



# 231 Transfer Case 2WD Low Range Kit

Kit  
#2204000



## Important Notes:

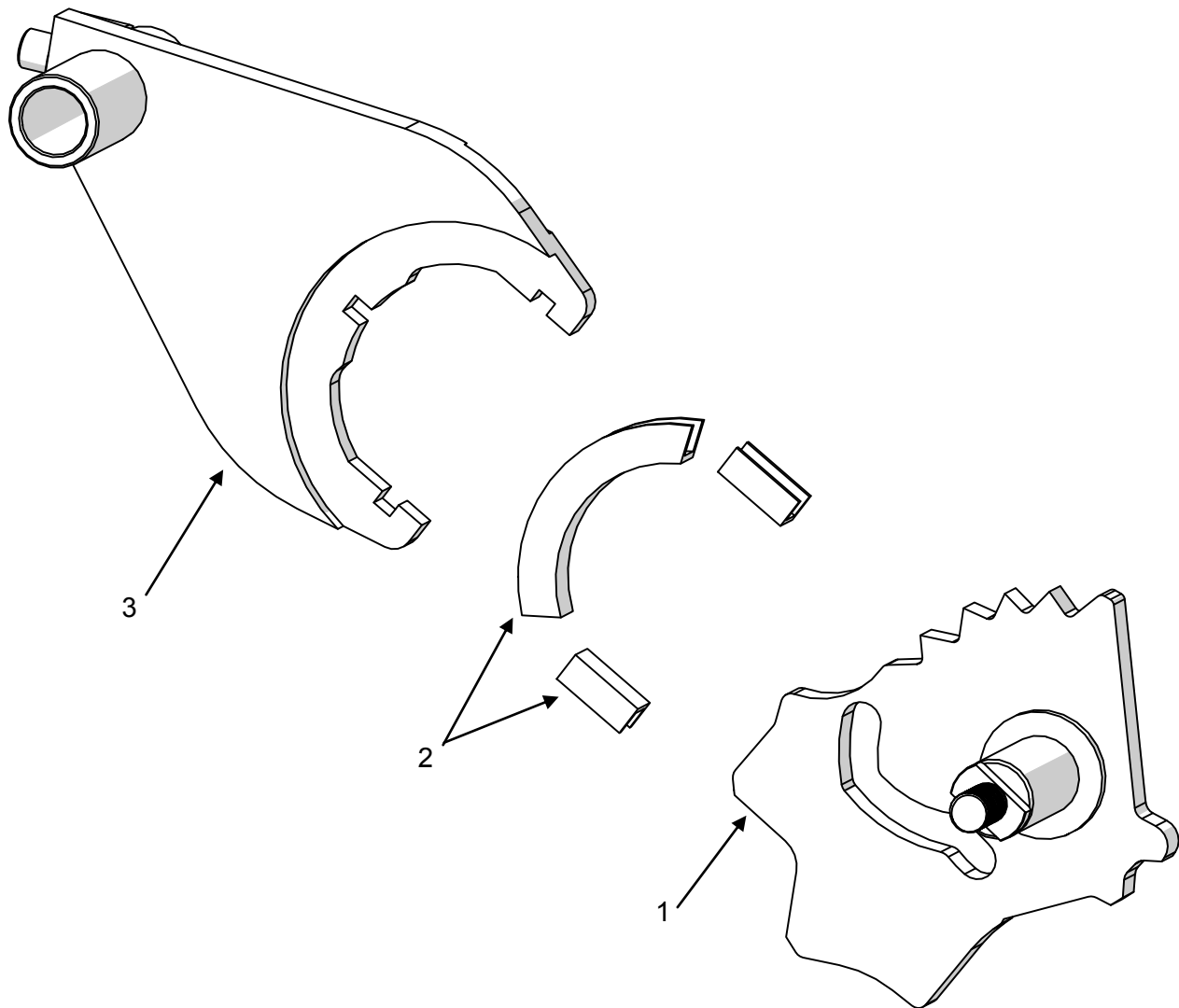
This installation is depicted with a TeraFlex 231 SYE Heavy Duty Short Shaft Kit (#4444401), personal disassembly and assembly may differ.

Prior to beginning this or any installation read these instructions to familiarize yourself with the required steps and evaluate if you are experienced and capable to personally perform these modifications. A factory service manual should be used in conjunction with these installation instructions.

Refer to the parts list to ensure that all necessary components and hardware has been included. If any parts are missing please contact your local TeraFlex dealer for assistance.

