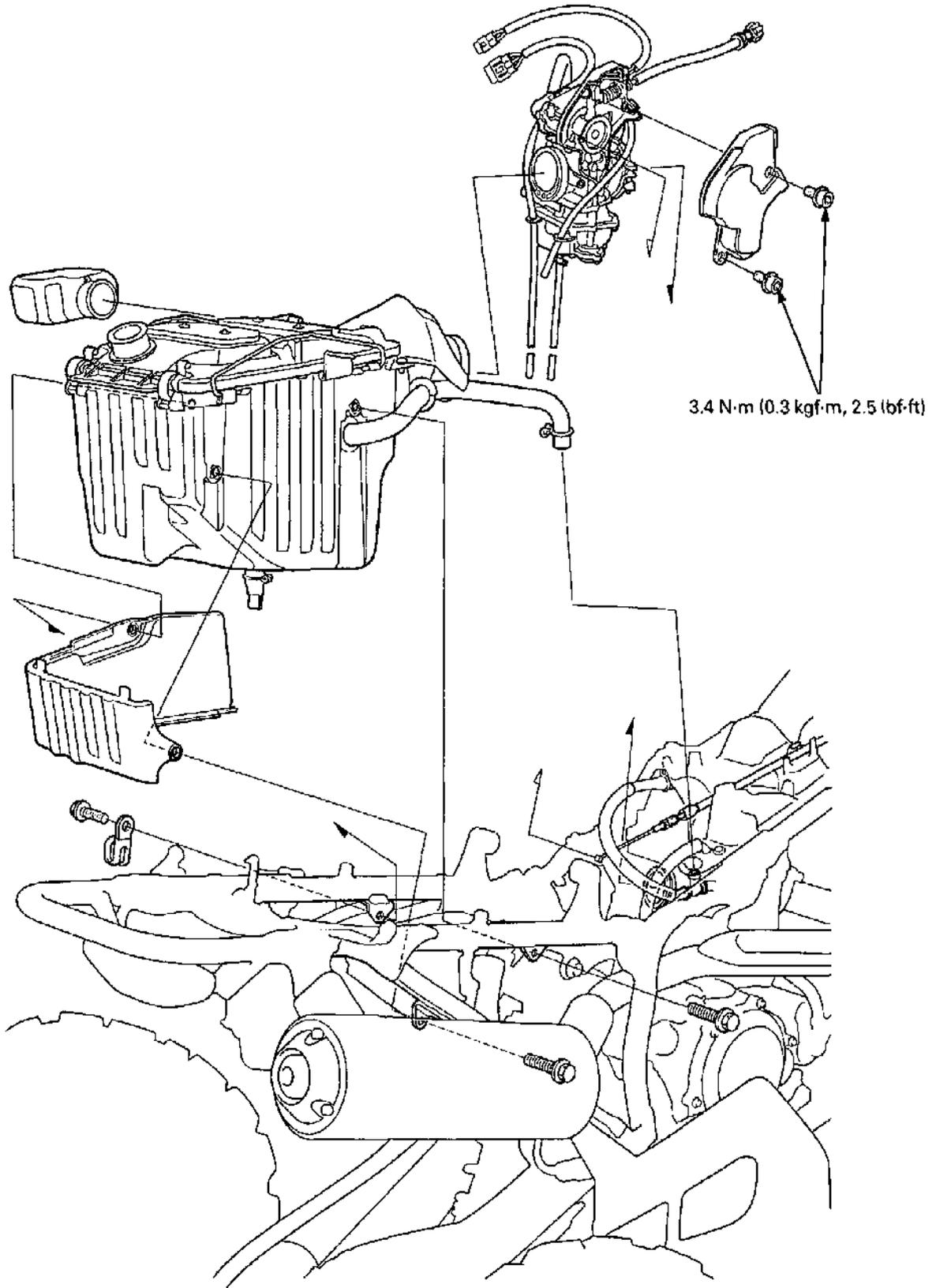


8. FUEL SYSTEM (After '05)

SYSTEM COMPONENTS	8-2	CARBURETOR DISASSEMBLY.....	8-9
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AIR CLEANER HOUSING	8-6	PILOT SCREW ADJUSTMENT.....	8-24
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SYSTEM COMPONENTS



SERVICE INFORMATION

GENERAL

- Bending or twisting the control cable will impair smooth operation and could cause the cable to stick or bind, resulting in loss of vehicle control.
- Work in a well ventilated area. Smoking or allowing flames or sparks in the work area or where gasoline is stored can cause a fire or explosion.
- When disassembling the fuel system parts, note the locations of the O-rings. Replace them with new ones on reassembly.
- Before removing the carburetor, place an approved gasoline container under the carburetor drain hose, loosen the drain screw and drain the carburetor.
- After removing the carburetor, wrap the intake port of the engine with a shop towel or cover it with pieces of tape to prevent any foreign material from dropping into the engine.
- If the vehicle is to be stored for more than one month, drain the float chamber. Fuel left in the float chamber may cause clogged jets, resulting in hard starting or poor driveability.
- For fuel tank removal and installation (page 3-9).
- For throttle position sensor service (page 22-10).

SPECIFICATIONS

ITEM		SPECIFICATIONS
Carburetor identification number	TRX450ER	FCR10A
	TRX450R	FCR11A
Main jet		#120
Slow jet		#42
Starter jet		#75
Jet needle		NHHU
Pilot screw initial opening		2-3/8 turns out
Float level		8.0 mm (0.31 in)
Idle speed		1,700 ± 100 rpm
Throttle grip free play		5 – 10 mm (9/32 – 3/8 in)
Hot starter lever free play (TRX450R)		2 – 3 mm (1/16 – 1/8 in)

TORQUE VALUES

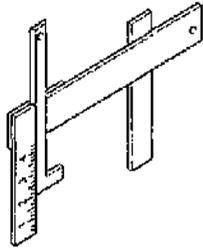
Slow air jet	0.9 N·m (0.1 kgf·m, 0.7 lbf·ft)
Slow jet	1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)
Starter jet	1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)
Needle jet	1.8 N·m (0.2 kgf·m, 1.3 lbf·ft)
Main jet	1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)
Float chamber screw	2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)
Accelerator pump cover screw	2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)
Choke valve lock nut	2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)
Throttle shaft screw	2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)
Needle holder	2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)
Top cover bolt	2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)
Throttle drum cover bolt	3.4 N·m (0.3 kgf·m, 2.5 lbf·ft)
Hot start valve nut (TRX450R)	2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)

Apply locking agent to the threads

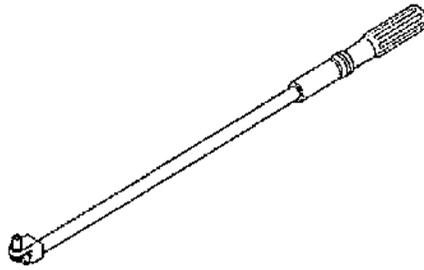
FUEL SYSTEM (After '05)

TOOL

Carburetor float level gauge
07401-0010000



Pilot screw wrench
07KMA-MN90101



TROUBLESHOOTING

Engine cranks but won't start

- No fuel in tank
- No fuel to carburetor
 - Clogged fuel strainer
 - Clogged fuel line
 - Stuck fuel valve
 - Misadjusted float level
 - Clogged fuel tank breather hose
- Too much fuel getting to the engine
 - Clogged air cleaner
 - Flooded carburetor
- Intake air leak
- Contaminated/deteriorated fuel
 - Clogged jets
- Improper choke operation
- Improper throttle operation
- No spark at plug (faulty ignition system – page 22-6)

Lean mixture

- Clogged fuel jets
- Faulty float valve
- Float level too low
- Restricted fuel line
- Clogged carburetor air vent hose
- Restricted fuel tank breather hose
- Intake air leak
- Faulty throttle valve

Rich mixture

- Improper choke operation
- Clogged air jets
- Faulty float valve
- Float level too high
- Dirty air cleaner
- Worn jet needle or needle jet

Engine stalls, hard to start, rough idling

- Restricted fuel line
- Fuel mixture too lean/rich
- Contaminated/deteriorated fuel
 - Clogged jets
- Intake air leak
- Misadjusted idle speed
- Restricted fuel tank breather hose
- Dirty air cleaner
- Misadjusted pilot screw
- Clogged slow circuit
- Faulty ignition system (page 22-6)

Afterburn when engine braking is used

- Lean mixture in slow circuit
- Accelerator pump faulty
- Faulty ignition system (page 22-6)

Backfiring or misfiring during acceleration

- Lean mixture
- Faulty ignition system (page 22-6)

