

THE APRILIA SXV AND RXV HAVE RACING IN THEIR BLOOD! THESE DIRECT DESCENDENTS OF THE MOST REVOLUTIONARY MOTORCYCLES OF THE MILLENNIUM ARE THE FIRST EVER PRODUCTION ENDURO AND SUPERMOTARD POWERED BY A SUPERB, HIGH PERFORMANCE V TWIN. ALREADY PROVEN WINNERS ON THE RACETRACK, THESE TECHNOLOGY-PACKED MACHINES ARE NOW READY TO TACKLE THE CHALLENGE OF THE ROAD.

Aprilia SXV and RXV

The Aprilia SXV and RXV were ridden during testing by none other than Max Manzo, Jerome Giraud, Frederic Bolley, Fabrice Lecoanet, and Stefano Passeri. The racetrack was their R&D centre, and the asphalt and rough ground their test benches. No wonder the Aprilia SXV and RXV have victory in their blood! **Brand new but already unbeatable, the Aprilia RXV and SXV clearly demonstrate what advanced technology, clever design and technical innovation can achieve.**

The development of these bikes was a challenge that Aprilia knew it could win, despite the scepticism of the competition. **These revolutionary motorcycles have already clocked up an impressive number of race wins, culminating in the Supermotard S2 World Championship title.** Now the same amazing race technology is available in **fully homologated form for use on the road by riders who know what satisfaction means.**

The new RXV and SXV are living proof of Aprilia's design philosophy of **transferring competition technology directly to production motorcycles.** The RXV and SXV, with their original 450 and 550 cc racing engines, are to all intents and purposes road-going competition bikes. Totally uncompromising, these machines are designed with just one thing in mind. Winning.

STYLE

Like all Aprilia motorcycles, **the SXV and RXV have been designed with an almost obsessive attention to detail** but with no unnecessary frills. The minimalist plastic bodywork of these essential machines keeps functionality up and weight down, shaping beautifully clean lines. Their clear-cut, decisive styling conveys a **reassuring sensation of lightness and build quality.**

The design team has worked hard to create a distinctive Aprilia feel, and has launched a **whole new look in enduro and supermotard motorcycles.** Your gaze is inevitably attracted to their **superb technology** in the form of the V twin engine, mixed trellis and aluminium frame, and sculptured swingarm. The design of the tail and rear side panels abandons traditional enduro styling and is totally innovative, just like the **centrally mounted exhaust system with twin tail pipes under the rear mudguard.** In fact, **innovative design solutions catch your eye** whichever way you look at the RSV and SXV, and Aprilia Racing colours confirm that these bikes are born to compete.

As always with Aprilia, goods looks are just the outward shell of ingenious design solutions. The fixed air guides for example, allow the **fuel tank to pivot upwards, giving easy access to the filter box.**

THE V2 ENGINE

The amazing V2 engine is the natural centrepiece of the SXV and RXV. **Aprilia was the first manufacturer in the world to believe in the potential of V twin engines in a market segment where nobody has ever had the courage to try.** Impressive results in top level racing have shown that Aprilia was right. This exceptional engine (made entirely by Aprilia) has now been transferred to Aprilia production motorcycles. **Totally reliable on the racetrack,** the V2 engine has not been deprived of any of its technology or performance by homologation for road use. **Engine development also proceeded hand in hand with chassis development from the word go,** to ensure that these bikes handle and perform as totally integrated machines.

The 77° V angle between the cylinders is the result of innumerable tests aimed at maximising performance and minimising vibrations. **The new engine vibrates far less than any single without even requiring a balancer shaft.**

The cylinders are integrated in the crankcase and are lined by replaceable wet sleeves. The intelligent design of the V2 has also permitted engine accessories to be arranged **in an extremely rational way, keeping the powerplant as compact as possible.** The results are amazing: Aprilia's V twin is one of the **most compact in the world, smaller than many singles of similar displacement.**

Design solutions were specially selected for **maximum power and a wide power band.** The sophisticated electronic engine management, developed by Aprilia Racing, introduces a number of innovations for this type of motorcycle. The **fuel injection system features 38 mm throttle bodies (40 mm on the 550)** and is controlled by a programmable ECU. Another market first is the fact that the **SXV engine features an extended drive shaft to allow the sprocket to be placed further out.** This intelligent solution allows racing tyres to be fitted without risking contact with the chain.