## Tools needed:

- This installation guide
- Basic mechanics tool set
- Snap ring pliers
- Mallet or dead blow hammer
- RTV Gasket Maker
- Red thread locking compound
- Blue thread locking compound



Provided Parts List			
Item Number	Part Number	Description	Quantity
1	21232	Shift Selector	1
2	10034	Range Fork Pad Kit	1
3	21231	Range Fork	1
	21234	Shift Patern Decal	1

**Check to make sure all parts and hardware are present before starting installation. If any parts are missing please contact you local TeraFlex dealer for assistance.**

Installation of the 2WD Low Range Kit can be completed with the transfer case installed in the Jeep or on the workbench.

1

Begin by draining the oil from the transfer case. Some will require a 15/16" socket or wrench, while others will require a 10 mm allen socket or wrench.



2

Remove the rear driveline completely, and disconnect the front driveline at the transfer case yoke. Tie the front driveline out of the way. Complete removal is not necessary.

Remove the front output yoke.

**Four 8mm U Joint bolts**



3

**1-1/8 in Socket**



4

Remove speedometer gear assembly by removing the 13 mm bolt and pulling the assembly out of the tail housing.

Remove the rear output dust shield and harmonic balancer if equipped.



5

13 mm bolt



6

Remove the rear output shaft seal.



7

Remove the rear output shaft snap ring.



8

Remove the 5 bolts holding the tail housing in place. Separate it from the transfer case.



9

Split the case by removing the 8 case half bolts. Note the location of the 10 mm 12 point bolt. Gently pry the case apart using the machined notches on either side of the case.



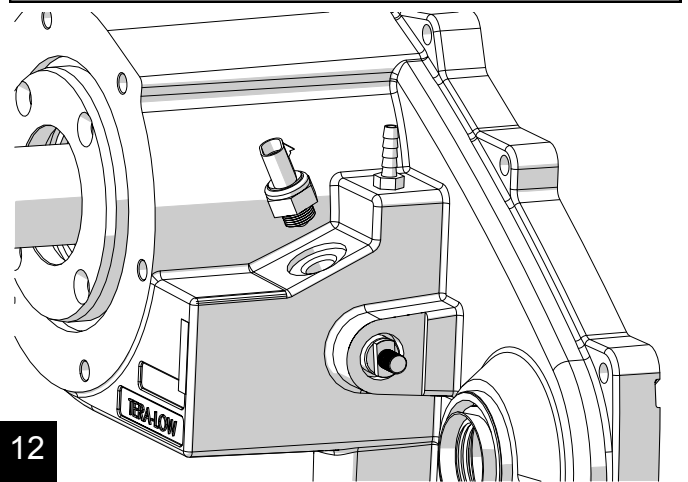
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Remove the front and rear outputs together with the drive chain.



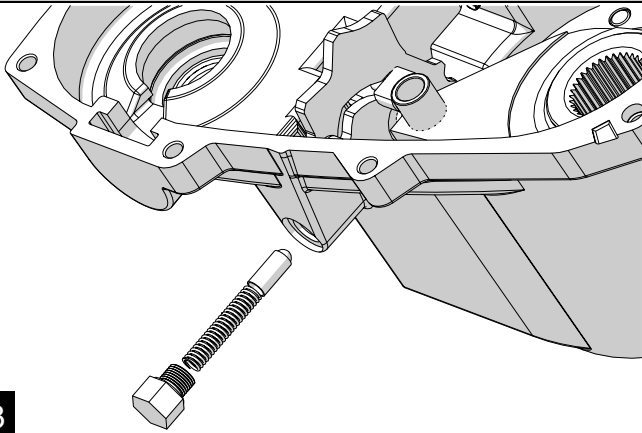
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Remove the indicator switch from the case if so equipped.



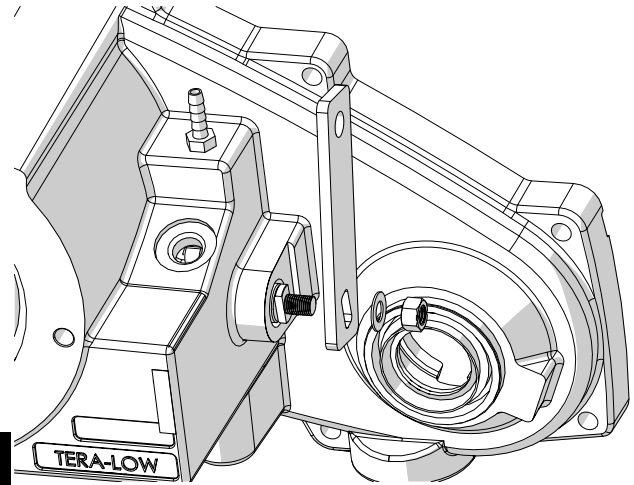
12

Remove the shift detent screw, spring and poppet from the bottom of the case.



