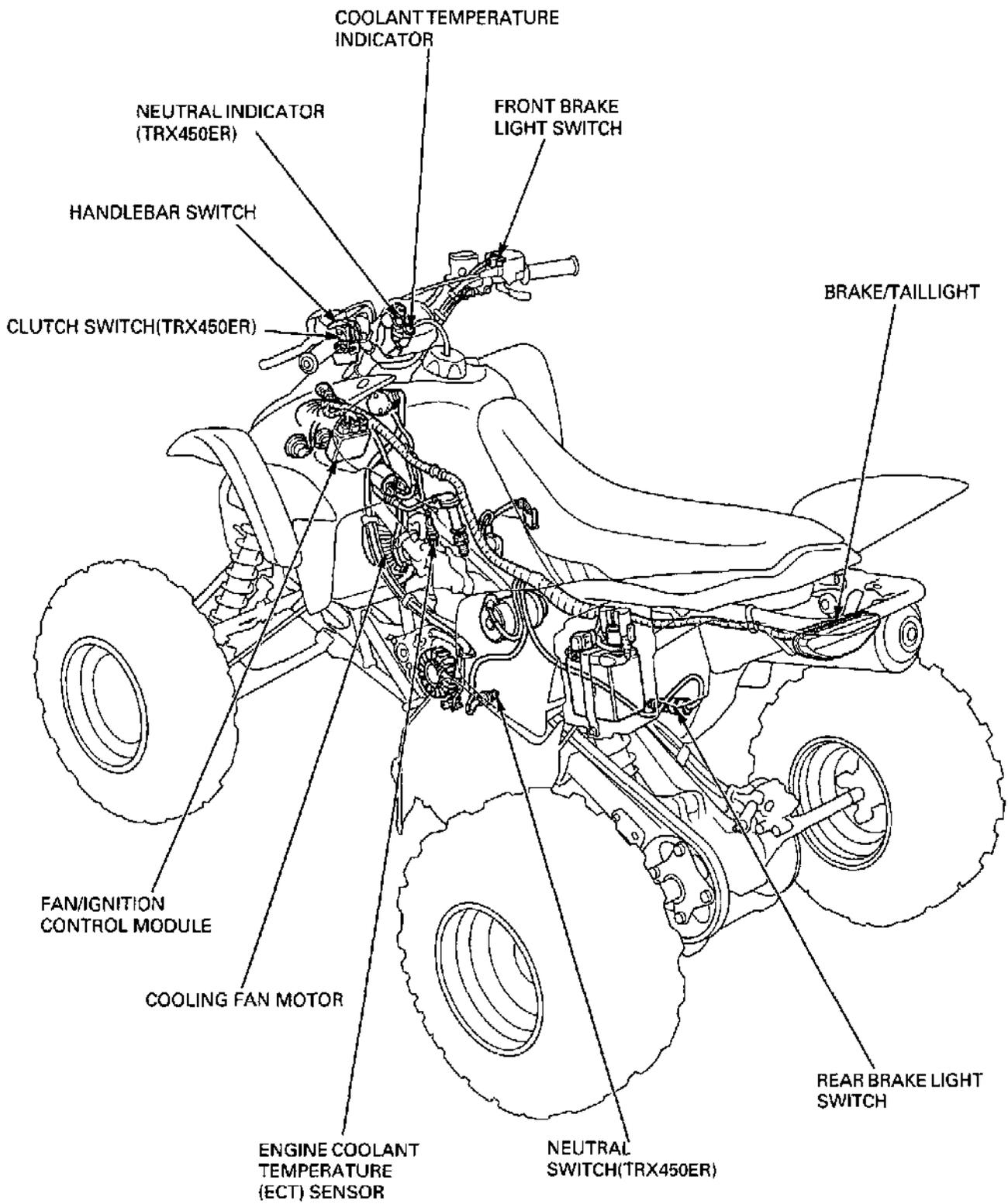


24. LIGHTS/SWITCHES (After '05)

COMPONENT LOCATION	24-2	CLUTCH SWITCH (TRX450ER only).....	24-8
SERVICE INFORMATION	24-3	BRAKE LIGHT SWITCH	24-9
BULB REPLACEMENT	24-4	NEUTRAL SWITCHES (TRX450ER only)...	24-10
BRAKE/TAILLIGHT	24-6	COOLANT TEMPERATURE INDICATOR...	24-11
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HANDLEBAR SWITCH.....	24-7	ENGINE COOLANT TEMPERATURE (ECT) SENSOR.....	24-13

COMPONENT LOCATION



SERVICE INFORMATION

GENERAL

- All plastic connectors have locking tabs that must be released before disconnecting, and must be aligned when reconnecting.
- To isolate an electrical failure, check the continuity of the electrical path through the part. A continuity check can usually be made without removing the part from the vehicle. Simply disconnect the connectors and connect a continuity tester to the terminals or connections.
- Check the battery condition before performing any inspection that requires proper battery voltage (TRX450ER only).
- The following color codes are used throughout this section.

