

SCL-0006
10/24/2005

Viper 90R-4 Dies After Shifting Or Indicator Lights Blink

Problem: Unit will not shift into gear or engine dies when shifting into gear.

- (1)
 - i. Turn on the ignition switch.
 - ii. Set selector switch to neutral (N) position.
 - iii. Set stop switch to 'O' position.
 - iv. Apply LH rear brake lever and press the starter button.



- (2) **With the brake lever applied**, shift to forward or reverse. Verify that the indicator light is steady and not flashing. If the engine dies, continue to 3.
- (3) Perform a continuity test on the left hand brake safety switch. The switch is normally open. Break lights should deactivate if the lead is unplugged. Test for continuity when the brake lever is applied by probing the switch leads. If this fails, replace the broken switch and return to step 1.
- (4) Replace the CDI unit. If the problem persists, replace with the original CDI unit and continue to step 5.



Refer to the figure on page 6 for a wiring diagram of this unit.

- (5) Check the engine idle RPM using a tachometer. Idle must be below **3200 RPM** before shifting or the engine will die.

Vehicle starts

Steady light

Safety switch tested

CDI Unit Functional

RPM tested

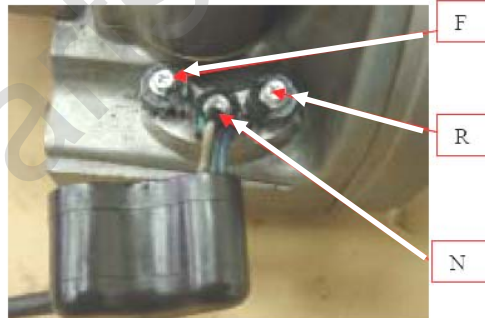
My RPM: _____



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(6) Check the wiring harness sensors and connections for corrosion. and correct color codes. Verify that it follows one of these sequences:

Reverse:	Blue
Neutral:	Gray
Forward:	Green/White

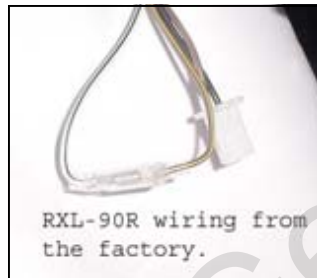
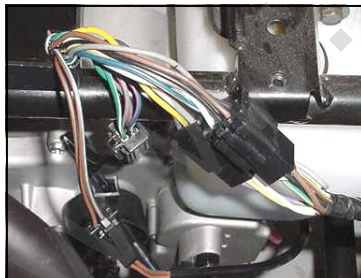


(7) Next, test the sensors by performing the following.

NOTE: (Always apply the LH brake when using the selector switch)

- Turn ignition switch to 'O'.
- Place shift selector in F.
- Probe the F sensor to ground and check for continuity. If none exists, verify the sensor size limits and replace as necessary.
- Place shift selector in N.
- Probe the N sensor to ground and check for continuity. If none exists, verify the sensor size limits and replace as necessary.
- Place shift selector in R.
- Probe the R sensor to ground and check for continuity. If none exists, verify the sensor size limits and replace as necessary.

(8) Check all connections, starting at the CDI box, and all grounds. Also, check the remote receiver loop (white/black to brown/yellow).



Bypass the remote switch, if installed, by connecting the two leads to each other and removing the switch from the loop.

Sequence checked
My colors:

_____ R _____ N

_____ F

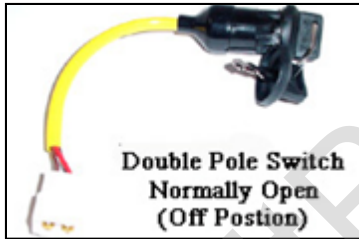
- F sensor tested
- N sensor tested
- R sensor tested

- Connections / grounds checked
- Receiver loop checked



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(9) Check the operation of the selector switch. Perform a continuity test by the color codes of your sensors (as in step 5).



Ignition Switch



Selector Switch

(10) Test the ignition switch.

- i. With the ignition switch in the off position, test across the red and brown leads. If current is read, replace the switch.
- ii. With the ignition switch in the on position, test across the red and brown leads. If NO current is read, replace the switch.
- iii. Apply dielectric grease to the ignition connection.
- iv. Check each connection pin by probing from switch side to harness side. If you do not have continuity, determine the failing pin and replace.

