SUZUKI

RF600R

SERVICE MANUAL

SUZUKI MOTOR CORPORATION PRINTED IN JAPAN JULY, '93 (TK)

99500-35034-03E
(英)

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FOREWORD

This manual contains an introductory description on SUZUKI RF600R 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 vehicle.*
- *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.*

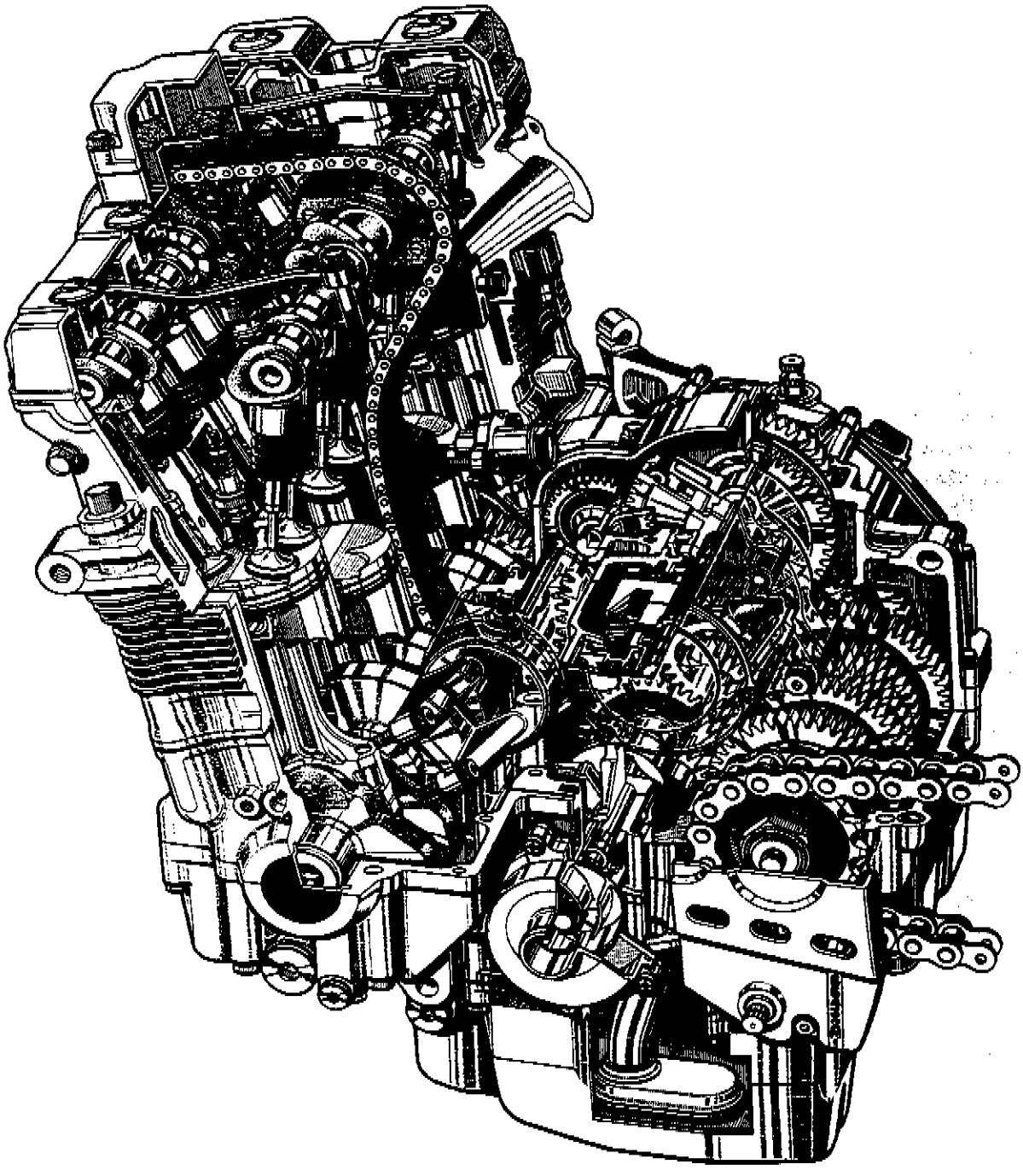
IMPORTANT

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 RF600R 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
Motorcycle Service Department

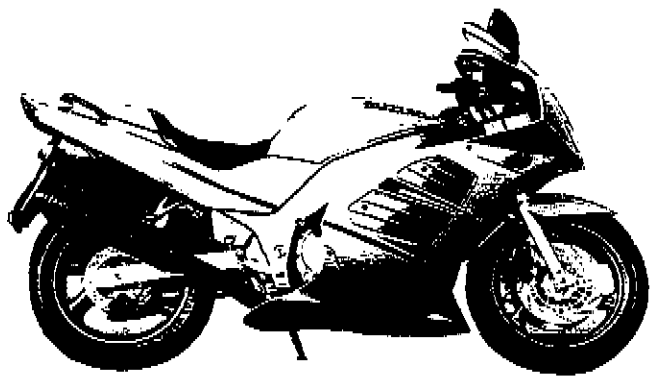


GENERAL INFORMATION

1

CONTENTS

SUZUKI RF600RR ('94-MODEL)



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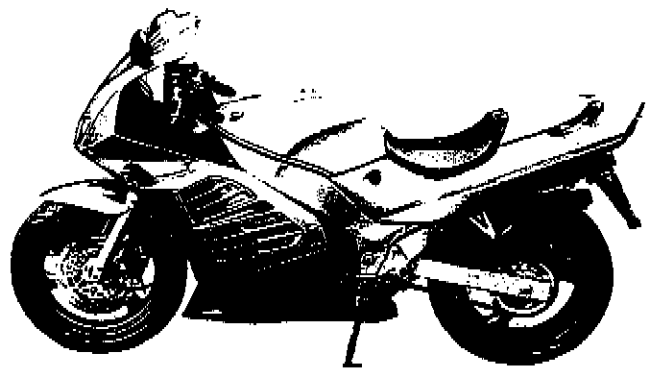
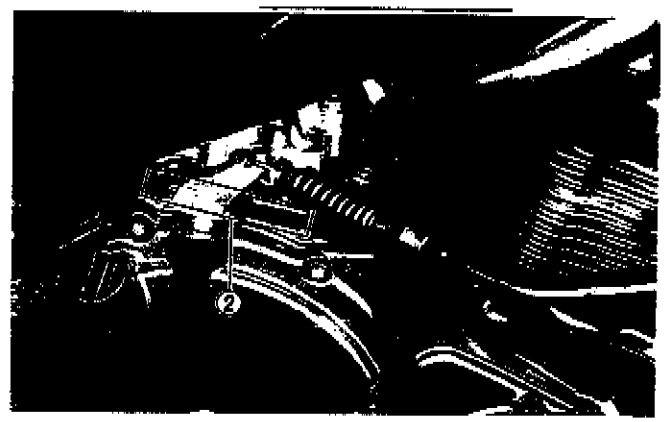


LEFT SIDE

*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.



