



November 2015

Dealer Service Instructions for:

# **Safety Recall R59 / NHTSA 15V-661** Left Rear Axle Shaft

# Models

# 2015 – 2016 (DS) RAM Truck

*NOTE:* This recall applies only to the above vehicles built at the Warren Truck Assembly Plant ("S" in the 11<sup>th</sup> VIN Position) from June 17, 2015 through September 17, 2015 (MDH 061715 through 091706).

# 2015 – 2016 (DS) RAM Truck

*NOTE:* This recall applies only to the above vehicles built at the Saltillo Assembly Plant ("G" in the 11<sup>th</sup> VIN Position) built from June 17, 2015 through September 28, 2015 (MDH 061715 through 092808).

*IMPORTANT:* Many of the vehicles within the above build period have already been inspected or repaired and, therefore, have been excluded from this recall.

**IMPORTANT:** Some of the involved vehicles may be in dealer new vehicle inventory. Federal law requires you to complete this recall service on these vehicles before retail delivery. Dealers should also consider this requirement to apply to used vehicle inventory and should perform this recall on vehicles in for service. Involved vehicles can be determined by using the VIP inquiry process.

# Subject

The left axle shaft on about 61,000 of the above vehicles may not have been heat treated properly at the axle shaft bearing journal. An improperly heat treated axle shaft may cause the bearing to create a grinding noise during operation, illuminate the Anti-Lock Brake System (ABS) warning lamp and eventually an axle shaft fracture. If the axle shaft fractures, wheel separation from the vehicle may occur. This could cause a crash without warning, injure pedestrians and/or damage property.

# Repair

The left rear axle shaft must be inspected on all involved vehicles. Vehicles found with a suspect axle shaft, but not a failed axle shaft, will have the axle shaft replaced.

If the rear axle inspection determines that the axle shaft has failed, the rear axle assembly must be replaced.

#### **Alternate Transportation**

Dealers should attempt to minimize customer inconvenience by placing the owner in a loaner vehicle if inspection determines that rear axle replacement is required and the vehicle must be held overnight.

#### **Parts Information**

#### **Axle Inspection Parts**:

NOTE: The three parts below must be ordered for each vehicle having a rear axle inspection and/or axle shaft replacement.

<u>Part Number</u>	<u>Order Quantity</u>	<b>Description</b>
06505445AA	2	Bolt, Brake Caliper
06036671AA	12	Bolt, Differential Cover
06036746AA	1	Screw, Pinion Shaft Lock
Part Number	Description	
68140297AA	Shaft, Axle	

#### **Axle Assembly Replacement Parts:**

NOTE: The seven parts below must be ordered for each vehicle having the rear axle assembly replaced.

<u>Part Number</u>	<u>Order Quantity</u>	<b>Description</b>
06505445AA	4	Bolt, Brake Caliper
06506497AA	1	Bolt, Propeller Shaft Flange (MSQ = 4)
06509206AA	4	Bolt, Upper and Lower Control Arm
06104720AA	4	Nut, Upper and Lower Control Arm
06104264AA	1	Bolt, Track Bar
06511267AA	1	Nut, Track Bar Flag (MSQ = 2)
06503573	1	Clamp, Axle Vent Hose

# **Order the Parts Below as Required:**

68218657AA	Lube, Gear (MS-8985)
04318060AD	Modifier, Friction (MS-10111) (for vehicles with sales code DSA)
05013477AC	<b>RTV Sealant (MS-GF-46)</b>
68317791AA	Paint, Black (MS-PA-55-15)

#### **Parts Information (Continued)**

Due to the small number of involved vehicles expected to require a rear axle assembly, no axles will be distributed initially. Rear axle assemblies should be ordered only after inspection determines that repair is required. Very few vehicles are expected to require rear axle replacement.

68214856AC	<b>Rear Axle Assembly (3.21 ratio / sales code DMC and DS8)</b>
68214859AE	Rear Axle Assembly (3.21 ratio / sales code DMC and DSA)
68142574AE	Rear Axle Assembly (3.55 ratio / sales code DMD and DS8)
68142575AG	Rear Axle Assembly (3.55 ratio / sales code DMD and DSA)
68142576AF	Rear Axle Assembly (3.92 ratio / sales code DMH and DS8)
68142577AG	Rear Axle Assembly (3.92 ratio / sales code DMH and DSA)

**NOTE:** Sales code DSA = Limited Slip Differential / DS8 = Open Differential

#### Parts Return

Part return may be required for this campaign. Please hold the removed part until the recall warranty claim is paid and review "Return Material Utility" in DealerCONNECT for further instructions.

