Federal Recall Information

1107K

Supplier

TRW Automotive

Description

TRW TAS-85 Steering Gear

Release Date

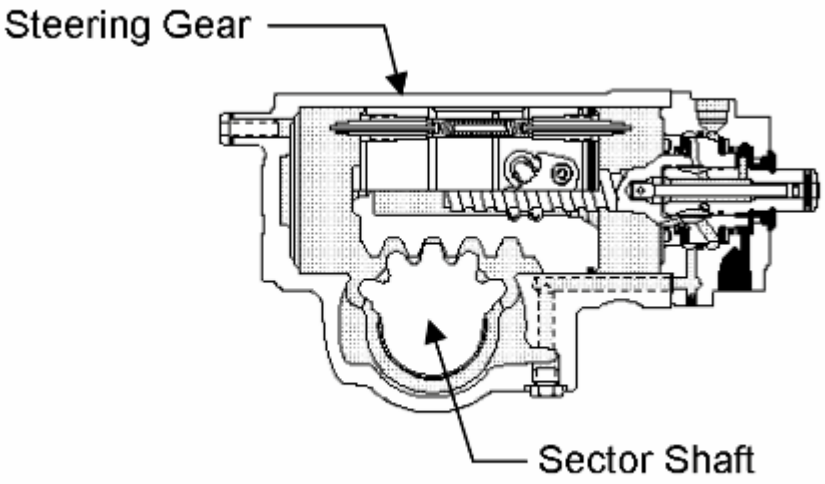
1/2/2008

Introduction

Peterbilt has identified certain 2008 Models 320, 365, 367, 384, 386, 387, 388, 389 and 389K manufactured between August 24, 2007 and November 21, 2007 which may have had the suspect components installed.

Situation

TRW has determined that a manufacturing defect exists in certain TAS 85 steering gears with an incorrect involute profile on the sector shaft gear that may lead to chipping and damage to the gearing system. These chips can lead to a “bind/stick” condition in the vehicle steering during a turn.



Resolution

Peterbilt Motors is issuing this recall to inspect the steering gear for serial and lot code. If the serial number matches the numbers listed on the attached defective parts list **AND** the lot code is within the affected range, the recall instructs the dealer to replace the defective steering gear.

It is a violation of Federal law for a dealer to sell or lease new vehicles covered by this recall until the defect or noncompliance has been corrected.

Warranty

The DWC system will indicate chassis involved in this recall with the designator of "***1107K***" in the campaign field.

Enter a quick claim according to the following schedule:

Quick Claim...	For...
1107KI	US and CAN Dealers to inspect only
1107US	US Dealers to inspect and replace
1107CA	Canadian Dealers to inspect and replace

Parts

Peterbilt will cover parts purchased through PACCAR Parts (dealer net+ 30% parts mark up) according to the schedule below.

PARTS		
Qty	Part Number	Description
1	87904M	Filter
1	TAS85145A	Steering Gear
5 qts	98HD04 (US only) 004033181M0 (Canada)	Power Steering Fluid (ATF)

Parts returns are required - the warranty claim will not be reimbursed without TRW verification

Labor

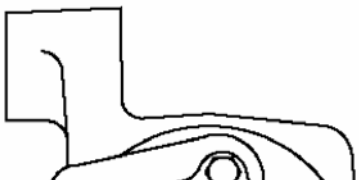
This recall will reimburse labor according to the schedule below.

Labor		
	0.2 hr	Inspection only (LH steering gear)
	2.7 hr	Inspect, R & R Gear Assembly - Integral Power Includes: Flush, replace filter and adjust

Procedure

Please find the serial and lot code stamped on the bottom surface of the steering gear. It may be covered with paint.

Only inspect LH steering gears. Slave (RH) steering gears on Peterbilt vehicles are not in the suspect population.



The steering gear specification number and date code are stamped on a machined surface opposite the input shaft of every TAS gear.*Newer* gears include a serial

number

An example code would be 29097; this means the gear was built on the 290th day of 1997.

An ‘A’ included at the end of the specification number indicates a step bore housing.

