

FOREWORD

The SUZUKI VX800 has been developed as a new generation motorcycle. It is packed with highly advanced design concepts including a V-2 engine, a liquid cooling system, a new highly efficient combustion system (TSCC), a fully transistorized ignition system and a shaft drive mechanism. Combined with precise control and easy handling the VX800 provides excellent performance and outstanding riding comfort.

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.

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 VX800 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.

SUZUKI MOTOR CORPORATION

Motorcycle Technical
Service Department

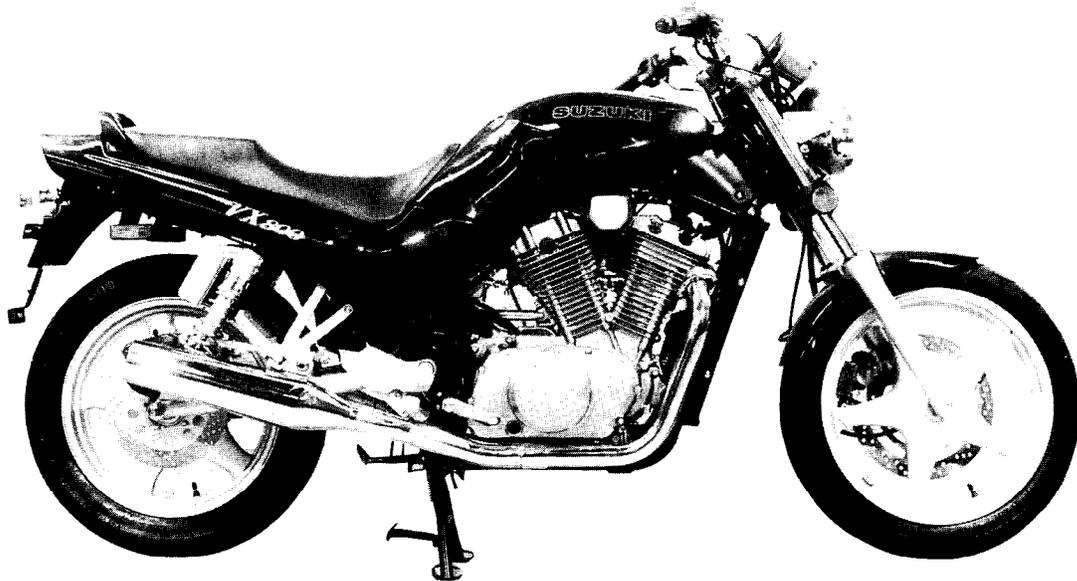
GROUP INDEX

GENERAL INFORMATION	1
PERIODIC MAINTENANCE AND TUNE-UP PROCEDURES	2
ENGINE	3
SHAFT DRIVE	4
COOLING SYSTEM	5
FUEL AND LUBRICATION SYSTEM	6
ELECTRICAL SYSTEM	7
CHASSIS	8
SERVICING INFORMATION	9
EMISSION CONTROL INFORMATION	10
VX800M ('91-MODEL)	11
VX800N ('92-MODEL)	12
VX800P ('93-MODEL)	13

VIEW OF SUZUKI VX800L



LEFT SIDE



RIGHT SIDE

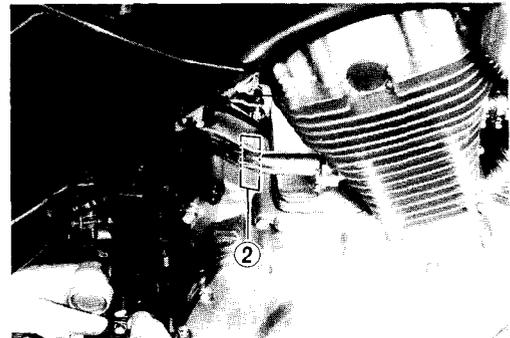
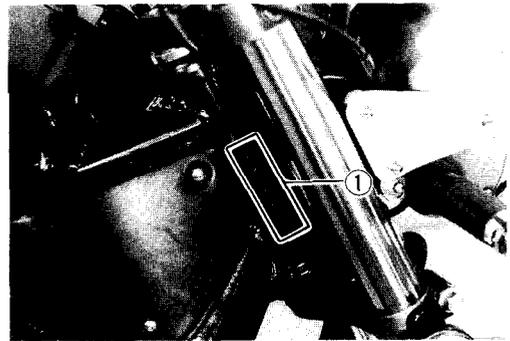
GENERAL INFORMATION

