FOREWORD

This Arctic Cat Service Manual contains service, maintenance, and troubleshooting information for certain 2012 Arctic Cat ROV (Recreational Off-Highway Vehicle) models (see cover). The complete manual is designed to aid service personnel in service-oriented applications.

This manual is divided into sections. Each section covers a specific vehicle component or system and, in addition to the standard service procedures, includes disassembling, inspecting, and assembling instructions. When using this manual as a guide, the technician should use discretion as to how much disassembly is needed to correct any given condition.

The service technician should become familiar with the operation and construction of each component or system by carefully studying this manual. This manual will assist the service technician in becoming more aware of and efficient with servicing procedures. Such efficiency not only helps build consumer confidence but also saves time and labor.

All Arctic Cat publications and decals display the words Warning, Caution, Note, and At This Point to emphasize important information. The symbol ⚠ **WARNING** identifies personal safety-related information. Be sure to follow the directive because it deals with the possibility of serious personal injury or even death. A **CAUTION** identifies unsafe practices which may result in vehicle-related damage. Follow the directive because it deals with the possibility of damaging part or parts of the vehicle. The symbol ■ **NOTE:** identifies supplementary information worthy of particular attention. The symbol ☞ **AT THIS POINT** directs the technician to certain and specific procedures to promote efficiency and to improve clarity.

At the time of publication, all information, photographs, and illustrations were technically correct. Some photographs used in this manual are used for clarity purposes only and are not designed to depict actual conditions. Because Arctic Cat Inc. constantly refines and improves its products, no retroactive obligation is incurred.

All materials and specifications are subject to change without notice.

Keep this manual accessible in the shop area for reference.

Product Service and
Warranty Department
Arctic Cat Inc.

Periodic Maintenance

This section has been organized into sub-sections which show common maintenance procedures for the Arctic Cat ROV.

■NOTE: Arctic Cat recommends the use of new gaskets, lock nuts, and seals and lubricating all internal components when servicing the engine/transmission.

■NOTE: Some photographs and illustrations used in this section are used for clarity purposes only and are not designed to depict actual conditions.

■NOTE: Critical torque specifications are located in Section 1.

SPECIAL TOOLS

A number of special tools must be available to the technician when performing service procedures in this section. Refer to the current Special Tools Catalog for the appropriate tool description.

Description	p/n
Compression Tester Kit	0444-213
Oil Filter Wrench	0644-389
Timing Light	0644-296
Valve Clearance Adjuster	0444-255

■NOTE: Special tools are available from the Arctic Cat Service Department.

Lubrication Points

It is advisable to lubricate certain components periodically to ensure free movement. Apply light oil to the components using the following list as reference.

A. Accelerator Pedal Pivot/Cable Ends

B. Brake Pedal Pivot

C. Parking Brake Cable Ends

D. Shift Cable

Air Filter

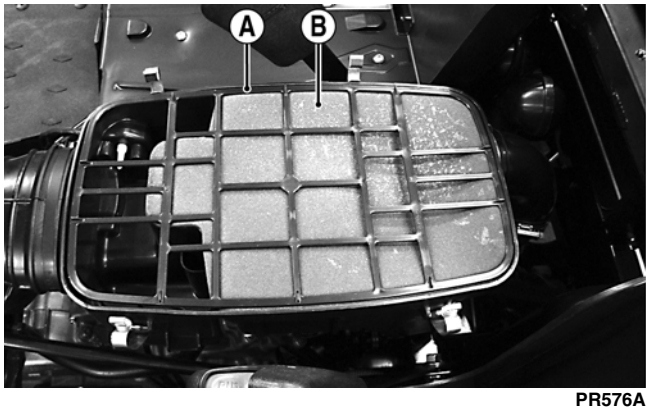
Use the following procedure to remove the filter and inspect and/or clean it.

CLEANING AND INSPECTING FILTER

CAUTION

Failure to inspect the air filter frequently if the vehicle is used in dusty, wet, or muddy conditions can damage the engine.

1. Remove the seats; then remove the center console.
2. Unsnap the four fasteners securing the air cleaner housing cover and remove the cover.
3. Remove the air filter frame (A); then remove the foam filter element (B).



PR576A

4. Fill a wash pan larger than the filter with a non-flammable cleaning solvent; then dip the filter in the solvent and wash it.

■NOTE: Foam Filter Cleaner and Foam Filter Oil are available from Arctic Cat.

5. Dry the filter.
6. Put the filter in a plastic bag; then pour in air filter oil and work the filter. Reattach the filter to the filter screen.

■NOTE: Carefully squeeze excessive oil from the filter element. Do not twist foam to remove oil.

CAUTION

A torn air filter can cause damage to the vehicle engine. Dirt and dust may get inside the engine if the element is torn. Carefully examine the element for tears before and after cleaning it. Replace the element with a new one if it is torn.

7. Clean any dirt or debris from inside the air cleaner. Be sure no dirt enters the throttle body.
8. Place the foam filter in the air filter housing; then position the filter frame on top.
9. Install the air filter housing cover and secure with the retaining clips; then install the center console and seats making sure the seats lock securely.

CHECKING AND CLEANING DRAINS

1. Inspect one-way drains beneath the main housing for debris and for proper sealing.

3. Remove the two cap screws securing the brake caliper to the rear drive housing and remove the caliper.
4. Remove the anti-rattle springs; then push in on the caliper holder and remove the outer brake pad. Remove the inner pad.

PR466A

Inspecting and Measuring

1. Inspect the pads for gouges, chips, or wear.
2. Inspect the disc for gouges, grooves, cracks, and warpage.
3. Using a calipers, measure the thickness of each brake pad.
4. If the thickness of either brake pad is less than 1.0 mm (0.039 in.), the brake pads must be replaced.

■NOTE: The brake pads should be replaced as a set.

Installing

1. Place the brake pads into the caliper holder; then install the anti-rattle springs.

■NOTE: The metal backing of the pad will be facing the actuator when installed properly.

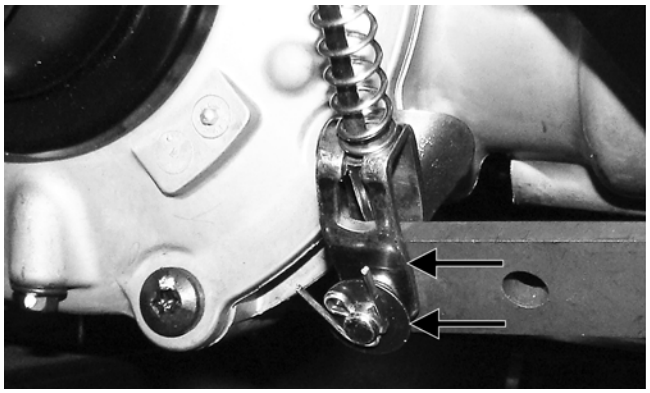
2. Slide brake caliper assembly over the brake disc and into position on the rear drive housing; then secure the caliper with new "patch-lock" cap screws tightened to 20 ft-lb.
3. Connect the parking brake cable (see Adjusting in this sub-section).
4. Adjust the parking brake (see Adjusting in this sub-section).
5. Connect the lift support to the cargo box.

■NOTE: Whenever installing new pads, the new pads must be burnished (see Burnishing Brake Pads in this section).

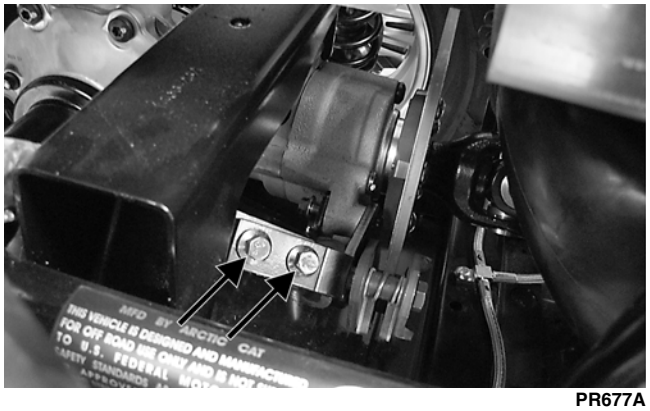
MEASURING/REPLACING BRAKE PADS (XTZ)

■NOTE: The brake pads should be replaced as a set.

1. Disconnect the parking brake cable from the actuator arm. Account for a flat washer.


PR681A

2. Remove the two cap screws and nuts securing the cable support to the brake caliper.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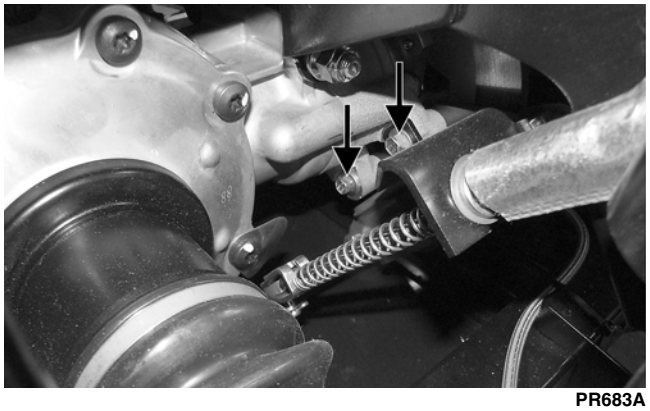
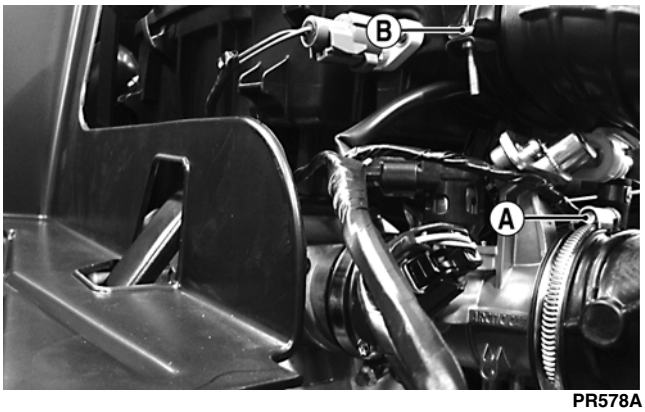
3. Remove the two cap screws securing the brake caliper to the gear case housing; then remove the caliper assembly from the vehicle.


