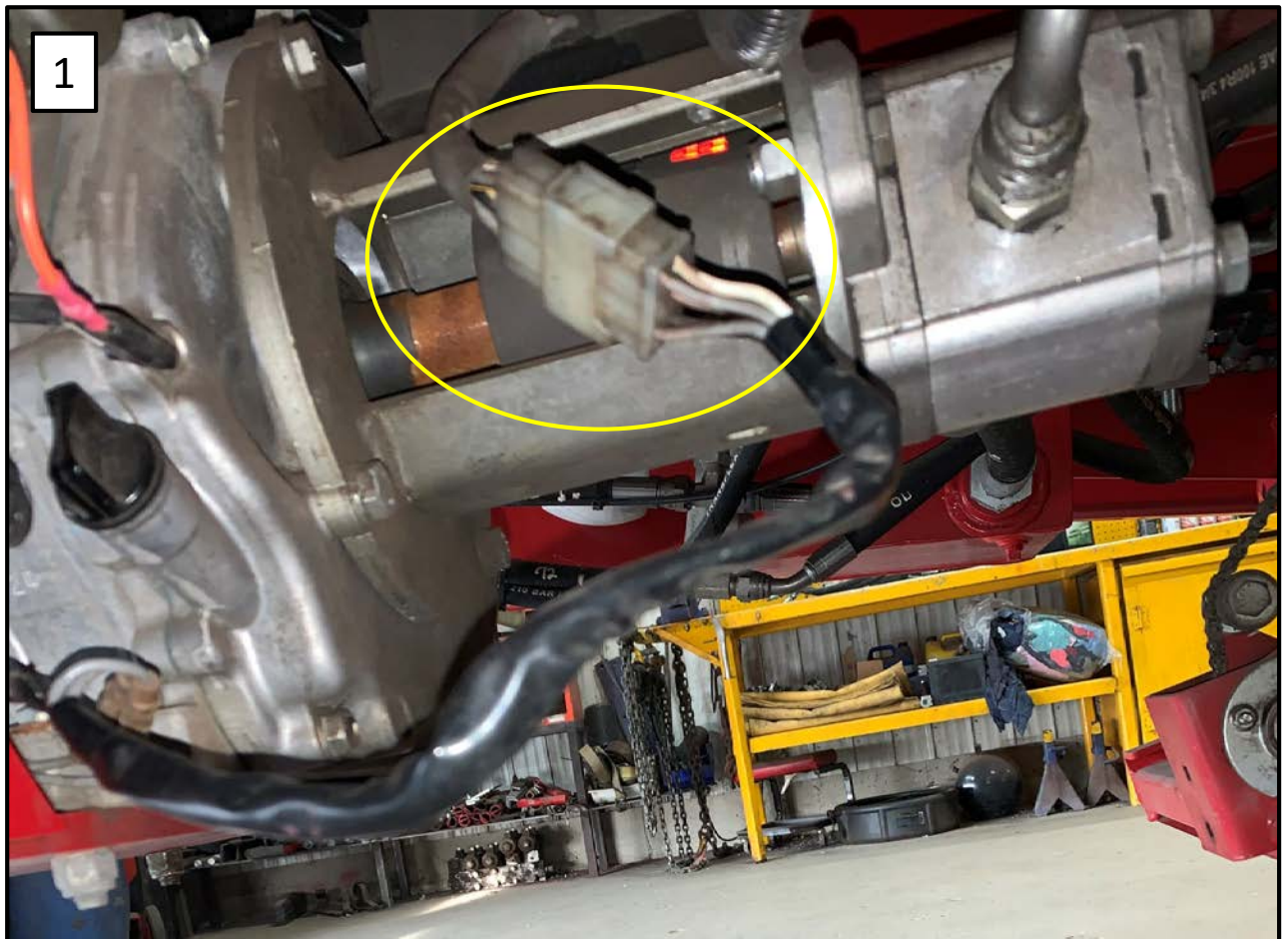


REGULATOR VOLTAGE VERIFICATION

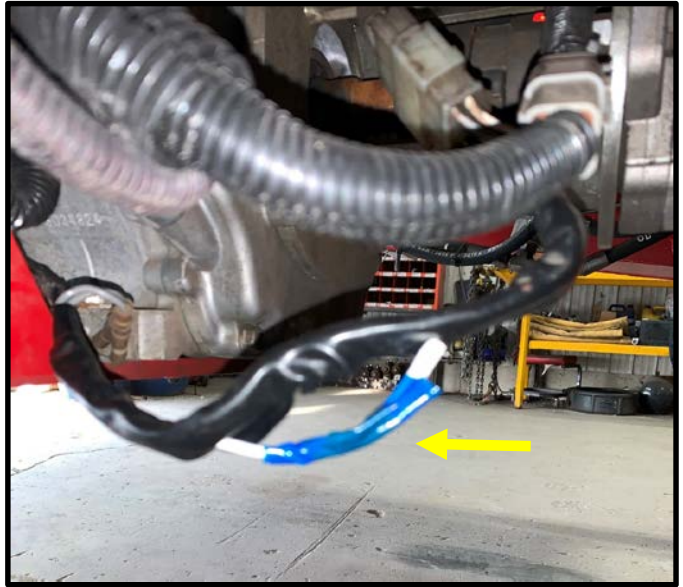
If the battery voltage is not increasing or not sufficiently when the engine is running, the voltage regulator may be defective. But before replacing it, verify the connectors and the Honda sealed blue sheath connexion (white wires)

1- Make sure that the Honda male connector is well plugged to the female one. Verify that the wires are well crimped into the connectors.



REGULATOR VOLTAGE VERIFICATION

2- Once the connectors verification is done, open the sealed sheath to access to the wires and remove the blue tape to access to the junction.



3- Once the blue tape removed, verify that the white wires are well crimped.



REGULATOR VOLTAGE VERIFICATION

If the above verifications do not solve the issue, here is the Honda 5 steps recommendations:

HONDA

CHARGING SYSTEM TROUBLESHOOTING

Identify the system to be tested.

Charge coil – used to charge the battery to operate the starter motor and other DC loads.

Charging coil system typically contains:

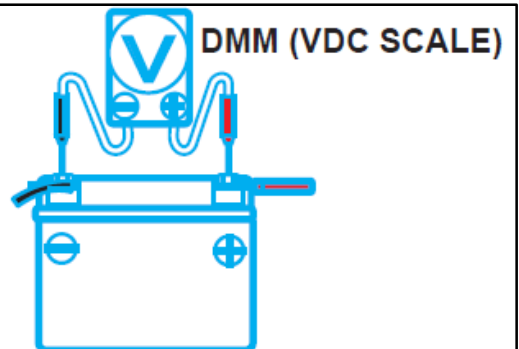
- Battery (OEM)
- Switch (Honda or OEM)
- Fuse or circuit protection (Honda or OEM)
