

Product: EXCAVATOR

Model: 311-A EXCAVATOR 9LJ

Configuration: 311 TRACK-TYPE EXCAVATOR 9LJ00001-UP (MACHINE) POWERED BY 3064 ENGINE

## Disassembly and Assembly 311 AND 312 EXCAVATORS MACHINE SYSTEMS

Media Number -SEN6139-02

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SEN61390021

### Travel Motor & Final Drive

SMCS - 4050-010; 4050-017; 4351

### Remove & Install Travel Motor & Final Drives

Tools Needed		A
6V2157	Link Bracket	2

Start By:

- a. separate track assemblies
- b. remove sprocket

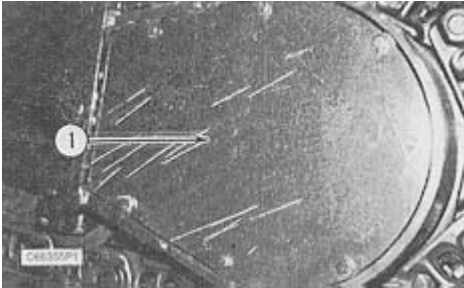


**WARNING**

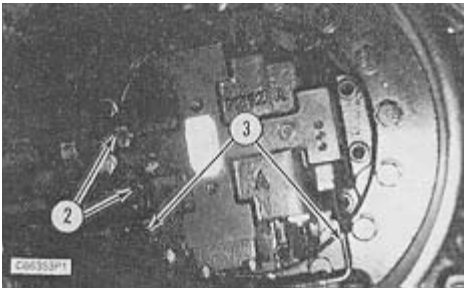
**At operating temperature, the hydraulic oil tank is hot and under pressure. Hot oil can cause burns. To prevent possible personal injury, release the pressure in the implement hydraulic circuits (boom, stick and bucket) before any hydraulic lines or components are disconnected or removed.**

1. Release the pressure the hydraulic system as follows:
  - a. Fully retract the rod in the stick cylinder.
  - b. Adjust the position of the bucket so it will be flat on the ground when the boom is lowered.
  - c. Lower the boom until the bucket is flat on the ground.

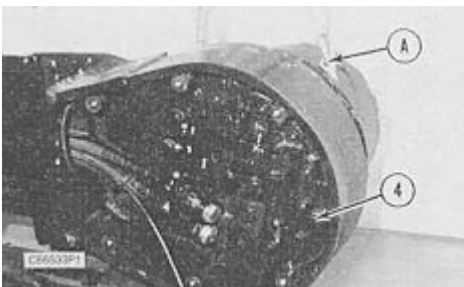
- d. Shut off the engine, and put the hydraulic activation control lever in the "LOCK" position.
- e. Move the control levers for the boom, bucket, stick and swing through their full travel strokes. This will relieve any pressure that may be present in the pilot system.
- f. Slowly loosen the air breather cap on the hydraulic oil tank to release the pressure.
- g. Tighten the air breather cap on the hydraulic oil tank.
- h. The pressure in the hydraulic system has now been released. Lines and components can now 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 tool (A) and a hoist to final drive. Put slight lifting tension on the final drive with the hoist.
- 5. Remove sixteen bolts (4) that hold the travel motor and the final drive to the undercarriage frame assembly. Remove the travel motor and final drive. The weight of the travel motor and the final drive is **160 kg (352 lb)**.

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

- 6. Be sure the mating surfaces of 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 tool (A) and a hoist to travel motor and final drive and put it in position in the undercarriage frame assembly. Be sure all mounting bolt holes are in alignment.
9. Put a thin coat of **9S3263 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.
12. Check the oil level in the hydraulic tank. If necessary, fill it to the correct level. See the Operation & Maintenance Manual for the correct filling procedure.

End By:

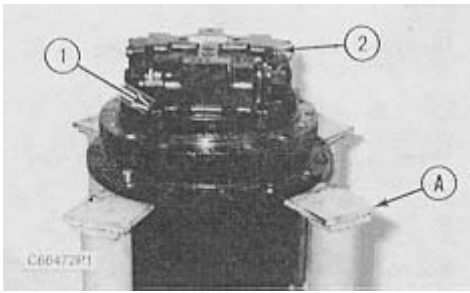
- a. install sprocket
- b. connect track assemblies

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

Tools Needed		A	B	C	D	E
1P2420	Repair Stand	1				
8B7548	Crossblock		1			
3H0465	Cap		2			
6V2156	Link Bracket			3		
1U6434	Due-Cone seal Installer				1	
1U6143	Motor Torque Adjustment Tool					1

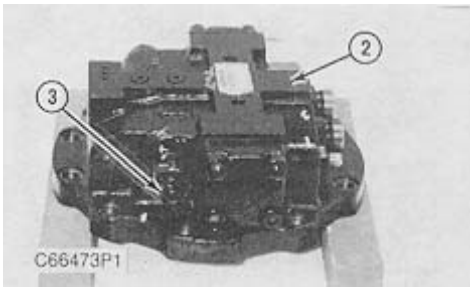
Start By:

- 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.

