

ADDRESSEES	: ABC Customer Care and Parts Source Owners and operators of coaches listed under 'Application'
VEHICLE MODEL	: TD925 US vehicles with steered trailing axle
SYSTEM/SUBSYSTEM	: Axles – trailing axle
BULLETIN TYPE	: Service Information
DATE	: January 18 th , 2018
SUBJECT	: Trailing axle kingpin greasing instructions
TERMS & CONDITIONS	: Carrying out this procedure does not entitle to any reimbursement.

APPLICATION

The Service Information, subject of this Bulletin, is applicable to TD925US vehicles with steered trailing axle.

DESCRIPTION

This Service Bulletin is a reminder that the trailing axle kingpins must be greased more frequently than other greasing points on the vehicle. Experience has shown that this subject does not get due attention, leading to problems during greasing of the kingpin bearings.

This Service Bulletin complements the instructions already in the maintenance manual of your vehicle.

EQUIPMENT CONDITION

- Vehicle above inspection pit
- Parking brake applied
- Chocks in front of and behind drive axle wheels
- **Read the entire procedure before starting to work.**



WARNING!

Observe safe shop practices at all times.

GREASING INTERVAL

Every 3,000 miles. The greasing interval can be increased to every 7500 miles if greasing is carried out with trailing axle wheels lifted from the ground.

Continued on next page.

RECOMMENDED GREASE

Soap type	Lithium Complex or Equivalent
Dropping point	Minimum 230°C (446°F)
Consistency	NLGI No. 2
Additives	Corrosion & Oxidation Inhibitors, EP Optional
Base oil	Solvent Refined Petroleum Oil

SPECIAL TOOLS

High-pressure manually operated grease gun 7250 psi (500 bar) (available via most shops)

LOCATION OF KINGPIN GREASING POINT

Each steering knuckle has two grease points.

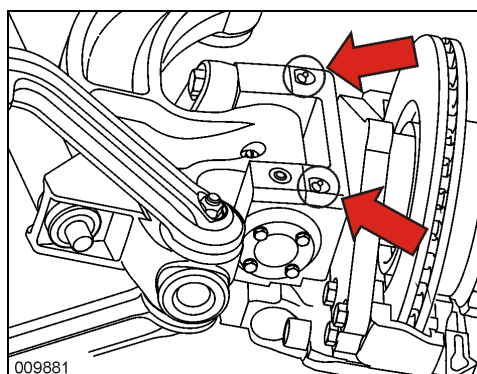


Figure 1: Kingpin greasing points

GREASING PROCEDURE

Step	Action
1	Jack up the vehicle until the trailing axle wheels clear the ground, to remove the pressure on thrust washer (8-Figure 6).
2	Wipe grease fitting clean of old grease, dirt and other debris as not to push contaminants into the kingpin. Hook up a high-pressure grease gun and build up pressure. Make sure that grease is going through the fitting and is not leaking around it.
3	<p>Does grease appear at the weeping hole in the end plate at the end of the kingpin?</p> <ul style="list-style-type: none">• If yes, continue until only fresh grease appears. Remove any excess grease and go to step 7.• If not, have an assistant start the engine and steer the wheels to the left and the right several times while you try to grease the bearing.

Figure 2: Grease escaping at weeping hole of upper end plate

Figure 3: Grease escaping at weeping hole of lower end plate

Continued on next page.

4	Does grease appear at the weeping hole in the end plate at the end of the kingpin? <ul style="list-style-type: none"> • If yes, continue until only fresh grease appears. Remove any excess grease and go to step 7. • If not, go to step 5
5	Shut off the engine.
6	Overhaul the kingpin assembly as explained under "To overhaul kingpin assembly". Take into account the remarks mentioned further on under "Special remarks during overhaul".
7	Repeat steps 2 up to and including 4 for the other grease nipples.

End of greasing procedure

SPECIAL REMARKS DURING OVERHAUL OF KINGPIN ASSEMBLY

- **Use new style bushings at overhaul!** The difference in bushing types relates to the number of flutes cut on the inside surface. The old style bushing had a single flute and the new style has 2 flutes. Grease travels in a more consistent manner with the new style bushings.



Figure 4: Old style kingpin bushing (single flute)



Figure 5: New style kingpin bushing (double flute)

- **Do not re-install O-rings in the yokes of the steering knuckle.** Field experience has shown that grease travels in a more consistent manner without O-rings installed.

TO OVERHAUL KINGPIN ASSEMBLY -Figure 6

Equipment conditions:

- Wheels removed
- Brake caliper/brake carrier removed
- Wheel hub removed

Kingpin repair kit reference: VH11512540

A. To remove kingpin

Step	Action
A.1	Remove the nut of the ball-joint pillar securing the tie rod to the tie-rod arm. Disconnect the tie rod by using a ball-joint puller.
A.2	Remove the end plates of the kingpin at the top and at the foot, and their gaskets.
A.3	Remove the fit bolts.
A.4	Support the steering knuckle before removing the kingpin.

Continued on next page.

A.5	Press the kingpin loose from the fit in the steering knuckle carrier. For procedure, refer to "B. To press kingpin loose" further on in the text.
A.6	Remove the steering knuckle from the axle end.
A.7	Remove the thrust washer.

