

**SUZUKI**

**OWNER'S MANUAL**

**RM80**

## WARNING

To insure safe rider operation and proper maintenance review this owner's manual thoroughly before starting or riding the motorcycle.

This motorcycle is designed for use only as follows:

- \* Read owner's manual carefully
- \* Use only fuel and recommended oil mixed in 20 : 1 ratio - do NOT use straight gasoline
- \* Single rider only - weight limit 120 pounds (55 kg)
- \* Parent supervision required during operation
- \* Parent and rider to perform daily inspection before riding - refer to owner's manual
- \* Observe periodic maintenance requirements according to instructions in owner's manual
- \* Do not touch any moving parts or heated areas
- \* Wear helmet and protective clothing
- \* Ride safely and be thoughtful of others

## SPECIAL ATTENTION

This vehicle is designed and manufactured for competition use only and is not subject to Federal Motor Vehicle Safety Standards as it is not equipped or approved for operation on public streets, roads or highways.

Some state laws further prohibit operation of this vehicle except in an organized competitive event upon a closed course conducted under the auspices of a recognized sanctioning body or by permit of the local governmental authority having jurisdiction.

Before operation, first determine that operation is legal in your state.

## FOREWORD

Thank you very much for choosing SUZUKI from among many others. Your SUZUKI RM80 is ready for your children to make full use of at supervised competing events. It is a machine built with the best of what SUZUKI has gained through decades of experience in the manufacture of motorcycles, and is specifically meant for use by children in the stated age bracket.

The RM80 is designed with features taking into consideration of children's physical and mental capability for handling and controlling power machines but, for ensuring maximized safety, we on the part of SUZUKI have to count heavily on their parents. In this sense, this owner's manual is intended for the elders and parents, with a strong hope that it will be read also by the juniors and misses finding fun and thrill in speed on wheel.

A machine needs care. We hope you will avail yourself of the skill and facility of your SUZUKI dealer, who is thoroughly trained by SUZUKI MOTOR COMPANY. If you are experienced in do-it-yourself mechanical work, please consult the technical parts of this manual before you do it yourself. Your children's safety on wheel comes first: this manual is written with this thought as its governing principle.

**SUZUKI MOTOR CO., LTD.**

## IMPORTANT NOTICE

*Please read this manual and follow its instructions carefully.*

*To emphasize special information the words **WARNING**, **CAUTION** and **NOTE** carry special meanings and should be carefully reviewed.*

- WARNING** . . . . . The personal safety of the rider may be involved. Disregarding this information could result in injury to the rider.  
**CAUTION** . . . . . These instructions point out special service procedures or precautions that must be followed to avoid damaging the machine.  
**NOTE** . . . . . Special information to make maintenance easier or important instructions more clear.

*Copying, quoting or reproducing any part of this manual is not permitted without explicit approval by SUZUKI MOTOR CO., LTD.*

*All information, illustrations, photographs and specifications contained in this manual are based on the latest product information available at the time of publication. Due to improvements or other changes, there may be some discrepancies in this manual. Suzuki reserves the right to make changes at any time.*



## NOTICE TO PARENTS

This is a very high performance competition motorcycle. Proper parental supervision over the operation of this motorcycle is necessary to ensure safe and proper operation by young riders. Please observe the limitations outlined on the fuel tank label and read this owner's manual carefully to be sure this motorcycle is properly and safely ridden and maintained. **THIS IS YOUR RESPONSIBILITY.** Specific additional safety items to be considered include:

- \* Supervise operation of this motorcycle **AT ALL TIMES**. Do not allow the rider to operate the motorcycle beyond his riding ability.
- \* Use only fuel and recommended oil mixed in 20 : 1 ratio - do NOT use straight gasoline.
- \* Use of the motorcycle should be controlled by the parents in relation to the rider's age, physique and operating intelligence and maturity. These considerations are especially important before you allow the rider to compete.
- \* Beware of hazardous situations and instruct the rider to beware of hazardous situations.
- \* Before the rider's first use of the motorcycle, be sure that the rider is familiar with the control and operation of the motorcycle. Take special precaution in observing the rider's first use of the motorcycle.
- \* Before each use, perform daily inspections with the rider to ensure safe riding. Check specifically:
  - Brake
  - Throttle operation (Smooth, opening and smooth, automatic return)
  - Control operation
  - Fuel line connections
  - Tire pressure
  - Oil and fuel level
  - Nut and bolt tightening torque
  - Spoke tightness
  - General condition
- \* Be sure the rider wears a helmet and protective clothing (gloves, leather pants, boots, shirt, goggles).
- \* The motorcycle is **NOT** to be used on public roads **AT ANY TIME**. The motorcycle is not to be used for off-road riding unless it is equipped with a SUZUKI Off-Road Sound Kit (available at extra cost from your SUZUKI dealer).
- \* For single rider only — weight limit 120 pounds (55 kg).
- \* Observe periodic maintenance requirements — your authorized SUZUKI dealer is trained and equipped to perform this service.
- \* Drain the fuel tank and carburetor of fuel prior to transporting the motorcycle.
- \* Caution the rider and others near the motorcycle not to get close to or touch any moving parts or any heated areas such as the engine and exhaust system.
- \* If you have any questions about the use or maintenance of this motorcycle please consult your authorized SUZUKI dealer.

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## GENERAL INSTRUCTION

### FUEL

The RM80 is of the two-stroke design, which requires a premixture of gasoline and oil. Premium gasoline should be used.

### ENGINE OIL

Suzuki strongly recommends the use of SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT.

If this oil is not available use an equivalent high quality Two Cycle Racing Lubricant, at a 20 to one ratio only.

**CAUTION:** Do not allow two different brands to get mixed in the fuel-oil mixture.

### MIXING RATIO

20 parts gasoline to 1 part oil is the correct gasoline to oil mixture ratio for your engine. For proper engine performance, it is essential that the above fuel/oil mixture should be maintained.

#### CAUTION:

A mixture containing too little oil will cause overheating of the engine. Too much oil will cause excessive carbon formation resulting in pre-ignition, fouled spark plug and loss of engine power.

### MIXING PROCEDURE

To mix gasoline and oil, always use a separate, clean container. Pour the full amount of oil required for the total mixture into the container, add approximately half the amount of gasoline to be mixed and shake thoroughly. Add the remainder of the gasoline and again thoroughly agitate the container.

### TRANSMISSION OIL

Use a good quality SAE 20W/40 multi-grade motor oil.

### FRONT FORK OIL

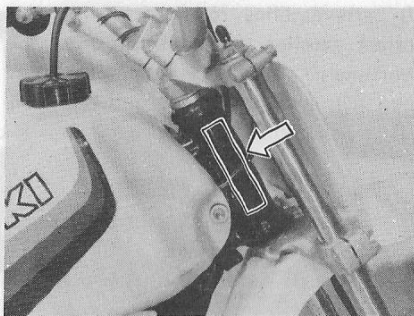
For the oil in the two legs, use a fork oil of #10.

Fuel oil mixture ratio of 20 : 1

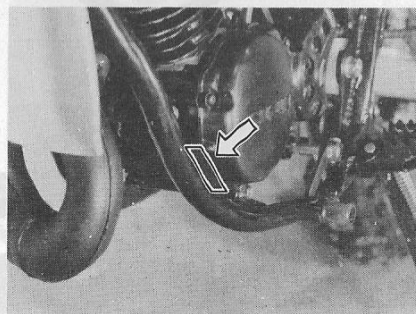
GASOLINE	OIL	GASOLINE	OIL	GASOLINE	OIL	GASOLINE	OIL
L	ml	L	ml	(qt)	(oz)	(qt)	(oz)
0.5	25	5.5	275	0.5	0.8	5.5	8.8
1.0	50	6.0	300	1.0	1.6	6.0	9.6
1.5	75	6.5	325	1.5	2.4	6.5	10.4
2.0	100	7.0	350	2.0	3.2	7.0	11.2
2.5	125	7.5	375	2.5	4.0	7.5	12.0
3.0	150	8.0	400	3.0	4.8	8.0	12.8
3.5	175	8.5	425	3.5	5.6	8.5	13.6
4.0	200	9.0	450	4.0	6.4	9.0	14.4
4.5	225	9.5	475	4.5	7.2	9.5	15.2
5.0	250	10.0	500	5.0	8.0	10.0	16.0

### USE OF GENUINE SUZUKI PARTS

To replace any part of the machine, use a genuine Suzuki replacement part. Imitation parts or parts supplied from any other source than Suzuki, if used to replace parts of Suzuki origin in the machine, will lower the inherent capability of the machine and, for worse, could induce costly mechanical trouble.



Frame number



Engine number

### SERIAL NUMBER LOCATION

Frame serial number is stamped on steering head tube and I.D. plate. Engine serial number is located on left side of crankcase.

When registering your machine and marking orders for spare parts, cite these two numbers.

Please write down these numbers here for your reference!

Frame No.:

Engine No.:

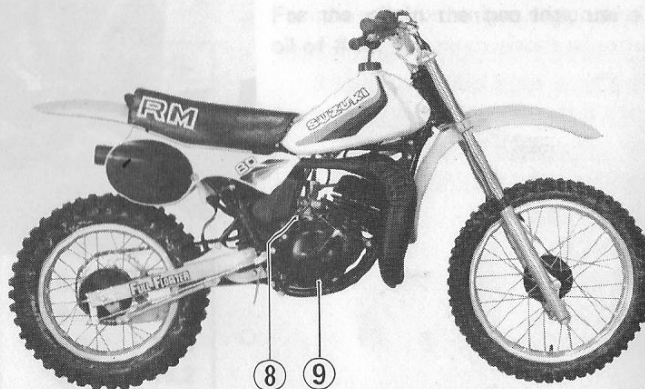
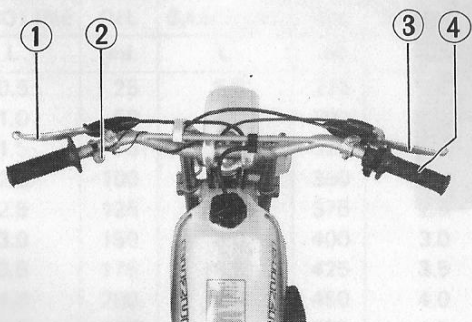


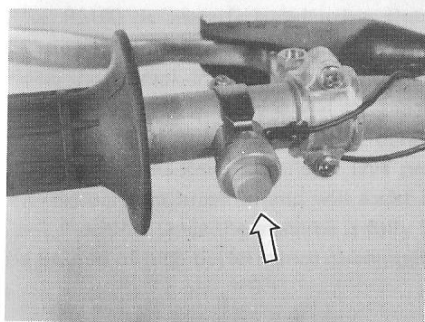
## OPERATING INSTRUCTION

Take the time of familiarize yourself with the operating principles of the following motorcycle components.

### LOCATION OF PARTS

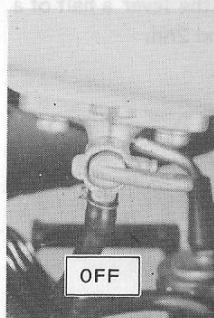
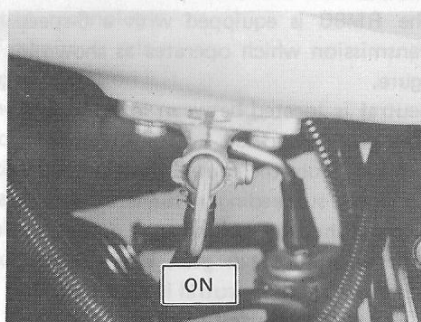
- ① Clutch lever
- ② Engine stop switch
- ③ Front brake lever
- ④ Throttle grip
- ⑤ Fuelcock
- ⑥ Gearshift lever
- ⑦ Carburetor choke knob
- ⑧ Kick starter lever
- ⑨ Rear brake pedal





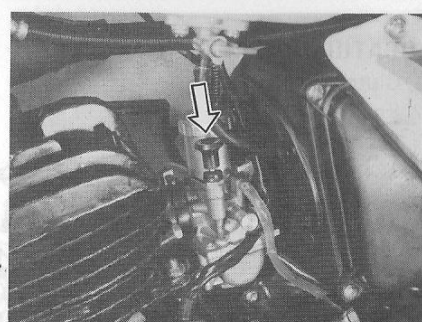
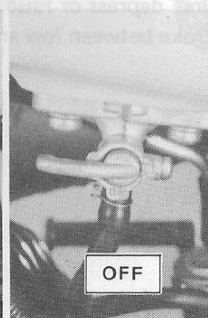
### ENGINE STOP BUTTON

No ignition switch is provided. To start the engine, just depress the kick starter lever. To stop the engine, push the engine stop button as shown in photo.



### FUEL COCK LEVER

The fuelcock lever has two positions, ON and OFF.



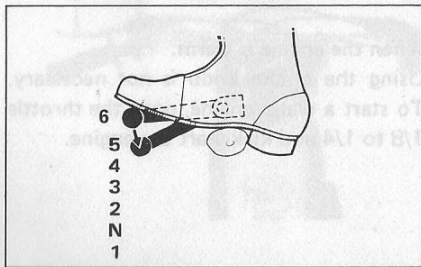
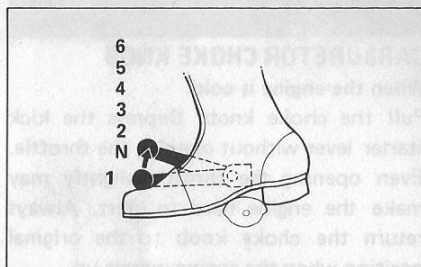
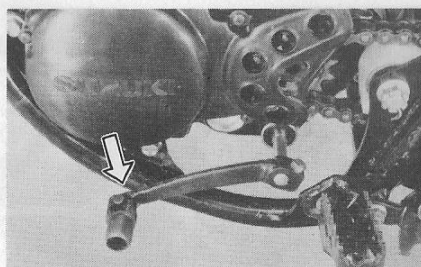
### CARBURETOR CHOKE KNOB

#### When the engine is cold:

Pull the choke knob. Depress the kick starter lever without opening the throttle. Even opening the throttle slightly may make the engine hard to start. Always return the choke knob to the original position when the engine warms up.

#### When the engine is warm:

Using the choke knob is not necessary. To start a warm engine, open the throttle 1/8 to 1/4 and kick-start the engine.



### GEARSHIFT LEVER

The RM80 is equipped with a 6-speed transmission which operates as shown in figure.

Neutral is located between low and 2nd. Low gear is located by fully depressing the lever from the neutral position. Shifting into succeeding higher gears is accomplished by pulling up on the shift lever once for each gear. When shifting from low to 2nd, neutral is automatically missed. When neutral is wanted for stopping, depress or raise the lever a half of a stroke between low and 2nd.

## BREAKING-IN

The RM80 is manufactured using the latest technology relating to the two-stroke engine and thus requires a relatively short break-in. No programmed breaking-in operation is necessary: the only thing is that the machine should not be continuously operated in full-load condition for the first one hour or 30 km (20 miles). This practice will help all moving parts to break in and will assist in acquainting you with machine. Once the machine is fully broken in, you can be assured of high performance in competition.



### WARNING:

The helmet, gloves, boots, goggles and jacket are essential items to clothing.



## INSTRUCTING YOUNG RIDER

### THIS IS AN IMPORTANT ADVICE TO PARENT.

Children are impatient; the sight of a new motorcycle excites their imagination; and the expectation is often so great as to make them forget the importance of safety precautions. Please go through this manual with a boy or a girl, page by page, and help him or her to understand not only the mechanism but also the rules of courtesy and safety precaution. The RM 80 is designed for full safety but requires the parent's cooperation to actually enjoying the safety available. Here are six rules in two groups. Please impress upon the mind of the young rider before leaving the machine to his or her disposal:



### OPERATING SKILL

#### Rule 1. Know the mechanism.

Memorize the name of each control. The name suggests its function. Know the route of drive from engine to wheels. Learn the order in checking written items for **INSPECTION BEFORE RIDING**. It is highly recommendable that the parent show examples by demonstrating for adults.

#### **WARNING:**

**Check to see if the young rider has perfectly learned essentials: let him or her demonstrate after you.**

#### Rule 2. Rehearse before riding out for the first time.

Let the young rider mount the machine and do try rehearse. Watch the way he or she operates the controls (particularly throttle and brake). Make sure the gear-shift pattern and shifting sequence are perfectly memorized. Smooth simultaneous braking (front and rear) is particularly important.

**Rule 3. Learn the technique of standing-start and halting by braking.**

Practice makes perfect. Let the young rider repeat following you, many times until you are sure he or she has learned the knack and technique thoroughly.

**WARNING:**

**For practice, choose a level ground free of traffic and spacious enough to permit driving several yards with the engine powered. In short, brake in the young rider gradually.**

**CLOTHING**

**Rule 4. Wear simple clothes**

Fluffy sleeves and wide trousers are taboos for any motorcycling. Dangling belts and scarves, ribbon-like trimmings, etc., are dangerous.

**Rule 5. Avoid scanty clothes**

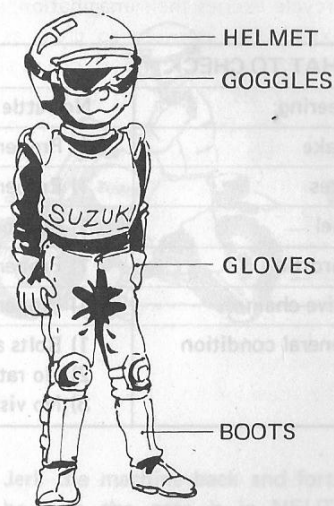
Never expose arms and legs. Overturning and getting thrown over are not unusual. Wear protective gear and be guarded properly.

**Rule 6. Avoid stiff clothes**

Make sure that riders knees and elbows act freely, and that his trunk can be bent smoothly. Free body movements are essential for safe riding.

**WARNING:**

**The helmet, gloves, boots, goggles and jacket are essential items to clothing.**



## INSTRUCTING YOUNG RIDER

### INSPECTION BEFORE RIDING

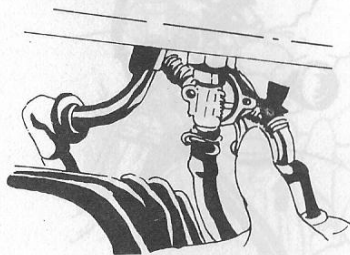
Check these items before each ride-out. Be sure your RM80 is in good condition for the sake of your own personal safety and protection of the machine.

WHAT TO CHECK	BE SURE TO CHECK
Steering	No rattle
Brake	1) Proper pedal play
Tires	1) Proper pressure      2) Sufficient treads      3) No cracks, no ripping
Fuel	1) Sufficient fuel for the intended run      2) Fuel hose is connected securely
Throttle	1) Proper play      2) Smooth response
Drive chain	1) Proper tension      2) Adequate oiling
General condition	1) Bolts and nuts need no retightening 2) No rattle is caused by any part of the machine with the engine running 3) No visible evidence of damage

**WARNING:**  
The helmet, gloves, boots, goggles  
and jacket are essential items to  
wearing.

Let the young rider mount the machine and do try rehearse. Watch the way he or she operates the controls (throttle, throttle and brake). Make sure the shift pattern and shifting sequence are perfectly memorized. Separate, simultaneous braking (front and rear) is especially important.

## STARTING ENGINE



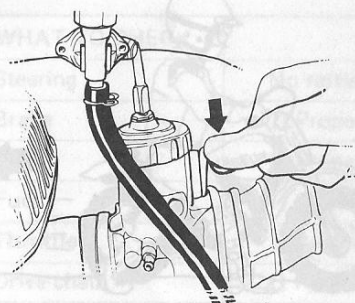
### Starting cold engine

1. Twist fuelcock lever from OFF to ON.
2. Jerk the machine back and forth and be sure the gear is in NEUTRAL. (The machine will resist the jerking if the gear is not in NEUTRAL.)



## INSPECTION BEFORE RIDING

Check these items before each ride to be sure your R100 is in good condition for the sake of your own personal safety and the protection of the machine.



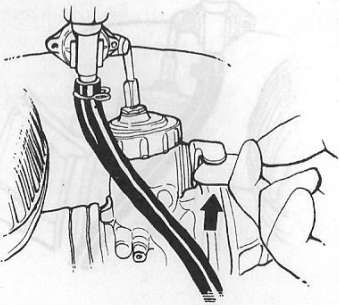
General condition

- 1) Bolts and nuts tight, no rust, etc.
- 2) No noise is caused by any part of the machine with the engine running.
- 3) No visible evidence of leakage.

3. Push down choke lever completely.

4. Don't open throttle at this point. Kick starter lever to start and, if the engine fails to fire up, kick it again. If 3rd or 4th attempt fail, pull back choke lever to original position, and open throttle wider (by turning the grip all the way). Then kick the lever again.

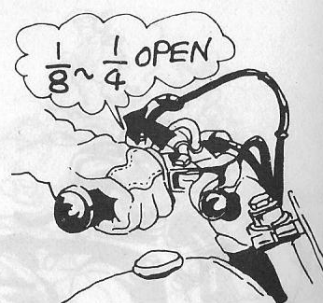
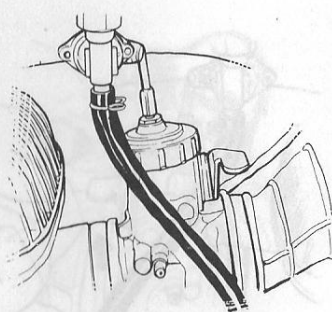
As a primary kick starter system is adopted for this motorcycle, the engine can be started with the transmission in any gear position, only if the clutch is disengaged by squeezing the clutch lever.



5. Upon the engine firing up, run it for 30 to 60 seconds and stabilize its speed.

**WARNING:**  
Don't run engine indoors with little or no ventilation.

6. This 30-to-60 seconds idling warms up the engine. Now pull choke lever back to original position, and start off.



#### Starting warm engine

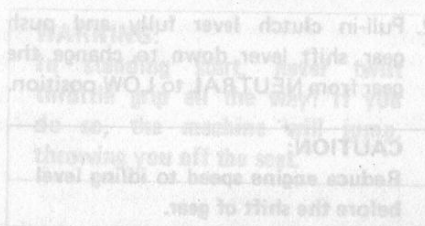
1. The engine is ready to fire up. No need of using choke lever! Leave choke lever where it is.
2. Open throttle partially ( $1/4 - 1/8$ ).



3. Kick the starter lever. (Engine will fire up.)

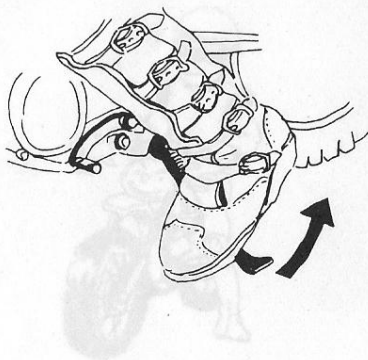
**WARNING:**

Don't run engine indoors with little or no ventilation.





