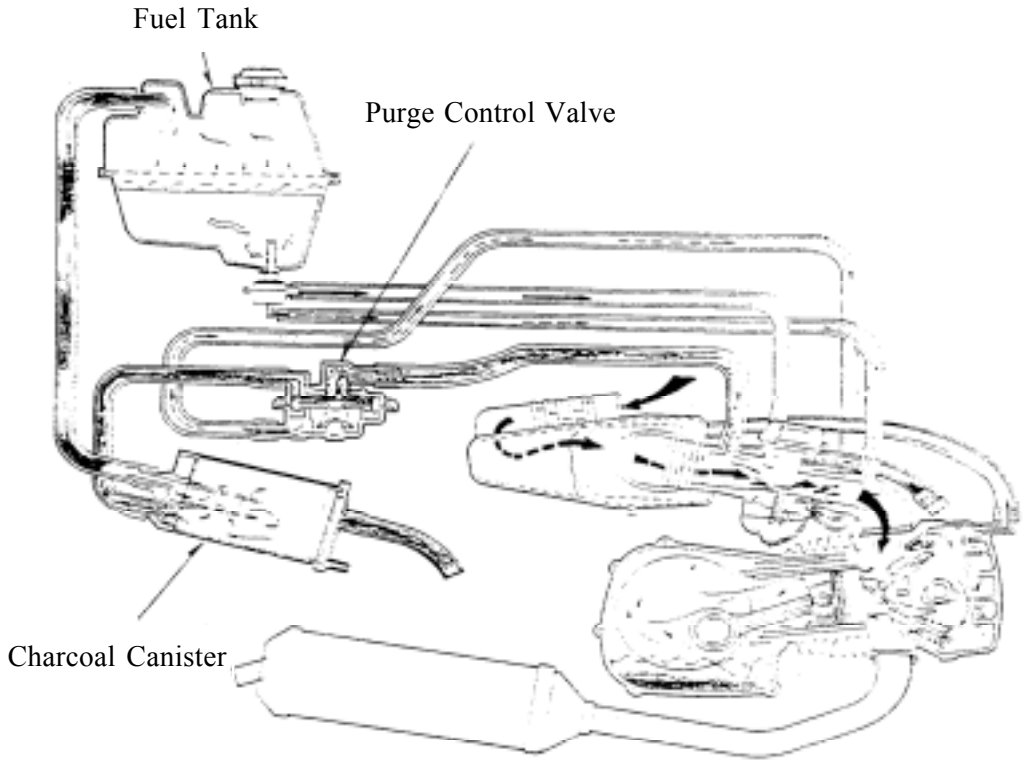
EVAPORATIVE EMISSION CONTROL SYSTEM

18. EVAPORATIVE EMISSION CONTROL SYSTEM

SCHEMATIC DRAWING



S EVAPORATIVE EMISSION CONTROL SYSTEM LOCATION

18. EVAPORATIVE EMISSION CONTROL SYSTEM

EVAPORATIVE EMISSION CONTROL SYSTEM FUNCTION

FOREWORD:

The Evaporative Emission Control System is abbreviated to E.E.C. System. This device collects the fuel vapor from the carburetor and fuel tank and then the fuel vapor is drawn into the engine for re-burning to avoid air pollution caused by the fuel vapor diffused into the air.

FUNCTION

Item	Purpose	Function
Purge Control Valve	Control vaporized HC from fuel tank not to diffuse into the air.	The charcoal canister absorbs vaporized HC from the fuel tank. When the engine is running and the purge control valve is open, the fuel vapor in the charcoal canister is drawn into the engine for re-burning.
Charcoal Canister	Absorb and store the vaporized HC from the fuel tank and carburetor.	The vaporized HC is absorbed in the charcoal canister and the specified volume of HC in the emission should not exceed 2g.
P.C.V.	Completely recover the HC of blow-by gas in the crankcase for re-burning.	Through the P.C.V. system, the blow-by gas from the crankcase is separated into fuel vapor and fuel and then drawn into the cylinder for re-burning.

