5. Fuel System

Service Information

⚠WARNING

- **Gasoline is extremely flammable and is explosive under certain conditions.**
- **Bending or twisting the control cables will impair smooth operation and could cause the cables 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.

CAUTION

- **Be sure to remove the diaphragms before cleaning air and fuel passages with compressed air. The diaphragms might be damaged.**

- Refer to section 2 for fuel tank removal and installation.
- When disassembling 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 tube, loosen the drain bolt 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.

- California Model Only:
  All hoses used in the evaporative emission control system are numbered for identification. When connecting one of these hose, compare the hoses number with the Vacuum Hose Routing Diagram Label, page 1-30.

NOTE

- If the vehicle is to be stored for more than one month, drain the float bowl. Fuel left in the float bowl may cause clogged jets resulting in hard starting or poor driveability.

Troubleshooting

Engine Won't Start

- Too much fuel getting to the engine
  - Air cleaner clogged
  - Flooded carburetor
- Intake air leak
- Fuel contaminated/deteriorated
- No fuel to carburetor
  - Fuel strainer clogged
  - Fuel tube clogged
  - Fuel valve stuck
  - Float level misadjusted
  - Fuel tank breather hole clogged

Lean Mixture

- Fuel jets clogged
- Float valve faulty
- Float level too low
- Fuel line restricted
- Carburetor air vent tube clogged
- Intake air leak
- Throttle valve faulty
- Vacuum piston faulty

Rich Mixture

- Bystarter valve in ON position
- Float valve faulty
- Float level too high
- Air jets clogged
- Air cleaner element contaminated
- Flooded carburetor

Engine Stalls, Hard to Start, Rough Idling

- Carburetor choke cable misadjusted
- Fuel line restricted
- Ignition malfunction
- Fuel mixture too lean/rich
- Fuel contaminated/deteriorated
- Intake air leak
- Idle speed misadjusted
- Float level misadjusted
- Fuel tank breather hole clogged
- Pilot screw misadjusted
- Slow circuit or by-starter circuit clogged
- Emission control system malfunction (U.S.A. only)
  - purge control valve (PCV) faulty (California type only)
  - loose, disconnected or deteriorated hoses of the emission control system

Afterburn When Engine Braking is Used

- Lean mixture in slow circuit
- Emission control system malfunction (U.S.A. only)
  - secondary air supply system faulty
  - loose, disconnected or deteriorated hoses of the emission control system

Backfiring or Misfiring During Acceleration

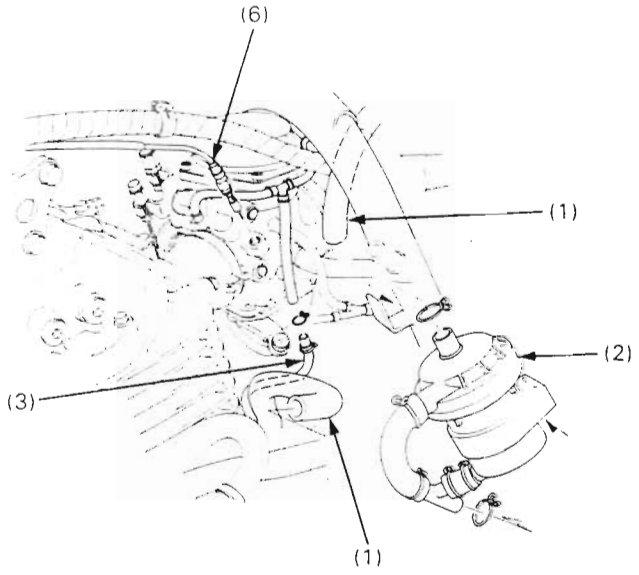
- Ignition system faulty
- Fuel mixture too lean

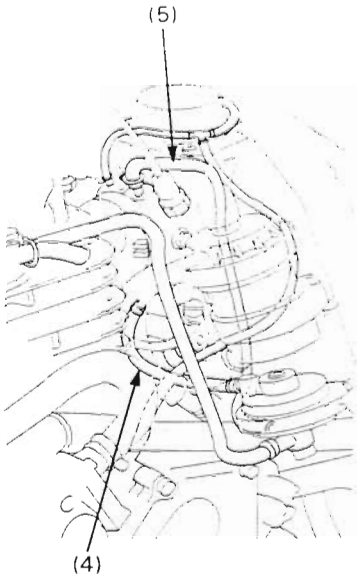
Poor Performance (Driveability) and Poor Fuel Economy

