




FOREWORD

This Arctic Cat Service Manual contains service, maintenance, and troubleshooting information for the 2006 Arctic Cat ATV 250 models. 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. 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

1

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General Specifications*

(DVX Model)

| CARBURETOR | |
|--|---|
| Type | Keihin PTG-22 |
| Main Jet | 95 |
| Slow Jet | 35 |
| Pilot Screw Setting (turns) | 1 1/2 |
| Jet Needle | NBSD-3 |
| Needle Jet | 3.6/2.5 |
| Idle RPM | 1250-1350 |
| Float Arm Height | 14.8 mm (0.58 in.) |
| Throttle Cable Free-Play (at lever) | 1-4 mm (1/16-3/16 in.) |
| ELECTRICAL | |
| Ignition Timing | 5° BTDC ("F" mark) @ 1000 RPM |
| Spark Plug Type | NGK DPR7EA-9 |
| Spark Plug Gap | 0.6-0.7 mm (0.024-0.028 in.) |
| Spark Plug Cap | 4500-6150 ohms |
| Ignition Coil Resistance (primary) | 2.4-3.0 ohms (terminal to terminal) 12,300-16,600 ohms (high tension - plug cap removed - to ground) |
| (secondary) | |
| Ignition Coil Peak Voltage (primary/CDI) | 14.0 DC volts (black/white to green/gray) |
| Magneto Coil Resistance (trigger) | 105-110 ohms (black/yellow to green/white) Less than 1 ohm (yellow to yellow) |
| (charging) | |
| Stator Coil Peak Voltage (trigger) | 1.1-1.4 DC volts (blue/yellow to green/white) |
| Magneto Output (approx) | 220W @ 5000 RPM |
| Stator Coil Output (no load) | 40-60 AC volts @ 3000 RPM (yellow to yellow) |

| CHASSIS | |
|---------------------------------|--|
| Dry Weight (approx) | 186 kg (410 lb) |
| Length (overall) | 168.3 cm (66.25 in.) |
| Height (overall) | 114.9 cm (45.25 in.) |
| Width (overall) | 106.0 cm (41.75 in.) |
| Suspension Travel (Front) | 15.5 cm (6.1 in.) |
| (Rear) | 16.5 cm (6.5 in.) |
| Brake Type | Hydraulic w/Brake Lever Lock and Auxiliary Brake |
| Wheelbase | 117.9 cm (46.4 in.) |
| Tire Size (Front) | AT21 x 7-10 |
| (Rear) | AT20 x 11-9 |
| Tire Inflation Pressure (Front) | 0.28 kg/cm ² (4 psi) |
| (Rear) | 0.25 kg/cm ² (3.5 psi) |
| Turning Radius | 2.95 m (9.7 ft) |
| MISCELLANY | |
| Gas Tank Capacity (rated) | 13 L (3.43 U.S. gal.) |
| Reserve Capacity | 4.54 L (1.2 U.S. gal.) |
| Engine Oil Capacity | 1.6 L (1.7 U.S. qt) |
| Gasoline (recommended) | 87 Octane Regular Unleaded |
| Engine Oil (recommended) | SAE 5W-30 |
| Cooling System Capacity | 1.6 L (1.7 U.S. qt) |
| Brake Fluid | DOT 4 |
| Taillight/Brakelight | 12V/5W/21W |
| Headlight | 12V/35W (2) |
| Starting System | Electric |

* Specifications subject to change without notice.

General Specifications* (Utility Model)

| CARBURETOR | |
|--|--|
| Type | Keihin PTG-22 |
| Main Jet | 95 |
| Slow Jet | 35 |
| Pilot Screw Setting (turns) | 1 1/2 |
| Jet Needle | NBSD-3 |
| Needle Jet | 3.6/2.5 |
| Idle RPM | 1250-1350 |
| Float Arm Height | 14.8 mm (0.58 in.) |
| Throttle Cable Free-Play (at lever) | 1-4 mm (1/16-3/16 in.) |
| ELECTRICAL | |
| Ignition Timing | 5° BTDC ("F" mark) @ 1000 RPM |
| Spark Plug Type | NGK DPR7EA-9 |
| Spark Plug Gap | 0.6-0.7 mm (0.024-0.028 in.) |
| Spark Plug Cap | 4500-6150 ohms |
| Ignition Coil Resistance (primary) | 2.4-3.0 ohms (terminal to terminal) |
| (secondary) | 12,300-16,600 ohms (high tension - plug cap removed - to ground) |
| Ignition Coil Peak Voltage (primary/CDI) | 14.0 DC volts (black/white to green/gray) |
| Magneto Coil Resistance (trigger) | 105-110 ohms (black/yellow to green/white) |
| (charging) | Less than 1 ohm (yellow to yellow) |
| Stator Coil Peak Voltage (trigger) | 1.1-1.4 DC volts (blue/yellow to green/white) |
| Magneto Output (approx) | 220W @ 5000 RPM |
| Stator Coil Output (no load) | 40-60 AC volts @3000 RPM (yellow to yellow) |