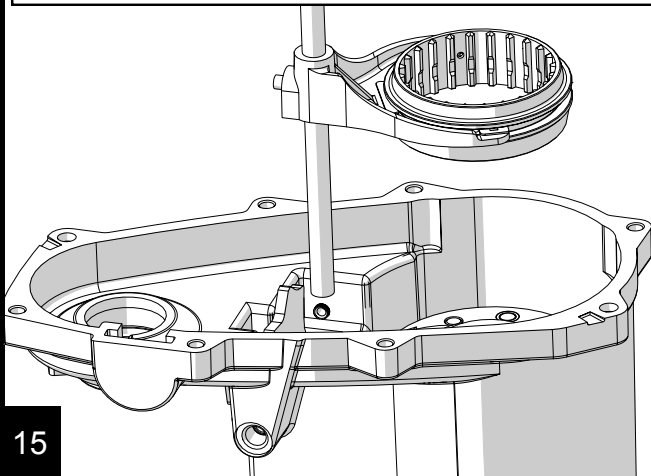
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Remove range lever, washer and nut.



14

Remove mode fork with the shift rail and mode ring. **Note the orientation of the mode ring.**



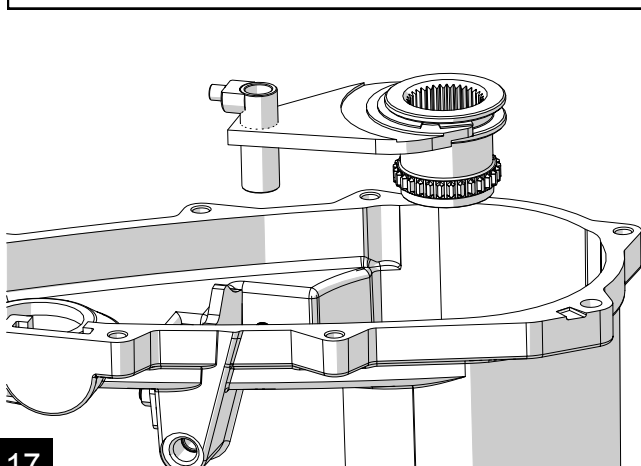
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Check the mode fork shift pads for wear. If any pads are in need of replacement, Crown Automotive #15866 includes pads for both the mode and range forks.



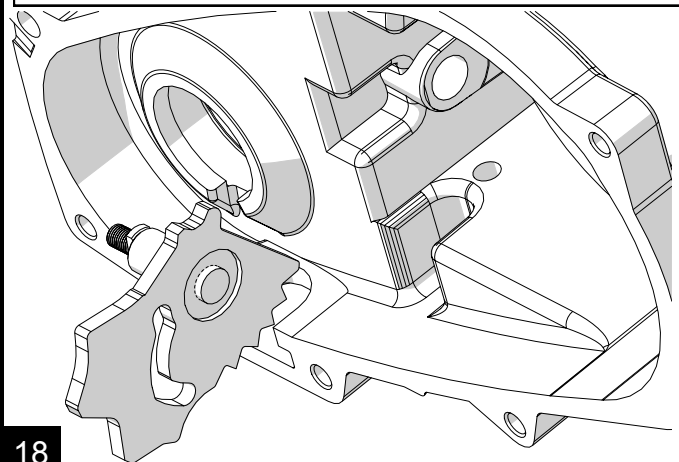
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Remove range fork with range hub.



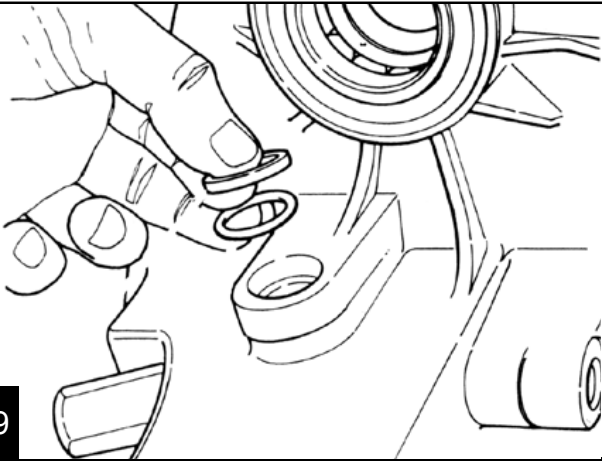
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Remove factory shift selector.



