SUZUKI

GSX400F

SERVICE MANUAL

99500-34032-01E
(英)

FOREWORD

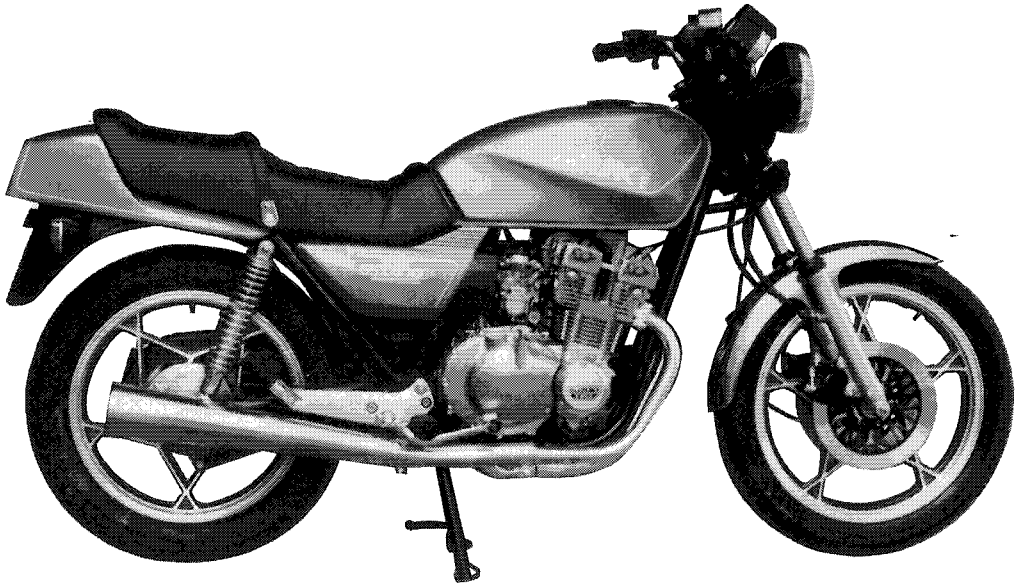
The SUZUKI GSX400F has been developed as a new generation motorcycle to the GS-models. It is packed with highly advanced design concepts including a forged one piece crankshaft assembly and a new highly efficient combustion system (TSCC). Combined with precise control and easy handling the GSX400F provides 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 guide.

Model GSX400F manufactured to standard specifications is the main subject matter of this manual. However, the GSX400F 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 manual contains up-to-date information at the time of its issue. Latermade modifications are changes will be explained to each SUZUKI distributor in respective markets, to whom you are kindly requested to make query about updated information, if any.

SUZUKI MOTOR CO.,LTD.
Service Publications Department
Overseas Service Division

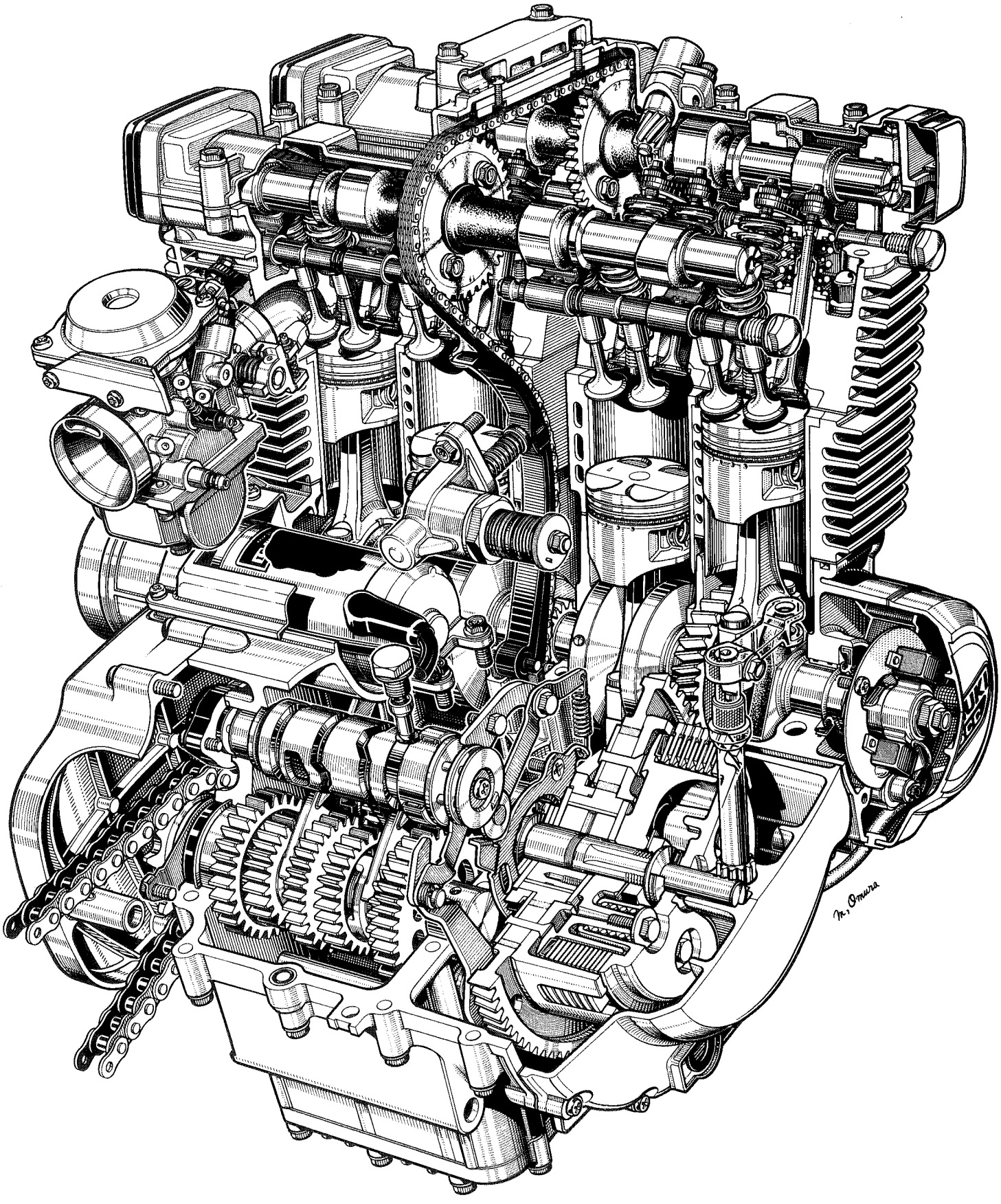
VIEW OF SUZUKI GSX400F



RIGHT SIDE

LEFT SIDE

GROUP INDEX



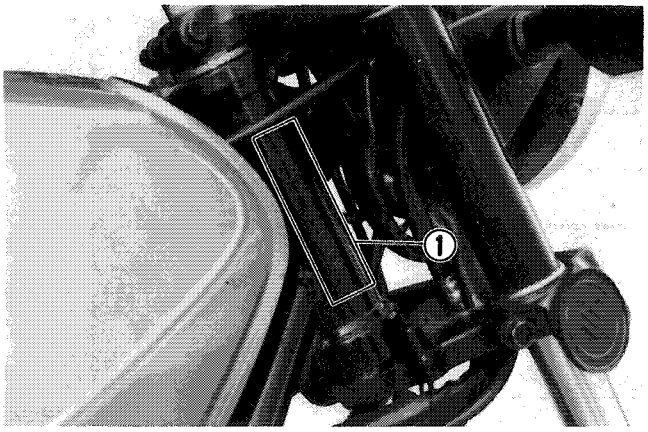
GENERAL INFORMATION

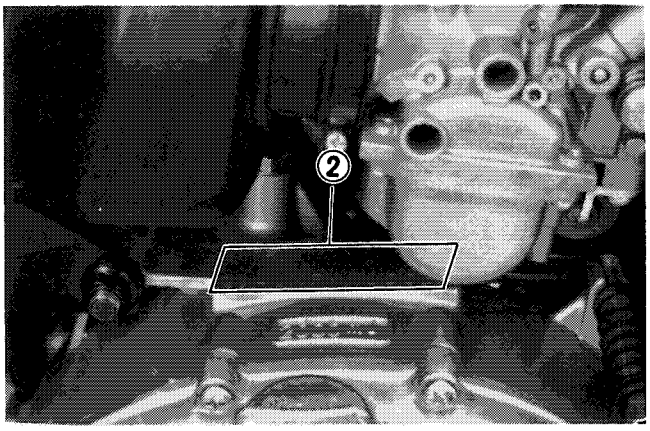
1

CONTENTS

SERIAL NUMBER LOCATIONS

The frame serial number ① is stamped on 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.





