

**MASSEY FERGUSON**

# MF 4600M

Series Tractors

Models: 4607M / 4609M / 4610M / 4610M HC

## SERVICE MANUAL

**FROM MASSEY FERGUSON**

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### 3.1.2 Separate the engine from the front transmission

#### Procedure

1. **NOTE:** Steps one through five are for the four-wheel drive (4WD) model only.

Remove the bolt (1) from the 4WD shaft shield.

2. Loosen the clamp (2) holding the drive shaft shield tubes.

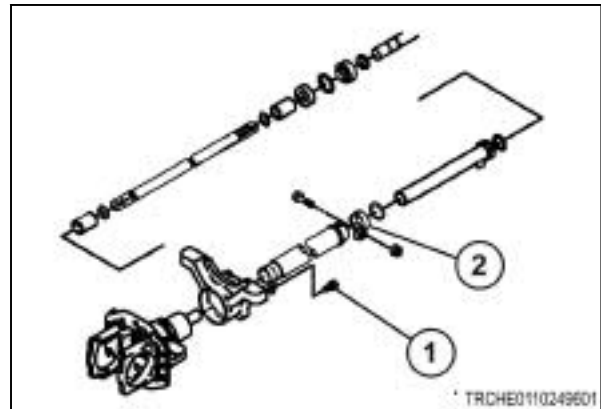


Fig. 1

3. Slide the tube together to show the couplers and the retainer rings.
4. Move the retainer rings and the couplers to the center of the shaft.



Fig. 2

5. Remove the 4WD shaft.
6. Disconnect the battery and the light harness.

7. Disconnect the engine cover support belt and the damper.
8. Remove the bolt from both the left-hand and right-hand side of the engine bracket.
9. Remove the engine cover.
10. Disconnect the wire harness connectors at the engine and on the right-hand side of the fire wall.
11. Make sure to disconnect the coupler both on the left-hand and right-hand side.



Fig. 3

12. Remove the side cover of the engine.

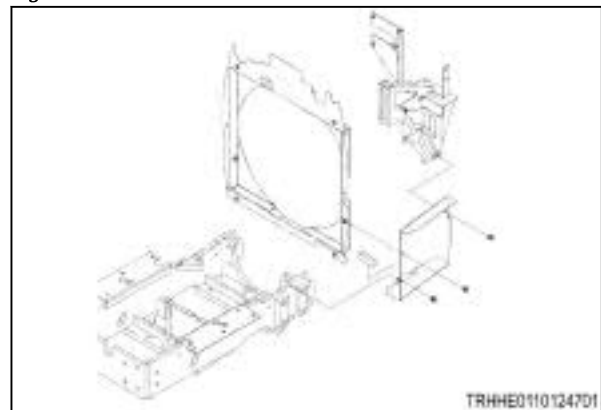


Fig. 4

13. Disconnect the quick coupler of the fuel filter. Then disconnect the fuel cooler hose from the left-hand side of the engine.