Poor performance (driveability) and poor fuel economy

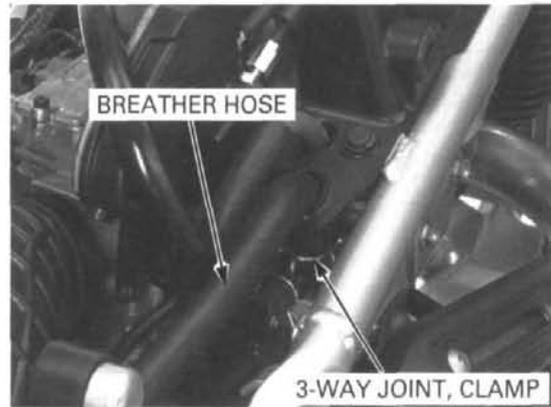
- Clogged fuel system
- Faulty ignition system (page 22-6)

AIR CLEANER HOUSING

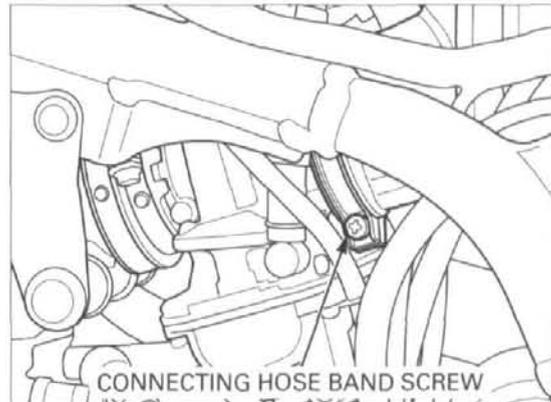
REMOVAL

Remove the fuel tank (page 3-9).

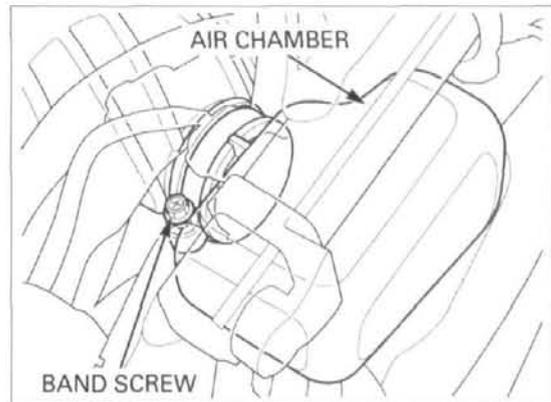
Disconnect the crankcase breather hose from the 3-way joint.



Loosen the connecting hose band screw.

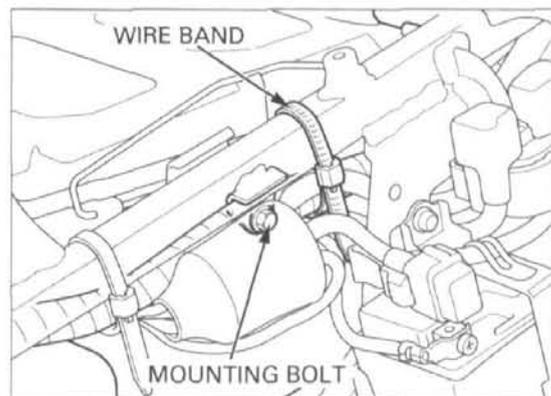


Loosen the band screw and remove the air chamber from the connecting hose.

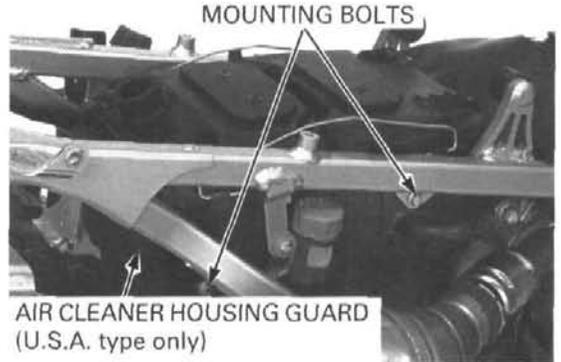


Remove the battery cover (page 21-6).

Remove the wire band, then remove the mounting bolt.



Remove the mounting bolts, air cleaner housing guard (U.S.A. type only) and the air cleaner housing from the frame.



INSTALLATION

Installation is in the reverse order of removal.

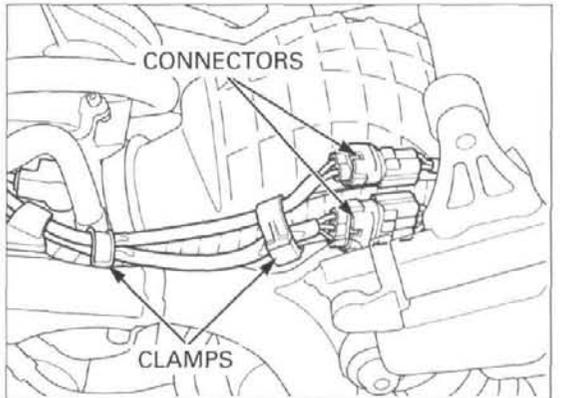
- U.S.A. type only:*
- Install the air cleaner housing guard by aligning its tabs with the housing grooves.



CARBURETOR REMOVAL

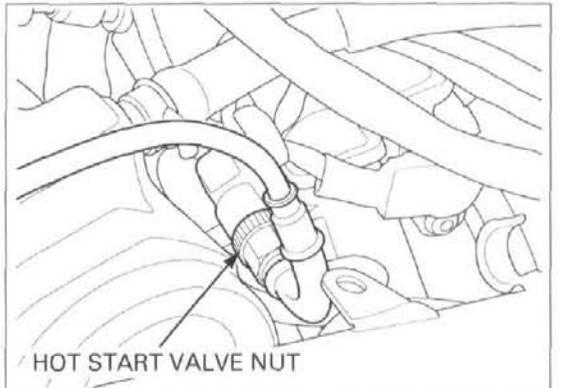
Remove the fuel tank (page 3-9).

Disconnect the carburetor switch 2P (Neutral) and throttle position sensor 3P (Black) connectors, and remove their wires from the clamps.



- TRX450R only:* Remove the heat guard plate (page 3-9).

Loosen the hot start cable nut and remove the hot start valve from the carburetor.

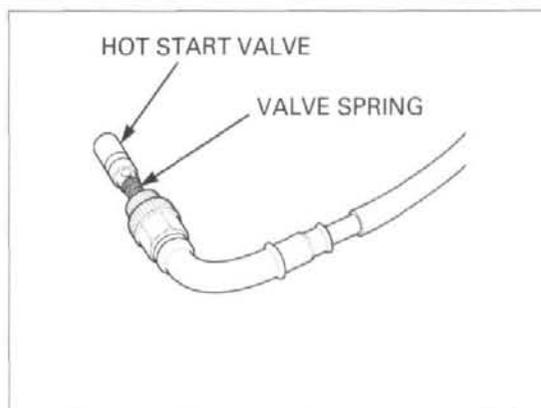


FUEL SYSTEM (After '05)

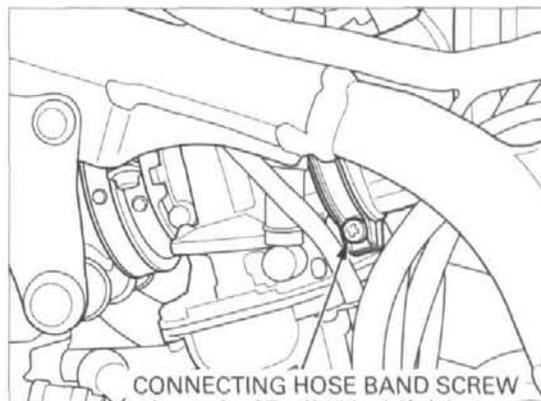
TRX450R only: Disconnect the hot start cable end from the hot start valve and remove the valve spring.

Check the hot start valve for nicks, grooves or other damage.

Check the hot start valve seat for wear.



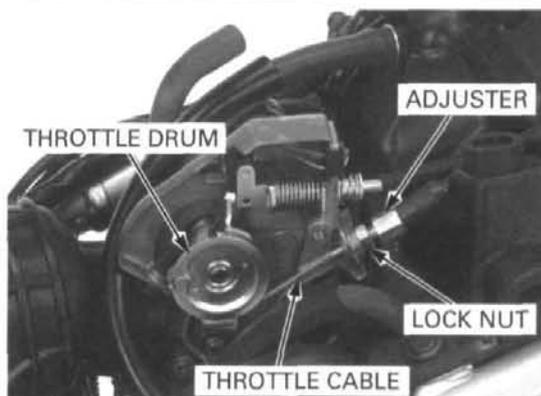
Loosen the air cleaner connecting hose band screw.