## STARTING-OFF



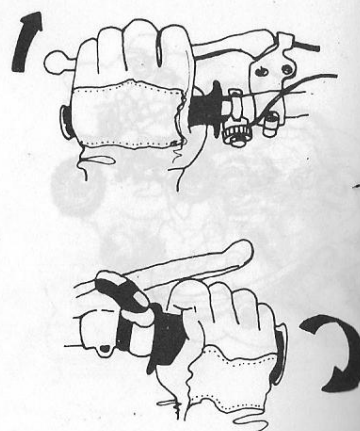
1. Kick up side stand.



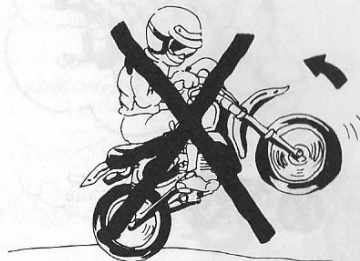
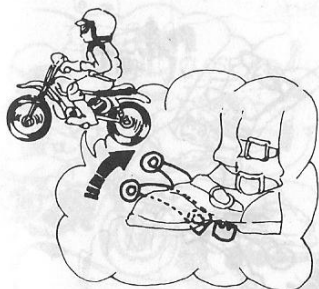
2. Pull-in clutch lever fully and push gear shift lever down to change the gear from NEUTRAL to LOW position.

### CAUTION:

Reduce engine speed to idling level before the shift of gear.



3. Release clutch lever gently while twisting throttle grip slowly.

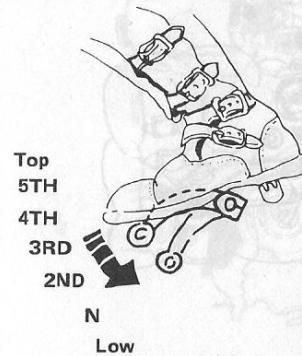
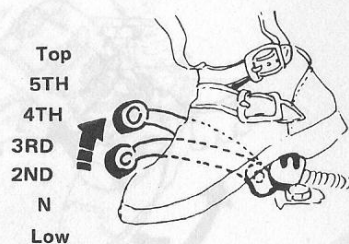


4. Pick up speed just a little on LOW. Twist throttle grip forward and pull-in clutch lever; kick up gearshift lever to change to SECOND; and release clutch lever while twisting back throttle grip. Now, pick up speed on SECOND. Repeat this sequence to shift upward step by step through THIRD, FOURTH and FIFTH to TOP.

**WARNING:**

In standing start, never twist throttle grip all the way! If you do so, the machine will jump, throwing you off the seat.

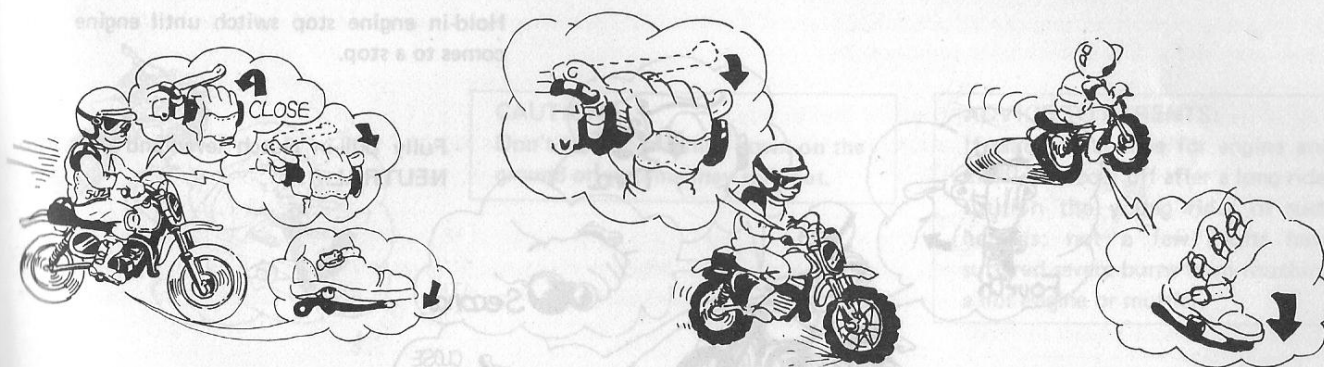
## GEARSHIFTING TECHNIQUE



NEUTRAL is for engine starting and for coasting. LOW is for standing start.

Other gear positions — SECOND, THIRD, FOURTH, FIFTH and TOP — are for cruising. Which one to choose depends on your riding skill and road condition.

## BRAKING



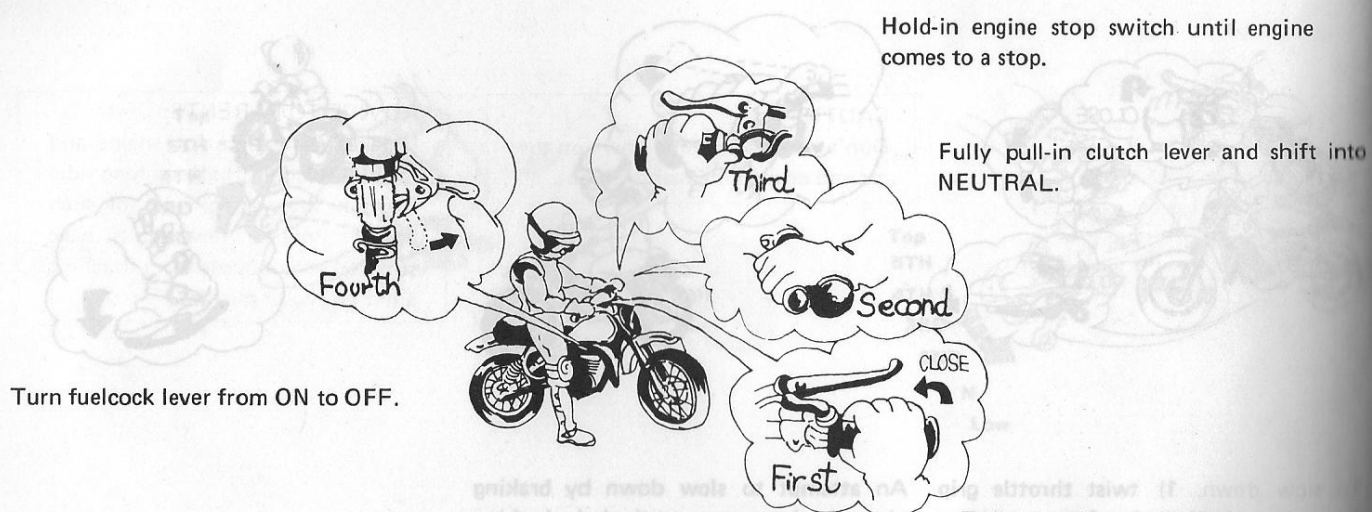
To slow down, 1) twist throttle grip forward, and 2) brake front and rear wheels. Just before you come to a stop, pull-in clutch lever and shift down into NEUTRAL. Make this sequence a habit.

An attempt to slow down by braking alone is dangerous, particularly braking of the front wheel alone. Handlebars may wobble (front wheel braking) or rear wheel might skid (rear wheel braking).

### WARNING:

**Don't brake when cornering! That's the surest way to get yourself thrown down. Brake only when driving straight.**

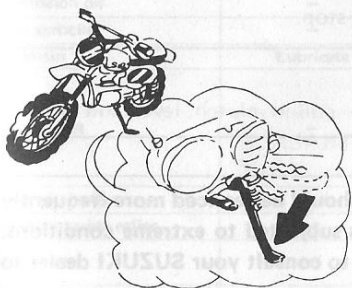
## STOPPING ENGINE



WARNING:  
Don't brake when cornering! That's  
the surest way to get yourself  
thrown down. Brake only when  
driving straight.



## PARKING MOTORCYCLE



**CAUTION:**  
Don't lay the machine down on the ground or gasoline may spill out.

**ADVICE TO PARENTS:**  
It takes some time for engine and muffler to cool off after a long ride. Caution the young rider of such hazards; not a few adults have suffered severe burns from touching a hot engine or muffler.

Use the side stand to keep the machine in self-supporting position.

## PERIODICAL INSPECTION SCHEDULE

Periodic inspection and service of proper points at specified intervals, have a great deal to do with the safe-riding life of your machine.

If you are not sure whether you can successfully carry out the specified maintenance, ask your SUZUKI dealer to handle it. Do not take a chance: safety is too precious to gamble with.

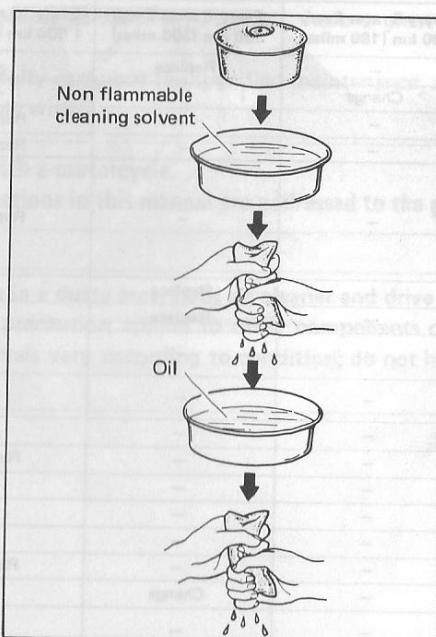
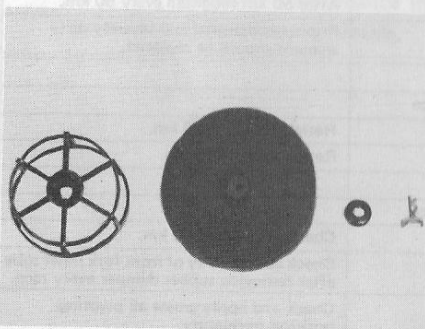
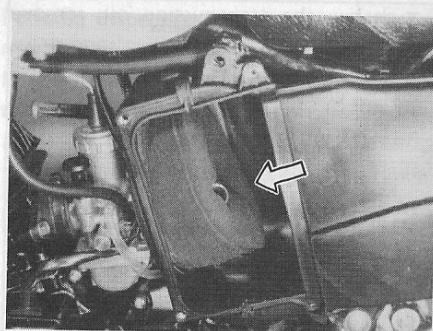
**WARNING:** Don't let children tinker with a motorcycle.  
Please remember, all instructions in this manual are addressed to the parent.

**CAUTION:** If the motorcycle is driven in a dusty area, both air cleaner and drive chain should be serviced more frequently than specified. The same precaution applies to other components or parts subjected to extreme conditions. Periodic maintenance intervals vary according to condition; do not hesitate to consult your SUZUKI dealer to learn proper intervals.

Service Item	Interval	Each race Every 100 km (60 miles)	Every 3 races Every 300 km (180 miles)	Every 5 races Every 500 km (300 miles)	Every 10 races Every 1 000 km (600 miles)	Remarks
Piston ring		—	—	Replace	—	
Transmission oil		—	Change	—	—	Change at initial 100 km
Engine sprocket		—	—	—	Replace	
Drive chain		Lubricate	—	—	Replace	Adjust slack every 40 km
Rear sprocket		—	—	—	Replace	* Initially, tighten and check the sprocket bolts after 10 minutes riding. * Moreover tighten and check the sprocket bolts again after 10 minutes riding. * After initial maintenance, retighten the bolts after each race.
Drive chain buffer		—	—	Replace	—	
Drive chain guide roller		—	—	Replace	—	
Spoke nipple		—	—	—	—	With 0 — 50 km retighten every 10 km. After 50 km retighten every 50 km.
Air cleaner		Clean	—	—	—	Ruptured, fissured and severely dirty element should be replaced.
Kick starter lever		Apply grease	—	—	—	
Throttle brake & Clutch cable		—	—	—	Replace	
Bolts and nuts		Retighten	—	—	—	Retighten initial 20 km.
Engine mounting bolts		Retighten	—	—	—	Retighten initial 5 km.
Spark plug		Check & clean	—	—	—	
Piston		—	—	—	Replace	
Front fork oil		—	—	Change	—	Change at initial 100 km.
Front fork air pressure		Check	—	—	—	Check abnormality of front fork inner tube after removing rubber damper every race.
Full-Floating suspension system pivoting portion		Check	—	—	—	Check and apply grease all pivoting position frequently.

Whenever replacing the cylinder head gasket or riding the new motorcycle, be sure to retighten the cylinder head nuts twice with specified torque after riding each about 30 minutes.

## INSPECTION AND MAINTENANCE



### AIR CLEANER

#### Washing the air cleaner element

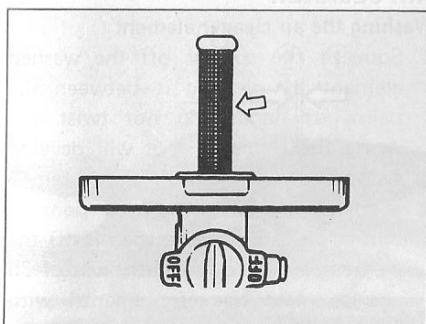
1. Squeeze the solvent off the washed element by pressing it between the palms of hands: do not twist and wring the element, or it will develop fissures.
2. Immerse the element in a pool of motor oil, and squeeze the oil off the element to make it slightly wet of 30 oil for main cleaner element.) with motor oil.

#### CAUTION:

Before and during the cleaning operation, examine the element to see if it has a rupture or fissure. A ruptured or fissured element must be replaced.

#### CAUTION:

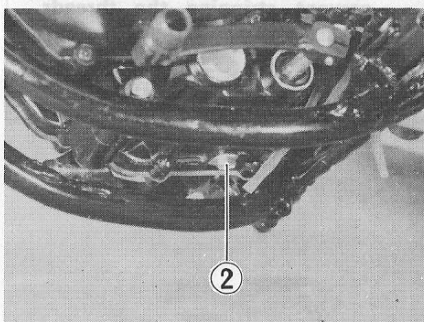
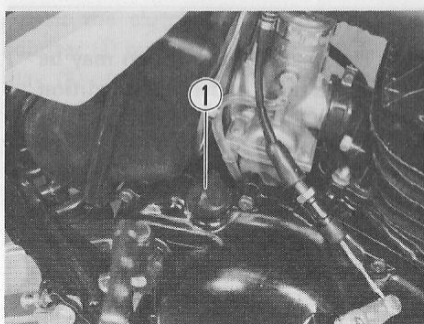
Do not clean the element frame and cleaner case with petroleum.



### FUEL FILTER

The fuel filter is incorporated in the fuel cock which is mounted on the bottom of the fuel tank at the left side. Accumulation of dirt in the filter will restrict the flow of the fuel and cause the carburetor to malfunction, therefore, the fuel filter should be serviced periodically.

1. Drain the fuel from the fuel tank.
2. Remove the fuel cock by unscrewing the fitting screws.
3. Wash the screen filter in cleaning solvent.



### TRANSMISSION OIL

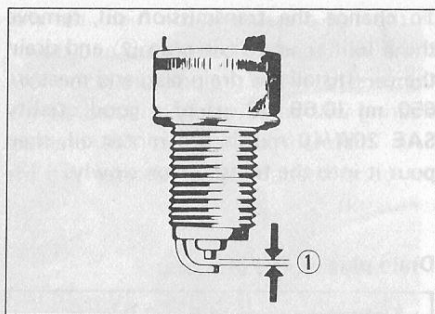
To change the transmission oil, remove the filler ① and drain plug ② and drain the oil. Install the drain plug and measure 650 ml (0.69 US qt) of a good quality SAE 20W/40 multigrade motor oil, then pour it into the transmission slowly.

#### Drain plug

Tightening torque	1.5 — 2.0 kg-m 11.0 — 14.5 lb-ft
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REMARKS	WATER	WATER
If the standard plug is not to get wet, replace with this plug.	WATER	WATER
Standard	WATER	WATER





### SPARK PLUG

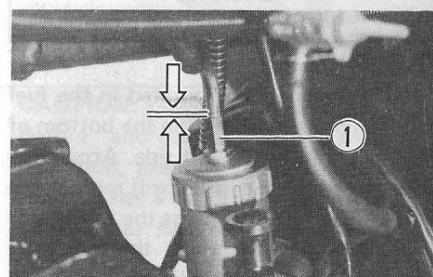
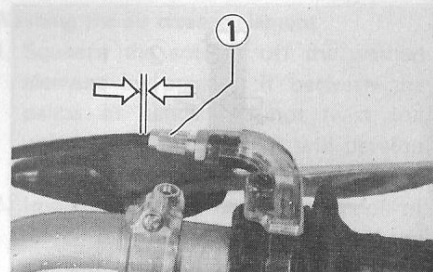
When carbon accumulates on the spark plug, a hot, strong spark will not be produced. Remove carbon deposits with a wire or pin and adjust the spark plug gap ① to 0.6 – 0.8 mm (0.024 – 0.031 in.) by measuring with a feeler gauge.

Generally, when the spark plug heat range is correct, the plug electrode shows a light brown or tan color. Spark plug of a different heat may be chosen according the following table.

NGK	NIPPON DENSO	REMARKS
B8ES	W24ES	If the standard plug is apt to get wet, replace with this plug.
B9ES	W27ES	Standard

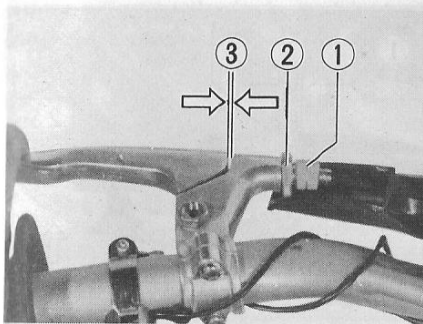
### CAUTION:

1. The heat range selection may be made only under the condition that the carburetion is set properly.
2. If another brand of spark plug is to be used other than NGK or NIPPON DENSO, consult your authorized SUZUKI dealer.
3. When installing the spark plug, screw in with your fingers to prevent stripping the threads, then tighten with a torque wrench to 2.5 – 3.0 kg-m (18.0 – 22.0 lb-ft).



### CARBURETOR

For correct safe throttle operation the throttle cable should be adjusted to have 0.5 – 1.0 mm (0.02 – 0.04 in.) play at the carburetor. This adjustment can be made at the cable adjuster ① on the carburetor cap.



### CLUTCH

Adjust the clutch with the clutch cable adjuster ① by loosening lock nut ②. The play ③ of the clutch cable should be 2 – 3 mm (0.08 – 0.12 in.) measured at the clutch lever holder before pressure can be felt indicating disengagement of the clutch.

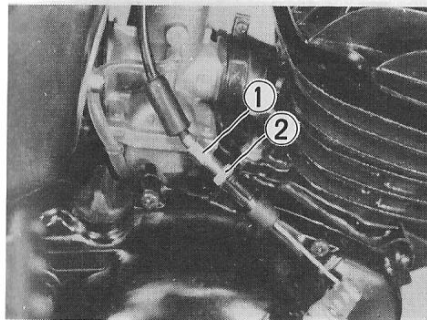


Fig. 4

The extension line of the index mark is within the range.



Fig. 5

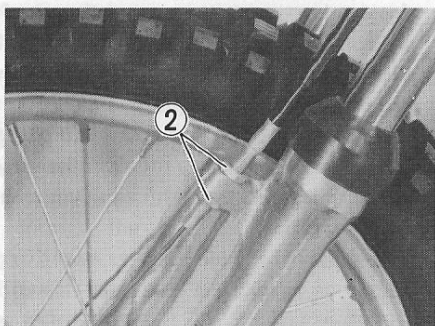
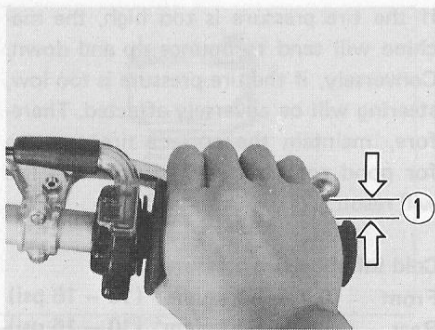
The extension line of the index mark is out of the range.

### TIRE PRESSURE

If the tire pressure is too high, the machine will tend to bounce up and down. Conversely, if the tire pressure is too low, steering will be adversely affected. Therefore, maintain the correct tire pressure for good roadability or shorter tire life will result.

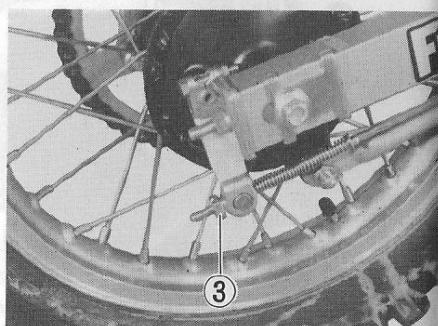
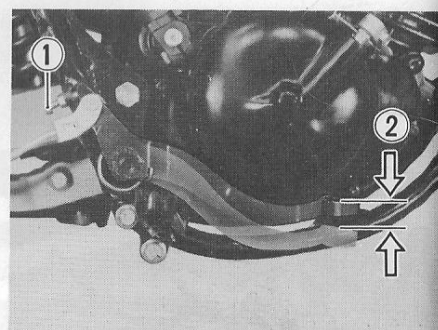
#### Cold inflation tire pressure:

Front	0.7 – 1.1 kg/cm <sup>2</sup> (10 – 16 psi)
Rear	0.7 – 1.1 kg/cm <sup>2</sup> (10 – 16 psi)



## FRONT BRAKE

Measure the amount of the front brake lever distance ① between the brake lever end and throttle grip. The distance should be 20 – 30 mm (0.8 – 1.2 in.). If adjustment is necessary, turning the front brake adjuster ② in the counterclockwise direction will increase the distance.



NGK	NIPPON DENSO	REMARKS
B8S5	W24ES	If the standard plug is not to get used, replace with this plug.
B9ES	W22/ES	Standard

the carburetor. This plug is not to be used at the carburetor. This plug is not to be used at the carburetor.

## REAR BRAKE

Before adjusting the brake pedal travel, adjust the brake pedal position with the brake pedal adjuster ① until the most suitable position is obtained for quick operation.

After adjustment of the brake pedal position completed, adjust the brake pedal travel ② with the brake adjusting nut ③ to 20 – 30 mm (0.8 – 1.2 in).

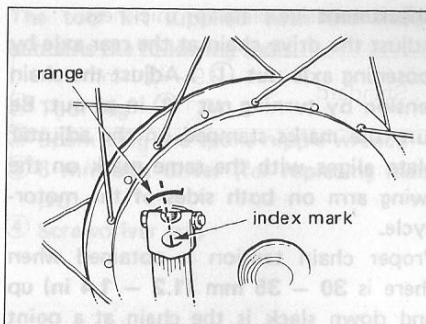


Fig. A

The extension line of the index mark is within the range.