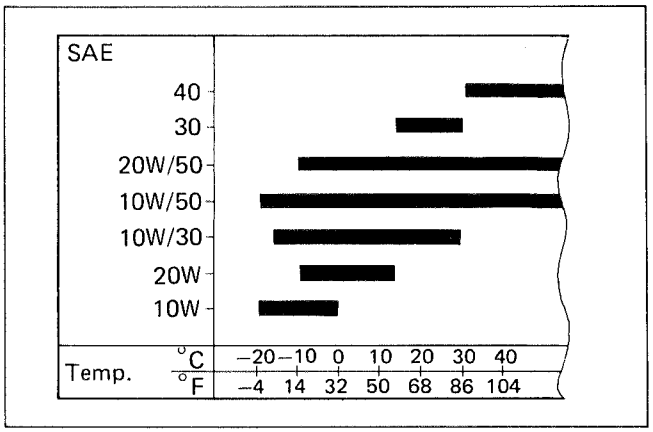
FUEL AND OIL RECOMMENDATIONS

FUEL

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

ENGINE OIL

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



BRAKE FLUID

Specification and classification:	SAE J1703

99000-23021	SUZUKI Brake fluid

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.**

FRONT FORK OIL

Mixture of SAE 10W/30 motor oil and A.T.F. motor oil, the ratio being 50-to-50 percent.
Or fork oil SAE #15.

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:

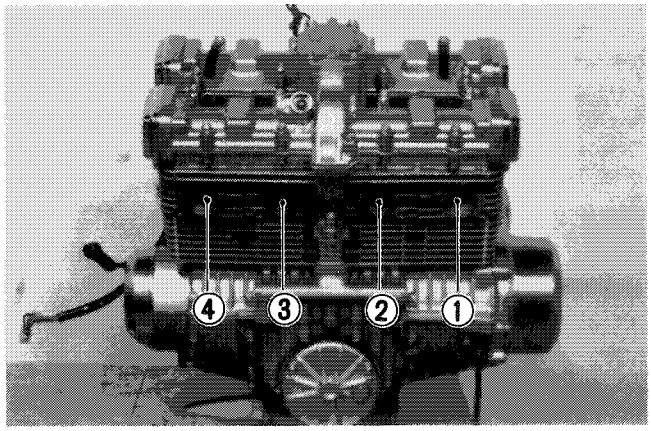
- Keep to these breaking-in engine speed limits:

Initial 800 km	Below 4,000 r/min
Up to 1,600 km	Below 6,000 r/min
Over 1,600 km	Below 10,000 r/min

- Upon reaching an odometer reading of 1,600 km you can subject the motorcycle to full throttle operation.
  However, do not exceed 10,000 r/min at any time.
- Do not maintain constant engine speed for an extended time period during any portion of the break-in. Try to vary the throttle position.

CYLINDER IDENTIFICATION

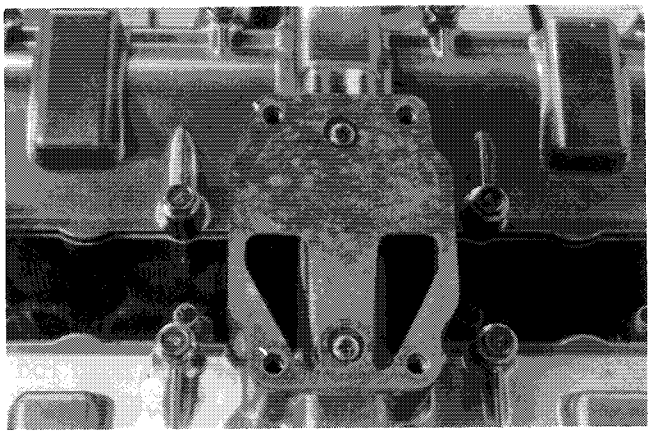
The four cylinders of this engine are identified as No. 1, No. 2, No. 3 and No. 4 cylinder, as counted from left to right (as viewed by the rider on the seat).

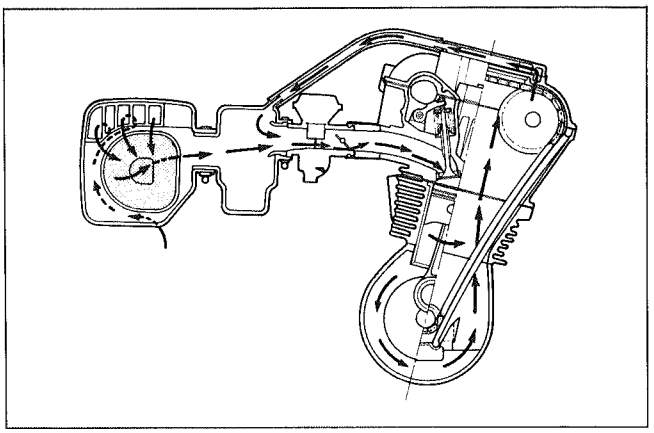


SPECIAL FEATURES

BLOWBY GAS RECYCLING

Blowby gases in the crankcase are constantly drawn into the chain chamber provided in the middle section of the cylinder block. The top section of this chamber is connected with the air chamber body through a rubber tube. In the air chamber, the gases merge with incoming air and thus are recycled to the engine through the normal intake system.



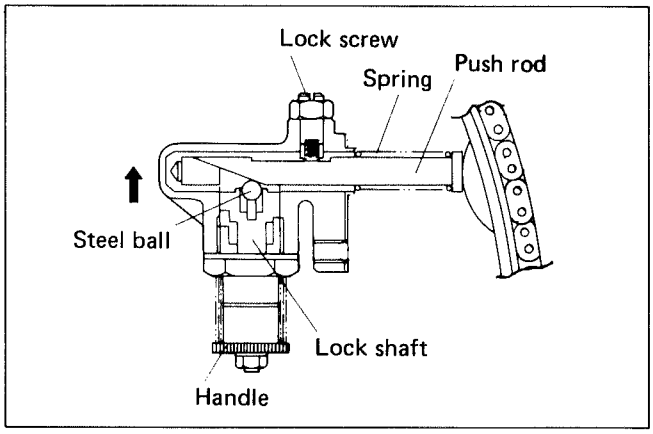


CAMSHAFT DRIVE CHAIN TENSIONER

The chain tensioner used in the Model GSX400F is of self-adjusting type in that it adjusts itself to apply a constant tensioning force to the chain by compensating for the stretch of the chian.

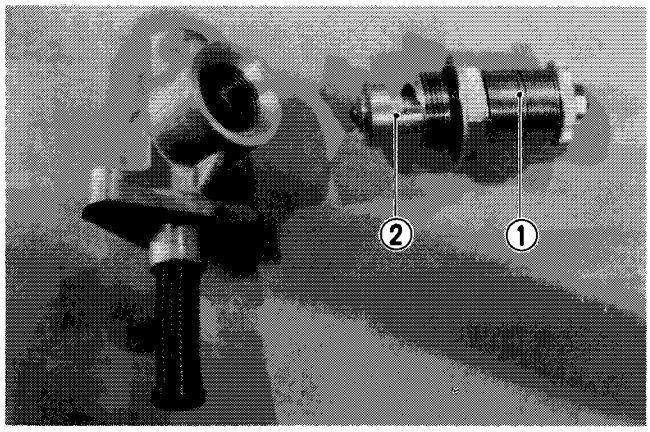
PUSH ROD AND LOCK SCREW

During normal service the cam drive chain will strech. A spring controlled push rod is used to constantly reposition the cam chain guide firmly against the chain to prevent slack from occurring. A lock screw and nut are utilized to eliminate the constant, high spring pressure exerted on the push rod. The lock screw is only used during either removal or installation of the adjuster push rod to ease the procedures.



