

# RGV250L ('90-MODEL)

## FOREWORD

*This section describes service data and service specifications which differ from those of the RGV250K ('89-model).*

**NOTE:**

- Any differences between "K" ('89-model) and "L" ('90-model) in specifications and service data are clearly indicated with the asterisk marks (\*).
- Please refer to the section 1 though 8 for details which are not given in this section.

## CONTENTS

<b>SPECIFICATION .....</b>	<b>9- 1</b>
<b>SERVICE DATA .....</b>	<b>9- 2</b>
<b>TIGHTENING TORQUE.....</b>	<b>9- 7</b>
<b>THROTTLE SENSOR.....</b>	<b>9- 9</b>
<b>CARBURETOR .....</b>	<b>9-10</b>
<b>ELECTRICAL SYSTEM .....</b>	<b>9-11</b>
<b>REAR SUSPENSION .....</b>	<b>9-23</b>
<b>WIRING DIAGRAM.....</b>	<b>9-24</b>
<b>WIRE HARNESS .....</b>	<b>9-25</b>
<b>CABLE ROUTING .....</b>	<b>9-27</b>
<b>OIL HOSE ROUTING .....</b>	<b>9-28</b>
<b>REAR SHOCK ABSORBER RESERVOIR TANK ROUTING.....</b>	<b>9-29</b>
<b>FUEL AND AIR HOSE ROUTING .....</b>	<b>9-30</b>

## SPECIFICATION

### DIMENSIONS AND DRY MASS

Overall length	2 015 mm (79.3 in)
Overall width	695 mm (27.4 in)
Overall height	1 065 mm (41.9 in)
Wheelbase	1 375 mm (54.1 in)
Ground clearance	120 mm (4.7 in)
Seat height	755 mm (29.7 in)
Dry mass	128 kg (282 lbs)

### ENGINE

Type	Two-stroke, water-cooled, 90° V-twin
Number of cylinders	2
Bore	56.0 mm (2.205 in)
Stroke	50.6 mm (1.992 in)
Piston displacement	249 cm <sup>3</sup> (15.2 cu. in)
Corrected Compression ratio	7.5 : 1
Carburetor	*MIKUNI VM34SS
Air cleaner	Polyurethane foam element
Starter system	Primary kick
Lubrication system	SUZUKI CCI

### TRANSMISSION

Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down, 5-up
Primary reduction	2.565 (59/23)
Final reduction	3.066 (46/15)
Gear ratios, Low	2.454 (27/11)
2nd	1.625 (26/16)
3rd	1.235 (21/17)
4th	1.045 (23/22)
5th	0.916 (22/24)
Top	0.840 (21/25)
Drive chain	DAIDO : DID 520V <sub>2</sub> TAKASAGO : RK520M06 114 links

These specifications are subject to change without notice.

Asterisk mark (\*) indicates the new "L" model specifications.

### CHASSIS

Front suspension	Telescopic, coil spring, oil damped, spring 5-way, adjustable.
Rear suspension	*Full-floating suspension system, gas/coil spring, oil damped, spring pre-load fully adjustable, extension damping force 4-way and compression damping force 19-way adjustable.
Steering angle	30° (right & left)
Caster	64° 25'
Trail	98 mm (3.86 in)
Turning radius	3.1 m (10.2 ft)
Front brake	Disc brake, twin
Rear brake	Disc brake
Front tire size	*110/70 R17 54H
Rear tire size	140/60 R18 64H
Front fork stroke	120 mm (4.7 in)
Rear wheel travel	140 mm (5.5 in)

### ELECTRICAL

Ignition type	SUZUKI "PEI"
Ignition timing	14° B.T.D.C. below 1 300 r/min
Spark plug	N.G.K. : BR9ES
Battery	12V 10.8 kC (3Ah)/10 HR
Generator	Three-phase A.C. generator
Fuse	20 A *5 A

### CAPACITIES

Fuel tank	
including reserve	17L (4.5/3.7 US/Imp gal)
reserve	5.5L (1.5/1.2 US/Imp gal)
Engine oil	1.1L (1.2/1.0 US/Imp qt)
Transmission	700 ml (23.7/24.6 US/Imp oz)
Coolant	1.6L (1.7/1.4 US/Imp qt)
Front fork oil	429 ml (14.5/15.1 US/Imp oz)



## SERVICE DATA

### CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT
Piston to cylinder clearance	0.070 – 0.080 (0.0028 – 0.0031)		0.120 (0.0047)
Cylinder bore	—		Nicks or Scratches
Piston diam.	55.925 – 55.940 (2.2017 – 2.2023) Measure at 19 (0.7) from the skirt end		55.880 (2.199)
Cylinder distortion	—		0.05 (0.002)
Cylinder head distortion	—		0.05 (0.002)
Piston ring free end gap	1st & 2nd	T Approx. 5.0 (0.19)	4.0 (0.15)
		T Approx. 5.0 (0.19)	4.0 (0.15)
Piston ring end gap	0.15 – 0.30 (0.006 – 0.012)		0.70 (0.027)
Piston ring to groove clearance	1st & 2nd	0.02 – 0.06 (0.0008 – 0.0024)	—
Piston pin bore	16.002 – 16.010 (0.6300 – 0.6303)		16.036 (0.6313)
Piston pin O.D.	15.995 – 16.000 (0.6297 – 0.6299)		15.980 (0.6291)

### CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	20.003 – 20.011 (0.7875 – 0.7878)	20.047 (0.7893)
Conrod deflection	—	3.0 (0.12)
Crank web to web width	48.5 $^{+0.2}_{-0}$ (1.909 $^{+0.008}_{-0}$ )	—
Crankshaft runout	—	0.05 (0.002)

### OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	4.897 (59/23 x 27/11 x 21/27)
CCI pump discharge rate (Full open)	* 3.5 – 4.6 ml for 2 minutes at 2 000 r/min.

### CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch cable play	2 – 3 (0.08 – 0.12)	—
Drive plate thickness	2.65 – 2.95 (0.10 – 0.11)	2.35 (0.09)
Drive plate claw width	15.8 – 16.0 (0.62 – 0.63)	15.3 (0.60)

Asterisk mark (\*) indicates the New "L" model specifications.

ITEM	STANDARD	LIMIT
Driven plate distortion	—	0.1 (0.004)
Clutch spring free length	—	34.8 (1.37)

**THERMOSTAT + RADIATOR**

ITEM	STANDARD	LIMIT
Thermostat valve opening temperature	50 ± 2°C	—
Thermostat valve lift	Over 7 mm at 65°C	—
Radiator cap valve opening pressure	110 kPa (1.1 kg/cm <sup>2</sup> )	—

**TRANSMISSION**

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	2.565 (59/23)	—
Final reduction ratio	3.066 (46/15)	—
Gear ratios	Low	2.454 (27/11)
	2nd	1.625 (26/16)
	3rd	1.235 (21/17)
	4th	1.045 (23/22)
	5th	0.916 (22/24)
	Top	0.840 (21/25)
Shift fork to groove clearance	0.1 – 0.3 (0.004 – 0.011)	0.5 (0.0196)
Shift fork groove width	No. 1 & No. 2	4.0 – 4.1 (0.157 – 0.161)
	No. 3	5.5 – 5.6 (0.216 – 0.220)
Shift fork thickness	No. 1 & No. 2	3.8 – 3.9 (0.149 – 0.153)
	No. 3	5.3 – 5.4 (0.208 – 0.212)

**DRIVE CHAIN**

ITEM	STANDARD	LIMIT
Drive chain	Type	D.I.D.: 520 V2 TAKASAGO: 520 M06
	Links	114 links
	20-pitch length	— 319.4 (12.574)
Drive chain slack	20 – 30 (0.787 – 1.181)	—

**CARBURETOR**

ITEM	SPECIFICATION
Carburetor type	* MIKUNI VM34SS
Bore size	* 34 mm (1.338 in)
I.D. No.	* 12C30

Asterisk mark (\*) indicates the New "L" model specifications.

ITEM	SPECIFICATION
Idle r/min.	1 300 $\pm$ 150 r/min
Fuel level	7.1 $\pm$ 0.5 mm (0.28 $\pm$ 0.02 in)
Float height	8 $\pm$ 1.0 mm (0.31 $\pm$ 0.04 in)
Main jet (M.J.)	* # 270
Jet needle (J.N.)	* L 6CIF02-56-3 R 6CKF02-56-3
Needle jet (N.J.)	* P-0
Cut-away (C.A.)	* 1.5
Pilot jet (P.J.)	* 27.5
By-pass (B.P.)	* 0.6 mm
Pilot outlet (P.O.)	* 0.6 mm
Air screw (A.S.)	* 1 $\frac{3}{4}$ turns back
Valve seat (V.S.)	* 2.5 mm
Starter jet (G.S.)	* # 50
Power jet No. 1	* L # 75 R # 65
Power jet No. 2	* L # 0.8 R # 0.7
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)

**ELECTRICAL**

Unit: mm (in)

ITEM	SPECIFICATION	NOTE
Ignition timing	14° B.T.D.C. at 1 300 r/min.	
Spark plug	Type	NGK BR9ES
	Gap	0.7 – 0.8
Spark performance	Over 8 (0.3) at 1 atm.	
Ignition coil resistance	Primary	B/Y – W/L 0.17 – 0.23 $\Omega$
	Secondary	Plug cap – Terminal 5.0 – 7.5 k $\Omega$
Generator coil resistance	Y – Y 0.4 – 0.6 $\Omega$	
Magneto coil resistance	Pick up coil	Br – B 80 – 120 $\Omega$
		R – W 80 – 120 $\Omega$
Generator no-load voltage	More than 49 V (AC) at 5 000 r/min.	Y – Y
Regulated voltage	13.0 – 15.0 V at 5 000 r/min.	
Water temperature gauge resistance	Approx. 134 – 179 $\Omega$ at 50°C	
	Approx. 15 – 17 $\Omega$ at 120°C	
Battery	Type designation	* YT4L-BS
	Capacity	12V 10.8 kC (3Ah)/10 HR
	Standard electrolyte S.G.	1.32 at 20°C (68°F)
Fuse size	Main	20 A
	* Ignition	5 A

Asterisk mark (\*) indicates the New "L" model specifications.

