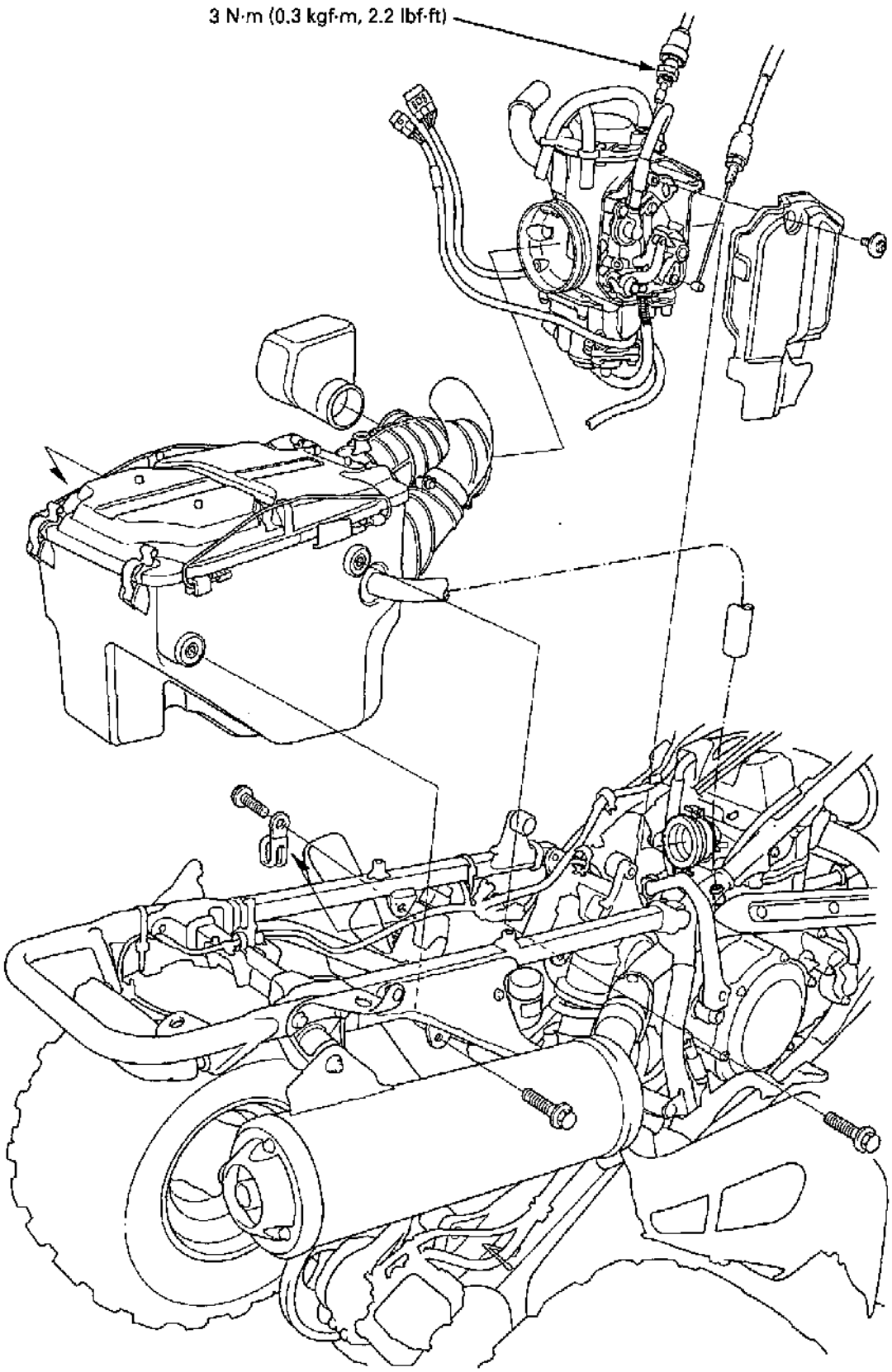
7. FUEL SYSTEM ('04 – '05)

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 20-20).

SPECIFICATIONS

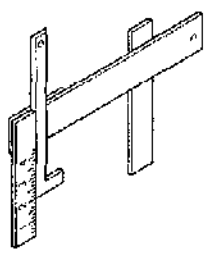
ITEM	SPECIFICATIONS
Carburetor identification number	QA16A
Main jet	#118
Slow jet	#48
Pilot screw opening	See page 7-23
Float level	15.9 mm (0.63 in)
Idle speed	1,600 ± 100 rpm
Throttle grip free play	3 – 8 mm (1/8 – 5/16 in)
Hot starter lever free play	2 – 3 mm (1/16 – 1/8 in)

TORQUE VALUES

Starting enrichment (SE) valve nut	3 N·m (0.3 kgf·m, 2.2 lbf·ft)
Hot start valve nut	3 N·m (0.3 kgf·m, 2.2 lbf·ft)

TOOL

Carburetor float level gauge
07401-0010000



TROUBLESHOOTING

Engine cranks but won't start
- No fuel in tank
- No fuel to carburetor
  - Clogged fuel strainer
  - Clogged fuel line
  - 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
- Clogged starting enrichment (SE) valve circuit
- Improper choke operation
- Improper throttle operation
- No spark at plug (faulty ignition system – page 20-5)

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
- SE valve open
- 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 or SE valve circuit
- Faulty ignition system (page 20-5)

Afterburn when engine braking is used
- Lean mixture in slow circuit
- Faulty ignition system (page 20-5)

Backfiring or misfiring during acceleration
- Lean mixture
- Faulty ignition system (page 20-5)

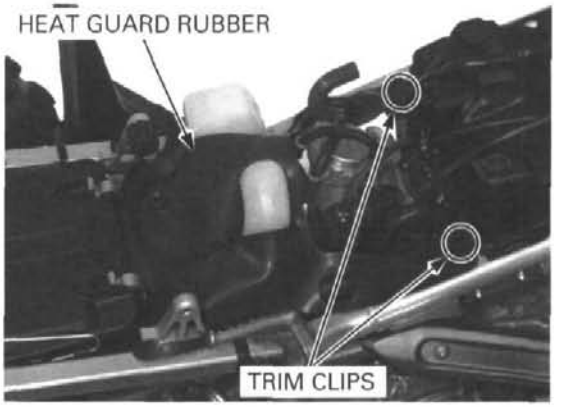
Poor performance (driveability) and poor fuel economy
- Clogged fuel system
- Faulty ignition system (page 20-5)

AIR CLEANER HOUSING

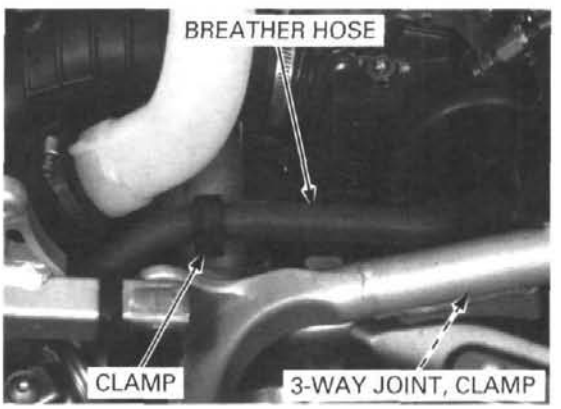
REMOVAL/INSTALLATION

Remove the fuel tank (page 3-9).

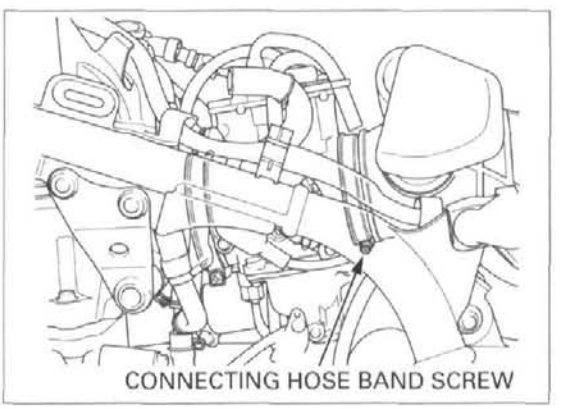
Remove the two trim clips and heat guard rubber.