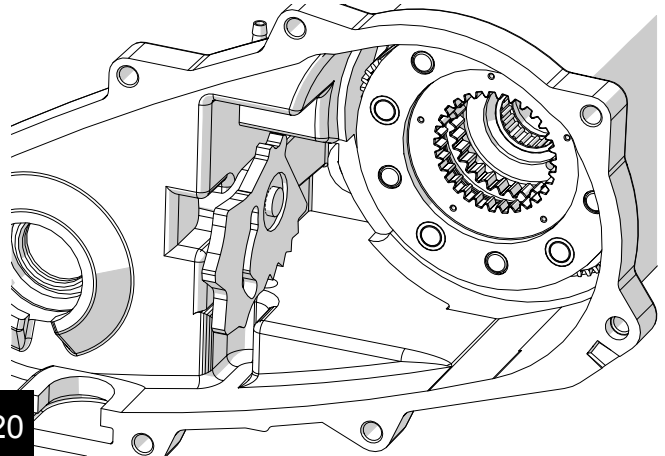
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Be sure not to lose the O-ring and bushing from the outside of the case where the shift selector comes through.



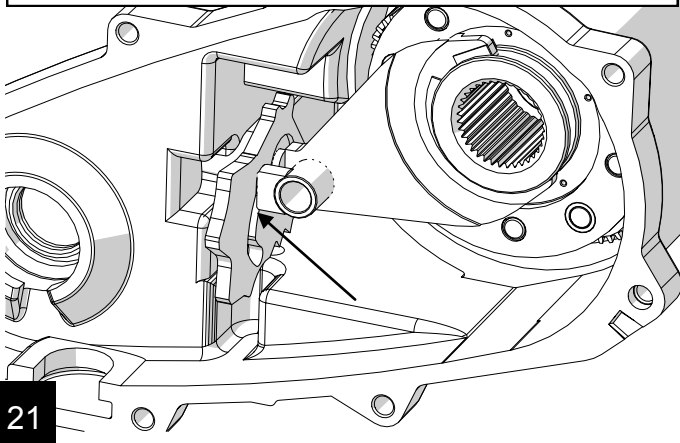
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Place the new shift sector directly in place of the factory sector. Reinstall original O-ring and bushing.



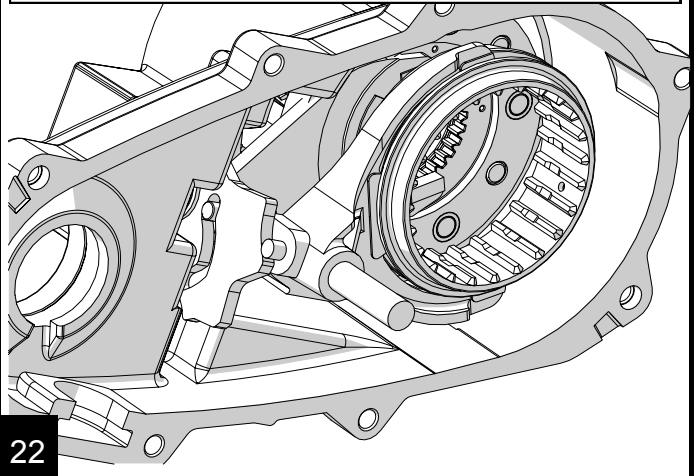
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Install provided shift pads into the new range fork and install into case, be sure to align the pin on the fork into the groove on the new shift sector.



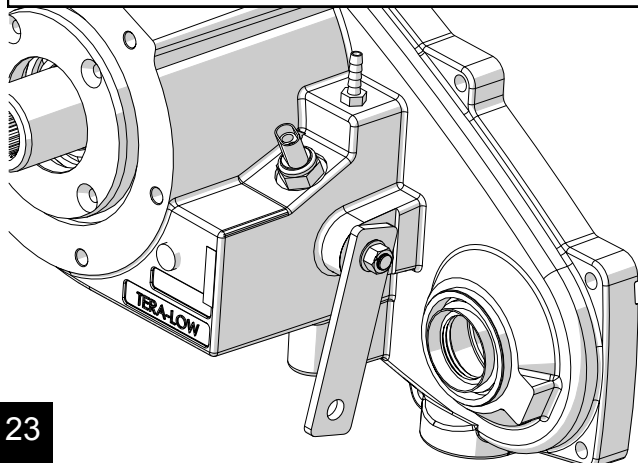
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Reinstall mode fork with shift rail and mode ring. **Note the orientation of the mode ring.**



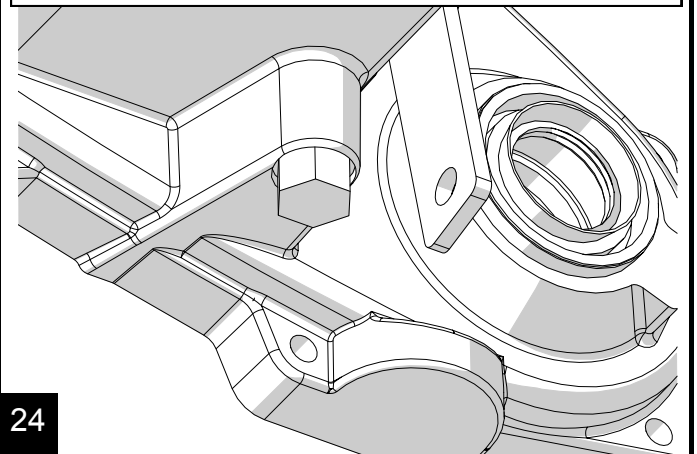
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Reinstall the range lever, washer and lock nut. Torque 20-25 ft-lbs. Reinstall the Indicator switch, torque 15-25 ft-lbs.



