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HONDA

SERVICE MANUAL

XR400R

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HOW TO USE THIS MANUAL

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operating condition and the emission levels are within the standards set by the California Air Resources Board. Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Sections 1 and 3 apply to the whole motorcycle. Section 2 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections.
Section 4 through 16 describe parts of the motorcycle, grouped according to location.

Find the section you want on this page, then turn to the table of contents on the first page of that section.

Most sections start with an assembly or system illustration, service information and troubleshooting for the section. The subsequent pages give detailed procedures.

If you don't know the source of the trouble, go to section 18 Troubleshooting.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION WHATEVER. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION. THIS MANUAL IS WRITTEN FOR PERSONS WHO HAVE ACQUIRED BASIC KNOWLEDGE OF MAINTENANCE ON HONDA MOTORCYCLES, MOTOR SCOOTERS OR ATVS.

HONDA MOTOR CO., LTD.
SERVICE PUBLICATION OFFICE

CONTENTS

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IMPORTANT SAFETY NOTICE

⚠ WARNING ***Indicates a strong possibility of severe personal injury or death if instructions are not followed.***

CAUTION: ***Indicates a possibility of equipment damage if instructions are not followed.***

NOTE: Gives helpful information.

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. It is important to note that this manual contains some warnings and cautions against some specific service methods which could cause **PERSONAL INJURY** to service personnel or could damage a vehicle or render it unsafe. Please understand that those warnings could not cover all conceivable ways in which service, whether or not recommended by Honda might be done or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized by the service method or tools selected.

SYMBOLS

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

	Replace the part(s) with new one(s) before assembly.
	Use recommended engine oil, unless otherwise specified.
	Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1:1).
	Use multi-purpose grease (Lithium based multi-purpose gease NLGI #2 or equivalent).
	Use molybdenum disulfide grease (containing more than 3 % molybdenum disulfide, NLGI #2 or equivalent). Example: Molykote® BR-2 plus manufactured by Dow Corning, U.S.A. Multi-purpose M-2 manufactured by Mitsubsihi Oil Japan
	Use molybdenum disulfide paste (containing more than 40% molybdenum disulfide, NLG1 #2 or equivalent). Example: Molykote®G-n Paste manufactured by Dow Corning, U.S.A. Honda Moly 60 (U.S.A. only) Rocol ASP manufactured by Rocol Limited, U.K. Rocol Paste manufactured by Sumico Lubricant, Japan
	Use silicone grease.
	Apply a locking agent. Use a middle strength locking agent unless otherwise specified.
	Apply sealant.
	Use brake fluid, DOT 4. Use the recommended brake fluid, unless otherwise specified.
	Use Fork or Suspension Fluid.

1. GENERAL INFORMATION

GENERAL SAFETY

Carbon monoxide
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.

⚠WARNING

- *The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and may lead to death.*

Run the engine in an open area or with an exhaust evacuation system in an enclosed area.

Gasoline
Work in a well ventilated area. Keep cigarettes, flames or sparks away from the work area or where gasoline is stored.

⚠WARNING

- *Gasoline is extremely flammable and is explosive under certain conditions. KEEP OUT OF REACH OF CHILDREN.*

Hot components

⚠WARNING

- *Engine and exhaust system parts become very hot and remain hot for some time after the engine is run. Wear insulated gloves or wait until the engine and exhaust system have cooled before handling these parts.*

Used engine oil

⚠WARNING

- *Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil. KEEP OUT OF REACH OF CHILDREN.*

Brake dust
Never use an air hose or dry brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner or alternate method approved by OSHA, designed to minimize the hazard caused by airborne asbestos fibers.

