CHAPTER 2
MAINTENANCE

2

PERIODIC MAINTENANCE CHART

PERIODIC MAINTENANCE OVERVIEW

Inspect, clean, lubricate, adjust and replace parts as necessary. When inspection reveals the need for replacement parts, use genuine Pure Polaris parts.

Record maintenance and service in the Maintenance Log of the Owner's manual.

Maintenance intervals in the following chart are based upon average riding conditions and an average vehicle speed of approximately 10 miles per hour. Vehicles subjected to severe use must be inspected and serviced more frequently.

Severe Use Definition

- Frequent immersion in mud, water or sand
- Racing or race-style use
- Prolonged low speed, heavy load operation

MAINTENANCE CHART KEY

The following symbols denote potential items to be aware of during maintenance:

■ = **CAUTION: Due to the nature of these adjustments, it is recommended this service be performed by an authorized Polaris dealer.**

▸ = **SEVERE USE ITEM: See information provided above.**

E = **Emission Control System Service (California).**

NOTICE
Inspection may reveal the need for replacement parts. Always use genuine Polaris parts.

⚠ WARNING
Improperly performing the procedures marked ■ could result in component failure and lead to serious injury or death. Have an authorized Polaris dealer perform these services.

PERIODIC MAINTENANCE CHART

ITEM		MAINTENANCE INTERVAL (WHICHEVER COMES FIRST)			REMARKS
		HOURS	CALENDAR	PAGE	
■	Steering	-	Pre-Ride	Steering page 2.11	Inspect operation; Make adjustments as needed.
▸	Front Suspension	-	Pre-Ride	Suspension Inspection page 2.15	
▸	Rear Suspension	-	Pre-Ride	Suspension Inspection page 2.15	
	Tires	-	Pre-Ride	Tire Inspection page 2.8	
▸	Brake Fluid Level	-	Pre-Ride	Brake Fluid Inspection page 2.16	
▸	Brake Pedal Travel	-	Pre-Ride	Brake Hose and Fitting Inspection page 2.16	
	Brake Systems	-	Pre-Ride	-	
	Wheels / Fasteners	-	Pre-Ride	-	
	Frame Fasteners	-	Pre-Ride	-	
	Head Lamp / Tail Lamp	-	Daily	-	Check operation; apply dielectric grease to connector if replacing
▸ ■	Brake Pad Wear	10 H	Monthly	-	Inspect periodically
▸ ■	Parking Brake Cable Adjustment	25 H	-	-	Inspect; adjust after first 25 hours
	Battery Terminals (Clean)	25 H	Monthly	-	Clean terminals and cable ends
	Battery Terminals (Torque)	25 H	Monthly	-	Re-torque terminal nuts
	Battery Fluid Level	25 H	Monthly	-	Inspect and add distilled water as needed
▸	Front Gearcase Lubricant	25 H	Monthly	-	Inspect level; change yearly
▸	Transaxle (Rear Gearcase) Lubricant	25 H	Monthly	-	Inspect level; change yearly
▸	General Lubrication	50 H	3 Months	-	Lubricate fittings, pivots, cable ends
■	Steering	50 H	6 Months	-	Inspect; Lubricate
▸	Front Suspension	50 H	6 Months	-	Check fastener torque; Check that cotter pins are in place on castle nuts. Check and lubricate tie rod ends.
▸	Rear Suspension	50 H	6 Months	-	Check fastener torque; Check that cotter pins are in place on castle nuts. Lubricate stabilizer bar pivots and A-arm joints.
▸	Wiring	100 H	12 Months	-	Inspect for wear, routing, security; apply dielectric grease to non-sealed connectors subjected to water, mud, etc.
■	Front Wheel Bearings	100 H	12 Months	-	Inspect; replace as needed
■	Brake Fluid	200 H	24 Months	-	Change every two years (DOT 4)
■	Toe Adjustment	-			Inspect periodically; adjust when parts are replaced
	Headlight Aim	-			Adjust as needed

▸ Perform these procedures more often for vehicles subjected to severe use.

E Emission Control System Service (California)

■ Have an authorized Polaris dealer perform these services.

SERVICE PRODUCTS AND LUBRICANTS

POLARIS LUBRICANTS, MAINTENANCE AND SERVICE PRODUCTS

PART NO.	DESCRIPTION
Front Gearcase Lubricant	
2877922	Demand Drive(Quart)
2877923	Demand Drive (2.5 Gallon)
Transaxle (Rear Gearcase) Lubricant	
2876160	Angle Drive Fluid (Quart) (12 count)
2872276	Angle Drive Fluid (2.5 Gallon) (2 count)
2870465	Oil Pump for 1 Gallon Jug
Grease / Specialized Lubricants	
2871322	Premium All Season Grease (3 oz. cartridge) (24 Count)
2871423	Premium All Season Grease (14 oz. cartridge) (10 Count)
2871515	Premium U-Joint Lube (3 oz.) (24 Count)
2871551	Premium U-Joint Lube (14 oz.) (10 Count)
2871312	Grease Gun Kit
2871329	Dielectric Grease (Nyogel)
Additives / Sealants / Thread Locking Agents / Misc.	
2871950	Loctite® Threadlock 242 (6 ml.) (12 Count)
2872189	DOT 4 Brake Fluid (12 Count)
2871557	Crankcase Sealant, 3-Bond 1215 (5oz.)

NOTICE
The number count indicated by each part number in the table above indicates the number of units that are shipped with each order.

GENERAL VEHICLE INSPECTION AND MAINTENANCE

PRE-RIDE / DAILY INSPECTION

Perform the following pre-ride inspection daily, and when servicing the vehicle at each scheduled maintenance.