Bu: Blue	G: Green	Lg: Light Green	R: Red
Bl: Black	Gr: Gray	O: Orange	W: White
Br: Brown	Lb: Light Blue	P: Pink	Y: Yellow

SPECIFICATIONS

ITEM		SPECIFICATIONS
Bulbs	Headlight (High/low beam)	12 V - 30/30 W
	Brake/taillight	LED
	Neutral indicator	12 V - 3 W
	Coolant temperature indicator	12 V - 3.4 W
Fuse	Main fuse (TRX450ER)	15 A
Ect senser resistance	at 80°C (176°F)	47.5 - 56.8 Ω
	at 120°C (248°F)	14.9 - 17.3 Ω

TORQUE VALUES

Neutral switch (TRX450ER only)	12 N·m (1.2 kgf·m, 9 lbf·ft)
Engine coolant temperature (ECT) senser	9.8 N·m (1.0 kgf·m, 7 lbf·ft)

BULB REPLACEMENT

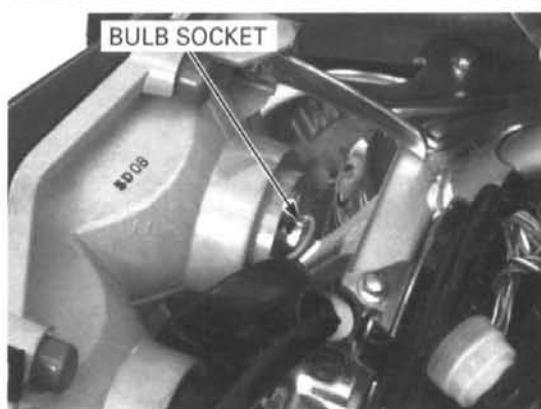
HEADLIGHT

Remove the top cover (page 3-5).

Remove the dust cover from the headlight.



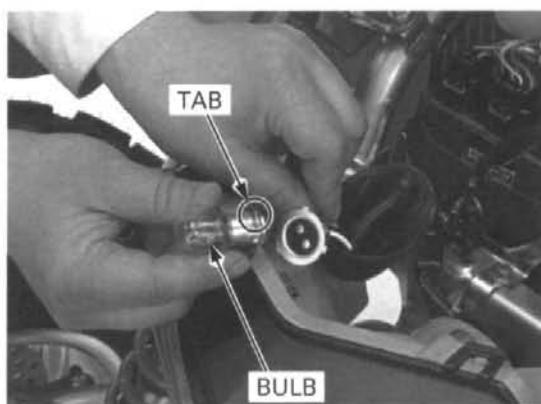
Remove the bulb socket by turning it counterclockwise while pushing it in.



Remove the bulb from the headlight.

Install a new bulb by aligning the tab with the groove in the headlight.

Install the removed parts in the reverse order of removal.



INDICATORS

Be careful not to let the screw fall into the steering shaft.

- Remove the following:
- fuel fill cap breather hose (from the cover)
 - indicator lenses (by prying them, using a small flat-blade screwdriver)
 - cover attaching bolt
 - handlebar cover (by releasing its ends off the handlebar)
 - bulb sockets (from the cover)

Carefully turn the bulb socket inside out and pull the bulb out of the socket.
Install a new bulb into the socket.

Install the bulb sockets into the handlebar cover in the direction as shown.