**WATTAGE**

Unit: W

ITEM		SPECIFICATION
Headlight	HI	60
	LO	55
Tail/Brake light		5/21
Turn signal light		21
Tachometer light		3
Speedometer light		3
Turn signal indicator light		3
High beam indicator light		3
Neutral indicator light		3
Oil level warning light		3
Parking or city light		4
Water temp. meter light		1.7

**BRAKE + WHEEL**

Unit: mm (in)

ITEM		STANDARD	LIMIT
Rear brake pedal height		50 – 60 (1.97 – 2.36)	—
Brake disc thickness	Front	4.3 – 4.7 (0.17 – 0.18)	4.0 (0.16)
	Rear	4.8 – 5.1 (0.19 – 0.20)	4.5 (0.18)
Brake disc runout		—	0.3 (0.01)
Master cylinder bore	Front	15.870 – 15.913 (0.6248 – 0.6264)	—
	Rear	12.700 – 12.743 (0.4999 – 0.5016)	—
Master cylinder piston	Front	15.827 – 15.854 (0.6231 – 0.6241)	—
	Rear	12.657 – 12.684 (0.4983 – 0.4993)	—
Brake caliper cylinder bore	Front	30.230 – 30.300 (1.1901 – 1.1929) 33.960 – 34.030 (1.3370 – 1.3397)	—
	Rear	38.180 – 38.256 (1.5031 – 1.5061)	—
Brake caliper piston diam.	Front	30.160 – 30.200 (1.1873 – 1.1889) 33.897 – 33.930 (1.3345 – 1.3358)	—
	Rear	38.098 – 38.148 (1.4999 – 1.5018)	—
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)

ITEM	STANDARD		LIMIT
Tire size	Front	* 110/70 R17 54H	—
	Rear	140/60 R18 64H	—
Tire tread depth	Front	—	1.6 (0.06)
	Rear	—	2.0 (0.08)

**SUSPENSION**

Unit: mm (in)

ITEM	STANDARD	LIMIT	NOTE
Front fork stroke	120 (4.7)	—	
Front fork spring free length	—	287 (11.30)	
Front fork oil level	110 (4.3)	—	
Rear wheel travel	140 (5.5)	—	
Swingarm pivot shaft runout	—	0.3	

**FUEL + OIL + COOLANT**

ITEM	SPECIFICATION		NOTE
Fuel type	The gasoline used should be graded 85 to 95 octane in Research Method and should be unleaded type where they are available.		
Fuel tank including reserve	17 L (4.5/3.7 US/Imp gal)		
reserve	5.5 L (1.5/1.2 US/Imp gal)		
Engine oil type	SUZUKI CCI or CCI SUPER OIL		
Engine oil tank capacity	1.1 L (1.2/1.0 US/Imp qt)		
Transmission oil type	SAE 10W/40		
Transmission oil capacity	Change	700 ml (23.6/24.6 US/Imp oz)	
	Overhaul	800 ml (27.0/28.1 US/Imp oz)	
Front fork oil type	Fork oil # 10		
Front fork oil capacity (each leg)	429 ml (14.5/15.1 US/Imp oz)		
Brake fluid type	* DOT 4		
Coolant type	Use an anti-freeze & Summer coolant compatible with aluminum radiator, mixed with distilled water only, at the ratio of 50 : 50.		
Radiator including reserve	1 600 ml (1.7/1.4 US/Imp qt)		

Asterisk mark (\*) indicates the New "L" model specifications.

**TIRE PRESSURE**

COLD INFLATION TIRE PRESSURE	NORMAL RIDING					
	SOLO RIDING			DUAL RIDING		
	kPa	kg/cm <sup>2</sup>	psi	kPa	kg/cm <sup>2</sup>	psi
FRONT	200	2.00	29	200	2.00	29
REAR	225	2.25	33	250	2.50	36

**TIGHTENING TORQUE****ENGINE**

ITEM		N-m	kg-m
Transmission oil drain plug	14 mm	20 – 25	2.0 – 2.5
Coolant drain plug		8 – 12	0.8 – 1.2
Exhaust pipe clamp nut		18 – 28	1.8 – 2.8
Muffler mounting bolt		18 – 28	1.8 – 2.8
Engine mounting nut	10 mm	60 – 72	6.0 – 7.2
	8 mm	28 – 34	2.8 – 3.4
Engine mounting bracket bolt		18 – 28	1.8 – 2.8
Down tube		22 – 28	2.2 – 2.8
Kick starter lever bolt		18 – 28	1.8 – 2.8
Cylinder head nut		23 – 27	2.3 – 2.7
Cylinder nut		23 – 27	2.3 – 2.7
Crankcase bolt	6 mm	9 – 13	0.9 – 1.3
	8 mm	20 – 24	2.0 – 2.4
Gearshift arm stopper		15 – 23	1.5 – 2.3
Primary drive gear nut		60 – 80	6.0 – 8.0
Water pump cover bolt		6 – 10	0.6 – 1.0
Transmission cover nut		8 – 12	0.8 – 1.2
Clutch sleeve hub nut		40 – 60	4.0 – 6.0
Clutch spring bolt		8 – 12	0.8 – 1.2
Clutch cover bolt		6 – 10	0.6 – 1.0
Magneto rotor nut		85 – 105	8.5 – 10.5
Water pump impeller bolt		7 – 9	0.7 – 0.9
Water temp gauge		6 – 10	0.6 – 1.0
Radiator mounting nut		7 – 9	0.7 – 0.9
Carburetor mounting bolt		7 – 9	0.7 – 0.9

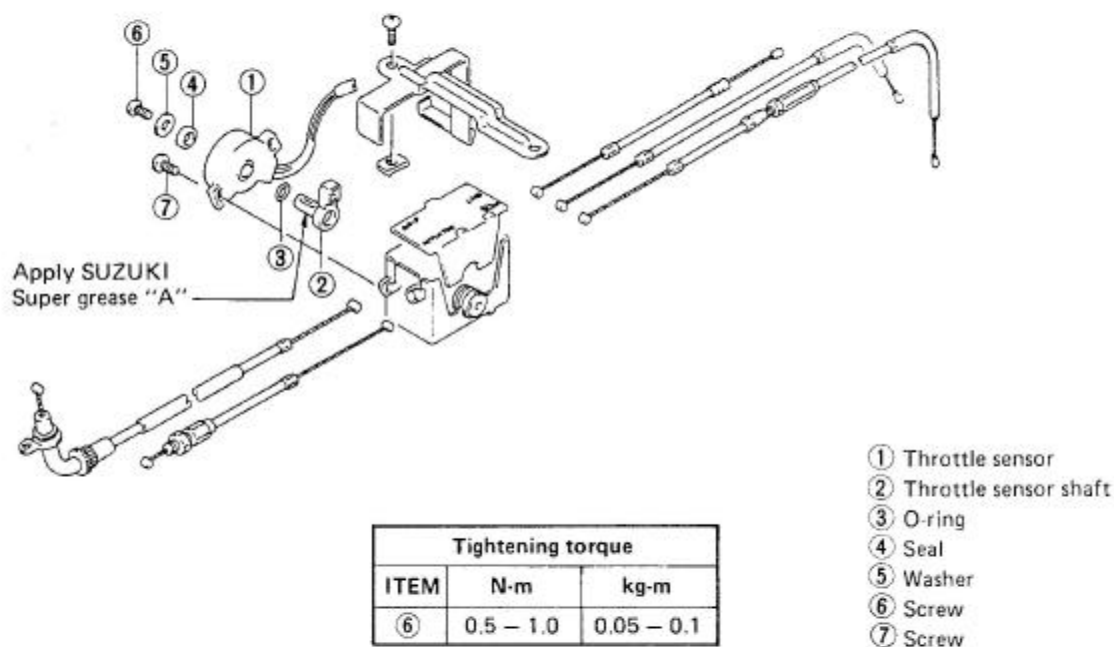


**CHASSIS**

ITEM	N·m	kg·m
Steering stem head nut	60 – 100	6.0 – 10.0
Handlebars set bolt	6 – 10	0.6 – 1.0
Front fork upper clamp bolt	15 – 25	1.5 – 2.5
Front fork lower clamp bolt	15 – 25	1.5 – 2.5
Front fork cap bolt	15 – 30	1.5 – 3.0
Front axle shaft	50 – 80	5.0 – 8.0
Front axle clamp bolt	15 – 25	1.5 – 2.5
Handlebars mounting bolt	15 – 25	1.5 – 2.5
Front brake master cylinder mounting bolt	5 – 8	0.5 – 0.8
Front caliper mounting bolt	25 – 40	2.5 – 4.0
Front caliper housing bolt	18 – 23	1.8 – 2.3
Brake hose union bolt	15 – 20	1.5 – 2.0
Air bleeder valve (Front and rear)	6 – 9	0.6 – 0.9
Front and rear disc bolt	15 – 25	1.5 – 2.5
Swingarm pivot nut	85 – 110	8.5 – 11.0
Rear brake rod lock nut	15 – 25	1.5 – 2.5
Rear shock absorber mounting nut (Upper and lower)	40 – 60	4.0 – 6.0
Rear cushion lever nut	70 – 100	7.0 – 10.0
Rear cushion rod nut (Upper and lower)	70 – 100	7.0 – 10.0
Rear caliper housing bolt	18 – 23	1.8 – 2.3
Rear torque link nut (Front and rear)	22 – 34	2.2 – 3.4
Rear master cylinder mounting bolt	8 – 12	0.8 – 1.2
Rear axle nut	85 – 115	8.5 – 11.5
Rear sprocket nut	20 – 30	2.0 – 3.0
Front footrest bolt	15 – 25	1.5 – 2.5
* Front footrest holder bolt	27 – 43	2.7 – 4.3
Rear brake master cylinder hose union bolt	15 – 20	1.5 – 2.0
Rear brake caliper hose union bolt	20 – 25	2.0 – 2.5

Asterisk mark (\*) indicates the New "L" model specifications.

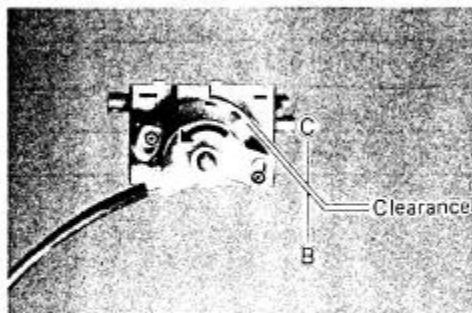
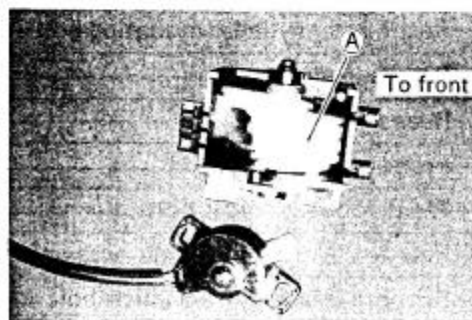
## THROTTLE SENSOR