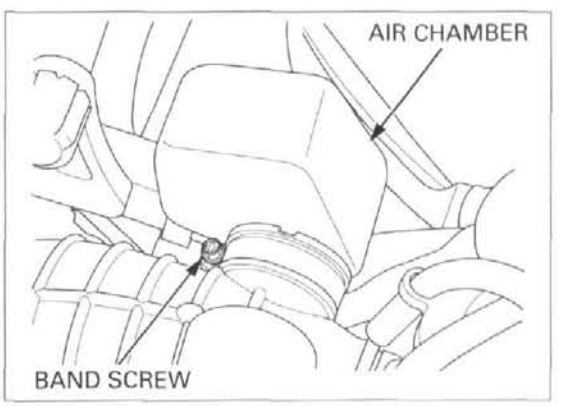
Disconnect the crankcase breather hose from the 3-way joint.
Remove the breather hose from the clamps.



Loosen the connecting hose band screw.

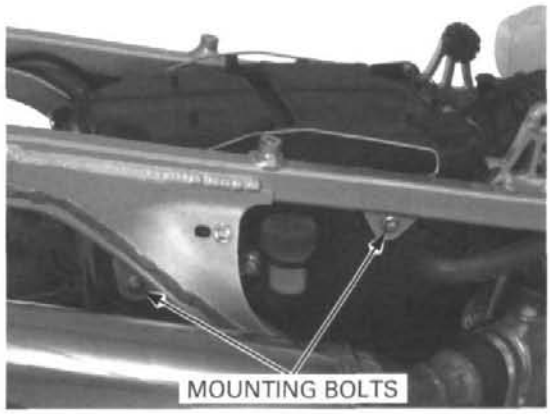


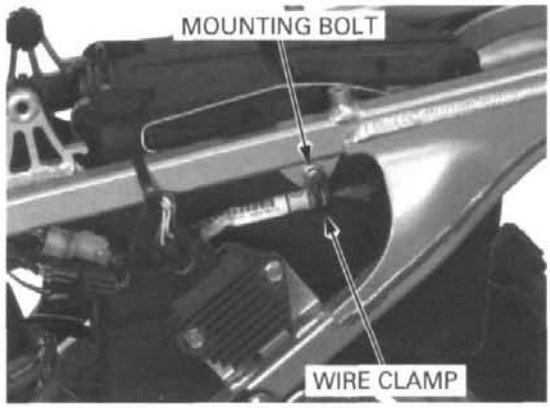
Loosen the band screw and remove the air chamber from the connecting hose.



Remove the three mounting bolts, wire clamp and the air cleaner housing from the frame.

Installation is in the reverse order of removal.

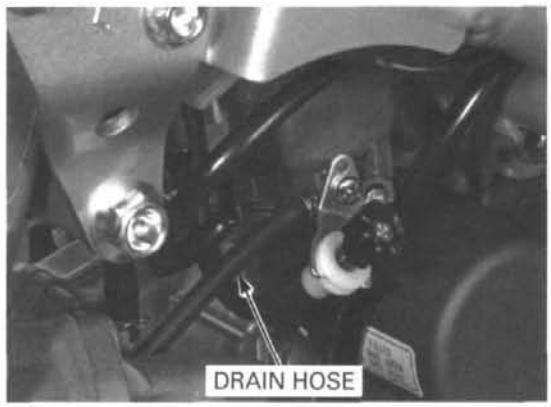




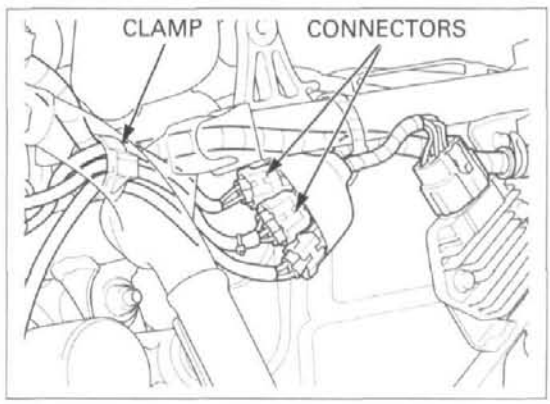
CARBURETOR REMOVAL

Remove the fuel tank (page 3-9).

Disconnect the drain hose from the carburetor.

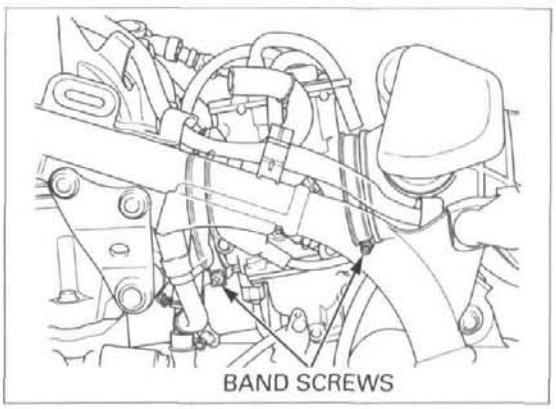


Disconnect the carburetor heater 2P and throttle position sensor 3P connectors, and remove their wires from the clamp.

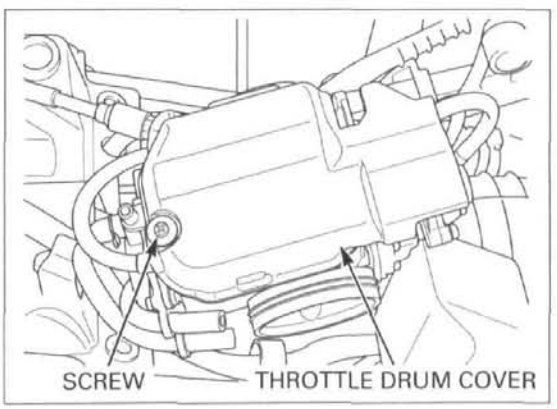


Slide the rubber cap off the hot start valve nut.
Loosen the hot start valve nut and remove the hot start valve from the carburetor.

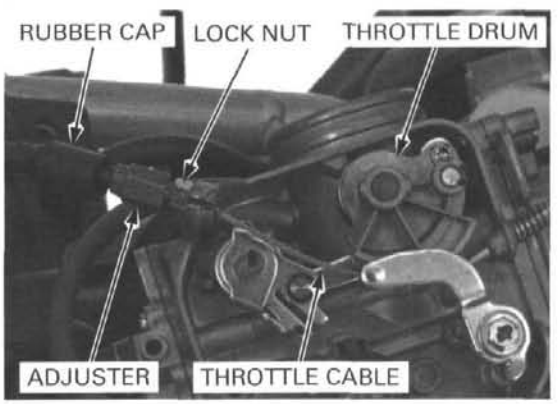
Loosen the band screws and remove carburetor from the insulator and connecting hose.



Remove the screw and throttle drum cover from the carburetor.



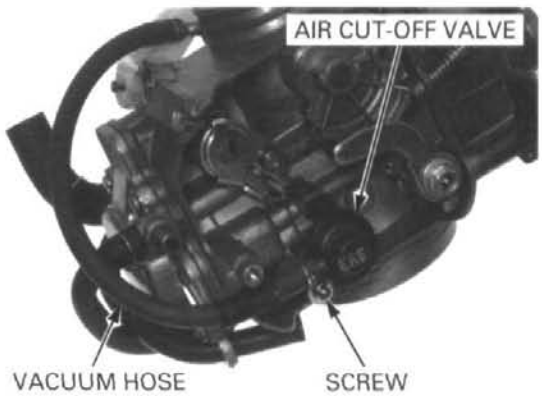
Slide the rubber cap off the throttle cable adjuster.
Loosen the lock nut and remove the throttle cable adjuster from the carburetor.
Disconnect the throttle cable from the throttle drum and remove the carburetor.



