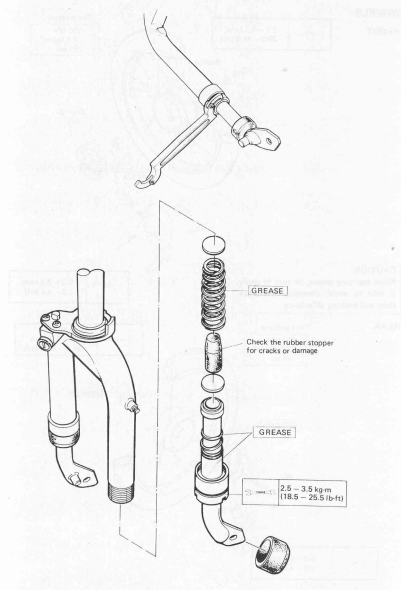


### FRONT SUSPENSION



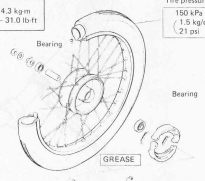
### WHEELS AND BRAKES

#### WHEELS

##### FRONT

2.7 - 4.3 kg/m  
20.0 - 31.0 lb-ft

Tire pressure  
150 kPa  
(1.5 kg/cm<sup>2</sup>)  
21 psi



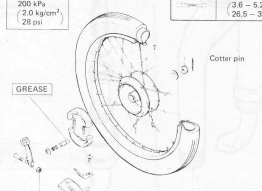
**CAUTION:**  
When applying grease, be sure to apply it thin to avoid damaging the brake shoe and braking efficiency.

0.3 - 0.6 kg/m  
2.0 - 4.5 lb-ft

##### REAR

Tire pressure  
200 kPa  
(2.0 kg/cm<sup>2</sup>)  
29 psi

36 - 53 N-m  
(3.6 - 5.2 kg-m)  
(26.5 - 37.5 lb-ft)

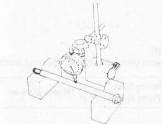


0.3 - 0.6 kg/m  
2.0 - 4.5 lb-ft



**BEARING**

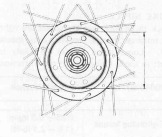
Front wheel bearing is of grease sealed type and one side of it is sealed. If noise or excessive clearance is found when rotating it by hand, replace it.  
As to the rear wheel bearing, both sides are sealed. If noise or excessive clearance is found between the inner race and the outer race or rotation is not smooth, replace it.



**FRONT AXLE SHAFT**

Measure the front axle shaft deflection.

Service limit	0.25 mm (0.01 in)
---------------	-------------------



**BRAKE DRUM**

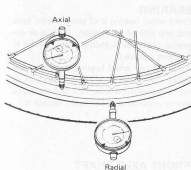
Measure inner diameter of both front and rear drums.

Service limit (Front and Rear)	80.5 mm (3.17 in)
-----------------------------------	-------------------



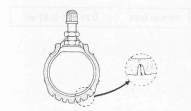
**BRAKE LINING THICKNESS**

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



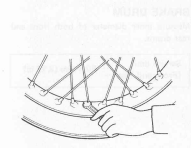
**WHEEL RUNOUT**  
 Measure axial and radial wheel rim runout of front and rear wheels.

Service limit (Axial and Radial)	2.0 mm (0.08 in)
-------------------------------------	------------------



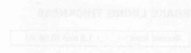
**TIRE**  
 Measure both front and rear tire tread depth.

Service limit (Front and Rear)	1.6 mm (0.06 in)
-----------------------------------	------------------



**SPOKE NIPPLE**  
 Check to be sure that all nipples are tight, and retighten them as necessary using special tool. Loose spoke nipples are likely to result in spoke damage or in rim distortion.