- Tires - check condition and pressure
- Battery charge level - note charge level and plan accordingly
- All brakes - check operation and adjustment (includes parking brake)
- Key switch - check for proper function
- Accelerator pedal - with key switch OFF, check for free operation and closing
- Headlight / Taillight / Brakelight - check operation of all indicator lights and switches
- Wheels - check for tightness of wheel nuts and axle nuts; check to be sure axle nuts are secured by cotter pins
- Steering - check for free operation noting any unusual looseness in any area
- Loose parts - visually inspect vehicle for any damaged or loose nuts, bolts or fasteners
- Check all suspension components for wear or damage.

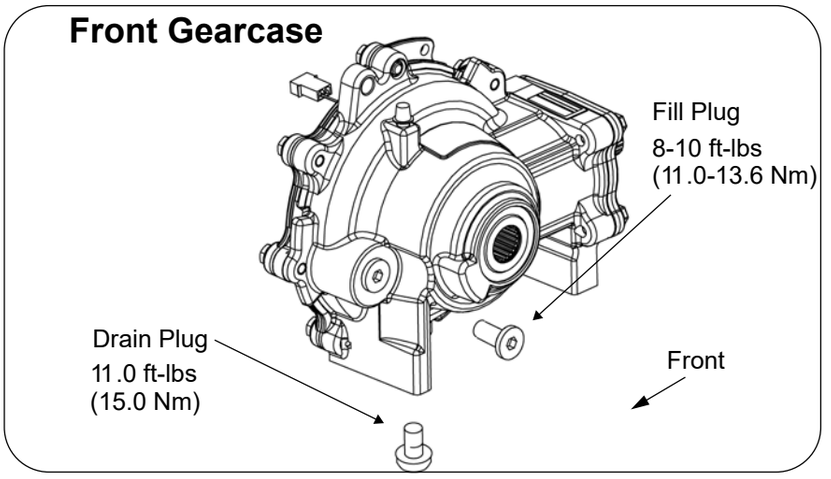
FRAME, NUTS, BOLTS, AND FASTENERS

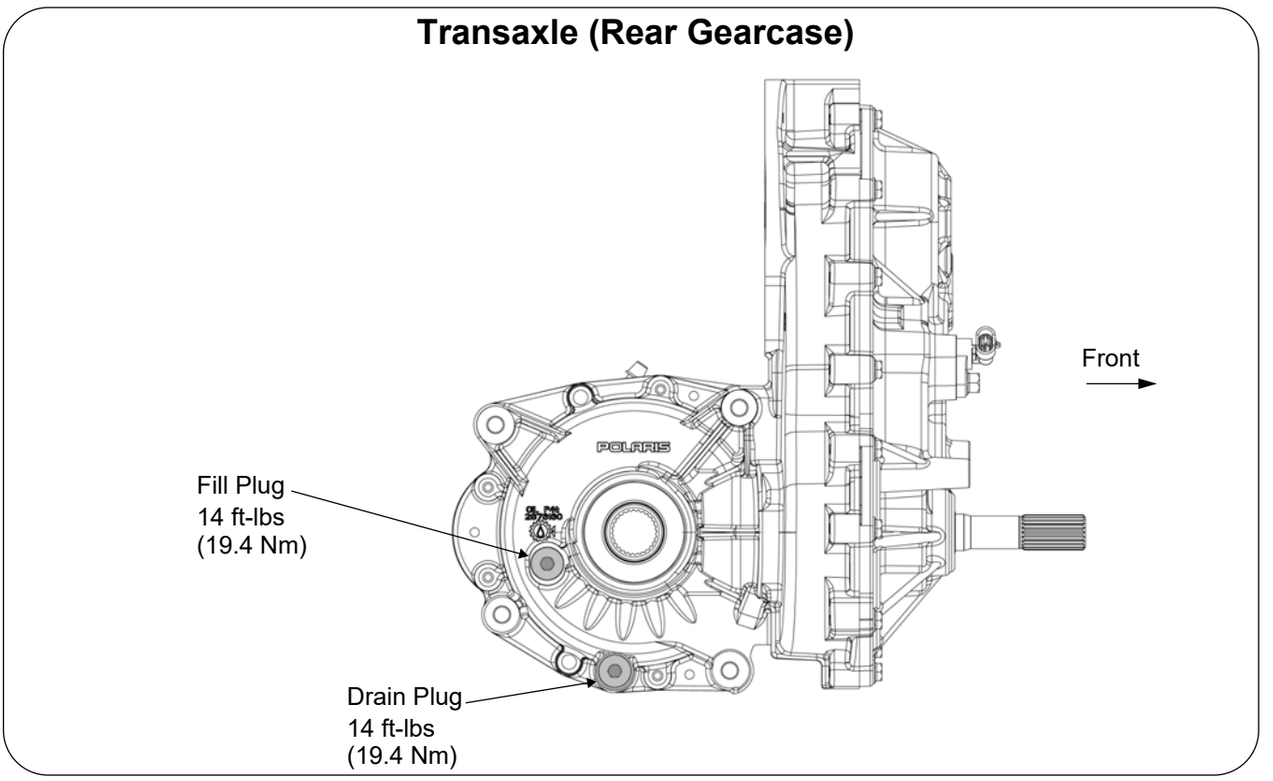
Periodically inspect the torque of all fasteners in accordance with the maintenance schedule. Check that all cotter pins are in place. Refer to specific fastener torques listed in each chapter.

