

**SUZUKI**  
OWNER'S MANUAL

**PEI75**

**WARNING:**  
**THIS MOTORCYCLE IS DESIGNED AND MANUFACTURED FOR**  
**COMPETITION USE ONLY.**

## FOREWORD

*Welcome to the world of Suzuki motorcycles.*

*The confidence you have shown by the purchase of our products is very much appreciated. Each Suzuki motorcycle backs this confidence by a long record of manufacturing and engineering excellence. The same excellence that has produced a long history of world-championship racing successes at the famous Isle of Man as well as the motorcross tracks of Europe.*

*Suzuki now presents the new PE175, an "Enduro" racing machine, capable of competing in any Enduro racing event in the world.*

*This handbook is presented as a means whereby you can maintain your PE175 in top working condition at all times. Your riding skill and the maintenance steps outlined in this manual will assure you of top performance from your machine under any type of competition conditions.*

*We sincerely wish you and your Suzuki motorcycle a successful partnership for many years of happy riding.*

**SUZUKI MOTOR CO., LTD.**

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## BREAKING-IN

## FUEL AND OIL RECOMMENDATION

The PE175 is manufactured using the latest technology relating to the two-stroke engine and thus requires a relatively short break-in period. 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 the machine. Once the machine is fully broken in, you can be assured of high performance in competition.

	8.9	7.6	8.0	7.5
in competition.	0.0	0.25	0.1	0.25
	2.3	0.8	2.1	0.8
	4.3	2.8	4.1	2.8
	3.6	0.0	3.1	0.0
	8.8	2.0	8.1	2.0
	0.0	0.0	0.0	0.0

# FUEL AND OIL RECOMMENDATION

The PE175 engine is of the two-stroke design, which requires a premixture of gasoline and oil.

## GASOLINE

Gasoline should be graded 95 Research Octane or higher.

## ENGINE OIL

The following brands of oil are highly recommended for use in the premixture.

- \* Suzuki CCI Super 2-Cycle Motor Lubricant
- \* Castrol R30
- \* Golden Spectro Synthetic Blend
- \* Shell Super M
- \* B.P. Racing
- \* Bel-Ray MC-1 Two-cycle Racing Lubricant

## MIXING RATIO

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

## FUEL MIXTURE RATIO OF 20 : 1

GASOLINE (gal)	OIL (pt)	GASOLINE (gal)	OIL (pt)
0.5	0.2	5.5	2.2
1.0	0.4	6.0	2.4
1.5	0.6	6.5	2.6
2.0	0.8	7.0	2.8
2.5	1.0	7.5	3.0
3.0	1.2	8.0	3.2
3.5	1.4	8.5	3.4
4.0	1.6	9.0	3.6
4.5	1.8	9.5	3.8
5.0	2.0	10.0	4.0





## CONTROLS

### CLUTCH LEVER

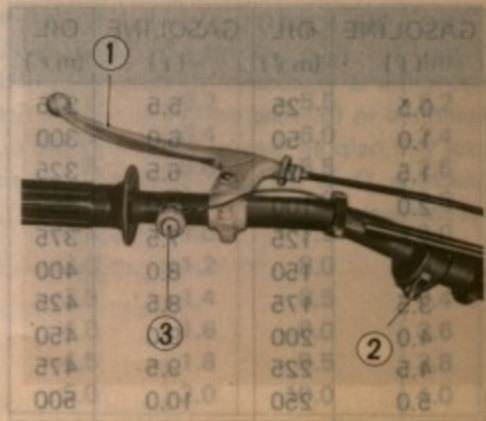
The clutch lever ① is used to disengage the engine with the rear wheel when starting or shifting the transmission gears. Squeezing the lever disengage the clutch and releasing it connects the engine with the rear wheel.

### DIMMER SWITCH

The headlamp beam can be changed both downward and upward by operating the dimmer switch ② to the "LO" and "HI" positions.

### ENGINE STOP BUTTON

No ignition switch is provided. To start the engine, just push down the kick starter lever. To stop the engine, push the engine stop button ③.





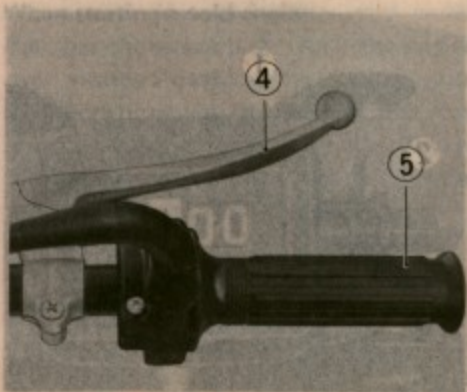
## FRONT BRAKE LEVER

Front braking is controlled by pressure applied on the brake lever ④. When the brake lever is squeezed, braking force is applied to the front wheel.

## THROTTLE GRIP

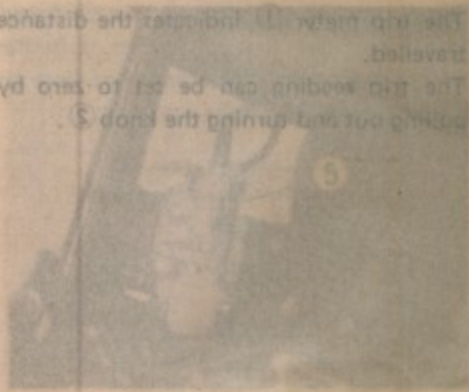
Engine speed is controlled by the throttle grip. If the throttle grip ⑤ is twisted inward toward you, engine speed rises.

## CARBURETOR CHOKE KNOB



## TRIP METER

The trip meter ⑥ indicates the distance travelled. The trip reading can be set to zero by pulling out and turning the knob ③.

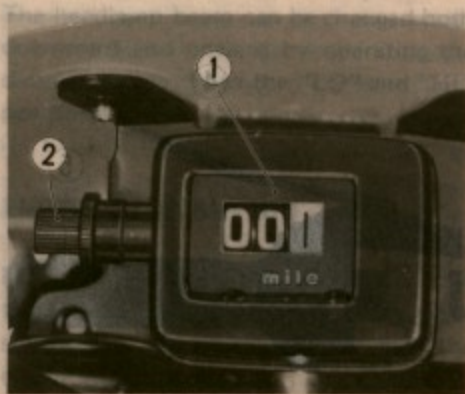


## CONTROLS

### TRIP METER

The trip meter ① indicates the distance travelled.

The trip reading can be set to zero by pulling out and turning the knob ②.



USA

### SPEEDOMETER (For Canada only)

The speedometer ③ records road speed in kilometers per hour, applied on the front wheel.