| CHASSIS | |
|---------------------------------|--|
| Dry Weight (approx) | 216 kg (477 lb) |
| Length (overall) | 187 cm (73.6 in.) |
| Height (overall) | 111.8 cm (44.0 in.) |
| Width (overall) | 105.1 cm (41.40 in.) |
| Suspension Travel | 12.7 cm (5.0 in.) |
| Brake Type | Hydraulic w/Brake Lever Lock and Auxiliary Brake |
| Wheelbase | 117.9 cm (46.4 in.) |
| Tire Size (Front) | AT22 x 7-10 |
| (Rear) | AT22 x 10-10 |
| Tire Inflation Pressure (Front) | 0.28 kg/cm ² (4 psi) |
| (Rear) | 0.25 kg/cm ² (3.5 psi) |
| Turning Radius | 2.95 m (9.7 ft) |
| MISCELLANY | |
| Gas Tank Capacity (rated) | 13 L (3.43 U.S. gal.) |
| Reserve Capacity | 4.54 L (1.2 U.S. gal.) |
| Engine Oil Capacity | 1.6 L (1.7 U.S. qt) |
| Gasoline (recommended) | 87 Octane Regular Unleaded |
| Engine Oil (recommended) | SAE 5W-30 |
| Cooling System Capacity | 1.6 L (1.7 U.S. qt) |
| Rear Drive Capacity | 150 ml (5 fl oz) |
| Rear Drive Lubricant | SAE Approved 80W-90 Hypoid |
| Brake Fluid | DOT 4 |
| Taillight/Brakelight | 12V/5W/21W |
| Headlight | 12V/35W (2) |
| Starting System | Electric w/Manual Recoil (Emergency) |

* Specifications subject to change without notice.

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Break-In Procedure

A new ATV and an overhauled ATV engine require a “break-in” period. The first 10 hours (or 200 miles) are 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 10 hours (or 200 miles) 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. Do not pull a trailer or carry heavy loads during the 10-hour break-in period.

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.

During the break-in period, a maximum of 1/2 throttle is recommended; however, brief full-throttle accelerations and variations in driving speeds contribute to good engine break-in.

During the break-in period (or whenever the brake pads are replaced), the hydraulic brake pads must be burnished. Slow disc-speed hydraulic brakes must be properly burnished in order to achieve maximum stopping power.

CAUTION

BRAKE PADS MUST BE BURNISHED TO ACHIEVE FULL BRAKING EFFECTIVENESS. Braking distance will be extended until brake pads are properly burnished.

TO PROPERLY BURNISH THE BRAKES, USE FOLLOWING PROCEDURE:

- Choose an area sufficiently large to safely accelerate ATV to 30 mph and to brake to a stop.
- Accelerate to 30 mph; then compress brake lever to decelerate to 0-5 mph.
- Repeat procedure five times until brakes are burnished.
- This procedure burnishes the brake pads, stabilizes the pad material, and extends the life of the brake pads.

WARNING

Do not attempt sudden stops or put the ATV into a situation where a sudden stop will be required until the brake pads are properly burnished.

■ **NOTE: Do not be reluctant to heat up the brake pads during the burnishing procedure.**

After the completion of the break-in period, the engine oil and oil filter 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 5% MTBE are acceptable gasolines.

When using ethanol blended gasoline, it is not necessary to add a gasoline antifreeze since ethanol will prevent the accumulation of moisture in the fuel system.