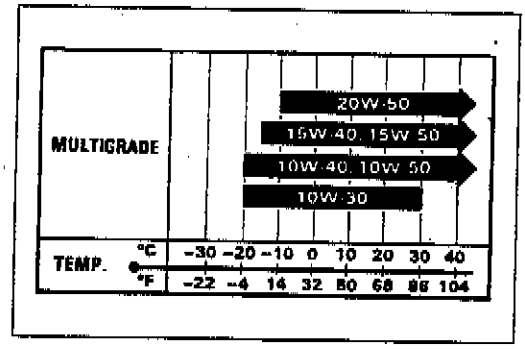
FUEL, OIL AND ENGINE COOLANT RECOMMENDATIONS

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 # 10

ENGINE COOLANT

Use an anti-freeze/engine 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 7000 r/min
Up to 1600 km (1000 miles): Below 10000 r/min
Over 1600 km (1000 miles): Below 13500 r/min

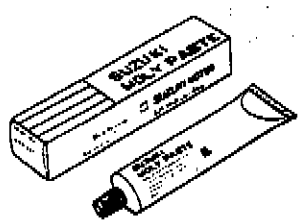
- Upon reaching an odometer reading of 1600 km (1000 miles) you can subject the motorcycle to full throttle operation. However, do not exceed 13500 r/min at any time.

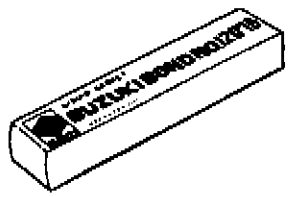
CYLINDER IDENTIFICATION

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 RF600R, 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 SUPER GREASE "A" 99000-25030	• Brake pedal pivot • Footrest pivot • Gearshift lever pivot • Side-stand pivot and spring hook • Driveshaft oil seal • Generator O-ring • Starter motor O-ring • Water pump O-ring • Starter motor oil seal • Wheel bearing • Speedometer gear box dust seal • Steering stem bearing and dust seal • 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 2- 2 3-42 3-57 3-57 3-56 6-17 7-9, 44 7-10 7-32 7-51 7-52 5-13 7-45
 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	3-26 3-36 3-42 3-58 3-49 3-60 6-17

MATERIAL	PART	PAGE
 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 • Water pump mechanical seal	3-51 3-49 3-54 3-55 3-56 3-64 3-64 5-13
 THREAD LOCK SUPER "1303" 99000-32030	• Cam sprocket bolt • Cam chain guide screw and bolt • Starter clutch bolt • Gearshift arm stopper bolt	3-29 3-30 3-46 3-51
 THREAD LOCK "1342" 99000-32050	• Starter motor housing bolt • Front fork damper rod 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 • Engine sprocket cover bolt • Throttle valve screw • Front fork damper rod bolt	6-17 7-27 3-51 3-51 4-11 6- 7 3-47 3-20 3-47 3- 6 4-14 7-27

MATERIAL	PART	PAGE
 THREAD LOCK SUPER "1360" 99000-32130	• Brake disc mounting bolt	7-9, 47
 SUZUKI FORK OIL #10	• Front fork	7-28

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.

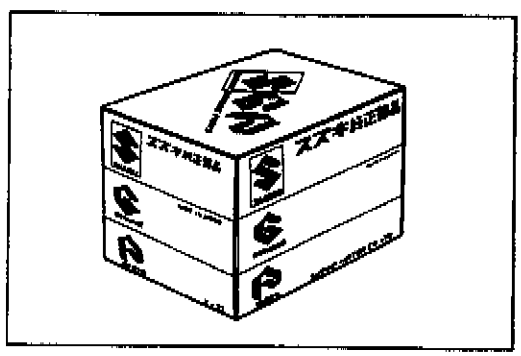
Warning, Caution and Note are included in this manual occasionally, describing the following contents.

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.*

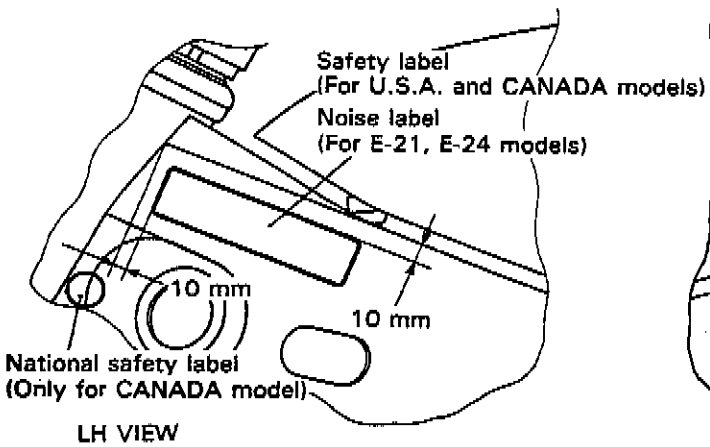
REPLACEMENT PARTS

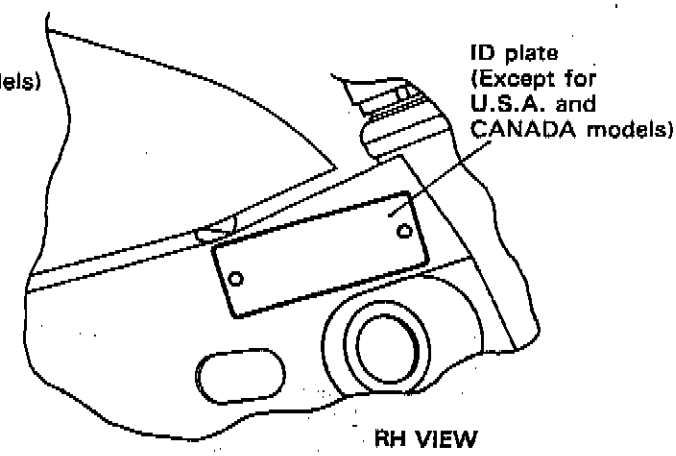
When you replace any parts, use only genuine SUZUKI replacement parts, or their equivalent. Genuine SUZUKI parts are high quality parts which are designed and built specifically for SUZUKI vehicles.

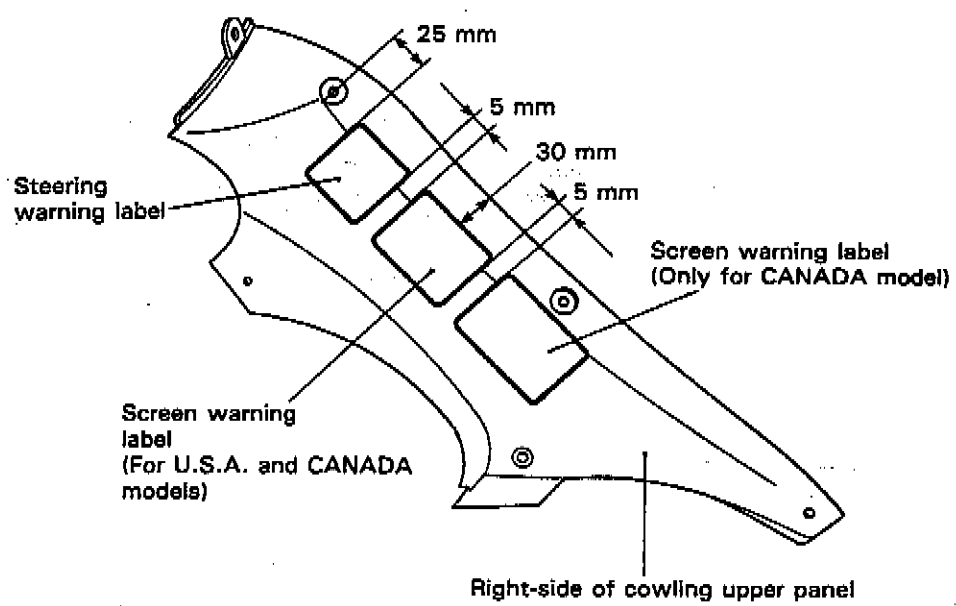
CAUTION:
Use of replacement parts which are not equivalent in quality to genuine SUZUKI parts can lead to performance problems and damage.