FLUID MAINTENANCE REFERENCES

COMPONENT QUICK REFERENCE

ITEM	LUBE REC.	METHOD	CAPACITY (DRY)
Front Gearcase	**Demand Drive**	Add lubricant to bottom of fill hole threads	**6.1 oz. (180 ml)**
Transaxle	**Angle Drive Fluid**	Add lubricant to bottom of fill hole threads	**20.3 oz. (600 ml)**

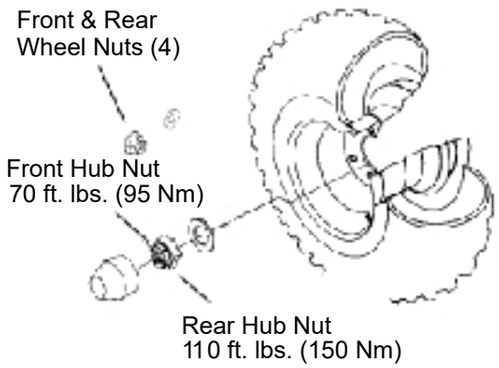




FINAL DRIVE / WHEEL AND TIRE

WHEEL AND HUB TORQUE TABLE

ITEM	SPECIFICATION
Steel Wheels Lug Nuts	**35 ft-lb (47 Nm)**
Front Hub Nut	**70 ft-lb (95 Nm)**
Rear Hub Nut	**110 ft-lb (150 Nm)**



WHEEL REMOVAL

1. Place vehicle on a level surface.
2. Turn key off and set parking brake.
3. Block front and rear edge of tires on the side opposite the wheels to be removed.
4. Loosen wheel nuts slightly.
5. Elevate side of vehicle by placing a jack or lift under the frame. Place blocks under frame for additional safety.

⚠ WARNING

Make sure the vehicle is securely, supported, and blocked to prevent movement when elevated. Failure to follow the safety precautions could result in serious injury or death.

6. Remove wheel nuts and washers (or lug nuts) and remove wheel.

WHEEL INSTALLATION

1. Place wheel on hub. Be sure valve stem is outward and rotation arrows on tire point in forward rotation.
2. Install washers and wheel nuts (or lug nuts with tapered end toward wheel) and tighten lightly by hand until wheel is centered and firmly supported.
3. Remove safety supports and lower the jack.
4. Tighten wheel nuts (or lug nuts) to proper torque listed in the Wheel and Hub torque table on Wheel and Hub Torque Table page 2.7.

⚠ CAUTION

If wheels are improperly installed it could affect vehicle handling and tire wear. On vehicles with tapered lug nuts, be sure tapered end of nut faces the wheel.

TIRE PRESSURE

⚠ WARNING

Maintain proper tire pressure. Refer to the warning tire pressure decal applied to the vehicle.

TIRE PRESSURE INSPECTION (COLD)	
Front	**Rear**
20 psi (138 kPa)	**20 psi (138 kPa)**

TIRE INSPECTION

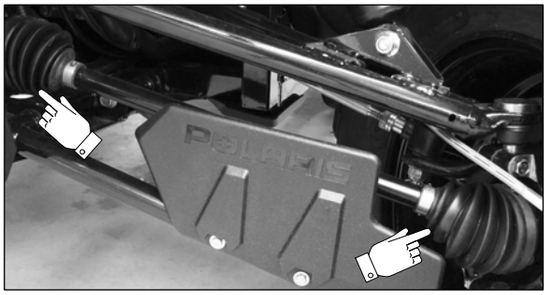
- Improper tire inflation may affect vehicle maneuverability.
- When replacing a tire always use original equipment size and type.
- The use of non-standard size or type tires may affect vehicle handling.

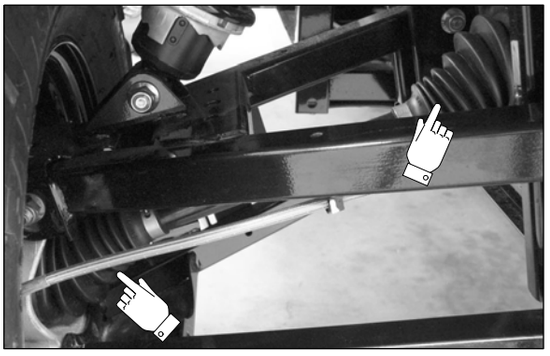
MEASUREMENT
Tire Lug Service Limit: **Replace if 1/8″ (3 mm) or less.**

⚠ WARNING
Operating with worn tires will increase the possibility of the vehicle skidding easily with possible loss of control. Worn tires can cause an accident. Always replace tires when the usable tread depth has worn out.

CV SHAFT BOOT INSPECTION

Inspect inner and outer CV joint boots on front and rear drive axles for damage, tears, wear, or leaking grease. Replace if worn, damaged, or leaking. See FINAL DRIVE chapter for boot replacement.



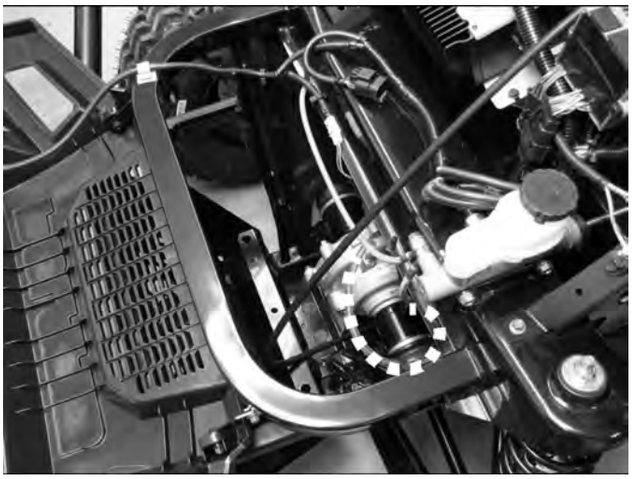


GEARCASE MAINTENANCE

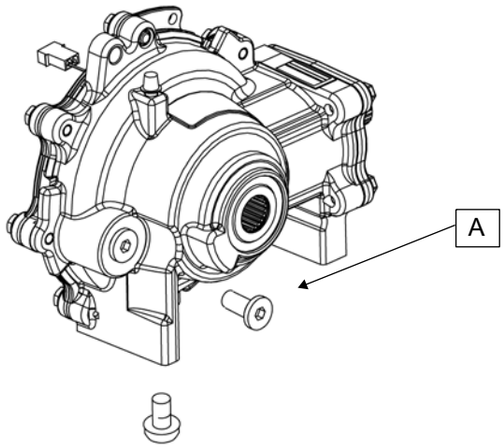
FRONT GEARCASE LUBRICATION

LEVEL INSPECTION

1. Position vehicle on a level surface.
2. Inspect vent hose routing and check it for kinks or obstructions. The end of the hose should be under the frame rail and point downward.