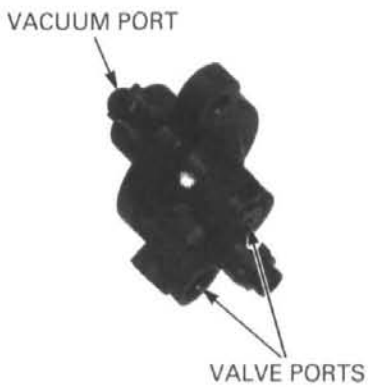
CARBURETOR DISASSEMBLY

AIR CUT-OFF VALVE

Disconnect the vacuum hose from the air cut-off valve.
Remove the screw and air cut-off valve.
Remove the O-rings and slow air jet.

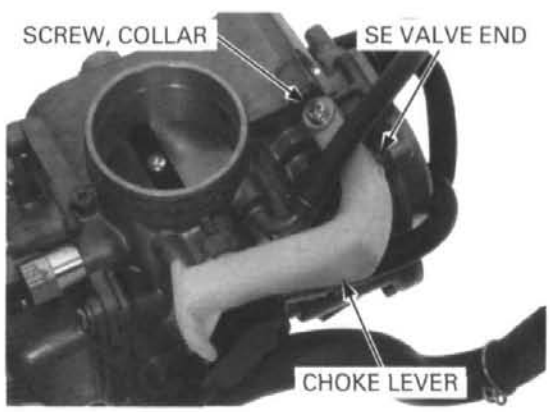


Apply vacuum to the vacuum port.
The vacuum should maintained.
Air should not flow through the valve ports when the vacuum is applied, and should flow when the vacuum is not applied.



STARTING ENRICHMENT (SE) VALVE

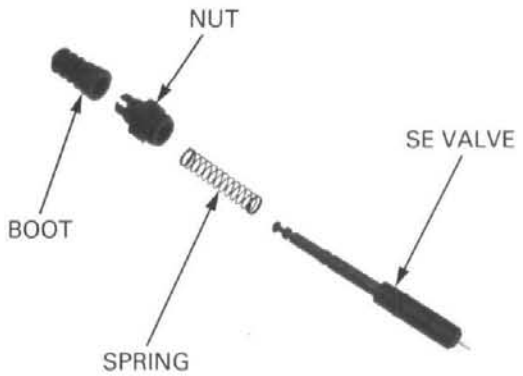
Remove the screw, collar and choke lever while unhooking it from the SE valve end.



Loosen the SE valve nut and remove the SE valve from the carburetor.

Remove the boot, nut and spring from the SE valve.

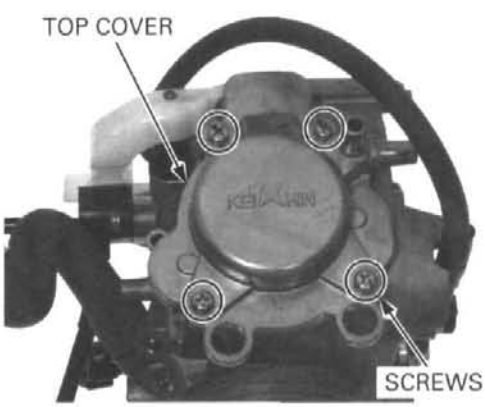
Check the SE valve face for scores, scratches or wear.
Check the SE valve seat at the tip of the valve for stepped wear.
Check the seal ring for deterioration, wear or damage.



THROTTLE VALVE

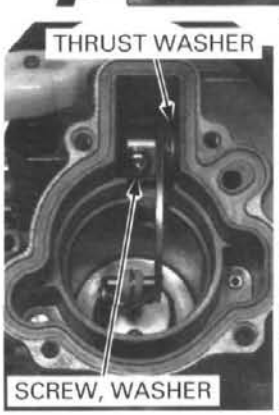
Remove the air vent hoses.

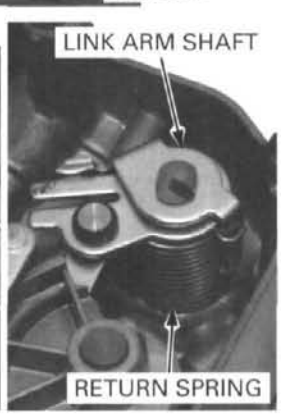
Remove the four screws, top cover and O-ring.



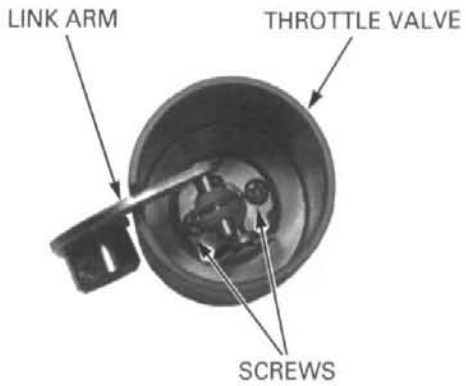
Remove the setting screw and spring washer.
Pull out the link arm shaft and remove the thrust washer and return spring.

Remove the throttle valve assembly from the carburetor body.



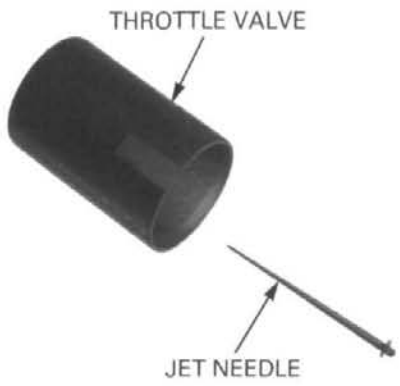


Remove the two screws and the link arm with the spring from the throttle valve.



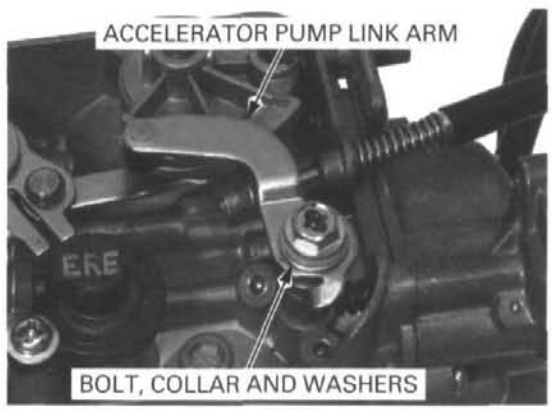
Remove the jet needle from the throttle valve.

Check the jet needle for stepped wear or damage. Check the throttle valve for scoring, scratches or damage.

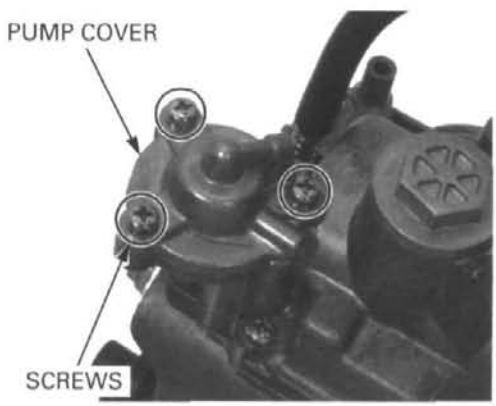


ACCELERATOR PUMP

Remove the bolt, collar, accelerator pump link arm, plastic washer, plain washer and spring washer if necessary.

