



FOREWORD

This Arctic Cat Service Manual contains service, maintenance, and troubleshooting information for the 2012 Arctic Cat 150 ATV. This manual is designed to aid service personnel in service-oriented applications.

This manual is divided into sections. Each section covers a specific ATV 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 ATV 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 severe personal injury or even death. A **CAUTION** identifies unsafe practices which may result in ATV-related damage. Follow the directive because it deals with the possibility of damaging part or parts of the ATV. 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.**

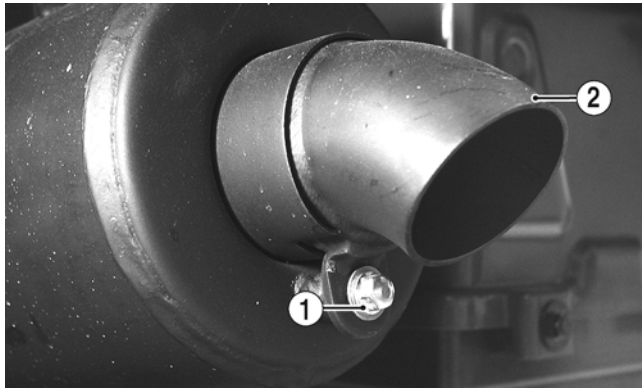
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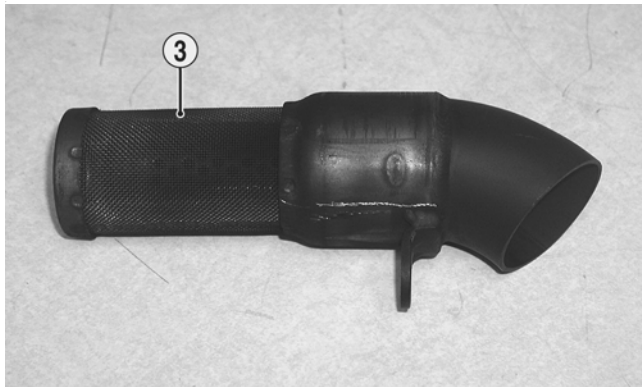
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KM139A

- Using a soft wire brush, clean the carbon from the screen (3) taking care not to tear or damage the screen.



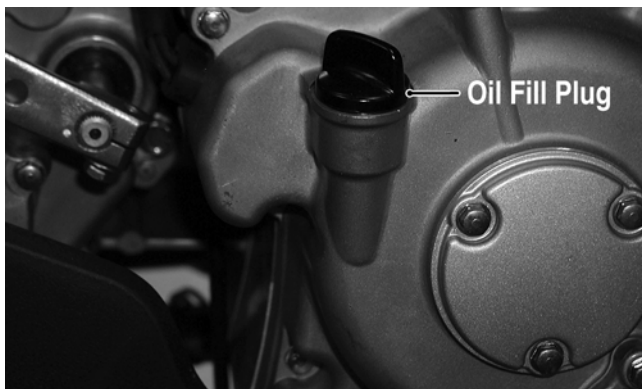
KM140B

- Install the spark arrester and secure with the cap screw. Tighten securely.

Engine Oil - Filter

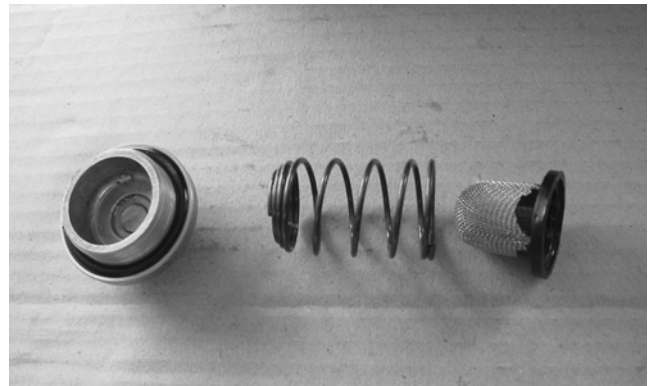
Replace the engine oil and clean the screen/filter at the scheduled intervals. The engine should always be warm when the oil is changed so the oil will drain easily and completely.

