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## FOREWORD

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This manual contains service, maintenance, and troubleshooting information for the 2006 Arctic Cat Y-6/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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# SECTION 1 - GENERAL INFORMATION

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## Specifications\* (Y-6)

CARBURETOR	
Type	Keihin PTE
Main Jet	95
Slow Jet	40
Pilot Screw Setting (turns)	1 3/8
Jet Needle	NGRA-3
Needle Jet	N413-43A00
Throttle Valve Cutaway	3.0
Idle RPM	1700
Needle Valve/Seat	1.6
Float Arm Height	10.2 mm (0.4 in.)
Throttle Cable Free-Play (at lever)	6.0 mm (1/4 in.)
ELECTRICAL	
Ignition Type	CDI
Spark Plug Type	CR7HSA
Spark Plug Gap	0.6 - 0.7 mm (0.024 - 0.028 in.)
CHASSIS	
Length (Overall)	144.3 cm (56.8 in.)
Height (Overall)	89.5 cm (35.25 in.)
Width (Overall)	87.6 cm (34.5 in.)
Suspension Travel (Front)	70 mm (2.75 in.)
Suspension Travel (Rear)	102 mm (4.0 in.)
Wheelbase	97.5 cm (38.38 in.)
Tire Size	AT16 x 8-7
Tire Inflation Pressure	0.21 kg-cm <sup>2</sup> (3.0 psi)
MISCELLANY	
Dry Weight (Approx)	106 kg (234 lb)
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 oz)
Engine Oil Capacity	0.8 L (0.84 U.S. qt)
Gasoline (Recommended)	87 Octane Regular Unleaded
Engine Oil (Recommended)	10W-40
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.

## Specifications\* (Y-12)

CARBURETOR	
Type	Keihin PB
Main Jet	80
Slow Jet	40
Pilot Screw Setting (turns)	1 3/8
Jet Needle	NGRA-3
Needle Jet	N413-43A00
Throttle Valve Cutaway	3.0
Idle RPM	1700
Needle Valve/Seat	1.6
Float Arm Height	10.2 mm (0.4 in.)
Throttle Cable Free-Play (at lever)	6.0 mm (1/4 in.)
ELECTRICAL	
Ignition Type	CDI
Spark Plug Type	CR7HSA
Spark Plug Gap	0.6 - 0.7 mm (0.024 - 0.028 in.)
CHASSIS	
Length (Overall)	146.8 cm (57.8 in.)
Height (Overall)	94.2 cm (37.1 in.)
Width (Overall)	87.6 cm (34.5 in.)
Suspension Travel (Front)	70 mm (2.75 in.)
Suspension Travel (Rear)	102 mm (4.0 in.)
Wheelbase	97.5 cm (38.38 in.)
Tire Size (Front)	AT20 x 7-8
Tire Size (Rear)	AT19 x 8-8
Tire Inflation Pressure	0.21 kg-cm <sup>2</sup> (3.0 psi)
MISCELLANY	
Dry Weight (Approx)	106 kg (234 lb)
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 oz)
Engine Oil Capacity	0.8 L (0.84 U.S. qt)
Gasoline (Recommended)	87 Octane Regular Unleaded
Engine Oil (Recommended)	10W-40
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

To ensure maximum durability and optimal performance and to avoid engine damage, do not operate the ATV at more than half-throttle for the first 3 hours. During break-in period, operate the ATV at various RPM and do not drive the ATV above half-throttle for extended periods.

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

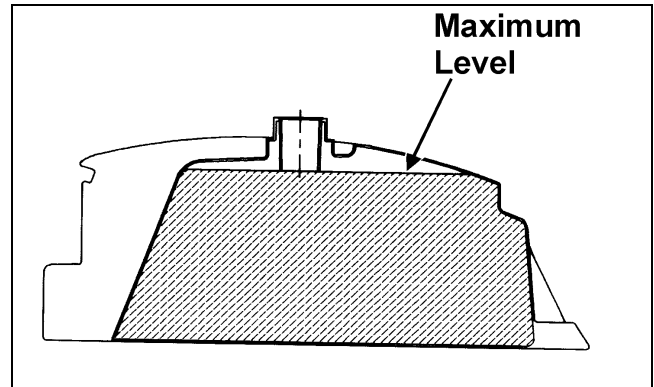
The recommended oil to use is Arctic Cat 4-Cycle Oil.