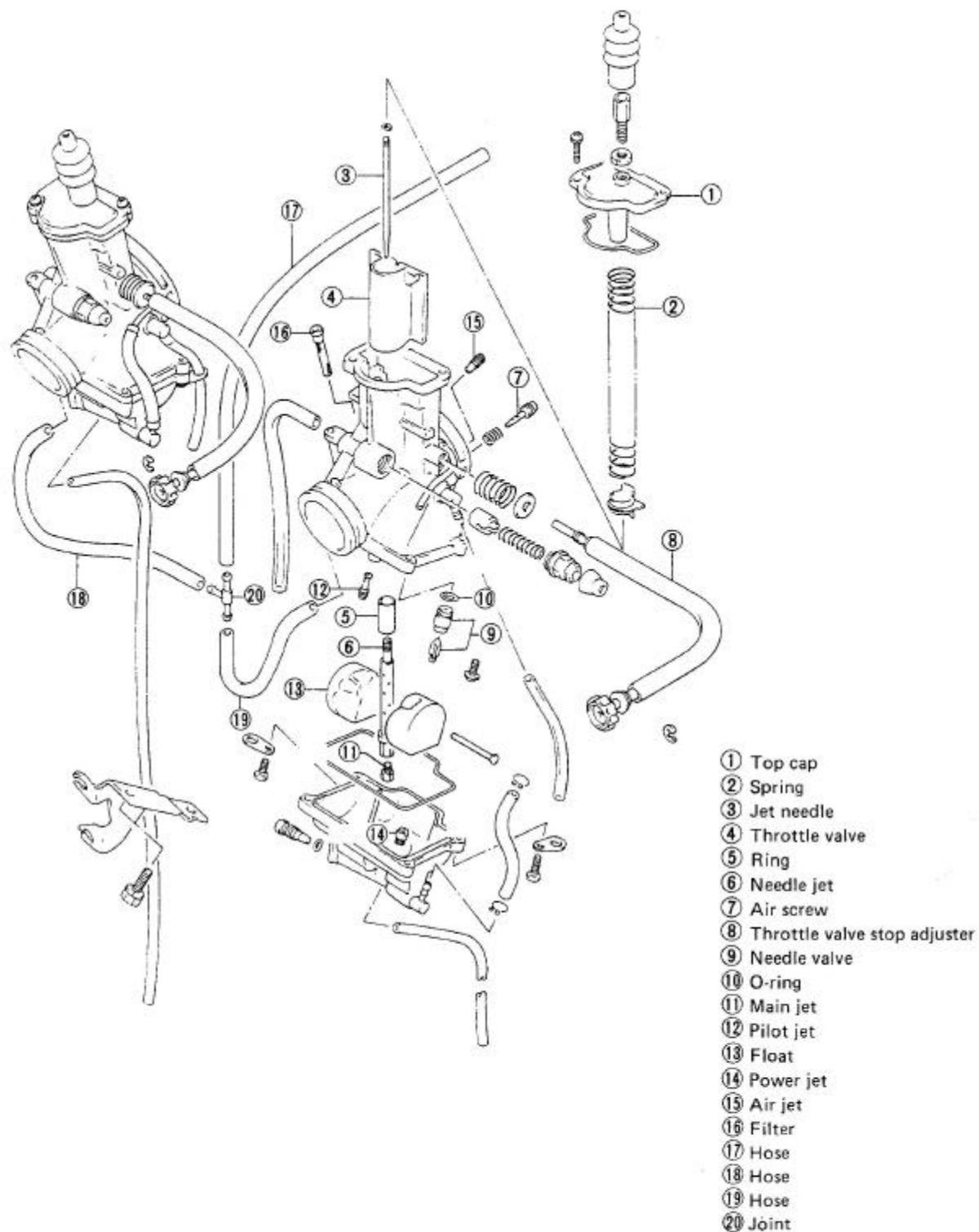
- Turn the throttle pulley **A** to its full open position and hold. Fit the throttle sensor assembly to the side of throttle pulley body while engaging the hole of throttle sensor shaft arm with the boss provided on the side of the throttle pulley. Attach two throttle sensor fitting screws and bring them to finger tight. Turn the sensor body all the way in the direction indicated by the arrow, force the body downward to secure the clearance as indicated and then tighten the screws.

**CAUTION:**

Make sure to provide clearance between **B** and **C** as shown in the photo.

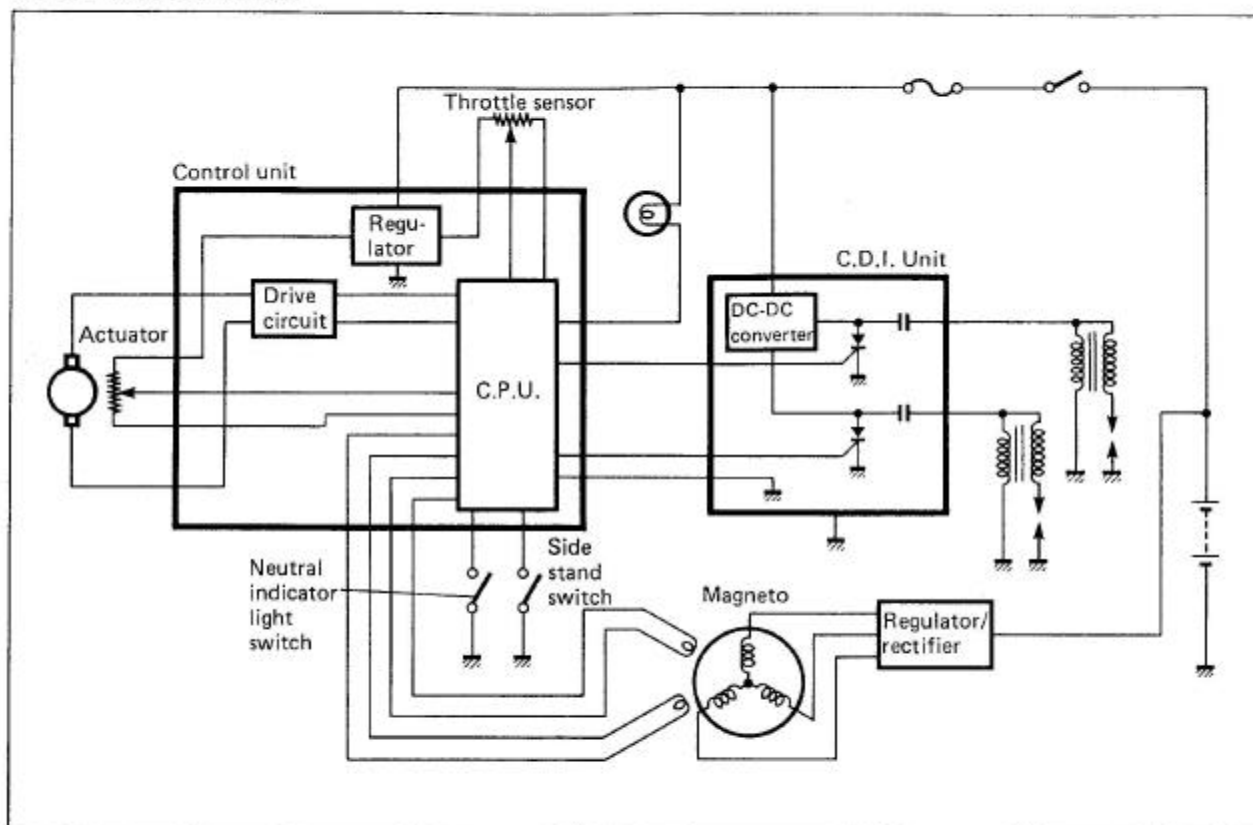


## CARBURETOR



## ELECTRICAL SYSTEM

### IGNITION SYSTEM



### IGNITION

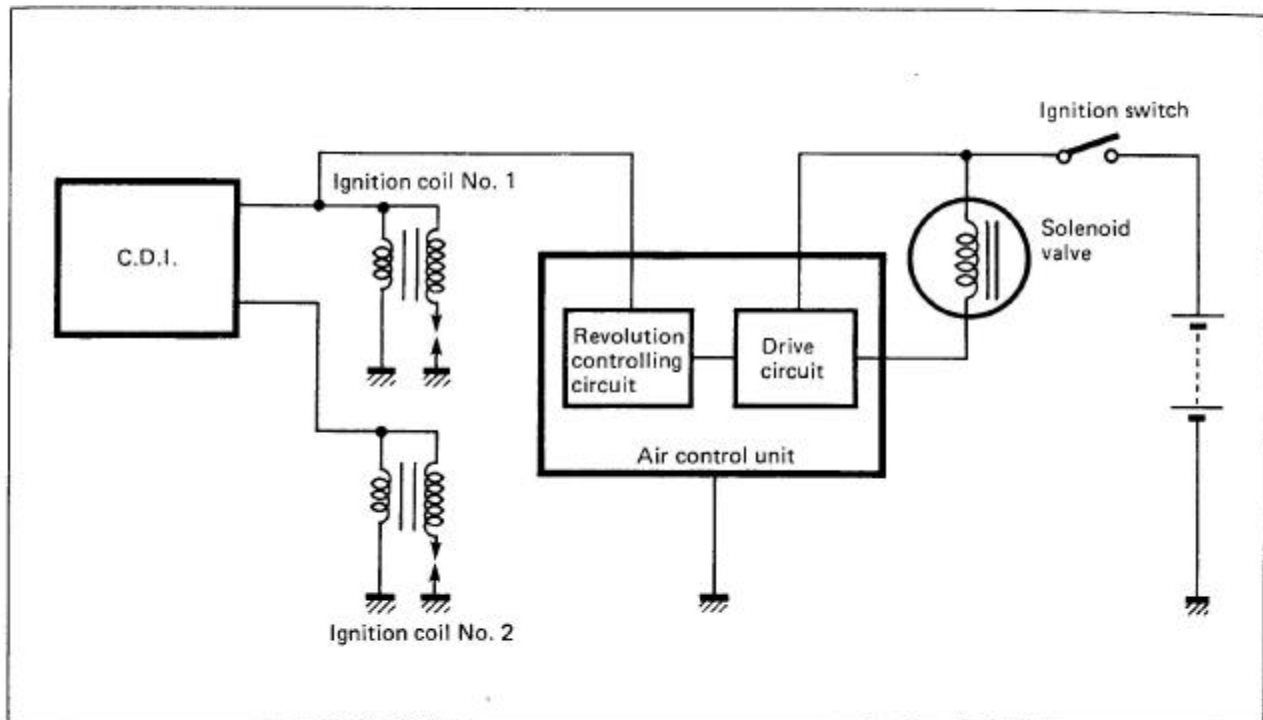
The DC-DC converter in the CDI unit steps up the battery voltage to a high voltage and charges the capacitor (C). The capacitor discharges its stored energy to the ignition coil primary windings when the SCR turns on and grounds the line between the DC-DC converter and capacitor. The SCR turns on when the signal from the control unit is sent to the SCR's gate. The moment the capacitor discharges the electrical energy to the primary windings, a very high voltage is induced within the secondary windings and a hot spark jumps across the air gap between the center and side electrodes of the spark plug.

The control unit determines the SCR gate signal timing to be best suited for the spark timing according to the prevailing engine revolutions (pulser signal) and throttle opening (throttle sensor signal).

### EXHAUST

The control unit also produces a signal for driving the actuator to control the exhaust valve operation. The unit determines the best exhaust valve angle for the prevailing engine operating conditions according to the signals supplied from the pulser and throttle sensor.





## AIR VALVE

The air valve control unit receives the ignition coil primary pulse signal which is then processed for determining the current engine revolution speed. When the revolution reaches the predetermined level, the drive circuit begins to operate for driving the air valve.

## INSPECTION

### IGNITION SYSTEM AND EXHAUST VALVE OPERATION CHECK

This section explains the checking procedure for the total ignition system and exhaust valve operation using the ignitor checker. This checking can be done with the engine on the machine.

09931-64410 : Ignitor checker

#### WIRING PROCEDURE:

- Disconnect the signal generator lead wire coupler ② at the position shown in the figure.
- Use the RGV250 lead wire "MODE 4" and connect the lead wire to the disconnected coupler ②.
- Connect the power source lead ① to the battery.
- Select the "MODE 4" button.
- Remove the both spark plugs and rest the plugs on the cylinder head with plug caps to check sparks.

#### CAUTION:

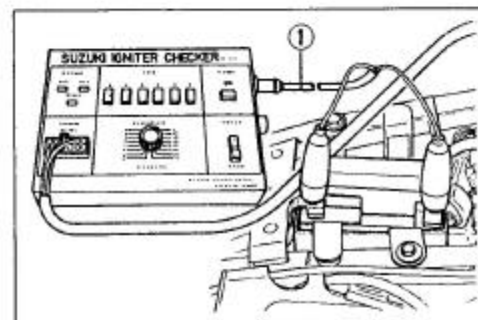
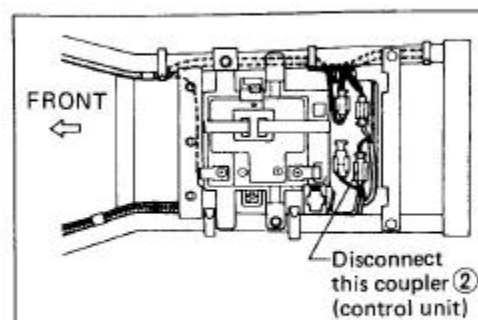
- \* Be sure the Black lead is connected to the battery  $\ominus$  terminal and Red lead to the  $\oplus$  terminal.
- \* Before connecting the power source leads, make sure both "POWER" button and "START" switch are in "off" position (POWER button not depressed).

