

M-4033-SD14
Super Duty Sterling Axle Differential Cover 14 Bolt

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PRIOR TO INSTALLATION READ THESE INSTRUCTION COMPLETELY
For questions, Call the FORD PERFORMANCE Techline 1-800-367-3788

Please visit <https://www.performanceparts.ford.com> for warranty information



Kit Contents
Differential Cover
14 Bolts
Drain Plug
2 Fill Plugs


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Note: A vehicle hoist is highly recommended for the installation of this kit.


Jacking and Lifting - Overview

Lifting and Jacking Points

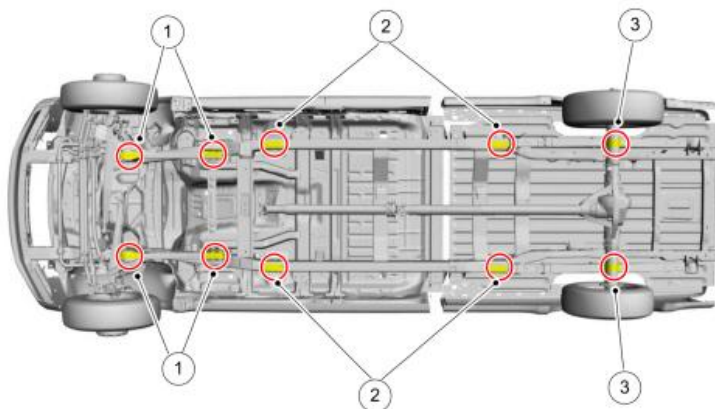
 **WARNING:** When jacking or lifting the vehicle, block all wheels remaining on the ground. Set the parking brake if the rear wheels will remain on the ground. These actions help prevent unintended vehicle movement. Failure to follow these instructions may result in serious personal injury.

 **WARNING:** Never get underneath a vehicle that is supported only by a jack. The jack could unintentionally lower. Always support vehicle with floor stands. Failure to follow these instructions may result in serious personal injury.

 **WARNING:** Only raise the vehicle when positioned on a hard, level surface. Attempting to raise the vehicle on an uneven or soft surface may result in vehicle slipping or falling from the jack or jackstand. Failure to follow this instruction may result in serious personal injury.

 **WARNING:** Turn off (disable) the power running boards (if equipped) before jacking, lifting or placing any object under the vehicle. Never place your hand between the power running board and the vehicle. Extended power running boards will retract when doors are closed. Failure to follow these instructions may result in serious personal injury.

NOTE: Crew Cab pickup 4WD shown, others similar.



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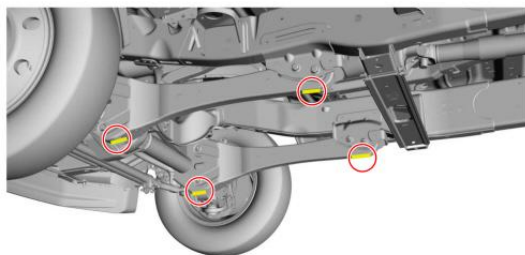
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| Item | Description |
|------|---------------------------|
| 1 | Radius arm lifting points |
| 2 | Frame lifting points |
| 3 | Rear axle lifting points |

Lifting and Jacking Points – Front

Use the following illustrations to determine the recommended lifting points for the vehicle being lifted. The lifting points will vary depending on the type of hoist being used and the vehicle configuration.



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NOTICE: When raising a vehicle on a hoist, use care when positioning the hoist adapters prior to lifting the vehicle so that hoist arms do not interfere with the surrounding suspension or steering linkage components.

NOTICE: Jacking the vehicle is intended to be used in an emergency for changing a deflated tire. To avoid damage to the vehicle, never use a jack to hoist the vehicle for any other purpose.