TROUBLESHOOTING

Engine loses power or runs erratic at idle speed

1. Clogged P.C.V. system
2. Clogged air cleaner
3. Faulty purge control valve
4. Loose or broken E.E.C. system tubes or connectors

Engine idles or accelerates roughly

1. Faulty fuel cut-off valve
2. Faulty purge control valve
3. Clogged or faulty charcoal canister

18. EVAPORATIVE EMISSION CONTROL SYSTEM

1. EMISSION CONTROL SYSTEM MAINTENANCE SCHEDULE:

Item		Inspection	Service Mileage (KM)						
			300	1000	3000	5000	7000	9000	1100
Engine Parts	Drive belt	Belt thickness					O		
	Drive chain	Chain tension & length		O	O	O	O	O	O
	Cam chain	Chain length		O	O	O		O	
	Valve clearance	IN/EX clearance		O	O	O		O	O
	Manifold & cylinder head bolts	Lock bolt	O			O			
	Air Cleaner	Clean or replace air cleaner element	Clean at every 3000km and replace if necessary						
	Cooling water	Check for engine cooling	Replace at every 10000km or every						
	Engine oil	Engine lubrication	O	Replace at every 1000km					
Fuel System	Gear oil	Inspect or add gear oil							
	Fuel filter	Clean or replace fuel filter screen			O	O		O	O
	Choke system	Check for proper operation		O	O	O			
	Fuel line connectors	Check for leaks, block or breakage		O	O	O	O	O	O
	Carburetor idle speed	Inspect, clean or adjust	O			O			O
	Oil filter	Clean filter screen	O			O			O
Ignition Parts	Ignition timing	Inspect ignition timing		O	O	O	O	O	O
	Spark plug	Clean, inspect or replace		O	O	O	O	O	O
	Ignition system wire connection	Check wire connectors		O	O	O	O	O	O
Exhaust Emission Control System	Secondary air inlet line	Check for leaks, clogged or loose pipe connection			O		O		O
	Intake manifold bolt	Check manifold connector and replace if necessary		O	O	O	O	O	O
Evaporative Emission Control System	Engine compartment pipe connection	Check for leaks, clogged or loose pipe connection		O	O	O	O	O	O
	Charcoal canister	Check air vent hole for damage and clean it		O	O	O	O	O	O
	Purge control valve	Check for loose or broken tube connectors		O	O	O	O	O	O

2. EMISSION CONTROL SYSTEM IRREGULAR MAINTENANCE:

Item	Contents
□Burned crankshaft bearing	Before riding, inspect the engine for engine oil leaks to avoid crankshaft bearing burning during riding.
□Burned cylinder or piston	Long-time or severe use may cause worn or seized cylinder or piston. Clean or replace them with new ones.

18. EVAPORATIVE EMISSION CONTROL SYSTEM

SERVICE INFORMATION

GENERAL INSTRUCTIONS

- Do not smoke or allow flames or sparks near the working area.
- Note the locations of tubes for proper installation.
- Replace any damaged tube with a new one.
- Make sure to tighten the connector of each tube securely.
- Install the charcoal canister with the drain hole facing down.