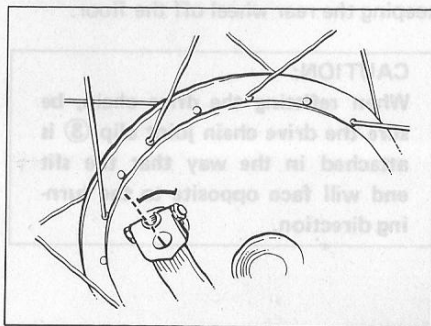


Fig. B

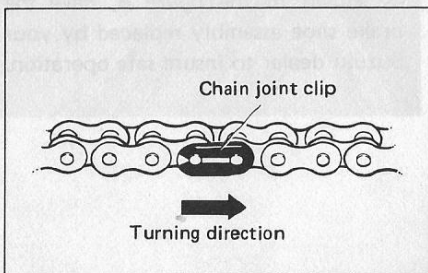
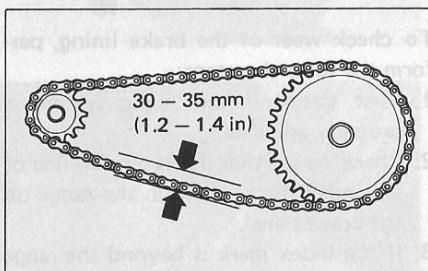
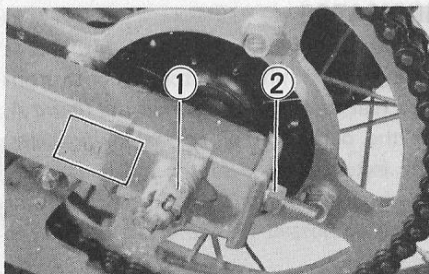
The extension line of the index mark is out of the range.

## BRAKE LINING WEAR LIMIT INDICATOR

This motorcycle is equipped with brake lining wear limit indicators on both front and rear brakes. As shown in the *figure A*, at the condition of normal lining wear, the extension line of the index mark on the brake cam shaft should be within the range embossed on the brake panel with brake on.

To check wear of the brake lining, perform the following steps:

1. First check if the brake system is properly adjusted.
2. Check to see that the extension line of the index mark is within the range on the brake panel.
3. If the index mark is beyond the range as shown in the *figure B*, have the brake shoe assembly replaced by your Suzuki dealer to insure safe operation.



## DRIVE CHAIN

### Adjustment

Adjust the drive chain at the rear axle by loosening axle nut ①. Adjust the chain tension by turning nut ② in or out. Be sure the marks stamped on the adjuster plate aligns with the same mark on the swing arm on both sides of the motorcycle.

Proper chain tension is obtained when there is 30 – 35 mm (1.2 – 1.4 in) up and down slack is the chain at a point between the rear sprocket and chain guide roller with holding the motorcycle standing erect by blocking up and keeping the rear wheel off the floor.

### CAUTION:

When refitting the drive chain, be sure the drive chain joint clip ③ is attached in the way that the slit end will face opposite to the turning direction.



### Lubrication

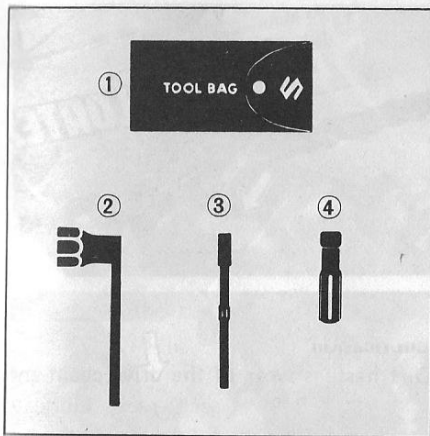
Dirt hastens wear of the drive chain and sprockets. Before each race, lubricate the chain with chain lube or motor oil. After every 10 races, replace the chain. In a dusty area, this attention should be given at more frequent intervals.



### TOOL KIT

The tool kit supplied with the RM80 contains the following tools.

- ① Tool bag
- ② Spark plug and spoke nipple wrench
- ③ 6 mm box driver (for replacing main jet)
- ④ Screwdriver grip



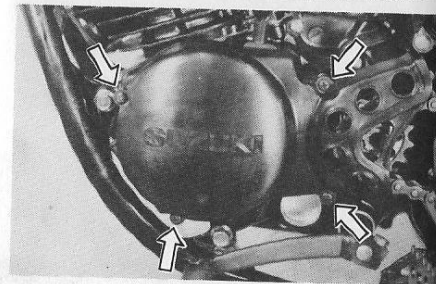
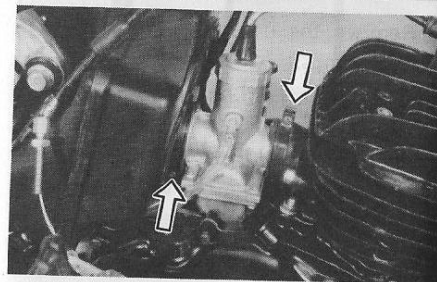
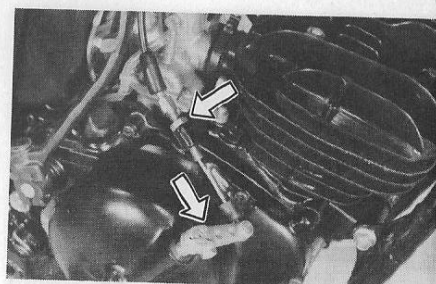
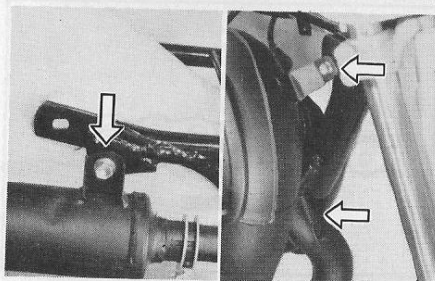
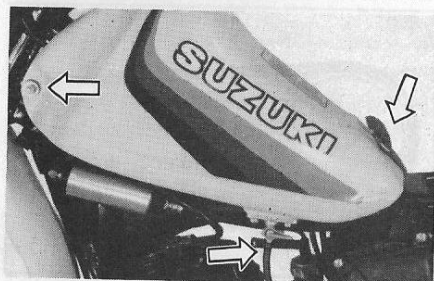
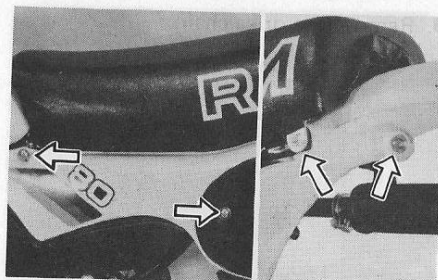
## ENGINE REMOVAL AND DISASSEMBLY

### ENGINE REMOVAL

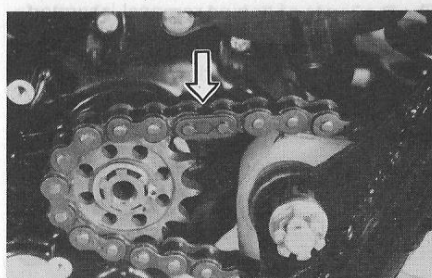
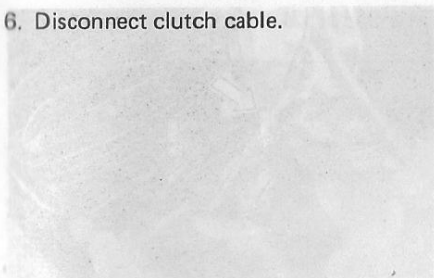
The sequence of engine removal is sequentially explained in following steps. Engine installation is effected by reversing the removal procedures.

1. Set the machine.
2. Take down the frame covers.
3. Remove the seat.
4. Disconnect fuel pipe and take down fuel tank by unhooking rubber band and loosening the bolts.

5. Remove the muffler.

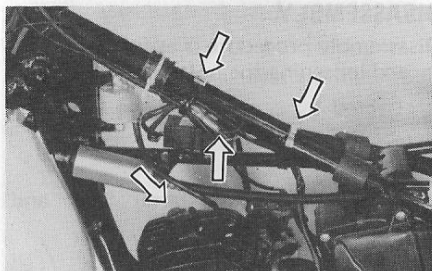


6. Disconnect clutch cable.



9. Remove the drive chain.

7. Remove the carburetor by loosening two clamps.



10. Disconnect lead wires and spark plug cord.

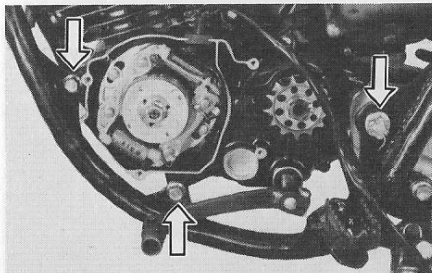
11. Remove the bolts indicated by arrows.

Remove the swinging arm pivot nut after pulling off the cotter pin and draw out the swinging arm pivot shaft.

**CAUTION:**

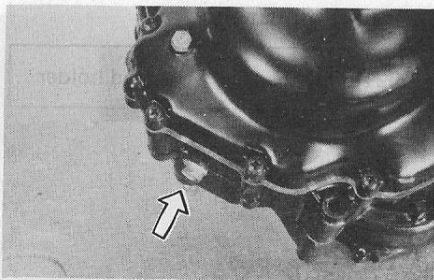
Be careful not to draw out the swinging arm pivot shaft completely from the right side swinging arm pivoting hole. Insert the shaft or rod into the left side pivoting hole from the left side of the frame to keep the alignment of the frame holes and swinging arm pivoting holes.

8. Remove engine left cover.

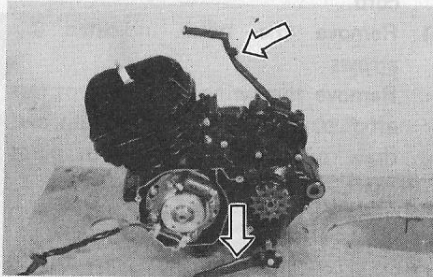
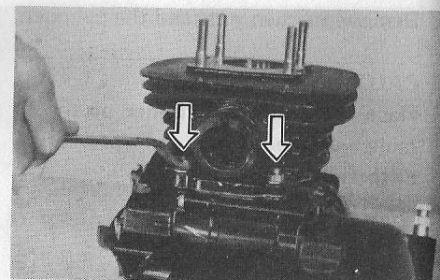


12. Take down the engine.

## ENGINE REMOVAL AND DISASSEMBLY



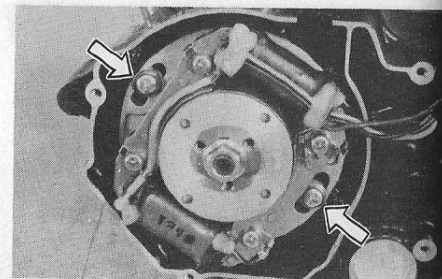
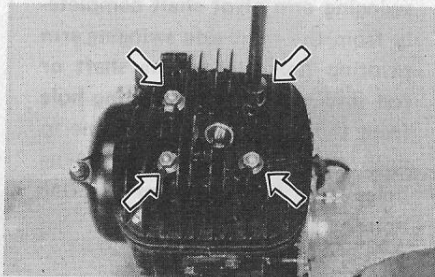
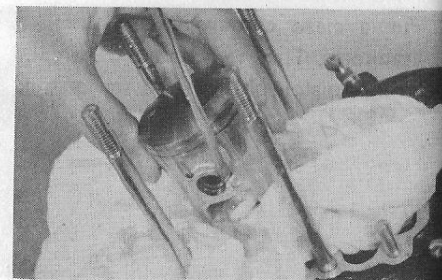
13. Drain the oil by loosening the drain plug.



### DISASSEMBLY

Disassembly procedure is as follow:  
Reassembly is reverse of disassembly, and is effected by carrying out the following steps.

1. Remove the kick starter lever and gear shift lever.
2. Remove the spark plug.
3. Remove the four nuts and the cylinder head.

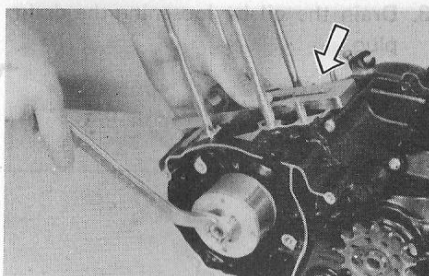




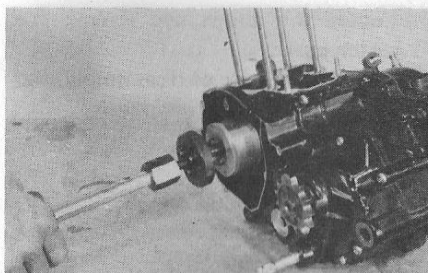
4. Remove the two nuts and the cylinder.

**CAUTION:**

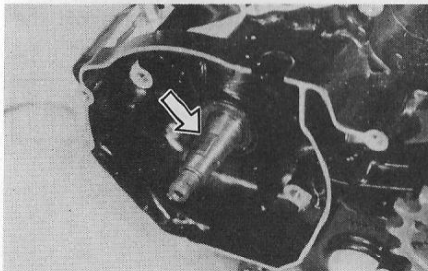
Place the removed cylinder on the table upside down, to prevent distortion of the reed valve stopper.



5. Put a clean cloth over the bore of crankcase. Then remove the piston pin circlip, piston pin, bearing and piston.

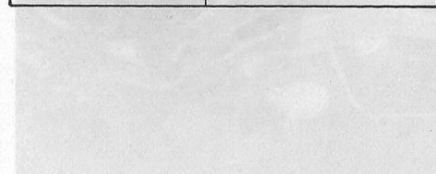


6. Loosen two screws and take off the stator.



7. Remove the nut.

09910-20115	Con-rod holder
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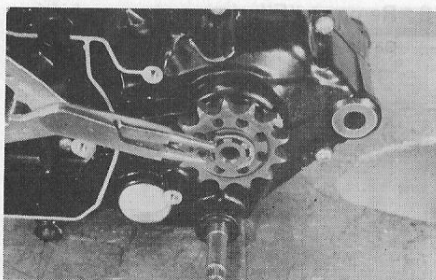
8. Draw out the rotor by using special tool.

09930-30102	Rotor remover Slide shaft
09930-30211	Attachment G
09930-30141	Attachment A 10 mm screw

9. Pick out key.



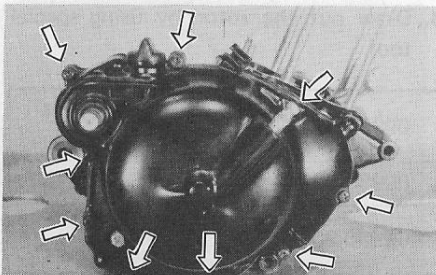
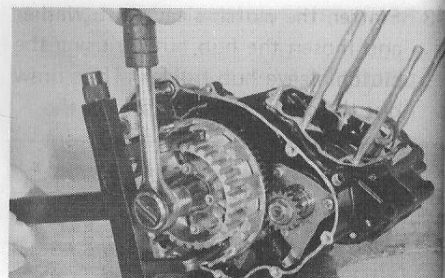




10. Remove the circlip by using special tool and draw out the engine sprocket.

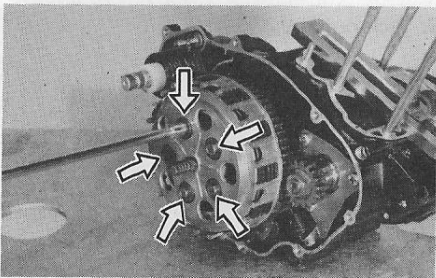
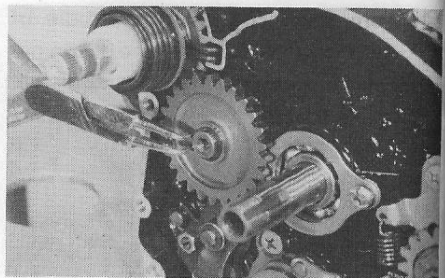
09900-06104

Snap ring pliers



11. Loosen the screws and remove the clutch cover.

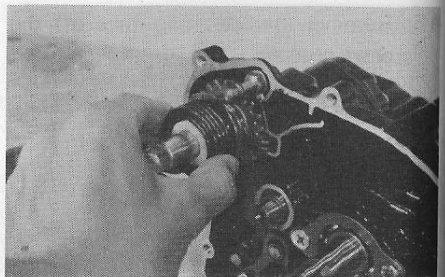
**NOTE:** Do not miss the two dowel pins.



12. Loosen five bolts and take off the pressure, drive and driven plates.

09910-20115

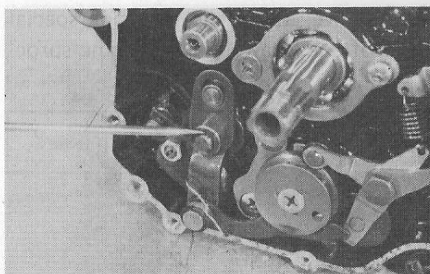
Con-rod holder



13. Flatten the clutch sleeve hub washer and loosen the hub nut by using the clutch sleeve hub holder. Then draw out the clutch sleeve hub.

09920-53710

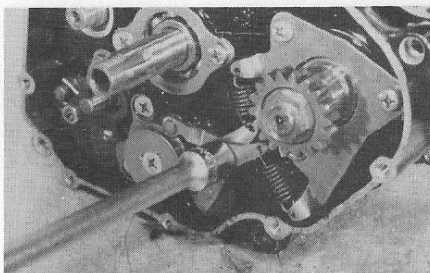
Clutch sleeve hub holder



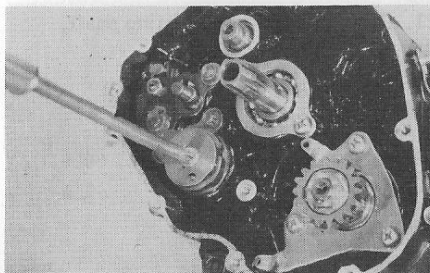
14. Remove the circlip by using special tool and draw out the kick idle gear.

09900-06104

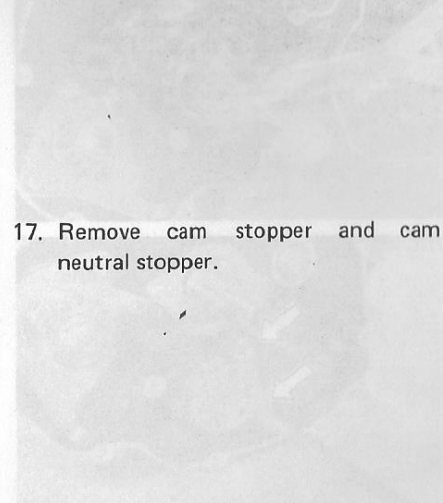
Snap ring pliers



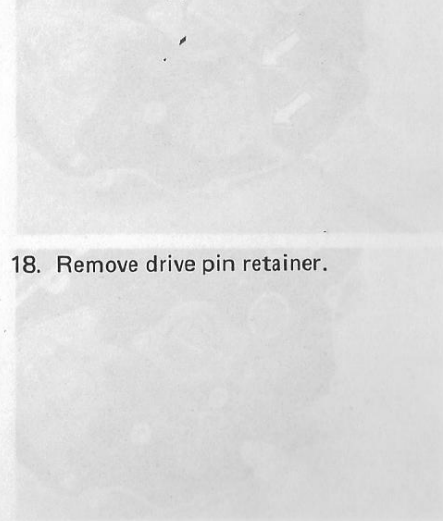
15. Remove the spring and kick starter drive gear.



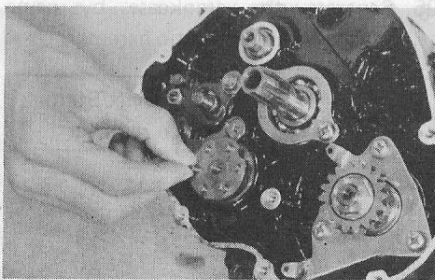
16. Remove "E" ring and gear shifting pawl.



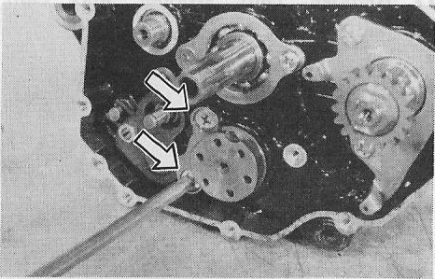
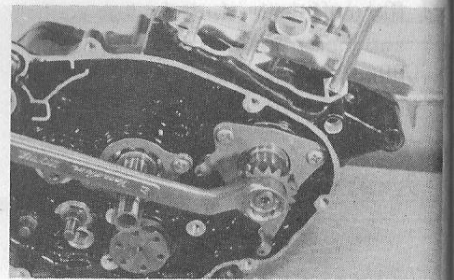
17. Remove cam stopper and cam neutral stopper.



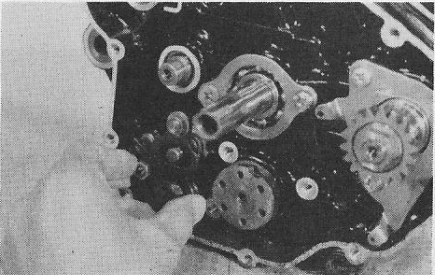
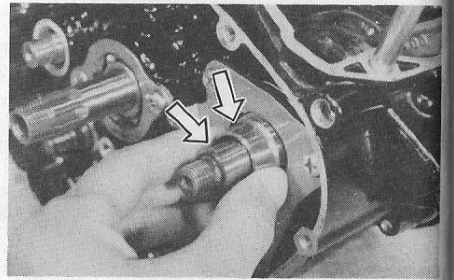
18. Remove drive pin retainer.



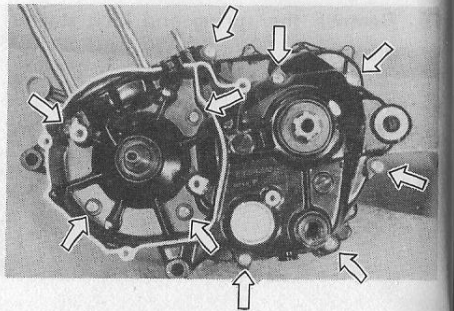
19. Pick out cam drive pin.



20. Remove the cam guide.



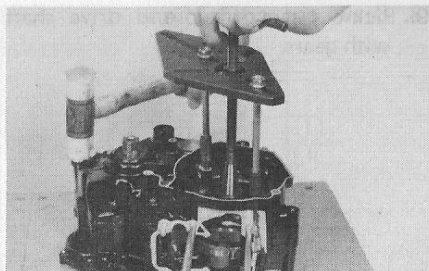
21. Draw out the gear shifting shaft.



