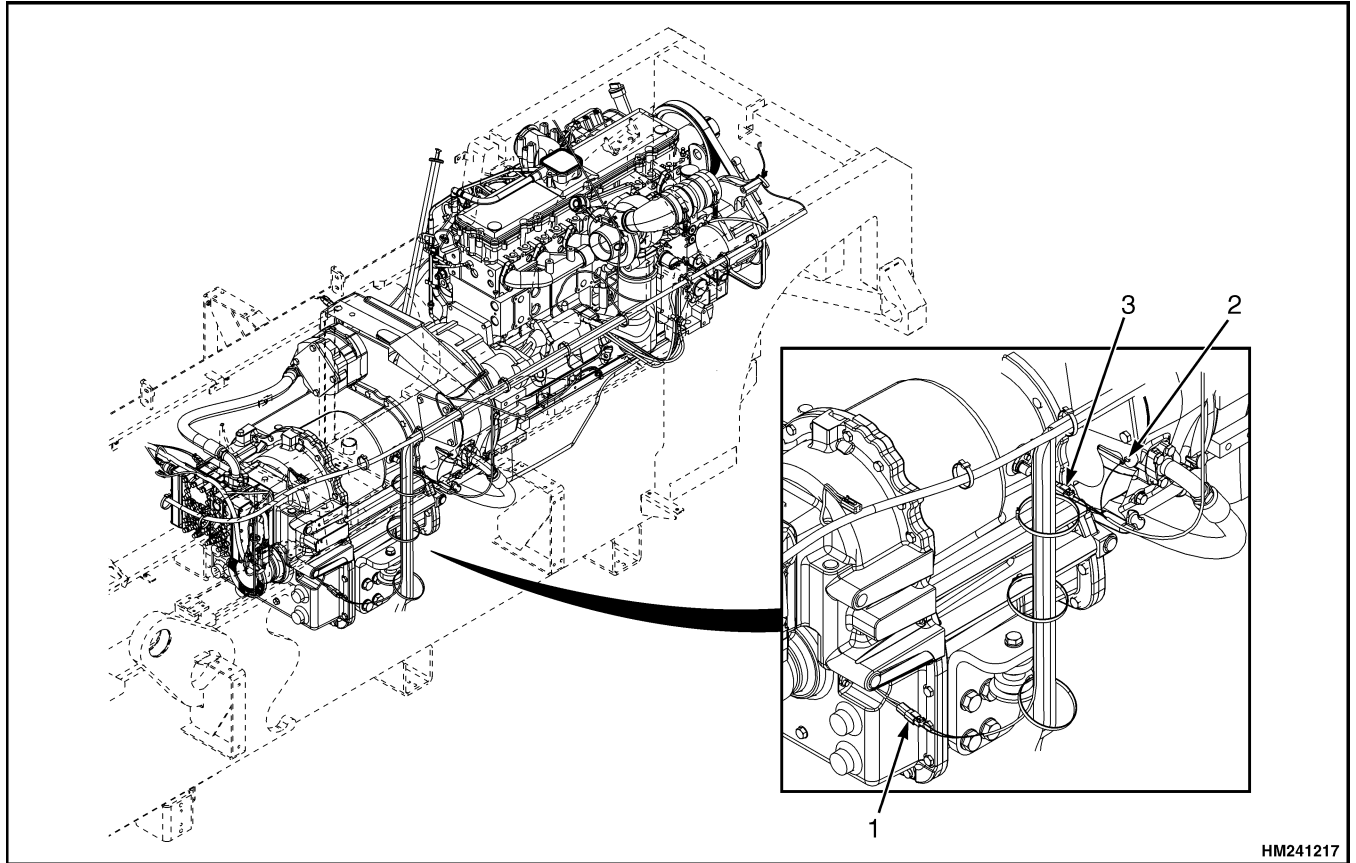
- One electrical connector from the temperature sensor.
- One electrical connector from the turbine speed sensor.
- One electrical connector from the output speed sensor.



- |                    |             |
|--------------------|-------------|
| 1. INSULATED CLAMP | 3. CAPSCREW |
| 2. SUPPLY HOSE     | 4. WASHER   |
|                    | 5. NUT      |

**Figure 5. Insulated Clamp Locations**





1. TEMPERATURE SENSOR ELECTRICAL CONNECTOR
2. TURBINE SPEED SENSOR ELECTRICAL CONNECTOR
3. OUTPUT SPEED SENSOR ELECTRICAL CONNECTOR

*Figure 6. Left Side Transmission Electrical Connectors*

28. Tag and disconnect the following electrical connectors located on the right side of the transmission (see Figure 7):

- One electrical connector from the engine speed sensor.
- One electrical connector from the drum speed sensor.
- One electrical connector from the transmission control valve.

**WARNING**

Each hydraulic pump weighs approximately 45 kg (100 lb) and can cause damage or injury if it falls.