### ODOMETER (For Canada only)

The odometer ④ registers the total distance in kilometers the motorcycle has been driven.

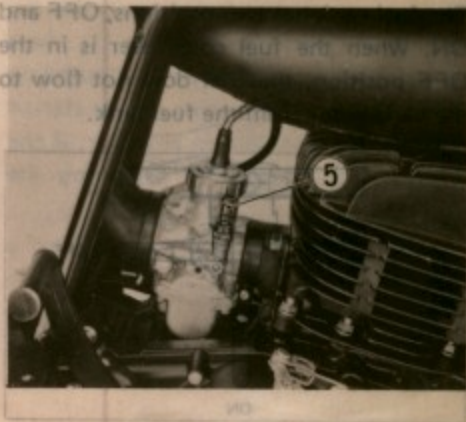


CANADA

## CARBURETOR CHOKE KNOB

**When starting a cold engine**  
Pull the choke knob (5). Kick the engine over without opening the throttle grip. 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.

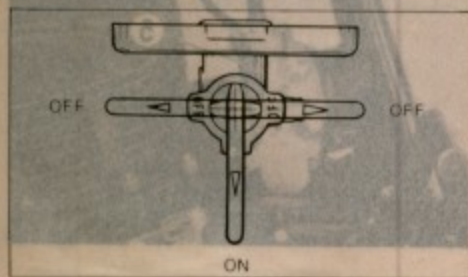
**When the engine is warm**  
Using the choke knob is not necessary. To start a warm engine, open the throttle 1/8 to 1/4 and kick start the engine.





## FUEL COCK

The fuel cock has two positions, OFF and ON. When the fuel cock lever is in the OFF position, the fuel does not flow to the carburetor from the fuel tank.



When turning the fuel cock lever to the ON position, the fuel flows to the carburetor.



ON Position

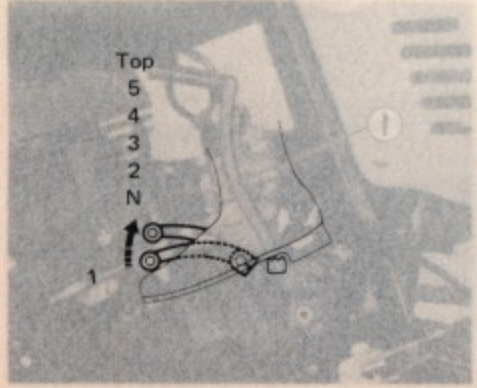
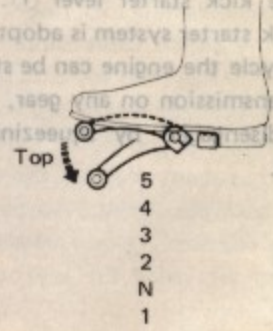
## GEARSHIFT LEVER

The PE175 is equipped with a 6-speed transmission which operates as shown in figure.

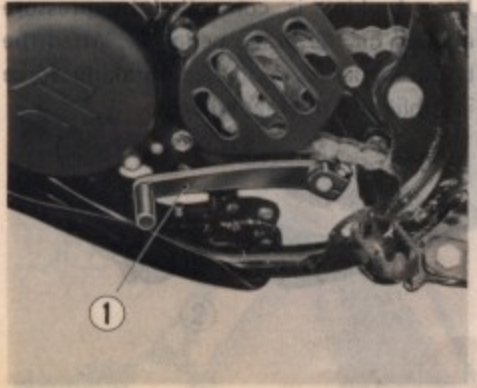
Neutral is located between low and 2nd. Low gear is located by fully depressing the lever ① from the neutral position. Shifting into succeeding higher gears is accomplished by pulling up the shift lever once for each gear. When shifting from low to 2nd, neutral is automatically missed. When neutral is wanted for stopping, depress or raise the lever a half of a stroke between low and 2nd.

# KICK STARTER LEVER

The engine can be started easily by depressing the kick starter lever (1). As a primary kick starter system is adopted on this motorcycle the engine can be started with the transmission on any gear, if the clutch is closed by depressing the clutch lever.

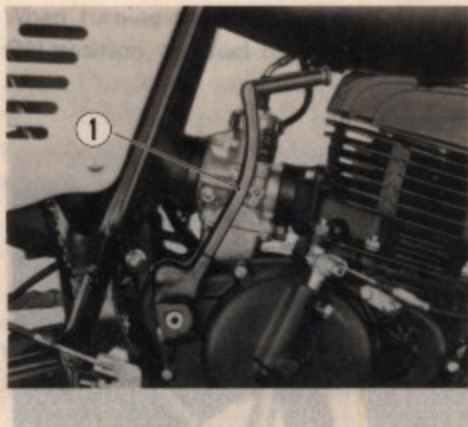


# REAR BRAKE PEDAL



## KICK STARTER LEVER

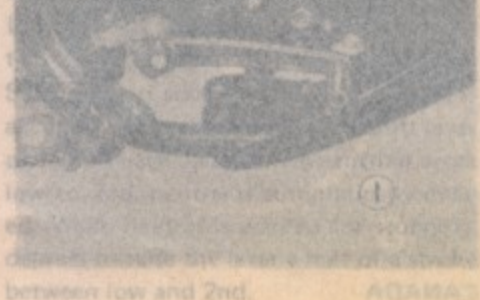
The engine can be started easily by depressing the kick starter lever ①. As a primary kick starter system is adopted on this motorcycle the engine can be started with the transmission on any gear, if the clutch is disengaged by squeezing the clutch lever.



ON Position

## REAR BRAKE PEDAL

Rear braking is controlled by pressure applied on the brake pedal ②. When the brake pedal is depressed, braking force is applied to the rear wheel.

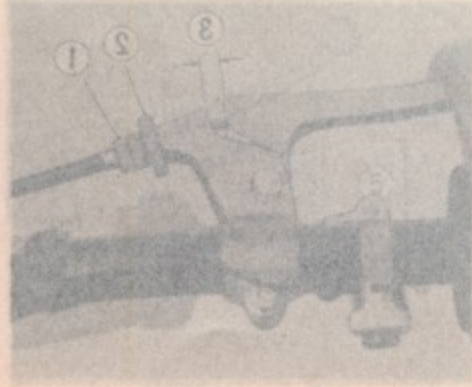




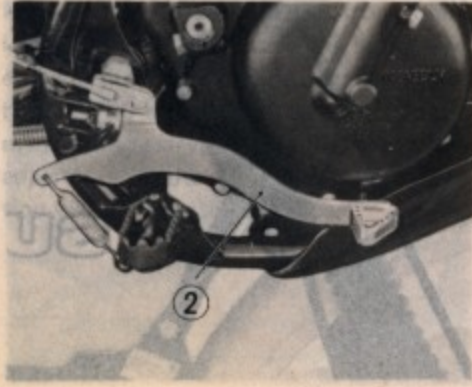
# INSPECTION AND ADJUSTMENTS BEFORE RIDING

## CLUTCH

Adjust the clutch with the clutch cable adjuster ① by loosening lock nut ②. The play ③ of the clutch cable should be 4 mm (0.16 in) measured at the clutch lever holder; before pressure can be felt indicating disengagement of the clutch. When the adjustment play on the handlebar side becomes small, tighten the clutch cable adjuster ① completely and make adjustments with the adjuster ④.



