

# VL1500X/Y ('99, 2000-MODELS)

*This section describes service data, service specifications and servicing procedures which differ from those of the VL1500W ('98-model).*

**NOTE:**

- Any differences between VL1500W ('98-model) and VL1500X/Y ('99, 2000-models) in specifications and service data are clearly indicated with the asterisk marks (\*).
- Please refer to the sections 1 through 9 for details which are not given in this section.

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# SPECIFICATIONS

## DIMENSIONS AND DRY MASS

Overall length .....	2 525 mm (99.4 in)
Overall width .....	965 mm (38.0 in)
Overall height .....	1 165 mm (45.9 in)
Wheelbase .....	1 700 mm (66.9 in)
Ground clearance .....	145 mm (5.7 in)
Seat height .....	700 mm (27.6 in)
Dry mass .....	296 kg (652 lbs)

## ENGINE

Type .....	4-stroke, Air-cooled with SACS, OHC, Pent-roof
Number of cylinders .....	2
Bore .....	96 mm (3.780 in)
Stroke .....	101 mm (3.976 in)
Displacement .....	1 462 cm <sup>3</sup> (89.2 cu. in)
Compression ratio .....	8.5 : 1
Carburetor .....	MIKUNI BDSR36, twin
Air cleaner .....	Non-woven fabric element
Starter system .....	Electric
Lubrication system .....	Wet sump
Idle speed .....	950 - 1 050 r/min ..... E-18
	900 - 1 100 r/min ..... Others

## TRANSMISSION

Clutch .....	Wet multi-plate type
Transmission .....	5-speed constant mesh
Gearshift pattern .....	1-down, 4-up
Primary reduction ratio .....	1.490 (76/51)
Final reduction ratio .....	2.667 (19/19 × 32/12)
Secondary reduction ratio .....	0.852 (29/34)
Gear ratios, Low .....	3.000 (36/12)
2nd .....	1.823 (31/17)
3rd .....	1.333 (28/21)
4th .....	1.041 (25/24)
Top .....	0.884 (23/26)
Drive system .....	Shaft drive

## CHASSIS

Front suspension .....	Telescopic, coil spring, oil damped
Rear suspension .....	Link type, gas/coil spring, oil damped, spring pre-load fully adjustable
Front suspension stroke .....	140 mm (5.5 in)
Rear wheel travel .....	118 mm (4.6 in)
Caster .....	32°
Trail .....	138 mm (5.43 in)
Steering angle .....	37° (right & left)
Turning radius .....	3.1 m (10.2 ft)
Front brake .....	Disk brake
Rear brake .....	Disk brake
Front tire size .....	150/80-16 71H, tubeless
Rear tire size .....	180/70-15 M/C 76H, tubeless

## ELECTRICAL

Ignition type .....	Electronic Ignition (Transistorized)
Ignition timing .....	2° B.T.D.C. at 1 000 r/min
Spark plug .....	NGK DPR7EA-9 or DENSO X22EPR-U9
Battery .....	12V 50.4 kC (14Ah)/10 HR
Generator .....	Three-phase A.C. generator
Main fuse .....	30 A
Fuse .....	15/15/15/10/10 A
Headlight .....	12 V 60/55 W (H4)
Position/Parking light .....	12 V 4 W ..... Except E-03, 24, 28, 33
Brake light/Tail light .....	12 V 21/5 W
Turn signal light .....	12 V 21/5 W ..... E-03, 28, 33
	12 V 21 W ..... Others
Speedometer light .....	12 V 0.84 W
Fuel level warning light .....	12 V 1.7 W
Turn signal indicator light .....	12 V 1.7 W
Neutral indicator light .....	12 V 1.7 W
High beam indicator light .....	12 V 1.7 W
Oil pressure indicator light .....	LED

## CAPACITIES

Fuel tank .....	15.5 L (4.1/3.4 US/Imp gal) ..... X-MODEL
	15.0 L (4.0/3.3 US/Imp gal) ..... Y-MODEL
Engine oil, oil change .....	3 700 ml (3.9/3.3 US/Imp qt)
with filter change .....	4 300 ml (4.5/3.8 US/Imp qt)
overhaul .....	5 000 ml (5.3/4.4 US/Imp qt)
Final gear oil .....	200 - 220 ml (6.8/7.0 - 7.4/7.7 US/Imp oz)
Front fork oil (each leg) .....	439 ml (14.8/15.5 US/Imp oz)



**SERVICE DATA****VALVE + GUIDE**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Valve diam.	IN.	33 (1.3)	—
	EX.	40 (1.6)	—
Lash-adjuster plunger stroke	0 – 0.5 (0 – 0.02)		—
Valve guide to valve stem clearance	IN.	0.010 – 0.037 (0.0004 – 0.0015)	—
	EX.	0.040 – 0.070 (0.0016 – 0.0028)	—
Valve stem deflection	IN. & EX.	—	0.35 (0.014)
Valve guide I.D.	IN.	5.500 – 5.512 (0.2165 – 0.2170)	—
	EX.	7.000 – 7.015 (0.2756 – 0.2762)	—
Valve stem O.D.	IN.	5.475 – 5.490 (0.2156 – 0.2161)	—
	EX.	6.945 – 6.960 (0.2734 – 0.2740)	—
Valve stem runout	IN. & EX.	—	0.05 (0.002)
Valve head thickness	IN. & EX.	—	0.5 (0.02)
Valve stem end length	IN.	—	2.5 (0.10)
	EX.	—	2.2 (0.09)
Valve seat width	IN.	0.9 – 1.1 (0.035 – 0.043)	—
	EX.	1.0 – 1.2 (0.039 – 0.047)	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length (INTAKE)	INNER	—	35.0 (1.38)
	OUTER	—	37.8 (1.49)
Valve spring free length (EXHAUST)	—		40.6 (1.60)
Valve spring tension (INTAKE)	INNER	5.3 – 6.5 kgf (11.68 – 14.33 lbs) at length 28.0 mm (1.10 in)	—
	OUTER	14.0 – 14.2 kgf (30.86 – 31.31 lbs) at length 31.5 mm (1.24 in)	—
Valve spring tension (EXHAUST)	20.3 – 23.3 kgf (44.75 – 51.37 lbs) at length 35.0 mm (1.38 in)		—