(11) Check operation of the shift motor *without the unit running*.

- i. Place the selector in the N position.
- ii. Turn ignition key on.
- iii. Apply the LH rear brake.
- iv. Turn selector from neutral (N) to forward (F). Indicator light should change to 'F' and remain steady. Motor shift should be heard. If either of these tests fail, perform an ohms test on the shift motor by probing the motor's leads. (reading: 2—5 Ω).
Turn the selector back to neutral (N).
- iv. Turn selector from neutral (N) to reverse (R). Indicator light should change to 'R' and remain steady. Motor shift should be heard. If either of these tests fail, perform an ohms test on the shift motor by probing the motor's leads (reading: 2—5 Ω).



Selector switch tested

Ignition switch tested—Ignition ON
 Ignition switch tested—Ignition OFF

Forward indicator tested

My ohms reading (if applicable):

_____ Ω

Reverse indicator tested

My ohms reading (if applicable):

_____ Ω



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(12) Symptoms for faulty generator:

- a. Weak or intermittent spark
- b. No spark
- c. Battery continually discharging
- d. Slow throttle response

- 1. Clean the flywheel
- 2. Set the Pick-up Coil air gap to 0.025" / 0.635mm .

To test the generator, set the multi-meter to a 1k ohms scale. Check the ohms from the white/red wire to the generator case or ground and shown in fig 1. Ohms reading should be between 105-115 Ω ; replace if 100 Ω or less. To check the output voltage the generator must be installed and multi-meter set to AC small scale. Probe the red lead to the white/red wire and the black lead to battery or chaise ground. Push the starter button with the flywheel turning the voltage should read 0.5 to 1.5 volts AC. If reading is low, replaced the A/C generator.

To test the exciter coil set the multi-meter to a 1k ohms scale. Check the ohms from the white/red wire to the generator case or ground as shown in fig 2. The reading should be 0.520— 0 .535 k Ω . To test the auxiliary coil, check from the black/red wire to generator case or ground as shown. Reading should be 0.815—0.830 k Ω . If the readings are outside this range, replace the A/C generator.

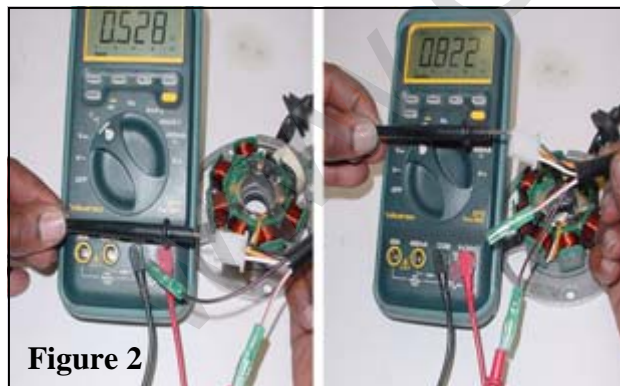


Figure 2



Figure 1

Flywheel Puller tool #
650660



Generator tested

My ohms reading:

_____ Ω

Exciter output voltage:

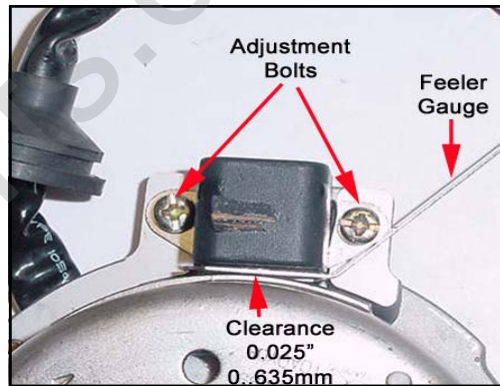
_____ AC-V



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Check the pickup coil air gap.
Set to 0.025" / 0.635mm.



Primary coil resistance is 0.1-0.5Ω.
(See figure 1)



Secondary coil resistance is 8-11kΩ.
(See figure 2)



Air gap checked

Primary coil resistance tested

My reading:

_____ Ω

Secondary coil resistance tested

My reading:

_____ Ω

If problem persists, please fill out the following information and fax the entire completed checklist to ETON technical service at (864)-278-9590.

Phone: _____ Fax: _____

Technician signature: _____ Date: _____



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Viper 90R-4 CDI Module Wiring Diagram