22. Take off the primary drive gear.

09910-20115

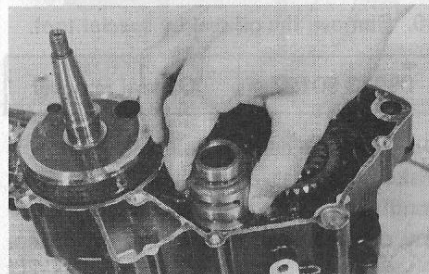
Con-rod holder



23. Remove the spacer and key.



24. Loosen the crankcase fitting screws.



25. Separate the crankcase by using special tool and plastic hammer.

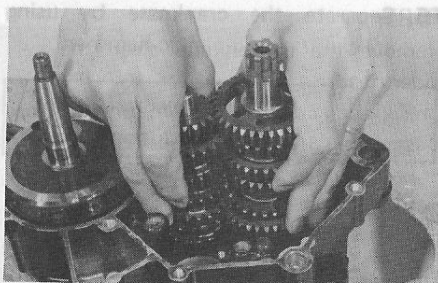
09920-13111

Crankshaft/Stator  
clutch remover

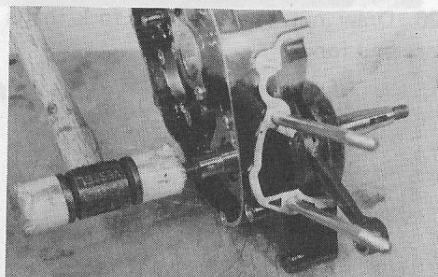
26. Draw out two gearshift fork shafts and forks.

27. Draw out the shifting cam.

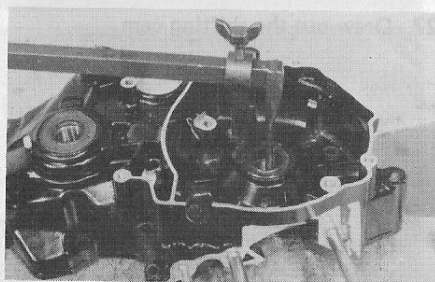




28. Draw out counter and drive shaft with gears.



29. Remove the crankshaft from the crankcase.



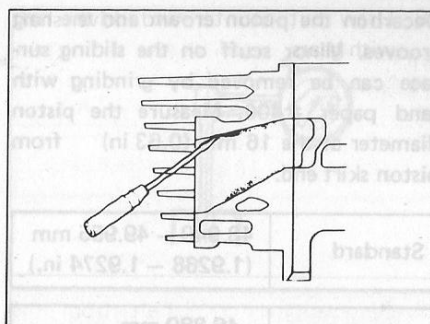
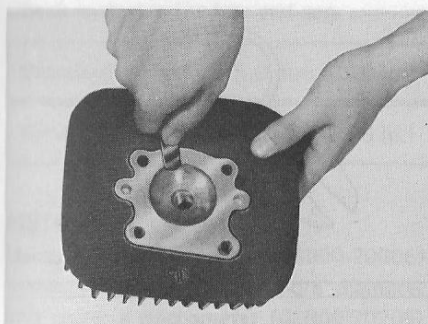
30. Remove the oil seal by special tool.

09913-50122	Oil seal remover
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Do not re-use damaged oil seal.  
Make sure that each oil seal is in good condition, with its lip absolutely free of any damage or of evidence of distortion.



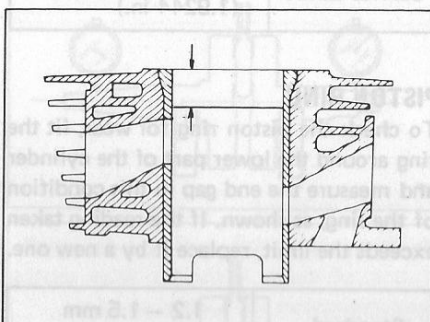
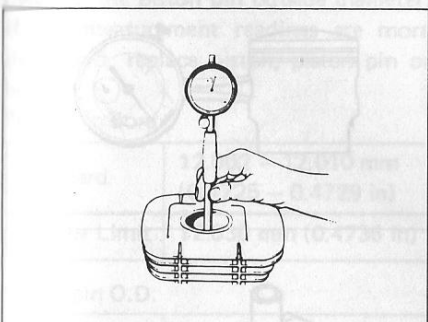
## INSPECTION AND SERVICING



### CYLINDER HEAD AND EXHAUST PORT

Remove the carbon and clean the cylinder head.

Check the scratch on the mating surface. Decarbon the exhaust ports and the upper part of the cylinder, taking care not to damage the cylinder wall surface.



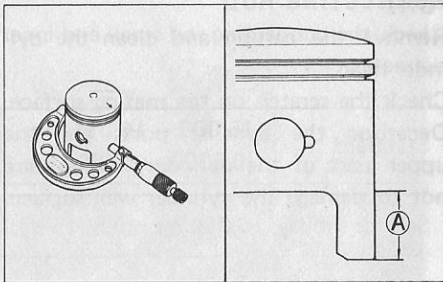
### CYLINDER

Decarbon the exhaust ports and the upper part of the cylinder. Check the cylinder bore for wear by using a cylinder gauge at 15 mm (0.59 in) from the top surface.

Standard	49.000 – 49.015 mm (1.9291 – 1.9297 in.)
Service Limit	49.075 mm (1.9321 in.)

#### CAUTION:

After reboring, be sure to lightly chamfer the ports edges with a scraper and smoothen the chamfers with sand paper.

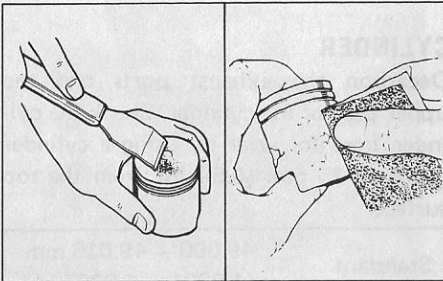


### PISTON

Decarbon the piston crown and the ring grooves. Minor scuff on the sliding surface can be removed by grinding with sand paper #400. Measure the piston diameter at the 16 mm (0.63 in.) from piston skirt end.

Standard	48.940 – 49.955 mm (1.9268 – 1.9274 in.)
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Service Limit	48.880 mm (1.9244 in.)
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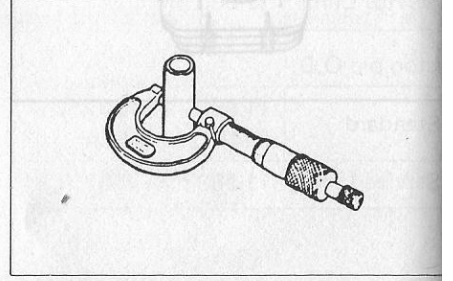
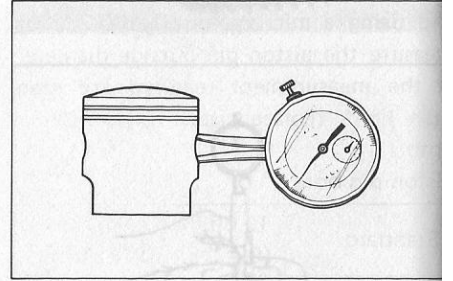
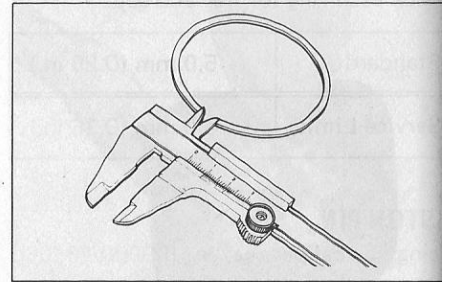
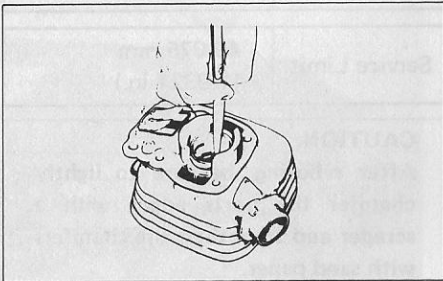


### PISTON RING

To check the piston ring for wear, fit the ring around the lower part of the cylinder and measure the end gap in this condition of the ring, as shown. If the reading taken exceeds the limit, replace it by a new one.

Standard	1.2 – 1.5 mm (0.05 – 0.06 in.)
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Service Limit	2.0 mm (0.08 in.)
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Check each ring for free end gap.

Standard	5.0 mm (0.20 in.)
Service Limit	4.0 mm (0.16 in.)

### PISTON PIN

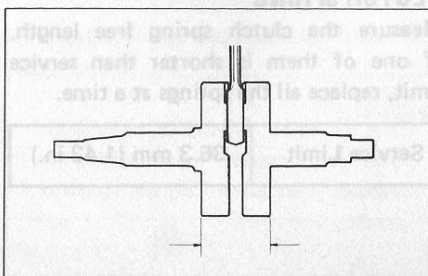
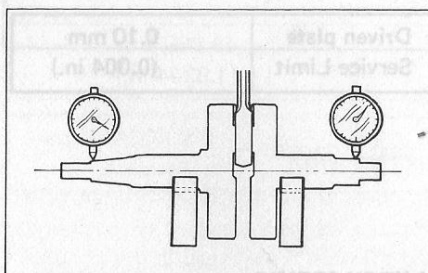
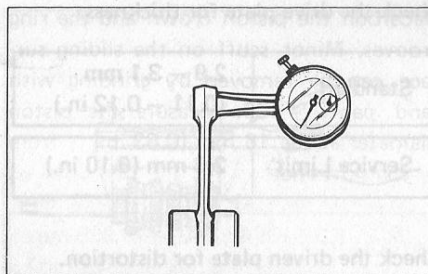
Using a caliper gauge (09900-20605), measure the piston pin bore diameter, and using a micrometer (09900-20205), measure the piston pin outside diameter. If the measurement readings are more than limit, replace piston, piston pin or both.

Piston pin bore

Standard	12.002 – 12.010 mm (0.4725 – 0.4729 in)
Service Limit	12.030 mm (0.4736 in)

Piston pin O.D.

Standard	11.995 – 12.000 mm (0.4722 – 0.4724 in)
Service Limit	11.980 mm (0.4717 in)



### CONNECTING ROD

Check the connecting rod small end inner diameter.

Standard	16.003 – 16.011 mm (0.6300 – 0.6304 in)
Service limit	16.040 mm (0.6315 in)

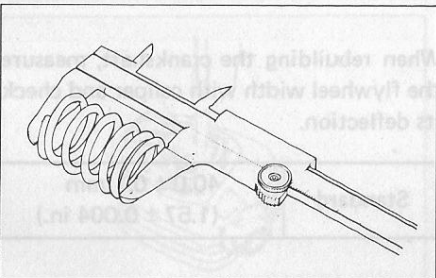
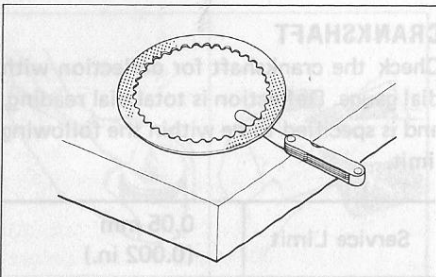
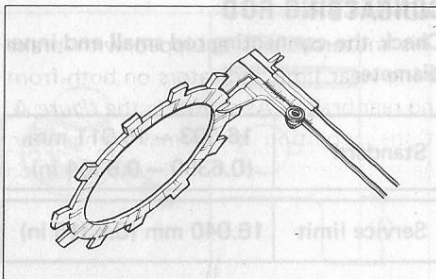
### CRANKSHAFT

Check the crankshaft for deflection with dial gauge. Deflection is total dial reading, and is specified to be within the following limit.

Service Limit	0.05 mm (0.002 in.)
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When rebuilding the crankshaft, measure the flywheel width with caliper and check its deflection.

Standard	40.0 ± 0.1 mm (1.57 ± 0.004 in.)
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## CLUTCH PLATE

Check the drive plate for thickness.

Standard	2.9 – 3.1 mm (0.11 – 0.12 in.)
Service Limit	2.6 mm (0.10 in.)

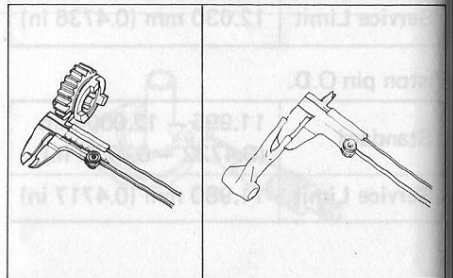
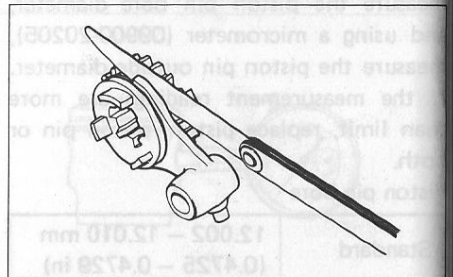
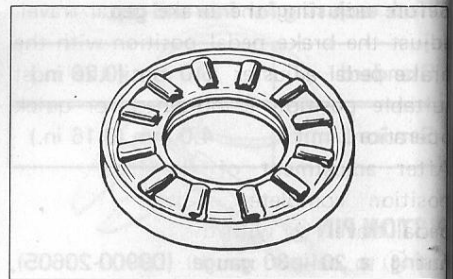
Check the driven plate for distortion.

Driven plate Service Limit	0.10 mm (0.004 in.)
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## CLUTCH SPRING

Measure the clutch spring free length.  
If one of them is shorter than service  
limit, replace all the springs at a time.

Service Limit	36.3 mm (1.43 in.)
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### CLUTCH RELEASE BEARING

Inspect the thrust-type bearing for any abnormality especially cracks.

### SHIFTING FORK-GROOVE CLEARANCE

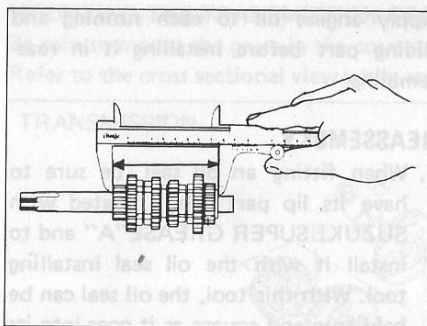
Check the shifting fork clearance in the groove of its gear.

No. 1, No. 2 and No. 3

Standard	Service Limit
0.10 – 0.30 mm (0.004 – 0.012 in.)	0.50 mm (0.020 in.)

When the shifting fork clearance exceeds the service limit, measure the width of the tips parts. (either or both of the shifting fork and gear)

	Shifting fork Standard thickness	Gear groove Standard width
No. 1	3.75 - 3.85 mm (0.148 - 0.152 in.)	3.95 - 4.05 mm (0.156 - 0.159 in.)
No. 2	4.25 - 4.35 mm	4.45 - 4.55 mm
No. 3	(0.107 - 0.171 in.)	(0.175 - 0.179 in.)



### COUNTERSHAFT

The 2nd drive gear is press-fitted into the countershaft. So check the distance between the 1st and 2nd drive gears as shown in the photo.

STD distance	87.5 – 87.6 mm (3.44 – 3.45 in.)
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Apply Thread Lock Super "1363A" to 2nd drive gear.

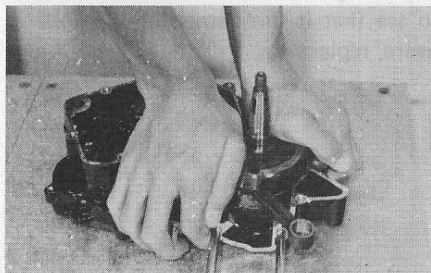
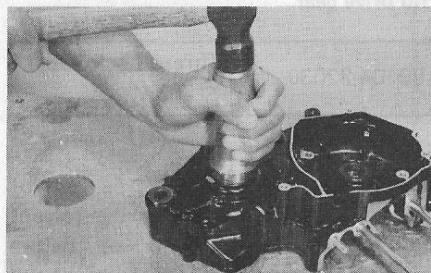
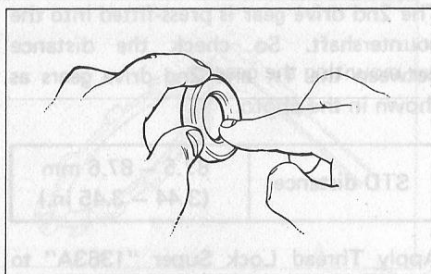
99104-32030	Thread Lock Super "1363A"
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### BEARINGS

Wash the bearing with cleaning solvent and lubricate with motor oil before inspecting. Turn the inner race and check to see that it turns smoothly. If noise is heard, replace it.



## REASSEMBLING ENGINE PARTS



### IMPORTANT

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

### REASSEMBLY

1. When fitting an oil seal, be sure to have its lip part lightly coated with SUZUKI SUPER GREASE "A" and to install it with the oil seal installing tool. With this tool, the oil seal can be held true and square as it goes into its position.

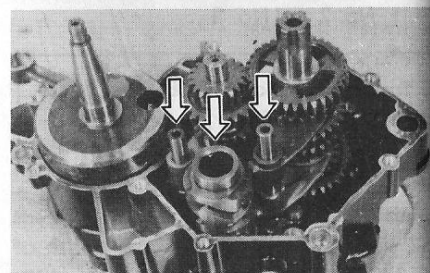
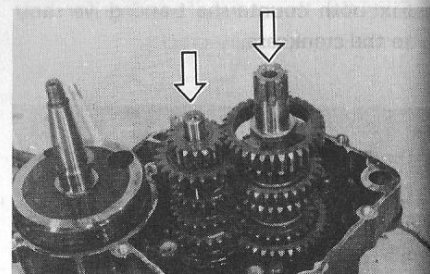
99000-25030

SUZUKI Super Grease A

2. Fit the crankshaft on the crankcase.

### CAUTION:

Bear in mind that this crankshaft does not require any shim (or washer) between crank journal bearing and itself.



IMPORTANT

3. Fix both countershaft and drive shaft to the crankcase.

### MOUNTING THE TRANSMISSION GEARS

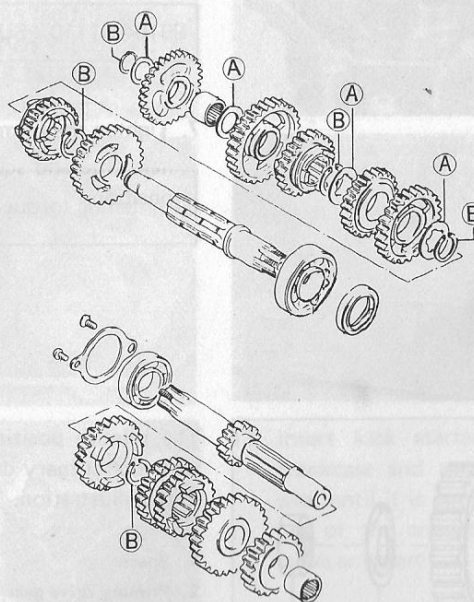
Be sure to mount the gears in the correct order.

Refer to the cross sectional view while and after mounting the gears:

4. Install the gear shifting cam to the crankcase.

5. Install the forks in the gear groove.

### TRANSMISSION



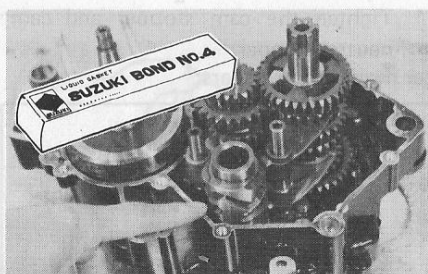
### CAUTION:

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

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

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

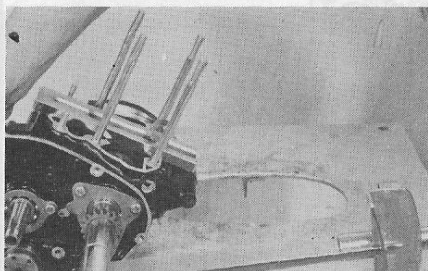
## REASSEMBLING ENGINE PARTS



### 6. Reassemble the crankcase.

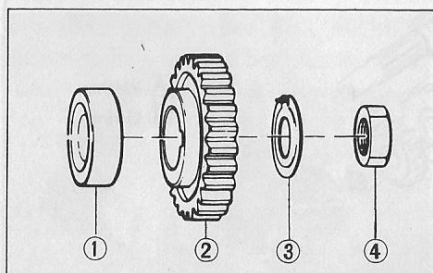
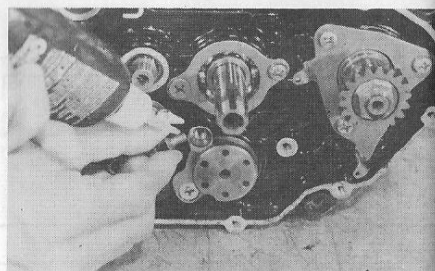
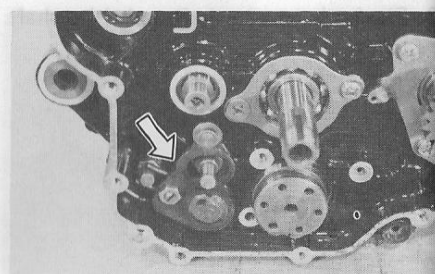
Wipe the crankcase mating surfaces and coat SUZUKI BOND "1215" on one of the mating surfaces, just before reassembling the crankcase.

99104-31110	SUZUKI BOND "1215"
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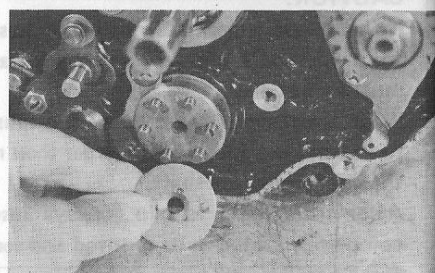
### 7. Tighten the primary drive gear.

Tightening torque	4.0 – 6.0 kg-m
	29.0 – 43.5 lb-ft

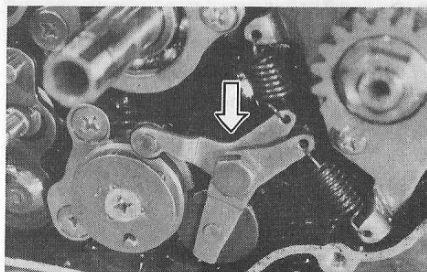


The relative position of parts associated with the primary drive gear are as shown in this illustration.

1. Spacer
2. Primary drive gear
3. Washer
4. Nut

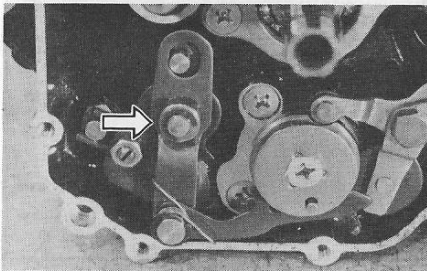


8. Install the gear shifting shaft.

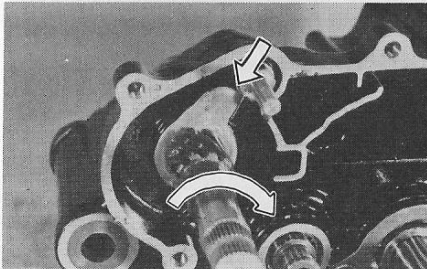


9. Tighten the cam guide.  
Apply Thread Lock "1363C" to screws.

99104-32050	Thread Lock "1363C"
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10. Install the drive pin and retainer.