CONTENTS

SERIAL NUMBER LOCATION	1- 1
FUEL, OIL AND COOLANT RECOMMENDATION	1- 1
BREAK-IN PROCEDURES	1- 3
CYLINDER IDENTIFICATION	1- 3
SPECIAL MATERIALS	1- 4
PRECAUTIONS AND GENERAL INSTRUCTIONS	1- 7
SPECIFICATIONS	1- 9
COUNTRY OR AREA	1-11

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 (For U.S.A. model)

1. Use only unleaded gasoline of at least 87 pump octane by the $\frac{R+M}{2}$ 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 the fuel contains not more than 10% ethanol. Gasoline/alcohol fuel may contain up to 5% methanol if appropriate cosolvents and corrosion inhibitors are present in it.
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 your fuel supplier to make sure that the fuel you intend to use meets the requirements listed above.

FUEL (For Canadian model)

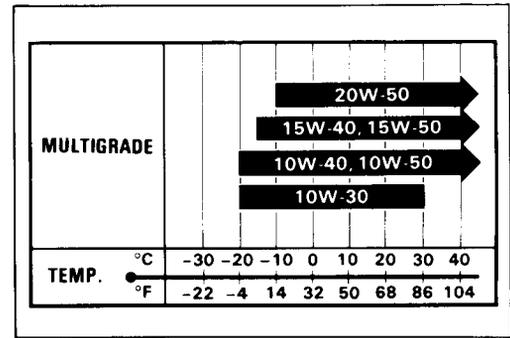
Use only unleaded gasoline of at least 87 pump octane by the $\frac{R+M}{2}$ method or 91 octane or higher rated by the Research method.

FUEL (For the other models)

Gasoline used should be graded 85 – 95 octane by the Research method or higher. An unleaded gasoline is recommended.

ENGINE OIL (For U.S.A. model)

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 following chart.



ENGINE OIL (For the other models)

Make sure that the engine oil you use comes under API classification of SE or SF and that its viscosity rating is SAE 10W/40. If an SAE 10W/40 motor oil is not available, select an alternate according to the following chart.

GEAR OIL (FINAL DRIVE GEAR BOX)

Use SAE 90 hypoid gear oil which is rated GL-5 under API classification system. If you operate the motorcycle where ambient temperature is below 0°C (32°F), use SAE 80 hypoid gear oil.

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 reuse brake fluid left over from a previous servicing, which has been stored for a long period.

FRONT FORK OIL

Use fork oil # 10.

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/COOLANT

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

Suzuki recommends the use of SUZUKI GOLDEN CRUISER 1200NA anti-freeze/coolant. If this is not available, use an equivalent which is compatible with an aluminum radiator.

LIQUID AMOUNT OF WATER/COOLANT

Solution capacity (total): 1700 ml (1.8/1.5 US/Imp. qt)

For coolant mixture information, refer to cooling system section, page 5-2.

CAUTION:

Mixing of anti-freeze/coolant should be limited to 60%. Mixing beyond it would reduce its efficiency. If the anti-freeze/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 exercise during its early life. The general rules are as follows.

- Keep to these break-in engine speed limits:

Initial 800 km (500 miles) : Below 4000 r/min

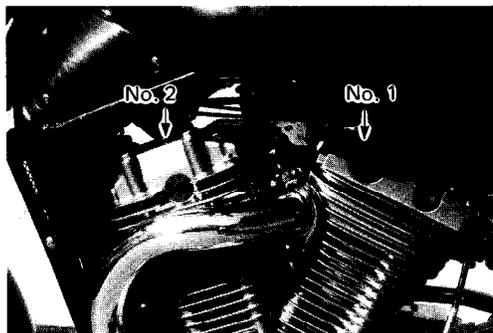
Up to 1600 km (1000 miles) : Below 6000 r/min

Over 1600 km (1000 miles) : Below 8500 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 8500 r/min at any time.

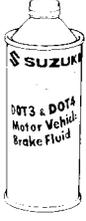
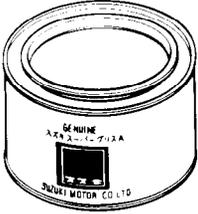
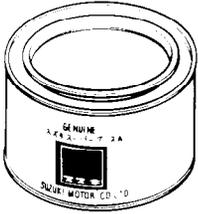
CYLINDER IDENTIFICATION

The two cylinders of this engine are identified as No. 1, and No. 2 cylinder, as counted from rear to front (as viewed by the rider on the seat).