Fig. 5

14. Drain the transmission oil.
15. Disconnect the pressure line.

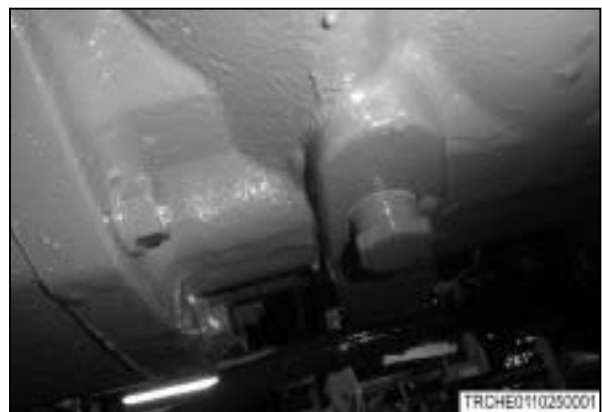


Fig. 6

16. Disconnect the power steering cylinder hoses.
17. Disconnect the oil cooler hoses from the oil cooler.



Fig. 7

18. Disconnect the fuel hose from the left fuel tank

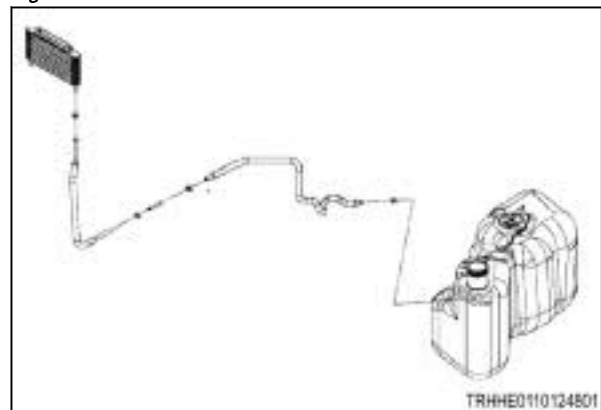


Fig. 8

19. Remove the starter.
20. Remove the radiator overflow reservoir.
21. Label and disconnect wire harness connectors as required to separate the engine from the transmission.



Fig. 9

22. **NOTE:** *The tractor can be split at the engine without opening up the air conditioning system. Do not loosen fittings on any of the A/C lines.*

Remove the receiver drier with the receiver drier brackets. Remove the condenser and the compressor from the brackets. Put the components on the floor or in the cab.



Fig. 10

### 3. Drive Train System

23. Insert wedges between the front axle and the front frame to keep the tractor from tipping.
24. Put a splitting stand under the tractor.
25. Support the transmission housing with a correct floor jack and the engine with a correct overhead hoist.

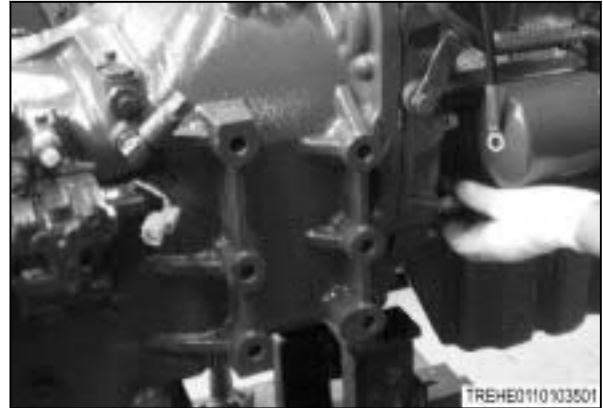


Fig. 11

- 26.** Remove all the bolts that fasten the engine to the front transmission.

**NOTE:** *Two of the bolts are located behind the starter.*

- 27.** Carefully separate the engine from the front transmission housing.