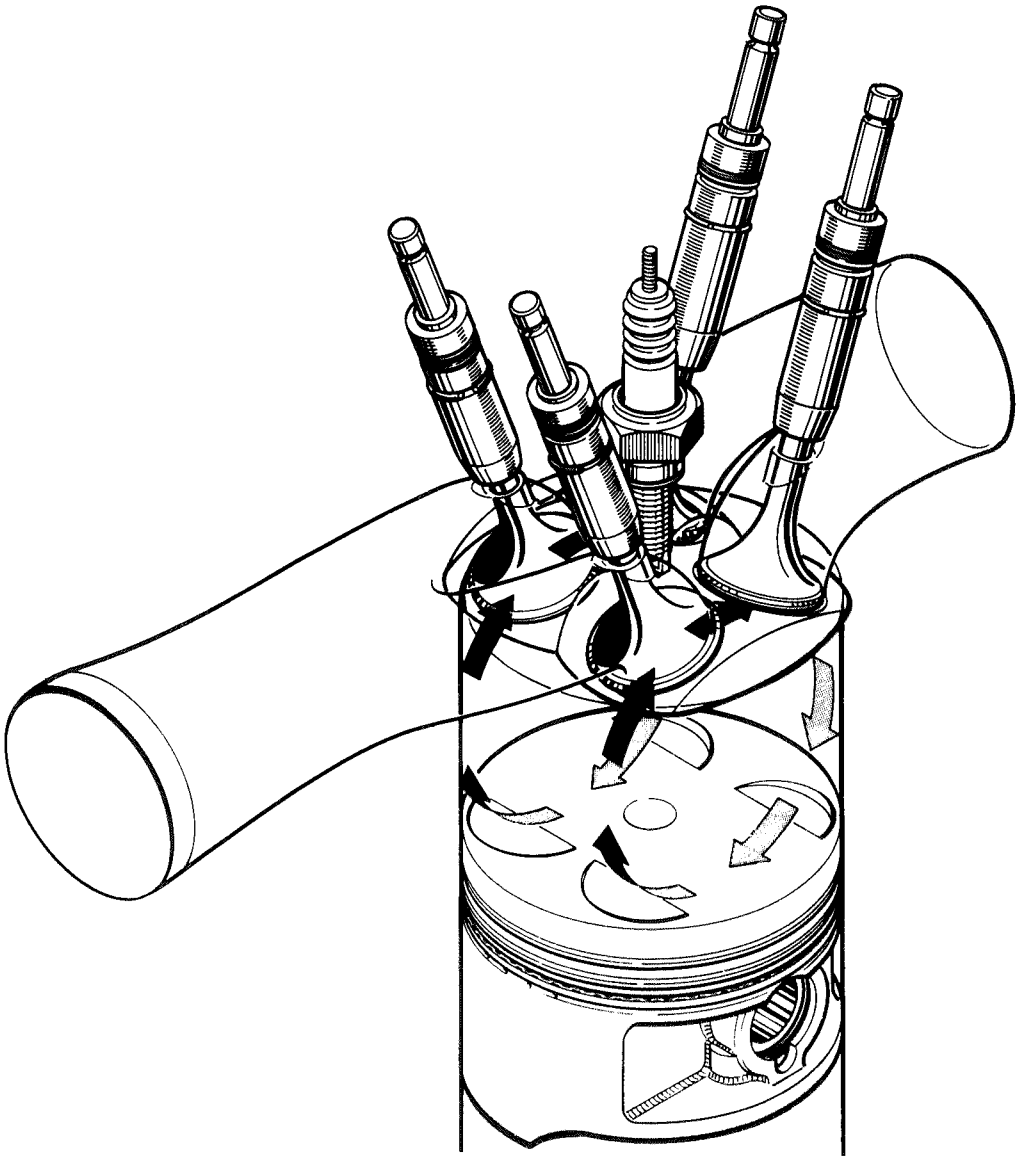
LOCK SHAFT

The cam drive chain tension tries to vary during engine operation. The spring controlled push rod is designed so as to only move in, towards the chain guide preventing slack from occurring if the spring pressure on the push rod were overcome. A steel ball is "jammed" against a angled surface preventing backwards movement of the push rod. The lock shaft is preloaded with a light spring ① which keeps the ball in contact with the push rod and angled surface ②.



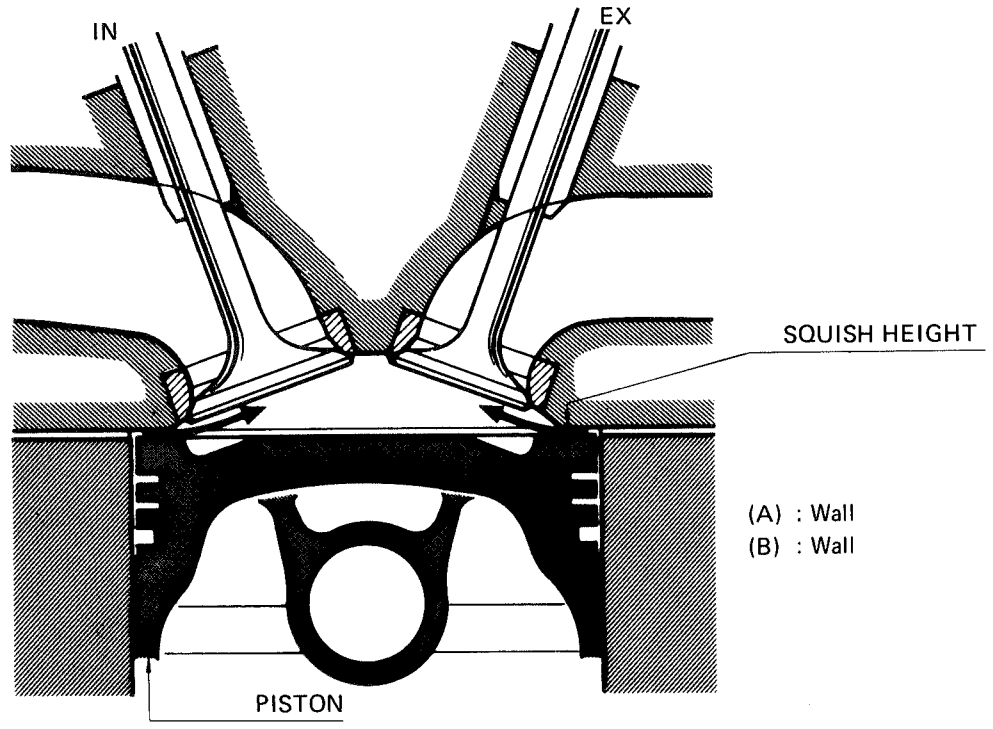
TSCC (TWIN SWIRL COMBUSTION CHAMBER)

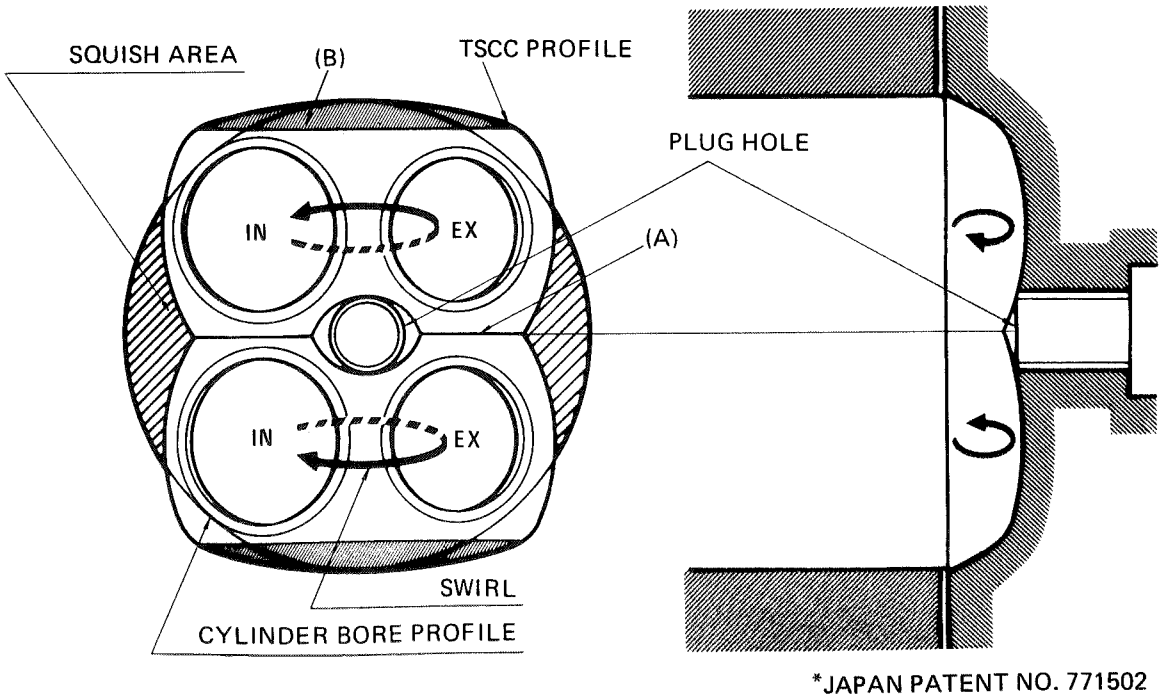
SUZUKI has introduced a new breed of 4-valves-per-cylinder high-performance 4-stroke engines--the TSCC series. TSCC describes the heart of the engine, the Twin Swirl Combustion Chamber.
What the TSCC engine series does better than conventional 4-stroke engines, either 2-valve or 4-valve, is to improve on the two major factors which affect engine performance, charge burning efficiency and intake charging efficiency.
First, charge burning efficiency. The TSCC* system consists of a subtle, yet unique shape into the head. Each of the two intake valves is set into adjoining semi-hemispherical depressions in the head. During the intake stroke these depressions channel the incoming fuel/air mixture to form two separate high-speed swirls.
During the compression stroke the squish areas in the front and the rear of the cylinder head's combustion chamber accelerate the speed of the swirls. Thus, when the spark plug ignites the mixture, the flame spreads rapidly and completes the combustion more quickly.
To further aid burning efficiency, the spark plug is centrally located, the ideal location. This results in the shortest possible path for the flame to travel.