1. Is the Date Code between 22907 and 25607?
2. Is the Serial Number on this attached list? List of defective TAS85 serial numbers

If you answered yes to both questions, the steering gear needs to be replaced.

If a gear needs to be replaced…

The filter will need to be replaced also.

Flush the system.

Adjust the poppets.

Please use the following TRW procedure to replace a steering gear. TRW recall procedure

Attachments

1107K dealer chassis list.xls

1107K TRW USCustLtr.pdf

1107K CANCustLtr.pdf

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TRW Automotive
Steering & Suspension Systems

Service Procedure TAS-134

TAS85 Series Steering Gear Replacement

December 2007

This TRW Commercial Steering Systems service procedure has been written to help you repair commercial vehicles more efficiently. This procedure should not replace your manuals; you should use them together. These materials are intended for use by properly trained, professional mechanics, NOT "Do-it-yourselfers". You should not try to diagnose or repair steering problems unless you have been trained, and have the right equipment, tools and know-how to perform the work correctly and safely.

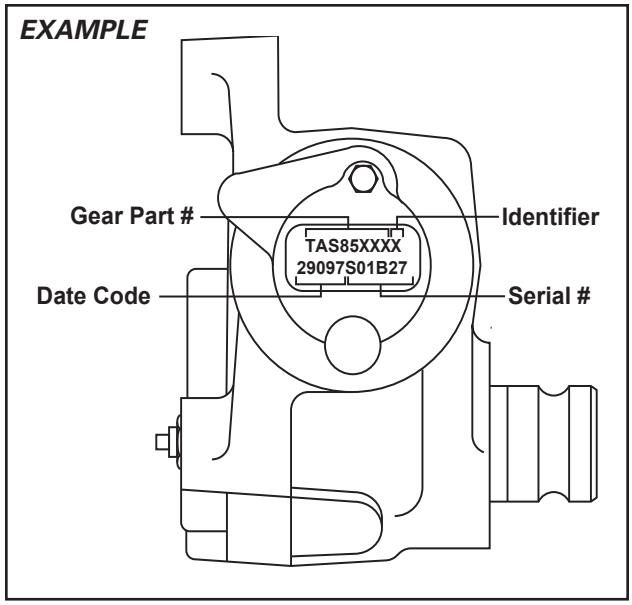
IF ..... The chassis number of the truck is on the list identified by the OE manufacturer. Any chassis number ***NOT*** on the list is not part of the scope of this procedure.

AND ..... The serial number on the steering gear is on the list identified by the OE. Any serial number not on the list is ***NOT*** part of the scope of this procedure.

AND ..... The gears involved in this campaign are TAS85 steering gears. To identify the gear you must check the machined surface on the end of the steering gear opposite the input shaft. Any gear that has a part number starting with anything other than TAS85 is ***NOT*** part of the scope of this procedure.

THEN ..... Flush the steering system, install the new gear, replace fluid and filter, set poppets, finally bleed all air out of the steering system all in accordance with this procedure.

EXAMPLE



NOTE: Only TAS85 Steering Gears are subject to this procedure. Make sure you are servicing the correct model steering gear.

Please continue to page 2 if ALL of the above conditions are met. Make sure to read through this entire procedure fully before beginning any of the steps.

Step 1 - Flush the Steering System

1. Set parking brake on vehicle and block rear wheels.
2. Raise the front end off the ground.
3. Take vehicle out of gear and put into neutral position.
4. Raise hood and wipe down area around the steering gear and the hydraulic lines related to the steering system.
5. Place a drip pan under the steering gear to catch the oil.
6. Remove both the pressure and return lines (Figure 1) from the steering gear and allow the oil to drain into the empty container.
7. Turn steering wheel from full left to full right and back 3-4 times. Collect the drained oil in the same container as in Step 6. This will purge the oil from the steering gear.
8. Remove filter (Figure 2) from the power steering fluid reservoir and discard. Disconnect the supply line from the reservoir.
9. Rinse and clean the inside of the reservoir then air dry. Do not wipe the inside of the reservoir and make sure that none of the solvent enters the rest of the steering system
10. Install new filter element into the reservoir.
11. Clean reservoir filler cap with an approved solvent. Inspect gasket and replace if necessary.