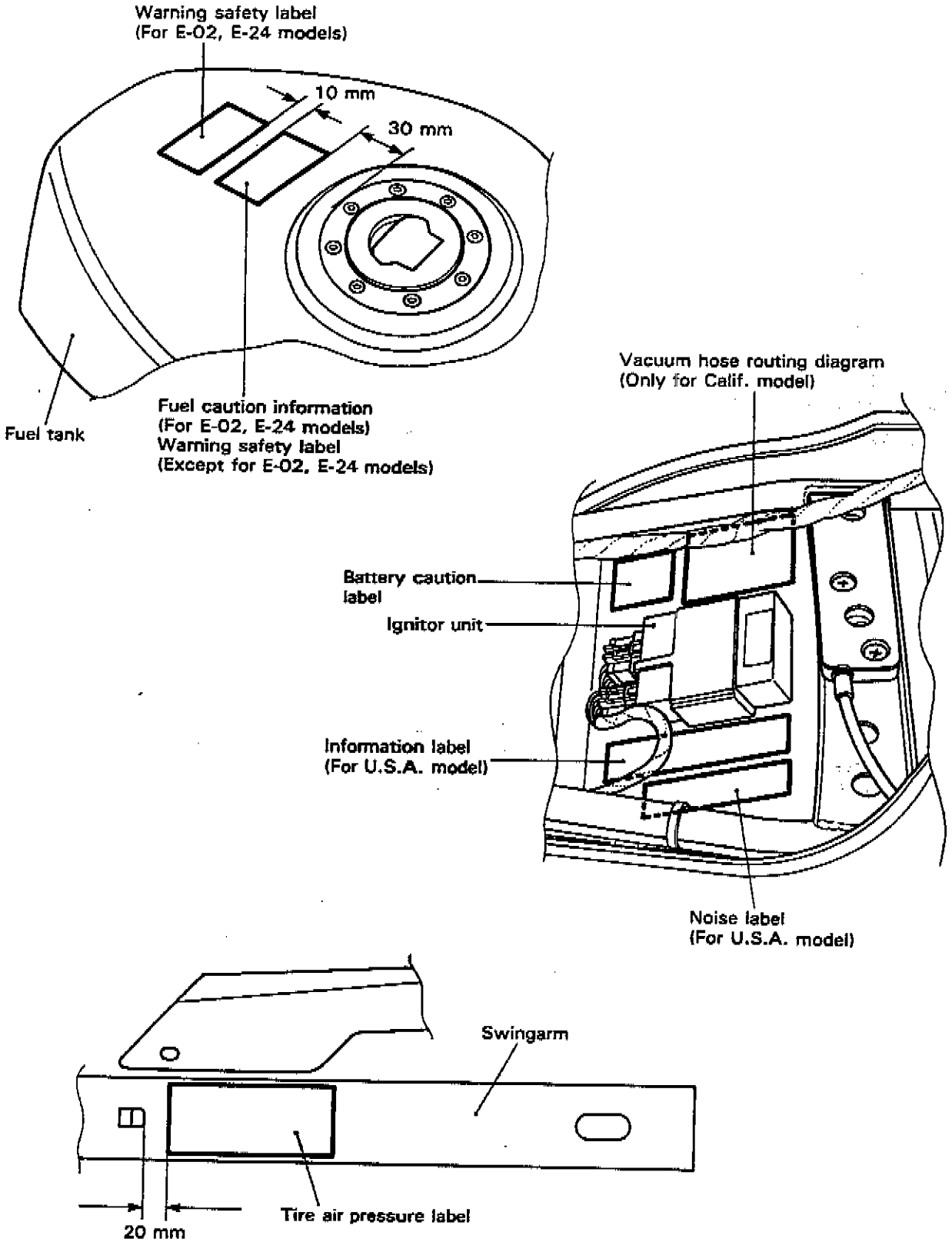


INFORMATION LABELS








Warning safety label
(For E-02, E-24 models)
10 mm
30 mm
Fuel tank
Fuel caution information
(For E-02, E-24 models)
Warning safety label
(Except for E-02, E-24 models)
Vacuum hose routing diagram
(Only for Calif. model)
Battery caution label
Ignitor unit
Information label
(For U.S.A. model)
Noise label
(For U.S.A. model)
Swingarm
20 mm
Tire air pressure label

SPECIFICATIONS

DIMENSIONS AND DRY MASS

Overall length	2 110 mm (83.1 in)
Overall width	710 mm (28.0 in)
Overall height	1 175 mm (46.3 in)
Wheelbase	1 430 mm (56.3 in)
Ground clearance	120 mm (4.7 in)
Dry mass	195 kg (429 lbs) ... For E-03 model
	198 kg (436 lbs) ... For E-33 model

ENGINE

Type	Four-stroke, Water-cooled, DOHC, TSCC
Number of cylinders	4
Bore	65.0 mm (2.559 in)
Stroke	45.2 mm (1.780 in)
Piston displacement	599 cm³ (36.5 cu. in)
Carburetor	MIKUNI BDST33 ..... For E-33 model
	MIKUNI BDST36 ..... For E-03 model
Air cleaner	Non-woven fabric element
Starter system	Electric starter
Lubrication system	Wet sump

TRANSMISSION

Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down, 5-up
Primary reduction ratio	1.744 (75/43)
Final reduction ratio	3.071 (43/14)
Gear ratios, Low	3.142 (44/14)
2nd	2.058 (35/17)
3rd	1.650 (33/20)
4th	1.428 (30/21)
5th	1.260 (29/23)
Top	1.120 (28/25)
Drive chain	RK50GSVZ1, 108 links or
	DID 50VA7, 108 links

CHASSIS

Front suspension	Telescopic, coil spring, oil damped, spring pre-load adjustable.
Rear suspension	Link type system, oil damped, coil spring, spring pre-load adjustable and rebound damping force adjustable.
Steering angle	30° (right & left)
Caster	65°
Trail	103 mm (4.1 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	160/60 ZR17, tubeless
Front fork stroke	120 mm (4.7 in)
Rear wheel travel	130 mm (5.1 in)

ELECTRICAL

Ignition type	Electronic Ignition (Fully Transistorized)
Ignition timing	4° B.T.D.C. at 1500 r/min ..... For E-33 model 7° B.T.D.C. at 1500 r/min ..... For E-03 model
Spark plug	N.G.K.: CR9E, NIPPONDENSO U27ESR-N
Battery	12V 28.8 kC (8 Ah)/10 HR
Generator	Three-phase A.C. Generator
Main fuse	30A
Fuse	15/15/15/10/10A
Headlight	12V 60/55W
Turn signal light	12V 21W
Taillight	12V 5W
Brake light	12V 21W x 2
License plate light	12V 5W
Speedometer light	12V 1.7W x 2
Tachometer light	12V 1.7W x 2
Engine coolant temp. meter light	12V 1.7W
Neutral indicator light	12V 3.4W
High beam indicator light	12V 3.4W
Turn signal indicator light	12V 3.4W
Oil pressure indicator light	12V 3.4W

CAPACITIES

Fuel tank, including reserve	17.0 L (4.5/3.7 US/Imp gal) ... For E-03 model 16.0 L (4.2/3.5 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	503 ml (17.0/17.7 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-02	England
E-03	U.S.A.
E-33	California (U.S.A.)
E-04	France
E-15	Finland
E-16	Norway
E-17	Sweden
E-18	Switzerland
E-21	Belgium
E-22	Germany
E-24	Australia
E-25	Netherlands
E-28	Canada
E-34	Italy
E-53	Spain

