SUZUKI

GSX-R1100W

SERVICE MANUAL

99500-39113-03E
(英)

SUZUKI MOTOR CORPORATION PRINTED IN JAPAN NOVEMBER, '92 (TK)

FOREWORD

This manual contains an introductory description on SUZUKI GSX-R1100W and procedures for its inspection/service and overhaul of its main components.
Other information considered as generally known is not included.
Read GENERAL INFORMATION section to familiarize yourself with outline of the vehicle and MAINTENANCE and other sections to use as a guide for proper inspection and service.
This manual will help you know the vehicle better so that you can assure your customers of your optimum and quick service.

* *This manual has been prepared on the basis of the latest specification at the time of publication.*
  If modification has been made since then, difference may exist between the content of this manual and the actual vehicule.
* *Illustrations in this manual are used to show the basic principles of operation and work procedures.*
  They may not represent the actual vehicle exactly in detail.
* *This manual is intended for those who have enough knowledge and skills for servicing SUZUKI vehicles. Without such knowledge and skills, you should not attempt servicing by relying on this manual only.*
  Instead, please contact your nearby authorized SUZUKI motorcycle dealer.

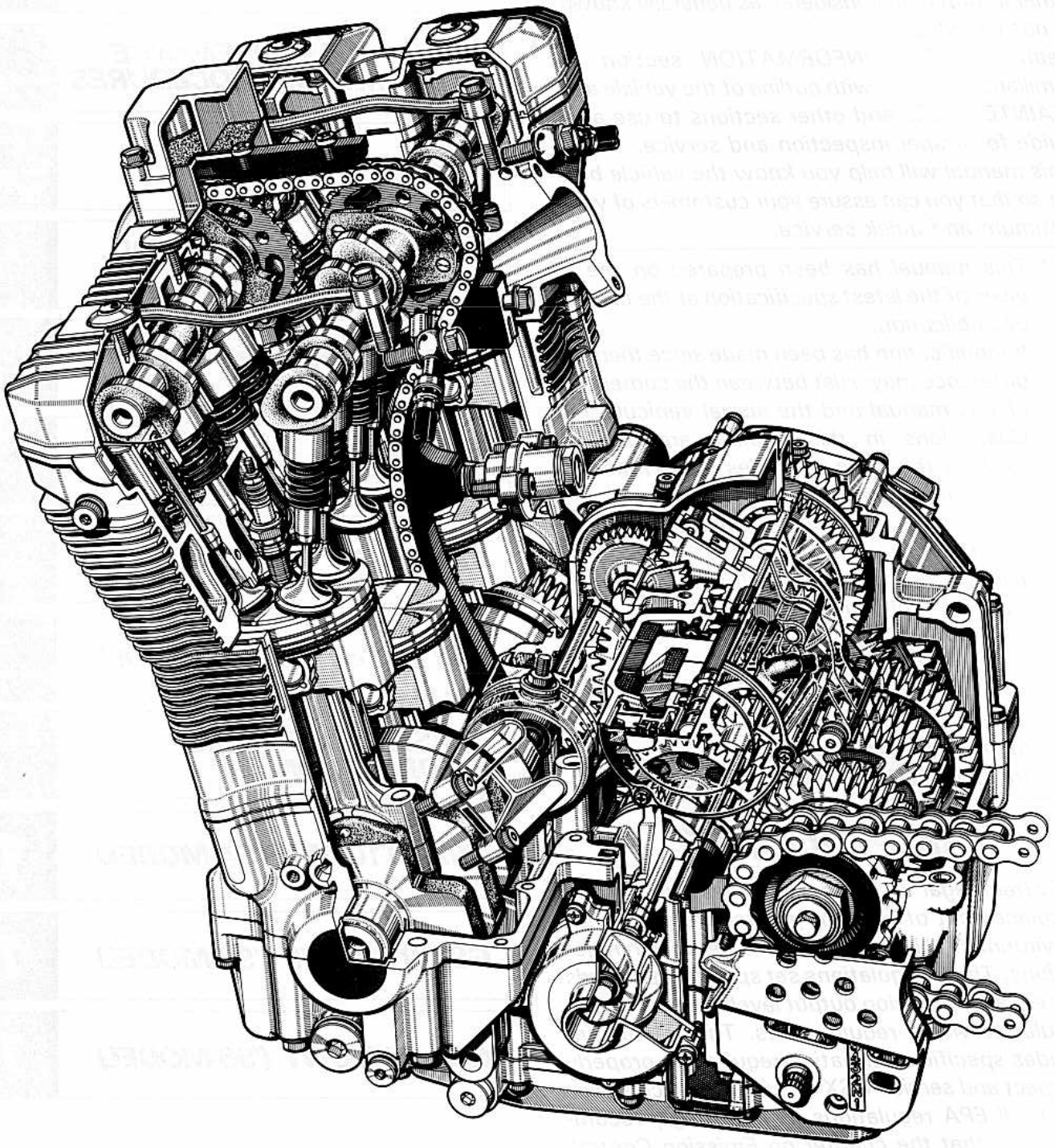
IMPORTANT

All street-legal Suzuki motorcycles with engine displacement of 50cc or greater are subject to Environmental Protection agency emission regulations. These regulations set specific standards for exhaust emission output levels as well as particular servicing requirements. This manual includes specific information required to properly inspect and service GSX-R1100W in accordance with all EPA regulations. It is strongly recommended that the chapter on Emission Control, Periodic Servicing and Carburetion be thoroughly reviewed before any type of service work is performed.

Further information concerning the EPA emission regulations and U.S. Suzuki's emission control program can be found in the U.S. SUZUKI EMISSION CONTROL PROGRAM MANUAL/SERVICE BULLETIN.

GROUP INDEX

SUZUKI MOTOR CORPORATION
Overseas Service Department



GENERAL INFORMATION

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CONTENTS

SUZUKI GSX-R1100WP ('93-MODEL)

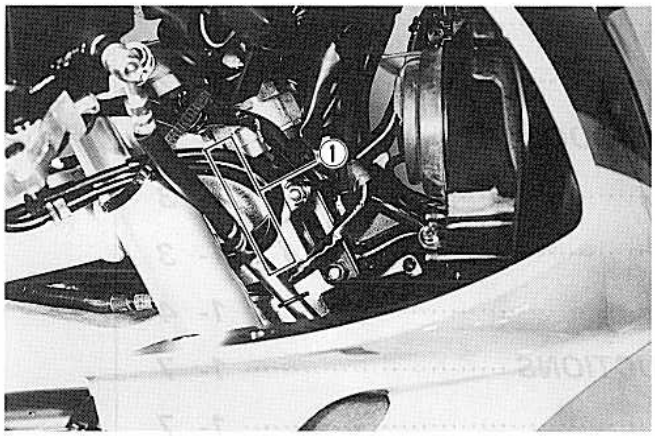
RIGHT SIDE

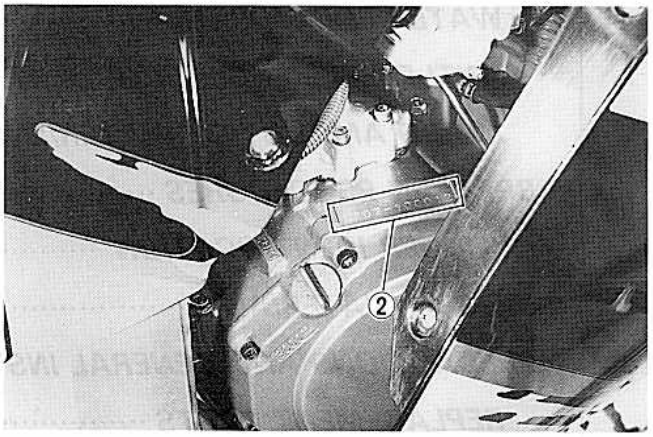
LEFT SIDE

*Difference between photographs and actual motorcycles depends on the markets.