09940 6012	Spoke nipple wrench
Tightening torque	0.25 - 0.3 kg-m (1.8 - 2.1 lb-ft)



## SERVIZING INFORMATION

CONTENTS

CONTENTS	
TROUBLESHOOTING .....	4- 2
SPECIAL MATERIALS .....	4- 5
SPECIAL TOOLS .....	4- 6
WIRE AND CABLE ROUTING.....	4- 8
WIRING DIAGRAM .....	4-10
TIGHTENING TORQUE.....	4-11
SERVICE DATA .....	4-12

**TROUBLESHOOTING****HARD ENGINE STARTING OR NO ENGINE STARTING****ENGINE**

1. Compression leakage from crank chamber
  - Leakage from cylinder base gasket
  - Damaged or improperly tightened reed valve
  - Leakage due to defective crankshaft oil seal
  - Leakage from crankcase mating surface
2. Compression leakage from combustion chamber
  - Loose spark plug mounting
  - Damaged cylinder head gasket
  - Loose cylinder head tightening nut
  - Worn or sticking piston ring
  - Piston seizure, wear or holed piston
  - Defective or warped cylinder head mating surface

**FUEL CIRCUIT**

1. Fuel line
  - Clogged fuel hose
  - Damaged fuel cock diaphragm
2. Air passage
  - Air intake due to defective fuel cock vacuum hose
  - Air intake due to damaged reed valve gasket
  - Air intake due to loose carburetor inlet mounting
  - Clogged tank cap breather hole
3. Carburetor
  - Poor return of choke plunger
  - Clogged air jet or pilot jet
  - Clogged needle valve

**ELECTRICAL CIRCUIT**

1. No sparking at spark plug
  - Bridged, carbon fouled or wet spark plug
  - Poor contact between spark plug cap and high tension cord
  - Broken or improperly connected engine ground wire
  - Defective engine kill switch
  - Poor contact of ignition switch
  - Broken or short circuited ignition coil
  - Defective wiring among stator, PEI unit and ignitin coil
  - Defective PEI unit
2. Sparking at spark plug
  - Improperly timed ignition
  - Loose mounting part of stator or rotor
  - Check engine unit or fuel circuit

**ENGINE STALLING**

1. Improper idling rpm.
2. Fouled or worn spark plug
3. Lean fuel/air mixture
  - Air screw out of adjustment
  - Clogged carburetor jet
  - Clogged fuel hose
  - Clogged gasoline tank cap
  - Incorrect carburetor fuel level
4. Compression leakage from crankcase (oil seal, mating surface)

**NOT ENOUGH ENGINE POWER**

1. Defective spark plug gap
2. Clogged air cleaner
3. Clogged exhaust muffler
4. Clogged carburetor jet
5. Incorrect carburetor fuel level
6. Slipping clutch (see clutch slippage)
7. Sticking piston ring
8. Worn cylinder, piston or piston rings

**POOR ENGINE PERFORMANCE AT LOW-SPEED**

1. Carburetor adjustment
  - Air screw adjustment
  - Incorrect fuel level
  - Idling rpm out of adjustment
2. Ignition system
  - Incorrect spark plug gap
  - Improperly timed ignition (improper stator mounting position)
3. Air cleaner element ripped or leaking
4. Air intake through inlet hose
5. Damaged reed valve

**POOR ENGINE PERFORMANCE AT HIGH-SPEED**

1. Incorrect spark plug gap
2. Clogged carburetor jet
3. Clogged air cleaner element
4. Muffler restricted
5. Improperly timed ignition (improper stator mounting position)
6. Defective ignition coil

**ENGINE OVERHEAT**

1. Lean fuel/air mixture
  - Clogged carburetor jet
  - Carburetor float level
2. Ignition timing too advance or retarded
3. Carbon deposit
  - Cylinder head, piston crown, exhaust port, spark plug
4. Dragging brake
5. Defective oil pump

**DEFECTIVE CLUTCH**

1. Slipping clutch
  - Worn or burnt clutch shoe
2. Disengaged clutch
  - Poor operation of clutch drive shoe
3. Incorrect clutch-engagement rpm
  - Defective clutch spring
  - Worn or burnt clutch-drive shoe
4. Not smooth idling
  - Defective clutch spring
  - Too high idling rpm

**DRAGGING BRAKE**

1. Dragging brake
  - Worn or burnt brake shoe
  - Poor operation of brake drive shoe
2. Incorrect brake-engagement rpm
  - Defective brake spring
  - Worn or burnt brake-drive shoe
3. Not smooth idling
  - Defective brake spring
  - Too high idling rpm