TOOLS

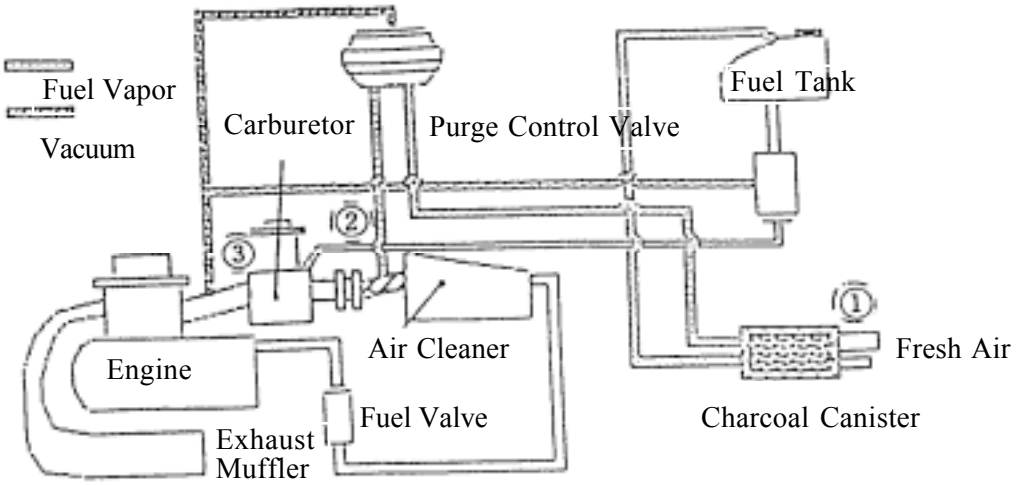
- Vacuum pump－
- Pressure pump－

SPECIFICATIONS

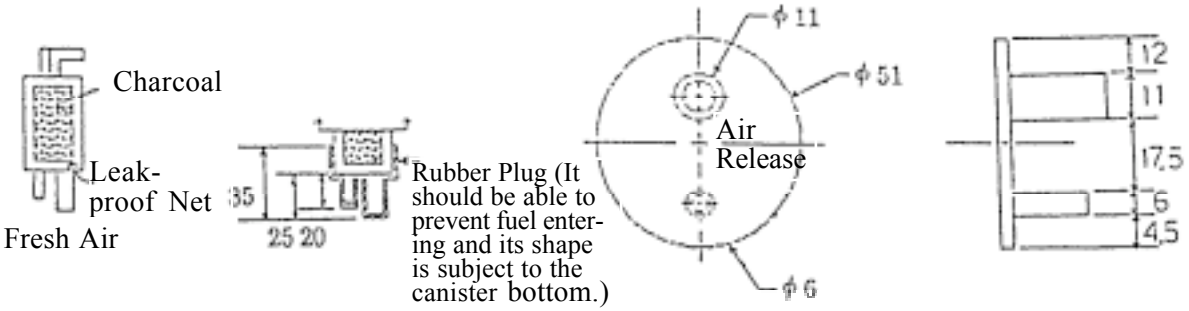
Purge control valve vacuum pressure	45mm/Hg
Charcoal canister capacity	90cc
Charcoal canister installation angle	tilt 60°

MOTORCYCLE ENGINE EVAPORATIVE EMISSION CONTROL SYSTEM TEST

A. LEAKAGE TEST PIPING DIAGRAM (SIMPLE)



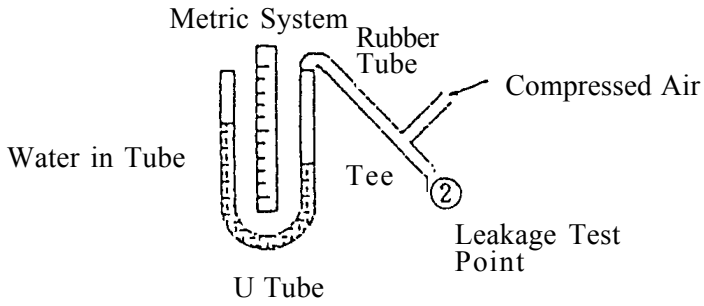
1. Charcoal Canister Plug (Point ①)



B. LEAKAGE TEST LOCATIONS (SIMPLE)

1. Charcoal canister, fuel tank (Point ②)
   Blow compressed air into the tube at Point ② to test leakage.
2. Vacuum tube (Point ③)
   Blow compressed air into the tube at Point ③ to test leakage.

