

SUZUKI

LT50

SERVICE MANUAL



FOREWORD

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 to be an extremely useful guide.

Model LT50 manufactured to standard specifications is the main subject matter of this manual. However, the LT50 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. Later made modifications and 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 CORPORATION

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VIEW OF SUZUKI LT50



RIGHT SIDE



LEFT SIDE

GENERAL INFORMATION

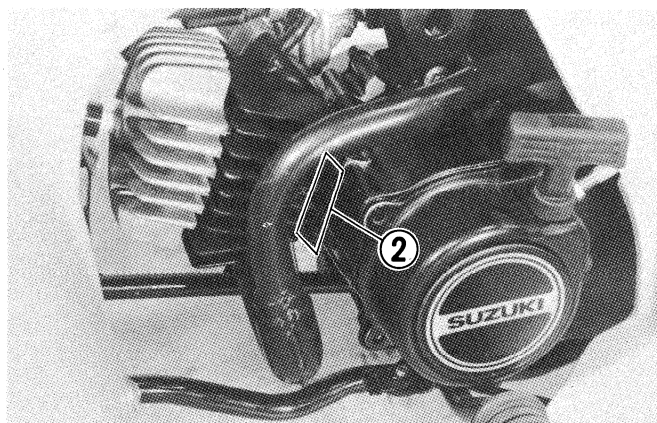
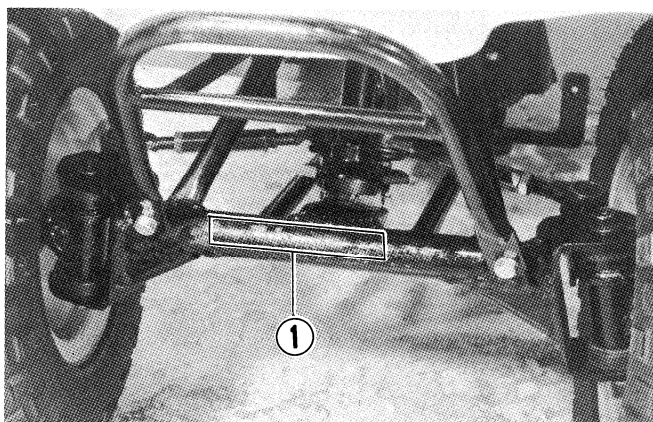
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VIN AND SERIAL NUMBER LOCATIONS

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



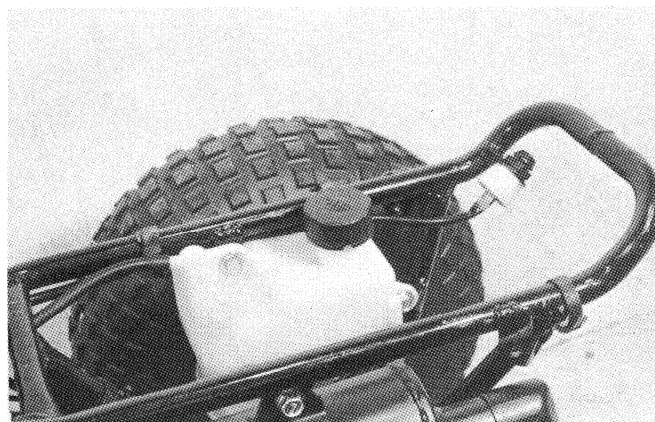
FUEL

Use only unleaded or low-lead type gasoline of at least 85 — 95 pump octane ($\frac{R + M}{2}$ method), 89 octane or higher rated by the research method.



ENGINE OIL

Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.

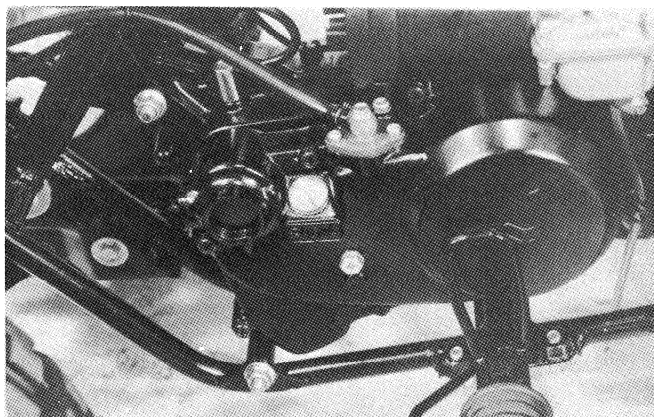


FUEL AND OIL RECOMMENDATIONS

Be sure to use the specified fuel and oils. The following are the specifications.

TRANSMISSION OIL

A multi-grade motor oil with SAE 20W/40 viscosity rating is specified.



SPECIFICATIONS

DIMENSIONS AND MASS

Overall length	1 045 mm (41.1 in)
Overall width	640 mm (25.2 in)
Overall height	680 mm (26.8 in)
Wheelbase	765 mm (30.1 in)
Ground clearance	75 mm (3.0 in)
Rear track	500 mm (19.7 in)
Dry mass	48 kg (106 lbs)

ENGINE

Type	Two-stroke, air-cooled
Intake system	Piston valve
Number of cylinders	1
Bore x Stroke	41.0 mm (1.614 in) x 37.8 mm (1.488 in)
Piston displacement	49 cm ³ (3.0 cu. in)
Corrected compression ratio	5.9 : 1
Carburetor	MIKUNI VM12SC, single
Air cleaner	Polyurethane foam element
Starter system	Recoil starter
Lubrication system	SUZUKI "CCI"

TRANSMISSION

Clutch	Wet shoe, automatic, centrifugal type
Primary reduction	2.650 (53/20)
Final reduction	3.364 (37/11)
Transmission	2.416 (29/12), 1-speed
Drive chain	DAIDO D.I.D. 420 or TAKASAGO RK420, 64 links

CHASSIS

Steering angle	Inside 35° Outside 21.5°
Trail	10 mm
Turning radius	2 mm
Toe-in	4.0 ± 1.5 mm
Camber angle	1°
Caster angle	3°30'
King pin angle	10°
Rear brake	Internal expanding
Front tire size	145/70-6 x 2
Rear tire size	145/70-6 x 2

ELECTRICAL

Ignition type	SUZUKI "PEI"
Ignition timing	24° B.T.D.C. at 3 000 r/min
Spark plug	NGK BP4H or NIPPON DENSO W14FP NGK BPR4H or NIPPON DENSO W14FPR ... only for Canada

CAPACITIES

Fuel tank	1.5 L (0.4/0.3 US/Imp gal)
Engine oil tank	0.5 L (0.53/0.45 US/Imp qt)
Transmission oil	500 ml (0.53/0.45 US/Imp qt)

These specifications are subject to change without notice.

PRECAUTIONS AND GENERAL INSTRUCTIONS

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

- ☐ Be sure to replace packings, gaskets, circlips, O rings and cotter pins with new ones.

CAUTION:

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

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

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

- ☐ Tighten cylinder head and case bolts and nuts beginning with larger diameter and ending with smaller diameter, and from inside to outside diagonally, to the specified tightening torque.
- ☐ Use special tools where specified.
- ☐ Use SUZUKI 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 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.

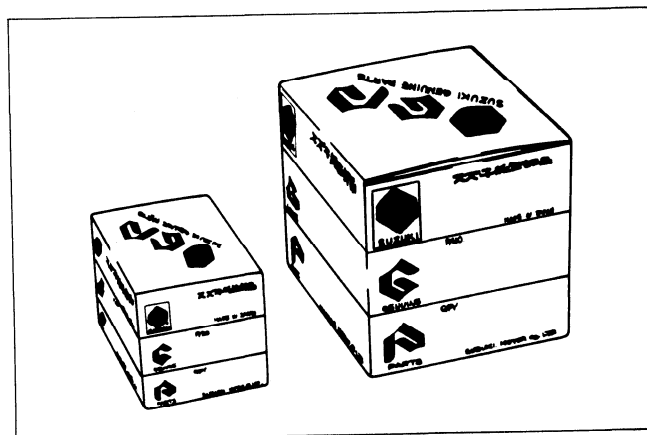
NOTE..... This provides special information to make maintenance easier or important instructions clearer.

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.



SPECIAL MATERIAL

The materials shown are required for maintenance work on the Model LT50, and should be kept on hand for ready use. In addition, such standard materials as cleaning fluids, lubricants, etc., should also be available. Methods of use are discussed in the text of this manual on later pages.

Material	Use
<p>SUZUKI SUPER GREASE "A" 99000-25030</p>	<ul style="list-style-type: none"> ● Oil seal. ● Throttle grip lever. ● Rear axle bearing. ● Wheel bearing. ● Brake cam. ● Steering stem bearing. ● Recoil starter spring. ● Ratchet return spring. ● Steering shaft. ● Knuckle arm.
<p>SUZUKI BOND No. 1207B 99104-31140</p>	<ul style="list-style-type: none"> ● Crankcase mating surface.
<p>SUZUKI THREAD LOCK "1342" 99000-32050</p>	<ul style="list-style-type: none"> ● Bearing retainer/oil guide plate screw. ● Magneto coil screw.

Material	Use
<p>THREAD LOCK CEMENT 99000-32040</p>	<ul style="list-style-type: none"> ● Crankshaft oil seal outer surface.
<p>THREAD LOCK SUPER "1333B" 99000-32020</p>	<ul style="list-style-type: none"> ● Recoil starter lever nut. ● Magneto rotor nut.

PERIODIC MAINTENANCE AND TUNE-UP PROCEDURES

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PERIODIC MAINTENANCE SCHEDULE

The chart below lists the recommended intervals for all the required periodic service work necessary to keep the vehicle operating at peak performance and economy. Mileages are expressed in terms of months.

NOTE:

More frequent servicing may be performed on vehicles that are used under severe conditions.

PERIODIC MAINTENANCE CHART

ENGINE

Interval Item	Initial 1 month	Every 3 months	Every 6 months	Every 12 months	Page
Air cleaner	Clean monthly or more frequently				2-3
Cylinder head nuts	Inspect	Inspect	—	—	2-4
Cylinder head and cylinder	—	—	Remove carbon	—	2-4
Spark plug	Inspect	Inspect	Replace	—	2-5
Carburetor	Inspect	—	Inspect	Overhaul	2-6
Fuel line	Replace every 4 years				2-6
Transmission oil	Change	—	Change	—	2-7
Drive chain	Adjust and lubricate every month				2-8

CHASSIS

<div>Interval</div> <div>Item</div>	Initial 1 month	Every 3 months	Every 12 months	Page
Brakes	Inspect	Inspect	—	2-7
Tire	Inspect	Inspect	—	2-9
	Check pressure each time you ride.			
Steering	Inspect	Inspect	—	2-10
Chassis bolts and nuts	Inspect	Inspect	—	2-11

LUBRICATION CHART

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

Interval Item	Initial and Every 6 months	Every 12 months
Throttle cable	Motor oil	—
Throttle lever	—	Grease
Brake cable	Motor oil	—
Brake cam shaft	—	Grease
Drive chain	Lubricate every month with motor oil	
Steering stem bearings	Grease every 2 years	
Recoil starter spring	Grease every 2 years	
Steering shaft	Grease every 2 years	
Knuckle arm	Grease every 2 years	

WARNING:

Be careful not to apply too much grease to the brake cam shaft. 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 vehicle 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

AIR CLEANER

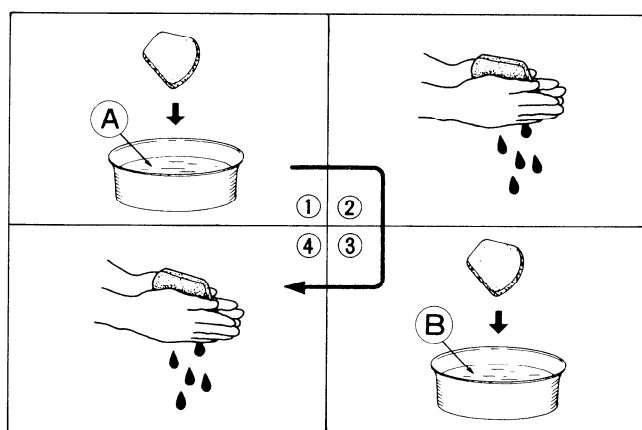
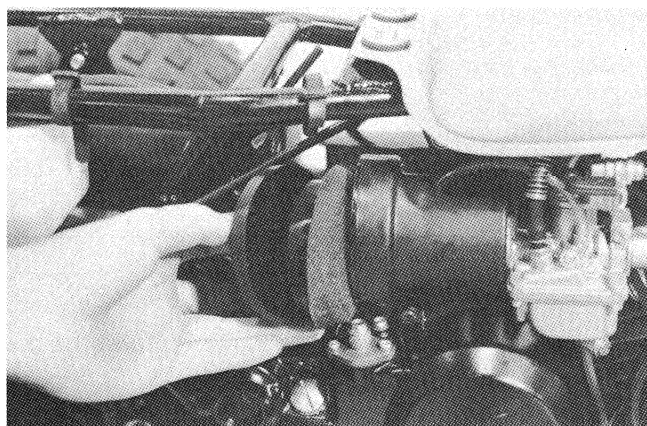
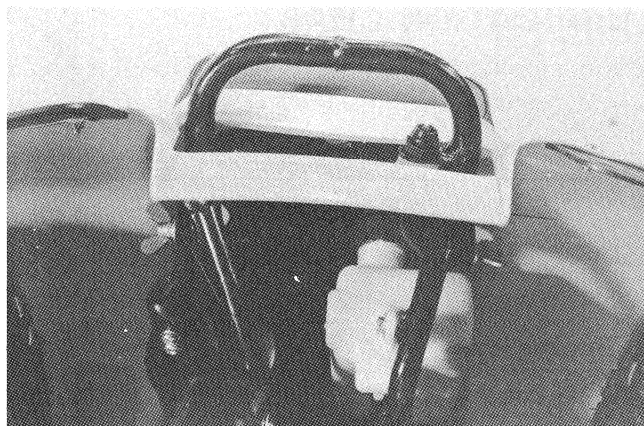
Clean monthly or more frequently

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.

- Remove the seat and cover.
- Remove the air cleaner cap.
- Remove the element from the case.
- 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 or its equivalent 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.



Ⓐ Non-flammable cleaning solvent

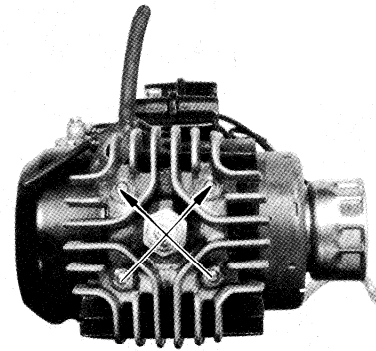
Ⓑ MOTOR OIL SAE # 30 or MOTOR OIL SAE 10W/40

CYLINDER HEAD NUTS

Inspect Initial 1 month and Every 3 months

Cylinder head nuts, when they are not tightened to the specified torque, may result in leakage of the compressed mixture and reduce output. First loosen the nuts and tighten the 4 nuts evenly one by one in stages until each one is tightened to the specified torque. Tighten the nuts in the order indicated.

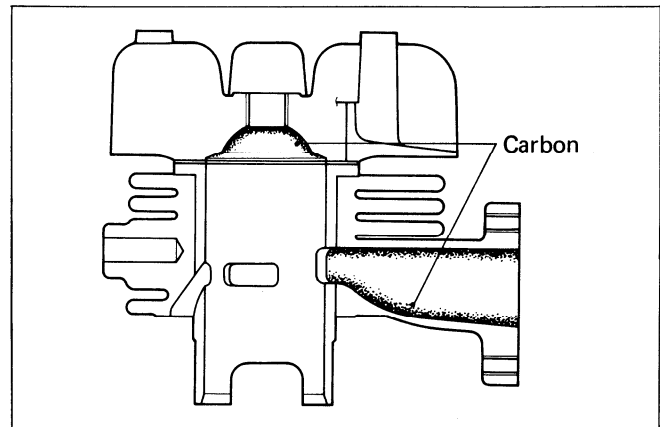
Cylinder head nut tightening torque	0.7 – 1.1 kg-m (5.0 – 8.0 lb-ft)
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CYLINDER HEAD AND CYLINDER

Remove carbon Every 6 months

Carbon deposits in the combustion chamber and the cylinder head will raise the compression ratio and may cause pre-ignition or overheating. Carbon deposited at the exhaust port of the cylinder will prevent the flow of exhaust gases, reducing the output. Remove carbon deposits periodically.



SPARK PLUG

Inspect Initial 1 month and Every 3 months
Replace Every 6 months

Neglecting the spark plug eventually leads to difficult starting and poor performance. If the spark plug is used for a long period, the electrode gradually burns away and carbon builds up along the inside part. In accordance with the Periodic Inspection Chart, the plug should be removed for inspection, cleaning and to reset the gap.

- Carbon deposits on the spark plug will prevent good sparking and cause misfiring. Clean the deposits off periodically.
- If the center electrode is fairly worn down, the plug should be replaced and the plug gap set to the specified gap using a thickness gauge.

09900-20804	Thickness gauge
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Spark plug gap	0.6 – 0.8 mm (0.024 – 0.031 in)
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- Check spark plug for burnt condition. If abnormal, replace the plug as indicated below.

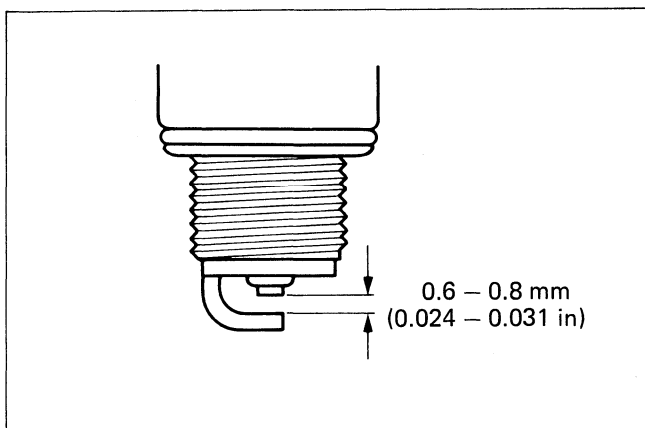
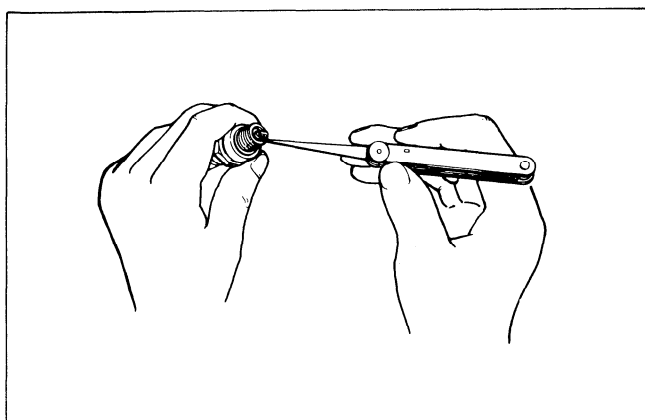
NGK	Nippon Denso	Remarks
BP4H	W14FP	Standard
BP5HS	W16FP	If the standard plug is apt to overheat, replace with this plug.

- Tighten the spark plug in the cylinder head with the specified torque.

Spark plug tightening torque	2.5 – 3.0 kg-m (18.0 – 21.5 lb-ft)
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NOTE:

Confirm the thread size and reach when replacing the plug.



For Canada

NGK	Nippon Denso	Remarks
BPR4H	W14FPR	Standard
BPR5HS	W16FPR	If the standard plug is apt to overheat, replace with this plug.

CARBURETOR

ENGINE IDLE R/MIN

Inspect Initial 1 month and
Every 6 months
Overhaul and Clean Every 12 months

- Adjust the throttle cable play.
- Warm the engine up.

NOTE:

A warm engine means an engine has been run for 10 minutes.

- Remove the seat and cover.
- Adjust the throttle stop screw ① to obtain the idle r/min as follows.

Idle r/min	1500 – 1600 r/min
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- Finally adjust the throttle cable play.

THROTTLE CABLE

- Loosen the lock nut ② and adjust the cable slack by turning adjuster ③ in or out to obtain the following cable play.
After adjusting play, tighten the lock nut.

Cable play	0.5 – 1.0 mm (0.02 – 0.04 in)
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OVERHAUL AND CLEANING

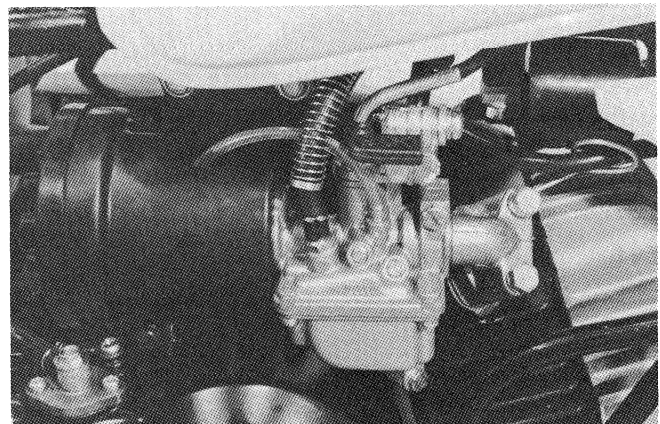
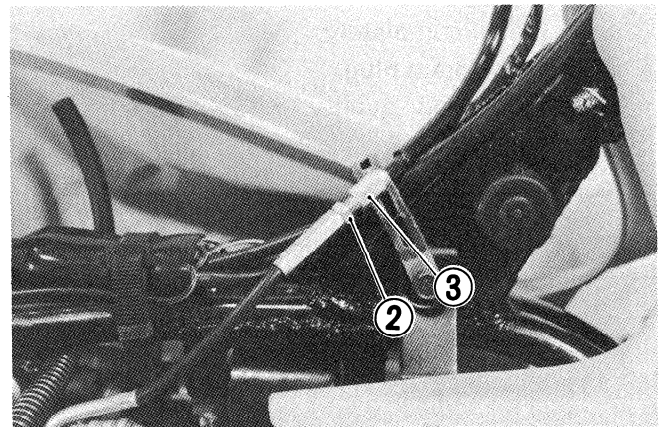
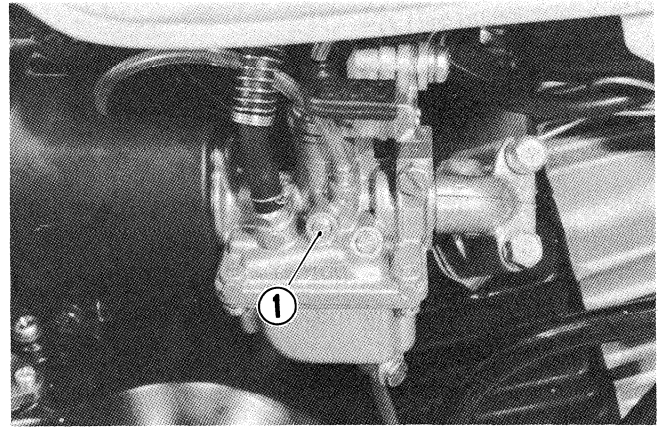
Wash the carburetor and component parts in cleaning solvent after disassembly.

Before reassembly, inspect the float level and needle valve. Adjust and replace parts when necessary. (Refer to page 4-2).

Then blow compressed air through all jets and passages to make sure they are not clogged. Do not use wire, etc. to clean them, as this can damage the parts.

FUEL LINE

Replace Every four years.



TRANSMISSION OIL

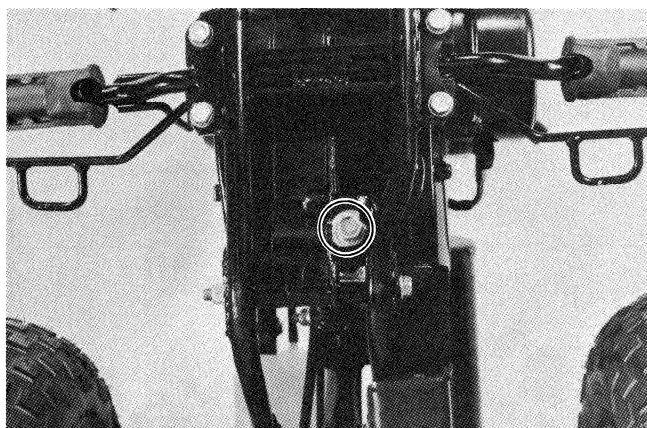
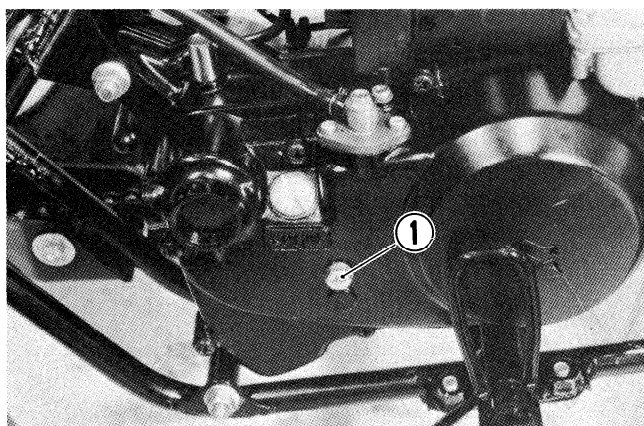
**Change Initial 1 month and
Every 6 months**

After a long period of use, the transmission oil qualities will deteriorate and quicken the wear of sliding and interlocking surfaces. Replace the transmission oil periodically following the procedure below.

- Start the engine to warm up the oil, this will facilitate draining of oil.
- Unscrew the oil filler cap and drain plug, and drain the oil completely.
- Tighten the drain plug.
- Supply a good quality SAE 20W/40 multi-grade motor oil.

Capacity	500 ml (0.53 US qt)
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- Check the oil level with the oil level screw ①.



BRAKES

**Adjust Initial 1 month and
Every 3 months**

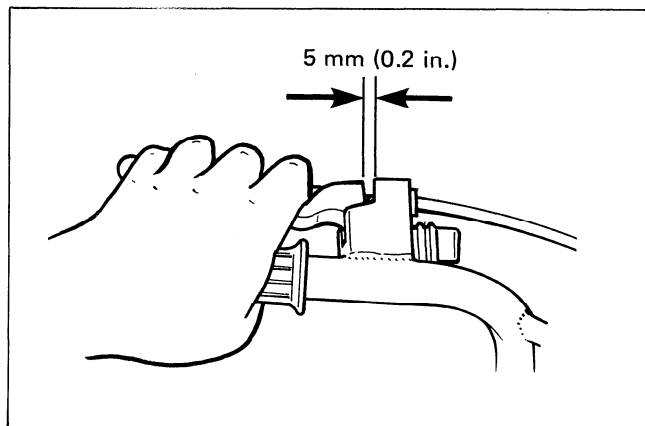
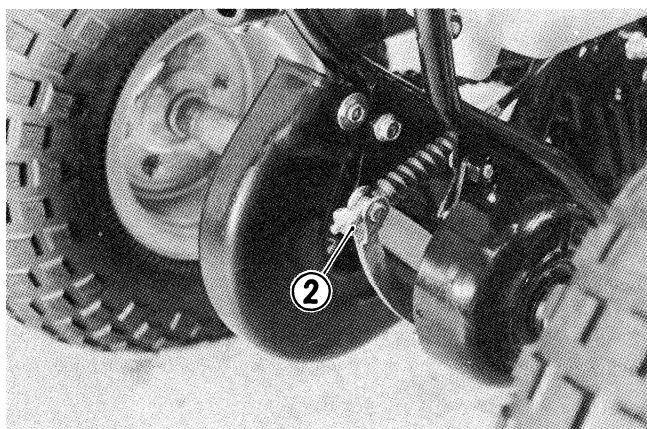
BRAKE CABLE ADJUSTMENT

Set the parking brake by squeezing the brake lever and then pressing the lock knob. Rock the vehicle by pushing to see if the brake is sufficiently holding the wheels locked. Adjust the brake, if necessary, by turning the adjuster ② in or out.

NOTE:

The free travel before the brake lever is set in locked position is approximately 5 mm (0.2 in) as measured at the lever base.

Brake cable play	5 mm (0.2 in)
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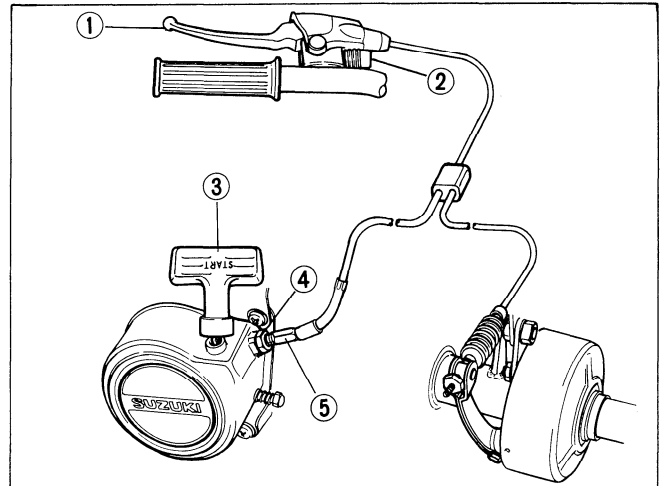
RECOIL STARTER ADJUSTMENT

- Loosen the adjuster lock nut and turn the recoil adjuster clockwise as far as it will go.
- Set the parking brake and make sure that the rear wheels are locked.
- Turn the recoil adjuster counter-clockwise by a half turn and pull the starter grip slowly to see if the ratchet engages and engine can be cranked.

If the recoil starter does not crank the engine, turn the recoil adjuster counter-clockwise by another half turn.

Repeat this procedure until the starter ratchet mechanism begins to engage to crank the engine.

- After locating the recoil adjuster at this point, turn it counter-clockwise 1 1/2 more turns and then fix the recoil adjuster by tightening the adjuster lock nut.



- ① Brake lever/Parking brake lever
- ② Lock knob
- ③ Recoil starter grip
- ④ Adjuster lock nut
- ⑤ Adjuster

DRIVE CHAIN

Adjust and lubricate Every month.

Visually inspect the drive chain for the possible malconditions listed below.

1. Loose pins
2. Damaged rollers
3. Rusted links
4. Twisted or seized links
5. Excessive wear

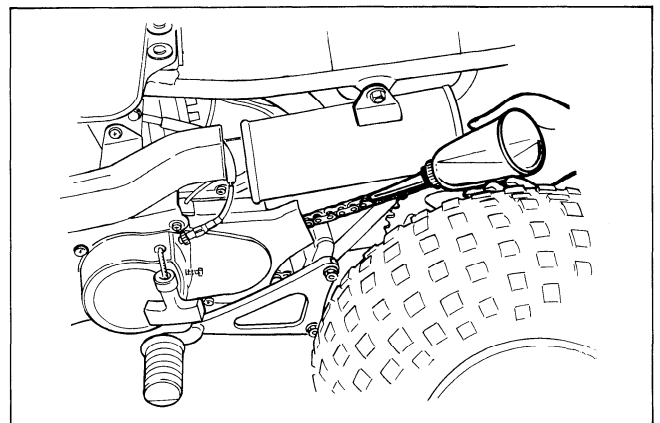
If any defects are found, the drive chain must be replaced.

LUBRICATING THE DRIVE CHAIN

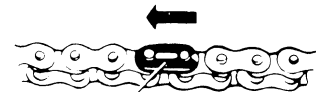
Dirt hastens wear of drive chain and sprockets. Lubricate the drive chain with chain lube or motor oil frequently. Every 1 month or more frequently, wash the chain clean in a pool of solvent and lubricate it with chain lube or motor oil. In a dusty area, this service should be given at shorter intervals.

CAUTION:

When refitting the drive chain, be sure to install the chain joint clip as shown: the slit end faces counter to turning direction.



Turning direction



Chain joint clip

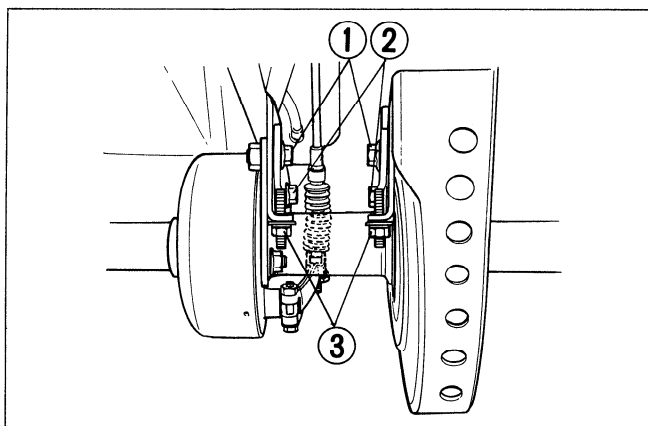
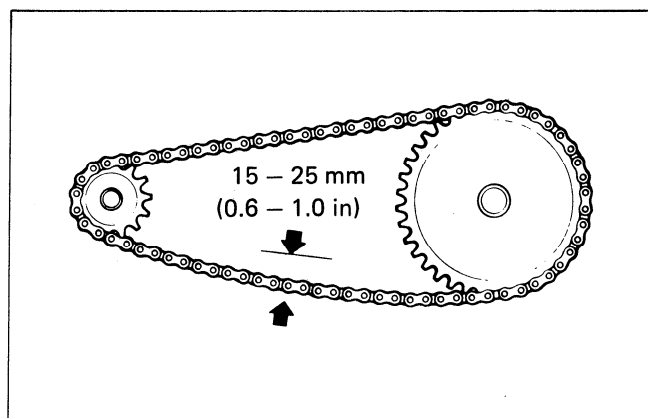
DRIVE CHAIN ADJUSTMENT

The drive chain is properly adjusted when its slack (between two sprockets) is within 15 – 25 mm (0.6 – 1.0 in) range.

Drive chain slack	15 – 25 mm (0.6 – 1.0 in)
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The procedure of chain adjustment for this is as follows:

- Loosen the bolts ① and bolts ②.
- Adjust the slack in the drive chain by turning the chain adjuster nuts ③ to tighten or slacken.
- With a proper slack obtained, tighten the four bolts ① and ② good and hard.
- Tighten the adjusting nuts ③.
- Check and, as necessary, re-adjust the brake lever travel as outlined on page 2–7. This is because adjusting the drive chain could alter the lever travel.



TIRE

Inspect Initial 1 month and Every 3 months Check tire pressure each time you ride.
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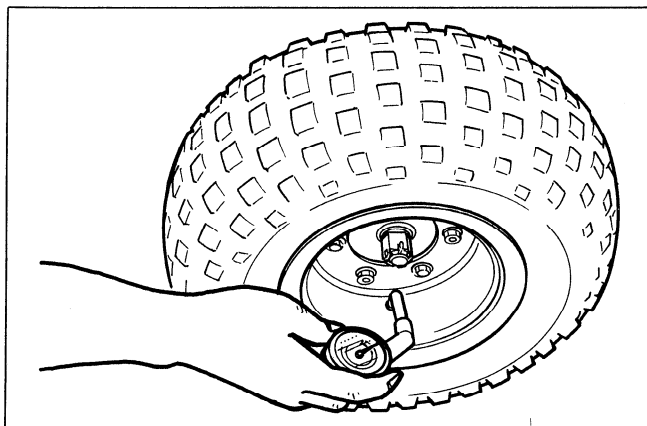
Cold inflation tire pressure	
Front	Rear
0.25 – 0.35 kg/cm ² (3.5 – 5.0 psi)	0.25 – 0.35 kg/cm ² (3.5 – 5.0 psi)

TIRE PRESSURE

If the tire pressure is too high, the vehicle will tend to ride stiffly, have poor traction. Conversely, if the tire pressure is too low, stability will be adversely affected. Therefore, maintain the correct tire pressure for good traction and to prolong tire life.

CAUTION:

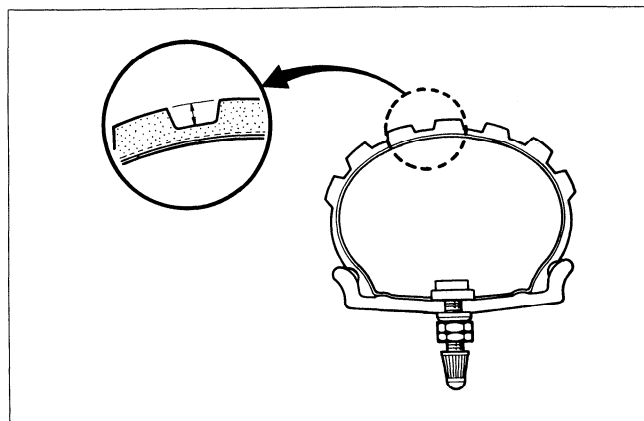
The standard tire fitted on this LT50 is 145/70-6 for front and rear. The use of a tire other than the standard may cause handling instability. It is highly recommended to use a SUZUKI Genuine Tire.



TIRE TREAD CONDITION

Operating the vehicle with excessively worn tires will decrease riding stability and consequently invite a dangerous situation. It is highly recommended to replace the tire when the remaining depth of tire tread reaches the following specifications.

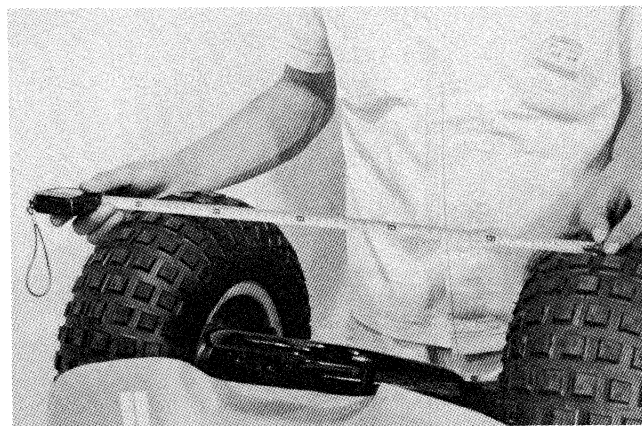
Front and rear	3 mm (0.12 in)
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STEERING

**Inspect Initial 1 month and
Every 3 month**

Steering system should be adjusted properly for smooth manipulation of handlebars and safe running.



TOE-IN

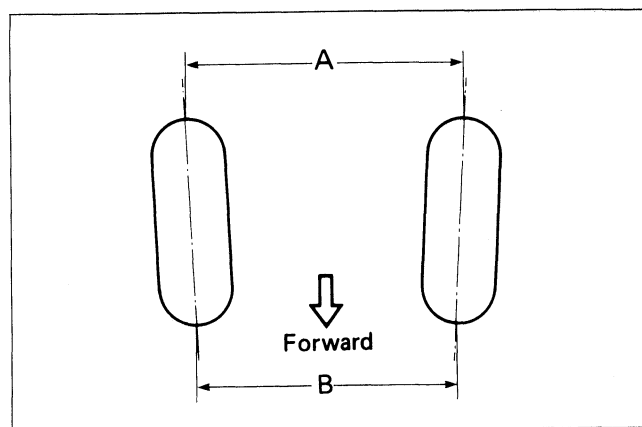
- Place the vehicle on the level ground.
- Make sure that the tire pressure is within specification.

Cold inflation tire pressure	
Front	Rear
0.25 – 0.35 kg/cm ² (3.5 – 5.0 psi)	0.25 – 0.35 kg/cm ² (3.5 – 5.0 psi)

- Measure the distance (A and B in illustration) of front wheels with a ruler as shown in photograph.

Toe-in	4.0 ± 1.5 mm (0.16 ± 0.06 in)
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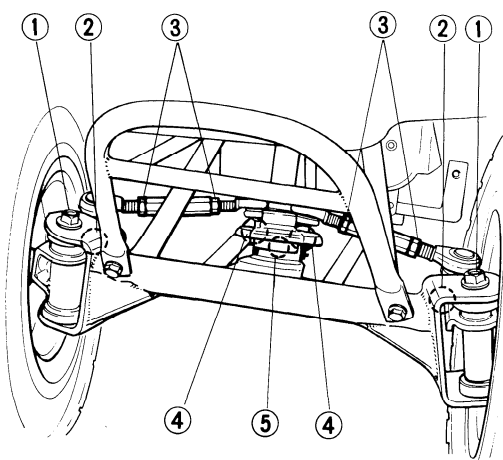
- If the toe-in is off the specification, bring it into the specified range (See page 6-10).



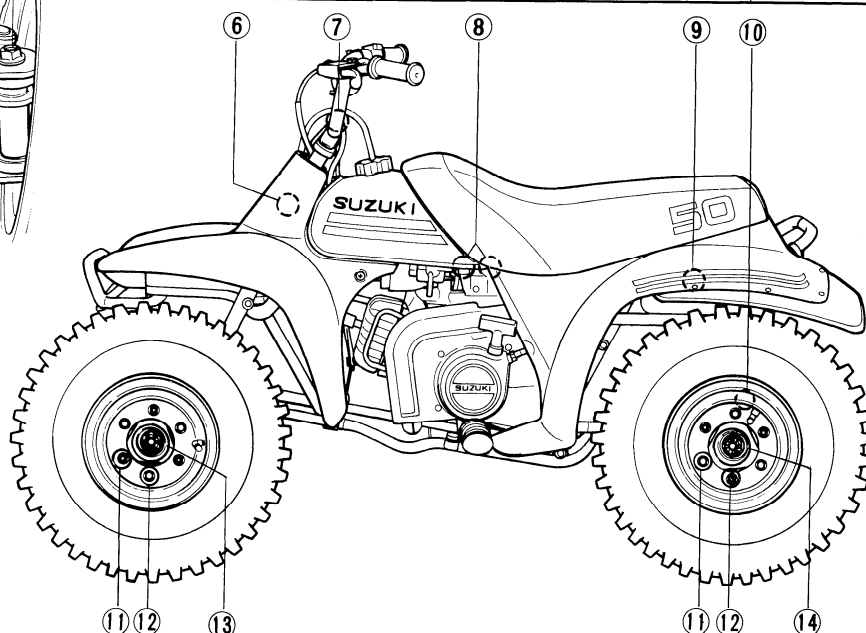
CHASSIS BOLTS AND NUTS

Inspect Initial 1 month and Every 3 months

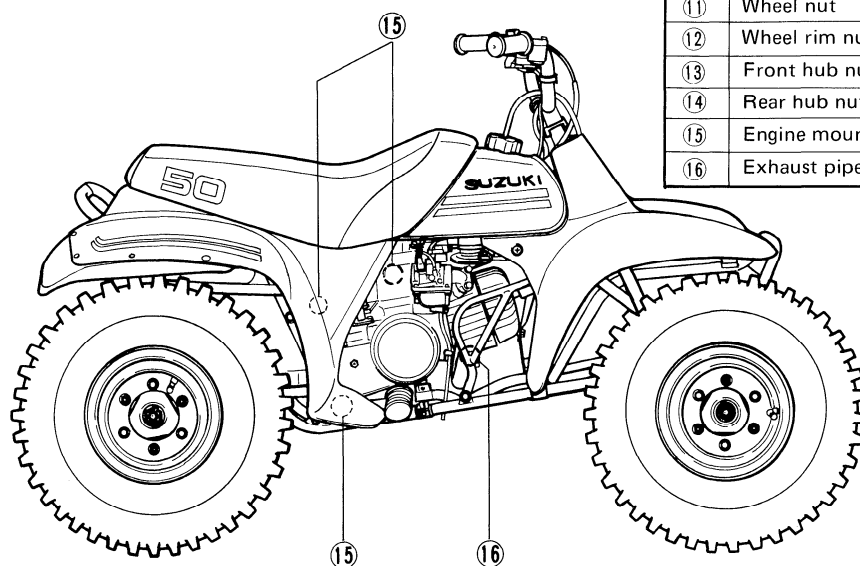
These bolts and nuts listed below are important safety parts. They must be loosened first and retightened, to the specified torque with a torque wrench.



