MT PRODUCT INFORMATION

DOCUMENT	**BRAKE MEASUREMENT**
MACHINE/ GROUP	**ALL POST MARK 7 CARRIER EPIROC UNDERGROUND DRILLS**
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DATE	**22/12/2022**

Background

Due to the change from Clark Hurth axles to Dana Axles used on Mark 7 and later drill rigs, there has been difficulty in accurately measuring the brake packs.
This service bulletin aims to provide the information to check later model brake packs correctly and prevent the premature change outs of a serviceable component.

Note- Information in this document is taken from OEM manuals

OEM WORK INSTRUCTIONS- (does not show additional access point in casting)

20.6 Check Brake Discs

⚠ WARNING

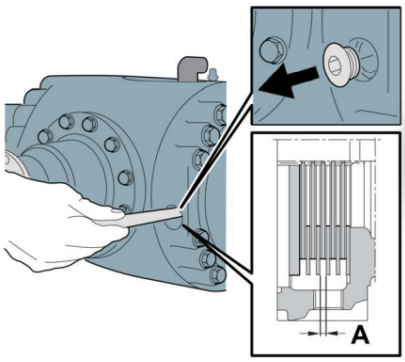
High Hydraulic Oil Pressure

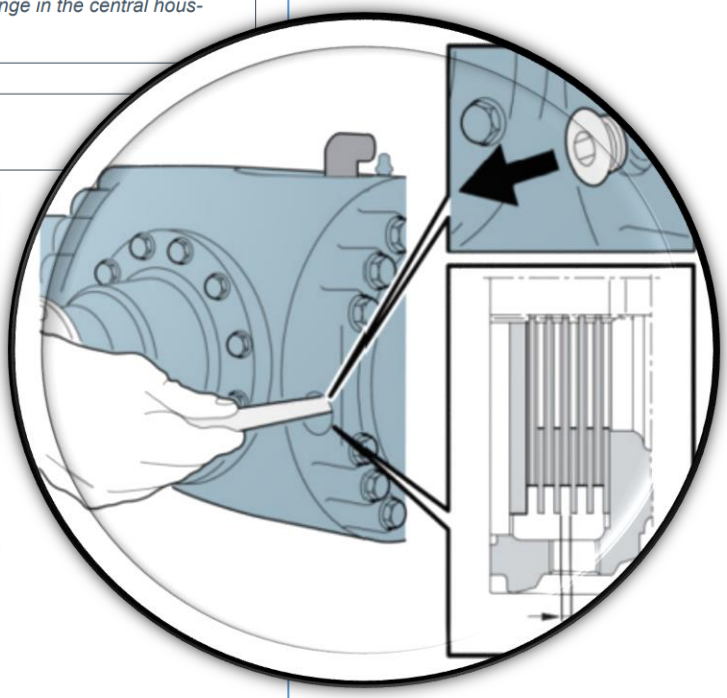
Can cause personal injury.

- Switch off the machine.
- Make sure that the system is de-pressurized before starting any work.
- Press the brake pedal repeatedly after the machine has been switched off to make sure that the system is de-pressurized.
- Check a pressure gauge on both brake system accumulators to make sure that the system is de-pressurized.

! ***NOTE:*** *The check can be optimally carried out with an oil change in the central housing.*