## FRONT BRAKE

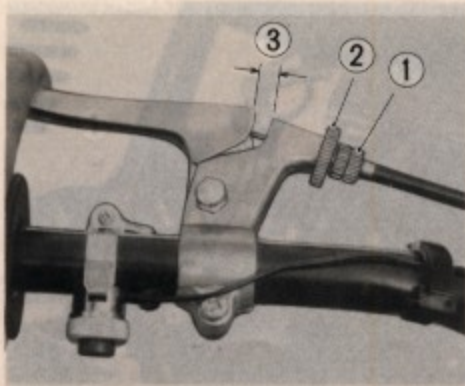


## INSPECTION AND ADJUSTMENTS BEFORE RIDING

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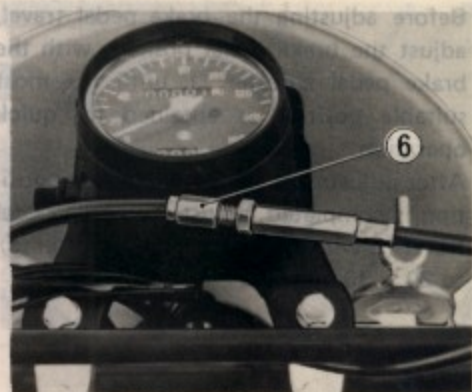
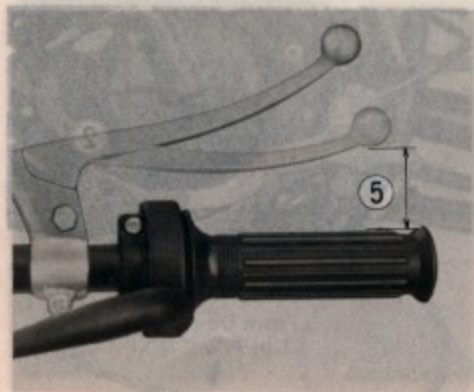


### REAR BRAKE PEDAL



## FRONT BRAKE

Measure the amount of the front brake lever distance ⑤ 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 ⑥ in the counterclockwise direction will increase the distance.



REAR BRAKE

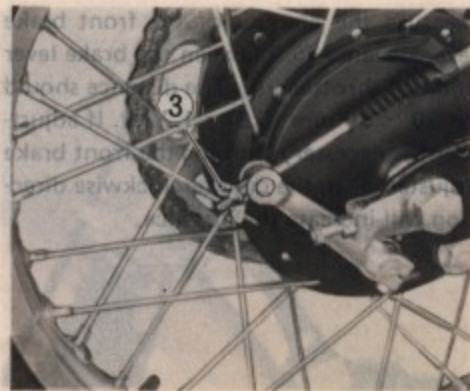
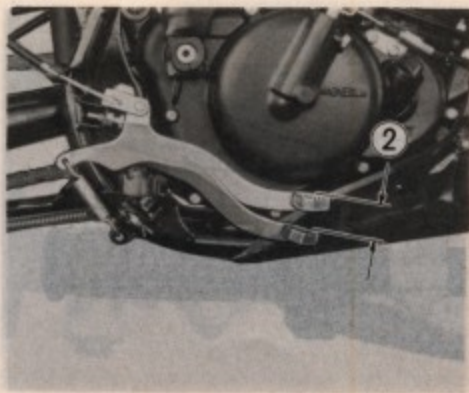


## INSPECTION AND ADJUSTMENTS BEFORE RIDING

### 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 is completed, adjust the brake pedal travel ② with the brake cable adjuster ③ to 20 ~ 30 mm (0.8 ~ 1.2 in).



FRONT BRAKE

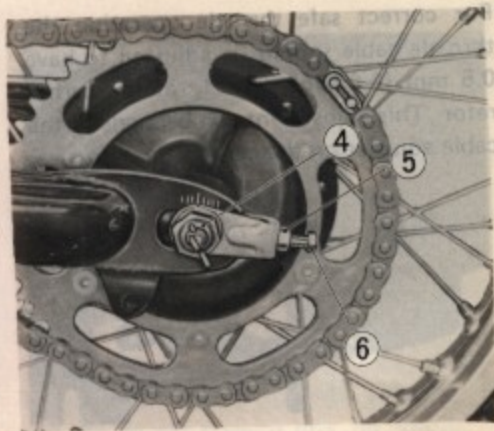
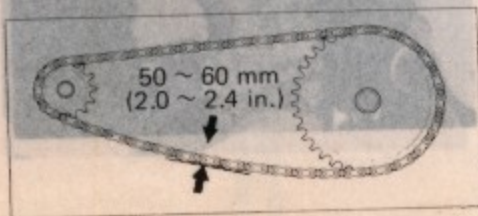
## MAINTENANCE

### DRIVE CHAIN

Adjust the drive chain at the rear axle by loosening axle nut ④. Then loosen lock nut ⑤ and adjust the chain tension by turning chain adjuster bolts ⑥ in or out. Be sure the marks stamped on the adjuster yoke aligns with the same mark on the swing arm on both sides of the motorcycle. Proper chain tension is obtained when there is 50 ~ 60 mm (2.0 ~ 2.4 in.) up and down slack in the chain with taking off the chain tensioner, at a point midway between two sprockets.

#### CAUTION:

When refitting the drive chain, be sure the drive chain joint clip ⑦ is attached in the way that the slit end will face opposite to the turning direction.