- If part return is required, then print the United Parcel Service (UPS) return label with prepopulated return information.
- > <u>If part return is not required</u>, material can be scrapped.

#### **Special Tools**

#### The following special tools are required to perform this repair:

- > NPN wiTECH VCI Pod Kit
- NPN Laptop Computer
- > NPN wiTECH Software

#### Service Procedure

# A. Inspect Left Rear Axle Shaft

- 1. Use the following procedure to release the transmission manual park release lever:
  - a. Remove and save the transmission manual park release access cover (Figure 1).
  - b. Using a small screwdriver, slide the release lever lock to the right and hold in that position (Figure 2).
  - c. Pull the orange release lever tether until it locks in place (Figure 2).

MANUAL PARK

Figure 1 – Manual Park Release Access Cover



Figure 2 – Transmission Manual Park Release

- 2. Raise the vehicle on an appropriate hoist.
- 3. Remove and save the left rear wheel/tire assembly.
- 4. Remove and discard the left side rear caliper adapter bolts and position the left side brake caliper and adapter assembly aside (Figure 3).

CAUTION:



Figure 3 – Brake Caliper and Adapter

weight of the brake caliper and adapter to hang from the brake hose.

Do not allow the

- 5. Remove and save the left brake rotor.
- 6. Clean the differential and drain plug area to prevent debris from entering the rear axle during differential cover removal.
- 7. Remove and save the rear axle oil drain plug to drain the rear axle fluid (Figure 4).



Figure 4 – Drain Rear Axle Fluid

- 8. Remove and save the rear axle differential housing cover (Figure 5).
- 9. Rotate the differential case so pinion shaft lock screw is aligned with the differential bearing cap detent (Figure 6).

10. Remove and discard the original pinion shaft lock screw (Figure 6).



Figure 5 – Differential Case Cover

11. Remove and save the pinion shaft from the differential case (Figure 6).

12. Push the left axle shaft inward and remove C-lock from the left axle shaft.

13. Carefully remove the left axle shaft for inspection.



Figure 6 – Pinion Shaft

14. Inspect the left axle shaft (Figure 7):

**NOTE:** The hand written number can be in three different locations on the axle shaft (Figure 7).

- If the left axle shaft has a hand written number "1" - "2" - "5" - "6" -"7" - "8" or "9" on the axle shaft, continue with Step 15 of this procedure.
- If the left axle shaft has a hand written number "3" or "4" on the axle shaft and has not failed, continue with Step 16 of this procedure.
- If the left axle shaft has no hand written number (or the number is not legible) and the axle shaft has not failed, continue with Step 16 of this procedure.
- If the left axle shaft failed, for trucks with air suspension, continue with Section B. Depressurize Air Suspension and for trucks without air suspension, continue with Section C. Replace Rear Axle.

NOTE: A failed axle shaft will have metal pitting and/or galling on the axle shaft where the axle shaft bearing rides (Figure 7).



Figure 7 – Inspect Hand Written Number on Axle Shaft

- 15. For vehicles with a hand written number "1" "2" "5" "6" "7" "8" or <u>a "9" on the axle shaft</u>, install the <u>original left axle shaft</u> and engage into side gear splines.
- 16. For vehicles with a hand written number "3" or "4" on the axle shaft or the hand written number is missing or illegible, install a new left axle shaft and engage into side gear splines.
- 17. Insert the C-lock onto the groove in the end of left axle shaft then push left axle shaft outward to seat C-lock in side gear.
- 18. Insert pinion shaft into differential case and through thrust washers and differential side gears.
- 19. Align the hole in pinion shaft with hole in the differential case and install a **NEW** pinion shaft lock screw. Tighten lock screw to 19 ft. lbs. (26 N⋅m).
- 20. Remove and save the four stabilizer bar mounting bolts at the axle mounting brackets (Figure 8).
- 21. Swing the stabilizer bar back towards the spare tire and secure the stabilizer bar with a hook (Figure 8).