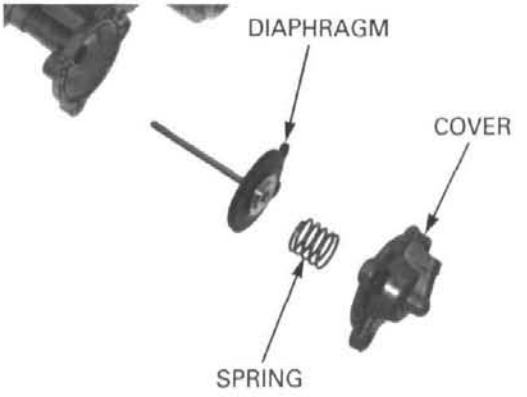


Remove the three screws while holding the accelerator pump cover.



Remove the pump cover, spring and diaphragm.

Visually inspect the following:
- diaphragm for deterioration or pin holes
- spring for damage
- diaphragm shaft for excessive wear or damage
- orifice in the cover for clogging or restriction

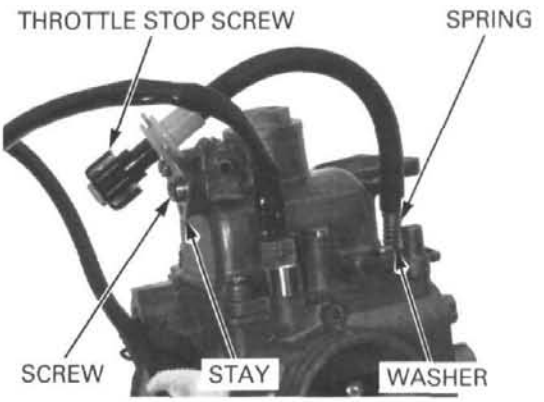


FLOAT AND JETS

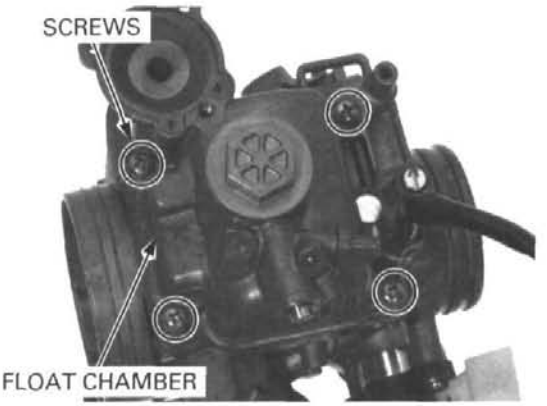
NOTE:
- The carburetor heater and spacer can be removed after removing the float chamber.

Remove the accelerator pump (page 7-10).

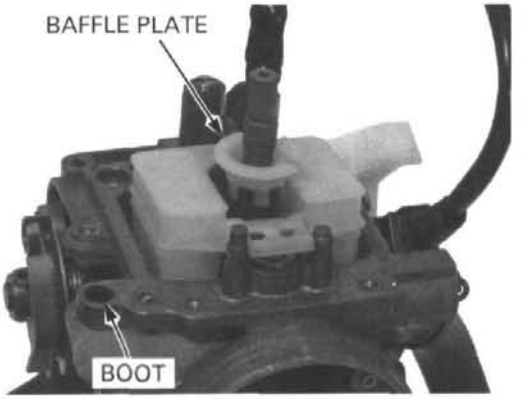
Remove the screw and throttle stop screw stay. Remove the throttle stop screw, washer and spring from the carburetor body.



Remove the four screws, float chamber and O-ring.

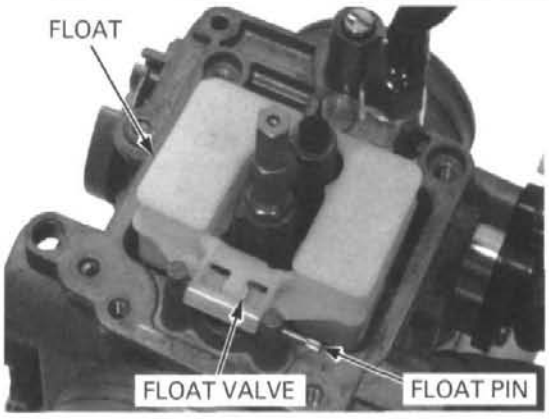


Remove the baffle plate and diaphragm shaft boot.



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.

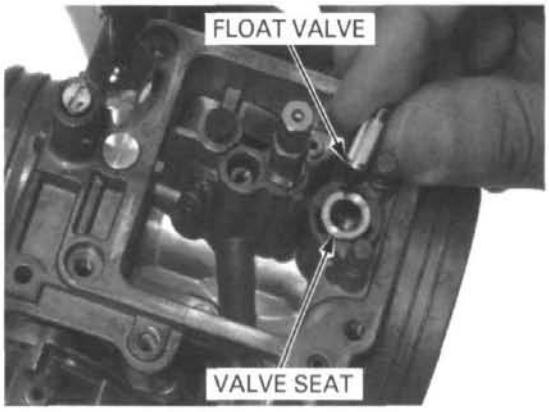


Inspect the float valve seat for scores, scratches, clogging and damage.

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

Replace the float valve if the tip is worn or comtaminated.

Check the operation of the float valve.

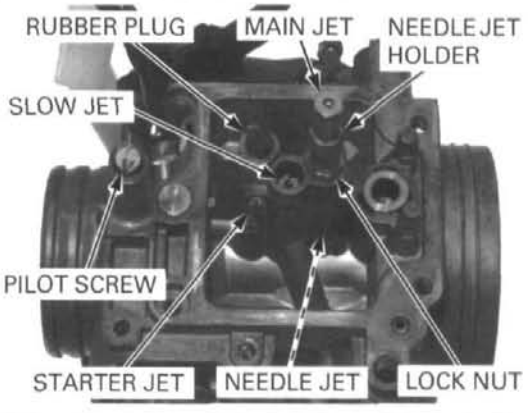


Handle all jets with care. They can easily be scored or scratched.

Remove the main jet, loosen the lock nut and remove the needle jet holder and needle jet.
Remove the slow jet.
Rubber plug and starter jet.

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

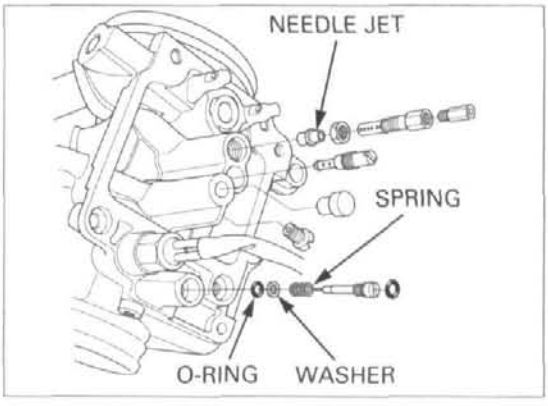
Turn the pilot screw in and record the number of turns it takes before it seats lightly.
Remove the pilot screw, spring, washer and O-ring.



Inspect each jet for wear or damage.

Clean all jets with non-flammable or high flash point solvent and blow them open with compressed air.

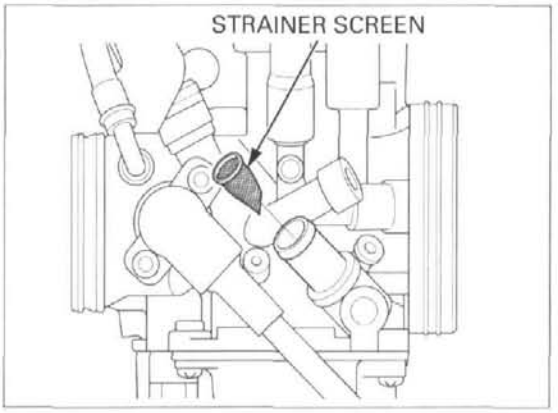
Check the pilot screw for stepped wear or damage.



CARBURETOR CLEANING

Remove the fuel hose and strainer screen from the carburetor body.

Clean the strainer screen with compressed air.



