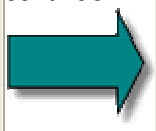
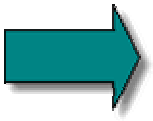
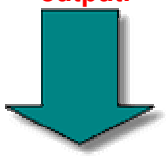
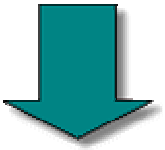
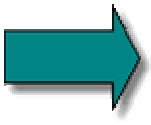
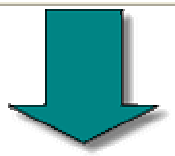
Phase A
Test CHARGING SYSTEM and the connections to the Battery

STEP #1 MEASURE CHARGING VOLTAGE

Switch the multimeter to DC Volts. Switch the range to 20 or 50 V. Connect the multimeter leads to the battery terminals. Start and rev the engine up to 2500 rpm. **Check that the battery-voltage increases from 12.8V to over 13.5V with RPM**	Voltage Increases to more than 13.5 V then Stator has output and the Phase A can continue 	Rev the engine up to **5000** rpm. Check the reading on the meter.	Between 14.0V and 14.8 V Suzuki Manual says 14.0-15.5V but that is too wide 	Charging system perfectly OK. **But, if you have not done it perform STEP #2 and STEP #3 to check connections.** Disconnect most of the connections on the bike and spray them with contact cleaner or WD40. This could prevent problems in the future. **If you have done all three steps and you are charging over 14.8V look into replacing the R/R. Go to Phase C**
Lower than 13.5 V Check connections STEP #2 **If you have previously completed STEP #2 and #3 and you still have low output then proceed to Phase B to check stator output.** 		Higher than 14.8 V or Lower than 14.0 V Check connection STEP #2 		

STEP #2 MEASURE POSITIVE LEAD VOLTAGE DROP

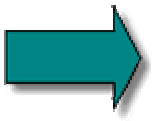
~~Let the engine idle~~, ~~and~~ connect the black multimeter lead to the battery (+). Connect the red multimeter lead to the RED output wire of the RR (+). Leave the RR connected to the bike. **INCREASE ENGINE SPEED To 5000 RPM** Check the reading on the meter. ~~**Leave the engine idling!**~~	more than **0.25 V** 	Bad connection in the positive lead from RR (+) to battery (+). Check the entire lead (suspect the connectors as well as the fuse-box and fuses). Good connections are extremely important in this high current lead. **Solve the problem and move to STEP #3**
Less than 0.25 V		



STEP #3 MEASURE NEGATIVE LEAD VOLTAGE DROP

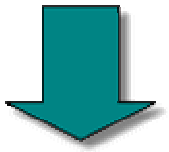
Connect the red multimeter lead up to the battery's negative pole (-) Connect the black multimeter lead up to the negative output of the RR (-) (BLACK/WHITE), but leave the RR connected up to its leads on the bike. If you can't find a negative output wire, then the casing of the RR is normally the negative lead to the frame.
INCREASE ENGINE SPEED To 5000 RPM
Check the reading on the meter. ~~Leave the engine idling !~~

more than **0.25 V**



Bad connection in the negative lead from **RR(-) to battery(-).** Check the whole lead to the battery (-). If the RR doesn't have an output lead but uses the case as connection to the frame, clean the area where it is bolted and use new screws. Also check the connection between battery(-) and frame. Also suspect the plate on which the RR is mounted (sometimes it is rubber mounted and uses an extra cable from this plate to the battery(-) or frame). Disconnect all suspect terminals and clean. Best solution: **ADD an EXTRA WIRE** to connect the **RR (-) straight up to the battery (-)** with an extra lead. Solve the problem and return to **STEP #1**

Less than **0.25 V**
If you have previously completed STEP #2 and #3 and you still have less than 13.5V at 5000 RPM proceed to Phase B to check stator output.



Note that a 0.25V limit was placed on the R/R to battery connections. This is desirable but not absolutely necessary. Voltages as high as 0.5V may be tolerable. Just realize that what ever the total of the two voltage drops are will take away from you output charging voltage at the battery. For example if the R/R is (internally) programmed to output 14.5V and you have 0.25 drop on the negative leads and 0.5V drop on the positive lead then your output voltage at the battery will only be 13.75V=14.5V-0.25V-0.5V. A Honda regulator with a 6th sense wire can compensate for this but it is still good to keep the voltage drops as low as feasible,

Phase **B**
Test STATOR