⚠WARNING

- *Inhaled asbestos fibers have been found to cause respiratory disease and cancer.*

Brake fluid

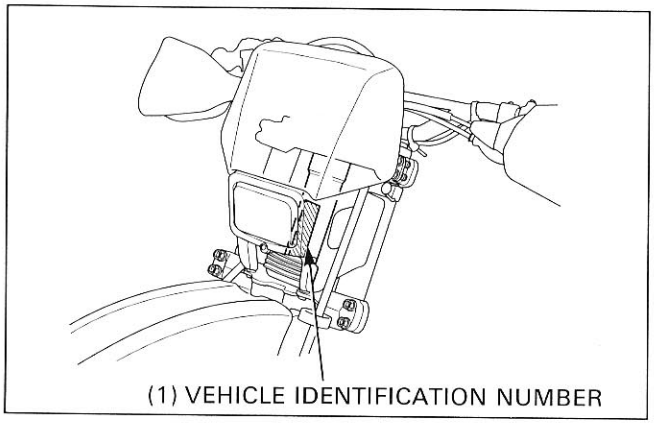
CAUTION

- *Spilling fluid on painted, plastic or rubber parts will damage them. Place a clean shop towel over these parts whenever the system is serviced.*
  KEEP OUT OF REACH OF CHILDREN.

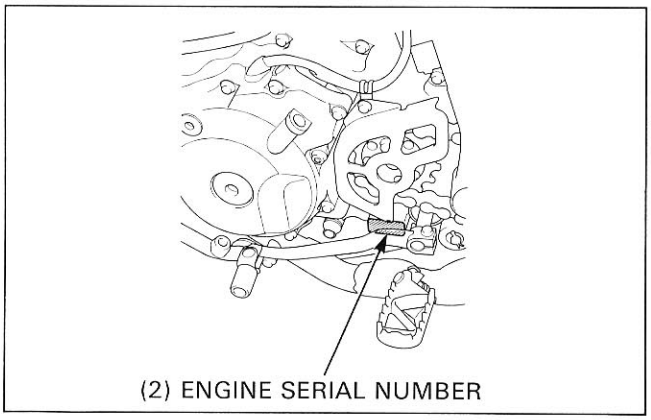
SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that do not meet HONDA's design specifications may damage the motorcycle.
2. Use the special tools designed for this product.
3. Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with English fasteners. The use of incorrect tools and fasteners may damage the motorcycle.
4. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
5. When tightening a series of bolts or nuts, begin with the larger-diameter of inner bolts first, and tighten to the specified torque diagonally, in incremental steps unless a particular sequence is specified.
6. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
7. After assembly, check all parts for proper installation and operation.
8. Route all electrical wires as show on pages 1-19 through 1-24, Cable and Harness Routing.

