



SERVICE BULLETIN No.1171

Circulate to listed addressees

COACH MODEL	: T800, T900, T2100 and C2000 Series
BULLETIN TYPE	: Service Information
SECTION	: Wheels, hub and tires
DATE	: October 20, 2005
SUBJECT	: Wheel nuts for Alcoa alloy wheels
TERMS & CONDITIONS	: No claims will be accepted with reference to this Bulletin.

APPLICATION:

The service information subject of this Bulletin applies to T and C coaches equipped with:

- drum brakes on the drive axle and...
- standard wheel bolts and...
- Alcoa alloy wheels featuring 32 mm (1.26 inch) stud holes.

DESCRIPTION:

1. Alloy wheel mounting hardware:

- The wheel disc of Alcoa alloy wheels is thicker (22 mm) (0.87 inch) than that of steel wheels (approx. 12 mm) (0.50 inch).
- When installing an Alcoa alloy wheel on an axle with standard wheel stud length, special sleeved cap nuts must be used. The shanks of these sleeved cap nuts reach into the 32 mm (1.26 inch) dia. wheel stud holes and make up for the standard wheel stud length.
- For drive axle (dual wheel mounting) application sleeved cap nuts come in two types: 1. long-shank thick walled and 2. long-shank thin walled (see Figures 1 and 2, overleaf).

NOTE: the sleeved cap nut shanks do not center the wheel.

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.

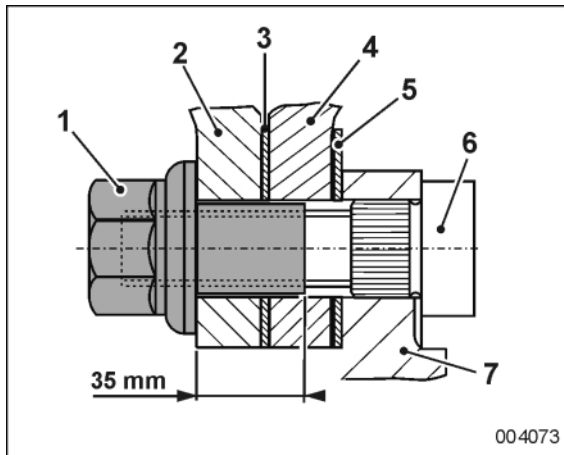


Figure 1: Wheel mounting on drive axle – 1. wheel nut; 2. wheel; 3. wheel protection ring (optional); 4. wheel; 5. wheel protection ring (optional); 6. wheel stud; 7. hub

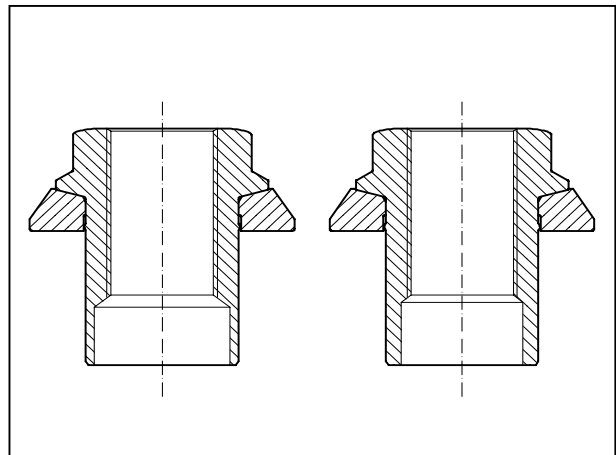


Figure 2: Wheel nuts for dual wheel mounting – long-shank thin walled to the left, long-shank thick walled to the right

2. Hub piloting:

Van Hool apply so-called "hub piloting" on their units: the wheel disc center hole precisely fits a machined spigot (or a number of pads).

Hub piloting characteristics:

- Wheels with cylindrical stud holes.
- Wheel nuts with flat, rotary but non-removable washers (see 1, Figure 1).

CAUTION: Only use wheels and wheel nuts suitable for hub piloting.

3. Possible interference of long-shank sleeved cap nuts and wheel studs on drive axles (dual wheels):

- Since thin-wall (VH 10516439) and thick-wall (VH 10941058) long-shank sleeved cap nuts are available as mounting hardware (see Figure 3) a possibility of interference with the wheel studs exists when installing/retrofitting Alcoa alloy wheels.

