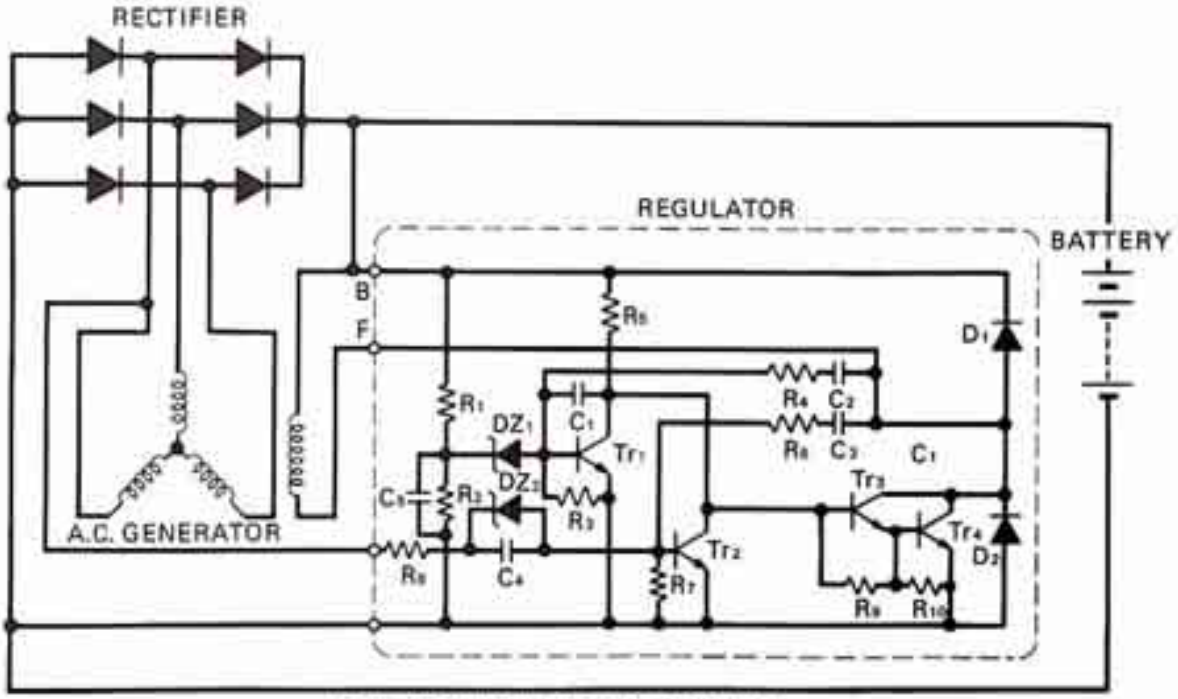
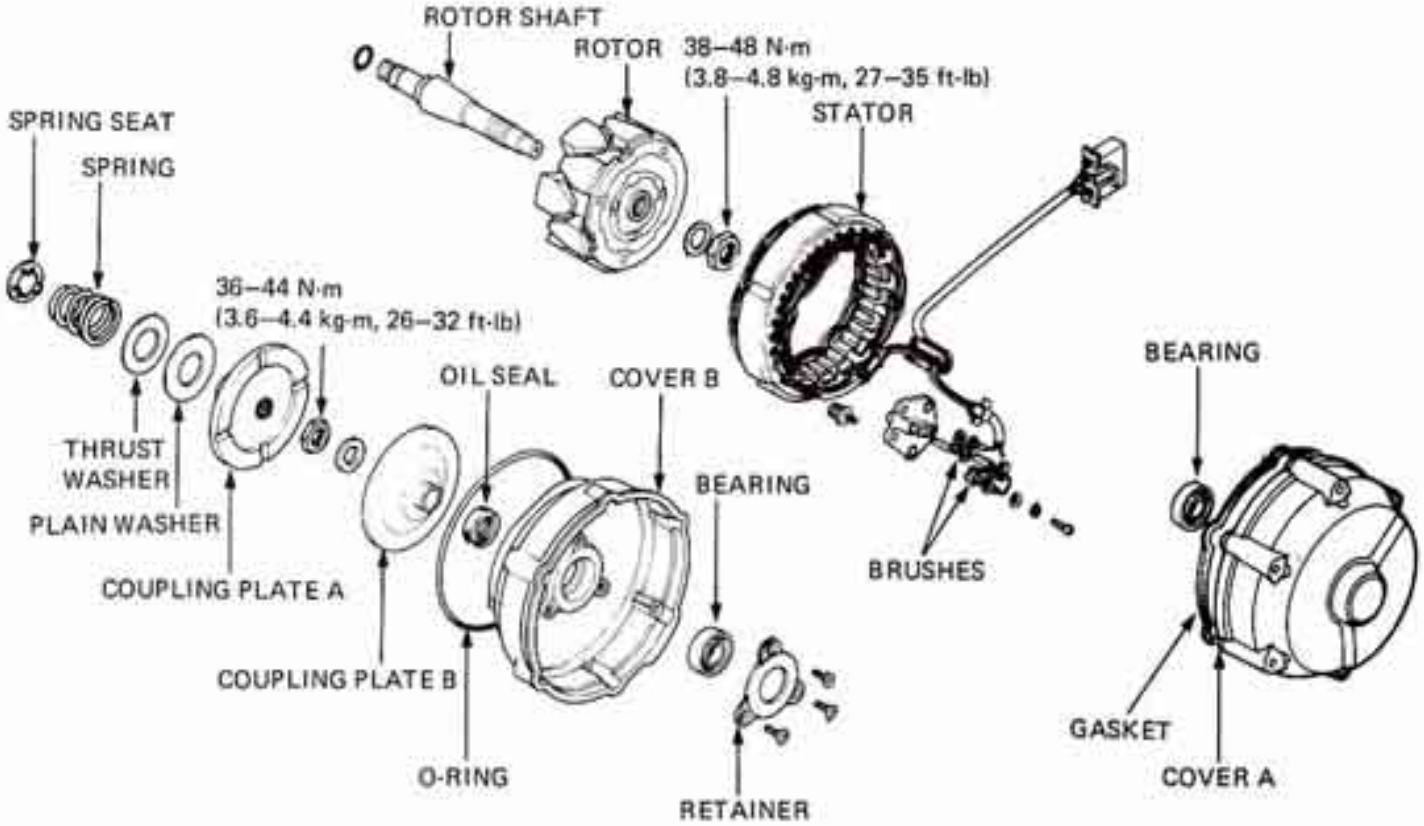


BATTERY/CHARGING SYSTEM



A.C. GENERATOR

Date of Issue: May, 1981
© HONDA MOTOR CO., LTD.