Figure 8 – Relocate Stabilizer Bar to Gain Clearance to Install Rear Axle Cover

22. Using a lint free shop towel, cover the ring gear to protect the internal axle components from debris (Figure 9).

23. Clean the differential housing sealing surface (Figure 9).

24. Clean the differential cover sealing surface.

Figure 9 – Clean Differential Housing Sealing Surface

25. Apply a ¼ inch (6.35mm) bead of Mopar Axle RTV Sealant to the cover with the RTV sealant bead to the inner side of the bolt holes (Figure 10).

> CAUTION: Do not use any other type of RTV silicone sealant to seal the rear differential housing cover.

> CAUTION: The differential housing cover must be installed within five minutes of applying RTV sealant.



Figure 10 – Apply Mopar Axle RTV Sealant



- 26. Using new differential cover bolts, install the differential cover and the differential cover bolts. Tighten the differential cover bolts in a crisscross pattern to 32 ft. lbs. (44 N·m) (Figure 11).
- 27. Apply sealant to the drain plug threads and install the rear axle drain plug. Tighten the rear axle drain plug to 52 ft. lbs. (70 N⋅m).
- 28. For vehicles equipped with a <u>limited slip differential</u>, install five ounces of Mopar Limited Slip Additive (friction modifier).



Figure 11 – Install Differential Cover

29. Fill the rear axle with Mopar gear lubricant.

#### **NOTE:** The lubricant level should be at the bottom of the fill plug hole.

- 30. <u>Using the supplied paint</u>, paint all areas of the rear axle where orange silicone sealant can be seen (Figure 12).
- Place the stabilizer bar into position and install the four retaining bolts. Tighten the bolts to 37 ft. lbs. (50 N⋅m) (Figure 8).
- 32. Install brake rotor onto the axle shaft hub.
- 33. Install the brake caliper adapter and brake caliper as an assembly. Tighten the NEW brake caliper adapter bolts to 132 ft. lbs. (179 N⋅m).



Figure 12 – Apply Black Paint to Exposed RTV Sealant

- 34. Install the rear tire/wheel assembly. Tighten the lug nuts to 130 ft. lbs. (176 N⋅m).
- 35. Lower the vehicle from the hoist.
- 36. Use the following procedure to engage the transmission manual park release lever:
  - a. Pull on the orange tether and hold.
  - b. Using a small screwdriver, slide the release lever lock to the right and then slowly release the orange tether.
  - c. Release the lever lock.
  - d. Tuck the orange tether into the instrument panel and install the transmission manual park release access cover.
- 37. Pump the brakes several times before moving the vehicle.
- 38. Road test the vehicle to verify the repair.
- 39. Return the vehicle to the customer.

#### **B.** Depressurize Air Suspension

**NOTE:** The following procedure is required if the rear axle assembly requires replacement per the inspection in Section "A." *Very few vehicles are expected to require this repair.* 

- 1. Connect the wiTECH scan tool to the vehicle.
- 2. Start a wiTECH session.
- 3. From the "Vehicle View" screen, select the "ASCM" icon.
- 4. Select the "Misc. Functions" tab.
- 5. Select "Disable Level Control" from the list.
- 6. Follow the screen prompts.
- 7. Select "Spring Deflate to Reservoir" from the list.
- 8. Follow the screen prompts.
- 9. Repeat Steps 7 and 8 of this procedure to insure the air suspension is fully deflated.
- 10. Continue with Section C. Replace Rear Axle Assembly.

#### C. Replace Rear Axle Assembly

NOTE: The following procedure is required if the rear axle assembly requires replacement per the inspection in Section "A." *Very few vehicles are expected to require this repair.* 

- 1. Remove the right rear wheel.
- 2. Remove and discard the right side rear caliper adapter bolts and position the right side brake caliper and adapter assembly aside.

CAUTION: Do not allow the weight of the brake caliper and adapter to hang from the brake hose.

- 3. Remove the right side rear brake rotor.
- 4. Remove and save the mounting bolt from the rear wheel speed sensors (Figure 13).
- 5. Remove the right and left side wheel speed sensors from the axle flanges (Figure 13).