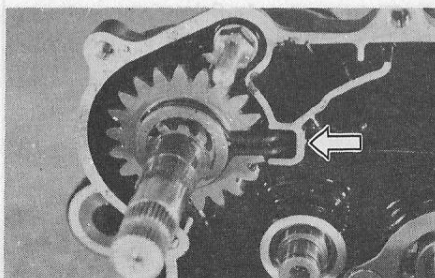


11. Tighten the cam stopper and cam neutral stopper.

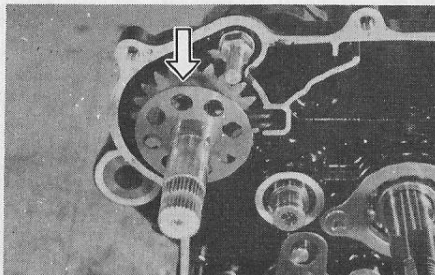
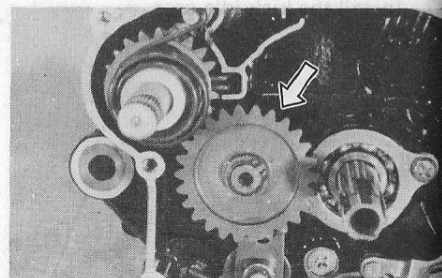
12. Install the gearshifting pawl and "E" ring.

13. Insert kick starter shaft into the crankcase and turn the shaft clockwise until it is contact with the stopper of the crankcase, and can not move anymore.

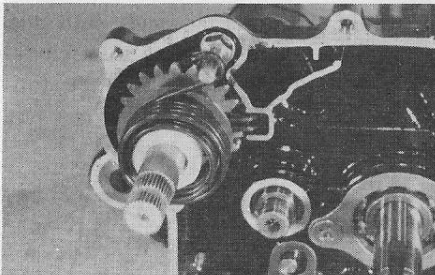
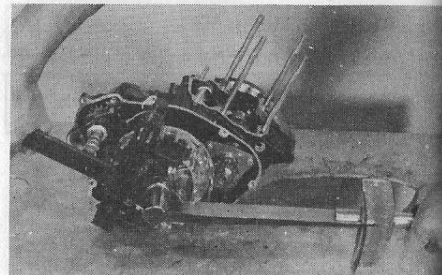




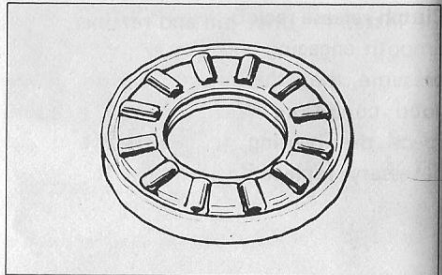
14. Install the kick starter drive gear. Insert the retainer spring into the groove of the crankcase.



15. Install the plate.



16. Install the spring and spacer.





17. Install the kick idle gear.

18. Attach the washer, tighten the clutch sleeve hub nut and bend the washer.

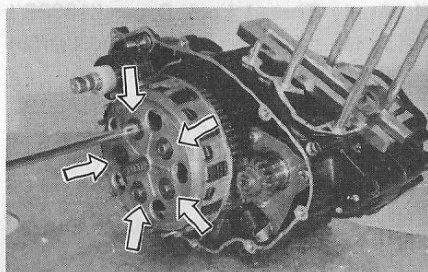
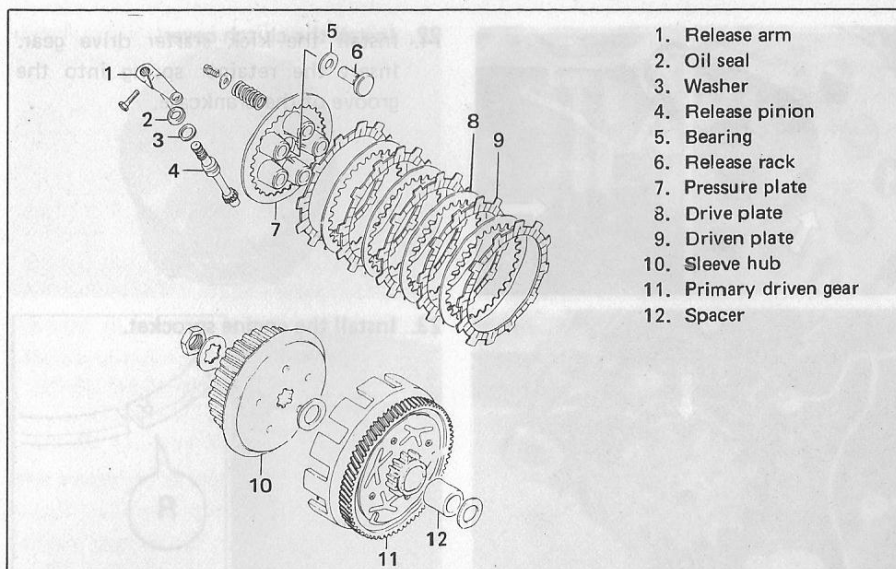
Tightening Torque	3.0 – 5.0 kg-m
	21.5 – 36.0 lb-ft

19. Install the drive and driven plates.

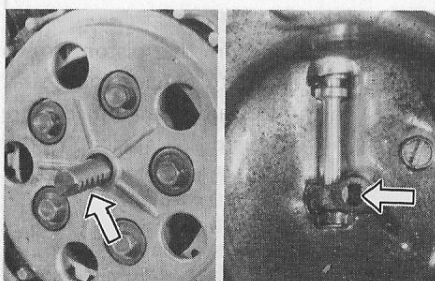
20. Install the release rack and the clutch pressure plates.

#### Clutch release rack bearing

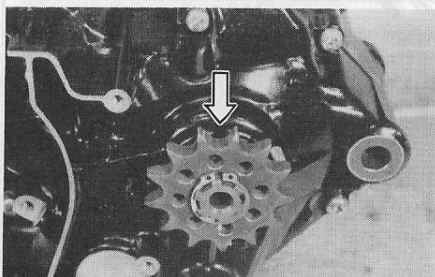
Smooth engaging and disengaging actions presume that the release bearing is in good condition. With this in mind, inspect the bearing for damage and, as necessary, replace it by a new one.



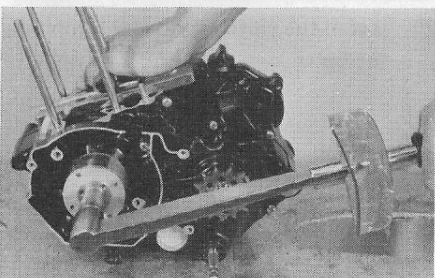
21. Install the clutch spring by tightening the bolts.



22. Install the clutch cover.



23. Install the engine sprocket.



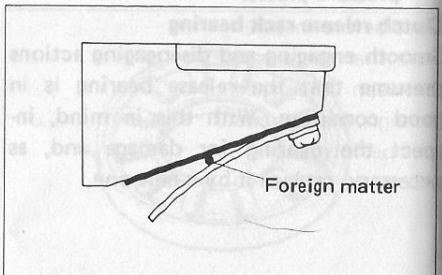
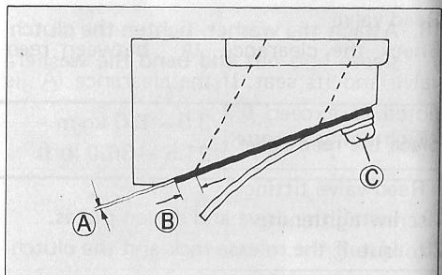
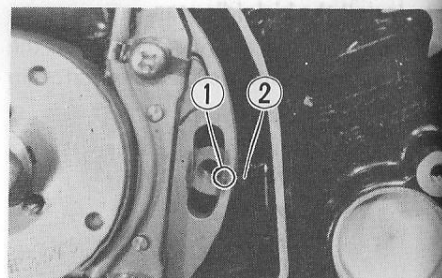
24. Apply Thread Lock Super "1332B" to the magneto rotor nut and tighten the nut.

Tightening Torque

3.0 – 4.0 kg-m  
21.5 – 29.0 lb-ft

99104-32090

Thread Lock Super  
"1332B"



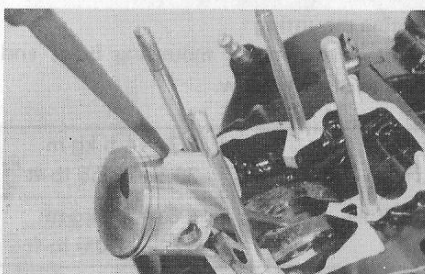
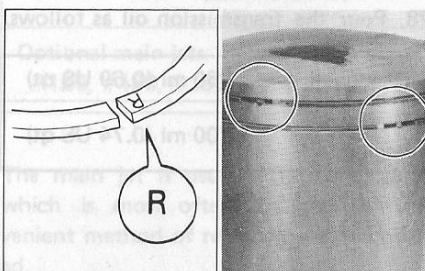
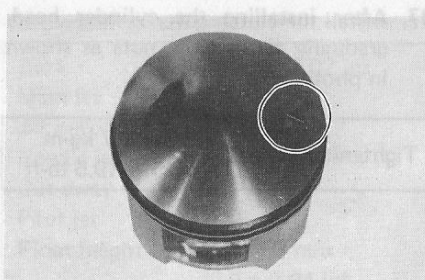
25. Align the engraved line ① on the stator to the aligning mark ② at the crankcase and secure the stator in that position.

#### Reed valve

Check the clearance ① between reed valve and its seat. If the clearance ① is noted to exceed 0.2 mm (0.008 in), replace the reed valve ②.

Reed valve fitting screw tightening torque ③	0.08 – 0.12 kg-m 0.5 – 1.0 lb-ft
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Just before installing the reed valve, make sure that there is no foreign matter stuck between the reed and its seat. Such foreign matter could reduce engine output performance.



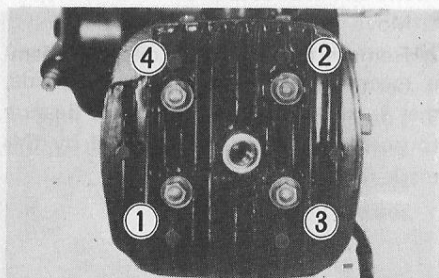
#### Piston

The arrow mark on the piston crown is meant to point to exhaust port side, that is, in the forward direction. Be sure to position the piston as guided by this mark.

#### Piston ring

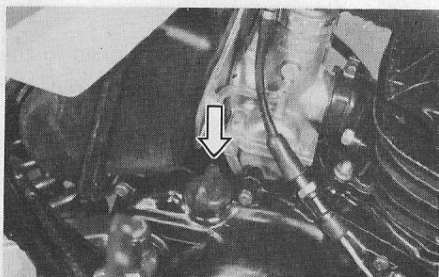
Piston ring must be so positioned in the groove as to locate the joint over the locating pin.

26. Apply engine oil to the piston surface and insert the piston in the cylinder.



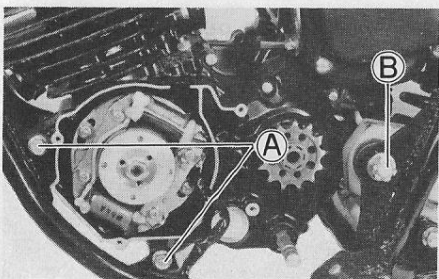
27. After installing the cylinder head, gradually tighten the nuts as shown in photo.

Tightening Torque	2.3 – 2.7 kg-m 16.5 – 19.5 lb-ft
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28. Pour the transmission oil as follows.

Change oil	650 ml (0.69 US qt)
Overhaul engine	700 ml (0.74 US qt)



#### Engine mounting

Tighten the engine mounting bolts and nuts as shown below.

Tightening torque	Ⓐ	3.7 – 4.5 kg-m 26.5 – 32.5 lb-ft
	Ⓑ	4.5 – 7.0 kg-m 32.5 – 50.5 lb-ft



## CARBURETOR

The carburetion of your motorcycle was carefully selected after extensive testing. You will find that the carburetion will function smoothly under many varied operating conditions. For best results we recommend that the adjustments and carburetion jetting be left "as is" from the factory.

Some riders may operate their motorcycle under extreme operating conditions such as; very high altitudes or extreme cold and hot temperatures. In these circumstances the jetting of the carburetor or other adjustments may need to be altered slightly. Riders who are not familiar with the operation and jetting procedures of the Mikuni carburetor should have their local authorized Suzuki dealer perform these alterations.

Mechanically experienced riders can alter the carburetor settings based on the following information and specifications.

### Carburetor specifications

Bore	26 mm (1.02 in)
Main jet	# 140
Jet needle	5DP39-2
Needle jet	P - 4
Cut-away	2.0
Pilot jet	# 45
Float height	$23 \pm 1.0$ mm ( $0.9 \pm 0.04$ in)

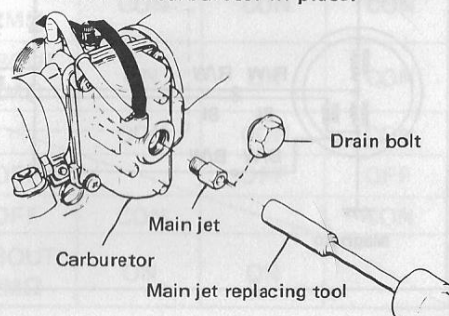
### Optional main jets

#120, #130, #150, #160 and #170

The main jet is usually the component which is most often changed. A convenient method of replacement is provided.

### MAIN JET REPLACING

1. Move fuelcock lever to OFF position.
2. Remove the drain bolt on float chamber to empty the chamber of fuel.
3. Loosen clamp screws on both sides of carburetor and turn the carburetor around to bring its float chamber toward you.
4. Insert the main jet replacing tool into the drain bolt hole and, with this tool, remove the main jet.
5. Install the main jet of another number in the carburetor. Plug up the float chamber by refitting the drain bolt.
6. Restore the carburetor (which is now tilted condition) to the original position by turning it around, and tighten the clamp screws on both sides to secure the carburetor in place.





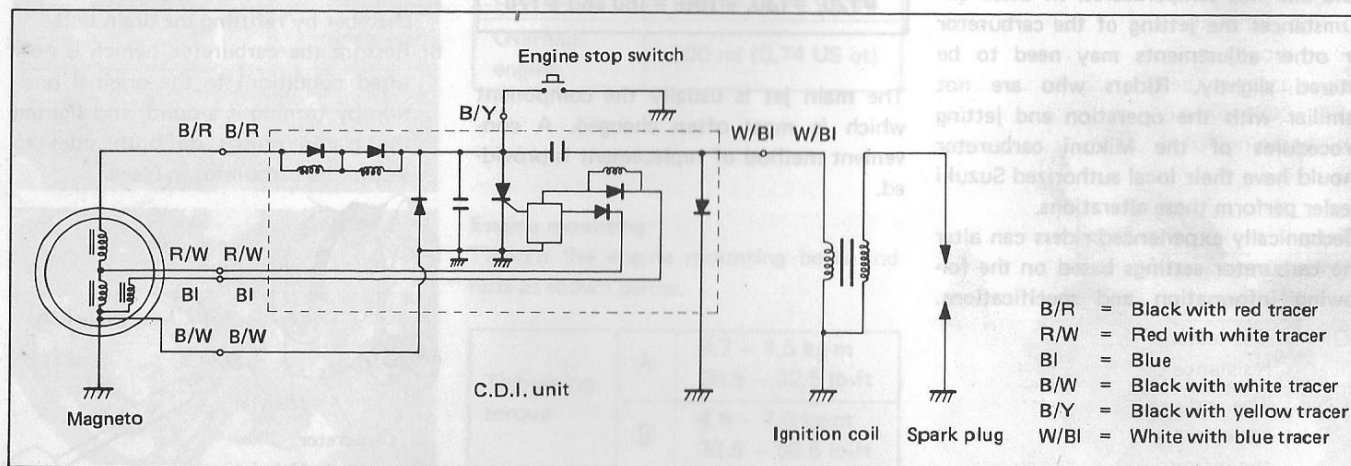
## ELECTRICAL

### SUZUKI "PEI" SYSTEM

In the RM80 ignition energy is supplied to the spark plug through electronically triggered capacitor discharge in a system comprising the magneto, CDI unit, ignition coil and spark plug. Three outstanding advantages of this proprietary system are:

1. High voltage induced in the secondary winding of the ignition coil is stable over the entire range of engine speeds, so that the ignition performance of the plug is dependable, regardless of whether the engine is running fast or slow.
2. There is no need of so frequently checking and adjusting the ignition system components as in the conventional system based on a breaker mechanism for make-break contacting action. Make-break action is electronic in the SUZUKI "PEI" system.
3. Ignition timing is automatically advanced in a manner best suited to the operating characteristic of the engine.

### SUZUKI "PEI" CIRCUIT DIAGRAM



## CHECKING CDI UNIT

Use a circuit tester as an ohmmeter, provided that it has a megohm range; if not, use an ohmmeter capable of measuring resistances of the megohm order. In either case, the two testing prods, (+) and (−), are to be put to terminals of the CDI unit in reference to the chart below. The CDI unit has six terminals. The (+) prod or pointer is to be put to one of the terminals listed in the top horizontal row, and the (−) prod or pointer to the corresponding terminals listed in the vertical column. What the circuit tester or ohmmeter should indicate for the two terminals is given in the intersecting box (ON, OFF, CON or ABOUT 2 MEGOHMS). The meanings of these terms are as follows:

Term	Significance
ON	The tester shows circuit continuity.
OFF	The tester shows infinitely large resistance or, for short, infinity.
CON	The indicating hand deflects a little but promptly returns to the infinity end of the scale.

### CAUTION:

Never use an insulation-resistance meter (so-called megger) for this purpose or circuit elements inside the CDI unit will suffer rupture.

- NOTE:**
1. Before putting the probe pointers of the tester to two terminals, touch the two with a jumper lead to form a momentary short-circuit in order to neutralize the charges, if any.
  2. For the instrument to be used, a circuit tester of the type used by radio repairmen will do. However, a high-grade circuit tester or an ohmmeter is preferred.
  3. If the instrument gives an indication other than what is shown in the intersecting box in the chart for any pair of terminals, it means that the CDI unit is defective and needs replacement.

		Positive (+) probe pin					
		B/Y	B/W	B/R	R/W	BI	W/BI
Negative (−) probe pin	B/Y		CON	ABOUT 2MΩ	CON	CON	CON
	B/W	ON		ABOUT 2MΩ	ON	ON	CON
	B/R	ON	CON		CON	CON	CON
	R/W	OFF	OFF	OFF		OFF	OFF
	BI	CON	CON	OFF	CON		CON
	W/BI	ON	ON	ABOUT 2MΩ	ON	ON	

## ELECTRICAL

### CHECKING IGNITION COIL

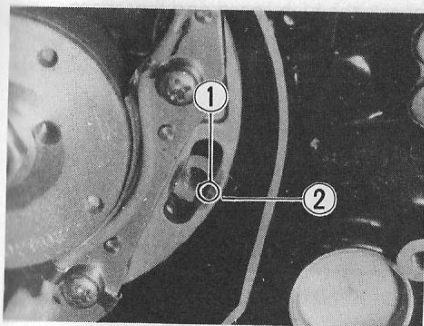
The ignition coil is to be checked for continuity in both primary and secondary windings. Exact ohmic readings are not necessary, but, if the windings are in sound condition, their continuity will be noted with these approximate ohmic values:

Between W/BI and ground	0 – 1 $\Omega$
Between plug cord and ground	10 – 11k $\Omega$

### MAGNETO

Using the circuit tester, check the high-speed and low-speed coils for ohmic resistance. Coils in good condition will exhibit these values:

Between B/R and R/W	70 – 110 $\Omega$
Between B/W and R/W	230 – 350 $\Omega$
Between B/W and B/R	300 – 440 $\Omega$



### IGNITION TIMING ADJUSTMENT

Unlike conventional contact-breaker ignition systems, the PEI system maintains its original ignition timing until the system becomes disturbed as in engine overhauling: ignition timing does not change at all as long as the system remains undisturbed.

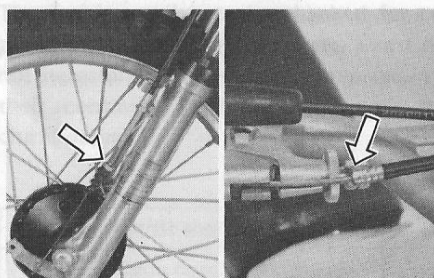
The following adjusting procedure is a procedure to be followed in remounting the magneto stator to re-establish the specified ignition timing:

Align the engraved line ① on the stator to the aligning mark ② at the crankcase and secure the stator in that position.

## FRONT WHEEL

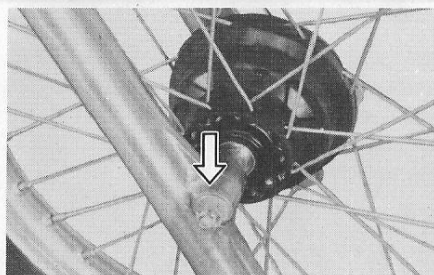
### REMOVAL

1. Disconnect the front brake cable.

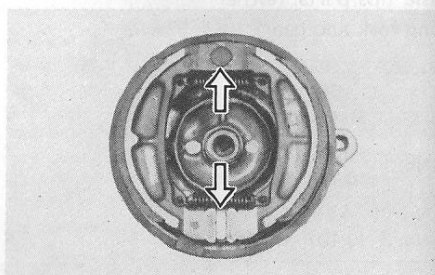
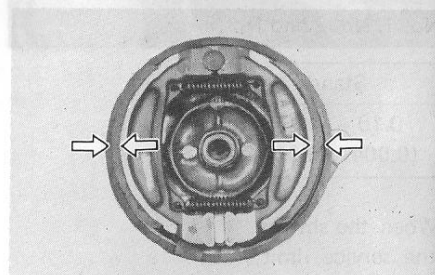
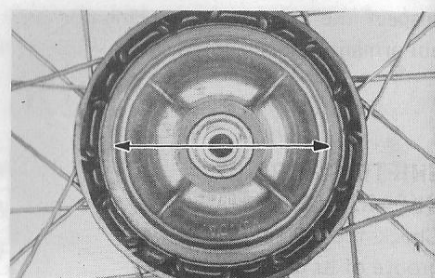
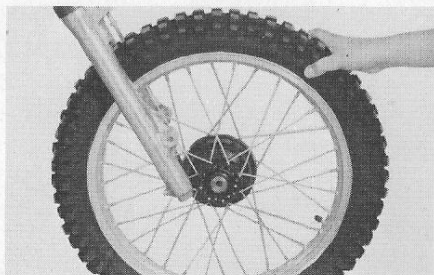


2. Pull out the cotter pin and loosen the front axle nut.

Tightening torque	2.7 – 4.3 kg-m
	19.5 – 31.0 lb-ft



3. Lift the front end of the motorcycle up and place a jack or a block under the engine or chassis tubes.
4. Pull out the front axle shaft and remove the wheel.