Only the specified jacking points may be used for jacking and supporting the vehicle

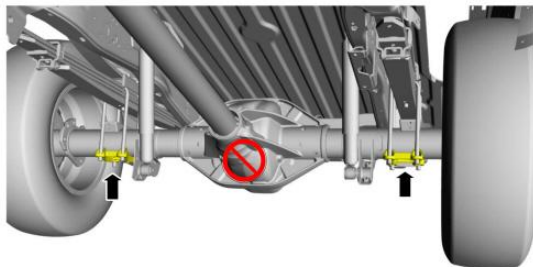
Lifting and Jacking Points – Rear

NOTICE: Do not use the differential housing as a lift point. Leaks or damage to the rear axle cover and adjoining differential housing surface may occur if a floor jack or any lifting device is allowed to contact the cover at any point where the cover joins the housing.

NOTICE: Position lift arms or floor jack on flats of rear spring brackets to avoid damage to rear axle.

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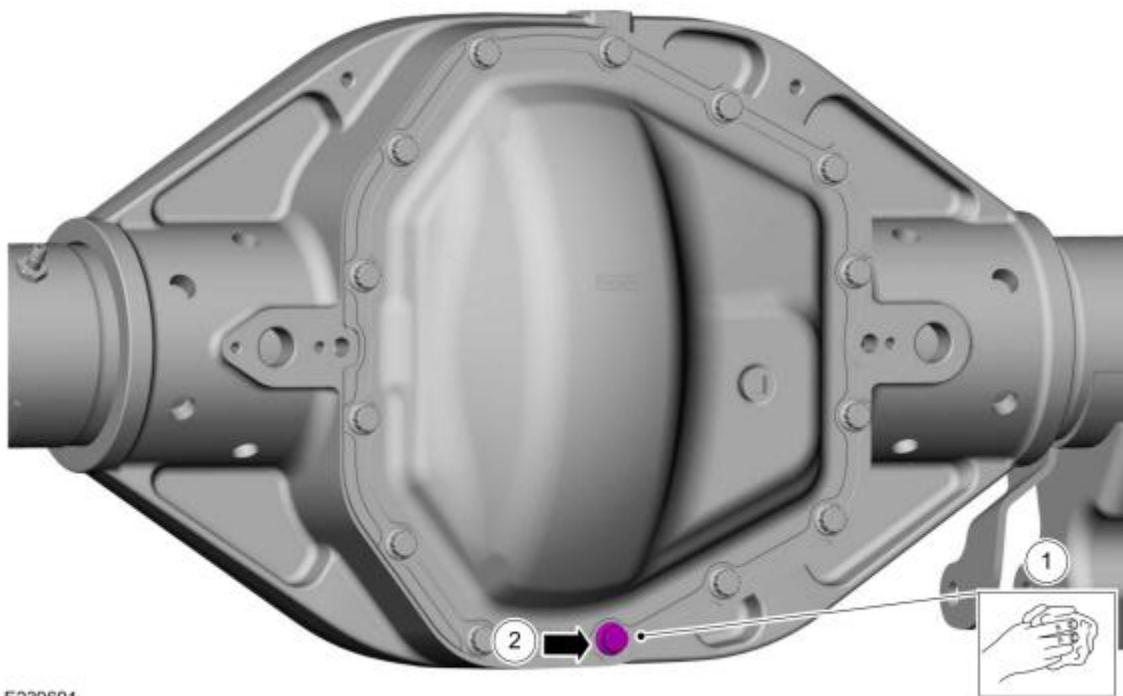
Put vehicle on hoist per Jacking and Lifting Overview

Cover Removal

Drain the differential.

Clean the differential fluid drain plug.

Remove the differential fluid drain plug.