3. Remove fill plug (A). Fluid level should be even with bottom of threads.



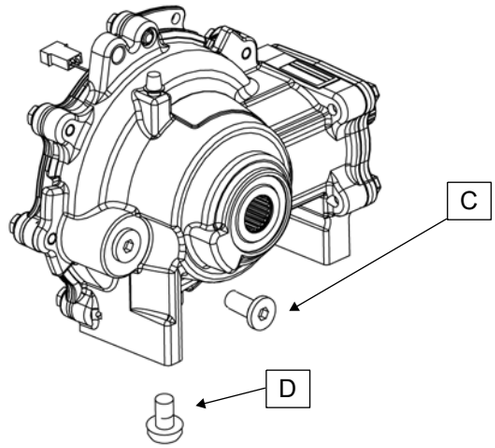
4. If fluid level is not even with the bottom threads, add Polaris Demand Drive Plus as needed. Do not overfill.

TORQUE
Fill Plug: **10 ft-lb (14 Nm)**

5. Reinstall fill plug and torque to specification.

FRONT GEARCASE FLUID CHANGE

1. Remove fill plug (C).
2. Place a drain pan under front gearcase area.
3. Remove drain plug (D). Drain fluid completely.



4. Clean drain plug magnetic surface.
5. Install drain plug with a new O-ring and torque to specification.
6. Add recommended amount of fluid through fill hole until level is even with bottom of fill hole threads (see Level Inspection).

FLUID CAPACITY
Recommended Front Gearcase Fluid: **Demand Drive** (PN 2877922) (Quart) **6.1 oz. (180 ml)**

7. Install fill plug with a new O-ring and torque to specification.

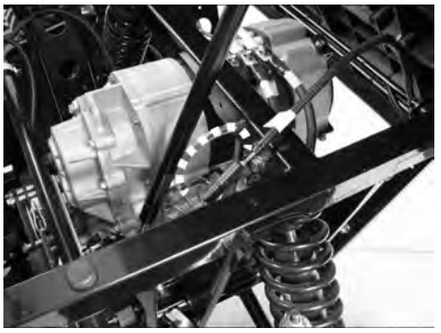
TORQUE
Drain Plug: **10 ft-lb (14 Nm)**

8. Check for leaks. Dispose of used fluid properly.

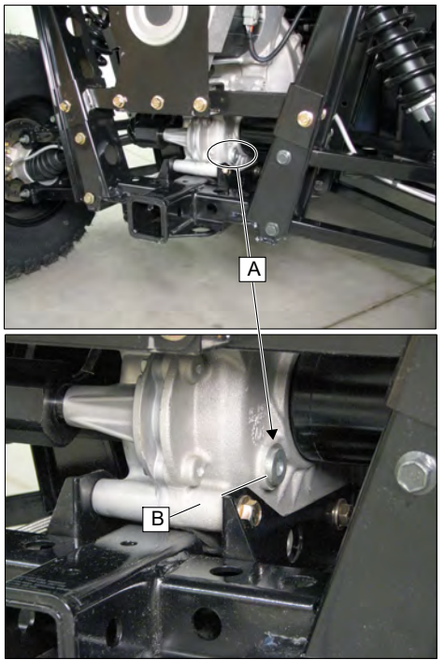
TRANSAXLE (REAR GEARCASE) LUBRICANT

LEVEL INSPECTION

1. Position vehicle on a level surface.
2. Inspect vent hose routing and check it for kinks or obstructions. The end of the hose should be inside the frame rail and point downward.



3. Remove fill plug (A) and check lubricant level.
4. If lubricant level is not even with the bottom of fill hole threads (B), add ATV Angle Drive Fluid as needed. Do not overfill.

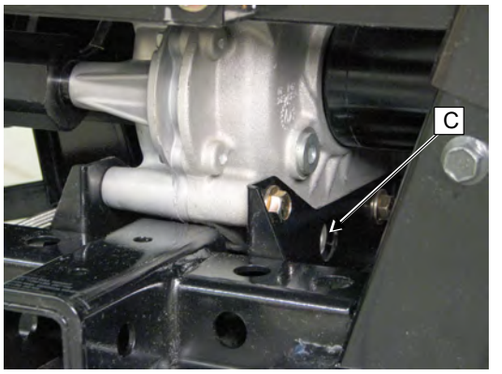


5. Reinstall fill plug and torque to specification.

TORQUE
Fill Plug / Drain Plug: **14 ft-lb (19 Nm)**

TRANSAXLE LUBRICANT CHANGE

1. Place a drain pan under transaxle drain plug area.
2. Place towels beneath fill plug and remove fill plug.
3. “Remove drain plug (C). Drain lubricant completely.”



4. Clean drain plug magnetic surface. Reinstall drain plug with a new O-ring and torque to specification.

TORQUE
Drain Plug & Fill Plug: **14 ft-lb (19 Nm)**

5. Add approximately 17-18 fluid ounces (500-550ml) of lubricant through fill plug hole. Continue to add lubricant to bring level to bottom of fill plug hole threads. Do not overfill.

FLUID CAPACITY
Recommended Transaxle Lubricant: **Angle Drive Fluid** (PN 2876160 - Quart) **Capacity:** **20.3 oz. (600 ml)**

6. Reinstall fill plug with a new O-ring and torque to specification above.
7. Check for leaks. Dispose of used lubricant properly.

STEERING

STEERING INSPECTION

Check steering components for loose fasteners, worn tie rod ends, and damage. Check to be sure cotter pins are in place on lower ball joints and steering tie rod ends.