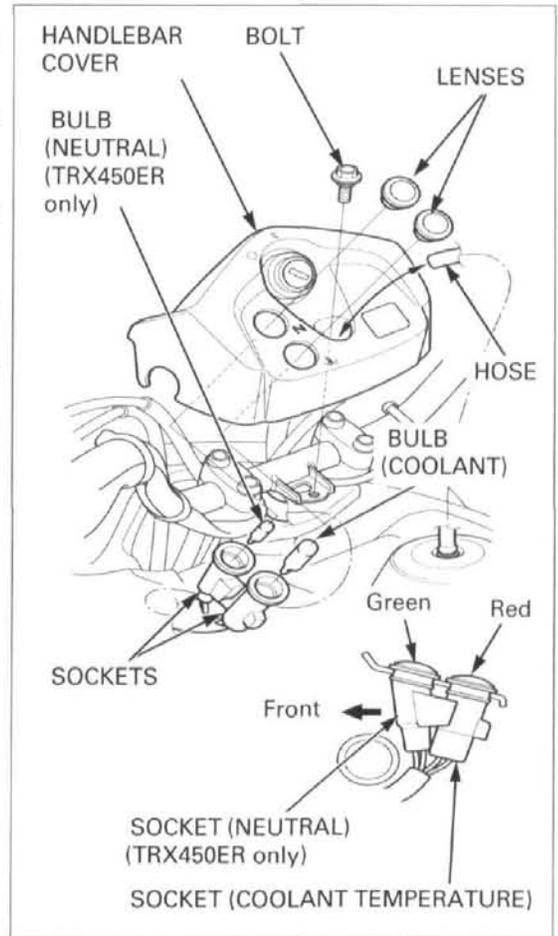
Take care not to drop the screw.

Install the cover onto the handlebar. Install the cover screw and tighten it securely.

Do not interchange the neutral and reverse indicator lenses.

Install the indicator lenses into the socket properly.

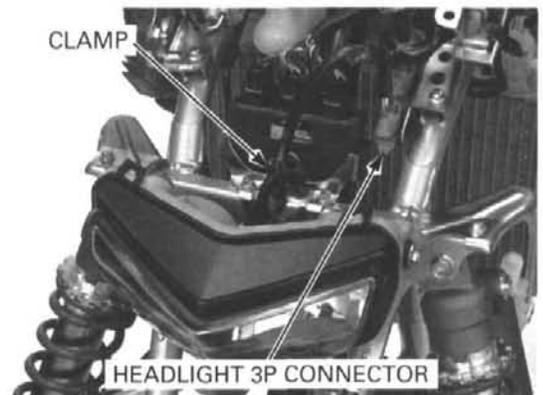
Install the breather hose into the cover.



REMOVAL/INSTALLATION

Remove both front fenders (page 3-6).

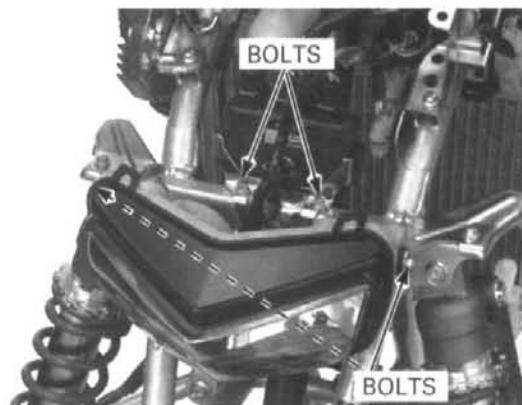
Disconnect the headlight 3P connector and remove the clamp.



LIGHTS/SWITCHES (After '05)

Remove the bolts.

Install the headlight in the reverse order of removal.



AIMING

Remove the top cover (page 3-5).

Adjust the headlight beam vertically by turning the adjusting bolt.

Install the top cover (page 3-5).



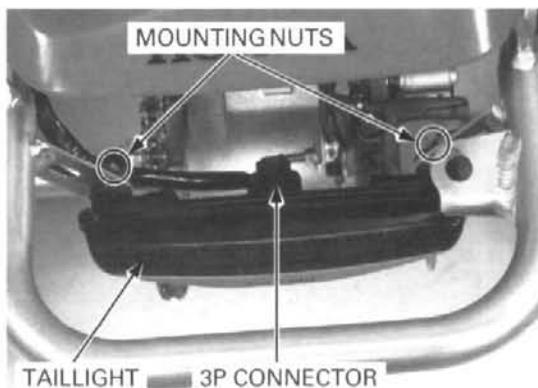
BRAKE/TAILLIGHT

REMOVAL/INSTALLATION

Disconnect the 3P connector.

Remove the two mounting nuts and the brake/tail-light.

Installation is in the reverse order of removal.



