

THE WORLD'S MOST REVOLUTIONARY SUPERMOTARD IS STILL EVOLVING. THE 2008 SXV INCORPORATES A WHOLE SERIES OF INNOVATIONS DESIGNED TO IMPROVE RELIABILITY AND MAKE IT EVEN MORE INVINCIBLE IN COMPETITION.

APRILIA SXV 2008

Once again Aprilia has remained faithful to the tenets of its development philosophy, and has **transferred the experience gained from competition directly into the production** of the new 2008 SXV. Ever since its debut, the world's first twin cylinder supermotard has been constantly developed and perfected by the immense technical know-how of Aprilia Racing and the vast experience of many times world champion Thierry Van Den Bosch. Because of this, race after race, the SXV has always demonstrated a potential the competition cannot hope to achieve.

DESIGN

As with all Aprilias, a tremendous amount of **care and attention has been lavished on even the smallest details on the SXV**. As a result the SXV boasts a unique, unmistakable styling that is nevertheless fully functional in achieving unrivalled performance, because first and foremost even the standard SXV is a genuine competition motorcycle.

But the SXV is not just a pretty face. Your gaze is held by an abundance of **advanced technology**. One glance at the V2 engine, mixed trellis and aluminium frame, mighty swingarm and **central exhaust system** with twinned silencers under the rear mudguard, and you cannot escape its magical attraction.

Whatever side you look at it from, the SXV presents a **host of stunning technical solutions**, all enhanced by original 2008 racing colours to express the aggressive nature of this born-to-race mean machine.

As you would expect from Aprilia, the latest SXV is packed with intelligent design solutions. Fixed air ducts, for example, allow the **fuel tank to tilt up for easy access to the airbox**. And the quest for technical perfection has led the design team to **tweak even small details on the basis of input from the champions who have raced the SXV**.

ENGINE: CONTINUOUS EVOLUTION

The amazing 45.2 engine is, of course, the centre piece of SXV technology. Aprilia was the **first manufacturer in the world to believe in the validity of the V twin for supermotards, a segment in which all other marques still cling rigidly to single cylinder engines.** Aprilia's high-tech V twin design has already **proved 100% reliable in competition.** Even homologation for road use has not compromised the technology and performance of this exceptional engine, which is produced entirely by Aprilia. **Since the earliest stages of the design process, the 45.2 has evolved to keep pace with chassis development** and to give the SXV an unbeatable mix of power and handling.

The 77° V angle is the result of extensive testing, aimed not only at boosting power but also at reducing vibration. As a result Aprilia's engineers have been able to **eliminate engine balancer shafts. Despite this the 45.2 engine still vibrates far less than any single cylinder alternative.**

The cylinders themselves are integrated in the crankcase and have replaceable wet liners. This unique layout has allowed the engine ancillaries to be arranged in a way that achieves **extremely compact dimensions.** The results are amazing: the Aprilia V twin is one of the **most compact V twins in the world, and smaller in size than many singles of similar displacement.** All design choices have been taken in order to obtain **maximum power plus an extended useful power band.** The sophisticated electronic engine management system, developed by Aprilia Racing, incorporates numerous innovations for the off-road sector.

The injection system features 38 mm throttle bodies (40 mm on the 550) and is managed by a programmable control unit. Starting with the 2008 model, the ECU will be able to switch between **two different mappings at the touch of a switch on the handlebars.** This extremely useful innovation offers a **full power mapping for use in conditions of good grip, and a second, softer mapping for smoother power delivery under difficult conditions.** The system provides an extremely valid aid to control and has been welcomed both by expert riders (the system was actually tested in the final phases of the world championship) and by supermotard fans in general. All you need is one quick click to select exactly the right power for the circumstances.

Reduced unitary displacement has allowed Aprilia to develop an **extremely compact and lightweight crankshaft**. The engine is more responsive to variations in throttle opening as a result, and the bike as a whole is **faster and more manoeuvrable** thanks to the **reduced gyroscopic effect from the crankshaft**.

The **single overhead cam configuration with four titanium valves per cylinder head** represents an ideal compromise between compact size, light weight and high performance.

Thanks to its advanced technology, the 45.2 is also an extremely silent running and ecological engine. Technology, after all, should mean reliability and longevity as well as high performance. The 45.2 engine touches new heights in this direction, and permits **extremely easy access to parts requiring regular maintenance** like the spark plugs, oil filter and air filter.

Just as much effort has been put into weight reduction, and the 45.2 engine sets a new record **for a V twin with an electric starter**. Abundant use has been made of **prestige lightweight materials**. The central crankcase sections are in aluminium-silicon alloy; **external engine casings are in magnesium; the valves are in titanium; and all gears are exceptionally light in weight**.

The choke is new too, and features a knob on the airbox instead of a handlebar control. Even the **air filter has been improved and is now made from a sponge material derived from that used on Aprilia's official racing machines**.

A closer look at the unique characteristics of the 45.2 engine:

- **Electronic fuel injection** with 38 mm throttle bodies (40 mm on the 550 engine).
- **Dry sump lubrication** with separate external reservoirs for gearbox and engine oil to avoid contaminating engine oil with particles of clutch friction lining, and for extended lubricant life.
- **Single overhead cam with four valve heads**
- **Single piece crankshaft**
- **Cylinders integrated in the crankcase** with wet liners
- **Maximum engine speed 12,500 rpm** (450 motard)

CHASSIS: LIGHTER THAN EVER

An uncompromising machine like the SXV demands a great chassis. The **perimeter frame** is a **tubular steel trellis** structure interference fitted to **pressed aluminium side members** to form an extremely rigid whole. **The engine itself forms an integral part of the chassis**, acting as a load bearing element and contributing to overall rigidity.

The **variable section aluminium alloy swingarm** is a brilliant example of industrial design. More than just an eye-catching design solution, this revolutionary swingarm offers the highest structural rigidity available in this class of motorcycle. The rising rate suspension linkage is damped by a **fully adjustable Sachs monoshock with piggy back cylinder and two different hydraulic settings for high and low speeds**. The calibration of the rear suspension has been modified for 2008 to improve stability and control over rough surfaces and a new linkage system has been introduced to make the damping action of the monoshock more progressive, increasing both traction and control.

The 48 mm upside down fork also boasts new settings for greater high speed stability and improved damping in off-road use.

BRAKING SYSTEM

The advanced technology and high performance of the SXV chassis are reflected in a superb braking system. **The SXV features FTE calipers and lightweight wave discs (320 mm at the front)** for maximum braking control even under the most challenging conditions.

The **240 mm rear disc** is braked by a single piston caliper for a perfect combination of power and control.

COMPONENTS: READY TO RACE

All parts of the **Aprilia SXV** is of the **very best quality available**.

Among the many prestige components are:

- **Digital instruments:** ultra-lightweight, compact and designed to provide all the information a rider could possibly need.
- **Magura tapered aluminium handlebars** with no cross member for optimal elasticity and control
- **High luminosity LED tail light**
- **Aluminium oil filter cover**
- **New engine start push-button (instead of the old ignition key block)**
- **New racing electrical system**