Replace any worn or damaged steering components. Steering should move freely through entire range of travel without binding. Check routing of all cables, hoses, and wiring to be sure the steering mechanism is not restricted or limited.

NOTICE

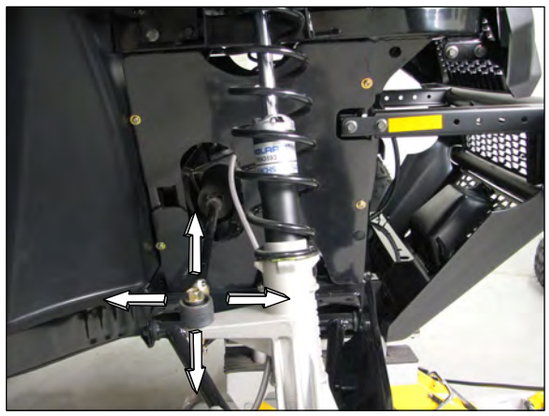
Whenever steering components are replaced, check front end alignment.

⚠ WARNING

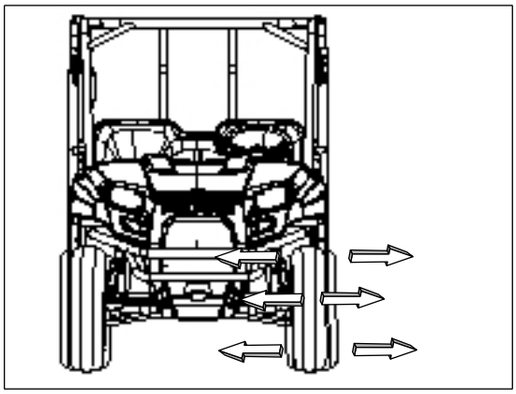
Due to the critical nature of the procedures outlined in this section, Polaris recommends steering component repair and adjustment be performed by an authorized Polaris MSD-certified technician when replacing worn or damaged steering parts.
Use only genuine Polaris replacement parts.

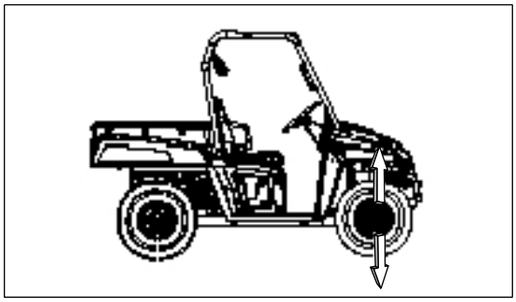
TIE ROD END / STEERING INSPECTION

- To check for play in the tie rod end, grasp the steering tie rod, pull in all directions feeling for movement.



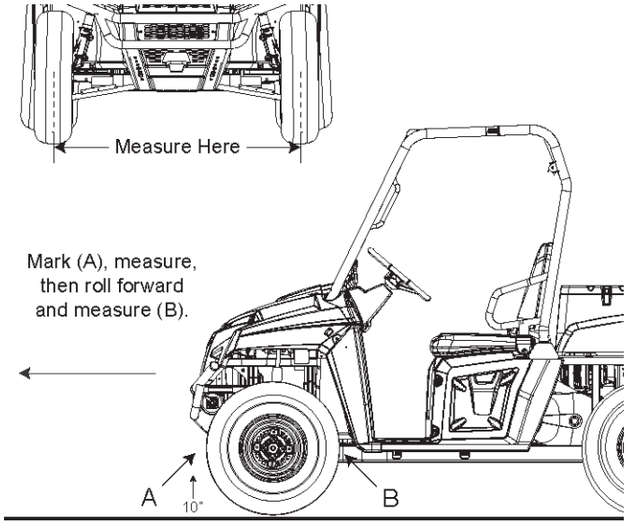
- Replace worn steering parts. Steering should move freely through entire range of travel without binding.
- Elevate front end so front wheels are off the ground. Check for any movement in front hub/wheel assembly by grasping tire firmly at top and bottom first, and then at front and rear. Try to move wheel and hub by pushing inward and pulling outward.
- If abnormal movement is detected, inspect hub and wheel assembly to determine cause (loose wheel nuts or loose front hub nut).





WHEEL TOE ALIGNMENT INSPECTION

1. Place machine on a smooth level surface and set steering wheel in a straight ahead position. Secure steering wheel in this position.
2. Place a chalk mark on center line of front tires approximately 10” (25.4 cm) from the floor or as close to the hub/axle center line as possible.



NOTICE
It is important the height of both marks be equally positioned to get an accurate measurement.

3. Measure the distance between the marks and record the measurement. Call this measurement “A”.
4. Rotate the tires 180° by moving the vehicle forward. Position chalk marks facing rearward, even with the hub/axle center line.
5. Again measure the distance between the marks and record. Call this measurement “B”. Subtract measurement “B” from measurement “A”. The difference between measurements “A” and “B” is the vehicle toe alignment. The recommended vehicle toe tolerance is 1/8” to 1/4” (.3 to .6 cm) toe out. This means the measurement at the front of the tire (A) is 1/8” to 1/4” (.3 to .6 cm) wider than the measurement at the rear (B).

