

SUZUKI

RG500<sup>GAMMA</sup>





# Super-performance from lightweight and compact square four.

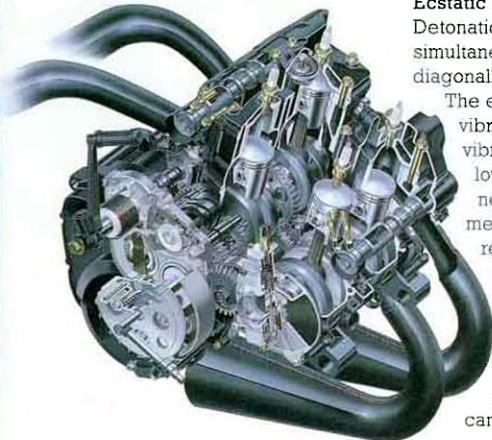
Here at last for the true motorcycle enthusiast is the RG500 $\Gamma$  — the legitimate heir to the RGF, that legendary machine which stunned the world with its monumental achievement of taking the 500cc World GP championship title no less than seven years in a row. The RG500 $\Gamma$  bristles with technology developed to win. The square four engine is just one example. The formidable performance of the RG500 $\Gamma$  takes the rider into uncharted regions of riding pleasure and satisfaction. Once again, the blood will course hot in your veins!

## The Square Four. It All Started with This.

Undeniably, the engine has to be the principal determining factor in a motorcycle's character. The engine chosen for the RG500 $\Gamma$  — the direct descendant of the glorious RGF — is a square four. For this is the engine which, powering the RG series of GP machines, swept all before it on race tracks throughout the world.

The engine which, despite its highly compact layout, delivers the highest levels of performance without any sacrifice in power, response or durability.

**Compactness, Durability & High Performance. The Crystallization of SUZUKI's Engine Technology, the Square Four Satisfies These Contradictory Demands.**



The square four engine has four cylinders, each with a capacity of 125cc, arranged in a north-south-east-west configuration. SUZUKI's unique cylinder layout and the flat slide carburettor result in an extremely slim engine. Bore  $\times$  stroke is 56mm  $\times$  50.6mm. The short stroke keeps the overall height of the engine down. While by raising the two rear cylinders we've managed to shorten the length of the engine. The end result is an engine that is as lightweight and compact as only a square four can be.

**Smooth & Sharp Response. The Engine Note Reverberates with the Ecstatic Cry of Victory.**

Detonation in a square four occurs simultaneously in the two cylinders diagonally opposite each other.

The effect of this is to cancel out vibration. In particular, primary vibration levels are extremely low and this eliminates the need for any kind of balancer mechanism. Because this reduces engine weight and because there is very little vibration, less reinforcement of engine and frame is required which enables further weight reduction.

All this adds up to a significant reduction in the weight of



the machine itself.

**Circuit-bred Throb Reverberates through the Air. Maxima of 95PS/9500rpm and 7.3kg-m/9000rpm.**

The RG500 $\Gamma$ 's water-cooling system boasts very high cooling efficiency and outstanding reliability which helps support a maximum power output of 95PS/9500rpm and maximum torque of 7.3kg-m/9000rpm. This formidable power is transmitted by a 6-speed transmission and grease-sealed chain to the rear wheel where it is transformed into mind-blowing performance which catapults the machine forward, cleaving through the wind.

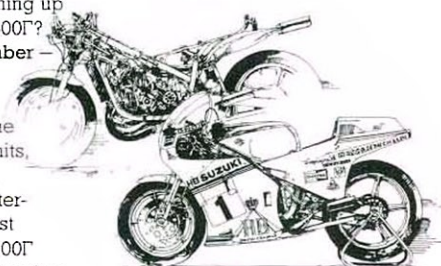
The cassette-type close-ratio transmission can be simply extracted by removing the clutch case.

Has any motorcycle ever raised the rider's expectations about opening up the throttle so much as the RG500 $\Gamma$ ?

**A Multi-stage Expansion Chamber — the Best Way of Increasing Exhaust Efficiency**

2-stroke engines do not have the valve gear found on 4-stroke units, and so the principal factor in a 2-stroke's power output characteristics is the tuning of the exhaust system. And that's why the RG500 $\Gamma$  uses a multi-stage expansion chamber. Exhaust gases are effectively sucked out, and exhaust pulsation prevents fuel mixture "blow-through."

The result is a significant contribution to greater power and smoother output.