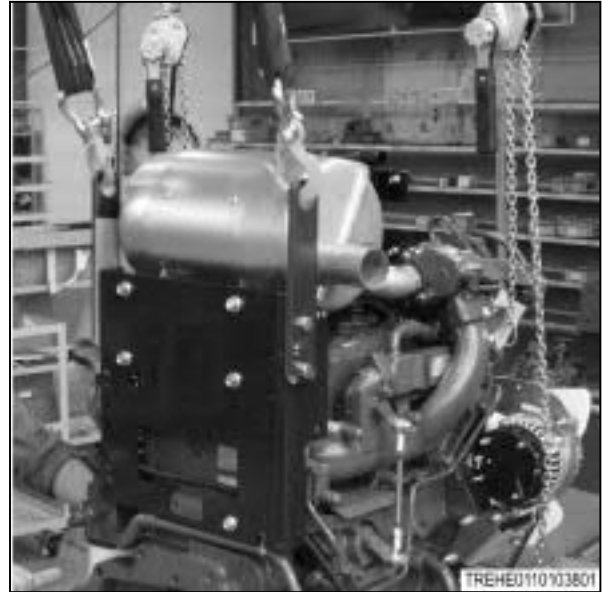


Fig. 12

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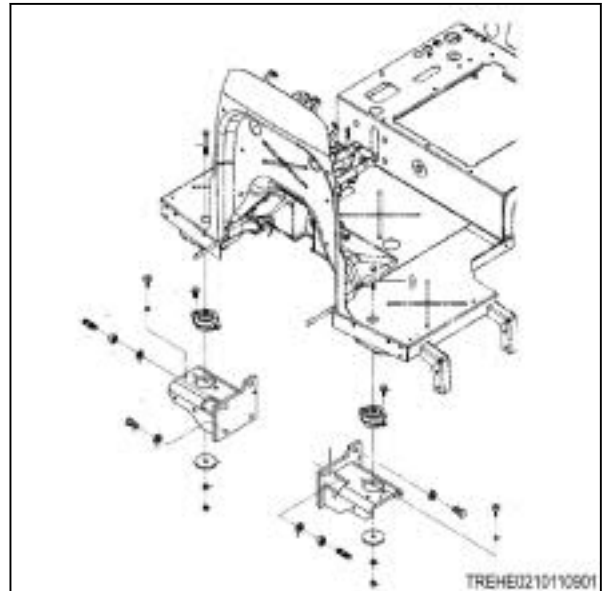
### 3.1.3 Separate the front and middle transmission housings

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#### Procedure

1. Remove the transmission drain plug and drain the oil into a correct container.

2. Remove the cab or platform.



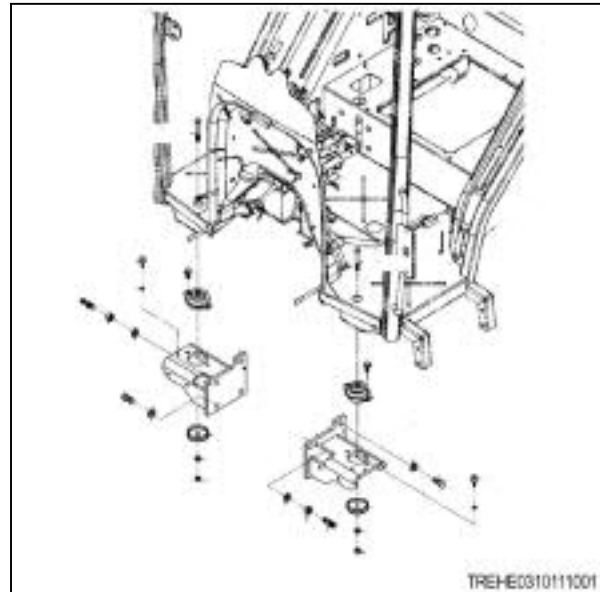


Fig. 13

3. Remove the bolt from the fuel tank front mount bracket on the left side and the right side. Then remove the bolt under the transmission housing.



Fig. 14

4. Remove the fuel tank from the tractor.



Fig. 15

5. Remove the hydraulic suction lines and the supply lines.
6. If equipped, remove the hydraulic lines for the remote valve.



Fig. 16

7. Use a splitting stand to support the middle and front transmission housings.
8. Remove the bolts that fasten the front transmission housing and the middle transmission housing.
9. Carefully separate the front transmission housing and the middle transmission housing.

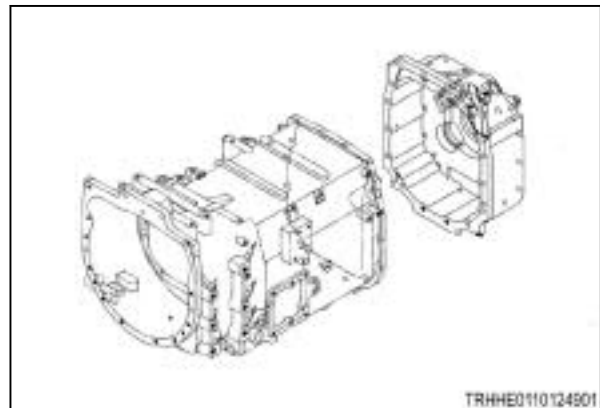
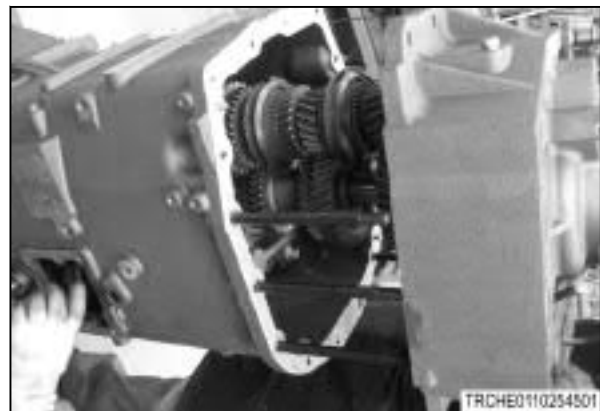


