



MASSEY FERGUSON

MF 1700

Series Tractors

Models: 1736 / 1742 / 1749 / 1754 / 1758 / 1759



SERVICE MANUAL

FROM MASSEY FERGUSON

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4.1 Transmission

4.1.1 Separating the engine from the front transmission

Procedure

1. Remove the bolt (1) from the four-wheel drive (4WD) shaft shield.
2. Loosen the clamp (2) holding the drive shaft shields.
3. Slide the shields 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.
6. Disconnect the battery and the light harness.
7. Disconnect the support rod assembly (1) from the engine cover.
8. Remove the cotter pins from the hinges and slide the engine cover to the left.
9. Remove the engine cover.

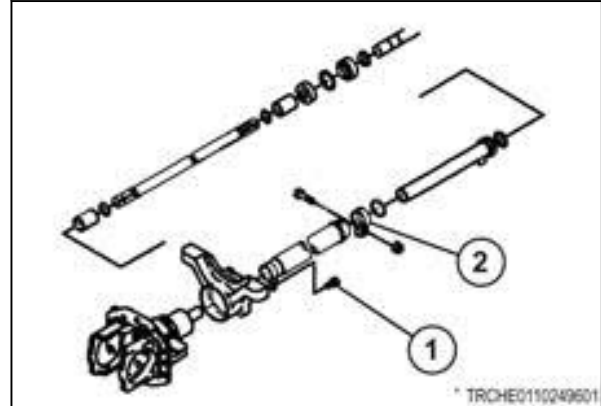


Fig. 1

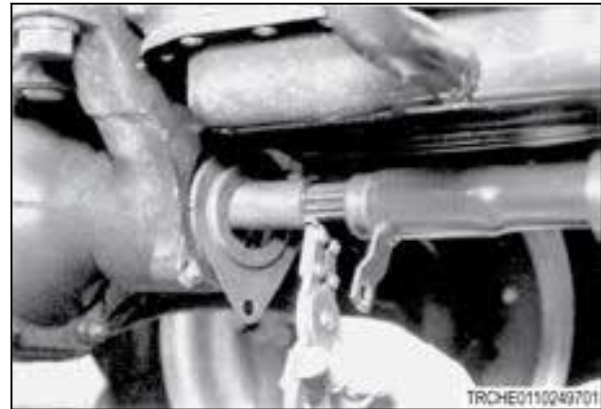


Fig. 2

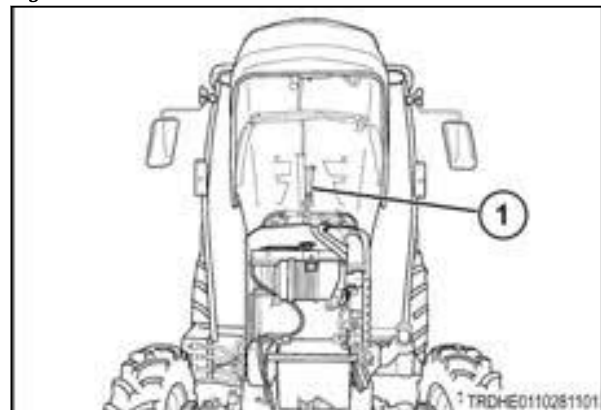


Fig. 3

4. Drive Train System



10. Disconnect the wire harness connectors at the engine and on the right-hand side of the fire wall.
11. Disconnect the mechanical or electrical tachometer cable.
12. Remove and cap the fuel supply and the fuel return lines from the injection pump.
13. Remove the fuel tank.



14. Remove the fuel filter bracket (1).

Fig. 4

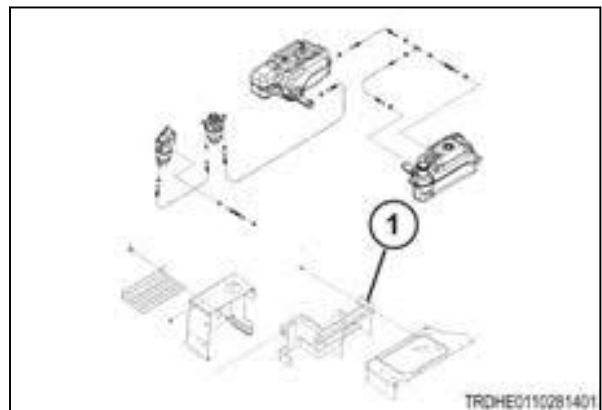
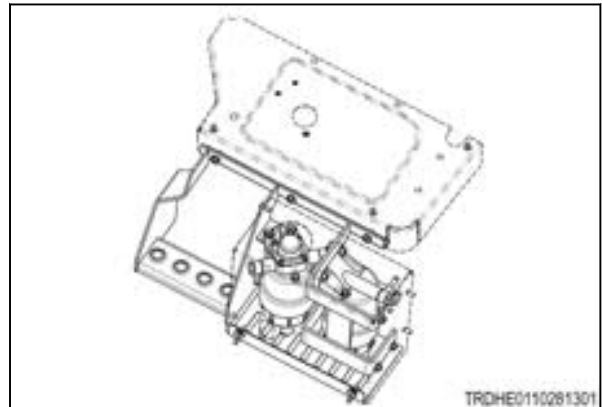