C. LEAKAGE TEST DIAGRAM (SIMPLE)



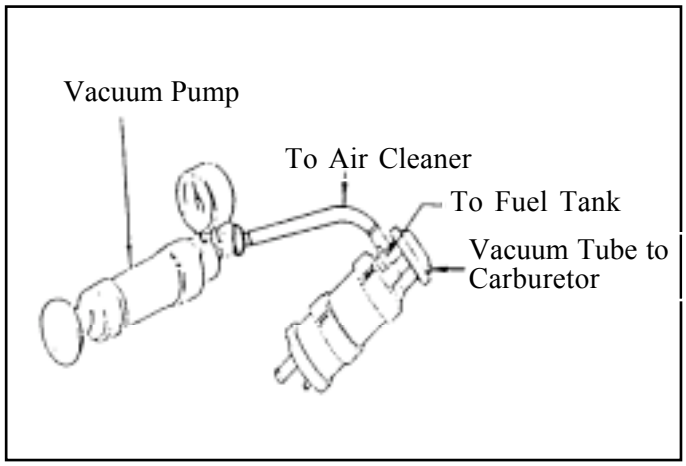
PURGE CONTROL VALVE

REMOVAL

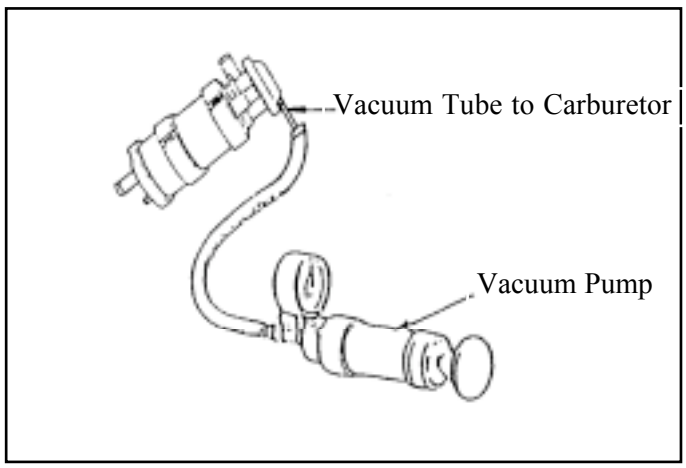
1. Remove the frame rear cover. (⇨2-2)
2. Remove the rear right side cover. (⇨2-2)
3. Disconnect the purge control valve vacuum tube that goes to the carburetor and the tubes that go to the air cleaner. Remove the purge control valve/ charcoal canister.

INSPECTION

Connect a vacuum pump to the purge control valve tube that goes to the air cleaner and apply vacuum pressure of 250mm/Hg. The specified vacuum must be maintained for one minute. Replace the purge control valve with a new one if vacuum is not maintained.

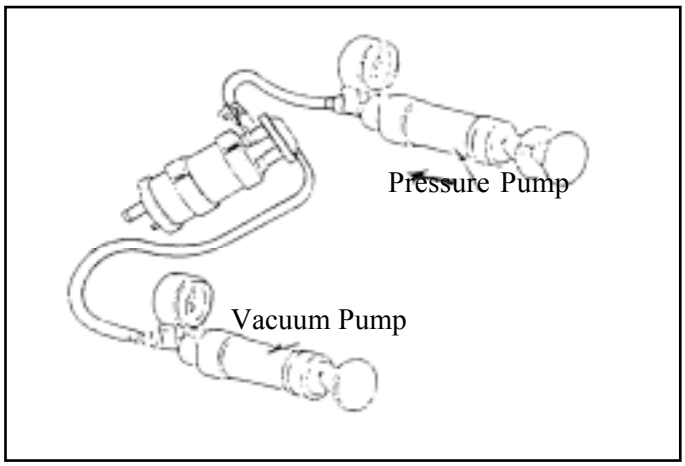


Connect a vacuum pump to the purge control valve tube that goes to the carburetor vacuum tube and apply vacuum pressure of 45mm/Hg. The specified vacuum must be maintained for one minute. Replace the purge control valve with a new one if vacuum is not maintained.



PURGE CONTROL VALVE FLOW INSPECTION

1. Connect a vacuum pump to the vacuum tube that goes to the carburetor and apply vacuum pressure of 45mm/Hg.
2. Connect a pressure pump to the tube that goes to the charcoal canister and apply pressure. The flow must be over 9.4 liters per minute and replace the purge control valve with a new one if the specified flow is not reached.



✱ To prevent damage to the purge control valve, do not use high air pressure sources. Use a hand operated pressure pump only.

INSTALLATION

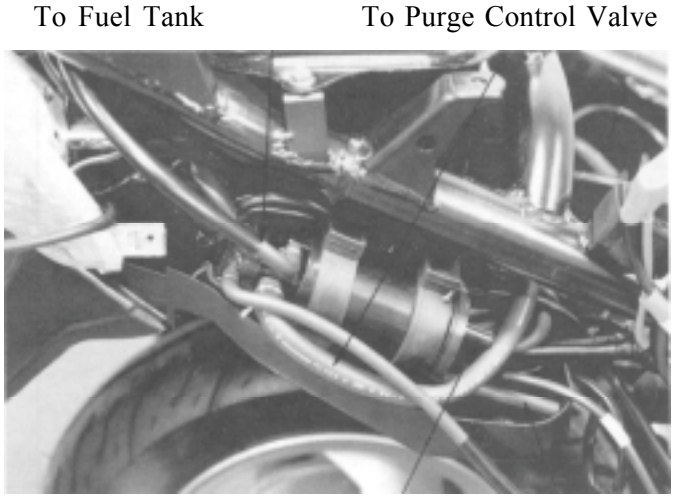
1. Install the purge control valve in the reverse order of removal.
2. Route and reconnect the purge control valve tubes properly and securely.