SERVICE INFORMATION	16-1
TROUBLESHOOTING	16-2
BATTERY	16-3
CHARGING SYSTEM	16-4
ALTERNATOR REMOVAL/INSTALLATION	16-5
STATOR	16-11
VOLTAGE REGULATOR/RECTIFIER	16-12

SERVICE INFORMATION

GENERAL INSTRUCTIONS

- Battery fluid level should be checked regularly and topped up with distilled water when necessary.
- When charging the battery, quick-charging should only be done in an emergency; slow-charging is preferred.
- Remove the battery from the motorcycle for charging. If battery must be charged on the motorcycle, disconnect the battery cables.
- Keep flames or sparks away from a charging battery because it produces explosive hydrogen gas.
- All charging system components can be tested on the motorcycle.

TOOLS

Common

Driver	07749–0010000
Attachment 32 x 35 mm	07746–0010100
Attachment 37 x 40 mm	07746–0010200

SPECIFICATIONS

Battery	Capacity	12V 18AH		
	Specific gravity	1.28/20°C (68°F)		
	Charging rate	1.8 amperes maximum		
A.C. generator output		1000 rpm	1500 rpm	5000 rpm
		5A min.	12A min.	24A min.
Voltage regulator		Transistorized non-adjustable		

TORQUE

Rotor lock nut	38–48 N·m (3.8–4.8 kg-m, 27–35 ft-lb)
Coupling lock nut	36–44 N·m (3.6–4.4 kg-m, 26–32 ft-lb)

© HONDA MOTOR CO., LTD.

TROUBLESHOOTING

No Power – Key Turned On:
1. Dead battery
   – Low fluid level
   – Low specific gravity
   – Charging system failure
2. Disconnected battery cable
3. Main fuse burned out
4. Faulty ignition switch

Low Power – Key Turned On:
1. Weak battery
   – Low fluid level
   – Low specific gravity
   – Charging system failure
2. Loose battery connection

Low Power – Engine Running:
1. Battery underchaged
   – Low fluid level
   – One or more dead cells
2. Charging system failure

Intermittent Power:
1. Loose battery connection
2. Loose charging system connection
3. Loose starting system connection
4. Loose connection or short circuit in ignition system
5. Loose connection or short circuit in lighting system

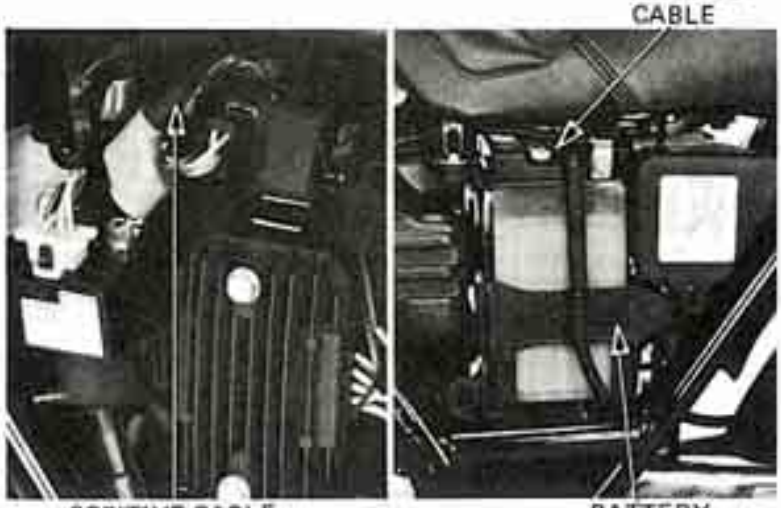
Charging System Failure:
1. Loose, broken, or shorted wire or connection
2. Faulty voltage regulator
3. Faulty silicon rectifier
4. Faulty alternator

Date of Issue: May, 1981
© HONDA MOTOR CO., LTD.

BATTERY

REMOVAL

Remove the right and left side covers.
Disconnect the ground cable at the battery terminal.
Disconnect the positive cable at the starter relay switch terminal.
Remove the battery holder.



TESTING SPECIFIC GRAVITY

Test each cell with a hydrometer.

SPECIFIC GRAVITY: (20°C, 68°F)

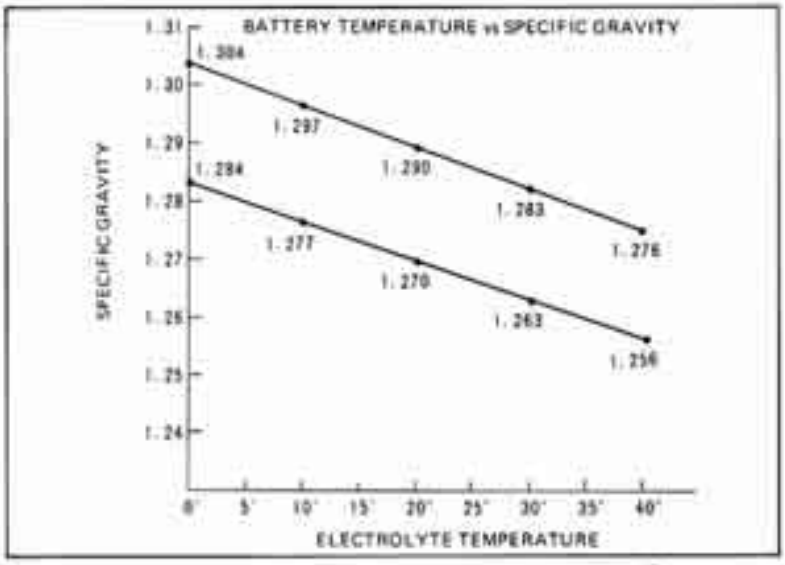
1.27–1.29	**Fully charged**
Below 1.26	**Undercharged**

NOTE

- The battery must be recharged if the specific gravity is below 1.23.
- The specific gravity varies with the temperature as shown in the accompanying table.
- Replace the battery if sulfation is evident.
- The battery must be replaced if there are deposits on the bottom of each cell.