**CAMSHAFT + CYLINDER HEAD**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Cam height	IN.	35.680 – 35.730 (1.4047 – 1.4067)	35.38 (1.393)
	EX.	36.880 – 36.930 (1.4521 – 1.4537)	36.58 (1.440)
Camshaft journal oil clearance	IN. & EX.	0.032 – 0.066 (0.0013 – 0.0026)	0.150 (0.0060)
Camshaft journal holder I.D.	Front head right side, rear head left side	20.012 – 20.025 (0.7879 – 0.7884)	—
	Front head left side, rear head right side	25.012 – 25.025 (0.9847 – 0.9852)	—
Camshaft journal O.D.	Front head right side, rear head left side	19.959 – 19.980 (0.7858 – 0.7866)	—
	Front head left side, rear head right side	24.959 – 24.980 (0.9826 – 0.9835)	—
Camshaft runout	Front & Rear	—	0.10 (0.004)
Rocker arm I.D.	IN.	14.000 – 14.018 (0.5511 – 0.5519)	—
	EX.	16.000 – 16.018 (0.6299 – 0.6303)	—
Rocker arm shaft O.D.	IN.	13.966 – 13.984 (0.5498 – 0.5506)	—
	EX.	15.966 – 15.984 (0.6286 – 0.6293)	—
Cylinder head distortion	—		0.05 (0.002)
Cylinder head cover distortion	—		0.05 (0.002)

**CYLINDER + PISTON + PISTON RING**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Compression pressure (Automatic de-compression actuated)	1 000 – 1 400 kPa (10 – 14 kgf/cm <sup>2</sup> ) (142 – 199 psi)		800 kPa (8 kgf/cm <sup>2</sup> ) (144 psi)
Compression pressure difference	—		200 kPa (2 kgf/cm <sup>2</sup> ) (28 psi)
Piston to cylinder clearance	0.02 – 0.03 (0.0008 – 0.0012)		0.120 (0.0047)
Cylinder bore	96.000 – 96.015 (3.7795 – 3.7801)		Nicks or Scratches
Piston diam.	95.975 – 95.990 (3.7785 – 3.7791) Measure at 16 mm (0.6 in) from the skirt end.		95.88 (37.7748)
Cylinder distortion	—		0.05 (0.002)
Piston ring free end gap	1st	T	Approx. 13.5 (0.53)
	2nd	T	Approx. 14.0 (0.55)



ITEM	STANDARD		LIMIT
Piston ring end gap	1st	0.30 – 0.45 (0.012 – 0.018)	0.70 (0.028)
	2nd	0.45 – 0.60 (0.018 – 0.024)	1.00 (0.039)
Piston ring to groove clearance	1st	—	0.180 (0.007)
	2nd	—	0.150 (0.006)
Piston ring groove width	1st	1.210 – 1.230 (0.0476 – 0.0484)	—
	2nd	1.510 – 1.530 (0.0594 – 0.0602)	—
	Oil	2.810 – 2.830 (0.1106 – 0.1114)	—
Piston ring thickness	1st	1.160 – 1.175 (0.0457 – 0.0463)	—
	2nd	1.470 – 1.490 (0.0579 – 0.0587)	—
Piston pin bore	23.002 – 23.008 (0.9056 – 0.9058)		23.030 (0.9067)
Piston pin O.D.	22.992 – 23.000 (0.9052 – 0.9055)		22.980 (0.9047)

**CONROD + CRANKSHAFT**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	23.015 – 23.023 (0.9061 – 0.9064)	23.040 (0.9071)
Conrod big end side clearance	0.10 – 0.20 (0.004 – 0.008)	0.3 (0.012)
Conrod big end width	21.95 – 22.00 (0.864 – 0.866)	—
Crank pin width	22.10 – 22.15 (0.870 – 0.872)	—
Conrod big end oil clearance	0.024 – 0.042 (0.0009 – 0.0017)	0.080 (0.0031)
Crank pin O.D.	49.982 – 50.000 (1.9678 – 1.9685)	—
Crankshaft journal oil clearance	0.020 – 0.050 (0.0008 – 0.0020)	0.080 (0.0031)
Crankshaft journal O.D.	51.965 – 51.980 (2.0459 – 2.0465)	—
Crankshaft journal I.D.	52.000 – 52.015 (2.0472 – 2.0478)	—
Crankshaft thrust bearing thickness	1.925 – 2.175 (0.0758 – 0.0856)	—
Crankshaft thrust clearance	0.05 – 0.10 (0.002 – 0.004)	—
Crankshaft runout	—	0.05 (0.002)

**OIL PUMP**

ITEM	STANDARD	LIMIT
Oil pump reduction ratio	1.154 (76/51 × 31/40)	—
Oil pressure (at 60°C, 140°F)	Above 350 kPa (3.5 kgf/cm <sup>2</sup> , 50 psi) Below 650 kPa (6.5 kgf/cm <sup>2</sup> , 92 psi) at 3 000 r/min.	—