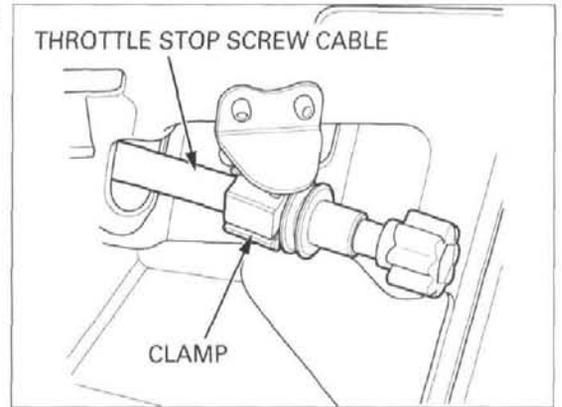
Remove the bolts and throttle drum cover from the carburetor.



Loosen the lock nut, adjuster and disconnect the throttle cable from the throttle drum.



Release the throttle stop screw cable from the clamp.



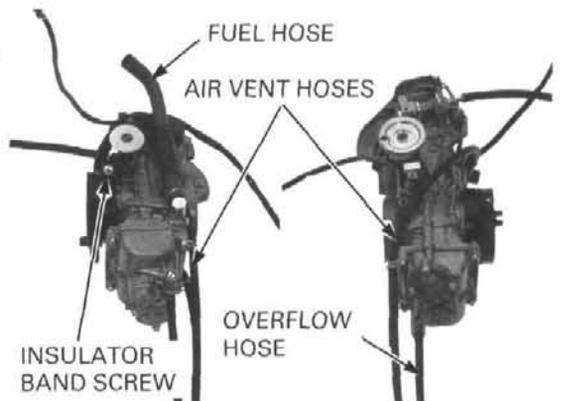
Loosen the insulator band screw.
Remove the carburetor to the rear.



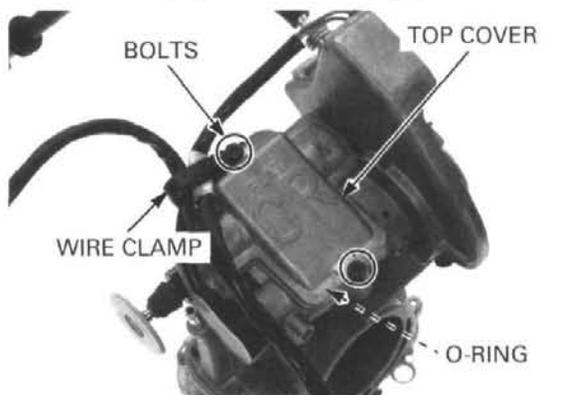
CARBURETOR DISASSEMBLY

JET NEEDLE/THROTTLE VALVE

Loosen the screw and remove the insulator band.
Remove the fuel hose, air vent hose and overflow hose.

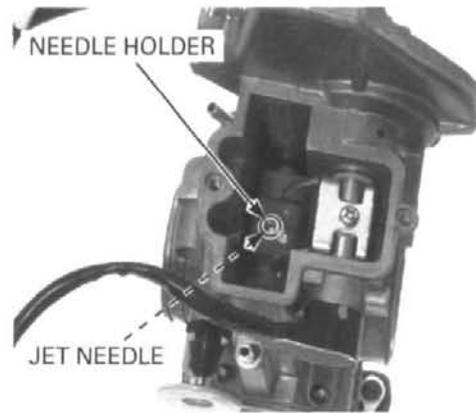


Release the carburetor switch wire and throttle position sensor wire from the clamp.
Remove the bolts, wire clamp, top cover and O-ring.

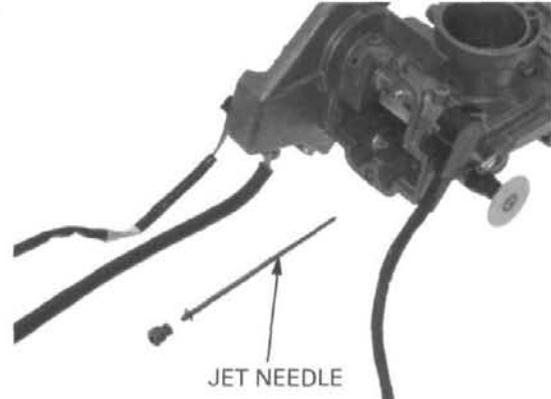


FUEL SYSTEM (After '05)

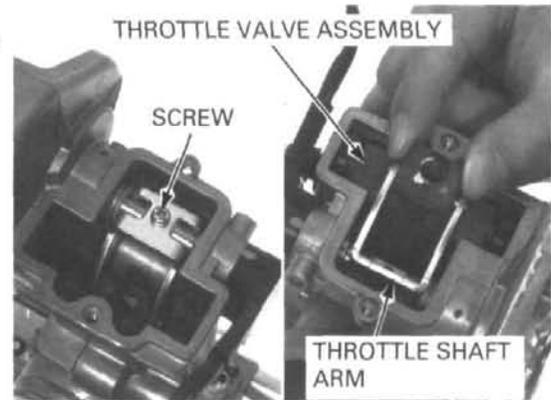
Remove the needle holder and jet needle.



Check the jet needle for wear, nicks or other damage.

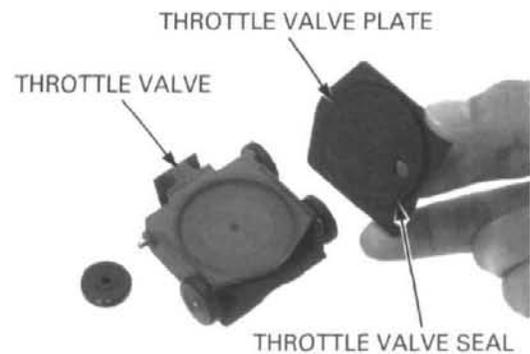


Remove the throttle shaft screw.
Lift up the throttle shaft arm and remove the throttle valve assembly.



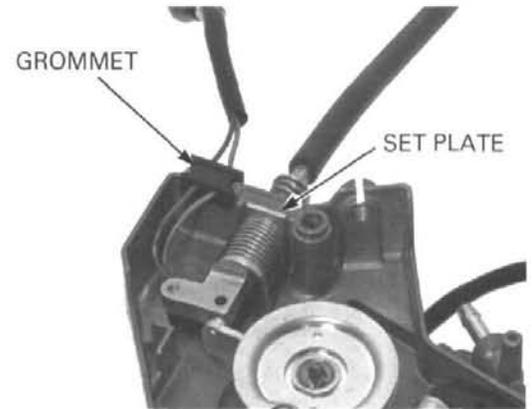
Remove the throttle valve plate from the throttle valve.

Check the throttle valve, throttle valve seal and throttle valve plate for scratches, wear or damage.
Replace them if necessary.



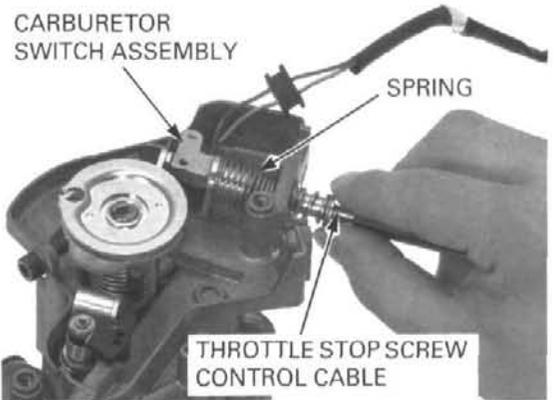
**THROTTLE STOP SCREW/
CARBURETOR SWITCH/THROTTLE
DRUM ASSEMBLY**

Remove the spring set plate and carburetor switch wire grommet from carburetor body.

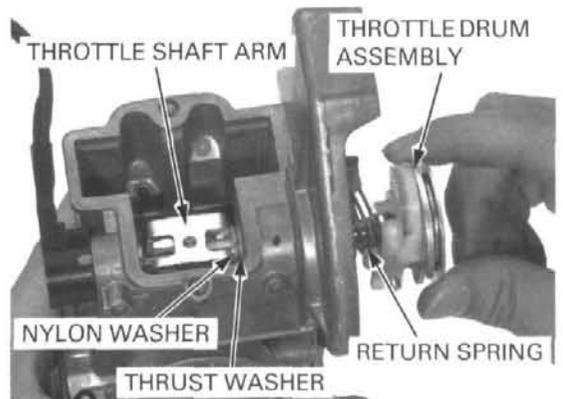


Remove the throttle stop screw and spring by turning the control cable to clockwise.

Remove the carburetor switch assembly from carburetor body.



Pull the throttle drum assembly out and remove the throttle shaft arm, thrust washer, nylon washer and return spring.



CHOKE KNOB

Loosen the lock nut and remove the choke knob.



FUEL SYSTEM (After '05)

Check the valve for damage or stepped wear.