Reduced displacement per cylinder has permitted use of an **extremely compact and lightweight single-piece crankshaft.** The gyroscopic effect of the crank is therefore dramatically reduced. The engine **responds instantly to throttle input,** making the whole bike **faster and more agile.** The inertia under acceleration and deceleration typical of large bore engines has also been reduced, permitting **engine speeds never before seen on this type of motorcycle.** The 450 supermotard red-lines at an amazing 13,000 rpm!

Valve gear based on a **single overhead cam and four titanium valves per cylinder** gives the best possible compromise between compactness, light weight and performance.

Aprilia technology, of course, means more than just performance. Reliability and durability are just as important. The V2 engine sets new standards in this direction, and also guarantees **beautifully easy access to all parts requiring regular service** like plugs, oil filter and air filter. The SXV and RXV also boast **far longer than average service intervals**.

The same sort of effort has gone into weight reduction. **The engine sets a new record for a V twin, even with its starter motor fitted!** This has been achieved by an abundant use of **super-lightweight prestige materials**. The central crankcase sections, for example, are made from aluminium silicon alloy. **All covers are in magnesium; the valves are in titanium; and the entire gear train has been made lighter than ever before.**

The engine is specially tuned to suit the type of motorcycle. The **gear ratios are also precisely calculated for supermotard use in the case of the SXV or enduro use on the RXV**. Even the injection and ignition mapping have been modified to give the two engines the right character and performance for the bike; higher revving on the supermotard, smoother and torquier at low to medium revs on the enduro.

Technical specifications of the V2 engine:

- **Electronic fuel injection** with 38 mm throttle bodies (40 mm on the 550 cc engine).
- **Dry sump lubrication** with external oil tank. Separate lubrication for gearbox and engine ensures that the engine oil is not contaminated by clutch plate particles, and remains fully efficient for far longer.
- **Single overhead cam, titanium valves.**
- **Single-piece crankshaft.**
- **Cylinders integrated in crankcase**, wet liners.
- **Maximum engine speed 13,000 rpm** (450 supermotard).

CHASSIS

An uncompromising machine like the SXV or RXV demands a unique and effective chassis. **The perimeter frame was developed in conjunction with the engine** and features a **tubular steel trellis structure**, interference fitted to **pressed aluminium side plates** to form an extremely rigid assembly. **The engine also forms an integral part of the chassis**, acting as a load-bearing element and contributing to exceptional overall rigidity.

The **variable section aluminium swingarm** is another example of brilliant industrial design. Far more than just an element of style, this is the most rigid swingarm on any motorcycle of this type. Rising rate linkages operate a **multi-adjustable monoshock with piggy-back cylinder and double high/low speed settings**. **The upside down fork** (45 mm on the RXV, 48 mm on the SXV) is calibrated differently for the supermotard and enduro. The fork is fully adjustable, so that you can set up your own suspension action exactly as you want it.

The swingarm on the SXV is wider than on the RXV to move the chain further out and allow the bike to fit rear wheels of up to 6.5 inches.

BRAKES

The unrivalled technology and performance of the chassis are supported by a fantastic braking system. The RXV boasts advanced calipers with lightweight wavy discs (270 mm at the front) for unrivalled braking control in even the most challenging conditions.

The brakes on the SXV are designed for sheer power and feature a **320 mm floating disc with a radial caliper for GP-level braking performance**.

The **240 mm rear disc** and single piston caliper provide the perfect balance between stopping power and ease of control.

COMPONENTS

Every single component on the **Aprilia SXV/RXV** is selected for **functionality and prestige**.