✱ Be careful not to bend, twist or kink the tubes during installation.

CHARCOAL CANISTER

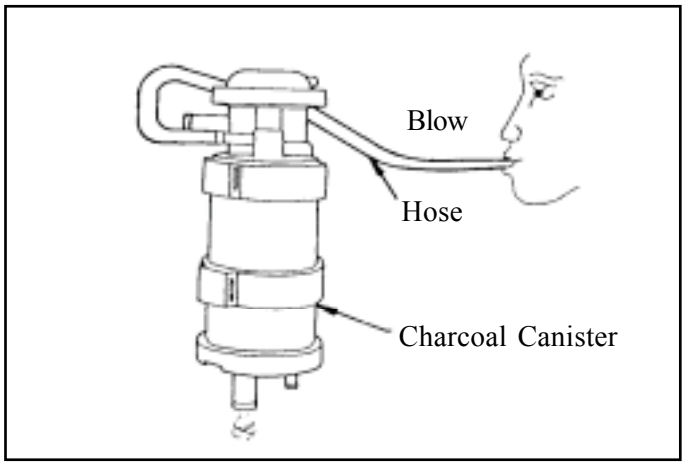
REMOVAL

Remove the charcoal canister. (⇨18-6)



INSPECTION

1. Plug the tube that goes to the fuel tank and plug the blow-by tube.
2. Connect a vacuum pump to the vacuum tube.
3. Connect a hose to the canister tube that goes to the air cleaner. Blow the hose with mouth. The charcoal canister is normal if air can be blown into it. If clogged, replace it with a new one.
4. Check the charcoal for cracks and replace if necessary.



INSTALLATION

Install the charcoal canister in the reverse order of removal.

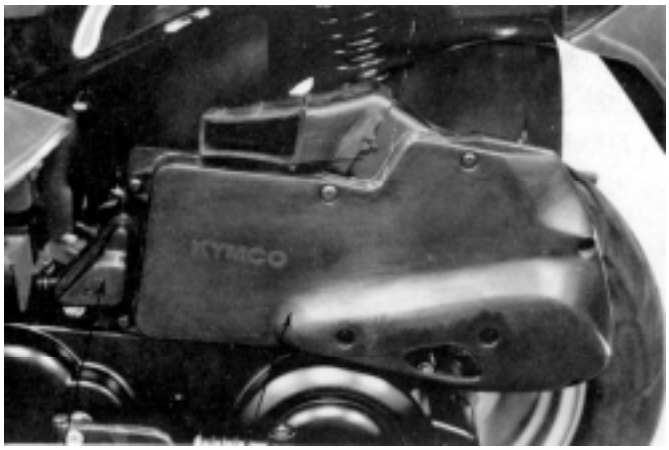
✱

- The charcoal canister must be installed at its original position to avoid damage of performance.
- Do not bend, twist or kink the tubes during installation.

P.C.V. (POSITIVE CRANKCASE VENTILATION) SYSTEM

P.C.V. REMOVAL

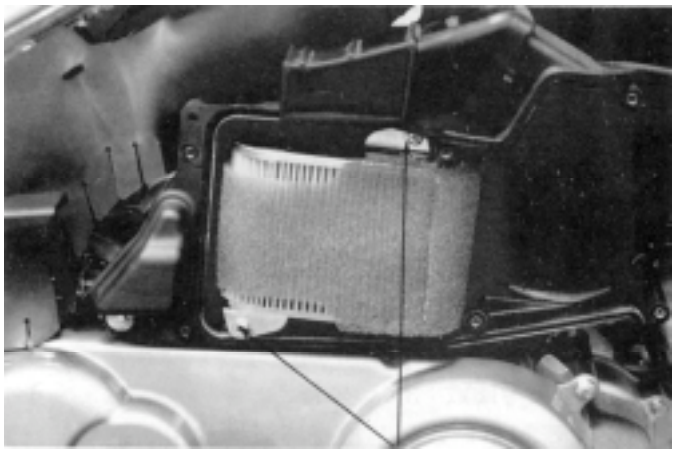
1. Remove the frame rear cover. (⇨2-2)
2. Remove the rear left side cover. (⇨2-2)
3. Remove the P.C.V., air cleaner cover screws and the air cleaner cover.
4. Remove the air cleaner element.



