GENERAL

arctic cat 120 service

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Introduction

Snowmobiling enthusiasts know that a well maintained machine is the difference between an exhilarating ride and a costly breakdown. The Arctic Cat 120, a classic model beloved for its reliability and robust performance, demands regular attention to keep it running at peak efficiency. Whether you're a seasoned rider or a newcomer to the world of snowmobiles, understanding the essential steps of an Arctic Cat 120 service will help you preserve the machine's longevity, improve safety, and maintain optimal performance on the powder.

In this guide, we'll walk you through the complete service routine for the Arctic Cat 120. From routine oil changes and filter replacements to more in depth inspections of the engine, drivetrain, and electrical components, you'll learn how to keep your snowmobile in top shape. We'll also cover troubleshooting tips, recommended tools, and professional service options, ensuring you have all the knowledge you need to enjoy countless seasons on the snow.

What Is the Arctic /Cat /120?

The Arctic Cat 120, often referred to simply as the "120," is a lightweight, two wheel snowmobile that first hit the market in the 1980s. Built on a 120 cc air cooled, two stroke engine, the 120 is known for its simplicity, durability, and ease of repair. Its compact frame and minimalistic design make it a popular choice for beginners, youth riders, and those who value a lightweight, responsive machine.

Key features include:

- 120 cc, air cooled, two stroke engine
- Standard oil injection system (oil added to the fuel tank)
- Manual transmission with a single gear
- Chain drive for the rear wheel
- Front and rear suspension with adjustable shock settings
- Standard 24 inch front wheel and 23 inch rear wheel

Because of its straightforward mechanical layout, the Arctic /Cat /120 is an excellent platform for learning fundamental snowmobile maintenance skills. However, even the most basic machine requires a consistent service schedule to perform reliably on the trail.

Why Service Your Arctic /Cat /120?

Regular service is vital for several reasons:

1. Safety – A well maintained machine reduces the risk of mechanical failures that can lead to accidents.
2. Performance – Clean air filters, fresh oil, and properly lubricated chains ensure smooth power delivery and responsive handling.
3. Longevity – Routine maintenance prevents premature wear on critical components, extending the life of the engine, transmission, and drivetrain.
4. Fuel Efficiency – A clean engine runs more efficiently, saving you money on fuel over time.

5. Resale Value – A documented maintenance history can significantly increase the resale value of your snowmobile.

Failing to adhere to a regular service schedule can result in costly repairs, such as cracked cylinder heads, worn piston rings, or chain breakage. By investing time in routine maintenance, you protect your investment and ensure a safer, more enjoyable riding experience.

Essential Components of an Arctic /Cat /120 Service

1. Engine Oil and Oil Filter

Although the 120 uses a two stroke engine that requires oil to be mixed with gasoline, it's still essential to keep the oil system clean and to replace the oil filter at recommended intervals. A dirty or clogged oil filter can cause increased engine wear and reduced performance.

- Oil Type – Use a high quality, 2 stroke oil specifically formulated for snowmobiles (e.g., 20W 40 or 30W 40).
- Change Interval – Replace the oil filter and clean the oil drain plug every 50–75 /hours of use or at least once a season.
- Procedure – Drain the old oil, replace the filter, and refill with fresh oil. Verify that the oil level is within the recommended range before riding.

2. Air Filter

A clean air filter is critical for optimal engine performance. Dust, grit, and debris can clog the filter, reducing airflow and causing the engine to run rich or misfire.

- Inspection – Check the filter for visible dirt or damage. If it's dirty, clean or replace it.
- Replacement Frequency – Replace the air filter every 50–100 /hours of use or after each season, depending on riding conditions.
- Cleaning Method – Use a mild detergent solution or a specialized air filter cleaner. Avoid using harsh solvents that can damage the filter material.

3. Fuel System

Ensuring the fuel system is clean and functioning properly is vital, especially for a two stroke engine that relies on a precise fuel–oil ratio.

- Fuel Filter – Replace the fuel filter every 50–75 /hours of use. A clogged filter can restrict fuel flow and lead to engine stalling.
- Fuel Line – Inspect the fuel line for cracks, leaks, or signs of wear. Replace if necessary.
- Fuel Tank – Clean the tank's interior to remove any sediment or rust that might contaminate the fuel.
- Oil Injection System – Verify that the oil injection pump is functioning correctly. Adjust the oil to fuel ratio as needed, typically around 1:30 for the 120.