Fig. 17

### 3.1.4 Separate the middle and rear transmission housings

#### Procedure

1. **NOTE:** Steps one through five are for tractors with four-wheel drive (4WD).

Remove the bolt (1) from the four-wheel drive (4WD) shaft shield.

2. Loosen the clamp (2) holding the drive shaft shield.
3. Move the tube together to show the couplers and the retainer rings.
4. Move the retainer rings and the couplers to the center of the shaft.
5. Remove the 4WD shaft.

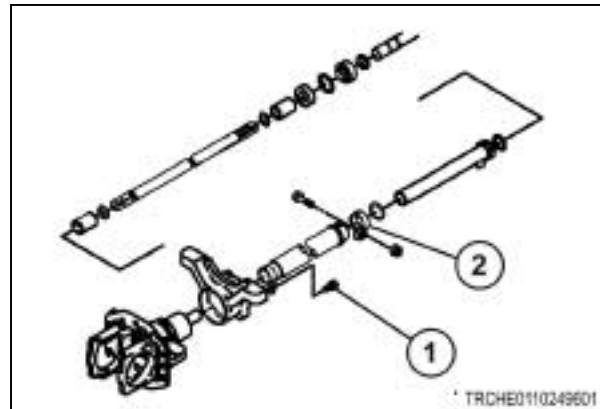


Fig. 18



Fig. 19

6. Remove the cab or platform.
7. Remove the transmission drain plug and drain the oil into a correct container.
8. Remove the filter head assembly. Make sure the oil has drained fully.

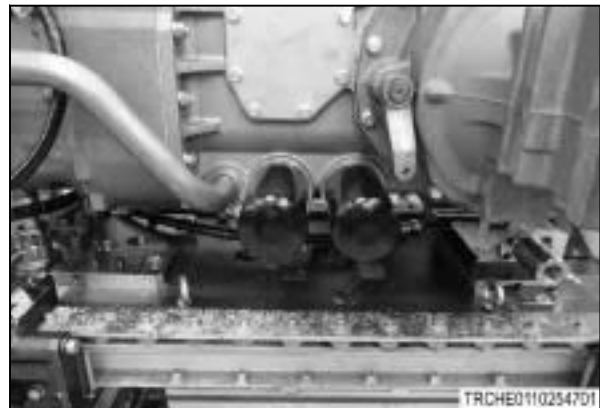


Fig. 20

9. Remove the fuel tank bracket. Remove the line that runs from the joystick hose to the front of the lift cover.
10. Remove the bolt from the front transmission side.
11. Remove the bolts from the relief valve bracket at the rear side.
12. Disconnect the linkage at the 4WD shift arm, if equipped.



