




FOREWORD

This manual contains service, maintenance, and troubleshooting information for the 2008 Arctic Cat Y-12 Youth ATV. The manual is designed to aid service personnel in service-oriented applications and may be used as a textbook for service training.

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. A troubleshooting section is also included in this manual.

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. The symbol  **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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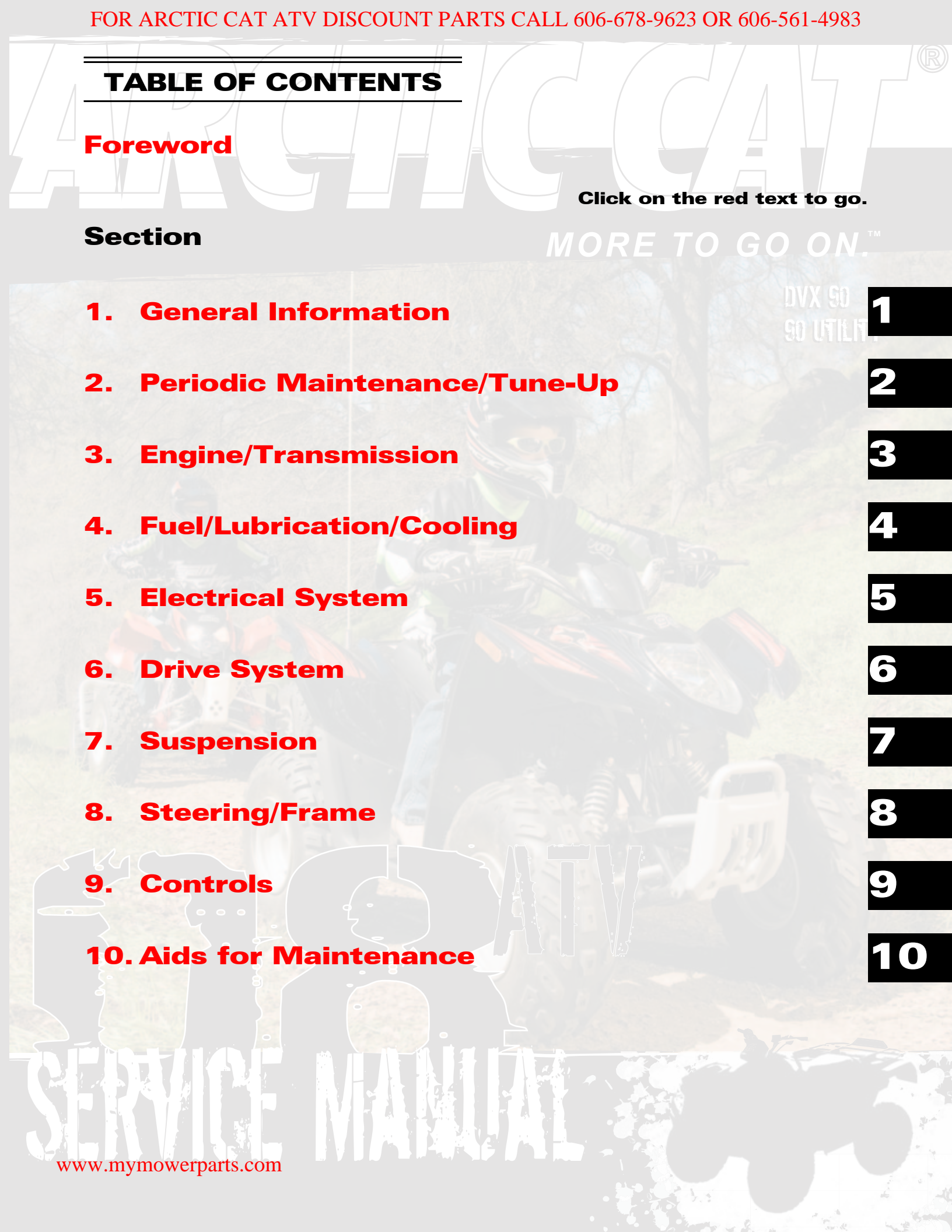
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Foreword