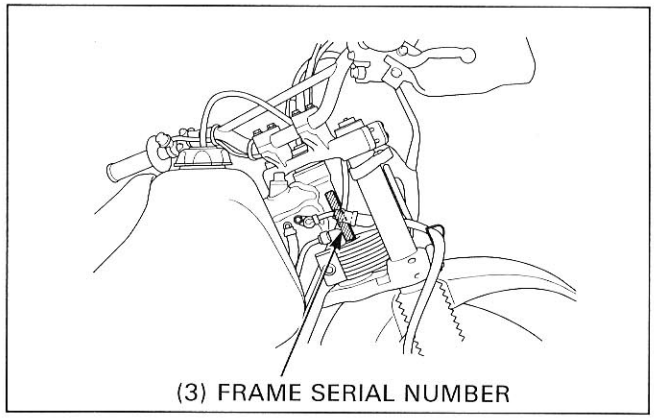
MODEL IDENTIFICATION



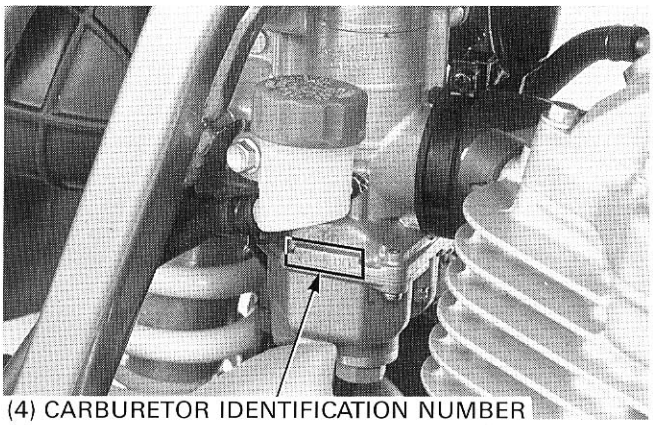
(1) VEHICLE IDENTIFICATION NUMBER
The Vehicle Identification Number (VIN) is located on the front side of the steering head.



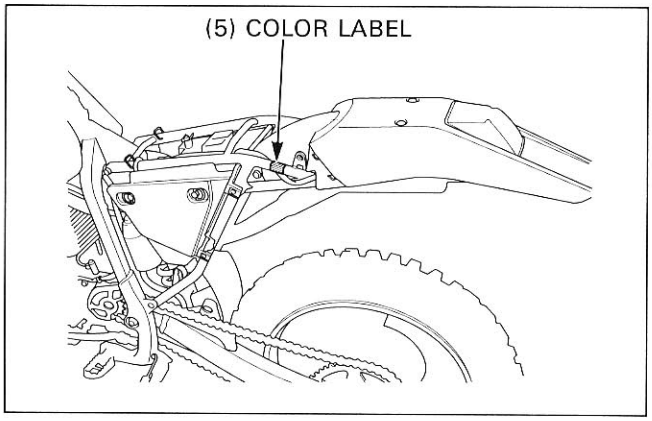
(2) ENGINE SERIAL NUMBER
The engine serial number is stamped on the lower left of the crankcase.



(3) FRAME SERIAL NUMBER
The frame serial number is stamped on the right side of the steering head.



(4) CARBURETOR IDENTIFICATION NUMBER
The carburetor identification number is stamped on the right side of the carburetor body.



(5) COLOR LABEL
The color label is attached to the left rear frame tube under the seat. When ordering color-coded parts, always specify the designated color code.

SPECIFICATIONS

GENERAL

ITEM		SPECIFICATION
DIMENSIONS	Overall length	2,130 mm (83.9 in)
	Overall width	840 mm (33.1 in)
	Overall height	1,240 mm (48.8 in)
	Wheelbase	1,425 mm (56.1 in)
	Seat height	930 mm (36.6 in)
	Ground clearance	310 mm (12.2 in)
	Dry weight	116.5 kg (257 lbs)
	Curb weight	125 kg (276 lbs)
	Maximum weight capacity	100 kg (220 lbs)
FRAME	Frame type	Semi-double cradle
	Front suspension	Telescopic fork
	Front wheel travel	280 mm (11.0 in)
	Rear suspension	Swingarm
	Rear wheel travel	300 mm (11.8 in)
	Front tire size	80/100-21 51M
	Rear tire size	110/100-18 64M
	Tire brand (Dunlop) FR/RR	K490G/K695
	Front brake	Hydraulic single disc
	Rear brake	Hydraulic single disc
	Caster angle	25° 15'
	Trail length	94 mm (3.7 in)
	Fuel tank capacity	9.5 ℓ (2.5 US gal, 2.1 Imp gal)
	Fuel tank reserve capacity	1.5 ℓ (0.4 US gal, 0.3 Imp gal)
ENGINE	Cylinder arrangement	Gasoline, air cooled 4-stroke SOHC
	Bore and stroke	85.0 X 70.0 mm (3.35 X 2.76 in)
	Displacement	397 cm^3 (24.2 cu-in)
	Compression ratio	9.3 : 1
	Valve train	Silent multi-link chain driven SOHC with rocker arms
	Intake valve opens at 1 mm lift	11° BTDC
	Intake valve closes at 1 mm lift	41.5° ABDC
	Exhaust valve opens at 1 mm lift	40° BBDC
	Exhaust valve closes at 1 mm lift	10° ATDC
	Lubrication system	Forced pressure (dry sump)
	Oil pump type	Trochoid
	Cooling system	Air cooled
	Air filtration	Oiled polyurethane foam
	Engine weight	38.5 kg (85 lbs)