**CLUTCH**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Drive plate thickness	2.90 – 3.10 (0.114 – 0.122)	2.60 (0.102)
Drive plate claw width	15.6 – 15.8 (0.614 – 0.622)	14.8 (0.583)
Driven plate distortion	—	0.10 (0.004)
Clutch spring free length	—	30.9 (1.22)
Clutch master cylinder bore	14.000 – 14.043 (0.5512 – 0.5529)	—
Clutch master cylinder piston diam.	13.957 – 13.984 (0.5495 – 0.5506)	—
Clutch release cylinder bore	33.600 – 33.662 (1.3228 – 1.3253)	—
Clutch release cylinder piston diam.	33.550 – 33.575 (1.3209 – 1.3218)	—

**TRANSMISSION**

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	1.490 (76/51)	—
Secondary reduction ratio	0.852 (29/34)	—
Final reduction ratio	2.667 (19/19 × 32/12)	—
Gear ratios	Low	3.000 (36/12)
	2nd	1.823 (31/17)
	3rd	1.333 (28/21)
	4th	1.041 (25/24)
	Top	0.884 (23/26)
Shift fork to groove clearance	0.1 – 0.3 (0.004 – 0.012)	0.5 (0.020)
Shift fork groove width	5.50 – 5.60 (0.217 – 0.220)	—
Shift fork thickness	5.30 – 5.40 (0.209 – 0.213)	—
Damper spring free length	—	73.6 (2.90)
Gearshift lever height	82 (3.23)	—



**SHAFT DRIVE**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Secondary bevel gear backlash	0.03 – 0.15 (0.001 – 0.006)	—
Final bevel gear backlash	0.03 – 0.64 (0.001 – 0.025)	—

**CARBURETOR**

ITEM	STANDARD	
	E-02, 04, 25, 34	E-03, 28
Carburetor type	BDSR36	←
Bore size	36.5 mm	←
I.D. No.	10F0	10F1
Idle r/min.	1 000 ± 100 r/min.	←
Float height	7.0 ± 0.5 mm (0.28 ± 0.02 in)	←
Main jet (M.J.)	F: #112.5 R: #110	F: #112.5 R: #110
Jet needle (J.N.)	F: 5D94-56-3 R: 5E8-56-3	F: 5D95-56 R: 5E9-56
Needle jet (N.J.)	P-0	P-0M
Throttle valve (Th.V.)	#90	←
Pilot jet (P.J.)	#32.5	#32.5
Pilot screw (P.S.)	PRE-SET ( F: 2 turns back R: 2 turns back )	PRE-SET
Throttle cable play	2.0 – 4.0 mm (0.08 – 0.16 in)	←

**CARBURETOR**

ITEM	STANDARD	
	E-17, 22, 24	E-18
Carburetor type	BDSR36	←
Bore size	36.5 mm	←
I.D. No.	10F2	10F3
Idle r/min.	1 000 ± 100 r/min.	1 000 ± 50 r/min.
Float height	7.0 ± 0.5 mm (0.28 ± 0.02 in)	←
Main jet (M.J.)	F: #112.5 R: #110	←
Jet needle (J.N.)	F: 5D94-56-3 R: 5E8-56-3	←
Needle jet (N.J.)	P-0	←
Throttle valve (Th.V.)	#90	←
Pilot jet (P.J.)	#32.5	←
Pilot screw (P.S.)	PRE-SET ( F: 2 turns back R: 2 turns back )	PRE-SET ( F: 2 1/2 turns back R: 2 5/8 turns back )
Throttle cable play	2.0 – 4.0 mm (0.08 – 0.16 in)	←



## CARBURETOR

ITEM	STANDARD	
	E-33	P-37
Carburetor type	BDSR36	←
Bore size	36.5 mm	←
I.D. No.	10F7	10F6
Idle r/min.	1 000 ± 100 r/min.	←
Float height	7.0 ± 0.5 mm (0.28 ± 0.02 in)	←
Main jet (M.J.)	F: #112.5 R: #110	F: #112.5 R: #110
Jet needle (J.N.)	F: 5D95-56 R: 5E9-56	F: 5D94-56-3 R: 5E8-56-3
Needle jet (N.J.)	P-DM	P-0
Throttle valve (Th.V.)	# 90	←
Pilot jet (P.J.)	#32.5	#32.5
Pilot screw (P.S.)	PRE-SET	PRE-SET F: 2 turns back ( R: 2 turns back )
Throttle cable play	2.0 – 4.0 mm (0.08 – 0.16 in)	←

## ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	2° B.T.D.C. at 1 000 r/min.		
Firing order	R · F		
Spark plug	Type	NGK: DPR7EA-9 DENSO: X22EPR-U9	
	Gap	0.8 – 0.9 (0.031 – 0.035)	
Spark performance	Over 8 (0.3) at 1 atm.		
Signal coil resistance	178 – 242 Ω		BI – G
Signal coil peak voltage	More than 2.4 V		
Ignition coil resistance	Primary	1 – 7 Ω	⊕ tap – ⊖ tap
	Secondary	18 – 28 kΩ	Plug cap – ⊕ tap
Ignition coil primary peak voltage	Front	More than 190 V	B/Y – Ground
	Rear	More than 200 V	W – Ground
Generator Max. output	Approx. 340 W at 5 000 r/min.		
Generator no-load voltage (when engine is cold)	More than 80 V (AC) at 5 000 r/min.		
Regulated voltage	13.5 – 15.0 V at 5 000 r/min.		
Starter relay resistance	3 – 6 Ω		
De-comp. solenoid resistance	0.1 – 1.0 Ω		
Fuel pump resistance	1 – 2.5 Ω		
Fuel pump discharge amount	More than 600 ml (1.27 US qt)/minute		



ITEM		SPECIFICATION	NOTE
Battery	Type designation	FTH16-BS-1	
	Voltage	12 V	
	Capacity	50.4 kC (14 Ah)/10HR	
	Standard electrolyte S.G.	1.320 at 20°C (68°F)	
Fuse size	Headlight	HI 15 A	
		LO 15 A	
	Signal	15 A	
	Ignition	10 A	
	Main	30 A	
	Power source	10 A	