Fig. 21

13. Disconnect the left-hand and right-hand brake rods at the turnbuckle.

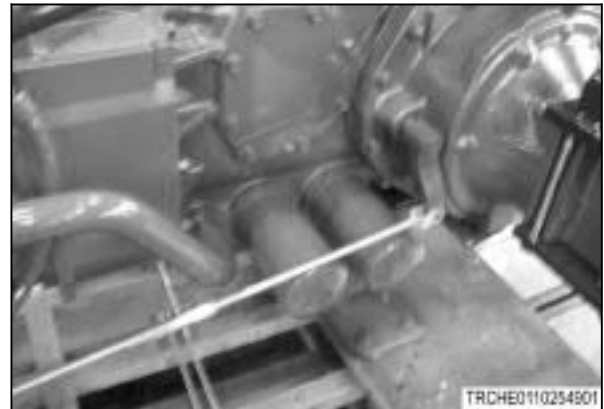


Fig. 22

14. Disconnect all the wire harness connections to switches and sensors located on the rear transmission housing.

**NOTE:** Label all wire harness connections before disassembly to assist in assembly.

15. Put the range lever into neutral.



Fig. 23

### 3. Drive Train System

16. Remove the range shift linkage and the shift support bracket from the right-hand side of the housing.
17. Remove the range lever shift housing assembly, which includes the shift arm, shift rails, and the shift forks.
18. Put the 4WD in neutral.

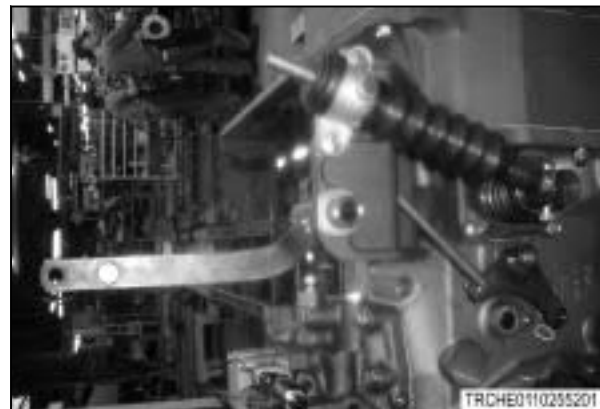
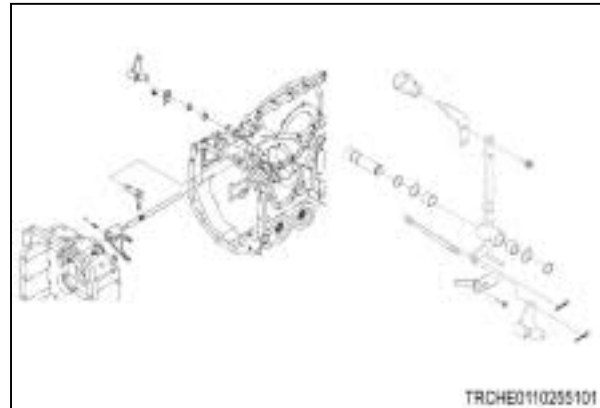


Fig. 24

19. Pull out the main change gear assembly.
20. Align the high/low gear with the collar cut out.

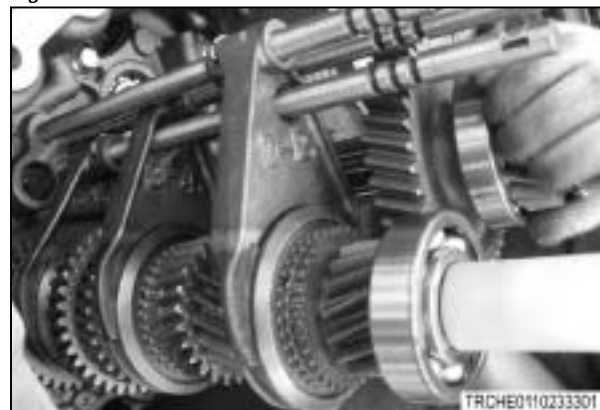


Fig. 25

21. Insert wooden wedges between the front axle and the front frame to keep the tractor from tipping.



Fig. 26

22. Use splitting stands to support both the transmission housings.



Fig. 27

23. Remove all the bolts and the nuts that connect both the transmission housings and carefully separate the transmission housings.



Fig. 28

### 3.1.5 Separate the rear axle housing from the rear housing

Removing the cab or platform is not necessary to the rear axle from the rear transmission. Disconnect the battery, drain the transmission oil, and remove the three-point link system prior to disassembly.