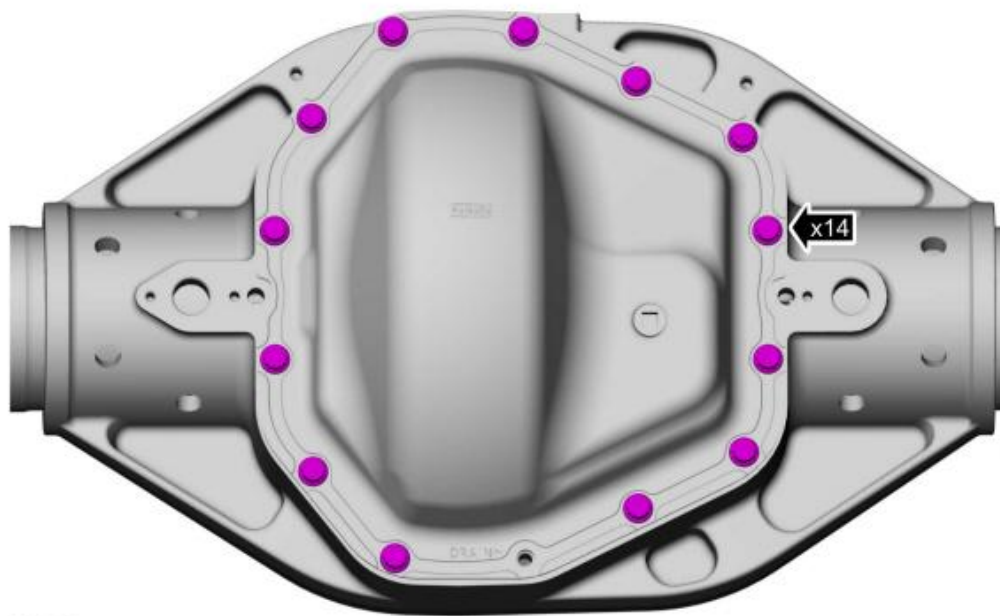


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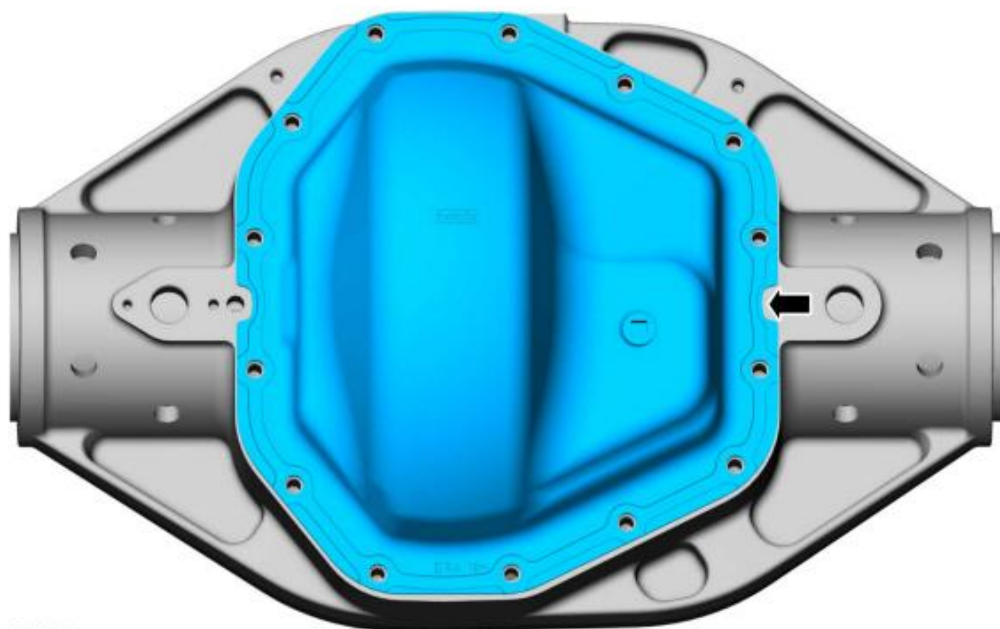
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Remove the remaining 13 differential housing cover bolts.



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Remove the differential housing cover.



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RTV Sealing Surface Cleaning and Preparation

Special Tool(s) / General Equipment

| |
|--|
| Plastic Scraper |
| Nylon Bristle Disk |
| Plastic Razor Blade |
| Lint-Free Towel |
| Isopropyl Alcohol – 90 Percent Minimum |

Materials

| Name | Specification |
|--|---------------|
| Motorcraft® Silicone Gasket Remover ZC-30-A, AZC-30-C | - |
| Motorcraft® Metal Surface Prep Wipes ZC-31-B | - |
| Motorcraft® Engine Shampoo and Degreaser ZC-20, AZC-20-C | ESR-M14P3-A |
| Motorcraft® Metal Brake Parts Cleaner PM-4-A, PM-4-B, APM-4-C | - |

Cleaning

NOTICE: This procedure is only to be used on the sealing surfaces of metal components. Do not use this procedure on non-metal (composite/plastic) components. Failure to follow this direction can lead to malfunction of the RTV seal and fluid leakage.