No.	Description	kg-m	lb-ft
①	Knuckle arm bolt	4.0 – 6.0	29.0 – 43.5
②	Tie-rod nut	4.0 – 6.0	29.0 – 43.5
③	Tie-rod lock nut	2.2 – 3.5	16.0 – 25.5
④	Tie-rod nut	4.0 – 6.0	29.0 – 43.5
⑤	Steering shaft lower nut	2.2 – 3.5	16.0 – 25.5
⑥	Steering shaft holder bolt	1.8 – 2.8	13.0 – 20.0
⑦	Handlebar clamp nut	1.0 – 1.6	7.0 – 11.5



No.	Description	kg-m	lb-ft
⑧	Engine mounting bracket bolt	1.8 – 2.8	13.0 – 20.0
⑨	Muffler mounting bolt	1.8 – 2.8	13.0 – 20.0
⑩	Rear brake cam lever bolt	0.22 – 0.44	1.6 – 3.2
⑪	Wheel nut	1.8 – 2.8	13.0 – 20.0
⑫	Wheel rim nut	1.8 – 2.8	13.0 – 20.0
⑬	Front hub nut	5.0 – 8.0	36.0 – 58.0
⑭	Rear hub nut	5.8 – 8.0	42.0 – 58.0
⑮	Engine mounting bolt	2.8 – 3.4	20.0 – 24.5
⑯	Exhaust pipe clamp nut	0.8 – 1.2	6.0 – 8.5



SERVICING ENGINE

CONTENTS

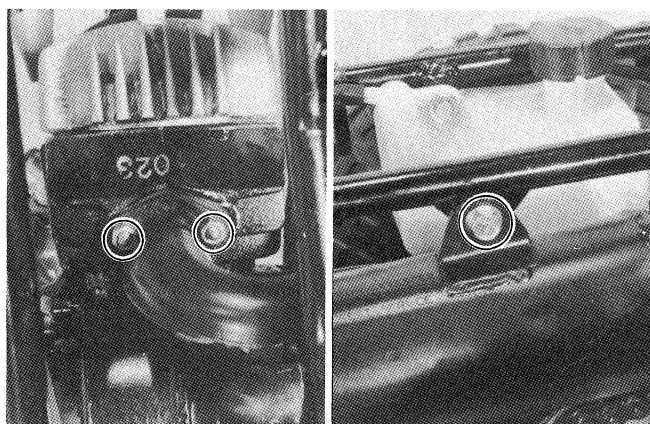
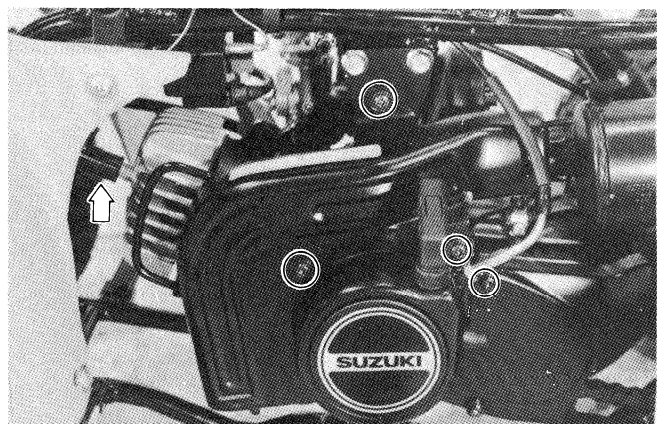
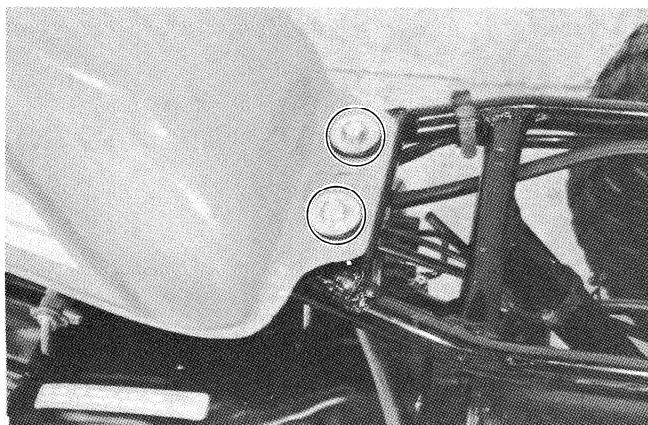
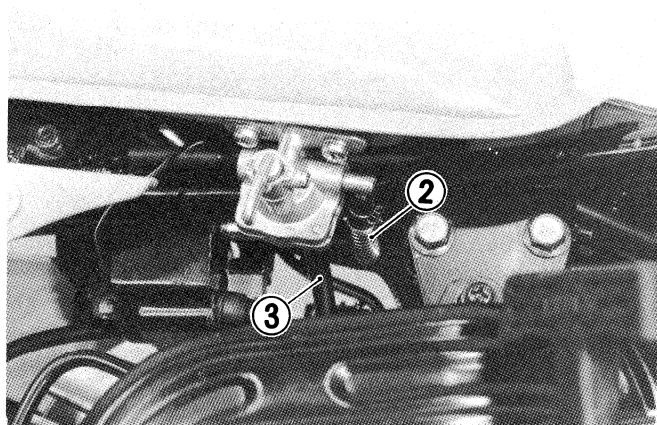
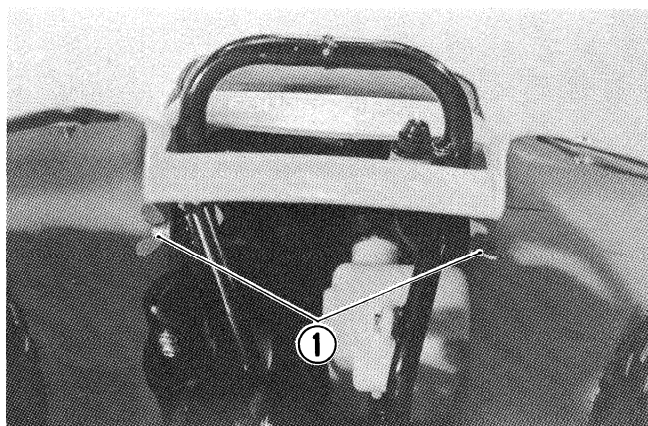
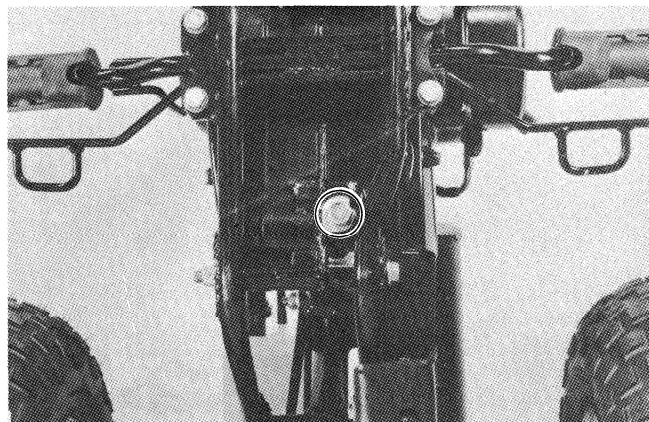
ENGINE REMOVAL AND REINSTALLATION	3- 1
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ENGINE REMOVAL AND REINSTALLATION

ENGINE REMOVAL

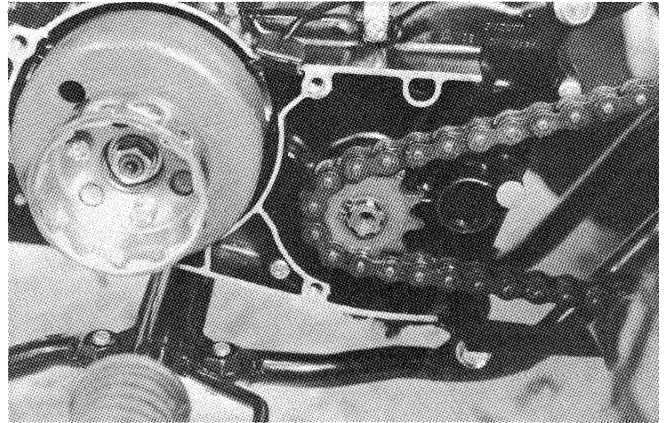
Before taking the engine out of the frame, wash the engine with a steam cleaner and drain transmission oil, etc. The procedure of engine removal is sequentially explained in the following steps, and engine reinstallation is effected by reversing the removal procedure.

1. Place an oil pan under the engine and remove the oil filler cap and the oil drain plug to drain out transmission oil.
2. Remove the two wing bolts ① and remove the seat with frame cover.
3. Turn the fuel cock to "ON" position. Remove the two hoses (fuel ② and vacuum ③) from the fuel cock and remove the fuel tank by removing two mounting bolts.
4. Remove the engine sprocket cover, exhaust pipe cover and recoil starter from the engine. Remove the spark plug cap.
5. Remove the muffler and exhaust pipe.

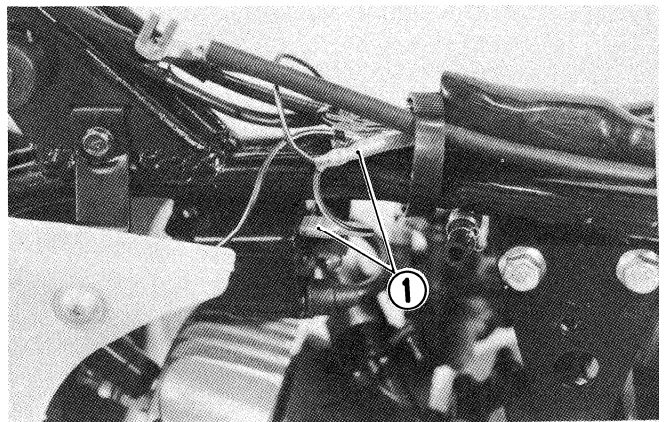


6. Remove the engine sprocket from the drive shaft by using the snap ring pliers.

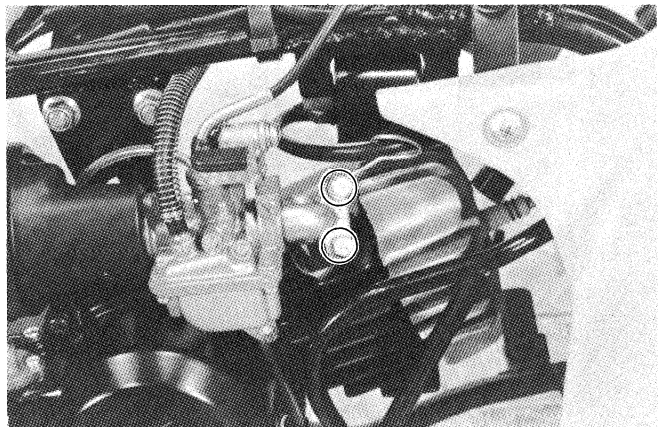
09900-06107	Snap ring pliers
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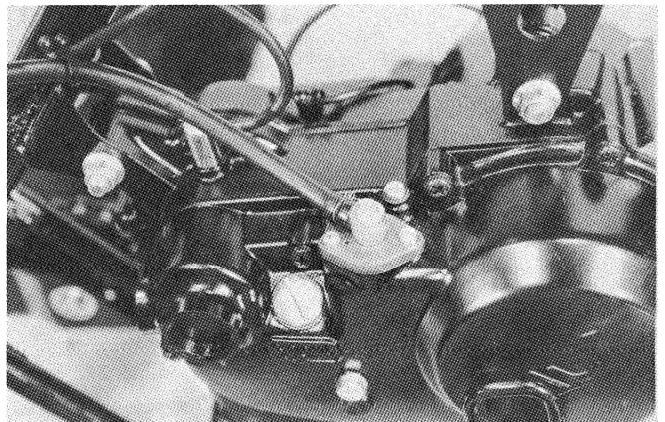
7. Disconnect the magneto coil lead wire ① from ignition coil primary tap.



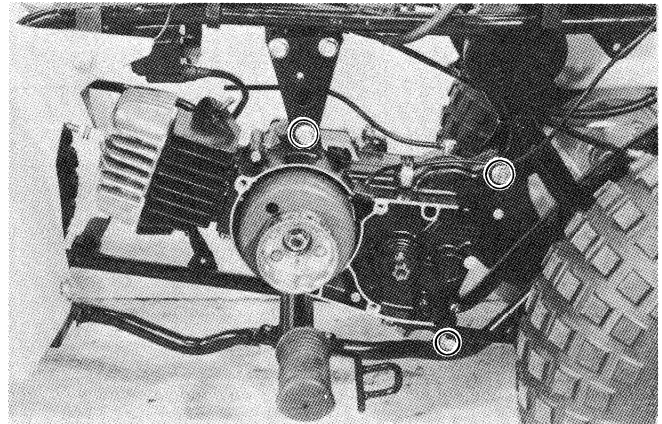
8. Remove the carburetor assembly and intake manifold from the cylinder.



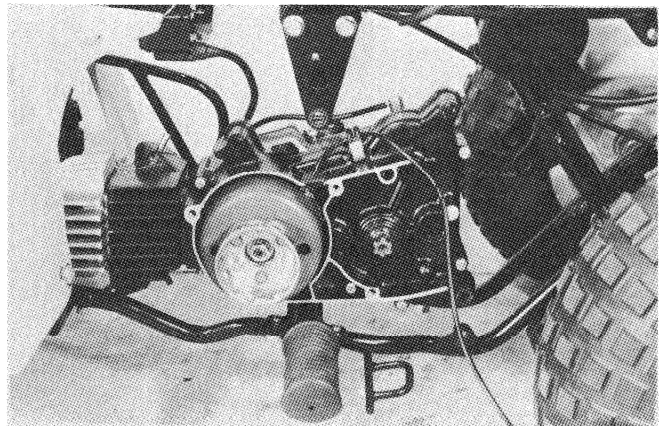
9. Disconnect the oil hose from the oil pump.



10. Remove the three engine mounting bolts.



11. Remove the engine assembly from the frame.



ENGINE REINSTALLATION

For remounting engine, reverse the order of engine removal and take the following additional steps.

- Install the engine mounting bracket bolts.

Install the three engine mounting bolts from the left and tighten them to the specified torque. Lower engine mounting bolt is longer than upper two bolts.

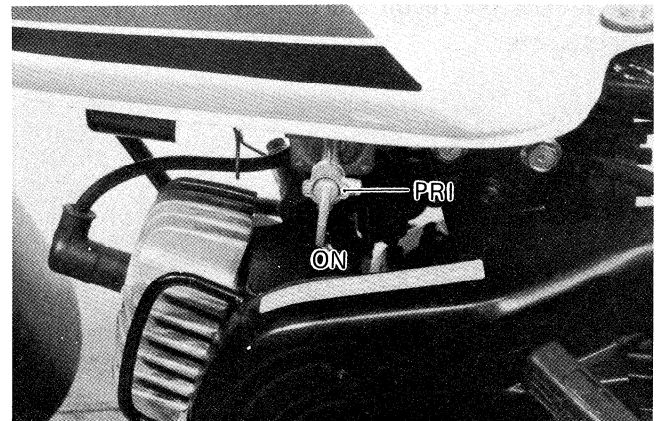
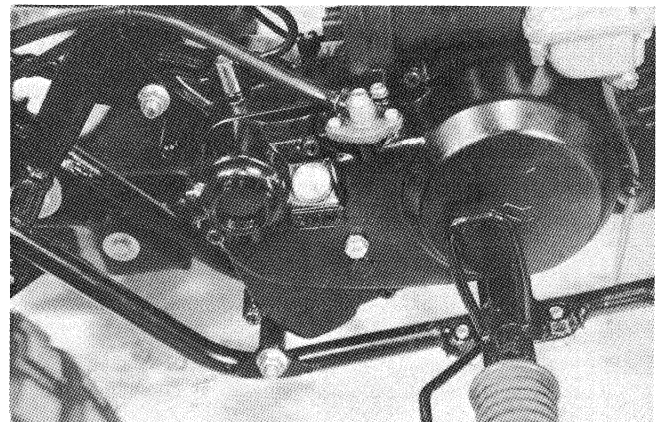
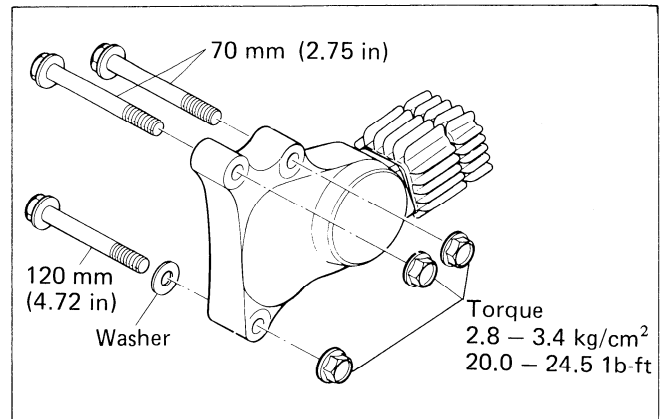
	kg-m	lb-ft
Engine mounting bolt	2.8 – 3.4	20.0 – 24.5
Engine mounting bracket bolt	1.8 – 2.8	13.0 – 20.0

- Install 550 ml of transmission oil SAE 20W/40 multi-grade motor oil when engine is overhauled. Check the oil level with oil level screw after running the engine for a few minutes.

Transmission oil capacity when overhauling engine	550 ml (0.53 US qt)
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- Set the fuel cock to PRI position and start the engine. Reset the lever to ON position after starting engine.
- After remounting the engine, route wiring harness and cables properly by referring to the sections, wire routing and cable routing, and adjust the following items to the specification.

	Page
* Throttle cable	2 – 6
* Idling adjustment	2 – 6
* Rear brake cable	2 – 7
* Drive chain	2 – 8
* Recoil starter	2 – 8

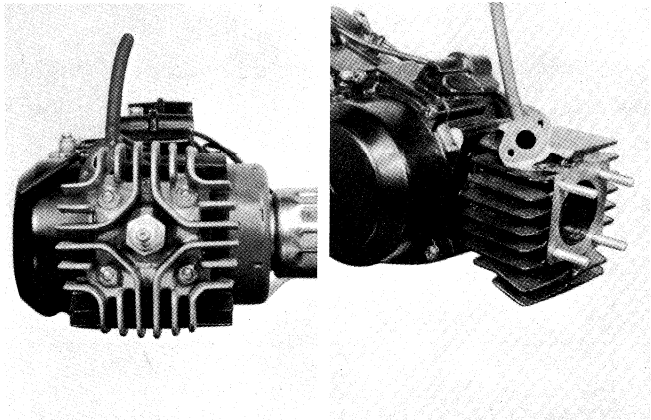


ENGINE DISASSEMBLY

The procedure for engine disassembly is sequentially explained in the following steps.

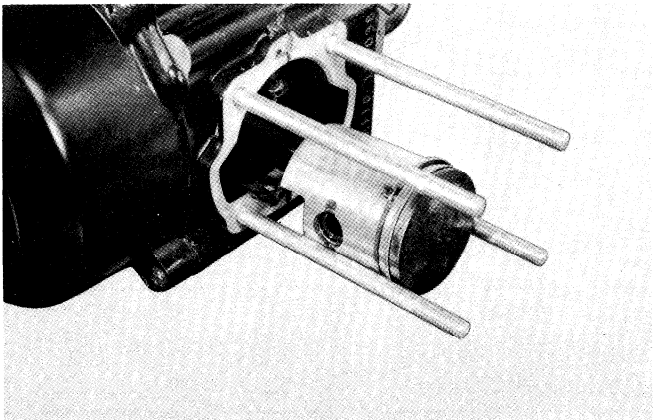
1. Remove the cylinder head and cylinder.

Cylinder head tightening torque	0.7 – 1.1 kg-m (5.0 – 8.0 lb-ft)
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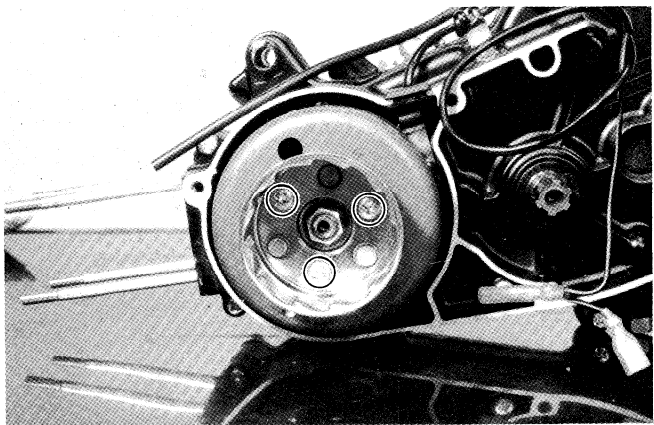


2. Remove the circlip with pliers.
Draw out piston pin.

NOTE:
When reinstalling the piston, face the arrow on the piston top to the exhaust port side.



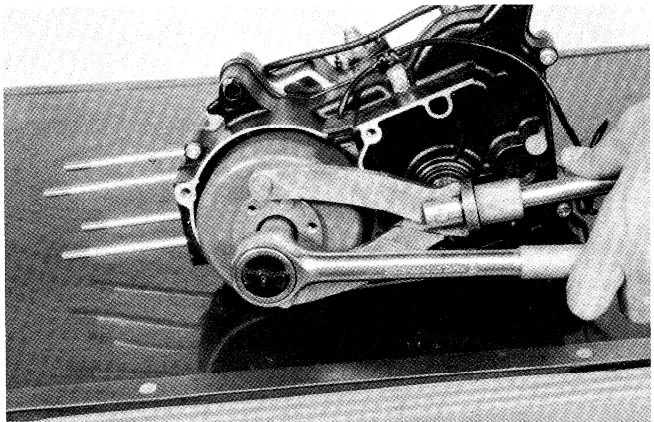
3. Remove the recoil starter cup from the mag-
neto rotor.



4. Using the rotor holder, remove the rotor
securing nut.

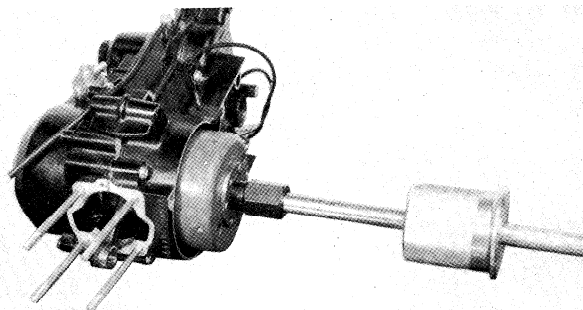
09930-40113	Rotor holder
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Tightening torque	4.0 – 6.0 kg-m (29.0 – 43.5 lb-ft)
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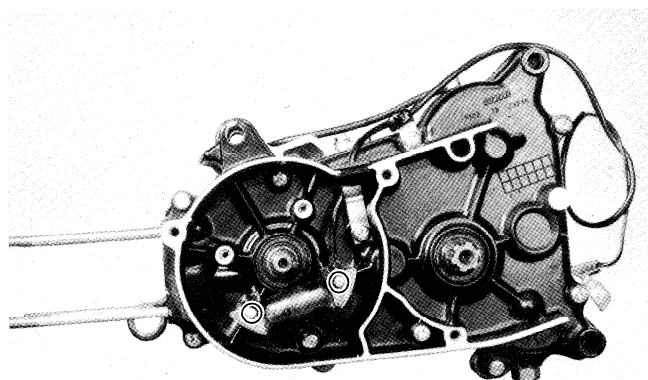
5. Using the rotor remover shaft and attachment, remove the rotor while sliding the remover.

09930-30102	Rotor remover shaft
09930-30170	Attachment "D" (24 mm)



6. Remove the primary coil from the crankcase by using the impact driver.

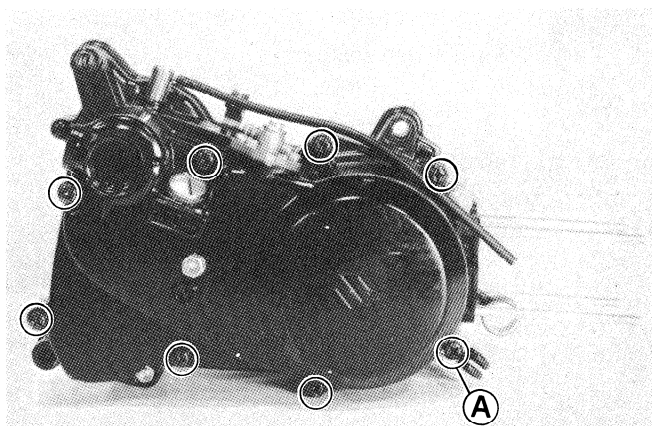
09900-09003	Impact driver set
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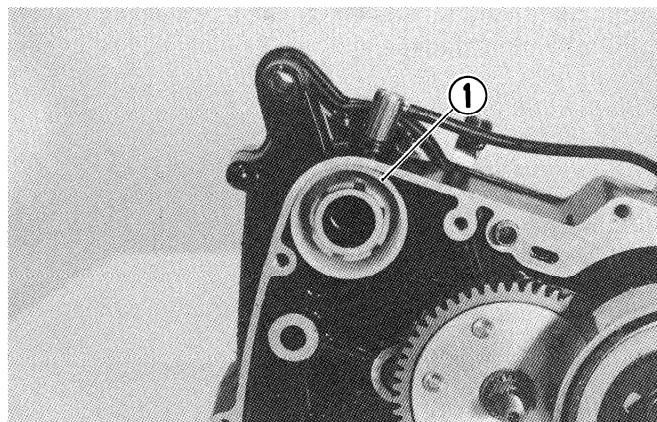
7. Remove the clutch cover by using the impact driver.

NOTE:

Screw **A** holds a clamp for carburetor overflow pipe.



8. Remove the crankcase breather separator ①.

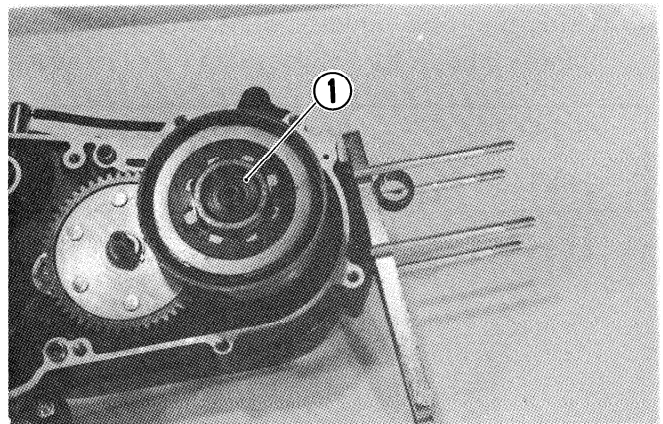


9. Using the conrod stopper, remove the clutch shoe nut ①.

Thrust washer is provided under the nut.

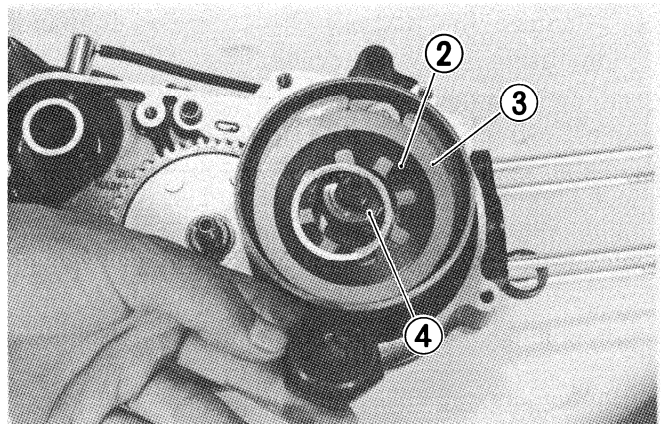
09910-20115	Conrod stopper
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Tightening torque	3.5 – 5.5 kg-m (25.5 – 40.0 lb-ft)
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10. Remove the wave washer ② and guide plate ③.

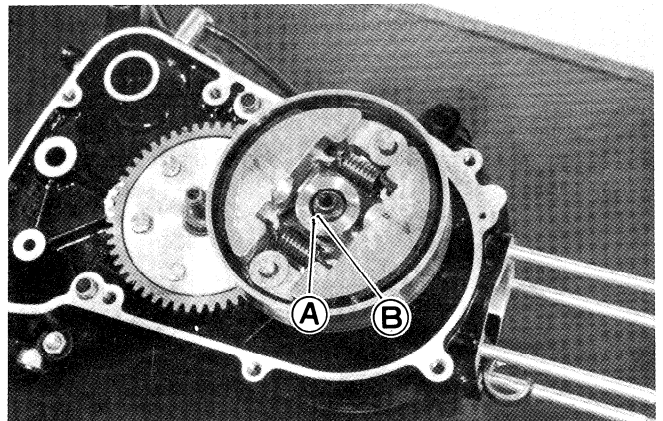
Remove the spring washer ④ from the crankshaft.



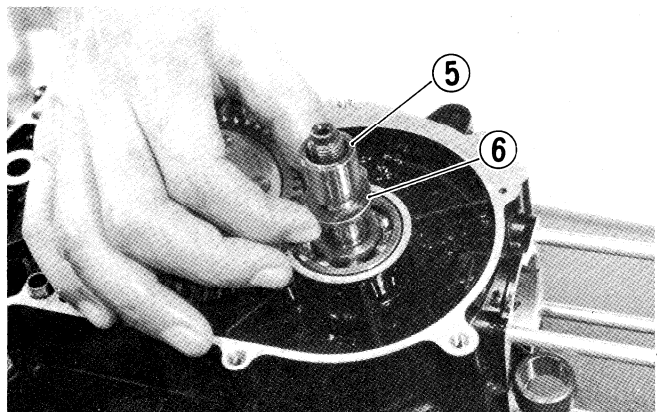
11. Remove the clutch shoe assembly, clutch drum and thrust washer.

NOTE:

When reinstalling clutch shoe assembly, align the key groove ① with the key ②.



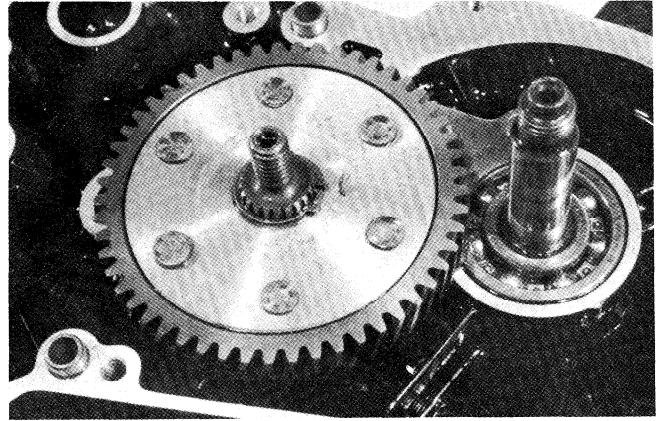
12. Remove the spacer ⑤ and washer ⑥ from the crankshaft.



13. Using the snap ring pliers, remove the primary driven gear.

09900-06107

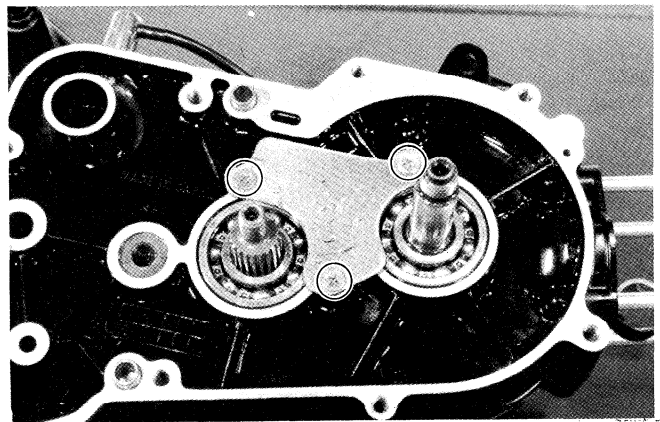
Snap ring pliers



14. Using impact driver set, remove the oil guide/bearing retainer plate.

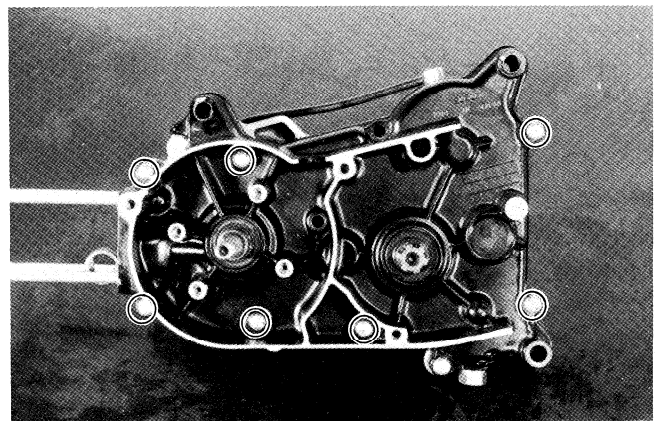
09900-09003

Impact driver set



15. Using impact driver set, remove the crankcase securing screws.

CAUTION:
Make sure that all screws are removed.

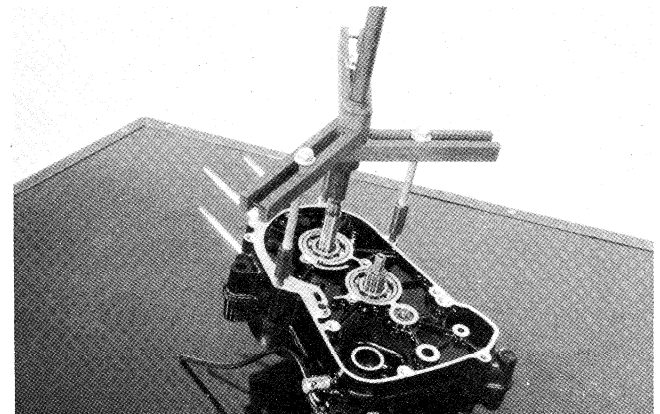


16. Using crankcase separating tool, separate the crankcase halves.

NOTE:
Use the plastic hammer to facilitate this job.

09920-13120

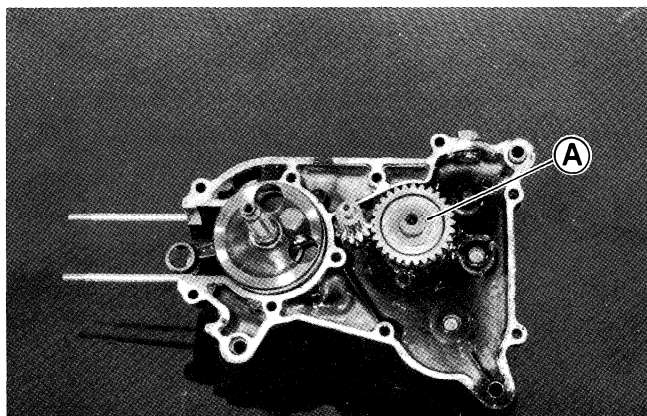
Crankcase separating tool



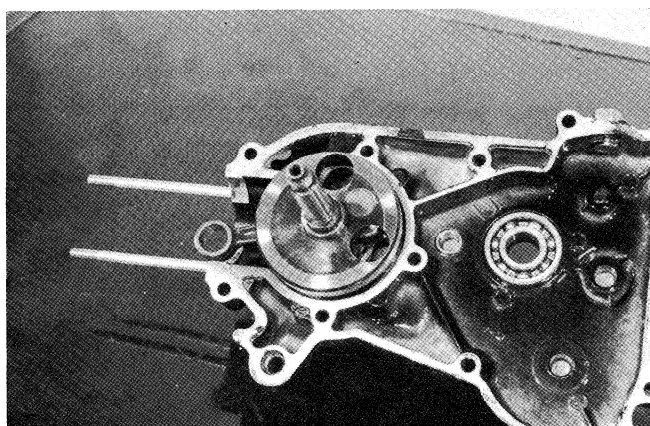
17. Remove the countershaft and driveshaft from the crankcase.

NOTE:

One thrust washer is located at the position **A**.



18. Remove the crankshaft from the crankcase.

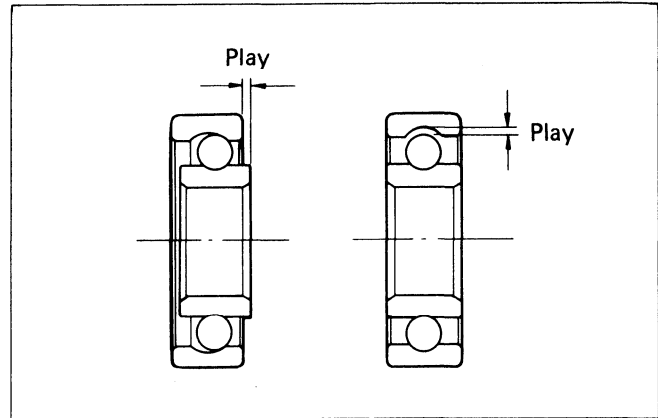


ENGINE COMPONENTS INSPECTION AND SERVICING

BEARINGS

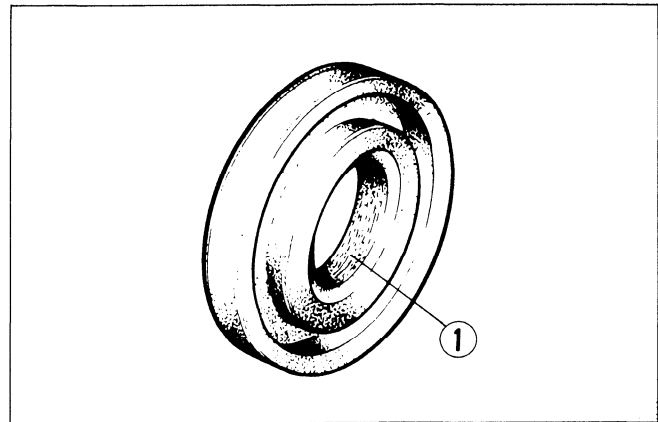
Wash the bearing with cleaning solvent and lubricate with motor oil before inspecting.

Turn the inner race and check to see that the inner race turns smoothly. If it does not turn lightly, quietly and smoothly, or if noise is heard, the bearing is defective and must be replaced with a new one.



OIL SEALS

Damage to the lip ① of the oil seal may result in leakage of the fuel-air mixture or oil. Inspect for damage and be sure to replace damaged parts if there are any.



CRANKSHAFT

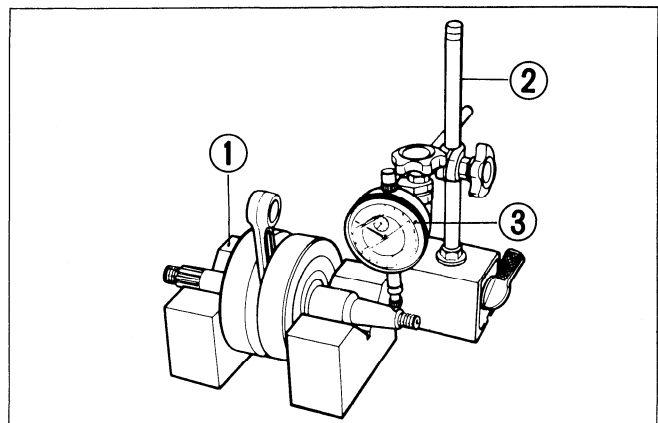
CRANKSHAFT RUNOUT

Support crankshaft by "V" blocks ②, with the dial gauge ③ rigged to read the runout as shown.

Service Limit	0.05 mm (0.002 in)
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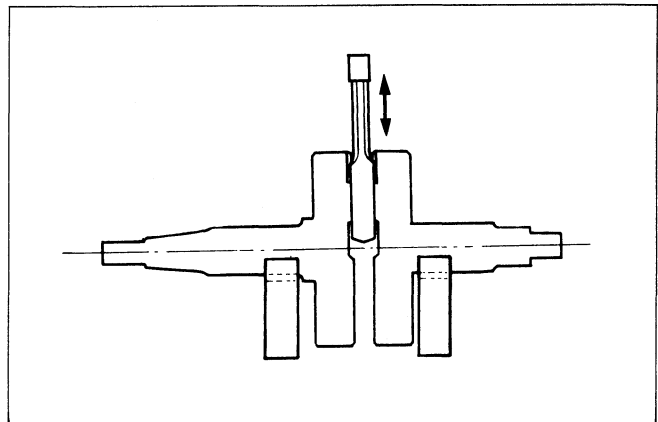
Excessive crankshaft runout is often responsible for abnormal engine vibration. Such vibration shortens engine life.

①	09900-21304	V-block (100 mm) Not available in U.S.A.
②	09900-20701	Magnetic stand Not available in U.S.A.
③	09900-20606	Dial gauge (1/100 mm)



CONDITION OF BIG END BEARING

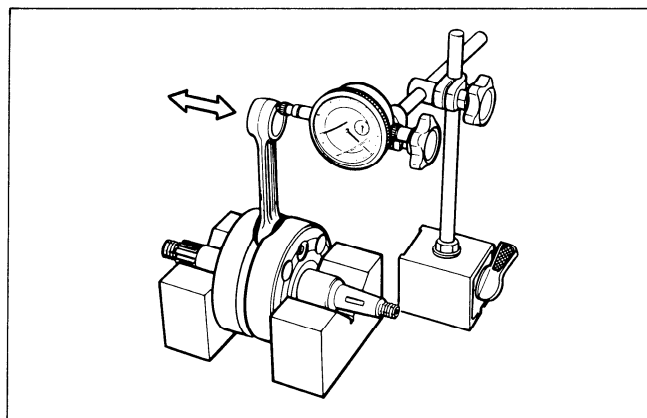
Turn the crankshaft with the conrod to feel the smoothness of rotary motion in the big end. Move the rod up and down while holding the crankshaft rigidly to be sure that there is no rattle in the big end.



CONROD DEFLECTION

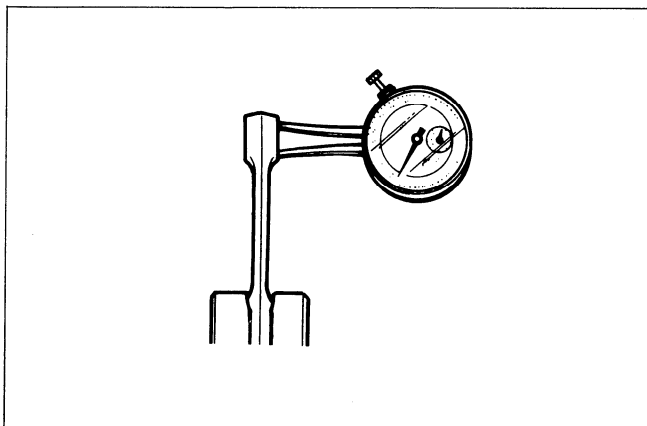
Wear on the big end of the conrod can be estimated by checking the movement of the small end of the rod. This method can also check the extent of wear on the parts of the conrod's big end. If wear exceeds the limit, conrod, crank pin and crank pin bearing should all be replaced.

Service Limit	3.0 mm (0.12 in)
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**CONROD SMALL END BORE I.D.**

Using a caliper gauge, measure the conrod small end diameter.

Service Limit	16.040 mm (0.6315 in)
---------------	-----------------------

**AUTOMATIC CLUTCH INSPECTION**

The LT50 is equipped with an automatic clutch. The engagement of the clutch is governed by engine RPMs and a centrifugal mechanism located in the clutch.