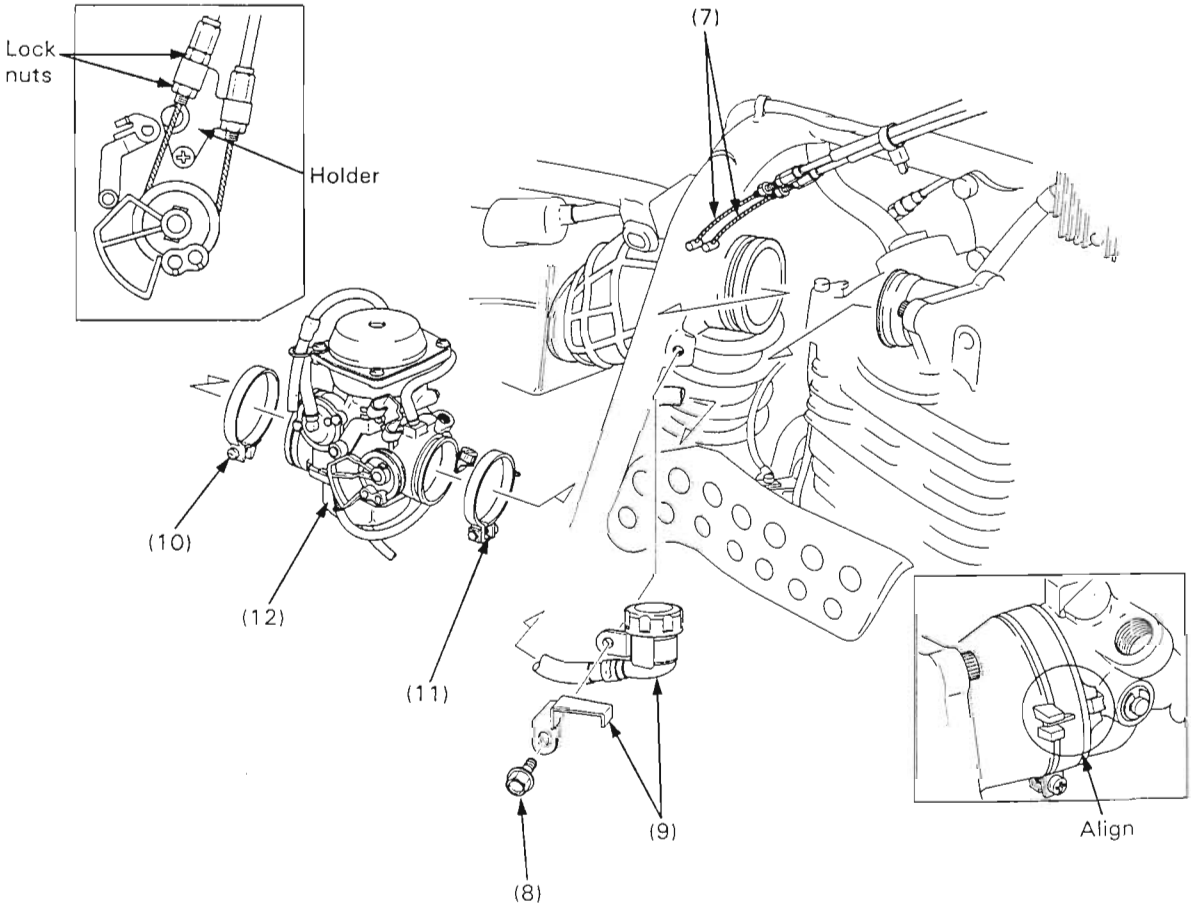
- Fuel system clogged
- Ignition malfunction
- Emission control system malfunction (U.S.A. only)
  - loose, disconnected or deteriorated hoses of the emission control system