GENERAL (cont'd)

ITEM		SPECIFICATION
CARBURETOR	Carburetor type Throttle bore	Piston valve 38 mm (1.5 in)
DRIVE TRAIN	Clutch system Clutch operation system Transmission Primary reduction Final reduction Gear ratio 1st Gear ratio 2nd Gear ratio 3rd Gear ratio 4th Gear ratio 5th Gearshift pattern	Multi-plate, wet Cable operating 5 speeds 2.826 (65/23) 3.000 (45/15) 2.615 (34/13) 1.842 (35/19) 1.400 (28/20) 1.120 (28/25) 0.926 (25/27) Left foot operated return system 1– N – 2 – 3 – 4 – 5
ELECTRICAL	Ignition system	CDI (Capacitive Discharge Ignition)

LUBRICATION SYSTEM

Unit: mm (in)

ITEM		STANDARD	SERVICE LIIMIT
Engine oil capacity	at draining	1.7 ℓ (1.8 US qt, 1.5 Imp qt)	—
	at disassembly	2.2 ℓ (2.3 US qt, 1.9 Imp qt)	—
	at filter change	1.8 ℓ (1.9 US qt, 1.6 Imp qt)	—
Recommended engine oil		HONDA GN4 or HP4 4-stroke oil or equivalent motor oil API service classification: SF or SG Viscosity: SAE 10W–40 or 20W–50	—
Oil pump rotor	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.15 – 0.22 (0.006 – 0.009)	0.25 (0.010)
	End clearance	0.02 – 0.09 (0.001 – 0.004)	0.12 (0.005)

FUEL SYSTEM

ITEM		SPECIFICATION
Carburetor identification number	'96, '97 :	PDK 1A
	After '97: 49 state type	PDK 1C
	After '97: California type	PDK 1E
Main jet	'96, '97:	#162*, #158**
	After '97:	#142
Slow jet	'96, '97:	#62*, #60**
	After '97:	#52
Jet needle clip position	'96, '97:	3rd groove from top*, 2nd groove from top**
	After '97:	3rd groove from top
Pilot screw opening		See page 5-11
Float level		14.5 mm (0.57 in)
Idle speed		1,300 ± 100 rpm
Throttle grip free play		2 – 6 mm (1/8 – 1/4 in)

* Standard settings (as delivered)
** Suggested settings for trail riding (noise suppressor and exhaust diffuser installed)

Unit: mm (in)