PR683A

4. Remove the two lock nuts (A) from the brake pad anchor bolts; then remove the brake pads (B). Account for two springs and spacers (C).

8. Loosen the clamp (A) securing the air intake boot to the throttle body and the clamp (B) securing the air filter housing to the inlet housing boot; then remove the crankcase breather hose from the crankcase.

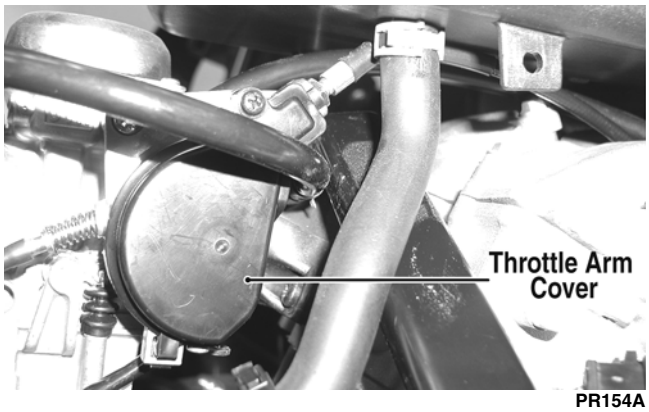


PR578A

9. Remove two self-tapping screws securing the air filter mounting bracket to the frame; then remove the air filter and mounting bracket as an assembly.

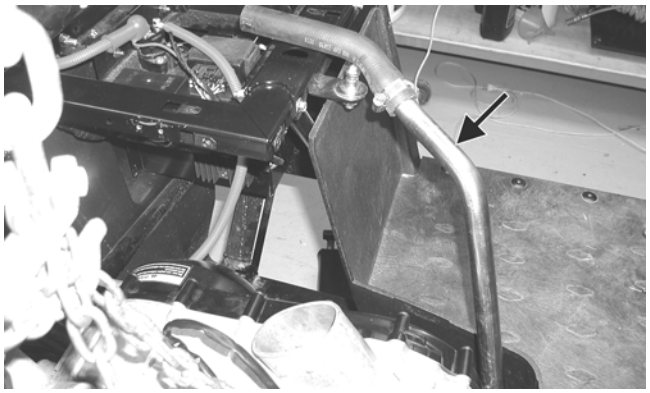
PR140A

10. Remove the throttle arm cover from the throttle body; then disconnect and remove the throttle cable and the throttle body.

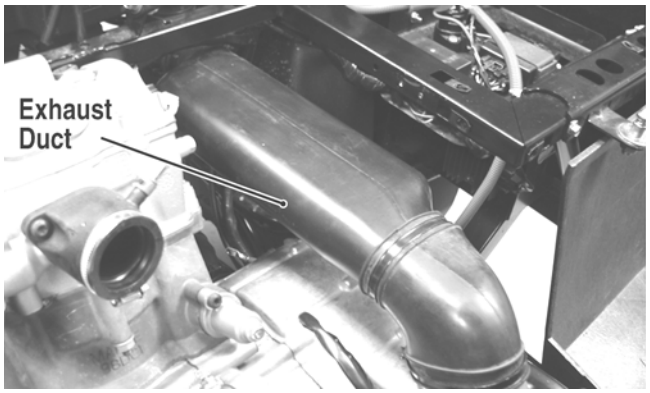


PR154A

11. Remove the coolant hoses from the water pump and thermostat housings; then position the upper coolant line to the left-side of the engine compartment.


PR150A

12. Remove the exhaust duct from the V-belt housing; then remove the inlet boot connecting the inlet duct to the V-belt housing.



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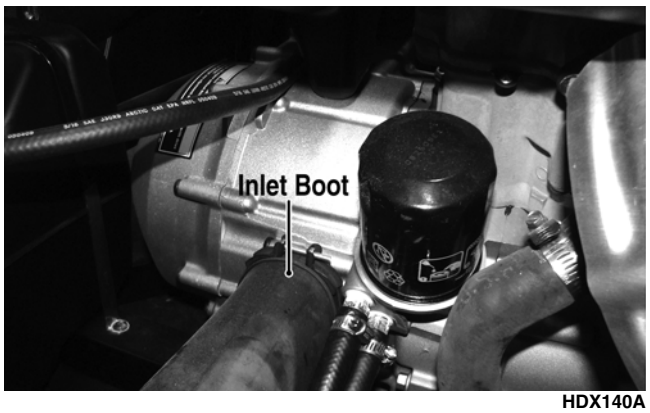


HDX140A

13. Remove the muffler; then remove the exhaust pipe.

14. Set the parking brake; then from the underside of the vehicle, remove the cap screws securing the driveshafts to the drive couplers.

■NOTE: Remove the front driveshaft first or the parking brake will not hold the coupler stationary and cap screw removing will be more difficult.

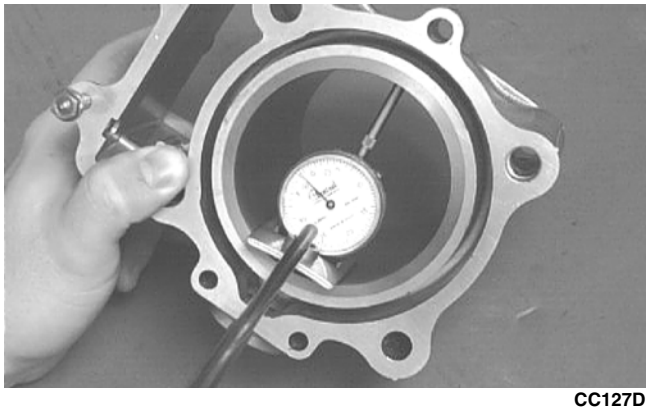
15. Remove two flange nuts from the underside of the rear engine mounts.

Inspecting Cam Chain Guide

1. Inspect cam chain guide for cuts, tears, breaks, or chips.
2. If the chain guide is damaged, it must be replaced.

Honing Cylinder

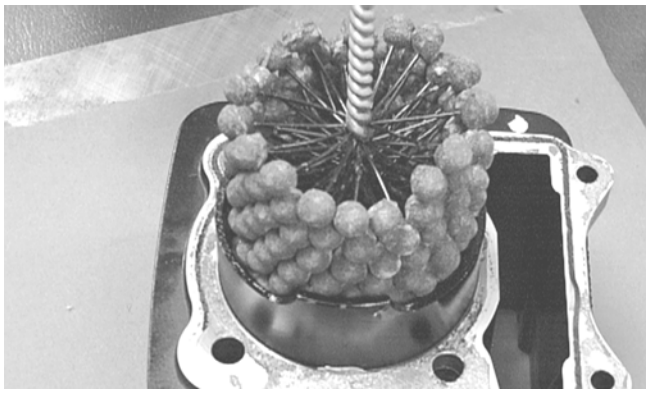
1. Using a slide gauge and a dial indicator or a snap gauge, measure the cylinder bore diameter in three locations from top to bottom and again from top to bottom at 90° from the first measurements for a total of six measurements. The trueness (out-of-roundness) is the difference between the highest and lowest reading. Maximum trueness (out-of-roundness) must not exceed specifications.



CC127D

2. Wash the cylinder in parts-cleaning solvent.
3. Inspect the cylinder for pitting, scoring, scuffing, and corrosion. If marks are found, repair the surface using a #320 grit ball hone.

■NOTE: To produce the proper 60° cross-hatch pattern, use a low RPM drill (600 RPM) at the rate of 30 strokes per minute. If honing oil is not available, use a lightweight petroleum-based oil. Thoroughly clean cylinder after honing using soap and hot water. Dry with compressed air; then immediately apply oil to the cylinder bore. If the bore is severely damaged or gouged, replace the cylinder.



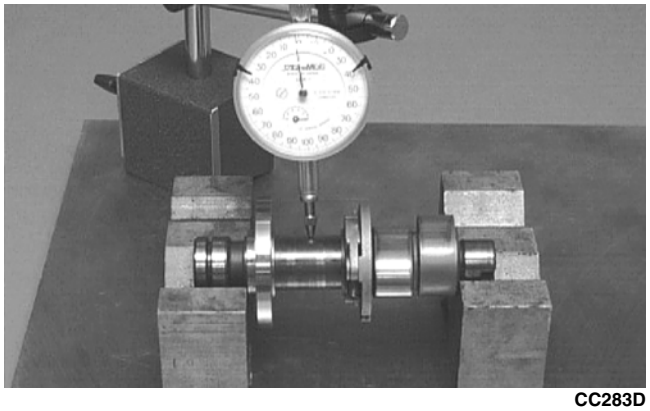
CC390D

4. If any measurement exceeds the limit, replace the cylinder and piston.

Measuring Camshaft Runout

■NOTE: If the camshaft is out of tolerance, it must be replaced.

1. Place the camshaft on a set of V blocks; then position the dial indicator contact point against the shaft and zero the indicator.