To insure proper performance and longevity of the clutch assembly it is essential that the clutch engages smoothly and gradually. Following inspection checks must be performed to thoroughly check the operation of the drivetrain. Follow the procedures listed.

1. INITIAL ENGAGEMENT INSPECTION

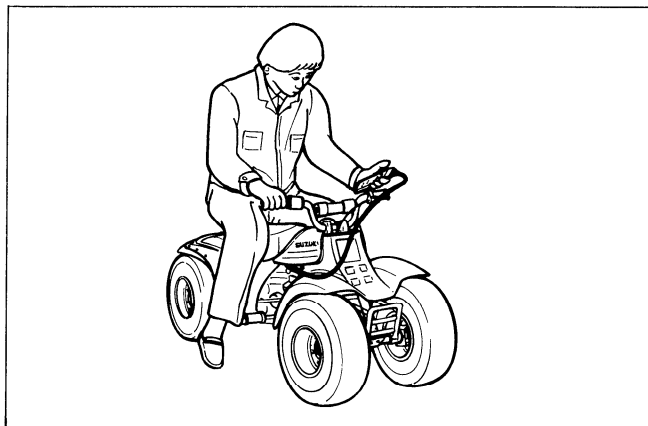
- Warm the engine up to normal operating temperature.
- Connect a tachometer to the high tension cord.
- Seated on the vehicle with the vehicle on the level ground, increase the engine RPMs slowly and note the RPM at which the vehicle begins to move forward.

09900-26005

Tachometer
Not available in U.S.A.

ENGAGEMENT R/MIN

STD	2 600 r/min
Tolerance	±200 r/min



2. CLUTCH "LOCK-UP" INSPECTION

Perform this inspection to determine if the clutch is engaging fully and not slipping.

- Warm the engine to normal operating temperatures.
- Connect a tachometer to the high tension lead.
- Apply the rear brake as firm as possible.
- Briefly open the throttle fully and note the maximum engine RPMs sustained during the test cycle.

CAUTION:

Do not apply full power for more than 10 seconds or damage to the clutch or engine may occur.

LOCK-UP R/MIN

STD	3 500 r/min
Tolerance	±200 r/min

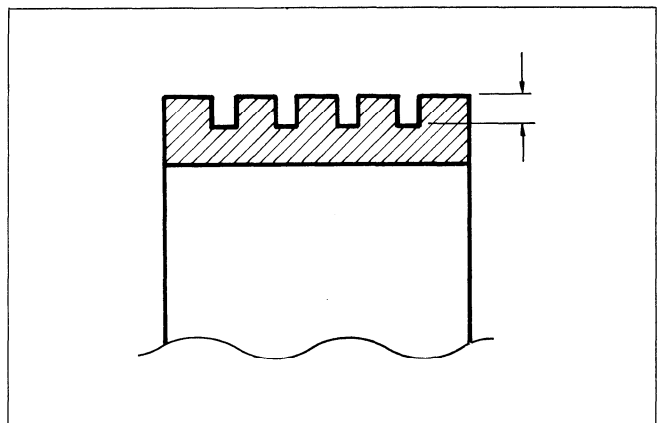
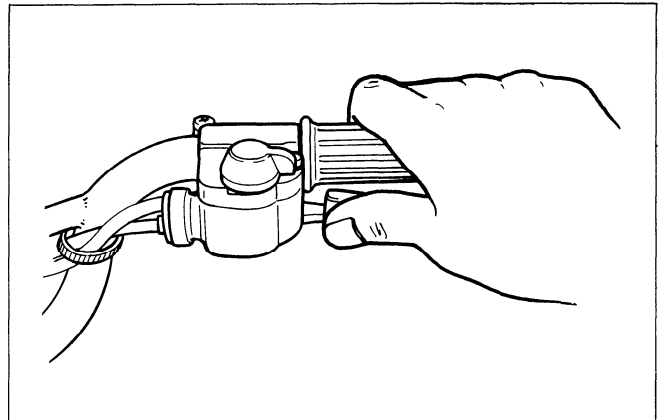
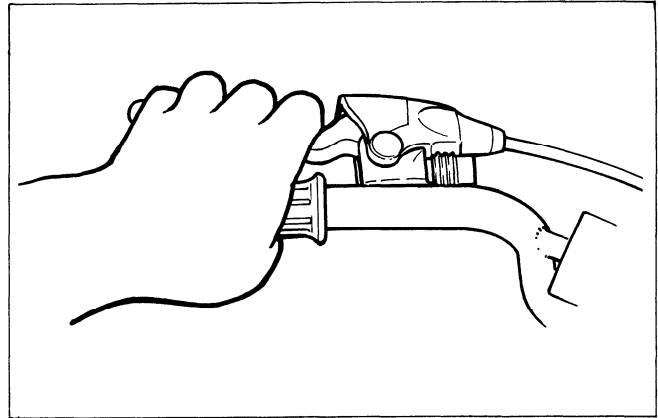
If the engine r/min does not coincide with the specified r/min range then disassemble the clutch.

- Clutch shoe — inspect the shoes visually for chips, cracking, uneven wear, burning and check the depth of the grooves on the shoes. If there is no groove at any part of the shoes, replace them as a set.
- Clutch springs — visually inspect the clutch springs for stretched coils or broken coils. Measure the free length of the springs with vernier calipers.

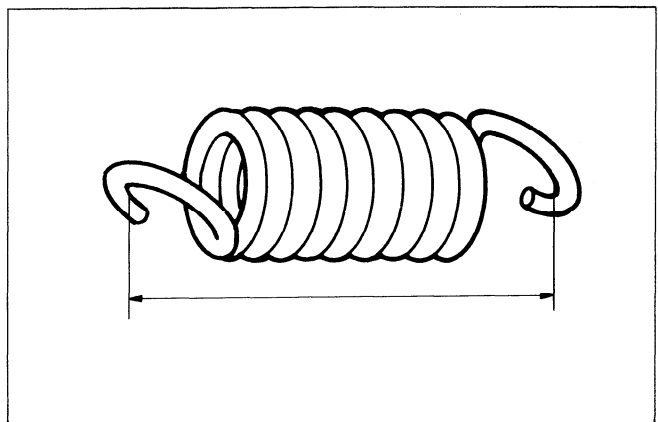
NOTE:

Clutch shoes or springs must be changed as a set and never individually.

Service Limit	Over 28.0 mm
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Inspecting clutch shoe groove



Measuring clutch spring

- Clutch wheel — inspect visually the condition of the inner clutch wheel surface for scoring, cracks, or uneven wear. Measure inside diameter of the clutch wheel with inside calipers. Measure the diameter at several points to check for an out-of-round condition as well as normal wear.

Unit: mm (in)

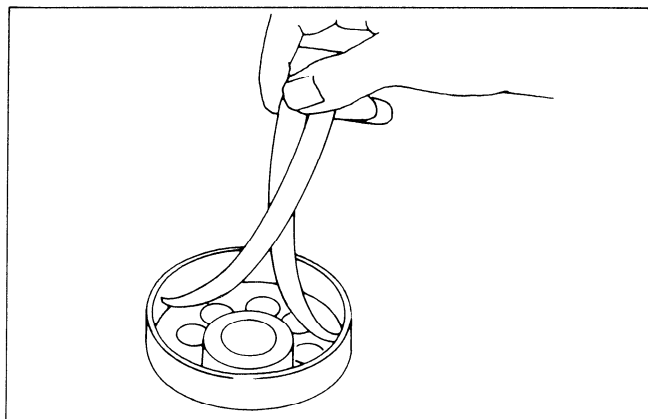
Item	Service Limit
Clutch wheel I.D.	87.40 (3.441)
Clutch shoe surface	No groove at any part
Clutch spring free length	Over 28.0 (1.10)

CYLINDER HEAD

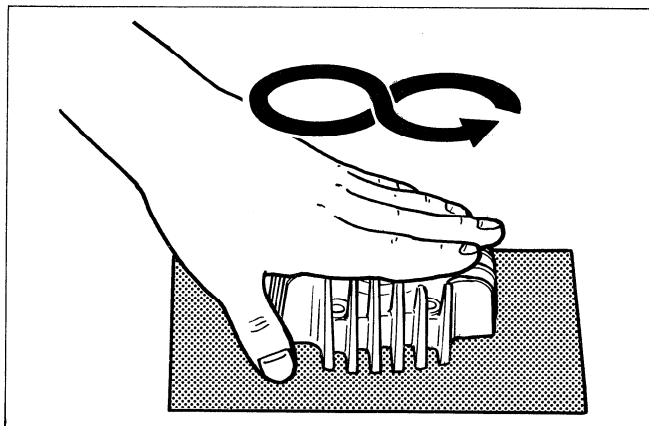
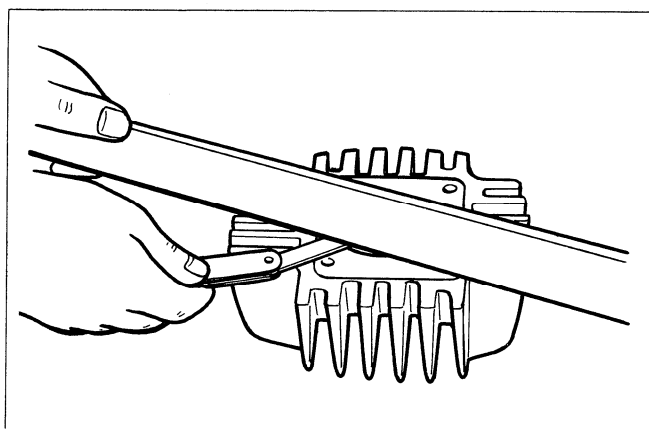
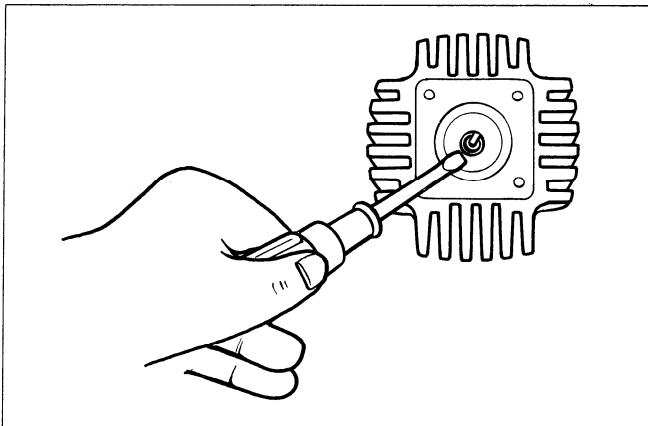
Decarbonize the combustion chamber.

Check the gasketed surface of the cylinder head for distortion with a straightedge and thickness gauge, taking a clearance reading at several places. If the largest reading at any portion of the straightedge exceeds the limit, rework the surface by rubbing it against emery paper (of about #400) laid flat on the surface plate in a lapping manner. The gasketed surface must be smooth and perfectly flat in order to secure a tight joint: a leaky joint can be the cause of reduced power output and increased fuel consumption.

09900-20803	Thickness gauge
Service Limit	0.05 mm (0.002 in)



Measuring clutch wheel



CYLINDER

Decarbon the exhaust port and the upper part of the cylinder, taking care not to damage the cylinder wall surface.

The wear of the cylinder wall is determined from diameter reading taken at 20 mm from the top of the cylinder with a cylinder gauge. If the wear thus determined exceeds the limit indicated below, rework the bore to the next oversize by using a boring machine or replace the cylinder with a new one. Oversize pistons are available in two sizes: 0.5 mm and 1.0 mm oversizes.

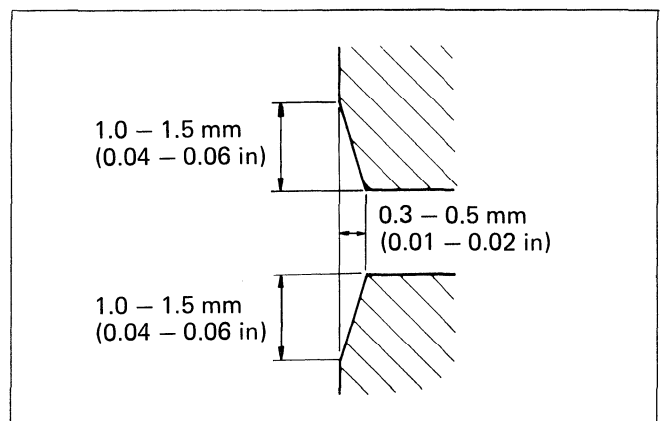
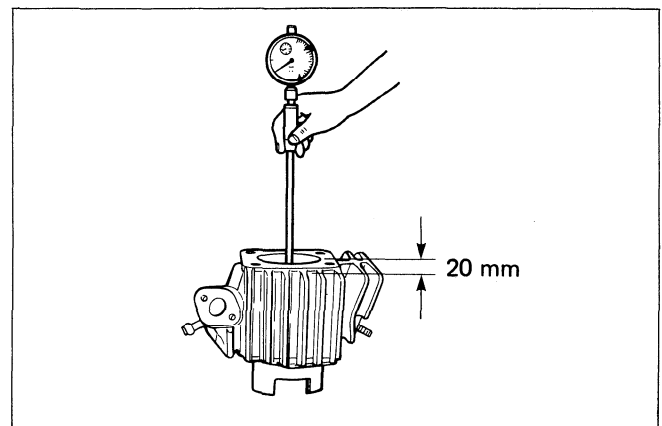
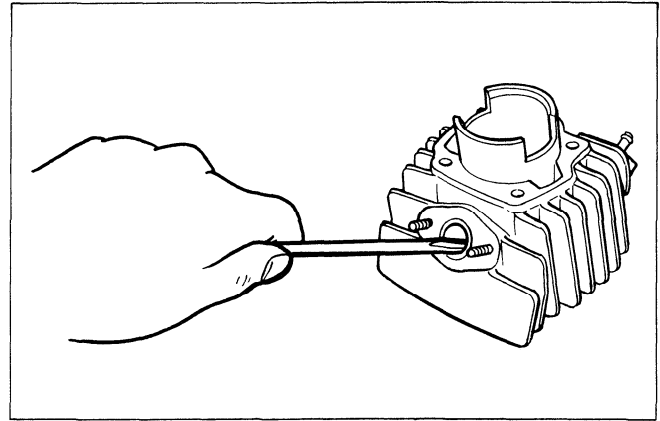
09900-20508	Cylinder gauge set
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Service Limit	41.065 mm (1.6167 in)
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After reworking the bore to an oversize, be sure to chamfer the edges of ports and smooth the chamfered edges with emery paper. To chamfer, use a file, taking care not to nick the wall surface.

NOTE:

Minor surface flaws on the cylinder wall due to seizure or similar abnormalities can be corrected by grinding the flaws off with fine-grain emery paper. If the flaws are deep grooves or otherwise persist, the cylinder must be reworked with a boring machine to the next oversize.



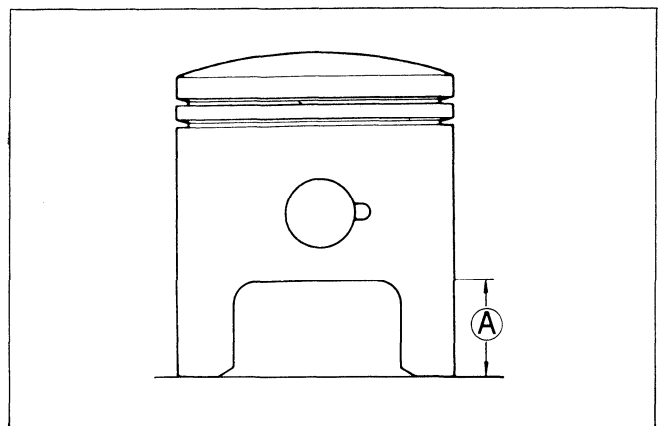
PISTON

CYLINDER TO PISTON CLEARANCE

Cylinder-to-piston clearance is the difference between piston diameter and cylinder bore diameter. Be sure to take the miked diameter at right angles to the piston pin. The diameter measuring point **A** is 23 mm (0.9 in) from the skirt end.

09900-20203	Micrometer (25 - 50 mm)
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Service Limit	40.880 mm (1.6094 in)
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As a result of the measurement, if the piston-to-cylinder clearance exceeds the following limit, overhaul the cylinder and use an oversize piston, or replace both cylinder and piston.

The measurement for the bore diameter between the intake and exhaust ports sides will be made at 20 mm (0.8 in) from the cylinder top surface.

Unit: mm (in)

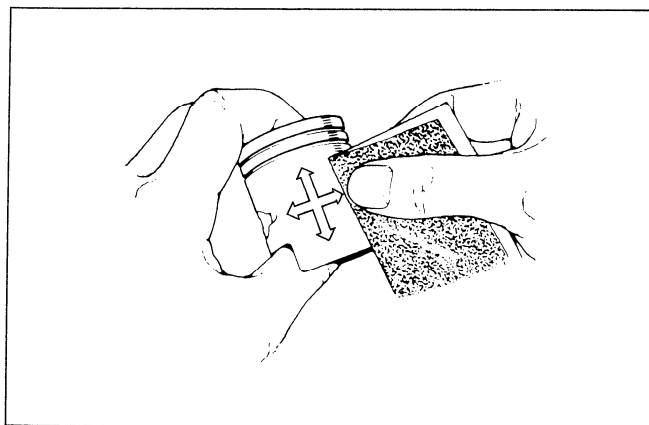
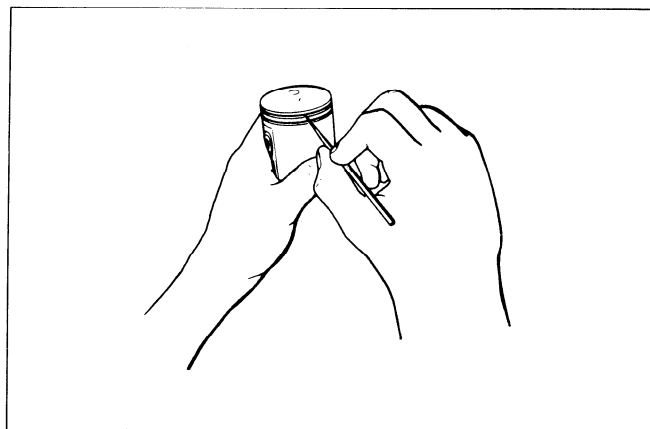
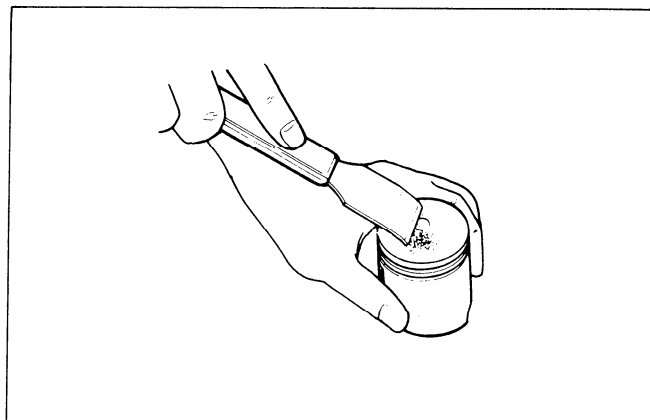
	STD	Service Limit
Cylinder	41.000 – 41.015 (1.6142 – 1.6148)	41.065 (1.6167)
Piston	40.930 – 40.945 (1.6114 – 1.6120)	40.880 (1.6094)
Cylinder to piston	0.065 – 0.075 (0.0026 – 0.0030)	0.120 (0.0047)

DE-CARBONIZING

De-carbon the piston and piston ring grooves, as shown in Fig. After cleaning the grooves, fit the rings and rotate them in their respective grooves to be sure that they move smoothly.

Carbon in groove is liable to cause the piston ring to get stuck in the groove, and this condition will lead to reduced engine power output.

A piston whose sliding surface is badly grooved or scuffed due to overheating must be replaced. Shallow grooves or minor scuff can be removed by grinding with emery paper of about #400.

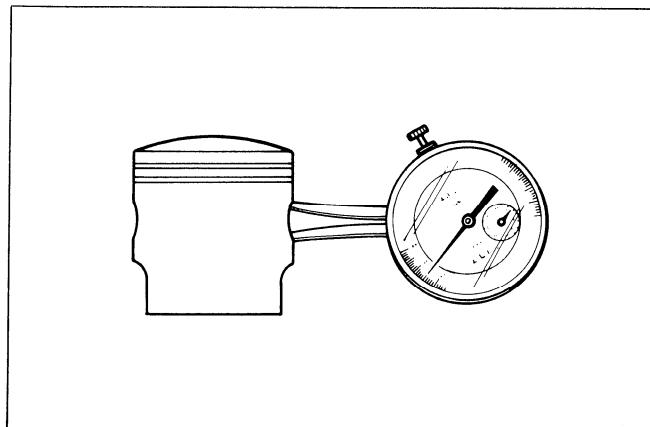


Smoothing the sliding surface with emery paper

PISTON PIN BORE

Using a caliper gauge, measure the piston pin bore inside diameter. If reading is exceeded the following service limit, replace it with a new one.

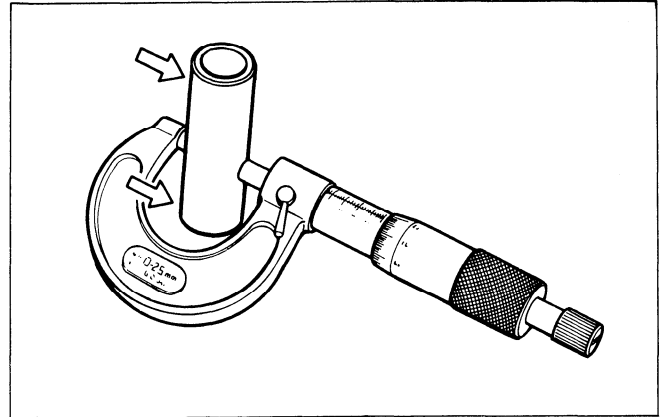
Service Limit	12.030 mm (0.4736 in)
---------------	--------------------------



PISTON PIN O.D.

Using a micrometer, measure the piston pin outside diameter at three positions.

09900-20205	Micrometer (0 – 25 mm)
Service Limit	11.980 mm (0.4717 in)



PISTON RINGS

Check each ring for end gap, reading the gap with a thickness gauge shown in Fig. If the end gap is found to exceed the limit, indicated below, replace it with a new one.

The end gap of each ring is to be measured with the ring fitted squarely into the cylinder bore and held at the least worn part near the cylinder bottom, as shown in Fig.

09900-20803	Thickness gauge
Service Limit	0.75 mm (0.030 in)

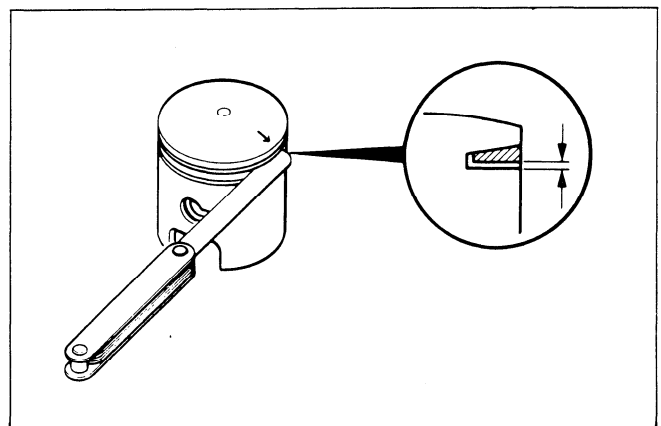
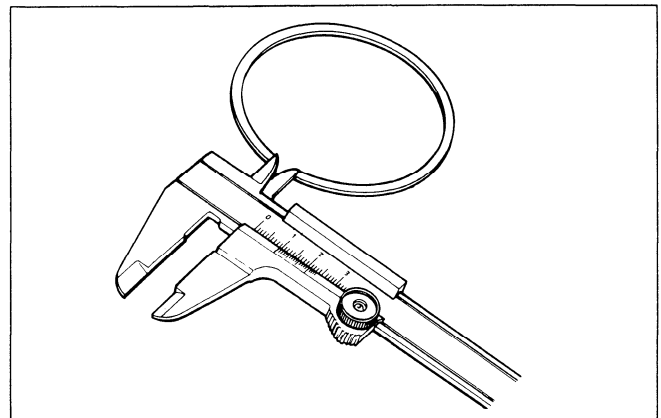
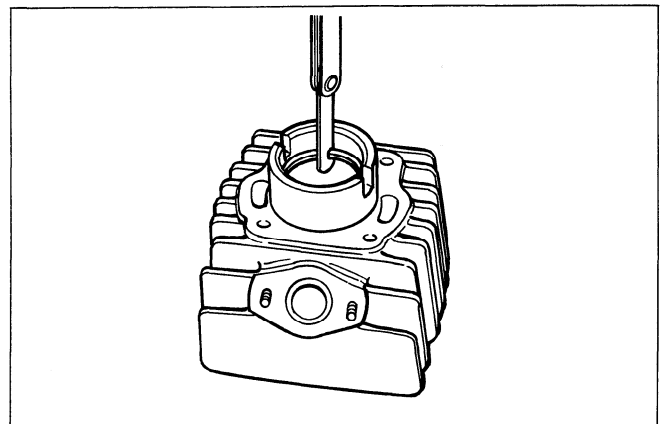
As the piston ring wears, its end gap increases reducing engine power output because of the resultant blowby through the enlarged gap. Here lies the importance of using piston rings with end gaps within the limit.

Measure the piston ring free end gap to check the spring tension.

Service Limit	R	3.6 mm (0.14 in)
	T	4.0 mm (0.16 in)

Fix the piston ring in the piston ring groove, measure the ring side clearance with the thickness gauge while matching the sliding surfaces of piston and ring.

STD Clearance	0.020 – 0.060 mm (0.0008 – 0.0024 in)
---------------	--



ENGINE REASSEMBLY

Reassembly is generally performed in the reverse order to disassembly, but there are a number of reassembling steps that demand or deserve detailed explanation or emphasis. These steps will be taken up for respective parts and components.

BEARINGS

Insert the bearings into the crankshaft and drive-shaft using bearing installer. After the bearing is installed, be sure to lubricate to prevent initial wear.

09914-79610

Bearing installer
(Not available in U.S.A.)

OIL SEALS

Fit the oil seals to the crankcase following the procedure below.

Replace removed oil seals with new ones.

- Apply SUZUKI Super Grease "A" (Part No. 99000-25030) to the lip of the oil seals.
- Be sure to apply "Thread Lock Cement" (Part No. 99000-32040) to outer surfaces of right, and left crankshaft oil seals, to prevent them moving.

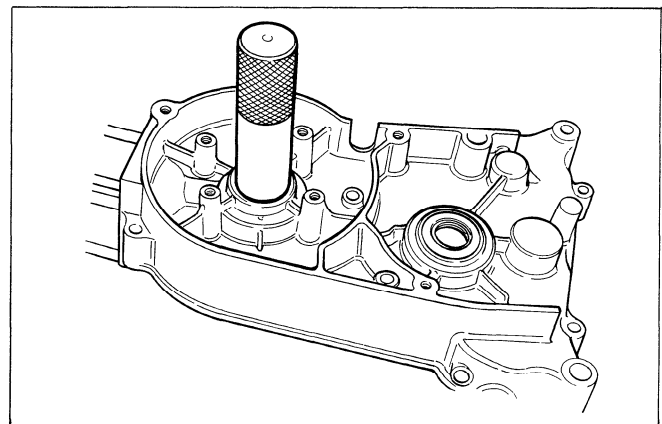
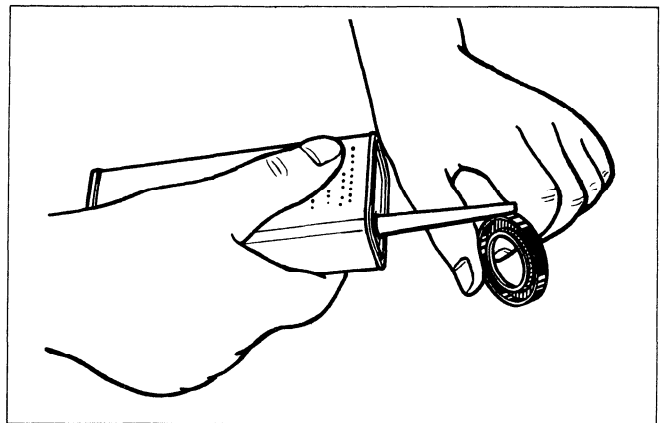
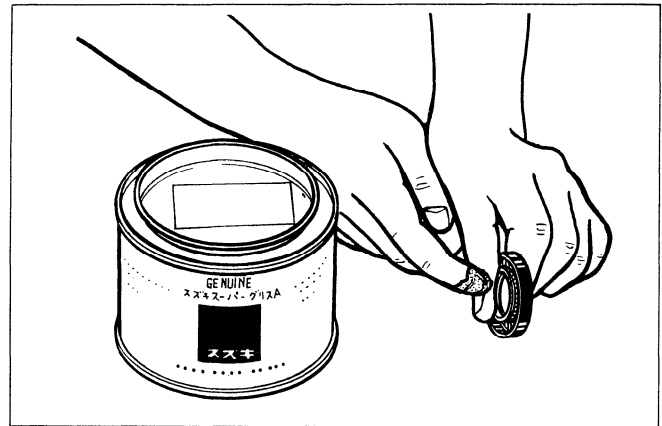
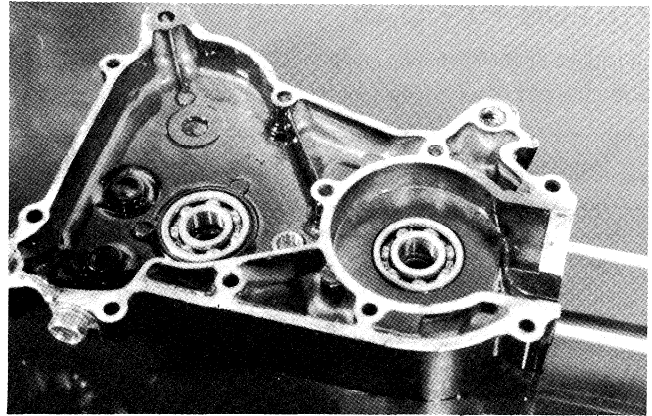
NOTE:

Apply engine oil to each running and sliding part before reassembling.

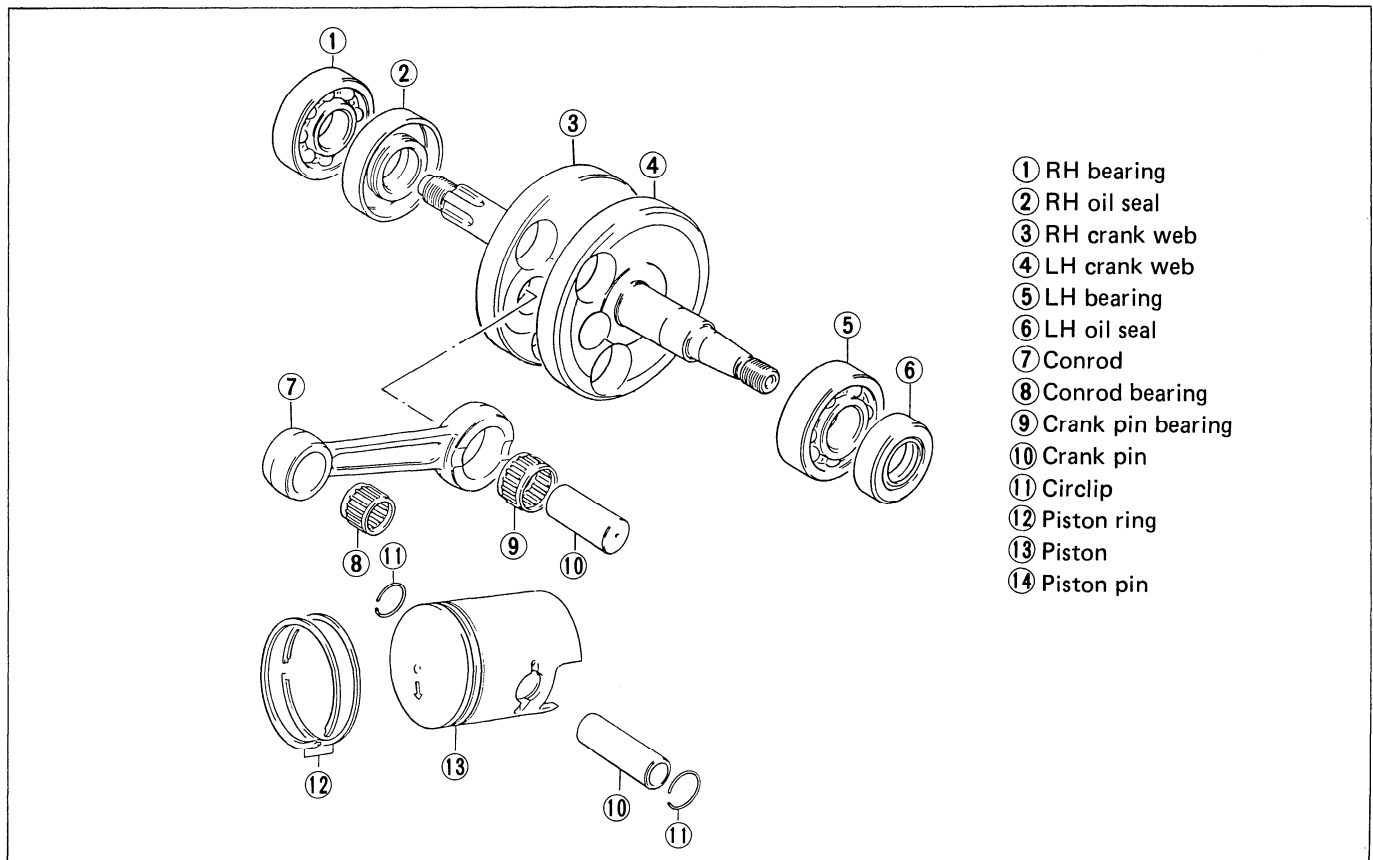
- When fitting the oil seal in the crankcase, insert it slowly using the special tool.

09914-79610

Oil seal installer
Not available in U.S.A.



CRANKSHAFT



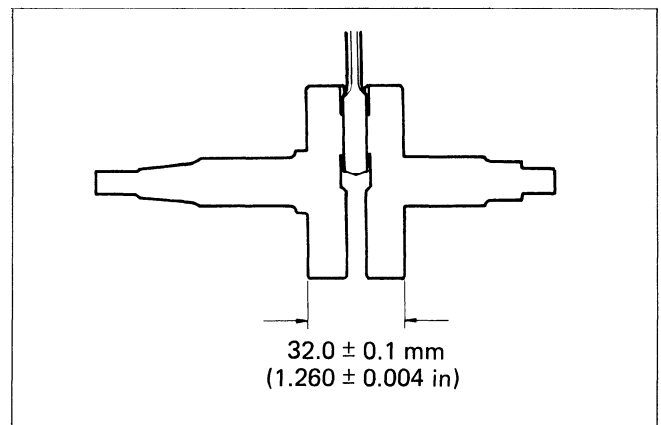
CRANKSHAFT REBUILDING

Decide the length between the webs referring to the figure when rebuilding the crankshaft.

Standard width between webs	$32.0 \pm 0.1 \text{ mm}$ ($1.260 \pm 0.004 \text{ in}$)
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CAUTION:

When mounting the crankshaft in the crankcase, it is necessary to drive its left end into the crankcase.

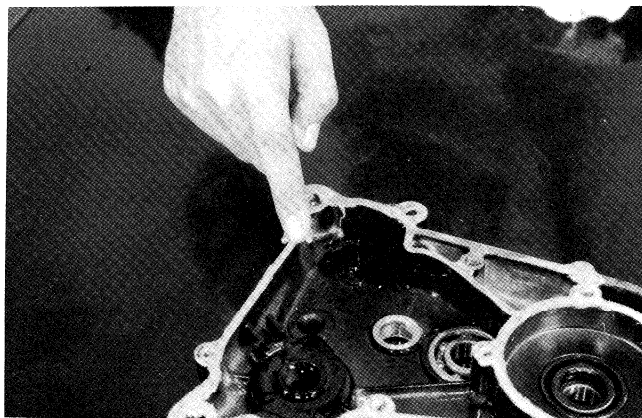


CRANKCASE

Wipe the crankcase mating surfaces (both surfaces) with cleaning solvent and coat one of a pair with SUZUKI Bond No. 1207B in the usual manner, just before assembling the crankcases. Set the two positioning pins to the crankcase.

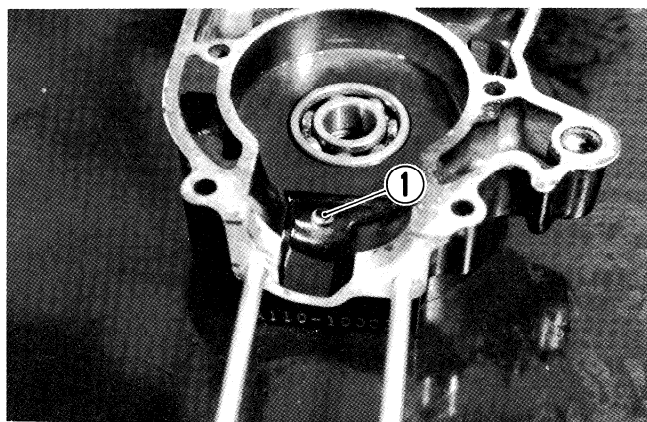
99104-31140

SUZUKI Bond No. 1207B

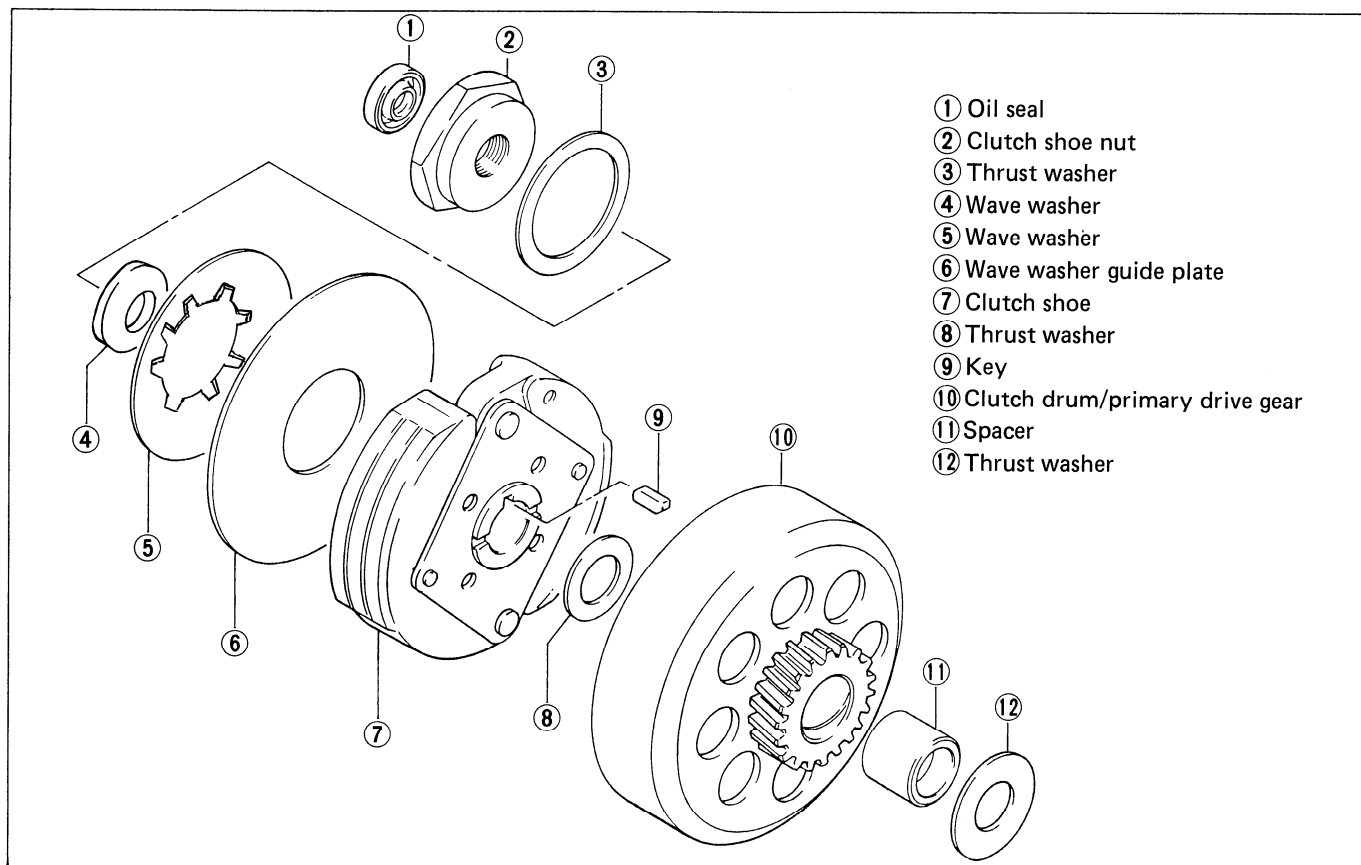


Before installing the left crankcase half, inspect the oil hole ① for clogging.

Tighten the crankcase securing screws properly.



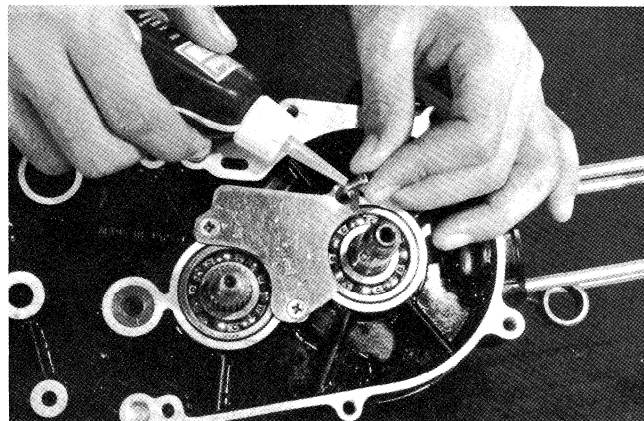
CLUTCH



Apply SUZUKI Thread lock "1342" to the three screws for securing bearing retainer/oil guide plate.

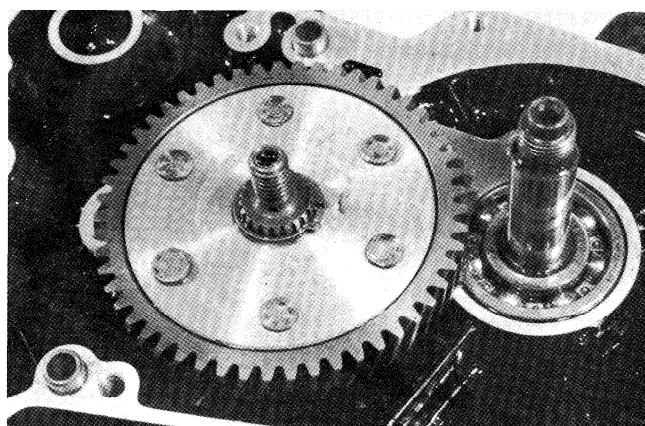
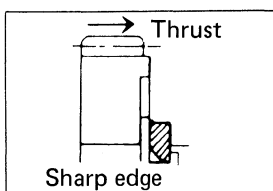
99000-32050

Thread lock "1342"



Install the primary driven gear.