Fig. 5

15. Remove the drain plug (1).
16. Drain the transmission oil into a correct container.

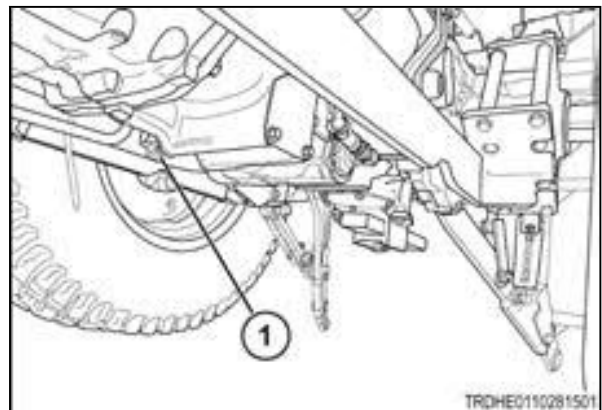
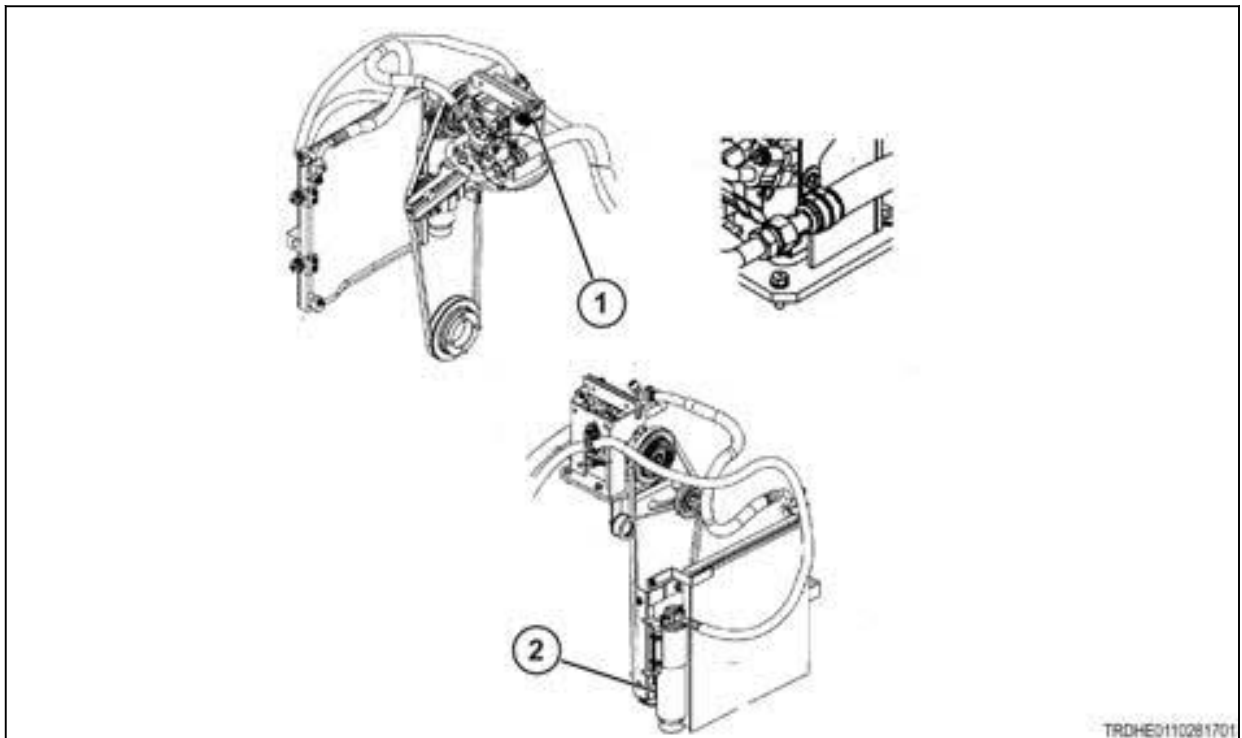


Fig. 6

17. Disconnect the hydraulic suction line and the pressure line (1) below the main pump.



Fig. 7



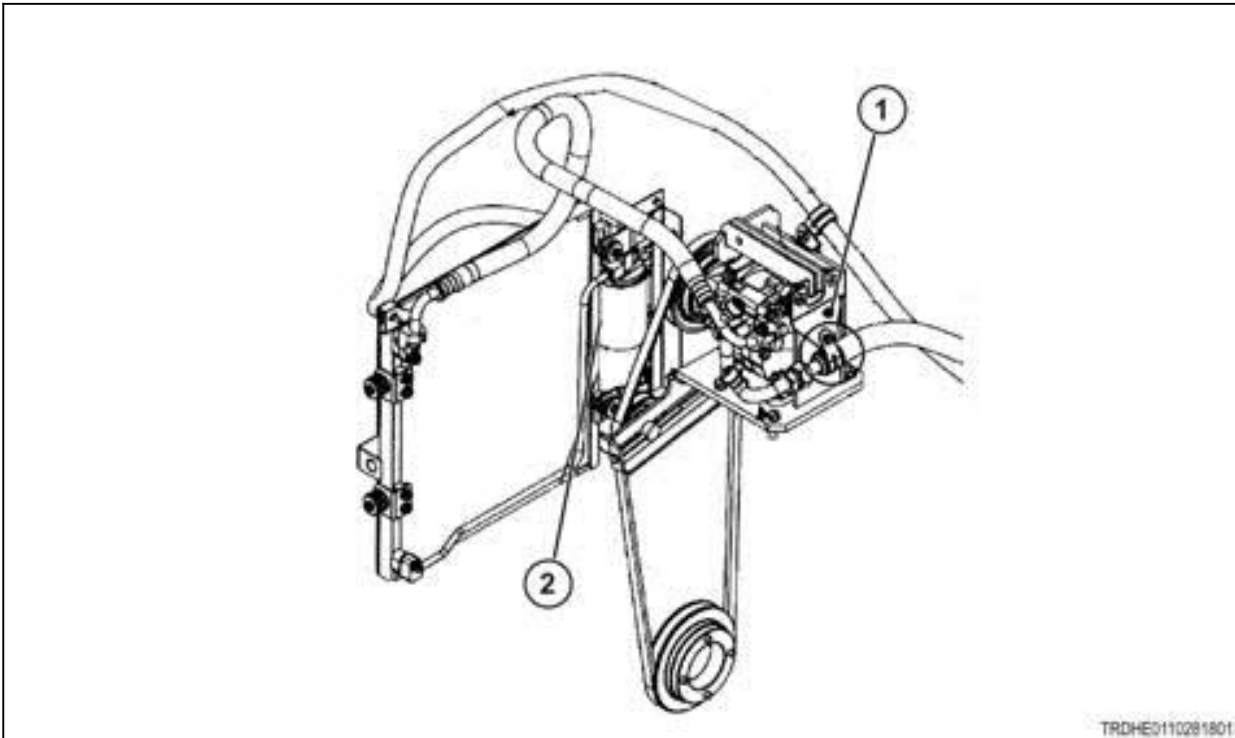


Fig. 8 Cab only

18. Evacuate the air conditioning system with an approved recovery system.
19. Disconnect the air conditioning lines at the compressor (1) and the receiver drier (2).
20. Insert wooden wedges between the front axle and the front frame to keep the tractor from tipping.