#### Procedure

1. Raise the rear of the tractor.
2. Put the rear transmission housing and the rear axle on correct jack stands.
3. Remove the rear tires.



Fig. 29



4. Disconnect the brake rod at the turnbuckle.



Fig. 30

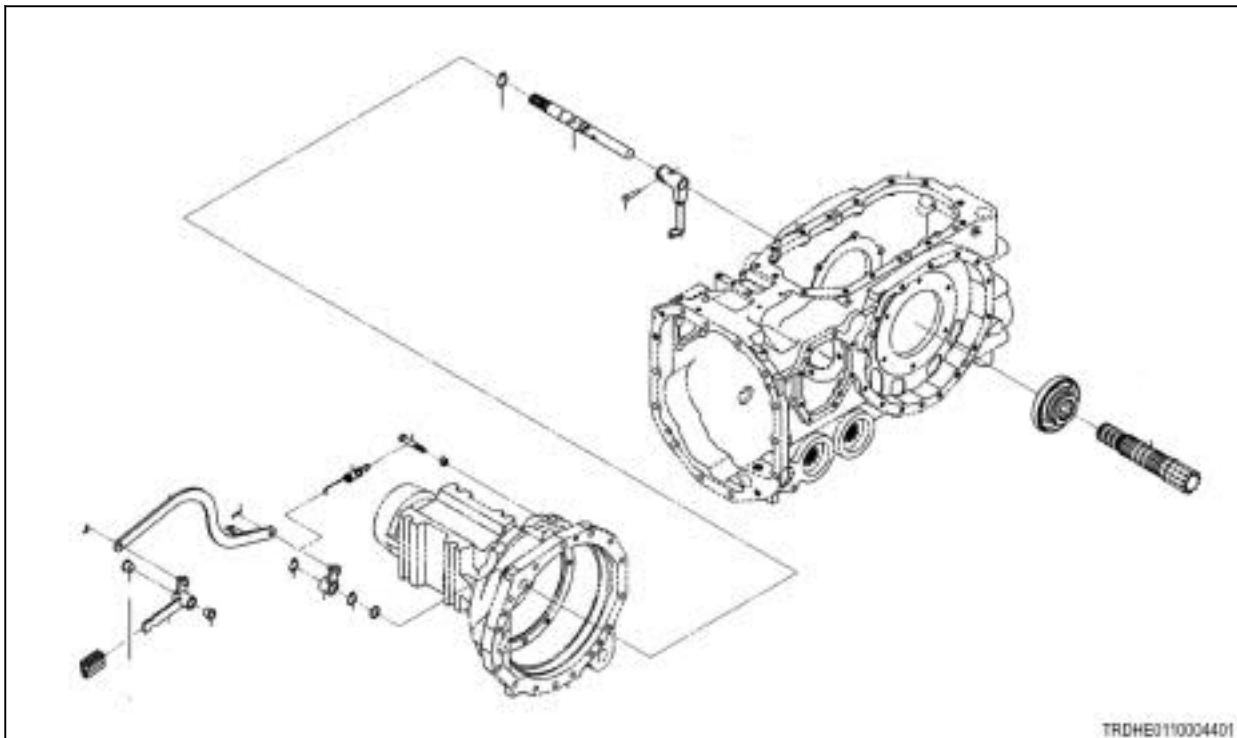


Fig. 31

5. Remove the differential lock pedal on the right-hand side only. Remove the bolt that connects to the mount bracket M8 bolt.
6. Remove the bracket (1) from the axle housing and remove the mount bolt when removing the cab.

**NOTE:** Insert the lifting straps at the rear upper corners of the cab and support the rear of the cab with a correct overhead hoist if both axles are being removed at the same time.



Fig. 32

7. Put the lifting straps thru the handle on the fenders. Support the rear of the platform with a correct overhead hoist. Remove the roll over protection structure (ROPS) from the rear axle housing. Support the floor of the platform with the hoist. Then remove the frame on both sides when removing the platform.



Fig. 33

8. Remove the bolts fastening the outer axle housing to the inner axle housing. Remove the outer axle housing and the rear axle as an assembly.