CYLINDER HEAD/VALVES

ITEM				STANDARD	SERVICE LIIMIT
Decompressor lever free play				5 – 8 mm (3/16 – 5/16 in)	—
Cylinder compression				686 – 980 kPa (7.0 – 10.0 kgf/cm², 100 – 142 psi) / 450 rpm	—
Cylinder head	Warpage			—	0.10 (0.004)
Camshaft	Cam lobe height		IN	30.925 – 31.025 (1.2175 – 1.2215)	30.82 (1.213)
			EX	30.827 – 30.927 (1.2137 – 1.2176)	30.72 (1.209)
	Runout			—	0.03 (0.001)
Rocker arm	Rocker arm I.D.		IN/EX	11.500 – 11.518 (0.4528 – 0.4535)	11.53 (0.454)
	Rocker arm shaft O.D.		IN/EX	11.466 – 11.484 (0.4514 – 0.4521)	11.41 (0.449)
	Rocker arm-to-shaft clearance		IN/EX	0.016 – 0.052 (0.0006 – 0.0020)	0.10 (0.004)
Sub-rocker arm	Sub-rocker arm I.D.		IN/EX	7.000 – 7.015 (0.2756 – 0.2762)	7.05 (0.278)
	Sub-rocker arm shaft O.D.		IN/EX	6.972 – 6.987 (0.2745 – 0.2751)	6.92 (0.272)
	Sub-rocker arm-to-shaft clearance		IN/EX	0.013 – 0.043 (0.0005 – 0.0017)	—
Valve and valve guide	Valve clearance		IN	0.10 ± 0.02 (0.004 ± 0.0008)	—
			EX	0.12 ± 0.02 (0.005 ± 0.0008)	—
	Valve stem O.D.		IN	5.475 – 5.490 (0.2156 – 0.2161)	5.46 (0.215)
			EX	5.455 – 5.470 (0.2148 – 0.2154)	5.44 (0.214)
	Valve guide I.D.		IN/EX	5.500 – 5.512 (0.2165 – 0.2170)	5.52 (0.217)
	Stem-to-guide clearance		IN	0.010 – 0.037 (0.0004 – 0.0015)	0.12 (0.005)
			EX	0.030 – 0.057 (0.0012 – 0.0022)	0.14 (0.006)
	Valve seat width		IN/EX	1.0 – 1.1 (0.039 – 0.043)	2.0 (0.08)
Valve spring	Free length	Inner	IN/EX	37.19 (1.464)	36.3 (1.43)
		Outer	IN/EX	44.20 (1.740)	43.1 (1.70)

CYLINDER/PISTON

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Cylinder	I.D.		85.000 – 85.010 (3.3465 – 3.3468)	85.10 (3.350)
	Out of round		—	0.05 (0.002)
	Taper		—	0.05 (0.002)
	Warpage		—	0.10 (0.004)
Piston, piston ring and piston pin	Piston mark direction		"IN" mark toward the intake side	—
	Piston O.D.		84.960 – 84.985 (3.3449 – 3.3459) at 15 (0.6) from the bottom	84.880 (3.3417)
	Piston pin hole I.D.		20.002 – 20.008 (0.7875 – 0.7877)	20.060 (0.7898)
	Piston pin O.D.		19.994 – 20.000 (0.7872 – 0.7874)	19.964 (0.7860)
	Connecting rod small end I.D.		20.020 – 20.041 (0.7882 – 0.7890)	20.067 (0.7900)
	Cylinder-to-piston clearance		0.015 – 0.050 (0.0006 – 0.0020)	0.10 (0.004)
	Piston-to-piston pin clearance		0.002 – 0.014 (0.0001 – 0.0006)	0.096 (0.0038)
	Connecting rod-to-piston pin clearance		0.020 – 0.047 (0.0008 – 0.0019)	0.103 (0.0041)
	Piston ring-to-ring groove clearance	Top	0.030 – 0.065 (0.0012 – 0.0026)	0.14 (0.006)
		Second	0.015 – 0.050 (0.006 – 0.0020)	0.12 (0.005)
	Piston ring end gap	Top	0.20 – 0.35 (0.008 – 0.014)	0.50 (0.020)
		Second	0.35 – 0.50 (0.014 – 0.020)	0.65 (0.026)
		Oil (side rail)	0.2 – 0.7 (0.01 – 0.03)	0.9 (0.04)
	Piston ring mark direction	Top/second	Marking facing up	—