SERIAL NUMBER LOCATION

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





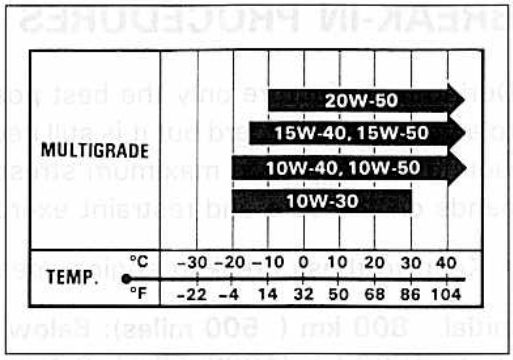
FUEL, OIL AND COOLANT RECOMMENDATION

FUEL

1. Use only unleaded gasoline of at least 87 pump octane ($\frac{R+M}{2}$) method or 91 octane or higher rated by the research method.
2. Suzuki recommends that customers use alcohol free, unleaded gasoline whenever possible.
3. Use of blended gasoline containing MTBE (Methyl Tertiary Butyl Ether) is permitted.
4. Use of blended gasoline/alcohol fuel is permitted provided that it contains not more than 10% ethanol. Gasoline/alcohol fuel may contain up to 5% methanol if appropriate cosolvents and corrosion inhibitors are present.
5. If the performance of the vehicle is unsatisfactory while using blended gasoline/alcohol fuel, you should switch to alcohol free unleaded gasoline.
6. Failure to follow these guideline could possibly void applicable warranty coverage. Check with you fuel supplier to be sure that the fuel you intend to use meets the requirements listed above.

ENGINE OIL

SUZUKI recommends the use of SUZUKI PERFORMANCE 4 MOTOR OIL or an oil which is rated SE or SF under the API (American Petroleum Institute) classification system. The viscosity rating is SAE 10W/40. If an SAE 10W/40 motor oil is not available, select an alternate according to the right chart.



BRAKE FLUID

Specification and classification: 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 a previous servicing, which has been stored for a long period.**

FRONT FORK OIL

Use fork oil L01.

ENGINE COOLANT

Use an anti-freeze/coolant compatible with an aluminum radiator, mixed with distilled water only.

WATER FOR MIXING

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

ANTI-FREEZE/ENGINE COOLANT

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

LIQUID AMOUNT OF WATER/ENGINE COOLANT

Solution capacity (total): 2450 ml (2.6/2.2 US/Imp qt)

For engine coolant mixture information, refer to cooling system section, page 5-4.

CAUTION:

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

BREAK-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 break-in engine speed limits:

Initial 800 km (500 miles): Below 6000 r/min
Up to 1600 km (1000 miles): Below 9000 r/min
Over 1600 km (1000 miles): Below 11500 r/min

- Upon reaching an odometer reading of 1600 km (1000 miles) you can subject the motorcycle to full throttle operation. However, do not exceed 11500 r/min at any time.

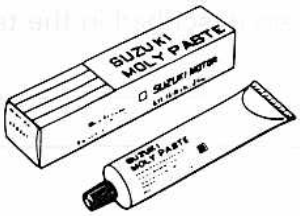
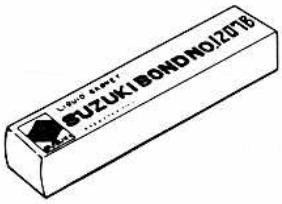
CYLINDER IDENTIFICATION

The four cylinders of this engine are identified as No.1, No.2, No.3 and No.4 cylinder, as counted from left to right (as viewed by the rider on the seat).

SPECIAL MATERIALS

The materials listed below are needed for maintenance work on the GSX-R1100W, 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
 SUZUKI BRAKE FLUID DOT3 & DOT4 99000-23110	• Clutch • Brakes	2-11 2-14 7-18 7-21 7-39 7-41
 SUZUKI SUPER GREASE "A" 99000-25030	• Brake pedal pivot • Footrest pivot • Side-stand pivot and spring hook • Driveshaft oil seal • Generator O-ring • Starter motor O-ring • Water pump O-ring • Generator oil seal • Starter motor oil seal • Wheel bearing • Speedometer gear box dust seal • Steering stem bearing and dust seat • Swingarm spacer, washer, bearing and dust seal • Cushion lever/rod bearing • Water pump oil seal • Sprocket mounting drum bearing and oil seal	2- 2 2- 2 2- 2 3-45 3-60 3-60 3-59 6- 7 6-17 7-8,45 7- 9 7-33 7-54 7-54 5-13 7-45