Fig. 9

21. Put dividing stands under the tractor.
22. Support the transmission housing with an applicable floor jack and the engine with an applicable overhead hoist.
23. Remove all the bolts attaching the engine to the front transmission.

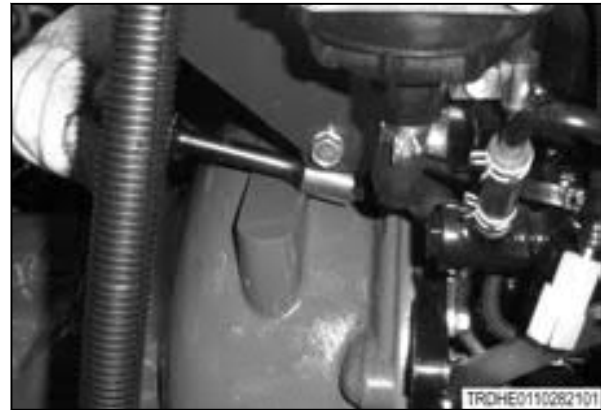


Fig. 10

24. Disconnect the engine from the front transmission housing carefully.



Fig. 11

4.1.2 Separating the front and rear transmission housings

Removing the cab or platform is not necessary to divide the machine between the front and rear transmission housings.

Procedure

1. Disconnect the battery and drain the transmission oil before disassembly.

4. Drive Train System

2. Remove the bolt (1) from the four-wheel drive (4WD) shaft shield.
3. Loosen the clamp (2) holding the drive shaft shields.
4. Slide the shields together to show the couplers and the retainer rings.

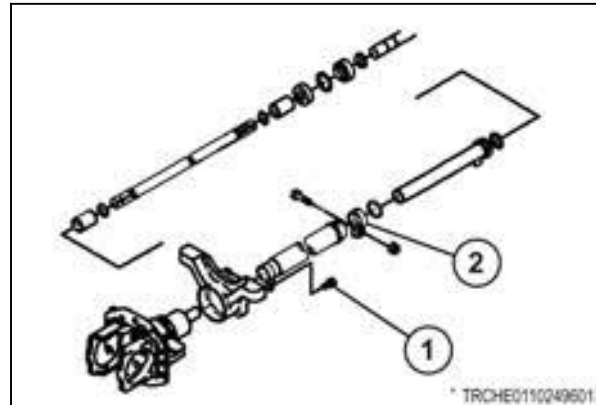


Fig. 12

5. Move the retainer rings and the couplers to the center of the shaft.



Fig. 13

6. Remove the bolts holding the seat pan (1). Remove the seat pan and seat suspension as an assembly.

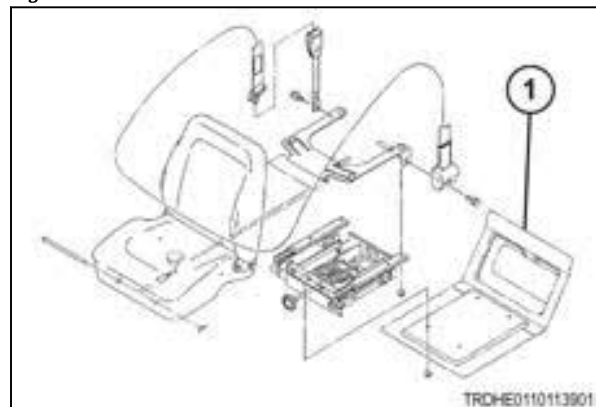


Fig. 14

7. Remove the slow return knob (1).



Fig. 15

8. Remove the slow return tube (1).

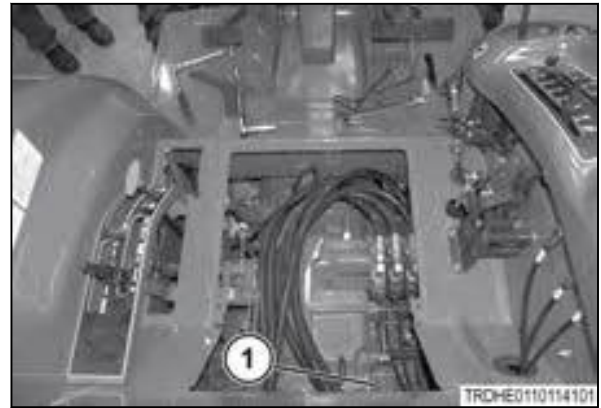


Fig. 16

9. Jack up the rear of the tractor. Put both the rear axles on correct jack stands. Remove the left-hand and right-hand rear tires. Remove the inner fender panels.



