Section F - Transmission Rear Differential

Removal and Replacement

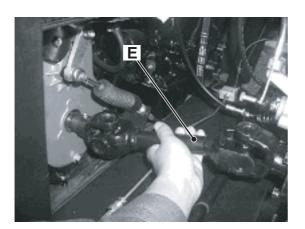


Fig 11.

C107920

- 14 Remove the rear driveshafts. ⇒ Drive Shafts Rear (► F-63)
- 15 Remove the park brake disc. Refer to Section G -Park Brake.



Fig 12.

C107930

- Support the rear differential assembly from below. Remove the mounting screws and any associated brackets.
- 17 Disconnect the breather hose G.
- **18** Remove the differential mounting bolts **E**.

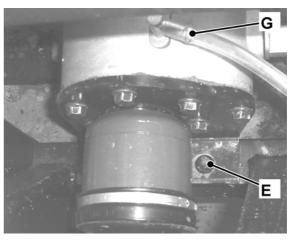


Fig 13.

C105480

19 Remove the differential from the machine.

Replacement

Replacement is the opposite of the removal procedure.

During the replacement procedure do this work also:

- Bleed the brake system, refer to **Section G Brakes**.
- Adjust the steering alignment, refer to Section H -Steering.
- Test drive the machine by driving at a low speed to make sure that the steering and suspension are functioning correctly.



Dismantle and Assemble

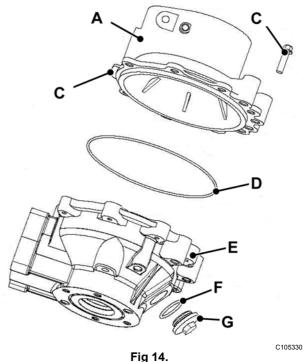
Dismantle and Assemble

Casing

Dismantle

- Remove the drain plug **G** and washer **F** and drain the oil from the casing.
- 2 Remove the cover bolts C by slackening them off in a diagonal sequence.
- Prise the cover A from the housing E at the prying points C.
- Remove and discard the 'O' ring **D**. 4
- 5 Remove the park brake calliper bracket securing bolts
- Remove the park brake calliper bracket K complete 6 with oil seal L.
- 7 Remove the pinion cover **M** and 'O' ring **N**.
- 8 Remove the circlip P.
- 9 Remove the bearing R and pinion shaft S from the housing **U**.

10 Remove the spacer T.





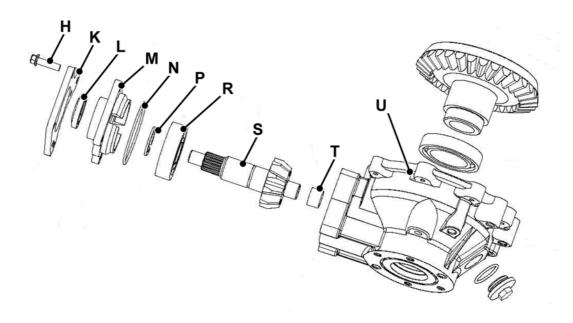


Fig 15.

C105320



Section F - Transmission Rear Differential

Dismantle and Assemble

Assembly

Assembly is the opposite of the dismantle procedure.

During the assembly procedure do this work also:

- Use new seals and 'O' rings. Make sure to apply grease to them before installation.
- Inspect the condition of the pinion shaft S spacer T, housing E and covers A and M for damage or wear. Replace as necessary.
- Install the pinion cover M, park brake calliper bracket M and bolts H. Tighten the bolts H in several stages until the cover M evenly touches the housing U. Rotate the pinion S and torque tighten the bolts H in several stages in a diagonal sequence. → Torque Settings (F-38)
- Upon completion make sure that the shafts turn smoothly without binding.