MATERIAL	PART	PAGE
 SUZUKI MOLY PASTE 99000-25140	• Valve stem • Conrod big end bearing • Countershaft and driveshaft • Piston pin • Crankshaft journal bearing • Camshaft journal and cam face • Starter motor armature end	3-28 3-38 3-45 3-61 3-52 3-63 6-17
 SUZUKI BOND NO.1207B 99104-31140	• Oil pressure switch • Mating surface of upper and lower crankcases • Mating surface of clutch cover • Signal generator lead wire grommet • Mating surface of starter clutch cover • Mating surface of signal generator cover • Camshaft end cap and head cover groove • Temperature gauge • Water pump mechanical seal	3-54 3-52 3-57 3-58 3-59 3-67 3-67 5-10 5-13
 THREAD LOCK SUPER "1303" 99000-32030	• Cam sprocket bolt • Cam chain guide screw and bolt • Starter clutch bolt • Gearshift arm stopper bolt	3-31 3-32 3-49 3-54
 THREAD LOCK "1342" 99000-32050	• Starter motor housing bolt • Countershaft bearing retainer screw • Gearshift cam guide screw and pawl lifter screw and nut • Carburetor set plate screw • Generator bearing retainer screw • Oil pump mounting bolt • Gearshift cam stopper bolt • Gearshift cam stopper plate bolt	6-17 3-54 3-54 4-15 6- 7 3-50 3-21 3-50

MATERIAL	PART	PAGE
 THREAD LOCK SUPER "1360" 99000-32130	• Brake disc mounting bolt	7-8, 46
 SUZUKI FORK OIL L01 99000-99044-L01	• Front fork	7-26

PRECAUTIONS AND GENERAL INSTRUCTIONS

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

☐ Do not run engine indoors with little or no ventilation.

☐ Be sure to replace packing, 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 engine with smaller diameter, and from inside to out-side 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 safety of each other.

☐ After the reassembly, check parts for tightness and operation.

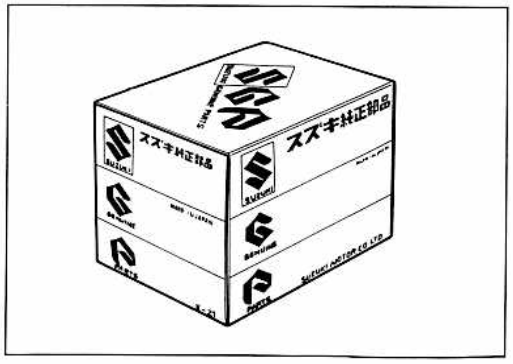
☐ Treat gasoline, which is extremely flammable and highly explosive, with greatest care. Never use gasoline as cleaning solvent.

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

WARNING ..... **The personal safety of the rider may be involved. Disregarding this information could result in injury to the rider.**
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.*

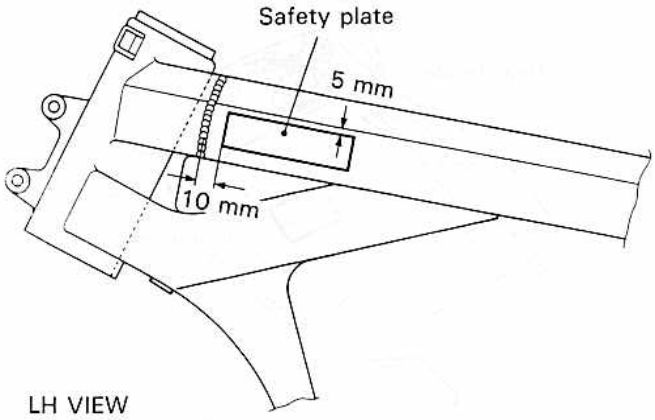
REPLACEMENT PARTS

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.

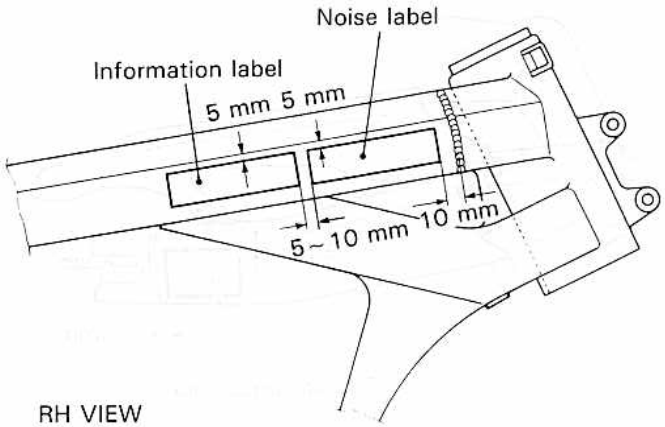


CAUTION:
Use of replacement parts which are not equivalent in quality to genuine SUZUKI parts can lead to performance problems and damage.