WARNING

The battery contains sulfuric acid. Avoid contact with skin, eyes, or clothing. Antidote: Flush with water and get prompt medical attention.



Specific gravity changes by 0.007 for every 10°C.

© HONDA MOTOR CO., LTD.

BATTERY CHARGING

Connect the charger positive (+) cable to the battery positive (+) terminal.
Connect the charger negative (–) cable to the battery negative (–) terminal.

Charging current:
1.8 amperes max.

Charging:
Charge the battery until specific gravity is 1.27–1.29 at 20°C (68°F).

WARNING

- *Before charging a battery, remove the cap from each cell.*
- *Keep flames and sparks away from a charging battery.*
- *Turn power ON/OFF at the charger, not at the battery terminals.*
- *Discontinue charging if the electrolyte temperature exceeds 45°C (113°F).*

CAUTION

Quick-charging should only be done in an emergency; slow-charging is preferred.

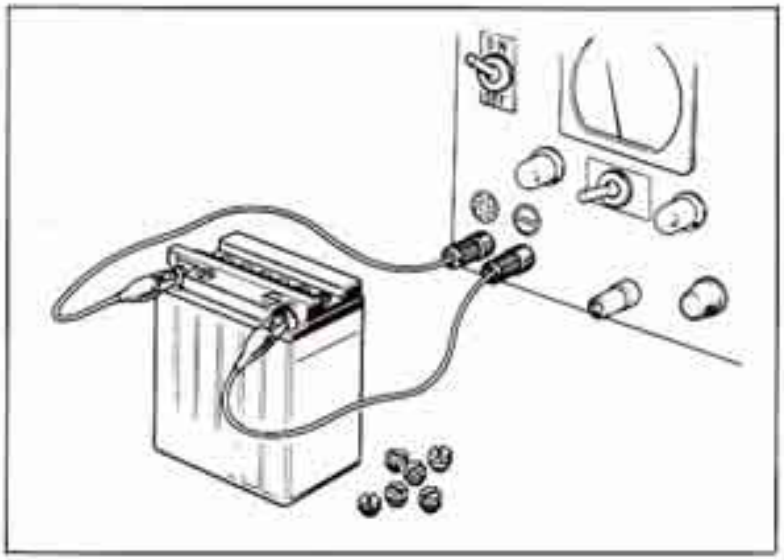
After installing the battery, coat the terminals with clean grease.

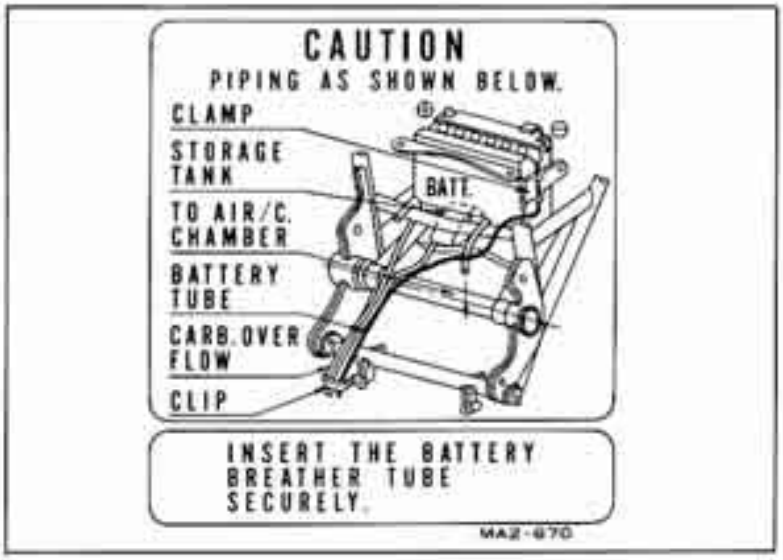
WARNING

Do not allow battery electrolyte to touch the drive chain. This would weaken the chain.

CAUTION

Route the breather tube as shown on the battery caution label.





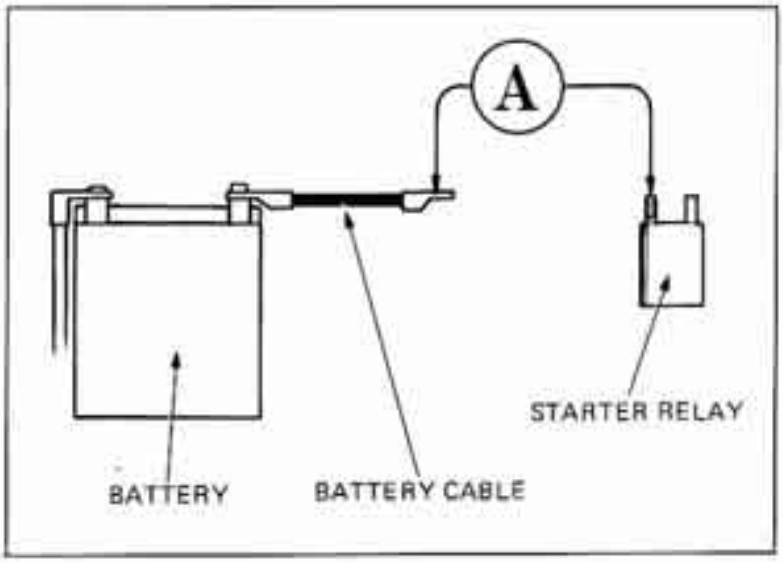
CHARGING SYSTEM

Current Test

NOTE

Be sure the battery is good condition before performing this test.