CLUTCH/KICKSTARTER/GEARSHIFT LINKAGE

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Clutch	Clutch lever free play		10 – 20 (3/8 – 3/4)	—
	Clutch spring free length	'96:	45.5 (1.79)	44.5 (1.75)
		After '96:	43.2 (1.70)	41.6 (1.64)
	Clutch disc thickness		2.92 – 3.08 (0.115 – 0.121)	2.69 (0.106)
	Clutch plate warpage		—	0.30 (0.012)
	Clutch outer I.D.		28.000 – 28.021 (1.1024 – 1.1032)	28.04 (1.104)
	Clutch outer guide	I.D.	22.010 – 22.035 (0.8665 – 0.8675)	22.05 (0.868)
		O.D.	27.959 – 27.980 (1.1007 – 1.1016)	27.90 (1.098)
	Mainshaft O.D. at clutch outer guide		21.959 – 21.980 (0.8645 – 0.8654)	21.91 (0.863)
Kickstarter	Kickstarter pinion gear I.D.		22.020 – 22.041 (0.8669 – 0.8678)	22.12 (0.871)
	Kickstarter spindle O.D.		21.959 – 21.980 (0.8645 – 0.8654)	21.91 (0.863)
	Kickstarter idle gear I.D.		19.010 – 19.034 (0.7484 – 0.7494)	19.13 (0.753)
	Idle gear bushing	I.D.	14.000 – 14.018 (0.5512 – 0.5519)	14.05 (0.553)
		O.D.	18.959 – 18.980 (0.7464 – 0.7472)	18.92 (0.745)
	Countershaft O.D. at idle gear		13.966 – 13.984 (0.5498 – 0.5506)	13.93 (0.548)

TRANSMISSION

Unit: mm (in)

ITEM			STANDARD	SERVICE LIIMIT
Transmission	Gear I.D.	M4	25.020 – 25.041 (0.9850 – 0.9859)	25.08 (0.987)
		M5	25.000 – 25.021 (0.9843 – 0.9851)	25.06 (0.987)
		C1	23.000 – 23.021 (0.9055 – 0.9063)	23.07 (0.908)
		C2, C3	28.020 – 28.041 (1.1031 – 1.1040)	28.08 (1.106)
	Gear bushing O.D.	M4	24.979 – 25.000 (0.9834 – 0.9843)	24.90 (0.980)
		M5	24.959 – 24.980 (0.9826 – 0.9835)	24.90 (0.980)
		C1	22.959 – 22.980 (0.9039 – 0.9047)	22.90 (0.902)
		C2, C3	27.979 – 28.000 (1.1015 – 1.1024)	27.94 (1.100)
	Gear bushing I.D.	M4	22.000 – 22.021 (0.8661 – 0.8670)	22.10 (0.870)
		C1	20.020 – 20.041 (0.7882 – 0.7890)	20.08 (0.791)
		C2, C3	25.000 – 25.021 (0.9843 – 0.9851)	25.06 (0.987)
	Mainshaft O.D.	at M4	21.959 – 21.980 (0.8645 – 0.8654)	21.92 (0.863)
	Countershaft O.D.	at C1	19.979 – 20.000 (0.7866 – 0.7874)	19.94 (0.785)
		at C2, C3	24.959 – 24.980 (0.9826 – 0.9835)	24.92 (0.981)
	Gear-to-bushing clearance		0.020 – 0.062 (0.0008 – 0.0022)	0.10 (0.004)
	Gear bushing-to-shaft clearance		0.020 – 0.062 (0.0008 – 0.0022)	0.10 (0.004)
Shift fork, fork shaft and drum	Shift fork I.D.		13.000 – 13.021 (0.5118 – 0.5126)	13.05 (0.514)
	Shift fork claw thickness		5.93 – 6.00 (0.233 – 0.236)	5.5 (0.22)
	Shift fork shaft O.D.		12.966 – 12.984 (0.5105 – 0.5112)	12.90 (0.508)
	Drum O.D. at right end		19.959 – 19.980 (0.7858 – 0.7866)	19.90 (0.783)
	Drum journal (R. crankcase)		20.000 – 20.033 (0.7874 – 0.7887)	20.07(0.790)

CRANKSHAFT/BALANCER

Unit: mm (in)

ITEM		STANDARD	SERVICE LIIMIT
Connecting rod	Big end side clearance	0.05 – 0.45 (0.002 – 0.018)	0.6 (0.02)
	Big end radial clearance	0.006 – 0.018 (0.0002 – 0.0007)	0.05 (0.002)
Crankshaft runout		—	0.12 (0.005)