INFORMATION LABELS

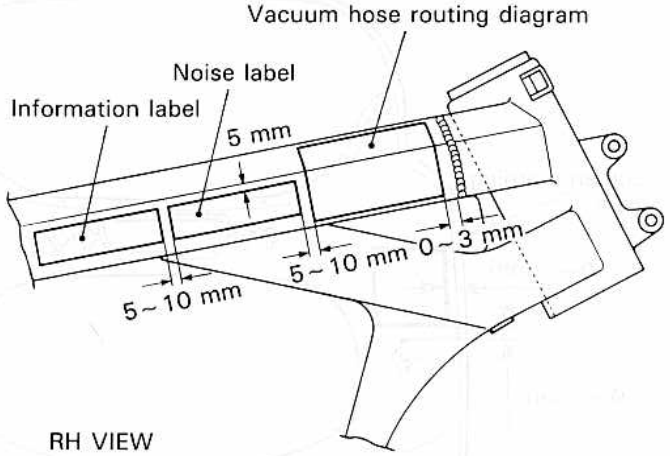


LH VIEW

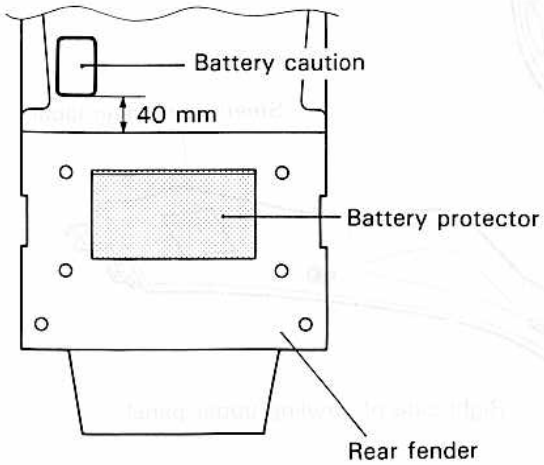


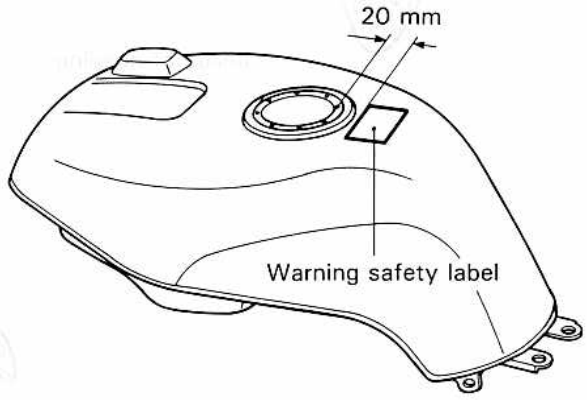
RH VIEW

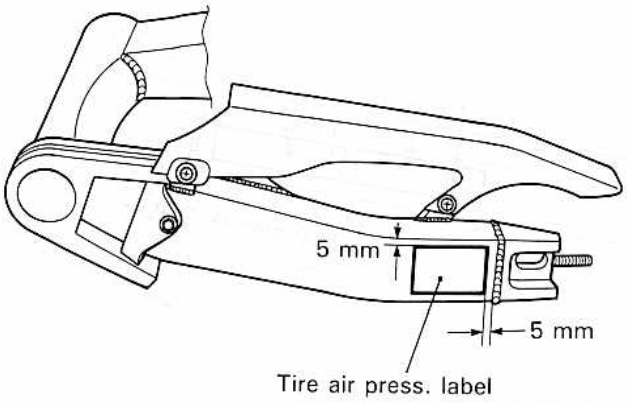
(CALIFORNIA MODEL ONLY)

