

tm1497 - 300D, 310D, 315D Backhoe Loaders Repair Service Equipment And Tools

Service Equipment And Tools

NOTE:

*Order tools from the SERVICEGARD TM Catalog or from the European Microfiche Tool Catalog (MTC).
Some tools may be available from a local supplier.*

Bushing, Bearing and Seal Driver Set

To remove and install seals and bearings.

Puller Set

To remove bearing cups and cones.

Differential Lifting Tool.....JT38000

To remove and install differential drive shaft.

Hydraulic Ram.....D01103AA

To install differential drive shaft.

Spacer..... [DFT1103Dealer Fabricated Tool, see Group 0399 for instructions to make tool.]

To install cluster gear on drive shaft.

Rivet Forming Tool..... [DFT1121Dealer Fabricated Tool, see Group 0399 for instructions to make tool.]

To install differential ring gear rivets.

tm1497 - 300D, 310D, 315D Backhoe Loaders Repair Other Material

Other Material

Number	Name	Use
AT124243 (U.S.)	SILASTIC 732 ® RTV Adhesive Sealant	To assemble lube pump.
TY6305 (U.S.) TY9485 (Canadian) 764 LOCTITE ® (LOCTITE®)	Clean and Cure Primer Products	To clean transaxle cover, top of transaxle case, ring gear and differential housing.
TY6304 (U.S.) TY9484 (Canadian) 515 LOCTITE ® (LOCTITE®)	Flexible General Purpose Sealant Products	To seal lube pump joint and reverser output shaft splines.
TY9375 (U.S.) TY9480 (Canadian) 592 TEFLON ® (LOCTITE®)	Pipe Sealant with Products	To seal MFWD transfer case quill cap screws.
TY9370 (U.S.) TY9477 (Canadian) 242 LOCTITE ® (LOCTITE®)	Thread Lock and Sealer (Medium Strength) Products	To assemble lube pump and install first and second shifter shaft plug and set screws.
T43515 (U.S.) TY9479 (Canadian) 635 LOCTITE ® (LOCTITE®)	Retaining Compound (Maximum Strength) Products	To assemble ring gear to differential housing.

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tm1497 - 300D, 310D, 315D Backhoe Loaders Repair Specifications