PERIODIC MAINTENANCE AND TUNE-UP PROCEDURES

2

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

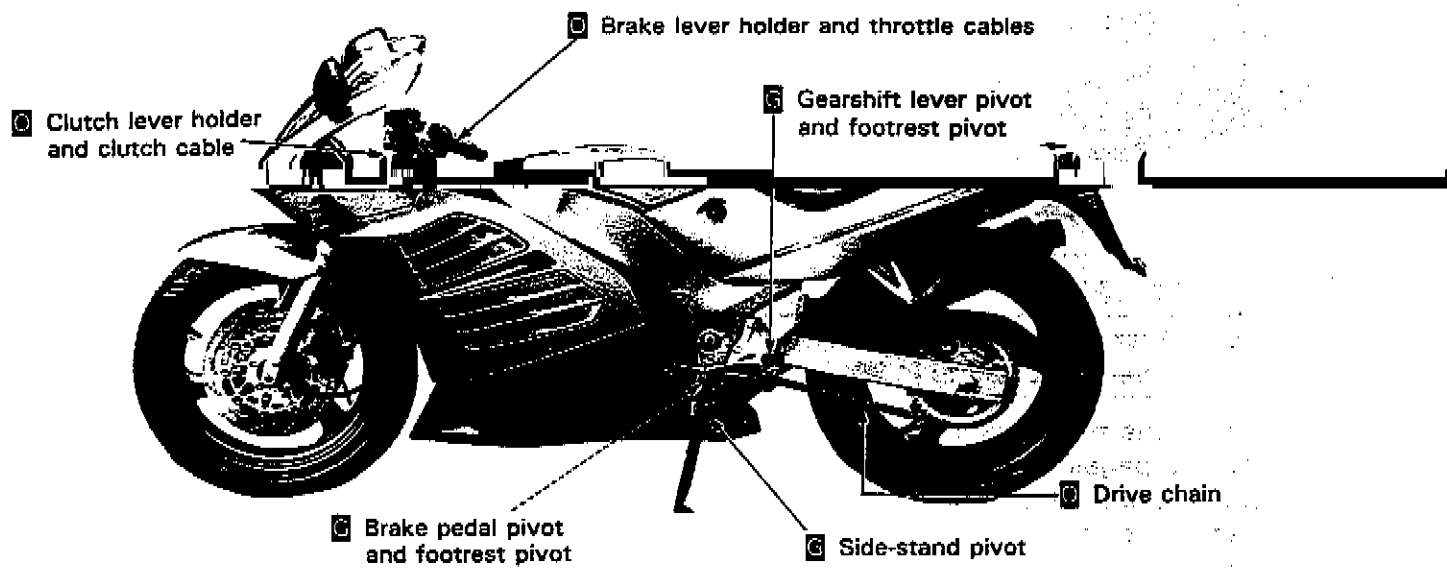
Item \ Interval	km	1000	6000	12000	18000	24000
	miles	600	4000	7500	11000	15000
	months	2	12	24	36	48
Exhaust pipe bolts		—	T	T	T	T
Air cleaner		—	I	I	R	I
Tappet clearance		—	—	I	—	I
Spark plug		—	I	R	I	R
Engine oil		R	R	R	R	R
Engine oil filter		R	—	R	—	R
Fuel line (EVAP hose . . . . . California model only)		—	I	I	I	I
		Replace every 4 years				
Fuel filter		—	—	C	—	C
Engine idle rpm (Carburetor)		I	I	I	I	I
Throttle cable play (Carburetor)		I	I	I	I	I
Clutch cable play		—	I	I	I	I
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

LUBRICATION POINTS

Proper lubrication is important for smooth operation and long life of each working part of the motorcycle.
Major lubrication points are indicated below.

O Oil
G Grease



NOTE:

* *Before lubricating each part, clean off any rusty spots and wipe off any grease, oil, dirt or grime.*
* *Lubricate exposed parts which are subject to rust, with a rust preventative spray whenever the motorcycle has been operated under wet or rainy conditions.*

MAINTENANCE AND TUNE-UP PROCEDURES

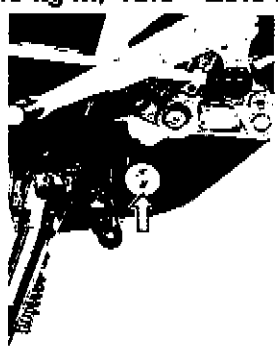
This section describes the servicing procedures for each item of the Periodic Maintenance requirements.

EXHAUST PIPE BOLTS

Tighten Every 6000 km (4000 miles, 12 months).

- Remove the lower cowling assembly. (Refer to page 7-2.)
- Remove the radiator mounting bolts. (Refer to page 3-4.)
- Tighten the exhaust pipe clamp bolts and muffler mounting bolts to the specified torque with a torque wrench.

Exhaust pipe clamp bolt 18—28 N·m
& Muffler mounting bolt : (1.8—2.8 kg-m, 13.0—20.0 lb-ft)



AIR CLEANER

Inspect Every 6000 km (4000 miles, 12 months) and Replace Every 18000 km (11000 miles, 36 months).

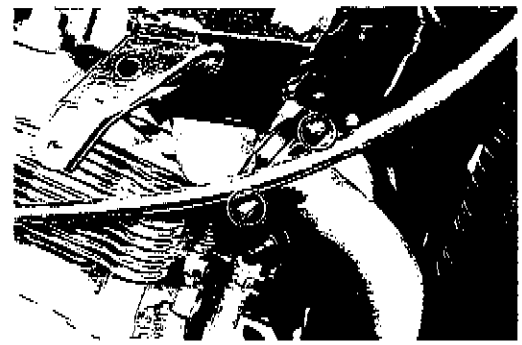
- Remove the seats, frame cover assembly and fuel tank. (Refer to pages 7-5 and 4-5.)
- Remove the air cleaner element by removing the screws.
- Carefully use air hose to blow the dust from the cleaner element.

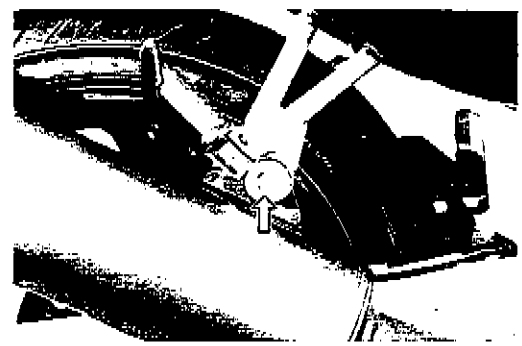
CAUTION:
Always use air pressure on the inside of the air cleaner element. If air pressure is used on the outside, dirt will be forced into the pores of the air cleaner element thus restricting air flow through the air cleaner element.

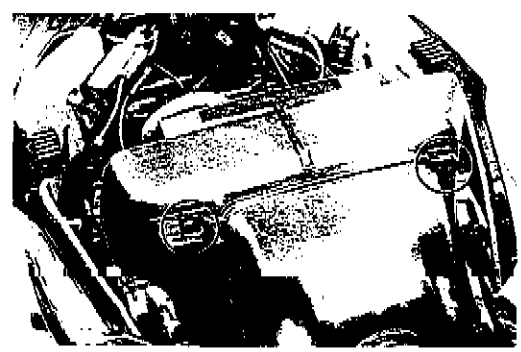
- Reinstall the cleaned or new air cleaner element in the reverse order of removal.
- When installing the air cleaner element in the cleaner case, make sure that the ⇕ mark Ⓐ comes upward.

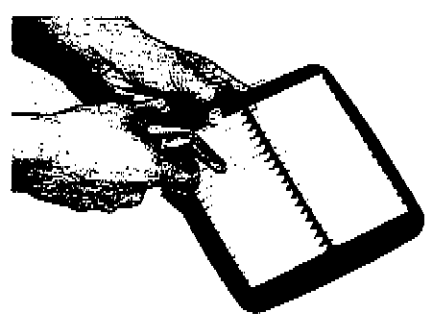
CAUTION:
If driving under dusty condition, clean the air cleaner element more frequently. The surest way to accelerate engine wear is to use the engine without the element or to use a ruptured element. Make sure that the air cleaner is in good condition at all times. Life of the engine depends largely on this component!