When mounting circlip, pay attention to the direction of the circlip. Fit it to the side where the thrust is as shown in the figure with the rounded side against the gear surface.

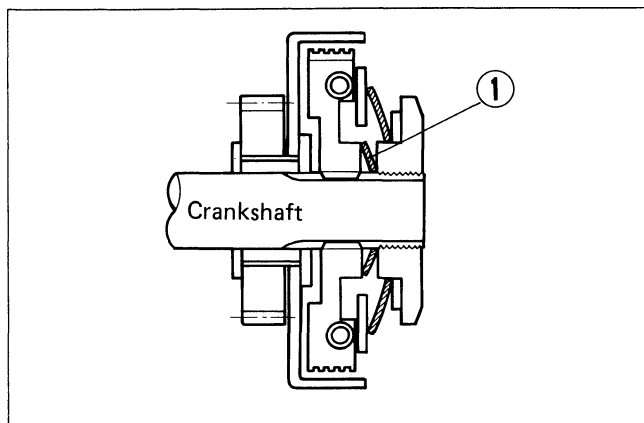


CAUTION:

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

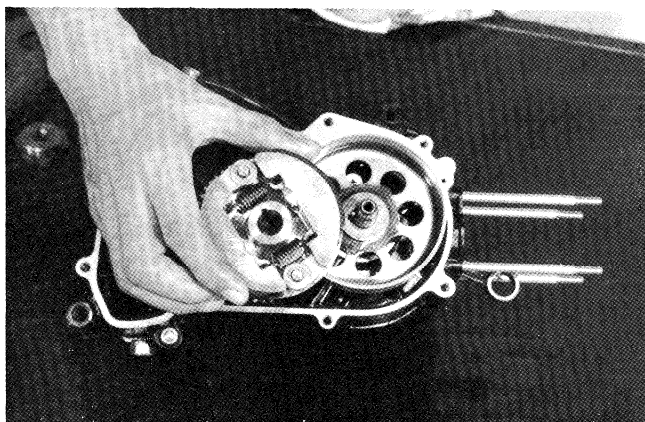
When installing a new circlip, care must be taken not to expand the end gap larger than required to slip the circlip over the shaft.

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

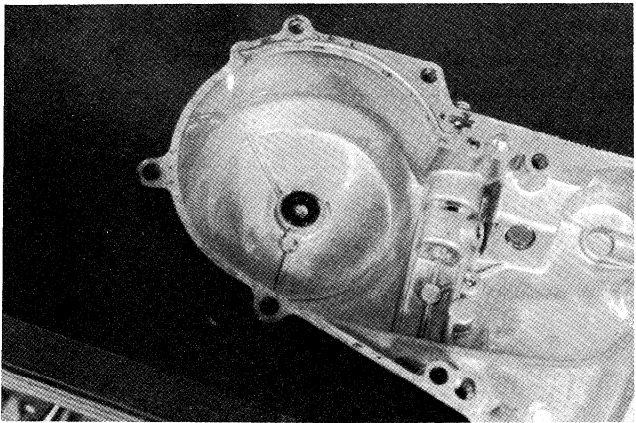


Install the washer ① so that the concaved side faces inside.

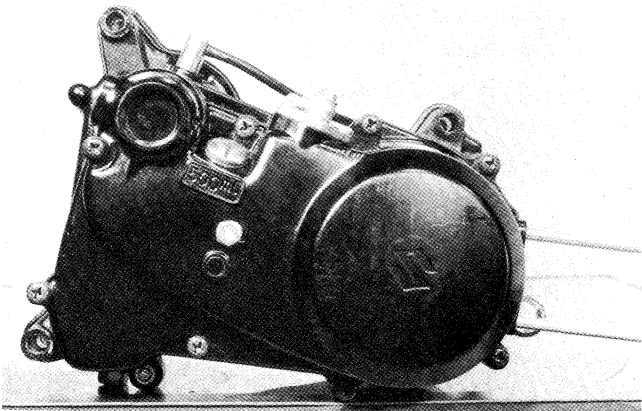
Install the key into the key groove and mount the clutch shoe on the key.



Before installing clutch cover, check the oil passage for clogging and oil seal for damage.



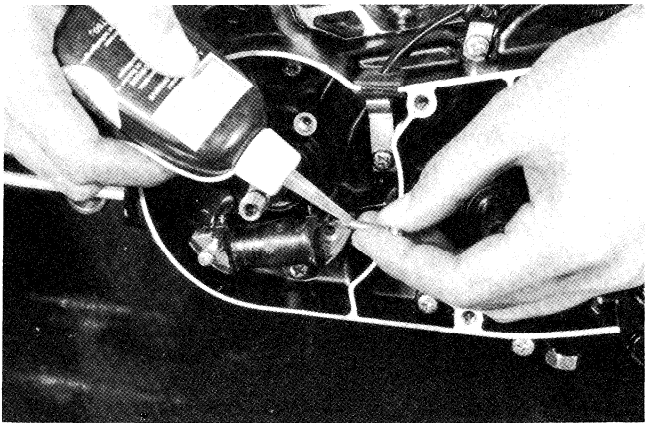
Install the two positioning pins and a new gasket, and fit the clutch cover to the crankcase.



MAGNETO COIL AND ROTOR

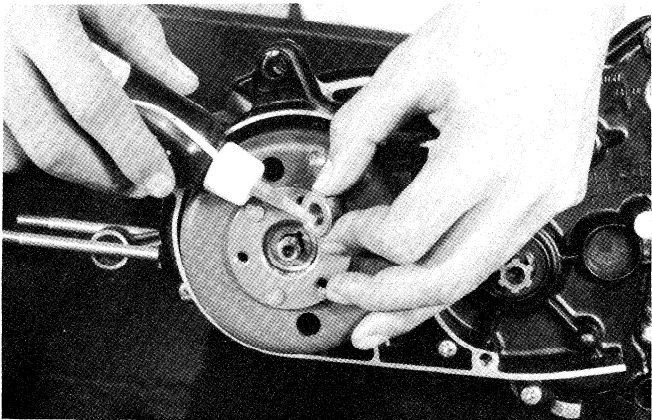
Install the magneto coil to the left crankcase. Apply thread lock "1342" to the screws.

99000-32050	Thread lock "1342"
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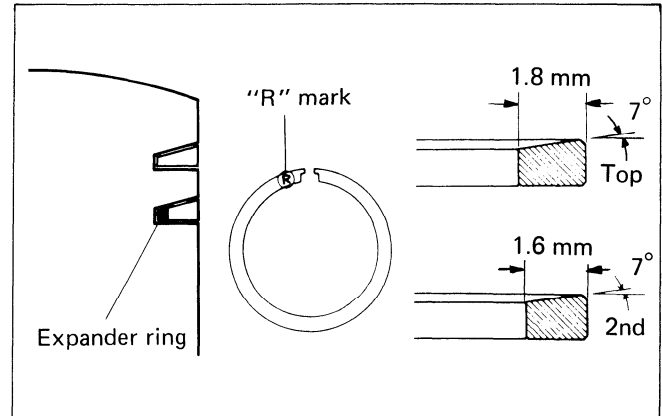
Route stator lead wire properly.
Clean thoroughly both mating surfaces of rotor and crankshaft with cleaning solvent. Then fix the rotor with the key, Apply thread lock super "1333" to the thread and tighten the nut by using rotor holder.

99000-32020	Thread lock "1333"
09930-40113	Rotor holder
Tightening torque	4.0 – 6.0 kg-m (29.0 – 43.5 lb-ft)

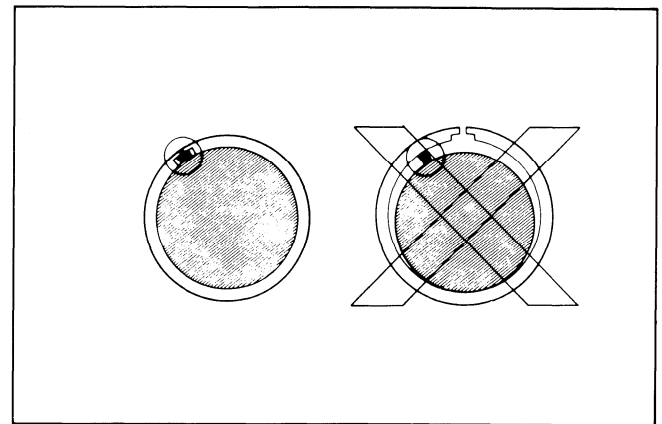


PISTON RINGS

Both the 1st and 2nd rings are keystone type and an expander ring is located with the 2nd ring. The ring grooves on the piston are machined according to the shape of the piston rings. Therefore, the rings must be placed in the proper direction otherwise the piston will not fit in the cylinder. Each ring has a punched mark at its end and face it upside.

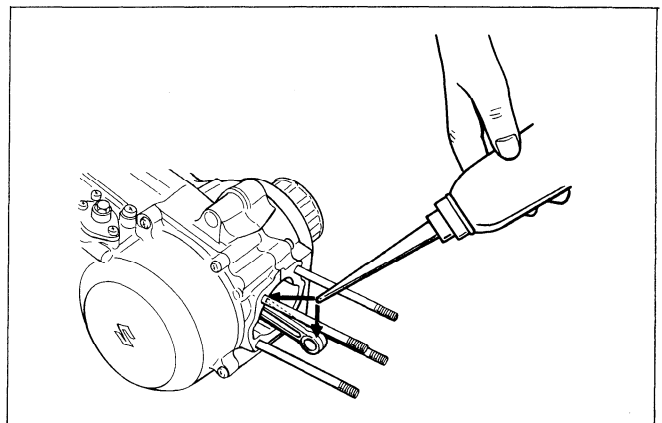


It is extremely important that, when the piston is fed into the cylinder, each ring in place should be so positioned as to hug the locating pin as shown in the figure.

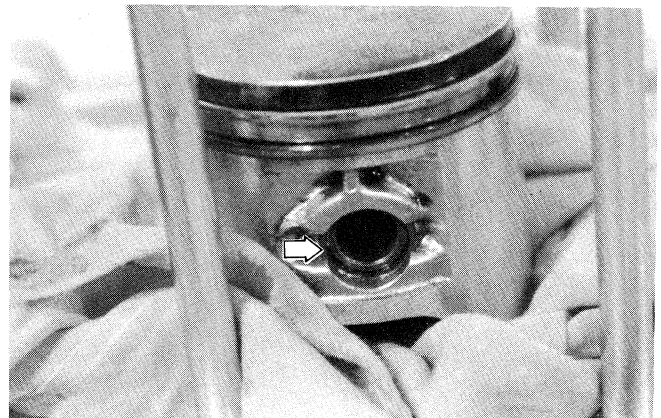


PISTON

Before connecting the piston to the conrod, be sure to apply SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or two-stroke oil to the conrod big end and small end bearings. The arrow mark on the piston crown points to the exhaust port side.



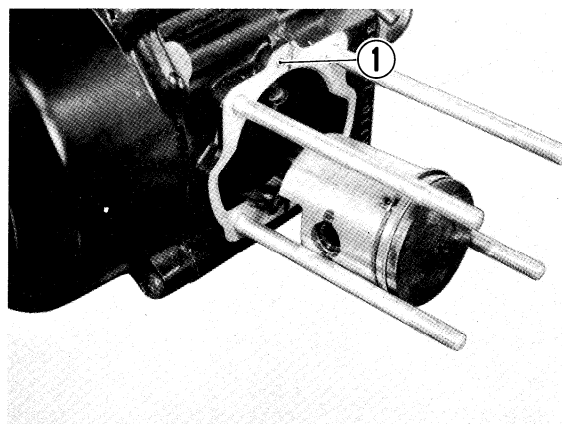
The circlip should be mounted in such a position that the mating ends of the circlip do not coincide with the groove portion of the piston.



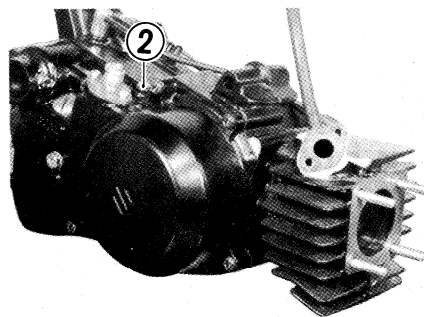
Before inserting the piston in the cylinder, be sure to apply SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or two-stroke oil to the outer surface of the piston, piston ring grooves, and oil passage ①.

NOTE:

When bleeding air from oil passage ①, loosen the air bleeder screw ②.

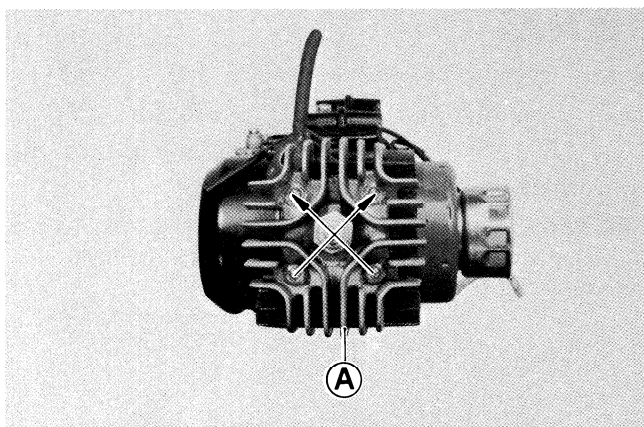


Use a new cylinder gasket and install the cylinder properly.

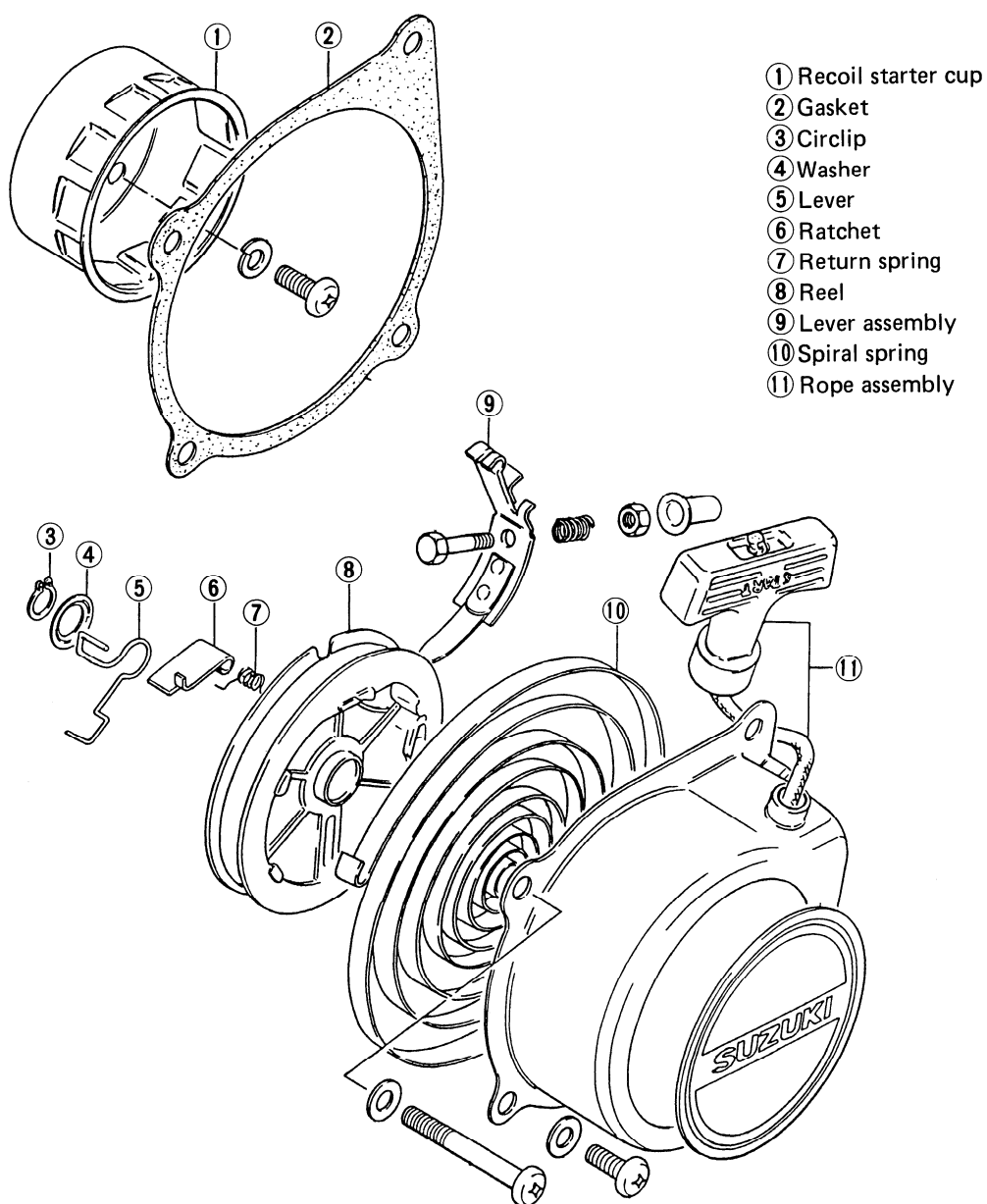


Install the cylinder head to the cylinder so that the longer fins portion ① should come bottom side. Tighten the head nut to the specification.

Tightening torque	0.7 – 1.1 kg-m (5.0 – 8.0 lb-ft)
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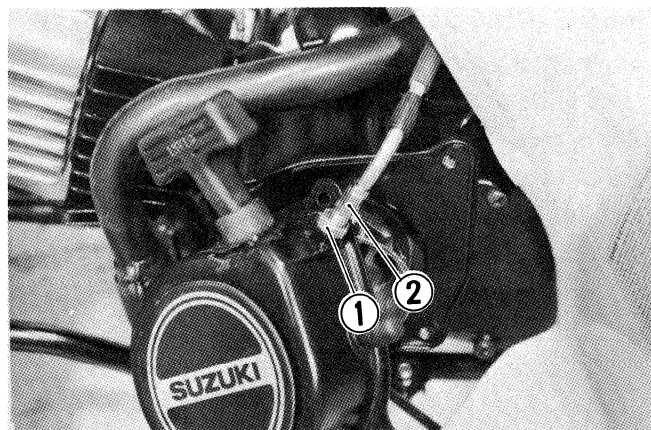


RECOIL STARTER

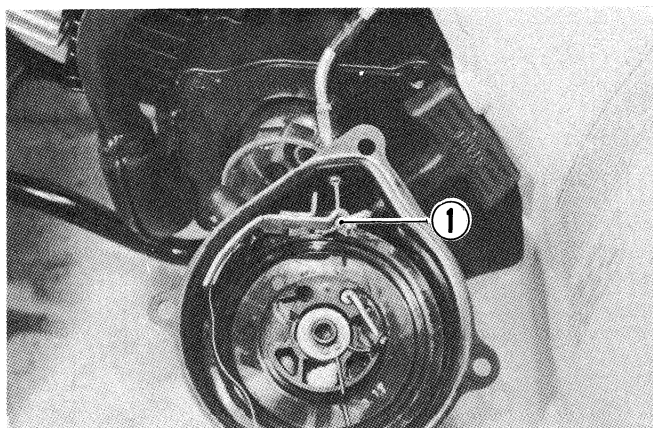


REMOVAL AND DISASSEMBLY

Loosen the lock nut ① and turn the adjuster ② clockwise as far as going in.



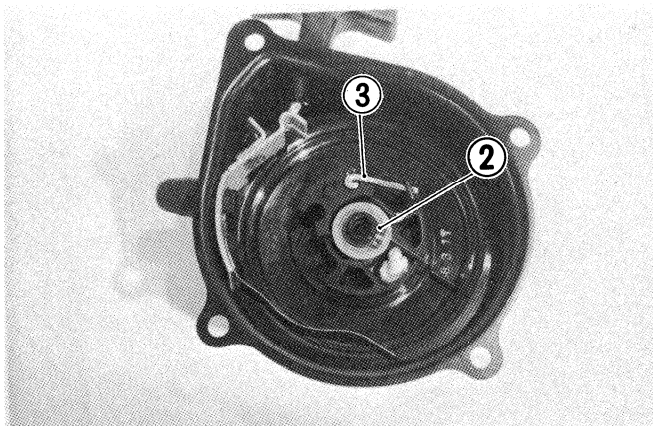
- Unhook the cable end piece ① from the lever assembly.



- Using snap ring pliers remove the circlip ② and washer.

09900-06107	Snap ring pliers
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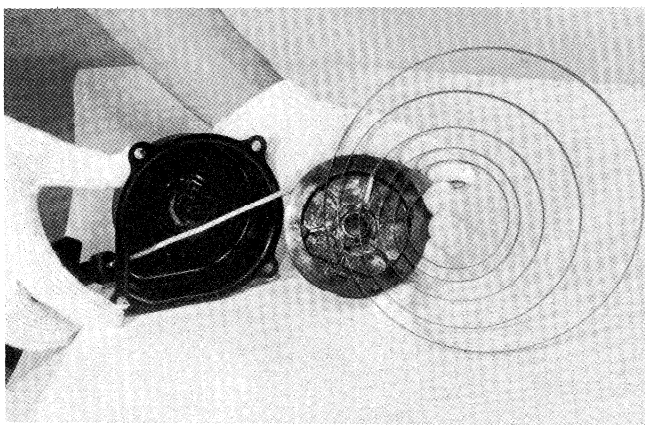
- Remove the lever assembly ③ from the cover.



- Pull out the reel.

CAUTION:

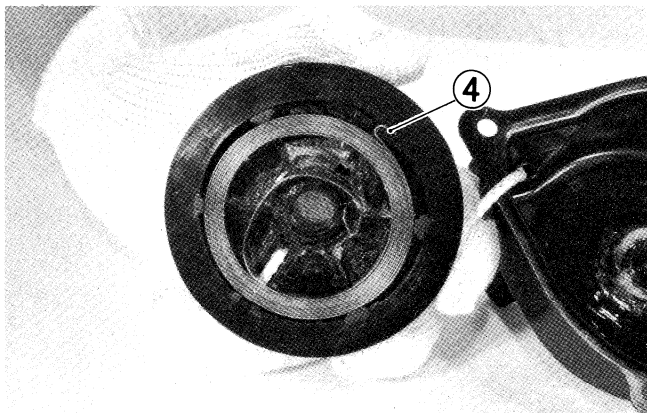
When removing the reel, spiral spring will expand. Protect your hands with gloves.



REASSEMBLY

- Hitch the one end ④ of the spring to the reel as shown in the figure and install the spring in the reel.
- Apply grease to the spring.
- Turn the starter rope on the reel properly.

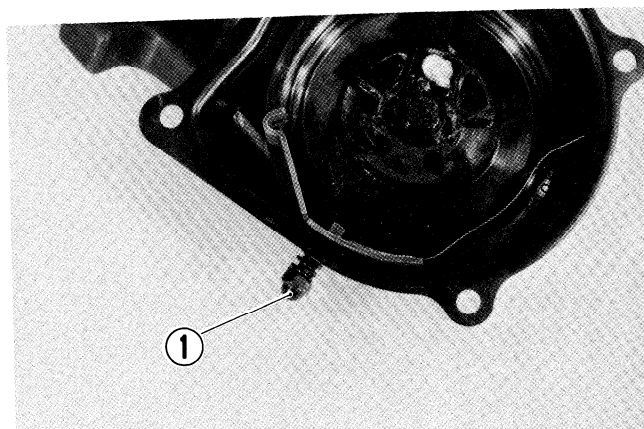
99000-25030	SUZUKI super grease "A"
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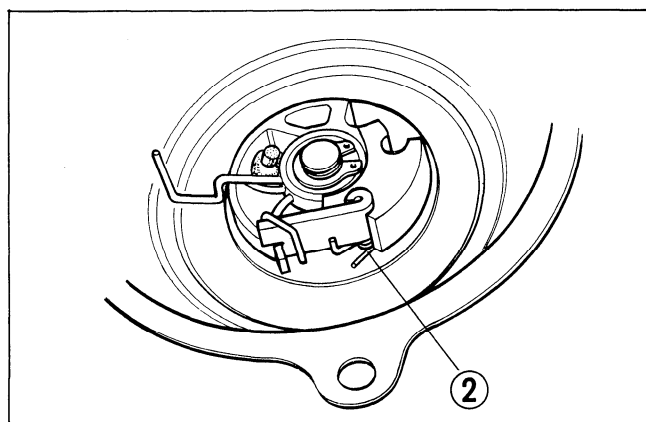
- Install the lever assembly to the cover.
- Apply thread lock super "1333B" to the nut ①.

99000-32020

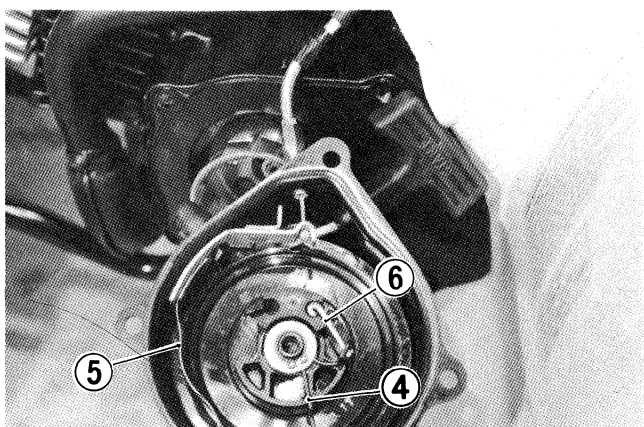
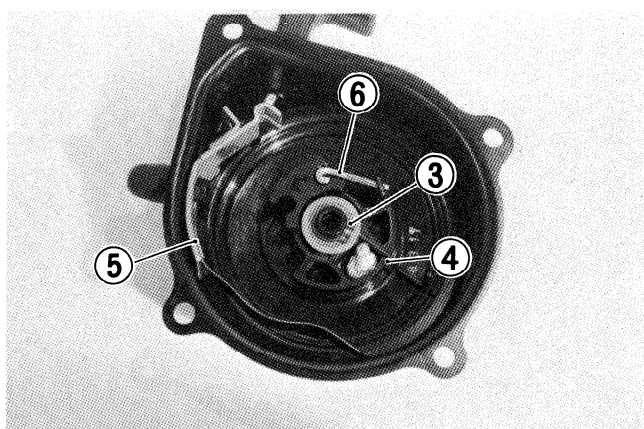
Thread lock super "1333B"



- Install the reel in the cover.
- Install the return spring to the cover so that the ratchet is pushed inward.
- Apply grease to the return spring ②.



- Install the lever on the ratchet.
- Install the washer and circlip ③.
- Confirm that the lever ④ touches the lever guide ⑤ and pushes the ratchet ⑥ outward when the end of the lever guide is pushed to the case and the starter rope is pulled slowly.



FUEL AND LUBRICATION SYSTEM

CONTENTS

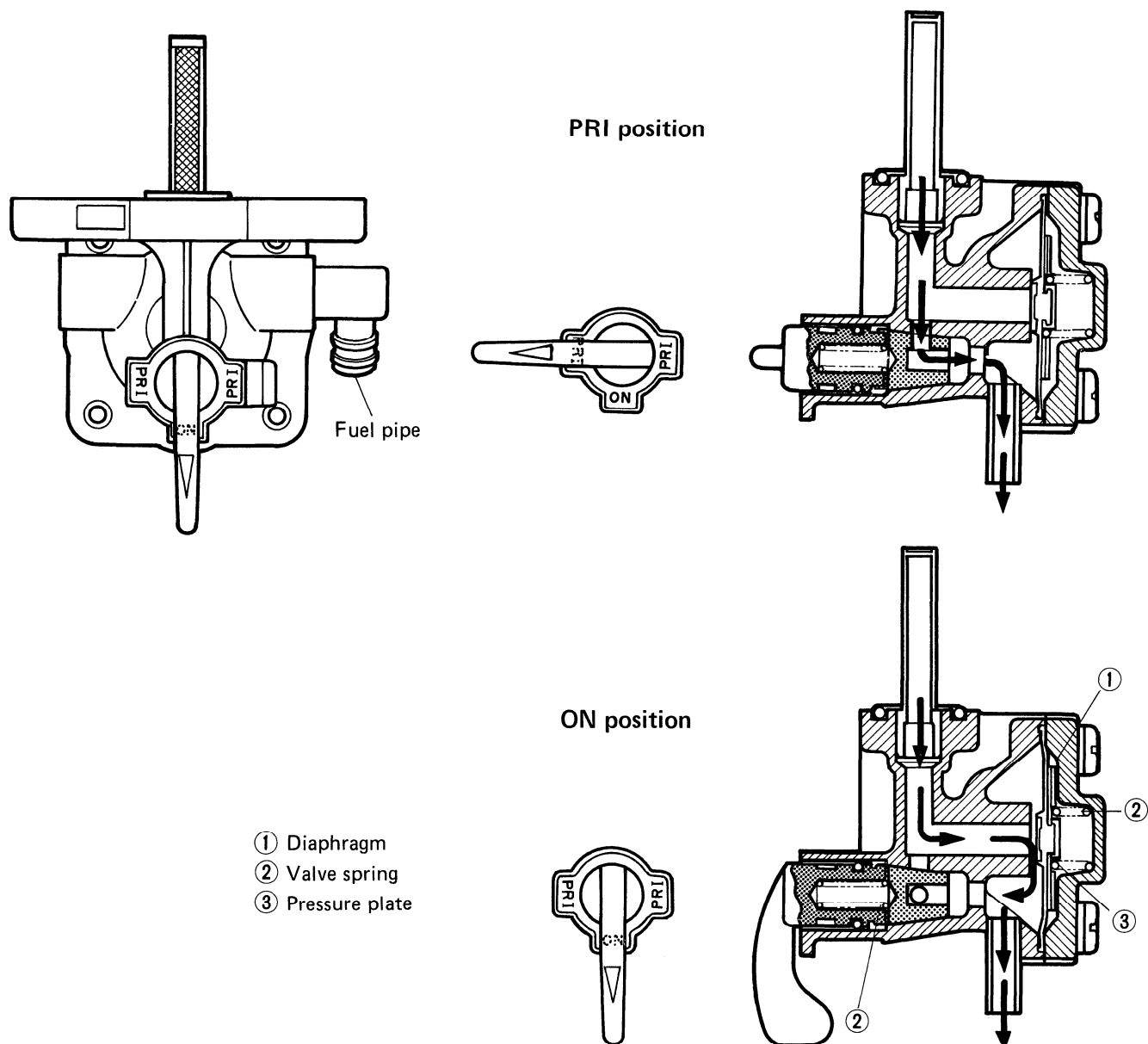
FUEL TANK AND FUEL COCK	4- 1
CARBURETOR	4- 2
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OIL PUMP	4- 6

FUEL TANK AND FUEL COCK

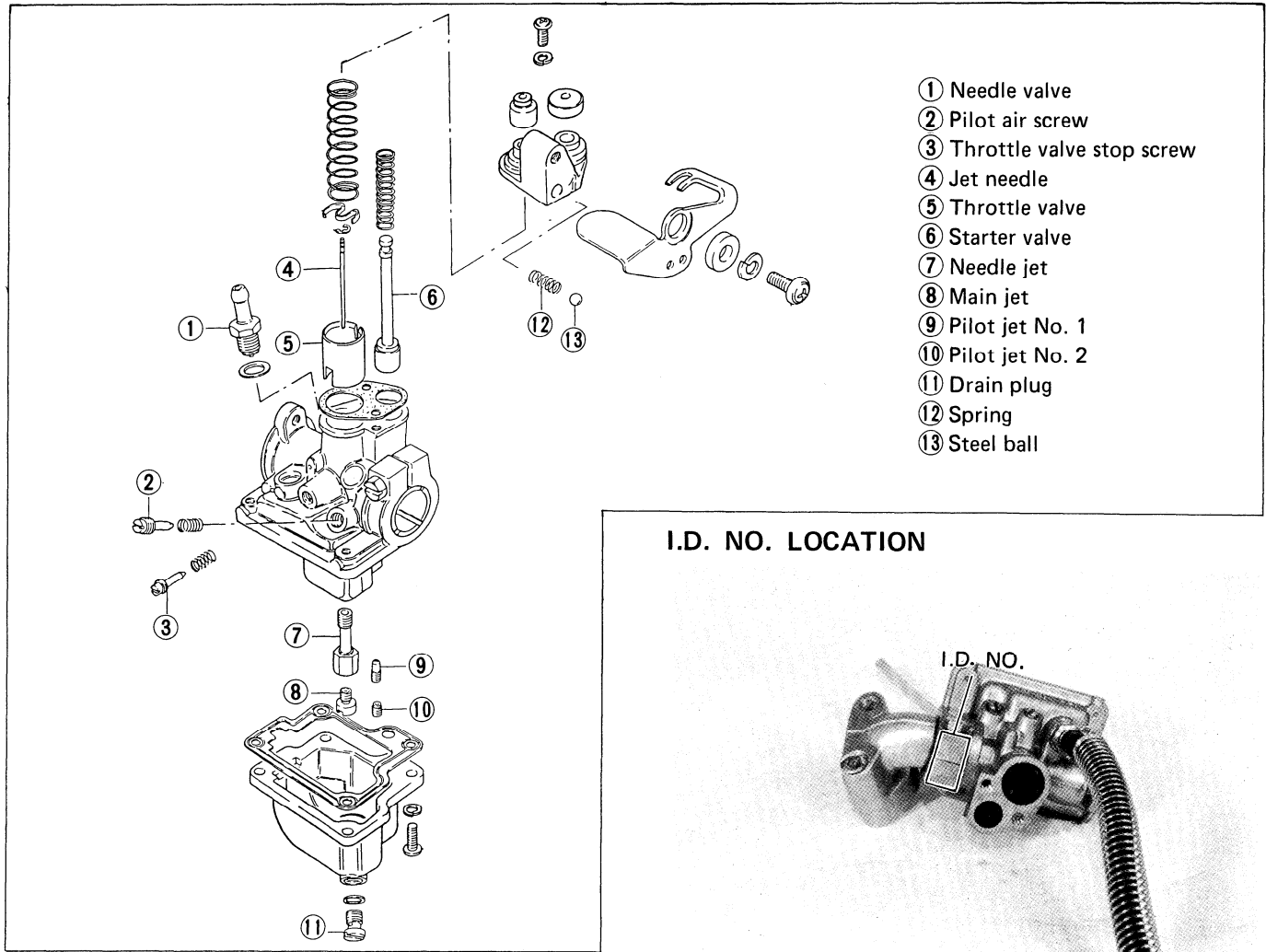
When the engine has started, a negative pressure (vacuum pressure) is generated at the intake port. The negative pressure acts upon the diaphragm of the fuel cock and it presses down the spring which supports the diaphragm so that the fuel passageway is opened and fuel is fed to the carburetor.

When the engine has stopped, the spring presses the valve, the fuel passageway is closed, and no fuel flows to the engine.

When the carburetor has been overhauled, no fuel exists in the carburetor. In order to feed fuel directly to the carburetor, a priming position is provided on the fuel cock. To prime the carburetor with fuel, turn the lever clockwise or counterclockwise by a quarter turn (to the PRI position). After the engine has started, return the lever to the original position (ON position).



CARBURETOR

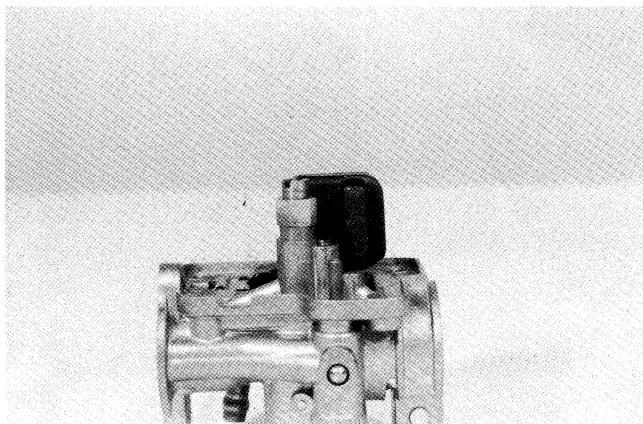
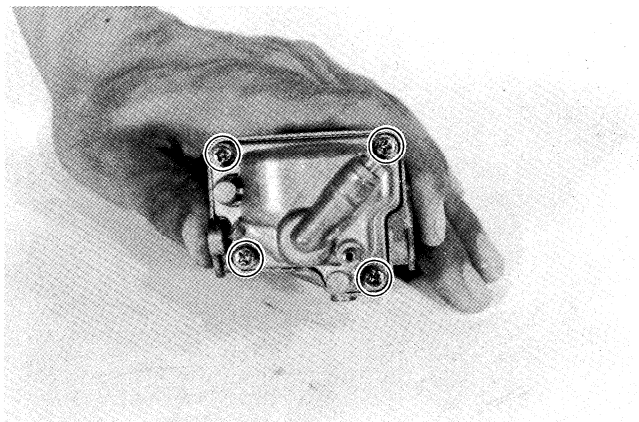


CARBURETOR SETTING TABLE

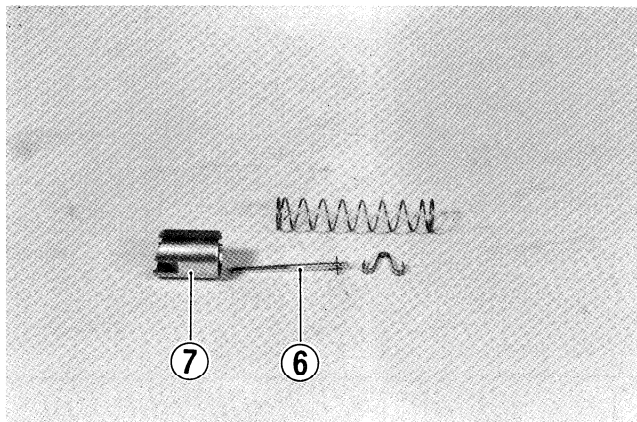
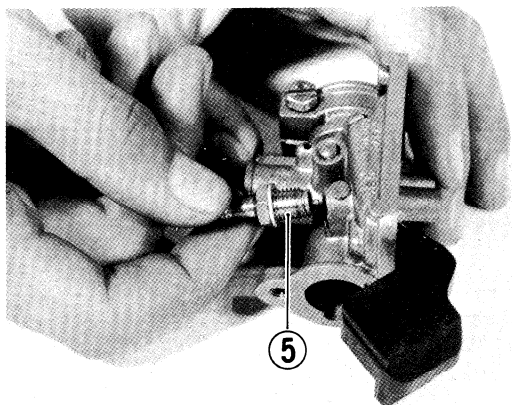
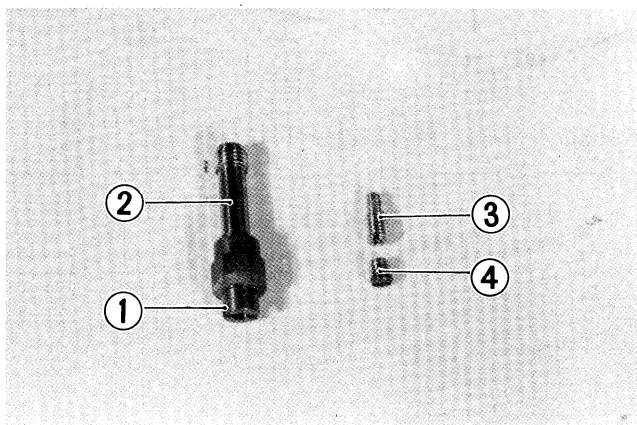
ITEM		SPECIFICATION
Carburetor type		MIKUNI VM12SC
Idle r/min.		1 550 ± 50 r/min.
Bore size		12
I.D. No.		04430
Float height		24.5 – 25.0 mm (0.96 – 0.98 in)
Cut-away	(C.A.)	3.0
Jet needle	(J.N.)	3E3-3rd
Pilot jet No. 1	(P.J.1)	# 15
Pilot jet No. 2	(P.J.2)	0.38 mm (0.015 in)
Pilot outlet	(P.O.)	0.7 mm (0.03 in)
Needle jet	(N.J.)	E-6
Main jet	(M.J.)	# 57.5
Air screw	(A.S.)	1-1/2 turn out

DISASSEMBLY

- Remove the float bowl.



- Remove main jet ①, needle jet ②, pilot jet No. 1 ③ and pilot jet No. 2 ④.
- Remove needle valve ⑤.
- Remove jet needle ⑥ and throttle valve ⑦.



FLOAT HEIGHT ADJUSTMENT

To check the float height, invert the carburetor body. With the float arm kept free, measure the height **A** while float arm is just in contact with needle valve by using the caliper. Bend the tongue ① as necessary to bring the height **A** to this value.

NOTE:

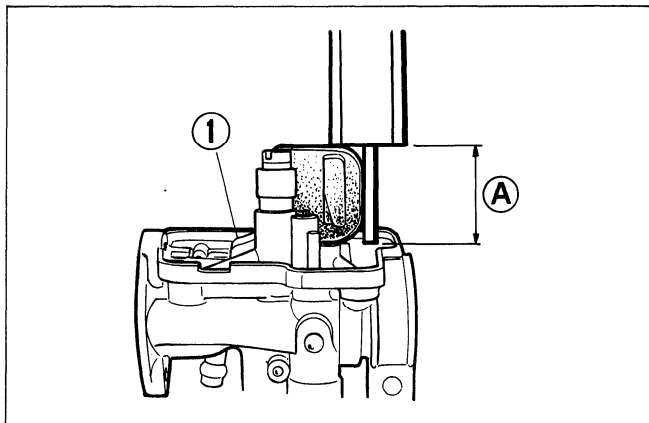
When measuring the height, remove the gasket.

09900-20101

Vernier calipers

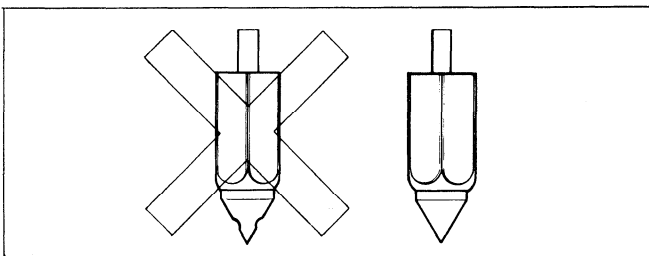
Float height **A**

24.5 – 25.0 mm



NEEDLE VALVE INSPECTION

If foreign matter is caught between the valve seat and the needle, the gasoline will continue flowing and cause it to overflow. If the seat and needle are worn out beyond the permissible limits, similar trouble will occur. Conversely, if the needle sticks, the gasoline will not flow into the float chamber. Remove the carburetor, float chamber and floats, and clean the float chamber and float parts with gasoline. If the needle is worn as shown below, replace it together with a valve seat. Clean the fuel passage of the mixing chamber with compressed air.



DIAGNOSIS OF CARBURETOR

Whether the carburetor is producing a proper mixture of fuel and air can be checked by making a road test (simulating the way the user operates the machine) with a standard spark plug (NGK BP4H or ND W14FP) fitted to the engine. After the road test, remove the spark plug, and observe the appearance of the plug as well as the surface of the piston crown. The color observed tells whether the mixture is too rich or too lean. When replacing the spark plug, consult the page 2-5.

MIXTURE ADJUSTMENT

- This adjustment is effected mainly by main jet, jet needle and pilot air screw. Before doing so, check to be sure that the float level is correctly set and that the overflow pipe, vacuum hose, inlet hose and air cleaner are in sound condition.
- Find out at which throttle position the engine lacks power or otherwise performs poorly. Drive the machine at the throttle position for a distance of about 1 km, after which the spark plug and piston crown should be inspected for color and appearance.
- The mixture can be made "richer" or "leaner" in three ways: namely, by altering main jet, jet needle and pilot air screw. Effectiveness of these ways depends on the throttle position, as shown in this chart.

