AUTOMOTIVE

Stihl 038 Magnum Specs

PUBLISHED
November 25, 2026

REFERENCE
#1795581015023265

An Enduring Classic: Rediscovering the Stihl 038 Magnum

When discussing the golden age of professional chainsaws, few models command as much respect and nostalgia as the Stihl 038 Magnum. Produced during a period when German engineering was synonymous with overbuilt reliability, this saw carved out a legendary reputation among loggers, arborists, and firewood cutters. For anyone restoring vintage equipment or simply curious about what made this machine so special, understanding the complete Stihl 038 Magnum specs is essential. This article explores every aspect of this iconic powerhead, from its displacement and power output to its practical applications in the modern world.

A Brief Look at the Stihl 038 Lineage

Stihl introduced the 038 series in the early 1980s as a mid-range professional offering. It filled the gap between the smaller 028 models and the larger 048 and 056 series. The standard 038 was a capable saw, but Stihl, recognizing the demand for more muscle without jumping to a significantly heavier chassis, released the Magnum variant. The Magnum was not merely a cosmetic upgrade. It featured a larger displacement, a different cylinder, and a tuned exhaust that delivered substantially more cutting power. While production eventually ceased in the late 1990s, the 038 Magnum remains a sought-after saw on the used market, prized for its simplicity and torque.

Core Stihl 038 Magnum Specs

Before diving into nuanced details, it is useful to establish a baseline of the most critical specifications. These figures define the saw's character and capabilities.

- Engine Displacement: 72.2 cc (standard 038 is 61.5 cc or 66.7 cc in later versions)
- Power Output: Approximately 5.2 horsepower (3.9 kW)
- Cylinder Bore: 48 mm
- Piston Stroke: 40 mm
- Weight: 6.8 kg (15.0 lbs) without bar and chain
- Fuel Capacity: 630 ml (21.6 oz)
- Oil Capacity: 340 ml (11.5 oz)
- Recommended Bar Length: 16 to 28 inches, with 20 and 24 inches being most common
- Ignition System: Breakerless electronic (SEM or Bosch)
- Carburetor: Walbro or Tillotson diaphragm type

These numbers tell a fascinating story. The 72.2 cc displacement in a package weighing only 15 pounds gave the 038 Magnum a power-to-weight ratio that was exceptional for its time. Even by contemporary standards, this remains a very usable figure, especially considering the saw's robust feel and cast magnesium construction.

Engine Architecture and Performance

Displacement and Power Curve

The most significant upgrade from the base 038 to the Magnum was the increase in displacement. The standard 038 initially featured a 61.5 cc engine, while the later 038 Special (or Super) was bumped to 66.7 cc. The Magnum, however, jumped all the way to 72.2 cc. This was achieved by increasing the cylinder bore while retaining the same stroke, effectively creating a short-stroke, large-bore engine. This design philosophy prioritized high RPM power and fast acceleration. The Stihl 038 Magnum specs reveal an engine that is eager to rev and holds its power well under load.

In practical terms, this translates to impressive cutting speed in medium to large diameter hardwoods. The saw does not lug down easily. When paired with a sharp chain and a 20-inch bar, it will pull through oak, hickory, or eucalyptus with authority. The powerband is fairly broad, but the saw truly shines in the upper mid-range to peak RPM. Users often describe the sound as a distinctive, crisp bark that is immediately recognizable to chainsaw enthusiasts.

Carburetion and Tuning

The 038 Magnum used a traditional diaphragm carburetor, typically a Walbro HDB series or a Tillotson HS series. These are simple, rebuildable units that respond well to tuning. The saw features high and low-speed adjustment screws, allowing the operator to fine-tune the fuel mixture for altitude and temperature. Proper tuning is critical. A lean mixture can cause the engine to overheat and seize, especially given the high compression ratio of the Magnum cylinder. When reviewing the Stihl 038 Magnum specs, one must appreciate that this saw was designed before stringent emissions regulations; therefore, it can be tuned for maximum power output, unlike many modern saws that are deliberately restricted from the factory.

Ignition System Reliability

Two primary ignition systems were used on the 038 Magnum: SEM (Sachs) and Bosch. Both are breakerless electronic modules that eliminated the need for points and condensers. These systems are generally very reliable, but they are known to fail with age, particularly the SEM modules. When diagnosing a no-spark condition on an 038 Magnum, the ignition module is often the culprit. Fortunately, aftermarket replacements are available, and many enthusiasts prefer the Bosch system for its slightly better reliability. The ignition timing on these units is fixed, meaning no adjustment is possible. The flywheel key ensures correct timing alignment, so it is crucial to ensure the flywheel is properly seated during reassembly.

Design and Build Quality

Chassis and Construction

One of the defining characteristics of the 038 Magnum is its build quality. Stihl used a magnesium alloy for the crankcase and the main housing. This was a deliberate choice to reduce weight while maintaining exceptional strength. Magnesium is lighter than aluminum and significantly stronger than plastic. The result is a saw that feels solid and durable in the hands, yet does not cause excessive fatigue during a day of cutting. The Stihl 038 Magnum specs cannot fully convey the tactile quality of the saw. The stiffness of the chassis reduces vibration and contributes to more precise cutting, especially when boring or performing limbing cuts.

The air filtration system was also well-engineered for its time. It utilizes a large flocked filter element that provides good surface area for dust capture. While not as advanced as the HD2 filters on modern Stihl saws, it is effective when properly maintained. The filter cover uses a simple snap or screw mechanism, making field cleaning quick. A clean air filter is essential for maintaining the power output defined by the Stihl 038 Magnum specs, as any restriction can quickly rob the 72.2 cc engine of its performance.