**SLIPPING CLUTCH**

1. Slipping clutch
  - Worn or burnt clutch shoe
2. Disengaged clutch
  - Poor operation of clutch drive shoe
3. Incorrect clutch-engagement rpm
  - Defective clutch spring
  - Worn or burnt clutch-drive shoe
4. Not smooth idling
  - Defective clutch spring
  - Too high idling rpm

**DEFECTIVE CLUTCH DRIVE SHOE**

1. Defective clutch drive shoe
  - Worn or burnt clutch drive shoe
2. Poor operation of clutch drive shoe
  - Poor operation of clutch drive shoe
3. Incorrect clutch-engagement rpm
  - Defective clutch spring
  - Worn or burnt clutch-drive shoe
4. Not smooth idling
  - Defective clutch spring
  - Too high idling rpm

**DEFECTIVE CLUTCH DRIVE SHOE**




1. Defective clutch drive shoe
  - Worn or burnt clutch drive shoe
2. Poor operation of clutch drive shoe
  - Poor operation of clutch drive shoe
3. Incorrect clutch-engagement rpm
  - Defective clutch spring
  - Worn or burnt clutch-drive shoe
4. Not smooth idling
  - Defective clutch spring
  - Too high idling rpm




### SPECIAL MATERIALS

#### MATERIAL REQUIRED FOR MAINTENANCE

The materials listed below are required for maintenance works on the Model FA50, and should be kept on hand for ready use. In addition, such standard materials as cleaning fluids, lubricants, etc., should also be available. Methods of use are discussed in the text of this manual.

Material	Use
 Suzuki super grease "A" 99006-22010	<ul style="list-style-type: none"> <li>○ Oil seals</li> <li>○ Cable (speedometer)</li> <li>○ Brake cam shaft</li> <li>○ Speedometer gears</li> </ul>
 Suzuki bond No. 1201 09104-31100	<ul style="list-style-type: none"> <li>○ Crankcase mating surface</li> </ul>
 Suzuki lock super "183C" 09104-32050	<ul style="list-style-type: none"> <li>○ Muffler fitting bolts</li> </ul>

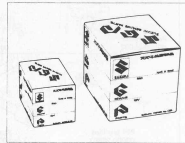


- Screws (securing reed valve)
- Crankshaft RH oil seal (to outer surface of oil seal)
- Magneto rotor nut
- Crankshaft left end nut
- Muffler clamp bolt
- Horn adjusting screw
- Cylinder stud bolts

Thread lock cement  
99000-32040

#### 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 capacity of the machine and, even worse, could induce costly mechanical trouble.



**SPECIAL TOOLS**

<p>Snap ring pliers (opening type) 09900-06107</p>	<p>Shock driver set 09900-09002</p>	<p>Vernier calipers 09900-20101</p>
<p>Micrometer 09900-20201 (0 ~ 25 mm) 09900-20202 (25 ~ 50 mm)</p>	<p>Cylinder gauge set 09900-20508</p>	<p>Dial gauge 09900-20606 (0 ~ 10 mm, 100<sup>th</sup> mm)</p>
<p>Thickness gauge 09900-20803</p>	<p>Torque wrench 09009-21102 (0 ~ 120 kg·cm) 09900-21103 (100 ~ 800 kg·cm)</p>	<p>CCI oil gauge 09900-21602</p>
<p>Pocket tester 09900-25002</p>	<p>Electro tester 09900-28108</p>	<p>Hydrometer 09900-28403</p>
<p>PEI test lead 09900-28607</p>	<p>Stud bolt installer 09910-10110</p>	<p>Piston pin puller 09910-24510</p>
<p>Universal clamp wrench 09910-60611</p>	<p>Bearing installer 09913-75820</p>	<p>Crankshaft remover 09920-13111</p>