! ***NOTE:*** *This test procedure is not applicable on all axles.*



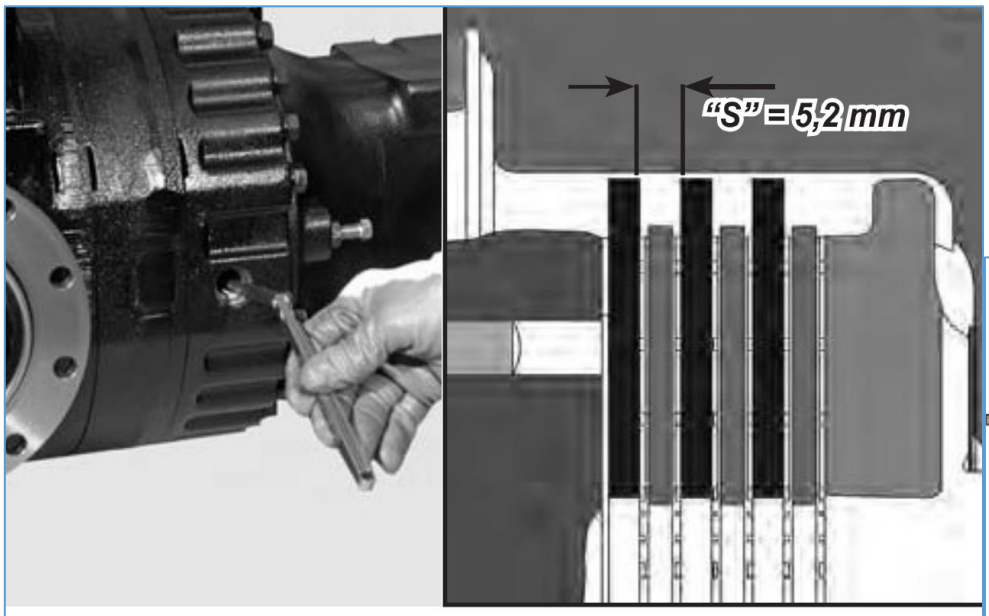


Precondition
- ✓ Service brake is applied.
- ✓ Parking brake is applied.
- ✓ Diesel engine is running.

1. Remove level plugs in the central housing.
2. Check the distance (A) between the brake discs from both level plugs using a feeler gauge or similar tool with a thickness of 5.2 mm (0.20 in).

   Replace the brake discs If the distance (A) between the discs is less than 5.2 mm (0.20 in).
3. Install the level plugs again in the central housing.

OEM Document# Service Manual



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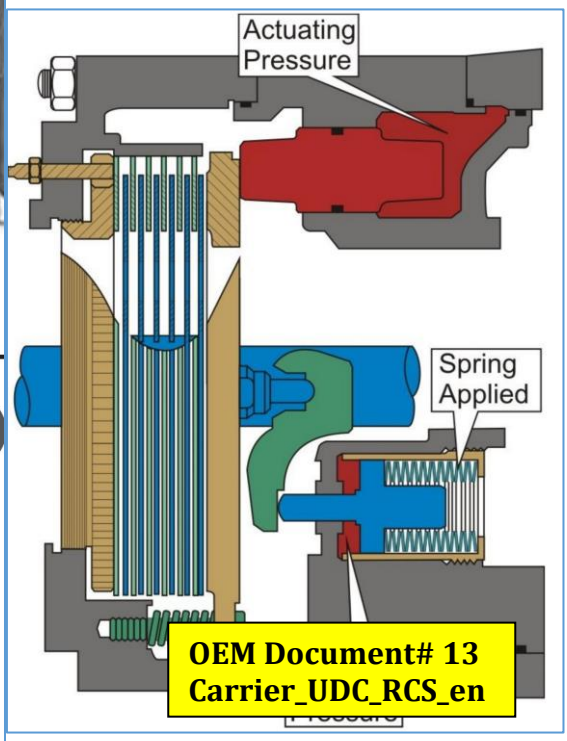
CHECKING WEAR
ATTENTION! The same operations must be carried out on both arms.
Remove the oil level plug . Apply the brakes once and, while keeping the pressure up, check thickness "S" between the intermediate brake discs.
Minimum "S" value: 5,2 mm.
ATTENTION! If necessary, replace brake discs and intermediate discs on both sides.