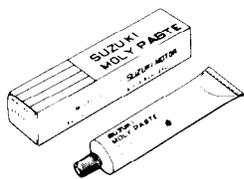
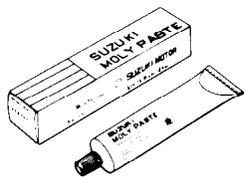
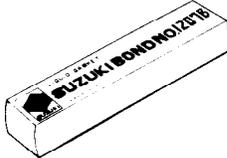
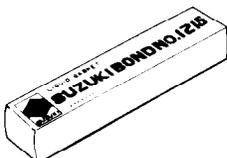
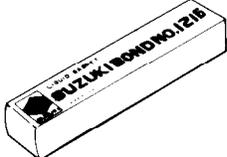


SPECIAL MATERIALS

The materials listed below are needed for maintenance work on the VX800, 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
For U.S.A. model	For other models		
 <p>SUZUKI BRAKE FLUID DOT3 & DOT4 99000-23110</p>	 <p>SUZUKI BRAKE FLUID DOT3 & DOT4 99000-23110</p>	<ul style="list-style-type: none"> • Brakes 	2-12
 <p>SUZUKI GOLDEN CRUISER 1200NA 99000-99032-10X</p>	 <p>SUZUKI GOLDEN CRUISER 1200NA 99000-99032-10X</p>	<ul style="list-style-type: none"> • Coolant 	2-10
 <p>SUZUKI SUPER GREASE "A" 99000-25030</p>	 <p>SUZUKI SUPER GREASE "A" 99000-25010</p>	<ul style="list-style-type: none"> • Brake pedal pivot • Footrest pivot • Gearshift lever pivot • Side-stand pivot and spring hook • Center stand pivot and spring hook • O-ring of oil jet • Secondary bevel gear case oil seal and O-ring • Final driven gear oil seal • Final driven bevel gear coupling • Starter motor armature bearing and dust seal • Wheel bearing • Speedometer gear box dust seal • Steering stem bearing and dust seal • Brake pedal boss • Final driven gear spline and O-ring • Swingarm spacer, bearing and dust seal 	<p>2-2 2-2 2-2 2-2 2-2 3-17 4-4 4-15 4-19 7-12 8-3, 29 8-4 8-17 8-25 8-30 8-39</p>

1-5 GENERAL INFORMATION

MATERIAL		PART	PAGE
For U.S.A. model	For other models		
 <p>SUZUKI SILICONE GREASE 99000-25100</p>	 <p>SUZUKI SILICONE GREASE 99000-25100</p>	<ul style="list-style-type: none"> • Brake caliper axle 	8-5
 <p>SUZUKI MOLY PASTE 99000-25140</p>	 <p>SUZUKI MOLY PASTE 99000-25140</p>	<ul style="list-style-type: none"> • Valve stem • Conrod big end bearing • Countershaft and driveshaft • Piston pin • Crankshaft journal bearing • Camshaft journal and cam face • Rocker arm and shaft • Starter motor housing end bushing 	<p>3-30</p> <p>3-37</p> <p>3-43</p> <p>3-56</p> <p>3-45</p> <p>3-58</p> <p>3-60</p> <p>7-12</p>
 <p>SUZUKI BOND NO. 1207B 99104-31140</p>	 <p>SUZUKI BOND NO. 1215 99000-31110</p>	<ul style="list-style-type: none"> • Oil pressure switch • Mating surface of right and left crankcases • Generator lead wire grommet • Mating surface of secondary bevel gear case • Mating surface between swingarm and final bevel gear case 	<p>3-17</p> <p>3-46</p> <p>3-47</p> <p>3-48</p> <p>4-20</p> <p>8-39</p>
 <p>SUZUKI BOND NO. 1216 99104-31160</p>	 <p>SUZUKI BOND NO. 1216 99000-31160</p>	<ul style="list-style-type: none"> • Cylinder head cover 	3-60
 <p>THREAD LOCK SUPER "1303" 99000-32030</p>	 <p>THREAD LOCK SUPER "1303" 99000-32030</p>	<ul style="list-style-type: none"> • Secondary driven bevel gear housing bolt • Gearshift and stopper • Cam sprocket bolt • Final driven gear bearing retainer screw • Final driven joint stopper bolt 	<p>3-49</p> <p>3-50</p> <p>3-58</p> <p>4-14</p> <p>8-30</p>