- Park the ATV on level ground.
- Loosen the oil fill plug.



KM126A

- Remove the screen/filter cap from the bottom of the engine and drain the oil into a drain pan. Account for a spring, O-ring, and screen/filter.



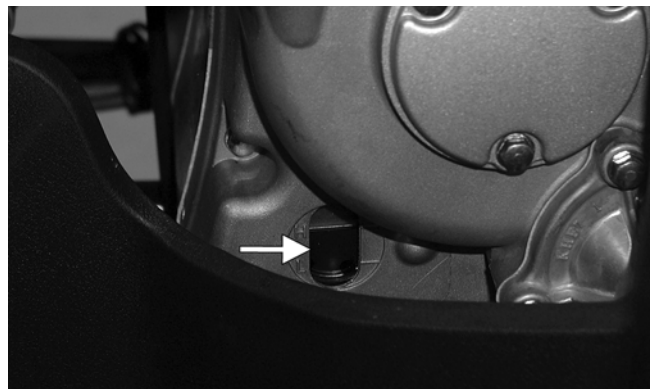
DSC02248

- Clean the screen/filter in parts-cleaning solvent; then inspect the O-ring and replace if damaged.
- Install the screen/filter, spring, and screen/filter cap into the crankcase and tighten to 11 ft-lb.
- Remove the oil fill plug and pour in 1.0 L (1.06 U.S. qt) of the recommended oil into the fill hole; then install the oil fill plug.

CAUTION

Any oil used in place of the recommended oil could cause serious engine damage. Do not use oils which contain graphite or molybdenum additives. These oils can adversely affect clutch operation. Also, not recommended are racing, vegetable, non-detergent, and castor-based oils.

- Start the engine (while the ATV is outside on level ground) and allow it to idle for a few minutes.
- Turn the engine off and wait approximately one minute. Check the oil level in the engine oil inspection window. The oil level should be visible through the window. If oil is not visible, add recommended oil until the oil level is visible between the lines of the window.



KM127A

- Inspect the area around the screen/filter cap for leaks.

Transmission Lubricant

Change the lubricant according to the Periodic Maintenance Chart. When changing the lubricant, use approved SAE 80W-90 hypoid gear lube.

To change the lubricant, use the following procedure.

Removing Top-Side Components

A. Valve Cover

B. Cylinder Head

■NOTE: Remove the spark plug and timing inspection plug; then rotate the crankshaft to top-dead-center of the compression stroke.

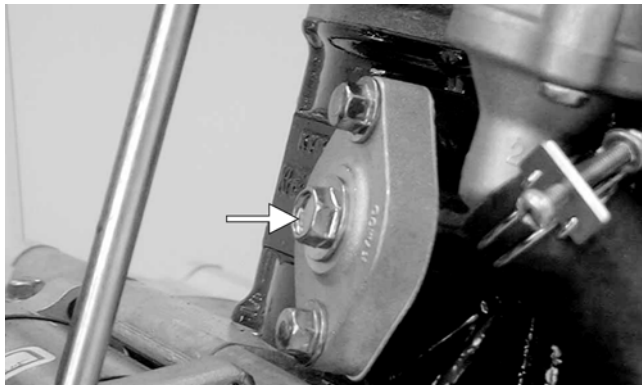
1. Remove the cap screws securing the cylinder head cover. Account for the O-ring.



KM703

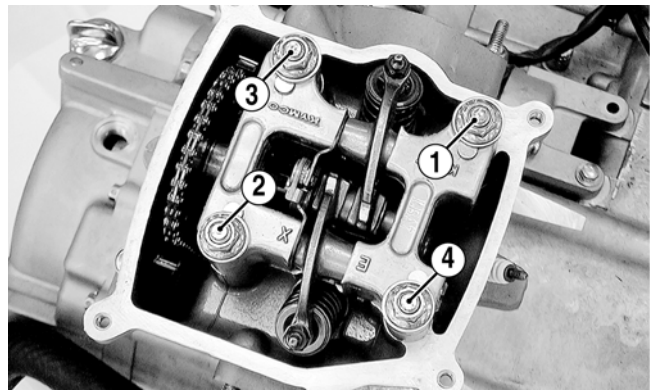
■NOTE: Keep the mounting hardware with the cover for assembly purposes.

