



Service Repair Manual

Models

311B EXCAVATOR

Disassembly and Assembly 311B, 312B & 312B L EXCAVATORS MACHINE SYSTEMS

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SEN92350021

Travel Motor & Final Drive

SMCS - 4050-010; 4050-017; 4351-010; 4351-017

Remove & Install Travel Motor & Final Drives

Tools Needed	A
138-7574 Link Bracket	2

Start By:

- separate track assemblies
- remove sprocket

Fluid Spillage Containment

Care must be taken to ensure that the fluids are contained during performance of the inspection, the maintenance, the testing, the adjusting and the repair of the machine. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling of the any components containing fluids. Refer to the "Tools And Shop Products Guide", NENG2500 for the tools and the supplies suitable to collect and contain any of the fluids in Caterpillar machines. Dispose of the fluids according to local regulations and mandates.



WARNING

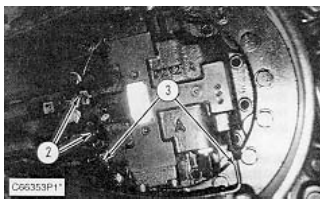
At operating temperature, the hydraulic oil tank is hot and under pressure. Hot oil can cause burns. To prevent possible personal injury, release the pressure in the implement hydraulic circuits (the boom, the stick and the bucket) before any of the hydraulic lines or any of the components are disconnected or removed.

1. Release the pressure the implement hydraulic circuits (the boom, the stick and the bucket) before any of the hydraulic lines or any of the components are disconnected or removed. Release the pressure as follows:

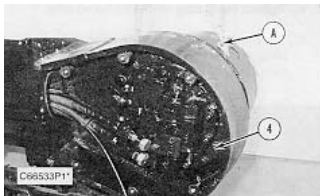
- Shut off the engine and place key in the "ON" position. Put the hydraulic activation control lever in the "UNLOCK" position.
- Move the control levers for the boom, the stick, and the swing to all full stroke positions. This will release any pressure that might be present in the pilot system.
- Return the key to "OFF" position.
- Slowly loosen the fill plug on the hydraulic tank, and release the pressure.
- Tighten the fill plug on the hydraulic tank.
- The pressure in the hydraulic system has been released, the lines and the components can be removed.



2. Remove access cover assembly (1) from over the rear side of the final drive.



3. Disconnect hose assemblies (2) and (3) from the travel motor. Put plugs in the hose assemblies to keep dirt and debris out of the hydraulic system.



4. Fasten Tooling (A) and a hoist to final drive. Put slight lifting tension on the final drive with the hoist.

5. Remove 16 bolts (4) that hold the travel motor and the final drive to the undercarriage frame assembly. Remove the travel motor and the final drive. The weight of the travel motor and the final drive is approximately **160 kg (352 lb)**.

NOTE: The following steps are for the installation of the final drive.

6. Make sure the mating surfaces of the travel motor, the final drive and the undercarriage frame assembly are clean and free of dirt and debris.

7. Check the condition of the O-ring seals in the ends of hose assemblies (2) and (3). If any of the seals are worn or damaged, use new parts for replacement.

8. Fasten Tooling (A) and a hoist to travel motor and the final drive and put it in position in the undercarriage frame assembly. Make sure all mounting bolt holes are in alignment.

9. Put a thin coat of **9S-3263 Thread Lock** on threads of sixteen bolts (4). Install sixteen bolts (4) that hold the final drive to the undercarriage frame assembly. Tighten the bolts evenly.

10. Connect hose assemblies (2) and (3) to the travel motor.

11. Reinstall the access cover assembly over the rear of the final drive.

NOTE: Refer to the topic "Lubricant Viscosities and Refill Capacities" in the "Operation & Maintenance Manual" for the proper filling procedure and the proper levels for the hydraulic oil system.

12. Check the oil level in the hydraulic tank. If necessary, fill it to the correct level.

End By:

- a. install sprocket
- b. connect track assemblies

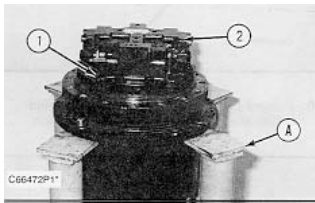
Disassemble & Assemble Travel Motor & Final Drives (312B Excavator)

Tools Needed	A	B	C	D	E
1P-2420 Repair Stand	1				
8B-7548 Crossblock		1			
3H-0465 Cap		2			
138-7573 Link Bracket			3		
1U-6434 Duo-Cone Seal Installer				1	

Start By:

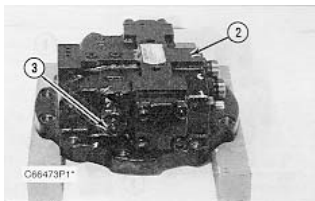
- a. remove travel motor and final drive
1. Thoroughly clean the outside of the travel motor and the final drive prior to disassembly.