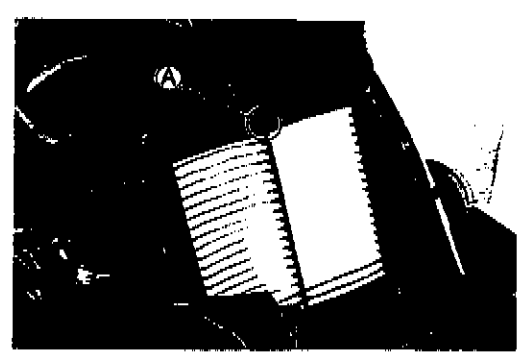
NOTE:
When you clean the air cleaner element, drain water from the air cleaner drain hose by removing the drain plug.











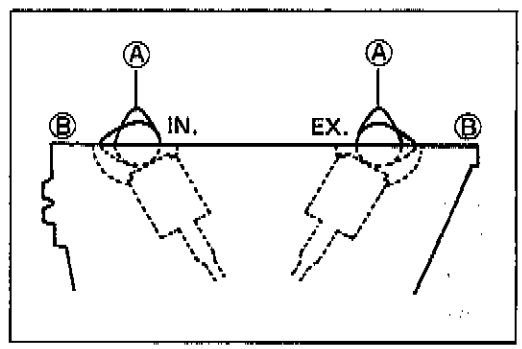
TAPPET CLEARANCE

Inspect Every 12000 km (7500 miles, 24 months).

- Remove the seats, frame cover assembly, lower cowling assembly and fuel tank. (Refer to pages 7-2, 7-5 and 4-5.)
- Remove the air cleaner box and carburetors. (Refer to pages 3-2 and 3.)
- Remove all the spark plugs.
- Remove the cylinder head cover. (Refer to page 3-10.)

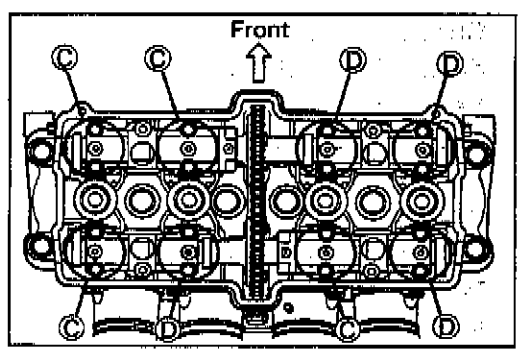
The tappet clearance specification is different for both intake and exhaust valves.
Tappet clearance adjustment must be checked and adjusted, 1) at the time of periodic inspection, 2) when the valve mechanism is serviced, and 3) when the camshafts are disturbed by removing them for servicing.

Tappet clearance (when cold):
IN. : 0.10—0.20 mm (0.004—0.008 in)
EX.: 0.20—0.30 mm (0.008—0.012 in)



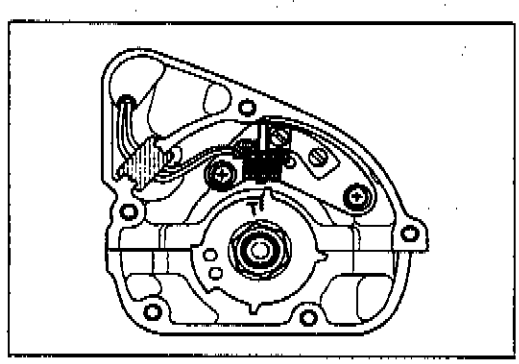
NOTE:

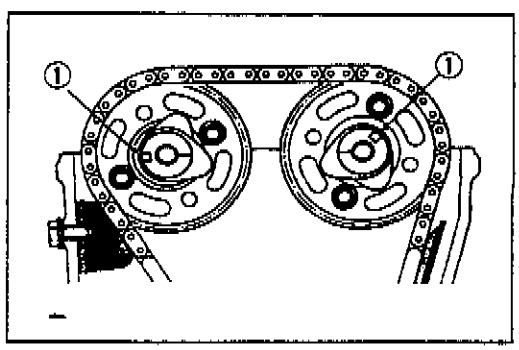
- * *The cam must be at positions, Ⓐ or Ⓑ, in order to check the tappet clearance, or to adjust tappet clearance. Clearance readings should not be taken with the cam in any other position than these two positions.*
- * *The clearance specification is for COLD state.*
- * *To turn the crankshaft for clearance checking, be sure to use a 19-mm wrench, and rotate in the normal running direction. All spark plugs should be removed.*



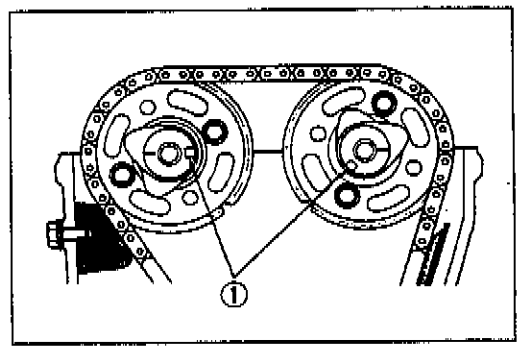
- Turn crankshaft to bring the "T" mark on the rotor to the center of pick-up coil and also to bring the notches ① in the right ends of both camshafts (Ex and In) to the positions shown. In this condition, read the tappet clearance at the valves Ⓒ (In and Ex of No.1 cylinder, Ex of No.2 and In of No.3).
- Use a thickness gauge between the tappet and the cam. If the clearance is out of specification, bring it into the specified range.

09900-20803: Thickness gauge





- Turn the crankshaft 360° (one rotation) to bring the "T" mark on the rotor to the center of pick-up coil and also to bring the notches ① to the positions shown.
- Read the clearance at the remaining valves Ⓓ and adjust the clearance if necessary.



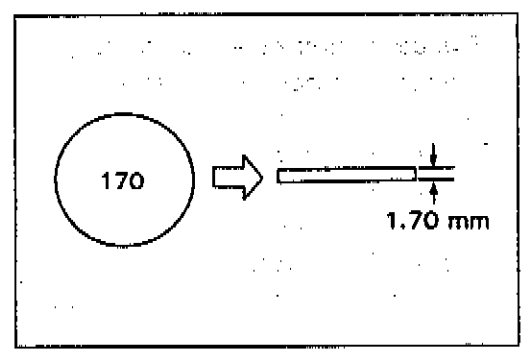
Cam Position	Notch ① position	
	Intake Camshaft	Exhaust Camshaft
Ⓒ	⊖	⊕
Ⓓ	⊖	⊕

TAPPET CLEARANCE ADJUSTMENT

The clearance is adjusted by replacing the existing tappet shim by a thicker or thinner shim.