#### NOTE:

Be sure the battery used is in fully-charged condition.

#### CHECK PROCEDURE:

1. Turn on the ignition switch and check that the exhaust valves open and close in the cleaning operation.
  2. Turn on the "POWER" switch and "START" switch. Turn "REVOLUTION" dial up gradually (assuming the engine is gradually revved up) and check the sparks between plug gaps.
- When the throttle is closed condition, the No. 1 cylinder stop sparking over "8" (8 000 r/min), at the same time tachometer indication drops to 0 r/min. However, the No. 2 cylinder continuously sparks until "10" (10 000 r/min). The above condition shows ignition system works properly.



- When the throttle valves are fully-open condition, both No. 1 and No. 2 cylinders continuously sparks until engine r/min reaches to "10" (10 000 r/min) and stops sparking over "11" (11 000 r/min).

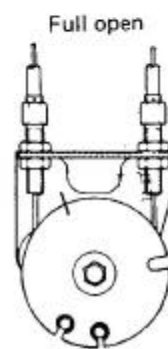
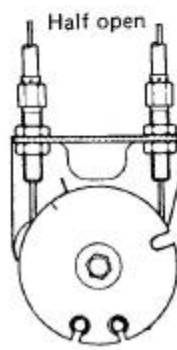
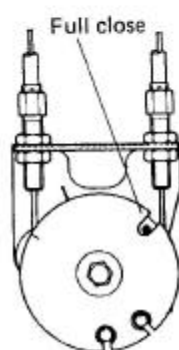
## IGNITION SYSTEM

Throttle position	Revolution dial	Sparks: ○, Not sparks: X	
		No. 1 (Rear)	No. 2 (Front)
CLOSED	0 - "8"	○	○
	"9" - "10"	X	○
	at "11"	X	X
OPENED	0 - "10"	○	○
	at "11"	X	X

- Keep the engine r/min at "8" (8 000 r/min) in the throttle-closed condition and turn the throttle to the fully open position. The exhaust valves operates from closed position to half-open position in response to the throttle position. Turn the engine r/min knob to "10" (10 000 r/min) and check that the exhaust valves open completely in any throttle position.

## EXHAUST VALVE OPERATION

Throttle position	Revolution dial	Exhaust valve
CLOSED	0 - "8"	CLOSED POSITION
CLOSED → OPEN	at "8"	CLOSE → HALF OPEN
ANY POSITION	"9" - "10"	OPEN POSITION

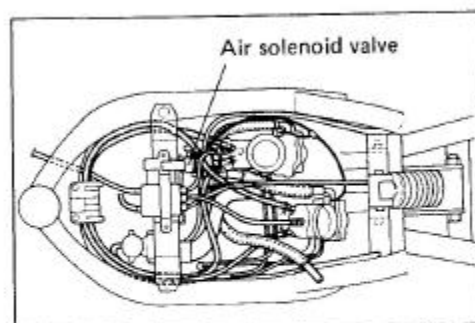


## 4. AIR SOLENOID VALVE OPERATION

Turn the r/min knob from "2" (2 000 r/min) to "4" (4 000 r/min) and hear the click sound that opens the air passage to the carburetor by solenoid. Turn the r/min knob from "6" (6 000 r/min) to "4" (4 000 r/min) and click sound is heard, which indicates the closing operation of the air solenoid valve.

## AIR SOLENOID VALVE OPERATION

Revolution dial	Solenoid valve
"2" → "4"	OPEN
"6" → "4"	CLOSE



**CDI UNIT (Checking with Pocket Tester)**

- Using the SUZUKI pocket tester, bring the  $\oplus$  probe and the  $\ominus$  probe into contact with each lead wire of the CDI unit, check continuity, and measure the resistance value.

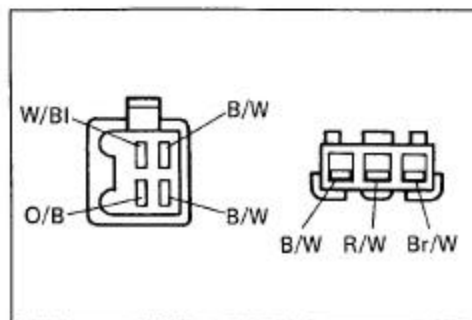
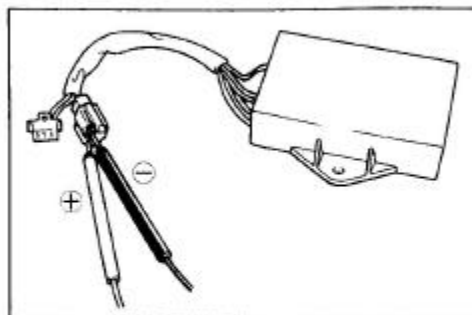
**09900-25002 : Pocket tester**

- When the continuity and the resistance values are as shown in the following table, the CDI unit is judged to be normal.

**CAUTION:**

As capacitors, diodes, etc. are used inside this CDI unit, the resistance values will differ when an ohmmeter other than SUZUKI pocket tester is used.

- Measure the resistance between the leads.
- Tester range —  $\times k\Omega$

Unit: Approx.  $k\Omega$ 

		$\oplus$ Probe of tester to:						
		Br/W	R/W	B/W	O/B	W/Bl	B/Y	B/W
$\ominus$ Probe of tester to:	Br/W		0.1 – 5	0.1 – 5	$\infty$	$\infty$	$\infty$	0.1 – 5
	R/W	0.1 – 5		0.1 – 5	$\infty$	$\infty$	$\infty$	0.1 – 5
	B/W	0.1 – 5	0.1 – 5		$\infty$	$\infty$	$\infty$	0
	O/B	1 – 10	1 – 10	$\infty$		$\infty$	$\infty$	1 – 10
	W/Bl	1 – 10	1 – 10	1 – 10	$\infty$		$\infty$	1 – 10
	B/Y	1 – 10	1 – 10	1 – 10	$\infty$	$\infty$		1 – 10
	B/W	0.1 – 5	0.1 – 5	0	$\infty$	$\infty$	$\infty$	

**ACTUATOR PULLEY (Checking with Pocket Tester)**

- Check the actuator resistance values.

Tester connected to:	Resistance	Tester range
R/B – B/R	1 – 20 $\Omega$	$\times 1 \Omega$
O – B/W	4 – 6 $k\Omega$	$\times k \Omega$

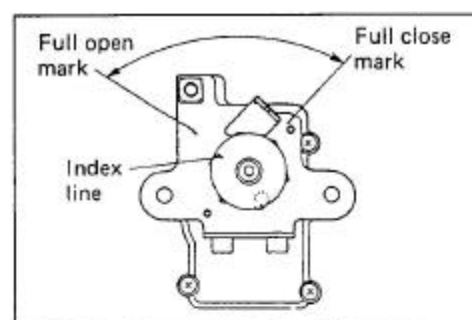
**NOTE:**

Do not move the pulley at the this time.

- The pulley should move within the angle range indicated by the arrow.

**CAUTION:**

Do not force the pulley in an attempt to move it beyond the angle range indicated by the arrow.



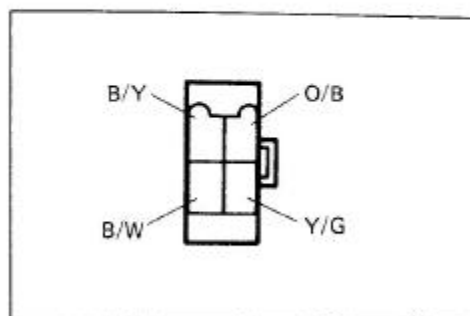


**AIR CONTROL UNIT (Checking with Pocket Tester)**

- Using the SUZUKI pocket tester, bring the  $\oplus$  probe and the  $\ominus$  probe into contact with each lead wire of the Air Control Unit check for continuity, and measure the resistance value.

**09900-25002 : Pocket tester**

- When the continuity and the resistance values are as shown in the following table, the Air Control Unit is judged to be normal.

**CAUTION:**

As capacitors, diodes, etc. are used inside this Air Control unit, the resistance values will differ when an ohmmeter other than SUZUKI pocket tester is used.

- Measure the resistance between the leads.
- Tester range —  $\times k\Omega$

Unit: Approx.  $k\Omega$ 

		$\oplus$ Probe of tester to:			
		B/Y	B/W	O/B	Y/G
$\ominus$ Probe of tester to:	B/Y		$\infty$	$\infty$	$\infty$
	B/W	100 — $\infty$		$\infty$	1 — 5
	O/B	$\infty$	5 — 20		10 — 50
	Y/G	$\infty$	$\infty$	$\infty$	

Air solenoid valve	Engine r/min
ON $\rightarrow$ OFF	3 400 — 5 400
ON $\rightarrow$ OFF	5 200 — 3 200

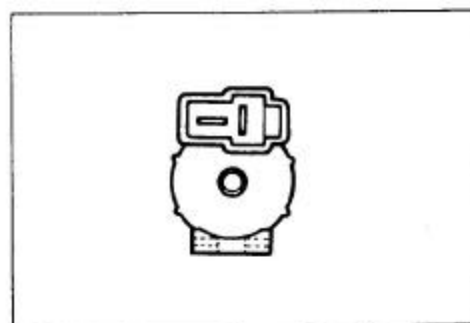
**AIR SOLENOID VALVE (Checking with Pocket Tester)**

- Using the SUZUKI pocket tester, check the continuity between the terminals of the Air Solenoid Valve.

**09900-25002 : Pocket tester****CAUTION:**

As capacitors, diodes, etc. are used inside this Air Solenoid Valve, the resistance values will differ when an ohmmeter other than SUZUKI pocket tester is used.

- Measure the resistance between the leads.
- Tester range —  $\times 1 k\Omega$



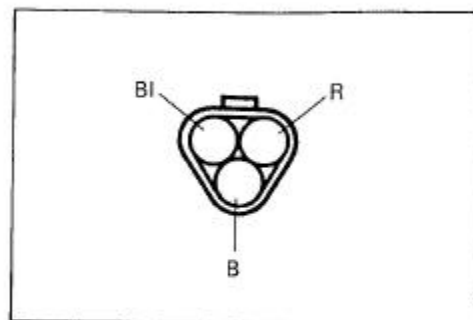
STD resistance	
Terminals	0 $\Omega$ Tester range: (1 $k\Omega$ )

**THROTTLE SENSOR (Checking with Pocket Tester)**

- Using the SUZUKI pocket tester, bring the  $\oplus$  probe and the  $\ominus$  probe into contact with each lead wire of the Throttle Sensor, check for continuity, and measure the resistance value.

09900-25002 : Pocket tester

STD resistance	
R/B	3.5 – 6.5 $\Omega$ Tester range: (1 k $\Omega$ )

**CONTROL UNIT****CDI CIRCUIT**

- Using the SUZUKI pocket tester, bring the  $\oplus$  probe and the  $\ominus$  probe into contact with each lead wire of the CDI or Neutral Circuit, check for continuity, and measure the resistance value.