*JAPAN PATENT NO. 771502

The quick completion of burning results in more energy being developed while the piston is in position to transmit maximum power to the crankshaft.
High burning efficiency results in more power, improved throttle response at all rpm's, more complete combustion of the air/fuel mixture (cleaner combustion) and less chance of detonation.
Second, charging efficiency. The benefits of increased burning efficiency are further multiplied if intake charging efficiency is also increased. Basically, increasing the charging efficiency results in more fuel and air being drawn into the engine during each intake stroke. Thus, greater energy potential.
To achieve this, the four valve head was adopted. Two smaller diameter intake valves can flow more than one large valve. Additionally, two smaller valves run cooler due to increased valve seat area and two valve guides to increase heat transfer.





*JAPAN PATENT NO. 771502

But, SUZUKI went one step further. The valves are set in at a much shallower angle than other engines. The result is a smoother intake tract with less valve guide protrusion than in conventional cylinder heads. Therefore, increased flow, and smoother, less turbulant flow which contributes to more power and improved throttle response at all engine speeds.

There are several other benefits. This design is more efficient and will flow more air/fuel mixture than a conventional 4-valve head. Therefore, even smaller, lighter valves can be used with no decrease in power. Also, the valves can be shorter due to the placement angle. This allows more precise valve control since shorter, lighter valves are more easily controlled--especially at higher rpm's.

Yet another benefit of valves set at shallower angles is that the volume of the cylinder head combustion area is decreased. This allows the use of racing type flat-topped pistons since the desired compression ratio can be achieved without resorting to domed pistons. Flat-topped pistons offer no restriction to the incoming air/fuel mixture and a flat-topped piston exposes the minimum amount of surface area to the hot burning mixture. This means that the flat piston absorbs less heat and therefore has to dissipate less heat through the rings and to the oil than a conventional domed piston. The result is a cooler running engine. Flat-topped pistons can also be made lighter resulting in less vibration and stress.

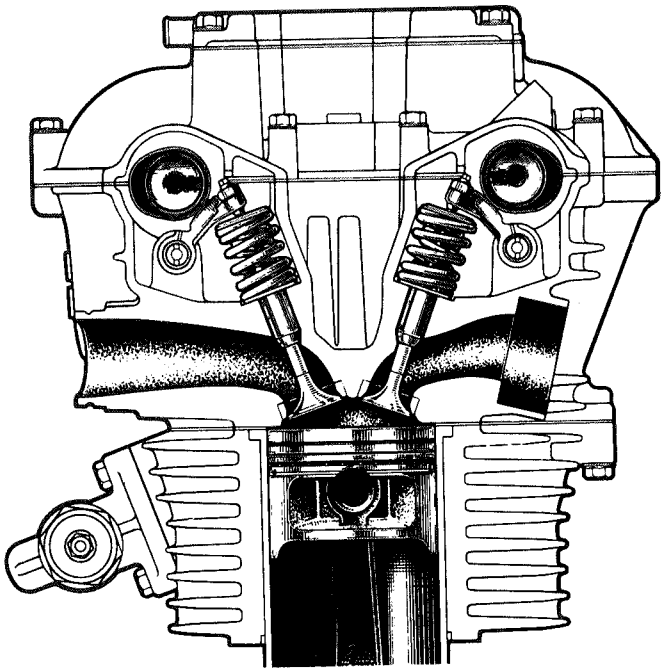
Increased burning efficiency. Increased charging efficiency. The result is more power throughout, from idle to redline. Throttle response is instant and clean. Displacement for displacement, no conventional engine, 2-valve or 4-valve, can compare. This could be enough, but SUZUKI went even further to ensure reliability and ease of maintenance.

A direct acting rocker arm is utilized to activate the valves. Each rocker arm, when depressed by the cam lobe, directly activates two valves at one time. With this system, engine height is reduced and tappets are not necessary. This system allows more room for cooling air flow and allows the use of larger valve springs which increases spring life by reducing stress. Valve adjustment is accomplished without special tools--quickly and easily.

Special sintered steel valve seats are incorporated, manufactured from premium alloys to ensure even more reliability under higher heat loads.

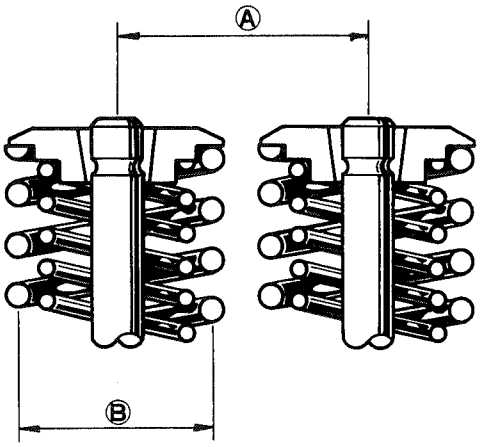
The patented TSCC combustion system combined with SUZUKI's high efficiency charging design results in power and throttle response found only in this new generation 4-stroke engine.

The SUZUKI TSCC engine series--performance without compromise.

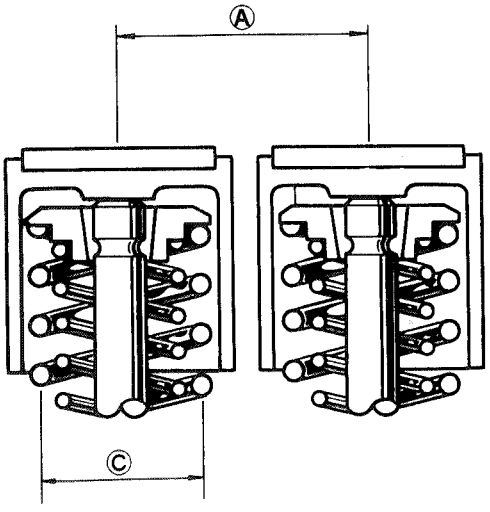


If valve pitch Ⓐ is the same, spring diameter Ⓑ is larger than Ⓒ

TSCC
4-valve

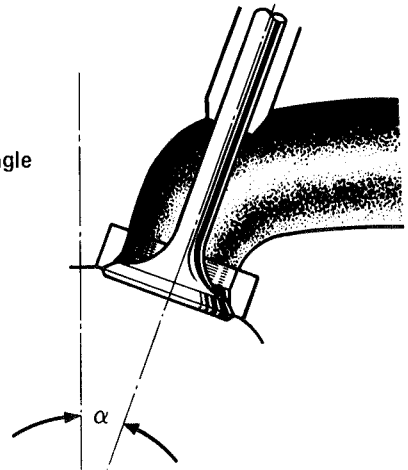


Conventional
4-valve

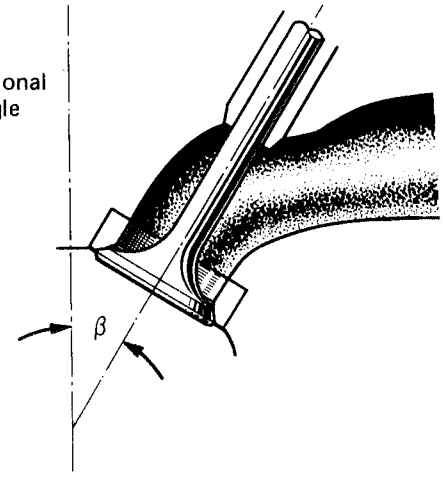


TSCC valve angle α is smaller than β.

TSCC
valve angle



Conventional
valve angle



*JAPAN PATENT NO. 771502

FULL-TRANSISTORIZED IGNITION SYSTEM

DESCRIPTION

A fully transistorized ignition system is now employed on the GSX400F. Its primary advantages are:

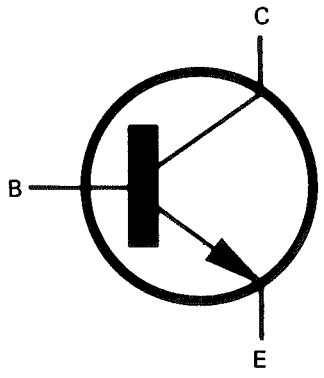
* Trouble free operation due to elimination of contact breaker points which can become contaminated.
* Ignition timing is precisely controlled at all times and requires no maintenance.
* Provides the ignition coil with stable primary voltage.
* Excellent vibration and moisture resistance.

TRANSISTOR

Transistor functions can be divided into four main functions:

1. amplification
2. switching
3. oscillation
4. modulation

These functions are utilized in the ignition system employed on the GSX400F.
Transistors are divided into two groups, NPN and PNP types. The transistors used in the GSX400F model are of the NPN type only, which work as an amplifier and switching device.