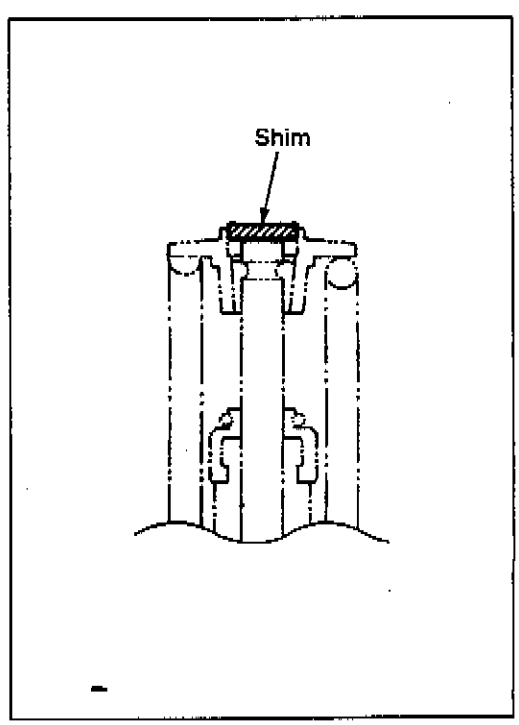
- Remove the intake or exhaust camshafts. (Refer to page 3-11.)
- Remove the tappet and shim by fingers or magnetic hand. (Refer to page 3-21.)

- Check the figures printed on the shim. These figures indicate the thickness of the shim, as illustrated.
- Select a replacement shim that will provide a clearance within the specified range. For the purpose of this adjustment, a total of 21 sizes of tappet shim are available ranging from 1.20 to 2.20 mm in steps of 0.05 mm. Fit the selected shim to the valve stem end, with numbers toward tappet. Be sure to check shim size with micrometer to ensure its size.
  Refer to the tappet shim selection table for details.



NOTE:

* *Be sure to apply engine oil to tappet shim top and bottom faces.*
* *When seating the tappet shim, be sure to face figure printed surface to the tappet.*



- After replacing the tappet shim and camshafts, rotate the engine so that the tappet is depressed fully. This will squeeze out oil trapped between the shim and the tappet that could cause an incorrect measurement, then check the clearance again to confirm that it is within the specified range.
- When installing the cylinder head cover, apply SUZUKI BOND NO.1207B to the head cover groove and cam end caps. (Refer to page 3-64.)
- Tighten the head cover bolts to the specified torque. (Refer to page 3-65.)

TAPPET SHIM SELECTION TABLE [INTAKE]

TAPPET SHIM NO.(12892-05C00-x x x)

TAPPET SHIM SET NO. (12800-05820)

(INTAKE SIDE)

MEASURED TAPPET CLEARANCE (mm) \ SUFFIX NO.	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
PRESENT SHIM SIZE (mm)	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20
0.00–0.04			1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10
0.05–0.09		1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15
0.10–0.20	SPECIFIED CLEARANCE/NO ADJUSTMENT REQUIRED																				
0.21–0.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20	2.20	
0.26–0.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20			
0.31–0.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20				
0.36–0.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20					
0.41–0.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20						
0.46–0.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20							
0.51–0.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20								
0.56–0.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20									
0.61–0.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20										
0.66–0.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20											
0.71–0.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20												
0.76–0.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20													
0.81–0.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20														
0.86–0.90	1.95	2.00	2.05	2.10	2.15	2.20															
0.91–0.95	2.00	2.05	2.10	2.15	2.20																
0.96–1.00	2.05	2.10	2.15	2.20																	
1.01–1.05	2.10	2.15	2.20																		
1.06–1.10	2.15	2.20																			
1.11–1.15	2.20																				

HOW TO USE THIS CHART:

I. Measure tappet clearance. "ENGINE IS COLD"
II. Measure present shim size.
III. Match clearance in vertical column with present shim size in horizontal column.

EXAMPLE

Tappet clearance is 0.23 mm
Present shim size 1.70 mm
Shim size to be used 1.80 mm

TAPPET SHIM SELECTION TABLE [EXHAUST]

TAPPET SHIM NO.(12892-05C00-×××)

TAPPET SHIM SET NO. (12800-05820)

(EXHAUST SIDE)

MEASURED TAPPET CLEARANCE (mm) \ SUFFIX NO. / PRESENT SHIM SIZE (mm)	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20
0.05–0.09				1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05
0.10–0.14			1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10
0.15–0.19		1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15
0.20–0.30	SPECIFIED CLEARANCE/NO ADJUSTMENT REQUIRED																				
0.31–0.35	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20	2.20	
0.36–0.40	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20			
0.41–0.45	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20				
0.46–0.50	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20					
0.51–0.55	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20						
0.56–0.60	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20							
0.61–0.65	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20								
0.66–0.70	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20									
0.71–0.75	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20										
0.76–0.80	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20											
0.81–0.85	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20												
0.86–0.90	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20													
0.91–0.95	1.90	1.95	2.00	2.05	2.10	2.15	2.20														
0.96–1.00	1.95	2.00	2.05	2.10	2.15	2.20															
1.01–1.05	2.00	2.05	2.10	2.15	2.20																
1.06–1.10	2.05	2.10	2.15	2.20																	
1.11–1.15	2.10	2.15	2.20																		
1.16–1.20	2.15	2.20																			
1.21–1.25	2.20																				

HOW TO USE THIS CHART:

I. Measure tappet clearance. "ENGINE IS COLD"
II. Measure present shim size.
III. Match clearance in vertical column with present shim size in horizontal column.

EXAMPLE

Tappet clearance is 0.33 mm
Present shim size 1.70 mm
Shim size to be used 1.80 mm

SPARK PLUG

Inspect at 6000 km (4000 miles, 12 months), 18000 km (11000 miles, 36 months) and Replace Every 12000 km (7500 miles, 24 months).

- Remove the seats, frame cover assembly and fuel tank. (Refer to pages 7-5 and 4-5.)
- Remove all the spark plugs.

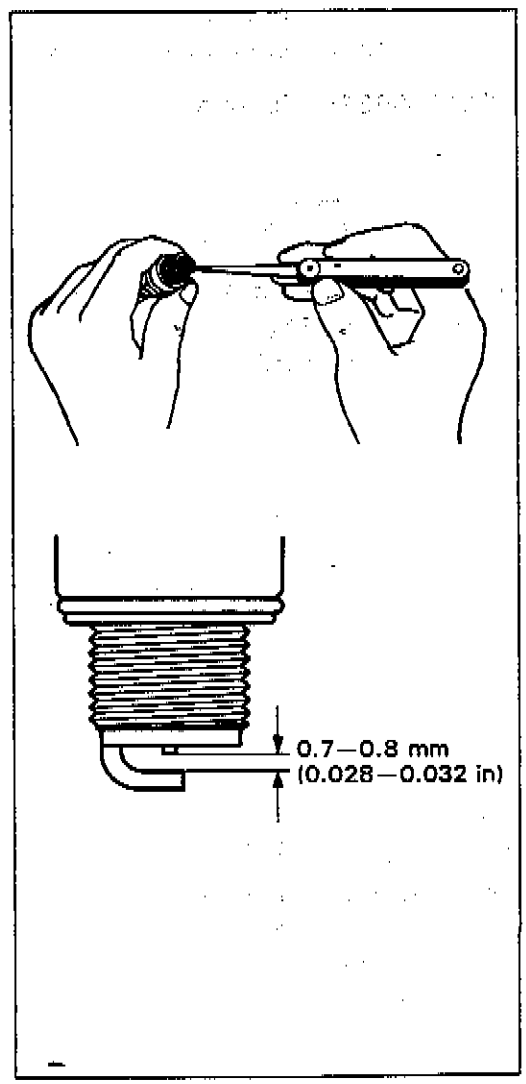
NOTE:
If it is difficult to remove the spark plug cap, pry up it with a screwdriver.

09930-10121: Spark plug socket wrench set
09930-14530: Universal joint
09914-24510: T handle
09900-20803: Thickness gauge

	Standard	Cold type	Hot type
NGK	CR9E	CR10E	CR8E
ND	U27ESR-N	U31ESR-N	U24ESR-N

CARBON DEPOSIT

Check to see the carbon deposit on the plug.
If the carbon is deposited, remove it with a spark plug cleaner machine or carefully using a tool with a pointed end.



