




FOREWORD

This manual contains service, maintenance, and troubleshooting information for the 2008 Arctic Cat DVX 400 ATV model. 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.

TABLE OF CONTENTS

Foreword

Click on the red text to go.

Section

MORE TO GO ON.™

1. General Information	DVX 400	1
2. Periodic Maintenance/Tune-Up		2
3. Engine/Transmission		3
4. Fuel/Lubrication/Cooling		4
5. Electrical System		5
6. Drive System		6
7. Suspension		7
8. Steering/Frame		8
9. Controls/Indicators		9
10. Aids for Maintenance		10
11. Troubleshooting		11

SECTION 1 - GENERAL INFORMATION

TABLE OF CONTENTS

General Specifications	1-2
Break-In Procedure	1-2
Gasoline - Oil - Lubricant	1-2
Genuine Parts	1-3
Preparation For Storage.....	1-3
Preparation After Storage.....	1-4

General Specifications*

CHASSIS	
Dry Weight (approx)	169 kg (373 lb)
Length (overall)	183 cm (72 in.)
Height (overall)	116 cm (45.7 in.)
Width (overall)	116.5 cm (45.8 in.)
Suspension Travel	Front - 21.6 cm (8.5 in.) Rear - 23.1 cm (9.1 in.)
Ground Clearance	26.5 cm (10.4 in.)
Brake Type	Hydraulic Disc and Mechanical Parking Brake
Wheelbase	124.5 cm (49 in.)
Tire Size	Front - AT22 x 7R10 Rear - AT20 x 10R9
Tire Inflation Pressure	Front - 0.30 kg/cm ² (4.4 psi) Rear - 0.275 kg/cm ² (4.0 psi)
Turning Radius	3.1 m (10.2 ft)
MISCELLANY	
Gas Tank Capacity (rated)	10.0 L (2.6 U.S. gal.)
Reserve Capacity	0.7 L (0.18 U.S. gal.)
Engine Oil Capacity	2.1 L (2.2 U.S. qt)
Gasoline (recommended)	87 Octane Regular Unleaded
Engine Oil (recommended)	SAE 10W-40
Cooling System Capacity	1.2 L (1.3 U.S. qt)
Brake Fluid	DOT 4
Taillight/Brakelight	12V/5W/21W
Headlight	12V/27W (2)/12V/50W (1)
Starting System	Electric

* Specifications subject to change without notice.

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 apply front and rear brakes to decelerate to 0-5 mph.
- Repeat procedure five times.
- 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.

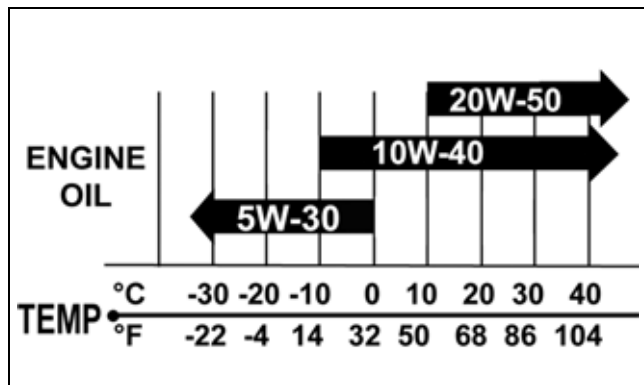
When using ethanol blended gasoline, it is not necessary to add a gasoline antifreeze since ethanol will prevent the accumulation of moisture in the fuel system.

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

RECOMMENDED ENGINE/ TRANSMISSION 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.

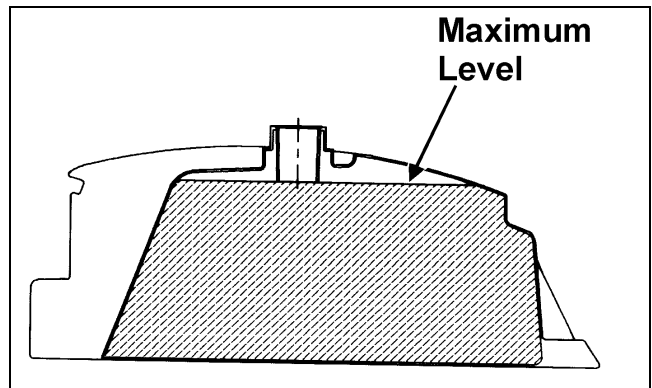
The recommended oil to use is Arctic Cat 4-Cycle Engine Oil or an equivalent oil which is rated SE, SF, or SG under API service classification. These oils meet all of the lubrication requirements of the Arctic Cat ATV engine. The recommended engine oil viscosity is SAE 10W-40. Ambient temperature should determine the correct weight of oil. See the following viscosity chart for details.



OILCHARTA

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.



ATV0049B

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.

1

⚠ 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 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 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, 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, plungers of the shock absorbers, and drive chain.
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 upper level line on the overflow tank 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 will result 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/transmission 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

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

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.
12. Follow the recommendations found in the pre-start inspection.
13. Inspect the drive chain and sprockets. Adjust or replace as necessary.