## CARBURETOR

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



## 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.

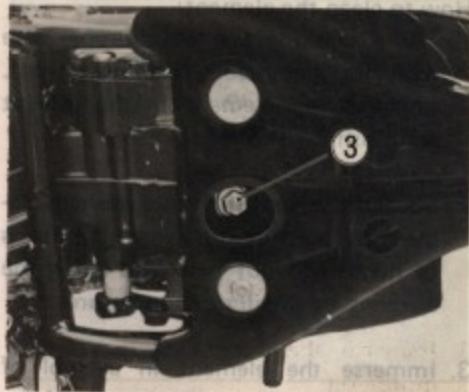
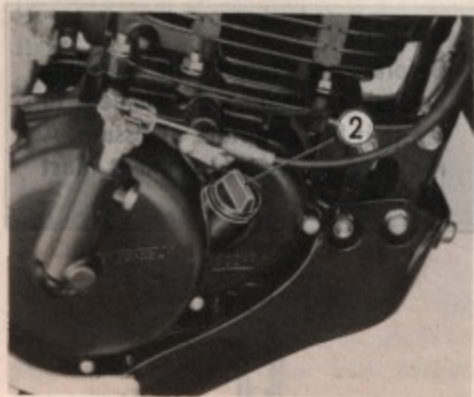
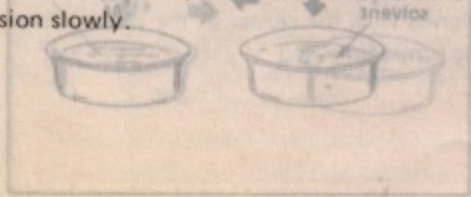
Front	0.7 ~ 0.9 kg/cm (10 ~ 12.7 psi)
Rear	0.7 ~ 0.9 kg/cm (10 ~ 12.7 psi)



# MAINTENANCE

## TRANSMISSION OIL

To change the transmission oil, remove the filler cap ② and drain plug ③ and drain the oil. Install the drain plug and measure 800 cc (1.69/1.41 US/Imp pt) of a good quality SAE 20W/40 multigrade motor oil, then pour it into the transmission slowly.



3. Immerse the drain plug in motor oil, and squeeze the oil off the element to make it slightly wet with motor oil.

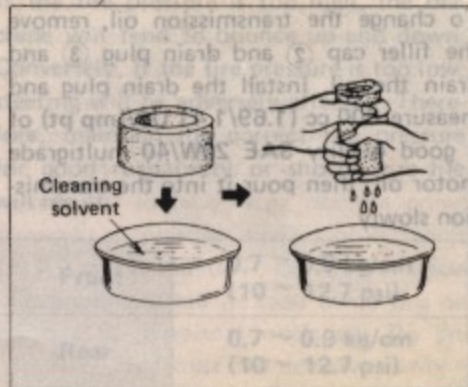
## AIR CLEANER

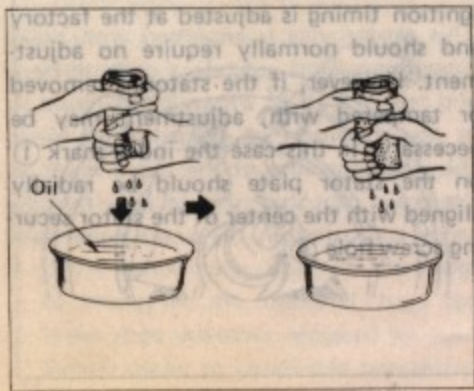
How to clean the element:

1. Fill a washing pan of a proper size with non flammable cleaning solvent. Immerse the element in the solvent and wash it clean.
2. Squeeze 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.
3. Immerse the element in a pool of motor oil, and squeeze the oil off the element to make it slightly wet with motor oil.

### CAUTION:

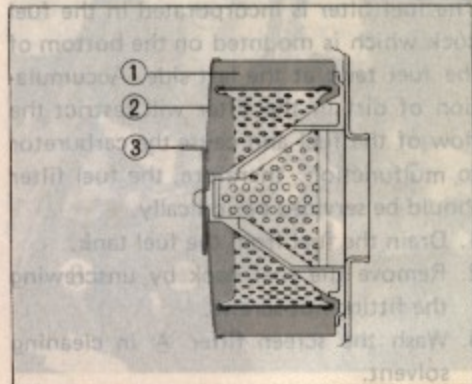
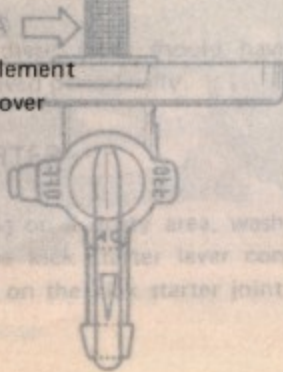
Before and during the cleaning operation, examine the element to see if it has a rupture or fissure. A ruptured or fissured element must be replaced.





How to install the washed element:  
Refer to the figure shown right. After putting on the cover, secure it by inserting clip.

1. Cleaner element
2. Cleaner cover
3. Clip

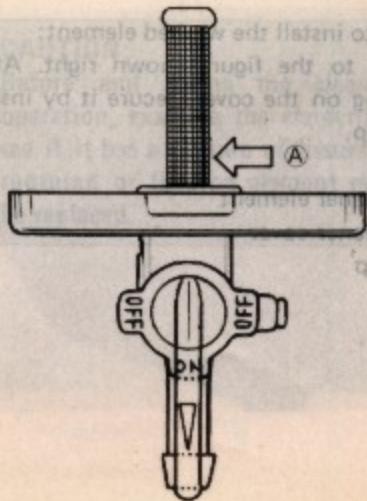




## FUEL FILTER

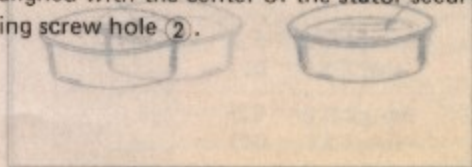
The fuel filter is incorporated in the fuel cock which is mounted on the bottom of the fuel tank at the left side. Accumulation of dirt in the filter will restrict the flow of the fuel and cause the carburetor to malfunction, therefore, the fuel filter should be serviced periodically.

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



## IGNITION TIMING

Ignition timing is adjusted at the factory and should normally require no adjustment. However, if the stator is removed or tampered with, adjustment may be necessary. In this case the index mark **①** on the stator plate should be radially aligned with the center of the stator securing screw hole **②**.



## BRAKE LINING WEAR LIMIT INDICATOR



## DECARBONING

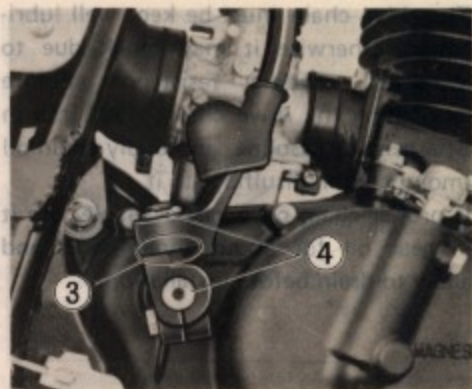
Any excessive accumulation of carbon in the combustion chamber, cylinder ports or the exhaust pipe will adversely affect engine efficiency resulting in a loss in power.