SPARK PLUG GAP

Measure the plug gap with a thickness gauge if it is correct. If not, adjust it to the following gap.

	Standard
Spark plug gap	0.7—0.8 mm (0.028—0.032 in)

09900-20803: Thickness gauge

ELECTRODE'S CONDITION

Check to see the worn or burnt condition of the electrodes. If it is extremely worn or burnt, replace the plug. And also replace the plug if it has a broken insulator, damaged thread, etc.

CAUTION:
Confirm the thread size and reach when replacing the plug. If the reach is too short, carbon will be deposited on the screw portion of the plug hole and engine damage may result.

ENGINE OIL AND OIL FILTER

(ENGINE OIL)
Replace Initially at 1000 km (600 miles, 2 months) and Every 6000 km (4000 miles, 12 months) thereafter.

OIL FILTER
Replace Initially at 1000 km (600 miles, 2 months) and Every 12000 km (7500 miles, 24 months) thereafter.

Oil should be changed while the engine is warm. Oil filter replacement at the above intervals, should be done together with the engine oil change.

- Keep the motorcycle upright.
- Place an oil pan below the engine, and drain the oil by removing the drain plug ① and filler cap ② .
- Remove the oil filter ③ by using the oil filter wrench. (Special tool Ⓐ)
- Apply engine oil lightly to the gasket of the new filter before installation.
- Install the new filter turning it by hand until you feel that the filter gasket contacts the mounting surface. Then tighten it 2 turns using the oil filter wrench. (Special tool Ⓐ)

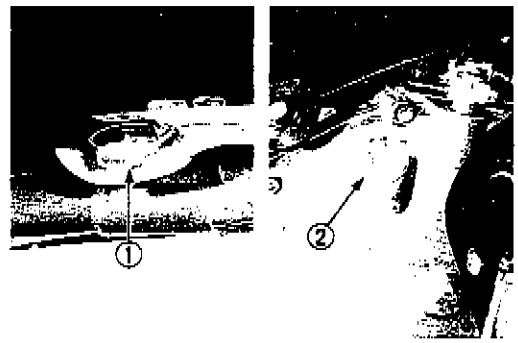
09915-40610: Oil filter wrench

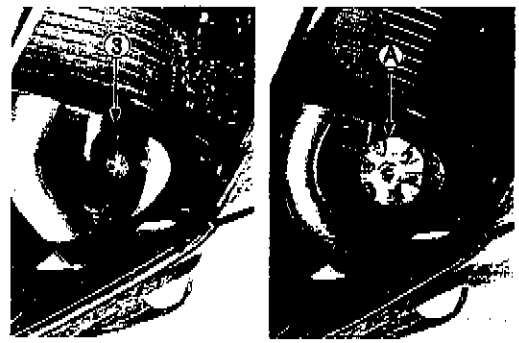
NOTE:
To properly tighten the filter, use the special tool. Never tighten the filter by hand.

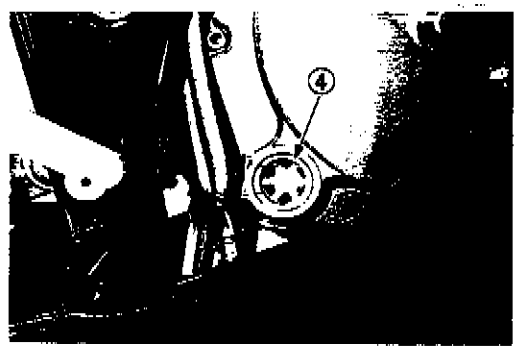
- Fit the drain plug ① securely, and pour fresh oil through the oil filler. The engine will hold about 3.3 L (3.5 US qt) of oil. Use an API classification of SE or SF oil with SAE 10W/40 viscosity.
- Start up the engine and allow it to run for several seconds at idling speed.
- Turn off the engine and wait about one minute, then check the oil level through the inspection window ④ . If the level is below mark "F", add oil to that level.

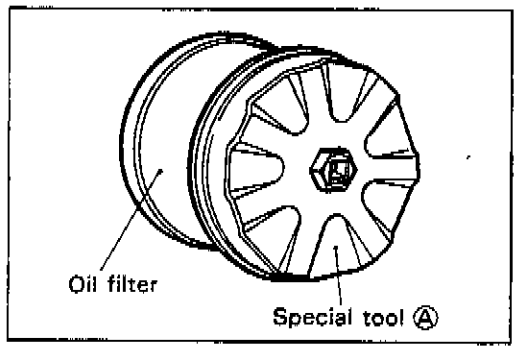
NECESSARY AMOUNT OF ENGINE OIL
Oil change: 3.0 L (3.2/2.6 US/Imp qt)
Filter change: 3.3 L (3.5/2.9 US/Imp qt)
Overhaul engine: 3.9 L (4.1/3.4 US/Imp qt)

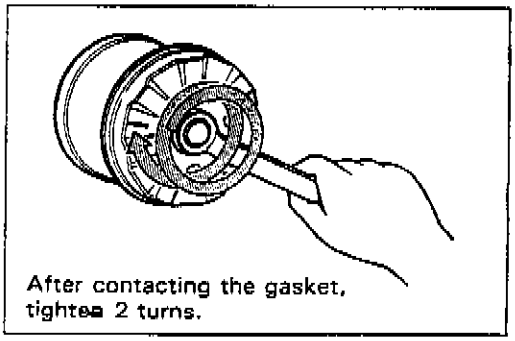
CAUTION:
Use SUZUKI MOTORCYCLE GENUINE OIL FILTER only, since the other make's genuine filters and after-market parts may differ in thread specifications (thread diameter and pitch), filtering performance and durability, which could cause engine damage or oil leaks. Suzuki automobile genuine oil filter is also not usable for the motorcycles.










After contacting the gasket, tighten 2 turns.

FUEL LINE (EVAP HOSE ... California model only)

Inspect Every 6000 km (4000 miles, 12 months).
Replace Every 4 years.

FUEL FILTER

Clean Every 12000 km (7500 miles, 24 months).

(Refer to page 4-5.)

CARBURETOR

IDLE RPM (Idling adjustment)

Inspect Initially at 1000 km (600 miles, 2 months) and Every 6000 km (4000 miles, 12 months) thereafter.

NOTE:
Make this adjustment when the engine is hot.

- Connect a tachometer.
- Start up the engine and set its speed at anywhere between 1200 and 1400 r/min by turning throttle stop screw ① .

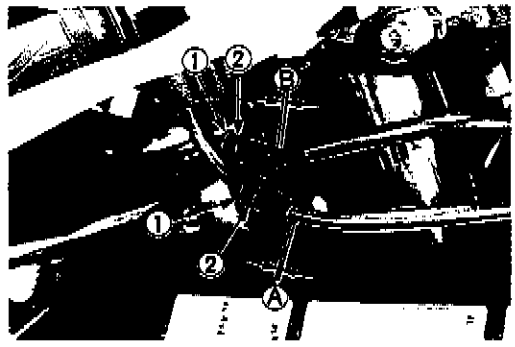
Engine idle speed:
1300 ± 100 r/min E-03
1350 ± 100 r/min E-33

THROTTLE CABLE PLAY

Pulling cable play Ⓐ

There should be 0.5 — 1.0 mm (0.02 — 0.04 in) play Ⓐ in the throttle cable. Adjust the throttle cable play with the following procedures.

- Loosen the lock nut ① and turn the adjuster ② in or out until the specified play is obtained.
- Tighten the lock nut ① while holding the adjuster.



Returning cable play Ⓑ

- Adjust the returning cable to the specified play in the same manner as the pulling cable play adjustment.