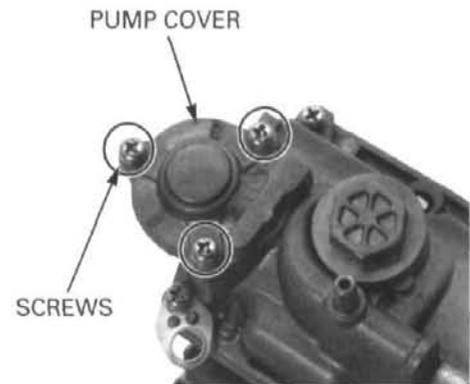


ACCELERATOR PUMP/FLOT/JETS

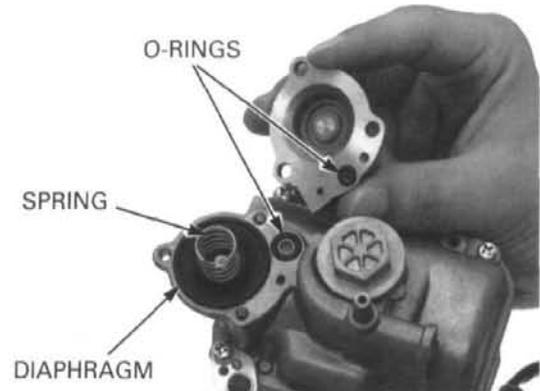
Remove the screws and accelerator pump cover.

NOTE:

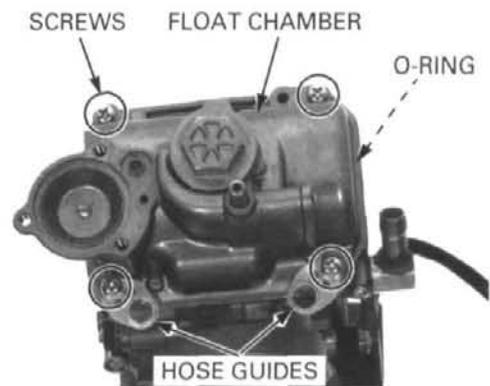
- The accelerator pump cover is under spring pressure.
- Do not lose the screws and O-ring.



Remove the spring, diaphragm and O-rings.

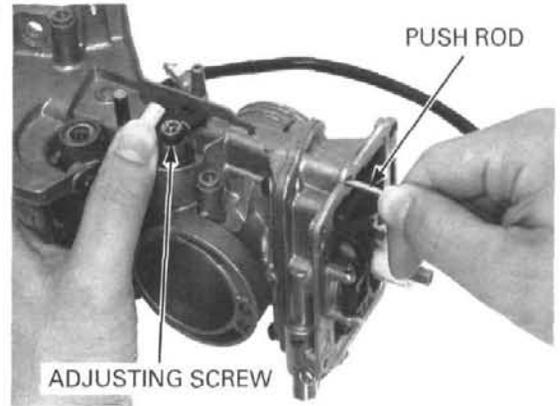


Remove the screws, hose guides and float chamber.
Remove the O-ring from the float chamber.

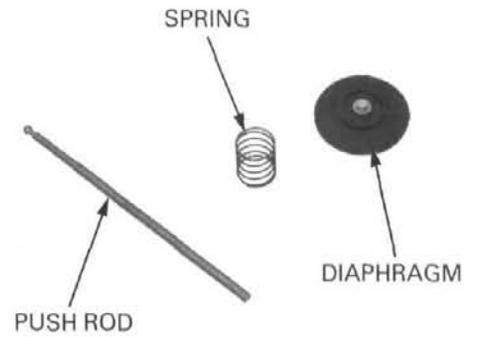


The push rod link lever adjusting screw is factory pre-set. Adjustment and disassembly are not necessary.

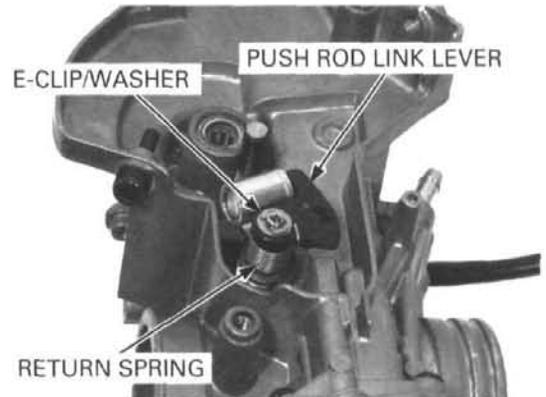
Pull out the push rod while pushing the push rod link lever.



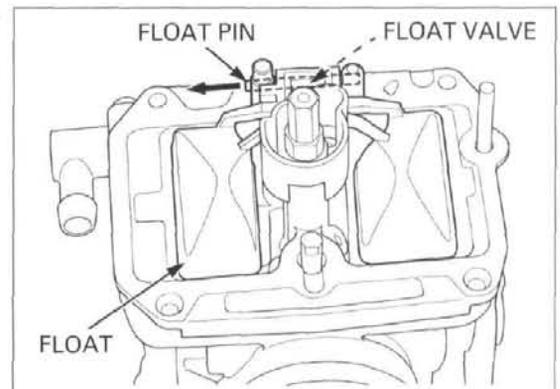
Check the diaphragm for deterioration or pin hole.
Check the spring for damage or fatigue.
Check the push rod for wear, bent and damage.



Remove the E-clip, washer, return spring and push rod link lever.



Remove the float pin by gently tapping it with a suitable driver (O.D.: 2 mm).
Remove the float and float valve.
Check the float for damage or fuel in the float.
Replace the float if necessary.



FUEL SYSTEM (After '05)

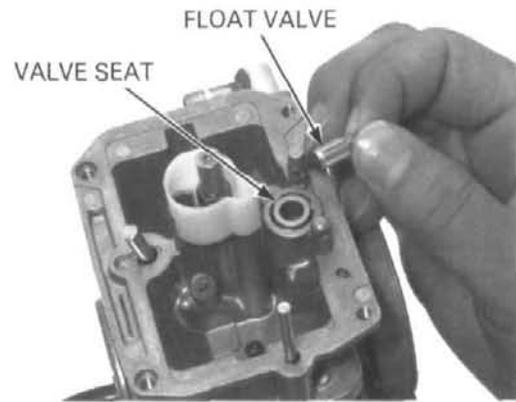
Check the float valve and valve seat for scoring, scratches, clogs or damage.

A worn or contaminated float valve will not seat properly and will eventually flood the carburetor.

Check the tip of the float valve where it contacts the valve seat for stepped wear or contamination.

Check the valve seat for wear or damage.

Clean or replace them if necessary.



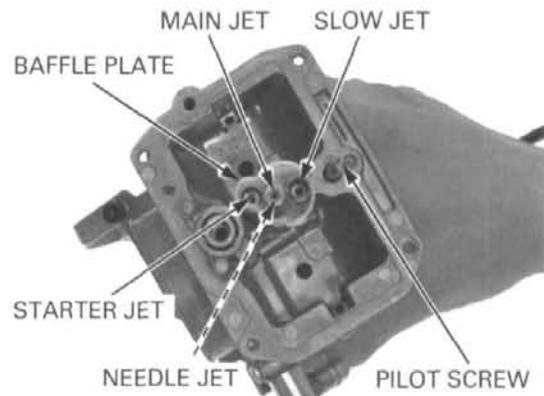
Remove the following:

- main jet
- needle jet
- baffle plate
- starter jet
- slow jet

Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.

Before removing the pilot screw, turn it in, counting the number of turns until it seats lightly so you can return the pilot screw to its original position when reassembling.

Remove the pilot screw, spring, washer and O-ring.



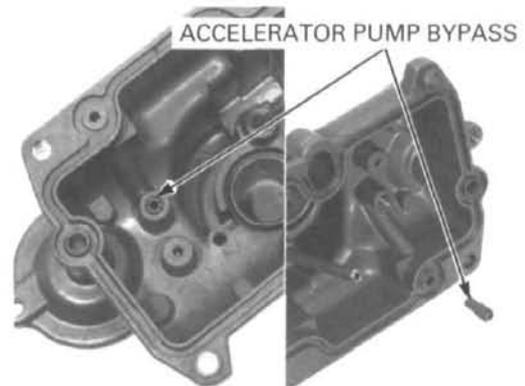
Remove the slow air jet.



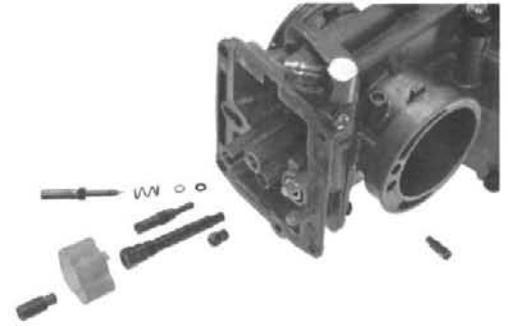
Remove the accelerator pump bypass from the float chamber.

Blow open the accelerator pump bypass with compressed air.

Check the accelerator pump bypass for clogs or damage.