- Charge coil (Honda)
- Rectifier/regulator (Honda)
- Load(s) (OEM)

Charge coil specifications

System	Resistance	VAC output (3600 RPM)
3 Amp	0.20 - 0.93	24 – 28 (QAE2)
10 Amp	0.16 - 0.24	24 – 28 (QNR6)
18 Amp	0.12 - 0.16	24 – 28 (QNR2)

① BATTERY TESTING

Begin with a fully charged 12-volt battery. Connect a DMM (Digital MultiMeter) as shown. With the meter set to measure DC volts, record the battery voltage.



REGULATOR VOLTAGE VERIFICATION

② VISUAL INSPECTION

Always check the easy things first. Check for problems on both the engine and the product powered by the engine.

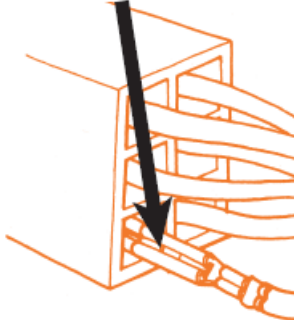
- Check for broken, bent, or loose terminals.
- Check for corroded wires, connectors, or terminals.
- Check for a pinched, cut, or damaged wire harness.
- Check for a blown fuse or a defective circuit protector (always replace the fuse with the correct size).

If the new fuse blows after replacement, troubleshoot for a short circuit in the system.

CORRODED TERMINAL

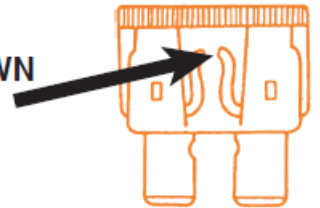


LOOSE TERMINAL



BENT TERMINAL

BLOWN FUSE

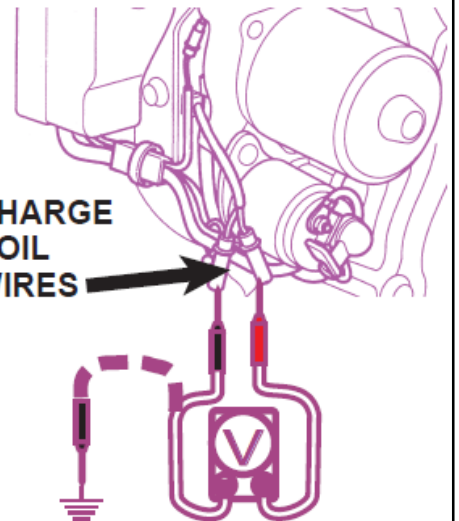


③ CHARGE COIL

The illustrations demonstrate charge coil inspection.

