

**SUZUKI**

**RGV250**

**SERVICE MANUAL**



99500-12077-01E

## FOREWORD

The SUZUKI RGV250 has been developed as a new generation motorcycle to the RGV-models. It is packed with highly advanced design concepts including a SUZUKI 90°-degree, V-configuration, a 2-cylinder engine, an Automatic Exhaust Timing Control (A.E.T.C.), a SUZUKI Boron Composite (S.B.C.), a Slingshot carburetor, a New air induction system, a Radial Flow Radiator, a Dual-cell configuration, highly rigid frame tank rails (DC-ALBOX type), a High rigidity front fork and rear suspension.

The RGV250, manufactured to standard specifications, is the main subject matter of this manual. However, the RGV250 machines distributed in your country might differ in minor respects from the standard-specification and, if they do, it is because some minor modifications (which are of no consequence in most cases as far as servicing is concerned) had to be made to comply with the statutory requirements of your country.

This service manual has been produced primarily for experienced mechanics whose job is to inspect, adjust, repair and service SUZUKI motorcycles. Apprentice mechanics and do-it-yourself mechanics, will also find this manual an extremely useful repair guide. This manual contains the most up-to-date information at the time of publication. The rights are reserved to update or make corrections to this manual at any time.

### SUZUKI MOTOR CORPORATION

Overseas Service Department

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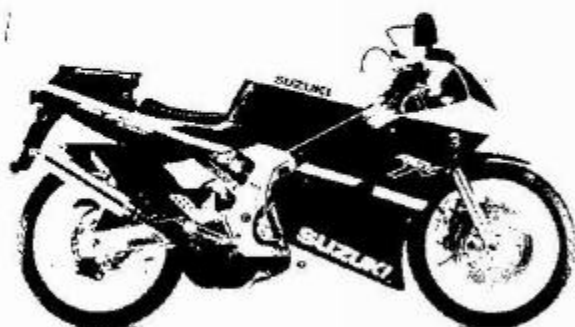
# GENERAL INFORMATION

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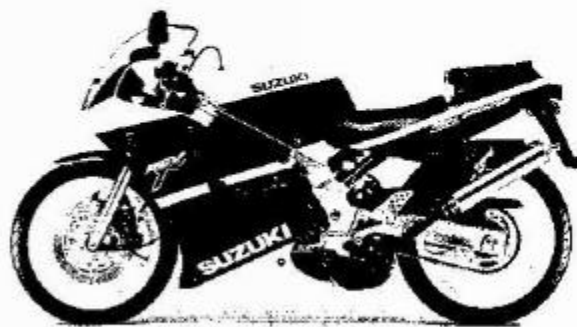
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## SUZUKI RGV250



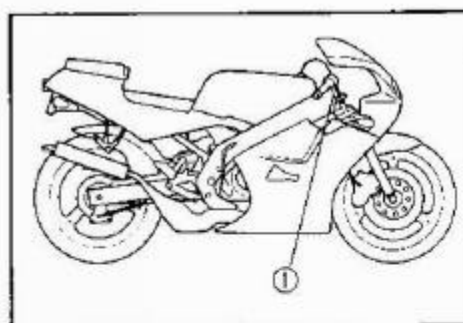
RIGHT SIDE



LEFT SIDE

### SERIAL NUMBER LOCATION

The frame serial number or V.I.N. (Vehicle Identification Number) ① is stamped on the steering head pipe. The engine serial number ② is located on the rear side of the crankcase. These numbers are required especially for registering the machine and ordering spare parts.



### FUEL, OIL AND COOLANT RECOMMENDATION

#### FUEL

Gasoline used should be graded 85 — 95 octane or higher. An unleaded or low-lead gasoline type is recommended.

#### ENGINE OIL

Use SUZUKI "CCI" oil or SUZUKI CCI Super oil. They are formulated to give best engine performance with least combustion chamber deposits, least preignition, maximum spark plug life and best lubrication. If they are not available, a good quality TWO-STROKE OIL (non-diluent type) should be used.