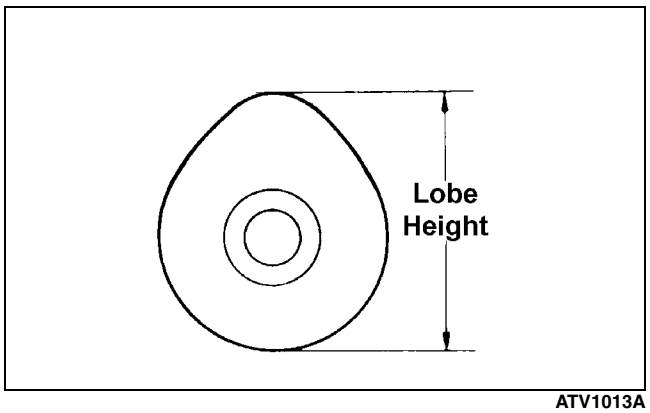


CC283D

2. Rotate the camshaft and note runout; maximum runout must not exceed specifications.

Measuring Camshaft Lobe Height

1. Using a calipers, measure each cam lobe height.



ATV1013A

2. The lobe heights must not exceed minimum specifications.

Inspecting Camshaft Bearing Journal

1. Inspect the bearing journal for scoring, seizure marks, or pitting.
2. If excessive scoring, seizure marks, or pitting is found, the cylinder head assembly must be replaced.

Measuring Camshaft to Cylinder Head Clearance

1. Remove the adjuster screws and jam nuts.

FI570

2. Thoroughly clean the rotor/flywheel; then install the new one-way clutch and secure with the cap screws after applying a drop of red Loctite #271 to the threads. Tighten to 26 ft-lb using a crisscross pattern. Make sure the one-way bearing is installed with the notches directed away from the rotor/flywheel.

FI576A

FI578

REPLACING STARTER GEAR BEARING

1. Support the starter clutch gear in a press making sure to support the hub around the entire circumference; then using a suitable bearing driver, press the bearing from the gear.

FI583

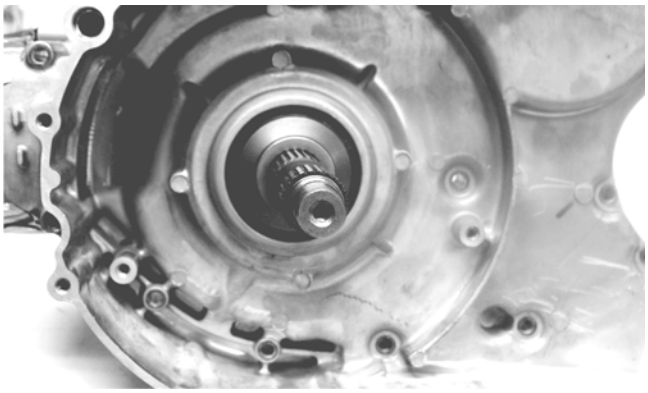
2. Thoroughly clean the gear hub; then apply a drop of green Loctite #620 to the bearing outer race and press into the gear hub until even with the lower chamfer radius.

FI580

INSPECTING STATOR/MAGNETO COVER ASSEMBLY

1. Inspect the stator for burned or discolored wiring, broken or missing hold-down clips, or loose cap screws.
2. Inspect the bearings in the magneto housing for discoloration, roughness when rotated, and secure fit in bearing bores.
3. Inspect the oil pressure relief valve for evidence of metal chips or contamination. Do not disassemble the valve.

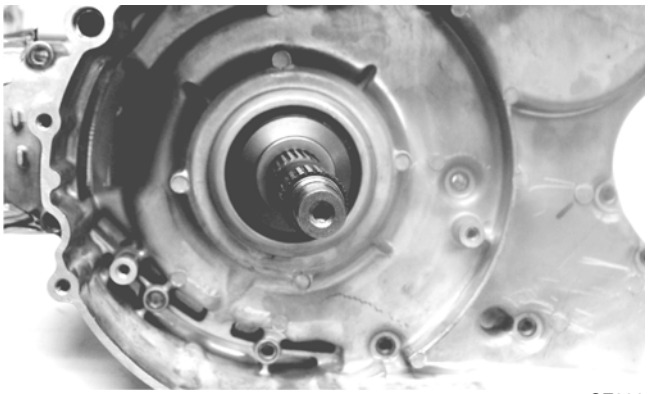
FI588



CF086

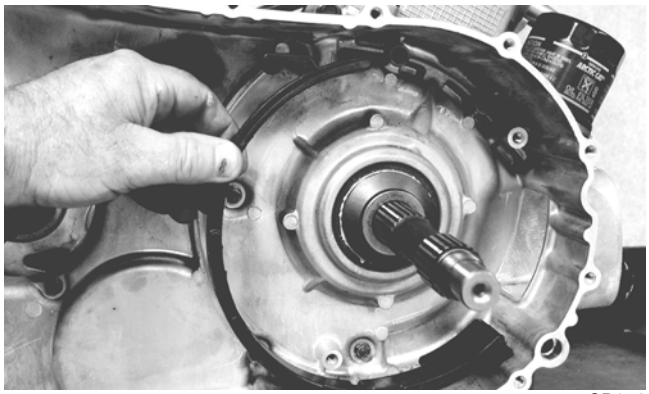
10. Apply grease to the outer edges of the clutch housing; then from inside the clutch cover, install the clutch housing into the cover using a rubber mallet.

11. Place the clutch cover/clutch housing assembly into position on the crankcase; then secure with the cap screws making sure the different-lengthed cap screws are in their proper location. Tighten to 8 ft-lb.

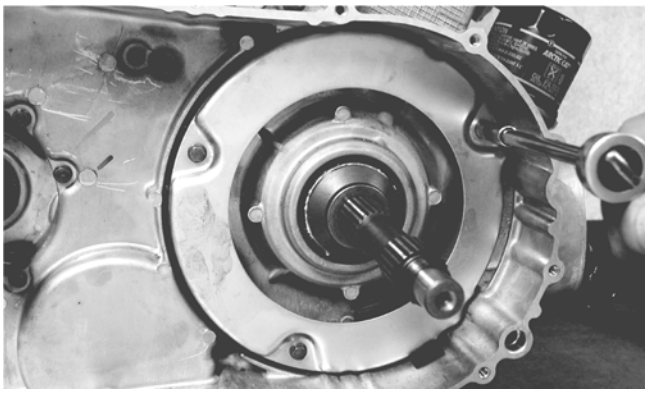


CF086

12. Place the air intake plate cushion into position; then install the air intake plate. Tighten the cap screws (threads treated with a small amount of red Loctite #271) securely.



CD971



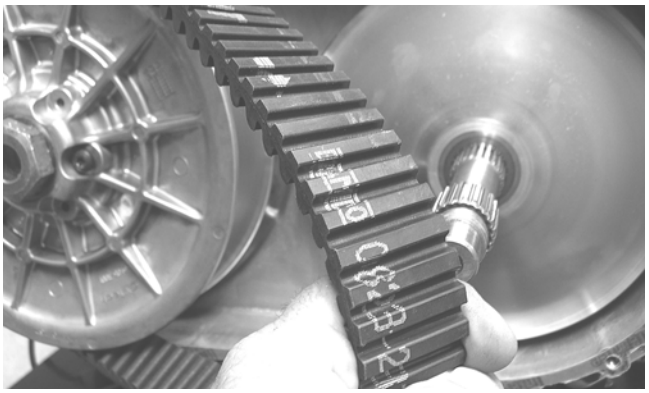
CD970

13. Place the driven pulley assembly into position and secure with the nut. Using Spanner Wrench, tighten to 80 ft-lb.

14. Slide the fixed drive face onto the shaft.

15. Spread the faces of the driven pulley by threading a 6 mm cap screw into the threaded boss; then turn clockwise until pulley faces are opened approximately 1/2 in.

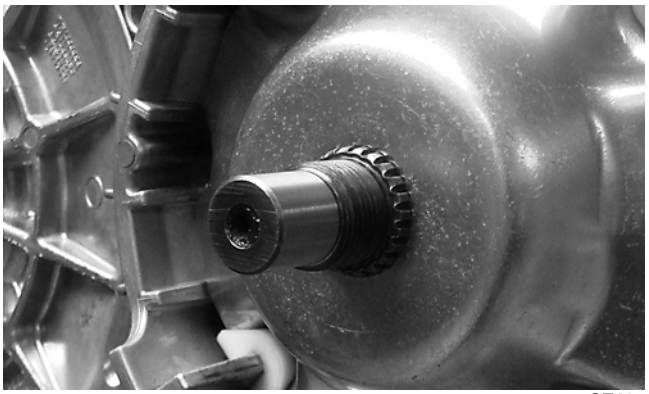
16. Place the V-belt into position on the driven pulley and over the front shaft.



GZ085

■NOTE: The arrows on the V-belt should point in the direction of rotation.

17. Pinch the V-belt together near its center and slide the spacer and movable drive face onto the driveshaft. Secure the drive face with a washer and nut (coated with red Loctite #271). Using Spanner Wrench, tighten the nut to 165 ft-lb.



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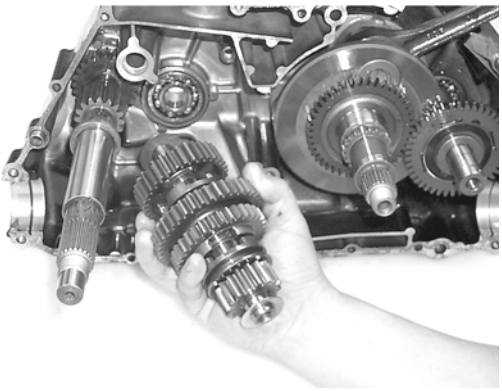


CC674

7. Place a washer on the end of the gear shift shaft; then install the shaft assembly making sure the two holes on the end of the shaft are positioned vertically. Install the spacer.

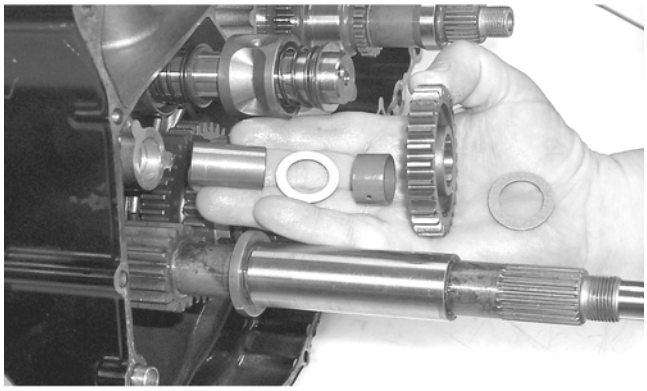
DE677A

8. Insert the two shift forks into the sliding dogs noting the direction of the tabs from disassembling; then install the shift fork shaft.