MEMO

Carburetor Removal/Installation







⚠WARNING

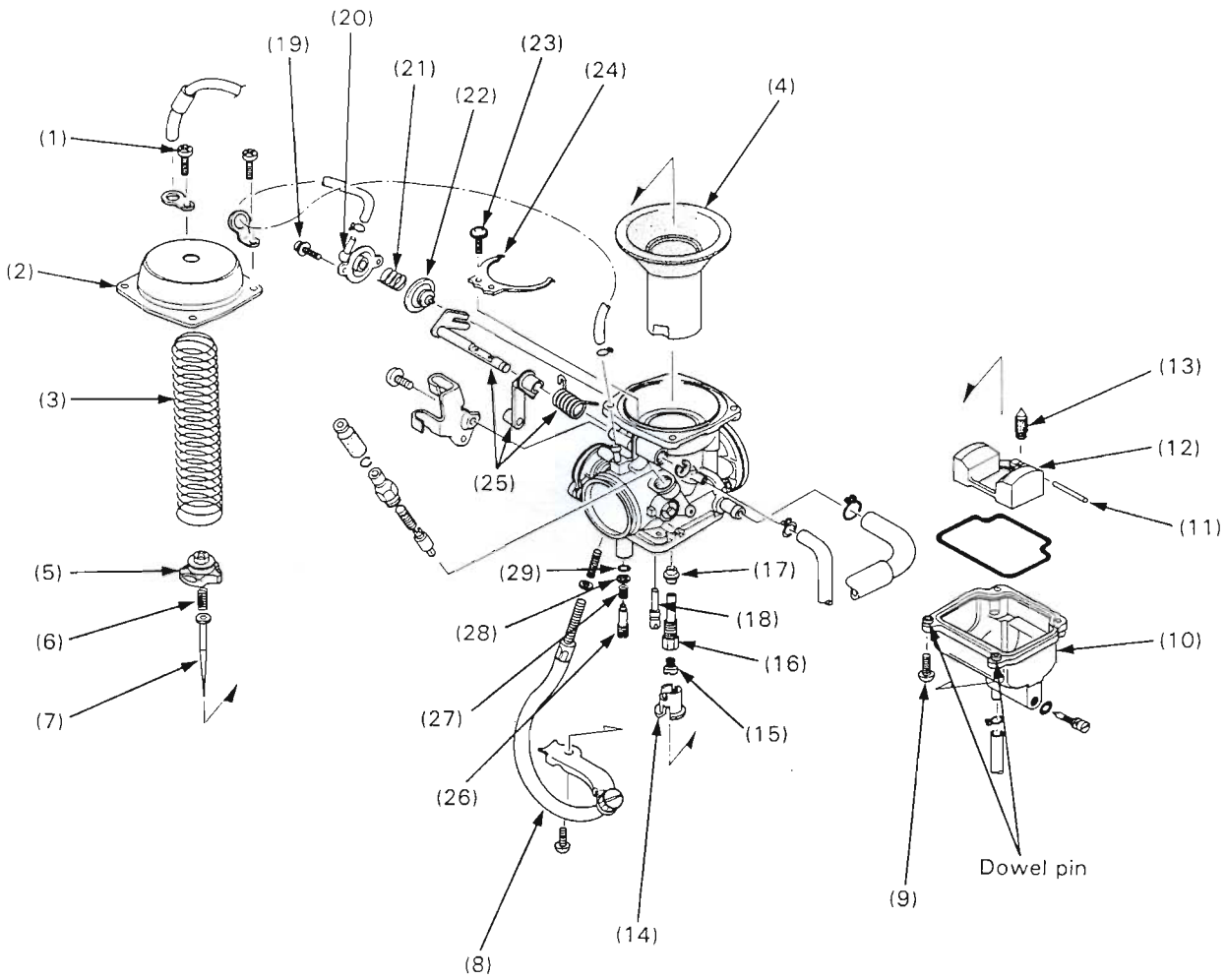
- Gasoline is extremely flammable and is explosive under certain conditions.
- Work in well ventilated area. Smoking or allow flames or sparks in the working area or where gasoline is stored can cause a fire or explosion.

Requisite Service

- Fuel Tank Removal/Installation (page 2-3)

	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Separator tube	2	
(2)	Breather separator	1	
(3)	AICV vacuum tube	1	Disconnect from the tube joint. U.S.A. only
(4)	No. 11 tube	1	California type only
(5)	No. 5 tube	1	
(6)	By-starter cable	1	
(7)	Throttle cable	2	• Disconnect and remove from the holder. • At installation, install the two lock nut installed cable onto upper side of the holder.
(8)	Brake reservoir mouting bolt	1	
(9)	Brake reservoir/plate	1/1	CAUTION • **Keep reservoir upright, to prevent air from entering the system.**
(10)	Connecting tube band screw	1	Only loosen.
(11)	Insulator band screw	1	At installation, align the insulator band pin and carburetor projection with the insulator grooves, and tighten the band screw.
(12)	Carburetor assembly	1	Move the carburetor out of the frame to the right. Disassembly/assembly (page 5-6)

Carburetor Disassembly/Assembly



NOTE

- The vacuum chamber and float chamber can be serviced with the carburetors assembled.
- The pilot screw is factory pre-set and should not be removed unless the carburetor is overhauled. Turn the pilot screw in and carefully count the number of turns before it seats lightly. Make a note of this to use as a reference when reinstalling the pilot screw. If new pilot screw is installed, turn pilot screw out to the initial opening before making a pilot screw adjustment (page 5-10).