**INSPECTION AND SERVICING**

1. Check the bearing noise and measure the inner diameter of brake drum.

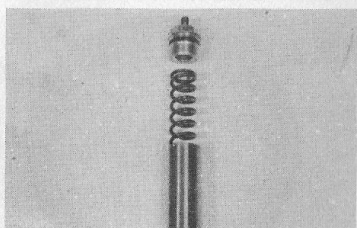
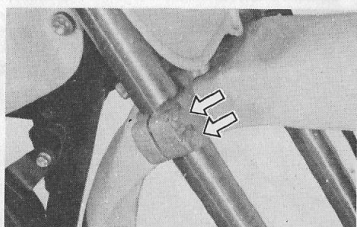
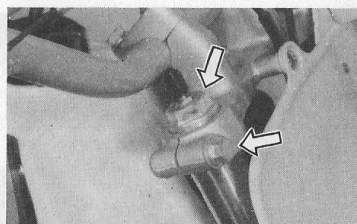
Service Limit	100.7 mm (3.96 in.)
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2. Measure the thickness of brake shoe.

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

3. Apply grease on the cam.

## FRONT FORK



### DISASSEMBLY

1. Remove the front wheel.
2. Loosen the front fork cap bolt after loosening the upper clamp bolt.

#### Upper clamp bolt

Tightening torque	1.2 — 2.0 kg-m 8.5 — 14.5 lb-ft
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#### Front fork cap bolt

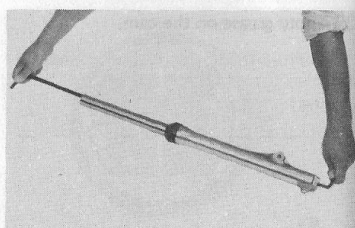
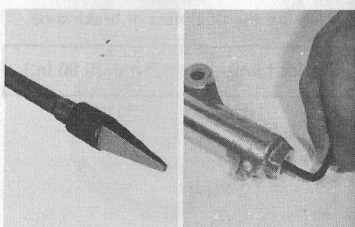
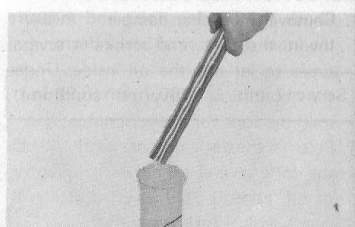
Tightening torque	1.5 — 3.0 kg-m 11.0 — 21.5 lb-ft
-------------------	-------------------------------------

3. Loosen the clamp bolts. Pull down the front fork.

#### Lower clamp bolt

Tightening torque	2.0 — 3.0 kg-m 14.5 — 21.5 lb-ft
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4. Remove the front fork cap bolt.
5. Draw out fork spring.

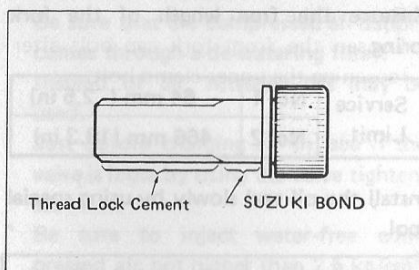


6. Remove the rubber damp...
7. Invert the fork, and str... times to let out the oil... the condition (inverted... hold the fork for a few m...
8. Pour in the fork oil and... the fork several times. A... of oil, consult "Oil level... and "Typical fork setting...

9. Remove the bolt securin... to the outer tube by... tools.

09940-34520	The
09940-34561	Att
09911-70120	L. y head

6. Remove the rubber damper.
7. Invert the fork, and stroke it several times to let out the oil inside. Under the condition (inverted condition), hold the fork for a few minutes.
8. Pour in the fork oil and gently stroke the fork several times. As to quantity of oil, consult "Oil level adjustment" and "Typical fork setting".



When reassembling, apply the Thread Lock "1363C" to the damper rod bolt and SUZUKI BOND "1215" to the damper rod bolt and oil drain screw.

99104-32050	Thread Lock "1363C"
99104-31110	SUZUKI BOND "1215"

Tightening torque	1.5 – 2.5 kg-m 11.0 – 18.0 lb-ft
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9. Remove the bolt securing the cylinder to the outer tube by using special tools.

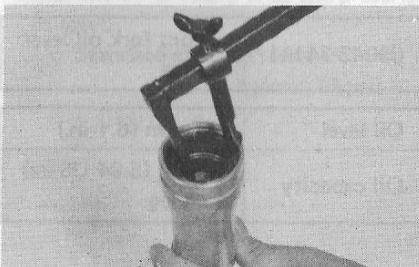


09940-34520	T handle
09940-34561	Attachment D
09911-70120	L type 6 mm hexagon wrench

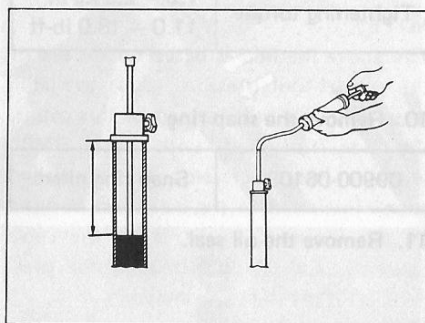
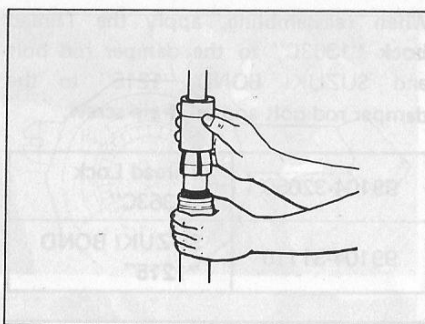
10. Remove the snap ring.

09900-06108	Snap ring pliers
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11. Remove the oil seal.



## FRONT FORK



### INSPECTION & ADJUSTMENT

Measure the free length of the fork spring.

Service Limit	No. 1	64 mm ( 2.5 in)
	No. 2	466 mm (18.3 in)

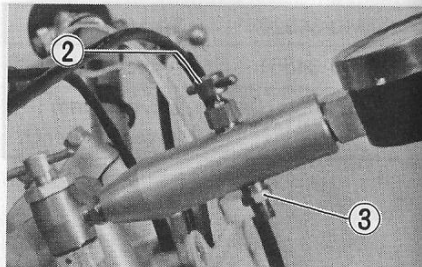
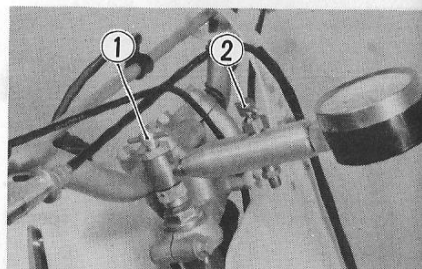
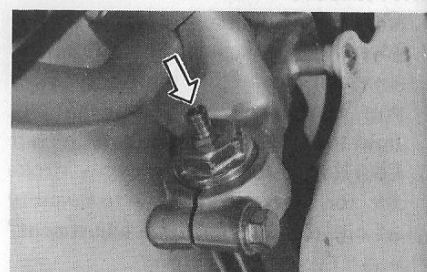
Install the oil seal slowly by using special tool.

09940-50112	Front fork oil seal installer
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Set the oil level gauge as shown, and refer to top end face of the inner tube (in the fully compressed state of the fork) to the scale. Adjust the oil level to the prescribed specification as measured from that end face.

09943-74111	Front fork oil level gauge
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Oil level	155 mm (6.1 in.)
Oil capacity	176 ml (5.94 US oz) each leg



**AIR PRESSURE ADJUSTMENT**

1. Hold the machine standing erect by blocking up, keeping the front wheel off the floor.
2. Push in the valve to let out the pressure. Be sure to bleed the pressure out completely.

When replacing the air valve, apply Thread Lock "1363C" to the air valve screw.

99104-32050	Thread Lock "1363C"
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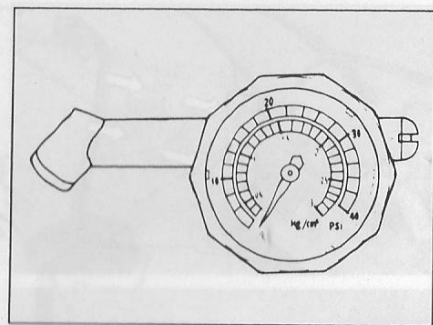
3. Set up the pressure gauge as shown. Tighten up knob ① and knob ②.

09940-44110	Front fork pressure regulating gauge
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5. Inject water-free compressed air through valve ③ until the pressure gauge reads the desired level not higher than  $2.5 \text{ kg/cm}^2$  (35 psi).
6. Back away (loosen) knob ② to bleed out the excess pressure, if any, to secure the desired air pressure inside the fork.

**REQUIREMENTS ON AIR**

- \* Be sure that the compressed air supply comes through a de-watering filter. Instead of air, nitrogen gas may be used.
  - \* Just before charging air in, see if the valve is loose by using the valve tightener.
  - \* Be sure to inject water-free compressed air not higher than  $2.5 \text{ kg/cm}^2$  (35 psi).
  - \* The fork is designed not for higher pressures than this limit.
  - \* Try to equalize the air pressure of the two forks, right and left, as closely as possible. The maximum permissible difference is  $0.1 \text{ kg/cm}^2$  (1.4 psi).
  - \* Before riding out, be sure to check that the air pressure is at the prescribed level.
- Ⓐ Standard setting Pressure:  
 $0 \text{ kg/cm}^2$  (0 psi)

**NOTE:**

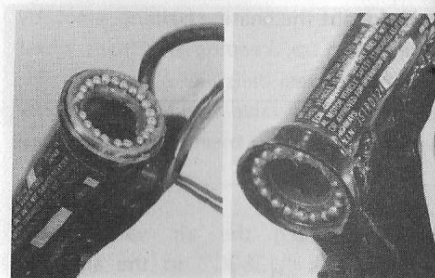
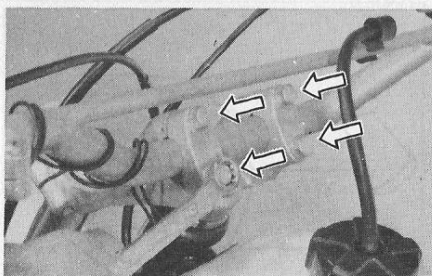
The above method is based on the use of the special-tool pressure gauge available from SUZUKI but, instead of this gauge, the one furnished with each RM80 machine may be used. The furnished gauge (included in the kit) must be used in this manner: 1) fit it to the valve squarely, and 2) upon reading the pressure, let it off the valve snappily.



## STEERING

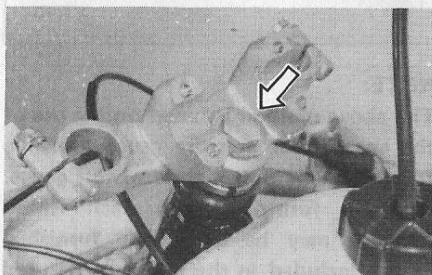
### DISASSEMBLY

1. Remove the front wheel.
2. Take off front number plate.
3. Remove the front forks.
4. Remove the handlebar clamp bolts and slide off the handlebar.



5. Remove the steering stem head bolt and loosen steering stem upper clamp bolt.

Remove the upper bracket.

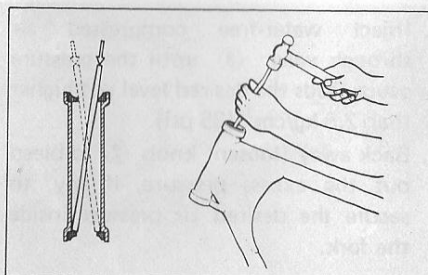
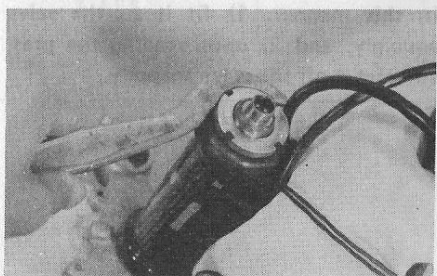


6. Remove the steering stem nut with the special tool.

09940-10122

Steering stem nut  
wrench

Draw out the steering stem lower bracket.



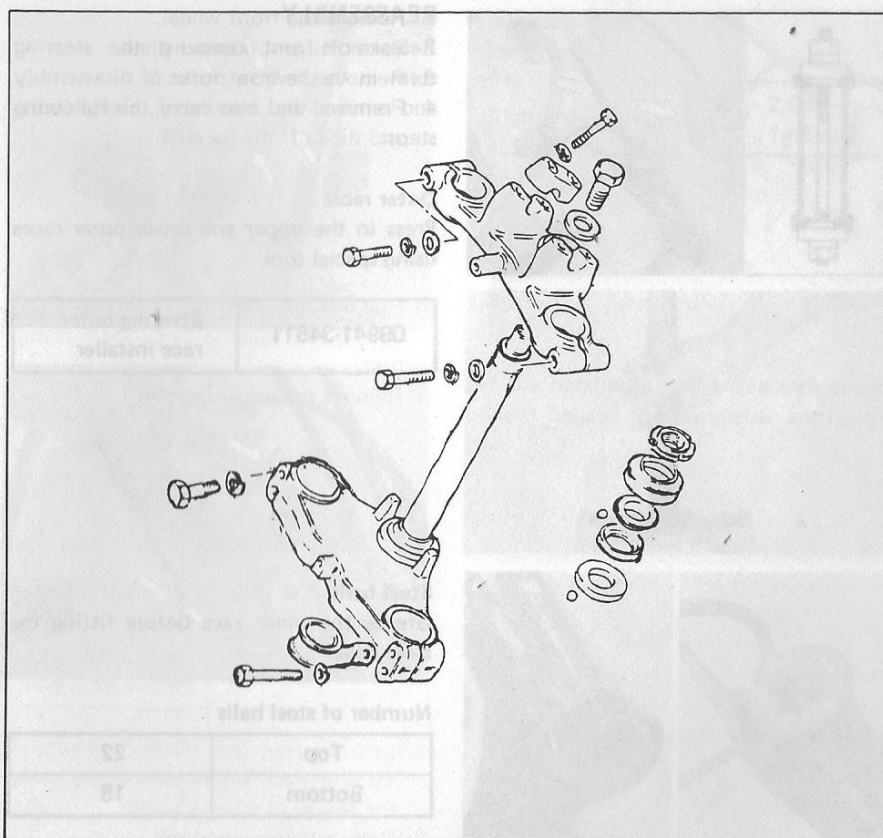
7. Take out the bearing balls.

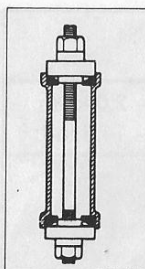
Number of steel balls

Top	22
Bottom	18

8. Draw out upper and lower bearing outer races.

09941-84510	Bearing inner race remover
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### REASSEMBLY

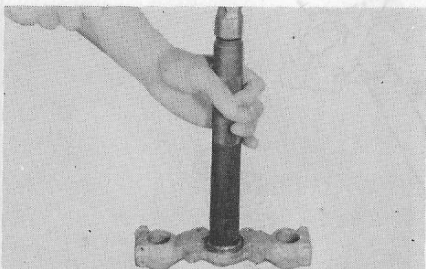
Reassemble and remount the steering stem in the reverse order of disassembly and removal and also carry the following steps:

#### Outer races

Press in the upper and lower outer races using special tool.

09941-34511

Steering outer  
race installer



#### Steel balls

Grease the inner race before fitting the steel balls.

#### Number of steel balls

Top	22
Bottom	18

### Steering stem

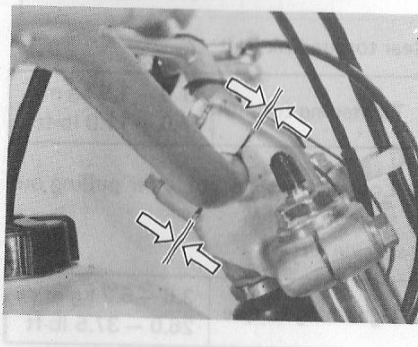
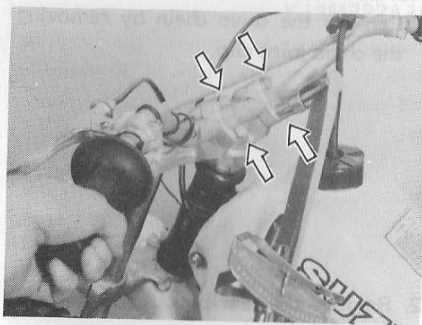
1. Using the steering nut socket wrench and a torque wrench, tighten the stem nut.

09940-14910	Steering nut socket wrench
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Tightening torque	4.0 – 5.0 kg-m 29.0 – 36.0 lb-ft
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2. Move the steering stem back and forth five or six times to seat the bearing.
3. Loosen the steering stem nut to 0 kg-m. Then retighten very lightly so that no play can be detected in the stem.
4. Install the steering stem upper bracket and temporarily tighten the steering stem head center bolt.

Tightening torque	3.5 – 5.5 kg-m 25.5 – 40.0 lb-ft
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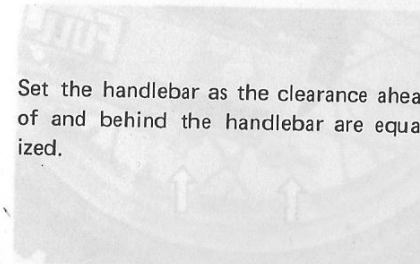


### Handlebar

#### Handlebar clamp bolt

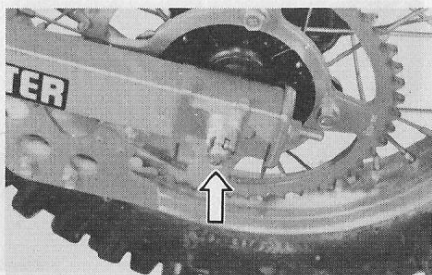
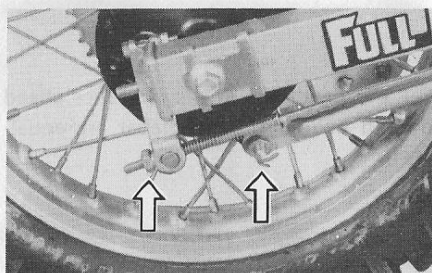
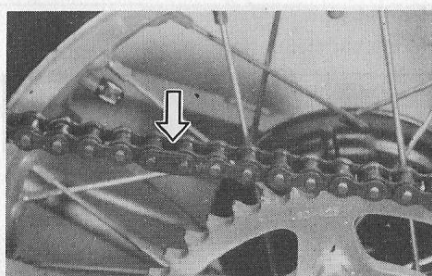
Tightening torque	1.2 – 2.0 kg-m 8.5 – 14.5 lb-ft
-------------------	------------------------------------

Set the handlebar as the clearance ahead of and behind the handlebar are equalized.





## REAR WHEEL



### DISASSEMBLY

1. Remove the drive chain by removing the chain joint clip.

2. Remove the rear brake cable and rear torque link bolt.

#### Rear torque link bolt

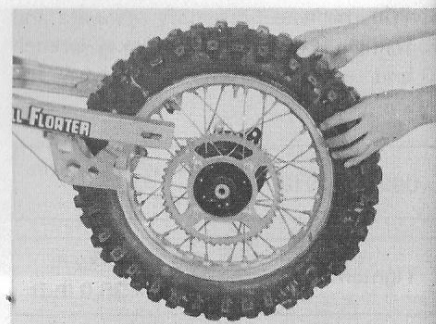
Tightening torque	1.0 – 1.5 kg-m
	7.0 – 11.0 lb-ft

3. Loosen the axle nut after pulling out the cotter pin.

#### Rear axle nut

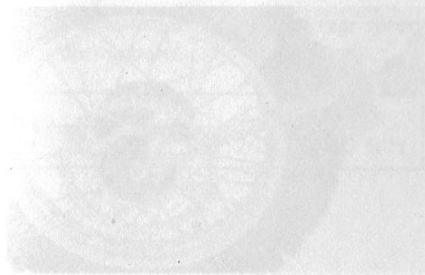
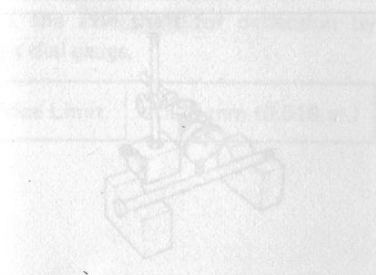
Tightening torque	3.6 – 5.2 kg-m
	26.0 – 37.5 lb-ft

4. Lift the rear end of the motorcycle up and place a jack or a block under the engine or chassis tubes.
5. Draw out the axle shaft.





6. Pull the wheel assembly rearward and remove it from the swinging arm.



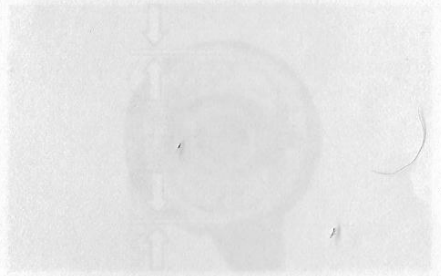
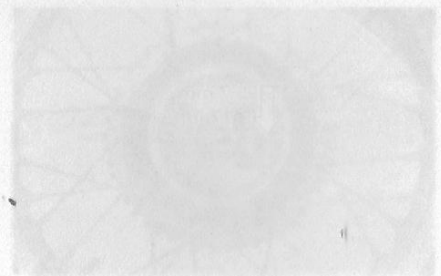
INSPECTION

Drum I.D.	Service Limit
95.7 mm (3.77 in.)	

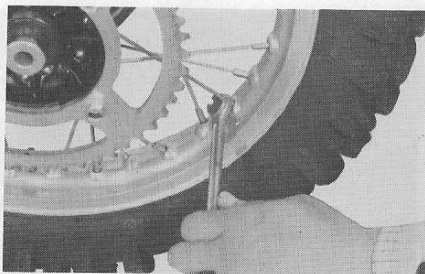
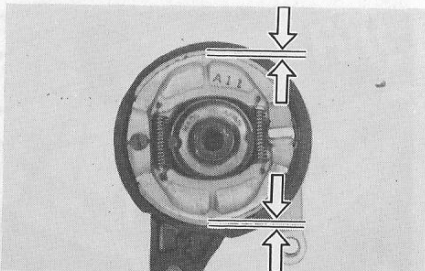
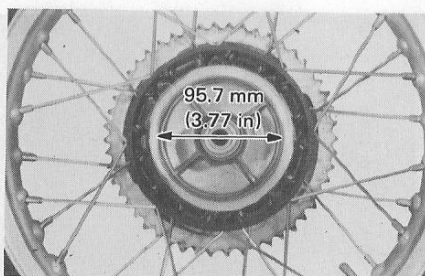
Service Limit	Measure the thickness of the brake shoe
1.5 mm (0.06 in.)	