Throttle opening	1/4	1/2	3/4	Full
Main jet				Richer
Jet needle	Leaner			
Pilot air screw	Leaner			

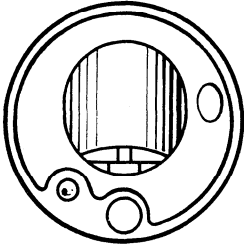
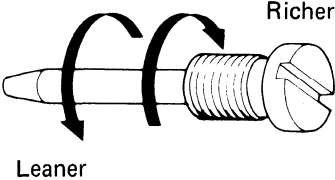
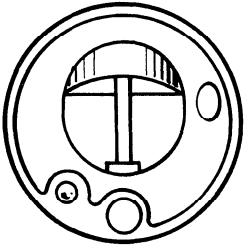
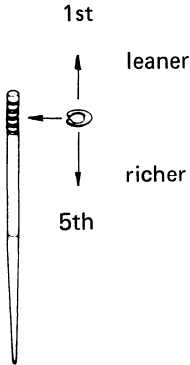
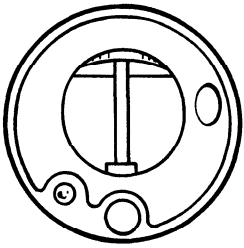
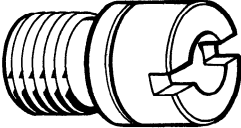
NOTE:

If the machine is tested at 1/2 throttle resulting in a color and appearance indicating a mixture that is too rich or too lean, perform adjustment by means of jet needle.

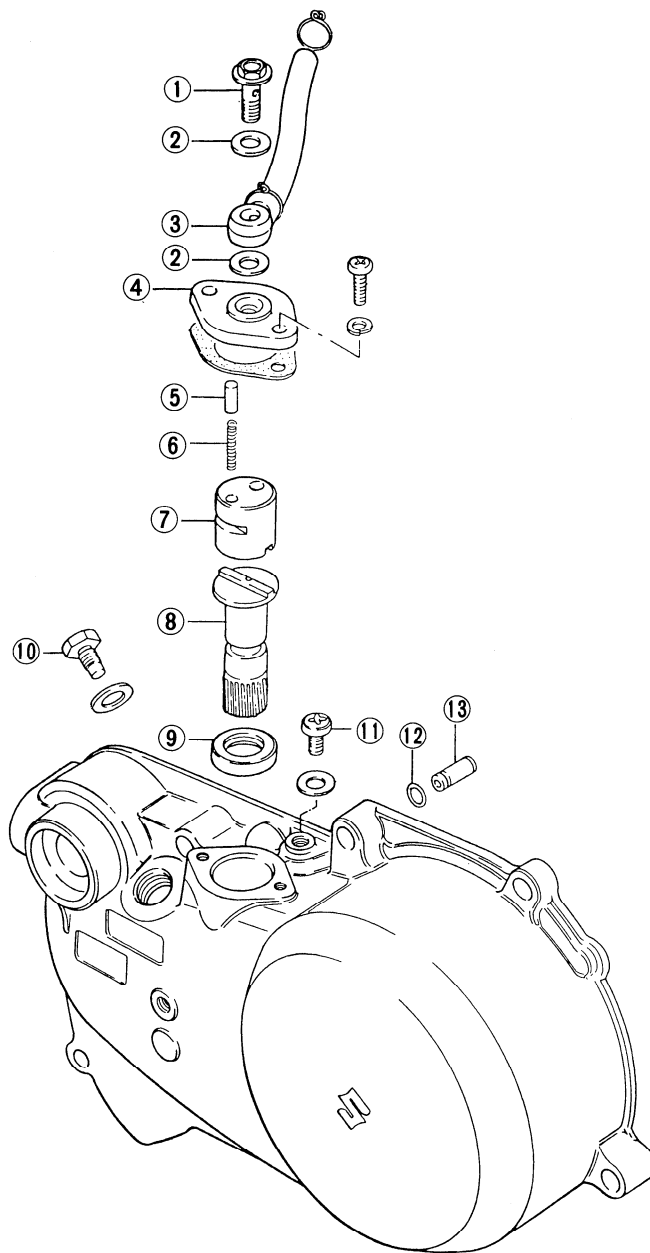
CARBURETION

Adequate carburetion is determined according to the results of various tests, mainly concerning engine power, fuel consumption and cooling effect of fuel on engine, and jet settings are made so as to satisfy and balance all of these conditions. Therefore, the jet should not be replaced with a size other than the original, and the positions of adjustable parts should not be changed except when compensating for the mixture ratio due to altitude differences or other climatic conditions. When adjustment is necessary, refer to the following.

Fuel/Air mixture ratio can be changed as follows:

Throttle Opening	Method of Changing Ratio	Standard Setting
 <p>Slight</p>	 <p>Pilot air screw</p>	<ul style="list-style-type: none"> • 1-1/2 turn out
 <p>Medium</p>	 <p>Jet needle</p>	<ul style="list-style-type: none"> • 3E3-3rd
 <p>High</p>	 <p>Larger number: richer mixture Smaller number: leaner mixture</p> <p>Main jet</p>	<ul style="list-style-type: none"> • #57.5

OIL PUMP



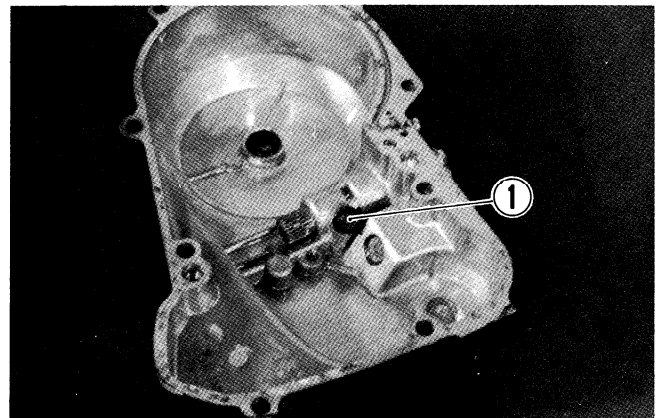
- ① Union bolt
- ② Gasket
- ③ Oil hose
- ④ Oil pump cam
- ⑤ Plunger
- ⑥ Plunger spring
- ⑦ Oil pump valve
- ⑧ Oil pump driven gear
- ⑨ Oil seal
- ⑩ Stopper screw
- ⑪ Air bleeder screw
- ⑫ O-ring
- ⑬ Check valve

TIGHTENING TORQUE

ITEM	kg-m	lb-ft
①	0.4 – 0.7	3.0 – 5.0

DISASSEMBLY

- Remove the stopper screw ① and washer from the clutch cover.



- Remove the oil pump cam screws ①.

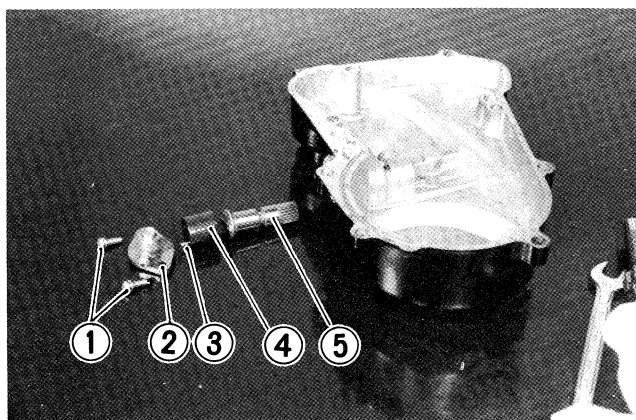
NOTE:

When removing the oil pump cam, the plunger and its spring will pop out. Do not miss these two parts.



- Inspect the oil pump valve wall and clutch cover bore wall for nick, scratches or other damage.
- Inspect the plunger and spring for proper operation.
- Inspect the check valve and its O-ring for any damage. If there are any, replace it with new one.

- ① Screw
- ② Oil pump cam
- ③ Plunger
- ④ Oil pump valve
- ⑤ Oil pump driven gear

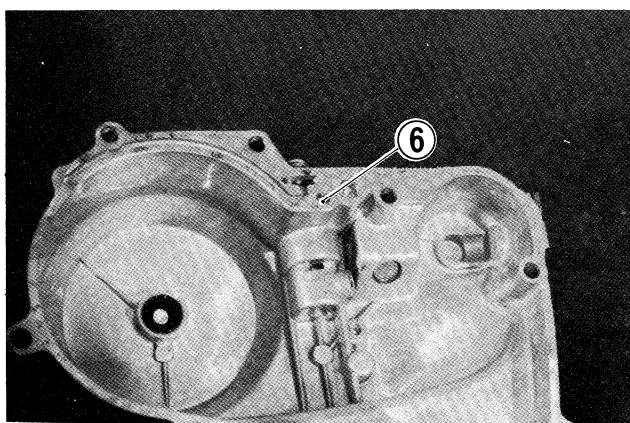


- Inspect the oil seal for any damage.

If there is any defect, replace the part with new one.

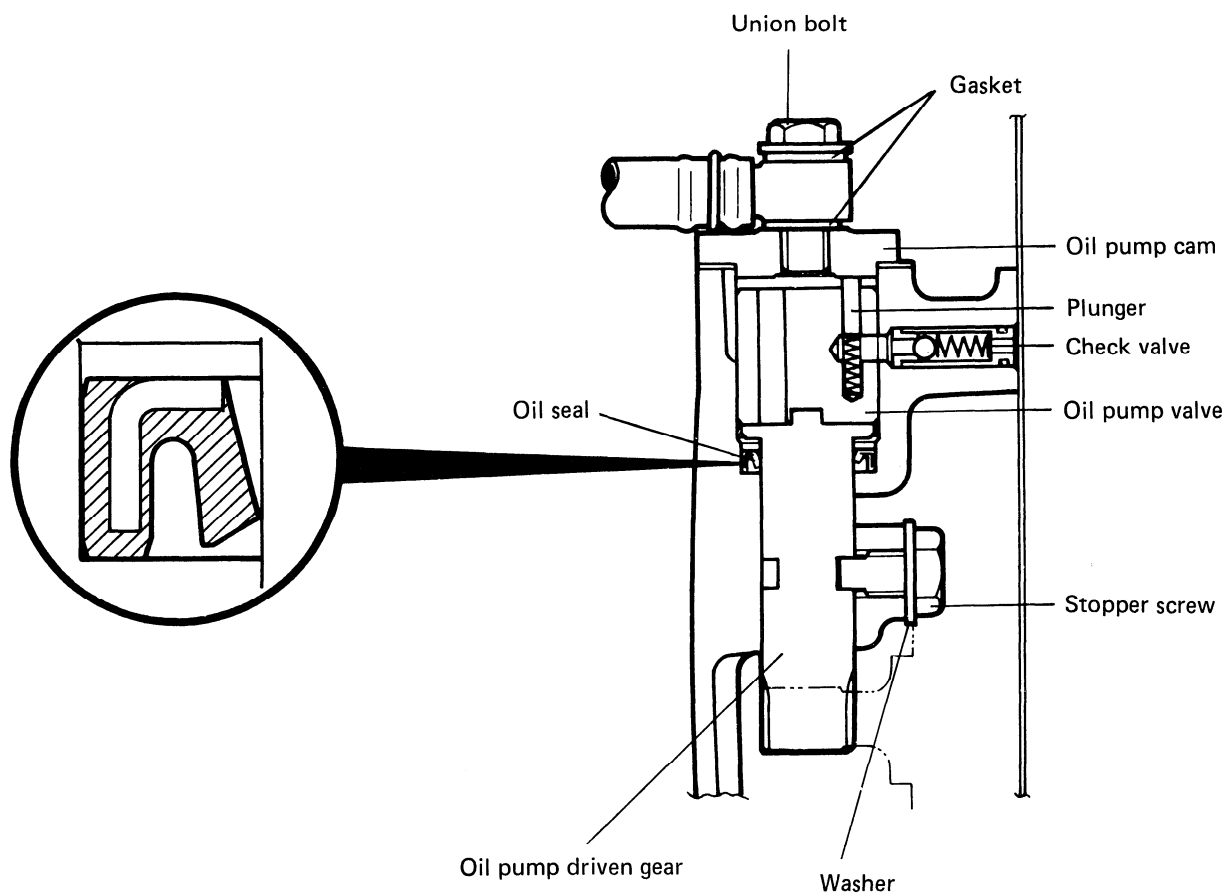
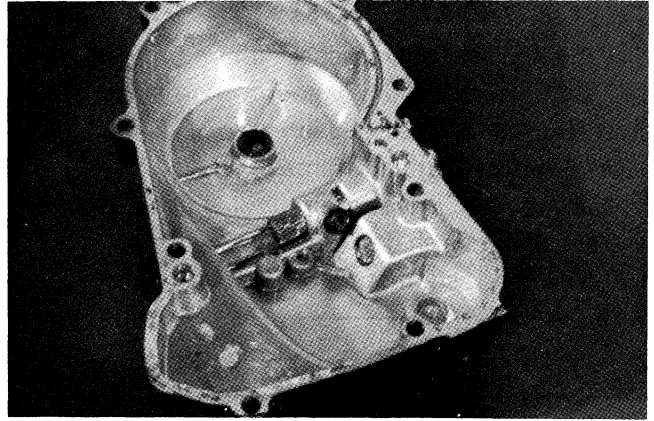
NOTE:

If the oil pump valve or clutch cover bore wall has any defect, replace the clutch cover assembly. Inspect the oil passage and check valve ⑥ for clogging.



REASSEMBLY

- Wash the oil pump components with fresh engine oil before reassembly.
- Install the oil seal as shown in the illustration.
- After reassembly, check the oil pump driven gear for smooth turning.



CHECKING OIL PUMP

Use the special tool, to check the pump for capacity by measuring the amount of oil the pump draws during the specified interval.

- Remove the seat and frame cover.
- Remove the drive chain and engine sprocket from the drive shaft. (See page 3-2)
- Install the tachometer to the high tension cord.

09900-26005	Tachometer (Not available in U.S.A.)
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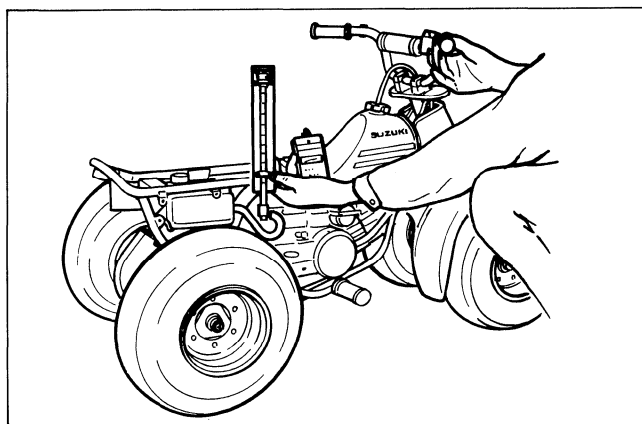
- Have the tool filled with SUZUKI CCI SUPER-2 MOTOR LUBRICANT and connect it to the suction side of the pump.
- Holding engine speed at the 3 000 r/min., let the pump draw for 5 minutes. For this operation, the reading taken on the device should be 0.8 – 1.1 ml.

09900-21602	CCI oil gauge
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Oil discharge amount	0.8 – 1.1 ml at 3 000 r/min for 5 minutes
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CAUTION:

Do not touch the driveshaft.



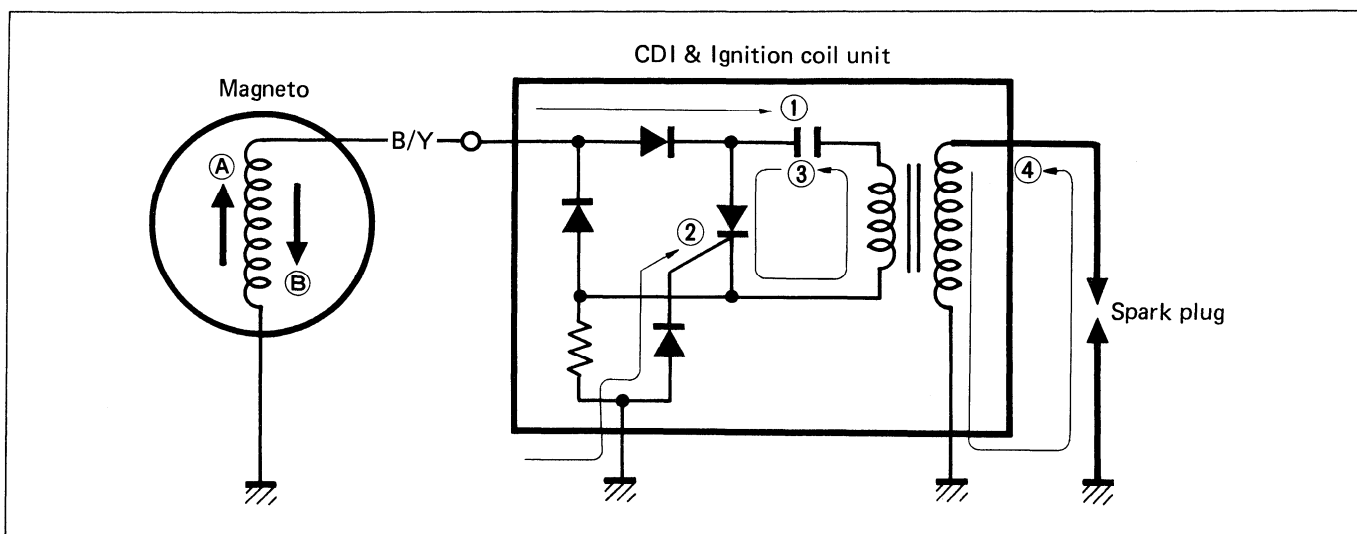
ELECTRICAL SYSTEM

CONTENTS

<i>IGNITION SYSTEM</i>	<i>5- 1</i>
<i>SWITCHES</i>	<i>5- 2</i>

IGNITION SYSTEM

The ignition system consists of a flywheel magneto, a CDI & ignition coil unit and a spark plug.



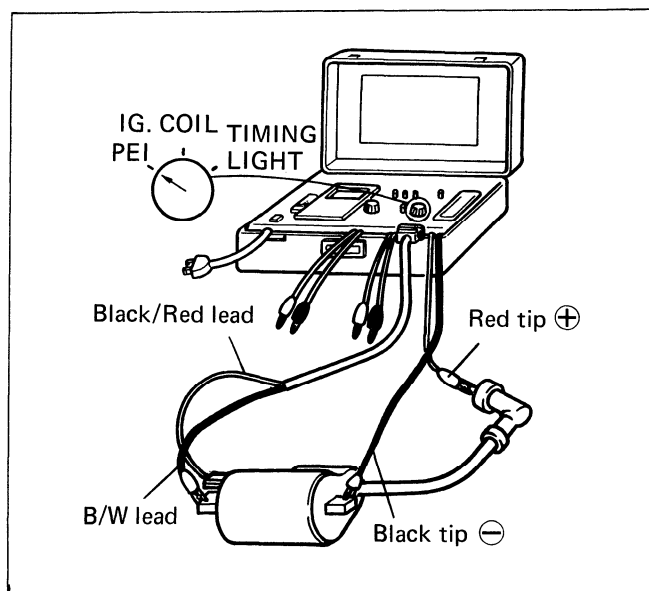
- (1) As the rotor rotates, an AC current is induced in the coil. The current induced in the (A) direction charges up the capacitor.
- (2) As the rotor rotates further, the current is induced in the reverse direction ((B) direction). This current causes a voltage applied through the ground to the gate of SCR.
- (3) As the SCR conducts, the energy which has been changed in the capacitor is instantaneously discharged through the primary winding of the ignition coil.
- (4) The current which flows in the primary winding of the ignition coil caused a high voltage induced in the secondary winding of the ignition coil. The induced voltage is much higher than the voltage of the primary winding because it is boosted up by the high ratio of turns between primary and secondary windings.

The high voltage is fed to the spark plug, where it produces discharge sparks across the spark plug gap and sparks ignite the fuel/air mixture in the combustion chamber.

CDI UNIT AND IGNITION COIL INSPECTION CHECKING WITH ELECTRO TESTER

Connect the CDI test leads with the Black/Red lead attached to the coil's primary tap and Black/White to mounting bracket (ground). Connect the high tension leads with the red \oplus lead attached to the spark plug cord and the black \ominus lead to the coil's mounting bracket (ground).

- Set the test selector knob to "P.E.I.".
- Switch the power ON.



- Note the spark in the spark gap window. It should be strong and continuous, not intermittent, across a preset 8 mm gap. Allow the spark to jump the test gap for at least five minutes continuously, to insure proper operation under the temperature conditions of actual riding.

09900-28106	Electro tester
09900-28617	Test lead

CHECKING WITH SUZUKI POCKET TESTER

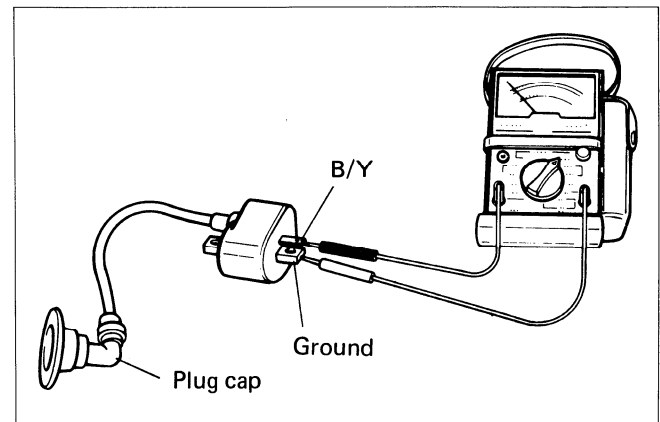
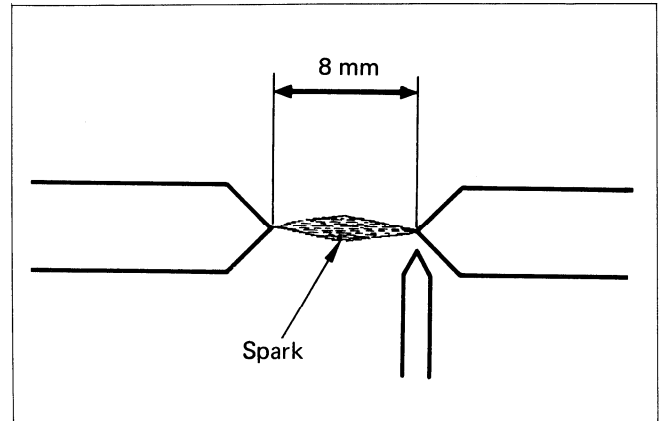
Use a SUZUKI pocket tester as an ohm meter, provided that it has a "X 1k" ohm range. In either case, the two testing probes, \oplus and \ominus , are to be placed on terminals of the CDI & ignition coil unit referring to the chart below.

Unit: k Ω

Negative \ominus probe of tester to:	Positive \oplus probe of tester to:			
	B/Y	Plug cap	Ground	
	B/Y	OFF	OFF	
	Plug cap	25	15	
	Ground	3.4	15	

CAUTION:

If use the other tester than SUZUKI, the value reading may vary from the above table.



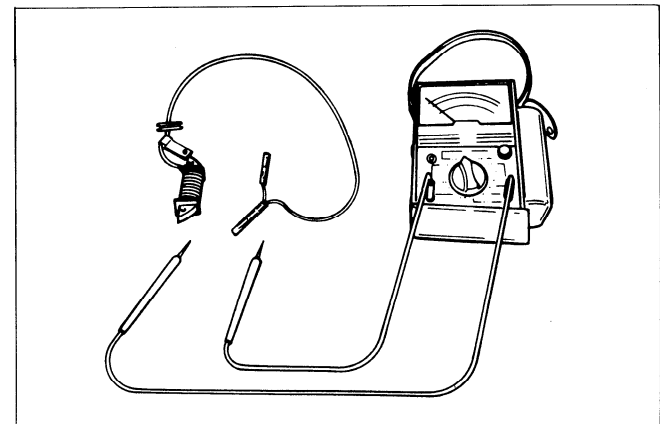
MAGNETO COIL

Using the pocket tester, measure the resistance between the lead wire and ground.

If the resistance checked is incorrect, replace the coil.

Standard resistance B/Y – Ground	120 – 160 Ω
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09900-25002	Pocket tester
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SWITCHES

ENGINE STOP SWITCH

	B/R	B/W
OFF	○ — ○	○ — ○
RUN		

REMOTE ENGINE STOP SWITCH

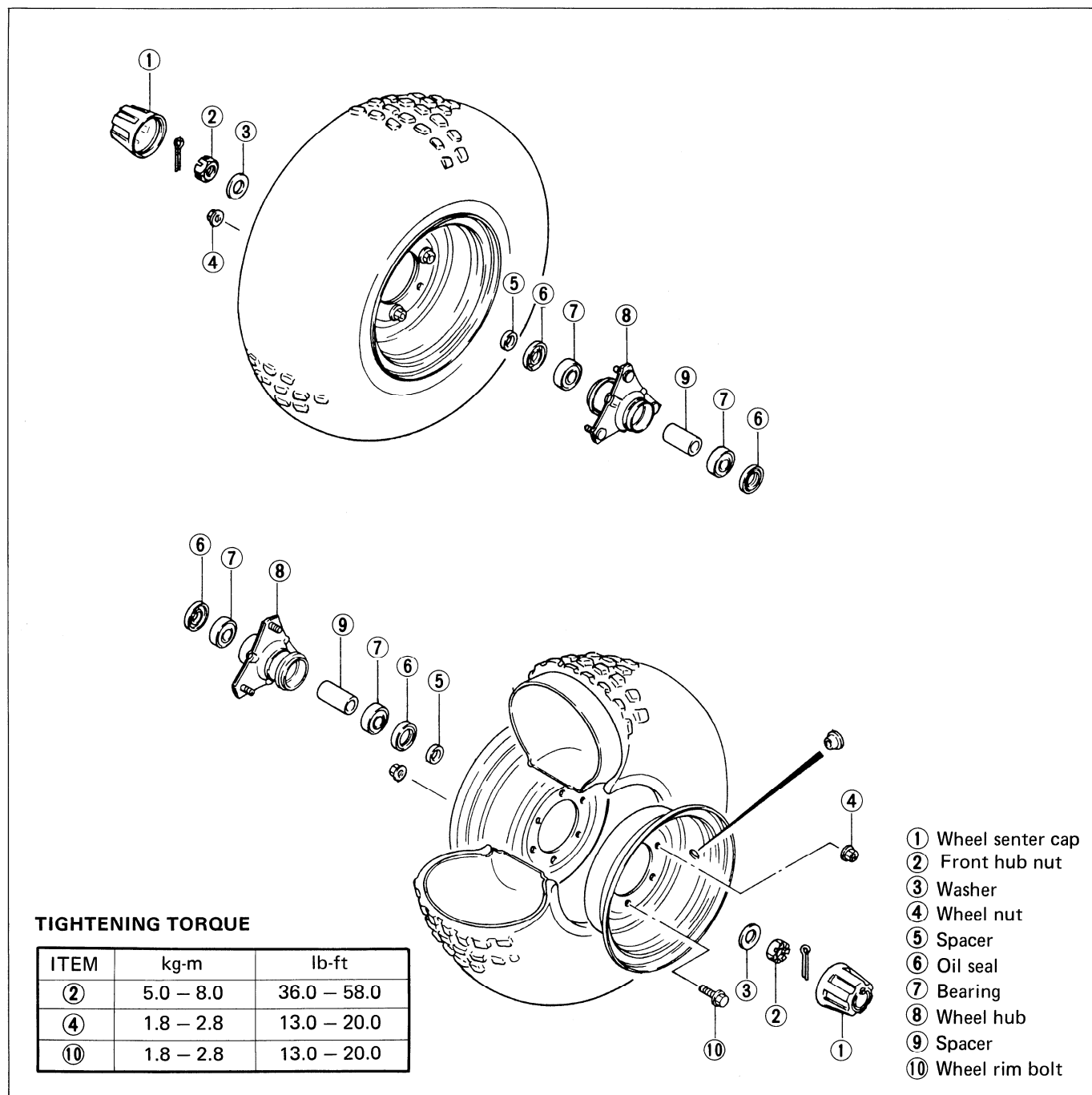
	B/R	B/W
Pushed		
Removed	○ — ○	○ — ○

CHASSIS

CONTENTS

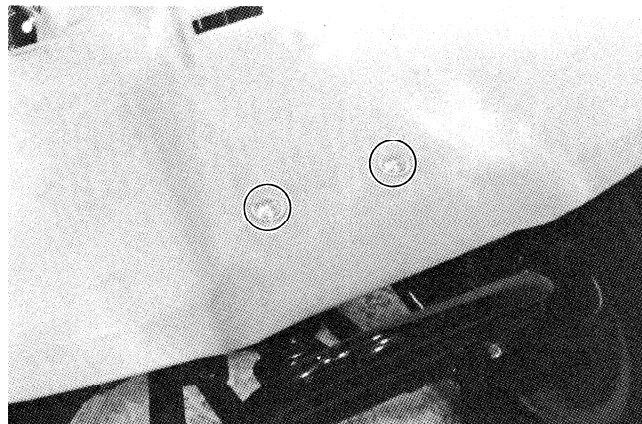
FRONT WHEEL	6- 1
HANDLEBARS AND STEERING.....	6- 5
REAR WHEEL AND BRAKE.....	6-13
REMOVAL	6-13
INSPECTION AND SERVICING.....	6-16
REASSEMBLY	6-17

FRONT WHEEL

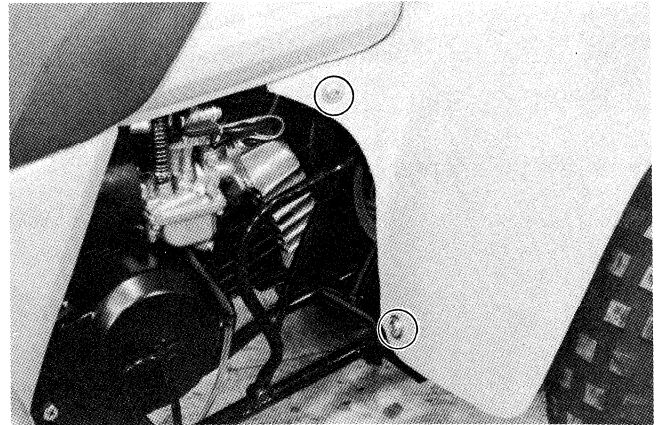


REMOVAL AND DISASSEMBLY

- Remove the bolts from front side of front fender.



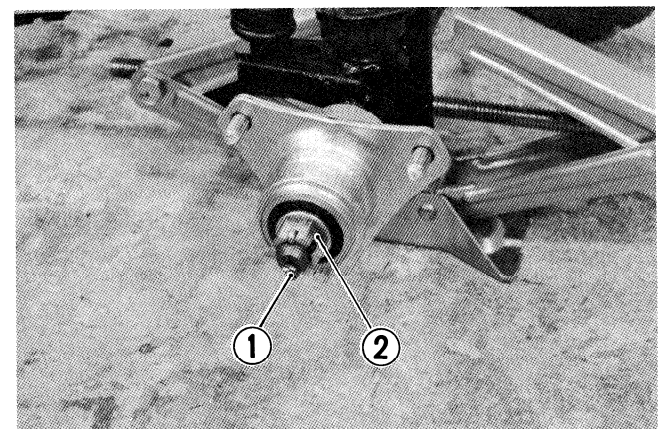
- Remove the bolts from rear side of front fender.



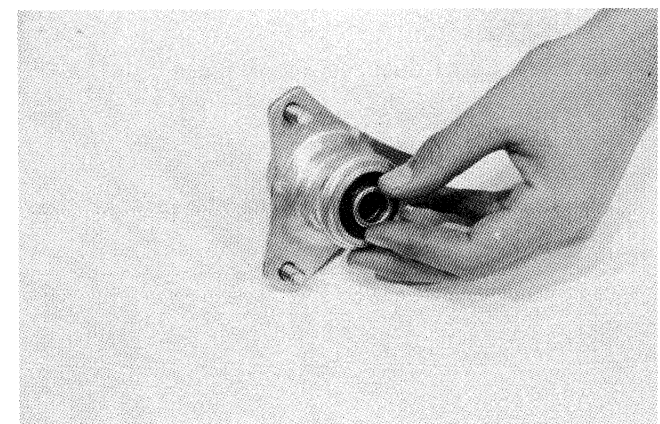
- Place the vehicle on level ground and place a block under the chassis.
- Remove the three wheel mounting nuts.



- Pull out the cotter pin ① and remove the wheel hub nut ②.
- Remove the both front wheel hubs.



- Remove the spacer from the out side of the wheel hub.



- Drive out the right and left wheel hub bearings by using the special tool in the following procedures.
- Insert the adapter into the wheel bearing.



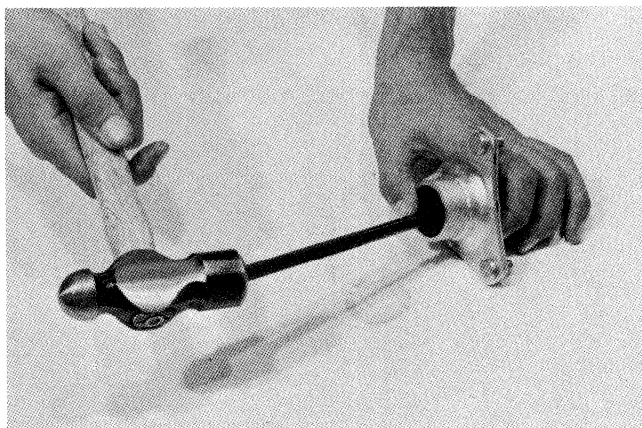
- After inserting the wedge bar from the opposite side, lock the wedge bar in the slit of the adapter.
- Drive out the wheel bearing by knocking the wedge bar.

CAUTION:

The removed bearing should be replaced.

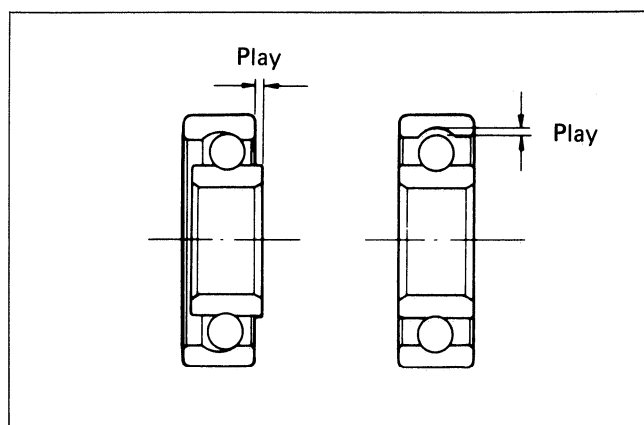
09941-50110

Bearing remover

**INSPECTION****WHEEL HUB BEARING**

Inspect the play of wheel hub bearings inner race by hand while fixing it in the wheel hub.

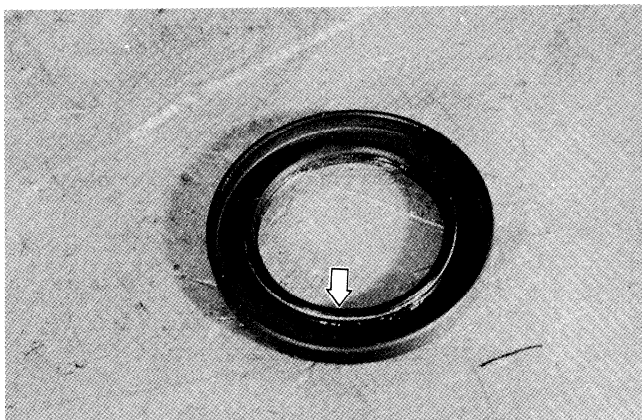
Rotate the inner race by hand to inspect whether abnormal noise occurs or rotating smoothly. Replace the bearing if there is anything unusual.

**DUST SEAL**

Inspect the lip of dust seal for damage.

NOTE:

For inspecting the wheel and tire refer to the page 6-16.

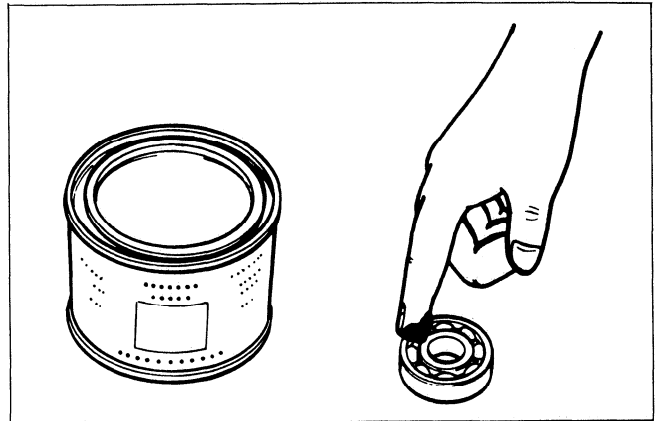


REASSEMBLY AND REMOUNTING

Reassemble and remount the wheel and wheel hub in the reverse order of disassembly and removal, and also carry out the following steps:

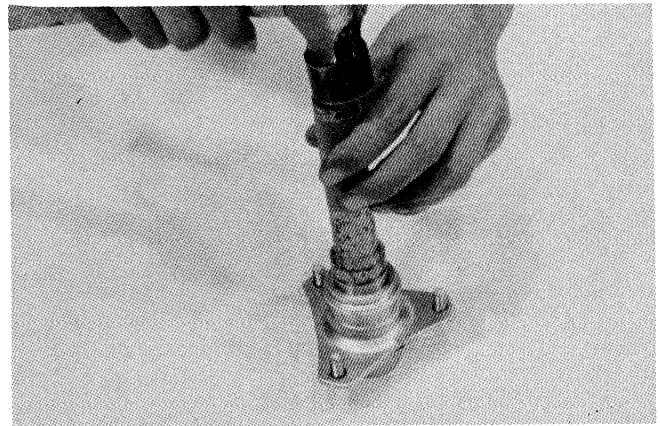
- Apply grease to the bearings before installing.

99000-25030	Suzuki super grease "A"
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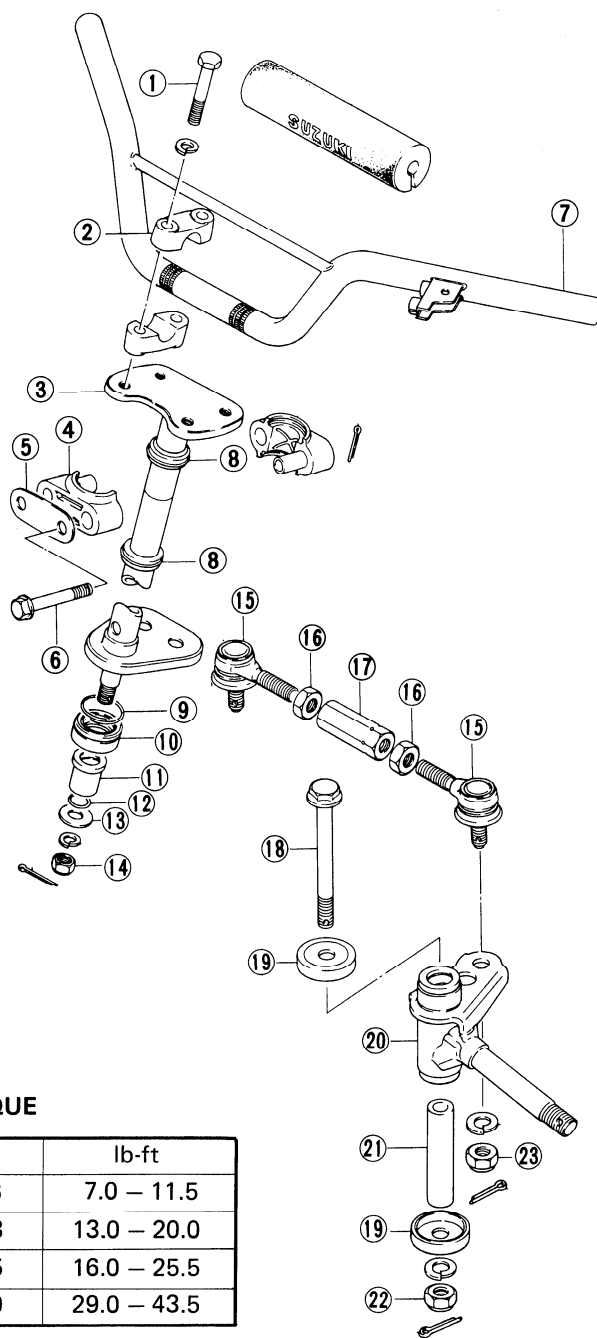


- Install the wheel hub bearing by using the special tool.

09913-75820	Bearing installer
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HANDLEBARS AND STEERING



TIGHTENING TORQUE

	kg-m	lb-ft
①	1.0 – 1.6	7.0 – 11.5
⑥	1.8 – 2.8	13.0 – 20.0
⑭, ⑯	2.2 – 3.5	16.0 – 25.5
⑳, ㉑	4.0 – 6.0	29.0 – 43.5

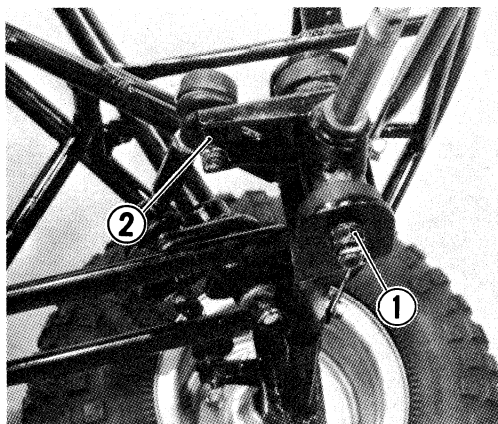
- ① Handlebar clamp bolt
- ② Handlebar clamp
- ③ Steering shaft assembly
- ④ Steering shaft holder
- ⑤ Washer
- ⑥ Steering shaft holder bolt
- ⑦ Handlebar
- ⑧ Steering dust seal
- ⑨ O-ring
- ⑩ Steering shaft dust seal
- ⑪ Steering lower bushing
- ⑫ O-ring
- ⑬ Washer
- ⑭ Steering shaft lower nut
- ⑮ Rod end
- ⑯ Rod end nut
- ⑰ Tie-rod
- ⑱ Tie-rod mounting bolt
- ⑲ Dust seal
- ⑳ Knuckle arm
- ㉑ Spacer
- ㉒ Knuckle arm nut
- ㉓ Tie-rod nut

REMOVAL AND DISASSEMBLY KNUCKLE ARM

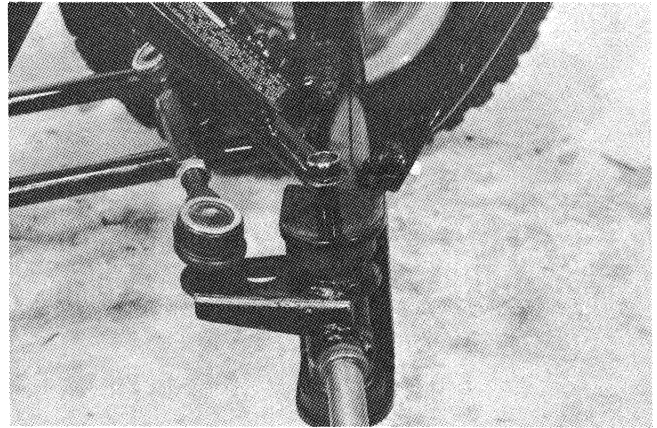
- Remove the front wheel (See page 6-1).
- Pull out the cotter pin and remove the knuckle arm bolt and nut ①.
- Pull out the cotter pin and remove the rod end nut ②.