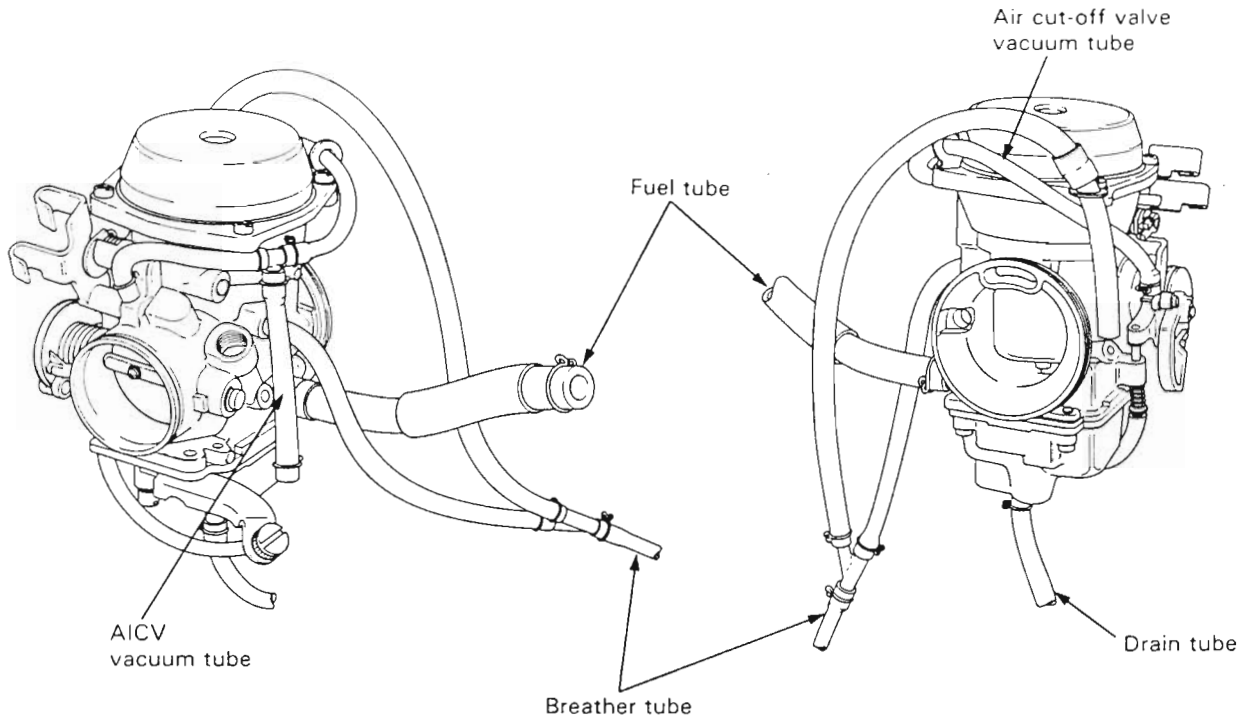
Requisite Service

- Carburetor removal/installation (page 5-4)
- Carburetor Tube Routing (page 5-8)

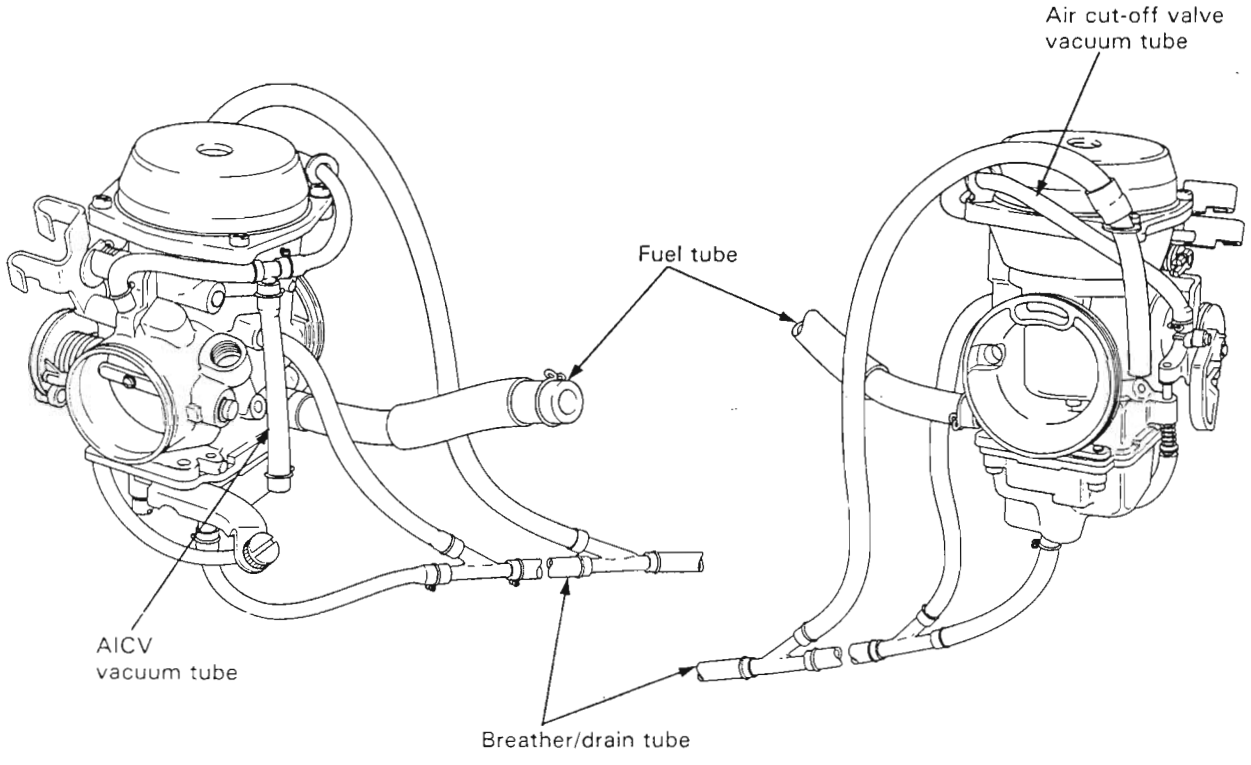
	Procedure	Q'ty	Remarks
	Vacuum Chamber Disassembly Order		Assembly is in the reverse order of disassembly.
(1)	Chamber cover screw	4	
(2)	Vacuum chamber cover	1	
(3)	Compression spring	1	
(4)	Diaphragm/vacuum piston	1	
(5)	Needle holder	1	Push down on the needle holder and turn it counterclockwise 90 degrees with an 8 mm socket.
(6)	Holder spring	1	
(7)	Jet needle	1	
	Float Chamber Disassembly Order		
(8)	Throttle stop screw	1	At installation, first tighten the two screws on the dowel pin side.
(9)	Float chamber screw	4	
(10)	Float chamber	1	
(11)	Float pin	1	
(12)	Float	1	
(13)	Float valve	1	
(14)	Baffle	1	
(15)	Main jet	1	
(16)	Needle jet holder	1	
(17)	Needle jet	1	
(18)	Slow jet	1	
	Air Cut-off Valve Disassembly Order		
(19)	Cover screw	2	
(20)	Air cut-off valve cover	1	
(21)	Diaphragm spring	1	
(22)	Diaphragm	1	
	Link Shaft Disassembly Order		
(23)	Link arm screw	1	
(24)	Link arm	1	
(25)	Link shaft assembly	1	
	Pilot Screw Disassembly Order		
(26)	Pilot screw	1	
(27)	Spring	1	
(28)	Washer	1	
(29)	O-ring	1	

