



(Does not apply to Mack Trucks Australia)

| Date | Number | Page |
|---------|---------------|------|
| 11/1/13 | SC0371 | 1(8) |

Pro-Torq Inspection and Repair

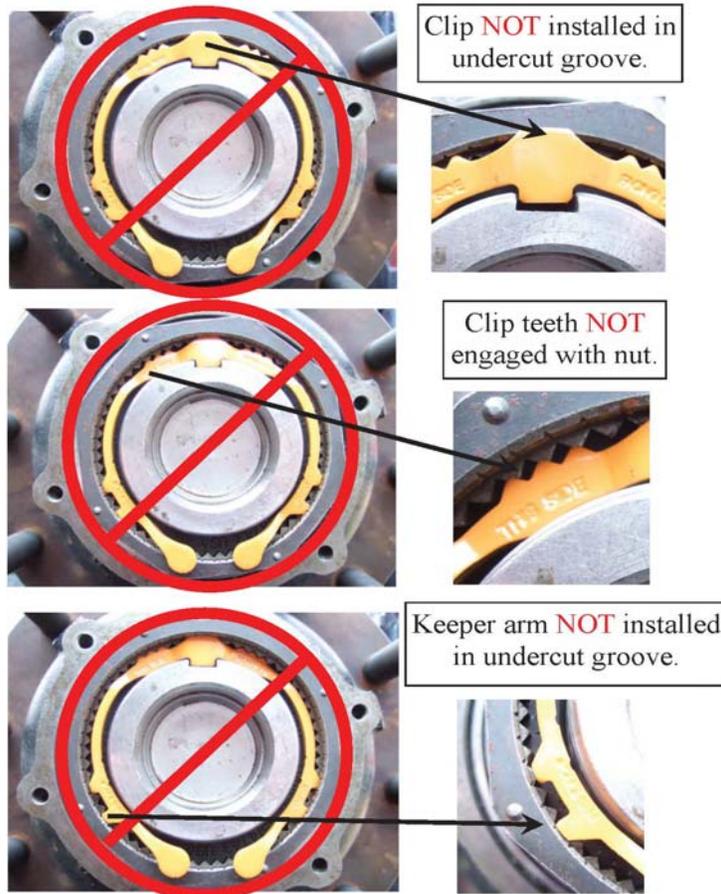
CHU, CXU, GU, LEU, MRU

SC0371, Pro-Torq Inspection and Repair

(November 2013)

On certain Mack CHU, CXU, GU, MRU, LEU and TD model vehicles manufactured August 28, 2012 through August 16, 2013, inspection of all wheel ends is required to ensure that the Pro-Torq lock ring is properly seated. If found to not be properly seated, a repair procedure should follow.