**WATTAGE**

Unit: W

ITEM		SPECIFICATION		
		E-03, 28, 33	E-24	Others
Headlight	HI	60	←	←
	LO	55	←	←
Position light				4
Brake light / Taillight		21/5	←	←
Turn signal light		21	←	←
Running light		5		
Speedometer light		0.84	←	←
Turn signal indicator light		1.7	←	←
High beam indicator light		1.7	←	←
Neutral indicator light		1.7	←	←
Fuel level warning light		1.7	←	←

**BRAKE + WHEEL**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Rear brake pedal height	98 (3.86)		—
Brake disc thickness	Front	5.8 – 6.2 (0.228 – 0.244)	5.5 (0.22)
	Rear	6.6 – 7.0 (0.260 – 0.276)	6.3 (0.25)
Brake disc runout	—		0.30 (0.012)
Master cylinder bore	Front	12.700 – 12.743 (0.5000 – 0.5017)	—
	Rear	12.700 – 12.743 (0.5000 – 0.5017)	—
Master cylinder piston diam.	Front	12.657 – 12.684 (0.4983 – 0.4994)	—
	Rear	12.657 – 12.684 (0.4983 – 0.4994)	—

ITEM	STANDARD		LIMIT
Brake caliper cylinder bore	Front	45.000 – 45.076 (1.7717 – 1.7746)	—
	Rear	42.850 – 42.926 (1.6870 – 1.6900)	—
Brake caliper piston diam.	Front	44.930 – 44.980 (1.7689 – 1.7709)	—
	Rear	42.770 – 42.820 (1.6839 – 1.6858)	—
Wheel rim runout	Axial	—	2.0 (0.08)
	Radial	—	2.0 (0.08)
Wheel axle runout	Front	—	0.25 (0.010)
	Rear	—	0.25 (0.010)
Wheel rim size	Front	16 × MT3.50	—
	Rear	15M/C × MT5.00	—
Tire size	Front	150/80-16 71H	—
	Rear	180/70-15M/C 76H	—
Tire tread depth	Front	—	1.6 (0.06)
	Rear	—	2.0 (0.08)

**SUSPENSION**

Unit: mm (in)

ITEM	STANDARD	LIMIT	NOTE
Front fork stroke	140 (5.5)	—	
Front fork spring free length	585 (23.03)	573 (22.56)	
Front fork oil level	169.0 (6.65)	—	
Rear shock absorber spring set length	222.0 (8.74)	—	
Rear wheel travel	118 (4.6)	—	

**TIRE PRESSURE**

COLD INFLATION TIRE PRESSURE	SOLO RIDING			DUAL RIDING		
	kPa	kgf/cm <sup>2</sup>	psi	kPa	kgf/cm <sup>2</sup>	psi
FRONT	200	2.00	29	200	2.00	29
REAR	250	2.50	36	250	2.50	36



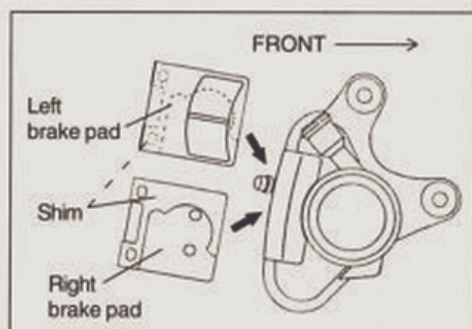
**FUEL + OIL**

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded gasoline of at least 87 pump octane ( $\frac{R+M}{2}$ ) or 91 octane or higher rated by the research method. Gasoline containing MTBE (Methyl Tertiary Butyl Ether), less than 10% ethanol, or less than 5% methanol with appropriate cosolvents and corrosion inhibitor is permissible.		E-03, 33
	Use only unleaded gasoline of at least 87 pump octane ( $\frac{R+M}{2}$ method) or 91 octane or higher rated by the Research Method.		E-28
	Gasoline used should be graded 91 octane or higher. An unleaded gasoline is recommended.		The others
Fuel tank	15.5 L (4.1/3.4 US/Imp gal)		X-MODEL
	*15.0 L (4.0/3.3 US/Imp gal)		Y-MODEL
Engine oil type	SAE 10W/40, API SF or SG		
Engine oil capacity	Change	3 700 ml (3.9/3.3 US/Imp qt)	
	Filter change	4 300 ml (4.5/3.8 US/Imp qt)	
	Overhaul	5 000 ml (5.3/4.4 US/Imp qt)	
Fuel fork oil type	SUZUKI FORK OIL SS-08 (#10) or equivalent fork oil		
Fuel fork oil capacity (each leg)	439 ml (14.8/15.5 US/Imp oz)		
Bevel gear oil type	Hypoid Gear oil #90 API GL-5		
Bevel gear oil capacity	Final	200 – 220 ml (6.8/7.0 – 7.4/7.7 US/Imp oz)	
Brake fluid type	DOT 4		

## BRAKES

### FRONT BRAKE CALIPER

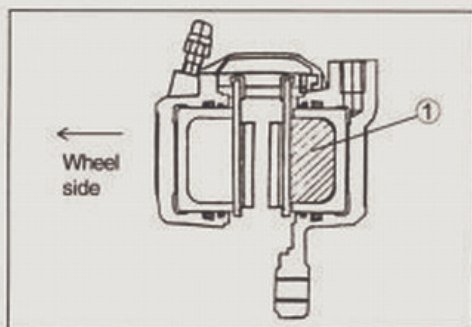
- When reassembling the brake pad, install the pad shims as shown.



### REAR BRAKE CALIPER

- When reassembling the brake caliper, install the insulator ① into the right side piston.