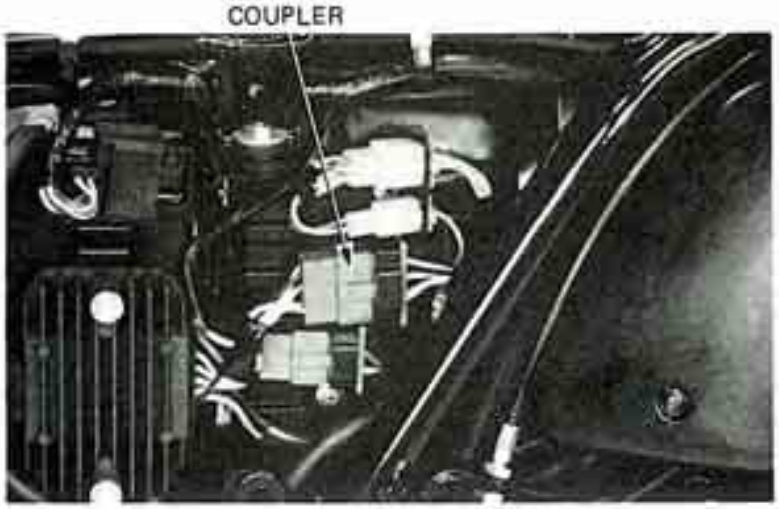
Warm up the engine.
Remove the frame left side cover.
Turn headlight high beam on.
Disconnect the battery positive cable at the starter relay and connect an ammeter between the battery cable and terminal.
Allow engine to idle.
Increase engine speed slowly.
Charging amperage should begin by 1050 rpm and should be a minimum of 14 amperes at 5,000 rpm.
Check the stator (page 16-9 or 16-11) and then the regulator/rectifier (page 16-12), if the charging specifications are not met.



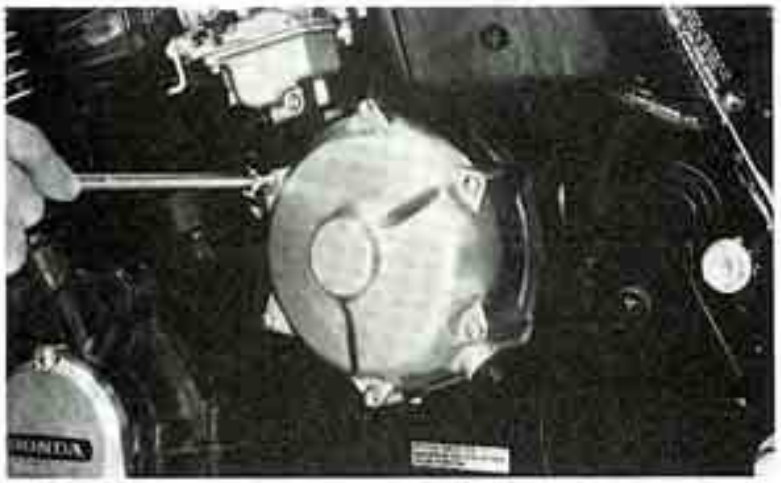
Date of Issue: May, 1981
© HONDA MOTOR CO., LTD.

ALTERNATOR REMOVAL/ INSTALLATION

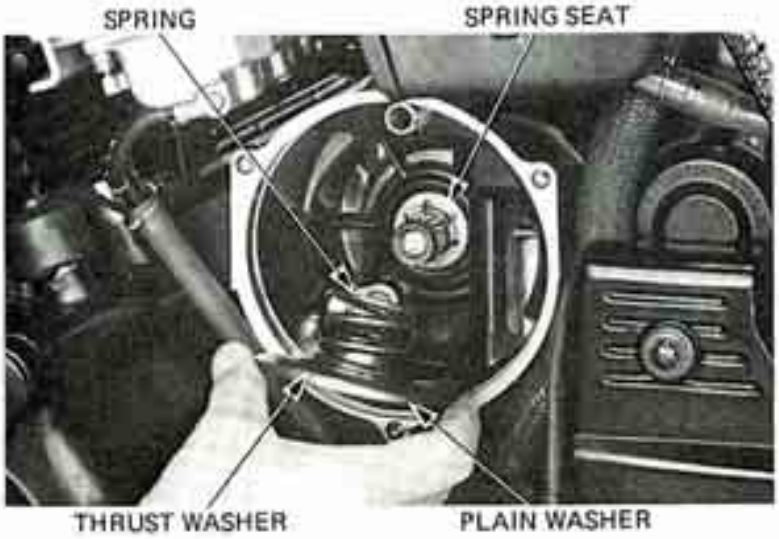
Remove the left leg shield.
Remove the right side cover and disconnect the alternator couplers.



Remove the alternator by loosening the three bolts shown.
Loosen the screws in a crisscross pattern 2 to 3 turns at a time.



Remove the alternator clutch spring and washer.



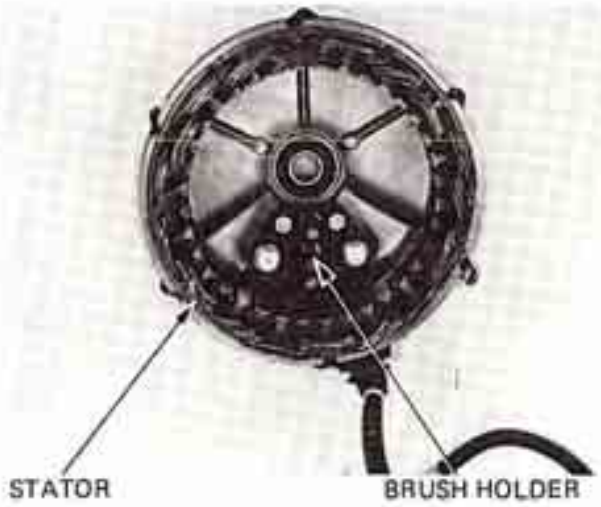
© HONDA MOTOR CO., LTD.

ALTERNATOR DISASSEMBLY

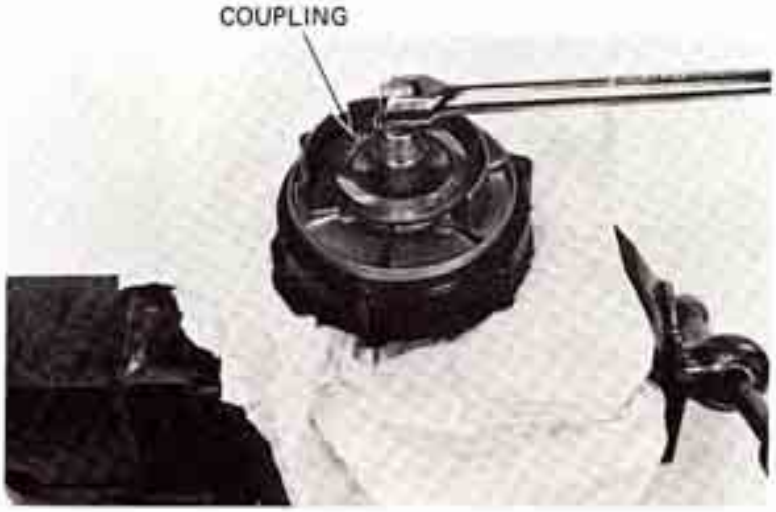
Remove the alternator.
Remove the generator housing mount bolts.