NOTICE: Place clean, lint-free towels over exposed cavities. Carefully remove the towels so foreign material is not dropped into the cavities. Any foreign material (including any material created while cleaning surfaces) that enters the fluid passages, may cause failure.

NOTICE: Do not use metal scrapers, wire brushes, power sanding or grinding discs, or any abrasive means other than what is specified in this procedure to clean sealing surfaces. These tools cause scratches and gouges which make leak paths.

NOTICE: The use of latex gloves is recommended. Using latex gloves will minimize the risk of contaminating RTV sealing surfaces and a leak.

NOTE: Bristle discs are acceptable to use for parts that are removed from the engine and vehicle and can be thoroughly washed and cleaned of debris caused by the tool itself and any other debris before installing the part on the engine.

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RTV Sealing Surface Cleaning and Preparation procedure

1. **NOTE:** *The order of use of materials to clean surfaces in this procedure is as follows:*
 1. **Material:** Motorcraft® Silicone Gasket Remover / ZC-30-A, AZC-30-C
 2. **Material:** Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B, APM-4-C
 3. Use the specified product or a commercially available equivalent.
Material: Motorcraft® Engine Shampoo and Degreaser / ZC-20, AZC-20-C (ESR-M14P3-A)
 4. **Material:** Motorcraft® Metal Surface Prep Wipes / ZC-31-B
2. **NOTE:** *This step is to help prevent contamination of an RTV sealing surface from drain down after it has been prepared.*

For oil pan repairs where residual engine oil in the crankcase may drain down and contaminate a prepared sealing surface, spray the interior of the engine block, skirt stiffener and drain back ports with Brake Cleaner to flush away any excess residual oil. Use a lint-free towel to remove the remainder of the bulk oil cleaner from the components.

Use the General Equipment: Lint-Free Towel

Material: Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B, APM-4-C

3. Remove loose sealant by hand or with the aid of a plastic scraper or plastic razor blade.
Use the General Equipment: Plastic Scraper
Use the General Equipment: Plastic Razor Blade
4. Apply Gasket Remover to surface. Allow material to work for several minutes.
Material: Motorcraft® Silicone Gasket Remover / ZC-30-A, AZC-30-C
5. Use a lint-free towel and plastic scraper or plastic razor blade to remove any remaining sealant. Use additional Gasket Remover, as required.
Use the General Equipment: Lint-Free Towel
Use the General Equipment: Plastic Scraper
Use the General Equipment: Plastic Razor Blade
Material: Motorcraft® Silicone Gasket Remover / ZC-30-A, AZC-30-C
6. For parts that are removed from the engine and vehicle that can be thoroughly cleaned without the risk of contaminating the engine with debris, use a bristle disc grade 120 to clean the sealing surface.
Use the General Equipment: Nylon Bristle Disk
7.
 - For oil pan repairs, spray the interior of the engine block, skirt stiffener and drain back ports with Brake Cleaner to flush away any additional residual oil.
Material: Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B, APM-4-C
 - Use a lint-free towel to remove the remainder of the bulk oil and cleaner from the components.
Use the General Equipment: Lint-Free Towel
 - Clean the RTV sealing surface with Brake Cleaner to remove all residual sealant and oil.
Material: Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B, APM-4-C
 - Wipe the RTV sealing surface dry with a clean lint-free towel.
Use the General Equipment: Lint-Free Towel
 - Inspect and make certain there are no oil contaminants on the sealing surface before proceeding to step 7.