■NOTE: Make sure the shift fork tabs face upward and they are properly seated into the shift cams.

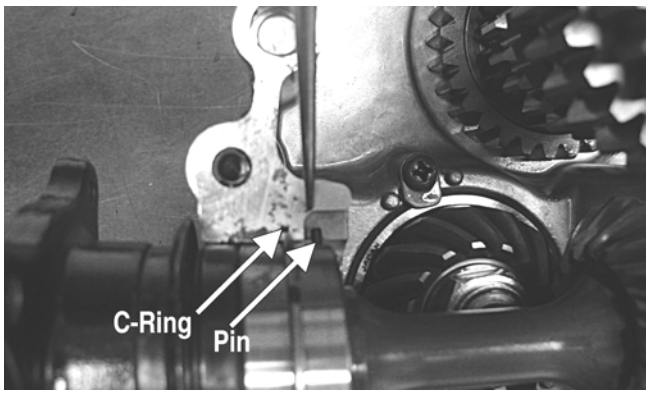
CC669

9. Install the reverse idler gear assembly noting the positioning of the two washers, gear, bushing, and shaft.



CC668

10. Install the front and rear secondary driven shaft assemblies into the left side of the crankcase making sure the bearing locating pins are facing upward and the bearing C-ring is fully seated in the crankcase.



CD268A

11. Place the oil strainer into position; then secure with the two screws.

12. Place the oil strainer cap into position making sure the O-ring is in position; then secure the cap with cap screws. Tighten securely.

Joining Crankcase Halves

1. Apply High-Temp Sealant to the right-side mating surface smoothing out any build-up or bumps.

2. Lightly oil all bearings and grease all shafts in the left-side crankcase.

3. Using a plastic mallet, lightly tap the case halves together until cap screws can be installed.

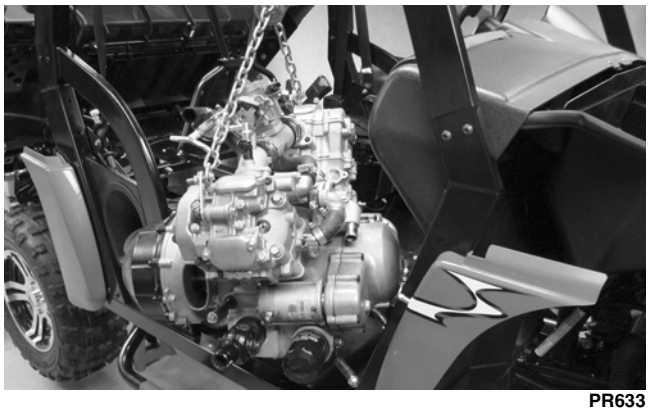
4. From the left side, install the 8 mm cap screws; then tighten only until snug.

■NOTE: During the tightening procedure, rotate the shafts back and forth frequently to ensure no binding or sticking occurs.

5. From the right side, install the remaining 8 mm cap screws (two inside the case); then tighten only until snug.

6. From the right side, install the case half 6 mm cap screws; then tighten only until snug.

29. Lift the engine/transmission enough to clear the engine mounting tabs on the frame; then remove the assembly from the right side of the vehicle.



PR633

Top-Side Components

■NOTE: For efficiency, it is preferable to remove and disassemble only those components which need to be addressed and to service only those components. The technician should use discretion and sound judgment.

☞ AT THIS POINT
To service any one specific component, only limited disassembly of components may be necessary. Note the AT THIS POINT information in each sub-section.

■NOTE: The engine/transmission does not have to removed from the frame for this procedure.

Removing Top-Side Components

A. Valve Cover/Rocker Arms
B. Cylinder Head/Camshaft

1. Remove the timing inspection plug, spark plugs, and magneto housing cover; then install the 10 mm cap screw (left-hand threads) in the crankshaft and rotate the desired cylinder to top-dead-center of the compression stroke.

GZ027

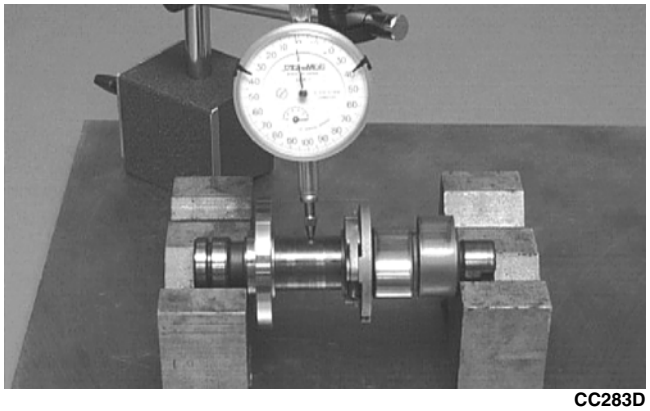
GZ026

■NOTE: Timing marks on the rotor/flywheel are stamped with an "F" (front cylinder) and "R" (rear cylinder) adjacent to the mark.

GZ063

GZ059

2. Remove the tappet covers on the cylinder being serviced. The tappets should not have pressure on them.

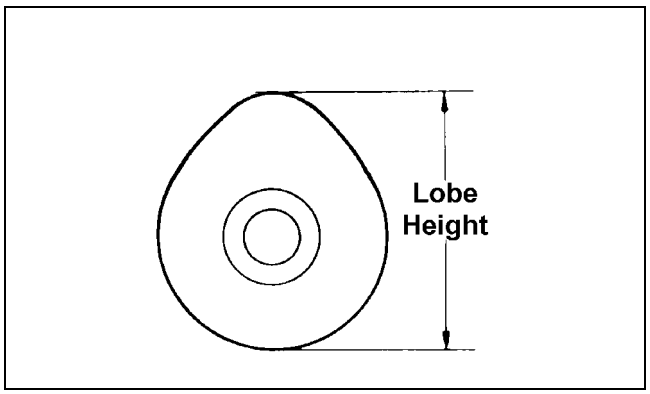


CC283D

2. Rotate the camshaft and note runout; maximum tolerance must not exceed specifications.

Measuring Camshaft Lobe Height

1. Using a calipers, measure each cam lobe height.



ATV1013A

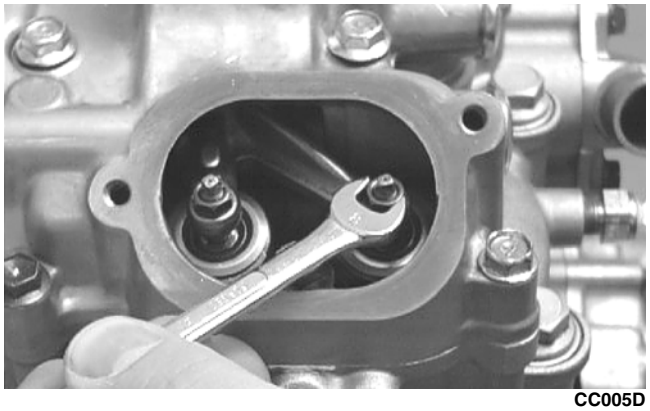
2. The lobe heights must not exceed minimum specifications.

Inspecting Camshaft Bearing Journal

1. Inspect the bearing journal for scoring, seizure marks, or pitting.
2. If excessive scoring, seizure marks, or pitting is found, the cylinder head assembly must be replaced.

Measuring Camshaft to Cylinder Head Clearance

1. Remove the adjuster screws and jam nuts.

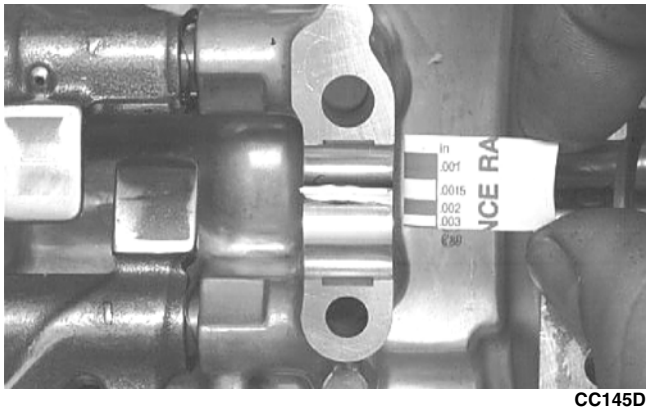


CC005D

2. Place a strip of plasti-gauge in each of the camshaft lands in the cylinder head.
3. Place the valve cover on the cylinder head and secure with the valve cover cap screws. Tighten securely.

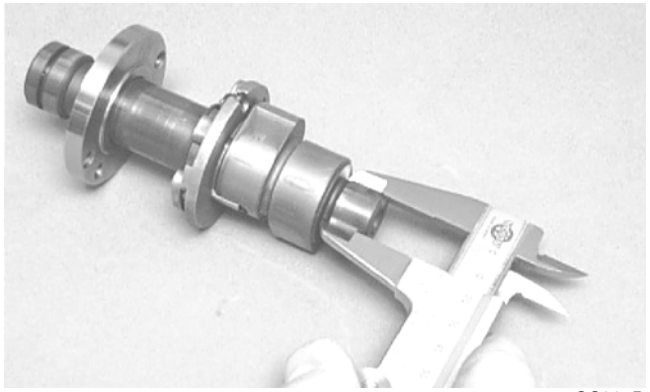
■NOTE: Do not rotate the camshaft when measuring clearance.

4. Remove the cap screws securing the valve cover to the cylinder; then remove the valve cover and camshaft.
5. Match the width of the plasti-gauge with the chart found on the plasti-gauge packaging to determine camshaft to cylinder head and valve cover clearance.