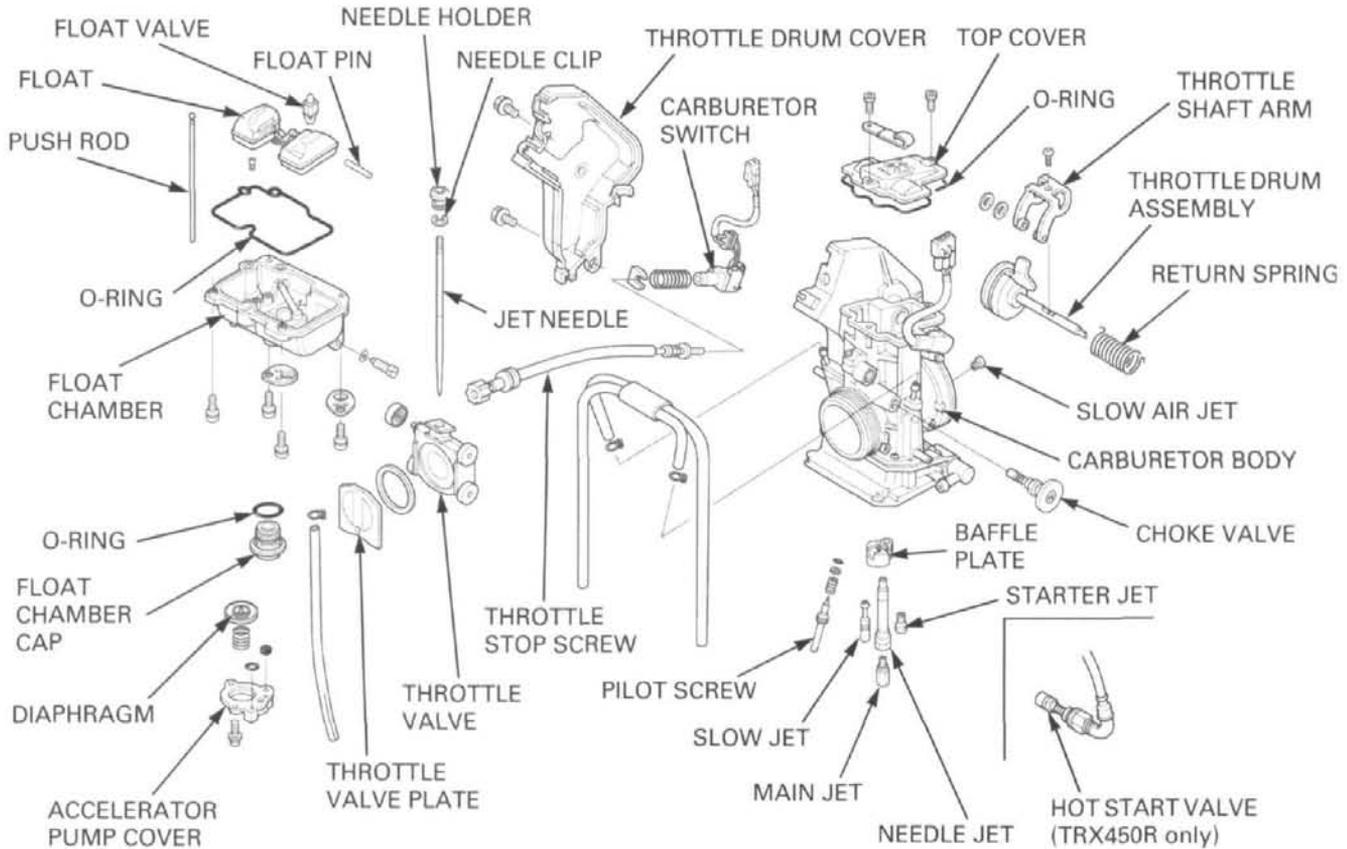
Blow open all jets with compressed air.
Inspect each jet for clogs, wear or damage and replace them if necessary.
Check the pilot screw for stepped wear or damage.
Check the spring for fatigue or damage.
Replace them if necessary.



Blow open all carburetor body openings with compressed air.



CARBURETOR ASSEMBLY



Install and tighten the slow air jet to the specified torque.

TORQUE: 0.9 N·m (0.1 kgf·m, 0.7 lbf·ft)



Damage to the pilot screw seat will occur if the pilot screw is tightened against it.

Install the O-ring, washer, spring and pilot screw.

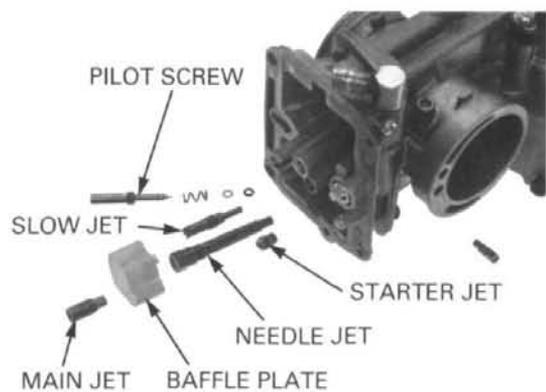
Perform pilot screw adjustment if a new pilot screw is installed (page 8-24).

- Install the pilot screw and return it to its original position as noted during removal.

Install the slow jet, starter jet, baffle plate, needle jet and main jet.

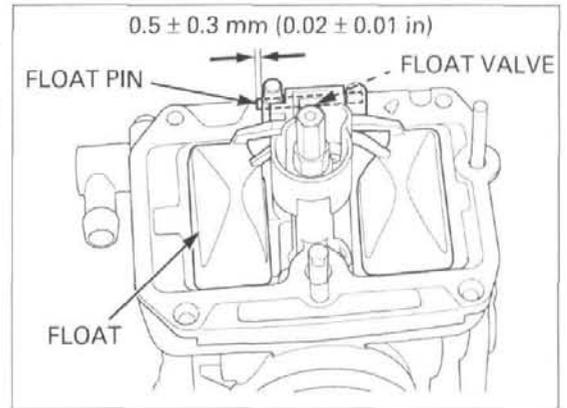
TORQUE:

- Slow jet: 1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)
- Starter jet: 1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)
- Needle jet: 1.8 N·m (0.2 kgf·m, 1.3 lbf·ft)
- Main jet: 1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)



Hang the float valve onto the float arm lip.
Install the float with the float valve and insert the float pin.

Install the float pin in position as shown by tapping it with a suitable driver (O.D.: 2 mm).



Set the float level gauge so it is perpendicular to the float chamber face and in-line with the main jet.

Set the carburetor so the float valve just contacts the float arm lip. Make sure the float valve tip is securely in contact with the valve seat.

Make sure the float is level with the float level gauge.

TOOL:

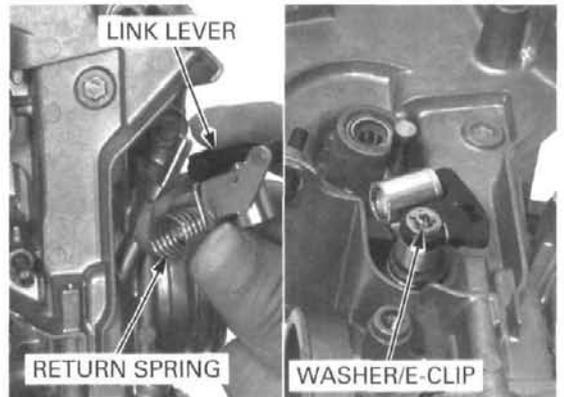
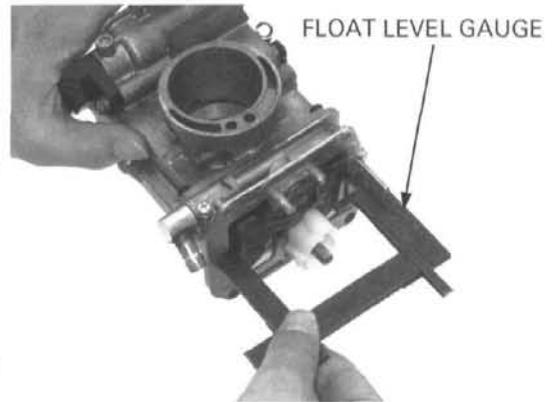
Carburetor float level gauge 07401-0010000

Float level: 8.0 mm (0.31 in)

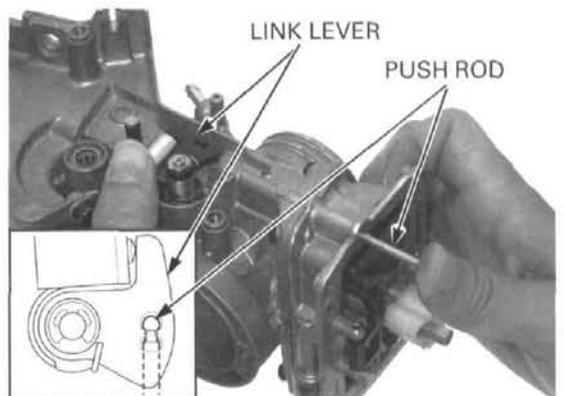
If the float level is out of specification, adjust it by bending the lip.