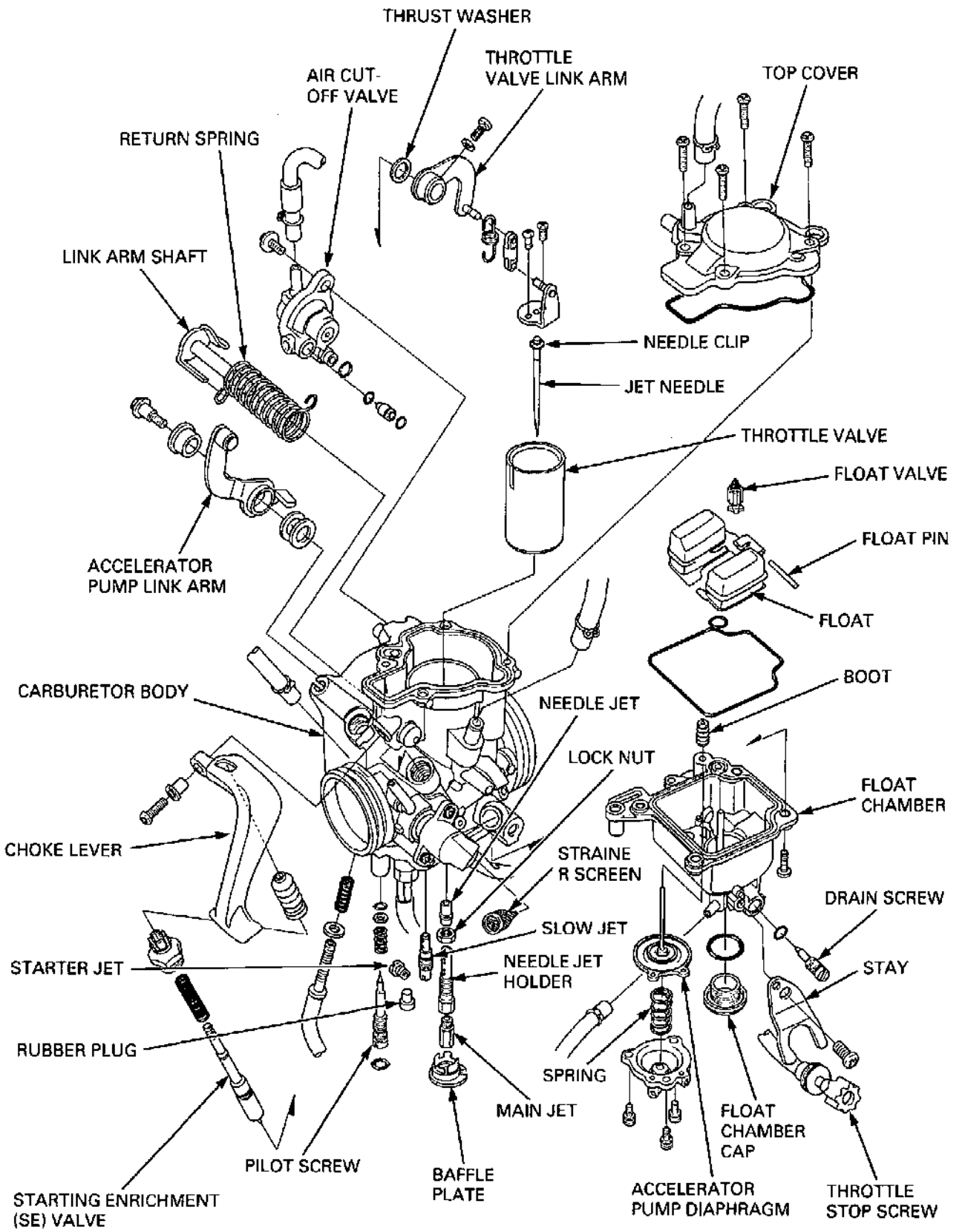
Remove the following:

- air cut-off valve (page 7-8)
- starting enrichment (SE) valve (page 7-8)
- throttle valve (page 7-9)
- float, all jets and pilot screw (page 7-11)

Cleaning the air and fuel passages with a piece of wire will damage the carburetor body.

Blow open all air and fuel passages in the carburetor body with compressed air.

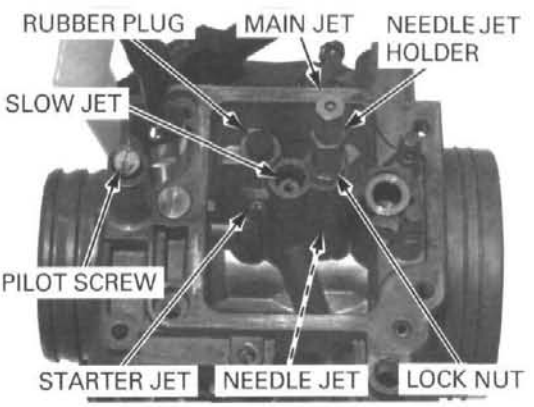
CARBURETOR ASSEMBLY



JETS AND FLOAT

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

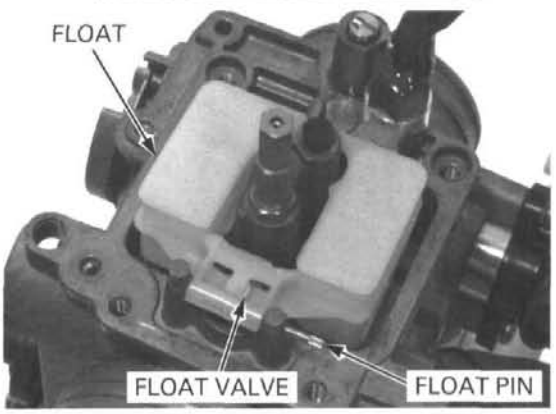
Install the pilot screw with the spring, washer and a new O-ring and return it to its original position as noted during removal.
Perform the pilot screw adjustment if a new pilot screw is installed (page 7-23).



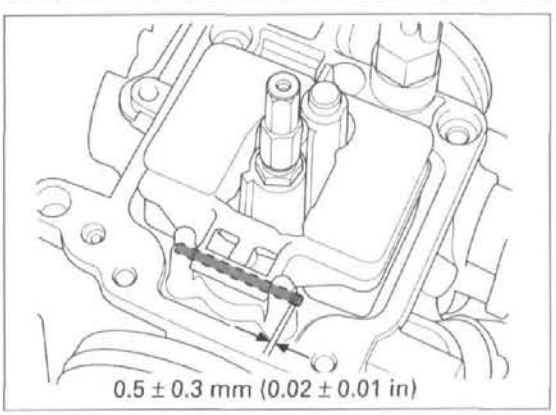
Handle all jets with care. They can easily be scored or scratched.

Install the needle jet and needle jet holder, tighten the lock nut and install the main jet.
Install the slow jet.
Install the starter jet and rubber plug.

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).

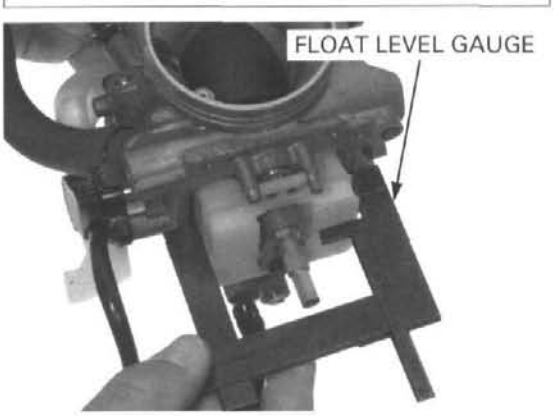


Set the carburetor so that the float valve end just contacts the float arm lip, and measure the float level with the special tool.