Fig. 17

10. Remove the upper end the three point control.



Fig. 18

11. Remove the upper end of the optional rear remote levers (if equipped) and draft control lever (if equipped).



Fig. 19

12. Disconnect the joystick linkage (if equipped).



Fig. 20

13. Disconnect the hoses (1) from the rear remote valves (if equipped).

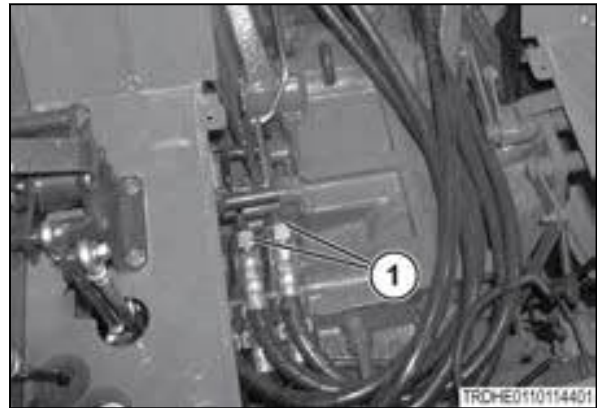


Fig. 21

14. Remove the hydraulic suction line behind the hydraulic filter head assembly. Remove the middle hydraulic coupler lines (1) from the joystick valve and the middle coupler bracket (if equipped).

NOTE: Identify the lines before disassembly to help in assembly.



Fig. 22

15. Disconnect the spring from the three point linkage.

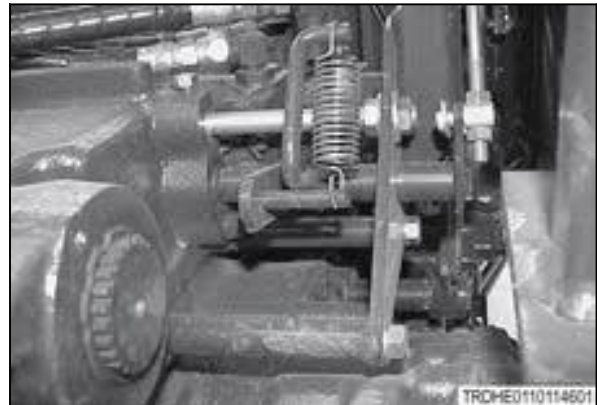


Fig. 23

16. Remove the nut (1) and the two bolts (2) retaining the three point linkage bracket to the cylinder housing.

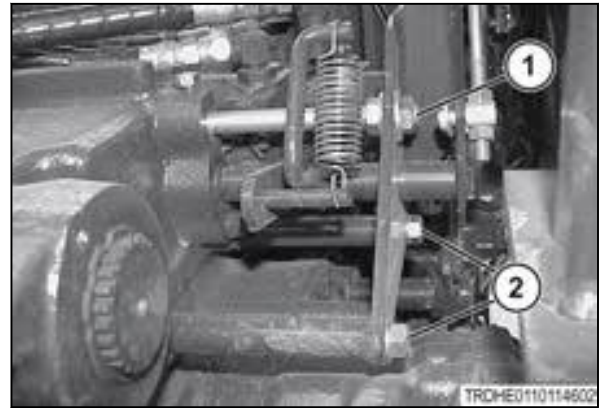


Fig. 24

17. Remove the three point linkage control bracket (1) as an assembly.

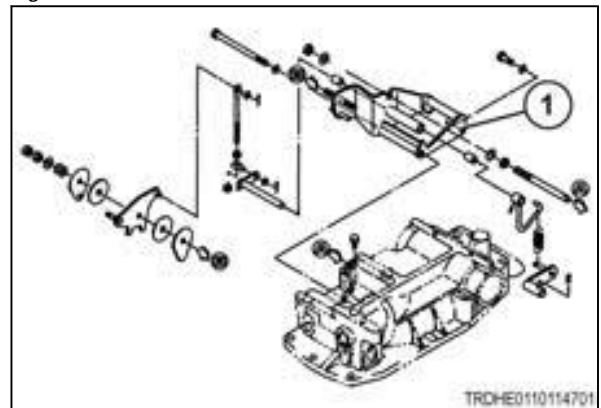


Fig. 25

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

NOTE: Identify all wire harness connections requiring separation before disassembly. This procedure will help during assembly.



Fig. 26

19. Remove the upper part of the power take-off (PTO) shift lever. Remove the upper part of the range shift lever and the four-wheel drive shift lever (if equipped).



Fig. 27

- 20.** Remove the lower range shift lever (1) connected to the range shift arm.

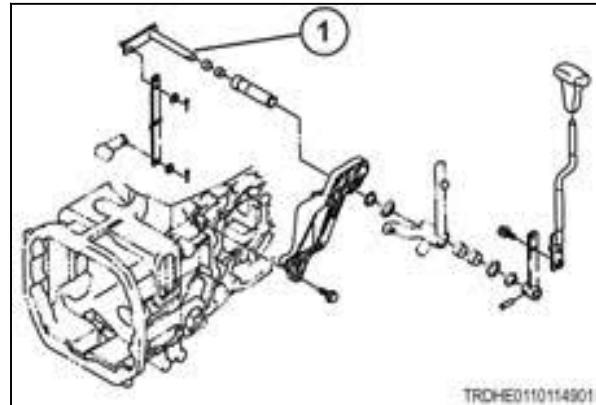


Fig. 28

- 21.** Remove the lower PTO lever (1) connected to the PTO shift arm.

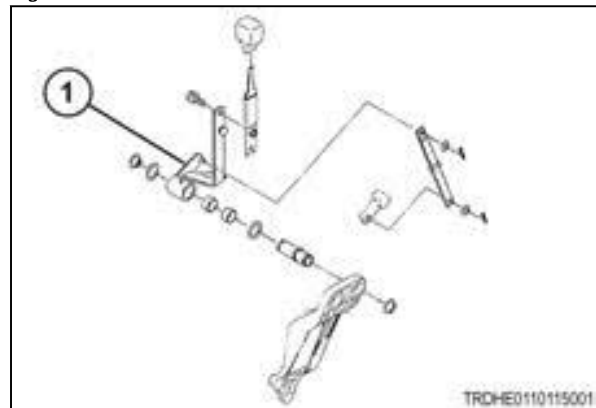


Fig. 29

- 22.** Remove the lower four-wheel drive shift lever (1) connected to the four-wheel drive (4WD) shift arm (if equipped).