2. Remove the plug from the cam chain tensioner; then turn the cam chain tensioner screw clockwise to release the chain tension.

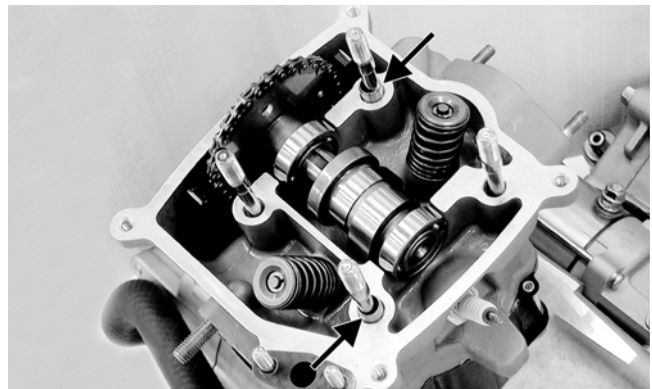


KM704A

3. Using a crisscross pattern, loosen the four nuts securing the camshaft holder to the cylinder head. Use 2-3 steps until the nuts are all free; then remove the camshaft holder. Account for four washers and two alignment pins.

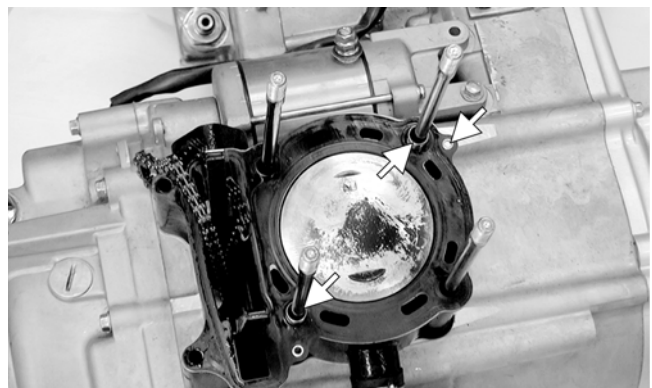


KM706A



KM707A

4. Remove the camshaft gear from the cam chain; then secure the timing chain so it will not fall into the engine. Remove the camshaft.
5. Remove the two cap screws securing the cylinder head to the cylinder; then remove the cylinder head. Account for two alignment pins and a cylinder head gasket.



KM718A

6. Remove the cam chain guide; then remove the cylinder. Support the piston with rubber bands or other suitable supports. Account for two dowel pins and the cylinder gasket.

⚠ AT THIS POINT

To service valves and cylinder head, see Servicing Top-Side Components sub-section.

⚠ AT THIS POINT

To inspect cam chain guide, see Servicing Top-Side Components sub-section.