CC145D

6. If clearance is excessive, measure the journals of the camshaft.

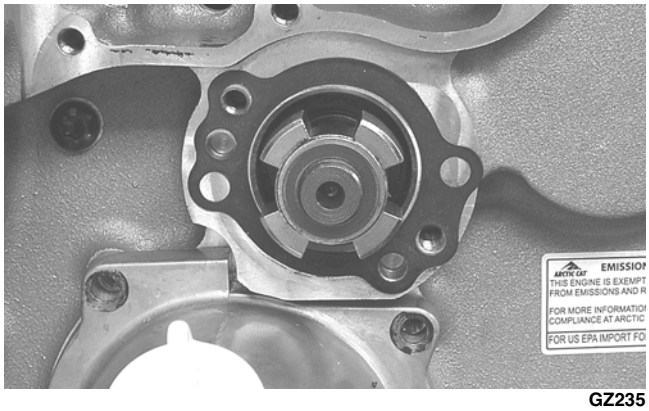


CC287D

■NOTE: If the journals are worn, replace the camshaft; then measure the clearance again. If it is still out of tolerance, replace the cylinder head.

Inspecting Camshaft Spring/Drive Pin (Front Camshaft Only)

1. Inspect the spring and drive pin for damage.



GZ235

12. Remove the cap screws securing the oil filter cover to the crankcase; then remove the cover. Account for an O-ring.

GZ250

Servicing Left-Side Components

INSPECTING STARTER CLUTCH/GEAR

1. Place the starter clutch gear onto the rotor/flywheel and attempt to rotate the starter clutch gear clockwise. It should lock up to the rotor/flywheel. Rotate the gear counterclockwise and it should turn freely. If it moves or locks up both ways, the starter clutch must be replaced.
2. Inspect the starter clutch gear for chipped or missing teeth or discoloration/scoring of the clutch surface. Inspect the bearing for loose, worn, or discolored rollers. If bearing is damaged, it must be replaced.

FI569

3. Inspect the one-way bearing for chipped surfaces, missing rollers, or discoloration. If any of the above conditions exist, replace the starter clutch assembly.

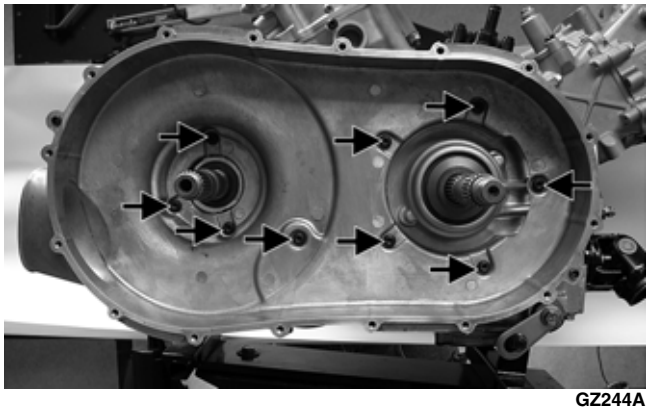
FI572

REPLACING STARTER CLUTCH ASSEMBLY

1. Remove the cap screws securing the one-way clutch assembly to the flywheel; then remove from the flywheel.

FI570

2. Thoroughly clean the rotor/flywheel; then install the new one-way clutch and secure with the cap screws after applying a drop of red Loctite #271 to the threads. Tighten to 26 ft-lb using a crisscross pattern. Make sure the one-way bearing is installed with the notches directed away from the rotor/flywheel.



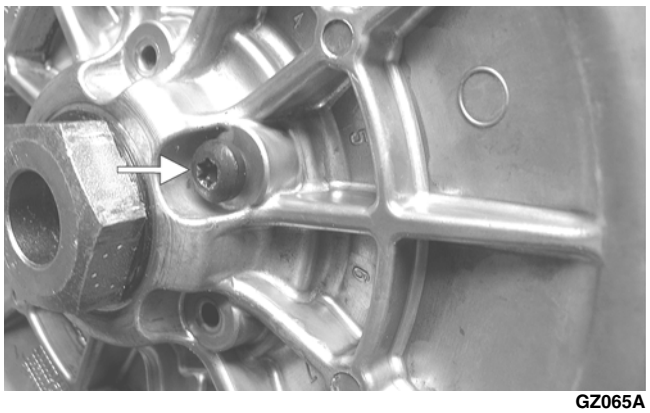
GZ244A

9. Place the driven pulley assembly into position and secure with the nut (coated with red Loctite #271). Tighten to 80 ft-lb.

GZ066

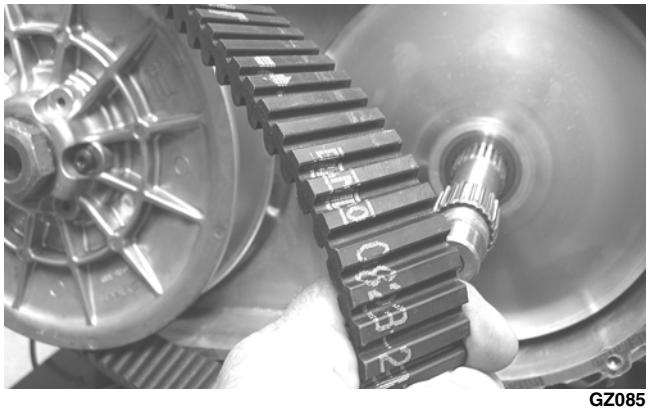
10. Slide the fixed drive face onto the clutch shaft.

11. Spread the faces of the driven pulley by threading in a cap screw; then when the faces are separated, insert the belt and push down between the faces.



GZ065A

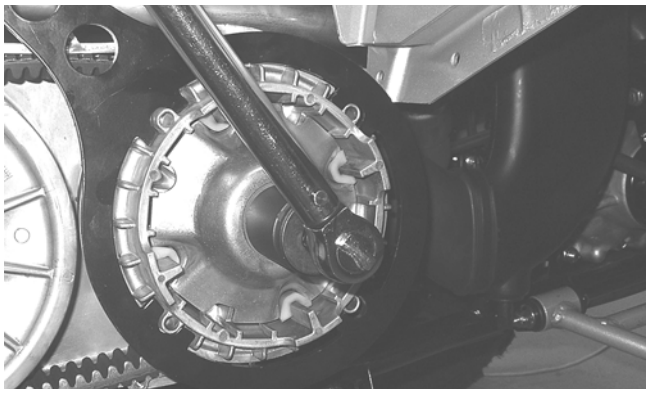
12. Place the V-belt into position on the driven pulley and over the front shaft.



GZ085

■**NOTE: The arrows on the V-belt should point forward.**

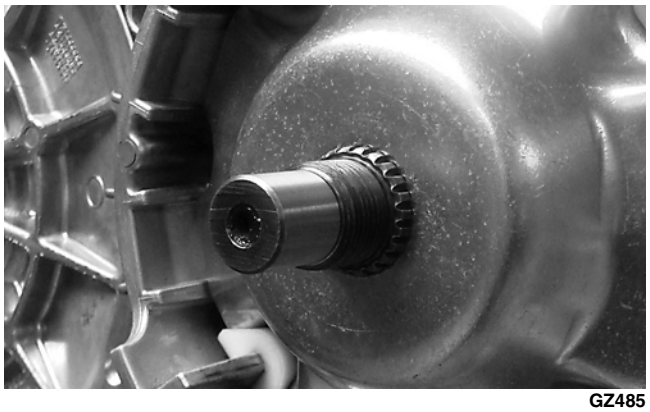
13. Pinch the V-belt together near its center and slide the spacer and movable drive face onto the shaft. Secure the drive face with a flat washer and a nut (threads coated with red Loctite #271). Tighten the nut to 165 ft-lb.



GZ075

CAUTION

Make sure the splines extend beyond the drive face and washer or a false torque reading and spline damage may occur.

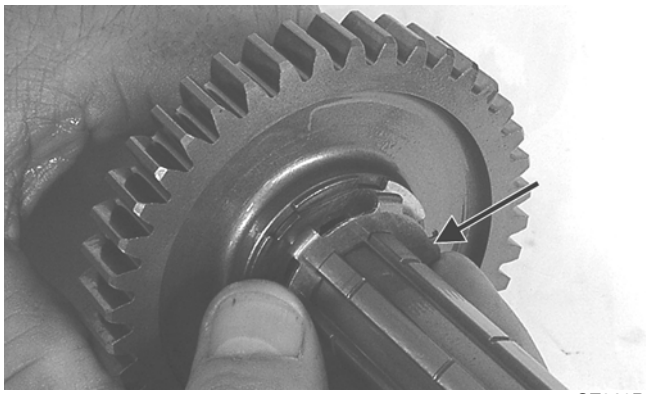


GZ485

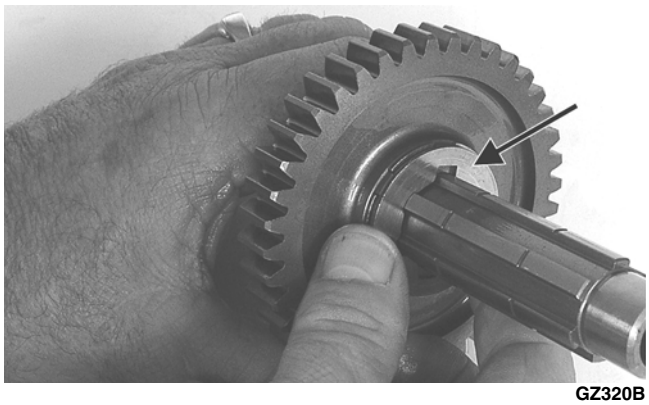
■**NOTE: At this point, the cap screw can be removed from between the driven pulley faces.**