B: BASE
C: COLLECTOR
E: EMITTER

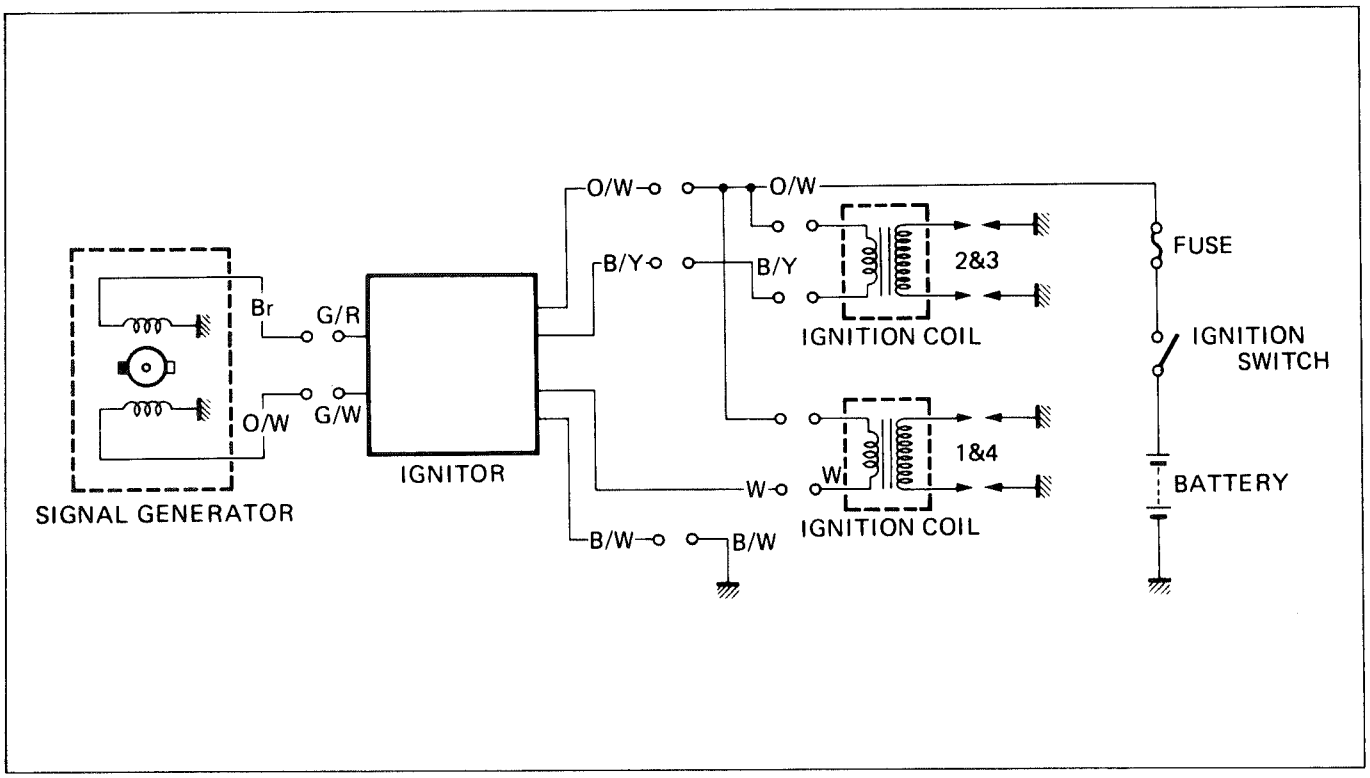
Each transistor has three terminals identified as the Base (B), Collector (C), and Emitter (E), and operation is as follows:
On a NPN type the base is the controlling terminal of the transistor operation. On this type, the base utilizes only a positive or incoming signal to do the "ON", or "OFF" switching. The collector is the terminal where voltage is supplied to the transistor and the emitter is the terminal for passing this current on when the base has the proper "signal". Usually the voltage applied across the collector to the emitter is much larger than that needed at the base. This allows a relatively low voltage at the base to control large working voltages across the collector to the emitter.
The transistor ignition system used on the GSX400F is the KOKUSAN brand and consists of a signal generator, which employes a rotor and two pick-up coils, the trasistor unit, ignition coils, and spark plugs.

SIGNAL GENERATOR

The signal generator is mounted on the right hand side of the engine in the area commonly used for the contact breaker points. It is comprised of a magnet embedded rotor attached to a mechanical advance mechanism and two pick-up coils, with iron plates at their bases, affixed to a plate. Each pick-up coil consists of a coil of wire and a yoke or coil and is mounted, 180° apart on the plate.

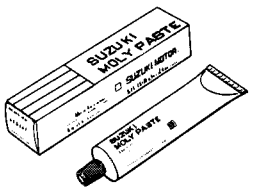
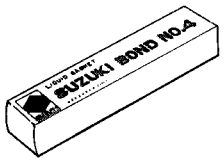
As the rotor magnet is turned past the coils, AC current is produced and used for switching within the transistor unit.

The transistor unit controls power to the ignition coils and causes the spark plugs to fire at the proper time.



SPECIAL MATERIALS

The materials listed below are needed for maintenance work on the GSX400F, 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
 SUZUKI SUPER GREASE "A" 99000-25010	• Oil seals • Throttle grip • Cables (speedometer and tachometer) • Gearshift lever linkage and shaft • Carburetor starter shaft	3-52 3-56 4-16	• Wheel bearings • Sprocket mounting drum bearing • Swinging arm bearing and dust seal • Rear brake cam • Brake pedal shaft • Governor link • Centerstand spacer • Steering stem bearings	6- 3 6-37 6-20
 SUZUKI SILICONE GREASE 99000-25100	• Caliper axle shaft	6- 8		
 SUZUKI MOLY PASTE 99000-25140	• Valve stem • Cam shaft journal • Chain tensioner push rod • Conrod big end bearing • Crankshaft journal bearing • Countershaft	3-27 3-68 3-33 3-41 3-55 3-51		
 SUZUKI BOND No. 4 99000-31030	• Mating surfaces of upper and lower crankcase • Front fork damper rod bolt • Oil pressure switch • Mating surface of crankcase and clutch cover, generator cover	3-56 6-15 3-56 3-59 3-63		
 SUZUKI BRAKE FLUID 99000-23021 (0.5L)	• Brake fluid	2-14		

Material	Part	Page	Part	Page
 THREAD LOCK SUPER "1333B" 99000-32020	• Gearshift cam retainer screw • Cam chain guide screw • Muffler cover screw • Rocker arm shaft stop screw • Carburetor starter shaft screw	3-61 3-34 3-44 3-20 4-16		
 THREAD LOCK SUPER "1303B" 99000-32030	• Gearshift arm return spring stopper • Cam sprocket bolt • Oil pump housing screw • Starter clutch allen bolt	 3-31 3-48 3-48		
 THREAD LOCK cement 99000-32040	• Carburetor bracket screw • Camshaft end cap screw • Engine sprocket spacer inner surface • Front fork damper rod bolt • Oil filter cap nut • Cylinder stud bolt	4-16 3-74 3-52 6-15 2-12	• Anti-Dive fitting bolt • Anti-Dive plunger bolt	
 THREAD LOCK "1342" 99000-32050	• Generator stator securing screw • Generator lead wire guide screw • Gearshift cam stopper bolt • Countershaft bearing retainer screw • Engine oil pump fitting screw	3-47 3-47 3-61 3-60 3-60	• Starter motor securing bolt • Gearshift fork shaft stopper screw • Gearshift cam guide bolt • Oil sump filter screw • Throttle valve screw	3-59 3-53 3-53 3-57 4-15
 THREAD LOCK SUPER "1305" 99000-32100	• Generator rotor bolt	3-58		

PRECAUTIONS AND GENERAL INSTRUCTIONS

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

- 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.**

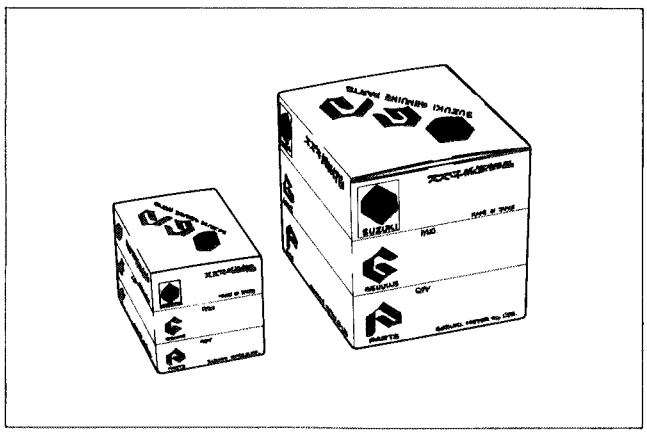
- Tighten cylinder head and case bolts and nuts beginning with larger diameter and ending with smaller diameter, and from inside to out-side diagonally, to the specified tightening torque.
- Use special tools where specified.
- Use genuine parts and recommended oils.
- When 2 or more persons work together, 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 ..... When personal safety of the rider is involved, disregard of the information could result in injury.
CAUTION ..... For the protection of the motorcycle, the instruction or rule must be strictly adhered to.
NOTE ..... Advice calculated to facilitate the use of the motorcycle is given under this heading.

USE OF GENUINE SUZUKI PARTS

To replace any part of the machine, use a genuine SUZUKI replacement part. Imitation parts or parts supplied from any other source than SUZUKI, if used to replace SUZUKI parts can reduce the machine's performance and, even worse, could induce costly mechanical troubles.