2. Put an alignment mark across the sections of the travel motor and the final drive for assembly purposes. The parts must be reinstalled in their original locations.

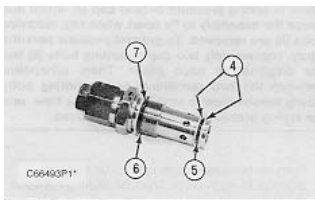


3. Fasten the travel motor and the final drive to Tooling (A) as shown. Remove the drain plug to drain the oil. The capacity of the 312B final drive is **2.5 liters (.6 U.S. gal)**.

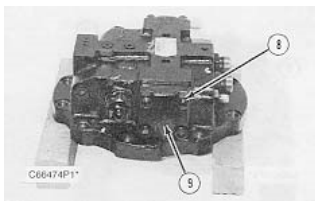
4. Remove ten bolts (1) and travel brake valve (2).



5. Position travel brake valve (2) on wood blocks as shown. Remove relief valve (3).



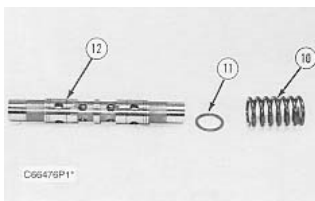
6. Remove back-up rings (4), O-ring seal (5), O-ring seal (6) and back-up ring (7) from the relief valve.



WARNING

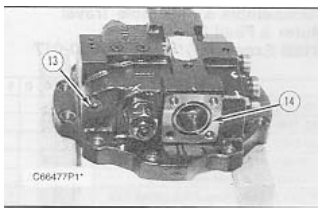
There is spring pressure behind cap (9) which may cause the assembly to fly apart when cap mounting bolts (8) are removed. To prevent possible personal injury, remove only two cap mounting bolts (8) that are diagonal to each other. Then, alternating between the two remaining cap mounting bolts, slowly loosen them a small amount at a time, until the spring pressure is completely released.

1. Remove two cap mounting bolts (8) that are diagonal to each other. Then, alternating between the two remaining cap mounting bolt, slowly loosen them a small amount at a time, until the spring pressure is released. Remove cap (9) from the travel brake valve.

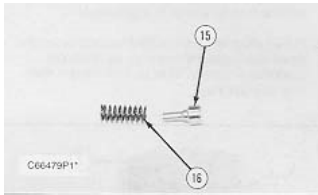


NOTE: Spool assembly (12) should not be disassembled. That component is serviced as an assembly.

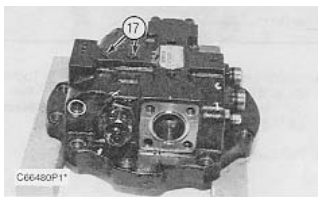
8. Remove spring (10), washer (11) and spool assembly (12) from the travel brake valve.



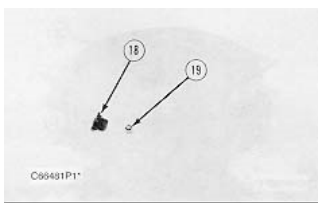
9. Remove plug (13) and O-ring seal (14) from the travel brake valve. Remove the O-ring seal from plug (13).



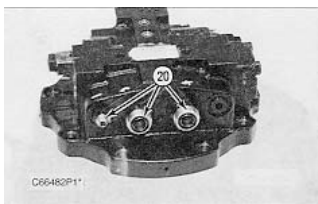
10. Remove plunger (15) and spring (16) located behind plug (13), from the travel brake valve.



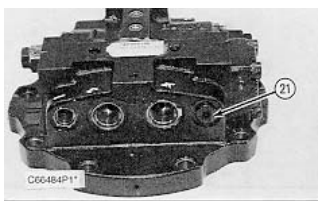
11. Remove two plugs (17).



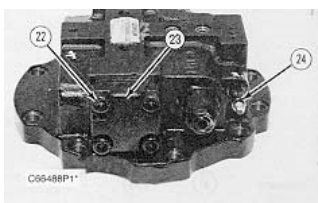
12. Remove O-ring seal (18) from each plug. Remove ball (19) from the travel brake valve.



13. Remove three hose fittings (20). Remove all of the O-ring seals from hose fittings (20).



14. Remove plug (21) from the travel brake valve. Remove the O-ring seal from plug (21).



15. Remove four cap mounting bolts (22) and remove cap (23). Remove fitting (24). Remove the O-ring seal from fitting (24).

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