P.C.V. Air Cleaner Cover

AIR CLEANER CLEANING

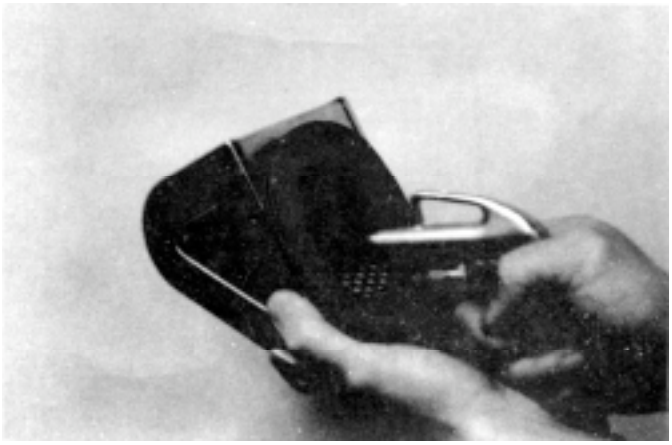
1. Remove the air cleaner cover screws and the air cleaner cover.
2. Remove the two screws attaching the air cleaner element and remove the element.
3. Wash the air cleaner element , squeeze out and allow to dry. Soak the element in clean engine oil and squeeze out the excess oil.
4. Blow compressed air from inside to clean the P.C.V element.
5. Install the air cleaner element and the P.C.V. element
6. The installation sequence is the reverse of removal.



Screws

✱

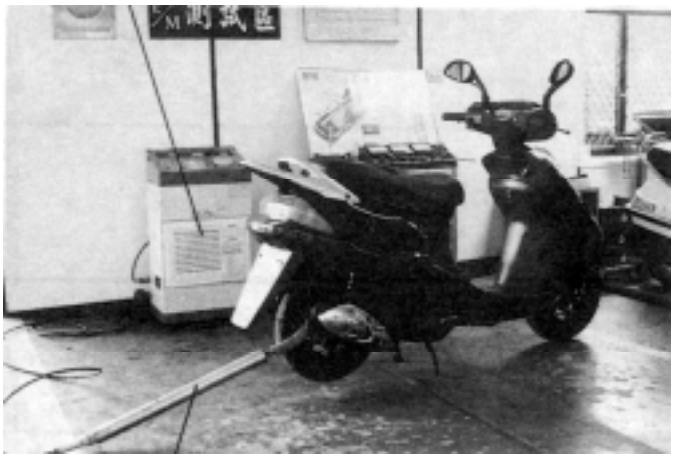
- Never use gasoline or high vaporable solvent for washing. Use coal oil or diesel oil.
- Be sure to install the air cleaner properly to avoid dust entering the air cleaner.



EXHAUST EMISSION RELATED SYSTEM INSPECTION

Clean or replace the air cleaner. (⇨3-4)
Clean and adjust the carburetor. (⇨5-3)
Inspect the auto choke system. (⇨5-4)
Clean and inspect the spark plug. (⇨3-4)
Inspect the ignition system. (⇨15-6)

Emission Tester



Sampling Pipe

EXHAUST EMISSION TEST AND ADJUSTMENT

1. Start the engine and warm up for several minutes. (Engine surface temperature 60℃ _ 80℃)
2. Adjust the idle speed to 1700±100 rpm.
3. Connect the emission tester sampling pipe to the exhaust muffler.
   Standard: CO: 2.0_ 3.0% max.
   HC: 4000PPM max.
4. If CO or HC exceeds the specified values, adjust the carburetor pilot screw (P.S.) until CO and HC are within the specified standard values.
   P.S. Adjusting turns: $3\pm1/2$
5. If the adjustment of carburetor makes no difference, inspect exhaust emission related system.