Carburetor Tube Routing

49 State Type

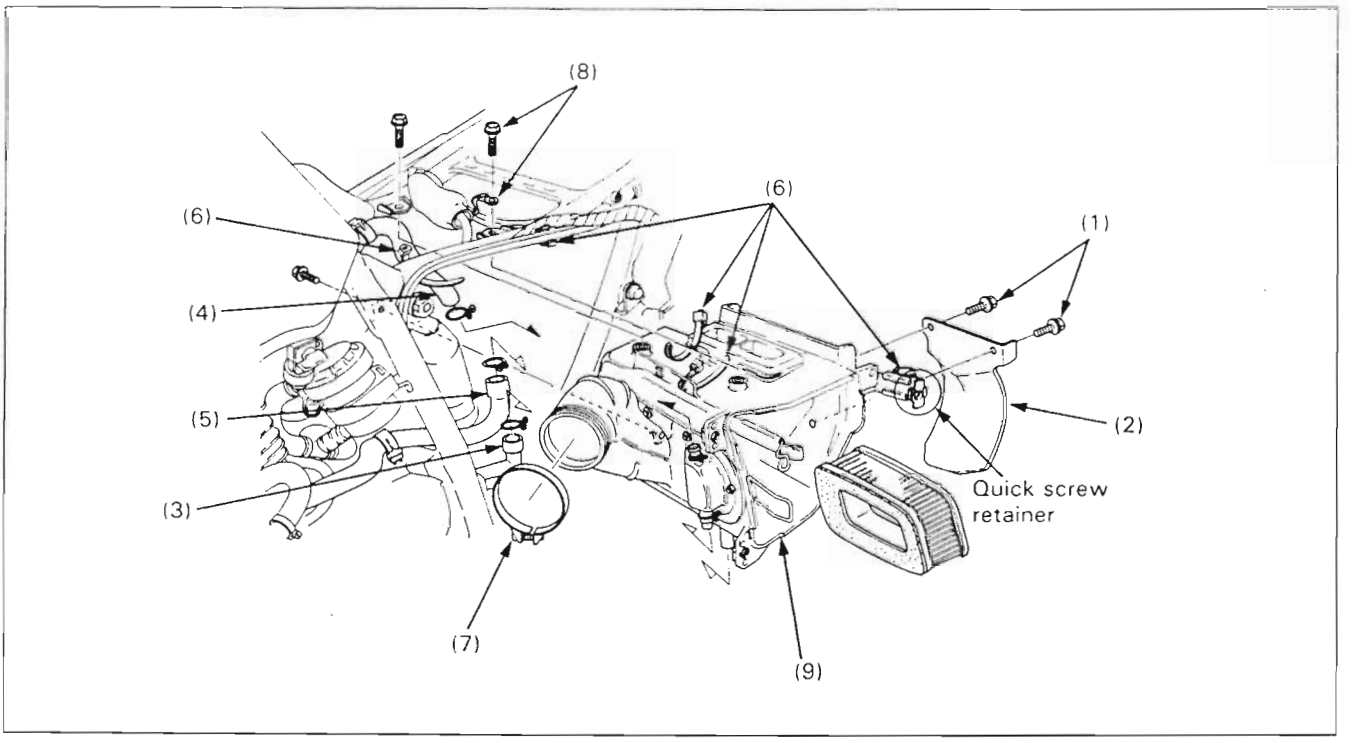


California Type



• For Canada type, refer to page 1-25.

Air Cleaner Case Removal/Installation



Requisite Service

- Seat Removal/Installation (page 2-2).