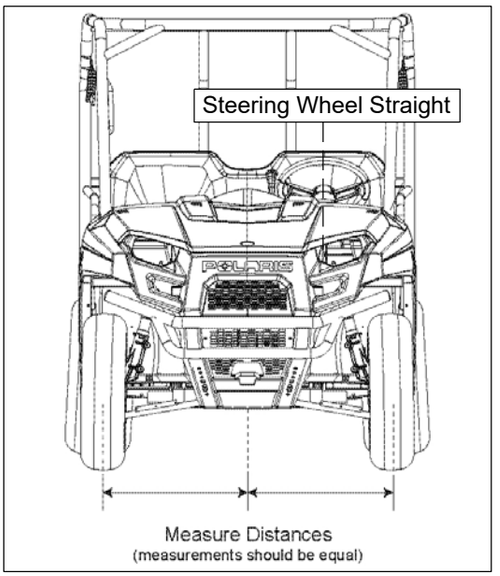
MEASUREMENT
Wheel Toe-Out: **(A) - (B) = 1/8 - 1/4" (.3 to .6 cm)**

TOE ADJUSTMENT

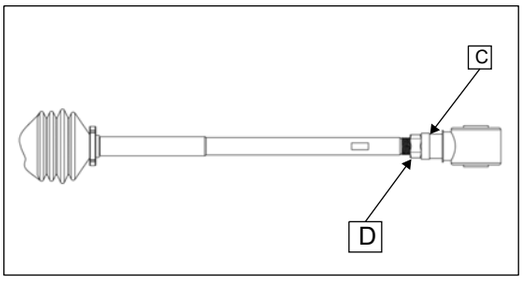
If toe alignment is incorrect, adjust as follows.

⚠ WARNING
Do not attempt to compensate for worn or damaged steering parts by adjusting the tie rod ends. The threads of the tie rod must engage the tie rod end by a minimum of 3/4 inch (19 mm). If either tie rod is bent or damaged, replace the steering gear box.

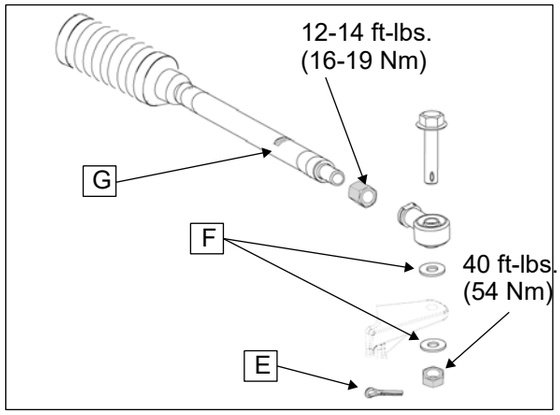
1. Turn steering wheel to straight ahead position.
2. Measure distance from centerline of vehicle to centerline of each tire. Adjust tie rod end on side with greatest amount of toe-out or toe-in.



3. Hold tie rod end (C) securely and loosen jam nut (D). DO NOT allow rod end to rotate to full stop or damage could occur to the rod end.



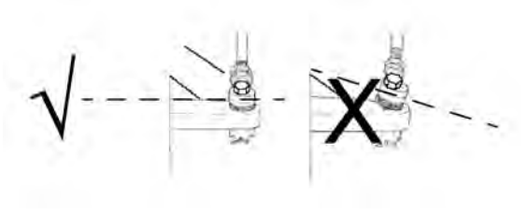
4. Remove cotter pin (E) from tie rod end bolt.
5. Remove tie rod end nut and bolt with washers (F).
6. Hold tie rod at (G) and rotate rod end 1/2 turn at a time to shorten or lengthen the overall tie rod length. Shorten the tie rod to increase the amount of toe-out. Lengthen the rod to decrease the amount of toe-out).



7. Temporarily install the tie rod on strut with washers, bolt and nut. Tighten nut by hand so rod end is securely supported and parallel with the mounting surface on strut.
8. Verify steering wheel is centered and re-check alignment.
9. Repeat above steps as required until proper alignment is achieved, then assemble the tie rod to strut with washers, bolt and nut.
10. Torque nut to specification and install a NEW cotter pin.

TORQUE
Tie Rod End Nut Torque: **40 ft-lb (54 Nm)**

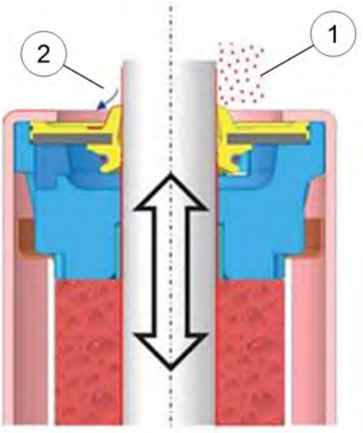
11. HOLD tie rod end parallel with mounting surface. Torque jam nut to specification. Check to be sure rod end rotates freely.



TORQUE
Tie Rod Jam Nut: **14 ft-lb (19 Nm)**

SHOCK ANALYSIS

Shock “misting” ① or “weepage” ② is common and should be present during normal vehicle operation. All Shock Absorber Seals are designed to allow a thin film of oil to pass into and out of the shock. This thin film of oil lubricates the Seal to ensure low friction and reduces the corrosion rate of the Piston Rod.



Vehicle operating conditions have a high impact on how much shock oil might be present on the seal and shock body (i.e. road conditions and operating temperature). It is important to properly identify the difference between normal operation (weepage or misting) and a shock that has a leak. Below are some images to help determine what is normal and what could be identified as a bad shock.