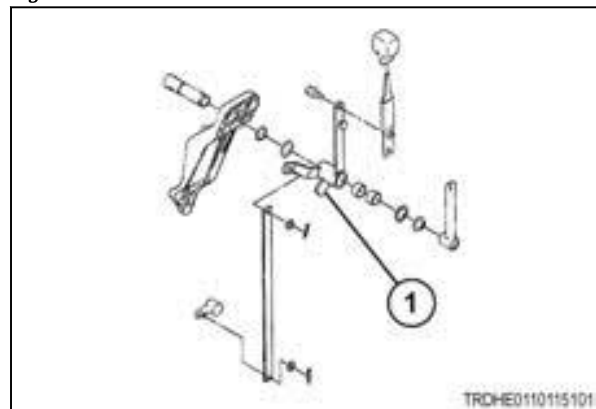


Fig. 30

- 23.** Remove the range lever, PTO lever, and the 4WD lever support bracket (1) and remaining shift linkage as an assembly.

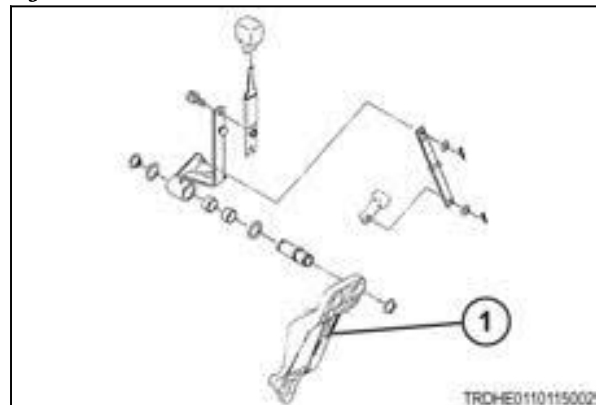


Fig. 31

24. Remove the bolts fastening the main transmission lever housing to the rear transmission. Remove the lever and the housing as an assembly.

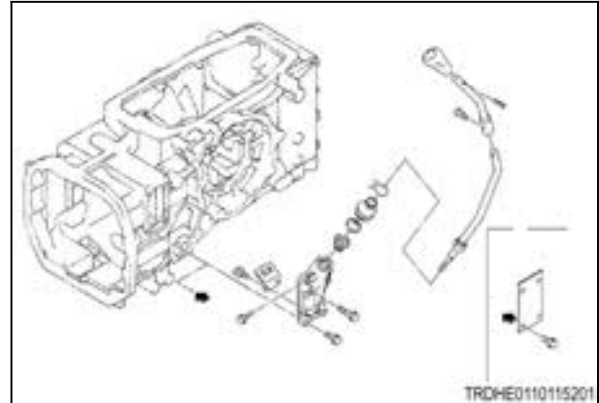


Fig. 32

25. Disconnect the left-hand and right-hand brake rods at the rear brake arms.



Fig. 33

26. Disconnect the linkage (1) to the differential lock engage arm.

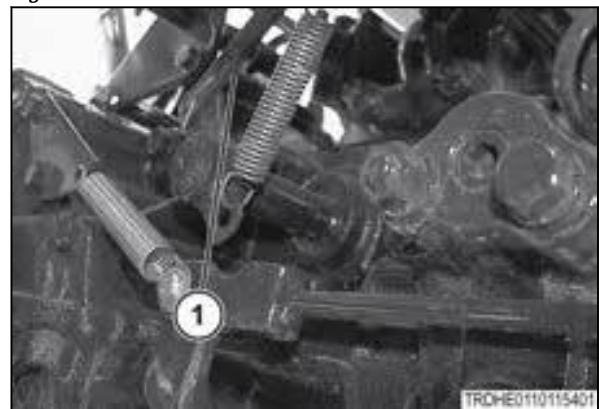


Fig. 34

27. Loosen the bolt (1) in the center of the front cab mount or platform mount bolts. Loosen until only some threads are engaging the nut.

NOTE: Cab models - Lift up the floor mat to show the front cab mount bolts.



Fig. 35

- 28.** Remove the bolt (1) in the center of the rear cab mounts or platform mounts. On platform machines, insert lifting straps through the handrails located on the fenders. On the cab machines, insert the lifting strap through the hooks at the rear upper corners of the cab. Use an overhead hoist to support the rear of the platform or cab.



Fig. 36

- 29.** Insert wooden wedges between the front axle and the front frame to keep the machine from tipping. Use splitting stands to support the front and rear transmission housings. Remove all the bolts attaching the front transmission housing to the rear transmission housing and carefully disconnect the housings.

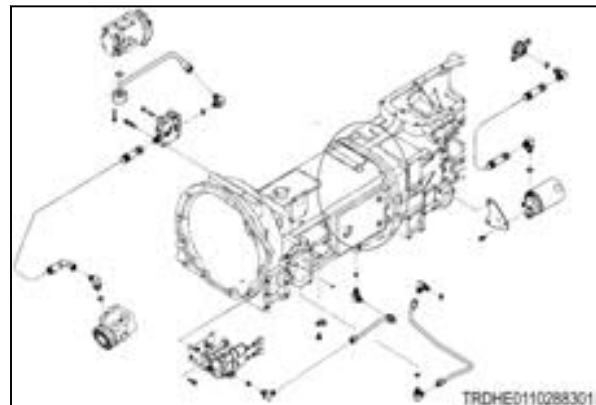


Fig. 37

- 30.** After separating the rear transmission, remove the seal, retainer ring and the bearing (1) from the front transmission housing. This will help in assembly. Connect the transmission together, and install the components.