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8. **NOTICE: Engine Shampoo and Degreaser is used to remove residual brake cleaner which can cause RTV failure and prepare the surface for the Metal Surface Prep Wipes. The use of any other brand engine shampoo or engine cleaner can compromise the sealing surface and could lead to failure of the RTV seal and a fluid leak.**

Use Engine Shampoo and Degreaser to clean the surface of any remaining oil contamination and prepare the surface for the Metal Surface Prep Wipes. After Engine Shampoo and Degreaser, dry the surface with a clean lint-free towel.

Use the General Equipment: Lint-Free Towel

Material: Motorcraft® Engine Shampoo and Degreaser / ZC-20, AZC-20-C (ESR-M14P3-A)

9. **NOTICE: Metal Surface Prep Wipes can only be applied to a dry surface. Failure to dry the sealing surface before using Metal Surface Prep Wipes can result in a failure of the RTV seal and a fluid leak.**

NOTE: *Metal Surface Prep Wipes is a pre-saturated, wet disposable wipe to be used as a final step in surface preparation. The wipe fluid creates a conversion coating providing an improved base for RTV sealing. The fluid should be allowed to dry in place. It does not require rinsing.*

NOTE: *Discard wipe after a single use.*

Prep the surface with Metal Surface Prep Wipes. All metal surfaces to be sealed with RTV are to be wiped. Make sure the entire surface is moistened with the fluid.

Material: Motorcraft® Metal Surface Prep Wipes / ZC-31-B

10. **NOTICE: Drying the surface with a towel will contaminate the surface and may cause oil leaks.**

NOTICE: If the metal sealing surface or an area of the metal sealing surface becomes contaminated after it has been prepared, or if fluid from the Metal Surface Prep Wipe beads up on the sealing surface, use a lint-free towel soaked in isopropyl alcohol to clean the area. Prepare the area again using Metal Surface Prep Wipes.

Allow the fluid applied to the metal sealing surface to air dry. (Approximately 2 minutes.)

Use the General Equipment: Isopropyl Alcohol – 90 Percent Minimum

Cover Installation

NOTE: *Remove all of the silicone gasket and make sure the surfaces are free of oil before applying the new silicone gasket.*

Clean the gasket mating surface of the axle and the differential housing cover.

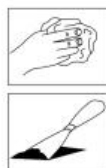
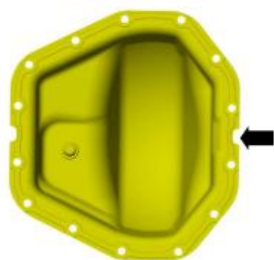
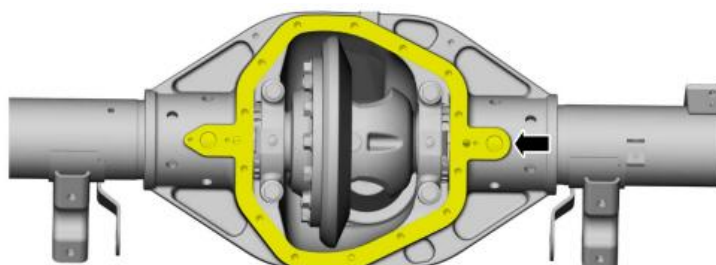


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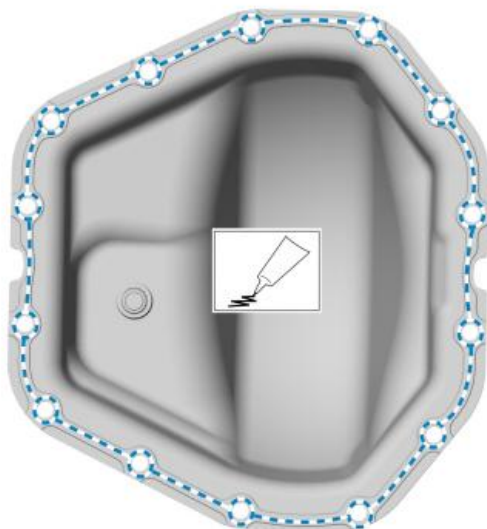


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NOTE: The differential housing cover must be installed within 15 minutes of application of the silicone, or new sealant must be applied. Allow one hour before filling with lubricant to make sure the silicone sealant has correctly cured.

