



SERVICE BULLETIN No.1180

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COACH MODEL	: 2100 and C2000 Series
BULLETIN TYPE	: Service Information
SECTION	: Section 4 – Axles, wheels and tires
DATE	: October 12, 2006
SUBJECT	: Dana 11.36 drive axle w/ unitized wheel bearings - hub nut change
TERMS & CONDITIONS	: No claims will be accepted with reference to this Bulletin.

APPLICATION:

The service information subject of this Bulletin is applicable to following units:

Model	Engine	VIN
T2145	Cummins	44123 → 44307
	Detroit Diesel	43991 → 43999, 44501 → 44800
C2045	Cummins	45137 → 45499, 46001 → 46014
	Detroit Diesel	45621 → 45999, 46501 → 46606
	Caterpillar	47001 → 47004

DESCRIPTION:

Ref.: Dana Service Bulletin 05-03

1. Dana Corporation have introduced new fasteners (kit # VH 10963147) to secure hubs with unitized bearings to the drive axle spindle.
2. All 11.36 axles produced after serial # P5628-04 incorporate the new fixation kit.

Description continued on next page.

Service personnel: please read, initial and circulate.

Service Manager	Parts Manager	Warranty Administrator	Workshop Foreman	Service Technician

Continued from page 1.

3. VIN cut-in for T and C production units is as follows:

Model	Engine	VIN
T2145	Cummins	44308 →
	Detroit Diesel	44801 →
C2045	Cummins	46015 →
	Detroit Diesel	46607 →
	Caterpillar	47005 →

4. Dana recommend that all axles fitted with hub nut VH 10721088 (see Figure 1) are upgraded as described in this Bulletin whenever the hub installation is disturbed for any reason.

PARTS AND PRODUCTS:

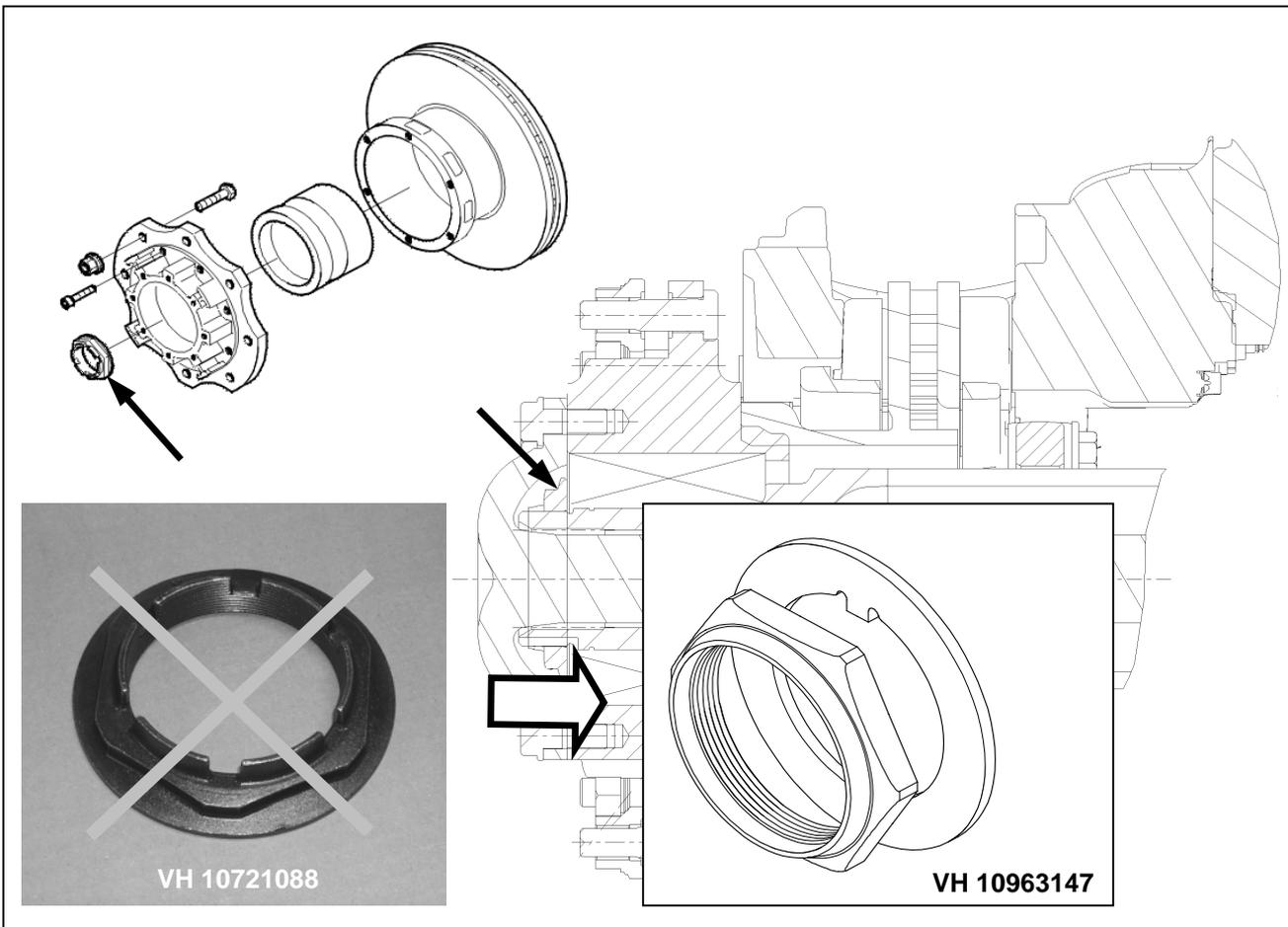


Figure 1: Previous and new fastener comparison

Old parts

VH part reference	Dana part reference	Description	Qty.
VH 10721088	830463	Hub nut, flanged, M86 x 2.0	2*

*Quantity per drive axle

New parts

VH part reference	Dana part reference	Description	Qty.
VH 10963147	829297	Hub mtg. kit, includes stake nut, M86 x 2.0 and tang washer	2*

*Quantity per drive axle

- Old and new parts are interchangeable, but only the new will be offered for service replacement.
- Parts may be purchased from your nearest ABC Customer Care & Parts Source service center.
- Parts and products disposition: discard according to applicable environmental regulations.

PROCEDURE:

If you do not have the expertise or equipment to perform present procedure, do not hesitate to go to your nearest ABC Customer Care & Parts Source dealership.

1. General:

- This job should be executed by a technician experienced in drive axle repair.
- Replacement of the previous nut is recommended in the event of either of the following:
 - Removal of the nut for any reason.
 - Nut loosening in service.

2. Special tools, equipment or services:

- To secure the hub nut following tools are required:
 - 1,500 ft.lbf capacity torque wrench,
 - 105 mm hub nut socket VH 10732280 (see Figure 2).

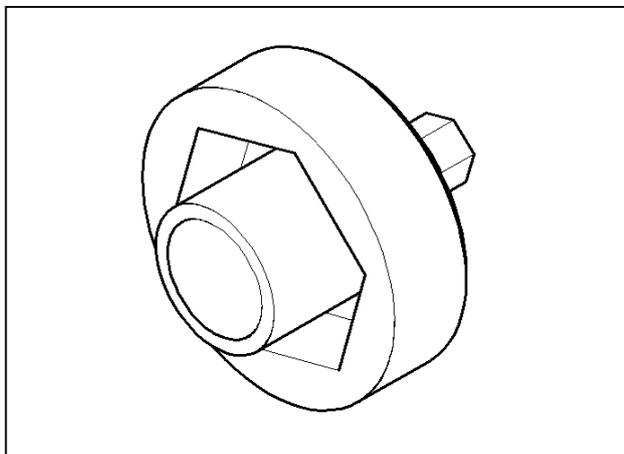


Figure 2: Hub nut socket VH 10732280

3. Preparations:

- Park the coach on a level-surfaced service pit with the front wheels straight. Shut down the engine.
- Switch off all systems and turn off the battery master switch.
- Put a “DO NOT OPERATE” tag on the instrument panel.
- Chock the front and tag axle road wheels.
- Read the entire procedure before beginning to work.

CAUTION: Observe safe shop practices at all times.

4. To replace drive axle hub nut VH 10721088 by kit VH 10963147:

- 1) Prepare the coach for removal of the hub assembly.
- 2) With the half-shaft removed and using hub nut socket VH 10732280, undo and remove the nut.
- 3) Thoroughly clean the axle spindle.
Inspect the spindle thread for damage and dress with a suitable thread chaser as required.