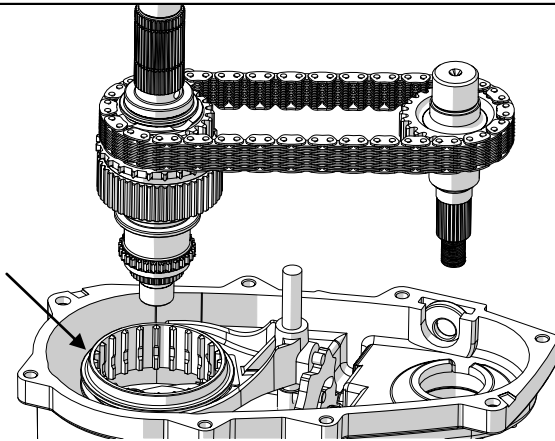
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Reinstall detent screw, spring, and poppet. Torque 12-18 ft-lbs.



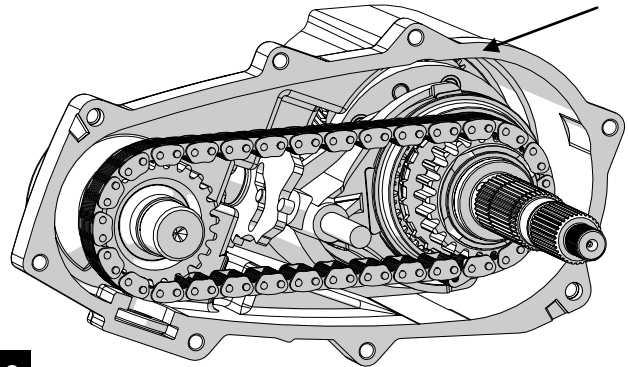
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Install the main shaft, chain and front output.  
**Note the orientation of the mode ring.**



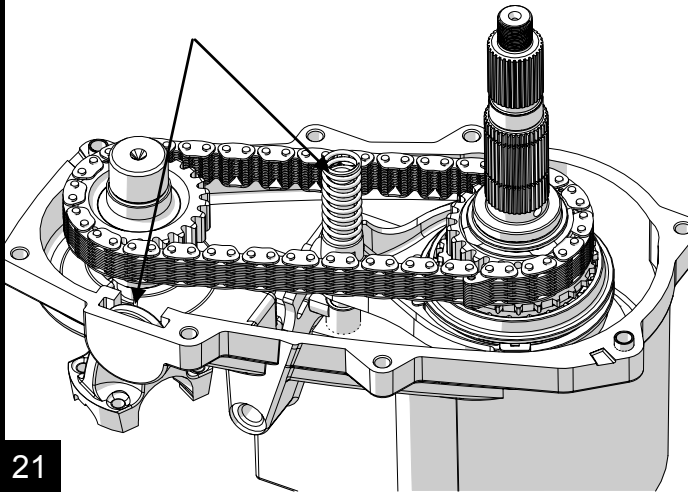
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Clean the mating surface on the front case half in preparation for joining the two case halves. Ensure surface is free from oily residue and silicone from the old seal.



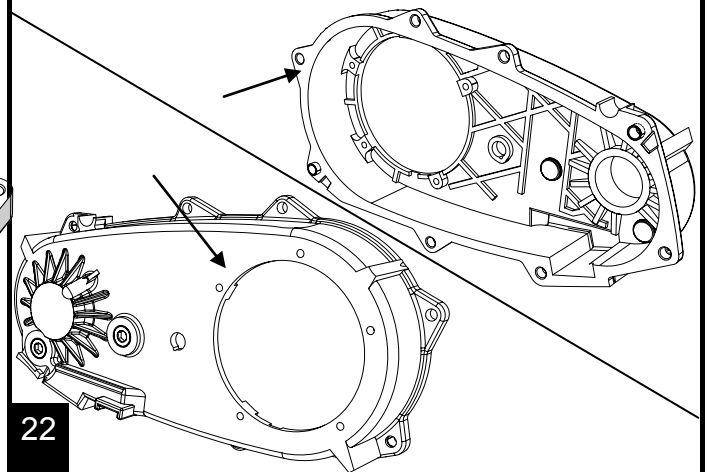
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Clean and reinstall the magnet and mode fork spring.