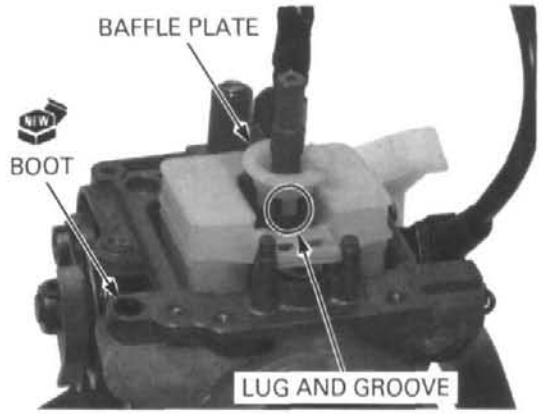
TOOL:
Carburetor float level gauge 07401-0010000

Float level: 15.9 mm (0.63 in)

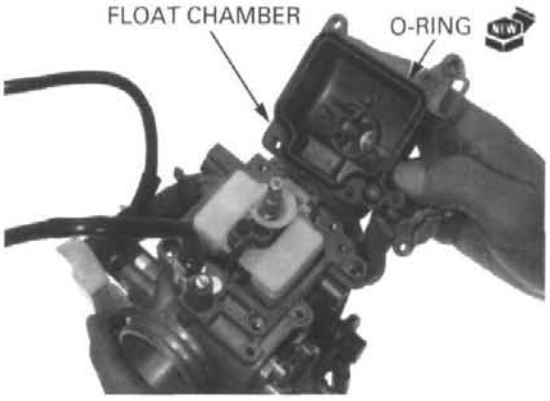
If the float level is out of specification, replace the float assembly.



Install the baffle plate by aligning the groove with the lug on the carburetor body as shown.
Install a new diaphragm shaft boot.

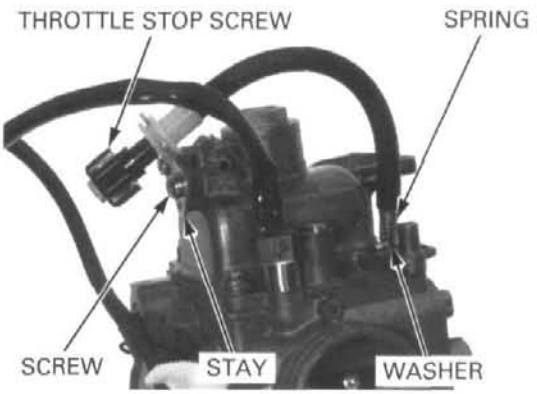


Install a new O-ring in the float chamber groove.
Install the float chamber onto the carburetor body.



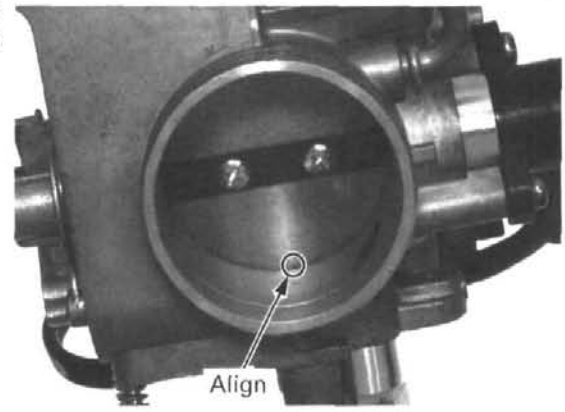
Install the four screws and tighten them.

Install the throttle stop screw into the carburetor body with the spring and washer.
Install the stay by aligning the hole with the pin and tighten the screw securely.



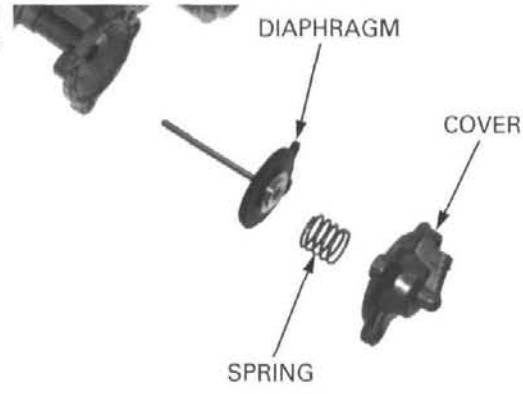
Turn the throttle stop screw to align the butterfly throttle valve with the edge of the outside by-pass hole in the carburetor.

Install the accelerator pump (page 7-17)

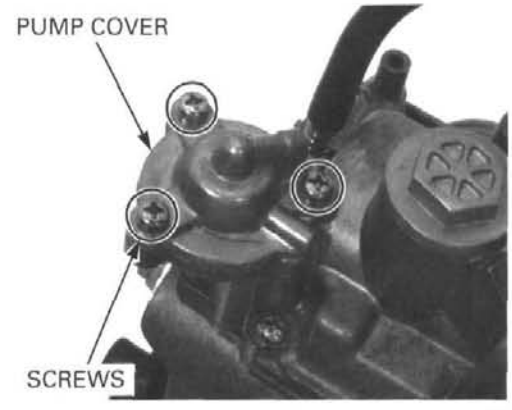


ACCELERATOR PUMP

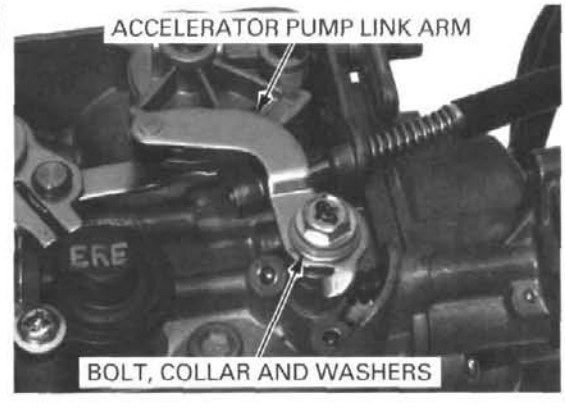
Install the diaphragm shaft into the float chamber through the boot while slowly turn it to prevent the boot from damaging.
Set the diaphragm rib into the groove properly.
Install the spring and accelerator pump cover.



Install the three screws and tighten them securely being careful not to pinch the diaphragm.



Install the spring washer, plain washer, plastic washer, accelerator pump link arm and collar, and tighten the bolt securely if they were removed.

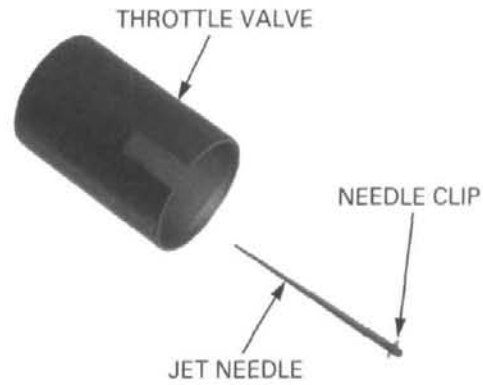


THROTTLE VALVE

Install the needle clip on the jet needle.

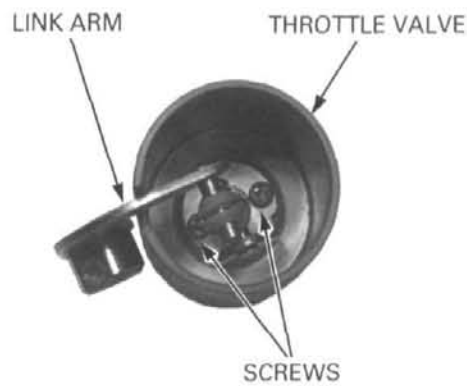
STANDARD CLIP POSITION: 3rd groove from top

Install the jet needle into the throttle valve.



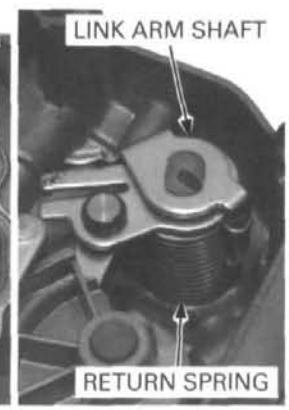
Install the link arm into the throttle valve and tighten the two screws.