14. Rotate the V-belt and drive/driven assemblies until the V-belt is flush with the top of the driven pulley.

2. Install the low driven gear locking washer; then install the inner reverse driven gear washer.

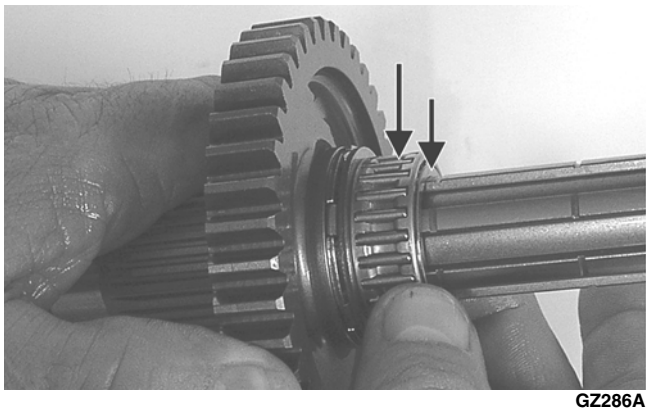


GZ319B

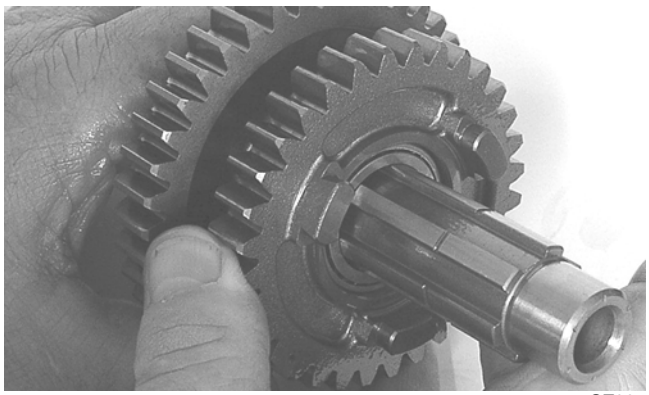


GZ320B

3. Install the reverse driven bushing and bearing; then install the reverse driven gear.

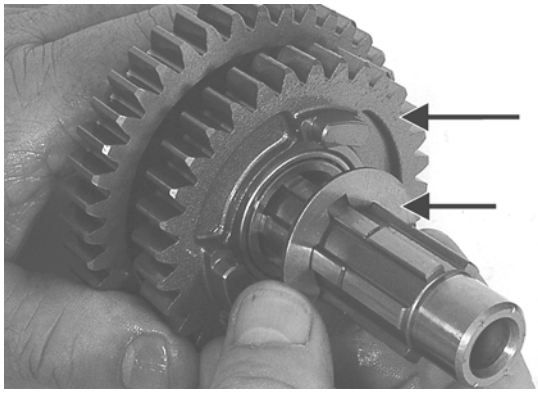


GZ286A

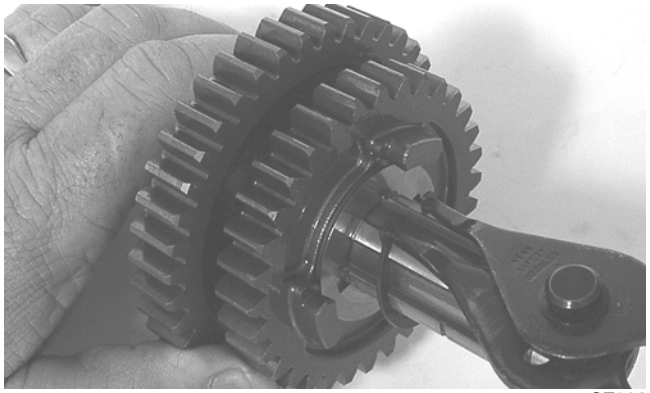


GZ287

4. Install the outer reverse driven washer; then secure the reverse driven gear assembly with a snap ring.



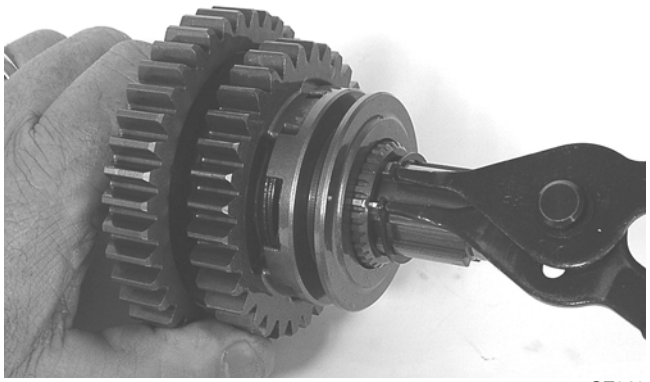
GZ288A



GZ314

5. Install the reverse driven gear dog onto the countershaft and secure with a snap ring.

GZ313A



GZ312

6. From the opposite end of the countershaft, install the high/low driven gear dog (A), thrust washer (B), bushing (C), bearing (D), high/low driven gear (E), and spacer washer (F).

SECTION 4 - FUEL/LUBRICATION/COOLING

4

TABLE OF CONTENTS

Thermostat (XT/XTX)

REMOVING

1. Drain approximately one quart of coolant from the cooling system.
2. Remove the two cap screws securing the thermostat housing to the cylinder head. Account for a thermostat with seal.

INSPECTING

■NOTE: Whenever a part is worn excessively, cracked, or damaged in any way, replacement is necessary.

1. Inspect the thermostat for corrosion, wear, or spring damage.
2. Using the following procedure, inspect the thermostat for proper operation.
   A. Suspend the thermostat in a container filled with water.
   B. Heat the water and monitor the temperature with a thermometer.
   C. The thermostat should start to open at 71.0-86.0° C (160-187° F).
   D. If the thermostat does not open, it must be replaced.
3. Inspect all coolant hoses, connections, and clamps for deterioration, cracks, and wear.

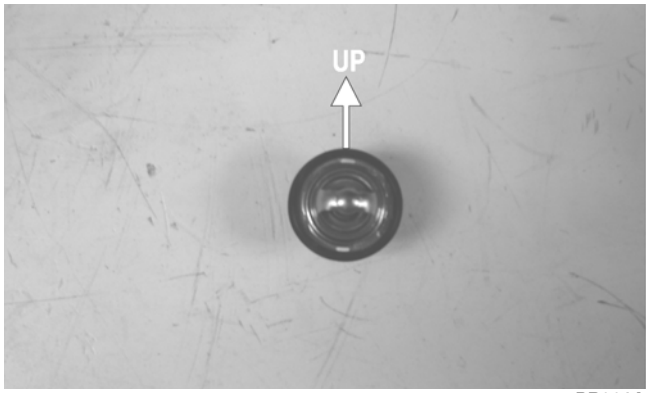
■NOTE: All coolant hoses and clamps should be replaced every four years or 4000 miles.

INSTALLING

1. Place the thermostat with seal into the thermostat housing; then secure the thermostat housing to the cylinder head with the two cap screws.

CAUTION

When installing the thermostat, make sure the bleed holes are straight up and down or air will remain trapped causing engine damage due to overheating.



PR281A

2. Fill the cooling system with the recommended amount of antifreeze. Check for leakage.

Thermostat (XTZ)

REMOVING

■NOTE: The thermostat is located in a housing in-line with the upper radiator hoses under the air filter housing.

GZ036A

1. Drain approximately one quart of coolant from the cooling system.
2. Remove the four machine screws securing the thermostat housing together. Remove the thermostat and account for an O-ring.

INSPECTING

■NOTE: Whenever a part is worn excessively, cracked, or damaged in any way, replacement is necessary.

1. Inspect the thermostat for corrosion or spring damage.
2. Using the following procedure, inspect the thermostat for proper operation.
   A. Suspend the thermostat in a container filled with water.
   B. Heat the water and monitor the temperature with a thermometer.
   C. The thermostat should start to open at 71.0-86.0° C (160-187° F).
   D. If the thermostat does not open, it must be replaced.
3. Inspect all coolant hoses, connections, and clamps for deterioration, cracks, and wear.

■NOTE: All coolant hoses and clamps should be replaced every four years or 4000 miles.

4

Ignition Coil

The ignition coil is mounted on the fuel pump mounting plate adjacent to the fuel pump.

VOLTAGE (Primary Side)

See Primary Coil in this sub-section.

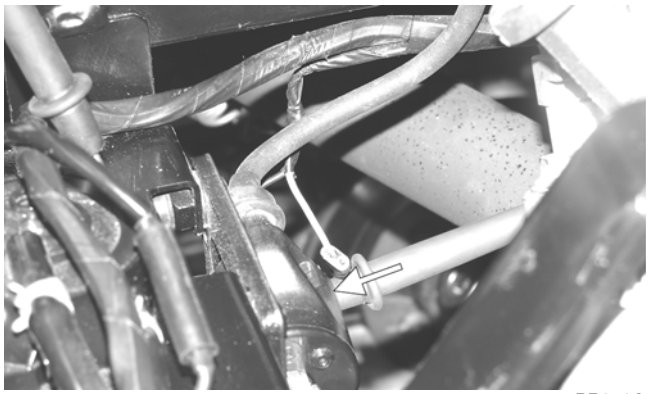
RESISTANCE

CAUTION
Always disconnect the battery when performing resistance tests to avoid damaging the multimeter.

■NOTE: For these tests, the meter selector should be set to the OHMS position.

Primary Winding

1. Connect the red tester lead to the terminal (with the wire removed); then connect the black tester lead to ground.



PR278A

2. The meter reading must be within specification.

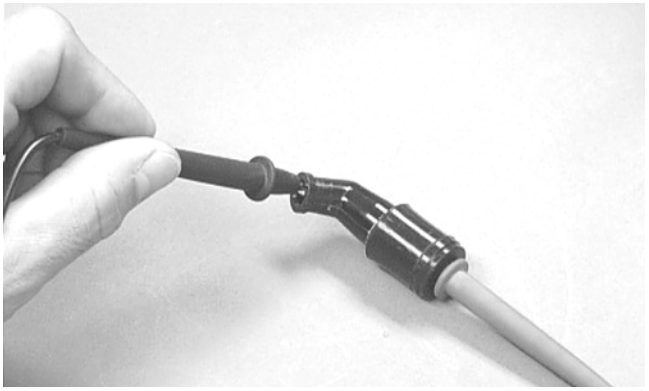
Secondary Winding

1. Connect the red tester lead to the high tension lead (with the plug cap removed); then connect the black tester lead to ground.
2. The meter reading must be within specification.