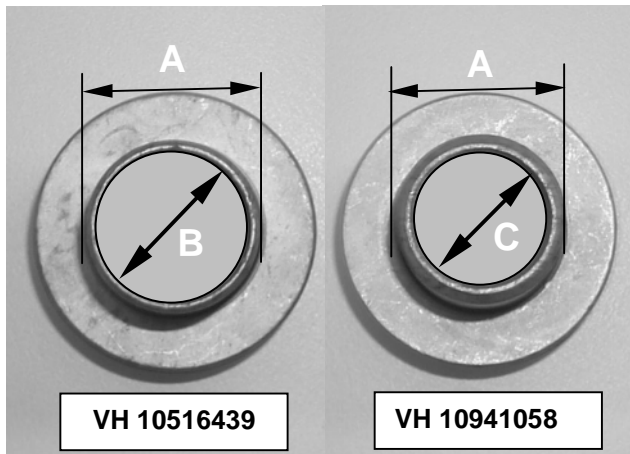
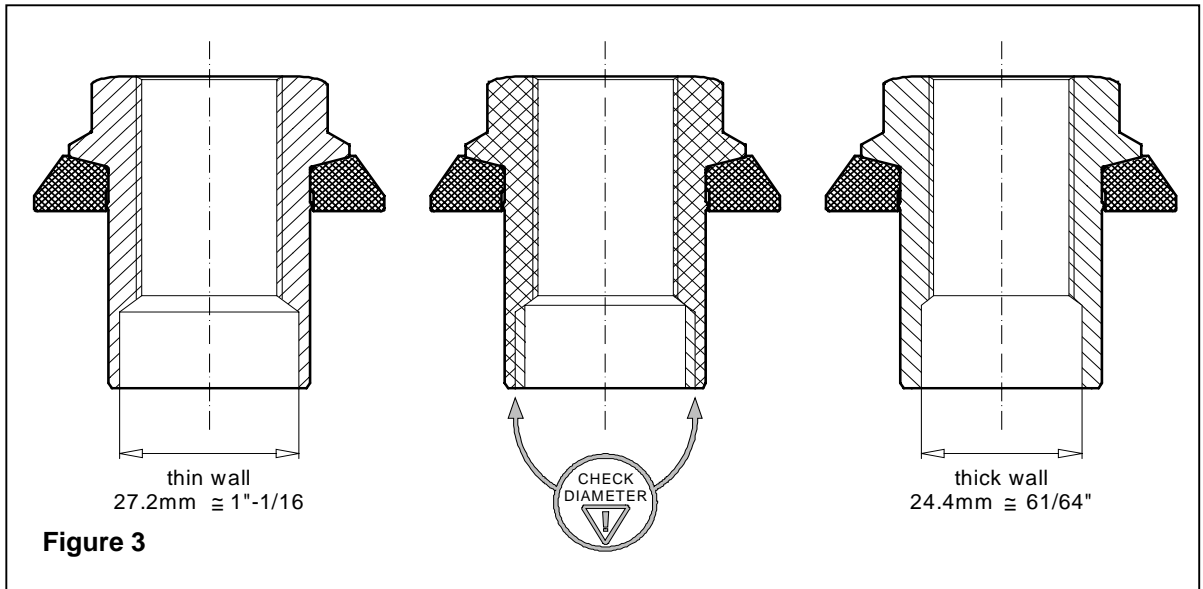


Figure 3: Thin-wall shank nut VH 10516439 and thick-wall shank nut VH 10941058

Long-shank nut comparison		
Dimension (mm/inch)	Thin-wall part VH 10516439	Thick-wall part VH 10941058
A	30.5 (1-13/64)	30.5 (1-13/64)
B	27.2 (1-1/16)	-
C	-	24.4 (61/64)
Thread	M22 x 1.5	M22 x 1.5

NOTE: Inch sizes are approximate!