### RECOMMENDED TRANSMISSION LUBRICANT

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

#### 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 (p/n 0638-165) 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 (p/n 0636-177), 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.
8. Clean the ATV thoroughly.
9. Disconnect the battery cables (negative cable first); then remove the battery, clean the battery posts and cables, and store in a clean, dry area.

### ⚠ 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.

### ⚠ 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.
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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A = Adjust

I= Inspect

## Periodic Maintenance Chart

C = Clean

L = Lubricate

CH= Charge

R = Replace

D = Drain

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

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	I	C*	I			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/A
Engine Oil	R			R			
Valve/Tappet Clearance	A					A	
Transmission Lubricant/Level	R	I					I
Fuel Filter/Tube	I	I		I			R
Tires/Air Pressure/Wear	I	I		I			I/R
Steering Components	I	I		I			R
Drive Chain	I			C*/L*			R
Suspension (Tie Rods, Protective Boots)	I	I					R
Nuts/Bolts/Cap Screws	I		I	I	I		A
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*	I*		L, R
Brake Fluid	I		I				R (2 Years)
Shock Absorbers			I	I*			R

## 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

This maintenance-free battery requires periodic charging to prevent sulfiding. If the ATV will be idle for extended periods of time, either run the engine or trickle charge every 30 days. If planning to store the ATV, see Preparation for Storage in this manual. If the battery completely discharges, permanent damage will occur requiring replacement.

### CAUTION

The battery can be permanently damaged if the cap-strips over the cells are removed.

### WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

The battery is located beneath the seat.

If the battery is discharged, remove the battery from the ATV and charge the battery at the standard charging rate of 1.5 amps for 10 hours.

### 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 batteries. When servicing battery in enclosed space, keep the area well-ventilated.

To remove and charge the battery, use the following procedure:

1. Remove the seat; then remove the battery hold-down strap.
2. Disconnect the negative battery cable.
3. Disconnect the positive battery cable.
4. Remove the battery from the ATV.

### CAUTION

Do not charge the battery while it is in the ATV with the battery terminals connected.

5. Trickle charge the battery at 1.5 amps for 10 hours.

### CAUTION

Never exceed the standard charging rate.

### CAUTION

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

6. Place the battery into position in the ATV.
7. Clean the battery posts and cable ends by using a battery post cleaning tool and/or a wire brush to remove dirt, grease, and corrosion.
8. Connect cables to the proper terminals: positive cable to the positive terminal (+) and negative cable to the negative terminal (-). Connect the negative cable last.
9. Install the battery hold-down strap; then install the seat.

### CAUTION

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

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## 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

The air filter inside the air filter housing must be kept clean to provide good engine power and gas mileage. If the ATV is used under normal conditions, service the filter at the intervals specified. If operated in dusty, wet, or muddy conditions, inspect and service the filter more frequently. Use the following procedure to remove the filter and inspect and/or clean it.

### CAUTION

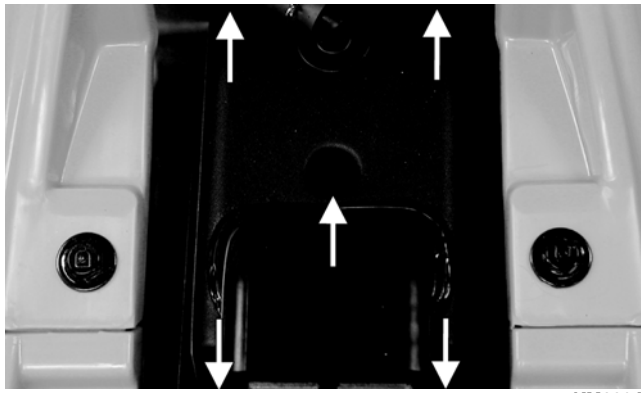
Failure to inspect the air filter frequently if the ATV is used in dusty, wet, or muddy conditions can damage the ATV engine.

## 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).

1. Remove the two cap screws and the two self-tapping screws securing the fan shroud; then remove the fan shroud.



KM032A

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 (p/n 0436-194) and Foam Filter Oil (p/n 0436-195) 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.



CD651

2. Remove the breather tube from the valve cover; then remove the four cap screws and remove the valve cover. Account for the O-ring seal and the valve cover.



CD654



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