

## ACTION PLAN: Pro-Torq Retaining Clip (Keeper) Inspection

August 29, 2018 RevC

### SAFETY STATEMENT

Always consult with your Certified Safety Administrator prior to any Inspections or Procedures. AXN Heavy Duty, LLC shall not be held liable for any actions or damage incurred during Inspections or Procedures.

### REQUIRED INSPECTION PROCEDURE:

1. Remove Hub Cap and discard gasket.
2. Visually verify presence of **Pro-Torq Retaining Clip (Keeper)** (see Figure 1).
3. Verify the **mating teeth** are engaged and the **keeper tab** and **keeper arms** are fully seated into the **undercut groove** in the Pro-Torq Wheel Nut (Figure 1). If all of these conditions are NOT met, see **CORRECTIVE ACTIONS** below.

#### #1 - CORRECTIVE ACTION - if Pro-Torq Keeper is present and mating teeth are engaged properly, but a keeper arm does NOT seem to be engaged in groove:

- Using the STEMCO PRO-Torq Instruction sheet on the following page, ensure keeper is installed properly per the instructions **starting with step 5**.
- Reinstall hub cap using new gasket, torquing bolts to 12-16 ft-lbs in a star pattern.
- Allowable Standard Repair Time (SRT) = **0.1 hr/wheel end**
- Record all information requested on the supplied **Trailer Inspection Checklist** (see Figure 2) and Scan & Email along with **Invoice** to AXN Heavy Duty per instructions.

#### #2 - CORRECTIVE ACTION - if Pro-Torq Keeper is missing or mating teeth are NOT engaged:

- Use the STEMCO PRO-Torq Instruction sheet on the following pages to reinstall Pro-Torq Nut, New Keeper, and check end-play per TMC RP 618A "Wheel Bearing Adjustment Procedures".
- Reinstall hub cap using new gasket, torquing bolts to 12-16 ft-lbs in a star pattern.
- Allowable Standard Repair Time (SRT) = **0.4 hr/wheel end**
- Record all information requested on the supplied **Trailer Inspection Checklist** (see Figure 2) and Scan & Email along with **Invoice** to AXN Heavy Duty per instructions.

Figure 1: Pro-Torq Wheel-end Nut and Retaining clip Proper Installation

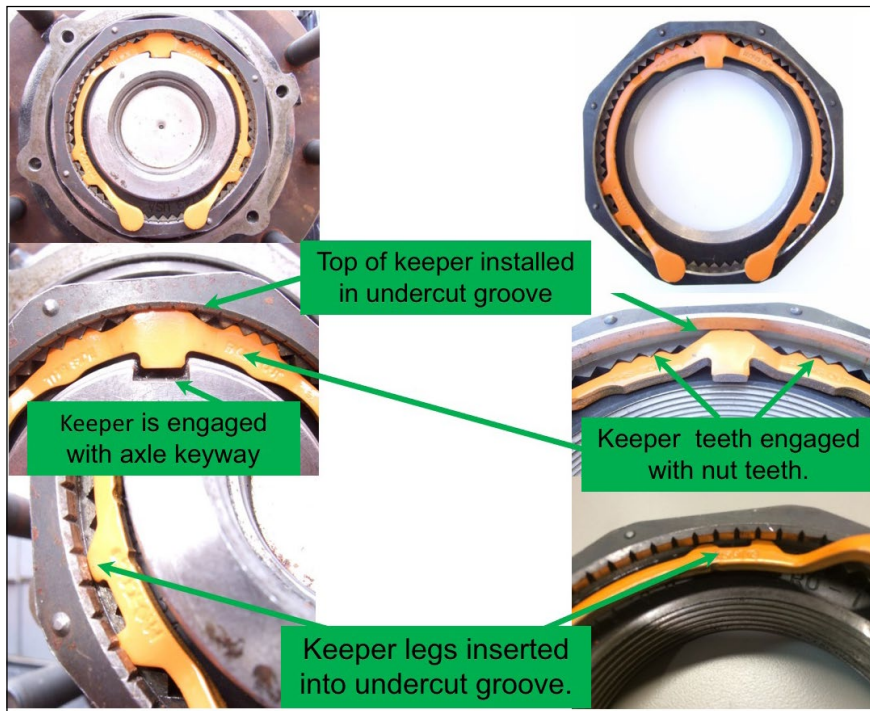


Figure 2: Trailer Inspection Checklist - Pro-Torq Snap Ring

TRAILER INFORMATION	
Trailer VIN # (REQUIRED):	In-Service Date:
UNIT #:	Inspection Date:
	Hub Mileage:

INSPECTION OBSERVATIONS		
Record 3-digit Axle Serial # and Position using the diagrams at right and below.	After inspection, please Circle ONE of the following: "OK" - Inspected as installed PROPERLY "N" - IMPROPERLY INSTALLED Keeper "M" - MISSING Keeper	
AXLE SERIAL # (REQUIRED):	LEFT SIDE (Driver's Side) L1-L6 positions	RIGHT SIDE (Curb Side) R1-R6 positions
AXLE 1	OK N M	OK N M
AXLE 2	OK N M	OK N M
AXLE 3	OK N M	OK N M
AXLE 4	OK N M	OK N M
AXLE 5	OK N M	OK N M
AXLE 6	OK N M	OK N M

FRONT	
L1	R1
L2	R2
L3	R3
L4	R4
L5	R5
L6	R6

Serial number tag will be required on corner of axle, possibly covered in protective tape.  
NOTE: If Serial number tags missing, serial number must be obtained and kept in the same area (under and top).

For Warranty purposes, please send a COMPLETED CHECKLIST and INVOICE for EACH TRAILER to AXN Heavy Duty in one of the following formats:  
1) PREFERRED METHOD: Scan and Email PDF to [inspection@axnheavyduty.com](mailto:inspection@axnheavyduty.com)  
2) Fax to 302.381.2313, or 24 Mail to AXN Heavy Duty, 5534 National Turnpike, Columbia, NY 40214

If you have any Questions about Inspection Procedures please contact AXN Heavy Duty using the following information:  
EMAIL us at [inspection@axnheavyduty.com](mailto:inspection@axnheavyduty.com) or Call the SUPPORT NUMBER at: (302) 882-6115

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# STEMCO PRO-Torq Instructions

## Step 1: Remove the Keeper from the nut

Use a small screwdriver to carefully pry the keeper arm from the undercut groove on each side until the keeper is released.

## Step 2:

Thread the nut onto the axle until hand tight against the bearing

## Step 3: Seat the Bearing

With hub/drum only:

Using a torque wrench:

- A. (1) Tighten the Nut to 200 ft-lbs. Spin the wheel at least one full rotation.  
(2) Tighten the Nut to 200 ft-lbs. Spin the wheel at least one full rotation.  
(3) Tighten the nut to 200 ft-lbs.

B. Back the nut off until it is loose.

With hub/drum/wheels:

A. Tighten the nut to 200 ft-lbs while the wheel is rotating.

B. Back the nut off until it is loose.

## Step 4: Adjust the Bearing

With hub/drum only:

Using a torque wrench:

- A. (1) Tighten the Nut to 100 ft-lbs. Spin the wheel at least one full rotation.  
(2) Tighten the Nut to 100 ft-lbs. Spin the wheel at least one full rotation.  
(3) Tighten the nut to 100 ft-lbs.

B. Back the nut off one raised face mark.

With hub/drum/wheels:

Using a torque wrench:

A. Tighten the nut to 100 ft-lbs while the wheel is rotating.

B. Back the nut off one raised face mark.

**WARNING!** Failure to follow this instruction could cause the wheel to come off and cause bodily injury. Failure to back off the nut will cause the bearing to run hot and be damaged.

## Step 5: Install the Keeper

### ORANGE SIDE FACING OUT

A. Insert the keeper tab into the undercut groove of the nut and engage the keyway tang in the axle keyway. Insert keeper tab with the orange side facing out.

B. Engage the mating teeth.

C. Compress and insert the keeper arms, one at a time, into the undercut groove with a small screwdriver.

**NOTE: Recommended practice is to replace the keeper each time the Pro-Torq nut assembly is removed for maintenance purposes.**

## Step 6:

If the inner tang does not line up with the keyway, back the nut off slightly until it does. Using a small screwdriver, compress and insert the keeper arms, one at a time, into the undercut groove. The orange painted side of the keeper must be facing out

## Step 7:

**Failure to follow this instruction could cause the wheel to come off and cause bodily injury.** Make sure that the keeper tab and keeper arms are fully seated into the undercut groove.

## Step 8:

Inspect keyway tang to ensure it does not contact the bottom of the keyway. If contact exists, immediately notify your PRO-TORQ® representative.

## Step 9: Acceptable End Play

The dial indicator should be attached to the hub or brake drum with its magnetic base. Adjust the dial indicator so that its plunger is against the end of the spindle with its line of action approximately parallel to the axis of the spindle.

Grasp the wheel or hub assembly at the 3 o'clock and 9 o'clock positions. Push and pull the wheel-end assembly in and out while oscillating the wheel approximately 45 degrees. Stop oscillating the hub so that the dial indicator tip is in the same position as it was before oscillation began. Read the bearing end-play as the total indicator movement.

**\*Acceptable end-play is .001" – .005"**

Please refer to TMC RP 618A "Wheel Bearing Adjustment Procedures"