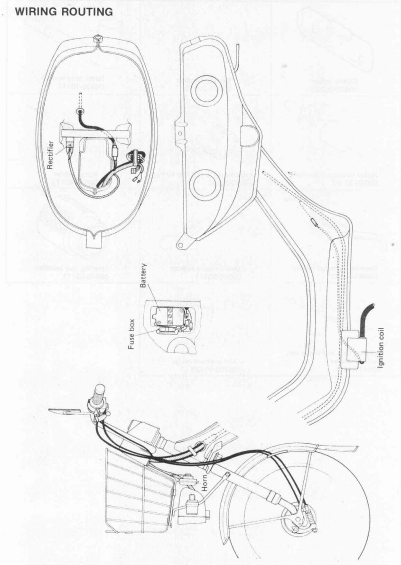
WIRE AND CABLE ROUTING

 <p>Clutch holder 09920-30220</p>	 <p>Bearing remover 09921-20210</p>	 <p>Spark plug wrench 09930-10111</p>
 <p>Rotor remover slide shaft 09930-30102</p>	 <p>Attachment C (17 mm screw) 09930-30101</p>	 <p>Rotor holder 09930-40113</p>
 <p>Steering stem nut wrench 09940-10122</p>	 <p>Spoke nipple wrench 09940-60113</p>	 <p>Steering race installer 09940-53111</p>
 <p>Steering race and swing arm bearing installer 09941-34511</p>	 <p>Tire pressure gauge 09200-41230</p>	

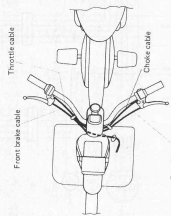
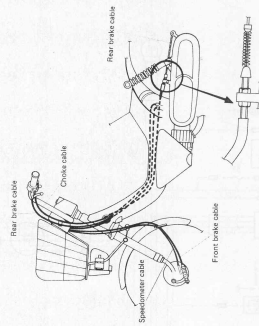


### WIRE AND CABLE ROUTING

#### WIRING ROUTING

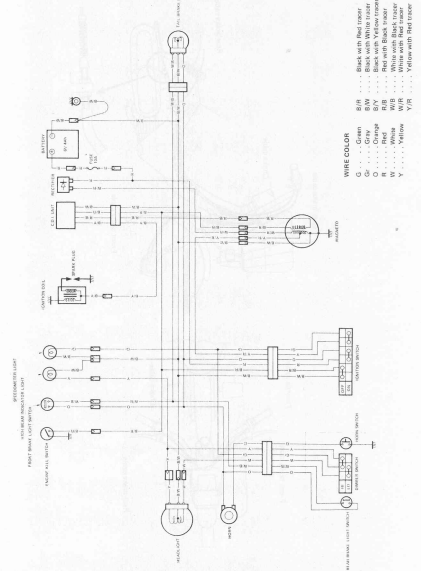


CABLE ROUTING



### WIRING DIAGRAM

APPLICABLE MODELS



- WIRE COLOR**
- B/W ... Black with Red tracer
  - B ... Black
  - B/W ... Black with White tracer
  - G ... Green
  - R ... Red
  - RB ... Red with Black tracer
  - Y ... Yellow
  - Y/W ... Yellow with White tracer
  - W/R ... White with Red tracer
  - Y/R ... Yellow with Red tracer

**TIGHTENING TORQUE**

ITEM	QTY	kg-m	lb-ft
------	-----	------	-------

**ENGINE**

Cylinder head nut	4	0.8 - 1.2	6.0 - 8.5
Exhaust pipe bolt	2	1.5 - 2.0	11.0 - 14.0
Muffler bolt	1	1.5 - 2.0	11.0 - 14.0
Clutch nut	1	4.0 - 6.0	29.0 - 43.5
Kick starter lifter lever nut	1	0.5 - 0.8	4.0 - 5.5
Kick starter lever bolt	1	0.5 - 0.8	4.0 - 5.5
Flywheel magnet nut	1	3.0 - 4.0	22.0 - 28.5

**CHASSIS**

Front brake cam lever nut	1	0.3 - 0.6	2.0 - 4.5
Rear shock absorber upper nut	1	2.0 - 3.0	14.5 - 21.5
Rear shock absorber lower bolt	1	2.0 - 3.0	14.5 - 21.5
Rear brake cam lever nut	1	0.3 - 0.6	2.0 - 4.5
Rear axle nut	1	3.6 - 5.2	26.5 - 37.5
Engine mounting nut	1	2.5 - 4.0	18.5 - 28.5
Footrest bolt	6	0.4 - 0.7	3.0 - 5.0
Handlever act nut	1	9.5 - 12.0	68.5 - 86.5
Front axle nut	1	2.7 - 4.3	20.0 - 31.0
Spoke nipple (Front and rear tires)	56	0.25 - 0.3	1.8 - 2.1