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Specifications*

CHASSIS	
Length (Overall)	146.8 cm (57.8 in.)
Height (Overall)	96.2 cm (37.9 in.)
Width (Overall)	87.6 cm (34.5 in.)
Suspension Travel (Front) (Rear)	71.00 mm (2.8 in.) 73.66 mm (2.9 in.)
Wheelbase	97.5 cm (38.38 in.)
Tire Size (Front) (Rear)	AT20 x 7-8 AT19 x 8-8
Tire Inflation Pressure	0.21 kg-cm ² (3.0 psi)
MISCELLANY	
Dry Weight (Approx)	118 kg (260 lb) - DVX 123 kg (271 lb) - Utility
Gas Tank Capacity (Rated)	5.5 L (1.4 U.S. gal.)
Reserve Capacity	1.3 L (0.34 U.S. gal.)
Transmission Lubricant (Recommended)	SAE 80W-90 Hypoid
Transmission Lubricant Capacity	100 ml (3.4 fl oz)
Engine Oil Capacity	0.8 L (0.84 U.S. qt)
Gasoline (Recommended)	87 Octane Regular Unleaded
Engine Oil (Recommended)	5W-30
Brake Type	Front Double Drum/Rear Hydraulic Disc w/Brake Lever Locks
Starting System	Electric w/Kick Start (Emergency)

* Specifications subject to change without notice.

Break-In Procedure

A new ATV and an overhauled ATV engine require a “break-in” period. The first month is most critical to the life of this ATV. Proper operation during this break-in period will help assure maximum life and performance from the ATV.

During the first three hours of operation, always use less than 1/2 throttle. Varying the engine RPM during the break-in period allows the components to “load” (aiding the mating process) and then “unload” (allowing components to cool). Although it is essential to place some stress on the engine components during break-in, care should be taken not to overload the engine too often.

When the engine starts, allow it to warm up properly. Idle the engine several minutes until the engine has reached normal operating temperature. Do not idle the engine for excessively long periods of time.

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After the completion of the break-in period, the engine lubricant should be changed. Other maintenance after break-in should include checking of all prescribed adjustments and tightening of all fasteners.

Gasoline-Oil-Lubricant

RECOMMENDED GASOLINE

The recommended gasoline to use is 87 minimum octane regular unleaded. In many areas, oxygenates (either ethanol or MTBE) are added to the gasoline. Oxygenated gasolines containing up to 10% ethanol, 5% methane, or MTBE are acceptable gasolines.

⚠ CAUTION

Do not use white gas. Only Arctic Cat approved gasoline additives should be used.

RECOMMENDED ENGINE OIL

The recommended oil to use is Arctic Cat 4-Cycle Oil.

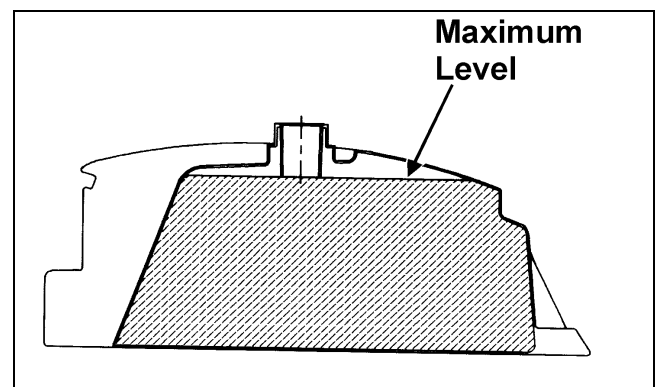
RECOMMENDED TRANSMISSION LUBRICANT

The recommended transmission lubricant to use is SAE 80W-90 hypoid.

FILLING GAS TANK

⚠ WARNING

Always fill the gas tank in a well-ventilated area. Never add gasoline to the ATV gas tank near any open flames or with the engine running or hot. DO NOT SMOKE while filling the gas tank.



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Since gasoline expands as its temperature rises, the gas tank must be filled to its rated capacity only. Expansion room must be maintained in the tank particularly if the tank is filled with cold gasoline and then moved to a warm area.

⚠ WARNING
Do not over-fill or overflow gasoline when filling the gas tank. A fire hazard could materialize. Always allow the engine to cool before filling the gas tank.

Tighten the gas tank cap securely after filling the tank.

Genuine Parts

When replacement of parts is necessary, use only genuine Arctic Cat ATV parts. They are precision-made to ensure high quality and correct fit. Refer to the appropriate Illustrated Parts Manual for the correct part number, quantity, and description.

Preparation For Storage

⚠ CAUTION
Prior to storing the ATV, it must be properly serviced to prevent rusting and component deterioration.

Arctic Cat recommends the following procedure to prepare the ATV for storage.

1. Clean the seat cushion (cover and base) with a damp cloth and allow to dry.
2. Clean the ATV thoroughly by washing dirt, oil, grass, and other foreign matter from the entire ATV. Allow the ATV to dry thoroughly. DO NOT get water into any part of the engine or air intake.
3. Either drain the gas tank or add Fuel Stabilizer to the gas in the gas tank. Remove the air filter housing cover and air filter. Start the engine and allow it to idle; then using Arctic Cat Engine Preserver, rapidly inject the preserver into the air filter opening for a period of 10 to 20 seconds. Install the air filter and housing cover.