Apply a new, continuous bead of sealant to the differential housing cover as shown.

Material: Motorcraft® Ultra Silicone Sealant / TA-29 (WSS-M4G323-A8)



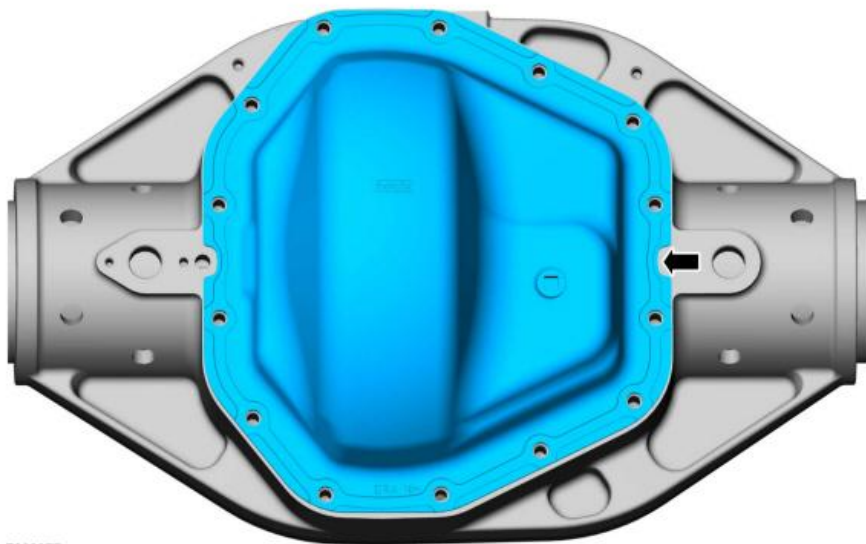
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Install the differential housing cover. Shown with Ford Production cover.

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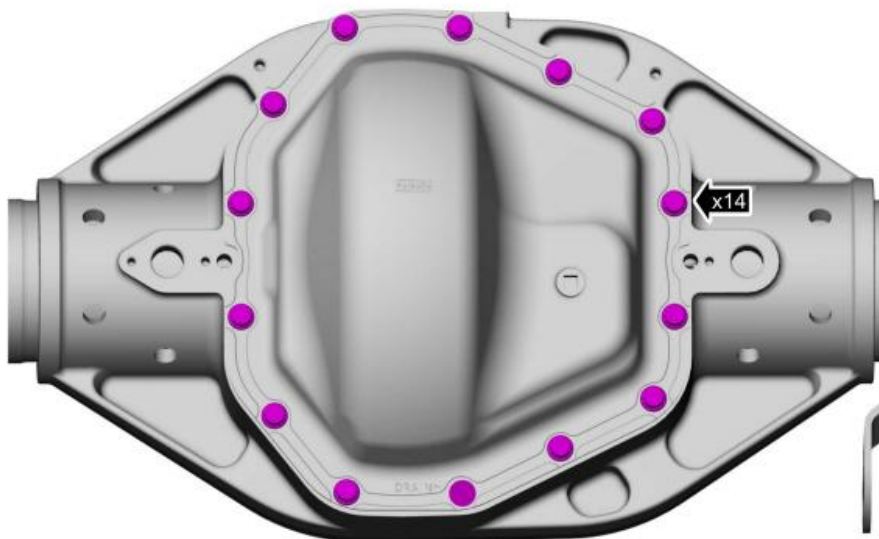
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Install the supplied differential housing cover bolts (tube clips are to be reused), Torque to 66 lb.ft (90 Nm) using a cross pattern until all bolts are torqued. Shown with Ford Production cover.



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Install magnetic drain plug, torque to 22 ft. lb (30Nm).

Install upper fill plug, torque to 22 ft. lb (30Nm).

Fill differential with Motorcraft Axle Lubricant through the bottom fill hole until the lubricant begins to drain back out, install plug, torque to 22 ft. lb (30Nm). See owners manual for specific type of Axle Lubricant and fill amount.

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