SPECIFICATIONS

DIMENSIONS AND DRY MASS

Overall length	2 105 mm
Overall width	750 mm
Overall height	1 135 mm
Wheelbase	1 415 mm
Ground clearance	165 mm
Seat height	780 mm
Dry mass	179 kg

ENGINE

Type	Four-stroke, air-cooled, DOHC
Number of cylinders	4
Bore	53.0 mm
Stroke	45.2 mm
Piston displacement	398 cm^3
Compression ratio	10.2 : 1
Carburetor	MIKUNI BS26SS, four
Air cleaner	Polyurethane foam element
Starter system	Electric
Lubrication system	Wet sump

TRANSMISSION

Clutch		Wet multi-plate type
Transmission		6-speed constant mesh
Gearshift pattern		1-down, 5-up
Primary reduction		2.300 (92/40)
Final reduction		2.866 (43/15)
Gear ratios,	Low	3.166 (38/12)
	2nd	2.125 (34/16)
	3rd	1.631 (31/19)
	4th	1.333 (28/21)
	5th	1.173 (27/23)
	Top	1.083 (26/24)
Drive chain		DAIDO DID50UB, 104 links

CHASSIS

Front suspension	Telescopic, oil dampened
Rear suspension	Swinging arm, oil dampened, spring 5-way adjustable
Steering angle	42° (right & left)
Caster	63°
Trail	100 mm
Turning radius	2.3 m
Front brake	Disc brake, twin
Rear brake	Internal expanding Disc brake (for England and West Germany)
Front tire size	3.25S19-4PR
Rear tire size	3.75S18-4PR 110/90-18 61S (only for West Germany)
Front fork stroke	150 mm
Rear wheel travel	107 mm
Front tire pressure	175 kPa (1.75 kg/cm^2) (Normal solo riding)
Rear tire pressure	200 kPa (2.00 kg/cm^2) (Normal solo riding)

ELECTRICAL

Ignition type	Fully transistorized
Ignition timing	15° B.T.D.C. below at 1 650 r/min and 35° B.T.D.C. above at 3 500 r/min
Spark plug	NGK D8EA or NIPPON DENSO X24ES-U NGK DR8ES-L or NIPPON DENSO X24ESR-U
Battery	12V 43.2 kC (12 Ah)/10 HR
Generator	Three-phase A.C. generator
Fuse	15A

CAPACITIES

Fuel tank including reserve	15 L (3.3 Imp gal)
Reserve	3.5 L (3.1 Imp qt)
Engine oil	2.0 L (1.8 Imp qt)
Front fork oil (each leg)	169 ml (5.95 Imp oz)

* These specifications are subject to change without notice.

PERIODIC MAINTENANCE AND TUNE-UP PROCEDURES

CONTENTS

PERIODIC MAINTENANCE SCHEDULE

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 kilometers.

NOTE:
More frequent servicing may be performed on motorcycles that are used under severe conditions.

PERIODIC MAINTENANCE CHART

ENGINE

Interval / Item	Initial 1 000 km	Every 5 000 km	Every 10 000 km	Page
Air cleaner	Clean every 3 000 km			2-3
Battery	Inspect	Inspect	–	2-4
Engine bolts and nuts	Inspect	Inspect	–	2-5
Valve clearance	Inspect	Inspect	–	2-6
Compression	Inspect	Inspect	–	2-8
Spark plug	Inspect	Inspect	Replace	2-9
Ignition timing	Inspect	Inspect	–	2-10
Carburetor	Inspect	Inspect	–	2-10
Fuel lines	Replace every 2 years			2-12
Engine oil and filter	Change	Change	–	2-12
Oil pressure	–	Inspect	–	2-13
Oil sump filter	–	–	Clean	2-13
Clutch	Inspect	Inspect	–	2-14

CHASSIS

Interval / Item	Initial 1 000 km	Every 5 000 km	Every 10 000 km	Page
Brakes	Inspect	Inspect	–	2-14
Brake hose	Replace every 2 years			2-14
Brake fluid	Change every 1 year			2-14
Drive chain	Inspect and clean every 1 000 km			2-18
Tires	Inspect	Inspect	–	2-19
Steering	Inspect	Inspect	–	2-20
Front fork oil	Change	–	Change	2-21

LUBRICATION CHART

The maintenance schedule, which follows, is based on this philosophy. It is timed by odometer indication, and is calculated to achieve the ultimate goal of motorcycle maintenance in the most economical manner.

Interval / Item	Initial and Every 5 000 km	Every 10 000 km
Governer link	–	Grease
Throttle cable	Motor oil	–
Throttle grip	–	Grease
Clutch cable	Motor oil	–
Clutch lever	Motor oil	–
Speedometer cable	–	Grease
Tachometer cable	–	Grease
Drive chain	Motor oil every 1 000 km	
Brake pedal shaft	Grease or oil	–
Brake cam shaft	–	Grease
Gearshift lever shaft	–	Grease
Steering stem bearings	Grease every 2 years or 20 000 km	
Swinging arm bearings		

WARNING:
Be careful not to apply too much grease to the brake cam shafts. If grease gets on the linings, brake slippage will result.

Lubricate exposed parts which are subject to rust, with either motor oil or grease whenever the motorcycle has been operated under wet or rainy conditions.

Before lubricating each part, clean off any rusty spots and wipe off any grease, oil, dirt or grime.

MAINTENANCE AND TUNE-UP PROCEDURES

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

AIR CLEANER ELEMENT

Clean Every 3 000 km

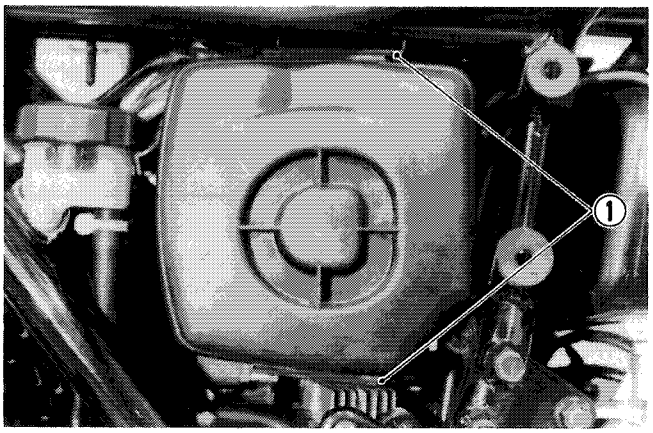
If the air cleaner is clogged with dust, intake resistance will be increased with a resultant decrease in output and an increase in fuel consumption. Check and clean the element in the following manner.

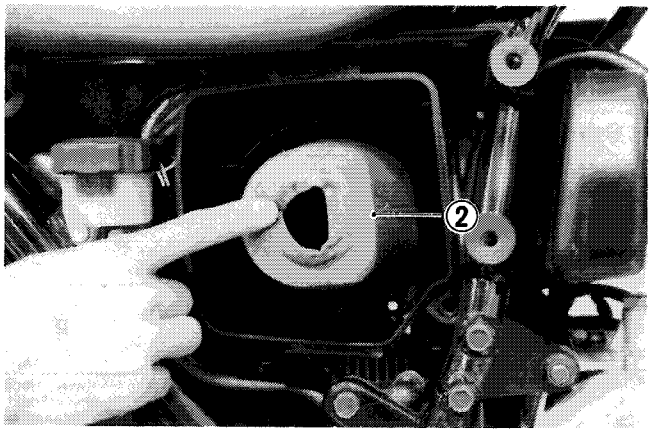
- Take out air cleaner element ② from the air cleaner case by removing two guides ①.
- Fill a washing pan of a proper size with non-flammable cleaning solvent. Immerse the element in the cleaning solvent and wash it clean.
- Squeeze the cleaning solvent out of the washed element by pressing it between the palms of both hands: do not twist or wring the element or it will develop tears.
- Immerse the element in motor oil, and squeeze the oil out of the element leaving it slightly wet with oil.
- Fit the cleaner element to frame properly.