CAUTION: When removing the speed sensor from the axle flange, do not pull on the speed sensor wires. Speed sensor damage may occur.



Figure 13 – Speed Sensor

- 6. Disconnect the park brake cables using the following procedure:
  - a. Pull the park brake cable spring back.
  - b. Compress the cable tabs on each cable end fitting at the brake cable support plate using a 13 mm line wrench (Figure 14).

NOTE: A 13mm line wrench can be used to compress the cable tabs. Insert while spring is pulled back and rotate the wrench to compress the cable tabs.



Figure 14 – Park Brake Cable

- c. Remove the park brake cable from the brake cable support plate.
- d. Remove the upper park brake cable bolt from the rear axle.
- e. Remove the park brake bolt on the upper control arm bracket.
- f. Position the park brake cable away from the rear axle.
- 7. Loosen the clamp and disconnect the axle vent hose from the rear axle (Figure 15).



Figure 15 – Axle Vent Hose



Figure 16 – Secure Axle Assembly to a Lifting Device

- 8. Remove and discard the rear propeller shaft companion flange bolts.
- 9. Suspend the rear propeller shaft using a bungee cord or equivalent.
- 10. Position a lifting device under the rear axle and secure the rear axle to the lifting device (Figure 16).
- 11. Remove and discard the track bar bolt and position the track bar away from the rear axle (Figure 16 and 17).



Figure 17 – Track Bar Bolt at Axle Bracket

- 12. Remove and save both lower shock absorber bolts and position the shock absorbers away from the rear axle (Figure 18).
- 13. Remove and discard both the upper control arm-to-rear axle bolts and position the upper control arms away from the rear axle (Figure 19).
- 14. Remove and discard both the lower control arm-to-rear axle bolts and position the lower control arms away from the rear axle (Figure 19).



Figure 18 – Shock Absorber Lower Bolt

#### 15. For vehicles equipped with

**<u>conventional coil springs</u>**, slightly lower the rear axle assembly and carefully remove and save the rear coil springs and isolators.

CAUTION: Mark the springs to ensure the correct spring is returned to the correct location.

NOTE: Vehicles equipped with air springs, the air springs will remain in position.

- 16. Lower the rear axle from the vehicle.
- 17. With the help of an assistant, remove and discard the original rear axle from the lifting device.



Figure 19 – Upper and Lower Control Arm Bolts

- 18. With the help of an assistant, place and secure the new rear axle onto the lifting device
- 19. Raise the rear axle into position.
- 20. <u>For vehicles equipped with conventional coil springs</u>, slightly lower the rear axle assembly and carefully install the rear coil springs and isolators.
- 21. Position both the lower control arms into the rear axle brackets and loosely install the **NEW** bolts with **NEW** nuts.

**CAUTION:** The lower control arm bolt must be installed pointing inward (nut on the inside of the mounting bracket) (Figure 20).

22. Position both the upper control arms into the rear axle brackets and loosely install the **NEW** bolts with **NEW** nuts.

**CAUTION:** The upper control arm bolt must be installed pointing inward (nut on the inside of the mounting bracket) (Figure 20).



Figure 20 – Upper and Lower Control Arm Bolt Orientation (right side shown)

- 23. Position the rear track bar to the rear axle bracket and loosely install a NEW track bar bolt and flag nut.
- 24. Position both the rear shock absorbers into the axle brackets and loosely install the rear shock absorber bolts and nuts.
- 25. Remove the lifting device jack from the rear axle.
- 26. Position the stabilizer bar to the rear axle. Install and tighten the bolts to  $37 \text{ ft. lbs.} (50 \text{ N} \cdot \text{m}).$

# **CAUTION:** The stabilizer bar must be centered with equal spacing on both sides.

- 27. Position the park brake cable back to the rear axle.
- 28. Install the park brake cable bolt on the upper control arm bracket.
- 29. Install the upper park brake cable bolt to the rear axle housing.
- 30. Install the rear park brake cable into the tensioner rods behind the rear of the brake assemblies.
- 31. Pull the park brake cable springs back until the cable end fitting tabs lock into place.