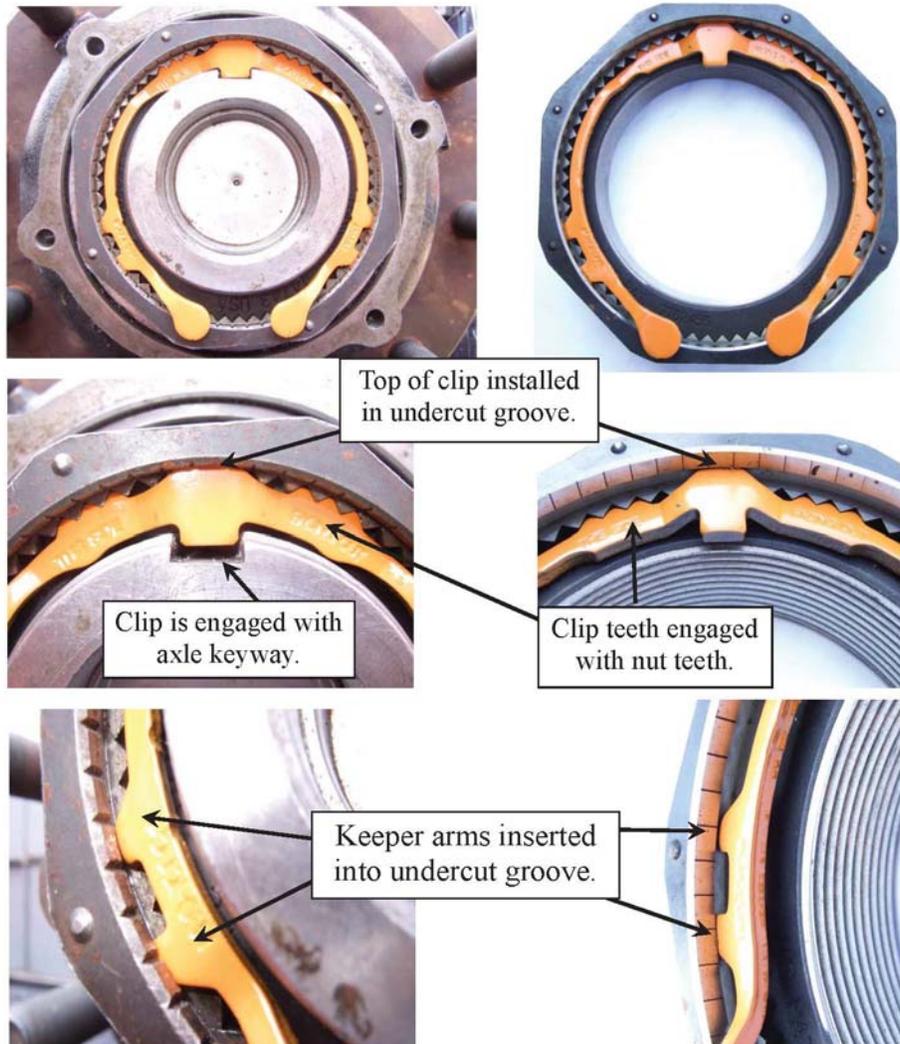
INCORRECTLY Installed Clip



Warning

Failure to properly install the clip could cause wheel end separation.

CORRECTLY Installed clip



Warning: Failure to properly install the clip could cause wheel end separation.

Inspection Procedure:

Determine if the vehicle falls within the range of trucks with concerned defect and inspect according to the recommended steps below.

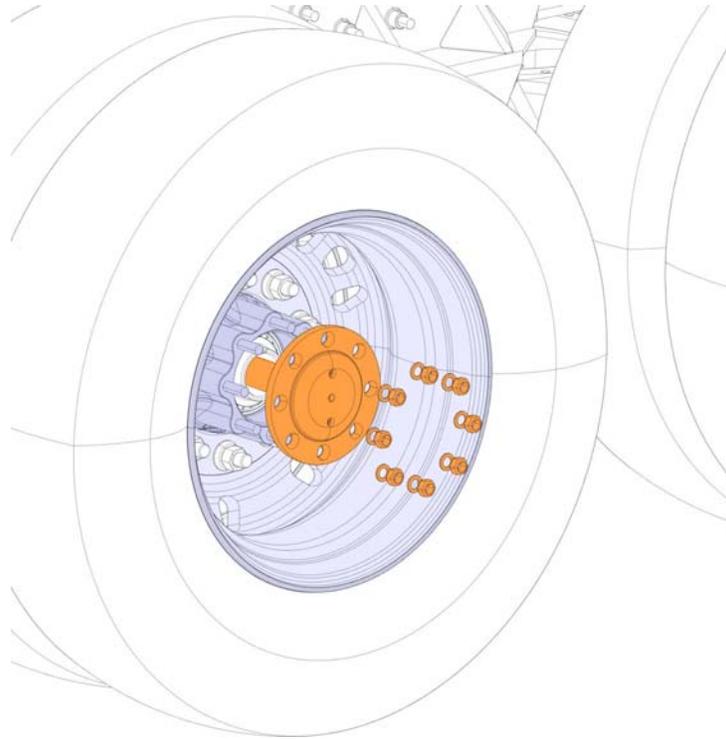
1. Chock the wheels.
2. Release the park brake.

Front Steer Axle (If applicable):

1. Remove hub cap and catch oil with a suitable drain pan
2. Inspect the snap ring and check for proper seating.

- If the snap ring is in place and seated properly, install the hub cap, new gasket and secure.
 - If the snap ring is not installed correctly, follow the repair procedure below.
3. Repeat inspection procedure for other side of axle.
 4. Fill the front axle hubs with the required lubricant.

Rear Axle (If applicable):



1. Remove the axle flange nuts and washers. Catch the oil with a suitable drain pan.
2. Remove the axle shaft.
3. Inspect the snap ring and check for proper seating.
 - If the snap ring is in place and seated properly, install and secure the axle along with new gasket.
 - If the snap ring is not installed correctly, follow the repair procedure below.
4. Repeat the procedure until all wheel ends have been inspected.
5. Top up or fill the rear axle with the required lubricant.

Repair Procedure:

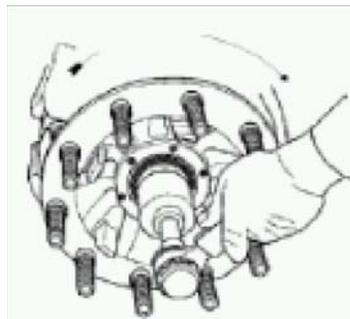
1. Raise the axle to be repaired and place the wheel end(s) on jack stands.
2. Remove the Pro-Torq nut assembly from the axle spindle and dispose. Inspect the spindle for damage. If necessary, repair burrs or damaged threads before reinstallation.



NOTE

New nut will contain snap ring within the groove in the nut.

3. Pry the snap ring out of the new nut before installation.
4. **For Conventional Hubs:**
 - Assemble the wheel bearings into the hub. Install the hub and drum assembly onto the axle spindle. Install the nut on the spindle and torque to 271 Nm (200 -lb).
 - Rotate the hub and drum assembly while torquing the nut.
 - Back off the nut one full turn.
 - Re-torque the nut to 68 Nm (50 ft-lb) while rotating the hub.
 - Back off the nut from the bearing according to the chart below.