Remove the bolts and brush holder.
Remove the stator coil and brush holder.

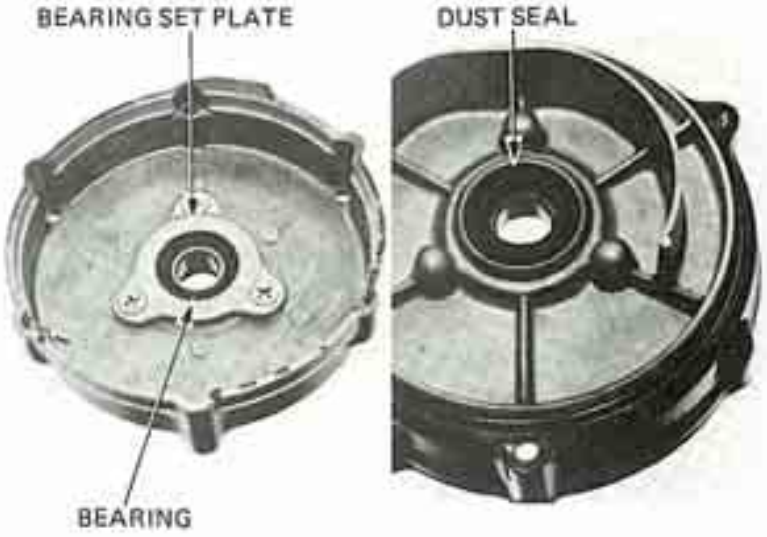


Hold the rotor in a vise with soft jaws, or shop towels being careful not to overtighten.
Remove the coupling lock nut and washer.
Remove the coupling.

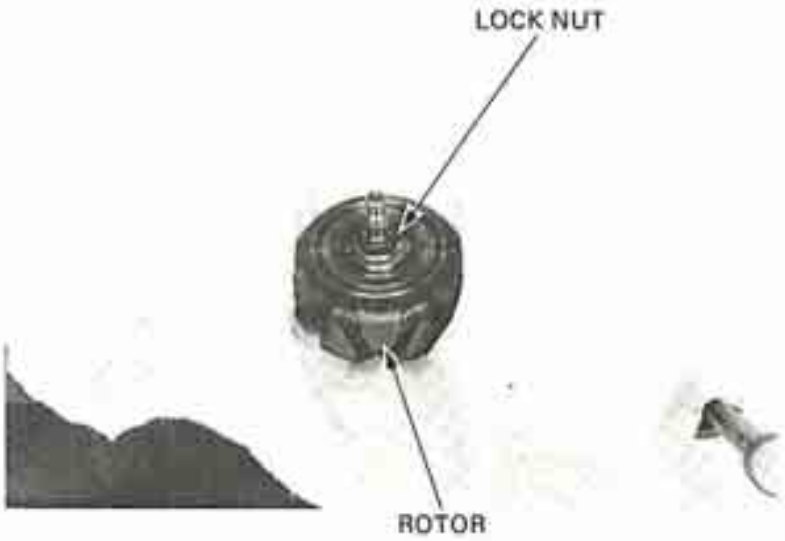


Date of Issue: May, 1981
© HONDA MOTOR CO., LTD.

Remove the rotor shaft from the rotor housing.
Remove the bearing set plate and bearing.
Remove the dust seal.



Remove the rotor lock nut.
Remove the rotor shaft from the rotor.



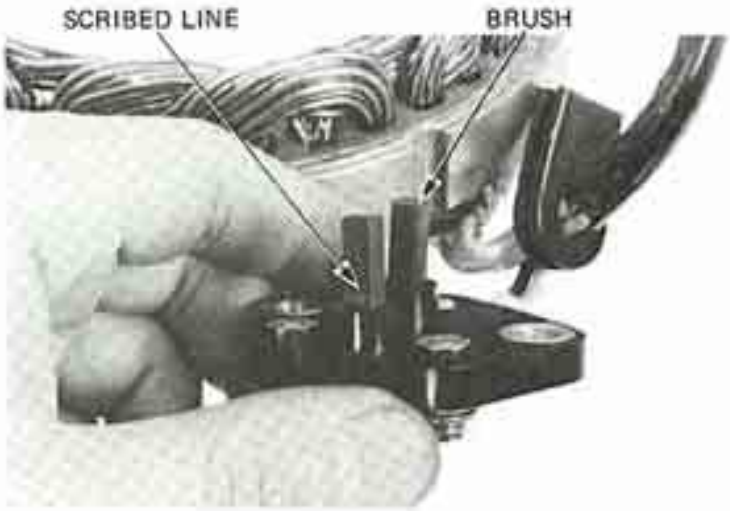
INSPECTION

Inspect the length of each brush as shown.
If it shows wear to the scribed service limit line, replace the brushes.

SERVICE LIMIT: Scribed line

NOTE

Replace the brushes in pairs.



© HONDA MOTOR CO., LTD.

STATOR COIL CONTINUITY TEST

NOTE

It is not necessary to remove the stator to make this test.

Check the yellow leads to the alternator stator for continuity with each other. Replace the stator if any yellow lead is not continuous with the others, or if any lead has continuity to ground.