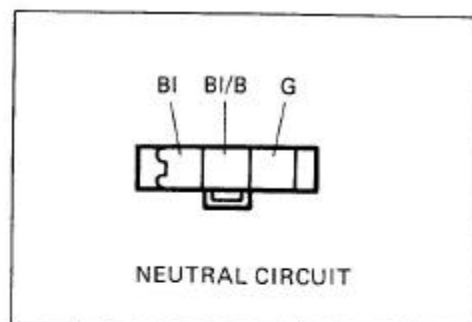
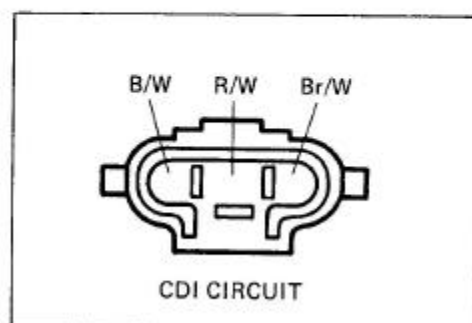
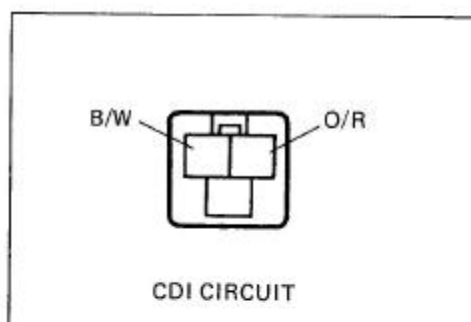
09900-25002 : Pocket tester

- When the continuity and the resistance values are as shown in the following table, the CDI Circuit is judged to be normal.

**CAUTION:**

As capacitors, diodes, etc. are used inside this CDI circuit, the resistance values will differ when an ohmmeter other than SUZUKI pocket tester is used.

- Measure the resistance between the reads.
- Tester range – x k $\Omega$



Unit: Approx. k $\Omega$ 

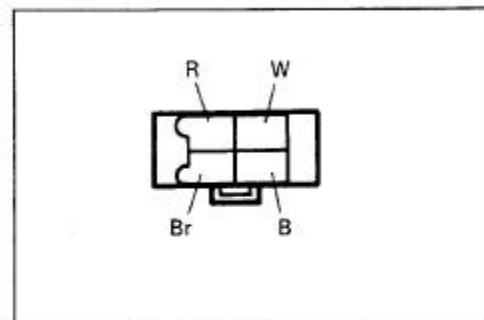
		⊕ Probe of tester to:							
		O/R	B/W	G	Bl	Bl/B	Br/W	R/W	B/W
⊖ Probe of tester to:	O/R		10 – 50	10 – 50	10 – 50	50 – 500	50 – 500	50 – 500	10 – 50
	B/W	∞		1 – 10	1 – 10	1 – 10	1 – 10	1 – 10	0
	G	∞	1 – 10		1 – 10	1 – 10	5 – 20	5 – 20	1 – 10
	Bl	∞	1 – 10	1 – 10		1 – 10	5 – 20	5 – 20	1 – 10
	Bl/B	∞	∞	∞	∞		∞	∞	∞
	Br/W	∞	∞	∞	∞	∞		∞	∞
	R/W	∞	∞	∞	∞	∞	∞		∞
	B/W	∞	0	1 – 10	1 – 10	1 – 10	1 – 10	1 – 10	

**MAGNETO CIRCUIT**

- Using the SUZUKI pocket tester, bring the ⊕ probe and the ⊖ probe into contact with each lead wire of the Magneto Circuit, check for continuity, and measure the resistance value.

**09900-25002 : Pocket tester**

- When the continuity and the resistance values are as shown in the following table, MAGNETO Circuit is judged to be normal.

Unit: Approx. k $\Omega$ 

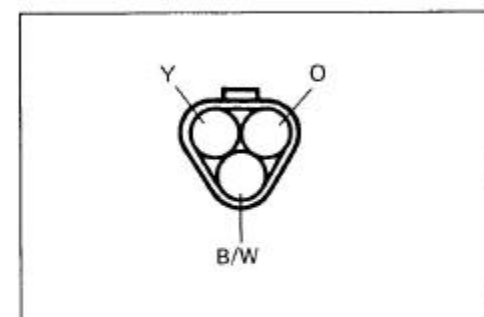
		⊕ Probe of tester to:			
		Br	R	W	B
⊖ Probe of tester to:	Br		1 – 10	1 – 10	1 – 10
	R	1 – 10		1 – 10	1 – 10
	W	1 – 10	1 – 10		0
	B	1 – 10	1 – 10	0	

**ACTUATOR CIRCUIT (Checking with Pocket Tester)**

- Using the SUZUKI pocket tester, bring the ⊕ probe and the ⊖ probe into contact with each lead wire of the ACTUATOR Circuit, check for continuity, and measure the resistance value.

**09900-25002 : Pocket tester**

- When the continuity and the resistance values are as shown in the following table, the ACTUATOR Circuit is judged to be normal.



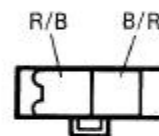
**CAUTION:**

As capacitors diodes, etc. are used inside this ACTUATOR Circuit, the resistance values will differ when an ohmmeter other than SUZUKI pocket tester is used.

- Measure the resistance between the leads.
- Tester range — x k $\Omega$

Unit: Approx. k $\Omega$ 

		⊕ Probe of tester to:				
		O	Y	B/W	B/R	R/B
⊖ Probe of tester to:	O		5 – 20	1 – 10	1 – 10	1 – 10
	Y	10 – 50		10 – 50	20 – 200	20 – 200
	B/W	1 – 10	1 – 10		1 – 10	1 – 10
	B/R	$\infty$	$\infty$	$\infty$		$\infty$
	R/B	$\infty$	$\infty$	$\infty$	$\infty$	

**THROTTLE SENSOR CIRCUIT (Checking with Pocket tester)**

- Using the SUZUKI pocket tester, bring the ⊕ probe and the ⊖ probe into contact with each lead wire of the Throttle Sensor Circuit, check for continuity, and measure the resistance value.

09900-25002 : Pocket tester

- When the continuity and the resistance values are as shown in the following table, the THROTTLE Circuit is judged to be normal.

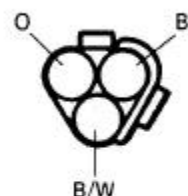
**CAUTION:**

As capacitors diodes, etc. are used inside this THROTTLE SENSOR Circuit, the resistance values will differ when an ohmmeter other than SUZUKI pocket tester is used.

- Measure the resistance between the leads.
- Tester range — x k $\Omega$

Unit: Approx. k $\Omega$ 

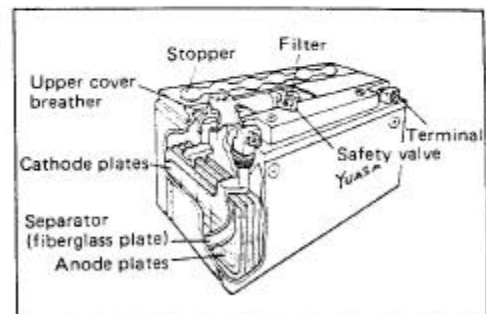
		⊕ Probe of tester to:		
		O	BI	B/W
⊖ Probe of tester to:	O		1 – 10	1 – 10
	BI	$\infty$		10 – 50
	B/W	$\infty$	$\infty$	



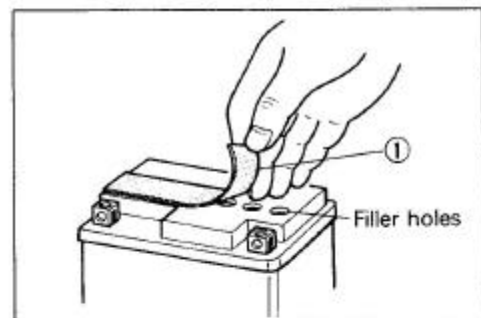


**BATTERY****SPECIFICATIONS**

Type designation	YT4L-BS
Capacity	12V, 10.8 kC (3 Ah)/10HR
Standard electrolyte S.G.	1.320 at 20°C (68°F)

**INITIAL CHARGING****Filling electrolyte**

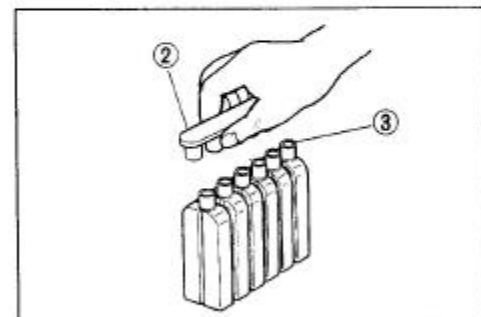
- Remove the aluminum tape ① sealing the battery electrolyte filler holes.



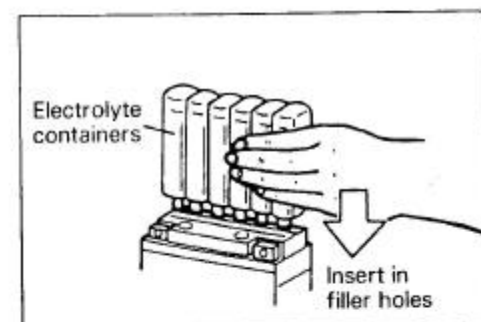
- Remove the caps ②.

**NOTE:**

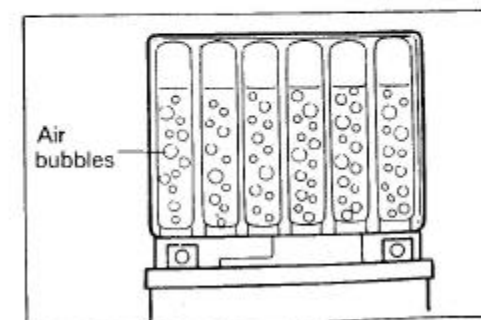
- \* After filling the electrolyte completely, use the removed cap ② as the sealed caps of battery-filler holes.
- \* Do not remove or pierce the sealed areas ③ of the electrolyte container.



- Insert the nozzles of the electrolyte container into the battery's electrolyte filler holes, holding the container firmly so that it does not fall. Take precaution not to allow any of the fluid to spill.



- Make sure air bubbles are coming up each electrolyte container, and leave in this position for about more than 20 minutes.



**NOTE:**

If no air bubbles are coming up from a filler port, tap the bottom of the two or three times.

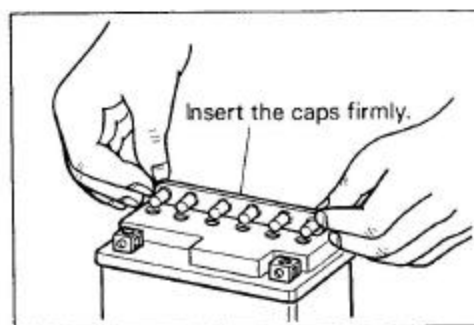
Never remove the container from the battery.



- After confirming that the electrolyte has entered the battery completely, remove the electrolyte containers from the battery. Wait for around 20 minutes.
- Insert the caps into the filler holes, pressing in firmly so that the top of the caps do not protrude above the upper surface of the battery's top cover.