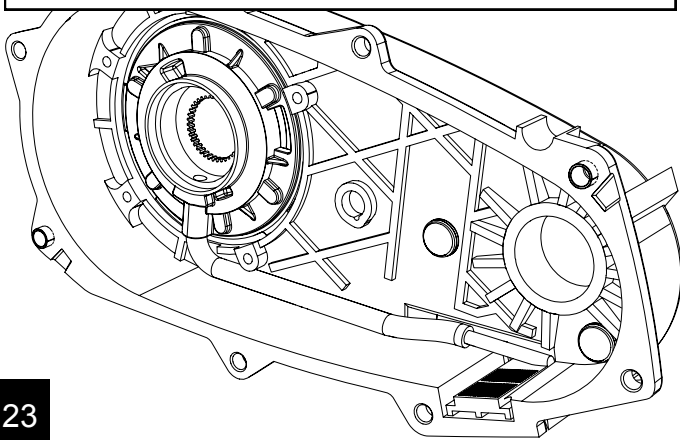
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Clean the mating surfaces on the rear case half, both to the front case half and tail housing.



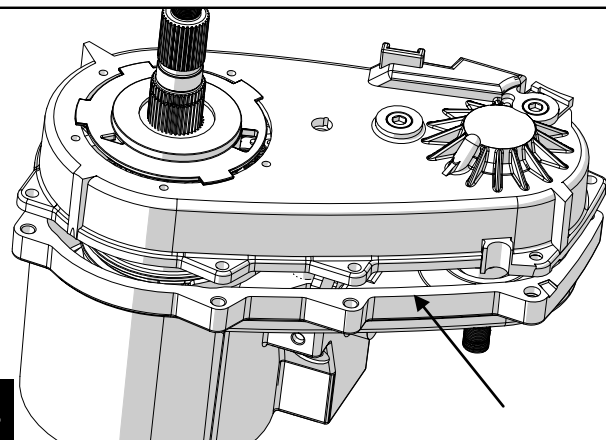
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Install the oil pick up into the case and make sure it is inserted into the oil pump. Be sure to mount the oil pump in the proper location, outside the housing.



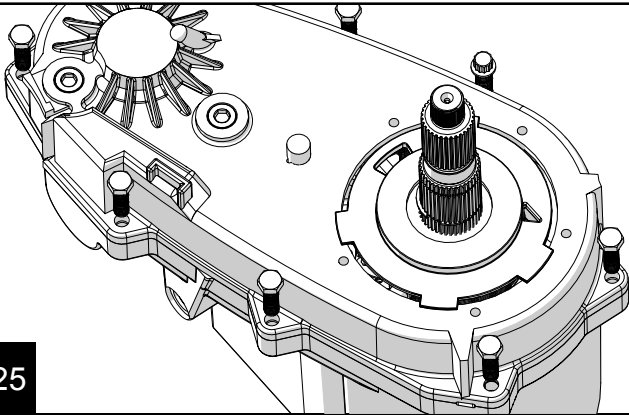
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Apply a maximum of 3/16" bead of gasket maker to the mating surface of front case half and install the rear half of the transfer case.



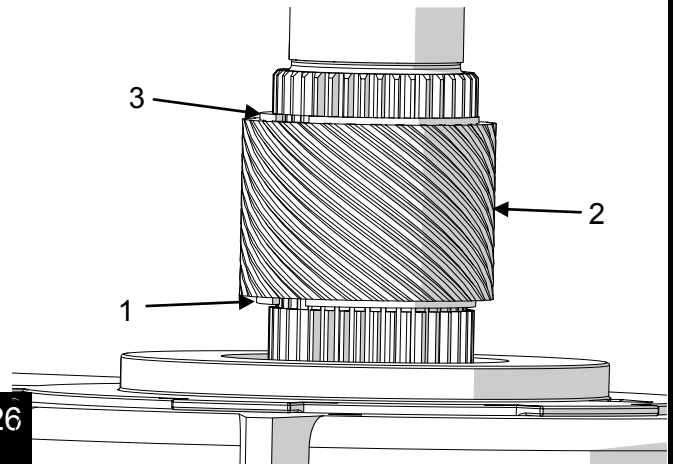
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Verify shift rail and case alignment dowels are aligned before installing any bolts. Apply blue thread locking compound to bolts and torque in a crisscross pattern to 20-25 ft-lbs, noting the location of the bolt with the 12 point head.