RESISTANCE: 0.32–0.40Ω

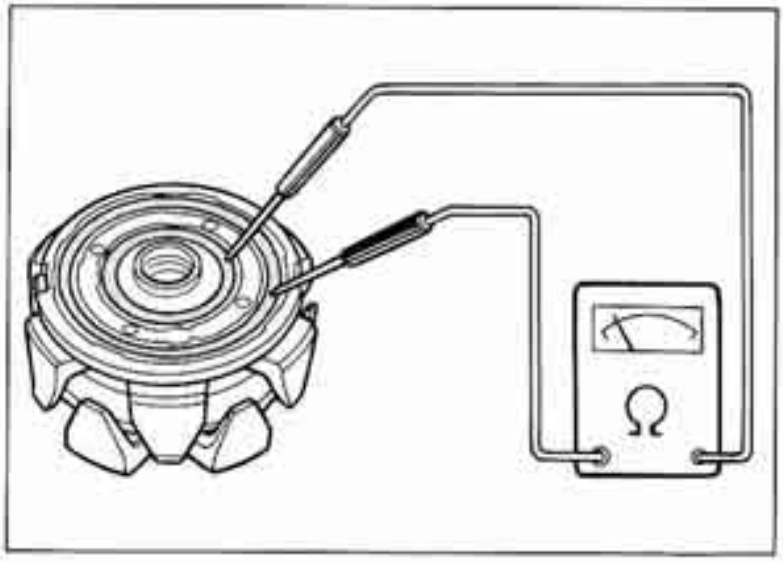


ROTOR CONTINUITY TEST

Check the resistance between the two rotor slip rings.

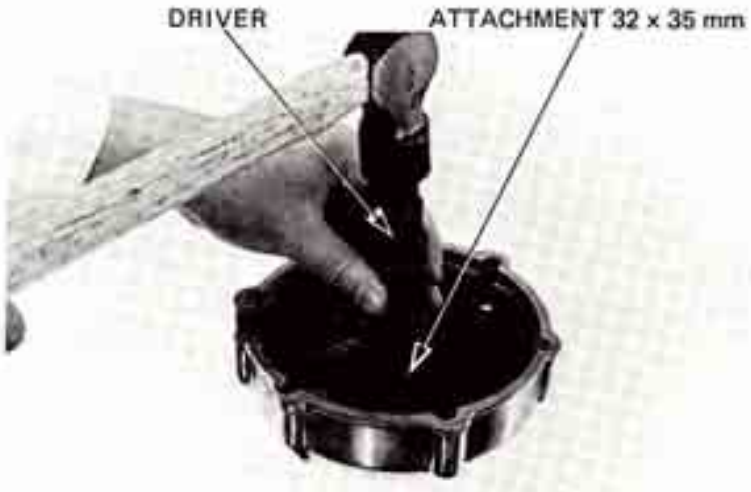
SLIP RING - TO - SLIP RING: 3.5–4.8Ω

Replace the rotor, if not within specifications.



ALTERNATOR ASSEMBLY

Pack the bearing cavities with grease.
Install the bearing into the generator cover.



Date of Issue: May, 1981
© HONDA MOTOR CO., LTD.

Install the dust seal.
Apply grease to the inside of the dust seal.



Pack the bearing cavities with grease.
Drive the bearing into the rotor housing.
Install the bearing setting plate.

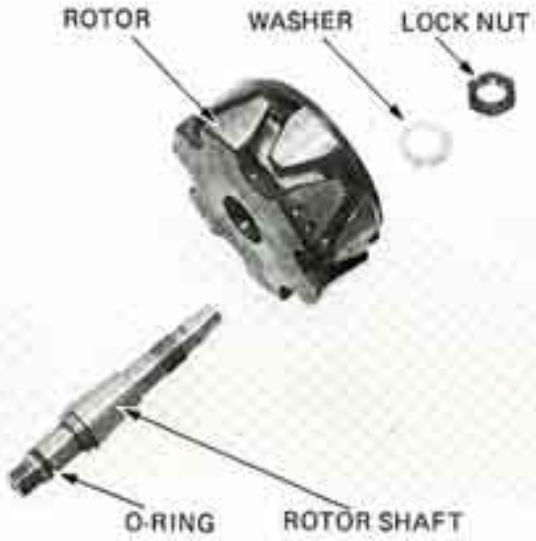


Apply grease to a new o-ring.
Install the o-ring on the rotor shaft.
Clean the rotor shaft and rotor matching surfaces.
Install the rotor shaft into the rotor.
Tighten the lock nut.

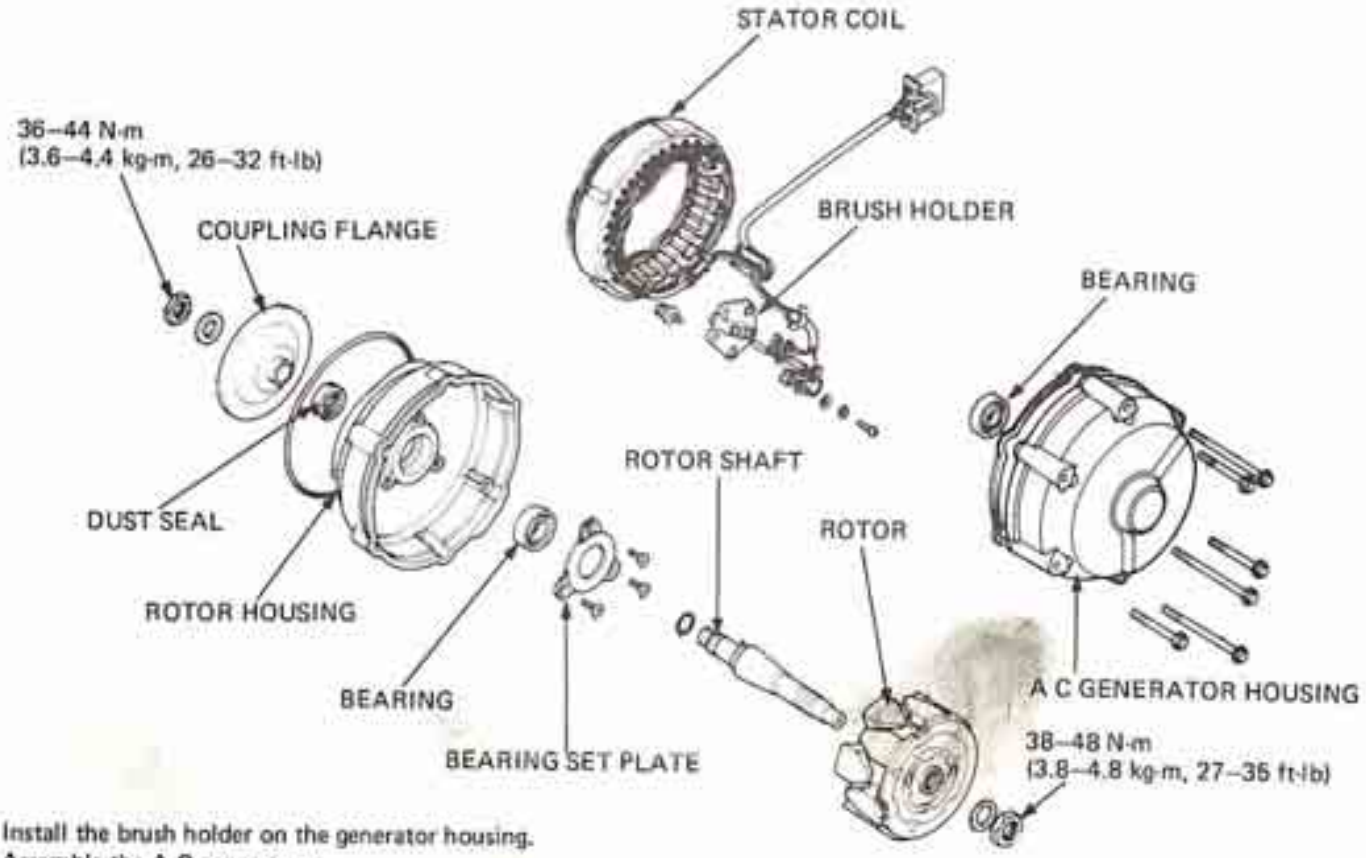
TORQUE:
38–48 N·m (3.8–4.8 kg-m, 27–35 ft-lb)