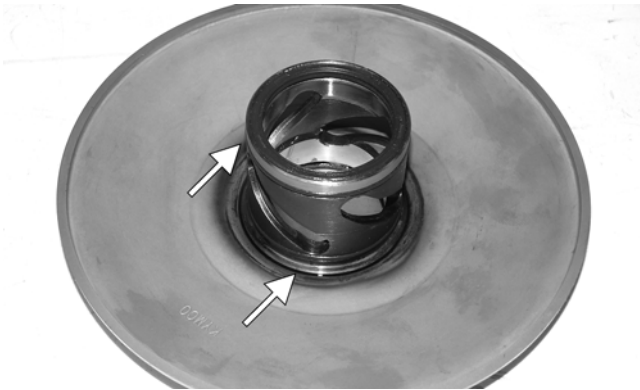
Inspecting

1. Inspect the pulley faces for wear, galling, or grooving.



KM394A

2. Inspect the O-rings on the movable face for nicks, tears, or swelling.

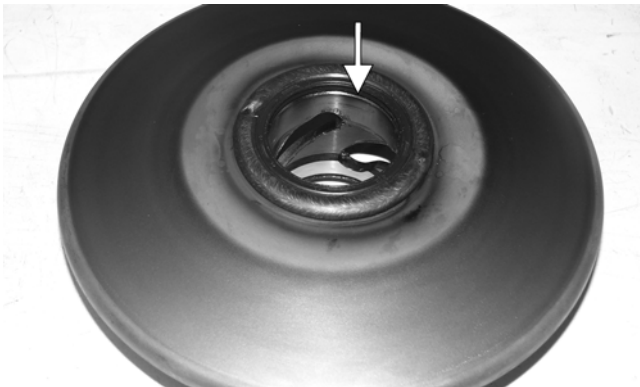


KM380A

3. Inspect two grease seals in the movable face for nicks, cuts, or damage.



KM380B

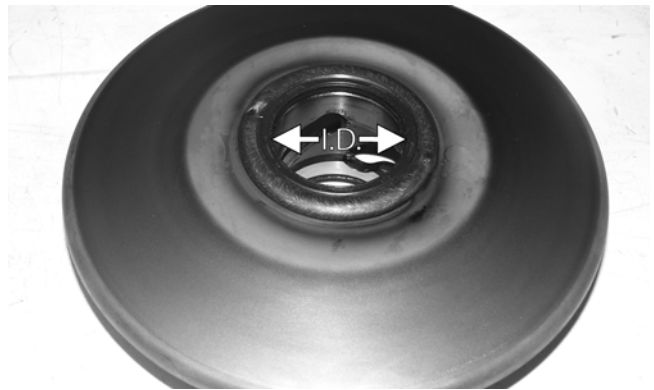


KM382A

4. Inspect the pins and bushings for wear, flat spots, looseness, or cracking; then measure the inside diameter of the movable driven face bushing. Maximum allowable service limit is 34.06 mm.

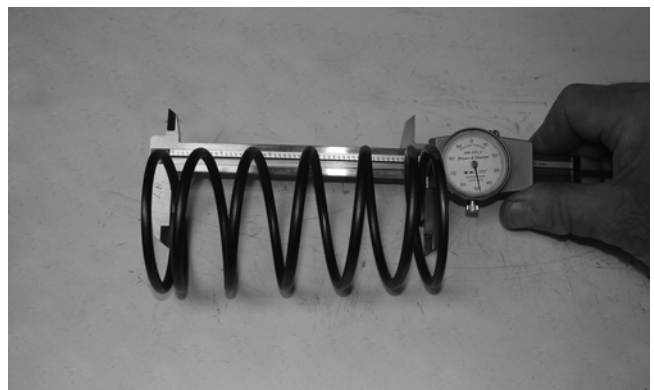


KM379



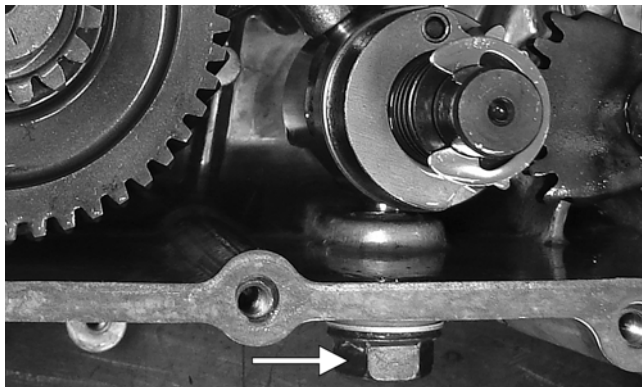
KM382B

5. Measure the driven face spring free length. If the free length is less than 83.20 mm, the spring must be replaced.



KM376

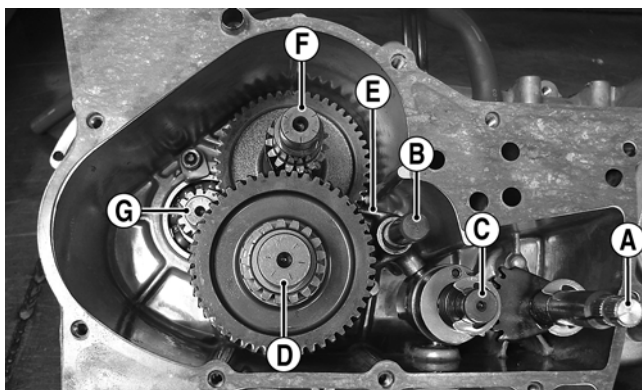
6. Measure the fixed driven face hub outside diameter using a calipers. The minimum service limit is 33.94 mm.