- Great care should be taken that the sleeved nuts properly fit the studs. This implies that the nuts must engage sufficient stud thread to ascertain full clamping force on the wheels when tightened.
- Checking possible interference should be part of the wheel installation procedure and is particularly important on drum braked drive axles where studs with and without shoulders are being used (see Figure 4).



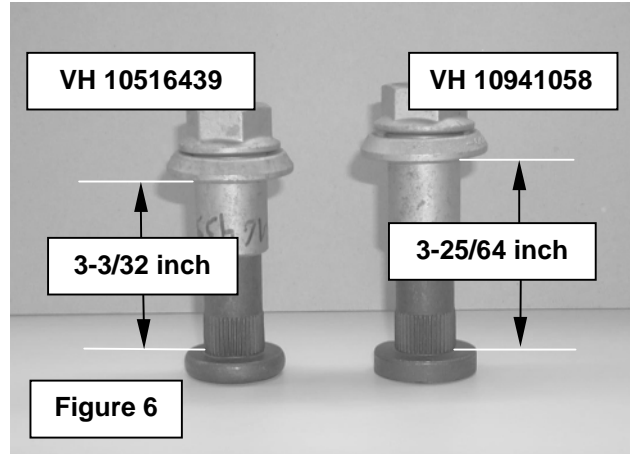
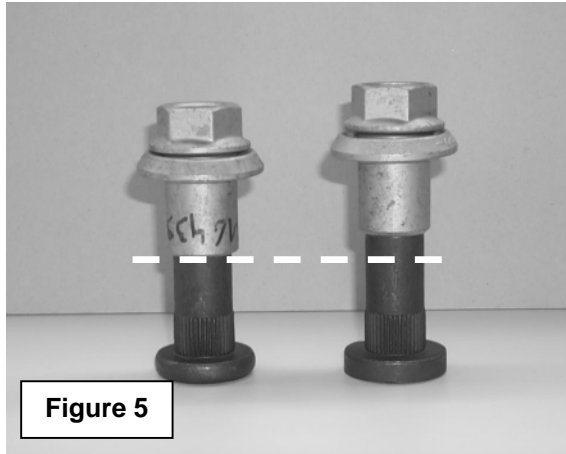
Figure 4: Typical wheel studs as used on drive axles – stud without shoulder on the left, stud with shoulder on the right

As a rule, thin-walled long shank nuts fit shouldered studs, thick-walled long shank nuts fit studs without shoulder.

CAUTION: Refer to Figures 5, 6 and 7.

When using thick-walled shank nuts on shouldered studs, the nut will bottom out on the shoulder.

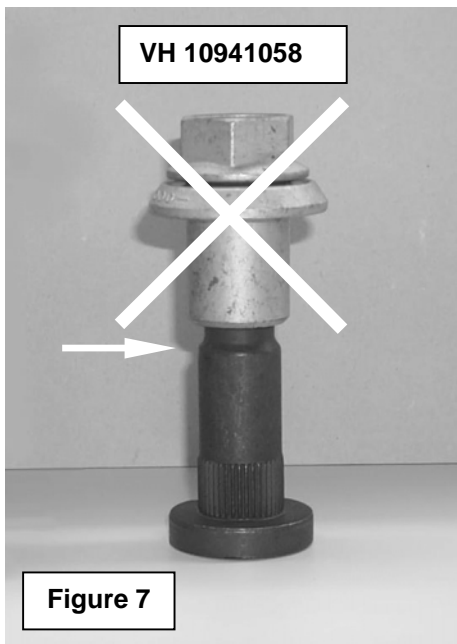
Even with the nuts tightened to the specified torque, the wheels will not be secured properly to the hub.



PARTS AND PRODUCTS:

VH reference	Description	Qty.*
VH 10516439	Wheel nut, dual-wheel mounting, long-shank, thin-wall, fits shouldered studs VH 10558145	20
VH 10941058	Wheel nut, dual-wheel mounting, long-shank, thick-wall, fits non-shouldered studs VH 10721083 only	20

*Quantities per axle



- Part VH 10941058 does not fit shouldered studs.
- All parts will be available as service replacements.
- Parts may be purchased from your nearest ABC Customer Care & Parts Source service center.
- Parts and products disposition: discard according to applicable environmental regulations.

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.