Throttle cable play (Ⓐ and Ⓑ): 0.5 — 1.0 mm (0.02 — 0.04 in)

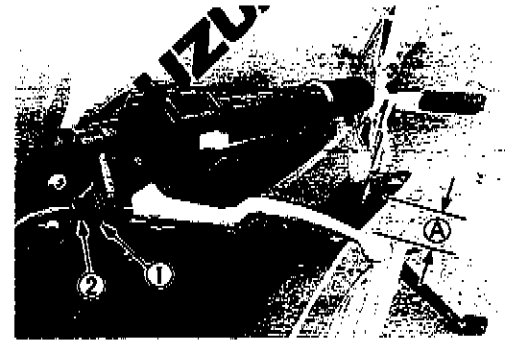
WARNING:
After the adjustment is completed, check that handlebar movement does not raise the engine idle speed and that the throttle grip returns smoothly and automatically.

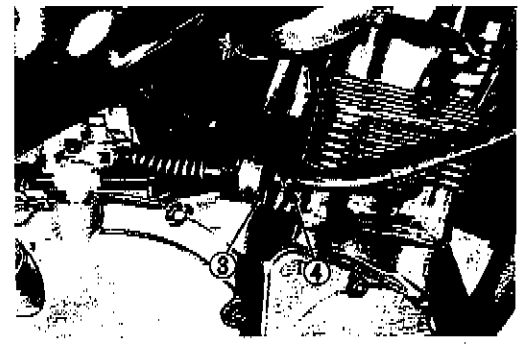
CLUTCH

Inspect Every 6000 km (4000 miles, 12 months).

- Remove the lower cowling assembly.
- Loosen the cable adjuster lock nut ① and screw in the cable adjuster ② .
- Loosen the cable adjuster lock nut ③ and screw in the cable adjuster ④ to provide a play in the cable.
- Adjust the clutch lever play Ⓐwith the cable adjuster ④ until play of the clutch lever is within the following value.

Clutch lever play Ⓐ	10—15 mm (0.4—0.6 in)





- If the specified play can not be obtained with the cable adjuster ④ , carry out the adjustment with the cable adjuster ② on the clutch lever side.
- After adjusting the play, tighten the both cable adjuster lock nuts, ① and ③.

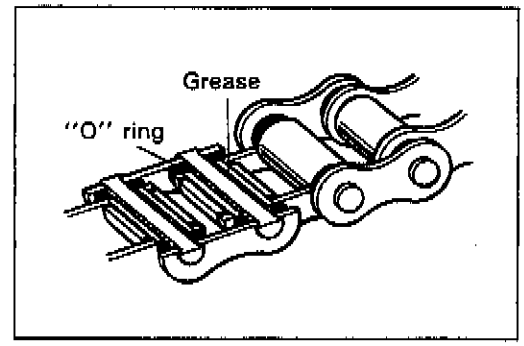
DRIVE CHAIN

Inspect Initially at 1000 km (600 miles, 2 months) and Every 6000 km (4000 miles, 12 months) thereafter. Lubricate Every 1000 km (600 miles).

Visually check the drive chain for the possible defects listed below. (Support the motorcycle by a jack and a wooden block, turn the rear wheel slowly by hand with the transmission shifted to Neutral.)

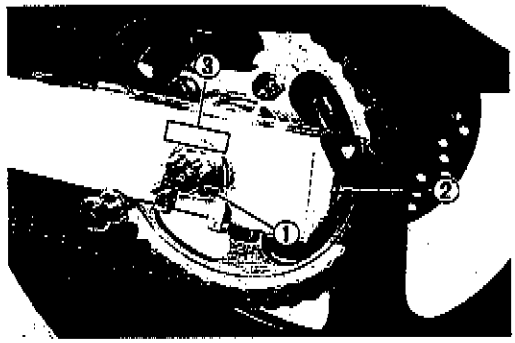
* Loose pins
* Damaged rollers
* Dry or rusted links
* Kinked or binding links
* Excessive wear
* Improper chain adjustment
* Missing O-ring seals

If any defects are found, the drive chain must be replaced.

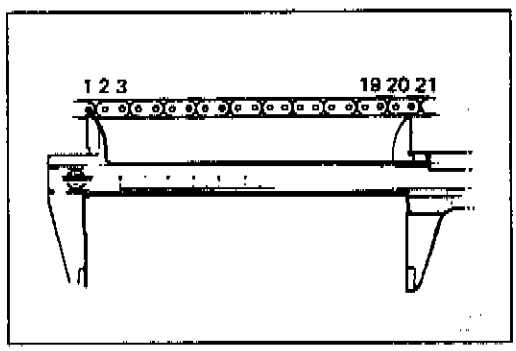


NOTE:
When replacing the drive chain, replace the drive chain and sprockets as a set.

CHECKING

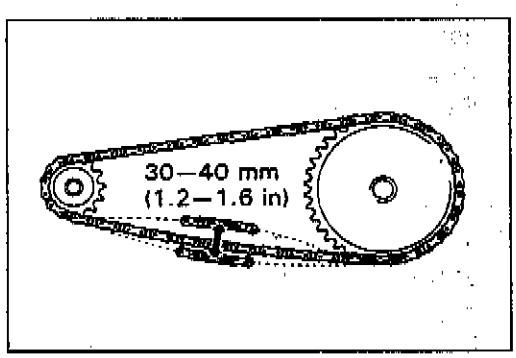


- Remove the axle cotter pin. (For E-03, 28 and 33 models)
- Loosen the axle nut ① .
- Tense the drive chain fully by turning both chain adjusters ② .
- Count out 21 pins (20 pitches) on the chain and measure the distance between the two points. If the distance exceeds the service limit, the chain must be replaced.



	Service Limit
Drive chain 20-pitch length	319.4 mm (12.6 in)

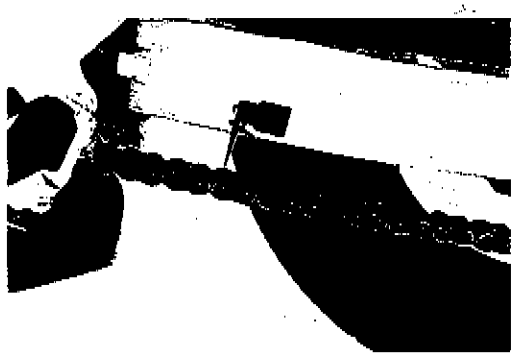
ADJUSTING



- Loosen or tighten both chain adjusters ② until the chain has 30—40 mm (1.2—1.6 in) of slack in the middle between engine and rear sprockets. The mark ③ on both chain adjusters must be at the same position on the scale to ensure that the front and rear wheels are correctly aligned.
- Place the motorcycle on its side-stand for accurate adjustment.
- After adjusting the drive chain, tighten the axle nut ① securely.
- Tighten both chain adjusters ② securely.

Rear axle nut: 85—115 N·m
(8.5—11.5 kg-m, 61.5—83.0 lb-ft)

CLEANING AND LUBRICATING



- Wash the chain with kerosene. If the chain tends to rust quickly, the intervals must be shortened.

CAUTION:
Do not use trichlene, gasoline or any similar fluids: These fluids have too great a dissolving power for this chain and, what is more important, they can damage the "O"-rings (or seals) confining the grease in the bush to pin clearance. Remember, high durability comes from the presence of grease in that clearance.

- After washing and drying the chain, oil it with a heavyweight motor oil.

CAUTION:
*** Do not use any oil sold commercially as "drive chain oil". Such oil can damage the "O"-rings (or seals).**
*** The standard drive chain TAKASAGO RK50GSVZ1 or DAIDO DID50VA7. SUZUKI recommends that this standard drive chain should be used for the replacement.**