## SERVICE DATA

## CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD	LIMIT	
Piston to cylinder clearance	0.055 - 0.065 ( 0.0022 - 0.0033 )	0.120 ( 0.0047 )	
Cylinder bore	41.000 - 41.015 ( 1.6142 - 1.6148 ) Measure at the 15 ( 0.6 ) from top surface.	41.055 ( 1.6167 )	
Piston dia.	40.930 - 40.945 ( 1.6114 - 1.6120 ) Measure at the 23 ( 0.9 ) from skirt end.	40.880 ( 1.6095 )	
Cylinder distortion	—	0.05 ( 0.002 )	
Cylinder head distortion	—	0.05 ( 0.002 )	
Piston ring free end gap	1st	R Approx. 4.5 ( 0.18 )	3.6 ( 0.14 )
		T Approx. 5.0 ( 0.20 )	4.0 ( 0.16 )
	2nd	R Approx. 4.5 ( 0.18 )	3.6 ( 0.14 )
		T Approx. 5.0 ( 0.20 )	4.0 ( 0.16 )
Piston ring end gap	0.10 - 0.25 ( 0.004 - 0.010 )	0.75 ( 0.030 )	
Piston ring to groove clearance	1st	0.020 - 0.060 ( 0.0008 - 0.0024 )	—
	2nd	0.020 - 0.060 ( 0.0008 - 0.0024 )	—
Piston pin bore	11.988 - 12.006 ( 0.4724 - 0.4727 )	12.030 ( 0.4736 )	
Piston pin O.D.	11.996 - 12.000 ( 0.4723 - 0.4724 )	11.990 ( 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 )

## OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	7.00 ( 14 / 2 )
Oil pump discharge rate (Full open)	0.97 – 1.14 ml ( 0.033 / 0.034 – 0.039 / 0.040 US/Imp oz) for 6 minutes at 2000 rpm

## CLUTCH + PRIMARY GEAR

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch wheel I.D.	87.00 – 87.15 ( 3.425 – 3.431 )	87.40 ( 3.441 )
Clutch shoe O.D.	85.9 – 87.0 ( 3.42 – 3.43 )	No groove at any part
Clutch engagement	2400 ± 200 rpm	—
Clutch lock-up	3500 ± 300 rpm	—
Clutch spring free length	Below 28 ( 1.06 )	Over 28 ( 1.06 )
Primary drive to driven gear backlash	0.02 – 0.07 ( 0.001 – 0.003 )	0.10 ( 0.004 )

4-14 SERVICING INFORMATION

**TRANSMISSION**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Primary reduction ratio	1.000	—
Final reduction ratio	5.564	—
Gear ratios	Chain 2.384 ( 31 / 13 )	—
	Gear 2.333 ( 56 / 24 )	—

**DRIVE CHAIN**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Drive chain	Type D.I.D.: 270H	—
	Links 64	—
	20 pitch length 170.0 ( 6.69 )	173.7 ( 6.84 )

TABLE 4-10 TRANSMISSION DATA

ITEM	STANDARD	LIMIT
Primary reduction ratio	1.000	—
Final reduction ratio	5.564	—
Gear ratios	Chain 2.384 ( 31 / 13 )	—
	Gear 2.333 ( 56 / 24 )	—
Drive chain	Type D.I.D.: 270H	—
	Links 64	—
	20 pitch length 170.0 ( 6.69 )	173.7 ( 6.84 )

**CARBURETOR**

Unit: mm (in)

ITEM	SPECIFICATION
Carburetor type	MIKUMI VM12SH
Bore size	12
I.D. No.	02340
Idle r/min.	1500 ± 150 rpm
Float height	22.4 ± 1.0 ( 0.88 ± 0.04 )
Main jet (M. J.)	# 77.5
Air jet (A. J.)	25
Jet needle (J. N.)	3F133
Needle jet (N. J.)	E-6
Cut-away (C. A.)	2.0
Pilot jet (P. J.)	# 15
Pilot outlet (P. O.)	0.7
Air screw (A. S.)	1%
Valve seat (V. S.)	1.5
Starter jet (G. S.)	30
Throttle cable play	0.5 - 1.0 ( 0.02 - 0.04 )