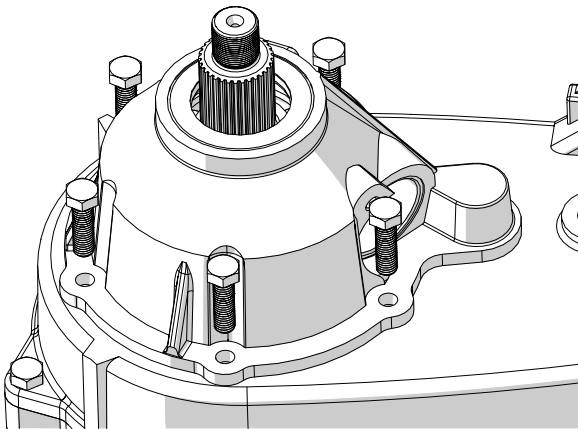
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Install a new snap ring (1), followed by the speedometer gear (2), install the final snap ring (3) to retain the gear.



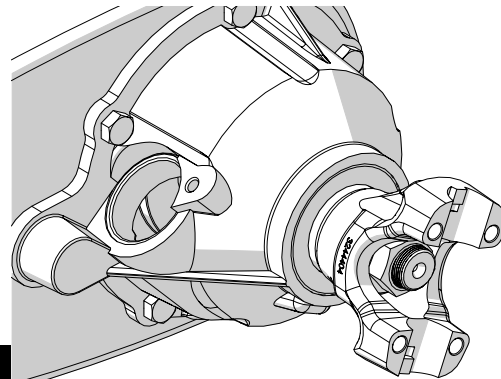
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Apply a maximum 3/16" bead of gasket maker to the tail housing, install and torque bolts in a crisscross pattern to 15-20 ft-lbs.



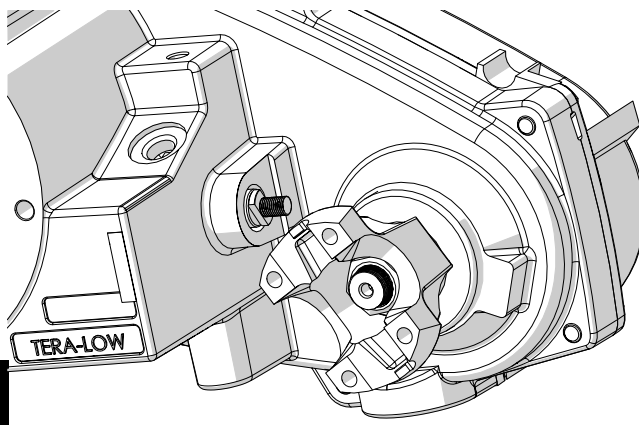
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Apply a small amount of silicone to seal the spline and yoke interface under the yoke nut. Apply red thread locking compound to the yoke nut and torque to 90-130 ft-lbs.



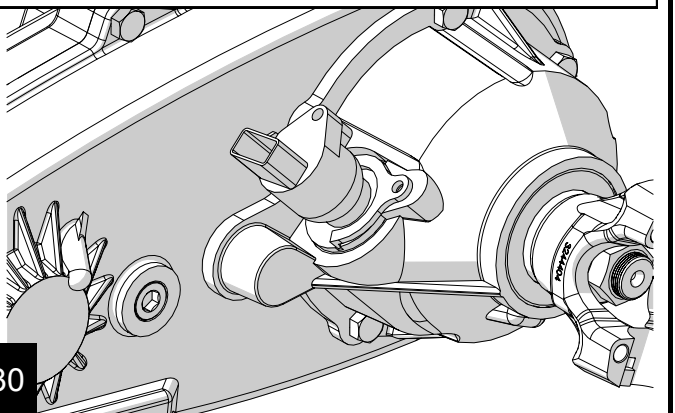
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Install seal washer on front output, install yoke. Apply red thread locking compound to nut and torque to 90-130 ft-lbs



29

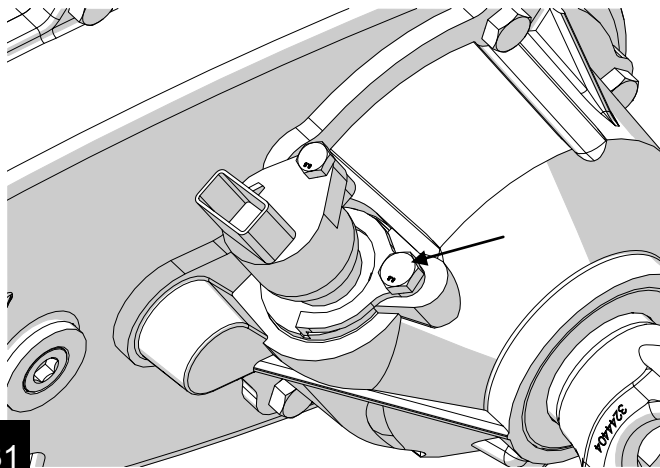
Apply a thin film of oil to sensor o-ring to aid in sensor installation. To be sure that the gears are engaged, rotate the yoke with your hand on the sensor, you will be able to feel the sensor turn.