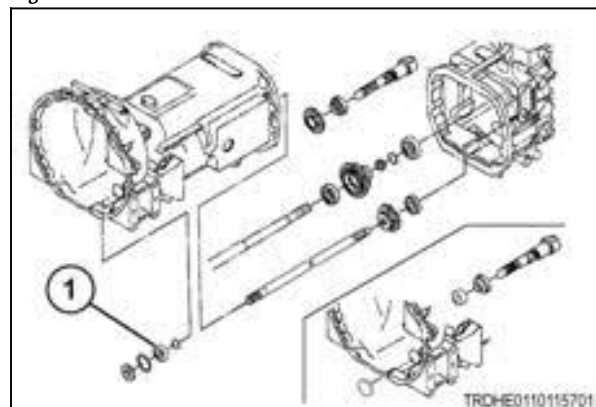


Fig. 38

4.1.3 Installing the front transmission housing

Assemble in reverse order of assembly with the following precautions:

Procedure

1. Do not crimp any wires. Make sure the wires will not chaff against other objects.
2. Align the hydraulic control levers and all other shift linkage while lowering the cab.
3. The power shuttle and synchro shuttle only -Make sure the main transmission shift lever engages the shift forks.
4. Apply sealant between all the cast housings.
5. Tighten the cab/platform mount bolts to 88 to 107 Nm (65 to 79 lbf ft).
6. Replace any seals that have been remove with the new parts.

4.1.4 Removing the lift cylinder housing

NOTE: *The procedure to remove the cylinder housing is the same for the cab and the platform tractors.*

1. Remove the slow moving vehicle (SMV) sign and the top three-point link from the rear of the tractor.



Fig. 39

2. Lift the seat forward and disconnect the harness for the seat switch.
3. Remove the hinge pin at the front of the seat and then remove the seat.



Fig. 40

4. Drive Train System

4. Remove the bolts holding the seat pan.
5. Remove the seat pan and the seat suspension as an assembly.

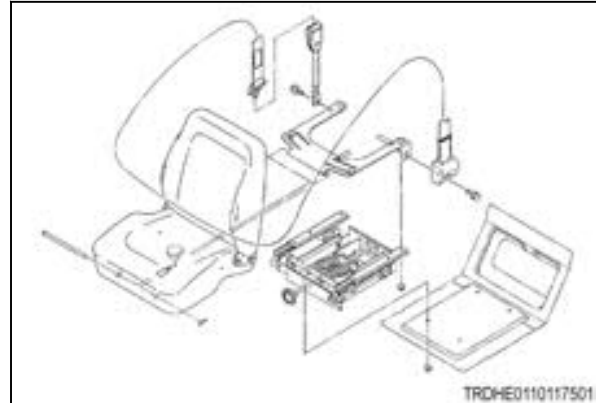


Fig. 41

6. Remove the slow return knob (1) and the slow return tube (2).

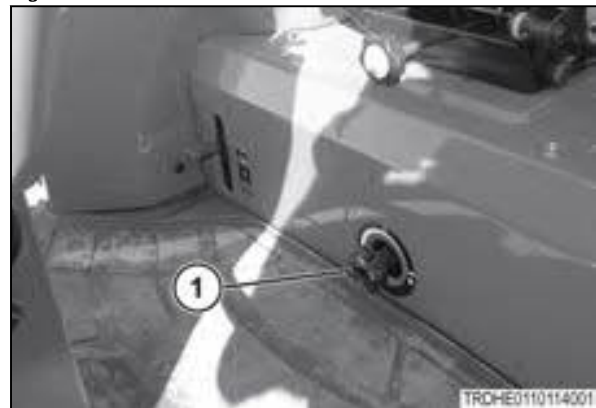


Fig. 42

7. Jack up the rear of the tractor.
8. Put both the rear axles on correct jack stands.
9. Remove the left-hand and the right-hand rear tires.
10. Remove the inner fender panels.



Fig. 43

11. Remove the upper part of the three-point control lever.
12. Remove the upper part of the optional rear remote levers and the draft control levers (if equipped).



Fig. 44

13. Disconnect the hoses (1) from the rear remote valves (if equipped).

NOTE: Identify the hoses before disassembly to help in assembly.

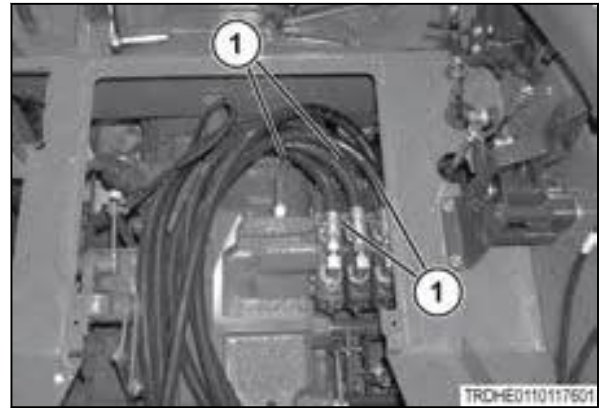


Fig. 45

14. Disconnect the levers from the rear remote valve slices (if equipped).
15. Remove the rear remote valve slices (if equipped).