MATERIAL		PART	PAGE
For U.S.A. model	For other models		
 <p>THREAD LOCK "1342" 99000-32050</p>	 <p>THREAD LOCK "1342" 99000-32050</p>	<ul style="list-style-type: none"> • Generator stator mounting screw • Generator lead wire guide screw • Final gear case securing bolt • Starter motor housing screw • Front fork damper rod bolt 	<p>3-41</p> <p>3-41</p> <p>4-19</p> <p>7-12</p> <p>8-12</p>
 <p>THREAD LOCK SUPER "1333B" 99000-32020</p>	 <p>THREAD LOCK SUPER "1322" 99000-32110</p>	<ul style="list-style-type: none"> • Oil pipe retainer bolt • Gearshift cam stopper bolt • Gearshift cam driven gear bolt • Gearshift cam guide nut and pawl lifter screw • Oil pump securing bolt • Brake pedal boss bolt • Front footrest bolt 	<p>3-45</p> <p>3-49</p> <p>3-50</p> <p>3-50</p> <p>3-51</p> <p>8-25</p> <p>8-39</p>
 <p>THREAD LOCK SUPER "1303" 99000-32030</p>	 <p>THREAD LOCK SUPER "1324" 99000-32120</p>	<ul style="list-style-type: none"> • Crankcase bearing retainer screw and bolt 	<p>3-18</p>
 <p>THREAD LOCK SUPER "1360" 99000-32130</p>	 <p>THREAD LOCK SUPER "1360" 99000-32130</p>	<ul style="list-style-type: none"> • Brake disc mounting bolt 	<p>8-3</p> <p>8-30</p>

1-7 GENERAL INFORMATION

MATERIAL		PART	PAGE
For U.S.A. model	For other models		
 THREAD LOCK SUPER "1303" 99000-32030	 THREAD LOCK SUPER "1305" 99000-32100	<ul style="list-style-type: none"> • Generator rotor mounting bolt • Starter clutch allen bolt 	3-47 3-41
 SUZUKI FORK OIL # 10 99000-99044-10G	 SUZUKI FORK OIL # 10 99000-99044-10G	<ul style="list-style-type: none"> • Front fork 	8-13

PRECAUTIONS AND GENERAL INSTRUCTIONS

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, 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 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.

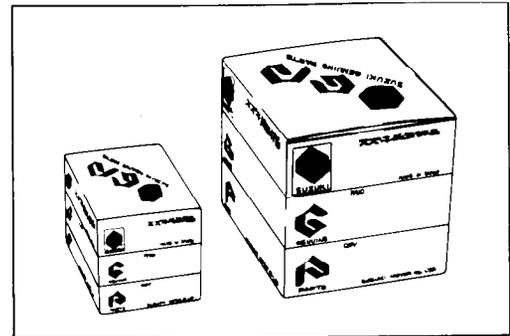
- WARNING** The personal safety of the rider or bystanders may be involved. Disregarding this information could result in personal injury.
- CAUTION** These instructions point out special service procedures or precautions that must be followed to avoid damaging the machine.
- NOTE** This provides special 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 this WARNING LABEL, or any part in the parts list 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.	Cylinder head breather cover gasket
2.	Clutch cover gasket
3.	Exhaust pipe gasket
4.	Generator cover gasket
5.	Water pump gasket

NOTE:
Refer to the VX800 parts catalogue for details.

SPECIFICATIONS

DIMENSIONS AND DRY MASS

Overall length	2280 mm (89.8 in) . . . E15, 16, 17, 22, 25, 39 2355 mm (92.7 in) . . . E18 2255 mm (88.8 in) . . . Others
Overall width	805 mm (31.7 in)
Overall height	1115 mm (43.9 in) . . . E03, 28, 33 1085 mm (42.7 in) . . . Others
Wheelbase	1565 mm (61.6 in) . . . E03, 33 1555 mm (61.2 in) . . . Others
Ground clearance	145 mm (5.7 in)
Seat height	800 mm (31.5 in) . . . E01, 03, 28, 33 795 mm (31.3 in) . . . Others
Dry mass	214 kg (472 lbs) . . . E33 213 kg (470 lbs) . . . Others