Set the return spring to the push rod link lever.
Install the push rod link lever, washer and E-clip.

Turn the push rod link lever and check for smooth operation.

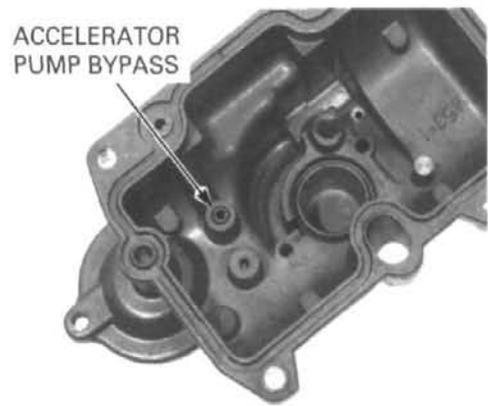


Install the push rod while pushing the push rod link lever.

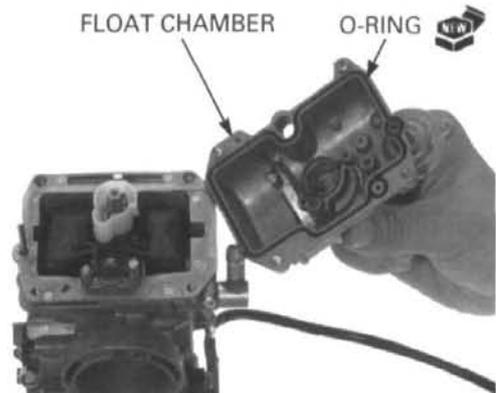


FUEL SYSTEM (After '05)

Install the accelerator pump bypass into the float chamber.

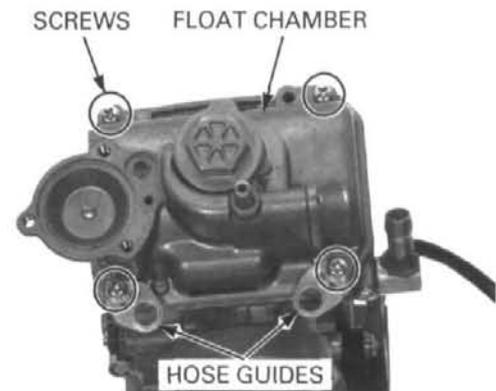


Install a new O-ring in the float chamber groove. Install the float chamber onto the carburetor body.



Install the hose guides and float chamber screws. Tighten the screws to the specified torque.

TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)

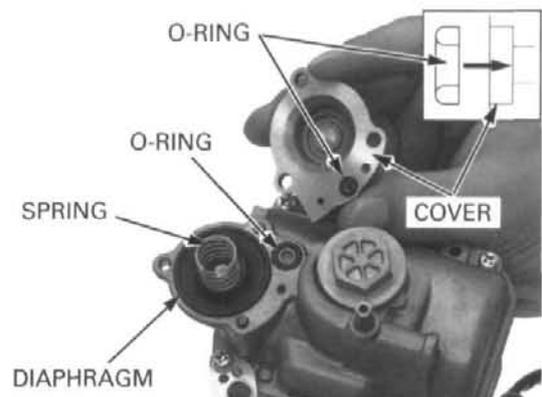


Note the installation direction of the O-ring.

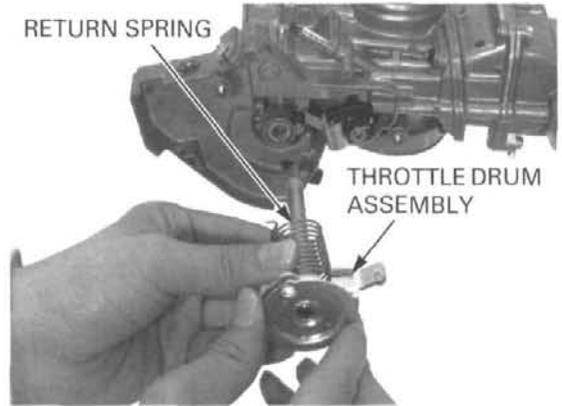
Install the diaphragm, new O-rings and accelerator pump cover.

Install and tighten the screws to the specified torque.

TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)



Set the return spring to the throttle drum assembly.

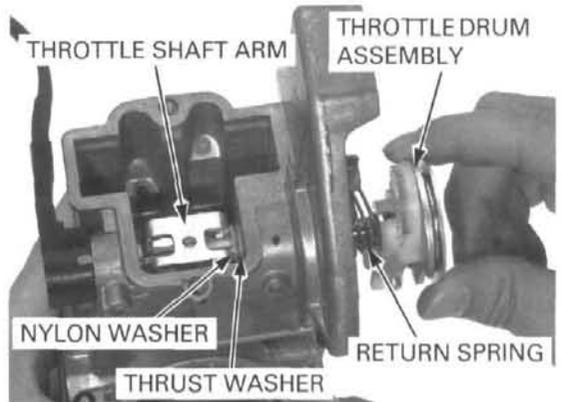


Set the thrust washer, nylon washer and throttle shift arm.

Align the flat side of the throttle shaft tip with the throttle position sensor tabs.

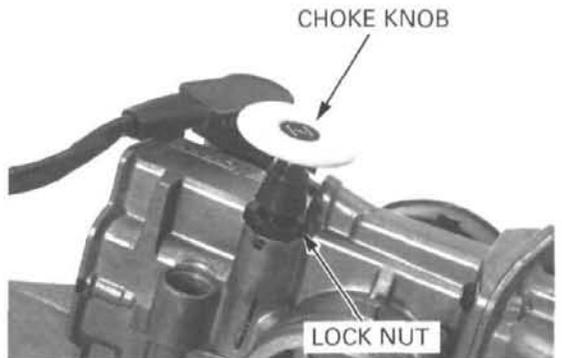
Insert the throttle shaft through the thrust washer, nylon washer and throttle shift arm.

Turn the throttle drum and check for smooth operation.



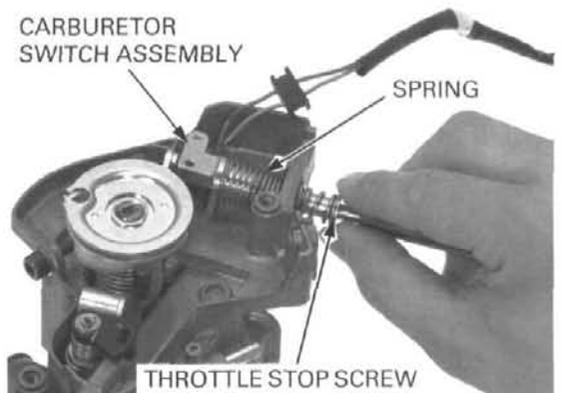
Install the choke knob and tighten the lock nut to the specified torque.

TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)



Install the carburetor switch assembly to the carburetor body.

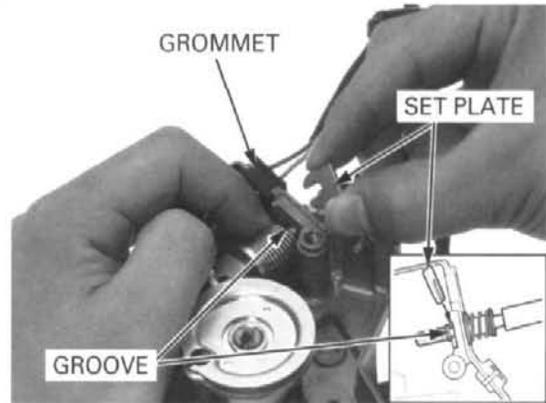
Install the spring and throttle stop screw by turning the control cable counterclockwise.



FUEL SYSTEM (After '05)

Install the spring set plate to the throttle stop screw groove while pressing the spring.

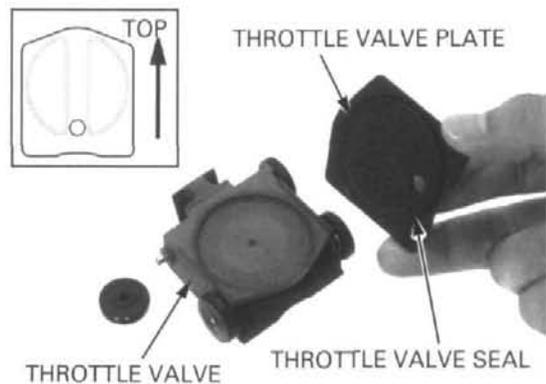
Install the carburetor switch wire grommet to the carburetor body.



Note the installation direction of the throttle valve plate.

Assemble the throttle valve plate on the throttle valve.

- Install the throttle valve plate with the seal side facing toward the throttle valve.