CAUTION:

- **Always ensure that the tang washer is fitted between the stake nut and the bearing. Failure to do so could result in excessive hub end-float and consequential damage.**
 - **When assembling a used stake nut, ensure that the previously staked area is not damaging the spindle threads.**
 - **If during assembly of a used staked nut, the previously staked area is over the keyway after applying the final torque, it is recommended that a new nut be fitted.**
- 4) Fit the tang washer over the spindle and onto the keyway as shown in Figure 3.

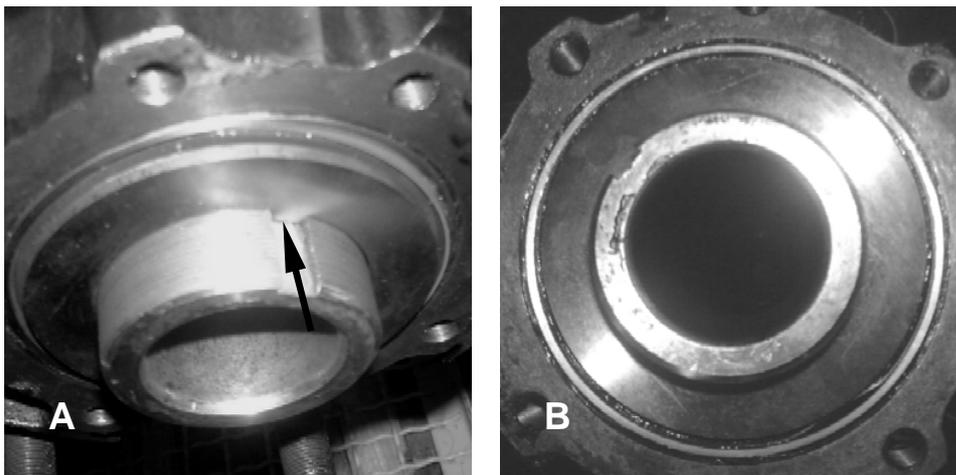


Figure 3: Washer with tang in keyway (A) and and pushed fully home (B)

- 5) Run-up the new hub nut fully (see Figure 4) and using hub nut socket VH 10732280 apply initial torque as follows:

Initial torque	
265 to 295 ft.lbf	360 to 400 Nm

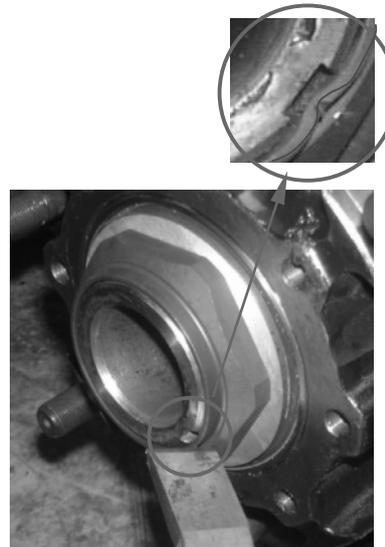


Figure 4: Hub nut and tang washer fully up

- 6) Rotate the hub assembly ten revolutions in the direction of travel to settle the bearings.
- 7) Tighten the nut to a final torque of 700 to 775 ft.lbf (950 to 1050 Nm).
- 8) Using a suitable chisel or punch, stake the nut into the keyway as shown in Figure 5.



Figure 5: Staked nut bending procedure



5. To undo and remove kit VH 1096314:

When servicing axles fitted with the new kit, remove the staked nut and tang washer as follows:

- 1) Using a suitable small chisel or punch, fully bend-out the staked part of the nut as shown in Figure 6.

NOTE: Failure to bend-out the staked area of the nut sufficiently could cause damage to the spindle threads.



Figure 6: Bending out of the staked part of the hub nut

- 2) Undo, remove and recover the nut.
- 3) Recover the tang washer

Procedure complete.

DISCLAIMER:

The procedures contained herein are not exclusive. Van Hool cannot possibly know, evaluate, or advise the transportation industry of all conceivable ways in which a procedure may be undertaken or of the possible consequences of each such procedure. Other procedures may be as good, or better, depending upon the particular circumstances involved.

Each carrier who uses the procedures herein must first satisfy itself thoroughly that neither the safety of its employees or agents, nor the safety or usefulness of any products, will be jeopardized by any procedure selected.

SERVICE INFORMATION:

Service Bulletins are issued to supplement or supersede information in the Van Hool manuals. Note Service Bulletin number, date and subject on the register at the end of the relevant chapter(s). File Service Bulletin separately for future reference.