ENGINE

Type	Four-stroke, water-cooled, OHC, TSCC, 45° V-twin
Valve clearance	0.08 – 0.13 mm (0.003 – 0.005 in)
Number of cylinders	2
Bore	83.0 mm (3.268 in)
Stroke	74.4 mm (2.929 in)
Piston displacement	805 cm ³ (49.12 cu. in)
Compression ratio	10.0 : 1
Carburetor, Front	MIKUNI BDS36SS, single
Rear	MIKUNI BS36SS, single
Air cleaner	Polyester fiber element
Starter system	Electric starter motor
Lubrication system	Wet sump

TRANSMISSION

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down, 4-up
Primary reduction ratio	1.690 (71/42)
Gear ratios, Low	2.285 (32/14)
2nd	1.631 (31/19)
3rd	1.227 (27/22)
4th	1.000 (25/25)
Top	0.851 (23/27)
Secondary reduction ratio	1.133 (17/15 x 30/30) . . . E03, 33 1.096 (17/15 x 30/31) . . . Others
Final reduction ratio	3.090 (34/11)
Drive system	Shaft drive

CHASSIS

Front suspension	Telescopic, coil spring, oil damped
Rear suspension	Swingarm, coil spring, gas/oil damped, spring preload 5-way adjustable; rebound damping force 4-way adjustable ... E01, 03, 28, 33; compression damping force 4-way adjustable and rebound damping force 4-way adjustable ... Others
Front suspension stroke	150 mm (5.9 in)
Rear wheel travel	118 mm (4.6 in) ... E01, 03, 28, 33 119 mm (4.7 in) ... Others
Caster	59°
Trail	143 mm (5.63 in) ... E01, 03, 28, 33 142 mm (5.59 in) ... Others
Steering angle	35° (right & left)
Turning radius	3.2 m (10.5 ft)
Front brake	Disc
Rear brake	Disc
Front tire size	110/80-18 58H, tubeless
Rear tire size	150/70B17 69H, tubeless

ELECTRICAL

Ignition type	Fully transistorized
Ignition timing	5° B.T.D.C. below 1650 r/min and 30° B.T.D.C. above 3500 r/min ... E03, 33 T.D.C. below 1625 r/min and 30° B.T.D.C. above 3500 r/min ... E18 5° B.T.D.C. below 1625 r/min and 32° B.T.D.C. above 3750 r/min ... Others
Spark plug	NGK DPR8EA-9 or NIPPON DENSO X24EPR-U9
Battery	12V 57.6 kC (16Ah)/10HR
Fuse	25/10/10/10A
Headlight	12V 60/55W
Position light	12V 4W ... except E03, 28, 33
Turn signal light	12V 21W
Tail/Brake light	12V 5/21W
License plate light	12V 5W
Speedometer light	12V 3.4W
Tachometer light	12V 1.7W
Neutral indicator light	12V 3.4W
High beam indicator light	12V 1.7W
Turn signal light indicator light	12V 3.4W
Oil pressure indicator light	12V 3.4W
Coolant temperature check light	12V 3W

CAPACITIES

Fuel tank, including reserve	18.0 L (4.8/4.0 US/Imp. gal) . . . E33
	19.0 L (5.0/4.2 US/Imp. gal) . . . Others
Reserve	4.0 L (1.1/0.9 US/Imp. gal)
Engine oil, oil change	2400 ml (2.5/2.1 US/Imp. qt)
with filter change	2800 ml (3.0/2.5 US/Imp. qt)
overhaul	3300 ml (3.5/2.9 US/Imp. qt)
Final gear oil	200 – 220 ml (6.8/7.0 – 7.4/7.7 US/Imp. oz)
Coolant (including reserve)	1700 ml (1.8/1.5 US/Imp. qt)
Front fork oil (each leg)	388 ml (13.1/13.7 US/Imp. oz) . . . E01, 03, 28, 33
	392 ml (13.2/13.8 US/Imp. oz) . . . Others

These specifications are subject to change without notice.

COUNTRY OR AREA

The series of symbols on the left stand for the countries and areas on the right.

SYMBOL	COUNTRY or AREA
E-01	General market (Export standard model)
E-02	England
E-03	U.S.A. (except California)
E-04	France
E-15	Finland
E-16	Norway
E-17	Sweden
E-18	Switzerland
E-21	Belgium
E-22	West Germany
E-24	Australia
E-25	Netherlands
E-28	Canada
E-33	California (U.S.A.)
E-34	Italy
E-39	Austria
E-53	Spain