**CAUTION**

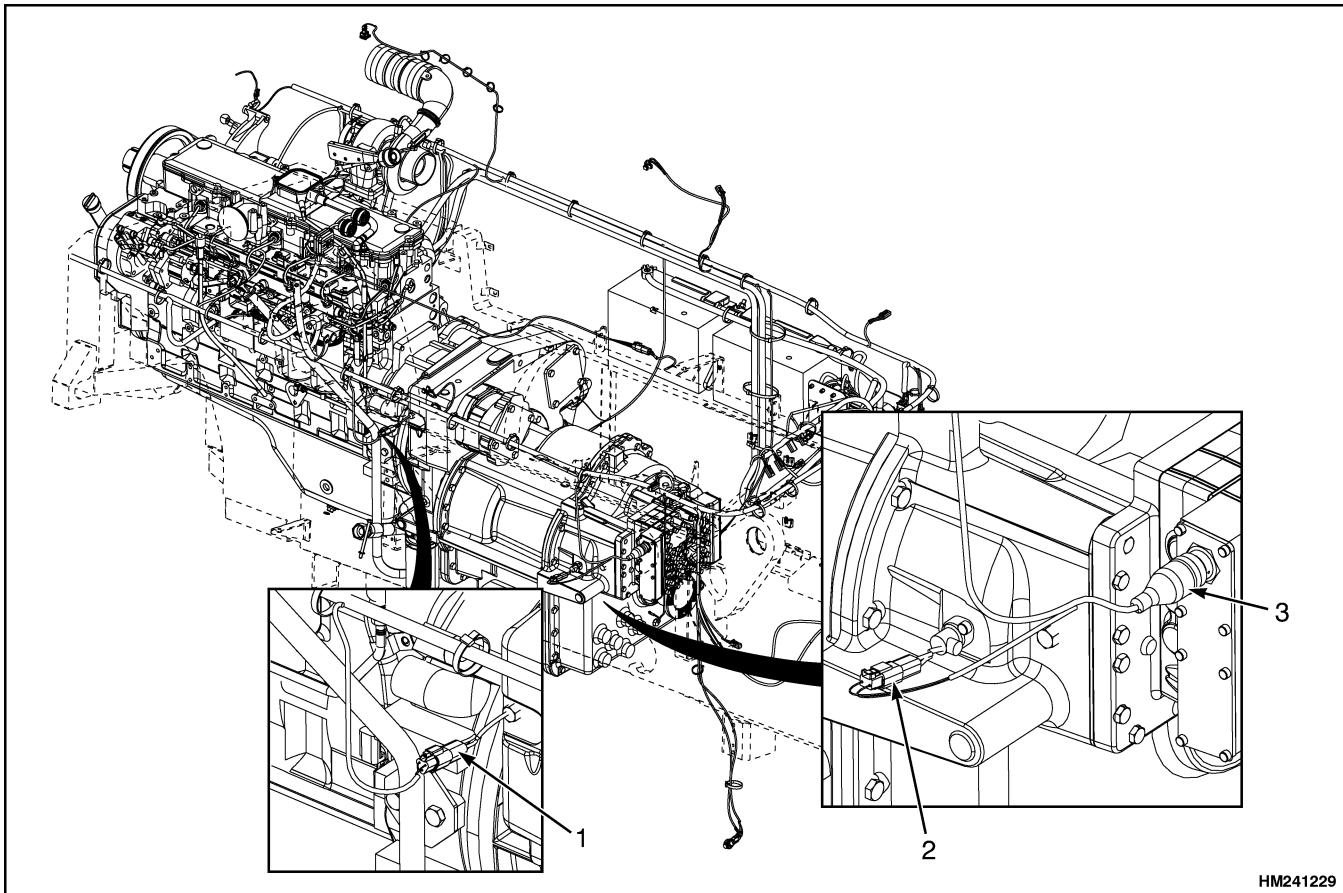
Make sure that the hydraulic pump maintains alignment with the drive gear during removal.

The drive gear is NOT designed to absorb the induced torque when the hydraulic pump is NOT supported correctly and damage may occur.

**NOTE:** Each hydraulic pump is connected to the transmission with four capscrews and washers.

**NOTE:** The hydraulic pump drive shaft is engaged in the splines of the drive gear. The drive shaft will slide out of the drive gear when the hydraulic pump is removed.

29. Attach a lifting device to hold the hydraulic pump. Remove the four capscrews and washers that retain the hydraulic pump to the transmission. Remove the hydraulic pump. See Figure 8.



1. ENGINE SPEED SENSOR ELECTRICAL CONNECTOR
2. DRUM SPEED SENSOR ELECTRICAL CONNECTOR
3. TRANSMISSION CONTROL VALVE ELECTRICAL CONNECTOR

*Figure 7. Right Side Transmission Electrical Connectors*