	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Mud guard bolt	2	
(2)	Mud guard	1	
(3)	Air cleaner breather tube	1	
(4)	Breather separator hose	1	
(5)	Air suction hose	1	U.S.A. only
(6)	Harness band/clamp	3/2	Release the wire harness from the bands and clamp.
(7)	Connecting tube band screw	1	Only loosen.
(8)	Air cleaner case mounting bolt/ground cable	3/1	
(9)	Air cleaner case assembly	1	Move the air cleaner case out of the frame to the left. CAUTION • **Be careful not to bend the rear left side cover quick screw retainer.**

Pilot Screw Adjustment

Idle Drop Procedure

⚠WARNING

- **If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in an enclosed area.**
  The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and may lead to death.

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 change.

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

CAUTION

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

Initial Opening:

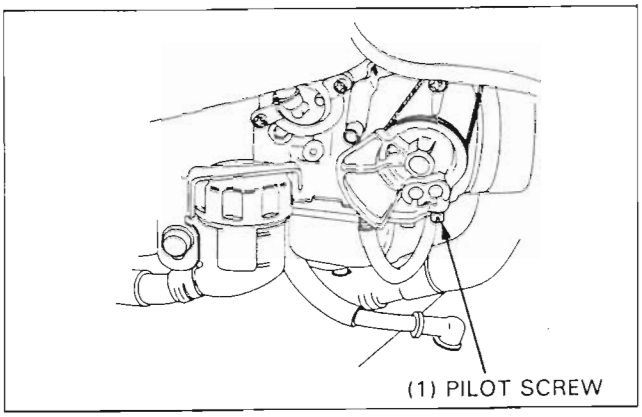
Type	Frame Serial Number	Initial Opening
49 State	"PM-000001"—"PM-000958"	2 • 3/4
	After "PM-000958"	2 • 1/4
California	"PM-000001"—"PM-000078"	2 • 3/4
	After "PM-000078"	2 • 1/4
Canada	All products	2 • 1/4

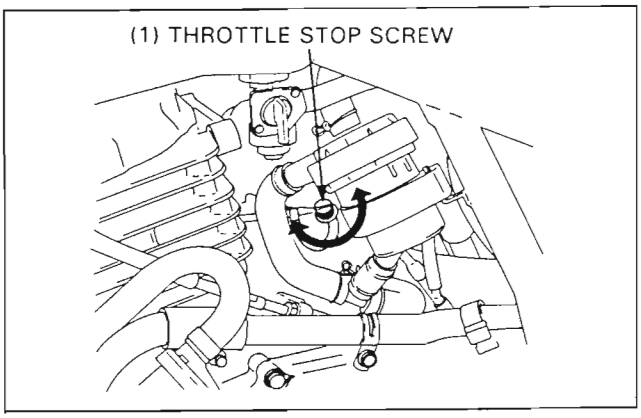
2. Warm up the engine to operating temperature.
   Stop and go riding for 10 minutes is sufficient.
3. Attach a tachometer according to the manufacturer's instructions.
4. Adjust the idle speed to the specified rpm with the throttle stop screw.

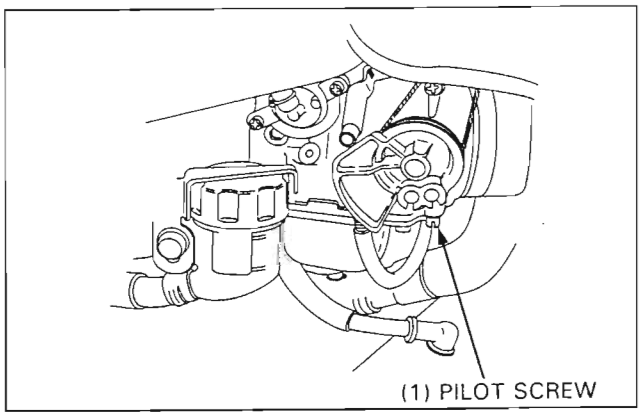
Idle Speed: 1,300 ± 100 rpm

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 50 rpm.
8. Turn the pilot screw counterclockwise to the final opening from the position obtained in step 7.