TR116A

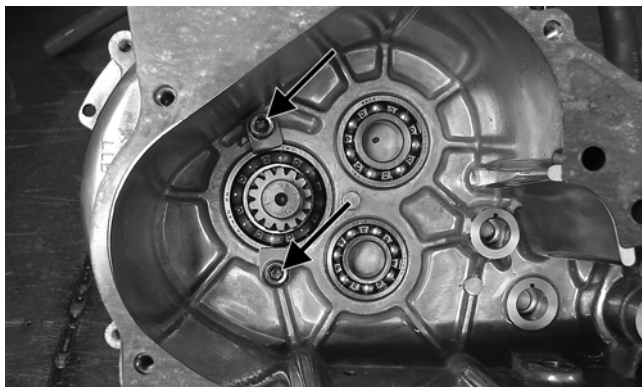
■NOTE: For steps 6-9, use photo TR115A.

6. Remove the shift shaft (A); then remove the shift fork shaft (B) and holding the shift fork away from the shift cam (C), remove the shift cam.



TR115A

7. Remove the main shaft assembly (D) along with the shift fork (E). Account for a spacer and washer.
8. Remove the countershaft (F).
9. Remove two cap screws securing the bearing retainers to the crankcase; then using a press or plastic mallet, remove the driveshaft assembly (G) from the crankcase.



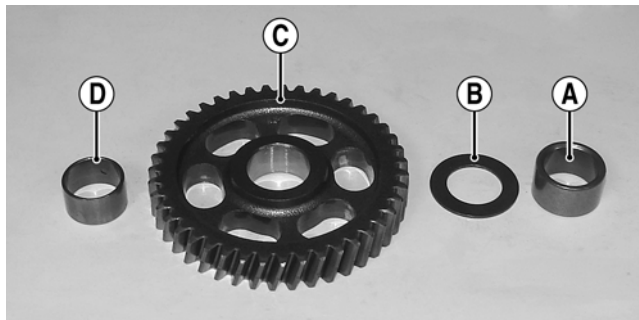
TR120A

10. Using the appropriate bearing puller or driver, remove the required bearings from the crankcase halves.

Servicing Center Crankcase Components

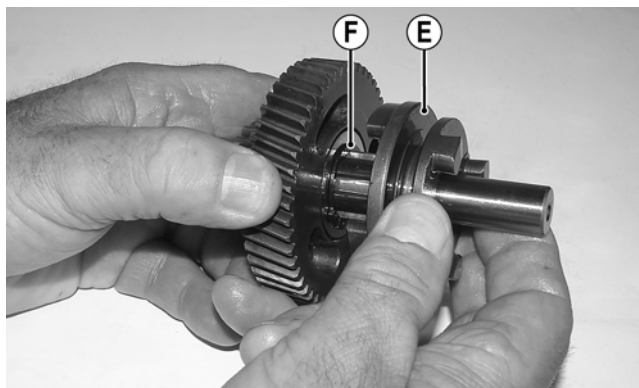
To disassemble the main shaft, use the following procedure.

1. Remove the spacer (A), washer (B), forward gear (C), and forward gear bushing (D).



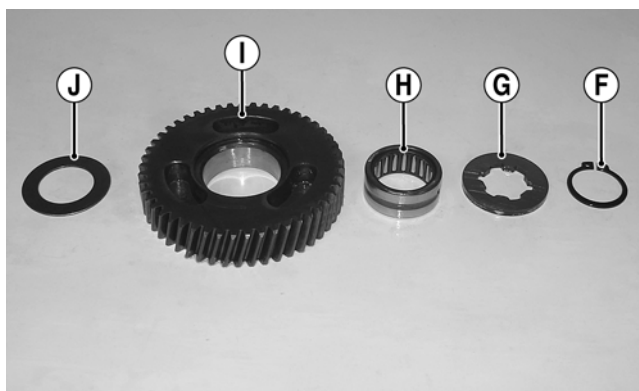
TR130A

2. Remove the forward/reverse shift dog (E); then remove the snap ring (F).



TR133A

3. Remove the splined washer (G); then remove the reverse gear (I), reverse gear bearing (H), and thrust washer (J). The main shaft is now disassembled for inspection of components.