Install the rotor shaft into the rotor housing.
Install the coupling on the rotor shaft and tighten the lock nut.

TORQUE:
36–44 N·m (3.6–4.4 kg-m, 26–32 ft-lb)



© HONDA MOTOR CO., LTD.



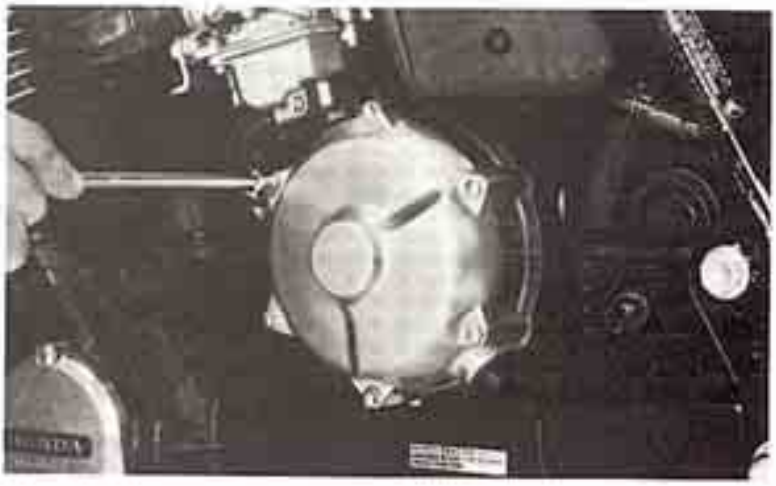
Install the brush holder on the generator housing.
Assemble the A C generator.

ALTERNATOR INSTALLATION

Install the alternator in the reverse order of removal.

CAUTION

When installing the alternator apply molybdenum disulfide grease to sliding surface of the couplings of the alternator.



Date of Issue: May, 1981
© HONDA MOTOR CO., LTD.

STATOR

INSPECTION

Remove the frame left side cover.
Turn the ignition switch on.
Measure battery voltage.
Connect a DC voltmeter to regulator red/white wire and ground. Read the voltage. It should be equal to the battery voltage. Check wire and battery cable connections, if not.
Connect a DC voltmeter to the stator six pole connector black and white wires, without disconnecting them. Read the voltage. It should be 8–10 volts. Check the wire and battery cable connections (photo), if battery voltage is not equal.
Disconnect the DC voltmeter.
Warm up the engine.

Connect an AC voltmeter leads to any two yellow wire leads. You should read 8-10 volts. Move one lead to the remaining yellow wire. You should read 8-10 volts. Replace the stator if voltage output is not within specifications.