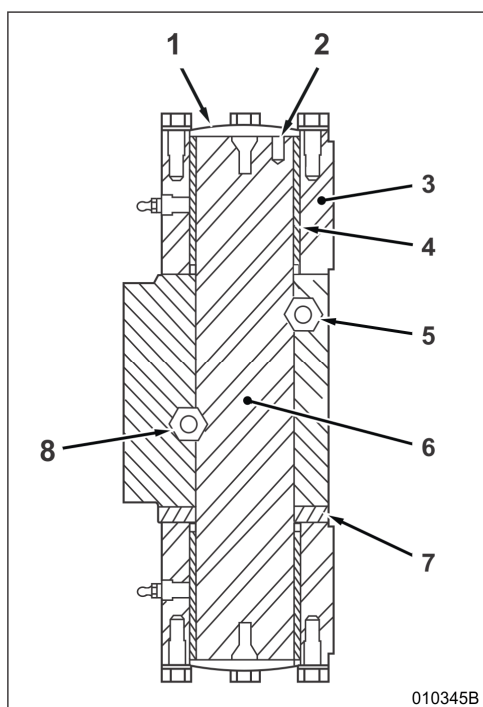


Figure 6: Section through steering knuckle

1. End plate
2. Positioning hole (attention: 90° rotated for clarity)
3. Steering knuckle
4. Bearing bush
5. Fit bolt
6. Kingpin
7. Thrust washer
8. Fit bolt

B. To press kingpin loose (Pressing tool reference: VH 11495390)

Step	Action
B.1	Position drift (2, Figure 7) with the small ball directed to below on top of the kingpin.
B.2	Install the pressing tool (refer to Figure 7). Turn the nuts of the threaded rods hand-tight until the tool is tightened on the steering knuckle.
B.3	Turn spindle (4, Figure 7) until stop in the threaded hole of the kingpin.

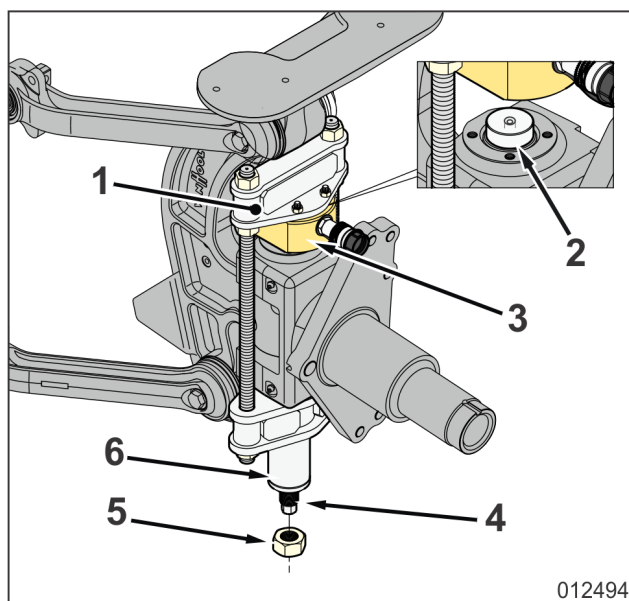



Figure 7: Set-up to press kingpin loose

1. Pressing tool
2. Drift
3. Press cylinder
4. Spindle
5. Nut
6. Distance sleeve

Continued on next page.

B.4	Slide distance bush (6, Figure 7) over spindle (4, Figure 7). Ensure that the distance bush sits in the recess provided in the lower clamping piece. If necessary, tilt the pressing tool on the steering knuckle.
B.5	Turn nut (5, Figure 7) together with its washer on spindle (4, Figure 7) until distance bush (6, Figure 7) is tightened.
B.6	 <p>CAUTION! The maximum working pressure of the hydraulic pump should not exceed 700 bar (10 000 psi). Only use components suitable for pressures of at least 700 bar (10 000 psi) to connect the hydraulic pump to the pressing cylinder.</p> <p>Connect the hydraulic pump to the press.</p>
B.7	Press the kingpin loose from the fit in the axle end.
B.8	Now pull the kingpin out from the steering knuckle by turning nut (5) further on the spindle.
B.9	Remove the kingpin.
B.10	Remove the pressing tool.

C. To install kingpin

Step	Action
C.1	Install new style kingpin bushings (refer to "Special remarks during overhaul" earlier in this bulletin).
C.2	Locate the steering knuckle on the axle end.
C.3	Slide the thrust bearing between the axle end and the lower boss of the steering knuckle. The slot in the thrust bearing should be at the top!
C.4	<p><i>NOTE: Left and right kingpin are different!</i></p> <p>Take the kingpin and check if the slots in the kingpin line up with the holes in the axle end.</p>
C.5	Coat the kingpin with the prescribed grease.
C.6	Slide the kingpin in position making sure that positioning hole (2) is at the front. This ensures that slots in kingpin line up with the holes in the axle end and that further on the fit bolts can be installed.
C.7	Install the fit bolts with the thread at the front in the axle end. Tighten the nuts of the fit bolts to a torque of 68 Nm (50 ft.lbf).
C.8	Install the cover plates of the kingpin with new gaskets. Tighten the screws to a torque of 27 Nm (20 ft.lbf).
C.9	Lubricate the two grease nipples on the steering knuckle.
C.10	Re-tighten the fit bolts to the prescribed torque after two weeks of operation.

Continued on next page.

HELP DESK:

If there are any questions, please call ABC Customer Care & Parts Source toll-free for guidance on 1-877-427-7278. Listen for the prompts for warranty and select that option.

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.

INFORMATION HANDLING:

Important supplements to and modifications of technical information not yet included in the manual, are communicated by means of Service Bulletins.

VAN HOOL CUSTOMER PORTAL:

Consult the customer portal regularly 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.