SECTION 2 - PERIODIC MAINTENANCE/TUNE-UP

2

TABLE OF CONTENTS

Periodic Maintenance Chart.....	2-2
Lubrication Points.....	2-3
Battery.....	2-3
Fuses.....	2-4
Air Cleaner.....	2-4
Valve/Tappet Clearance.....	2-6
Tappet Shim Selection Table (Exhaust).....	2-9
Tappet Shim Selection Table (Intake).....	2-10
Testing Engine Compression.....	2-11
Spark Plug.....	2-11
Muffler/Spark Arrester.....	2-11
Gas/Vent Hoses.....	2-12
Adjusting Throttle Cable.....	2-12
Adjusting Engine RPM (Idle).....	2-12
Engine/Transmission Oil - Filter.....	2-13
Adjusting Clutch Lever Cable.....	2-14
Tires.....	2-14
Steering Components.....	2-14
Suspension/Shock Absorbers/Bushings.....	2-15
Nuts/Bolts/Cap Screws.....	2-15
Headlight/Taillight-Brakelight.....	2-15
Switches.....	2-16
Indicator Lights.....	2-16
Frame/Welds.....	2-17
Electrical Connections.....	2-17
Hydraulic/Parking Brake Systems.....	2-17
Burnishing Brake Pads.....	2-21
Coolant.....	2-21
Drive Chain.....	2-22

Periodic Maintenance Chart

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

Item	Initial Service After Break-In (First Mo)	Every Day	Every Month	Every 3 Months	Every 6 Months	Every Year	As Needed
Battery			CH				C
Fuse				I			R
Air Filter/Drain Tube	I	I	C*				R
Valve/Tappet Clearance	I				I		A
Engine Compression						I	
Spark Plug	I				I		R (18 Mo)
Muffler/Spark Arrester					C		R
Gas/Vent Hoses	I	I					R (2 Yrs)
Gas Tank Valve						I	C
Throttle Cable	I	I			C-L		A-R
Carb Float Chamber				D*			
Engine RPM (Idle)	I				I		A
Engine-Transmission Oil Level		I					A
Engine-Transmission Oil/Filter	R			R*			R
Oil Strainer	I				I		C
Drive Chain	I	I	A				R
Clutch	I				I		A
Tires/Air Pressure	I	I					R
Steering Components	I	I					R
Coolant Hoses	I				I		R (4 Yrs)
Suspension (Ball joint and tie rod boots, tie rods, and shock mounts)	I			I*			R
Nuts/Cap Screws/Screws	I	I					A
Oil Lines	I	I					
Headlight/Taillight-Brakelight	I	I					R
Switches	I	I					R
Reverse Selector Cable	I				I		A-L
Choke Cable	I			I	C-L		R
Handlebar Grips		I					R
Handlebars	I	I					R
Indicator Lights	I	I					R
Frame/Welds	I		I		I		
Electrical Connections					I		C
Complete Brake Systems (Hydraulic and Parking)	I	I		C			L-R
Brake Pads	I			I*			R
Brake Fluid	I			I			R (2 Yrs)
Brake Hoses	I			I			R (4 Yrs)
Brake Cable (Parking)		I-A					
Coolant/Cooling System	I		I				R (2 Yrs)

* 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
- C. Parking Brake Cable Ends
- D. Choke Cable Upper End
- E. Reverse Selector Cable End
- F. Idle RPM Screw (Carburetor)
- G. Rear Brake Pedal Pivot

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.
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.

- 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.

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

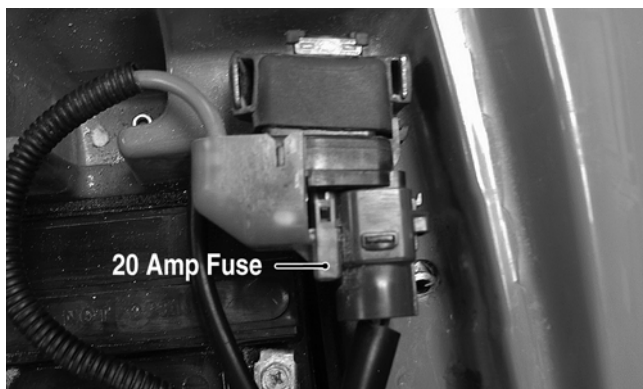
CAUTION

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

Fuses

There is one 20 amp fuse and one spare 20 amp fuse located adjacent to the battery on the starter relay.

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



SP032A

CAUTION

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

Air Cleaner

CLEANING AND INSPECTING FILTER

CAUTION

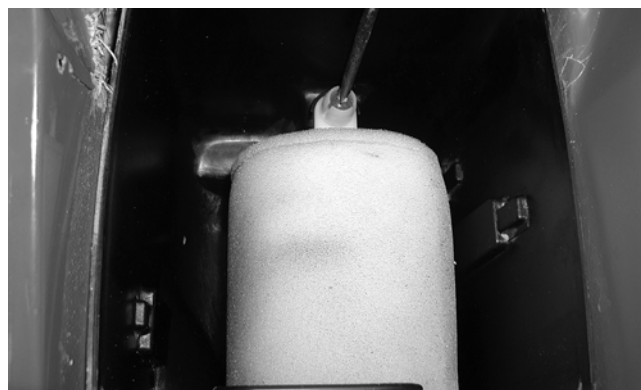
Failure to inspect the air filter frequently if the ATV is used in dusty, wet, or muddy conditions can damage the ATV engine.

- Remove the seat.
- Unseat the two retaining clips securing the air cleaner housing cover; then remove the cover.



SP014A

- Remove the screw securing the air filter stopper and set aside; then remove the filter assembly.



SP012

- Remove the foam wrap from the filter frame.