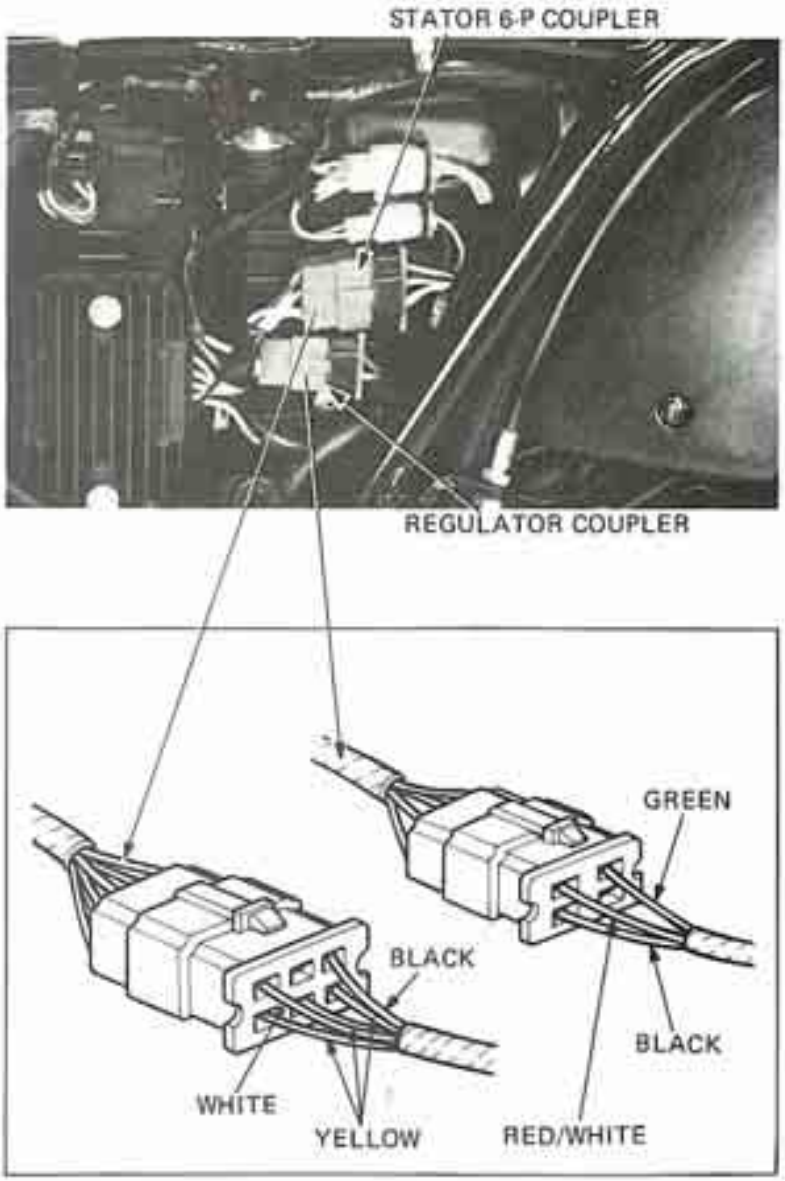
STATOR CONTINUITY TEST

Warm up the engine.
Stop the engine.
Remove the frame right side cover.
Disconnect the startor 6 - P coupler.
Check the resistance of the stator six pole connector wires.

Use the R x 1 ohmmeter scale.

Black-White:	10-12Ω
Yellow-Yellow:	0.4-0.5Ω
Yellow-ground:	∞

Replace the stator if not within specifications.

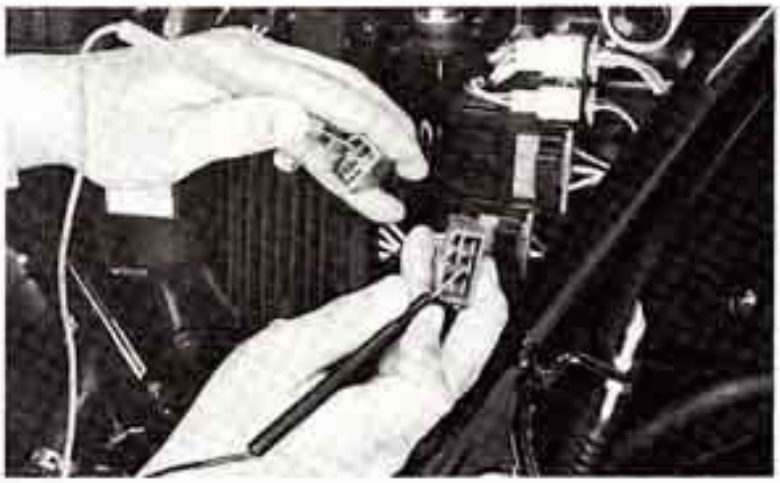


© HONDA MOTOR CO., LTD.

VOLTAGE REGULATOR/RECTIFIER

INSPECTION

Disconnect the regulator/rectifier couplers.
Check the resistance between the leads.
Replace the regulator/rectifier unit if the readings do not fall within the limits shown in the charts.



NOTE

- For accurate testing, it is necessary to use a high quality electrical tester. Use of an improper tester or measurements in improper range may give false readings.
- Use SANWA ELECTRICAL TESTER (P/N 07308–0020000).
- The resistances shown in the table indicate those to be read on the tester, not of specific circuits or parts.

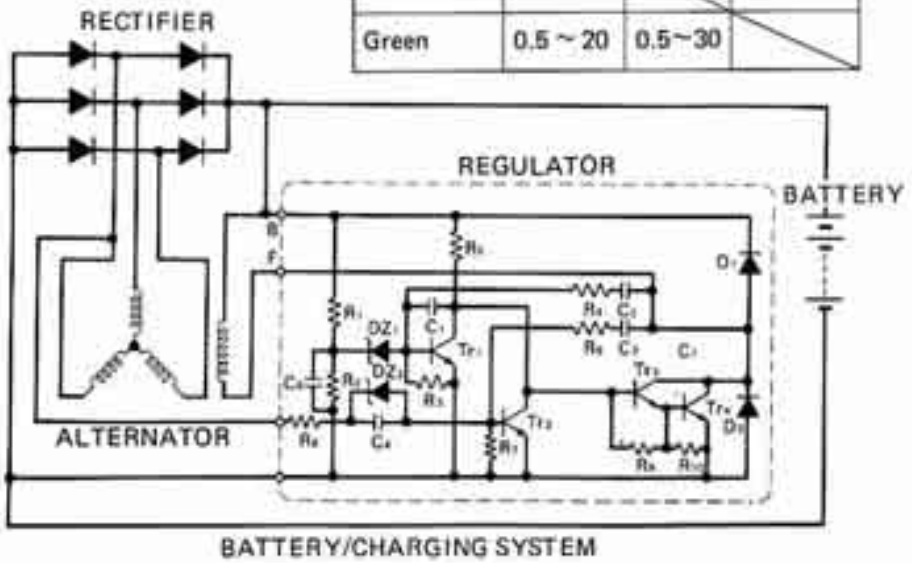
MEASURING RANGE:
SANWA SP-10D : XKΩ
KOWA TH-5H : X100Ω

RECTIFIER UNIT : kΩ

Probe (+) / Probe (−)	Red/White	Green	Yellow 1	Yellow 2	Yellow 3
Red/White		∞	∞	∞	∞
Green	0.5 ~ 50		0.5 ~ 50	0.5 ~ 50	0.5 ~ 50
Yellow 1	0.5 ~ 50	∞		∞	∞
Yellow 2	0.5 ~ 50	∞	∞		∞
Yellow 3	0.5 ~ 50	∞	∞	∞	

REGULATOR UNIT : kΩ

Probe (+) / Probe (−)	Black	White	Green
Black		1 ~ 30	0.5 ~ 20
White	0.5 ~ 30		1 ~ 50
Green	0.5 ~ 20	0.5~30	



BATTERY/CHARGING SYSTEM

Date of Issue: May, 1981
© HONDA MOTOR CO., LTD.