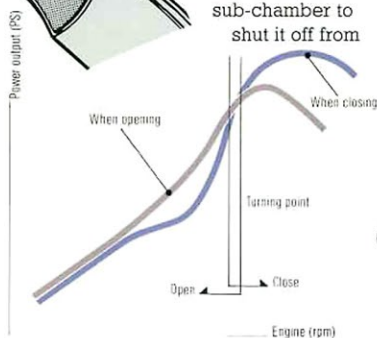


**A**utomatic Exhaust Control Gives Smooth and Powerful Output Over the Whole Rev Range. The Definitive Solution for High Performance Engines.

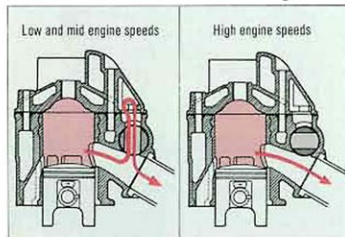
But, even the multi-stage expansion chamber is unable to provide the optimum exhaust characteristics over the whole rev range. Whereupon, SUZUKI engineers wondered whether it wasn't possible to vary the capacity of the chamber for low and high engine speeds to produce the optimum exhaust pulsation for efficient breathing.

The result of their research was another innovative example of original SUZUKI technology – AUTOMATIC EXHAUST CONTROL.

A sub-chamber is fitted immediately downstream of the exhaust port. At low and mid engine speeds a valve opens allowing the exhaust gases to scatter in the sub-chamber, boosting torque. At high engine speeds, a servo-motor turns the valve at the entrance of the sub-chamber to shut it off from



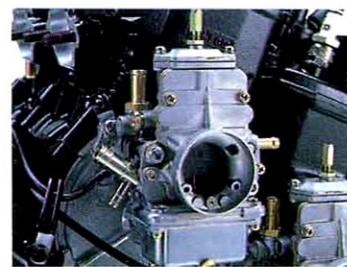
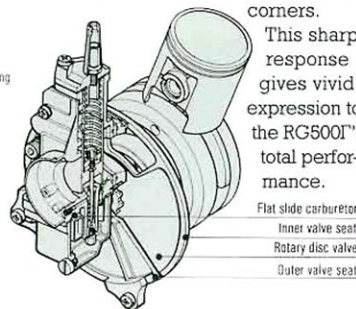
the main chamber so that the exhaust gases flow straight into the main chamber. The result is flat torque at low and middle engine speeds and very sharp response and instant pick up at high revs, giving superbly smooth but gutsy power across the whole rev range. AUTOMATIC EXHAUST CONTROL solves the problems of peakiness and valleys in the torque curve once thought to be a fate inherent to all 2-stroke engines.



**Razor-sharp Response from the Flat Slide Carburetor**

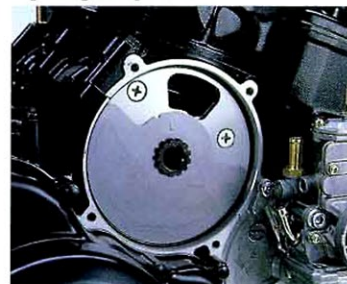
The flat slide carburetor has a plate-shaped throttle valve which produces the optimum mixture, instantly. Instant fuel mixture vaporization means instant response for hard throttle work such as when overtaking or powering out of corners.

This sharp response gives vivid expression to the RG500I's total performance.



**Rotary Disc Valves Realize Induction Timing in Perfect Harmony with the Square Four.**

The RG500I sports the rotary disc valves race-proved on the RGF. The merit is that the valve timing can be adjusted as required to match the engine characteristics. And because the operation of the rotary disc valve is synchronized with the crankshaft, induction timing is highly accurate even at high engine speeds.

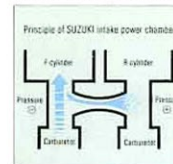


**Heart-Grabbing Pickup from Low to High Engine Speeds with the SUZUKI INTAKE POWER CHAMBER.**

What the SUZUKI INTAKE POWER CHAMBER does is to increase intake efficiency and to improve power output and fuel consumption at low



and medium engine speeds. Each of the cylinder manifolds is connected by pipes constricted in the middle. This increases mixture intake and solves the problems of loss of power and running out of breath. In this way



the SUZUKI INTAKE POWER CHAMBER contributes both to increased power output and improved fuel consumption.

**Tapered Piston Rings Realize Outstanding Combustion Efficiency to Generate Thrilling Power.**

SUZUKI uses its own technology in the piston rings to prevent power loss and extract the very maximum performance from the square four engine. The piston rings on the RG500I are tapered to prevent the vibration and loss of compression which comes from horizontal and vertical ring movement. The tapered ring design also reduces noise and improves the hermetic seal, enabling very high combustion efficiency. This innovation creates mind-blowing and instantaneous power, sending the RG500I flying through the wind.