■NOTE: If the meter does not show as specified, replace ignition coil.

Spark Plug Cap

1. Connect the red tester lead to one end of the cap; then connect the black tester lead to the other end of the cap.



AR603D

2. The meter reading must be within specification.

■NOTE: If the meter does not show as specified, replace the spark plug cap.

VOLTAGE

Primary Coil

1. Set the meter selector to the DC Voltage position; then disconnect the two wires from the coil.

■NOTE: The coil is located to the right of the engine and may be accessed from behind the right-side seat with the cargo box raised.

2. Connect the red tester lead to the orange wire and the black tester lead to the blue/white wire (H1) or to ground (H2).
3. Turn the ignition switch to the ON position. The meter must show battery voltage.

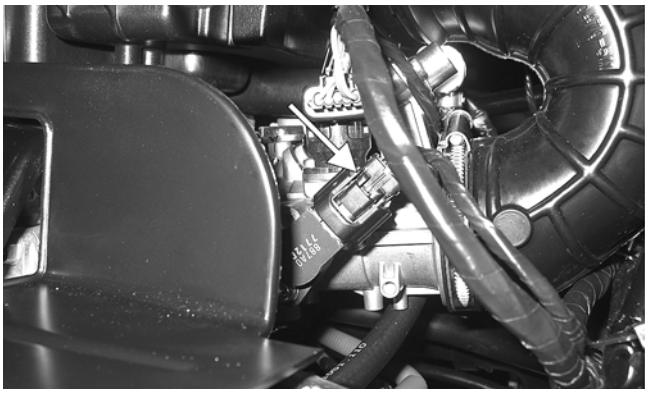
EFI Sensors/Components

CRANKSHAFT POSITION (CKP) SENSOR

To test the CKP sensor, see Stator Coil/Crankshaft Position (CKP) Sensor in this section.

MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR

1. Disconnect the MAP connector from the pressure sensor located on the throttle body.
2. Select DC Voltage on the tester and turn the ignition switch to the ON position.
3. Connect the black tester lead to the black/green wire and the red tester lead to the orange/blue wire. The meter should read 4.5-5.5 DC volts. If the meter does not read as specified, check the ECU connector or wiring.
4. Connect the MAP to the harness; then using Maxi-Clips, connect the red tester lead to the brown/white wire and the black tester lead to the black/green wire. With the engine running at idle speed, the meter should read approximately 1.5 DC volts.

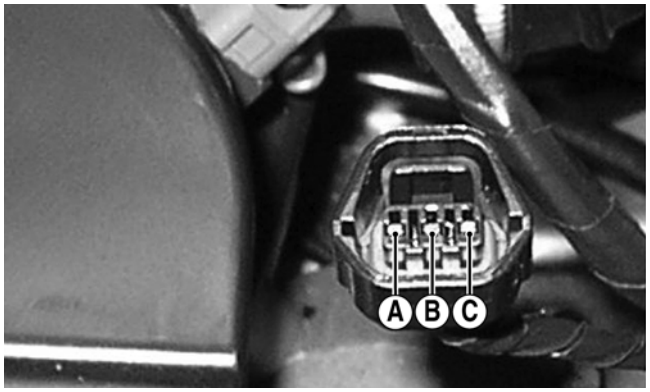


PR533A

■**NOTE: Prior to testing the TPS, inspect the three-wire plug connector on the main harness and the three-pin plug on the TPS for contamination, broken pins, and/or corrosion.**

2. Make sure the ignition switch is in the OFF position; then select the DC Voltage position on the meter.

3. Connect the black tester lead to terminal A and the red tester lead to terminal B. Turn the ignition switch to the ON position. The meter should read 4.5-5.5 DC volts.



PR538A

4. Remove the black tester lead from terminal A and connect it to terminal C. The meter should read 5.0 DC volts.

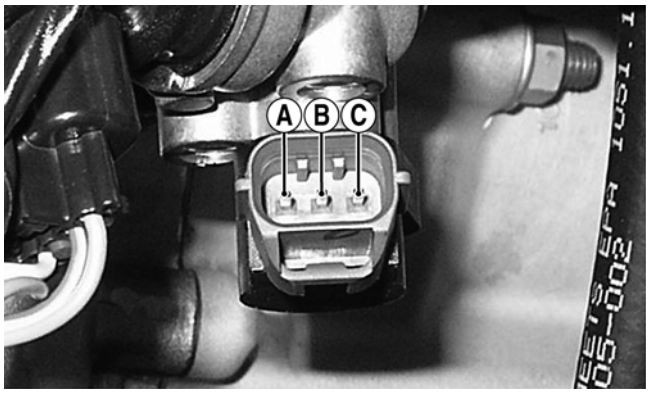
■**NOTE: If the meter does not read as specified, check for poor connections at the ECU or open/broken wires in the wiring harness.**

CAUTION
Always make sure the ignition switch is in the OFF position before disconnecting the ECU.

5. Turn the ignition switch to the OFF position.

6. Select the OHMS position on the meter; then perform the following resistance tests on the TPS.

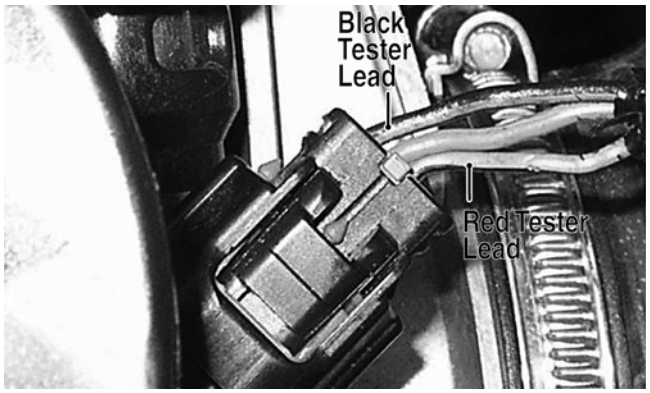
Throttle Position	Pins	Ohms
Closed	A, B, or C to Ground	Infinity (Open)
	A to B	5.0k
	A to C	650
	B to C	4.5k
Full-Open	A, B, or C to Ground	Infinity (Open)
	A to C	3.8k
	B to C	1.3k



PR535A

■**NOTE: If any meter reading is not as specified, replace or adjust the TPS (see INSTALLING/ADJUSTING in this sub-section).**

7. Connect the main harness TPS connector to the TPS; then using MaxiClips, connect the black tester lead to the black wire and the red tester lead to the green/black wire.



PR546A

8. Select the DC Voltage position on the meter and turn the ignition switch to the ON position. The meter should read approximately 0.6 DC volt with the throttle closed and approximately 5.0 DC volts with the throttle in the full-open position.

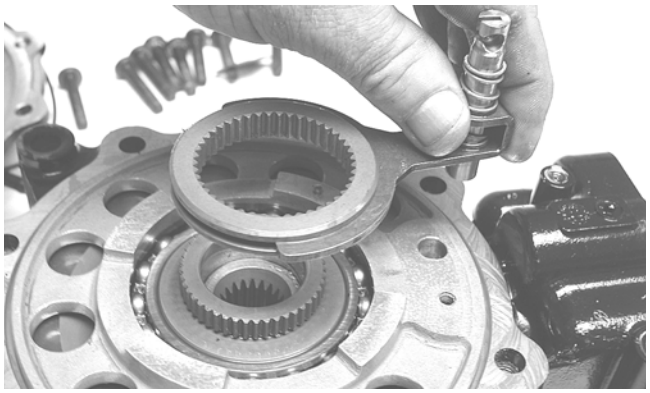
■**NOTE: If the meter readings are as specified, check the main harness connector at the ECU main harness wiring. If the meter readings are not as specified, replace the TPS and adjust to specifications (see INSTALLING/ADJUSTING in this sub-section).**

CAUTION
Always make sure the ignition switch is in the OFF position before disconnecting the ECU.

9. Clear all ECU error codes after servicing is complete (see ECU Error Codes in this section).

REMOVING

1. Remove the seats and center console; then disconnect the three-wire TPS connector plug.



KX175

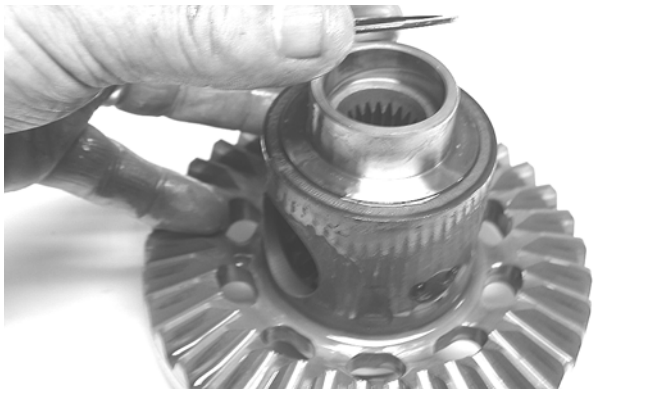
5. Remove the left differential bearing flange assembly and account for a shim. Mark the shim as left-side.

KX177

KX178

6. Place the differential with the open side down; then lift the housing off the spider assembly. Account for shim(s) and mark as right-side.