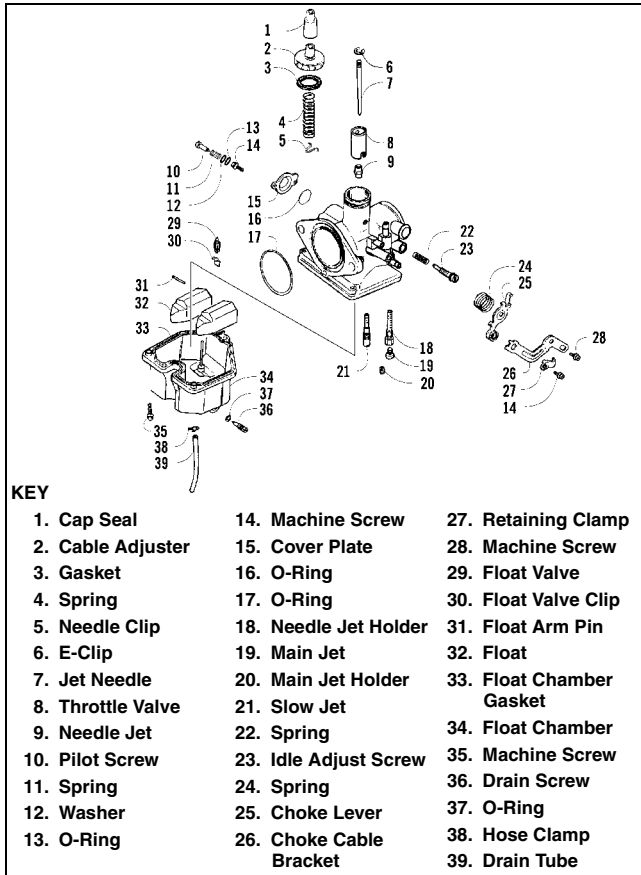
TR131A

INSPECTING

1. Inspect all gear teeth and shift dog lugs for excessive wear, chipping, or cracking.

Fuel/Lubrication/Cooling

Carburetor



0743-813

⚠ WARNING

Whenever any maintenance or inspection is performed on the fuel system during which there may be fuel leakage, there should be no welding, smoking, open flames, etc., in the area.

REMOVING

1. Remove the seat; then remove the left-side heat shield and turn the gas tank shut-off valve to the OFF position.
2. Remove the cap screws securing the air filter housing to the frame; then loosen the clamp securing air inlet boot to the carburetor and remove the air filter.