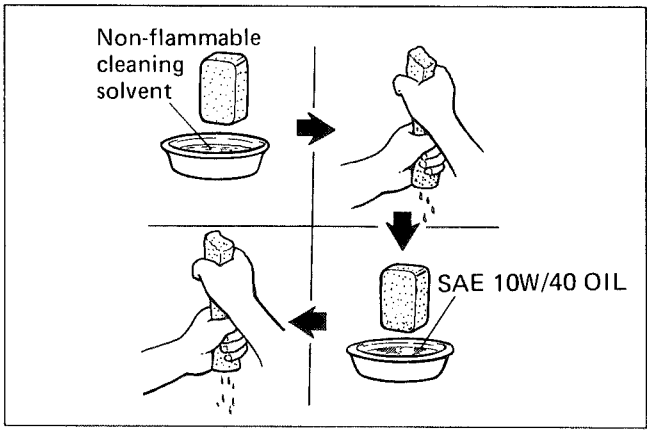
CAUTION:

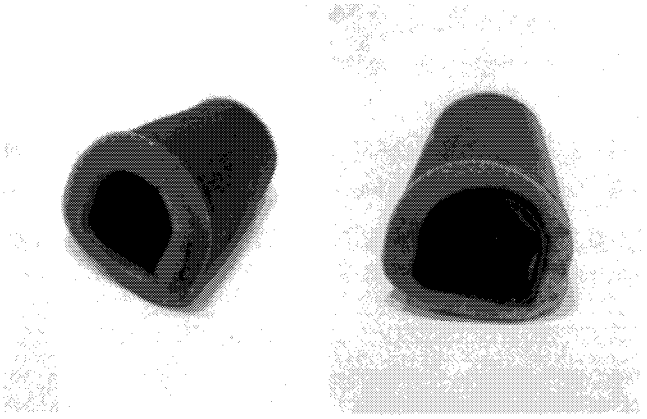
*** Before and during the cleaning operation, inspect the element for tears. A torn element must be replaced.**

*** Be sure to position the element snugly and correctly, so that no incoming air will bypass it. Remember, rapid wear of piston rings and cylinder bore is often caused by a defective or poorly fitted element.**





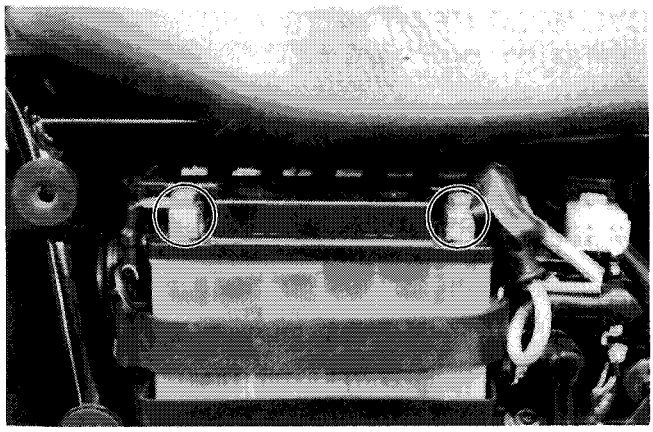




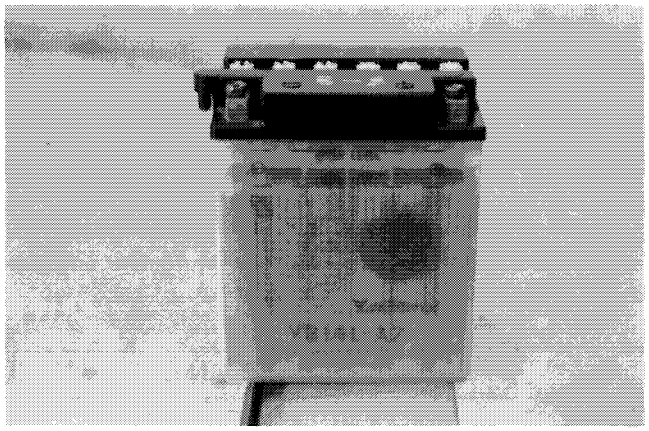
CORRECT INCORRECT

BATTERY

Inspect Initial 1 000 km and Every 5 000 km

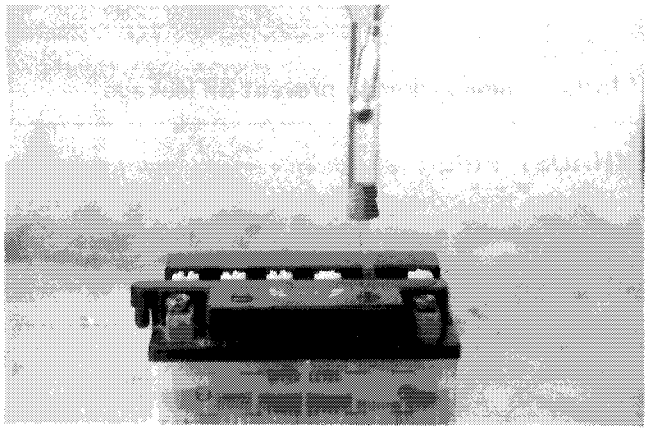


- The battery must be removed to check the electrolyte level and specific gravity.
- Remove left frame cover.
- Remove battery ⊖ lead at the battery terminal.
- Remove battery ⊕ lead wire.
- Remove battery from the frame.
- Check electrolyte for level and specific gravity. Add distilled water, as necessary, to keep the surface of the electrolyte above the LOWER level line but not above the UPPER level line.



For checking specific gravity, use a hydrometer to determine the charged condition.

09900-28403	Hydrometer
Standard specific gravity	1.28 at 20°C (68°F)

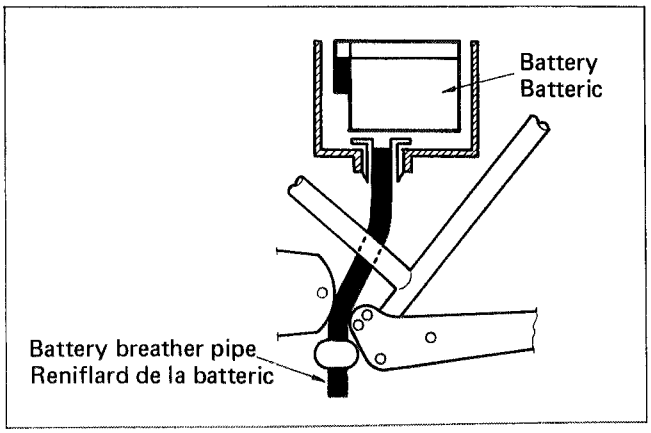


An S.G. reading of 1.22 (at 20°C) or under means that the battery needs recharging off the machine: take it off and charge it from a recharger. Charging the battery in place can lead to failure of the regulator/rectifier.

- To install the battery, reverse the procedure described above.

WARNING:
When installing the battery lead wires, fix the ⊕ lead first and ⊖ lead last.

- Make sure that the breather pipe is tightly secured and undamaged, and is routed as shown in the figure.



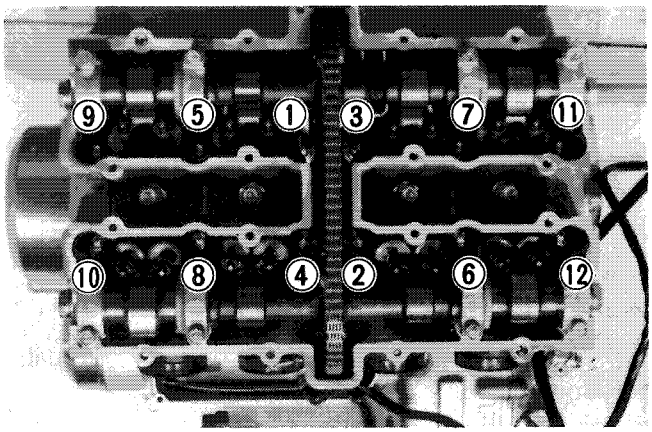
CYLINDER HEAD NUTS AND EXHAUST PIPE BOLTS

Retighten Initial 1 000 km and Every 5 000 km

CYLINDER HEAD

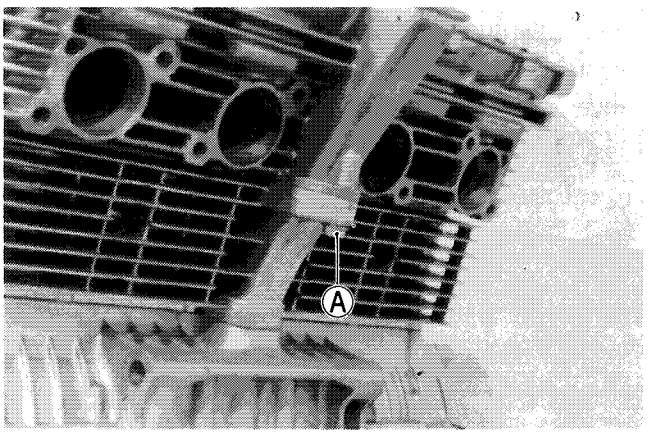
- Remove the fuel tank.
- Remove the cylinder head cover.
- Tighten the twelve 8 mm nuts (12 mm wrench) to the specified torque with a torque wrench sequentially in ascending numerical order with the engine cold.