IGNITION SWITCH

INSPECTION

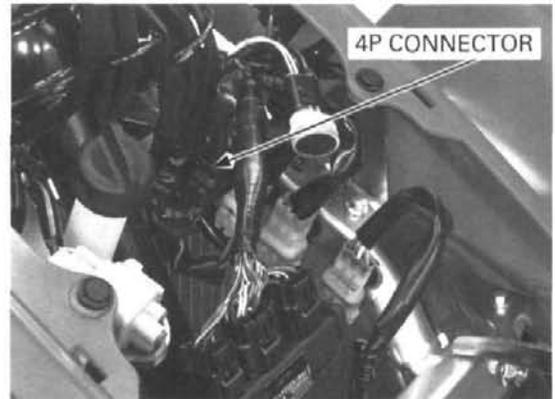
Remove the top cover (page 3-5).

Disconnect the ignition switch 4P black connector.

Check for continuity between the switch side connector terminals in each switch position.

Continuity should exist between the color coded wires as shown below:

Color \ Position	Black/white	Green	Red	Black
OFF	○—○			
ON			○—○	



REPLACEMENT

Remove the following:

- top cover (page 3-5)
- handlebar cover (page 24-5)

Remove the 4P (black) connector from the stay and disconnect it.

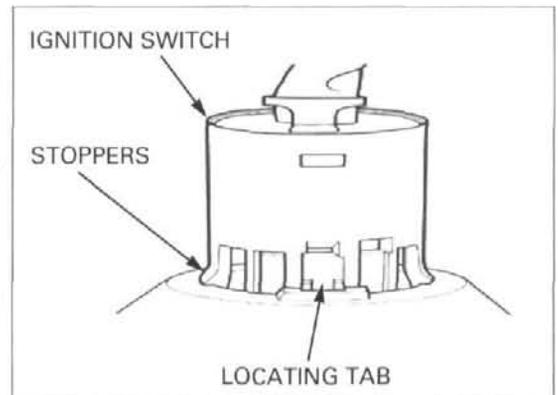
Release the switch wire from the clips on the frame.

Remove the ignition switch from the handlebar cover by pushing in the two stoppers.

Install a new ignition switch by aligning the locating tab with the cover groove.

Route the ignition switch wire properly (page 1-24).

Install the removed parts in the reverse order of removal.



HANDLEBAR SWITCH

INSPECTION

Remove the top cover (page 3-5).

TRX450ER: Remove the handlebar switch 6P natural connector from the stay and disconnect it.

TRX450R: Remove the handlebar switch 4P natural connector from the stay and disconnect it.



LIGHTS/SWITCHES (After '05)

See page 24-8 for clutch switch inspection.

Check for continuity between the switch side connector terminals in each switch position. Continuity should exist between the color coded wires as shown below:

ENGINE STOP SWITCH

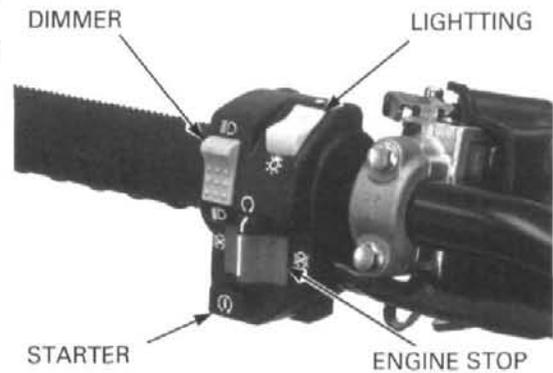
COLOR	Green	Black/white
	○	○
○		
	○	○

LIGHTING SWITCH/DIMMER SWITCH

COLOR	Black	Brown	COLOR	Blue	White
●				○	○
	○	○	(N)	○	○
					○

STARTER SWITCH

COLOR	Black	Yellow/red
Free		
Push	○	○



CLUTCH SWITCH (TRX450ER only)

REMOVAL/INSTALLATION

Remove the dust cover off of the clutch lever bracket.

Remove the screw and retainer.

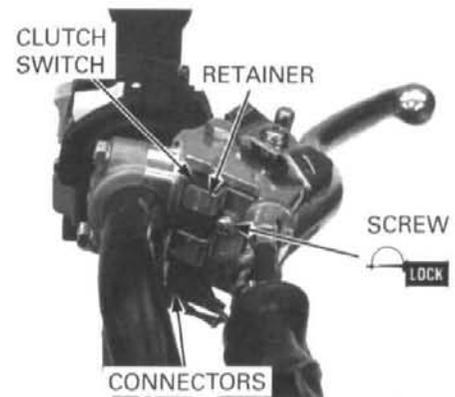
Disconnect the connectors to remove the clutch switch.