Insulator Part # 69126-10F00



## FUEL LEVEL GAUGE

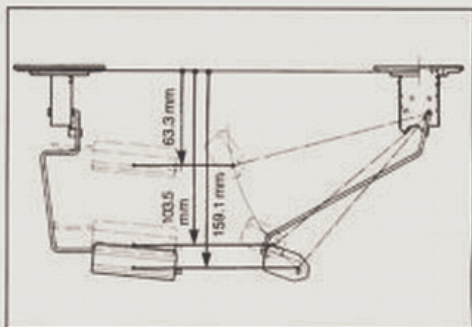
### INSPECTION

- Remove the fuel level gauge as the same manner of the W-model.
- Measure the resistance at each fuel level gauge float position.
- If the resistance is incorrect, replace the fuel level gauge with a new one.

#### NOTE:

The following table shows the relation between the float position of the fuel level gauge sending unit and the resistance.

Float position	Resistance
63.3 mm (2.49 in)	1 – 5 $\Omega$
103.5 mm (4.07 in)	28.5 – 36.5 $\Omega$
159.1 mm (6.26 in)	103 – 117 $\Omega$





## SPEEDOMETER

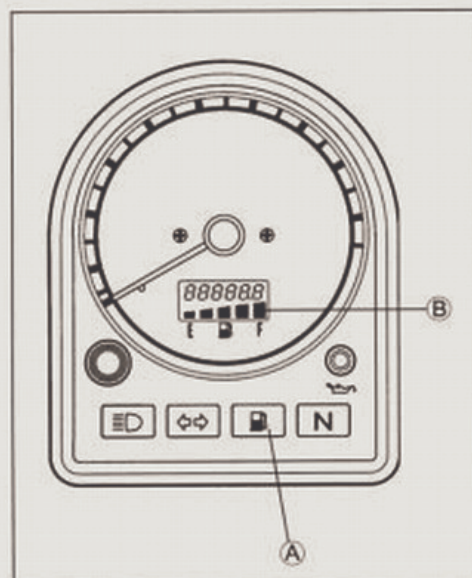
### FUEL LEVEL INDICATOR LIGHT AND FUEL LEVEL METER INSPECTION

To test the fuel level indicator light (A) and the fuel level meter (B), perform the following procedure:

If the tests detect fuel level indicator malfunction or meter malfunction, replace the speedometer.

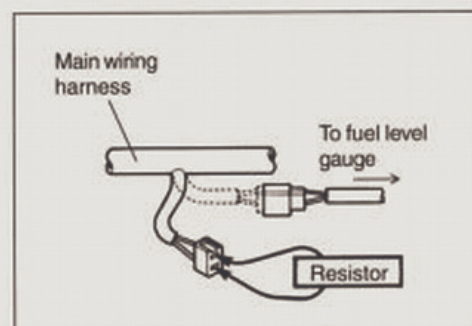
#### Test 1.

- Check if the fuel level indicator light comes on and the fuel level meter displays all segments for three seconds when ignition switch is turned on.



#### Test 2.

- Remove the seat.
- Disconnect the fuel level gauge lead wire coupler.
- Connect each resistor between the Y/B and B/W lead wire coming from main wiring harness.
- Turn on the ignition switch and wait for 13 seconds.
- Check if the fuel level indicator light and meter function as shown below.



Resistance	Less than 16 $\Omega$	20 – 34 $\Omega$	38 – 58 $\Omega$	62 – 87 $\Omega$	91 – 97 $\Omega$	More than 103 $\Omega$
Fuel level meter						Flicker
Fuel level indicator light	OFF	OFF	OFF	OFF	ON	ON