## TRANSMISSION OIL

Use a good quality SAE 10W/40 MOTOR OIL.

## FRONT FORK OIL

Use fork oil # 10.

99000-99044-10G: SUZUKI Fork oil # 10

## BRAKE FLUID

Specification and classification: SAE J1703, DOT3 or DOT4

### WARNING:

- \* Since the brake system of this motorcycle is filled with a glycol-based brake fluid by the manufacturer, do not use or mix different types of fluid such as silicone-based and petroleum-based fluid for refilling the system, otherwise serious damage will result.
- \* Do not use any brake fluid taken from old or used or unsealed containers.
- \* Never re-use brake fluid left over from the previous servicing and stored for a long period.

## COOLANT

Use an anti-freeze/coolant compatible with an aluminum radiator, mixed with distilled water only, at the ratio of 50 : 50.

### WATER FOR MIXING

Use distilled water only. Water other than distilled water can corrode and clog the aluminum radiator.

### ANTI-FREEZE/COOLANT

The coolant performs as corrosion and rust inhibitor as well as anti-freeze. Therefore, the coolant should be used at all times even through the atmospheric temperature in your area does not go down to freezing point.

SUZUKI recommends the use of SUZUKI GOLDEN CRUISER 1 200 NA (Non-amine type) anti-freeze/coolant. If this is not available, use an equivalent which is compatible with an aluminum radiator.

### REQUIRED AMOUNT OF WATER/COOLANT

Solution capacity (total): 1 600 ml (1.7/1.4 US/Imp qt)

### CAUTION:

Mixing of anti-freeze/coolant should not exceed 60%. Mixing beyond it would reduce its efficiency. If the anti-freeze/coolant mixing ratio is below 50%, the rust inhibiting performance is greatly reduced. Be sure to mix the solution at 50%, even though the atmospheric temperature does not go down to freezing point.

## 1.3 GENERAL INFORMATION

### BREAKING-IN PROCEDURES

During manufacture only the best possible materials are used and all machined parts are finished to a very high standard, but it is still necessary to allow the moving parts to "BREAK-IN" before subjecting the engine to maximum stresses. The future performance and reliability of the engine depends on the care and restraint exercised during its early life. The general rules are as follows:

- Keep to these breaking-in engine speed limits:

Initial 800 km	Below 6 000 r/min
Up to 1 600 km	Below 8 000 r/min
Over 1 600 km	Below 11 500 r/min

- Upon reaching an odometer reading of 1 600 km you can subject the motorcycle to full throttle operation.  
However, do not exceed 11 500 r/min at any time.





### CYLINDER IDENTIFICATION

The two cylinders of this engine are identified as Left and Right cylinder, as shown in the photograph. (as viewed by the rider on the seat)







## SPECIAL MATERIALS

The materials listed below are needed for maintenance work on the RGV250, and should be kept on hand for ready use. They supplement such standard materials as cleaning fluids, lubricants, emery cloth and the like. How to use them and where to use them are described in the text of this manual.

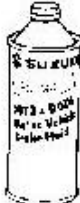


MATERIAL	PART	PAGE	PART	PAGE
 <p>SUZUKI SUPER GREASE "A" 99000-25010</p>	<ul style="list-style-type: none"> <li>• Side stand pivot</li> <li>• Brake pedal pivot and brake rod link</li> <li>• Gearshift lever mounting boss</li> <li>• Oil seals</li> </ul>	<p>2- 2</p> <p>3-37</p>	<ul style="list-style-type: none"> <li>• Wheel bearing</li> <li>• Steering stem bearing</li> <li>• Rear sprocket mounting drum bearing</li> <li>• Swingarm, cushion lever bearing</li> <li>• Cushion lever and cushion lever rod</li> </ul>	<p>7- 3</p> <p>7-18</p> <p>7-31</p> <p>7-44</p> <p>7-45</p>
 <p>THREAD LOCK SUPER "1322" 99000-32110</p>	<ul style="list-style-type: none"> <li>• Actuator pulley bolt</li> </ul>	<p>3-11</p>		
 <p>SUZUKI BOND No. 1215 99000-31110</p>	<ul style="list-style-type: none"> <li>• Driveshaft bearing retainer</li> <li>• Crankcase upper</li> <li>• Water pump mechanical seal housing</li> </ul>	<p>3-37</p> <p>3-38</p> <p>3-46</p>		
 <p>THREAD LOCK SUPER "1333B" 99000-32020</p>	<ul style="list-style-type: none"> <li>• Gearshift pole lifter plate screw</li> <li>• Gearshift cam guide</li> </ul>	<p>3-41</p> <p>3-41</p>		