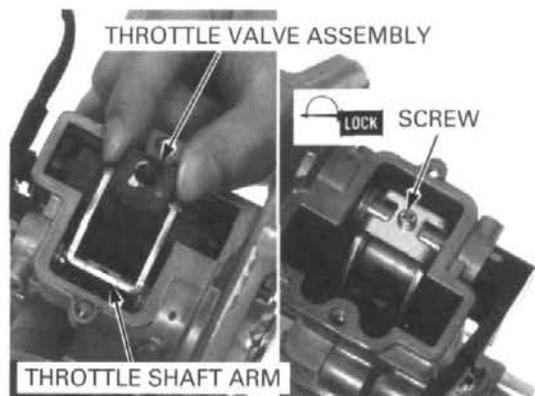
Install the throttle valve assembly into the carburetor with the valve plate facing towards the engine side.

- Make sure the throttle valve moves smoothly.

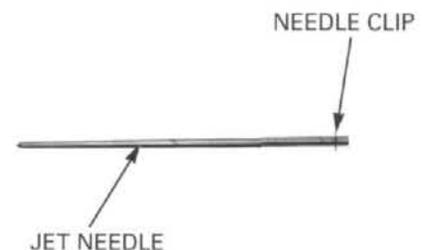
Align the holes in the throttle shaft arm and throttle drum shaft.

Apply a locking agent to the screw threads. Install and tighten the throttle drum shaft screw to the specified torque.

TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)

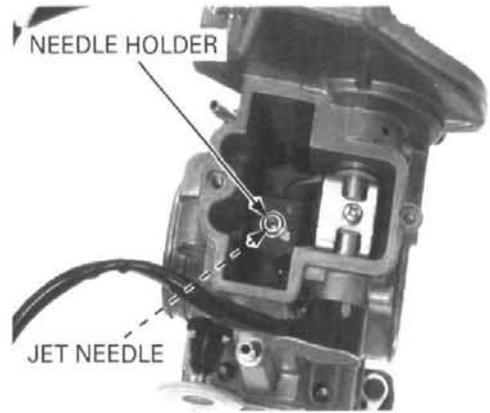


Install the needle clip on the jet needle.

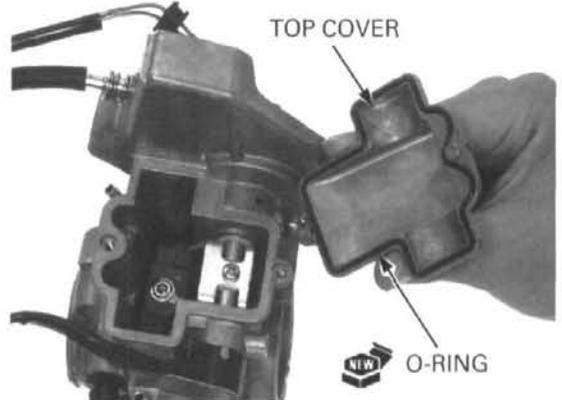


Install the jet needle into the throttle valve.
Tighten the needle holder to the specified torque.

TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)



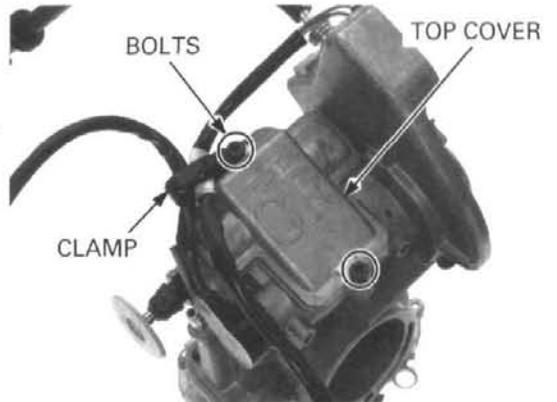
Install a new O-ring and top cover.



Install the wire clamp and bolts.
Tighten the bolts to the specified torque.

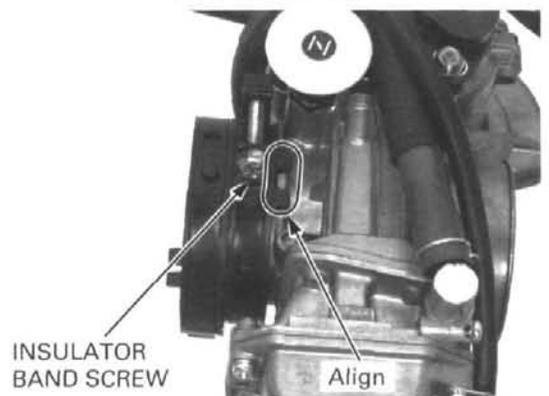
TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)

Clamp the throttle position sensor wire and carburetor switch wire at white tape point.



Install the carburetor insulator and align the lug on the carburetor with the groove in the insulator.

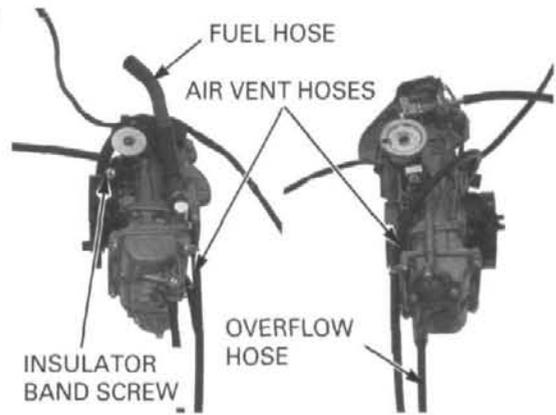
Tighten the insulator band screw securely.



FUEL SYSTEM (After '05)

Route the hoses properly (page 1-24).

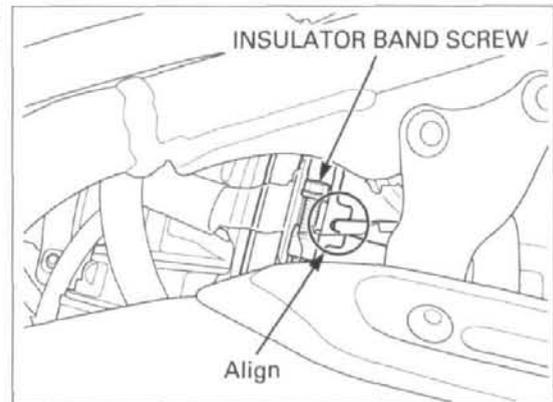
Install the overflow hose, air vent hose and fuel hose.



CARBURETOR INSTALLATION

Install the carburetor into the cylinder head and align the lug of the cylinder head with the groove in the insulator.

Tighten the insulator band screw securely.

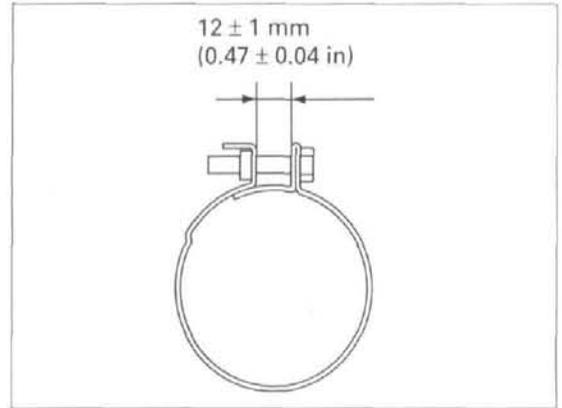


Install the carburetor into air cleaner connecting hose band.

Tighten the connecting hose band screw securely.



Tighten the carburetor insulator and connecting hose band screws as shown.

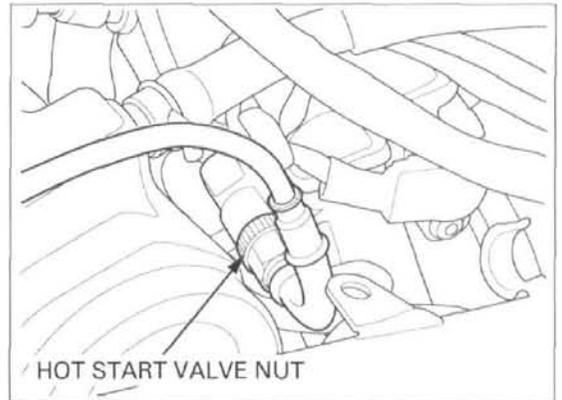


TRX450R only: Install the valve spring over the starter cable and connect the cable end to the hot start valve.

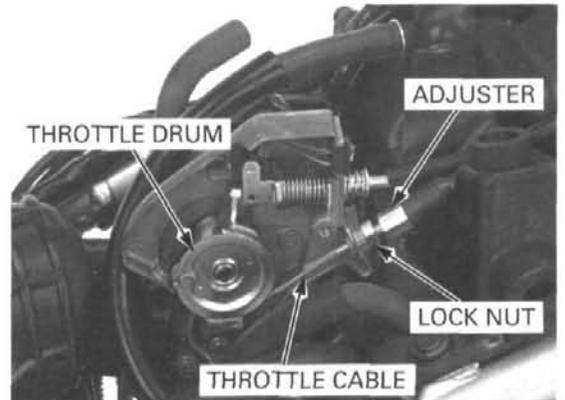
Install the hot start valve to the carburetor body, and tighten the lock nut to the specified torque.

TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)

Install the heat guard plate (page 3-9).



Connect the throttle cable to the throttle drum. Install the throttle cable adjuster into the carburetor and temporarily tighten the lock nut.



Install the throttle drum cover and bolts.

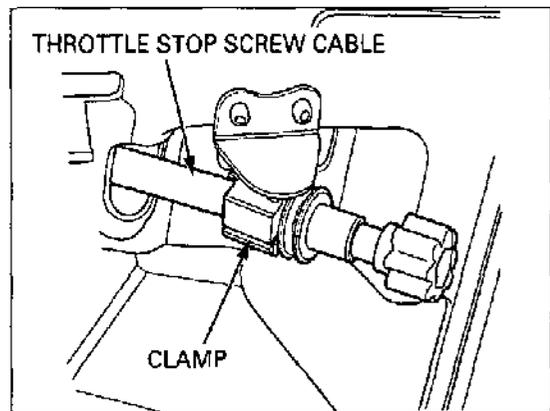
Tighten the bolts to the specified torque.

TORQUE: 3.4 N·m (0.3 kgf·m, 2.5 lbf·ft)



FUEL SYSTEM (After '05)

Clamp the throttle stop screw cable.

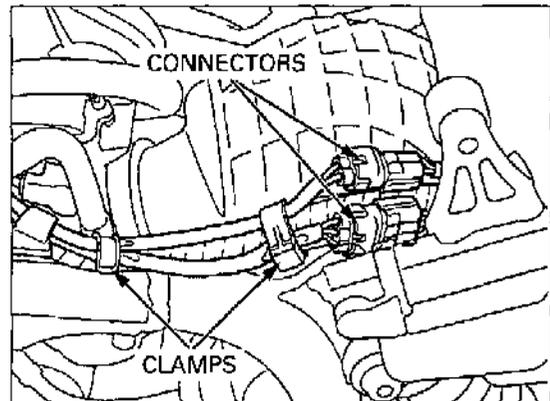


Connect the carburetor switch 2P (Neutral) and throttle position sensor 3P (Black) connectors, and clamp their wires properly.

Install the fuel tank (page 3-9).

Perform the following inspections and adjustments:

- Throttle operation (page 4-6)
- Engine idle speed (page 4-20)
- Pilot screw (page 8-24)



PILOT SCREW ADJUSTMENT

IDLE DROP PROCEDURE

NOTE:

- The pilot screw is factory pre-set and no adjustment is necessary unless the pilot screw is replaced.
- Use a tachometer with graduations of 50 rpm or smaller that will accurately indicate 50 rpm change.

Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.

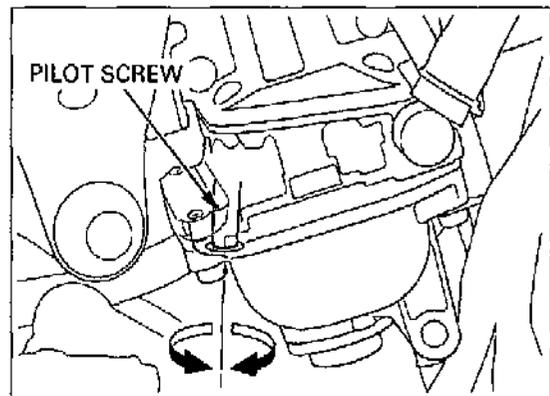
1. Turn the pilot screw clockwise until it seats lightly, then back it out to specification given. This is an initial setting prior to the final pilot screw adjustment.

TOOL:

Pilot screw wrench 07KMA-MN90101

INITIAL OPENING: 2-3/8 turns out

2. Warm up the engine to operating temperature. Stop and go riding for 10 minutes is sufficient.
3. Stop the engine and connect a tachometer according to its manufacturer's instructions.



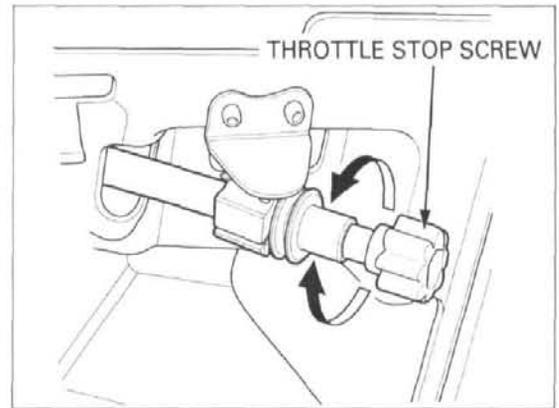
4. Start the engine and adjust the idle speed with the throttle stop screw.

IDLE SPEED: 1,700 ± 100 rpm

5. Turn the pilot screw in or out slowly to obtain the highest engine speed.
6. Readjust the idle speed with the throttle stop screw.
7. Turn the pilot screw in gradually until the engine speed drops 100 rpm.
8. Turn the pilot screw out to the final opening from the position obtained in step 7.

FINAL OPENING: 1-1/4 turn out

9. Readjust the idle speed with the throttle stop screw.



HIGH ALTITUDE ADJUSTMENT

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease, and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions.

High altitude performance can be improved by specific modifications to the carburetor. If your customer always operates the ATV at altitudes above 6,500 feet (2,000 meters), you should perform this carburetor modification.

Even with carburetor modification, engine horsepower will decrease about 3.5% for each 1,000-foot (300-meter) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

This engine, when operated at high altitude with the carburetor modifications for high altitude use, will meet each emission standard throughout its useful life.

The high altitude carburetor adjustment is performed as follows:

Remove the carburetor (page 8-7) and the float chamber (page 8-12).

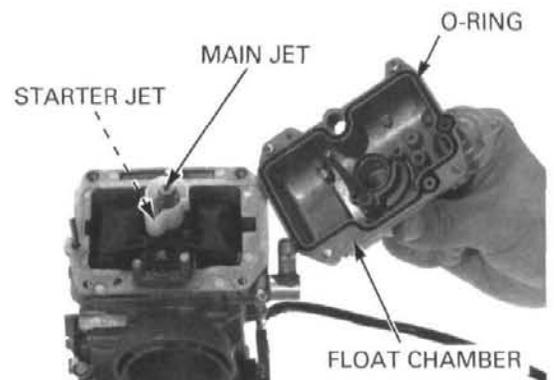
Replace the standard main jet and starter jet with the high altitude type.

HIGH ALTITUDE MAIN JET: #115

HIGH ALTITUDE STARTER JET: #72

Check that the O-ring on the float chamber is in good condition, replace it if necessary.

Install the float chamber (page 8-18) and carburetor (page 8-22).

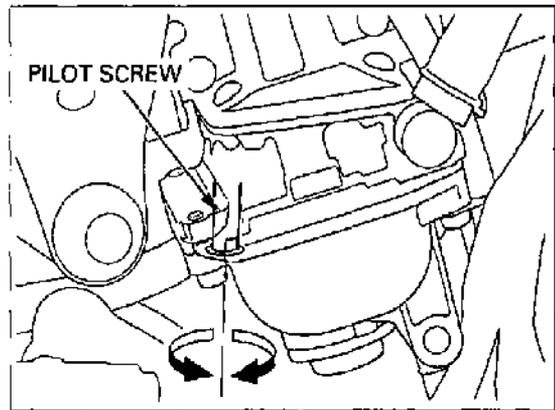


FUEL SYSTEM (After '05)

Screw the pilot screw in the specified number of turns from the factory preset position using the special tool.

HIGH ALTITUDE PILOT SCREW OPENING:
1/4 turn in from the factory preset position

TOOL:
Pilot screw wrench 07KMA-MN90101



Start the engine and warm it up.
Adjust the idle speed at high altitude with the throttle stop screw to ensure proper high altitude operation.

IDLE SPEED: 1,700 ± 100 rpm

NOTICE

When the carburetor has been modified for high altitude operation, the air-fuel mixture will be too lean for low altitude use. Operation at altitudes below 5,000 feet (1,500 m) with a modified carburetor may cause the engine overheat, resulting in serious engine damage and increased exhaust emissions.

For use at low altitudes, you should return the carburetor to original factory specifications.

Replace the main jet and starter jet with the standard jets.

Screw the pilot screw out the specified number of turns from the high altitude setting.

STANDARD MAIN JET: #120
STANDARD STARTER JET: #75

LOW ALTITUDE PILOT SCREW OPENING:
1/4 turn out from the high altitude setting

TOOL:
Pilot screw wrench 07KMA-MN90101

Warm up the engine and adjust the idle speed at low altitude with the throttle stop screw.

IDLE SPEED: 1,700 ± 100 rpm