Figure 1

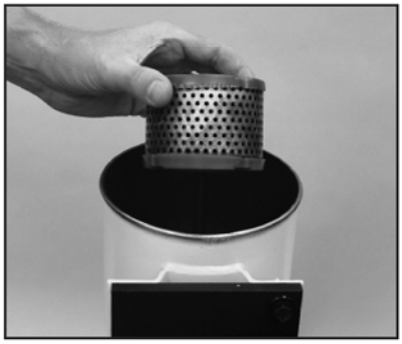


Figure 2

Step 2 - Removing the Steering Gear

Clean off all outside dirt from around fittings and hose connections before you remove the gear.

Remove input and output shaft connections per vehicle manufacturer's instructions.

NOTE **Follow OE manufacturer's instructions for return of removed gear**

⚠ WARNING **When using a chisel to spread a pinch bolt-type pitman arm boss for assembly or removal from the shaft, maintain a firm grip on the chisel at all times. Failure to do this may result in the chisel flying loose which could cause an injury. Never leave the chisel wedged in the pitman arm boss. If you cannot remove the pitman arm from the shaft with a chisel and your hands, remove the chisel from the arm boss and use a puller only to remove pitman arm.**

⚠ CAUTION **Do not use a hammer on the pitman arm to remove it from sector shaft as internal damage to steering gear could result. Be sure there is no spreading wedge left in the pitman arm boss before tightening pitman arm clamp bolt after assembly on sector shaft. Do not pound the universal joint or input shaft coupling on or off the input shaft as internal damage to the steering gear can result.**

⚠ CAUTION **Do not allow the input shaft on a steering gear with the automatic poppet adjustment feature to rotate more than 1.5 input shaft revolutions from "straight ahead position" when the output shaft is disconnected from the vehicle steering linkage; this could disrupt the poppet setting achieved at initial installation. The steering gear is in the "straight ahead position" when the timing marks on the end of the housing trunnion and sector shaft are aligned.**

⚠ WARNING **TAS steering gears can weigh up to 110 pounds dry. Exercise caution when you remove, lift, carry, or fix in a bench vise.**

Step 3 - Installing the Replacement Steering Gear

1. Verify that axle stops are set to manufacturer's wheelcut or clearance specifications.

2. Bolt replacement gear to frame, torque to vehicle manufacturer's recommendation.

3. Connect return line to reservoir in TAS return port.

4. Connect hydraulic line from pump to pressure port in TAS unit.

5 Connect steering column to input shaft, torque pinch bolt to vehicle manufacturer's recommendation.

6. Install pitman arm onto the output shaft with timing marks aligned, also Install input shaft connection. Torque bolts to vehicle manufacturer's recommendation.

Step 4 - Filling the Steering System

1. Fill reservoir with approved replacement fluid and reinstall the filler cap (Figure 3).

2. Start engine for 10 seconds, stop, and check reservoir fluid level and top off if necessary. You may need to repeat this procedure 3 or 4 times.

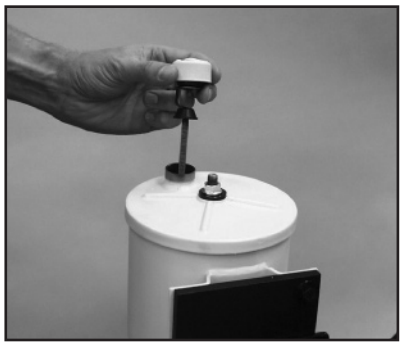


Figure 3

⚠ CAUTION **Do not allow the fluid level to drop significantly or run out of the reservoir. This may induce air into the system causing pump damage.**

3. Upon completion of filling the reservoir, start the engine and let it idle. At engine idle, steer full right and full left (Figure 4) once and return to straight ahead. Stop engine and check power steering reservoir level and top off if required.