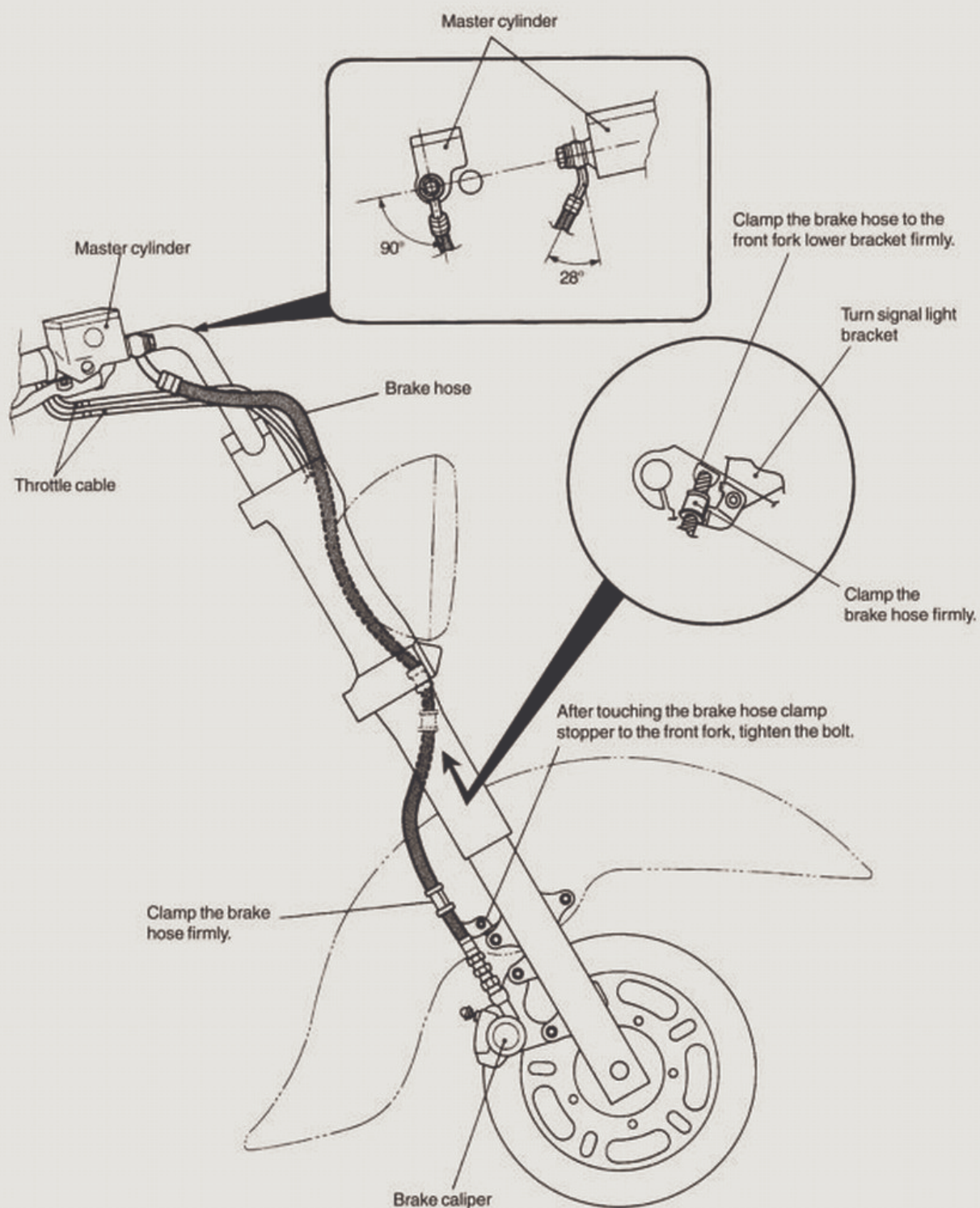




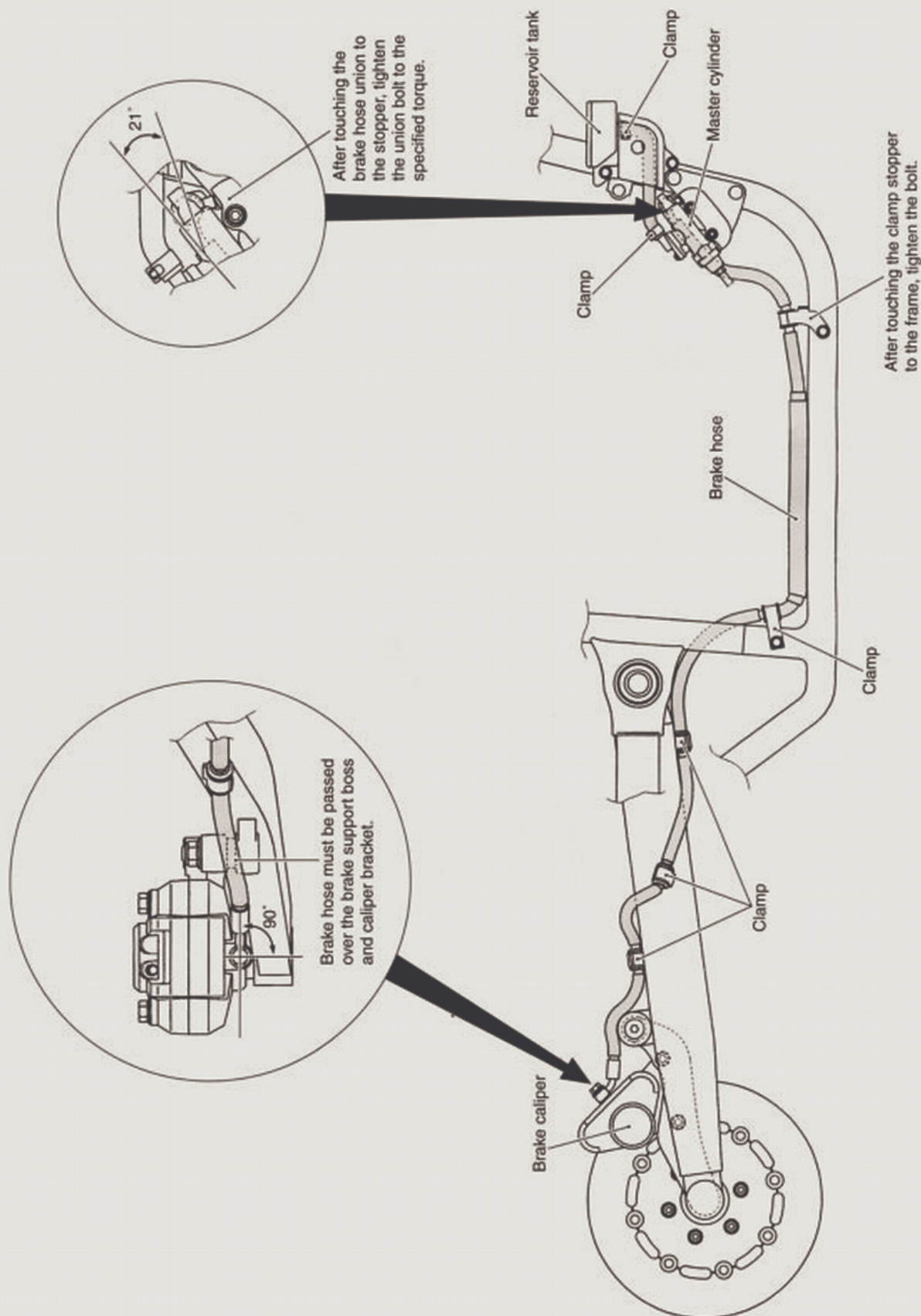




## FRONT BRAKE HOSE ROUTING

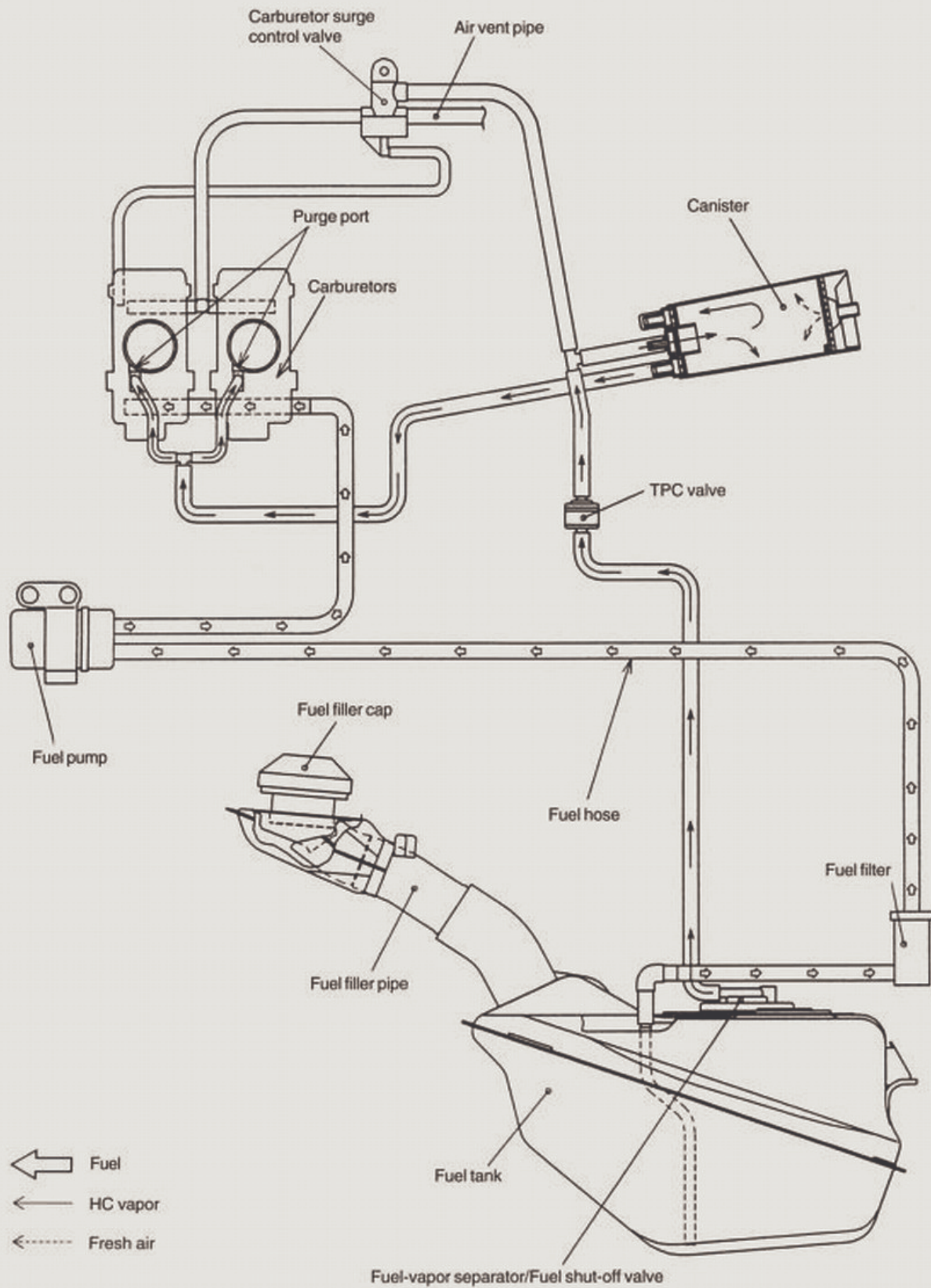


## REAR BRAKE HOSE ROUTING (Y-MODEL)

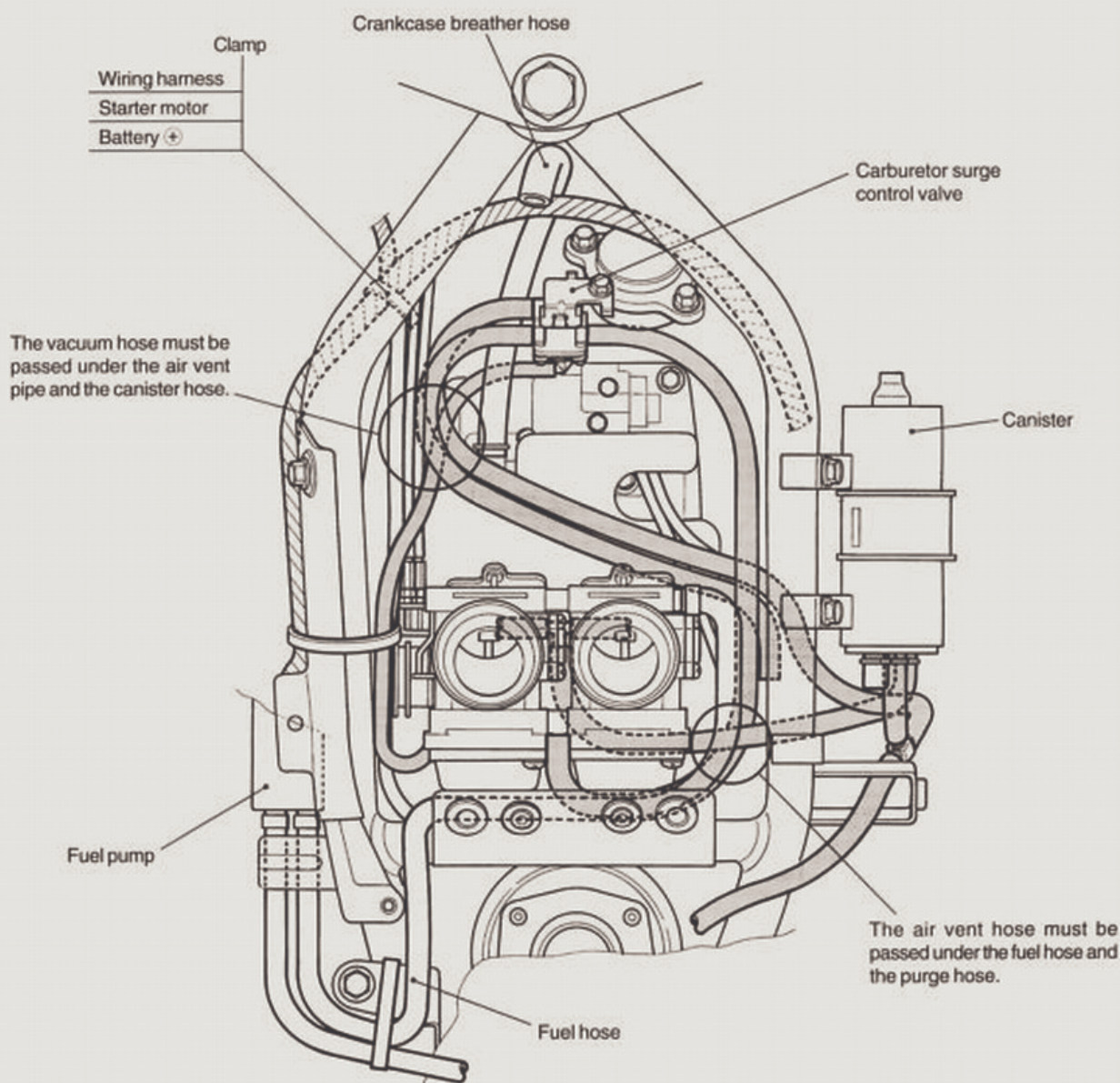




# EVAPORATIVE EMISSION CONTROL SYSTEM (CALIFORNIA MODEL ONLY)



## CANISTER HOSE ROUTING



## EVAPORATIVE EMISSION CONTROL SYSTEM INSPECTION

- Remove the seat, covers, meter, fuel inlet cover and air cleaner box.

### HOSES

Inspect the hoses and pipes for wear or damage.  
Inspect the hoses and pipes for connection.

### CANISTER

Inspect the canister for damage of the body.



**CARBURETOR SURGE CONTROL VALVE**

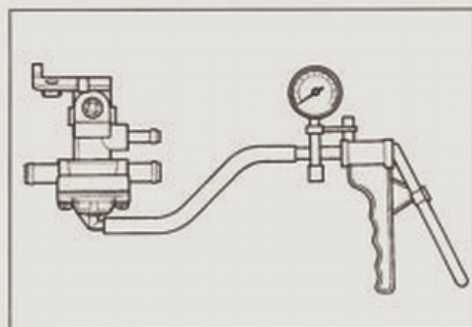
- Remove the carburetor surge control valve.
- Connect the vacuum pump to the vacuum port as shown.