Check and retighten the spoke nipples to prevent damage of nipples and rim. During the storage period, loosen all spokes.

09940-80113	Spoke nipple wrench
-------------	---------------------



## REAR WHEEL



### INSPECTION

Measure the inner diameter of the brake drum.

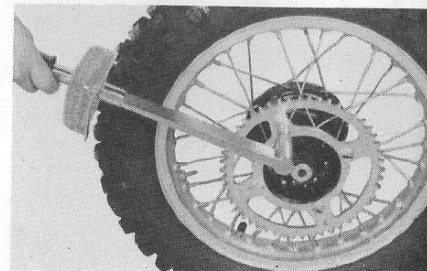
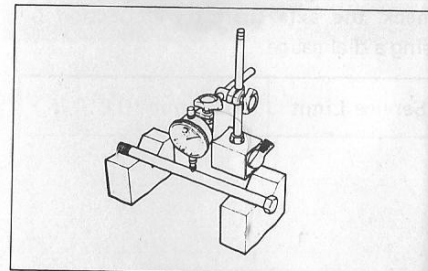
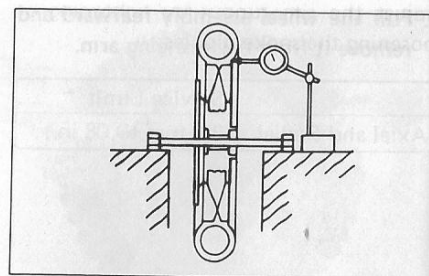
	Service Limit
Drum I.D.	95.7 mm (3.77 in.)

Measure the thickness of the brake shoe.

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

Check and retighten the spoke nipples to prevent damage of nipples and rim.  
During the storage period, loosen all spokes.

09940-60113	Spoke nipple wrench
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Adjust the rim runout by tightening or loosening the spoke nipples.

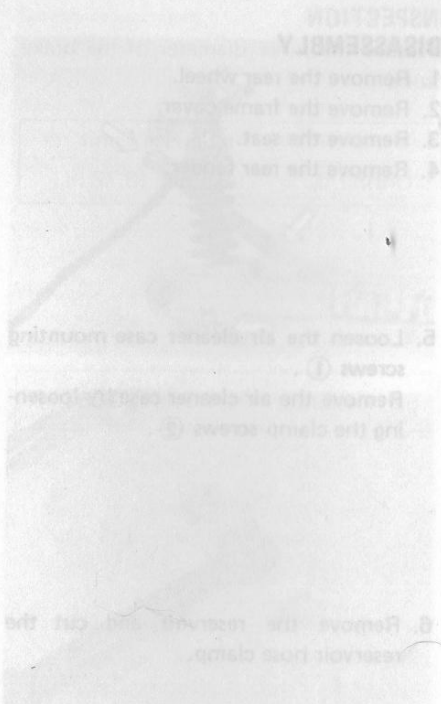
	Service Limit
Axial and Radial	2.0 mm (0.08 in.)

Check the axle shaft for deflection by using a dial gauge.

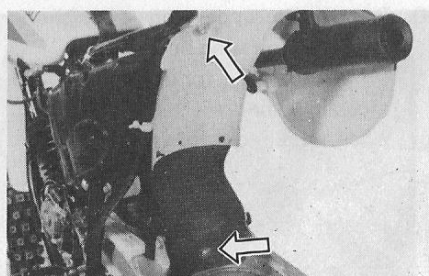
Service Limit	0.25 mm (0.010 in.)
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After each race, retighten the rear sprocket securing bolts.

Tightening torque	3.3 – 3.7 kg-m 24.0 – 27.0 lb-ft
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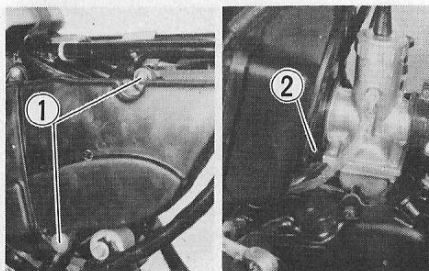


## FULL-FLOATING SUSPENSION SYSTEM



### DISASSEMBLY

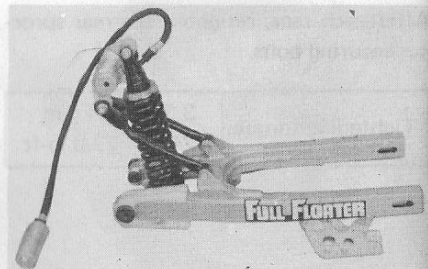
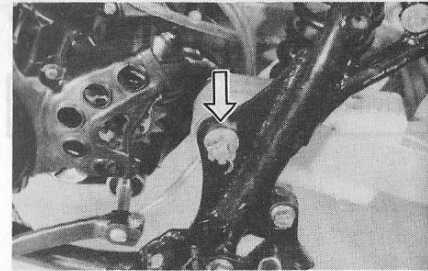
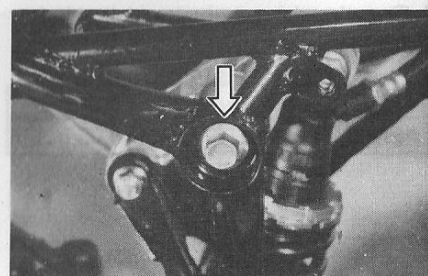
1. Remove the rear wheel.
2. Remove the frame cover.
3. Remove the seat.
4. Remove the rear fender.



5. Loosen the air cleaner case mounting screws ①.
- Remove the air cleaner case by loosening the clamp screws ②.



6. Remove the reservoir and cut the reservoir hose clamp.

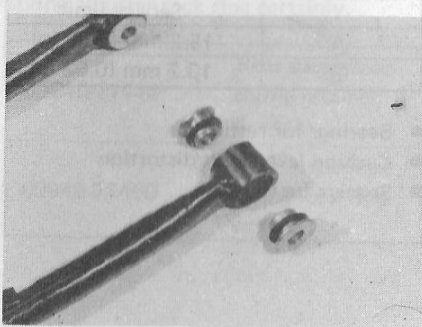
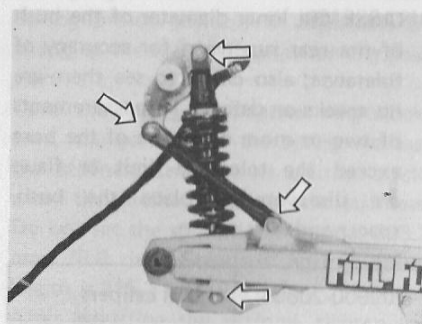


7. Draw out the Bell Crank shaft after loosening the nut.

Needle bearing is used for the Bell Crank, so install rollers into the bearing holder certainly and apply grease when reinstalling.

8. Remove the swinging arm pivot nut after pulling off the cotter pin and draw out the swinging arm pivot shaft.

9. Pull the suspension assembly and remove it from the frame.



10. Remove the upper and lower shock absorber mounting bolts.

"O" ring is used for upper and lower shock absorber.

When installing, apply grease.

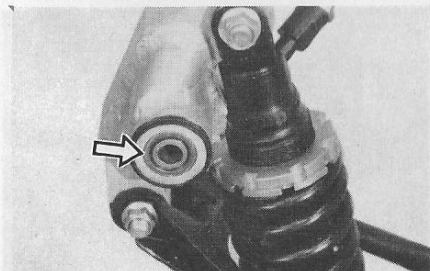
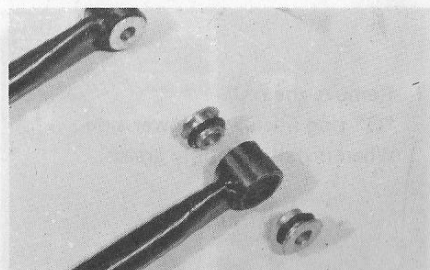
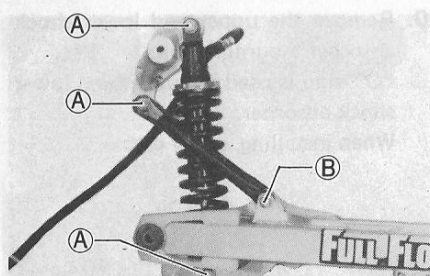
11. Remove the rod.

"O" ring is used for lower side.

When installing, apply grease.



## FULL-FLOATING SUSPENSION SYSTEM



### INSPECTION

- Check the inner diameter of the bush of the rear suspension for accuracy of tolerance; also check to see there are no cracks or defects. If measurements of two or more diameters of the bore exceed the tolerance limit or flaws are discovered, replace the bush, spacer and dust seal.

09900-20605	Dial calipers
-------------	---------------

	Service limit
(A)	15.2 mm (0.60 in)
(B)	13.2 mm (0.52 in)

- Bearings for rattle
- Cushion lever shaft distortion
- Spacers for damage

### SHOCK ABSORBER

RM80 shock absorber provides superior performance due to its innovative design and special adjustment features. The spring preload can be adjusted to suit each rider's specific needs. The shock absorber is also equipped with a nitrogen gas pressurized remote reservoir to further aid shock performance and consistency of damping. The remote reservoir special design enables both oil replacement and nitrogen gas recharging significantly extending the service life of the shock absorber.

#### WARNING:

Carefully review the service procedures regarding the shock absorber before attempting to perform any adjustment or servicing. IT IS ESSENTIAL FOR YOUR OWN SAFETY THAT YOU FOLLOW ALL INSTRUCTIONS AND TAKE ALL SAFE-GUARDS.

Suzuki recommends that your local authorized Suzuki dealer perform the servicing and adjusting of your RM shock absorber unless you have all of the proper tools, special equipment, and mechanical experience.



### Spring adjustment

Spring preset position is adjustable by changing the spring set adjuster ring position.

Turn the spring set adjuster ring clockwise, the preload on the spring increase the stiffness and turn it counter-clockwise, the preload decrease the stiffness. Do not set the spring length under 203.2 mm (8.0 in). Standard spring preset length is 215.2 mm (8.5 in).

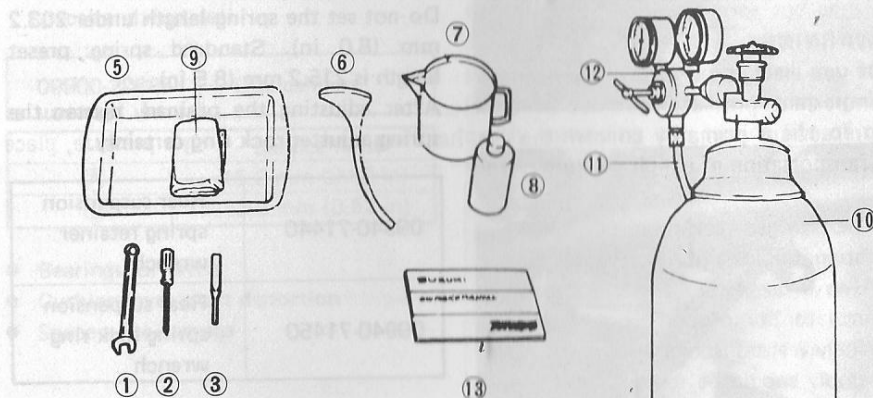
After adjusting the preload, tighten the spring adjuster rock ring certainly.

09940-71440	Rear suspension spring retainer wrench
09940-71450	Rear suspension spring lock ring wrench

### Required tools and special equipment

Shown below are the necessary tools and special equipment that are required to perform adjustments and servicing both correctly and safely.

- ① 17 mm Open End Wrench
  - ② Screwdriver or small punch
  - ③ Blunt rod
  - ④ Vise\*
  - ⑤ Drain Pan
  - ⑥ Funnel and Filler Hose
  - ⑦ Beaker
  - ⑧ Specified Shock Oil
  - ⑨ Rags
  - ⑩ Nitrogen tank
  - ⑪ Filler Hose and Nozzle
  - ⑫ Regulator Assembly
  - ⑬ Owner's Maintenance Manual
- \* Not Shown in the illustration



#### Oil and nitrogen gas replacement procedure

After extended usage the shock absorber oil will begin to deteriorate and lessen the shock damping performance. The corrective service procedure, while not complicated to perform, does require proper tools, special equipment and mechanical experience to be performed properly and safely. Your local Suzuki dealer has the necessary equipment and training to perform this special servicing.

#### WARNING:

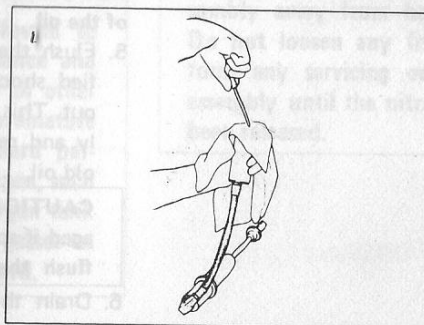
If you elect to perform the servicing yourself, several important precautions must be adhered to. These precautions primarily concern the use, handling, and transportation of a high pressure nitrogen gas.

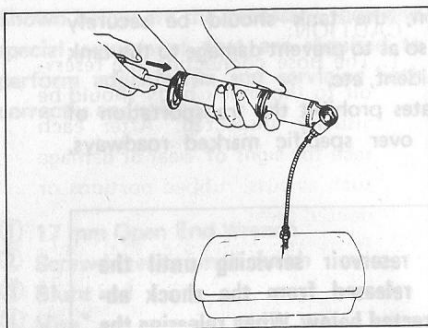
1. The nitrogen tank must be tagged with a green tag indicating it holds a non-flammable gas.
2. Always use either a single stage or two stage pressure regulator for proper pressure reduction and regulation.
3. Whenever transporting such a tank the regulator assembly should be removed and the approved tank safety cap re-installed. A tank should not be stored unless the regulator assembly is removed and the protective cap is re-installed.

4. During transportation, the tank should be securely fastened at all times so as to prevent damage to the tank in the event of an accident, etc.
5. Certain cities and states prohibit the transportation of high pressure tanks over specific marked roadways, bridges, tunnels, etc.

#### WARNING:

Never perform any reservoir servicing until the nitrogen pressure is released from the shock absorber reservoir as directed below. When releasing the gas pressure, place a rag over the gas discharge nozzle and use the end of a screwdriver, etc. to depress the nozzle, and release the nitrogen gas. Do not use your finger to depress the gas nozzle. Direct the nozzle away from your face and body.





Follow the procedure below to replace the oil and nitrogen.

1. Release the gas.
2. Push the piston rod and attach the cushion rubber and upper side of cylinder.
3. Loosen and remove the reservoir hose at the reservoir fitting using a 17 mm wrench. Inspect the hose O ring for cuts or other damage. The O ring may be re-used if still in good condition.
4. Tilt the shock body as illustrated and slowly pump all the old oil from the unit.

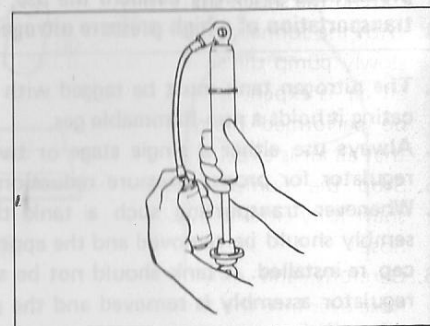
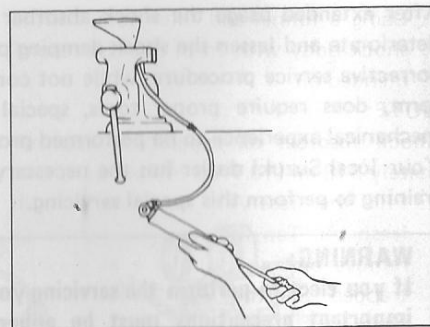
**NOTE:**

The unit may be drained overnight if time permits for more thorough purging of the oil.

5. Flush the unit twice with fresh specified shock oil and again pump it all out. This will clean the unit thoroughly and remove the last remains of the old oil.

**CAUTION:** The seals will be damaged if solvent of gasoline is used to flush the shock body or reservoir.

6. Drain the old oil from the reservoir and flush with fresh, new oil.





### Reassembly

1. Using a funnel and filler hose, fill the shock body with fresh oil. Use recommended oil.

#### NOTE:

Shock absorber oil capacity is approximately 318 ml (10.7 US oz) per unit.

2. Fill the reservoir completely with fresh oil. Tap the reservoir lightly to remove any air bubbles that may be trapped. Set the reservoir aside temporarily.
3. Extend the shock shaft fully.
4. With the funnel and hose still attached slowly pump the shaft in and out until all air is expelled. This pumping must be performed many times to insure that all air is expelled.
5. Stop the pumping action with the shaft fully extended. Remove the filler hose.
6. Carefully and quickly tip the shock hose over into the threaded hole of the waiting reservoir. Tighten securely to 2.0 – 2.5 kg-m (14.5 – 18.0 lb-ft).

#### NOTE:

The reservoir must be positioned below the shock body while the shock hose is being connected.

7. Adjust the two stage regulator to 20 kg/cm<sup>2</sup> (284 psi) and carefully pressurize the reservoir with nitrogen gas.

#### WARNING:

Do not exceed 20 kg/cm<sup>2</sup> (284 psi) or the reservoir may rupture.

After pressurizing the reservoir, the removal of the filler nozzle may cause some oil to be sprayed. Do not expose your face or body to the spray.

8. Re-install the spring and mount the shock absorber.

#### WARNING:

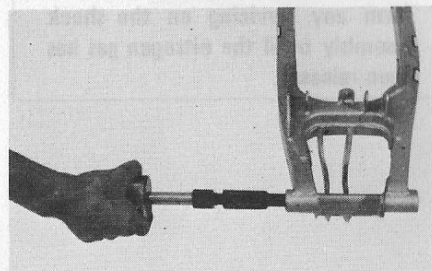
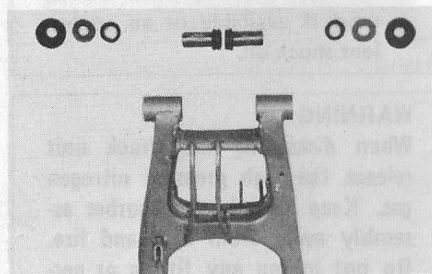
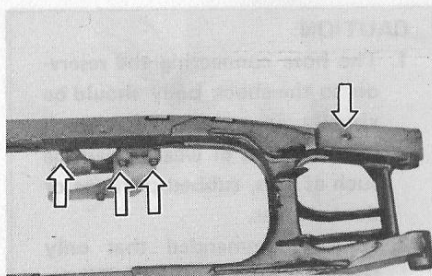
Nitrogen gas has been found to deliver optimum performance and reliability. Do not use air or other gases which will lead to premature wear, rust, and substandard performance. Do not use oxygen, such as from a gas welding oxygen tank or any other flammable gasses as they create a severe fire hazard.

#### CAUTION:

1. The hose connecting the reservoir to the shock body should be visually inspected. After each race for signs of wear or damage such as cuts, rubbed portions or dented areas.
2. It is recommended that only Genuine Suzuki Shock Oil be used if available or an equivalent shock oil.

#### WARNING:

When discarding the shock unit release the high pressure nitrogen gas. Keep the shock absorber assembly away from heat and fire. Do not loosen any fitting or perform any servicing on the shock assembly until the nitrogen gas has been released.



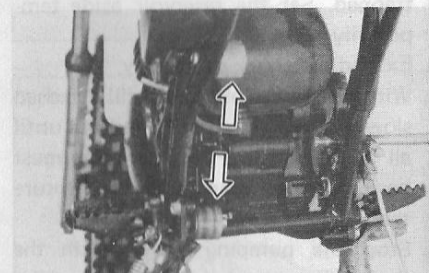
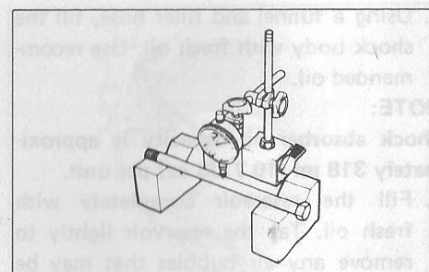
## REAR SWINGING ARM

1. Remove the chain guide roller and chain buffer.

2. Remove the dust seal and pull out the spacers.

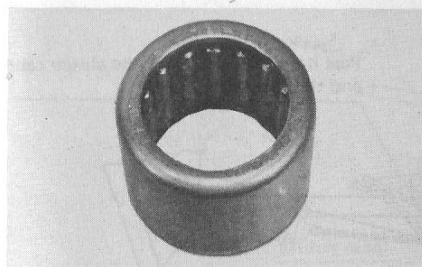
3. Remove the bushing and bearings at both side by using the special tool.

09923-73210	Bearing puller
09930-30102	Rotor remover side shaft



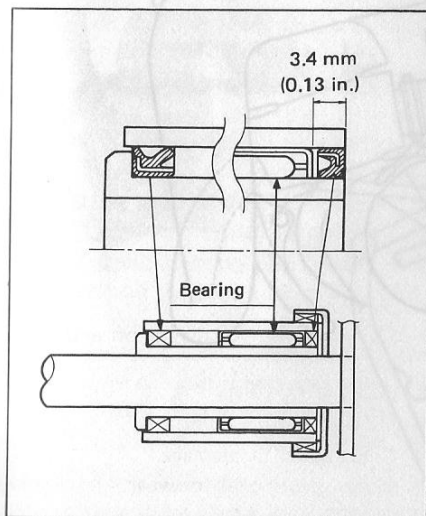
## Inspection

- Swinging arm for distortion and damage.
- Bearings for rattle.
- Pivot shaft distortion.
- Chain guide for damage.
- Chain guide roller for wear.



### Reassembly

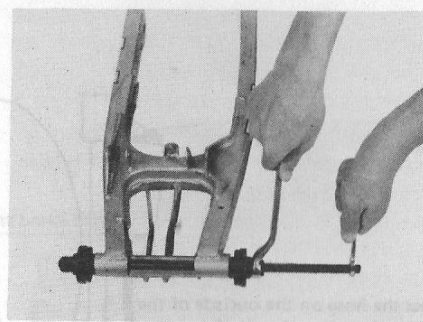
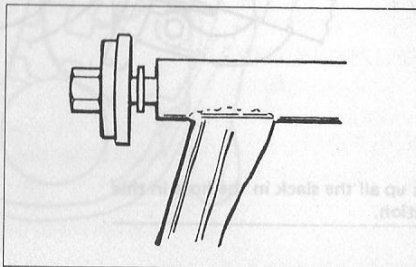
Be sure to have the bore cleaned and apply grease to the periphery of each bearing before installing. Punch-marked side of bearing comes on outer side when the bearing is in place.



Install the right and left bearings by using special tool.

09941-34511	Swinging arm
09941-34521	bearing installer

Make sure to install the bearing at 3.4 mm (0.13 in) depth from the swinging arm pivot shaft hole surface.