**CAUTION:**

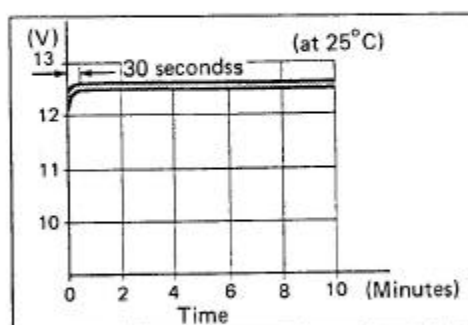
- \* Never use anything except the specified battery.
- \* Once install the caps to the battery; do not remove the caps.



- Using SUZUKI pocket tester, measure the battery voltage. The tester should indicate more than 12.5V (DC) as shown in the Fig. If the battery voltage is lower than the specification, charge the battery with a battery charger.

**NOTE:**

Initial charging for a new battery is recommended if two years have elapsed since the date of manufacture.

**SERVICING**

Visually inspect the surface of the battery container. If any signs of cracking or electrolyte leakage from the sides of the battery have occurred, replace the battery with a new one. If the battery terminals are found to be coated with rust or an acidic white powdery substance, then this can be cleaned away with sandpaper.

# RECHARGING OPERATION

- Using the pocket tester, check the battery voltage. If the voltage reading is less than the 12.0V (DC), recharge the battery with a battery charger.

## CAUTION:

When recharging the battery, remove the battery from the motorcycle.

## NOTE:

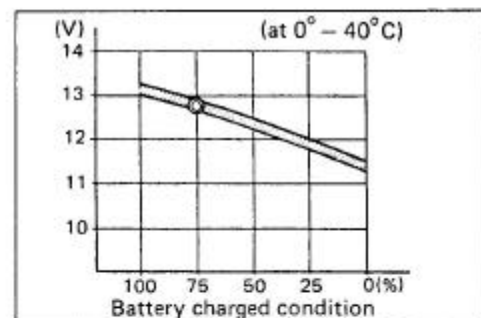
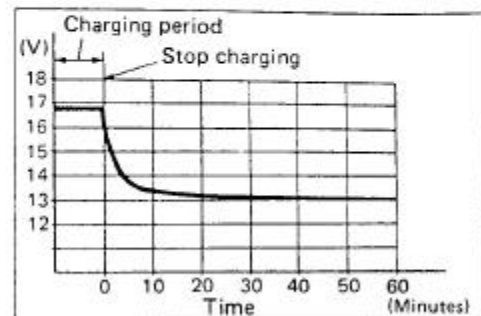
Do not remove the stoppers on the battery top while recharging.

Recharge time : 5A for half an hour or 0.5A for 5 hours

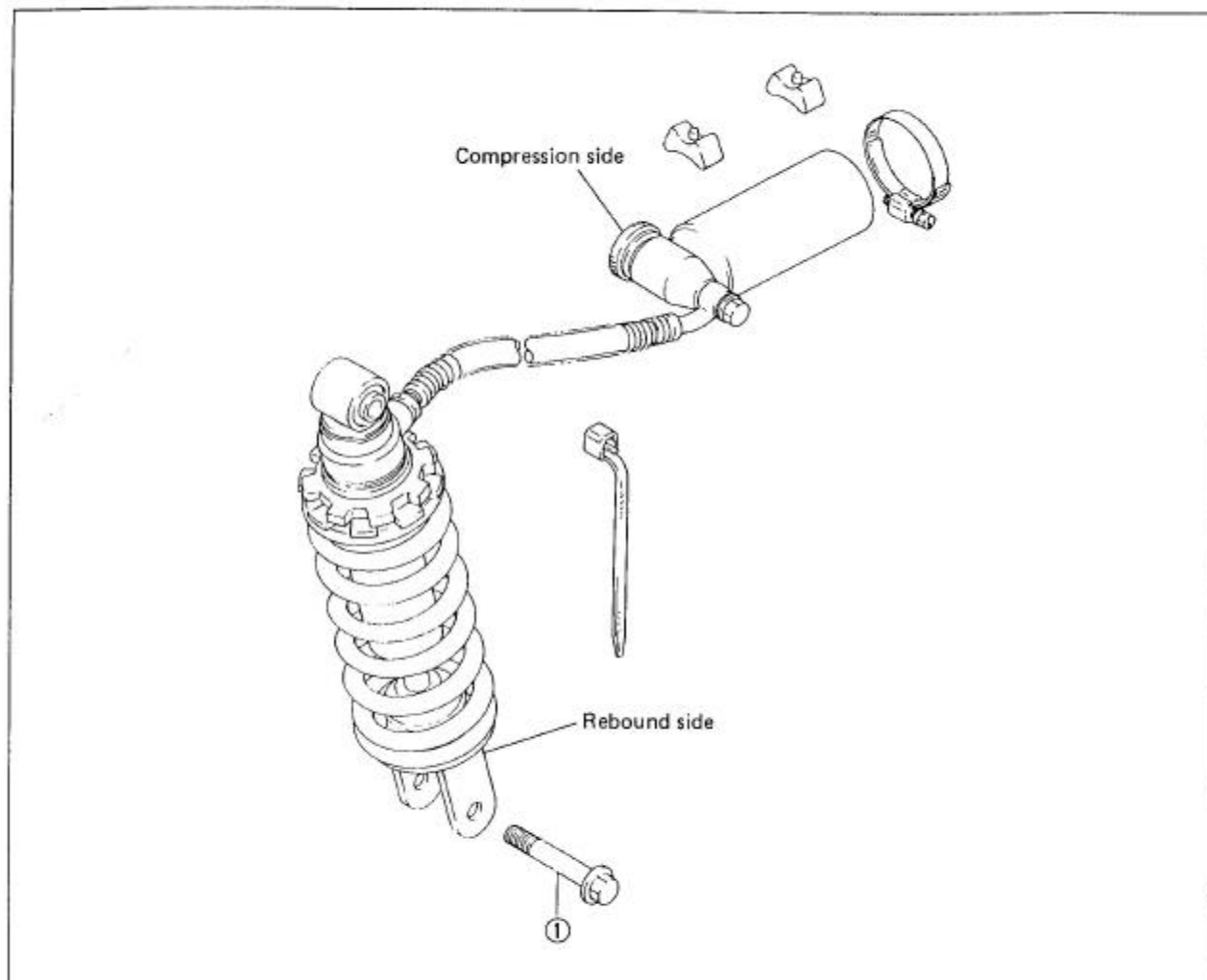
## CAUTION:

Be careful not to permit the charging current to exceed 5A at any time.

- After recharging, wait for more than 30 minutes and check the battery voltage with a pocket tester.
- If the battery voltage is less than the 12.5V, recharge the battery again.
- If battery voltage is still less than 12.5V after recharging, replace the battery with a new one.
- When a battery is left for a long term without using, it is subject to discharge. When the motorcycle is not used for more than 1 month (especially during the winter season), recharge the battery once a month at least.



## REAR SUSPENSION



		Front	Rear		
		Spring preload	Spring preload	Damping force	
				Rebound	Compression
Solo riding	Softer	4	179 mm (7.05 in)	1	Standard + 1
	Standard	3	179 mm (7.05 in)	2	9 ± 2
	Stiffer	3	179 mm (7.05 in)	2	9 ± 2
Dual riding		3	179 mm (7.05 in)	2	9 ± 2
Adjust range		5	± 5 mm (± 0.20 in)	4	20

### NOTE:

#### REAR SUSPENSION DAMPING ADJUSTMENT

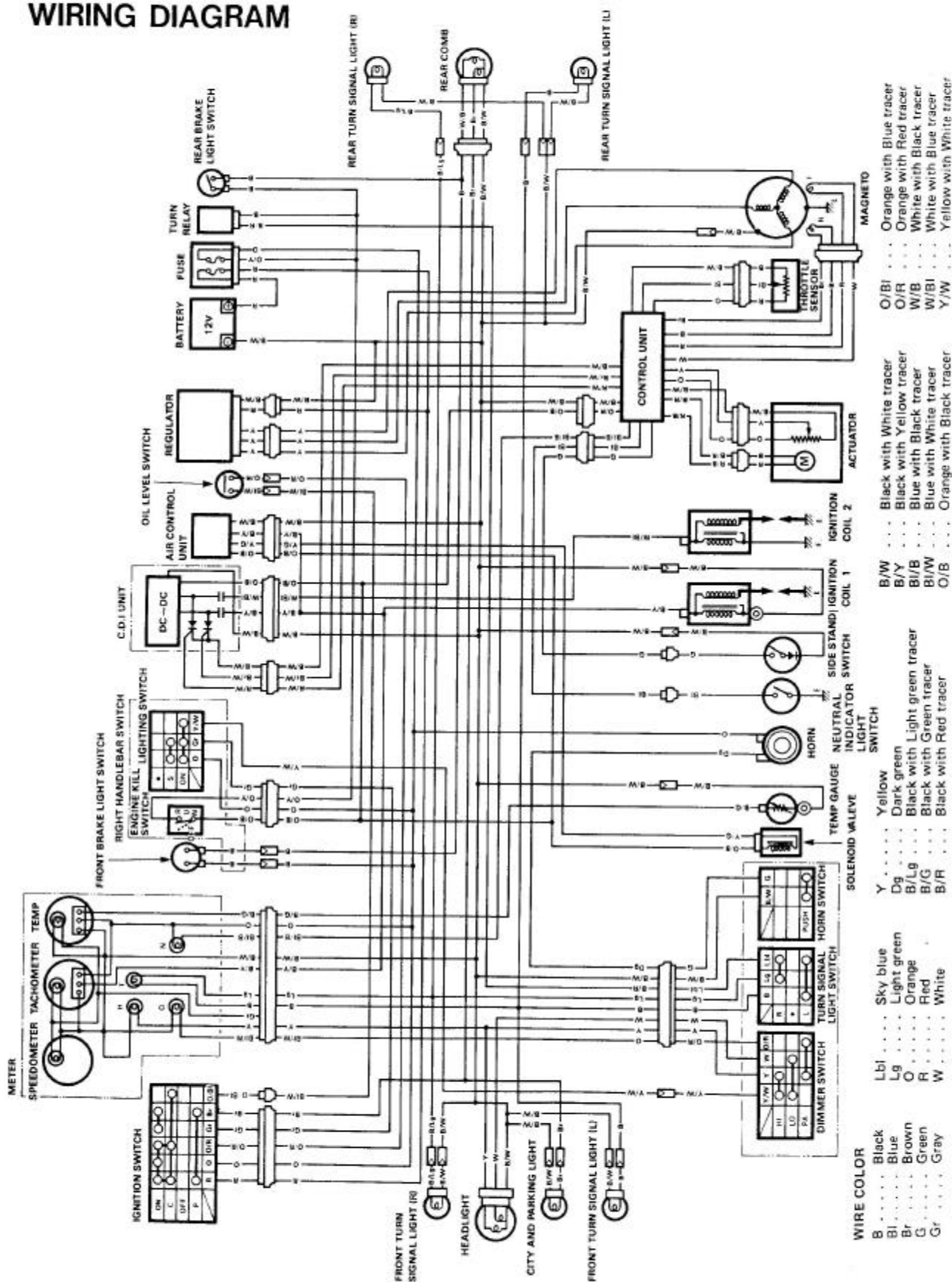
Fully turn the damping force adjuster clockwise it is at 0 position and turn out it to 9th click (± 2 click).