Apply locking agent to the threads of the clutch switch retainer screw.

Connect the clutch switch to the connectors and install it into the lever bracket.

Secure the switch with the retainer and screw.

Install the dust cover over the lever bracket.



INSPECTION

Remove the clutch switch .(page 24-8)

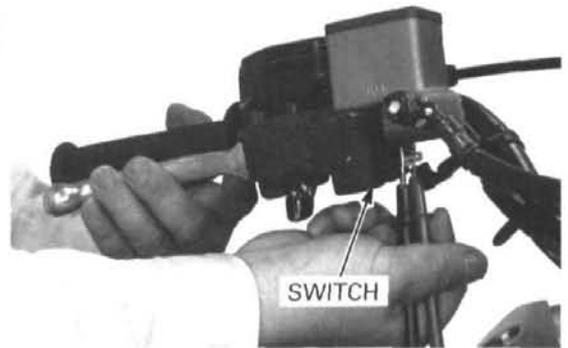
Check for continuity between the switch terminals.

There should be no continuity with the switch plunger pushed, and continuity with the plunger released.

**BRAKE LIGHT SWITCH****FRONT**

Disconnect the brake light switch connectors and check for continuity between the switch terminals.

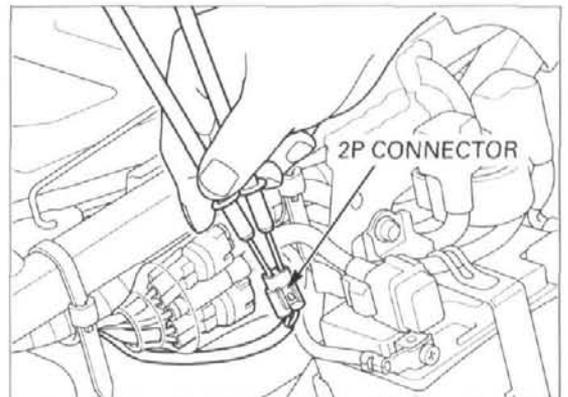
There should be continuity with the front brake lever squeezed and no continuity with the lever released.

**REAR**

Remove the seat/rear fender (page 3-3).

Disconnect the brake light switch 2P black connector and check for continuity between the switch side connector terminals.

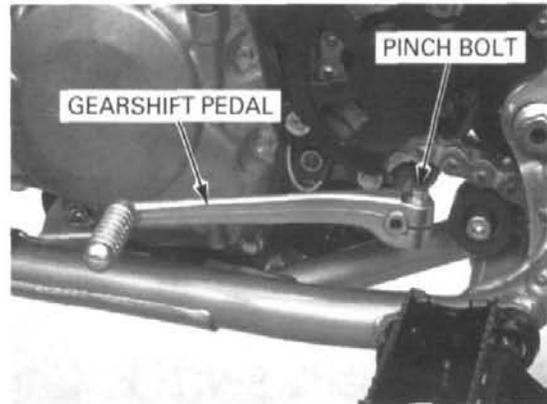
There should be continuity with the brake pedal depressed and no continuity with the pedal released.



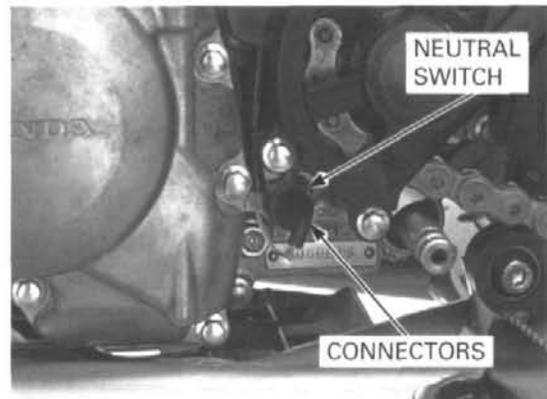
NEUTRAL SWITCHES (TRX450ER only)

INSPECTION

Remove the bolt and gearshift pedal.