Therefore, these areas should have all carbon removed periodically.

## KICK STARTER

After driving on a dusty area, wash and lubricate the kick starter lever contacting area ③ on the kick starter joint ④.

within the range.



Kick starter lever

of the index mark is outside of the range.

## DRIVE CHAIN

The drive chain must be kept well lubricated; otherwise it may break due to increased running resistance. Before lubricating the drive chain, wash it with detergent or gasoline, and apply chain oil (molybdenum disulfide) to it.

If proper chain oil is not available, dip it in gear oil for about three hours and allow to drain before installation.



## BRAKE LINING WEAR LIMIT INDICATOR

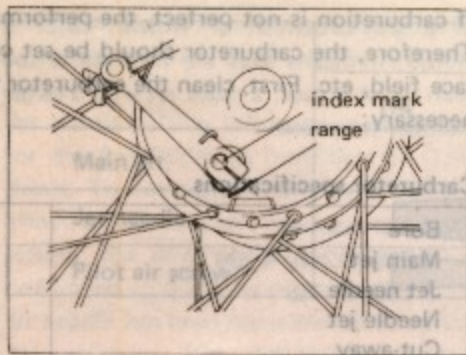
This motorcycle is equipped with brake lining wear limit indicators on both front and rear brakes. As shown in the *figure A*, at the condition of normal lining wear, the extension line of the index mark on the brake cam shaft should be within the range embossed on the brake panel with brake on.



## ADJUSTING CARBURETOR

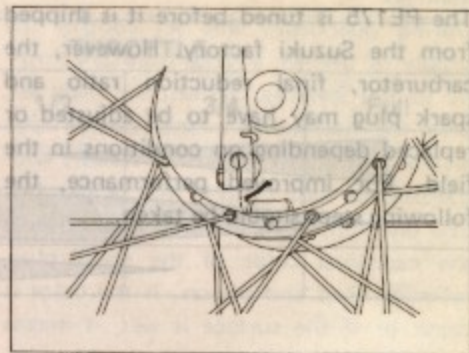
To check wear of the brake lining, perform the following steps:

1. First check if the brake system is properly adjusted.
2. While operating the brake, 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.



*Fig. A*

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



*Fig. B*

*The extension line of the index mark is outside of the range.*

## RACING TUNE-UP

The PE175 is tuned before it is shipped from the Suzuki factory. However, the carburetor, final reduction ratio and spark plug may have to be adjusted or replaced depending on conditions in the field. For improved performance, the following steps should be taken.

### ADJUSTING CARBURETOR

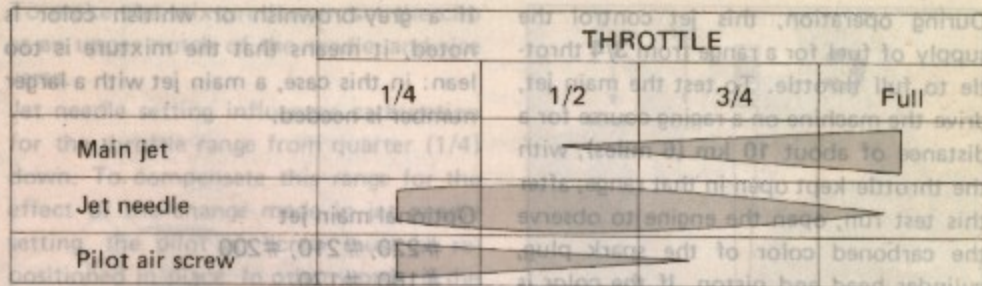
If carburetion is not perfect, the performance of the engine will be adversely affected. Therefore, the carburetor should be set correctly to meet such conditions as weather, race field, etc. First, clean the carburetor thoroughly, and adjust the following parts as necessary:

#### Carburetor specifications

Bore	32 mm
Main jet	#190
Jet needle	6DP17-3
Needle jet	R-2
Cut-away	2.5
Pilot jet	#25
Pilot air screw	1 1/4 turns back open
Float level	31.75

## MATCHING THE JETTING TO THE RACE

Drive the machine on the racing course, making several laps and noting the pattern of throttle variation required to cover the lap for best clocking. Then, open the engine to observe the spark plug, cylinder head and piston crown. On the basis of this observation and also the throttle range in which the machine had to be driven in the test run, set the main jet, jet needle and pilot air screw, by referring to the diagram below.



**NOTE:** The length of each shaded pattern represents the effective range, and the width represents the intensity of carburetion.

Larger number : Richer mixture  
Smaller number : Leaner mixture



## Main jet

During operation, this jet control the supply of fuel for a range from 3/4 throttle to full throttle. To test the main jet, drive the machine on a racing course for a distance of about **10 km (6 miles)**, with the throttle kept open in that range; after this test run, open the engine to observe the carboned color of the spark plug, cylinder head and piston. If the color is black or if the surface is wet, it means that the mixture is too rich; in this case, the main jet must be replaced by the one with a smaller number.

If a grey-brownish or whitish color is noted, it means that the mixture is too lean: in this case, a main jet with a larger number is needed.

## Optional main jet

#220, #210, #200  
#180, #170.

## MATCHING THE JETTING TO THE RACE

Drive the machine on the racing course, making several laps and noting the pattern of throttle variation required to cover the lap for best clocking. Then, open the engine to observe the spark plug, cylinder head and piston crown. On the basis of this observation, and also the throttle range in which the machine had to be driven in the test run, set the main jet, jet needle and pilot air screw, by referring to the diagram below.



Larger number : Richer mixture  
Smaller number : Leaner mixture

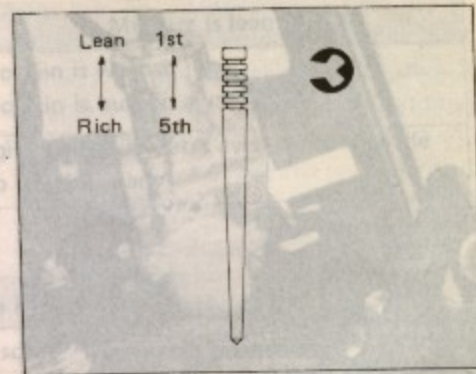
### Jet needle

The needle controls the supply of fuel for a throttle range of one quarter ( $1/4$ ) to three quarters ( $3/4$ ). Whether the existing jet needle is proper or not is to be checked by testing as in the case of main jet testing. A test run of about 10 km (6 miles) is sufficient. Depending on the observed color, reposition the jet needle in place.