Figure 21 – Align Marks on Propeller Shaft and Companion Flange

32. Place the rear propeller shaft into position. Install new rear propeller shaft companion flange bolts and tighten to 85 ft. lbs. (115 N·m).

**CAUTION:** Be sure to align the factory alignment paint mark on the propeller shaft as closely to the factory alignment paint mark on the new axle companion flange (Figure 21).

33. Connect the rear axle vent hose and new clamp to the rear axle.

**NOTE:** The rear axle comes prefilled with rear axle fluid. Do not check the fluid level.

34. Partially lower the vehicle from the hoist.

- 35. Place the right and left side caliper and caliper adapter assembly into position and install the rear caliper adapter bolts. Tighten the new brake caliper adapter bolts to 132 ft. lbs. (179 N⋅m).
- 36. Position the right and left side rear wheel speed sensors into the axle flanges.

# **CAUTION:** Use extreme care not to damage the speed sensor wires during installation.

- 37. Install the right and left side wheel speed sensor mounting bolts. Tighten the mounting bolts to 140 in. lbs. (16 N⋅m).
- 39. Install the rear wheels. Tighten the wheel lug nuts to 130 ft. lbs. (176  $N \cdot m$ ).
- 40. Lower the vehicle from the hoist.
- 41. **For vehicles equipped with air suspension**, use the following procedure to pressurize the air suspension:
  - a. Connect the wiTECH scan tool.
  - b. Start a wiTECH session.
  - c. From the "Vehicle View" screen, select the "ASCM" icon.
  - d. Select the "Misc. Functions" tab.
  - e. Select "Disable Level Control" from the list.
  - f. Follow the screen prompts.
  - g. From the "Misc. Functions" tab, select "Fill Spring from Reservoir".
  - h. Follow the screen prompts.
  - i. Perform "Short Fill".
  - j. Inspect air spring for proper installation.
  - k. Select "Complete Fill" from the list.
  - 1. Follow the screen prompts.
  - m. Clear all Diagnostic Trouble Codes (DTC's).
  - n. Remove the wiTECH scan tool from the vehicle.

- 42. With full vehicle weight on the suspension, tighten the upper and lower control arm nuts and bolts to 148 ft. lbs. plus  $\frac{1}{4}$  turn (200 N·m plus  $\frac{1}{4}$  turn).
- 43. <u>With full vehicle weight on the suspension</u>, tighten the track bar mounting bolt to 114 ft. lbs. (155 N·m).
- 44. <u>With full vehicle weight on the suspension</u>, tighten the shock bolts to  $100 \text{ ft. lbs.} (135 \text{ N} \cdot \text{m}).$
- 45. Use the following procedure to engage the transmission manual park release lever:
  - a. Pull on the orange tether and hold.
  - b. Using a small screwdriver, slide the release lever lock to the right and then slowly release the orange tether.
  - c. Release the lever lock.
  - d. Tuck the orange tether into the instrument panel and install the transmission manual park release access cover.
- 46. Road test the vehicle to ensure that the rear axle functions properly and that no warning lights are present in the instrument cluster.
- 47. Return the vehicle to the customer.

#### **Completion Reporting and Reimbursement**

Claims for vehicles that have been serviced must be submitted on the DealerCONNECT Claim Entry Screen located on the Service tab. Claims submitted will be used by FCA to record recall service completions and provide dealer payments.

Use <u>one</u> of the following labor operation numbers and time allowances:

	Labor Operation <u>Number</u>	Time <u>Allowance</u>
Inspect left rear axle shaft	03-R5-91-81	0.8 hours
Inspect left rear axle shaft and replace left axle shaft	03-R5-91-82	0.8 hours
Inspect left rear axle shaft and replace rear axle assembly	03-R5-91-83	2.4 hours
<b>Optional Equipment</b>		
Air Suspension	03-R5-91-60	0.4 hours

Add the cost of the recall parts package plus applicable dealer allowance to your claim.

NOTE: See the Warranty Administration Manual, Recall Claim Processing Section, for complete recall claim processing instructions.

#### **Dealer Notification**

To view this notification on DealerCONNECT, select "Global Recall System" on the Service tab, then click on the description of this notification.