**Innovative power unit assures thrilling power and acceleration.**

# A body truly fitting for a bike bearing the title "king of sports"

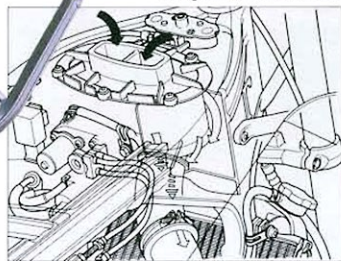
## **G**P Machine Backbone. Multi-rib Aluminium Boxsection Tubing Frame Gives the Ultimate in Weight Reduction and Rigidity.

No matter how superb the power unit is, unless the body and frame can live with it one cannot describe the machine as being in total balance. With knowhow harvested from the race track, SUZUKI has ungrudgingly poured all its latest technology into the latest evolution in the frame technology, the Multi-rib



Aluminium Boxsection Tubing Frame.

To improve rigidity and strength and to reduce even further the weight of the aluminium rectangular pipe frame, this innovative frame uses box-section pipe for the members with ribs added to the corners for increased strength. The frame uses a special aluminium alloy which is very light, strong and flexible. With a dry weight of just 154kg and a power-weight ratio of 1.62kg/PS, the RG500F achieves incredible weight reduction.



## Exquisite Balance Between Weight Reduction and Rigidity Superb Frame Sets Off Riding Form.

The Multi-rib Aluminium Boxsection Tubing Frame design incorporates the results of extensive computer stress analysis studies. The strength of each part of the frame was calculated very precisely so that it exhibits outstanding rigidity and strength vis a vis forces from all directions and yet is also amazingly light in weight. In addition, in order to make the frame as light and compact as possible the steering head of casted aluminium doubles as the air cleaner case, permitting the compact installation of a large capacity air cleaner. The beautiful limbs of the RG500F are exquisite in their shapeliness. Truly,

this is an artistic masterpiece on wheels.

## Deca Piston Brake System Gives Brake Feel So Sensitive it Could Almost be Alive.

A rider can only start to enjoy the full potential of a machine with outstanding dynamic performance if it is equipped with the braking power to match. The DECA PISTON BRAKE SYSTEM on the RG500F guarantees quick, accurate and stable braking at all times. With four opposed pod double discs at the front and two opposed pod single disc at the rear, a total of ten pistons sandwich the disc plates to provide confidence-inspiring braking,

Compared with conventional disc brakes, the DECA PISTON BRAKE SYSTEM delivers incredible road-hugging stopping power while giving exquisite brake feel. SUZUKI considers it more difficult yet far more important to provide certain stopping power than absolute speed.



## Front Fork Preload Control Starts on the Premise that Every Rider is an Individual

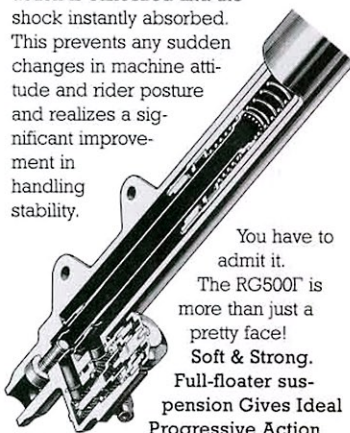
Take any ten riders and you'll find ten different riding styles and patterns. To provide handling which enables each and every rider to enjoy his own riding technique and style, the RG500F features an air-assist fork spring with a pre-load adjustment mechanism. This makes it possible to make subtle adjustments to the front fork setting for



## Get the Optimum Cornering Line on Winding Roads Every Time with the Innovative POSI DAMP FORK.

A truly powerful engine demands the best suspension. Now, SUZUKI has produced a further evolution of the ANTI DIVE FORK — the POSI DAMP FORK. This innovative mechanism suppresses both nose dive under

braking, and "sinking" during high-speed cornering. If a bump in the road surface or some other sudden load is encountered by the front wheel during operation of the POSI DAMP FORK system, the anti-dive action is cancelled and the shock instantly absorbed. This prevents any sudden changes in machine attitude and rider posture and realizes a significant improvement in handling stability.



You have to admit it.