The needle has five notches. It is retained standardly at 3rd notch in PE175 with a clip fitted to the notch.

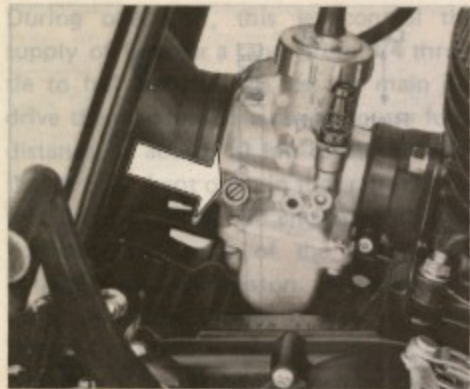
To make the mixture leaner, set the clip at an upper notch of the needle, and vice versa.

Jet needle setting influences carburetion for the throttle range from quarter ( $1/4$ ) down. To compensate this range for the effect of the change made in jet needle setting, the pilot air screw must be repositioned in place. In other words, if the jet needle has been repositioned to enrich the mixture (for  $1/4$ -to- $3/4$  throttle range), then the screw must be loosened, slightly to make the mixture leaner (for up-to- $1/4$  range).

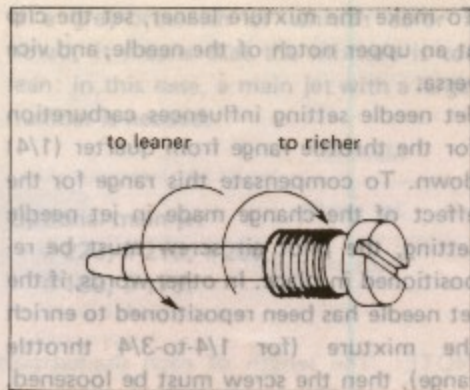


*Standard jet needle setting 3rd notch*

Main jet



Pilot air screw



slightly to make the mixture leaner (for up-to-1/4 range).

**Standard pilot  
air screw setting**

**1 1/4 turns back**

Larger number: Richer mixture  
Smaller number: Leaner mixture



## How to judge carburetion

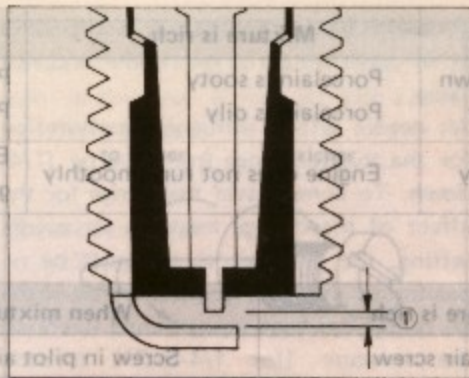
Item	Proper	Mixture is rich	Mixture is lean
Spark plug	Porcelain is light brown Porcelain is tan color	Porcelain is sooty Porcelain is oily	Porcelain is whitish Porcelain is burned away
Engine revolution	Engine runs smoothly	Engine does not run smoothly	Engine rpm fluctuates even if the throttle grip is held steady

## Overall carburetor adjustment

Item	When mixture is rich	When mixture is lean
Engine idling	Screw out pilot air screw	Screw in pilot air screw
Half-throttle	Raise needle clip position	Lower needle clip position
Full-throttle	Replace with main jet having a smaller calibration number	Replace with main jet having a larger calibration number

## 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 0.5 ~ 0.6 mm (0.020 ~ 0.024 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 to the following table.

Item		
Full-throttle	Replace with main jet having a smaller calibration number	
Half-throttle	Raise needle clip position	Lower needle clip position
Engine idling	Screw out pilot air screw	Screw in pilot air screw
		When mixture is lean

NGK	NIPPON DENSO	Remarks
B-8EV (BR-8EV)	W24ES-G	If the standard plug is apt to get wet, replace with this plug.
B-9EV (BR-9EV)	W27ES-G	Standard
B-10EV (BR-10EV)	W31ES-G	If the standard plug is apt to overheat, replace with this plug.

NOTE: The parenthesized spark plugs are for Canada market.

## REAR SHOCK ABSORBER

### 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 and NIPPON DENSO consult your authorized Suzuki dealer.
- 3) When installing the spark plug, screw it 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 ft-lb).

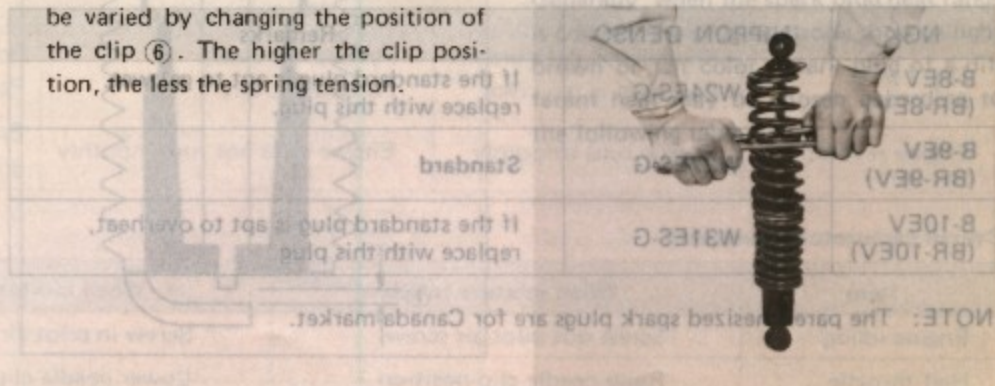


## REAR SHOCK ABSORBER

The rear shock absorber can be adjusted to give three different spring settings.

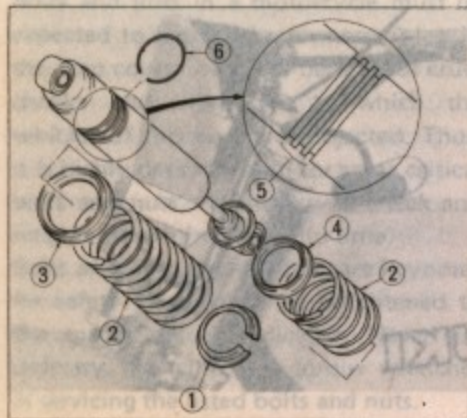
1. Remove the upper and lower rear shock absorber bolts and dismount the absorber.
2. Compress the shock absorber spring as shown in the photo.
3. While compressing the spring, remove the lower spring seat ①.
4. Take out the two springs ②, spring joint ③ and upper spring seat ④ from the unit.
5. Each unit has three grooves ⑤ for the clip position. The spring tension can

be varied by changing the position of the clip ⑥. The higher the clip position, the less the spring tension.