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#### **Owner Notification and Service Scheduling**

All involved vehicle owners known to FCA are being notified of the service requirement by first class mail. They are requested to schedule appointments for this service with their dealers. A generic copy of the owner letter is attached.

Enclosed with each owner letter is an Owner Notification postcard to allow owners to update our records if applicable.

#### Vehicle Lists, Global Recall System, VIP and Dealer Follow Up

All involved vehicles have been entered into the DealerCONNECT Global Recall System (GRS) and Vehicle Information Plus (VIP) for dealer inquiry as needed.

GRS provides involved dealers with an <u>updated</u> VIN list of <u>their incomplete</u> vehicles. The owner's name, address and phone number are listed if known. Completed vehicles are removed from GRS within several days of repair claim submission.

To use this system, click on the "Service" tab and then click on "Global Recall System." Your dealer's VIN list for each recall displayed can be sorted by: those vehicles that were unsold at recall launch, those with a phone number, city, zip code, or VIN sequence.

**Dealers** <u>must</u> perform this repair on all unsold vehicles <u>before</u> retail delivery. Dealers should also use the VIN list to follow up with all owners to schedule appointments for this repair.

Recall VIN lists may contain confidential, restricted owner name and address information that was obtained from the Department of Motor Vehicles of various states. Use of this information is permitted for this recall only and is strictly prohibited from all other use.

#### **Additional Information**

If you have any questions or need assistance in completing this action, please contact your Service and Parts District Manager.



# IMPORTANT SAFETY RECALL

#### R59 / NHTSA 15V-661

This notice applies to your vehicle (VIN: xxxxxxxxxxxxxx).

This notice is sent to you in accordance with the National Traffic and Motor Vehicle Safety Act.

Dear: (Name)

FCA has decided that a defect, which relates to motor vehicle safety, exists in certain 2015 and 2016 model year RAM trucks (1500 series).

The problem is	The left rear axle shaft on your truck may not have been heat treated properly at the axle shaft bearing journal. An improperly heat treated axle shaft may cause the bearing to create a grinding noise during operation, illuminate the Anti-Lock Brake System (ABS) warning lamp and eventually an axle shaft fracture. If the axle shaft fractures, wheel separation from the vehicle may occur. This could cause a crash without warning, injure pedestrians and/or damage property.
What your dealer will do	<b>FCA will repair your vehicle free of charge.</b> To do this, your dealer will inspect the left rear axle shaft and replace the axle shaft or the axle assembly as required. The work will take about 1.5 hours to inspect/replace the axle shaft. An additional 3 hours will be required if the axle assembly requires replacement. However, additional time may be necessary depending on service schedules.
What you must do to ensure your safety	Simply contact your Chrysler, Jeep, Dodge or RAM dealer right away to schedule a service appointment. Please bring this letter with you to your dealer.
If you need help	If you have questions or concerns which your dealer is unable to resolve, please contact the FCA Group Recall Assistance Center at either <b>fcarecalls.com</b> or 1-800-853-1403.

Please help us update our records by filling out the attached prepaid postcard if any of the conditions listed on the card apply to you or your vehicle. If you have further questions go to **fcarecalls.com**.

If you have already experienced this specific condition and have paid to have it repaired, you may visit **www.fcarecallreimbursement.com** to submit your reimbursement request online or you can mail your original receipts and proof of payment to the following address for reimbursement consideration: FCA Customer Assistance, P.O. Box 21-8004, Auburn Hills, MI 48321-8007, Attention: Recall Reimbursement. Once we receive and verify the required documents, reimbursement will be sent to you within 60 days. If you've had previous repairs and/or reimbursement you may still need to have the recall repair performed on your vehicle.

If your dealer fails or is unable to remedy this defect without charge and within a reasonable time, you may submit a written complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Ave., S.E., Washington, DC 20590, or you can call the toll-free Vehicle Safety Hotline at 1-888-327-4236 (TTY 1-800-424-9153), or go to **safercar.gov**.

We're sorry for any inconvenience, but we are sincerely concerned about your safety. Thank you for your attention to this important matter.

Customer Services / Field Operations FCA US LLC

<u>Note to lessors receiving this recall:</u> Federal regulation requires that you forward this recall notice to the lessee within 10 days.