Install the throttle valve assembly into the carburetor body, being careful not to damage the jet needle.



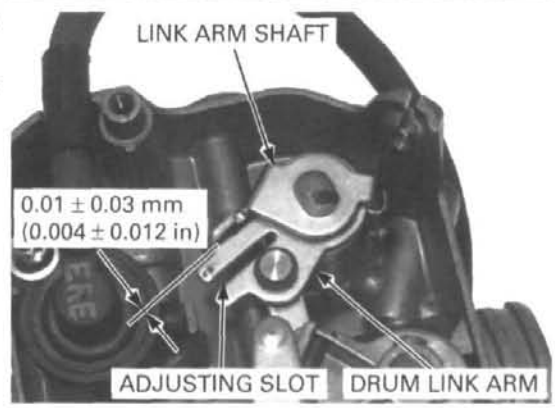
Set the thrust washer between the throttle valve link arm and carburetor body (throttle drum side).
Install the return spring between the carburetor body and throttle drum link arm.
Insert the link arm shaft through the drum link arm, return spring, carburetor body, thrust washer and valve link arm while hanging the spring ends as shown.
Align the screw holes in the link arm and shaft, install the spring washer and screw, and tighten the screw securely.

Turn the throttle drum and check for smooth operation.

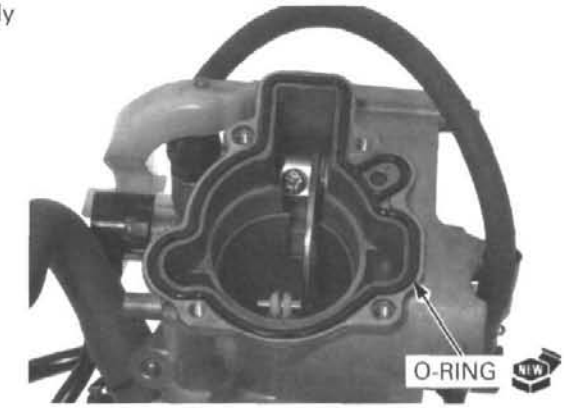


Make sure that the clearance between the drum link arm and shaft is 0.1 – 0.3 mm (0.004 – 0.012 in).

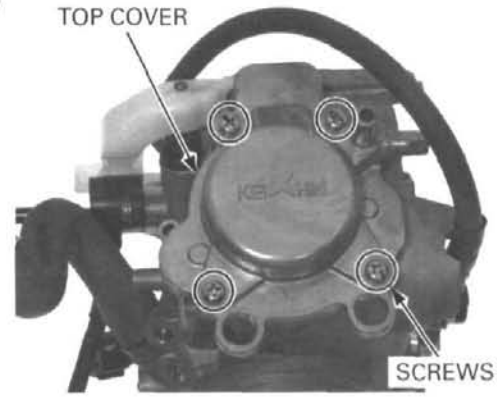
Adjust the clearance by opening or closing the slot in the drum link arm.



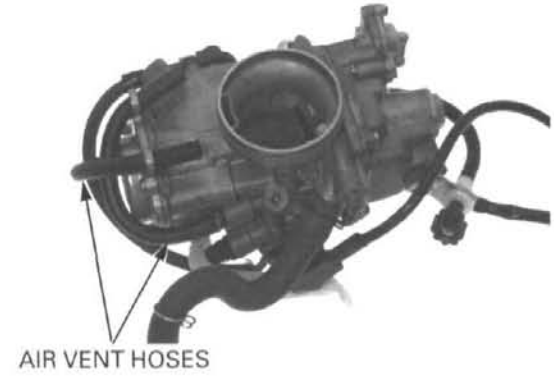
Install a new O-ring into the carburetor body groove.



Install the top cover and tighten the four screw securely.

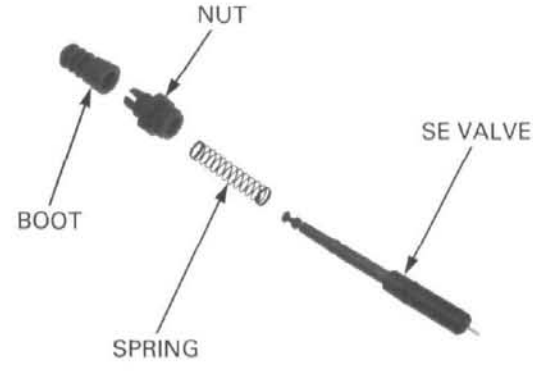


Install the air vent hoses.



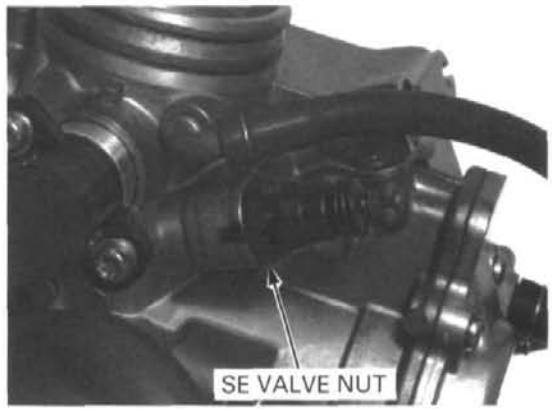
STARTING ENRICHMENT (SE) VALVE

Install the spring, nut and boot onto the SE valve.

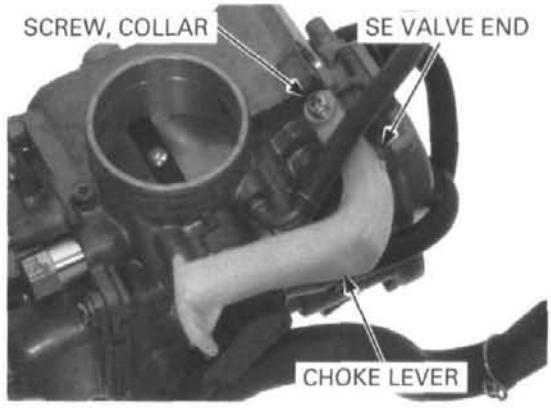


Install the SE valve into the carburetor body and tighten the valve nut.

TORQUE: 3 N·m (0.3 kgf·m, 2.2 lbf·ft)

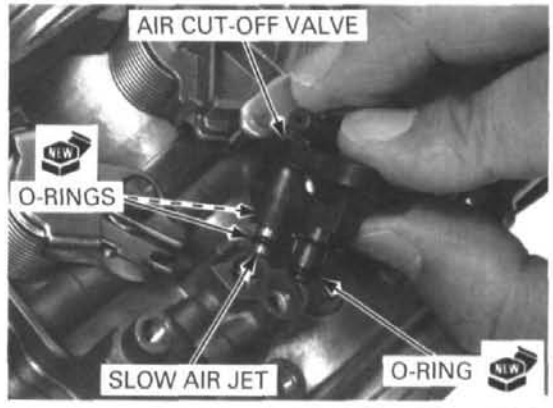


Hook the choke lever to the SE valve end and install it onto the carburetor body with the collar and screw.
Tighten the screw securely.

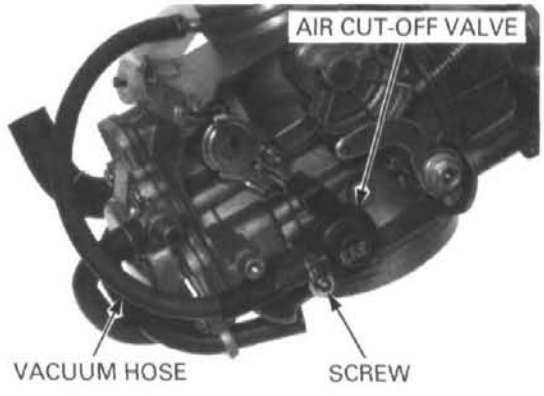


AIR CUT-OFF VALVE

Install new O-rings onto the slow air jet.
Install the slow air jet into the air cut-off valve with the stepped side facing the valve side.
Install a new O-ring onto the air cut-off valve and install the valve onto the carburetor body.