NOTE: The patented sized spark plugs are for Canada market.

## TORQUE SPECIFICATIONS



### NOTE:

In the new shock absorber unit the clip ⑥ has been set at the highest position for optimum shock absorption for an average rider's weight. However, after the machine has covered the running-in mileage of about 500 km (300 miles), the component parts could be adjusted and the optimum clip position will be changed to the groove one step down — the middle groove.

13. Rear torque link nuts

## TOOL KIT

A unique multi-purpose wrench is provided for PE125 to be able to service the following items on your machine.

1. Pull out front and rear axle shaft.
2. Adjust drive chain adjust nuts.
3. Loosen and tighten front axle nut.
4. Loosen and tighten rear axle nut.
5. Loosen and tighten spark plug.

This wrench is equipped on the machine as shown right.

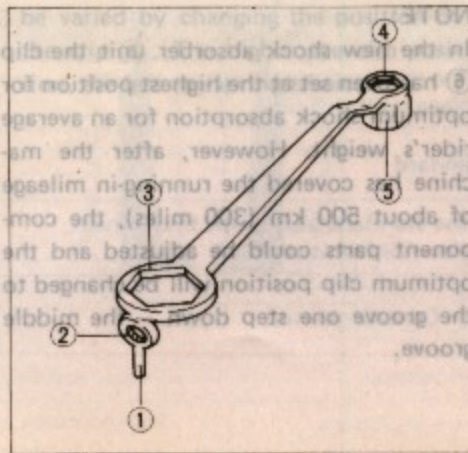
120 ~ 200 kg-cm (9 ~ 14 ft-lb)	120 ~ 200 kg-cm (9 ~ 14 ft-lb)
50 ~ 80 kg-cm (3.7 ~ 5.7 ft-lb)	50 ~ 80 kg-cm (3.7 ~ 5.7 ft-lb)
200 ~ 300 kg-cm (15 ~ 21 ft-lb)	200 ~ 300 kg-cm (15 ~ 21 ft-lb)

## TOOL KIT

A unique multi-purpose wrench is provided for PE175 to be able to service the following items on your machine.

1. Pull out front and rear axle shaft.
2. Adjust drive chain adjust nuts.
3. Loosen and tighten front axle nut.
4. Loosen and tighten rear axle nut.
5. Loosen and tighten spark plug.

This wrench is equipped on the machine as shown right.





# TORQUE SPECIFICATIONS

## CLUTCH SLIPPAGE

Bolts and nuts in a motorcycle must be expected to become loose more or less in the long course of usage because of cruel chocks and vibrations to which the vehicles of this kind are subjected. Thus, it is highly desirable and, for some critical bolts and nuts, mandatory to check and retighten them from time to time.

Bolts and nuts, listed below, are keynotes for safety. They must be retightened to the torque values indicated. Never use ordinary wrenches; use torque wrenches in servicing the listed bolts and nuts.

## ENGINE OVERHEATS

1. Cylinder head nuts
2. Front brake cam lever bolt
3. Front axle nut
4. Steering stem head bolt
5. Steering stem upper clamp bolt
6. Front fork upper clamp nuts
7. Front fork lower clamp bolts
8. Rear axle nut
9. Rear shock absorber fitting bolts
10. Rear swinging arm pivot nut
11. Handlebar clamp bolts
12. Rear brake cam lever bolt
13. Rear torque link nuts

## BAD RUNNING STABILITY

- |                                  |
|----------------------------------|
| 230 ~ 270 kg-cm (17 ~ 19 ft-lb)  |
| 50 ~ 80 kg-cm ( 3.7 ~ 5.7 ft-lb) |
| 360 ~ 520 kg-cm (27 ~ 37 ft-lb)  |
| 350 ~ 500 kg-cm (26 ~ 36 ft-lb)  |
| 150 ~ 250 kg-cm (11 ~ 18 ft-lb)  |
| 150 ~ 250 kg-cm (11 ~ 18 ft-lb)  |
| 150 ~ 250 kg-cm (11 ~ 18 ft-lb)  |
| 360 ~ 520 kg-cm (27 ~ 37 ft-lb)  |
| 250 ~ 300 kg-cm (19 ~ 21 ft-lb)  |
| 300 ~ 450 kg-cm (22 ~ 32 ft-lb)  |
| 120 ~ 200 kg-cm ( 9 ~ 14 ft-lb)  |
| 50 ~ 80 kg-cm ( 3.7 ~ 5.7 ft-lb) |
| 200 ~ 300 kg-cm (15 ~ 21 ft-lb)  |

## TROUBLESHOOTING

## TORQUE SPECIFICATIONS

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 fuel petcock 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 7 mm (0.28 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 4 mm (0.16 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 air pressure.
2. Improper front or rear wheel alignment.
3. Improperly tightened front axle nut or steering stem lock nut.

# 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.



# MAINTENANCE SCHEDULE

Service Item	ENGINE OVERHEATS			Remarks
	Each race	Every 2 races	Every 5 races	
Piston ring	—	Replace	—	—
Transmission oil	—	Change	—	—
Engine sprocket	—	—	—	Replace every 10 races
Drive chain	Lubricate and adjust slack	—	Replace	—
Rear sprocket	—	—	Replace	—
Drive chain buffer	—	—	Replace	—
Drive chain guide roller	—	Replace	—	—
Spoke nipple	Retighten	—	—	—

# SPECIFICATIONS

## DIMENSIONS AND WEIGHT

## ELECTRICAL SYSTEM

Service Item	Each race	Every 2 races	Every 5 races	Remarks
Air cleaner	Clean	—	—	—
Kick starter lever	—	Apply grease	—	—
Throttle, brake & clutch cable	Lubricate and adjust	—	Replace	—
Bolts and nuts	Retighten (see page 42)	—	—	—
Spark plug	Check & clean	—	—	Replace every 10 races

# SPECIFICATIONS SCHEDULE

## DIMENSIONS AND WEIGHT

Overall length	2,100 mm (82.7 in)
Overall width	880 mm (34.6 in)
Overall height	1,200 mm (47.2 in)
Wheelbase	1,420 mm (55.9 in)
Ground clearance	280 mm (11.0 in)
Dry mass (weight)	98 kg (216 lbs)