DANA Service Manual_Document# MO113F10

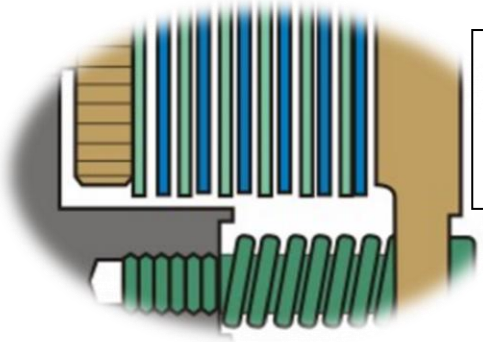


OEM Document# 13 Carrier_UDC_RCS_en

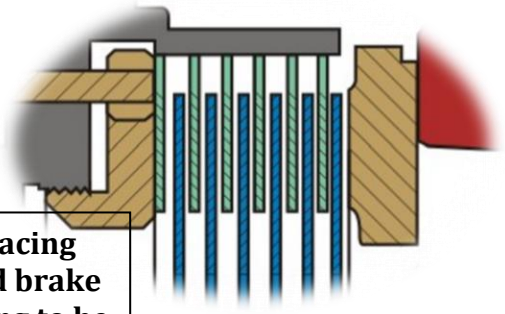
Findings

Upon the pre mark 7 changeovers from Clark Hurth axles to DANA axles, the application to measuring the brake packs has changed very slightly. Theory is the same, therefore reference material has not changed, however, as the drain level/filling and inspection hole is now slightly offset to the left-hand side (of the friction plate inspection area) this now makes it extremely difficult to competently confirm an in service or out of service brake assembly using the measuring tool.

Another area causing mis diagnosis, is that the OD of the brake discs and the friction material is only very marginally different, which does not allow the tooling to be 'inserted' into a gap to test for tolerance.

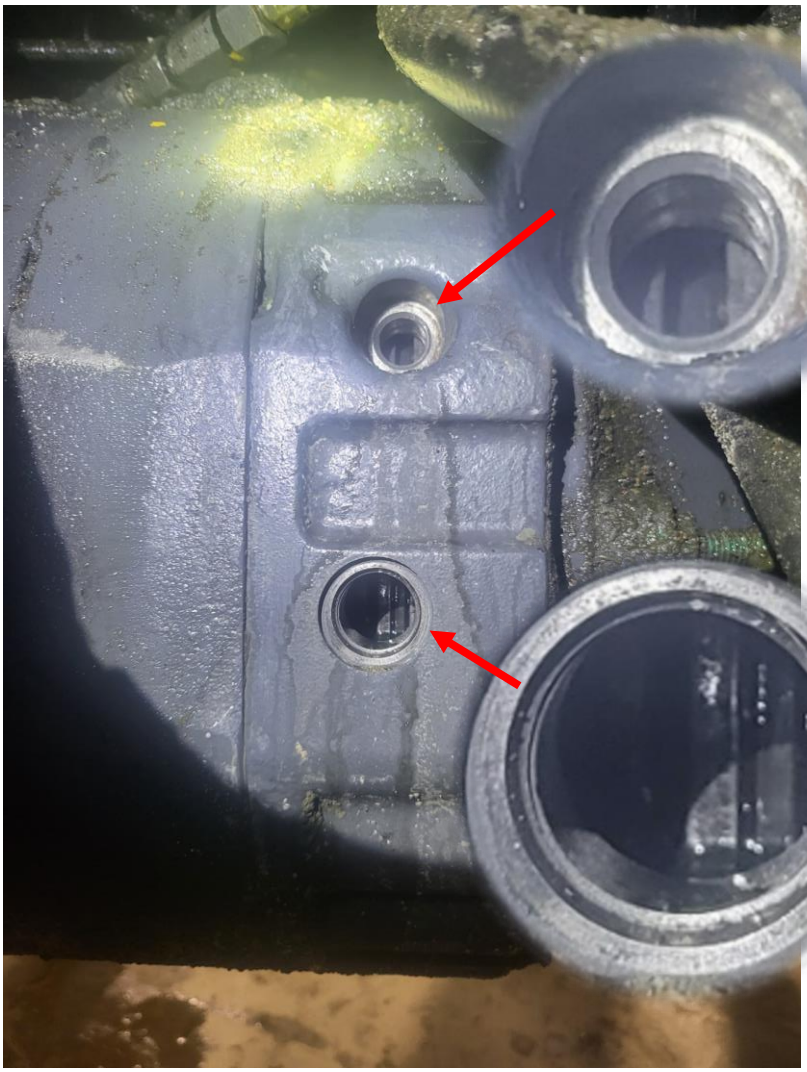


Example: Even spacing of friction plates and brake discs, tooling cannot be placed in between brake discs



Example: Uneven spacing of friction plates and brake discs, allowing tooling to be inserted (top hole access)

A second inspection hole has been introduced to the casting to allow access to the top of the brake pack. Using this access point allows accurate measurement of the brake wear using the originally supplied tooling.



Additional access point in casting, allows access to top end of brake packs.

Oil level/fill point, usual brake disc check point indicated by OEM.