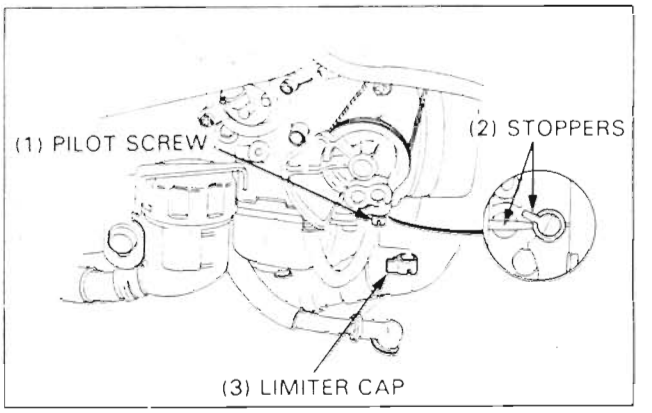
Final Opening: 3/4 turns out







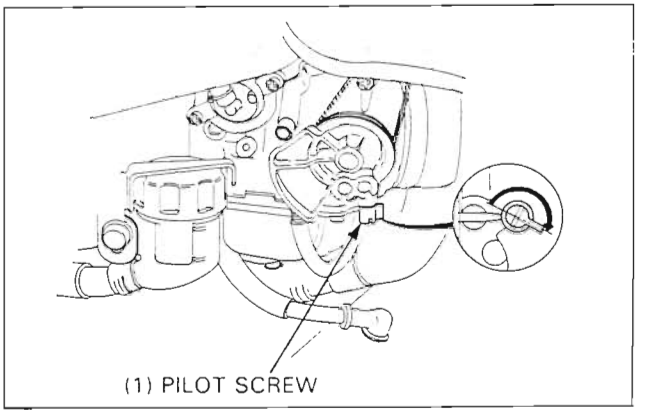
9. Apply Loctite 601 or equivalent to the inside of the limiter cap. Place the cap over the pilot screw so that they can be turned clockwise only. This will prevent adjustment in the counterclockwise direction which riches the fuel mixture.



High Altitude Adjustment (U.S.A. Only)

When the vehicle is to be operated continuously above 2,000 m (6,500 feet), the carburetor must be readjusted as follows to improve driveability and decrease exhaust emissions.
Warm up the engine to operating temperature. Stop and go riding for 10 minutes is sufficient.
Turn the pilot screw clockwise 1/2 turn.
Adjust the idle speed to 1,300 ± 100 rpm with the throttle stop screw.

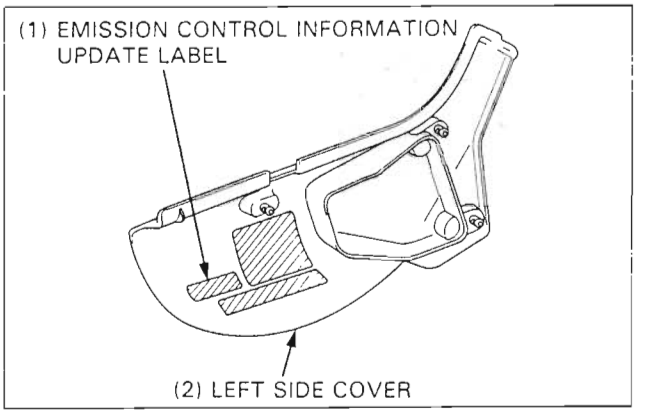
High Altitude Setting: 1/2 turn in



NOTE

- This adjustment must be made at high altitude to ensure proper high altitude operation.

Attach a Vehicle Emission Control Information Update Label to the inside of the left side cover as shown in the label position illustration.

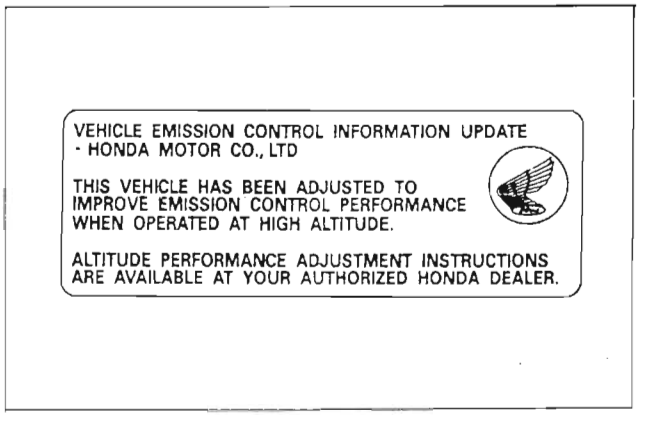


NOTE

- Do not attach the label to any part that can be easily removed from the vehicle.

⚠WARNING

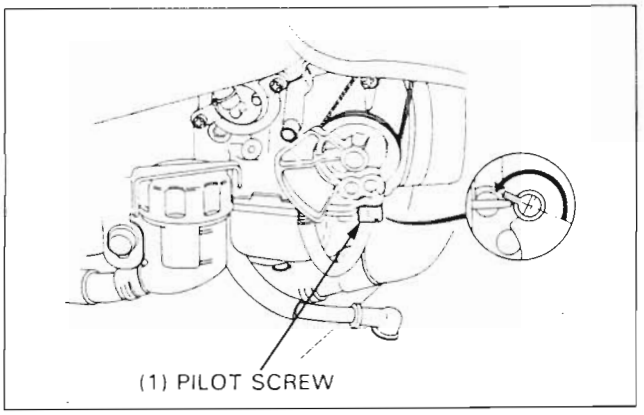
- **Sustained operation at an altitude lower than 5,000 feet (1,500 m) with the carburetor adjusted for high altitude may cause the engine to idle roughly and stall in traffic. It may also cause engine damage due to overheating.**



When the vehicle is to be operated continuously below 1,500 m (5,000 feet), turn the pilot screw to the Low Altitude Setting specified below.