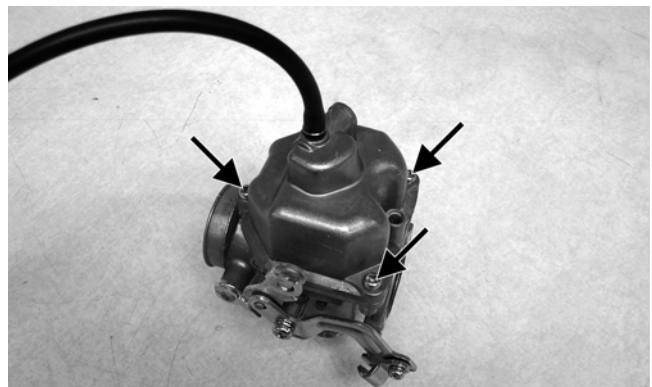


TR022B

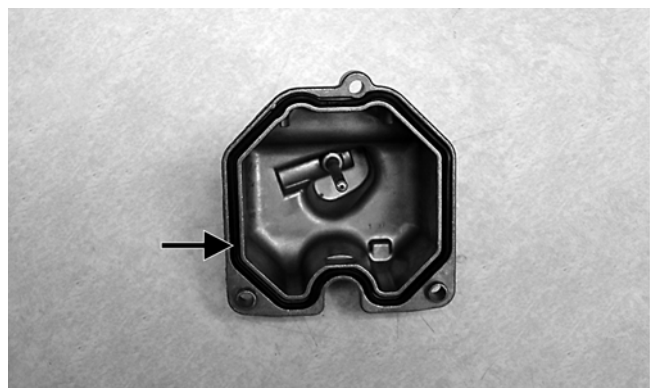
3. Remove the choke assembly from the carburetor leaving the choke cable attached to the choke plunger.
4. Loosen the screw securing the choke cable to the carburetor; then disconnect the choke cable.
5. Remove the nuts securing the carburetor to the intake pipe; then remove the carburetor from the intake pipe.
6. Remove the gasoline hose from the carburetor.
7. Remove the throttle valve cap and throttle cable/throttle valve from the carburetor and remove the carburetor from the ATV. Secure the cable and throttle valve so the valve and needle will not be damaged.

DISASSEMBLING

1. Remove the Phillips-head screws securing the float chamber; then remove the chamber. Account for the O-ring.



TR203A



TR204A

Primary Winding

1. Remove the primary connector from the coil; then connect the red tester lead to the primary terminal and the black tester lead to ground.
2. The meter reading must be within specification.

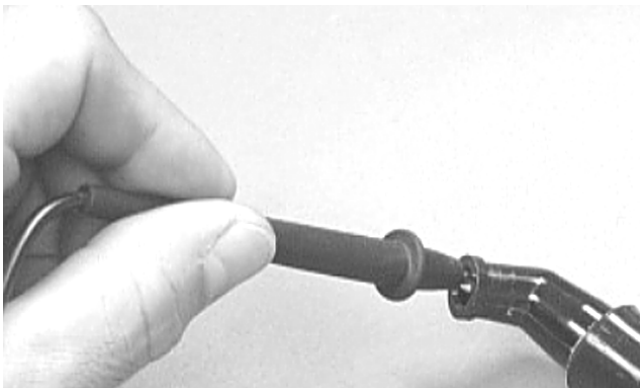
Secondary Winding

1. Connect the red tester lead to the high tension lead; 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 read as specified, replace the spark plug cap.

LCD Gauge Assembly

TESTING

■NOTE: If any functions (segments or displays) are not normal or do not display as indicated, the LCD gauge must be replaced.

1. Remove the instrument pod. Leave the gauge connected to the wiring harness.

■NOTE: To perform the following tests, two MaxiClips and one jumper wire will be required.

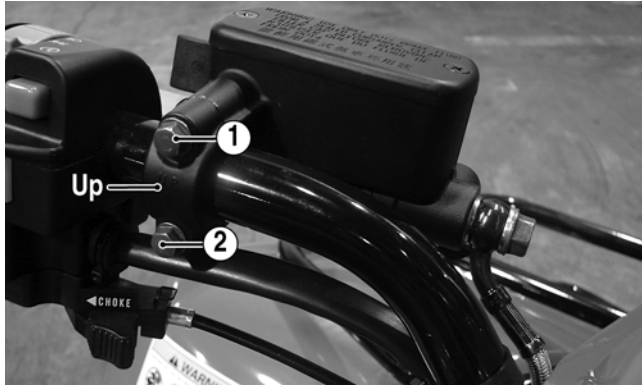
2. Connect the black MaxiClip to the green wire.
3. Connect the red MaxiClip to the light green/red wire; then connect the jumper between the MaxiClips and turn the ignition switch to the ON position. The neutral indicator light (7) must illuminate.