## ENGINE

Type	Two-stroke cycle, air-cooled
Intake system	Piston and reed valve
Number of cylinder	1
Bore	62.0 mm (2.44 in)
Stroke	57.0 mm (2.24 in)
Piston displacement	172 cc (10.5 cu.in)

Corrected compression ratio	7.6 : 1
Carburetor	MIKUNI VM32SS, 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
Primary reduction	2.761 (58/21)
Final reduction	4.000 (48/12)
Gear ratios, Low	3.090 (34/11)
2nd	2.214 (31/14)
3rd	1.647 (28/17)
4th	1.250 (25/20)



5th . . . . .	1.045 (23/22)
Top . . . . .	0.875 (21/24)
Drive chain . . . . .	DAIDO #520TR, 106 links

**CHASSIS**

Front suspension . . . . .	Telescopic, oil dampened
Rear suspension . . . . .	Swinging arm, gas/oil dampened, spring 3-way adjustable
Steering angle . . . . .	50° (right & left)
Caster . . . . .	60°
Trail . . . . .	130 mm (5.12 in)
Turning radius . . . . .	2.1 m (6.9 ft)
Front brake . . . . .	Internal expanding
Rear brake . . . . .	Internal expanding
Front tire size . . . . .	3.00-21-4PR
Rear tire size . . . . .	4.00-18-4PR

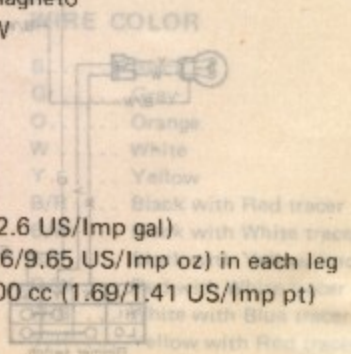
**ELECTRICAL SYSTEM**

Ignition type . . . . .	SUZUKI "PEI" (Pointless Electronic Ignition)
Ignition timing . . . . .	18° B.T.D.C. at 6,000 r/min
Spark plug . . . . .	NGK B9EV or NIPPON DENSO W27ES-G BR9EV . . . . . Only for Canada

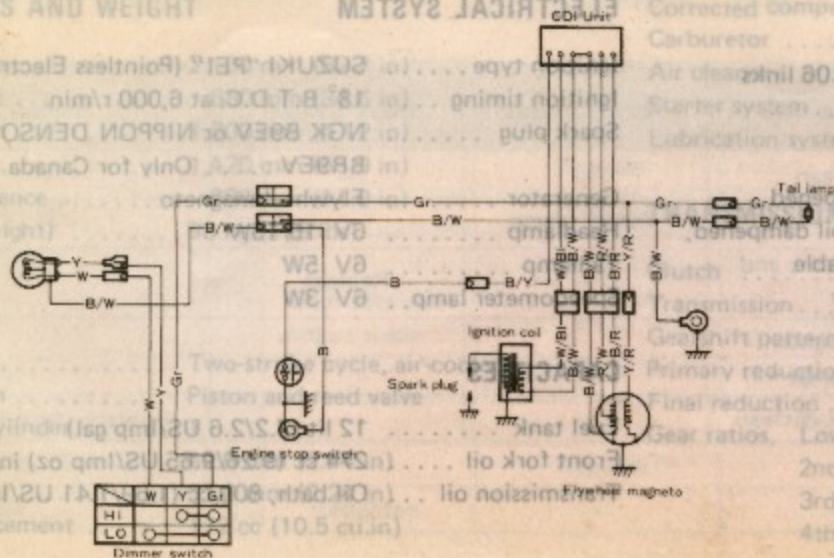
Generator . . . . .	Flywheel magneto
Headlamp . . . . .	6V 15/15W
Taillamp . . . . .	6V 5W
Speedometer lamp . . . . .	6V 3W

**CAPACITIES**

Fuel tank . . . . .	12 lit (3.2/2.6 US/Imp gal)
Front fork oil . . . . .	274 cc (9.26/9.65 US/Imp oz) in each leg
Transmission oil . . . . .	Oil bath, 800 cc (1.69/1.41 US/Imp pt)

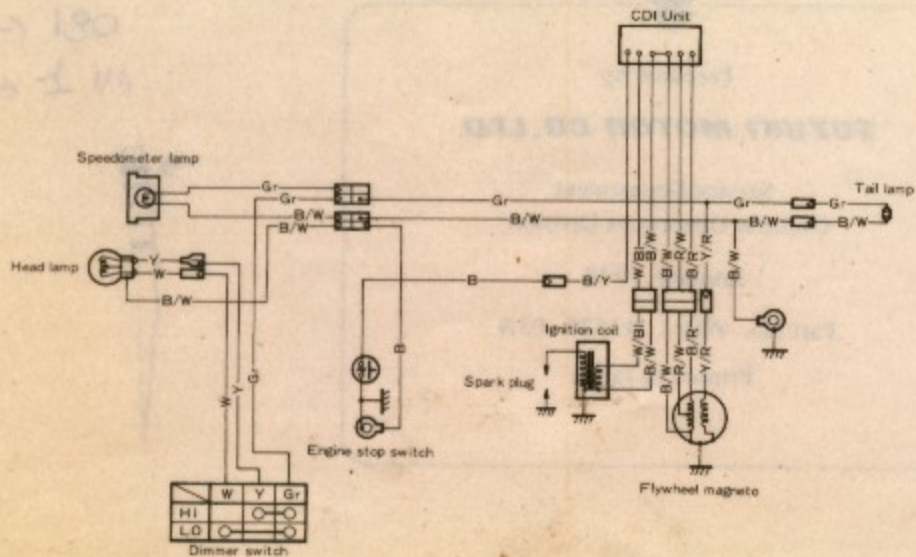


# WIRING DIAGRAM(U.S.A)



## WIRE COLOR

B	Black
Gr	Gray
O	Orange
W	White
Y	Yellow
B/R	Black with Red tracer
B/W	Black with White tracer
B/Y	Black with Yellow tracer
R/W	Red with White tracer
W/Bl	White with Blue tracer
Y/R	Yellow with Red tracer



## WIRE COLOR

- B . . . . . Black
- Gr . . . . . Gray
- O . . . . . Orange
- W . . . . . White
- Y . . . . . Yellow
- B/R . . . . Black with Red tracer
- B/W . . . . Black with White tracer
- B/Y . . . . Black with Yellow tracer
- R/W . . . . Red with White tracer
- W/BI . . . . White with Blue tracer
- Y/R . . . . Yellow with Red tracer

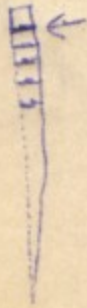




MEMO

VS-180

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