# 1-5 GENERAL INFORMATION

MATERIAL	PART	PAGE	PART	PAGE
 <p>THREAD LOCK SUPER "1303" 99000-32110</p>	<ul style="list-style-type: none"> <li>• Kick starter shaft stopper</li> <li>• Cylinder lock bolt</li> </ul>	<p>3-43 7-13</p>		
 <p>THREAD LOCK SUPER "1324" 99000-32120</p>	<ul style="list-style-type: none"> <li>• Magneto rotor nut</li> </ul>	<p>3-50</p>		
 <p>THREAD LOCK SUPER "1360" 99000-32130</p>	<ul style="list-style-type: none"> <li>• Disc plate bolt</li> </ul>	<p>7- 3 7-28</p>		
 <p>THREAD LOCK "1342" 99000-32050</p>	<ul style="list-style-type: none"> <li>• Counter bearing shaft retainer</li> <li>• Shifting cam shaft</li> <li>• Cam stopper arm support bolt</li> <li>• Cam stopper arm support nut</li> <li>• Gearshift pole lifter plate screw</li> <li>• Gearshift cam guide screw</li> <li>• Magneto stator and signal generator screw</li> <li>• Exhaust valve arm bolt</li> </ul>	<p>3-41 3-41 3-41 3-41 3-41 3-41 3-50 3-52</p>		



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MATERIAL	PART	PAGE	PART	PAGE
 <p>SUZUKI BRAKE FLUID 89000-23110 (0.5L)</p>				
 <p>SUZUKI FORK OIL # 10 99000-99044-10G</p>				
 <p>SUZUKI GOLDEN CRUISER 1200 NA Non Amine type (2.0L) 99000-99032-10X</p>	<ul style="list-style-type: none"> <li>• Coolant</li> </ul>			

## PRECAUTION AND GENERAL INSTRUCTION

Observe the following items without fail when servicing, disassembling and reassembling motorcycles.

- Do not run engine indoors with little or no ventilation.
- Be sure to replace packings, gaskets, circlips, O rings and cotter pins with new ones.

### CAUTION:

Never reuse a circlip. After a circlip has been removed from a shaft, it should be discarded and a new circlip must be installed.

When installing a new circlip, care must be taken not to expand the end gap larger than required to slip the circlip over the shaft.

After installing a circlip, always insure that it is completely seated in its groove and securely fitted.

- Tighten cylinder head and case bolts and nuts beginning with larger diameter and ending with smaller diameter, and from inside to outside diagonally, to the specified tightening torque.
- Use special tools where specified.
- Use genuine parts and recommended oils.
- When 2 or more persons work together, pay attention to the safety of each other.
- After the reassembly, check parts for tightness and operation.
- Treat gasoline, which is extremely flammable and highly explosive, with greatest care. Never use gasoline as cleaning solvent.

Warning, Caution and Note are included in this manual occasionally, describing the following contents.

**WARNING** ..... The personal safety of the rider or bystanders maybe involved. Disregarding this information could result in personal injury.

**CAUTION** ..... These instructions point out special service procedures or precautions that must be followed to avoid damaging the machine.

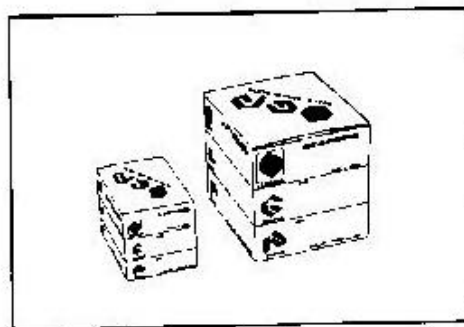
**NOTE** ..... This provides special information to make maintenance easier or important instructions clearer.