Table 1. Torque Settings

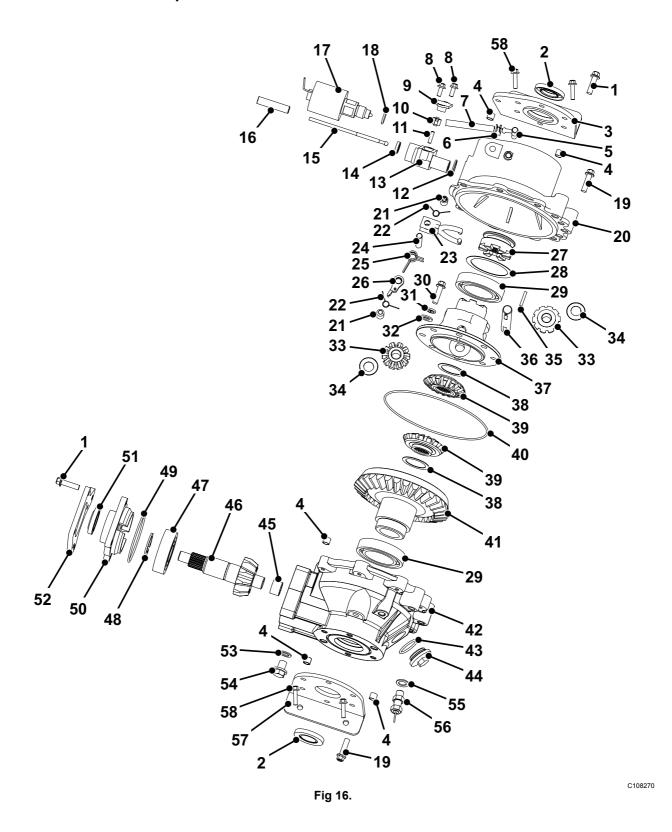
Item	Nm	kgf m	lbf ft
A (10 mm bolt)	45	4.5	33
A (8 mm bolt)	20	2.0	14

F-38 9813/0450-1 **F-38**



Dismantle and Assemble

Rear Differential Components





Section F - Transmission Rear Differential

Dismantle and Assemble

Table 2. Rear Differential - Components

Item Component 1 Bolt M8 x 30 2 Oil seal 3 Seal housing 4 Pin 5 Hose adapter 6 Clip 7 Pipe 8 Bolt M6 x 15 9 Transition box cover 10 Rocker arm 11 Pin M6 x 15 12 Washer 13 Transition box 14 Oil seal 15 Bar 16 Insulation sheath 17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer 32 Washer M10		⇒ Fig 16. (□ F-39)
1 Bolt M8 x 30 2 Oil seal 3 Seal housing 4 Pin 5 Hose adapter 6 Clip 7 Pipe 8 Bolt M6 x 15 9 Transition box cover 10 Rocker arm 11 Pin M6 x 15 12 Washer 13 Transition box 14 Oil seal 15 Bar 16 Insulation sheath 17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	Ito:	
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4 Pin 5 Hose adapter 6 Clip 7 Pipe 8 Bolt M6 x 15 9 Transition box cover 10 Rocker arm 11 Pin M6 x 15 12 Washer 13 Transition box 14 Oil seal 15 Bar 16 Insulation sheath 17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer		
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12 Washer 13 Transition box 14 Oil seal 15 Bar 16 Insulation sheath 17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	10	Rocker arm
13 Transition box 14 Oil seal 15 Bar 16 Insulation sheath 17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	11	Pin M6 x 15
14 Oil seal 15 Bar 16 Insulation sheath 17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	12	Washer
15 Bar 16 Insulation sheath 17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	13	Transition box
16 Insulation sheath 17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	14	Oil seal
17 Solenoid 18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	15	Bar
18 Seal 19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	16	Insulation sheath
19 Bolt M8 x 25 20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	17	Solenoid
20 Rear differential cover 21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	18	Seal
21 Plug pin 22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	19	Bolt M8 x 25
22 Spring 23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	20	Rear differential cover
23 Selector fork 24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	21	Plug pin
24 Shaft 25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	22	Spring
25 Shift lever spring 26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	23	Selector fork
26 Shift lever adapter 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	24	Shaft
 27 Differential shift hub 28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer 	25	Shift lever spring
28 Washer 29 Bearing 30 Bolt M10 x 25 31 Spring washer	26	Shift lever adapter
 29 Bearing 30 Bolt M10 x 25 31 Spring washer 	27	Differential shift hub
30 Bolt M10 x 25 31 Spring washer	28	Washer
31 Spring washer	29	Bearing
	30	Bolt M10 x 25
32 Washer M10	31	Spring washer
	32	Washer M10
33 Differential planet gear	33	Differential planet gear
34 Washer	34	Washer
35 Pin 4 x 24	35	Pin 4 x 24
36 Shaft	36	Shaft

	⇒ Fig 16. (
Item	Component
37	Differential case
38	Washer
39	Differential side gear
40	'O' ring
41	Crown wheel
42	Pinion case
43	'O' ring
44	Oil filler plug
45	Spacer
46	Pinion
47	Bearing
48	Circlip
49	'O' ring
50	Pinion cover
51	Oil seal
52	Parking brake calliper bracket
53	Aluminium washer
54	Bolt M10 x 15
55	Washer
56	Sensor
57	Seal housing