NOTE:

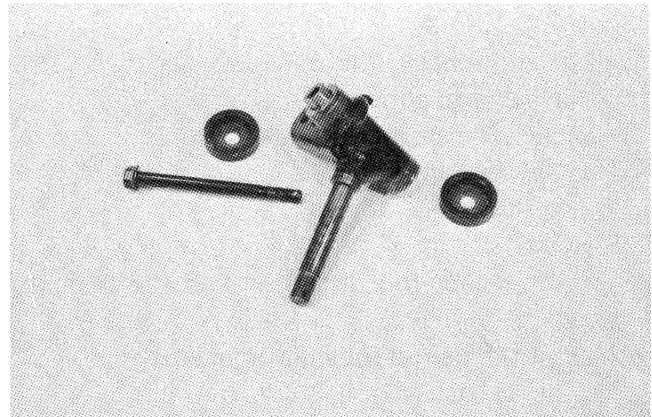
The removed cotter pins should be replaced with new ones.



- Remove the knuckle arms, right and left, from the frame.



- Remove the dust seals and spacer from the knuckle arm.



STEERING SHAFT AND TIE-ROD

- Remove the four handlebars clamp bolts and take off the handlebars.

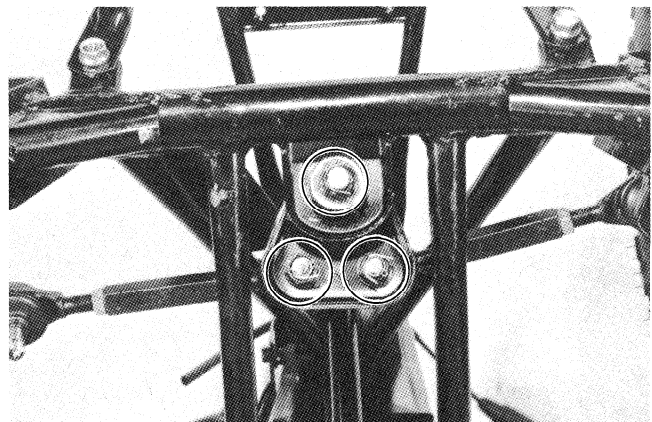


- Pull out the cotter pin and remove the steering shaft tightening nut.

NOTE:

The removed cotter pin and O-ring should be replaced with new ones.

- Take off the tie-rod from the steering shaft.

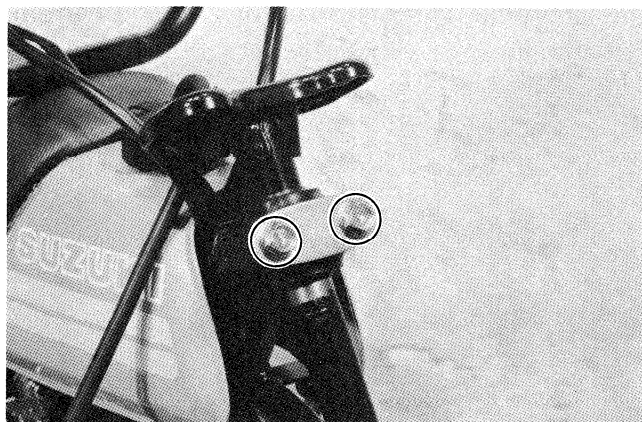


- Pull out the cotter pins and remove the steering shaft holder bolts.

NOTE:

The removed cotter pins should be replaced with new ones.

- Take off the steering shaft holders and dust seals.

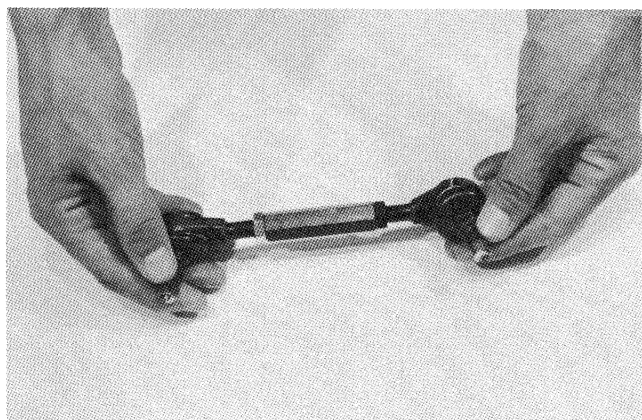
**INSPECTION**

Inspect and check the removed parts for the following abnormalities.

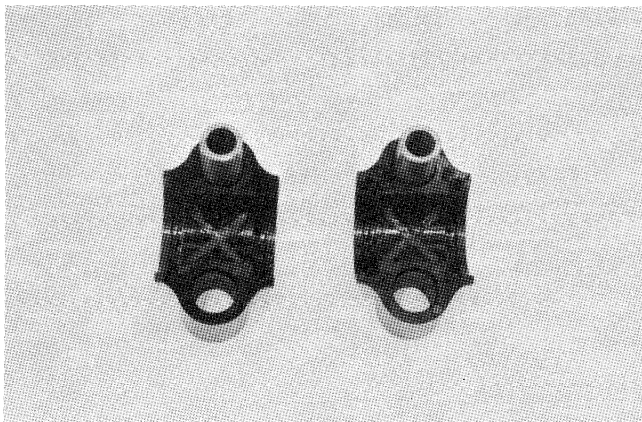
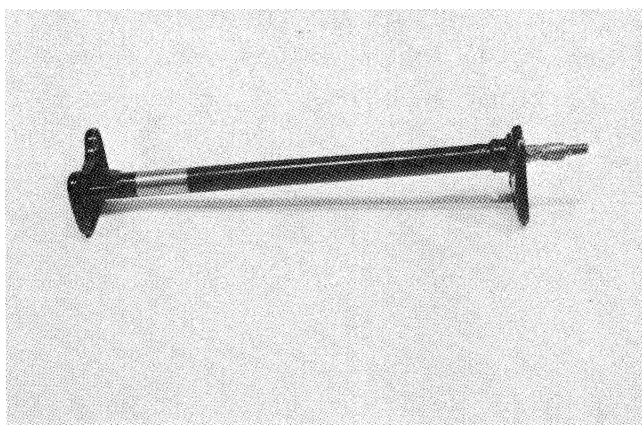
- * Handlebars distortion
- * Handlebars clamp wear

TIE-ROD

- Inspect the tie-rod distortion and the boot for wear.
- Inspect the tie-rod for smooth movement.

**STEERING SHAFT**

- Inspect the steering shaft for distortion or bends.
- Inspect the two steering shaft holders for wear.



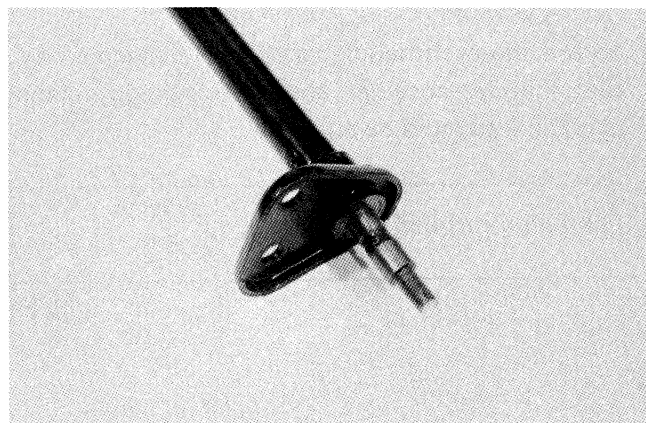
REASSEMBLY AND REMOUNTING

Reassemble and remount the steering system in the reverse order of disassembly and removal, and also carry out the following steps:

STEERING DUST SEAL

- Apply grease to the dust seal and install it to the steering shaft.

99000-25030	Suzuki super grease "A"
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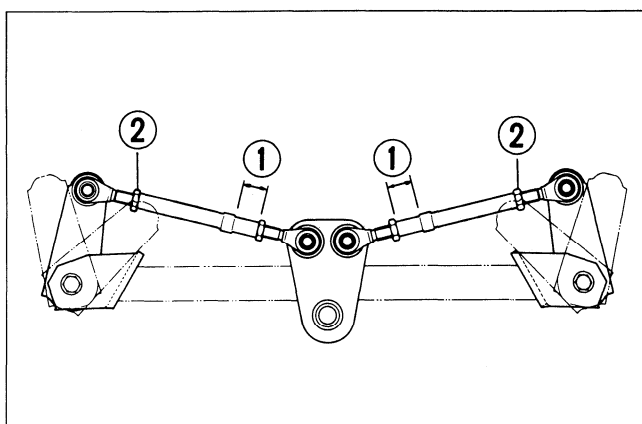


TIE-ROD

- When installing the tie-rod, make sure that the narrow side ① of the tie-rod comes inside.

NOTE:

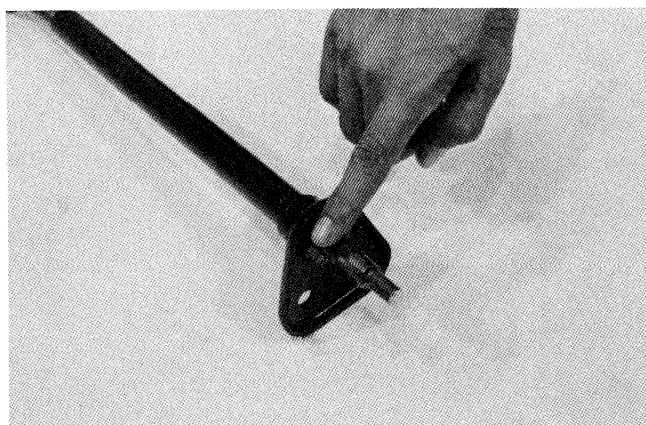
Outside lock nuts ② (surface finishing of yellow) are left-hand thread.



STEERING SHAFT

- Apply grease to the steering shaft lower portion.

99000-25030	Suzuki super grease "A"
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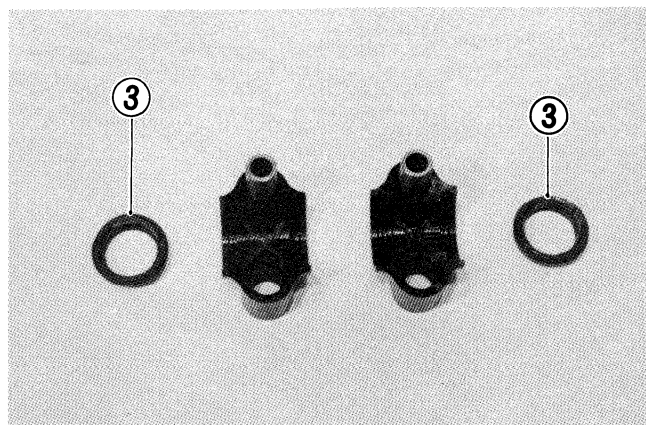


- Apply grease to the steering shaft holders and dust seals.

99000-25030	Suzuki super grease "A"
-------------	-------------------------

NOTE:

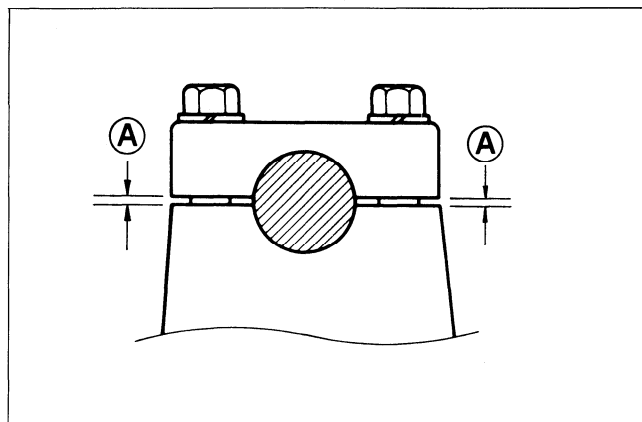
The dust seal end ③ should be mounted on the steering shaft facing forward to prevent entry of dirt.



HANDLEBARS

- Secure the each handlebars clamp in such a way that the clearance **A** ahead of and behind the handlebars should be equalized.

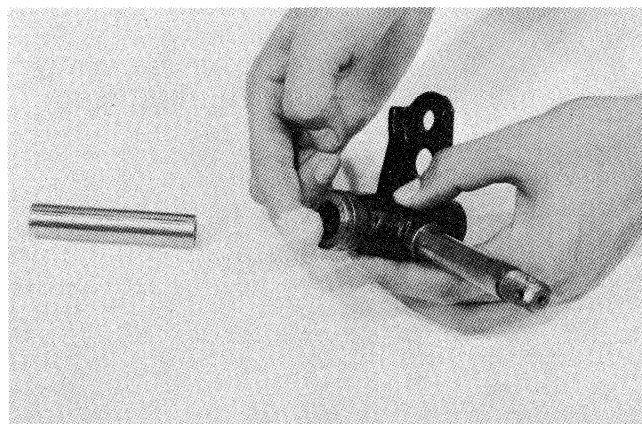
Tightening torque	1.0 – 1.6 kg-m (7.0 – 11.5 lb-ft)
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KNUCKLE ARM

- Apply grease to knuckle arm bushing and spacer.

99000-25030	Suzuki super grease "A"
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TOE-IN ADJUSTMENT

The procedure for adjusting the toe-in is as follows.

- Place the vehicle on level ground and set the handlebars straight.
Make sure that the all tires are inflated to the following pressure.

STD Pressure	0.25 – 0.35 kg/cm ² (3.5 – 5.0 psi)
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- Loosen the lock nuts ① on each of the tie-rods.

NOTE:

Lock nuts of yellow surface finishing is left-hand thread.

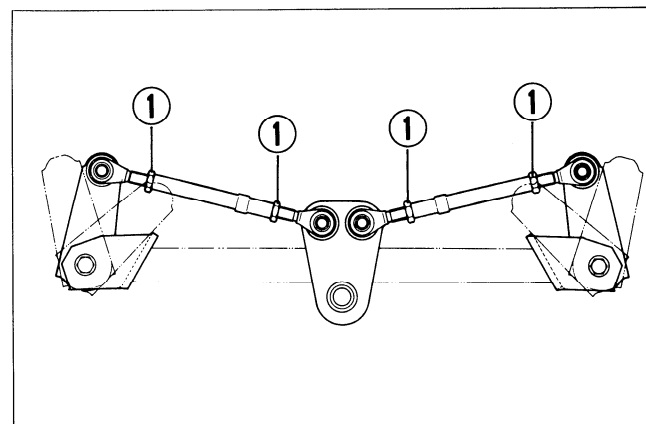
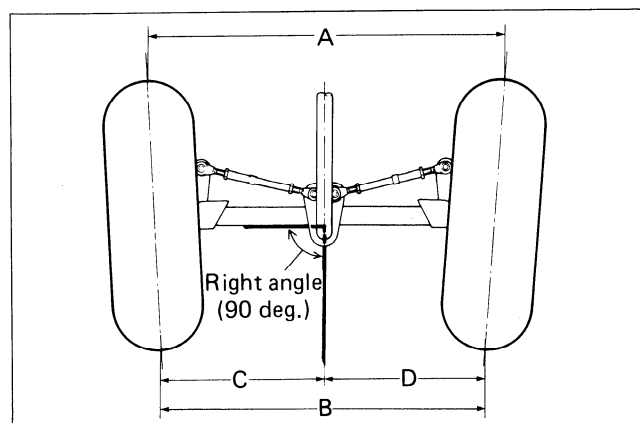
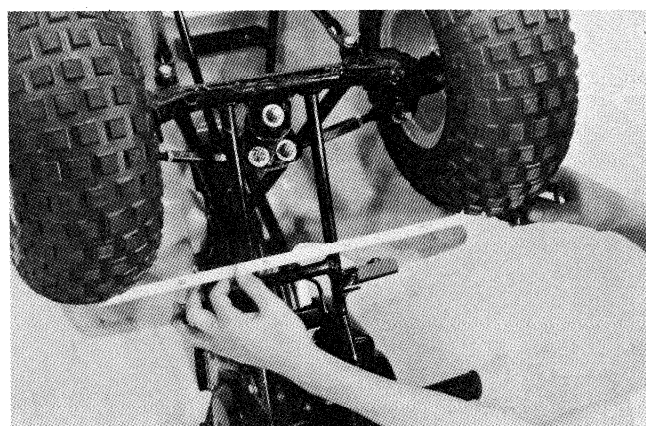
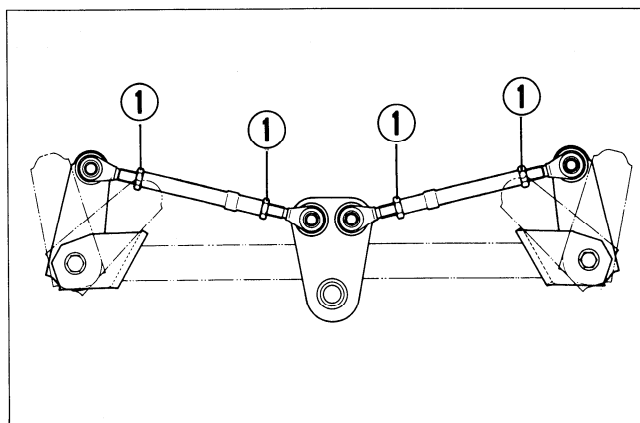
- Measure the distances A and B of front wheels (in illustration) and adjust the tie-rods, right and left, to within the specified range.
 $A - B = \text{Toe-in}$ (2.5 – 5.5 mm)

Toe-in	2.5 – 5.5 mm (0.10 – 0.22 in)
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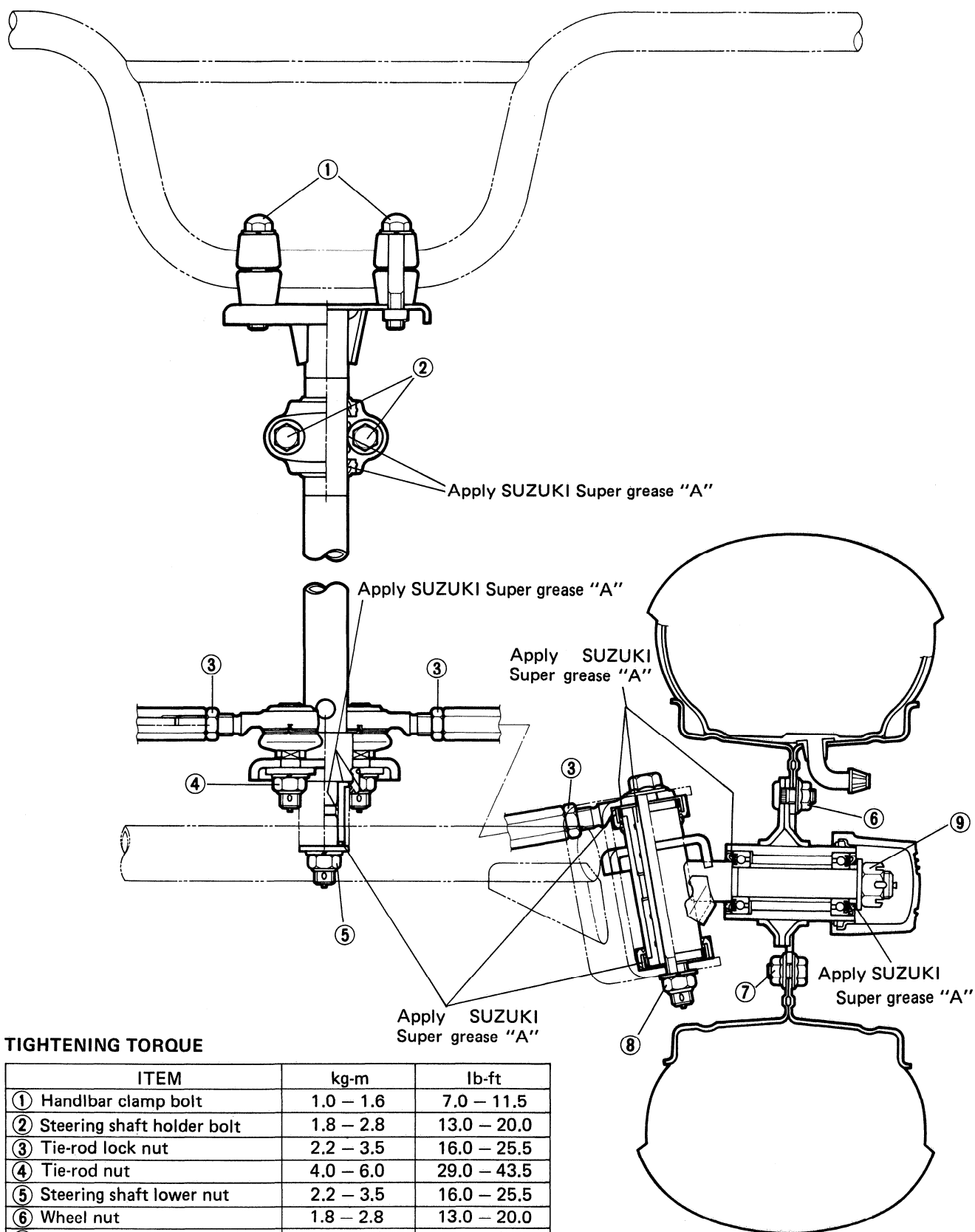
- Temporarily tighten the four lock nuts.
- Check that the distances C and D (in illustration) are equal. If the distances C and D are not equal, readjust the tie-rod, right or left, whichever makes the toe-in value closer to the specification. Check the toe-in again by measuring the distances A and B.
- If the toe-in is not within specification, repeat the adjustment as above until proper toe-in value is obtained and at the same time the distances C and D become equal.

- Tighten the four nuts ① after adjustment of toe-in.

Tightening torque	2.2 – 3.5 kg-m (16.0 – 25.5 lb-ft)
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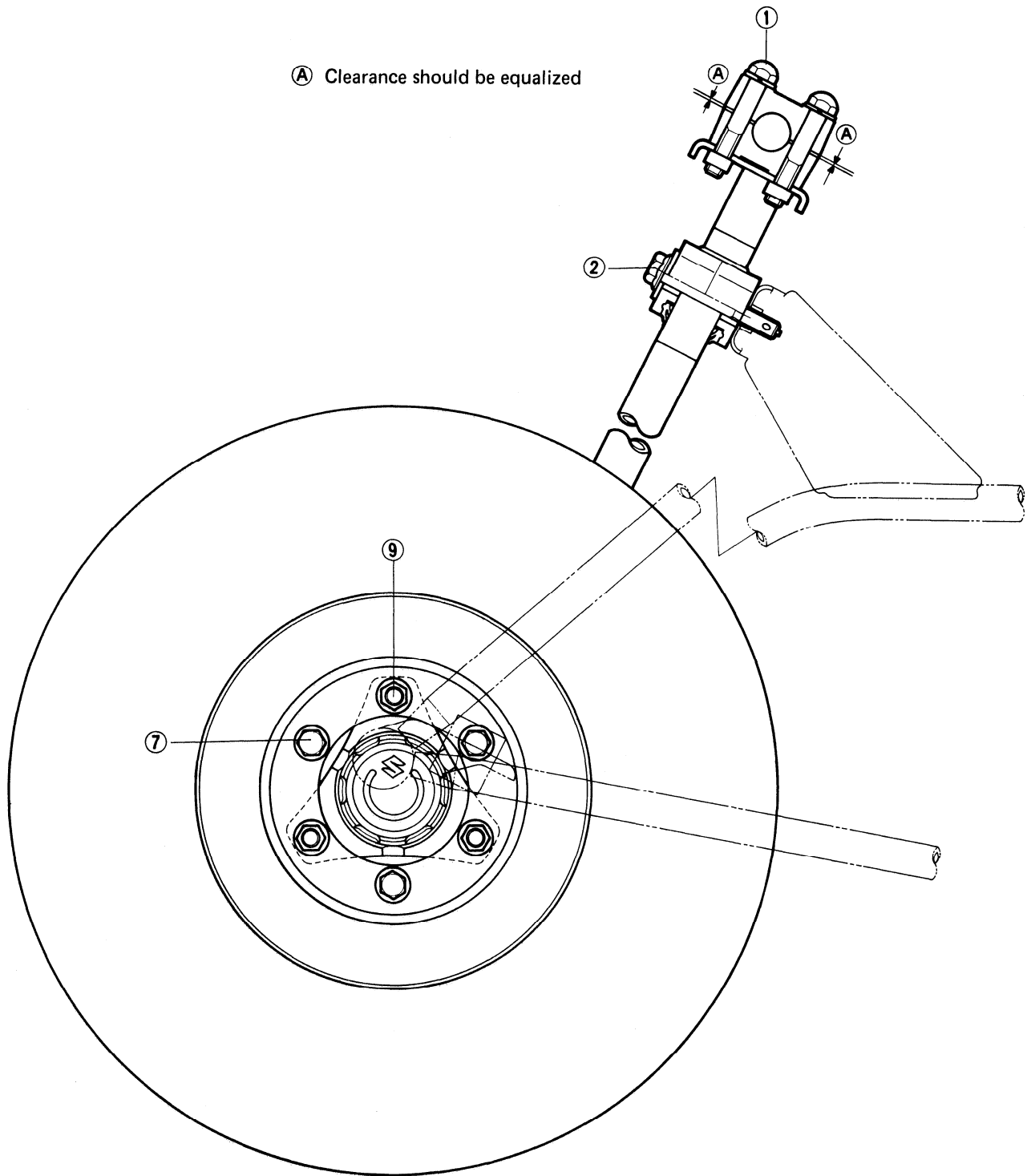
STEERING AND WHEEL ASSEMBLY



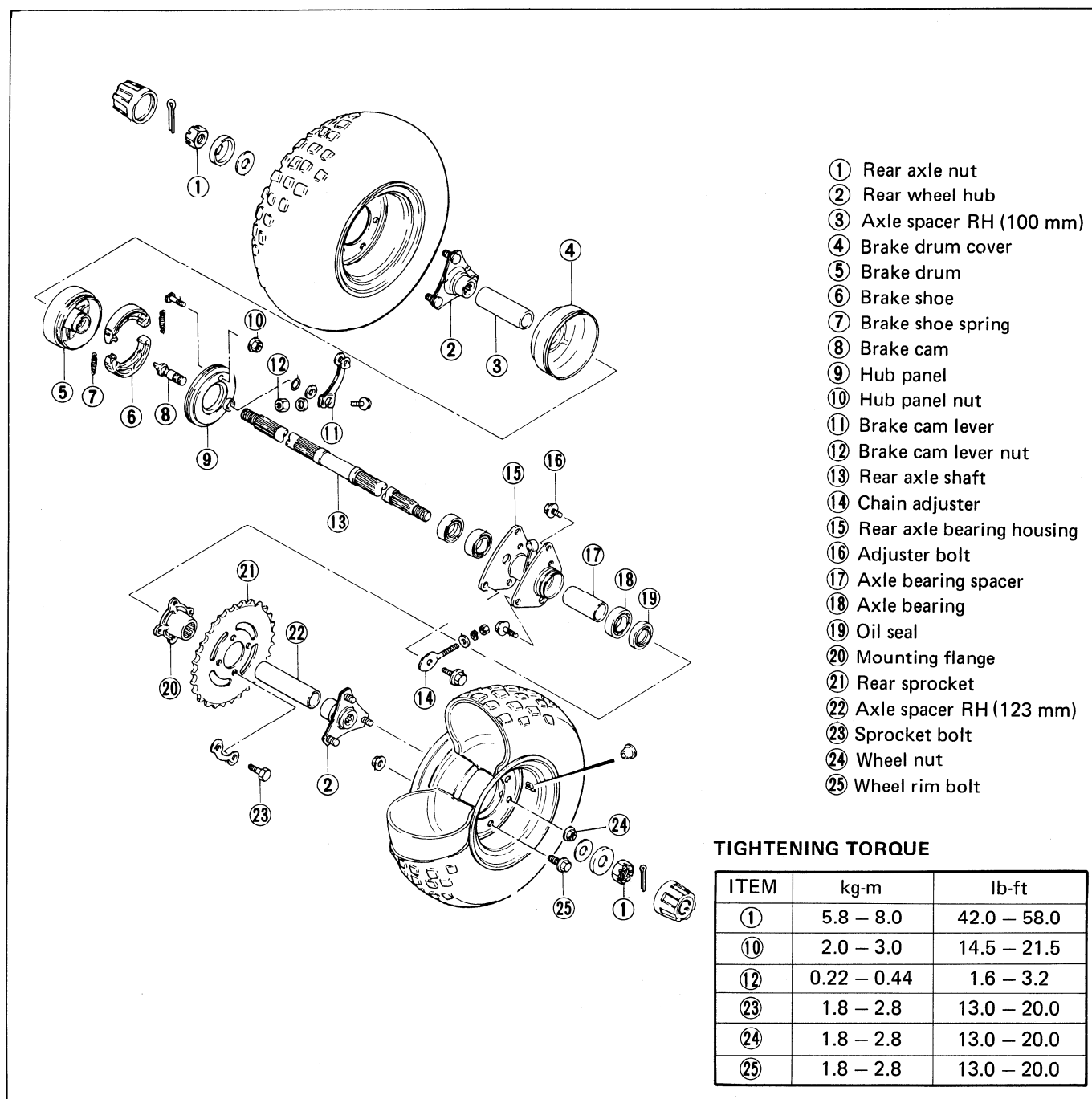
TIGHTENING TORQUE

ITEM	kg-m	lb-ft
① Handbar clamp bolt	1.0 – 1.6	7.0 – 11.5
② Steering shaft holder bolt	1.8 – 2.8	13.0 – 20.0
③ Tie-rod lock nut	2.2 – 3.5	16.0 – 25.5
④ Tie-rod nut	4.0 – 6.0	29.0 – 43.5
⑤ Steering shaft lower nut	2.2 – 3.5	16.0 – 25.5
⑥ Wheel nut	1.8 – 2.8	13.0 – 20.0
⑦ Wheel rim nut	1.8 – 2.8	13.0 – 20.0
⑧ Knuckle arm nut	4.0 – 6.0	29.0 – 43.5
⑨ Front hub nut	5.0 – 8.0	36.0 – 58.0

Ⓐ Clearance should be equalized

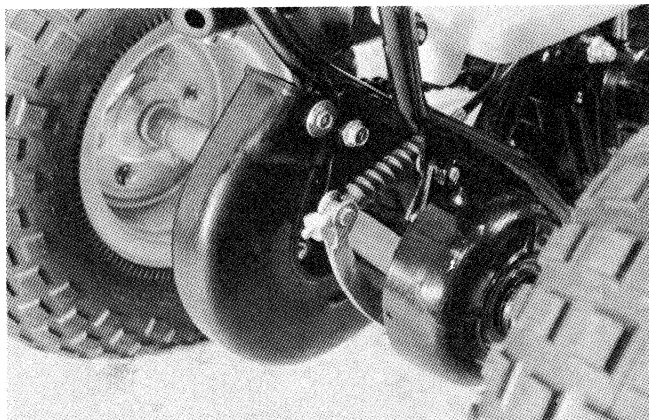


REAR WHEEL AND BRAKE

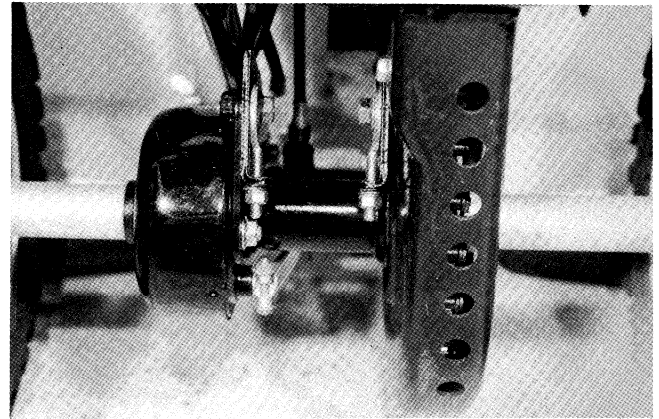


REMOVAL

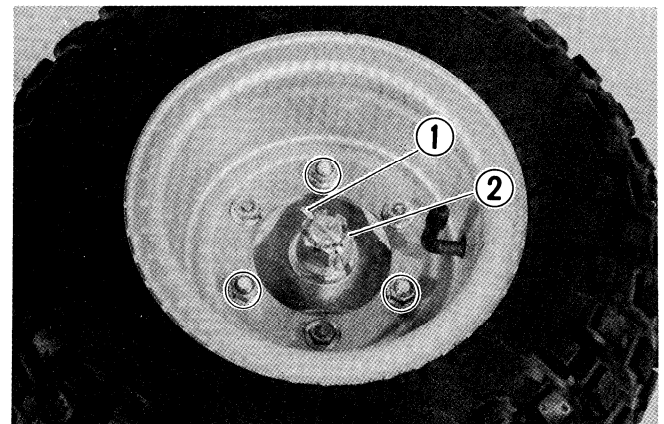
- Remove the seat.
- Disconnect the drive chain.
- Remove the brake cable.



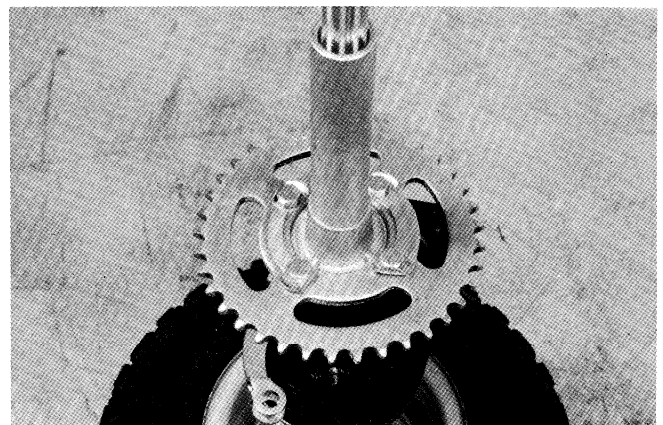
- Remove the chain case bolts.
- Remove the chain adjuster mounting bolts and axle bearing housing mounting bolts.
- Remove the rear wheel and rear axle at the same time.



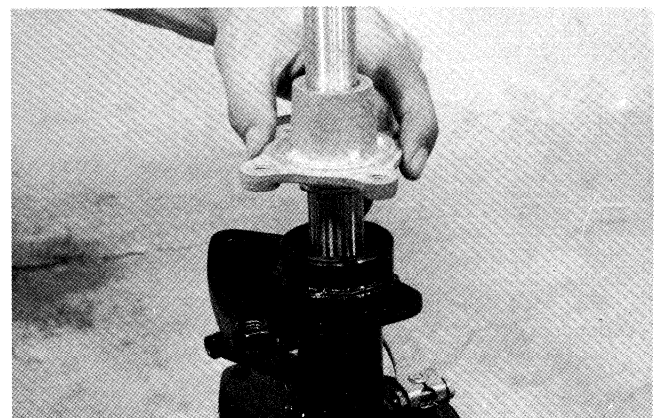
- Remove the left wheel by removing three wheel nuts.
- Remove cotter pin ① and axle nut ②.
- Take out the wheel hub from the axle.



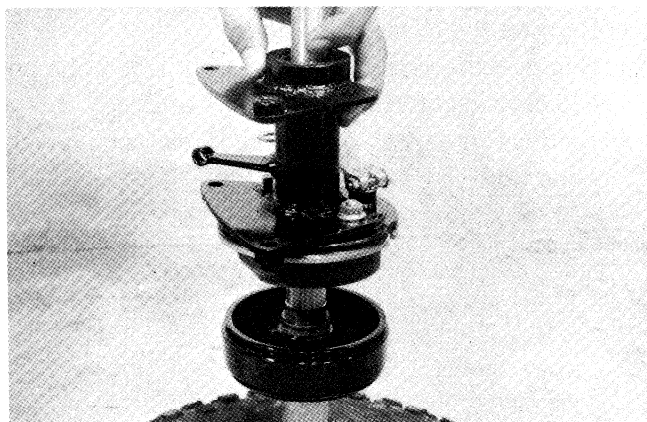
- Flatten the lock washer and remove the rear sprocket from the mounting flange.



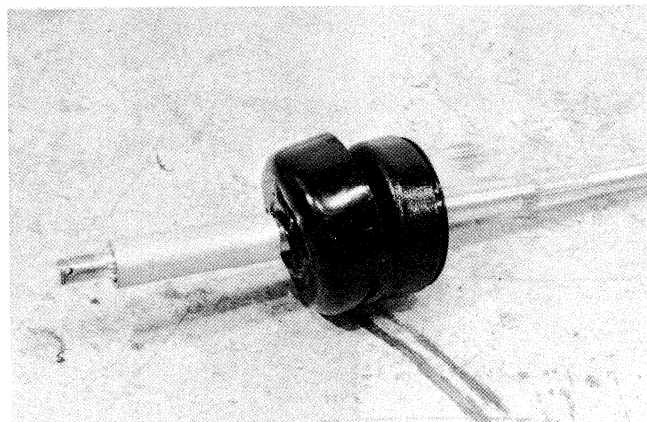
- Draw out the mounting flange from the axle.



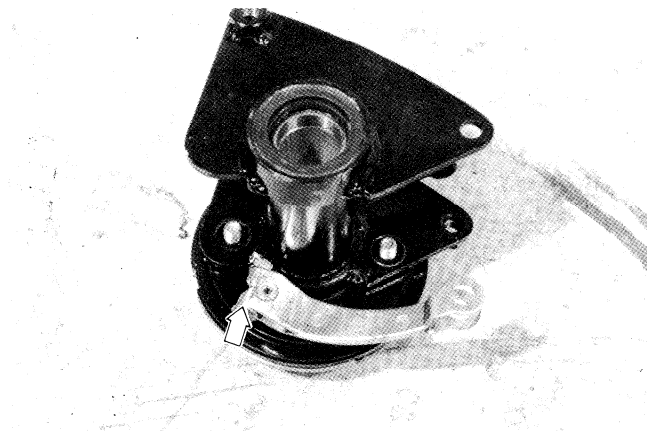
- Remove the rear axle bearing housing.



- Remove the right wheel and wheel hub by removing wheel nuts and axle nut.
- Remove the right axle spacer, the drum cover and brake drum.



- Remove the brake cam lever from the hub panel.



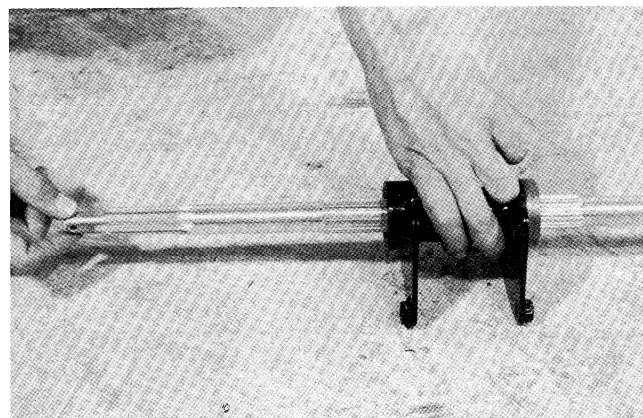
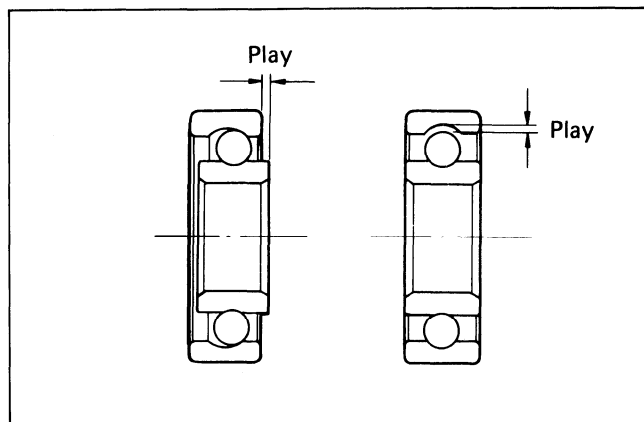
INSPECTION AND SERVICING WHEEL BEARINGS

Inspect the play of axle bearings by turning the axle shaft as shown in the figure.

Rotate the inner race by hand to inspect an abnormal noise and a smooth rotation. Replace the bearing if there is something unusual.

NOTE:

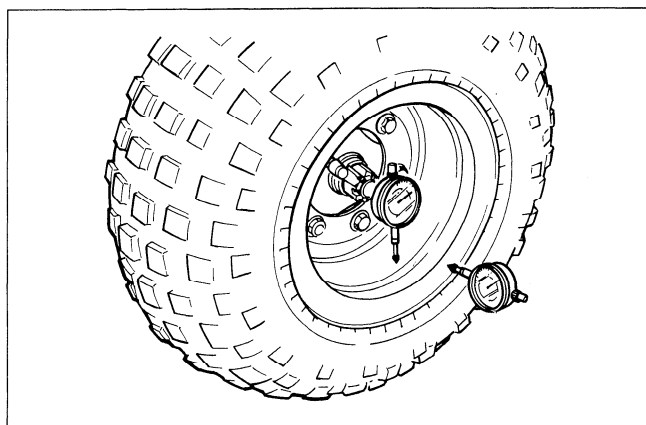
When removing the bearings, refer to page 6-3.



WHEEL

Make sure that the wheel runout checked as shown, does not exceed the service limit. An excessive runout is usually due to worn or loose axle bearings or bent axle shaft and can be reduced by replacing the bearings or axle shaft. If bearing or axle replacement fails to reduce the runout, replace the wheel.

Service Limit (Axial and Radial)	2.0 mm (0.08 in)
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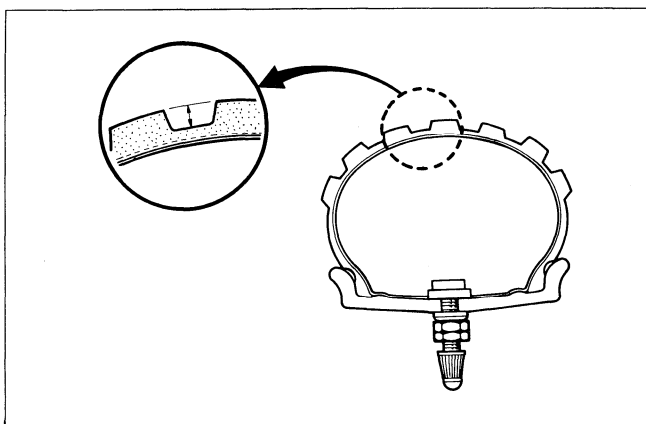


TIRE

For proper braking and riding stability, the tire should have sufficient groove depth from the tread surface. If the groove depth, measured as shown in the figure, reaches the wear limit, replace the tire.

Wear Limit	3 mm (0.12 in)
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09900-20805	Tire depth gauge (Not available in U.S.A.)
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BRAKE SHOE

Check the brake shoe and decide whether it should be replaced or not from the thickness of the brake shoe lining. Check the brake shoe and decide whether it should be replaced or not from the thickness of the brake shoe lining.

Service Limit	1.5 mm (0.06 in)
---------------	------------------

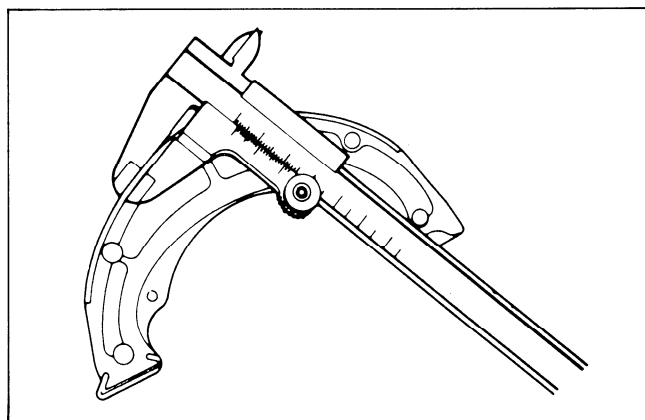
CAUTION:

Replace the brake shoe as a set, otherwise braking performance will be adversely affected.