KM842D

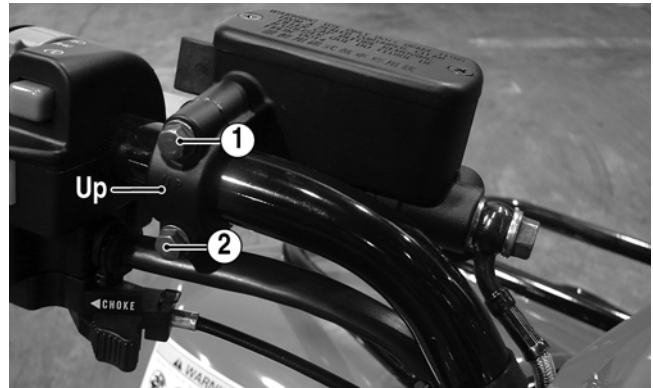
4. Connect the red MaxiClip to the blue/red wire. The reverse indicator light (6) must illuminate.
 5. Connect the red MaxiClip to the yellow/white wire and the black MaxiClip to the lavender/white wire. The fuel quantity indicator (4) must sequence from empty to full; then all segments will disappear and the gas pump icon (8) will begin flashing.
 6. Connect the red MaxiClip to the blue wire; then connect a voltmeter to the MaxiClips (red meter lead to red and black meter lead to black).
 7. Set the meter selector to the DC Voltage position; then turn the ignition switch to the LIGHTS position and the light control switch to the HI beam position. The tester must indicate battery voltage and the high beam indicator light (5) must illuminate. If the tester does not read battery voltage, troubleshoot the ignition switch, light control switch, or wiring harness and connectors.
 8. Connect the red MaxiClip to the brown/black wire. The tester must read battery voltage and the speedometer backlight must illuminate. If the tester does not read battery voltage, troubleshoot the ignition switch or wiring harness connectors.
 9. Depress and hold the Mode/Set button (A). The speedometer should switch between mph and km/h as indicated by icon (9).
 10. Depress and hold the Mode/Set button (B). The distance mode should shift between ODO and TRIP as indicated by icon (2).
 11. Depress and hold the Mode/Set buttons (A) and (B) simultaneously. The hour segment of the clock (3) is in the set mode. Release the Mode/Set button (A) and release (B) when the desired hour (1-24) appears.
 12. Depress and release the Mode/Set button (A) to shift the clock set to the minute segment; then depress Mode/Set button (B) to set the desired minute.
- NOTE: In the clock set mode, the gauge will default to normal operation 10 seconds after the Mode/Set buttons are released.
13. With the ignition switch in the ON position, elevate the rear wheels and rotate them several revolutions in either direction. The speed indicator LCD (1) should indicate a value less than zero.

2. Install the master cylinder assembly on the handlebar engaging the alignment stud in the hole in the handlebar; then secure with the master cylinder clamp and two cap screws. Make sure the UP arrow on the clamp is directed upward.



KM800B

3. Tighten the cap screw (1) to 9 ft-lb; then tighten the cap screw (2) to 9 ft-lb.



KM800B

4. Using new crush washers, secure the brake hose to the master cylinder with the brake hose union bolt. Tighten to 24 ft-lb.



KM800A

5. Fill the master cylinder with DOT 4 brake fluid; then bleed the system.

Troubleshooting Drive System

Problem: Braking Poor

Condition	Remedy
<ol style="list-style-type: none"> 1. Pad worn 2. Brake fluid leaking 3. Hydraulic system entrapped air 4. Master cylinder/brake cylinder seal worn 	<ol style="list-style-type: none"> 1. Replace pads 2. Repair - replace hydraulic system 3. Bleed hydraulic system 4. Replace appropriate cylinder

Problem: Brake lever travel excessive

Condition	Remedy
<ol style="list-style-type: none"> 1. Hydraulic system entrapped air 2. Brake fluid low 3. Brake fluid incorrect 4. Piston seal - cup worn 	<ol style="list-style-type: none"> 1. Bleed hydraulic system 2. Add fluid to proper level/bleed system 3. Replace with correct fluid 4. Replace master cylinder

Problem: Brake fluid leaking

Condition	Remedy
<ol style="list-style-type: none"> 1. Connection joints loose 2. Hose cracked 3. Piston seal worn 	<ol style="list-style-type: none"> 1. Tighten joint 2. Replace hose 3. Replace master/brake cylinder

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