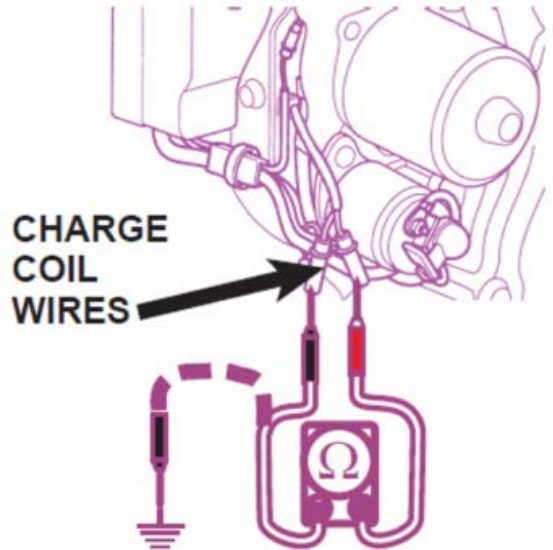
- Locate and disconnect the coil (charge coil or lamp coil) wire connector(s).
- Connect a DMM (set to measure AC volts) across the coil wires, or across the single coil wire and engine ground.
- Start the engine and slowly raise the throttle to its normal maximum operating position while observing the voltage.
 - The output voltage should start low at idle, then rise and level off at full throttle (see the table in the center column). If this is the case, the coil is functioning properly. Reconnect the wires and proceed to step ④.
 - If the measured output voltage is low (or zero) and does not rise at full throttle, proceed to step "d."

CHARGE COIL WIRES



VÉRIFICATION DU RÉGULATEUR DE VOLTAGE

- d. Stop the engine. Use a DMM (set to measure ohms) and check the resistance of the coil (see the table in the center column).
- If the resistance is good but the output voltage is low, inspect the flywheel. If OK, replace the coil, reconnect the wires, and proceed to step ④.
 - If the resistance is not normal and the output voltage is low or zero, replace the coil, reconnect the wires, and proceed to step ④.

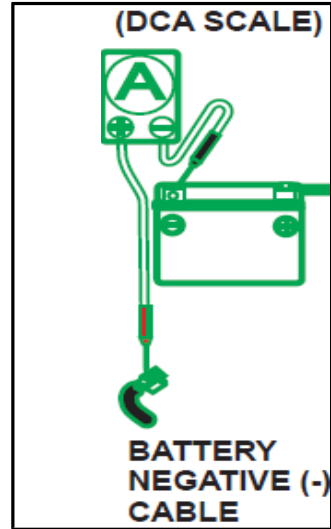


④ OUTPUT TEST

- Connect a DMM (set to measure DC volts) between the battery terminals as shown in step ①.
 - Start the engine and run at the maximum throttle position while observing the DC voltage.
 - With the engine still running, disconnect the DMM. Set the DMM to measure DC amps and connect the DMM to the battery as shown in step ⑥. Use a shunt if the system you are testing produces more current than your meter's DC amps rating.
 - Run the engine at its maximum throttle while observing the charging DC amperage output on your meter.
 - Check that the battery voltage and charging current meet the following specifications:
 - The battery voltage should start low, then quickly rise and level off at approximately 14.5 VDC.
 - Charging current should start high, and then begin to lower as the voltage approaches 14.5 VDC.
- If the above results are obtained, the charging system is OK and the problem is the battery. Replace the battery and perform step ④ again.
 - If the above results are not obtained, proceed to step ⑤.

REGULATOR VOLTAGE VERIFICATION

#4 OUTPUT TEST (SUITE)

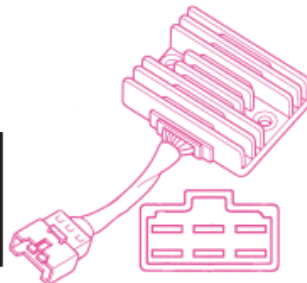


5 REGULATOR/RECTIFIER TESTING

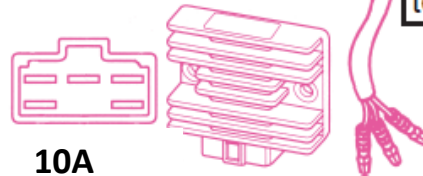
- Regulator has resistance tests in the appropriate shop manual. These tests are somewhat inconclusive because of the electronic regulation mechanism. If all other tests and inspections are made with no problem found, replace the regulator with a known good one and retest the system starting at step #4.

18A

Install a known good regulator and retest the system.



10A



Install a known good regulator/rectifier and retest the system.

3A

Test by performing a continuity test.