CAUTION

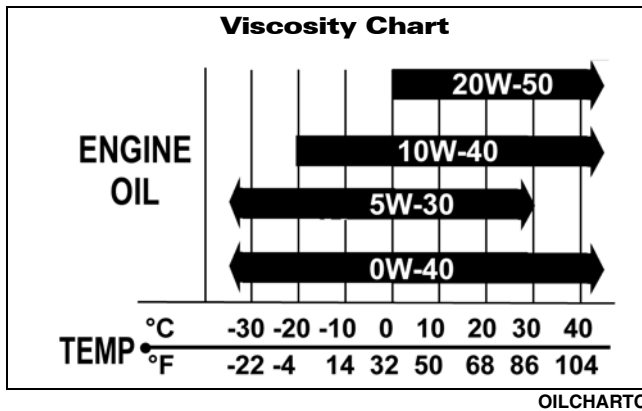
Do not use white gas. Only Arctic Cat approved gasoline additives should be used.

RECOMMENDED ENGINE OIL

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.

The recommended oil to use is Arctic Cat 4-Cycle Engine Oil (p/n 0436-005) or an equivalent oil which is rated SE, SF, or SG under API service classification. These oils meet all of the lubrication requirements of the Arctic Cat ATV engine. The recommended engine oil viscosity is SAE 5W-30. Ambient temperature should determine the correct weight of oil. See the following viscosity chart for details.



RECOMMENDED REAR DRIVE LUBRICANT (Utility)

The recommended lubricant is Arctic Cat Gear Lube (p/n 0436-007) or an equivalent gear lube which is SAE approved 80W-90 hypoid. This lubricant meets all of the lubrication requirements of the Arctic Cat ATV rear drives.

CAUTION
Any lubricant used in place of the recommended lubricant could cause serious rear drive damage.

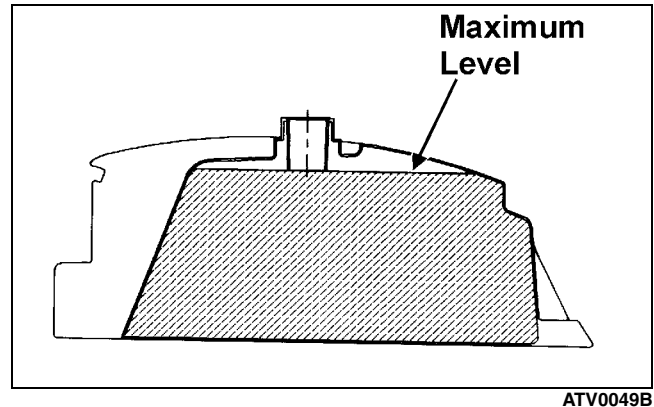
RECOMMENDED TRANSMISSION LUBRICANT

The recommended lubricant is Arctic Cat Gear Lube (p/n 0436-007) or an equivalent gear lube which is SAE approved 80W-90 hypoid. This lubricant meets all the lubrication requirements of the Arctic Cat ATV front differentials and rear drives.

CAUTION
Any lubricant used in place of the recommended lubricant could cause serious front differential/rear drive damage.

FILLING GAS TANK

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



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 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.

WARNING
Do not over-fill the gas 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 it 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 Storage Preserver (p/n 0636-177), rapidly inject the preserver into the air filter opening for a period of 10 to 20 seconds; then stop the engine. 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 exhaust 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. Fill the cooling system to the FULL line in the cooling system reservoir with properly mixed coolant.

9. Disconnect the battery cables; 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 may occur if the battery completely discharges.

10. 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. Remove the cloth from the exhaust system.
3. Check all control wires and cables for signs of wear or fraying. Replace if necessary.
4. Change the engine oil and filter.
5. Check the coolant level and add properly mixed coolant as necessary.
6. Charge the battery; then install. Connect the battery cables.

CAUTION

The ignition switch must be in the OFF position prior to installing the battery or damage may occur to the ignition system.

CAUTION

Connect the positive battery cable first; then the negative.

7. Check the entire brake systems (fluid level, pads, etc.), all controls, headlights, taillight, brakelight, and headlight aim; adjust or replace as necessary.

8. Tighten all nuts, bolts, cap screws, and screws making sure all calibrated nuts, cap screws, and bolts are tightened to specifications.
9. Check tire pressure. Inflate to recommended pressure as necessary.
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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