4. Spark Plug

The spark plug is the heart of the ignition system. A fouled or worn spark plug can cause misfires, poor acceleration, and decreased fuel economy.

- Inspection – Check the spark plug for carbon buildup, corrosion, or wear. Remove and inspect the electrode gap with a gap gauge.
- Replacement Interval – Replace the spark plug every 100–150 /hours of use or at least once a season.
- Gap Setting – Adjust the spark plug gap to the manufacturer's specification (typically 0.7 /mm for the 120).

5. Chain Drive

The 120's chain drive is a critical component that transfers power from the engine to the rear wheel. Proper maintenance ensures smooth acceleration and reduces wear on the chain and sprockets.

- Lubrication – Apply a chain lubricant at least once a season or every 25–30 /hours of use.
- Tension – Check the chain tension; it should be snug but not overly tight. Adjust using the chain tensioner or by adding or removing links as necessary.
- Inspection – Inspect the chain for wear, rust, or broken links. Replace the chain if any of these issues are present.
- Sprockets – Examine the front and rear sprockets for wear or damage. Replace if the teeth are worn or chipped.

6. Tires and Wheels

Proper tire maintenance improves traction, handling, and overall safety on the snow.

- Inflation – Maintain the recommended tire pressure (usually between 2.5–3.5 /psi) depending on rider weight and snow conditions.
- Tread Inspection – Check the tread for uneven wear or damage. Replace tires if they are worn beyond the manufacturer's minimum tread depth.
- Wheel Alignment – Ensure the front and rear wheels are properly aligned to avoid steering issues.

7. Suspension

The Arctic /Cat /120's front and rear suspension components absorb shocks and maintain stability.

- Shocks – Inspect the shock absorbers for oil leaks, cracks, or excessive wear. Replace if any issues are found.
- Springs – Check the springs for deformation or damage. Replace as needed.
- Adjustment – Adjust the suspension preload to suit rider weight and riding style.

8. Brakes

Although the 120 typically uses a rear brake only, ensuring its functionality is essential for safe stopping.

- Brake Pad Condition – Inspect the brake pads for wear. Replace when the pad thickness falls below 1.5 /mm.
- Brake Fluid – If your model uses hydraulic brakes, check the fluid level and top it up with fresh brake fluid. Replace the fluid every 12–18 /months.
- Brake Lever – Ensure the brake lever moves smoothly and returns to its neutral position without sticking.

9. Electrical System

A reliable electrical system ensures proper starting, lighting, and instrumentation.

- Battery – Test the battery's voltage (should be 12.6 /V or higher when fully charged). Recharge or replace if the voltage drops below 12.0 /V.
- Wiring – Inspect all wiring for corrosion, fraying, or loose connections. Tighten or replace as necessary.
- Headlights and Turn Signals – Test all lights for proper operation. Replace any burned out bulbs.
- Instrument Cluster – Verify that the speedometer, tachometer, and fuel gauge display accurate readings.

10. Cooling System

Even though the 120's engine is air cooled, ensuring proper airflow is crucial to prevent overheating.

- Cooling Fan – Inspect the fan for proper operation. Replace if the fan fails to spin or makes unusual noises.
- Air Ducts – Clean any debris from the air intake and exhaust ducts.
- Heat Shield – Inspect the heat shield for cracks or damage that could affect airflow.

Step by Step Service Routine

Preparation

1. Locate a clean, level work area with adequate lighting.
2. Gather necessary tools: socket set, torque wrench, spark plug gap gauge, oil filter wrench, chain lubricant, air filter cleaner, and a clean rag.
3. Place the snowmobile on a stable jack stand or a workbench to keep it upright.
4. Disconnect the battery to prevent accidental starts.

Oil and Filter Change

1. Remove the oil drain plug and drain the old oil into a suitable container.
2. Replace the oil filter with a new one, following the manufacturer's torque specifications.
3. Reinstall the drain plug and fill the engine with fresh oil.
4. Check the oil level with the dipstick and adjust if necessary.

Air Filter Replacement

1. Remove the air filter housing cover.
2. Take out the old filter and clean the housing with a mild detergent.
3. Insert the new filter, ensuring it fits snugly.
4. Replace the housing cover.

Fuel System Check

1. Replace the fuel filter.
2. Inspect fuel lines for leaks or cracks.
3. Clean the fuel tank interior with a mild solvent if necessary.
4. Verify the oil injection ratio and adjust if required.

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