SMCS - 3020,3258 i07927810

Telehandler

TH255C (S/N: JK21-UP; JK31-UP)

TH3510D (S/N: TH21-UP; TH31-UP)

TH357D (S/N: TD61-UP)

TH408D (S/N: TH91-UP)

TH414C (S/N: KRF1-UP; LYN1-UP)

TH417C (S/N: NAB1-UP; NMM1-UP)

TH417D (S/N: MKY1-UP)

TH514D (S/N: MWG1-UP)

TL1055 (S/N: TBM1-UP)

TL1055C (S/N: MDD1-UP; KDE1-UP)

TL1055D (S/N: ML51-UP; MNT1-UP)

TL1255 (S/N: TBN1-UP)

TL1255C (S/N: SXM1-UP; DHW1-UP)

TL1255D (S/N: ML71-UP; MYW1-UP)

TL642 (S/N: TBK1-UP)

TL642C (S/N: THG1-UP; THL1-UP)

TL642D (S/N: ML81-UP; MLG1-UP)

TL943 (S/N: TBL1-UP)

TL943C (S/N: SXH1-UP; THH1-UP)

TL943D (S/N: MLD1-UP; MLJ1-UP)

Reference: Service Magazine , M0090819 , "Updated Front Axle Group Oil Specifications for Differentials and Wheel Ends Are Now Available for Certain Telehandlers"

Best practices for reassembly of the limited slip differential in the front axle are now available on the machines listed above. If the limited slip differential is not re-assembled or broken-in correctly, it can cause noise during turns. This document describes some best practices to use in the reassembly and break-in of the limited slip differential used in the front axle of certain Cat® Telehandlers.

These best practices can be used within the listed serial numbers mentioned above.

Note: Use all applicable safety precautions while working on, around or under any machinery.

The following are some best practices to use when reassembling the limited slip differential in the front axle of certain Cat® Telehandlers. These procedures are not necessary on new machines from the factory.

Oil Selection

Depending on your machine model, refer to either SEND 1722 "Revision to the Recommended Oils Used in Caterpillar TH414C GC and TH417C GC Telehandler Front Axle Assemblies" or SEND 1730 "Updated Axle Oil Specifications for Differentials and Wheel Ends" or , M0090819 for the oil specification updates.

Assembly

- Before reassembly, soak the limited slip differential disks and brake disks in the same type oil that will be used in the axle (see above) for 16 hours (overnight).

Note: Differential disk matching that was previously required is no longer recommended. Differential plates may sit above, flush, or below the housing.

Break In

After assembly, avoid driving the machine in continuous tight circles until the break-in is complete. Break in the differential disks using the following procedure:

1. Remove all load on the attachment.
2. Set the steering mode to 2 wheel steering, also known as roading mode. The rear axle does not steer in this mode. Only the front wheels steer.
3. Warm the axle oil in the front axle central housing to 30° C (86° F) using the service brakes.

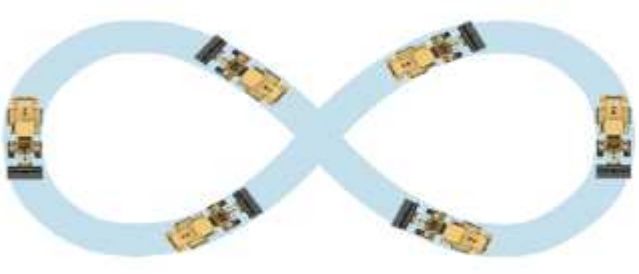

Illustration 1 g06225285
Example of "Figure 8" pattern

4. Drive the machine in a wide figure 8 pattern 15 minutes. Do not turn the wheels to the stops or so that the front limited slip differential is engaging or making noise. This will circulate the oil between the disks. Refer to Illustration 1. Do not exceed 5 to 7 km/h (3 to 4 mph).
5. Drive the machine in a figure 8 pattern 3 times with the steering wheel at full turn. Refer to Illustration 1. Do not exceed 5 to 7 km/h (3 to 4 mph).
6. Change the steering mode to 4 wheel steer (circle steer).
7. Drive the machine in a figure 8 pattern 3 times with the steering wheel at full turn. Do not exceed 5 to 7 km/h (3 to 4 mph).
8. Drive the machine in a straight line for 100 m (328 ft) to allow the temperature of the limited slip disks and oil equalize.

If there is front axle noise after reassembly and break-in of the limited slip disks, be aware that the front axle has both limited slip disks and two sets of brake disks (left and right). Brake noise can be confused with limited slip differential disk noise.

If noise is present during straight-line travel, then it is probably brake disk noise. If noise is present during a turn, regardless of brake application, then the noise is probably from the limited slip differential disks. The double u-joints at the axle shaft ends can also make noise during turns.

PIP-10087702
2021/03/30
14:55:48+01:00
i07103985