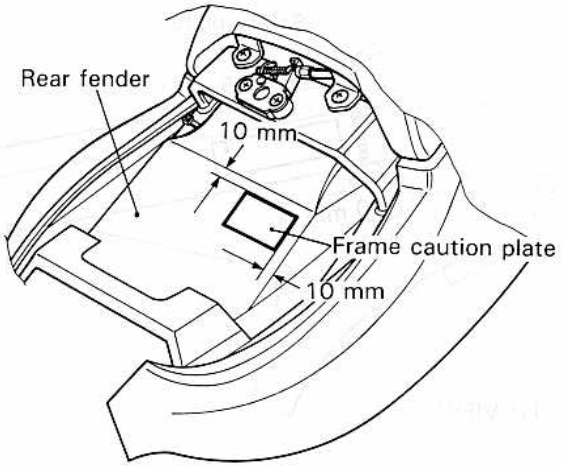


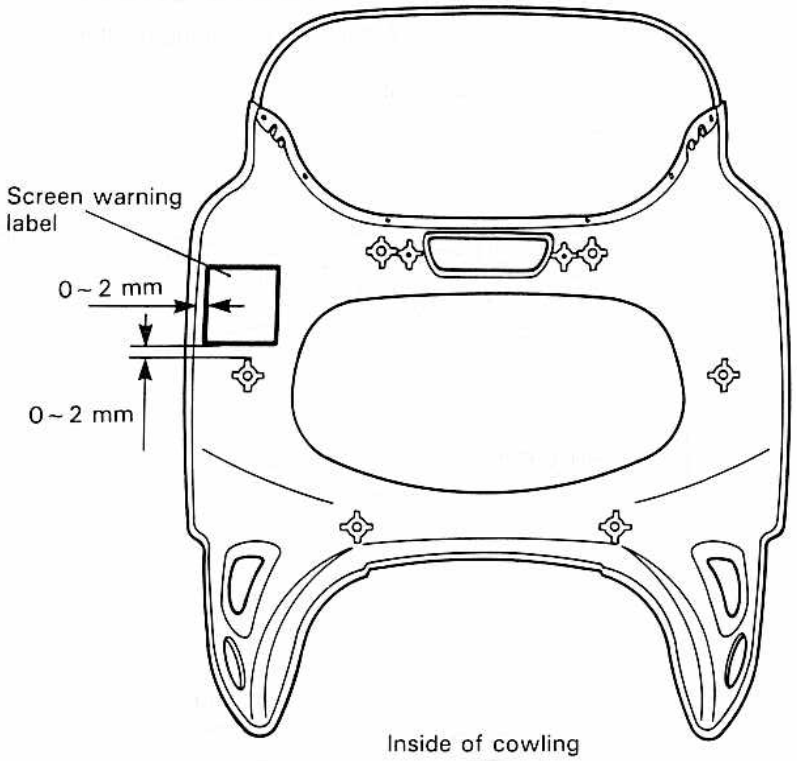
RH VIEW



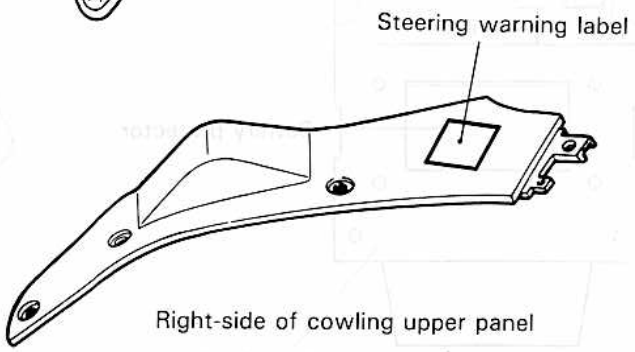








Inside of cowling



Right-side of cowling upper panel

SPECIFICATIONS

DIMENSIONS AND DRY MASS

Overall length	2 130 mm (83.9 in)	
Overall width	755 mm (29.7 in)	
Overall height	1 190 mm (46.9 in)	
Wheelbase	1 485 mm (58.5 in)	
Ground clearance	130 mm (5.1 in)	
Dry mass	233 kg (514 lbs)	For E-33 model
	231 kg (509 lbs)	For E-03 model

ENGINE

Type	Four-stroke, Water-cooled, DOHC, TSCC
Number of cylinders	4
Bore	75.5 mm (2.972 in)
Stroke	60.0 mm (2.362 in)
Piston displacement	1074 cm^3 (65.5 cu. in)
Carburetor	MIKUNI BST36
Air cleaner	Non-woven fabric element
Starter system	Electric starter
Lubrication system	Wet sump

TRANSMISSION

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down, 4-up
Primary reduction ratio	1.565 (72/46)
Final reduction ratio	2.800 (42/15)
Gear ratios, Low	2.714 (38/14)
2nd	1.809 (38/21)
3rd	1.409 (31/22)
4th	1.181 (26/22)
5th	1.038 (27/26)
Drive chain	TAKASAGO RK532GSV$_2$, 114 links