Fig. 46

16. Remove the rear remote coupler brackets and the rear remote hoses (if equipped).



Fig. 47

17. Remove the top link plate (1) and the power take-off (PTO) shield.

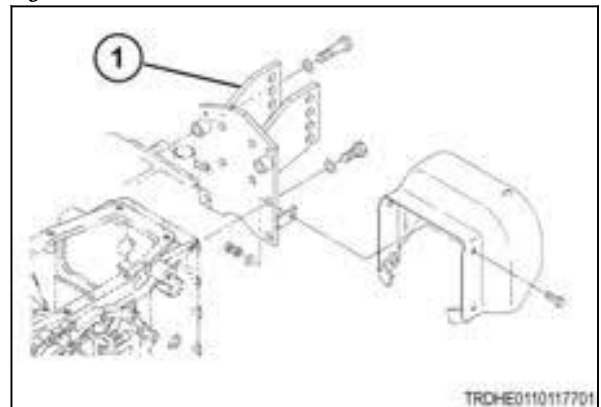


Fig. 48

4. Drive Train System

18. Remove the three-point supply line (1) and the auxiliary lift cylinder supply hose (2).
19. Remove the line clamp.

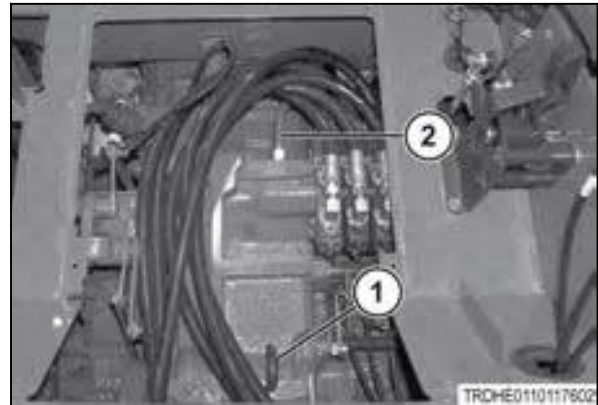


Fig. 49

20. Remove the hardware that attaches the left-hand and right-hand lift linkage (1) to the lift arms.
21. Remove the upper and bottom hardware that retains the auxiliary lift cylinder and then remove the lift cylinder.

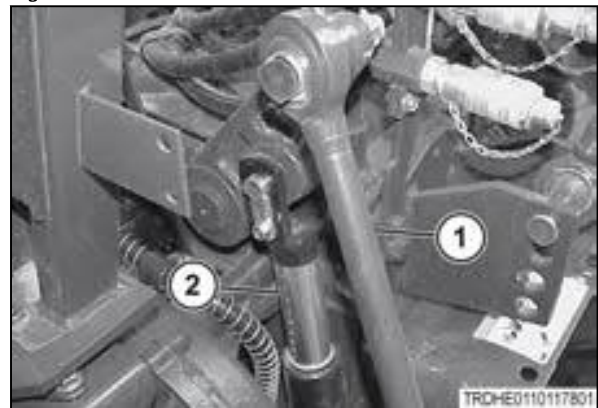


Fig. 50

22. Disconnect the spring from the three-point linkage.

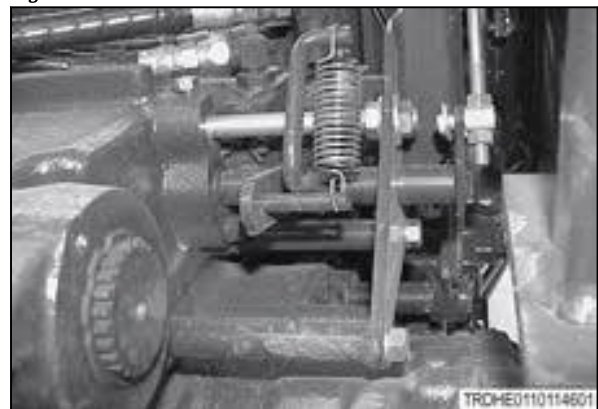


Fig. 51

23. Remove the nut (1) and the two bolts (2) retaining the three-point linkage bracket to the cylinder housing.
24. Remove the three-point linkage control assembly.

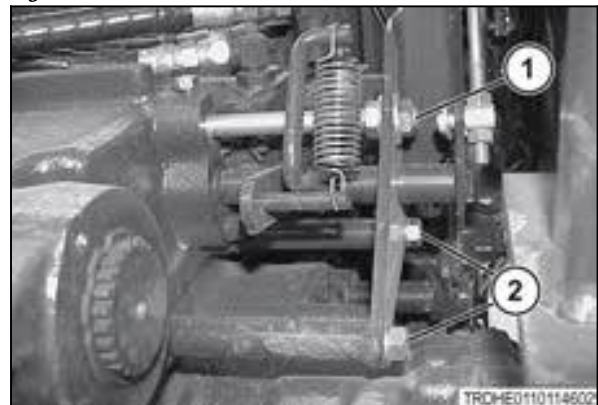


Fig. 52

25. Remove the bolts retaining the cylinder housing to the rear housing. Remove the lift cylinder housing assembly.

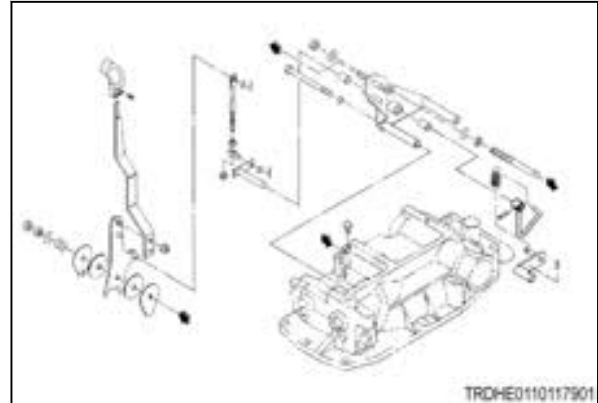


Fig. 53

4.1.5 Separating the rear axle from the rear transmission housing

The cab or platform does not have to be removed in order to remove the rear axle from the rear transmission.

Procedure

1. Disconnect the battery and drain the transmission oil before disassembly.
2. Remove the drain plug (1) and drain the oil out of the axle housing.

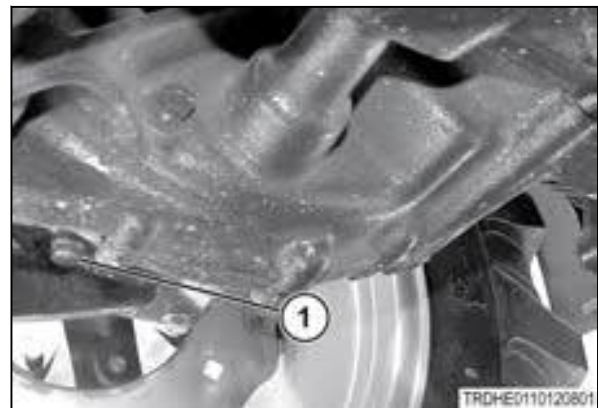


Fig. 54

3. Raise the rear of the tractor. Put the rear transmission housing and the remaining axle on the correct jack stands. Remove the correct left-hand and right-hand rear tire. Remove the inner fender panel.