Low Altitude Setting: 1/2 turn out

Adjust the idle speed to 1,300 ± 100 rpm with the throttle stop screw.
Be sure to make these adjustments at low altitude.
Remove the Vehicle Emission Control Information Update Label that is attached to the inside of the left side cover after adjusting for low altitude.



Emission Control System

Secondary Air Supply System (U.S.A. only)

NOTE

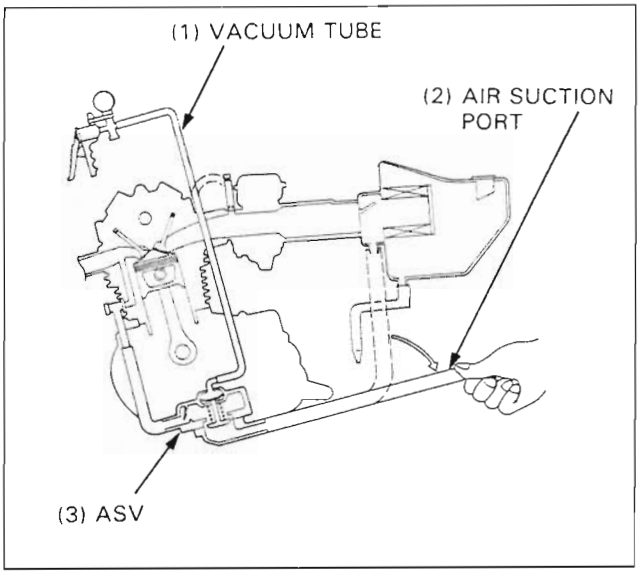
- The ASV has reed valve built into the AICV.

Disconnect the vacuum tube [routed from the air suction valve (ASV)] from the tube joint.
Plug the joint and connect the vacuum pump to the vacuum tube.

Disconnect the air suction hose from the air cleaner case and put your finger hose end (air suction port).

Perform the secondary air supply system inspection (refer to section 7 of the Common Service Manual).

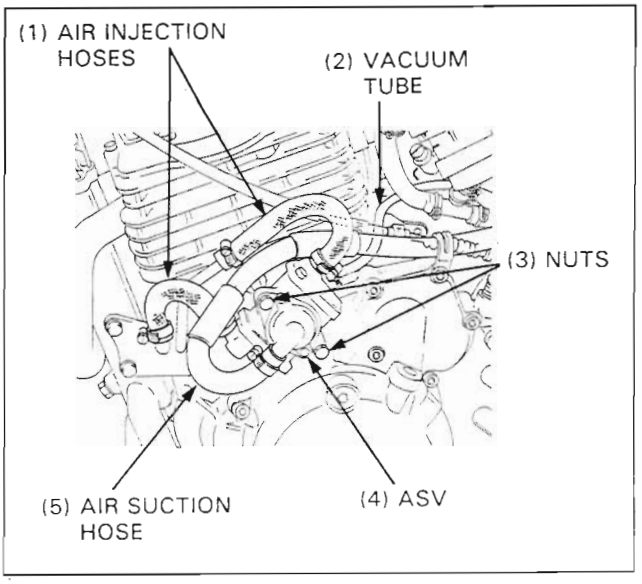
Specified vacuum: 330 mmHg (13.0 inHg)



Air Suction Valve (ASV) Removal/Installation

Remove the screws, disconnect the air suction hose and air injection hoses from the ASV.
Remove the ASV mounting nuts and ASV.
Disconnect the vacuum tube from the ASV.

Install the ASV in the reverse order of removal.



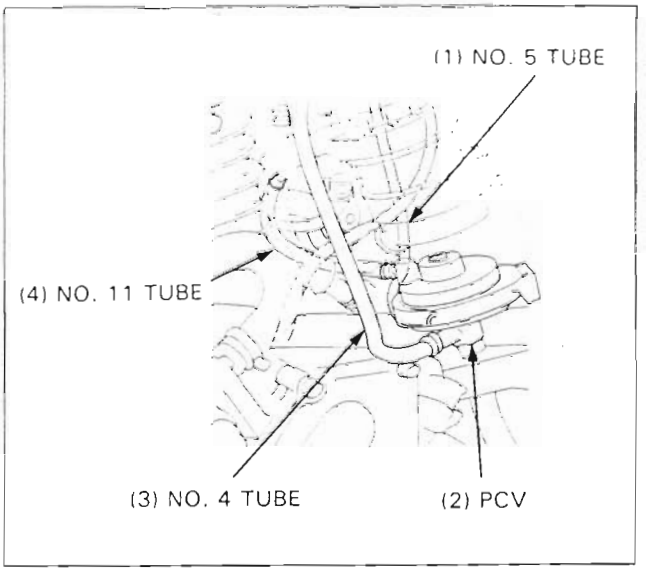
Purge Control Valve (PCV) Removal/Installation (California type only)

Disconnect the No. 11, No. 4 and No. 5 tubes from the PCV and remove the PCV from the frame.

Install the PCV in the reverse order of removal.

NOTE

- For PCV tube routing, see page 1-26.



MEMO