MISTING OR WEEPAGE	LEAKAGE
	

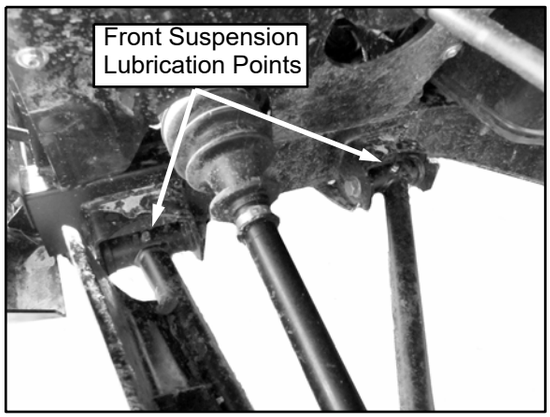
SUSPENSION

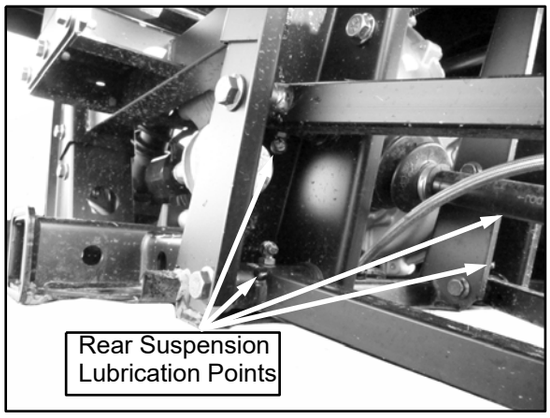
SUSPENSION INSPECTION

1. Compress and release front and rear suspension. Damping should be smooth and consistent throughout travel range.
2. Inspect each rear shock and front strut for oil leakage.
3. Check all suspension components for wear or damage.
4. Check all fasteners to be sure they are tight and all cotter pins are installed where applicable. If any fasteners are loose, refer to Chapter 4, Body, Steering and Suspension for fastener torque values.

SUSPENSION PIVOT POINT LUBRICATION

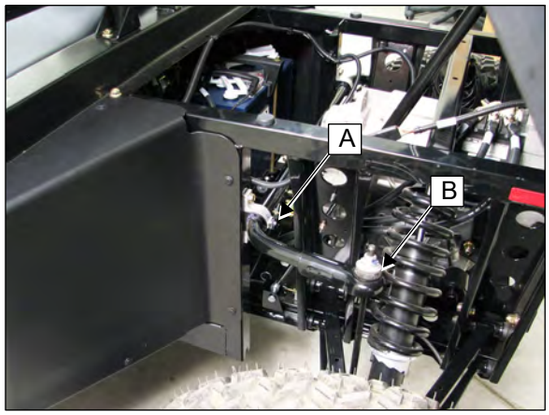
- Both the front and rear suspension A-arms are equipped with grease fittings at the pivot points. See the maintenance chart for service intervals or grease as needed.





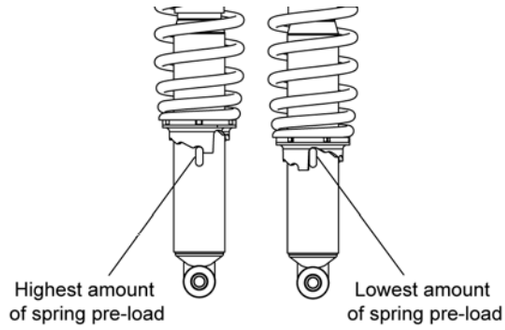
STABILIZER BAR PIVOT LUBRICATION

Grease stabilizer bar pivots (A) with a grease gun until old grease is purged from the joint and new grease appears. Inspect link isolators (B) for cracks.



REAR SHOCK SPRING PRE-LOAD ADJUSTMENT

The rear shock absorber springs are pre-load adjustable. Use Spanner Wrench to rotate adjuster cam to increase or decrease spring pre-load. Always adjust both left and right sides equally.



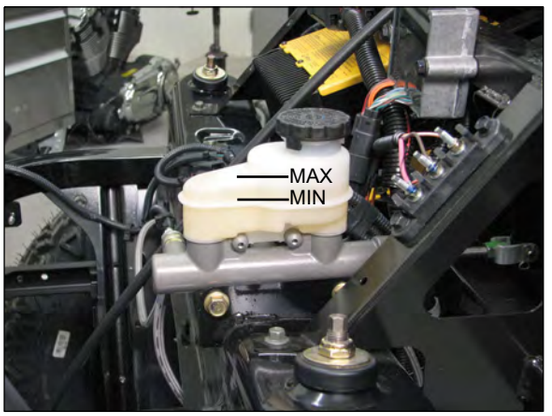
Shock Pre-Load Adjustment

Shock Spanner Wrench: **2871095**

BRAKE SYSTEM

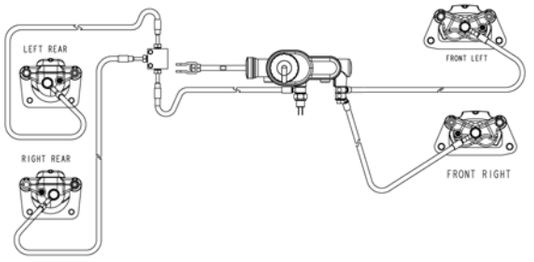
BRAKE FLUID INSPECTION

1. Position the vehicle on a level surface.
2. View the brake fluid level in the reservoir. The level should be between the MAX and MIN level lines.
3. Clean the area around the fill cap. Remove cap and add DOT 4 brake fluid if necessary.
4. Install reservoir cap.
5. Apply brake pedal forcefully for a few seconds and check for fluid leakage around the master cylinder fittings and the brake caliper fittings.



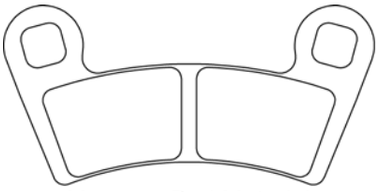
BRAKE HOSE AND FITTING INSPECTION

Check brake system hoses and fittings for cracks, deterioration, abrasion, and leaks. Tighten any loose fittings and replace any worn or damaged parts. Be sure lines are secured away from moving parts or sharp edges. Refer to Chapter 7 (Brakes) for torque values and repair procedures.



BRAKE PAD / DISC INSPECTION

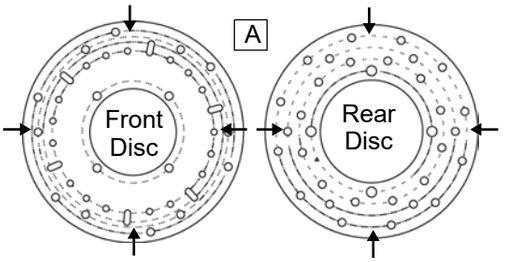
1. Check brake pads for wear, damage, or looseness.
2. Inspect brake pad friction material thickness. Pads should be changed when friction material is worn to .040” (1 mm).