⚠ CAUTION **Do not hold steering wheel at full turn for longer than 10 seconds as this will cause system to overheat**.

4. Restart engine and steer full turns each direction 3 or 4 times.
5. Stop engine and recheck reservoir fluid level and adjust to correct level, if needed.
6. Inspect system for leaks and correct if necessary.

Figure 4

Step 5 - Setting the Poppets

Initial Poppet Setting Procedure

1. Make sure the axle stop bolts are set to vehicle manufacturer's wheelcut or clearance specifications.
2. Raise the front end so the steer axle tires are off the ground.
3. Start the engine and let it idle.
4. Steer the vehicle in in one direction, until you contact the axle stop. Pull hard on the steering wheel.
5. Now, steer the vehicle in the opposite direction until you contact the axle stop. Again, pull hard on the steering wheel.
6. Turn the vehicle off.

Step 6 - Air Bleeding the Steering System

The majority of gears included in the scope of this procedure are auto bleed gears. Auto bleed gears require no special procedure to remove air from the steering system. The air will work its way out through normal operation. You should monitor the fluid level after changing the steering gear to ensure that the fluid does not drop below the minimum required level.

⚠ CAUTION **Do not allow the fluid level to drop significantly or run out of the reservoir. This may induce air into the system causing damage to the power steering pump.**

Identifying a Manual Bleed Gear

Manual bleed gears will have a 5/16" Hexagonal Bleed Screw seen in Figure 5 & 6. The manual bleed screw will be located on the upper surface of the steering gear

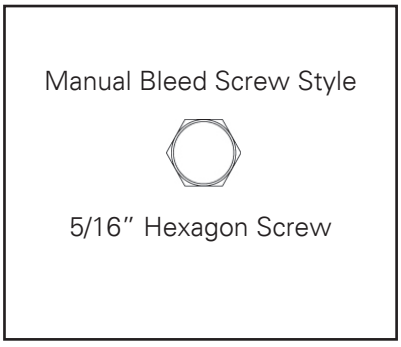


Figure 5

Manual Bleed Gears

1. Fill the reservoir.

2. Start the engine, let it run for 10 seconds - without steering, then shut it off.

3. Check the reservoir, and refill if the fluid level has dropped. Figure 7

4. Repeat this process at least three times, checking and refilling the reservoir each time if necessary.

⚠ CAUTION **Do not allow the fluid level to drop significantly or run out of the reservoir. This may induce air into the system causing damage to the power steering pump.**

5. Start the engine and let it idle for 2 minutes - without steering. Shut off the engine and check the fluid level in the reservoir. Refill if required.

6. Start the engine again. Steer the vehicle from full left to full right several times.

7. Again, check the fluid level in the reservoir.

8. With the engine idling, steer from full left turn to full right turn several times. Stop steering with the wheels pointed straight ahead and loosen the manual bleed screw 2-3 turns.

9. Allow air and aerated fluid to "bleed out" until fluid appears without bubbles.

10. Close the bleed screw, refill the reservoir if required.

11. Repeat steps 1 - 10 three or four times until all the air is discharged. Torque manual bleed screw to 45 in•lb.

⚠ CAUTION **Do not turn steering wheel with bleed screw loosened Doing so could cause the bleed screw to be blown out of the steering gear.**

12. Remove drip pan and lower the vehicle. remove blocks from wheels and return vehicle for normal service.

If you have a system other than a standard single gear sysetm please refer to the air bleeding instructions found in Service Procedure TAS-117. This procedure can be downloaded from www.trucksteering.com.

Figure 6

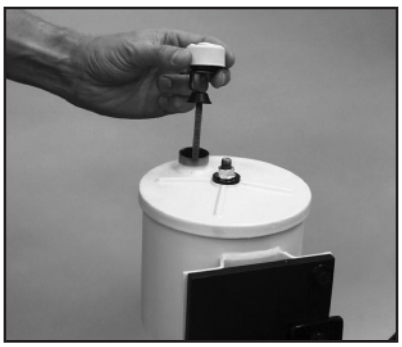


Figure 7

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