The STD setting position is 9th clock (± 2 click) from 0 position.

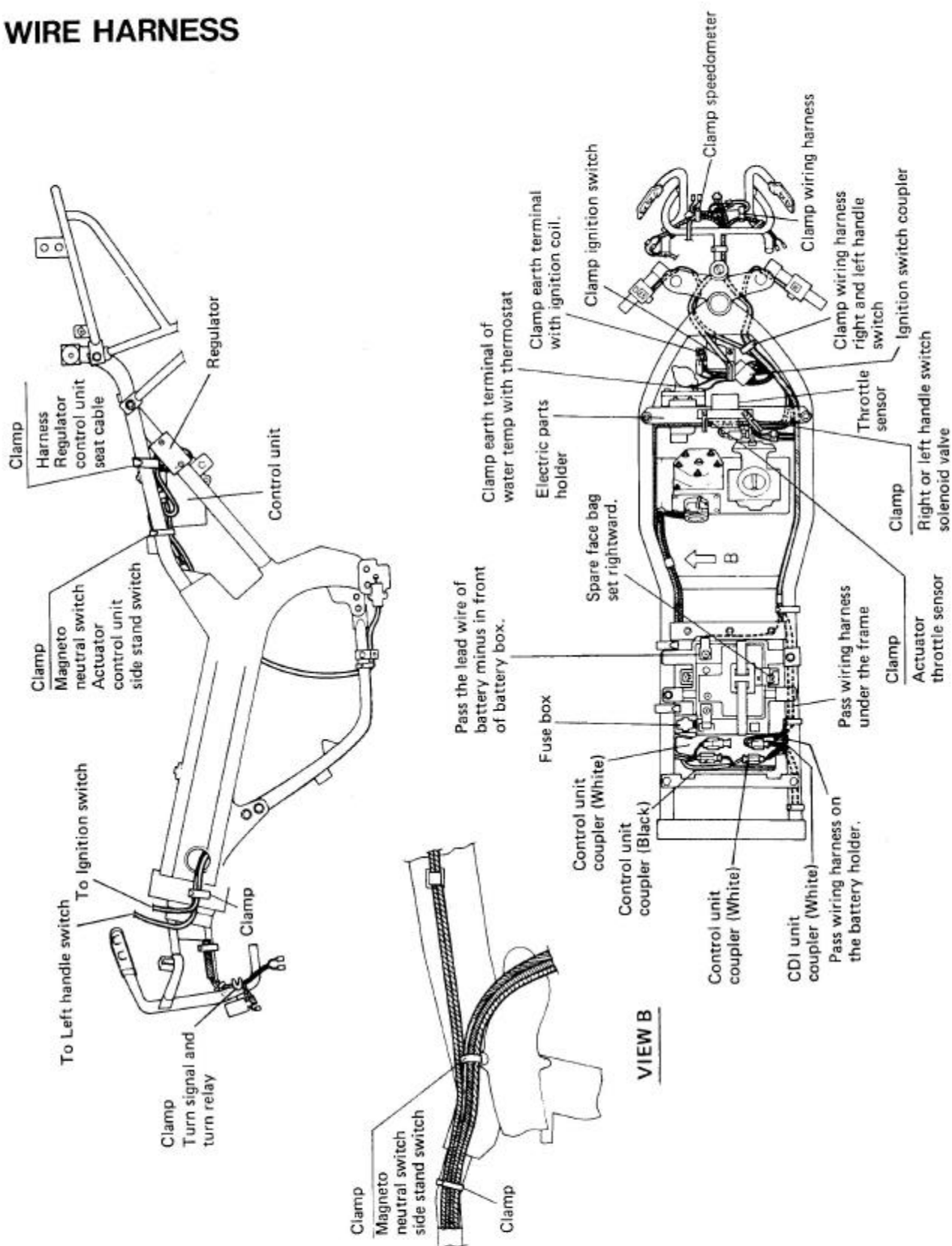
The STD setting position is obtained so that the painted mark on its adjuster knob is aligned with the indication mark on adjuster body.

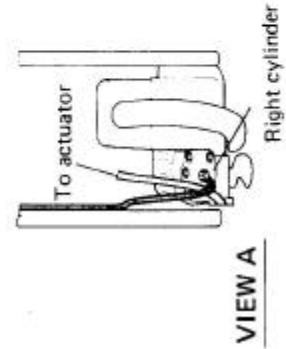
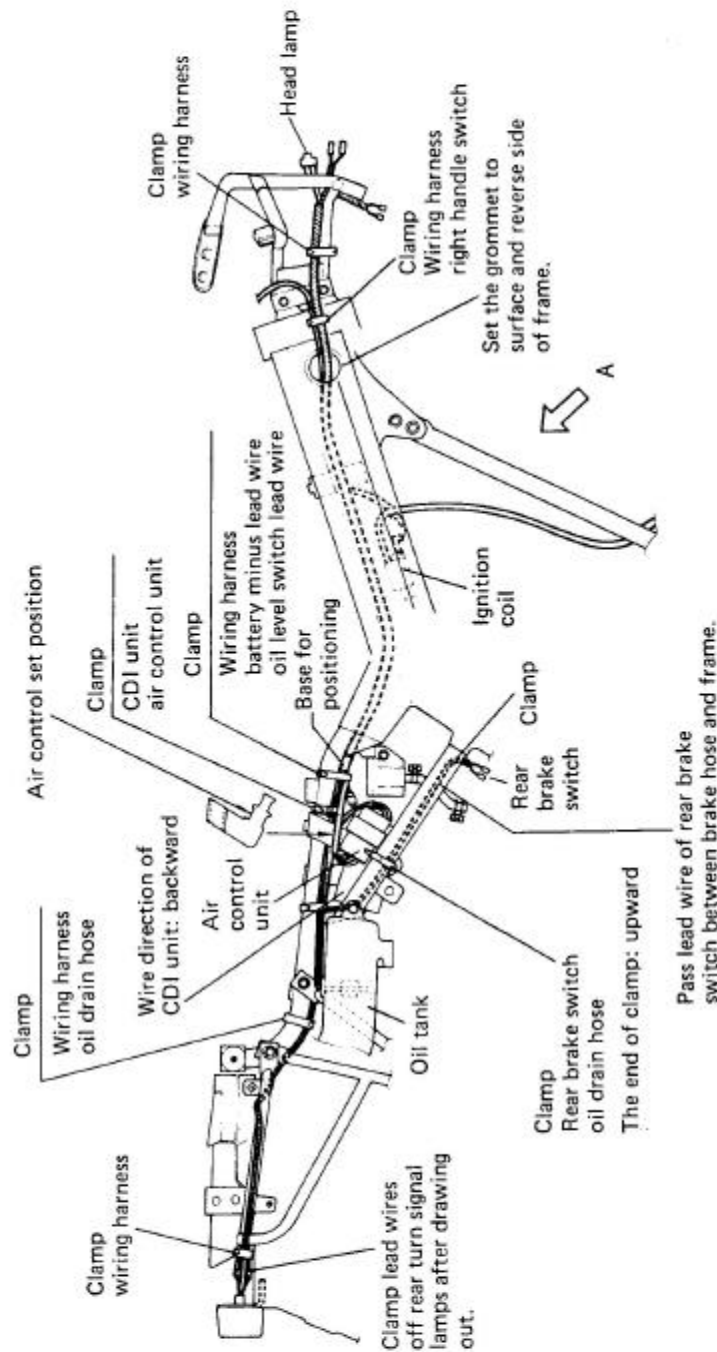