BRAKE DRUM

Measure the brake drum I.D. to determine the extent of wear and, if the limit is exceeded by the wear noted, replace the drum. The value of this limit is indicated inside the drum.

Service Limit	90.7 mm (3.57 in)
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REASSEMBLY

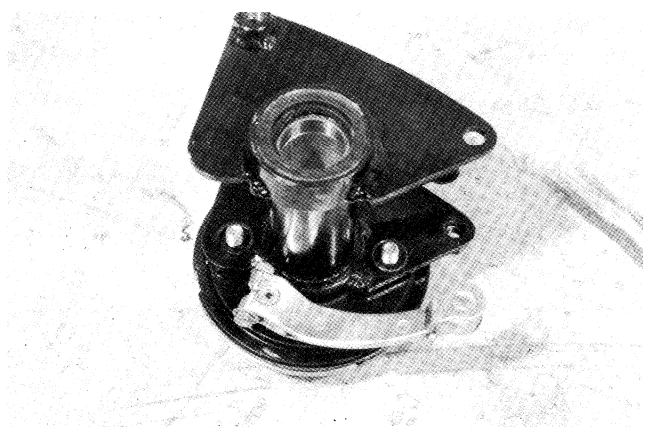
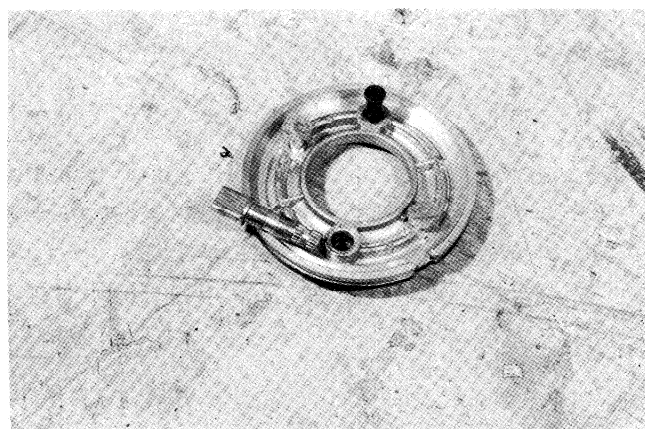
Reassemble the rear brake and rear wheel in the reverse orders of disassembly and removal and by taking the following steps.

- Apply grease to the brake cam shaft lightly.

After reassembly following adjustments are necessary

- * Brakes 2 – 7
- * Drive chain slack 2 – 8
- * Tire pressure 2 – 9

- Apply grease to the axle bearings and oil seal lips.



SERVICING INFORMATION

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TROUBLESHOOTING

Whenever trouble occurs, try to find and locate its source as soon as possible. When repairing or otherwise remedying, be sure not to bother with parts which are functioning correctly. The SYMPTOM-CAUSE REMEDY procedures listed below are intended to help the service man take proper measures on the vehicle brought into his shop with complaints:

1. ENGINE IS HARD TO START

Step	Symptom	Possible cause	Remedy
1.	Fuel is not reaching the carburetor.	(1) Damaged vacuum pipe. (2) Clogged or damaged fuel pipe. (3) Clogged fuel cock.	(1) Replace. (2) Clean or replace. (3) Clean.
2.	Blue or hot spark jumps in spark plug (when the plug is tested by turning the engine with recoil starter).	(1) Improper fuel-air mixture. (2) Carburetor float is not moving smoothly, or improperly set. (3) Defective starter system.	(1) Correct mixing ratio. (2) Adjust or, as necessary, replace. (3) Clean or replace.
3.	Spark is weak or red as observed in the test conducted in the above manner.	(1) Wet fouling/carbon deposite on spark plug. (2) Maladjusted spark plug gap. (3) Damaged spark plug cap. (4) Defective CDI & Ignition coil Unit. (5) Defective magneto coil.	(1) Replace. (2) Adjust. (3) Replace. (4) Replace. (5) Replace.
4.	No spark jumps in spark plug when tested as above.	(1) Wet fouling/carbon deposite on spark plug. (2) Dirty or wet spark plug. (3) Maladjusted plug gap. (4) Defective CDI & Ignition coil Unit and/or magneto coil. (5) Ground engine stop switch lead. (6) Fault in wiring harness.	(1) Replace. (2) Clean. (3) Adjust. (4) Replace. (5) Repair. (6) Repair or replace.
5.	"Compression pressure" is too low. (Crank the engine by recoil starter to take the reading.)	(1) Excessively worn cylinder or piston rings. (2) Stiff piston ring in place. (3) Ruptured or otherwise defective cylinder head gasket. (4) Broken, cracked or otherwise failed piston. (5) Spark plug too loose. (6) Cylinder head unevenly tightened, excessively tight or too loose. (7) Gas leaks from the joints in crankcase, crankshaft oil seal, cylinder or cylinder head. (8) Distorted or otherwise damaged cylinder or cylinder head.	(1) Repair or replace. (2) Repair or replace. (3) Replace. (4) Replace. (5) Tighten to specified torque. (6) Tighten securely as prescribed. (7) Repair or replace. (8) Replace.

CAUTION:

Symptoms noted on fuel flow to the carburetor, sparking and compression pressure will tell the cause of "hard engine starting".

2. ENGINE RUNS ROUGH OR DOES NOT GIVE ENOUGH POWER

Step	Symptom	Possible cause	Remedy
1.	Turning throttle lever open makes the engine pick up speed in the normal manner but the vehicle will not pick up speed.	(1) Slipping clutch. (2) Damaged or leaky crankshaft oil seal.	(1) Replace clutch shoe, drum and/or spring. (2) Replace.
2.	Turning throttle lever open will not make the engine pick up speed as fast as it should.	(1) Carburetor setting out of adjustment. (2) Dirty air cleaner. (3) Clogged fuel line. (4) Pluggage in exhaust pipe or muffler. (5) Defective carburetor starter system.	(1) Adjust. (2) Clean. (3) Clean. (4) Clean. (5) Clean or replace.
3.	When rapidly accelerated, engine runs rough.	(1) Carburetor setting out of adjustment. (2) Dirty spark plug.	(1) Adjust. (2) Clean and adjust gap.
4.	Engine runs rough in low speed range.	(1) Damaged crankshaft oil seal. (2) Carburetor setting out of adjustment. (3) Dirty spark plug, or maladjusted plug gap. (4) Clogged or damaged fuel line.	(1) Replace. (2) Adjust. (3) Clean, or adjust. (4) Clean, or replace.
5.	Engine runs rough in high speed range.	(1) Clogged or damaged fuel line. (2) Dirty spark plug, or maladjusted plug gap. (3) Damaged crankshaft oil seal. (4) Carburetor setting out of adjustment. (5) Dirty air cleaner.	(1) Clean, or replace. (2) Clean, or adjust. (3) Replace. (4) Adjust. (5) Clean, or replace.
6.	"Compression pressure" is too low.	Refer to Step 5 of Engine is hard to start.	
7.	Engine overheats.	(1) Defective oil pump. (2) Air trapped in the oil line. (3) Combustion chamber dirty with carbon. (4) Exhaust pipe or muffler too dirty with carbon. (5) Wrong spark plug heat range. (6) Low grade oil is used. (7) Slipping clutch. (8) Dragging brake.	(1) Replace. (2) Drive air out by purging. (3) Clean. (4) Clean. (5) Replace with colder plug. (6) Replace with proper grade oil. (7) Replace clutch shoe, drum and/or spring. (8) Adjust.

3. ENGINE MAKES ABNORMAL NOISE

Step	Symptom	Possible cause	Remedy
1.	Noise pitch is raised generally in step with increasing engine speed.	(1) Too big clearance between piston and cylinder. (2) Piston rings too loose in place. (3) Piston ring stiff with carbon. (4) Excessive wear in conrod big end. (5) Excessive wear in conrod small end. (6) Failed piston rings. (7) Excessively worn: crankshaft bearings. (8) Defective transmission gears. (9) Defective transmission shaft bearings.	(1) Rebore or replace. (2) Replace the piston. (3) Clean. (4) Replace. (5) Replace. (6) Replace. (7) Replace. (8) Replace. (9) Replace.

4. ENGINE OVERHEATS

If the overheating complained occurs during high speed run in the engine that has been "broken in", the most likely cause is a dragging brake, dirty cylinder cooling fins or a poor working condition of the cooling and oiling system. Before proceeding as listed below, make sure that the brake is not dragging and also that the cooling fins are clean.

Step	Symptom	Possible cause	Remedy
1.	Engine overheats in all speed ranges.	(1) Poor lubrication due to: 1) Defective oil pump or drive gears. 2) Air trapped in the oil line. 3) Clogged oil tank cap breather hole. 4) Wrong oil used.	(1) Replace. (2) Drive air out by purging. (3) Clear. (4) Use prescribed oil.
		(2) Too high "compression pressure" due to: 1) Excessive carbon deposits in combustion chamber. 2) Cylinder head gasket too thin. 3) Exhaust port, muffler or pipe is clogged with carbon.	(1) De-carbon. (2) Replace. (3) De-carbon.
		(3) Piston rings are stuck stiff in place because of carbon deposits. (4) Dragging/slipping clutch. (5) Clogged air cleaner. (6) Wrong spark plug heat range. (7) Too lean fuel mixture.	(3) Clean. (4) Replace clutch shoe, drum and/or spring. (5) Clean. (6) Replace with colder plug. (7) Adjust carburetor.

5. ENGINE HAS SUDDENLY STOPPED RUNNING

If the vehicle is brought in with a complaint that the engine has stopped running, the first things to be checked are the fuel in the fuel tank and the condition of the wiring harness. Make sure that enough fuel is in the tank and that the electrical circuits are in good condition. Then, proceed as follows:

Step	Symptom	Possible cause	Remedy
1.	Engine stopped too suddenly.	(1) Seized piston and piston ring. (2) Seized crankshaft. (3) Spark plug bridged. (4) Fault in ignition system.	(1) Repair or replace. (2) Repair or replace. (3) Clean. (4) Inspect and repair, or replace faulty parts.
2.	Engine stopped gradually.	(1) Loose spark plug. (2) Loose cylinder head. (3) Ruptured otherwise defective cylinder head gasket. (4) Clogged fuel line.	(1) Tighten securely. (2) Tighten securely. (3) Replace. (4) Clean.

6. POOR BRAKING

Step	Symptom	Possible cause	Remedy
1.	Not enough braking power.	(1) Excessively worn shoes. (2) Friction surfaces of shoes are dirty with oil. (3) Excessively worn drum.	(1) Replace. (2) Replace. (3) Replace.
2.	Brake squeaks when applied.	(1) Friction surface of shoes are carbonised. (2) Damaged wheel axle/hub bearings. (3) Excessively worn shoes.	(1) Remove carbon with emery paper. (2) Replace. (3) Replace.
3.	Excessive brake lever stroke.	(1) Worn brake lever cam. (2) Excessively worn shoes and/or drum.	(1) Replace brake lever cam. (2) Replace.
4.	Brake drags.	(1) Rusty moving parts. (2) Moving parts dirty with oil or poorly lubricated.	(1) Clean. (2) Clean, or lubricate.

7. CLUTCH SLIPS OR DRAGS

Step	Symptom	Possible cause	Remedy
1.	Clutch slips.	(1) Clutch springs weakened. (2) Excessively worn clutch shoe or drum.	(1) Replace. (2) Replace.
2.	Clutch drags.	(1) Too heavy oil. (2) Erratic clutch shoe movement.	(1) Replace. (2) Repair or replace.
3.	Engine runs but motorcycle will not start or run.	(1) Damaged clutch. (2) Seized or damaged gears. (3) Damaged drive shaft and/or countershaft.	(1) Replace clutch shoe, drum and/or spring. (2) Replace. (3) Replace.

8. UNSTABLE OR POOR STEERING

Step	Symptom	Possible cause	Remedy
1.	Handling feels too heavy or stiff.	(1) Disturbed front wheel alignment. (2) Poorly lubricated. (3) Not enough pressure in tires. (4) Tie-rod ends tending to seize. (5) Linkage connections tending to seize.	(1) Adjust. (2) Lubricate. (3) Adjust. (4) Replace. (5) Repair or replace.
2.	Wobbly steering.	(1) Wheel tires inflated unequally. (2) Wobbly wheels. (3) Loose nut on wheel hub. (4) Damaged or worn wheel hub bearing. (5) Worn or loose tie-rod ends. (6) Defective or incorrect tires.	(1) Adjust tire pressure. (2) Replace. (3) Retighten. (4) Replace. (5) Replace or retighten. (6) Replace.
3.	Steering pulling to one side.	(1) Wheel tires unequally inflated. (2) Disturbed front wheel alignment. (3) Worn or broken wheel hub bearings. (4) Distorted frame.	(1) Adjust tire pressure. (2) Adjust. (3) Replace. (4) Replace.
4.	Shocks coming to steering.	(1) Tire inflating pressure too high. (2) Worn steering linkage connections.	(1) Adjust. (2) Replace.
5.	Rapid wear or uneven wear of tires.	(1) Worn or loosen wheel hub bearings. (2) Disturbed front wheel alignment.	(1) Replace. (2) Adjust.
6.	Steering noise.	(1) Loose bolts and nuts. (2) Broken or otherwise damaged wheel hub bearings. (3) Poorly lubricated.	(1) Retighten. (2) Replace. (3) Lubricate.
7.	Wobbly rear wheel.	(1) Worn or loose rear axle housing bearings. (2) Defective or incorrect tires. (3) Distorted wheel rim. (4) Loose nuts on wheel hub. (5) Loose nut on axle shaft.	(1) Replace. (2) Replace. (3) Replace. (4) Retighten. (5) Retighten.
8.	Poor braking.	(1) Lining or drum worn down. (2) Too much play on brake lever and pedal.	(1) Replace. (2) Adjust.

TIGHTENING TORQUE

Tighten all bolts and nuts described below to the proper torque using an accurate torque wrench. In insufficiently tightened, a bolt or nut may become damaged or fall off, possibly resulting in damage to the vehicle. A bolt or nut which is over-tightening may become damaged, strip and internal thread, or break, and then fall out. The following tables list the tightening torque for the major bolts and nuts of engine and chassis.

When checking the tightening torque of the bolts and nuts, first loosen the bolt or nut by half a turn and then tighten to specified torque.

ENGINE

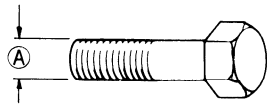
ITEM	kg-m	lb-ft
Exhaust pipe clamp nut	0.8 – 1.2	6.0 – 8.5
Engine mounting bolt	2.8 – 3.4	20.0 – 24.5
Engine mounting bracket bolt	1.8 – 2.8	13.0 – 20.0
Cylinder head nut	0.7 – 1.1	5.0 – 8.0
Magneto rotor nut	4.0 – 6.0	29.0 – 43.5
Clutch shoe nut	3.5 – 5.5	25.5 – 40.0

CHASSIS

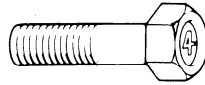
ITEM	kg-m	lb-ft
Handlebar clamp bolt	1.0 – 1.6	7.0 – 11.5
Wheel nut (Front and Rear)	1.8 – 2.8	13.0 – 20.0
Wheel rim nut (Front and Rear)	1.8 – 2.8	13.0 – 20.0
Front hub nut	5.0 – 8.0	36.0 – 58.0
Rear brake cam lever nut	0.22 – 0.44	1.6 – 3.2
Chain adjuster nut	0.4 – 0.7	3.0 – 5.0
Hub panel nut	2.0 – 3.0	14.5 – 21.5
Rear sprocket bolt	1.8 – 2.8	13.0 – 20.0
Muffler mounting bolt	1.8 – 2.8	13.0 – 20.0
Footrest bolt	2.0 – 3.0	14.5 – 21.5
Rear hub nut	5.8 – 8.0	42.0 – 58.0
Oil pump union bolt	0.4 – 0.7	3.0 – 5.0
Steering shaft lower nut	2.2 – 3.5	16.0 – 25.5
Steering shaft holder bolt	1.8 – 2.8	13.0 – 20.0
Tie-rod nut	4.0 – 6.0	29.0 – 43.5
Tie-rod lock nut	2.2 – 3.5	16.0 – 25.5
Knuckle arm nut	4.0 – 6.0	29.0 – 43.5

TORQUE SPECIFICATIONS

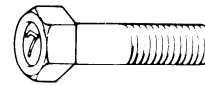
The table below, relating tightening torque to thread diameter, lists the basic torque for the generally bolts and nuts used on Suzuki vehicle. However, the actual torque that is necessary may vary among bolts and nuts with the same thread diameter. Refer to this table for only the bolts and nuts included in the tables "Engine" and "Chassis". All of the values are for use with dry, solvent-cleaned threads.



Conventional bolt



"4" marked bolt

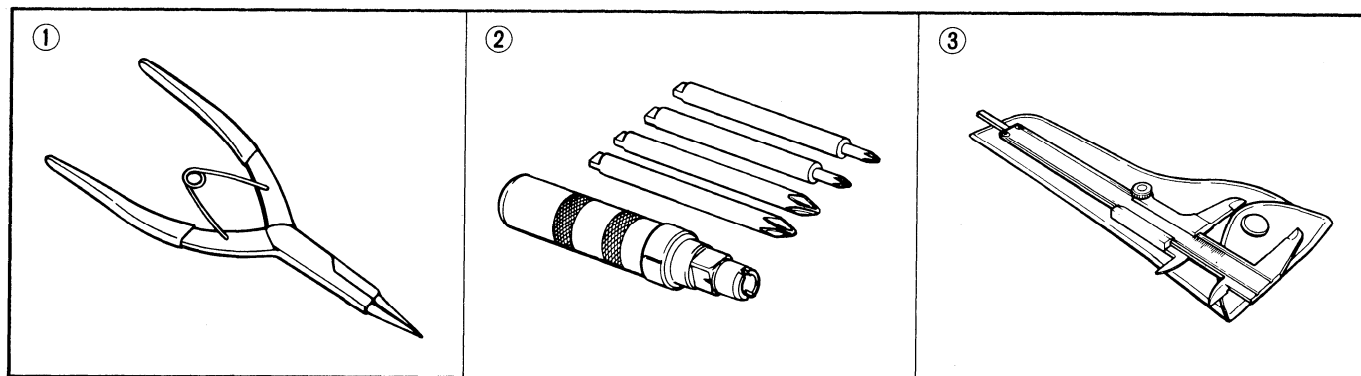


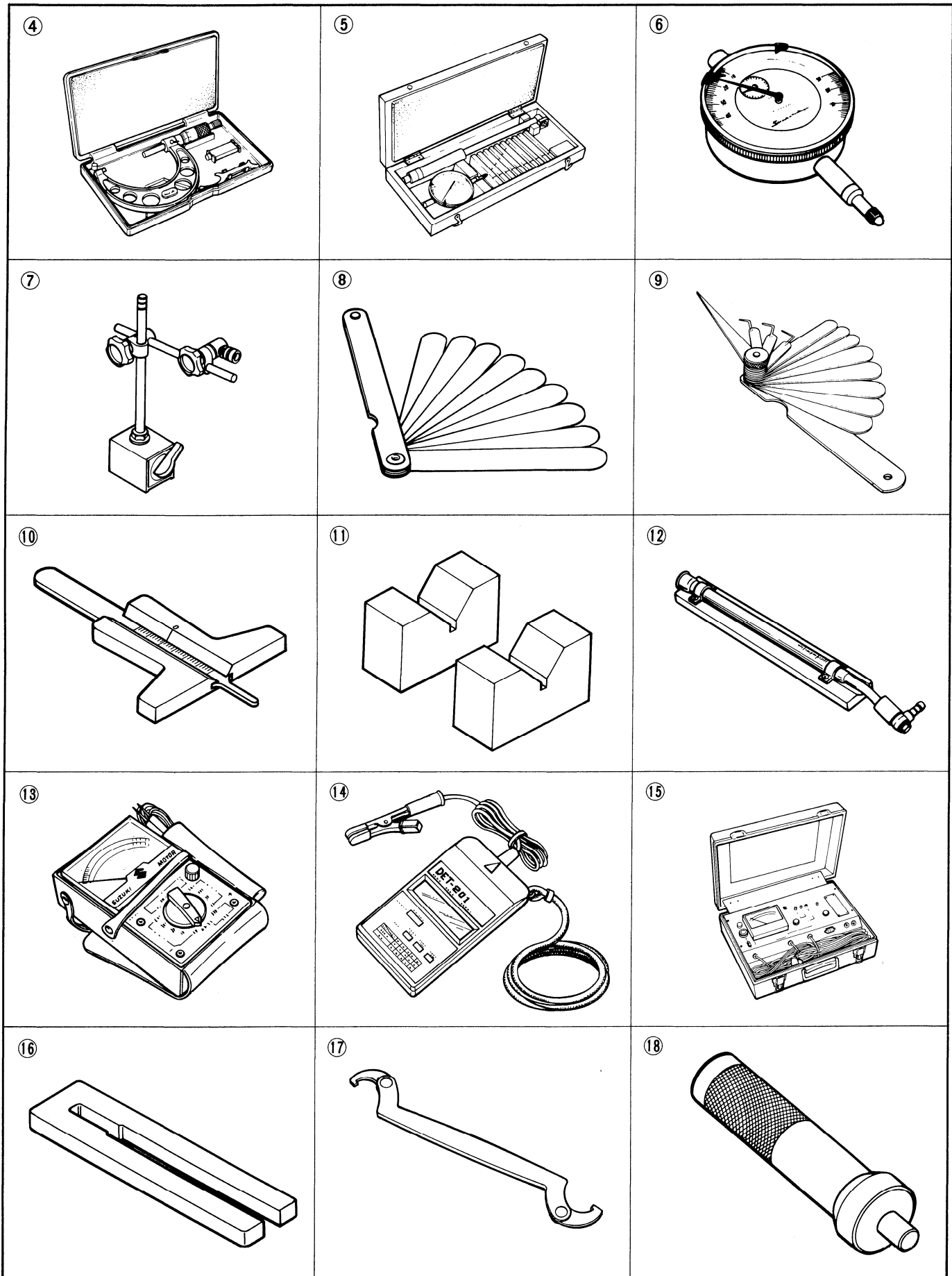
"7" marked bolt

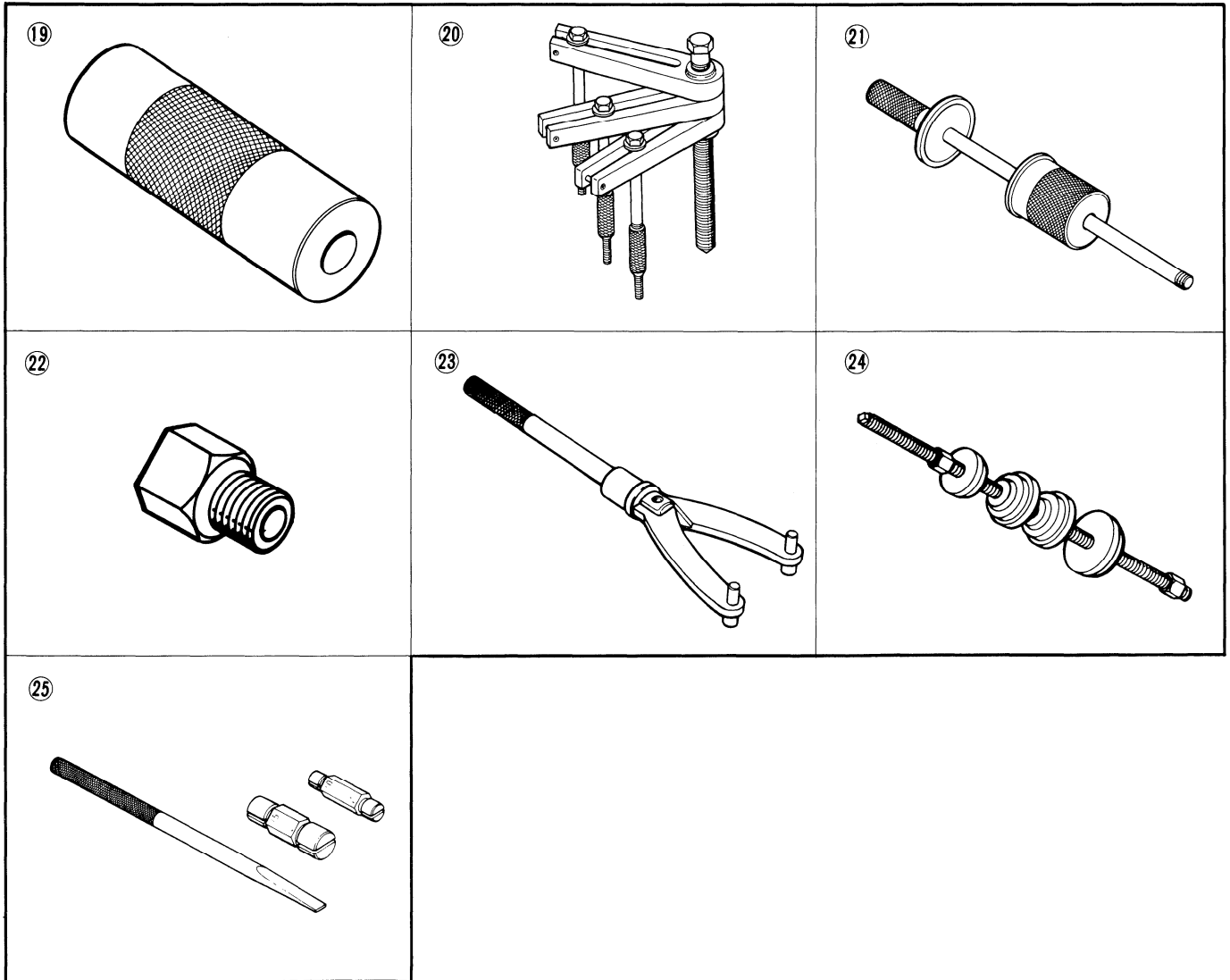
Bolt Diameter Ⓐ (mm)	Conventional of "4" marked bolt		"7" marked bolt	
	kg-m	lb-ft	kg-m	lb-ft
4	0.1 – 0.2	0.7 – 1.5	0.15 – 0.3	1.0 – 2.0
5	0.2 – 0.4	1.5 – 3.0	0.3 – 0.6	2.0 – 4.5
6	0.4 – 0.7	3.0 – 5.0	0.8 – 1.2	6.0 – 8.5
8	1.0 – 1.6	7.0 – 11.5	1.8 – 2.8	13.0 – 20.0
10	2.2 – 3.5	16.0 – 25.5	4.0 – 6.0	29.0 – 43.5
12	3.5 – 5.5	25.5 – 40.0	7.0 – 10.0	50.5 – 72.5
14	5.0 – 8.0	36.0 – 58.0	11.0 – 16.0	79.5 – 115.5
16	8.0 – 13.0	58.0 – 94.0	17.0 – 25.0	123.0 – 181.0
18	13.0 – 19.0	94.0 – 137.5	20.0 – 28.0	144.5 – 202.5

SPECIAL TOOLS

ITEM	PART NUMBER	PART NAME
1	09900-06107	Snap ring pliers
2	09900-09003	Impact driver set
3	09900-20101	Vernier calipers (150 mm)
4	09900-20203	Micrometer (25 – 50 mm)
	09900-20205	Micrometer (0 – 25 mm)
5	09900-20508	Cylinder gauge set
6	09900-20606	Dial gauge (1/100 mm)
7	09900-20701	Magnetic stand (Not available in U.S.A.)
8	09900-20803	Thickness gauge
9	09900-20804	Thickness gauge (Not available in U.S.A.)
10	09900-20805	Tire depth gauge (Not available in U.S.A.)
11	09900-21304	V-block set (100 mm) (Not available in U.S.A.)
12	09900-21602	CCI oil gauge
13	09900-25002	Pocket tester
14	09900-26005	Tachometer (Not available in U.S.A.)
15	09900-28106	Electro tester
16	09910-20115	Conrod stopper
17	09910-60611	Universal clamp wrench
18	09913-75820	Bearing installer
19	09914-79610	Oil seal installer (Not available in U.S.A.)
20	09920-13120	Crankcase separating tool
21	09930-30102	Rotor remover shaft
22	09930-30170	Attachment “D” (24 mm)
23	09930-40113	Rotor holder
24	09941-34511	Steering inner race installer
25	09941-50110	Bearing remover







SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD			LIMIT
Piston to cylinder clearance	0.065—0.075 (0.0026—0.0030)			0.120 (0.0047)
Cylinder bore	41.000—41.015 (1.6142—1.6148) Measure at 20 (0.8) from the top surface			41.065 (1.6167)
Piston diam.	40.930—40.945 (1.6114—1.6120) Measure at 23 (0.9) from the skirt end			40.880 (1.6094)
Cylinder distortion	————			0.05 (0.002)
Cylinder head distortion	————			0.05 (0.002)
Piston ring free end gap	1st	R	Approx. 4.5 (0.18)	3.6 (0.14)
		T	Approx. 5.0 (0.20)	4.0 (0.16)
	2nd	R	Approx. 4.5 (0.18)	3.6 (0.14)
		T	Approx. 5.0 (0.20)	4.0 (0.16)
Piston ring end gap	0.10—0.25 (0.004—0.010)			0.75 (0.030)
Piston ring to groove clearance	1st	0.020—0.060 (0.0008—0.0024)		————
	2nd	0.020—0.060 (0.0008—0.0024)		————
Piston pin bore	11.998—12.006 (0.4724—0.4727)			12.030 (0.4736)
Piston pin O.D.	11.996—12.000 (0.4723—0.4724)			11.980 (0.4717)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	16.003–16.011 (0.6300–0.6304)	16.040 (0.6315)
Conrod deflection	—	3.0 (0.12)
Crank web to web width	32.0 ± 0.1 (1.260 ± 0.004)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	60.95 (53/20 x 23/1)
CCl pump discharge rate	0.8–1.1 ml for 5 minutes at 3 000 r/min.

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00—87.15 (3.425—3.431)	87.40 (3.441)
Clutch shoe O.D.	—	No groove at any part
Clutch engagement	2 600 \pm 200 r/min.	—
Clutch lock-up	3 500 \pm 200 r/min.	—
Clutch spring free length	—	Over 28.0 (1.10)

TRANSMISSION

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.650 (53/20)	—
Final reduction ratio	3.364 (37/11)	—
Gear ratios	2.416 (29/12)	—

DRIVE CHAIN

Unit: mm (in)

Drive chain	Type	D.I.D.: D.I.D. 420 TAKASAGO: RK 420M	—
	Links	64	—
	20-pitch length	—	259 (10.2)
Drive chain slack	15—25 (0.6—1.0)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM12SC
Bore size	12 mm (0.47 in)
I.D. No.	04430
Idle r/min.	1 550 \pm 50 r/min.
Float height	24.5—25.0 mm (0.96—0.98 in)
Main jet (M.J.)	# 57.5
Air jet (A.J.)	1.0 mm (0.04 in)
Jet needle (J.N.)	3E3-3rd
Needle jet (N.J.)	E-6
Cut-away (C.A.)	3.0
Pilot jet No. 1 (P.J.1)	# 15
Pilot jet No. 2 (P.J.2)	0.38 mm (0.015 in)
Pilot outlet (P.O.)	0.7 mm (0.03 in)
Air screw (A.S.)	1 1/2 turn out
Valve seat (V.S.)	1.0 mm (0.04 in)
Starter jet (G.S.)	# 50
Throttle cable play	0.5—1.0 mm (0.02—0.04 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	24° ± 2° B.T.D.C. at 3 000 r/min.		
Spark plug	Type	NGK: BP4H N.D.: W14FP	E-03
	Gap	0.6–0.8 (0.024–0.031)	
	Type	NGK: BPR4H N.D.: W14FPR	E-28
	Gap	0.6–0.8 (0.024–0.031)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	B/Y—Ground 120–160Ω		

BRAKE + WHEEL

Unit: mm (in)

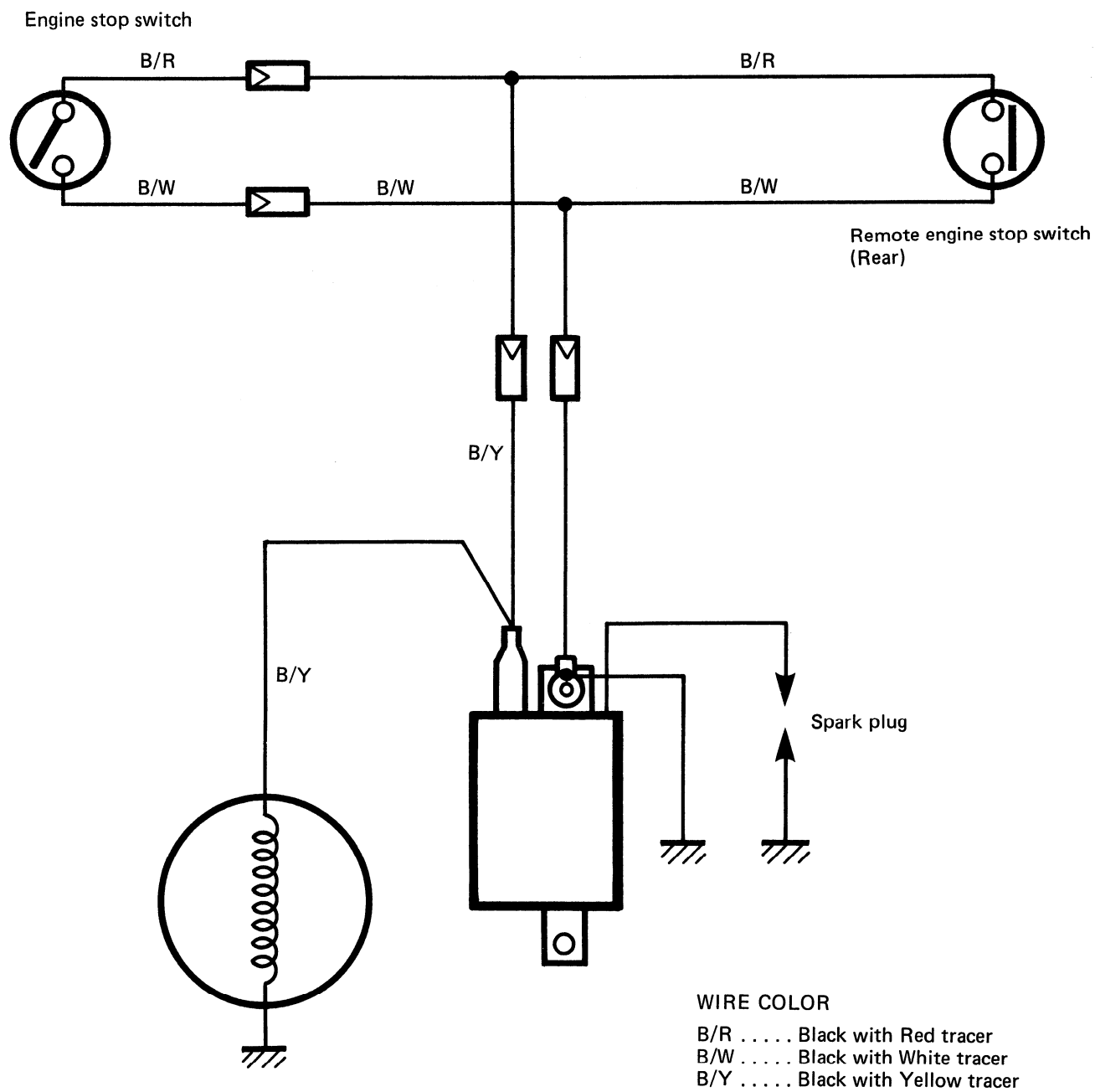
ITEM	STANDARD		LIMIT
Brake cable play	5 (0.2)		—
Brake drum I.D.	Rear	—	90.7 (3.57)
Brake lining thickness	—		1.5 (0.06)
Steering angle	Inside	35°	—
	Outside	21.5°	—
Turning radius	Approx. 2 m (6.5 ft)		—
Toe-in	4.0 ± 1.5 (0.16 ± 0.06)		—
Camber	1°		—
Trail	10 (0.4)		—
Kingpin inclination	10°		—
Caster	3° 30'		—
Wheel rim runout	Axial	—	3.0 (0.12)
	Radial	—	3.0 (0.12)
Tire size	Front & Rear	145/70-6	—
Tire tread depth	Front & Rear	—	3.0 (0.12)

TIRE PRESSURE

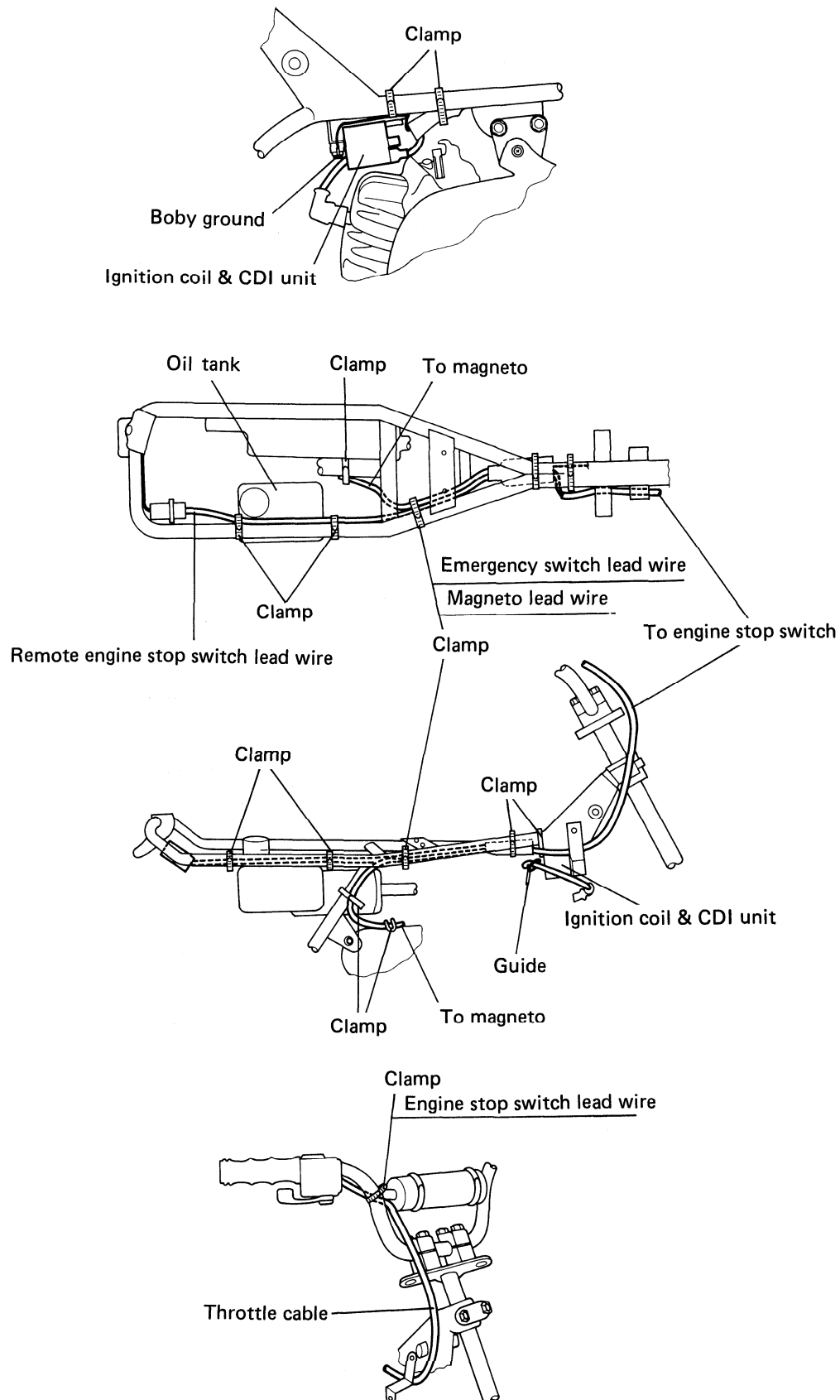
COLD INFLATION TIRE PRESSURE	kg/cm ²	psi	kPa
FRONT	0.25–0.35	3.5–5.0	25–35
REAR	0.25–0.35	3.5–5.0	25–35

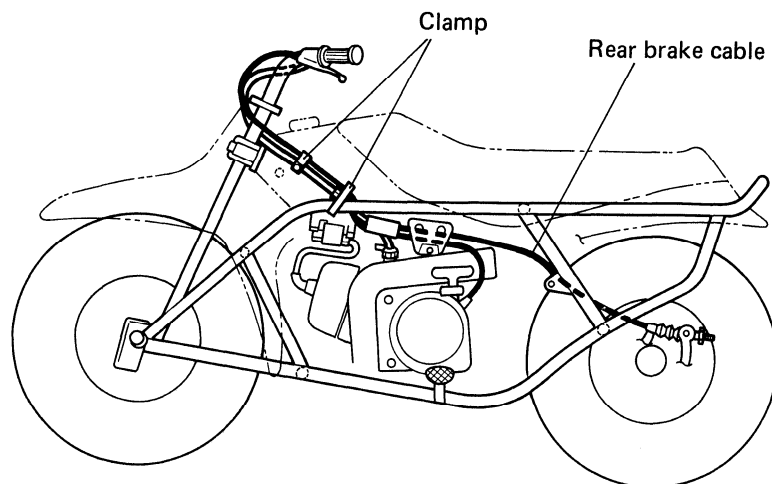
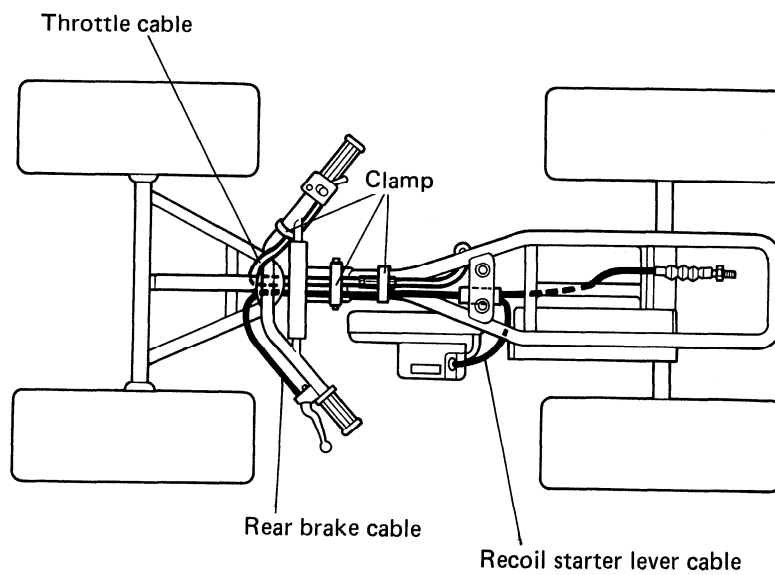
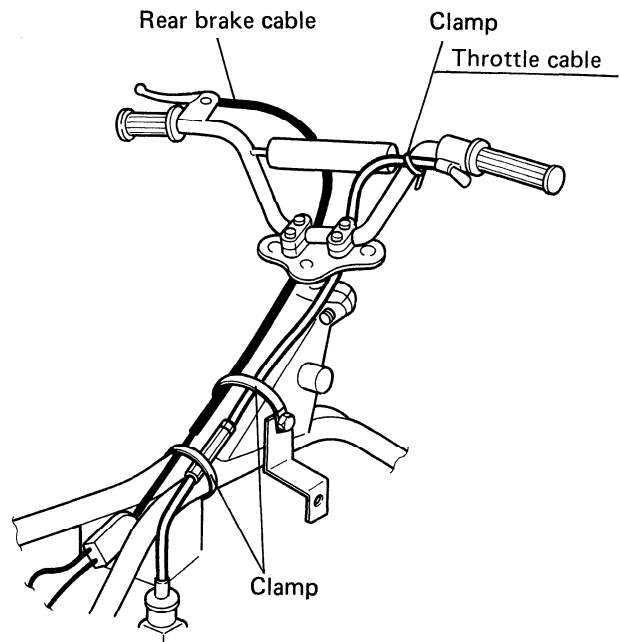
FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded or low-lead type gasoline at least 85-95 pump octane ($\frac{R+M}{2}$ method), 89 octane or higher rated by research method.		E-03
	Unleaded or low-lead type gasoline is recommended. The gasoline should be at least 80-95 octane by the research method. If your engine pings, a regular grade of fuel, may be substituted.		E-28
Fuel tank	1.5 L (0.4/0.3 US/Imp gal)		
Engine oil type	Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.		
Engine oil tank capacity	0.5 L (0.53/0.45 US/Imp qt)		
Transmission oil type	SAE 20W/40		
Transmission oil capacity	Change	500 ml (0.53/0.45 US/Imp qt)	
	Overhaul	550 ml (0.58/0.48 US/Imp qt)	

WIRING DIAGRAM

WIRE AND CABLE ROUTING





LT50F ('85-MODEL)

CONTENTS

<i>SERVICE DATA</i>	<i>8- 1</i>
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SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD			LIMIT
Piston to cylinder clearance	0.065—0.075 (0.0026—0.0030)			0.120 (0.0047)
Cylinder bore	41.000—41.015 (1.6142—1.6148) Measure at 20 (0.8) from the top surface			41.065 (1.6167)
Piston diam.	40.930—40.945 (1.6114—1.6120) Measure at 23 (0.9) from the skirt end			40.880 (1.6094)
Cylinder distortion	————			0.05 (0.002)
Cylinder head distortion	————			0.05 (0.002)
Piston ring free end gap	1st & 2nd	R	Approx. 4.5 (0.18)	3.6 (0.14)
		T	Approx. 5.0 (0.20)	4.0 (0.16)
Piston ring end gap	0.10—0.25 (0.004—0.010)			0.75 (0.030)
Piston ring to groove clearance	1st	0.020—0.060 (0.0008—0.0024)		————
	2nd	0.020—0.060 (0.0008—0.0024)		————
Piston pin bore	11.998—12.006 (0.4724—0.4727)			12.030 (0.4736)
Piston pin O.D.	11.996—12.000 (0.4723—0.4724)			11.980 (0.4717)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD			LIMIT
Conrod small end I.D.	16.003—16.011 (0.6300—0.6304)			16.040 (0.6315)
Conrod deflection	—			3.0 (0.12)
Crank web to web width	32.0 \pm 0.1 (1.260 \pm 0.004)			—
Crankshaft runout	—			0.05 (0.002)

OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	60.95 (53/20 x 23/1)
CCI pump discharge rate	0.8—1.1 ml for 5 minutes at 3 000 r/min.