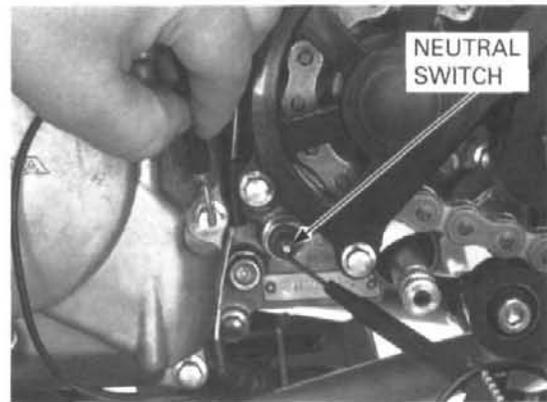
Disconnect neutral switch connector.
Check for continuity between the switch terminal and engine ground.



Check for continuity between the switch terminal and engine ground.

There should be continuity when the transmission is in neutral, and no continuity when the transmission is in any gear except neutral.

Install the removed parts as described below.



REPLACEMENT

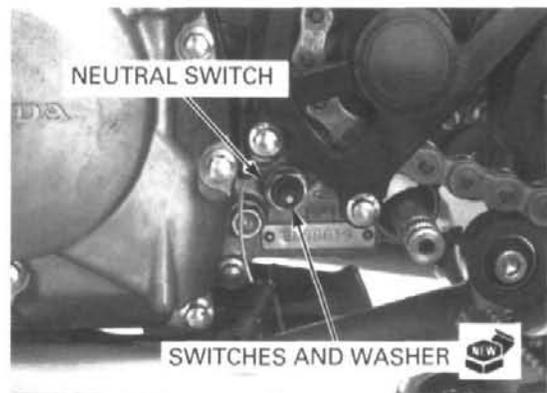
Disconnect the neutral switch connector (page 24-10).

Remove the switch from the crankcase.

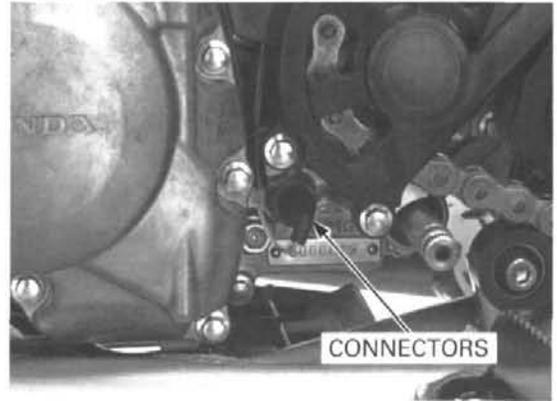
Install the switch with a new sealing washer and tighten it.

TORQUE: 12 N·m (1.2 kgf·m, 9 lbf·ft)

Connect each switch connector.

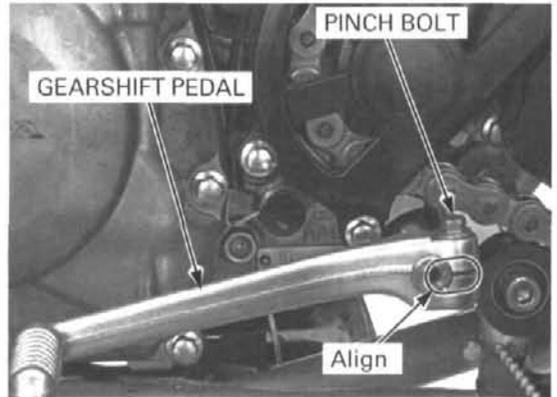


Connect each switch connector.



Install the gearshift pedal onto the spindle by aligning the punch marks.

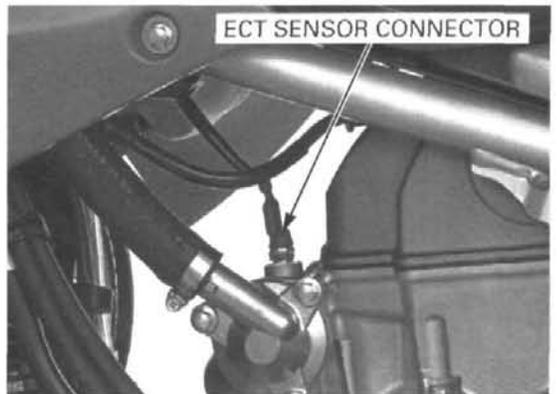
Install the pinch bolt and tighten it securely.