## WIRING DIAGRAM

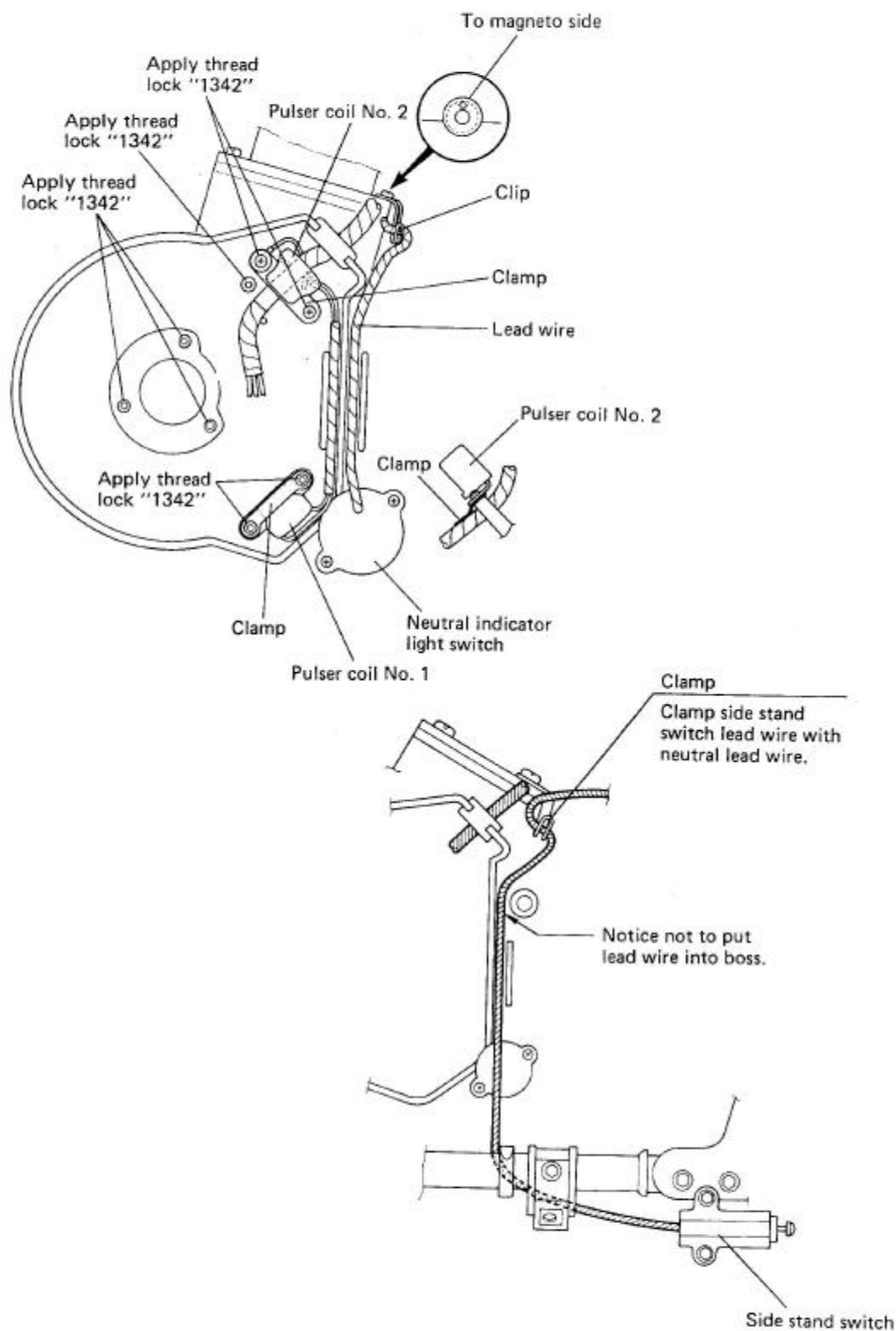


## WIRE HARNESS

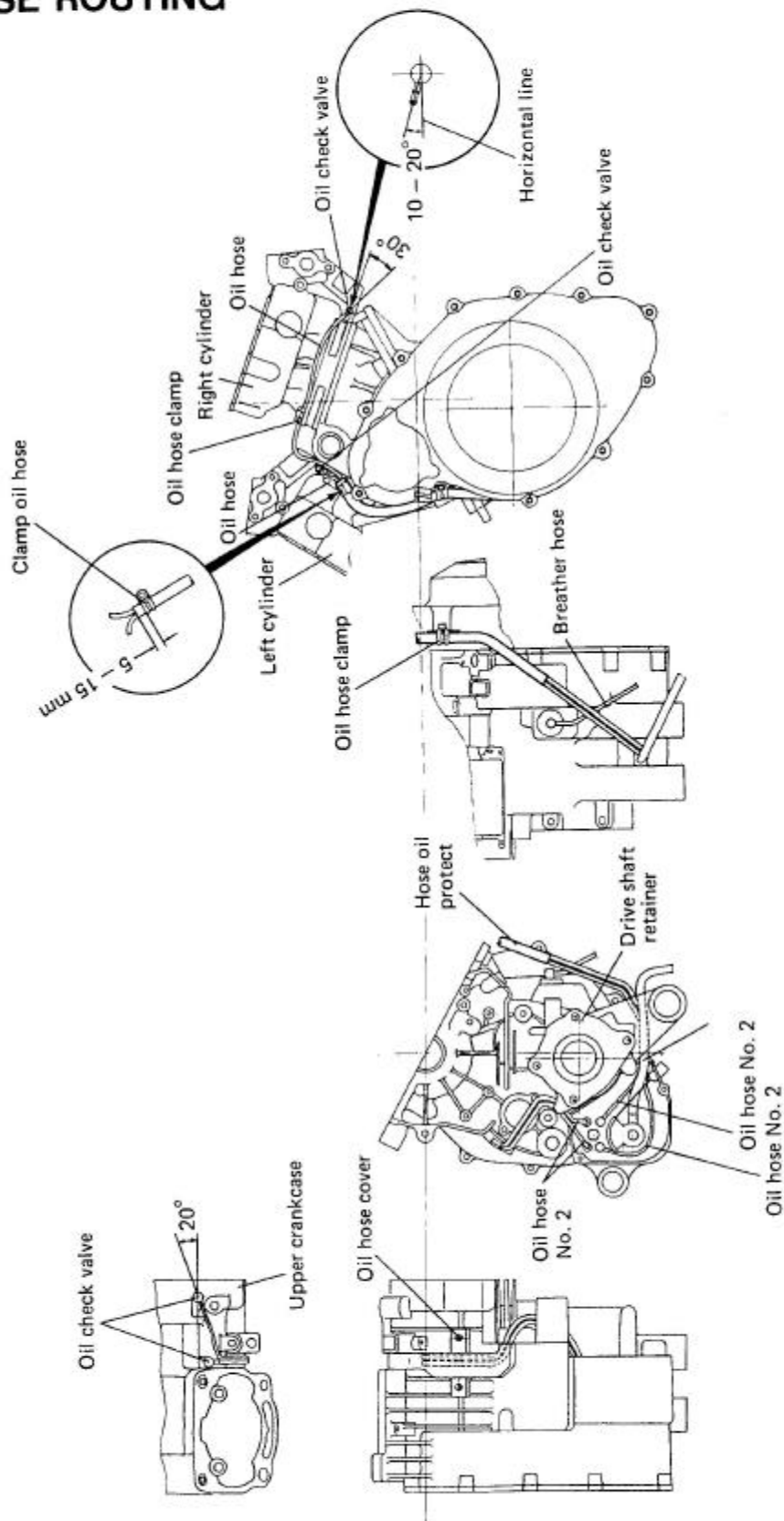




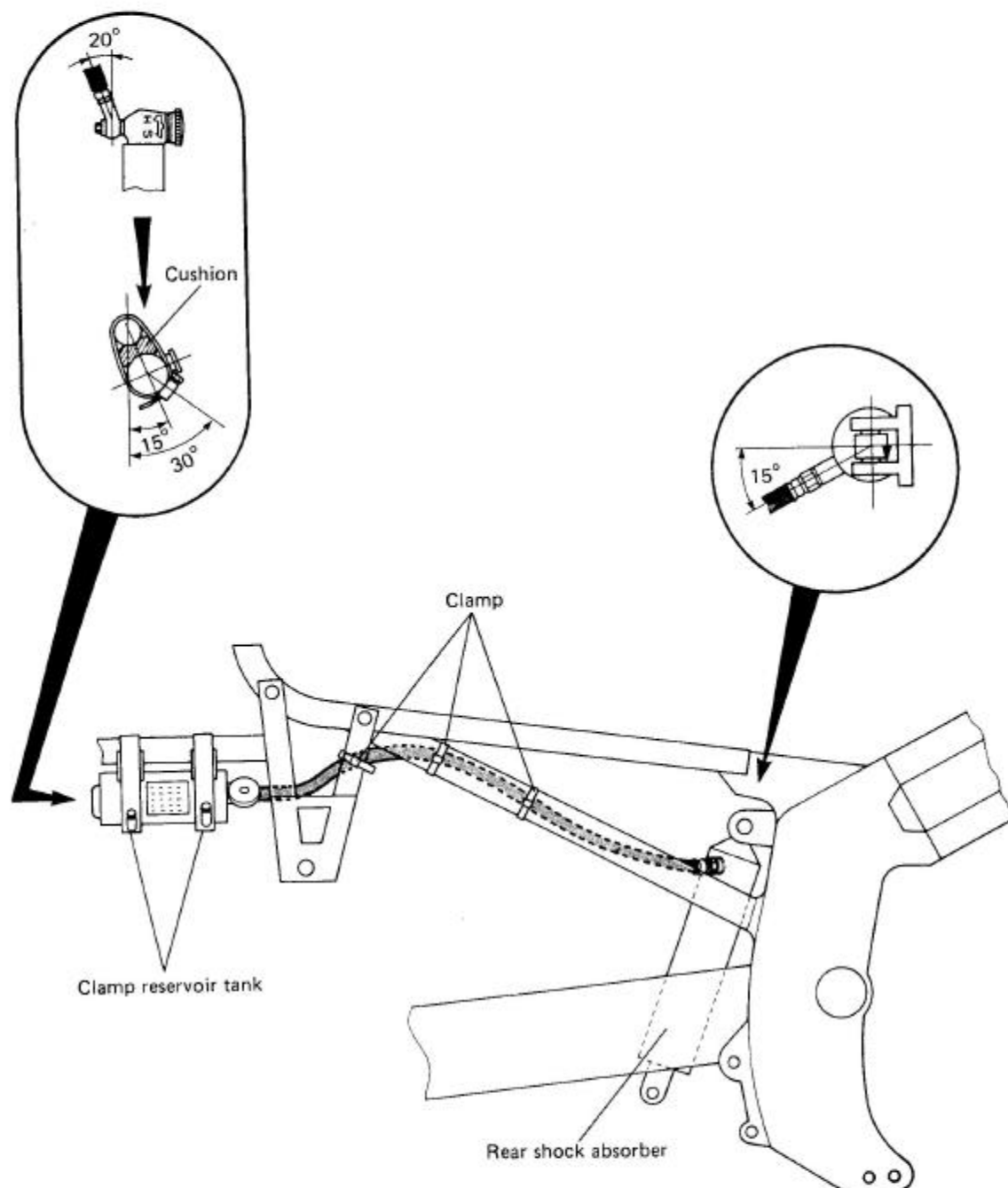
## CABLE ROUTING



# OIL HOSE ROUTING

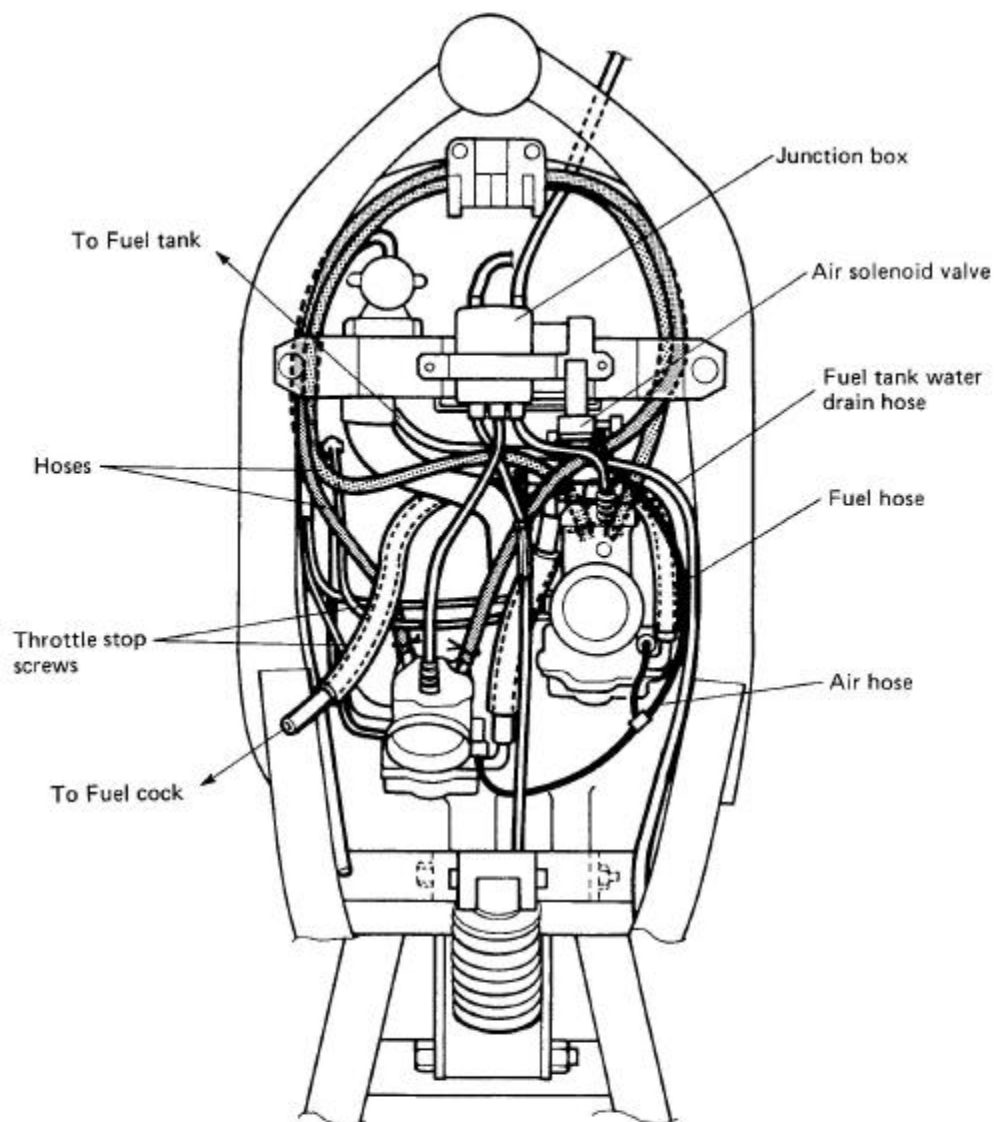


## REAR SHOCK ABSORBER RESERVOIR TANK ROUTING





## FUEL AND AIR HOSE ROUTING



**SUZUKI MOTOR CORPORATION**