⚠ CAUTION
If the interior of the air filter housing is dirty, clean the area before starting the engine.

4. Drain the carburetor float chamber.
5. Plug the hole in the exhaust system with a clean cloth.
6. Apply light oil to the upper steering post bushing and plungers of the shock absorbers.
7. Tighten all nuts, bolts, cap screws, and screws. Make sure rivets holding components together are tight. Replace all loose rivets. Care must be taken that all calibrated nuts, cap screws, and bolts are tightened to specifications (see Section 10).
8. Disconnect the battery cables (negative cable first); then remove the battery, clean the battery posts and cables, and store in a clean, dry area.

1

⚠ CAUTION
This maintenance-free battery should be charged at the recommended rate every 30 days or permanent damage will result if the battery completely discharges.

9. Store the ATV indoors in a level position.

⚠ CAUTION
Avoid storing outside in direct sunlight and avoid using a plastic cover as moisture will collect on the ATV causing rusting.

Preparation After Storage

Taking the ATV out of storage and correctly preparing it will assure many miles and hours of trouble-free riding. Arctic Cat recommends the following procedure to prepare the ATV.

1. Clean the ATV thoroughly.
2. Clean the engine.
3. Remove the cloth from the exhaust system.
4. Check all control wires and cables for signs of wear or fraying. Replace if necessary.
5. Change the transmission lubricant.
6. Charge the battery; then install. Connect the battery cables making sure to connect the positive cable first.

7. Check the entire brake system (cables, shoes, etc.), and all controls. Adjust or replace if necessary.
8. Check the tire pressure. Inflate to recommended pressure as necessary.
9. Tighten all nuts, bolts, cap screws, and screws making sure all calibrated nuts, cap screws, and bolts are tightened to specifications (see Section 10).
10. Make sure the steering moves freely and does not bind.
11. Check the spark plug. Clean or replace as necessary.



SECTION 2 - PERIODIC MAINTENANCE/TUNE-UP

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Periodic Maintenance Chart

A = Adjust
 C = Clean
 CH = Charge
 D = Drain
 I = Inspect
 L = Lubricate
 R = Replace
 T = Tighten

Item	Initial Service After Break-In (First Mo)	Every Day	Every Month	Every 3 Months	Every 6 Months	Every Year	As Needed
Battery	I		CH			I	C
Fuse				I			R
Air Filter	I		C*				R
Engine Compression						I	
Spark Plug				I/C			R (4000 Mi or 18 Mo)
Chassis				C*/L*		I	
Gas/Vent Hoses		I					C, R (2 Years)
Fuel Valve						I	C
Throttle Cable	I	I			C/L		A, R
Carburetor	I			C/D*		C/D*	
Engine RPM (Idle)	I					I	I/A
Engine Oil	R	I		R			
Valve/Tappet Clearance	A					A	
Transmission Lubricant/Level	R						I
Fuel Filter	I			I			R
Tires/Air Pressure/Wear	I	I					I/R
Steering Components	I	I					R
Drive Chain	I			C*/L*			R
Suspension (Tie Rods, Protective Boots)	I	I					R
Nuts/Bolts/Cap Screws	I		I/T				T
Ignition Timing							I
Brakelight	I	I					R
Switches		I					R
Kick Starter		I					C
Handlebar/Grips		I					R
Frame/Welds			I		I		
Electrical Connections	I					I	C
Complete Brake Systems	I	I		C*			L, R
Brake Fluid	I		I				R (2 Years)
Shock Absorbers			I				R

*Service/Inspect more frequently when operating in adverse conditions.



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. Throttle Lever Pivot/Cable Ends
- B. Brake Lever Pivot/Cable Ends
- C. Brake Cable Ends
- D. Idle RPM Adjustment Screw (Carburetor)

Battery

The battery is located under the seat.

After being in service, batteries require regular cleaning and recharging in order to deliver peak performance and maximum service life. The following procedure is recommended for cleaning and maintaining a sealed battery. Always read and follow instructions provided with battery chargers and battery products.

WARNING

Anytime service is performed on a battery, the following must be observed: keep sparks, open flame, cigarettes, or any other flame away. Always wear safety glasses. Protect skin and clothing when handling a battery. When servicing battery in enclosed space, keep the area well-ventilated.

1. Remove the battery hold-down; then disconnect the battery cables (negative cable first).
2. Remove the battery from the battery compartment; then thoroughly wash the battery and battery compartment with soap and water.