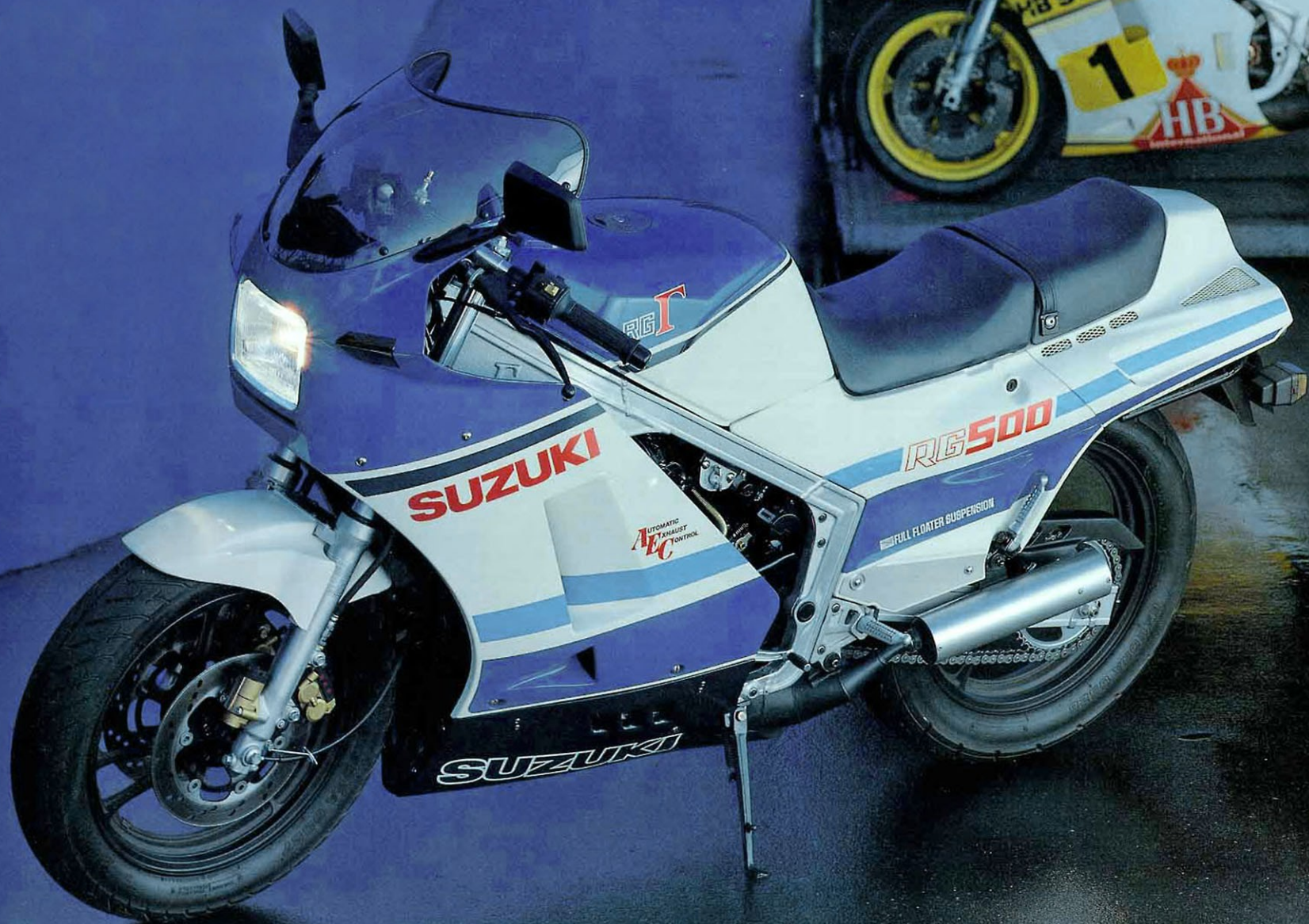
The RG500F is more than just a pretty face!

**Soft & Strong.**

**Full-floater suspension Gives Ideal Progressive Action**

Full floater suspension supports the RG500F at the rear. This system boasts excellent shock absorption as well as giving leech-like adhesion, keeping the wheel on the deck under the most trying conditions. Under normal conditions the link mechanism provides soft cushioning, but this becomes progressively firmer as G-forces increase. Thus the full-floater suspension realizes the ideal damping characteristics: soft at first with a smooth, progressive traction too firm as suspension travel increases to give optimum ride at all times. The RG500F's superb front and rear suspension systems make it an invincible road conqueror.





SUZUKI

AUTOMATIC  
EXHAUST  
CONTROL  
AEC

RG500

FULL FLOATER SUSPENSION

SUZUKI

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**Halogen Headlight and Maintenance-free battery** The RG500F sports a 60/55W rectangular halogen headlight. The wipers are integrated into the fairing. The RG500F also features a fully sealed battery that requires no troublesome topping up with battery fluid.