Fig. 55

4. Drive Train System



4. Left-hand side only - Disconnect the brake rod at the rear brake arm.



Fig. 56

5. Right-hand side only - Disconnect the brake rod at the rear brake arm.
6. Disconnect the linkage (1) to the differential lock engage arm.

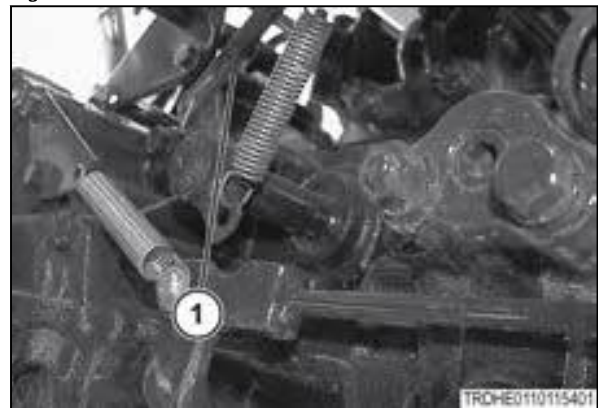


Fig. 57

7. Remove the sway bar and the lower three-point arms.

NOTE: Left-hand side only. The retaining pin (1) for the lower three-point arm also holds the bottom of the lift assist cylinder.



Fig. 58

8. Cab only - Remove the correct axle bracket (1) from the axle housing.

NOTE: To remove both the axles at the same time. Insert the lifting straps at the rear upper corners of the cab. Support the rear of the cab with a correct overhead hoist.

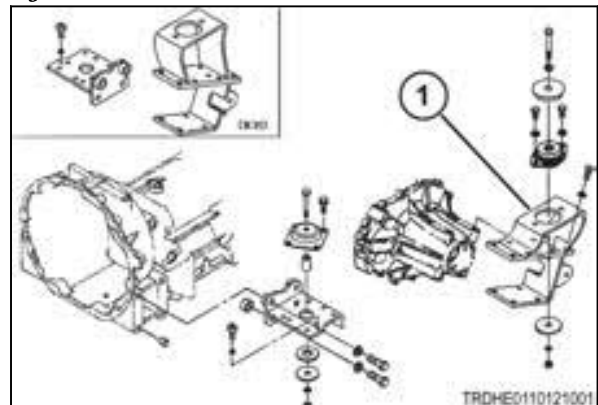


Fig. 59

9. Platform only - Insert the lifting straps thru the handle on the fenders. support the rear of the platform with a correct overhead hoist.



Fig. 60

10. Remove the rollover protective structure (ROPS) from the rear axle housing.

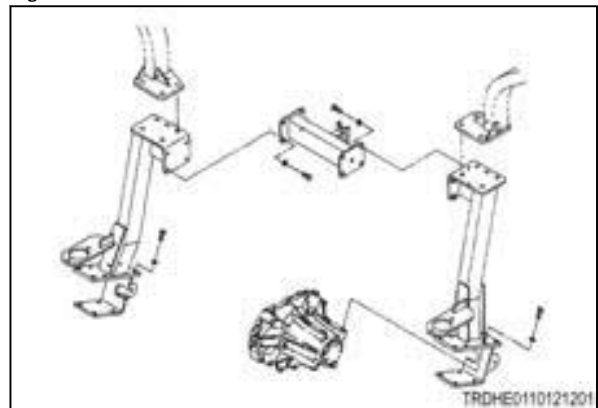


Fig. 61

11. Remove the bolts attaching the outer axle housing to the inner axle housing. Remove the outer axle housing and the rear axle as an assembly.

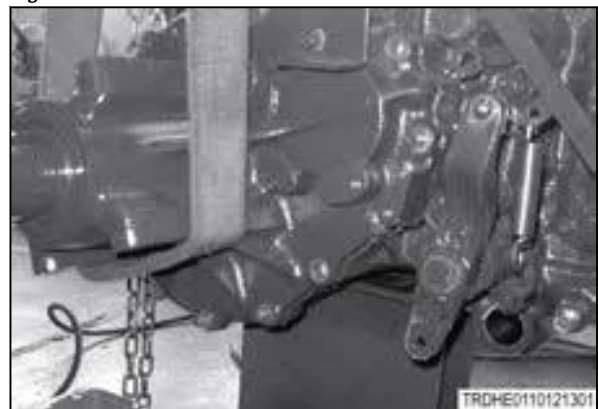


Fig. 62

12. Remove the hardware that supports the inner axle housing to the rear transmission.

NOTE: Some of the retaining bolts (1) are located inside the inner housing.

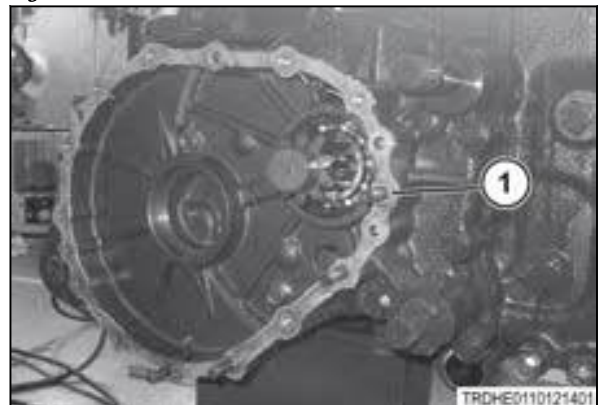


Fig. 63

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