ELECTRICAL		Unit: mm (in)	
ITEM	SPECIFICATION		NOTE
Ignition timing	25° ± 2° B.T.D.C. at 4000 rpm		
Spark plug	Type	NGK B74HA or NIPPON DENSU W14FR-UL	
	Gap	0.6 - 0.8 ( 0.02 - 0.03 )	
Spark performance	Over 8 (0.3) at 1 atm		
Ignition coil resistance	Primary	B/Y - Ground Approx. 0 - 1 Ω	
	Secondary	Plug cap - Ground Approx. 16 - 18 kΩ	
Magneto coil resistance		Y/R - W/R Approx. 0 - 1 Ω	
		W/R - B/W Approx. 0 - 1 Ω	
		Y/R - B/W Approx. 0 - 1 Ω	
		R/B - B/W Approx. 90 - 110 Ω	
		R/B - B/R Approx. 90 - 110 Ω	
Charging rate	Below 2.5A at 9000 rpm		
Lighting coil output	Above	5.5 V at 2300 rpm	
	Below	8.7 V at 8000 rpm	
Battery	Type designation	6N2-2A-4	
	Capacity	6V 7.2kC (2 Ah)/10HR	
	Standard electrolyte S. G.	1.280 at 20°C (68°F)	
Fuse size	10 A		

**BRAKE + WHEEL**

Unit: mm (in)

ITEM		STANDARD	LIMIT
Front brake lever distance		20 - 30 ( 0.8 - 1.2 )	—
Rear brake lever distance		20 - 30 ( 0.8 - 1.2 )	—
Brake drum I.D.	Front	—	80.5 ( 3.17 )
	Rear	—	80.5 ( 3.17 )
Brake lining thickness		—	1.5 ( 0.06 )
Wheel rim runout	Axial	—	2.0 ( 0.08 )
	Radial	—	2.0 ( 0.08 )
Tire size	Front	2.25-14 4PR	—
	Rear	2.25-14 4PR	—
Tire tread depth	Front	—	1.6 ( 0.06 )
	Rear	—	1.6 ( 0.06 )

**SUSPENSION**

Unit: mm (in)

ITEM	STANDARD	LIMIT	NOTE
Front fork stroke	40 ( 1.57 )	—	
Front fork spring free length	80.2 ( 3.16 )	—	
Rear wheel travel	59 ( 2.36 )	—	
Engine mounting/pivot shaft runout	—	0.6 ( 0.02 )	

4-18 SERVICING INFORMATION

FUEL + OIL

ITEM	SPECIFICATION	NOTE
Fuel type	Use only unleaded or low-lead type gasoline of at least 85 – 95 pump octane ( $\frac{15}{2}$ method) or 89 octane or higher rated by the Research method.	
Fuel tank including reserve	2.5 L (0.66 / 0.55 US/Imp gal)	
reserve	0.4 L (0.42 / 0.35 US/Imp qt)	
Engine oil type	Use SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or an equivalent good quality synthetic based 2-cycle oil.	
Engine oil tank capacity	0.7 L (0.74 / 0.62 US/Imp qt)	
Transmission oil type	SAE 20W/40	
Transmission oil capacity	500 ml (0.53 / 0.44 US/Imp qt)	
	550 ml (0.58 / 0.48 US/Imp qt)	

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	NORMAL SOLO RIDING		
	kPa	kg/cm <sup>2</sup>	psi
FRONT	150	1.5	21
REAR	200	2.0	28

**WATTAGE**

(W)

ITEM		SPECIFICATION
Headlight	HI	20
	LO	20
Tail/Brake light		5.3/17
Turn signal light		
Tachometer light		
Speedometer light		1.5
Turn signal indicator light		
High beam indicator light		1.7
Neutral indicator light		
Oil level warning light		
Charging indicator light		
Parking or city light		

***SUZUKI MOTOR CO., LTD.***

JULY 80