COOLANT TEMPERATURE INDICATOR

SYSTEM INSPECTION

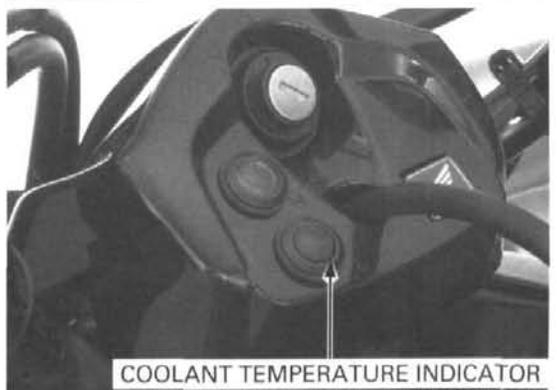
Disconnect the engine coolant temperature (ECT) sensor connector.



Start the engine and check the indicator.

- If the indicator lights for 3 seconds then goes off, go to next step.
- If the indicator lights and stays on, check for a short circuit in the following wire:
 - Yellow/blue wire between the ECT sensor and fan/ignition control module (ICM) connectors
 - Gray wire between the fan/ICM and indicator connectors

If the wires are OK, replace the fan/ICM.



LIGHTS/SWITCHES (After '05)

Ground the ECT sensor connector with a jumper wire.

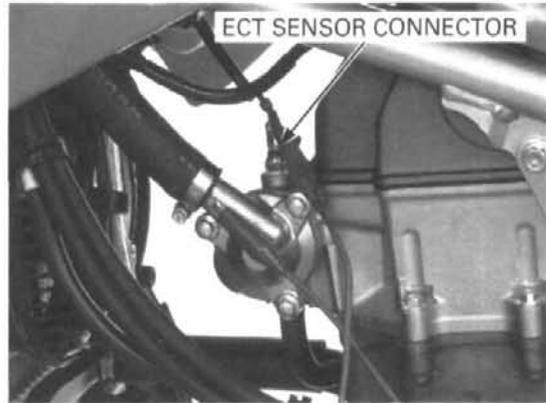
Start the engine and check the indicator.

- If the indicator lights, the system is OK.
- If the indicator does not light or lights for 3 seconds then goes off, check for an open circuit in the following wire:
 - Yellow/blue wire between the ECT sensor and fan/ICM connectors
 - Gray wire between the fan/ICM and indicator connectors

If the wire is OK, disconnect the indicator 4P natural (TRX450ER) or 2P red (TRX450R) connector.

Start the engine and measure the voltage between the Black wire terminal (+) and Gray wire terminal (-) of the wire harness side connector.

- If there is generating voltage, check for blown indicator bulb.
- If there is no voltage, check for an open circuit in the black wire between the indicator and ignition switch connectors. If the black wire is OK, replace the fan/ICM.



COOLING FAN MOTOR

INSPECTION

NOTE:

- Make sure that the coolant temperature indicator system functions properly before checking the fan motor system.

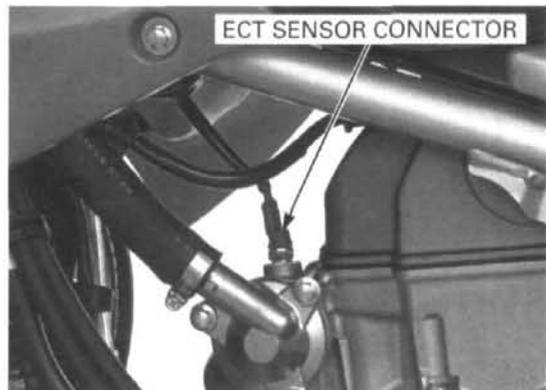
Fan motor does not stop when the engine is running

Disconnect the engine coolant temperature (ECT) sensor connector.

Start the engine and check the fan motor.

- If the fan motor does not start, check the ECT sensor (page 24-13).
- If the fan motor starts, check for a short circuit in the following wire:
 - Green wire between the fan/ICM and fan motor connectors
 - Green wire of the fan motor

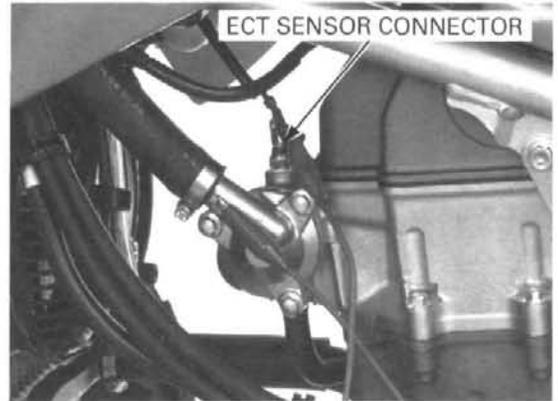
If the wires are OK, replace the fan/ICM.