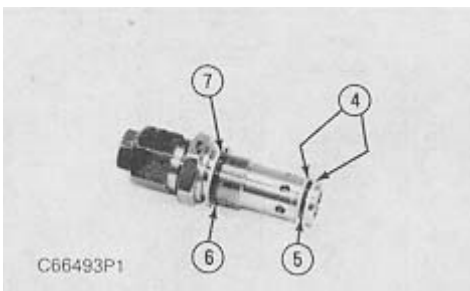


3. Fasten the travel motor and the final drive to tool (A) as shown. Remove the drain plug to drain the oil. The capacity of the final drive is **2.5 liters (.6 U.S. gal)**.

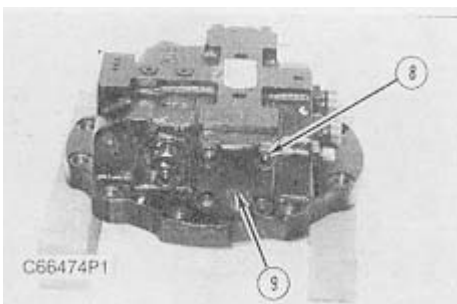
4. Remove ten bolts (1) and travel brake valve (2).



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.



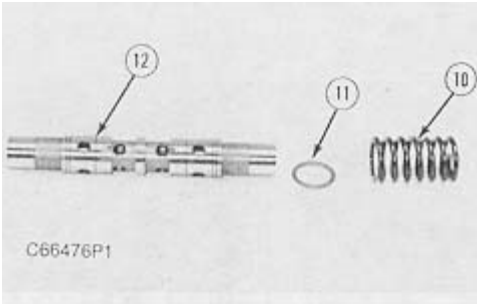
 **WARNING**

**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.

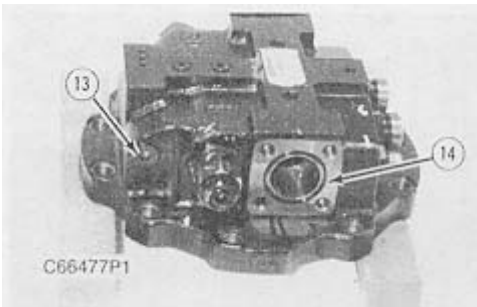
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7. Remove two cap mounting bolts (8) that are diagonal to each other. Then, alternating between the two remaining cap mounting bolts, slowly loosen them a small amount at a time, until the spring pressure is released. Remove cap (9) from the travel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

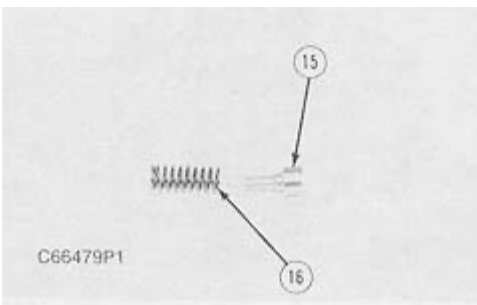


**NOTE:** Spool assembly (12) should not be disassembled. That component is serviced as an assembly.

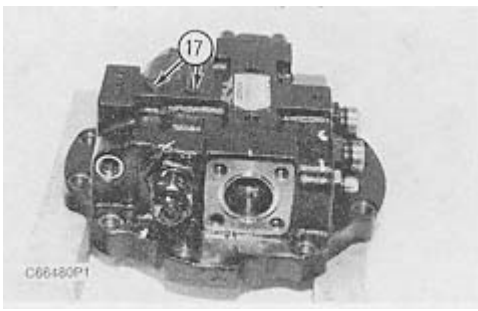
8. Remove spring (10), washer (11) and spool assembly (12) from the travel brake valve.



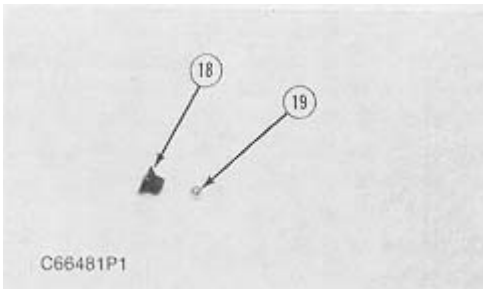
9. Remove plug (13) and O-ring seal (14) from the travel brake valve. Remove the O-ring seal from plug (13).