## REPLACEMENT PARTS

When you replace any parts, use only genuine SUZUKI replacement parts, or their equivalent. Genuine SUZUKI parts are high quality parts which are designed and built specifically for SUZUKI vehicles.

### CAUTION:

Use of replacement parts which are not equivalent in quality to genuine SUZUKI parts can lead to performance problems and damage.



## ASBESTOS INFORMATION

Note the following when handling a supply part with the above WARNING LABEL or any part in the parts list in this section which contains asbestos.

- Operate if possible out of doors in a well ventilated place.
- Preferably use hand tools or low speed tools equipped, if necessary, with an appropriate dust extractor facility. If high speed tools are used, they should always be so equipped.
- If possible, dampen before cutting or drilling.
- Dampen dust and place it in a properly closed receptacle and dispose of it safely.

Any domestic asbestos product to which the above does not apply, but which is likely to release fibres during use should be replaced by new one when worn.



1.	Clutch cover gasket
2.	Drive shaft bearing retainer gasket
3.	Cylinder cover gasket
4.	Exhaust pipe gasket

## SPECIFICATIONS

### DIMENSIONS AND DRY MASS

Overall length	2 015 mm (79.3 in)
Overall width	695 mm (27.4 in)
Overall height	1 065 mm (41.9 in)
Wheelbase	1 375 mm (54.1 in)
Ground clearance	120 mm (4.7 in)
Seat height	755 mm (29.7 in)
Dry mass	128 kg (282 lbs)

### ENGINE

Type	Two-stroke, water-cooled, 90° V-twin
Number of cylinders	2
Bore	56.0 mm (2.205 in)
Stroke	50.6 mm (1.992 in)
Piston displacement	249 cm <sup>3</sup> (15.2 cu. in)
Compression ratio	7.5 : 1
Carburetor	MIKUNI VM32SS
Air cleaner	Polyurethane foam element
Starter system	Primary kick
Lubrication system	SUZUKI "CCI"

### TRANSMISSION

Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down, 5-up
Primary reduction	2.565 (59/23)
Final reduction	3.066 (46/15)
Gear ratios, Low	2.454 (27/11)
2nd	1.625 (26/16)
3rd	1.235 (21/17)
4th	1.045 (23/22)
5th	0.916 (22/24)
Top	0.840 (21/25)
Drive chain	DAIDO : DID 520V <sub>2</sub> TAKASAGO : RK520M06 114 links

### CHASSIS

Front suspension	Telescopic, coil spring, oil damped, spring 5-way, adjustable.
Rear suspension	Full-floating suspension system, gas/coil spring, oil damped, spring 7-way, adjustable.
Steering angle	30° (right & left)
Caster	64° 25'
Trail	98 mm (3.86 in)
Turning radius	3.1 m (10.2 ft)
Front brake	Disc brake, twin
Rear brake	Disc brake
Front tire size	110/70 R17 53H
Rear tire size	140/60 R18 64H
Front fork stroke	120 mm (4.7 in)
Rear wheel travel	140 mm (5.5 in)

### ELECTRICAL

Ignition type	SUZUKI "PEI"
Ignition timing	14° B.T.D.C. below 1 300 r/min
Spark plug	N.G.K.: BR9ES
Battery	12V 10.8 KC (3Ah)/10HR
Generator	Three-phase A.C. generator
Fuse	20A

### CAPACITIES

Fuel tank	
including reserve	17L (4.5/3.7 US/Imp gal)
reserve	5.5L (5.8/4.8 US/Imp qt)
Engine oil	1.1L (1.2/1.0 US/Imp qt)
Transmission	700 ml (23.7/24.6 US/Imp oz)
Coolant	1.6L (1.7/1.4 US/Imp qt)
Front fork oil	429 ml (14.5/15.1 US/Imp qt)