**Meter Panel Gives Foretaste of Vivid Performance** 3000rpm. That's where the tachometer dial starts. Together with the speedometer and coolant temperature gauge the tachometer is set in a rubber-insulated panel which gives maximum visibility and cuts down vibration at high speeds.



**Functional Layout of Controls for High Performance** The engine stop and headlight switches are located on the right handlebar, while all other switches are located on the left handlebar. This layout is the result of exhaustive ergonomic studies.



**Fairing - a Love Song for the Wind** The RG500F's fairing gives due warning of the bike's performance. Its highly aerodynamic styling says everything about the rider.



**High Potential Symbol - Large Radiator** The sealed radiator is fitted with a thermostat to prevent overcooling. A reservoir tank makes it easy to check coolant level.



**Large Capacity Fuel Tank - Plenty to Spare** The large tank holds a full 22 liters - something really appreciated on those long runs. The aeroplane type fuel cap fits flush to the tank.



**16" Front Wheel Cleaves the Wind** Sharp cornering. High braking performance. In addition to these benefits, the low wind resistance of the 16" front wheel gives the RG500F superbly light and responsive steering.



**Seat Guarantees Beautiful Riding Position** The RG500F's seat is designed to give optimum comfort whether hugging the fuel tank or riding two-up. And a seat height of 770mm means there's no problem getting your feet back on the ground!



**We've Even Gone to Town on the Footpegs and Mufflers** The footpegs are beautifully styled in forged aluminium. And the mufflers get aluminium covers. From nose to tail, the RG500F proudly shows off its high performance and superb quality.

## RG500F SPECIFICATIONS

|                                |                             |  |
|--------------------------------|-----------------------------|--|
| <b>DIMENSIONS AND DRY MASS</b> | Overall length              | 2,100 mm (82.7 in)   |
|                                | Overall width               | 695 mm (27.3 in)   |
|                                | Overall height              | 1,185 mm (46.7 in)   |
|                                | Wheelbase                   | 1,425 mm (56.1 in)   |
|                                | Ground clearance            | 120 mm (4.7 in)  |
|                                | Seat height                 | 770 mm (30.3 in)   |
|                                | Dry mass                    | 154 kg (340 lbs)   |
| <b>PERFORMANCE</b>             | Maximum power               | 70.0 kW (95 PS) at 9,500 r/min (DIN)   |
|                                | Maximum torque              | 71.3 N·m (7.3 kg-m, 52.8 lb-ft) at 9,000 r/min   |
| <b>ENGINE</b>                  | Type                        | 2 stroke, water-cooled   |
|                                | Intake system               | Rotary disc valve  |
|                                | Number of cylinders         | 4  |
|                                | Bore X Stroke               | 56.0 mm (2.205 in) X 50.6 mm (1.992 in)  |
|                                | Compression ratio           | 7.0 : 1  |
|                                | Piston displacement         | 498 cm <sup>3</sup> (30.4 cu-in)   |
|                                | Carburettor                 | MIKUNI VM28SS, four (FLAT SLIDE)   |
| Starter system                 | Kick                        |  |
|                                | Lubrication system          | SUZUKI "CCI"   |
| <b>TRANSMISSION</b>            | Clutch                      | Wet multi-plate type   |
|                                | Transmission                | 6-speed constant mesh  |
|                                | Gearshift pattern           | 1-down, 5-up   |
|                                | Final drive                 | #530 chain, 106 links, O-ring sealed   |
| <b>CHASSIS</b>                 | Front suspension            | Posi Damp Fork system, Telescopic, coil spring, spring pre-load fully adjustable, oil damped |
|                                | Rear suspension             | Full floating suspension system, gas/oil damped, spring pre-load fully adjustable            |
|                                | Front brake                 | Disc brake, hydraulically operated, twin   |
|                                | Rear brake                  | Disc brake, hydraulically operated   |
|                                | Front tyre size             | 110/90V 16 tubeless  |
|                                | Rear tyre size              | 120/90V 17 tubeless  |
| <b>CAPACITIES</b>              | Fuel tank including reserve | 22.0 L (5.8/4.8 US/Imp gal)  |
|                                | Engine oil tank             | 1.5 L (1.6/1.3 US/Imp qt)  |
| <b>ELECTRICAL</b>              | Battery                     | 12V 14.4kC (4Ah)/10HR  |
|                                | Headlight                   | 12V/60/55W   |
|                                | Ignition type               | SUZUKI "P.E.I."  |

SUZUKI MOTOR CO., LTD reserves the right to change, without notice, equipment, specifications, colour, materials and other items to apply to local conditions. Each model might be discontinued without notice. Please inquire at your local dealer for details of any such changes. Actual body colours might differ slightly from the colours in this brochure.