To list just a few, the RXV/SXV is equipped with:

- Compact and ultra-lightweight **digital instrumentation** for all the information you could possibly need.
- **Variable section aluminium handlebars** with no cross bar for perfect elasticity and control.
- High luminosity **LED tail light**.

Aprilia RXV – Technical specifications (550 cc engine specifications in brackets)	
Engine	77° V twin four stroke. Liquid cooled. Single overhead cam with rocker operated exhaust valves, chain timing drive, 4 valve heads, titanium valves.
Fuel	Lead-free petrol.
Bore x stroke	76 x 49.5 mm (80 x 55 mm)
Total displacement	449 cc (549 cc).
Compression ratio	12.5:1 (12:1).
Fuel system	Integrated engine management system controlling ignition and fuel injection. Throttle body: 38 mm. (40 mm)
Ignition	Electronic.
Starting	Electric starting.
Alternator	340 W.
Lubrication	Dry sump with external oil tank. Separate gearbox lubrication.
Gearbox	5 speed. Enduro gear ratios: 1 st 12/31 2 nd 13/25 3 rd 15/23 4 th 19/24 5 th 21/22
Clutch	Multiple discs in oil bath, cable operated.
Primary drive	Spur gears. Transmission ratio: 22/56.
Final drive	Chain. Transmission ratio: 15/48.
Frame	Steel perimeter frame with alloy vertical members.
Front suspension	Ø 45 mm upside down fork, double adjustment.
Rear suspension	Box section aluminium swingarm with cast body. Hydraulic monoshock with compression and rebound adjustment.
Brakes	Front: Ø 270 mm stainless steel disc with floating caliper. Rear: Ø 240 mm stainless steel disc with floating caliper.
Wheels	Light alloy. Front: 1.60 x 21" Rear: 2.15 x 18"
Tyres	Front: 90/90 x 21"

	Rear: 140/80 x 18"
Dimensions	Overall length: 2,222 mm Overall width: 800 mm Ground clearance: 396 mm Seat height: 996 mm Wheelbase: 1,495 mm
Fuel tank	Capacity 7.8 litres
Colours	Aprilia Black / Fluo Red

Aprilia SXV – Technical specifications (550 cc engine specifications in brackets)	
Engine	77° V twin four stroke. Liquid cooled. Single overhead cam with rocker operated exhaust valves, chain timing drive, 4 valve heads, titanium valves.
Fuel	Lead-free petrol.
Bore x stroke	76 x 49.5 mm (80 x 55 mm)
Total displacement	449 cc (549 cc).
Compression ratio	12.5:1 (12:1).
Fuel system	Integrated engine management system controlling ignition and fuel injection. Throttle body: 38 mm. (40 mm)
Ignition	Electronic.
Starting	Electric starting.
Alternator	340 W.
Lubrication	Dry sump with external oil tank. Separate gearbox lubrication.
Gearbox	5 speed. Supermotard gear ratios: 1 st 13/30 2 nd 15/27 3 rd 16/23 4 th 20/23 5 th 21/21
Clutch	Multiple discs in oil bath, cable operated.
Primary drive	Spur gears. Transmission ratio: 22/56.
Final drive	Chain. Transmission ratio: 15/46 (16/46).
Frame	Steel perimeter frame with alloy vertical members.
Front suspension	Ø 48 mm upside down fork, double adjustment.

Rear suspension	Box section aluminium swingarm with cast body. Hydraulic monoshock with compression and rebound adjustment.
Brakes	Front: Ø 320 mm stainless steel disc with radial caliper.
	Rear: Ø 240 mm stainless steel disc with floating caliper.
Wheels	Light alloy. Front: 3.50 x 17" Rear: 5.50 x 17"
Tyres	Front: 120/70 x 17" Rear: 180/55 x 17"
Dimensions	Overall length: 2,220 mm Overall width: 800 mm Ground clearance: 318 mm Seat height: 918 mm Wheelbase: 1,495 mm
Fuel tank	Capacity 7.8 litres
Colours	Aprilia Black / Fluo Red