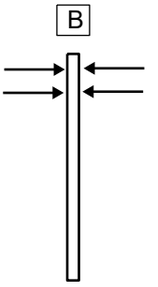


Measure Pad Material Thickness

Service Limit: .040" (1 mm)

3. Visually inspect surface condition of brake discs. If wear is evident, measure thickness of disc at 4 locations 90 degrees apart (A), and in 2 spots within the brake pad contact area (B).
4. Disc(s) should be replaced if severely grooved, worn, warped, or if disc thickness at any measurement point is less than specified service limit (see Chapter 9 for specifications).



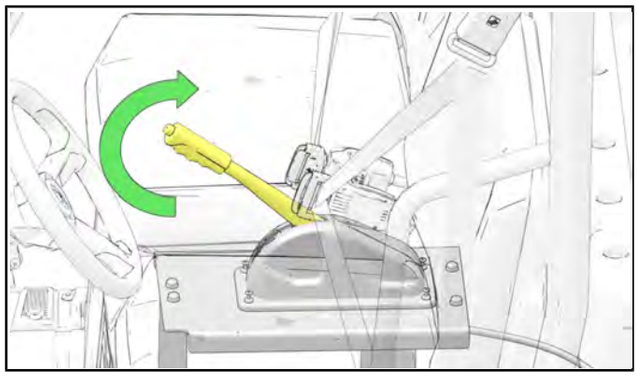


PARKING BRAKE ADJUSTMENT

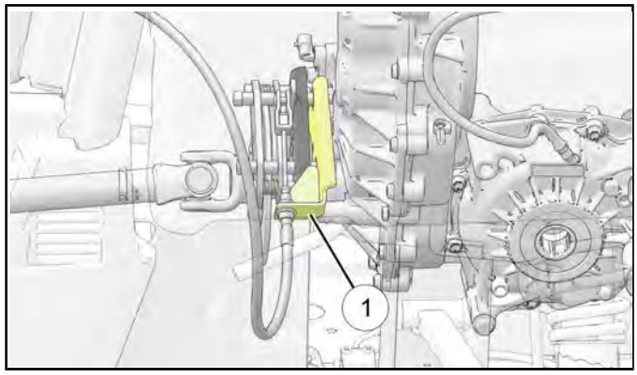
When the park brake is set and the park brake indicator is illuminated, motor speed is limited. If the accelerator is applied, this limiting feature prevents operation, which protects the park brake pads from excessive wear.

NOTICE
This feature will not operate properly if the park brake connector or switch (under the hood) malfunctions or becomes disconnected, or if the switch has moved. Refer to Electrical Chapter for diagnostics.

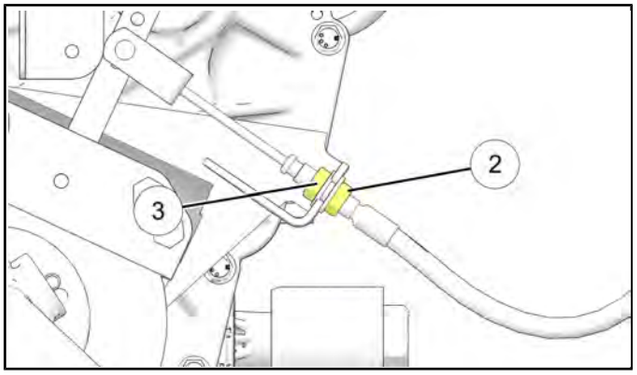
1. Pull back on the park brake lever.



2. After 2 to 3 clicks the “BRAKE” light should illuminate on the indicator panel and the wheels of the vehicle should not rotate when turning by hand. After 8 full clicks of lever travel, the vehicle should not roll while parked.
3. If adjustment is required, return lever to the forward position to release the brake. Adjust cable position in the mounting bracket ① on the transaxle as described in Steps 4-6.



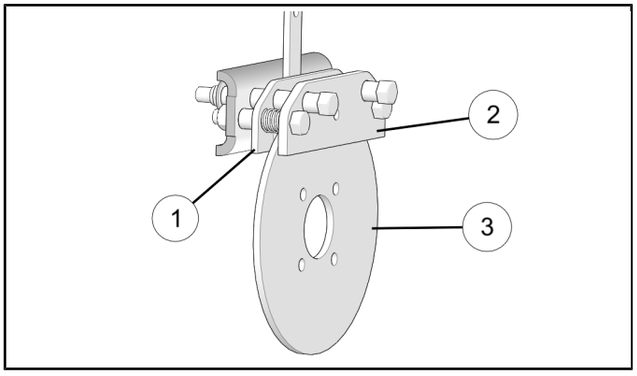
4. Using two open-end wrenches, loosen outer jam nut ② and inner jam nut ③.
5. Adjust cable outward to tighten brake.
6. Tighten both jam nuts securely against bracket.



7. Inspect park brake adjustment from Steps 1-2.
8. Repeat Steps 4-6 until the proper adjustment is obtained for the parking brake.

PARKING BRAKE PAD INSPECTION

Measure the thickness of the parking brake caliper front pad ①, rear pad ②, and disc ③. Replace if outside spec. Refer to Brakes Ch. for service procedures.



MEASUREMENT
Parking Brake Pad Thickness - Front: **0.304 in (7.72 mm)** Service Limit: **0.24 in (6.1 mm)**

MEASUREMENT
Parking Brake Pad Thickness - Rear: **0.360 in (9.14 mm)** Service Limit: **0.31 in (7.87 mm)**

MEASUREMENT
Parking Brake Disc Thickness: **0.150-0.164 in (3.81-4.16 mm)**

ELECTRICAL SYSTEM

BATTERY MAINTENANCE

Refer to Chapter 1 GENERAL / BATTERY for all battery information.

BATTERY INFORMATION

Refer to Index to Battery Information page 1.19