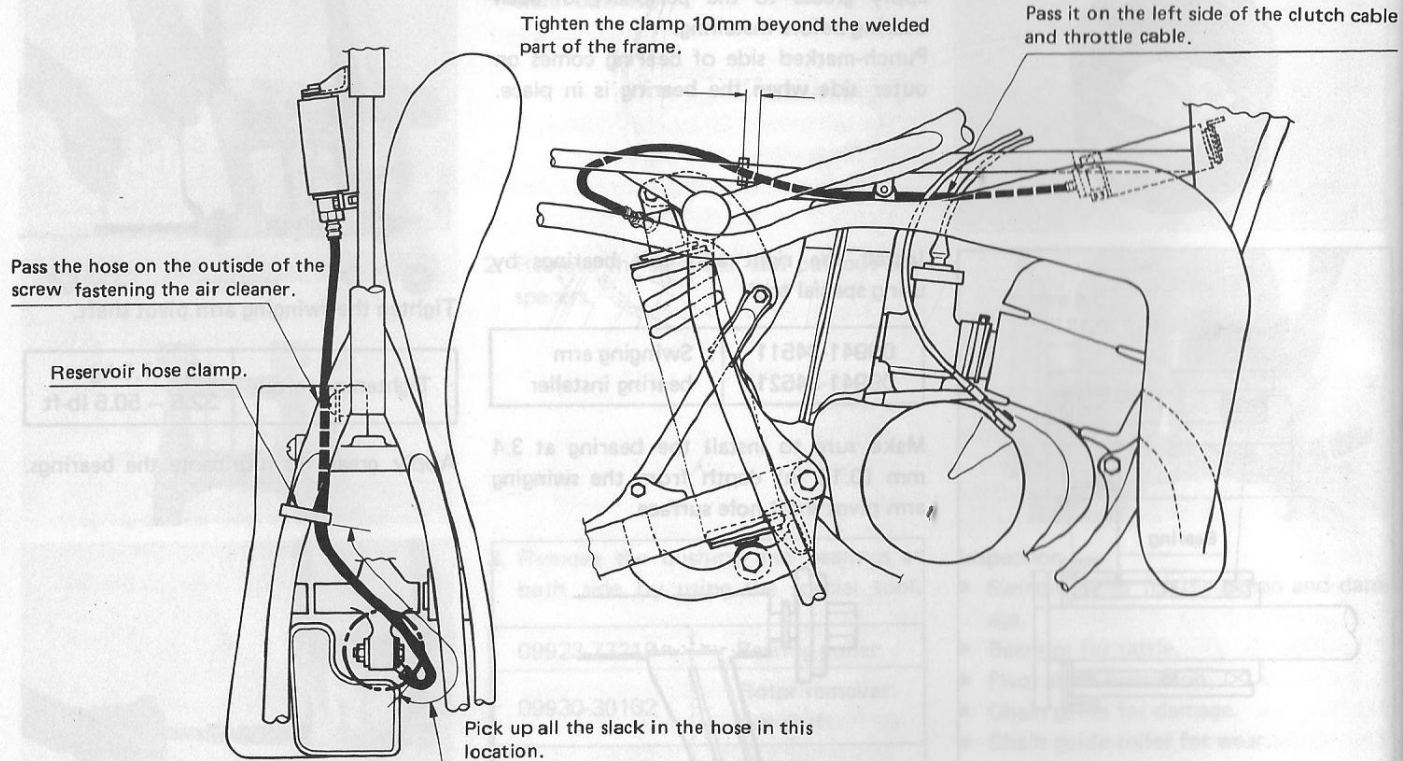


Tighten the swinging arm pivot shaft.

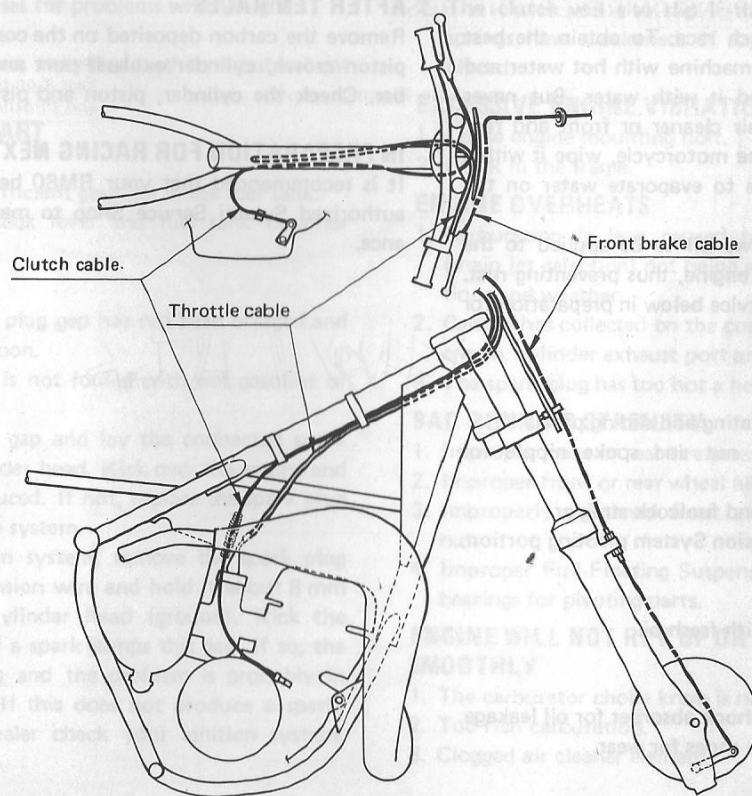
Tightening torque	4.5 – 7.0 kg-m
	32.5 – 50.5 lb-ft

Apply grease to lubricate the bearings.

## ROUTING OF REAR SUSPENSION RESERVOIR HOSE



## CABLE ROUTING





## SERVICE AND MAINTENANCE AFTER COMPETITION

Wash the motorcycle after each race. To obtain the best washing efficiency, wash the machine with hot water and detergent after having washed it with water. But never squirt water directly on the air cleaner or front and rear brake drums. After washing the motorcycle, wipe it with a dry cloth and run the engine to evaporate water on the engine components.

Running the engine also allows oil to be applied to the major components inside the engine, thus preventing rust. After washing, perform the service below in preparation for the next race.

### AFTER EACH RACE

Apply oil and grease to the rotating and sliding parts.

Check each tightening bolt, nut and spoke nipple for tightness.

Clean the air cleaner element and fuelcock strainer.

Check the full-floating Suspension System pivoting portion.

### AFTER THREE RACES

Replace the transmission oil with fresh oil.

### AFTER FIVE RACES

Check the front fork and rear shock absorber for oil leakage.

Check the front and rear brake shoes for wear.

### AFTER TEN RACES

Remove the carbon deposited on the combustion chamber, piston crown, cylinder exhaust port and expansion chamber. Check the cylinder, piston and piston rings for wear.

### IN PREPARATION FOR RACING NEXT SEASON

It is recommended that your RM80 be overhauled by an authorized Suzuki Service Shop to maintain its performance.

## TROUBLESHOOTING

There can be various causes for problems which might occur on the motorcycle.

The following procedures may be used to troubleshoot possible trouble spots.

### ENGINE WILL NOT START

#### Fuel system

1. Check that there is sufficient gasoline in the fuel tank.
2. Make sure the fuelcock lever and fuel tank breather hose are not clogged.

#### Spark plug

1. Check that the spark plug gap has not been bridged and short circuited by carbon.
2. Check that the plug is not fouled with wet gasoline or oil.
3. Clean the spark plug gap and lay the connected spark plug against the cylinder head. Kick over the engine and see if a spark is produced. If not, replace the spark plug or check your ignition system.
4. To check the ignition system, remove the spark plug cap from the high tension wire and hold it about 8 mm (0.3 in) from the cylinder head (ground). Kick the engine over and see if a spark jumps this gap. If so, the system is functioning and the problem is probably in the spark plug cap. If this does not produce a spark, have your Suzuki dealer check your ignition system.

### CLUTCH SLIPPAGE

1. If there is no clutch lever play, adjust the cable adjuster for 2 – 3 mm (0.08 – 0.12 in) play.

2. The clutch will also slip if the plates are worn or the springs have weakened. If so, these items must be replaced.

### EXCESSIVE ENGINE VIBRATION

1. Loose engine mounting bolt.
2. Crack in the frame.

### ENGINE OVERHEATS

1. Carburetion is lean caused by the carburetor setting (main jet selection) not being suitable for running conditions and weather.
2. Carbon has collected on the combustion chamber, piston crown, cylinder exhaust port and expansion chamber.
3. The spark plug has too hot a heat range.

### BAD RUNNING STABILITY

1. Improper front or rear tire pressure.
2. Improper front or rear wheel alignment.
3. Improperly tightened front axle or steering stem lock nut.
4. Improper Full-Floating Suspension System bushings and bearings for pivoting parts.

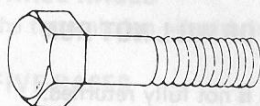
### ENGINE WILL NOT REV UP OR WILL NOT RUN SMOOTHLY

1. The carburetor choke knob is not fully returned.
2. Too rich carburetion.
3. Clogged air cleaner element.

## TIGHTENING TORQUE

For other bolts and nuts not listed above, refer to this chart.

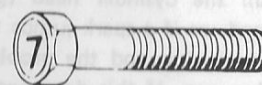
Bolt Diameter (mm)	Conventional or "4" marked bolt		"7" marked bolt	
	kg-m	lb-ft	kg-m	lb-ft
4	0.1 – 0.2	0.7 – 1.5	0.15 – 0.3	1.0 – 2.0
5	0.2 – 0.4	1.5 – 3.0	0.3 – 0.6	2.0 – 4.5
6	0.4 – 0.7	3.0 – 5.0	0.8 – 1.2	6.0 – 8.5
8	1.0 – 1.6	7.0 – 11.5	1.8 – 2.8	13.0 – 20.0
10	2.2 – 3.5	16.0 – 25.5	4.0 – 6.0	29.0 – 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



Conventional bolt



"4" marked bolt



"7" marked bolt




PART	kg-m	lb-ft
Cylinder head nuts	2.3 – 2.7	16.5 – 19.5
Magneto rotor nut	3.0 – 4.0	21.5 – 29.0
Clutch sleeve hub nut	3.0 – 5.0	21.5 – 36.0
Primary drive gear nut	4.0 – 6.0	29.0 – 43.5
Transmission oil drain plug	1.5 – 2.0	11.0 – 14.5
Engine mounting bolts (front and under the engine)	3.7 – 4.5	26.5 – 32.5
Rear sprocket nuts	3.3 – 3.7	24.0 – 27.0
Front fork air valve	0.6 – 0.9	4.3 – 6.5
Front fork cap bolt	1.5 – 3.0	11.0 – 21.5
Front fork upper clamp bolts	1.2 – 2.0	8.5 – 14.5
Front fork lower clamp bolts	2.0 – 3.0	14.5 – 21.5
Front fork oil drain bolt	0.6 – 0.9	4.3 – 6.5
Front fork damper rod bolt	1.5 – 2.6	11.0 – 18.0
Handlebar clamp bolts	1.2 – 2.0	8.5 – 14.5
Steering stem head bolt	3.5 – 5.5	25.5 – 40.0
Front axle nut	2.7 – 4.3	19.5 – 31.0
Front brake cam lever bolt	0.5 – 0.8	3.5 – 6.0

PART	kg-m	lb-ft
Rear swinging arm pivot nut (engine mounting)	4.5 – 7.0	32.5 – 50.5
Rear shock absorber fitting bolts (upper and lower)	4.0 – 6.0	29.0 – 43.5
Bell crank pivot nut	4.0 – 6.0	29.0 – 43.5
Push rod upper joint nut	4.0 – 6.0	29.0 – 43.5
Push rod lower joint nut	1.8 – 2.8	13.0 – 20.0
Rear axle nut	3.6 – 5.2	26.0 – 37.5
Rear brake cam lever bolts	0.5 – 0.8	3.5 – 6.0
Rear torque link nut	1.0 – 1.5	7.0 – 11.0
Spoke nipple	2.0 – 4.0	14.5 – 29.0

## MATERIALS

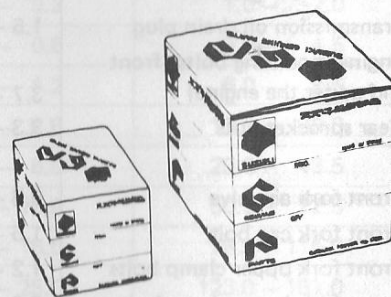
The materials listed below are required for maintenance operations, and should be kept on hand for ready use. In addition, such standard materials as cleaning fluids, lubricants, etc., should also be available.

Material	Part
 <p>SUZUKI SUPER GREASE "A" 99000-25030</p>	<ul style="list-style-type: none"> <li>● Oil seals</li> <li>● Brake cam</li> <li>● Throttle grip</li> <li>● Gearshift lever shaft</li> <li>● Steering stem bearings</li> <li>● Swinging arm bearing and dust seal</li> <li>● Full-Floating Suspension system pivoting part</li> </ul>
 <p>SUZUKI BOND No. 1215 99104-31110</p>	<ul style="list-style-type: none"> <li>● Front fork damper rod bolt</li> <li>● Front fork oil drain screw</li> <li>● Mechanical seal</li> </ul>

Material	Part
 <p>THREAD LOCK "1363C" 99104-32050</p>	<ul style="list-style-type: none"> <li>● Gearshift cam guide screw</li> <li>● Gearshift pawl screw</li> <li>● Bearing retainer screw</li> <li>● Front fork air valve</li> <li>● Front fork damper rod bolt</li> </ul>
 <p>THREAD LOCK SUPER "1332B" 99104-32090</p>	<ul style="list-style-type: none"> <li>● Magneto rotor nut</li> </ul>
 <p>THREAD LOCK SUPER "1363A" 99104-32030</p>	<ul style="list-style-type: none"> <li>● Countershaft 2nd drive gear</li> </ul>

## USE OF GENUINE SUZUKI PARTS

Whenever replacing parts on your motorcycle, it is recommended that you use Genuine Suzuki replacement parts or their equivalent.





## SPECIFICATIONS

### DIMENSIONS AND WEIGHT

Overall length . . . . .	1 780 mm (70.6 in)
Overall width . . . . .	770 mm (30.3 in)
Overall height . . . . .	1 030 mm (40.6 in)
Wheelbase . . . . .	1 220 mm (48.0 in)
Ground clearance . . . . .	270 mm (10.6 in)
Dry weight . . . . .	59 kg (130 lbs)

### ENGINE

Type . . . . .	Two-stroke cycle, air-cooled
Intake system . . . . .	Piston and reed valve
Number of cylinder . . . . .	1
Bore . . . . .	49.0 mm (1.929 in)
Stroke . . . . .	44.0 mm (1.732 in)
Piston displacement . . . . .	82 cm <sup>3</sup> (5.0 cu. in)
Corrected compression ratio . . . . .	8.2 : 1
Carburetor . . . . .	MIKUNI VM26SS, single
Air cleaner . . . . .	Polyurethane foam element
Starter system . . . . .	Primary kick
Lubrication system . . . . .	Fuel/oil premixture of 20 : 1

### TRANSMISSION

Clutch . . . . .	Wet multi-plate type
Transmission . . . . .	6-speed constant mesh
Gearshift pattern . . . . .	1-down, 5-up
Drive chain . . . . .	DAIDO D.I.D.428HG or TAKASAGO RK428HM, 116 links

### CHASSIS

Front suspension . . . . .	Telescopic, pneumatic/coil spring, oil dampened
Rear suspension . . . . .	Full-floating suspension system, swinging arm, gas/oil dampened, spring preset adjustable
Steering angle . . . . .	45° (right & left)
Caster . . . . .	61° 30'
Trail . . . . .	87 mm (3.43 in)
Turning radius . . . . .	2.0 m (6.6 ft)
Front brake . . . . .	Internal expanding
Rear brake . . . . .	Internal expanding
Front tire size . . . . .	2.75-17 4PR
Rear tire size . . . . .	4.10-14 4PR

### ELECTRICAL

Ignition type . . . . .	SUZUKI "PEI"
Ignition timing . . . . .	18° B.T.D.C. at 12 000 r/min.
Spark plug . . . . .	NGK B9ES or NIPPON DENSO W27ES

### CAPACITIES

Fuel tank . . . . .	5.6 L (1.5 US gal)
Front fork oil . . . . .	176 ml (5.74 US oz)
Transmission oil . . . . .	650 ml (0.69 US qt)

## SERVICE DATA

SPECIFICATIONS

### CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD			LIMIT
Piston to cylinder clearance	0.055 – 0.065 (0.0022 – 0.0026)			0.120 (0.0047)
Cylinder bore	49.000 – 49.015 (1.9291 – 1.9297) Measure at the 15 (0.59) from top surface.			49.075 (1.9321)
Piston diam.	48.940 – 48.955 (1.9268 – 1.9274) Measure at the 16 (0.63) from skirt end.			48.880 (1.9244)
Cylinder distortion	—			0.05 (0.002)
Cylinder head distortion	—			0.05 (0.002)
Piston ring free end gap	1st 2nd	R	5.0 (0.20)	4.0 (0.16)
Piston ring end gap	1.2 – 1.5 (0.05 – 0.06)			2.0 (0.08)
Piston ring to groove clearance	1st 2nd	0.015 – 0.065 (0.0006 – 0.0026)		—
Piston pin bore	12.002 – 12.012 (0.4725 – 0.4729)			12.030 (0.4736)
Piston pin O.D.	11.995 – 12.000 (0.4722 – 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	40.0 ± 0.1 (1.57 ± 0.004)	—
Crankshaft runout	—	0.05 (0.002)

# CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch cable play	2 – 3 (0.08 – 0.12)	—
Drive plate thickness	2.9 – 3.1 (0.11 – 0.12)	2.6 (0.16)
Drive plate claw width	11.8 – 12.0 (0.46 – 0.47)	11.0 (0.43)
Driven plate thickness	1.6 ± 0.1 (0.06 ± 0.004)	—
Driven plate distortion	—	0.1 (0.004)
Cutch spring free length	—	36.3 (1.43)

# SERVICE DATA

## TRANSMISSION

Unit: mm (in)

Unit: mm (in)

ITEM	STANDARD		LIMIT
Primary reduction ratio	3.555 (64/18)		_____
Final reduction ratio	4.000 (52/13)		_____
Gear ratios	Low	2.571 (36/14)	_____
	2nd	1.888 (34/18)	_____
	3rd	1.500 (30/20)	_____
	4th	1.250 (25/20)	_____
	5th	1.083 (26/24)	_____
	Top	0.961 (25/26)	_____
Shift fork to groove clearance	No. 1	0.10 – 0.30 (0.004 – 0.012)	0.50 (0.020)
	No. 2		
	No. 3		
Shift fork groove width	No. 1	3.95 – 4.05 (0.156 – 0.159)	_____
	No. 2	4.45 – 4.55	_____
	No. 3	(0.175 – 0.179)	_____
Shift fork thickness	No. 1	3.75 – 3.85 (0.148 – 0.152)	_____
	No. 2	4.25 – 4.35	_____
	No. 3	(0.167 – 0.171)	_____
Counter shaft length (Low to 2nd)	87.5 – 87.6 (3.44 – 3.45)		_____

## CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM26SS
Bore size	26 mm (1.0 in)
I.D. No.	20400
Float height	23 ± 1.0 mm (0.9 ± 0.04 in.)
Main jet (M.J.)	# 140
Air jet (A. J.)	25
Jet needle (J. N.)	5DP39-2
Needle jet (N. J.)	P - 4
Cut-away (C. A.)	2.0
Pilot jet (P. J.)	#45
By pass (B. P.)	1.2
Pilot outlet (P. O.)	0.6
Valve seat (V. S.)	2.5
Starter jet (G. S.)	70
Throttle cable play	0.5 - 1.0 mm (0.02 - 0.04 in.)



# ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION	
Ignition timing	$18^{\circ} \pm 2^{\circ}$ B.T.D.C. at 12,000 r/min.	
Spark plug	Type	NGK B9ES or NIPPON DENSO W27ES
	Gap	0.6 – 0.8 (0.024 – 0.031)
Spark performance	Over 8 (0.3) at atm	
Ignition coil resistance	Primary	W/BI – GROUND Approx. 0 – 1 $\Omega$
	Secondary	Plug cap – GROUND Approx. 10 – 11 k $\Omega$
Magneto coil resistance		B/R – R/W Approx. 70 – 110 $\Omega$
		R/W – B/W Approx. 230 – 350 $\Omega$
		B/R – B/W Approx. 300 – 440 $\Omega$

**BRAKE + WHEEL**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Front brake lever distance	20 – 30 (0.8 – 1.2)		—
Rear brake pedal free travel	20 – 30 (0.8 – 1.2)		—
Brake drum I.D.	Front	—	100.7 (3.96)
	Rear	—	95.7 (3.77)
Brake lining thickness	—		1.5 (0.06)
Wheel rim runout	Axial	—	2.0 (0.08)
	Radial	—	2.0 (0.08)
Wheel axle runout	Front	—	0.25 (0.010)
	Rear	—	0.25 (0.010)
Tire size	Front	2.75-17 4PR	—
	Rear	4.10-14 4PR	—
Tire tread depth	Front	—	4.0 (1.6)
	Rear	—	4.0 (1.6)

**TIRE PRESSURE**

COLD INFLATION TIRE PRESSURE	0.7 – 1.1 kg/cm <sup>2</sup> 10 – 16 psi
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## SUSPENSION

Unit: mm (in)

ITEM	STANDARD		LIMIT
Front fork stroke	210 (8.3)		_____
Front fork spring free length	No. 1	_____	64 (2.5)
	No. 2	_____	466 (18.3)
Front fork oil level	155 (6.1)		_____
Front fork air pressure	0 kg/cm <sup>2</sup> , 0 psi		_____
Rear shock absorber air pressure	20 kg/cm <sup>2</sup> , 284 psi		_____
Rear shock absorber spring pre-set length	215.2 (8.5)		_____
Rear wheel travel	210 (8.3)		_____
Swing arm pivot shaft runout	_____		0.6 (0.02)

## DRIVE CHAIN

Unit: mm (in)

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D.: 428HG TAKASAGO: 428HM	_____
	Links	116	_____
	20 pitch length	_____	259 (10.2)
Drive chain slack	30 – 35 (1.2 – 1.4)		_____

**FUEL + OIL**

ITEM		SPECIFICATION
Fuel type		Premium gasoline should be used.
Fuel tank capacity		5.6 L (1.5 US gal)
Engine oil type		SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT
Transmission oil type		SAE 20W/40
Transmission oil capacity	Change	650 ml (0.69 US qt)
	Overhaul	700 ml (0.74 US qt)
Front fork oil type		Fork oil # 10
Front fork oil capacity (each leg)		176 ml (5.94 US oz)

Prepared by  
**SUZUKI MOTOR CO.,LTD.**

Administration Department  
Overseas Service Division

November, 1981

Part No. 99011-20420-03A

Printed in Japan



**SUZUKI MOTOR CO.,LTD.**

Part No. 99011-20420-034  
December, 1981 (11)  
Printed in Japan