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00—87.15 (3.425—3.431)	87.40 (3.441)
Clutch shoe O.D.	—	No groove at any part
Clutch engagement	2 600 ± 200 r/min.	—
Clutch lock-up	3 500 ± 200 r/min.	—
Clutch spring free length	—	Over 28.0 (1.10)

TRANSMISSION

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.650 (53/20)	—
Final reduction ratio	3.364 (37/11)	—
Gear ratios	2.416 (29/12)	—

DRIVE CHAIN

Unit: mm (in)

Drive chain	Type	D.I.D.: D.I.D. 420 TAKASAGO: RK 420M	—
	Links	64	—
	20-pitch length	—	259.1 (10.2)
Drive chain slack	15—25 (0.6—1.0)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM12SC
Bore size	12 mm (0.47 in)
I.D. No.	04430
Idle r/min.	1 550 ± 50 r/min.
Float height	24.5—25.0 mm (0.96—0.98 in)
Main jet (M.J.)	# 57.5
Air jet (A.J.)	1.0 mm
Jet needle (J.N.)	3E3-3rd
Needle jet (N.J.)	E-6
Cut-away (C.A.)	3.0
Pilot jet No. 1 (P.J.1)	# 15
Pilot jet No. 2 (P.J.2)	0.38 mm
Pilot outlet (P.O.)	0.7 mm
Air screw (A.S.)	1 1/2 turn out
Valve seat (V.S.)	1.0 mm
Starter jet (G.S.)	# 50
Throttle cable play	0.5—1.0 mm (0.02—0.04 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	24° ± 2° B.T.D.C. at 3 000 r/min.		
Spark plug	Type	NGK: BP4H N.D.: W14FP	E-03
	Gap	0.6–0.8 (0.024–0.031)	
	Type	NGK: BPR4H	E-28
	Gap	0.6–0.8 (0.024–0.031)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	B/Y – Ground 120–160 Ω		

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Brake cable play	5 (0.2)		—
Brake drum I.D.	Rear	—	90.7 (3.57)
Brake lining thickness	—		1.5 (0.06)
Steering angle	Inside	35°	—
	Outside	21.5°	—
Turning radius	Approx. 2 m (6.5 ft)		—
Toe-in	4.0 ± 1.5 (0.16 ± 0.06)		—
Camber	1°		—
Trail	10 (0.4)		—
Kingpin inclination	10°		—
Caster	3° 30'		—
Wheel rim runout	Axial	—	3.0 (0.12)
	Radial	—	3.0 (0.12)
Tire size	Front & Rear	145/70-6	—
Tire tread depth	Front & Rear	—	3.0 (0.12)

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	kg/cm ²	psi	kPa
FRONT	0.25–0.35	3.5–5.0	25–35
REAR	0.25–0.35	3.5–5.0	25–35

FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded or low-lead type gasoline at least 85-95 pump octane ($\frac{R+M}{2}$ method), 89 octane or higher rated by research method.		E-03
	Gasoline used should be graded 85-95 octane or higher. An unleaded or low-lead type gasoline is recommended.		E-28
Fuel tank	1.5 L (0.4/0.3 US/Imp gal)		
Engine oil type	Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.		
Engine oil tank capacity	0.5 L (0.53/0.45 US/Imp qt)		
Transmission oil type	SAE 20W/40		
Transmission oil capacity	Change	500 ml (0.53/0.45 US/Imp qt)	
	Overhaul	550 ml (0.58/0.48 US/Imp qt)	

LT50G ('86-MODEL)

CONTENTS

<i>SERVICE DATA</i>	<i>9-1</i>
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SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT
Piston to cylinder clearance	0.065–0.075 (0.0026–0.0030)		0.120 (0.0047)
Cylinder bore	41.000–41.015 (1.6142–1.6148) Measure at 20 (0.8) from the top surface		41.065 (1.6167)
Piston diam.	40.930–40.945 (1.6114–1.6120) Measure at 23 (0.9) from the skirt end		40.880 (1.6094)
Cylinder distortion	—		0.05 (0.002)
Cylinder head distortion	—		0.05 (0.002)
Piston ring free end gap	1st & 2nd	R Approx. 4.5 (0.18)	3.6 (0.14)
		T Approx. 5.0 (0.20)	4.0 (0.16)
Piston ring end gap	0.10–0.25 (0.004–0.010)		0.75 (0.030)
Piston ring to groove clearance	1st	0.020–0.060 (0.0008–0.0024)	—
	2nd	0.020–0.060 (0.0008–0.0024)	—
Piston pin bore	11.998–12.006 (0.4724–0.4727)		12.030 (0.4736)
Piston pin O.D.	11.996–12.000 (0.4723–0.4724)		11.980 (0.4717)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	16.003–16.011 (0.6300–0.6304)	16.040 (0.6315)
Conrod deflection	—	3.0 (0.12)
Crank web to web width	32.0 ± 0.1 (1.260 ± 0.004)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	60.95 (53/20 x 23/1)
CCI pump discharge rate	0.8–1.1 ml for 5 minutes at 3 000 r/min.

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00–87.15 (3.425–3.431)	87.40 (3.441)
Clutch shoe O.D.	—	No groove at any part
Clutch engagement	2 600 ± 200 r/min.	—
Clutch lock-up	3 500 ± 200 r/min.	—
Clutch spring free length	—	Over 28.0 (1.10)

TRANSMISSION

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.650 (53/20)	—
Final reduction ratio	3.364 (37/11)	—
Gear ratios	2.416 (29/12)	—

DRIVE CHAIN

Unit: mm (in)

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D.: D.I.D. 420 TAKASAGO: RK 420M	—
	Links	64	—
	20-pitch length	—	259.1 (10.2)
Drive chain slack	15–25 (0.6–1.0)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM12SC
Bore size	12 mm (0.47 in)
I.D. No.	04430
Idle r/min.	1 550 ± 50 r/min.
Float height	24.5–25.0 mm (0.96–0.98 in)
Main jet (M.J.)	# 57.5
Air jet (A.J.)	1.0 mm
Jet needle (J.N.)	3E3-3rd
Needle jet (N.J.)	E-6
Cut-away (C.A.)	3.0
Pilot jet No. 1 (P.J.1)	# 15
Pilot jet No. 2 (P.J.2)	0.38 mm
Pilot outlet (P.O.)	0.7 mm
Air screw (A.S.)	1 1/2 turn out
Valve seat (V.S.)	1.0 mm
Starter jet (G.S.)	# 50
Throttle cable play	0.5–1.0 mm (0.02–0.04 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	24° ± 2° B.T.D.C. at 3 000 r/min.		
Spark plug	Type	NGK: BP4H N.D.: W14FP	E-03
	Gap	0.6–0.8 (0.024–0.031)	
	Type	NGK: BPR4H	E-28
	Gap	0.6–0.8 (0.024–0.031)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	B/Y – Ground 120–160 Ω		

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Parking brake lever free travel	5 (0.2)		—
Brake drum I.D.	Rear	—	90.7 (3.57)
Brake lining thickness	—		1.5 (0.06)
Steering angle	Inside	35°	—
	Outside	21.5°	—
Turning radius	Approx. 2 m (6.5 ft)		—
Toe-in	4.0 ± 1.5 (0.16 ± 0.06)		—
Camber	1°		—
Trail	10 (0.4)		—
Kingpin inclination	10°		—
Caster	3° 30'		—
Wheel rim runout	Axial	—	3.0 (0.12)
	Radial	—	3.0 (0.12)
Tire size	Front & Rear	145/70-6	—
Tire tread depth	Front & Rear	—	3.0 (0.12)

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	kg/cm ²	psi	kPa
FRONT	0.25–0.35	3.5–5.0	25–35
REAR	0.25–0.35	3.5–5.0	25–35

FUEL + OIL

ITEM		SPECIFICATION	NOTE
Fuel type	E-03	Use only unleaded or low-lead type gasoline at least 85-95 pump octane ($\frac{R+M}{2}$ method), 89 octane or higher rated by research method.	
	E-28	Gasoline used should be graded 85-95 octane or higher. An unleaded or low-lead type gasoline is recommended.	
Fuel tank		1.5 L (0.4/0.3 US/Imp gal)	
Engine oil type		Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.	
Engine oil tank capacity		0.5 L (0.53/0.45 US/Imp qt)	
Transmission oil type		SAE 20W/40	
Transmission oil capacity	Change	500 ml (0.53/0.45 US/Imp qt)	
	Overhaul	550 ml (0.58/0.48 US/Imp qt)	

LT50H ('87-MODEL)

CONTENTS

<i>SERVICE DATA</i>	<i>10- 1</i>
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SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD			LIMIT
Piston to cylinder clearance	0.065—0.075 (0.0026—0.0030)			0.120 (0.0047)
Cylinder bore	41.000—41.015 (1.6142—1.6148) Measure at 20 (0.8) from the top surface			41.065 (1.6167)
Piston diam.	40.930—40.945 (1.6114—1.6120) Measure at 23 (0.9) from the skirt end.			40.880 (1.6094)
Cylinder distortion	————			0.05 (0.002)
Cylinder head distortion	————			0.05 (0.002)
Piston ring free end gap	1st & 2nd	R	Approx. 4.5 (0.18)	3.6 (0.14)
		T	Approx. 5.0 (0.20)	4.0 (0.16)
Piston ring end gap	0.10—0.25 (0.004—0.010)			0.75 (0.030)
Piston ring to groove clearance	1st	0.020—0.060 (0.0008—0.0024)		————
	2nd	0.020—0.060 (0.0008—0.0024)		————
Piston pin bore	11.998—12.006 (0.4724—0.4727)			12.030 (0.4736)
Piston pin O.D.	11.996—12.000 (0.4723—0.4724)			11.980 (0.4717)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	16.003–16.011 (0.6300–0.6304)	16.040 (0.6315)
Conrod deflection	—	3.0 (0.12)
Crank web to web width	32.0 ± 0.1 (1.260 ± 0.004)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	60.95 (53/20 × 23/1)
CCl pump discharge rate	0.81–1.1 ml for 5 minutes at 3 000 r/min.

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00–87.15 (3.425–3.431)	87.40 (3.441)
Clutch shoe O.D.	—	No groove at any part
Clutch engagement	2 600 \pm 200 r/min.	—
Clutch lock-up	3 500 \pm 200 r/min.	—
Clutch spring free length	—	Over 28.0 (1.10)

TRANSMISSION

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.650 (53/20)	—
Final reduction ratio	3.364 (37/11)	—
Gear ratios	2.416 (29/12)	—

DRIVE CHAIN

Unit: mm (in)

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D.: D.I.D. 420 TAKASAGO: RK 420M	—
	Links	64	—
	20-pitch length	—	259.1 (10.2)
Drive chain slack	15–25 (0.6–1.0)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM12SC
Bore size	12 mm (0.47 in)
I.D. No.	04430
Idle r/min.	1 550 \pm 50 r/min.
Float height	24.5–25.0 mm (0.96–0.98 in)
Main jet (M.J.)	#57.5
Air jet (A.J.)	1.0 mm
Jet needle (J.N.)	3E3-3rd
Needle jet (N.J.)	E-6
Cut-away (C.A.)	3.0
Pilot jet No. 1 (P.J.1)	#15
Pilot jet No. 2 (P.J.2)	0.38 mm
Pilot outlet (P.O.)	0.7 mm
Air screw (A.S.)	1 1/2 turn out
Valve seat (V.S.)	1.0 mm
Starter jet (G.S.)	#50
Throttle cable play	0.5–1.0 mm (0.02–0.04 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	24° ± 2° B.T.D.C. at 3 000 r/min.		
Spark plug	Type	NGK: BP4H N.D.: W14FP	E-03
	Gap	0.6–0.8 (0.024–0.031)	
	Type	NGK: BPR4H	E-28
	Gap	0.6–0.8 (0.024–0.031)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	B/Y—Ground 120–160 Ω		

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Parking brake lever free travel	5 (0.2)		—
Brake drum I.D.	Rear	—	90.7 (3.57)
Brake lining thickness	—		1.5 (0.06)
Steering angle	Inside	35°	—
	Outside	21.5°	—
Turning radius	Approx. 2 m (6.5 ft)		—
Toe-in	4.0 ± 1.5 (0.16 ± 0.06)		—
Camber	1°		—
Trail	10 (0.4)		—
Kingpin inclination	10°		—
Caster	3° 30'		—
Wheel rim runout	Axial	—	3.0 (0.12)
	Radial	—	3.0 (0.12)
Tire size	Front & Rear	145/70-6	—
Tire tread depth	Front & Rear	—	4.0 (0.16)

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	kg/cm ²	psi	kPa
FRONT	0.25	3.6	25
REAR	0.25	3.6	25

FUEL + OIL

ITEM		SPECIFICATION	NOTE
Fuel type	E-03	Use only unleaded or low-lead type gasoline of at least 85-95 pump octane ($\frac{R+M}{2}$ method), 89 octane or higher rated by the research method.	
	E-28	Gasoline used should be graded 85-95 octane or higher. An unleaded or low-lead type gasoline is recommended.	
Fuel tank capacity		1.5 L (0.4/0.3 US/Imp gal)	
Engine oil type		Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.	
Engine oil tank capacity		0.5 L (0.53/0.45 US/Imp qt)	
Transmission oil type		SAE 20W/40	
Transmission oil capacity	Change	500 ml (0.53/0.45 US/Imp qt)	
	Overhaul	550 ml (0.58/0.48 US/Imp qt)	

LT50J ('88-MODEL)

CONTENTS

<i>SERVICE DATA</i>	<i>11- 1</i>
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SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD			LIMIT
Piston to cylinder clearance	0.065—0.075 (0.0026—0.0030)			0.120 (0.0047)
Cylinder bore	41.000—41.015 (1.6142—1.6148) Measure at 20 (0.8) from the top surface			41.065 (1.6167)
Piston diam.	40.930—40.945 (1.6114—1.6120) Measure at 23 (0.9) from the skirt end.			40.880 (1.6094)
Cylinder distortion	—			0.05 (0.002)
Cylinder head distortion	—			0.05 (0.002)
Piston ring free end gap	1st & 2nd	R	Approx. 4.5 (0.18)	3.6 (0.14)
		T	Approx. 5.0 (0.20)	4.0 (0.16)
Piston ring end gap	0.10—0.25 (0.004—0.010)			0.75 (0.030)
Piston ring to groove clearance	1st	0.020—0.060 (0.0008—0.0024)		—
	2nd	0.020—0.060 (0.0008—0.0024)		—
Piston pin bore	11.998—12.006 (0.4724—0.4727)			12.030 (0.4736)
Piston pin O.D.	11.996—12.000 (0.4723—0.4724)			11.980 (0.4717)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	16.003–16.011 (0.6300–0.6304)	16.040 (0.6315)
Conrod deflection	—	3.0 (0.12)
Crank web to web width	32.0 ± 0.1 (1.260 ± 0.004)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	60.95 (53/20 × 23/1)
CCI pump discharge rate	0.81–1.1 ml for 5 minutes at 3 000 r/min.

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00–87.15 (3.425–3.431)	87.40 (3.441)
Clutch shoe O.D.	—	No groove at any part
Clutch engagement	2 600 \pm 200 r/min.	—
Clutch lock-up	3 500 \pm 200 r/min.	—
Clutch spring free length	—	Over 28.0 (1.10)

TRANSMISSION

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.650 (53/20)	—
Final reduction ratio	3.364 (37/11)	—
Gear ratios	2.416 (29/12)	—

DRIVE CHAIN

Unit: mm (in)

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D.: D.I.D. 420 TAKASAGO: RK 420M	—
	Links	64	—
	20-pitch length	—	259.1 (10.2)
Drive chain slack	15–25 (0.6–1.0)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM12SC
Bore size	12 mm (0.47 in)
I.D. No.	04430
Idle r/min.	1 550 \pm 50 r/min.
Float height	24.5–25.0 mm (0.96–0.98 in)
Main jet (M.J.)	#57.5
Air jet (A.J.)	1.0 mm
Jet needle (J.N.)	3E3-3rd
Needle jet (N.J.)	E-6
Cut-away (C.A.)	3.0
Pilot jet No. 1 (P.J.1)	#15
Pilot jet No. 2 (P.J.2)	0.38 mm
Pilot outlet (P.O.)	0.7 mm
Air screw (A.S.)	1 1/2 turn out
Valve seat (V.S.)	1.0 mm
Starter jet (G.S.)	#50
Throttle cable play	0.5–1.0 mm (0.02–0.04 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	24° ± 2° B.T.D.C. at 3 000 r/min.		
Spark plug	Type	NGK: BP4H N.D.: W14FP	E-03
	Gap	0.6–0.8 (0.024–0.031)	
	Type	NGK: BPR4H	E-28
	Gap	0.6–0.8 (0.024–0.031)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	B/Y–Ground 120–160 Ω		

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Parking brake lever free travel	5 (0.2)		—
Brake drum I.D.	Rear	—	90.7 (3.57)
Brake lining thickness	—		1.5 (0.06)
Steering angle	Inside	35°	—
	Outside	21.5°	—
Turning radius	Approx. 2 m (6.5 ft)		—
Toe-in	4.0 ± 1.5 (0.16 ± 0.06)		—
Camber	1°		—
Trail	10 (0.4)		—
Kingpin inclination	10°		—
Caster	3° 30'		—
Wheel rim runout	Axial	—	3.0 (0.12)
	Radial	—	3.0 (0.12)
Tire size	Front & Rear	145/70-6	—
Tire tread depth	Front & Rear	—	4.0 (0.16)

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	kg/cm ²	psi	kPa
FRONT	0.25	3.6	25
REAR	0.25	3.6	25

FUEL + OIL

ITEM		SPECIFICATION	NOTE
Fuel type	E-03	Use only unleaded or low-lead type gasoline of at least 85-95 pump octane ($\frac{R+M}{2}$ method), 89 octane or higher rated by the research method.	
	E-28	Gasoline used should be graded 85-95 octane or higher. An unleaded or low-lead type gasoline is recommended.	
Fuel tank capacity		1.5 L (0.4/0.3 US/Imp gal)	
Engine oil type		Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.	
Engine oil tank capacity		0.5 L (0.53/0.45 US/Imp qt)	
Transmission oil type		SAE 20W/40	
Transmission oil capacity	Change	500 ml (0.53/0.45 US/Imp qt)	
	Overhaul	550 ml (0.58/0.48 US/Imp qt)	

LT50K ('89-MODEL)

*This section describes specifications and service data which differ from those of the LT50J ('88-model) and up-to-date information of the '88-model.
Please refer to the sections 1 through 11 for details which are not given in this section.*

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SERVICE DATA	12-2
POWER REDUCTION PLATE.....	12-6

SPECIFICATIONS

DIMENSIONS AND DRY MASS

Overall length.....	1 125 mm (44.3 in)
Overall width	640 mm (25.2 in)
Overall height.....	710 mm (28.0 in)
Wheelbase.....	765 mm (30.1 in)
Ground clearance.....	75 mm (3.0 in)
Front track.....	475 mm (18.7 in)
Rear track.....	500 mm (19.7 in)
Dry mass.....	48 kg (105 lb)

ENGINE

Type.....	Two stroke, air cooled
Intake system.....	Piston valve
Number of cylinders	1
Bore	41.0 mm (1.614 in)
Stroke.....	37.8 mm (1.488 in)
Piston displacement	49 cm ³ (3.0 cu. in)
Corrected compression ratio	5.9 : 1
Carburetor	MIKUNI VM12SC
Air cleaner	Polyurethane foam element
Starter system.....	Recoil starter
Lubrication system.....	SUZUKI CCI

TRANSMISSION

Clutch.....	Wet shoe, automatic, centrifugal type
Primary reduction ratio.....	2.650 (53/20)
Gear ratio	2.416 (29/12)
Final reduction ratio.....	3.363 (37/11)
Drive chain	TAKASAGO RK420 or DAIDO D.I.D.420, 64 links

CHASSIS

Steering angle	Inside: 35°, Outside: 21.5°
Rear brake	Internal expanding
Front tire size	145/70-6
Rear tire size	145/70-6

ELECTRICAL

Ignition type.....	SUZUKI PEI
Ignition timing	24° B.T.D.C. at 3 000 r/min.
Spark plug	NGK BP4HS or NIPPON DENSO W14FP...E-03 NGK BPR4HS...E-28

CAPACITIES

Fuel tank	1.5 L (0.4/0.3 US/Imp gal)
Engine oil tank	500 ml (0.5/0.4 US/Imp qt)
Transmission oil.....	500 ml (0.5/0.4 US/Imp qt)

SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM		STANDARD		LIMIT
Piston to cylinder clearance		0.065—0.075 (0.0026—0.0030)		0.120 (0.0047)
Cylinder bore		41.000—41.015 (1.6142—1.6148) Measure at 20 (0.8) from the top surface		41.065 (1.6167)
Piston diam.		40.930—40.945 (1.6114—1.6120) Measure at 23 (0.9) from the skirt end.		40.880 (1.6094)
Cylinder distortion		————		0.05 (0.002)
Cylinder head distortion		————		0.05 (0.002)
Piston ring free end gap	1st & 2nd	R	Approx. 4.5 (0.18)	3.6 (0.14)
		T	Approx. 5.0 (0.20)	4.0 (0.16)
Piston ring end gap		0.10—0.25 (0.004—0.010)		0.75 (0.030)
Piston ring to groove clearance	1st	0.020—0.060 (0.0008—0.0024)		————
	2nd	0.020—0.060 (0.0008—0.0024)		————
Piston pin bore		11.998—12.006 (0.4724—0.4727)		12.030 (0.4736)
Piston pin O.D.		11.996—12.000 (0.4723—0.4724)		11.980 (0.4717)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	16.003–16.011 (0.6300–0.6304)	16.040 (0.6315)
Conrod deflection	—	3.0 (0.12)
Crank web to web width	32.0 ± 0.1 (1.260 ± 0.004)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	60.95 (53/20 × 23/1)
CCI pump discharge rate	0.81–1.1 ml for 5 minutes at 3 000 r/min.

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00–87.15 (3.425–3.431)	87.40 (3.441)
Clutch shoe O.D.	—	No groove at any part
Clutch engagement	2 600 \pm 200 r/min.	—
Clutch lock-up	3 500 \pm 200 r/min.	—
Clutch spring free length	—	Over 28.0 (1.10)

TRANSMISSION

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.650 (53/20)	—
Final reduction ratio	3.364 (37/11)	—
Gear ratios	2.416 (29/12)	—

DRIVE CHAIN

Unit: mm (in)

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D.: D.I.D. 420 TAKASAGO: RK 420M	—
	Links	64	—
	20-pitch length	—	259.1 (10.2)
Drive chain slack	15–25 (0.6–1.0)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM12SC
Bore size	12 mm (0.47 in)
I.D. No.	04430
Idle r/min.	1 550 \pm 50 r/min.
Float height	24.5–25.0 mm (0.96–0.98 in)
Main jet (M.J.)	#57.5
Air jet (A.J.)	1.0 mm
Jet needle (J.N.)	3E3-3rd
Needle jet (N.J.)	E-6
Cut-away (C.A.)	3.0
Pilot jet No. 1 (P.J.1)	#15
Pilot jet No. 2 (P.J.2)	0.38 mm
Pilot outlet (P.O.)	0.7 mm
Air screw (A.S.)	1 1/2 turn out
Valve seat (V.S.)	1.0 mm
Starter jet (G.S.)	#50
Throttle cable play	0.5–1.0 mm (0.02–0.04 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	24° ± 2° B.T.D.C. at 3 000 r/min.		
Spark plug	Type	NGK: BP4H N.D.: W14FP	E-03
	Gap	0.6–0.8 (0.024–0.031)	
	Type	NGK: BPR4H	E-28
	Gap	0.6–0.8 (0.024–0.031)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	B/Y—Ground 120–160 Ω		

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Parking brake lever free travel	5 (0.2)		—
Brake drum I.D.	Rear	—	90.7 (3.57)
Brake lining thickness	—		1.5 (0.06)
Steering angle	Inside	35°	—
	Outside	21.5°	—
Turning radius	Approx. 2 m (6.5 ft)		—
Toe-in	4.0 ± 1.5 (0.16 ± 0.06)		—
Camber	1°		—
Trail	10 (0.4)		—
Kingpin inclination	10°		—
Caster	3° 30'		—
Wheel rim runout	Axial	—	3.0 (0.12)
	Radial	—	3.0 (0.12)
Tire size	Front & Rear	145/70-6	—
Tire tread depth	Front & Rear	—	4.0 (0.16)

TIRE PRESSURE

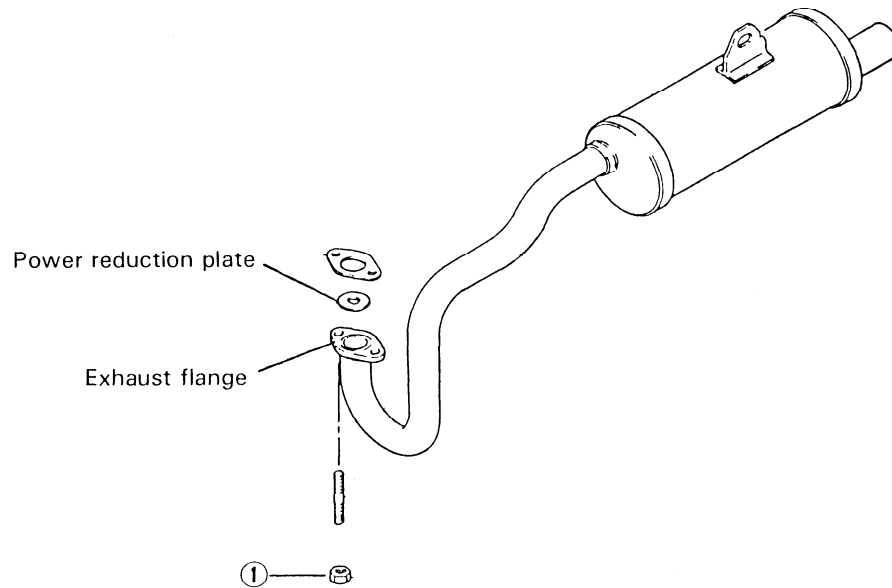
COLD INFLATION TIRE PRESSURE	kg/cm ²	psi	kPa
FRONT	0.25	3.6	25
REAR	0.25	3.6	25

FUEL + OIL

ITEM		SPECIFICATION	NOTE
Fuel type	E-03	Use only unleaded or low-lead type gasoline of at least 85-95 pump octane ($\frac{R+M}{2}$ method), 89 octane or higher rated by the research method.	
	E-28	Gasoline used should be graded 85-95 octane or higher. An unleaded or low-lead type gasoline is recommended.	
Fuel tank capacity		1.5 L (0.4/0.3 US/Imp gal)	
Engine oil type		Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.	
Engine oil tank capacity		0.5 L (0.53/0.45 US/Imp qt)	
Transmission oil type		SAE 20W/40	
Transmission oil capacity	Change	500 ml (0.53/0.45 US/Imp qt)	
	Overhaul	550 ml (0.58/0.48 US/Imp qt)	

POWER REDUCTION PLATE

The power reduction plate has been attached inside the exhaust flange as shown in the illustration.



TIGHTENING TORQUE

ITEM	N·m	kg-m
①	8—12	0.8—1.2

LT50L ('90-MODEL)

This section describes specifications and service data which differ from those of the LT50K ('89-model) and up-to-date information of the '89-model.

Please refer to the section 1 through 12 for details which are not given in this section.

CONTENTS

SPECIFICATIONS 13-1

SERVICE DATA 13-2

SPECIFICATIONS

DIMENSIONS AND DRY MASS

Overall length.....	1 125 mm (44.3 in)
Overall width	640 mm (25.2 in)
Overall height.....	710 mm (28.0 in)
Wheelbase.....	765 mm (30.1 in)
Ground clearance.....	75 mm (3.0 in)
Front track.....	475 mm (18.7 in)
Rear track.....	500 mm (19.7 in)
Dry mass	48 kg (105 lb)

ENGINE

Type.....	Two stroke, air cooled
Intake system.....	Piston valve
Number of cylinders	1
Bore	41.0 mm (1.614 in)
Stroke.....	37.8 mm (1.488 in)
Piston displacement	49 cm ³ (3.0 cu. in)
Corrected compression ratio	5.9 : 1
Carburetor	MIKUNI VM12SC
Air cleaner	Polyurethane foam element
Starter system.....	Recoil starter
Lubrication system.....	SUZUKI CCI

TRANSMISSION

Clutch.....	Wet shoe, automatic, centrifugal type
Primary reduction ratio.....	2.650 (53/20)
Gear ratio	2.416 (29/12)
Final reduction ratio.....	3.363 (37/11)
Drive chain	TAKASAGO RK420 or DAIDO D.I.D. 420M, 64 links

CHASSIS

Steering angle	Inside: 35°, Outside: 21.5°
Rear brake	Internal expanding
Front tire size	145/70-6
Rear tire size	145/70-6

ELECTRICAL

Ignition type.....	SUZUKI "PEI" (CDI)
Ignition timing	24° B.T.D.C. at 3 000 r/min.
Spark plug	NGK BPR4H

CAPACITIES

Fuel tank	1.5 L (0.4/0.3 US/Imp gal)
Engine oil tank.....	500 ml (0.5/0.4 US/Imp qt)
Transmission oil.....	500 ml (0.5/0.4 US/Imp qt)

SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD			LIMIT
Piston to cylinder clearance	0.065 – 0.075 (0.0026 – 0.0030)			0.120 (0.0047)
Cylinder bore	41.000 – 41.015 (1.6142 – 1.6148) Measure at 20 (0.8) from the top surface			41.065 (1.6167)
Piston diam.	40.930 – 40.945 (1.6114 – 1.6120) Measure at 23 (0.9) from the skirt end.			40.880 (1.6094)
Cylinder distortion	————			0.05 (0.002)
Cylinder head distortion	————			0.05 (0.002)
Piston ring free end gap	1st & 2nd	R	Approx. 4.5 (0.18)	3.6 (0.14)
		T	Approx. 5.0 (0.20)	4.0 (0.16)
Piston ring end gap	0.10 – 0.25 (0.004 – 0.010)			0.75 (0.030)
Piston ring to groove clearance	1st	0.020 – 0.060 (0.0008 – 0.0024)		————
	2nd	0.020 – 0.060 (0.0008 – 0.0024)		————
Piston pin bore	11.998 – 12.006 (0.4724 – 0.4727)			12.030 (0.4736)
Piston pin O.D.	11.996 – 12.000 (0.4723 – 0.4724)			11.980 (0.4717)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD			LIMIT
Conrod small end I.D.	16.003 – 16.011 (0.6300 – 0.6304)			16.040 (0.6315)
Conrod deflection	—			3.0 (0.12)
Crank web to web width	32.0 ± 0.1 (1.260 ± 0.004)			—
Crankshaft runout	—			0.05 (0.002)

OIL PUMP

ITEM	STANDARD		
Oil pump reduction ratio	60.95 (53/20 x 23/1)		
CCI pump discharge rate	0.81 – 1.1 ml for 5 minutes at 3 000 r/min.		

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00 – 87.15 (3.425 – 3.431)	87.40 (3.441)
Clutch shoe O.D.	—	No groove at any part
Clutch engagement	2 600 ± 200 r/min.	—
Clutch lock-up	3 500 ± 200 r/min.	—
Clutch spring free length	—	Over 28.0 (1.10)

TRANSMISSION

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.650 (53/20)	—
Final reduction ratio	3.364 (37/11)	—
Gear ratios	2.416 (29/12)	—

DRIVE CHAIN

Unit: mm (in)

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D.: 420 TAKASAGO: RK420M	—
	Links	64	—
	20-pitch length	—	259.1 (10.2)
Drive chain slack	15 – 25 (0.6 – 1.0)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM12SC
Bore size	12 mm (0.47 in)
I.D. No.	04430
Idle r/min.	1 550 ± 50 r/min.
Float height	24.5 – 25.0 mm (0.96 – 0.98 in)
Main jet (M.J.)	#57.5
Air jet (A.J.)	1.0 mm
Jet needle (J.N.)	3E3-3rd
Needle jet (N.J.)	E-6
Cut-away (C.A.)	3.0
Pilot jet No.1 (P.J.1)	#15
Pilot jet No.2 (P.J.2)	0.38 mm
Pilot outlet (P.O.)	0.7 mm
Air screw (A.S.)	1 ½ turns out
Valve seat (V.S.)	1.0 mm
Starter jet (G.S.)	#50
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	24° ± 2° B.T.D.C. at 3 000 r/min.		
Spark plug	Type	NGK: BPR4H	
	Gap	0.6–0.8 (0.024–0.031)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	B/Y – Ground 120–160 Ω		

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Parking brake lever free travel	5 (0.2)		—
Brake drum I.D.	Rear	—	90.7 (3.57)
Brake lining thickness	—		1.5 (0.06)
Steering angle	Inside	35°	—
	Outside	21.5°	—
Turning radius	Approx. 2 m (6.5 ft)		—
Toe-in	4.0 ± 1.5 (0.16 ± 0.06)		—
Camber	1°		—
Trail	10 (0.4)		—
Kingpin inclination	10°		—
Caster	3° 30'		—
Wheel rim runout	Axial	—	3.0 (0.12)
	Radial	—	3.0 (0.12)
Tire size	Front & Rear	145/70-6	—
Tire tread depth	Front & Rear	—	4.0 (0.16)

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	kg/cm ²	psi	kPa
FRONT	0.25	3.6	25
REAR	0.25	3.6	25

FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded or low-lead type gasoline of at least 85-95 pump octane ($\frac{R+M}{2}$ method) or 89 octane or higher rated by the Research Method.		E-28
	Gasoline used should be graded 85—95 octane or higher. An unleaded or low-lead type gasoline is recommended.		E-17
Fuel tank capacity	1.5 L (0.4/0.3 US/Imp gal)		
Engine oil type	Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.		
Engine oil tank capacity	0.5 L (0.53/0.45 US/Imp qt)		
Transmission oil type	SAE 20W/40		
Transmission oil capacity	Change	500 ml (0.53/0.45 US/Imp qt)	
	Overhaul	550 ml (0.58/0.48 US/Imp qt)	

LT50X/Y/K1/K2/K3/K4 ('99, '00, '01, '02, '03, '04-MODELS)

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SPECIFICATIONS

DIMENSIONS AND DRY MASS

Overall length	1 125 mm (44.3 in)
Overall width	640 mm (25.2 in)
Overall height	710 mm (28.0 in)
Wheelbase	765 mm (30.1 in)
Ground clearance	75 mm (3.0 in)
Front track	475 mm (18.7 in)
Rear track	500 mm (19.7 in)
Dry mass	56 kg (123 lbs) P-02
	48 kg (106 lbs) Others

ENGINE

Type	Two-stroke, air-cooled
Intake system	Piston valve
Number of cylinder	1
Bore × Stroke	41.0 × 37.8 mm (1.61 × 1.49 in)
Displacement	49 cm ³ (3.0 cu. in)
Corrected compression ratio	5.9 : 1
Carburetor	MIKUNI VM12SC, single
Air cleaner	Polyurethane foam element

TRANSMISSION

Transmission	2.416 (29/12)
Primary reduction	2.650 (53/20)
Final reduction	3.363 (37/11)
Drive chain	DAIDO D.I.D. 420 or RK420, 64 links

CHASSIS

Rear brake	Internal expanding
Front tire size	145/70-6
Rear tire size	145/70-6

ELECTRICAL

Ignition type	SUZUKI "PEI"
Spark plug	NGK BPR4H

CAPACITIES

Fuel tank	1.5 L (0.4/0.3 US/Imp gal)
Engine oil tank	0.5 L (0.53/0.44 US/Imp qt)
Transmission oil	500 ml (0.53/0.44 US/Imp qt)

SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD			LIMIT
Piston to cylinder clearance	0.065—0.075 (0.0026—0.0030)			0.120 (0.0047)
Cylinder bore	41.000—41.015 (1.6142—1.6148) Measure at 20 (0.8) from the top surface.			41.065 (1.6167)
Piston diam.	40.930—40.945 (1.6114—1.6120) Measure at 23 (0.9) from the skirt end.			40.880 (1.6094)
Cylinder distortion	—			0.05 (0.002)
Cylinder head distortion	—			0.05 (0.002)
Piston ring free end gap	1st & 2nd	R	Approx. 4.5 (0.18)	3.6 (0.14)
		T	Approx. 5.0 (0.20)	4.0 (0.16)
Piston ring end gap	0.10—0.25 (0.004—0.010)			0.75 (0.030)
Piston ring to groove clearance	1st	0.020—0.060 (0.0008—0.0024)		—
	2nd	0.020—0.060 (0.0008—0.0024)		—
Piston pin bore	11.998—12.006 (0.4724—0.4727)			12.030 (0.4736)
Piston pin O.D.	11.996—12.000 (0.4723—0.4724)			11.980 (0.4717)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	16.003—16.011 (0.6300—0.6304)	16.040 (0.6315)
Conrod deflection	—	3.0 (0.12)
Crank web to web width	32.0±0.1 (1.260±0.004)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	STANDARD
Oil pump reduction ratio	60.95 (53/20 × 23/1)
Oil pump discharge rate	0.8—1.1 ml for 5 minutes at 3 000 r/min.

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00–87.15 (3.425–3.431)	87.40 (3.441)
Clutch shoe O.D.	—	No groove at any part
Clutch engagement	2 600 ± 200 r/min.	—
Clutch lock-up	3 500 ± 200 r/min.	—
Clutch spring free length	—	Over 28.0 (1.10)

TRANSMISSION

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.650 (53/20)	—
Final reduction ratio	3.364 (37/11)	—
Gear ratios	2.416 (29/12)	—

DRIVE CHAIN

Unit: mm (in)

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D.: 420	—
	Links	64	—
	20-pitch length	—	259.1 (10.2)
Drive chain slack	15–25 (0.6–1.0)		—

CARBURETOR

ITEM	SPECIFICATION	
	P-01,02,43,71	P-37
Carburetor type	MIKUNI VM12SC	←
Bore size	12 mm (0.47 in)	←
I.D. No.	04431	0444
Idle r/min.	1 550 ± 50 r/min.	←
Float height	24.5–25.0 mm (0.96–0.98 in)	←
Main jet (M.J.)	# 57.5	←
Jet needle (J.N.)	3E3-3rd	←
Needle jet (N.J.)	E-6	←
Pilot jet (P.J.)	# 15	←
Air screw (A.S.)	1½ turns out	←
Starter jet (G.S.)	# 50	←
Throttle cable play	0.5–1.0 mm (0.02–0.04 in)	←

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	24° ± 2° B.T.D.C. at 3 000 r/min.		
Spark plug	Type	NGK: BPR4H	
	Gap	0.5–0.6 (0.020–0.024)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	B/Y–Ground 120–160 Ω		

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Parking brake lever free travel	5 (0.2)		—
Brake drum I.D.	Rear	—	90.7 (3.57)
Brake lining thickness	—		1.5 (0.06)
Steering angle	Inside	35°	—
	Outside	21.5°	—
Turning radius	Approx. 2 m (6.5 ft)		—
Toe-in	4.0 ± 1.5 (0.16 ± 0.06)		—
Camber	1°		—
Trail	10 (0.4)		—
Kingpin inclination	10°		—
Caster	3° 30'		—
Wheel rim runout	Axial	—	3.0 (0.12)
	Radial	—	3.0 (0.12)
Tire size	Front & Rear	145/70-6	—
Tire tread depth	Front & Rear	—	4.0 (0.16)

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	kg/cm ²	psi	kPa
FRONT	0.25	3.6	25
REAR	0.25	3.6	25

FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Gasoline used should be graded 91 octane or higher. An unleaded gasoline is recommended.		
Fuel tank capacity	1.5 L (0.4/0.3 US/lmp gal)		
Engine oil type	Use SUZUKI CCI SUPER OIL or an equivalent good quality synthetic based 2-stroke oil rated FC under the JASO classification.		
Engine oil tank capacity	0.5 L (0.53/0.45 US/lmp qt)		
Transmission oil type	SAE 10W/40		
Transmission oil capacity	Change	500 ml (0.53/0.45 US/lmp qt)	
	Overhaul	550 ml (0.58/0.48 US/lmp qt)	

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