CHASSIS

Front suspension	Inverted telescopic, coil spring, oil damped, spring pre-load adjustable, rebound and compression damping force adjustable.
Rear suspension	Link type system, gas/oil damped, coil spring, spring pre-load adjustable, rebound and compression force adjustable.
Steering angle	30° (right & left)
Caster	65° 10′
Trail	100 mm (3.9 in)
Turning radius	3.2 m (10.5 ft)
Front brake	Disc brake, twin
Rear brake	Disc brake
Front tire size	120/70 ZR17, tubeless
Rear tire size	180/55 ZR17, tubeless
Front fork stroke	120 mm (4.7 in)
Rear wheel travel	160 mm (6.3 in)

ELECTRICAL

Ignition type	Electronic Ignition (Fully Transistorized)
Ignition timing	13° B.T.D.C. at 1500 r/min ..... For E-03 model 7° B.T.D.C. at 1500 r/min ..... For E-33 model
Spark plug	N.G.K.: CR9E NIPPONDENSO U27ESR-N
Battery	12V 36.0 kC (10 Ah)/10 HR
Generator	Three-phase A.C. Generator
Main fuse	30A
Fuse	15/15/10/15/10A
Headlight	12V 60/55W x 2
Turn signal light	12V 21W
Front position light	12V 5W
Tail/Brake light	12V 5/21W x 2
Speedometer light	12V 1.7W
Tachometer light	12V 1.7W x 2
Neutral indicator light	14V 3W
High beam indicator light	14V 3W
Turn signal indicator light	14V 3W
Oil pressure indicator light	14V 3W
Fuel level indicator light	14V 3W

CAPACITIES

Fuel tank, including reserve	21.0 L (5.5/4.6 US/Imp gal) ..... For E-03 model 18.5 L (4.9/4.1 US/Imp gal) ..... For E-33 model
Engine oil, oil change	3 000 ml (3.2/2.6 US/Imp qt)
with filter change	3 300 ml (3.5/2.9 US/Imp qt)
overhaul	3 900 ml (4.1/3.4 US/Imp qt)
Front fork oil	425 ml (14.4/15.0 US/Imp oz)
Coolant	2 450 ml (2.6/2.2 US/Imp qt)

These specifications are subject to change without notice.

COUNTRY OR AREA

The series of symbols on the left stand for the countries or area on the right.

SYMBOL	COUNTRY or AREA
E-03	U.S.A.
E-33	California (U.S.A.)

PERIODIC MAINTENANCE AND TUNE-UP PROCEDURES

CONTENTS

PERIODIC MAINTENANCE SCHEDULE

IMPORTANT: The periodic maintenance intervals and service requirements have been established in accordance with EPA regulations. Following these instructions will ensure that the motorcycle will not exceed emission standards and it will also ensure the reliability and performance of the motorcycle.

The chart below lists the recommended intervals for all the required periodic service work necessary to keep the motorcycle operating at peak performance and economy. Mileages are expressed in terms of kilometer, miles and time for your convenience.

NOTE:
More frequent servicing may be performed on motorcycles that are used under severe conditions however, it is not necessary for ensuring emission level compliance.

PERIODIC MAINTENANCE CHART

Item \ Interval	km	1000	6000	12000	18000	24000
	miles	600	4000	7500	11000	15000
	months	2	12	24	36	48
Exhaust pipe bolts		—	T	T	T	T
Air cleaner		—	I	I	R	I
Tappet clearance		—	—	I	—	I
Spark plug		—	I	R	I	R
Engine oil		R	R	R	R	R
Engine oil filter		R	—	R	—	R
Fuel line (EVAP hose . . . . . California model only)		—	I	I	I	I
		Replace every 4 years				
Fuel cock filter		—	—	C	—	C
Engine idle rpm (Carburetor)		I	I	I	I	I
Throttle cable play (Carburetor)		I	I	I	I	I
Clutch hose		—	I	I	I	I
		Replace every 4 years				
Clutch fluid		—	—	I	—	I
		Replace every 2 years				
Drive chain		I	I	I	I	I
		Lubricate every 1000 km (600 miles)				
Radiator hose		—	I	I	I	I
		Replace every 4 years				
Engine coolant		Replace every 2 years				
Brake		I	I	I	I	I
Brake hose		—	I	I	I	I
		Replace every 4 years				
Brake fluid		—	I	I	I	I
		Replace every 2 years				
Tire		—	I	I	I	I
Steering		I	—	I	—	I
Front fork		—	—	I	—	I
Rear suspension		—	—	I	—	I
Chassis bolts and nuts		T	T	T	T	T

I = Inspection and adjust, clean, lubricate or replace as necessary
C = Clean R = Replace T = Tighten