Fig. 34

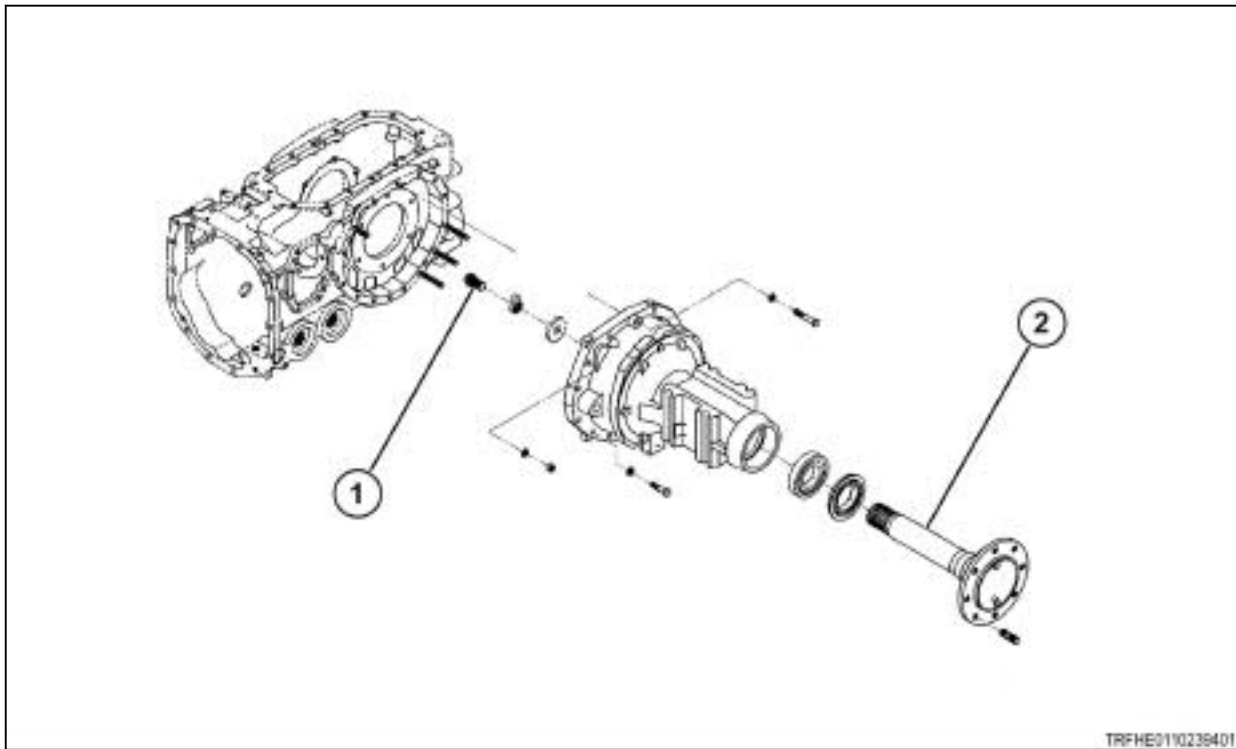


Fig. 35

9. Disassemble the housing and remove the lock bolt (1) and the axle shaft (2).
10. Replace the components as necessary.

### 3.1.6 Attaching the rear axle to the rear transmission case

#### Procedure

1. Install the axle housings in the reverse order of disassembly with the following precautions:

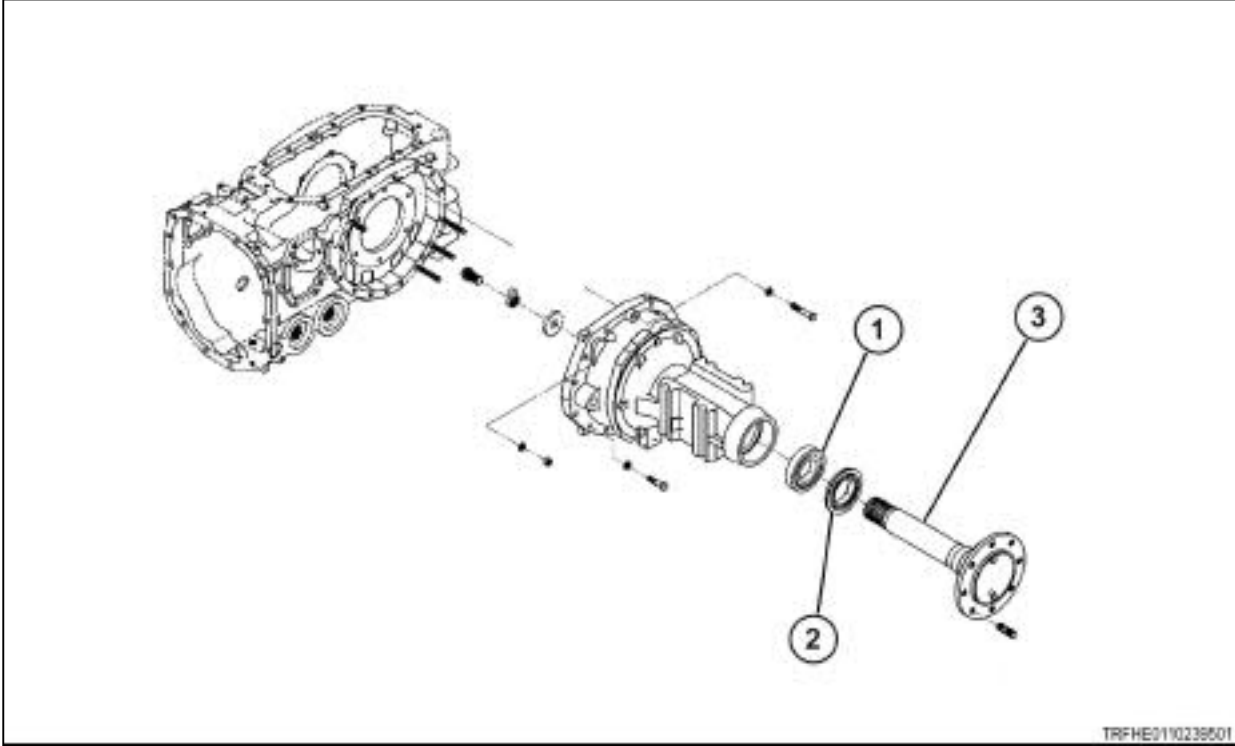


Fig. 36

2. Install the bearing and the seal into the housing. Firmly seat the seal.

3. Install the axle shaft (3).
4. Install the bearing (1) onto the axle shaft (2) inside the housing.