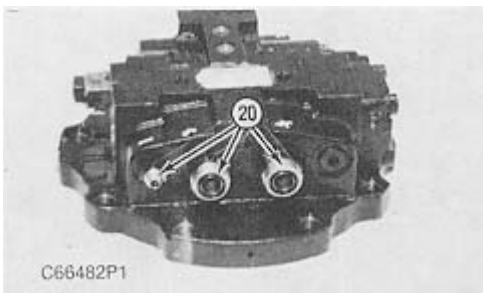
10. Remove plunger (15) and spring (16) located behind plug (13), from the travel brake valve.



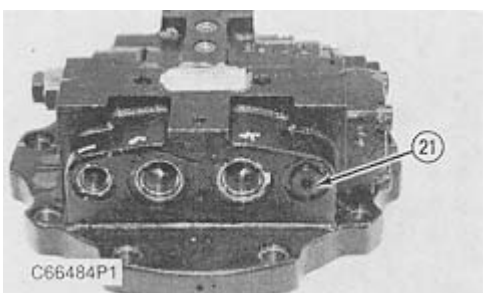
**11. Remove two plugs (17).**



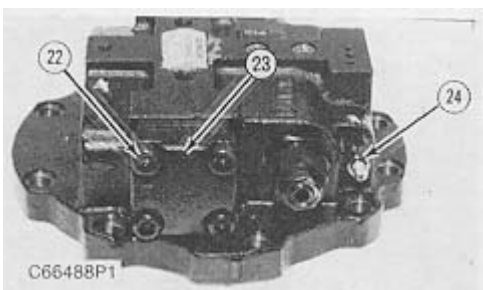
**12. Remove O-ring seal (18) from each plug. Remove ball (19) from the travel brake valve.**



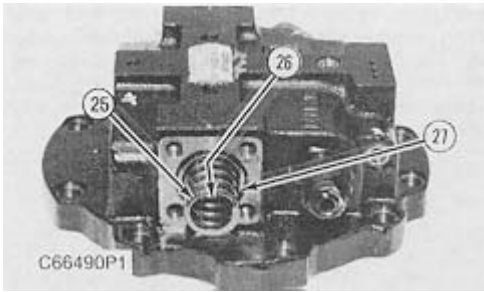
**13. Remove three hose fittings (20). Remove all of the O-ring seals from hose fittings (20).**



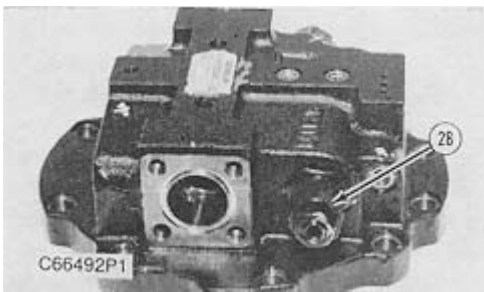
**14. Remove plug (21) from the travel brake valve. Remove the O-ring seal from plug (21).**



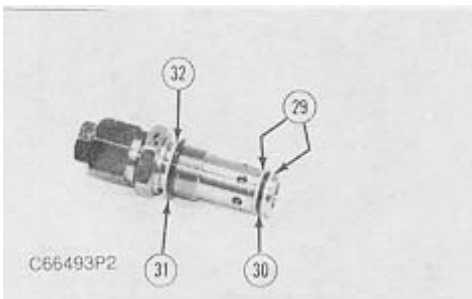
15. Remove four cap mounting bolts (22) and remove cap (23). Remove fitting (24). Remove the O-ring seal from fitting (24).



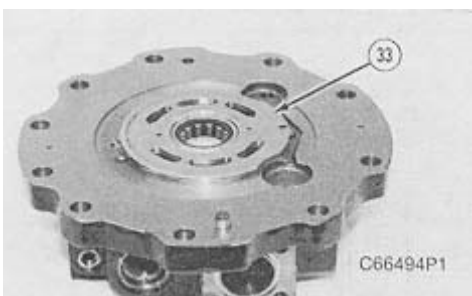
16. Remove spring (25) and washer (26) from the travel brake valve. Remove O-ring seal (27) from the valve body.



17. Remove relief valve (28) from the valve body.



18. Remove back-up rings (29), O-ring seal (30), O-ring seal (31) and back-up ring (32) from the relief valve.



19. Reposition the travel brake valve body as shown. Remove plate (33) from the body.

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