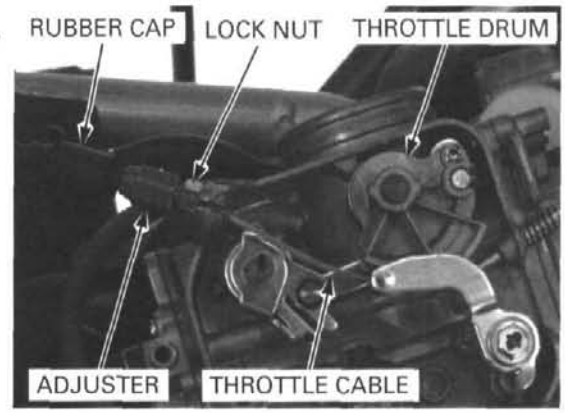


Install the screw and tighten it securely.
Connect the vacuum hose to the air cut-off valve.

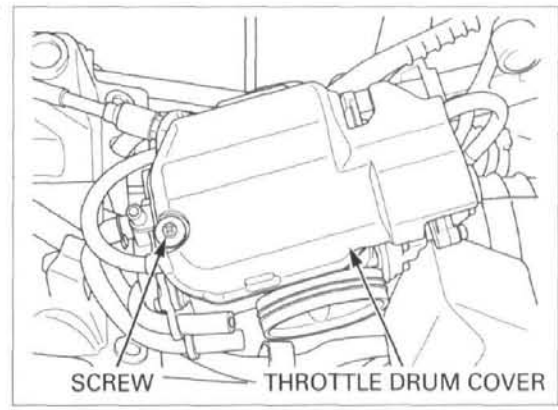


CARBURETOR INSTALLATION

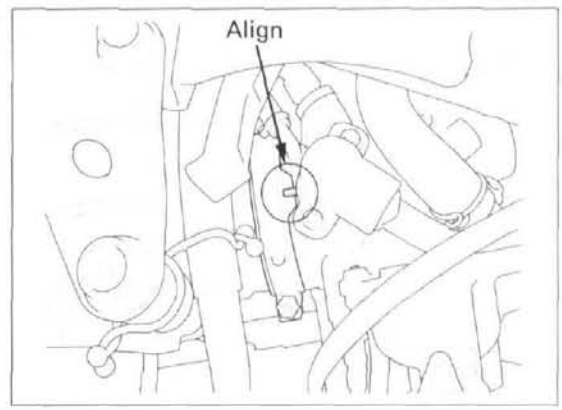
Connect the throttle cable to the throttle drum. Install the throttle cable adjuster into the carburetor and temporarily tighten the lock nut.



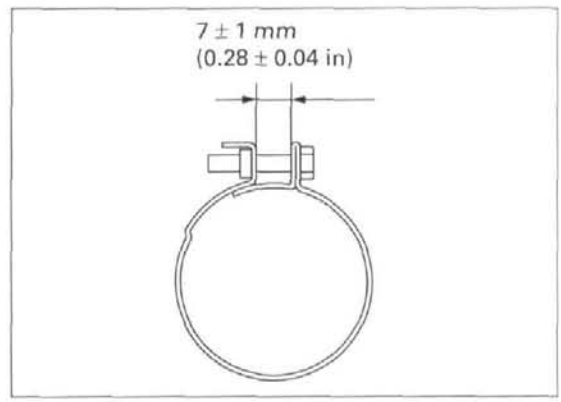
Install the throttle drum cover onto the carburetor and tighten the screw securely.



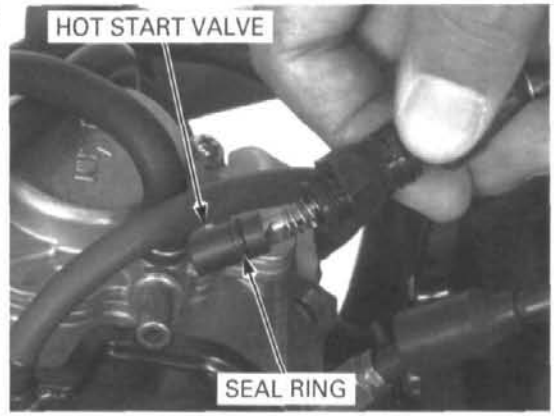
Install the carburetor into the insulator and connecting hose, and align the boss of the carburetor with the groove in the insulator.



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



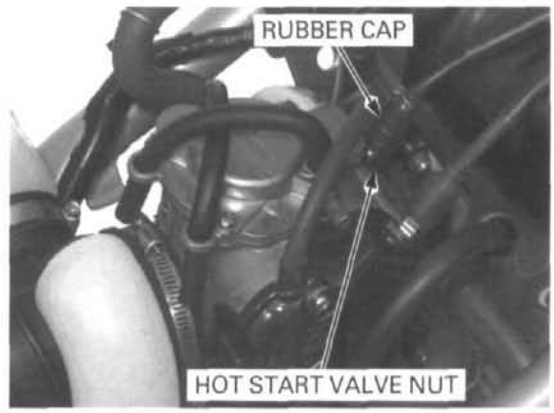
Check the hot start valve face for scores, scratches or wear.
Check the seal ring for deterioration, wear or damage.
Replace the hot start valve set if necessary.



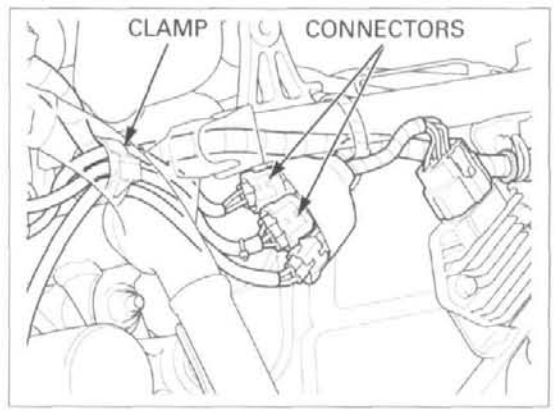
Install the hot start valve into the carburetor and tighten the valve nut.

TORQUE: 3 N·m (0.3 kgf·m, 2.2 lbf·ft)

Install the rubber cap onto the hot start valve nut properly.



Connect the carburetor heater 2P and throttle position sensor 3P connectors, and clamp their wires properly.



Connect the drain hose to the carburetor.

Install the fuel tank (page 3-9).

PILOT SCREW ADJUSTMENT

IDLE DROP PROCEDURE

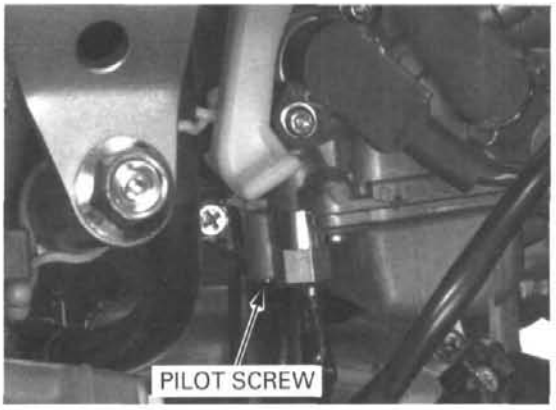
NOTE:

- 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.

   INITIAL OPENING: 1-3/4 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: 1,600 ± 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 out gradually until the engine speed drops 100 rpm.
8. Turn the pilot screw in to the final opening from the position obtained in step 7.

   FINAL OPENING: 1 turn in

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