Fan motor does not start

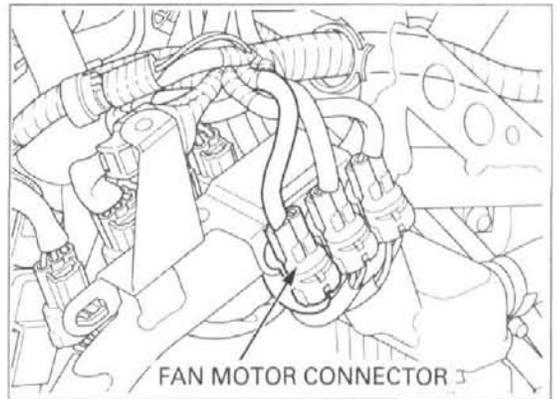
Disconnect the ECT sensor connector and ground it with a jumper wire.
Start the engine and check the fan motor.

- If the fan motor starts, check the ECT sensor (page 24-13).
- If the fan motor does not start, check for an open circuit in the following wire:
 - Green wire between the fan/ICM and fan motor connectors
 - Green wire of the fan motor



If the wire is OK, disconnect the fan motor 2P blue connector.
Start the engine and measure the voltage between the Black wire terminal (+) and Green wire terminal (-) of the wire harness side connector.

- If there is generating voltage, replace the fan motor.
- If there is no voltage, check for an open circuit in the black wire between the fan motor and ignition switch connectors. If the black wire is OK, replace the fan/ICM.

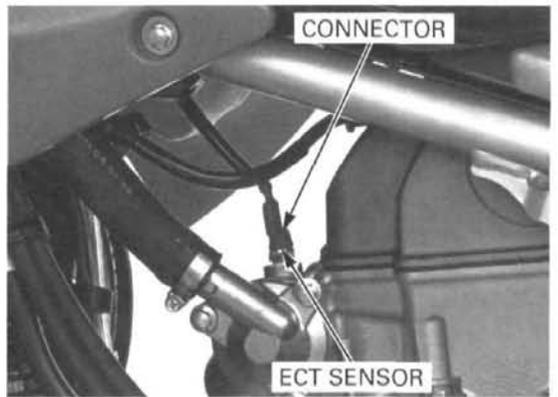


ENGINE COOLANT TEMPERATURE (ECT) SENSOR

INSPECTION

Drain the coolant (page 9-7).

Disconnect the ECT sensor connector and remove the ECT sensor.

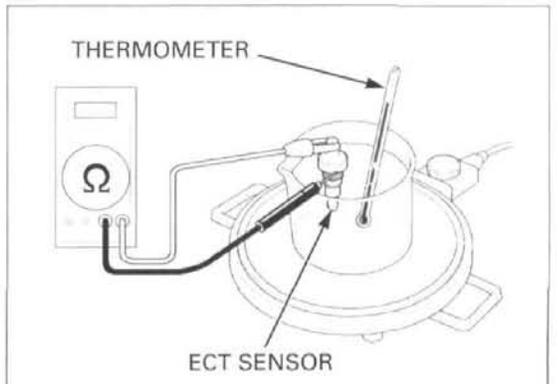


Suspend the ECT sensor in a pan of coolant (50 – 50 mixture) on an electric heating element and measure the resistance through the sensor as the coolant heats up.

NOTE:

- Soak the ECT sensor in coolant up to its threads with at least 40 mm (1.57 in) from the bottom of the pan to the bottom of the sensor.
- Keep the temperature constant for 3 minutes before testing. A sudden change of temperature will result in incorrect readings. Do not let the thermometer or ECT sensor touch the pan.

Resistance: 47.5 – 56.8 Ω at 80°C (176°F)
14.9 – 17.3 Ω at 120°C (248°F)



LIGHTS/SWITCHES (After '05)

Replace the ECT sensor if it is out of specifications by more than 10% at any temperature listed.

Apply sealant to the ECT sensor threads. Do not apply to the sensor head.

Install the ECT sensor and tighten it.

TORQUE: 9.8 N·m (1.0 kgf·m, 7 lbf·ft)

Connect the ECT sensor connector.

Fill and bleed the cooling system (page 9-7).