Specifications

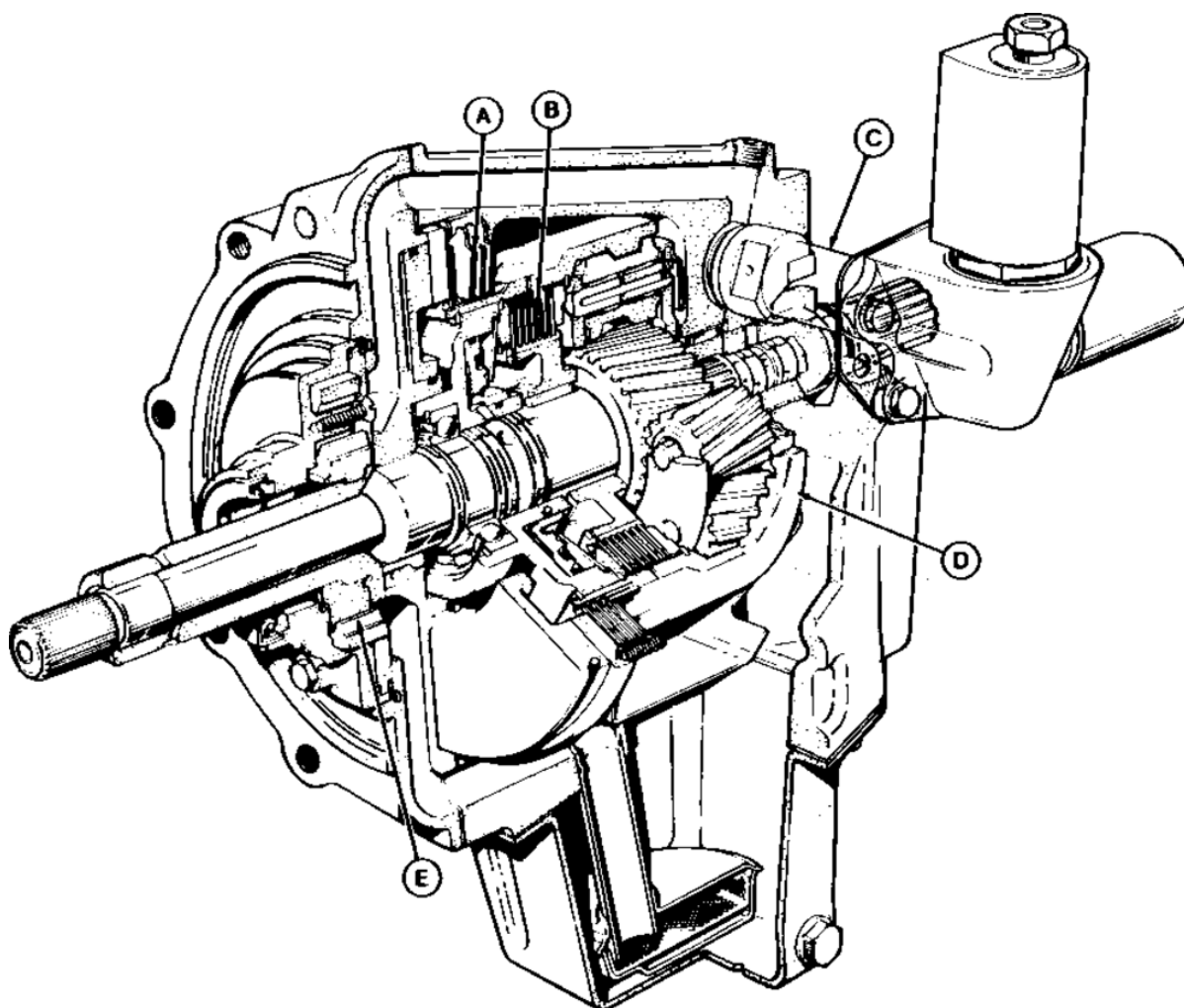
Item	Measurement	Specification
Reverser Input Shaft	End Play	0.25-2.18 mm (0.010-0.86 in.)
Reverser Forward Clutch Pack	Clearance	0.5-0.9 mm (.021-.036 in.)
Reverser Bearing Retainer Cap Screws	Torque	57-68 N·m (42-50 lb-ft)
Reverse Output Yoke Nut	Torque	102-115 N·m (75-85 lb-ft)
Reverser Front Cover Cap Screw	Torque	37-50 N·m (27-37 lb-ft)
Reverser Charge Pump Cap Screw	Torque	23-30 N·m (17-22 lb-ft)
Axle	Weight	79 kg (175 lb)
Differential Assembly	Weight	25 kg (55 lb)
Differential Assembly Cover Cap Screws	Torque	47 N·m (35 lb-ft)
Differential Housing	Preload	0.05-0.13 mm (0.002-0.005 in.)
Differential Drive Shaft: New Bearings	Rolling Drag Torque	1-3 N·m (9-27 lb-in.)
Differential Drive Shaft: Used Bearing (Nominal spec)	Rolling Drag Torque	0.5-2 N·m (4-18 lb-in.)
Differential Drive Shaft: Differential Housing	Backlash	0.15-0.20 mm (0.006-0.008 in.)
Differential Drive Shaft: Differential Bearing Quill Cap Screws	Torque	48 ± 5 N·m (35 ± 4 lb-ft)
Differential Drive Shaft: Transmission Drive Shaft Front Bearing Cone-to-Snap Ring	Maximum Gap	0.152 mm (0.006 in.)
Differential Drive Shaft: Transmission Drive Shaft Quill Cap Screws	Torque	47 N·m (35 lb-ft)
Differential Drive Shaft: Transmission Drive Shaft	End Play	0.10-0.15 mm (0.004-0.006 in.)
Differential Drive Shaft: Shifter Shaft Detent Ball Springs	Free length Test length	25.5 mm (0.96 in.) 16 mm at 133.5 ± 16 N (0.64 in. at 30 ± 3.5 lb)
Differential Drive Shaft: Driven Gear	End Play	0.05-0.10 mm (0.002-0.004 in.)
Differential Drive Shaft: Output Shaft	End Play	0.05-0.10 mm (0.002-0.004 in.)
Differential Drive Shaft: Idler Shaft Retaining Strap Cap Screw	Torque	75 N·m (55 lb-ft)
Differential Drive Shaft: Drive Shaft Quill Cap Screws	Torque	75 N·m (55 lb-ft)

Differential Drive Shaft: Drive Shaft	End Play	0.05-0.10 mm (0.002-0.004 in.)
Differential Drive Shaft: Drive Gear Quill Cap Screw	Torque	72 N·m (53 lb-ft)
Differential Drive Shaft: Output Shaft Quill Cap Screw	Torque	75 N·m (55 lb-ft)
Differential Drive Shaft: Transfer Case to Transaxle Cap Screws and Nuts	Torque	115 N·m (85 lb-ft)

Item	Measurement	Specification
Lube Pump		
(SN -796033) Pump-to- Transmission	Distance	96 mm (3.78 in.)
(SN 796034-) Drive Shaft	End Play	0.8-1.0 mm (0.03-0.04 in.)

Item	Measurement	Specification
Drive Shaft Lock Nut	Torque	68 N·m (50 lb-ft)
Second Speed Gear-310D, 315D	Minimum End Play	0.07 mm (0.003 in.)

Reverser Repair Information



T7366BE-UN: Early Reverser Unit Shown

LEGEND:

- A - Reverse Brake
- B - Forward Clutch
- C - Directional Control Valve
- D - Planetary Assembly
- E - Oil Pump

The main mechanical components of the reverser, reverse brake (A), forward clutch (B) and planetary assembly (D), are covered in this group.

For repair of the hydraulic components, directional control valve (C) and oil pump (E), [refer to Group 0360](#).

For later reversers, the solenoid coils are mounted directly on the reverser case.

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