Cylinder head nut	20 N·m (2.0 kg-m)



- After firmly tightening the 12 nuts, tighten the 6 mm bolt (indicated as Ⓐ) to the torque value below:

Head bolt	9 – 11 N·m (0.9 – 1.1 kg-m)

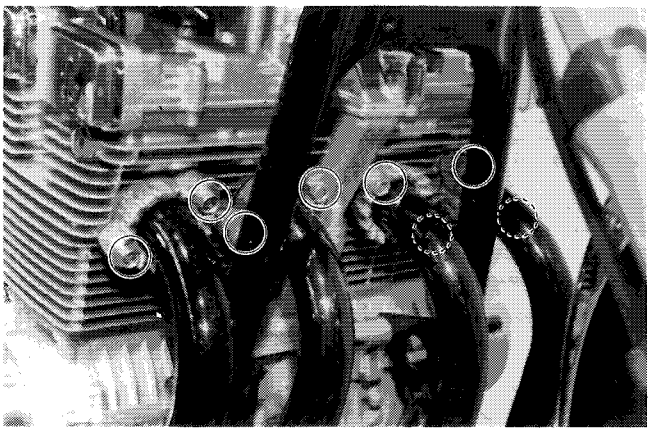


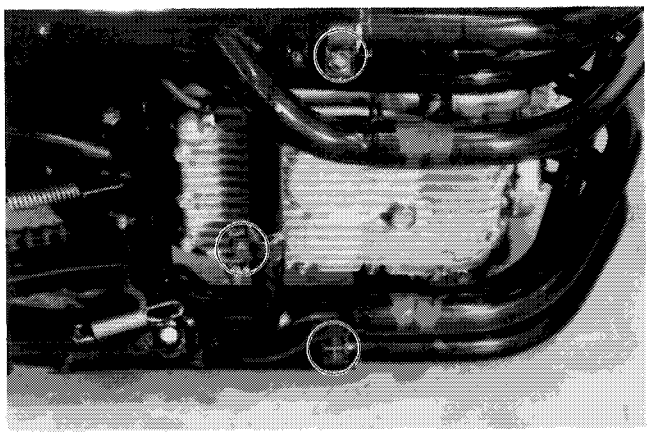
NOTE: Install a new gasket to prevent oil leakage.

EXHAUST PIPE

- Tighten the exhaust pipe bolts and coupler tube bolts to the specified torque with a torque wrench.

Exhaust pipe bolt	10 – 16 N·m (1.0 – 1.6 kg-m)
Exhaust pipe connector bolt	9 – 14 N·m (0.9 – 1.4 kg-m)





VALVE CLEARANCE

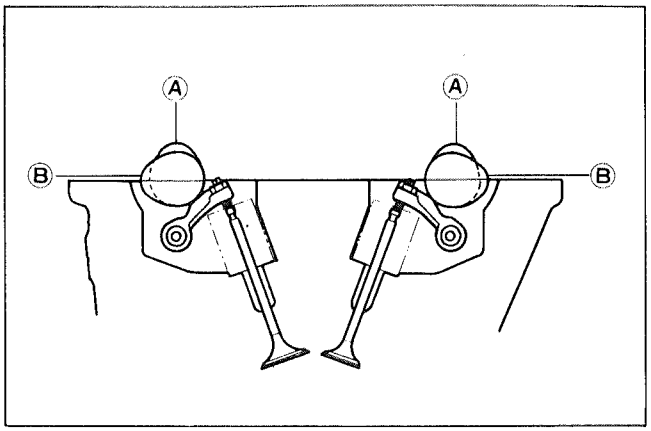
Inspect Initial 1 000 km and Every 5 000 km

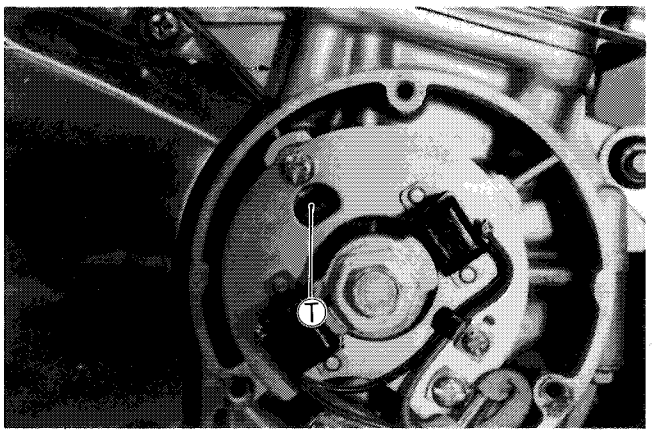
The valve clearance specification is the same for both intake and exhaust valves.
Valve clearance adjustment must be checked and adjusted 1) at the time of periodic inspection, 2) when the valve mechanism is serviced, and 3) when the camshafts are disturbed by removing them for servicing.

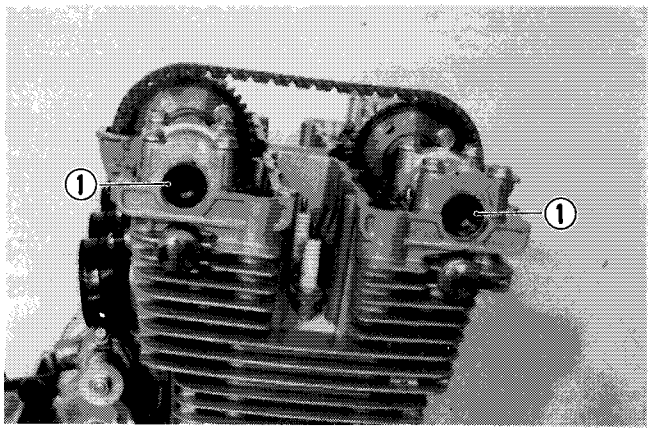
Valve clearance (when cold)	0.08 – 0.13 mm

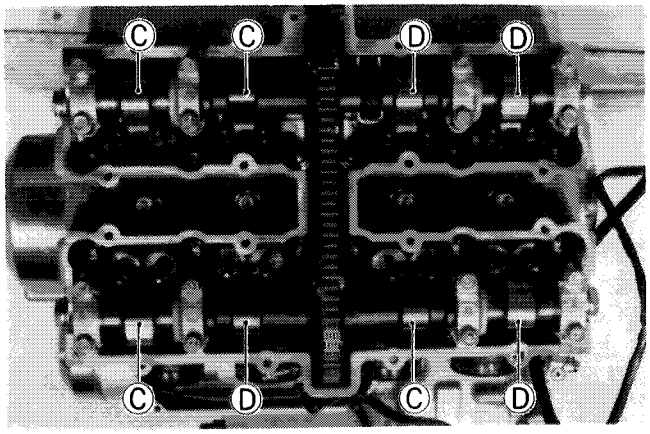
NOTE:
- *** The cam must be at position Ⓐ or Ⓑ in order to check the valve clearance or to adjust valve clearance. Clearance readings should not be taken with the cam in any other position than these two positions.**
- *** The clearance specification is for COLD state.**
- *** To turn the crankshaft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

- Turn crankshaft to bring the "T" mark on Nos. 1 and 4 side (of advance governor) to the timing mark and also to bring the notches ① in the both camshaft (Ex and In) of the right ends to the position as shown. In this condition, read the valve clearance at the valves Ⓒ (In and Ex of No. 1 cylinder, Ex of No. 2 and In of No. 3).



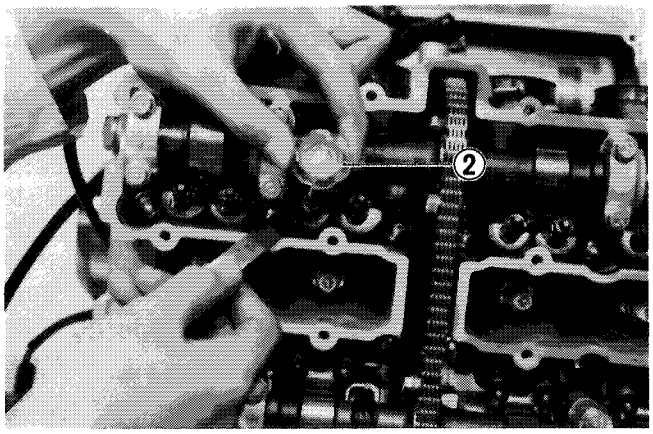




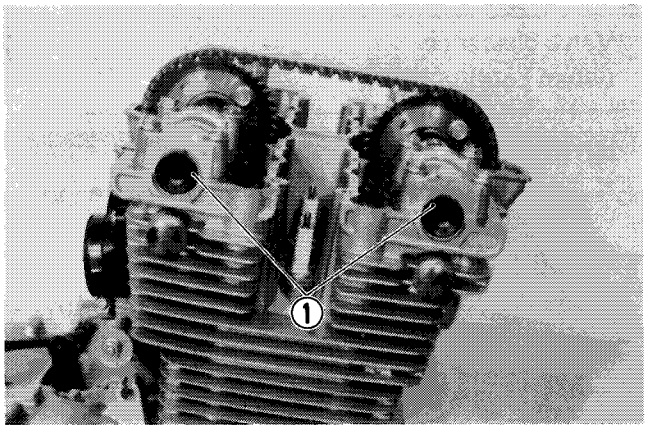


- Use thickness gauge between tappet and valve. If clearance is off the specification, bring it into the specified range by using the tappet adjusting driver ②.

09900-20806	Thickness gauge
09917-14910	Tappet adjust driver



- Turn crankshaft by 360° (one rotation) to bring the "T" mark on Nos. 1 and 4 side to the timing mark and also to bring the notches ① to the position shown.
- Read clearance at the valve Ⓓ and adjust the clearance if necessary.



- Tighten the cylinder head cover properly.

NOTE:
Replace the head cover gasked with new one.