5. Install the washers (3), needle bearing (4), collars (5), and the spur gear shaft (7), into the spur gear (6).
6. Install the spur gear assembly into the gear (8).
7. Install the planetary gear shafts (11), stoppers (10), and the hex bolts (9) into the gear.
8. Install the washer (14), lock plate (15), and the hex bolt (16).
9. Apply sealant between all cast housings.
10. Tighten the cab/platform mount bolts to 88 to 107 Nm (65 to 79 lbf ft).

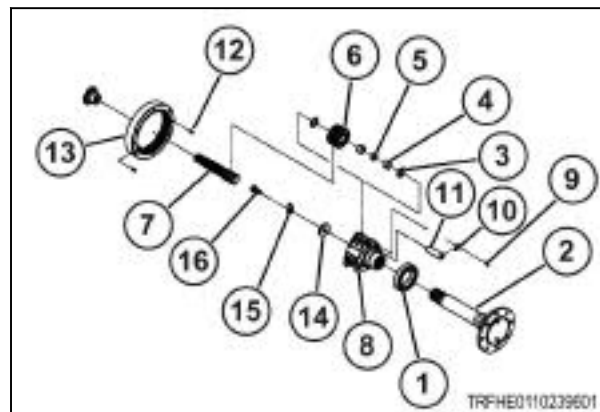


Fig. 37

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