KX179

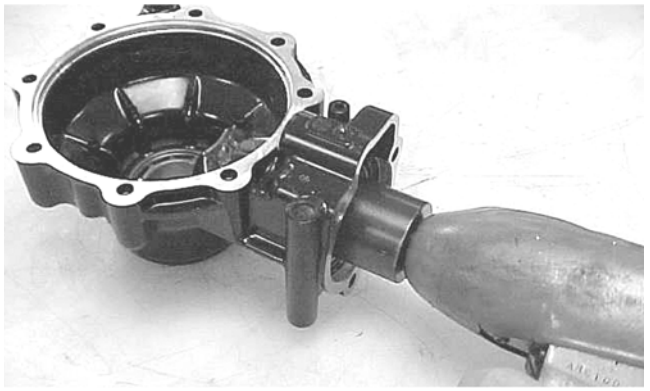


KX181

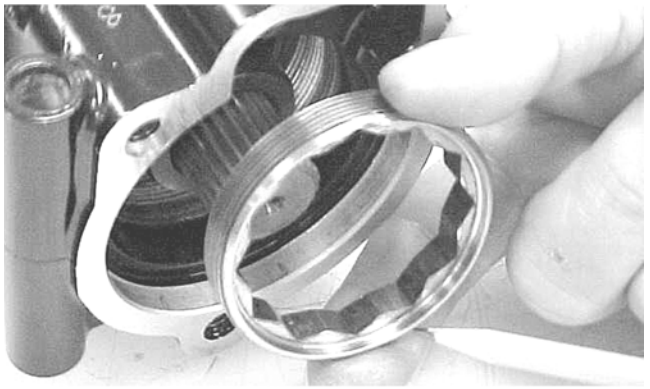
Disassembling Pinion Gear

■NOTE: Any service of the pinion gear or related bearings will require a new gear case/differential housing. The removal of the lock collar severely damages the threads in the housing.

1. Using the 48 mm Internal Hex Socket, remove the lock collar securing the pinion gear assembly.



CC875



CC876

2. Using the Pinion Gear/Shaft Removal Tool and a hammer, remove the pinion gear from the gear case housing.

CD754

10. Using CV Boot Clamp Tool, secure both outside boot clamps.

CAUTION

It is important the clamps are positioned correctly or they may loosen when in motion.

CD024

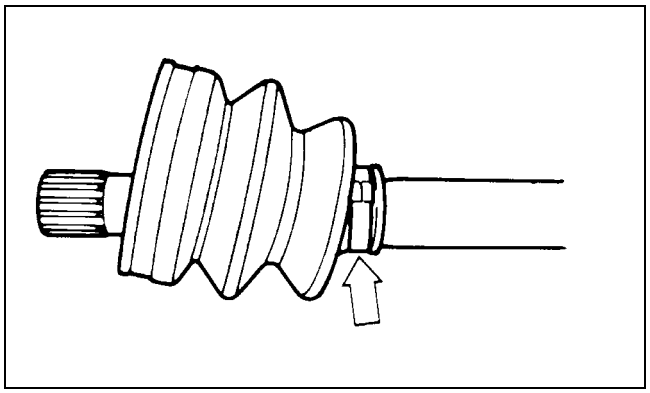
ASSEMBLING AXLES

1. Install the inner boot with the small clamp making sure the ends of the clamp are positioned correctly.

■NOTE: The boot is positioned correctly when the small end of the boot seats down into the recessed groove.

CD754

2. Using the boot clamp tool, secure the small clamp of the inner boot.



ATV-1048

3. Apply 80 grams (2/3 of contents) of grease from the pack into the bearing housing.

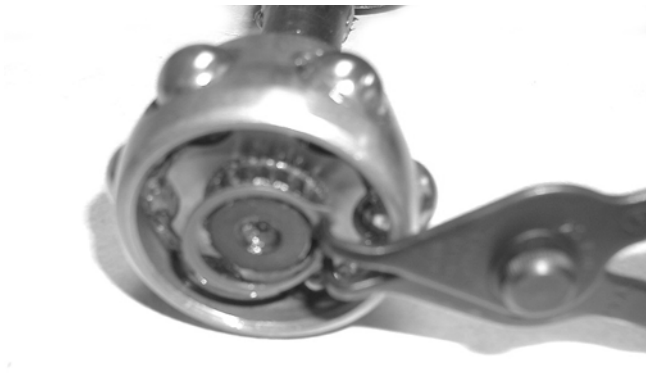
4. Install the bearing onto the shaft making sure the recess of the bearing is facing the housing.

CD022

CAUTION

The bearing ring must go onto the shaft with the side without splines facing toward the small clamp of the inner boot or severe damage will result.

5. Secure the bearing ring with the snap ring making sure the sharp side of the snap ring faces away from the boot.

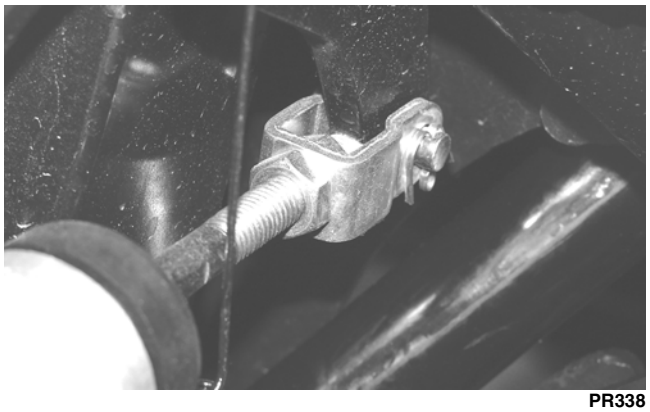


CD023

6. Making sure the marks made during disassembling align, slide the housing over the bearing ring; then completely seat the bearing ring into the housing and install the snap ring.

■NOTE: Pull the bearing ring out of the housing until it contacts the snap ring; then slide the ring in half way. This will purge air from the housing and ensure the bearing is packed properly.

2. Remove the cotter pin and pivot pin from the yoke; then remove two cap screws and flange nuts securing the master cylinder assembly to the frame.



PR338

PR336

3. Remove the oil bolt securing the banjo-fittings to the master cylinder; then remove the master cylinder. Discard the three crush washers.

CAUTION

Brake fluid is highly corrosive. Do not spill brake fluid on any surface of the vehicle.

Inspecting

1. Inspect the master cylinder push rod and clevis for wear, bending, or elongation of clevis holes.
2. Inspect the push rod boot for tears or deterioration.
3. Inspect the reservoir for cracks and leakage.
4. Inspect the brake hose for cracks and deterioration and the condition of the banjo-fittings.

Installing

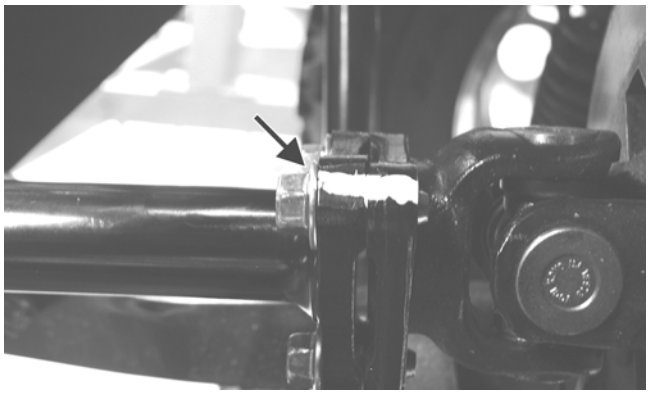
1. Place the master cylinder into position; then using three new crush washers, secure the two banjo-fittings to the master cylinder. Tighten to 20 ft-lb.
2. Secure the master cylinder assembly to the frame with two cap screws and two flange nuts. Tighten to 25 ft-lb.
3. Install the pivot pin and secure with a new cotter pin.
4. Fill the master cylinder and bleed the brake system (see Hydraulic Brake System in Section 2).

Universal Joints (XTZ)

REMOVING

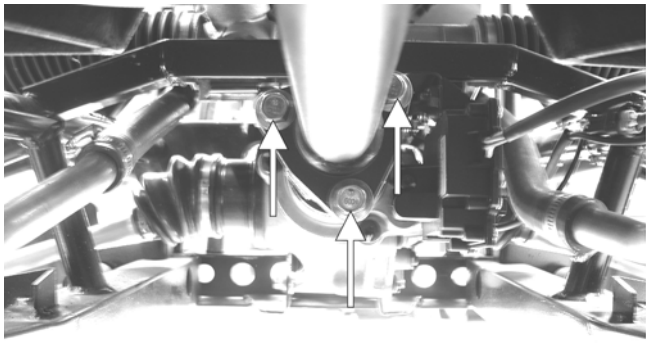
■NOTE: The universal joints can be accessed by removing the belly panel. To remove the belly panel, see Belly Panel in Section 8.

1. Support the vehicle on suitable jack stands elevated high enough to allow working from the underside of the vehicle.
2. To aid in installing, match mark drive-line components prior to removing.

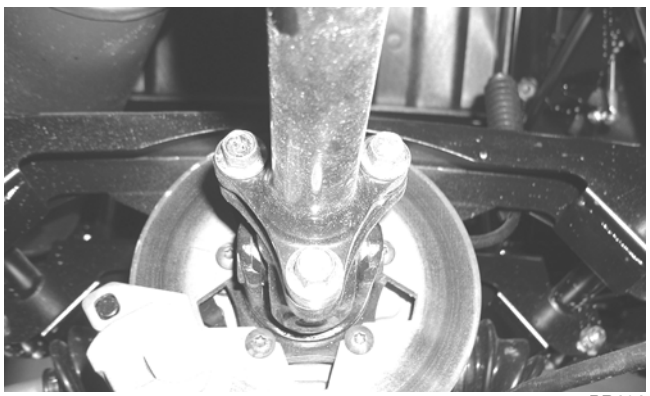


PR152A

3. Remove the cap screws securing the propeller shaft flange to the yoke flange on the appropriate drive-line; then remove the propeller shaft.



PR120A



PR121

SECTION 8 - STEERING/FRAME/CONTROLS

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