■ **NOTE:** If battery posts, cable ends, or the battery case has a build-up of white/green powder residue, apply water and baking soda to neutralize acid; then flush off with warm soapy water.

3. Using a wire brush, clean the battery posts and cable ends removing all corrosive buildup. Replace damaged cables or cable ends.

CAUTION

Do not remove seal strip.

WARNING

Battery acid is harmful if it contacts eyes, skin, or clothing. Care must be taken whenever handling a battery.

4. Using a multimeter, test the battery voltage. The meter must read at least 12.5 DC Volts for a fully charged battery.

■ **NOTE:** At this point if the meter reads as specified, the battery may be returned to service (see step 8).

5. If the meter reads less than specified voltage, charge the battery using the following guidelines.

A. When using an automatic battery charger, always follow the charger manufacturer's instructions.

B. When using a constant-current battery charger, use the following Battery Charging Chart.

CAUTION

Never exceed the standard charging rate.

WARNING

An overheated battery could explode causing severe injury or death. Always monitor charging times and charge rates carefully. Stop charging if the battery becomes very warm to the touch. Allow it to cool before resuming charging.

Battery Charging Chart (Constant-Current Charger)

Battery Voltage (DC)	Charge State	Charge Time Required (at 1.5-2.0 Amps)
12.5 or more	100%	None
12.2-12.4	75%-99%	3-6 hours
12.0-12.2	50%-74%	5-11 hours
11.0-11.9	25%-49%	13 hours (minimum)
11.5 or less	0-24%	20 hours (minimum)

■ **NOTE:** If the battery voltage is 11.5 DC Volts or less, some chargers may "cut off" and fail to charge. If this occurs, connect a fully charged booster battery in parallel (positive to positive and negative to negative) for a short period of time with the charger connected. After 10-15 minutes, disconnect the booster battery leaving the charger connected and the charger should continue to charge. If the charger "cuts off," replace the battery.

6. After charging the battery for the specified time, remove the battery charger and allow the battery to sit for 1-2 hours.

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7. Connect the multimeter and test the battery voltage. The meter should read at least 12.5 DC Volts. If the voltage is as specified, the battery is ready for service.

■ **NOTE:** If voltage in step 7 is below specifications, charge the battery an additional 1-5 hours; then retest.

8. Place the battery in the battery compartment; then coat the battery posts and cable ends with a light coat of multi-purpose grease.

CAUTION

Before installing the battery, make sure the ignition switch is in the OFF position.

9. Connect the battery cables (positive cable first); then install the battery hold-down.

CAUTION

Connecting cables in reverse (positive to negative and negative to positive) can cause serious damage to the electrical system.

Fuse

The main (7 amp) fuse is located on the frame near the battery under the seat.

■ **NOTE:** To remove the fuse, compress the locking tabs on either side of the fuse case and lift out.

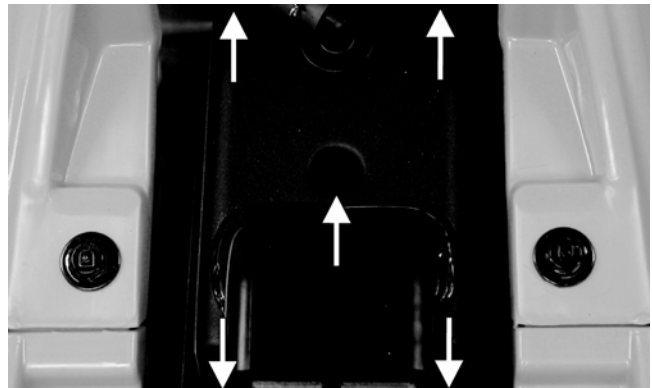
If there is any type of electrical system failure, always check the fuse first.

CAUTION

Always replace a blown fuse with a fuse of the same type and rating.

Air Filter

1. Remove the seat; then remove five screws securing the air filter housing cover.



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2. Remove the air filter housing cover; then pull the filter out of the housing.

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

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

4. Compress the element by pressing it between the palms of both hands to remove excess solvent. Do not twist or wring the element or it will develop cracks.

5. Dry the element.

6. Put the element in a plastic bag; then pour in air filter oil and work the oil into the element.

7. Compress the element to remove excess oil.

CAUTION

A torn air filter can cause damage to the ATV 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.

8. Clean any dirt or debris from inside the air cleaner. Make sure no dirt enters the carburetor.

9. Install the air filter. Install air filter housing cover and secure with the five screws.

Valve/Tappet Clearance

To check and adjust valve/tappet clearance, use the following procedure.

■ **NOTE:** Valve/tappet clearance specifications are for room temperature (approximately 68° F).