SERVICE BULLETIN

SB1328

ADDRESSEES	**:** Owners and operators of coaches mentioned under "Application"
VEHICLE MODEL	**:** T2140, T2145, C2045, CX45, TX40, TX45, TD925US, TDX25US
MANUAL CHAPTER	**:** 12.10 Drive axle – Hub 12.14 Trailing axle – Hub (TD925US 10-wheeler only)
BULLETIN TYPE	**:** Service information
DATE	**:** March 4th, 2016
SUBJECT	**:** DANA wheel bearing end-play
TERMS & CONDITIONS	**:** This service bulletin does not entitle to any reimbursement.

APPLICATION:

Model	VIN
T2140	40148→40173 40611→40644
T2145	44123→44418 43991→43999 44501→44800 44801→44857 44901→44961
C2045	45896→48132
CX45	48200→48960 48967→48982
TX40	41200→41216
TX45	41100→41421 41454→41461
TD925US	All
TDX25US	42800→42898

INTRODUCTION

DANA, manufacturer of axles, has informed Van Hool that the procedure for checking the wheel bearing end-play has been changed. This change is related to the following axles:

- DANA 11.36 drive axle with “unitized” wheel bearings
- DANA G171 drive axle with “unitized” wheel bearings
- VAN HOOL trailing axle with DANA hub (TD925US 10-wheeler only)

The change is **NOT** related to DANA drive axles with ordinary wheel bearings (refer to figure 2).

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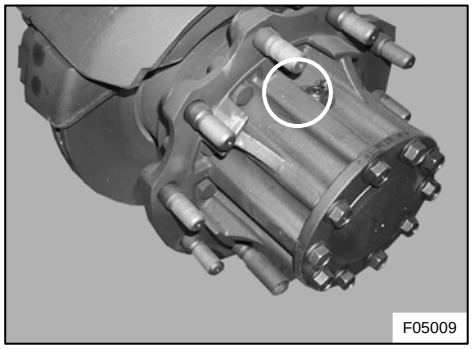
Visual identification of axle end	
Axle end with “unitized” wheel bearings	 **Figure 1**
Axle end with ordinary wheel bearings (recognizable by the oil filling/checking plug in the hub)	 **Figure 2**

INTERVAL FOR CHECKING WHEEL BEARING END-PLAY

- Vehicles covering less than 50 000 miles (80 000 km) a year: once a year
- Vehicles covering more than 50 000 miles (80 000 km) a year: every 50 000 miles (80 000 km) or every 6 months, what first comes

Also carry out this check after working on the brakes or any other component of the axle end.

ADMISSIBLE WHEEL BEARING END-PLAY

Admissible end-play in case of new bearings	
End-play	**Action**
0 inch (0 mm)	End-play OK. No further action required.
more than 0 inch (0 mm)	Tighten the hub nut to the prescribed torque. Then check the wheel bearing end-play once again. If the wheel bearing end-play is still more than 0 inch (0 mm), this means that the hub is damaged and that you have to change the hub together with the wheel bearing.

Admissible end-play in case of used bearings	
End-play	**Action**
between 0 and 0.002 inch (between 0 and 0.05 mm)	End-play OK. No further action required.
between 0.002 and 0.008 inch (between 0.05 and 0.2 mm)	Tighten the hub nut to the prescribed torque. Then check the wheel bearing end-play once again. If the wheel bearing end-play is still more than 0.002 inch (0.05 mm), you have to change the wheel bearing.
more than 0.008 inch (more than 0.2 mm)	Change the wheel bearing.

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TO CHECK WHEEL BEARING END-PLAY

Preparation

- Park the vehicle over a flat inspection pit, with the front wheels in the straight-ahead position. Apply the parking brake. Stop the engine. Switch off all systems and turn off the battery isolation switch on the dashboard. When using mobile column lifts (for vehicles with 3 axles: always use six mobile column lifts) instead of an inspection pit, always lower the suspension first.
- Open the mechanical battery isolation switch.
- Put a "DO NOT START" warning message on the instrument panel before starting the checks or repairs.
- Put chocks in front of and behind the wheels.
- Read the entire procedure before starting to work.

WARNING!

Observe safe shop practices at all times.

Procedure to check wheel bearing end-play

Step	Action
1	Release the parking brake.
2	Jack up the axle until the wheels clear the ground.
3	Give the wheel a couple of turns in both directions to allow the wheel bearings to settle.
4	 **CAUTION!** **Once the dial indicator gauge has been set to zero, it is no longer permitted to turn the wheel. Neither should you touch the stylus of the dial indicator gauge any more.** Place a dial indicator gauge with a magnetic stand on the axle housing *(on trailing axle of TD925US 10-wheeler: on steering knuckle).* Position the stylus of the dial indicator gauge against the inside of the brake disc. Now set the dial indicator gauge to zero.
5	Grab the wheel halfway its height and push it straight towards the inside as far as it will go. At the same time, have an assistant make a note of the displacement of the dial indicator gauge.
6	Hands still halfway its height, now pull the wheel towards the outside as far as it will go. At the same time, have an assistant make a note of the displacement of the dial indicator gauge. The difference between the two measured displacements represents the wheel bearing end-play at that side.
7	Repeat steps 5 and 6 until you obtain two consecutive reliable measurements.
8	Compare the measured end-play with the maximum permissible value mentioned in the text.
9	Repeat this procedure for the other side of the vehicle.

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Procedure to tighten hub nut on a DANA drive axle

Step	Action
1	Remove the axle shaft.
2	**CAUTION!** **Not fully undoing the staking of the hub nut can lead to damage of the thread of the axle spindle when tightening the hub nut further on in the text.** With a pointed tool, fully undo the staking of the hub nut.
3	Tighten the hub nut to a torque of 700 ± 35 ft.lbf (950 ± 50 Nm).
4	Recheck the wheel bearing end-play.
5	Lock the hub nut by staking its collar in the groove of the axle spindle.
6	Clean the contact surfaces between the axle shaft and the hub.
7	Apply Loctite 518 to the contact surfaces between the axle shaft and the hub.
8	Slide the axle shaft into the axle housing. Mount the fixing screws of the axle shaft and tighten the screws to a torque of 245 ± 10 ft.lbf (330 ± 15 Nm).

Procedure to tighten hub nut on a VAN HOOL trailing axle (TD925US 10-wheeler only)

Step	Action
1	Remove the hub cover.
2	**CAUTION!** **Not fully undoing the staking of the hub nut can lead to damage of the thread of the steering knuckle spindle when tightening the hub nut further on in the text.** With a pointed tool, fully undo the staking of the hub nut.
3	Tighten the hub nut to a torque of 700 ± 35 ft.lbf (950 ± 50 Nm).
4	Recheck the wheel bearing end-play.
5	Lock the hub nut by staking its collar in the groove of the steering knuckle spindle.
6	Clean the contact surfaces between the hub cover and the hub.
7	Apply Loctite 518 to the contact surfaces between the hub cover and the hub.
8	Install the hub cover and tighten screws to a torque of 245 ± 10 ft.lbf (330 ± 15 Nm).

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INFORMATION HANDLING

Important additions and modifications regarding technical information not yet included in the manual will be communicated through Service Bulletins.

VAN HOOL CUSTOMER PORTAL:

Consult the Van Hool customer portal for the latest service documentation. Beside the maintenance manual, you will also find the operating manual and the spare parts catalogue of your vehicle on the customer portal. The customer portal is accessible through www.vanhool.be, and only with a code (password) from Van Hool. If you do not have a password yet, request it by using the link on the Van Hool website.