- Apply the specified negative pressure to the carburetor surge control valve.
- The specified negative pressure must be maintained.
- Replace the carburetor surge control valve if negative pressure is not maintained.

**DATA** Negative pressure: 2.7 kPa (20 mm Hg)

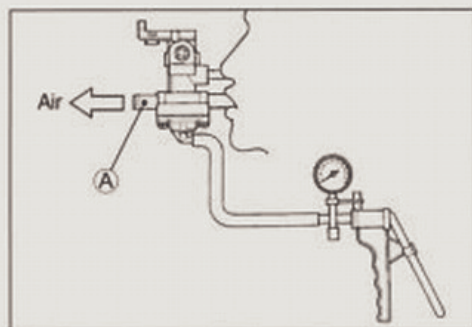
**TOOL** 09917-47010: Vacuum pump gauge

**CAUTION**

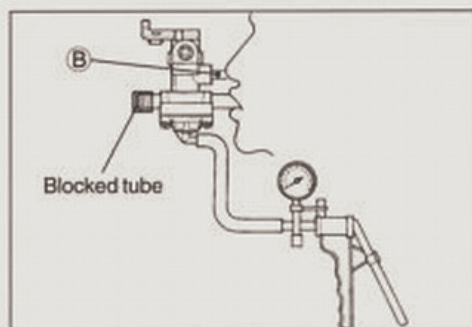
Use a hand operated vacuum pump to prevent the control valve damage.



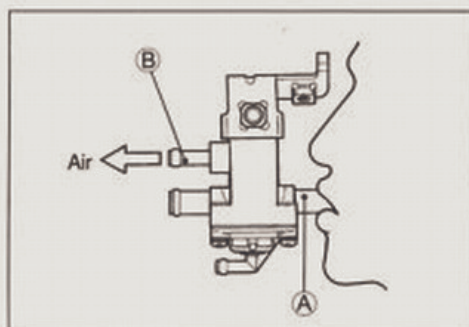
- While applying the specified negative pressure to the carburetor surge control valve vacuum port, blow air through the open air port.
- Air should flow through the carburetor surge control valve and out the air vent port (A).
- Replace the carburetor surge control valve if air does not flow out air vent port (A).



- Plug the air vent port (A).
- While applying the specified negative pressure to the carburetor surge control valve vacuum port, blow air through the open air port.
- Air should not flow through the carburetor surge control valve and out the canister port (B).
- Replace the carburetor surge control valve if air leaks out the canister port (B).



- Remove the vacuum pump and blow air through the air vent port (A).
- Air should flow through the carburetor surge control valve and out the canister port (B).
- Replace the carburetor surge control valve if air does not flow out the canister port (B).



- Plug the canister port (B).
- Air should not flow through the carburetor surge control valve and out the open air port.
- Replace the carburetor surge control valve if air leaks out the open air port.