NOTE

Rotate hub at least one full revolution to ensure there is no binding or excessive drag.

| Axle Type | Spindle Threads per Inch | Back Off By |
|-----------------------------|--------------------------|---------------|
| Steering Axle, FF/FG Type | 12 | 1/6 of a turn |
| Steering Axle, FL Type | 12 | 1/8 of a turn |
| Drive Axle | 12 | 1/4 of a turn |
| Trailing Axle, self-steer | 12 | 1/6 of a turn |
| Trailing Axle, non-steering | 12 | 1/4 of a turn |

NOTE

If the nut has to be turned in order for the keeper to seat in the mating teeth, turn nut counterclockwise until the keeper is seated.

NOTE

The back off procedure is only for loose bearing hubs.

For Preset Hubs:

Install the new Pro-Torq nut and secure. Tighten the nut to 407 Nm (300 ft-lb).
Spin the wheel at least one full rotation. Tighten the nut to 407 Nm (300 ft-lb).
Spin the wheel at least one more full rotation. Tighten the nut to 407 Nm (300 ft-lb).

NOTE

If the nut has to be turned in order for the keeper to seat in the mating teeth, turn nut counterclockwise until the keeper is seated.

5. Install the snap ring (orange side out).



⚠ CAUTION

Do not bend or manipulate keyway tang in any way. Doing so may cause the tang to break off in service. Failure to back off the nut will cause the bearings to run hot and be damaged.

- Install the tab into the undercut groove of the nut and engage the tang in the axle keyway.
- Engage and align the mating teeth on the snap ring.
- Compress and insert the snap ring arms, one at a time, into the undercut groove with a small screwdriver (orange side out).

NOTE

Older version of snap ring shown without paddles.

NOTE

Early and later versions of the snap ring are dimensionally the same other than the paddles which assist during the installation of snap ring.



Note: The following two steps only apply to conventional hubs.

6. Measure the end play. Acceptable end play is: 0.0254-0.127 mm (0.001-0.005 in.).
 - Push and pull the hub assembly in and out while rotating the hub in an approximate 45 degree arc back and forth.
 - Read off the measurement as the total indicator movement.
7. Readjust nut for proper end play, if necessary.
 - If the nut has to be turned in order for the snap ring to seat in the mating teeth, turn nut counterclockwise until the snap ring is seated.
 - Re-measure the end play.

⚠ WARNING

Failure to follow these instructions could cause the wheel to come off and cause bodily injury. Make sure that the snap ring tab and arms are fully seated into the undercut groove.

Inspect keyway tang to ensure that it does not contact the bottom of the keyway. If contact exists, immediately notify your Pro-Torq representative.

8. Front axle: Install and secure the hub cap and new gasket.
9. Rear axle: Install and secure the axle shaft along with the new gasket or O-ring.
10. Repeat the above steps and procedures until all suspect wheel ends have been repaired.
11. Top up or fill the front steer axle and rear axle(s) with the required lubricant, if needed.

| |
|-------------|
| NOTE |
|-------------|

After endplay has been verified, the bearing requires lubrication.

12. Mack chassis (drive axles): Articulate the axle in both directions, 16" end to end or 8" relative to center. Hold for one minute and repeat for opposite side.
13. Raise the axle(s) up and remove jack stands. Lower axle.
14. Set parking brake.
15. Remove chocks.

Reimbursement

| | |
|---|---|
| This repair is covered by an authorized Safety Recall campaign. Reimbursement is obtained through the normal claim handling process. | |
| Claim Type (used only when uploading from the Dealer Bus. Says.) | R |
| Recall Status | |
| Vehicle inspected, no repair required | |
| Vehicle repaired per instructions | 2-Modified per instructions |
| Labor Code | |
| Primary Labor Code: Inspection Only, per Axle | 4631A-01-95 - 0.3 hr. |
| Primary Labor Code: Repair, per Wheel End | 4631B-01-95 - 0.6 hr. |
| Time to take charge of vehicle and determine campaign status | 101AA 0A 00 - 0.3 hr. |
| Causal Part | 7843-4494973, 8084234, 7843-4484837, 7843-4494904 |
| Authorization No. | SC0371 |

Take-charge time is not included in the labor code for this operation. Take charge may be eligible, but can only be used once per vehicle repair visit. If the vehicle is having other warranty repairs performed, take-charge should be charged to the warranty repair, otherwise take-charge can be charged to this Safety Recall.

| |
|-------------|
| NOTE |
|-------------|

Dealers are to perform Safety Recall Campaigns on all subject vehicles at no charge to the vehicle owner regardless of mileage, age of vehicle or ownership (original purchaser or subsequent purchasers). Whenever vehicles are subject to a safety recall are brought to your dealership for service, or taken into your dealership vehicle inventory, it is strongly recommended that every effort be made to perform the recall correction before the vehicle is sold or released to the owner.