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Tighten sensor bolt 8-12 ft-lbs.



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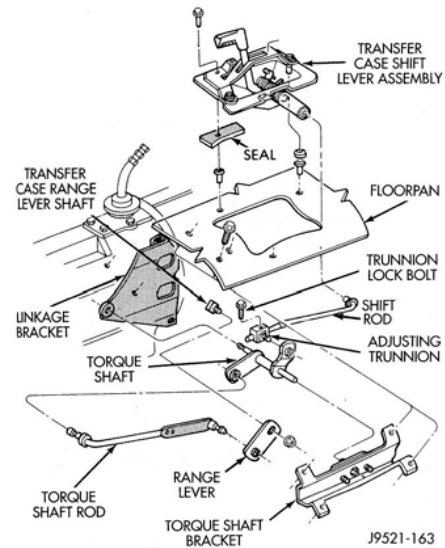
Fill transfer case with 2.2 pints (1.0L) of ATF+4 and reinstall into vehicle if transfer case was removed.

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### Shift Linkage Adjustment

Shift Transfer Case into 2H. Raise vehicle. Loosen lock bolt on adjusting trunnion. Be sure linkage rod slides freely in trunnion. Clean rod and apply spray lube if necessary. Verify that transfer case range lever is fully engaged in 2H position. Tighten adjusting trunnion lock bolt. Lower the vehicle. Test drive vehicle to confirm all shift positions

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J9521-163

### NP 231 TORQUE

DESCRIPTION	N·m	Ft. Lbs.
Plug, Detent	16-24	12-18
Plug, Drain/Fill	20-34	15-25
Bolt, Front Brg. Retainer	21	16
Bolt, Case Half	27-34	20-25
Nut, Front Yoke	122-176	90-130
Nut, Range Lever	27-34	20-25
Bolt, Rear Retainer	35-46	26-34
Nuts, Mounting	35-47	26-35
Switch, Indicator	20-34	15-25

## **PRODUCT INFORMATION**

### **MAINTENANCE INFORMATION:**

It is the buyer's responsibility to have all suspension, drivetrain, steering, and other components checked for proper tightness and torque after the first 100 miles and every 3000 miles after that.

### **NOTICE TO INSTALLER:**

The enclosed "Warning to Driver" sticker must be installed in the vehicle in driver's view. This sticker is to act as a constant safety reminder when operating the vehicle. It is your responsibility as the equipment installer to install the provided sticker and to forward the product instructions to the vehicle's owner for review. If a "Warning to Driver" sticker or product installation guide were not included in the kit, FREE replacement stickers and instructions are available by request. It is the installer's duty to ensure a safe and controllable vehicle after the modifications have been performed.

### **WARNING:**

Neither the seller nor the manufacturer will be liable for any loss, damage, or injury directly or indirectly arising from the use of or inability to determine the use of these products. Before using, the user shall determine the suitability of the products for its intended use, and the user shall assume all responsibility and risk in connection therewith.

### **WARNING TO DRIVER:**

This vehicle has been modified to enhance off road performance and has unique handling characteristics. Use in harsh environments can cause extreme stress on the components. Vehicle should be inspected after being off road to make sure that all the components are in working order and safe to travel on the highway. All fasteners should be checked so that they are at the correct torque specifications as the vibration and stresses from off roading may cause critical fasteners to work loose. Extra care should be taken to inspect the critical components, steering, and brake systems. During each oil change components such as arms, tie rod ends, etc should be greased and checked for excessive wear. Any worn components should be replaced. When returning to the pavement always set or restore tire air pressure to the factory recommendation and connect or engage any disabled sway bar mechanisms. Because of the higher center of gravity and larger tires, this vehicle handles and reacts differently than many passenger cars, both on and off road. You must drive it safely! Extreme care should be taken to prevent vehicle rollover or loss of control, which can result in serious injury or death. Avoid sudden sharp turns or abrupt maneuvers. Generally, braking performance and capabilities are decreased when significantly larger/heavier tires are used, especially when used in combination with transfer case low-range reduction kits. Take this into consideration while driving. Do not add, alter or fabricate any factory or aftermarket parts to increase vehicle height over the intended height of the TeraFlex product purchased. Mixing component brand is not recommended. TeraFlex Inc. will not be responsible for any altered product or any improper installation or use of our products. We will be happy to answer any questions concerning the design, function, and correct use of our products. It is ultimately the buyer's responsibility to have all bolts/nuts checked for tightness after the first 100 miles and then every 3000 miles. Wheel alignment, steering system, suspension and drive line systems must be inspected by a qualified professional mechanic at least every 3000 miles.