Anti-Vibration System

Vibration control on the 038 Magnum is achieved through rubber buffers that isolate the handles from the powerhead. While adequate for its era, it is noticeably harsher than modern saws with sophisticated spring-based AV systems. For occasional use or firewood cutting, this is rarely a problem. For full-time professional use, the vibration levels can lead to hand-arm vibration syndrome (HAVS) over many years. It is a reminder that while the Stihl 038 Magnum specs are impressive, the saw was designed in a period when operator comfort standards were less stringent.

Chain Tensioning and Bar Mounts

The 038 Magnum features a side-access chain tensioning system, which was a major convenience feature when it was introduced. This allows the user to adjust the chain tension without removing the bar nuts, simply by accessing the tensioning screw through a hole in the side cover. The bar mount is a standard Stihl large mount, shared with many other models. This means that bars and chains are still readily available. The oiler is a fixed-flow design, meaning the oil output cannot be adjusted. On most saws, the oiler delivers adequate lubrication for bars up to 24 inches, but for longer bars, it may struggle, especially in dry wood.

Comparing the 038 Magnum to Modern Chainsaws

It is inevitable to compare this classic to modern offerings. How does a saw with these Stihl 038 Magnum specs stack up against a current production model like the Stihl MS 462 or MS 500i?

The answer is nuanced. In terms of raw power, a modern saw like the MS 462 produces more horsepower (around 5.7 HP) from a slightly smaller displacement (72.2 cc vs 72.2 cc). The modern engine benefits from better porting, a more efficient muffler, and advanced ignition timing curves. The MS 500i, with its electronic fuel injection, offers even more power and instantaneous throttle response. However, the 038 Magnum holds its own in terms of durability and repairability. A modern saw is filled with complex plastic shrouds, integrated electronics, and hard-to-find proprietary parts. The 038 Magnum is simple. With basic hand tools and a service manual, most owners can completely disassemble and rebuild the saw.

Furthermore, the 038 Magnum has a certain "feel" that many modern saws lack. It is heavier, but that weight contributes to a feeling of stability and momentum when cutting. Modern saws prioritize lightweight construction to reduce fatigue, which sometimes makes them feel "twitchy" or less planted in the cut. For many enthusiasts, the Stihl 038 Magnum specs represent a sweet spot between power, weight, and mechanical simplicity.

Parts Availability and Restoration

One of the most important considerations for anyone looking to purchase a used 038 Magnum is parts availability. Stihl has discontinued many OEM parts for this model, but a robust aftermarket industry has emerged. NOS (New Old Stock) parts are still found on eBay and specialized vintage parts dealers. Common wear items such as pistons, cylinders, carburetor kits, fuel lines, and air filters are widely available. However, some specific parts, such as the ignition module, starter assembly, and certain crankcase halves, are becoming increasingly scarce.

Restoring an 038 Magnum can be a rewarding project. The saw responds well to a fresh cylinder and piston, a carburetor rebuild, and a new fuel line. Many owners also choose to upgrade the muffler for better flow and a more aggressive sound. When sourcing parts, it is crucial to confirm compatibility with the Magnum variant, as the standard 038 and 038 Magnum have different cylinder assemblies and some other internal differences. Paying attention to the specific Stihl 038 Magnum specs when ordering parts ensures a proper fit.

Maintenance Tips for Longevity

Owning an 038 Magnum requires a commitment to maintenance. The saw is not forgiving of neglect. Here are the most critical maintenance points for keeping this classic running strong.

• Fuel Quality: Always use fresh, non-ethanol fuel mixed at 50:1 with a high-quality synthetic two-stroke oil. Ethanol attracts moisture and degrades fuel lines.

• Air Filter: Clean the air filter after every use or sooner in dusty conditions. A dirty filter will cause the engine to run rich and lose power, deviating from the ideal Stihl 038 Magnum specs.

• Spark Plug: Use a Bosch WSR6F or NGK BPMR7A. Check the gap (0.5 mm) and replace annually.

• Chain Lubrication: Ensure the oil tank is filled with bar and chain oil. Check the oiler output by holding the saw near a light surface and revving it. A good oil stream should be visible.

• Muffler Screen: If the saw is equipped with a spark arrestor screen in the muffler, clean or replace it periodically. A clogged screen can cause overheating and power loss.

Following these steps will preserve the performance outlined in the Stihl 038 Magnum specs and provide years of reliable service. The saw is known for its long life when properly cared for, with many examples still in active use with original pistons and cylinders.

The Best Applications for an 038 Magnum Today

Given its age, where does the 038 Magnum fit into a modern fleet? It is not a suitable primary saw for a commercial logger who needs maximum productivity and minimal downtime. However, it excels in several roles.

Related Articles

• **Chapter 15 Darwin Theory Of Evolution Vocabulary Review Crossword Puzzle**
URL: https://signage.openstack.org/chapter-15-darwin-theory-of-evolution-vocabulary-review-crossword-puzzle.pdf

• **Kubota 3 Cylinder Diesel Engine Manual**
URL: https://signage.openstack.org/kubota-3-cylinder-diesel-engine-manual.pdf

• **Miller Review Of Orthopaedics**
URL: https://signage.openstack.org/miller-review-of-orthopaedics.pdf

• **Exercise 8 Review Sheet The Axial Skeleton**
URL: https://signage.openstack.org/exercise-8-review-sheet-the-axial-skeleton.pdf

TOPIC INDEX

#stihl • #038 • #magnum • #specs

DIGITAL EDITION

stihl-038-magnum-specs

DIGITAL EDITION

stihl-038-magnum-specs

DIGITAL EDITION

stihl-038-magnum-specs

DIGITAL EDITION

stihl-038-magnum-specs