FRONT WHEEL/SUSPENSION/STEERING

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Tire and wheel	Cold tire pressure		100 kPa (1.0 kgf/cm², 15 psi)	—
	Axle runout		—	0.2 (0.01)
	Wheel rim runout	Radial	—	2.0 (0.08)
		Axial	—	2.0 (0.08)
	Wheel rim-to-hub distance		20.25 (0.797)	—
Fork	Fork spring free length	'96, '97:	510.4 (20.09)	505.3 (19.89)
		After '97:	536.1 (21.11)	528 (20.8)
	Fork spring direction		Narrow end facing down	—
	Fork tube runout		—	0.20 (0.008)
	Fork air pressure		0 kPa	—
	Recommended fork oil		Pro Honda Suspension Fluid SS – 7	—
	Fork oil level	'96, '97:	100 (3.9)	—
		After '97:	116 (4.6)	—
	Fork oil capacity	'96, '97:	570 cm³ (19.2 US gal, 20.0 Imp gal)	—
		After '97:	559 cm³ (18.9 US gal, 19.7 Imp gal)	—

REAR WHEEL/SUSPENSION

Unit: mm (in)

ITEM			STANDARD	SERVICE LIIMIT
Tire and wheel	Cold tire pressure		100 kPa (1.0 kgf/cm², 15 psi)	—
	Axle runout		—	0.2 (0.01)
	Wheel rim runot	Radial	—	2.0 (0.08)
		Axial	—	2.0 (0.08)
	Wheel rim-to-hub distance		19 (0.7)	—
Drive chain	Drive chain slack		35 – 45 (1-1/3 – 1-3/4)	—
	Drive chain length (at 41 pins/40 links)		—	638 (25.1)
	Drive chain size / link		DID 520V8/108 or RK 520M0Z6/108	—
	Chain slider depth		—	4.0 (0.15)
Shock absorber	Shock absorber spring free length		217.3 (8.56)	213.0 (8.39)
	Shock absorber spring direction		Narrow end facing down	—
	Shock absorber spring installed length	Standard	212.3 (8.36)	—
		Adjustable range	205.3 – 216.3 (8.08 – 8.52)	—
	Damper rod compressed force at 10 mm (0.4 in) compressed		15.4 kg (34.0 lbs)	—
	Damper gas pressure/compressed gas		980 kPa (10.0 kgf/cm², 142 psi) / Nitrogen	—
	Recommended shock absorber oil		Pro Honda Suspension Fluid SS-8	—

Unit: mm (in)

HYDRAULIC DISC BRAKE

ITEM		STANDARD	SERVICE LIIMIT
Specified brake fluid		DOT 4	——
Brake disc thickness	FR	3.0 (0.12)	2.5 (0.10)
	RR	4.5 (0.18)	4.0 (0.16)
Brake disc runout		——	0.25 (0.010)
Master cylinder I.D.	FR	11.000 – 11.043 (0.4331 – 0.4348)	11.06 (0.435)
	RR	12.700 – 12.743 (0.5000 – 0.5017)	12.76 (0.502)
Master piston O.D.	FR	10.957 – 10.984 (0.4314 – 0.4324)	10.84 (0.427)
	RR	12.657 – 12.684 (0.4983 – 0.4994)	12.64 (0.498)
Caliper cylinder I.D.		27.000 – 27.050 (1.0630 – 1.0650)	27.06 (1.065)
Caliper piston O.D.	FR	26.900 – 26.950 (1.0591 – 1.0610)	26.89 (1.059)
	RR	26.935 – 26.968 (1.0604 – 1.0617)	26.91 (1.059)

ELECTRICAL SYSTEM

ITEM			SPECIFICATION	
Lighting system	AC regulator regulated voltage		12.5 – 13.5 V / 3,000 rpm	
	Lighting coil resistance (at 20°C/68° F)		0.1 – 1.0 Ω	
Ignition system	Spark plug		NGK	DENSO
		Standard	DPR8Z	X24GPR-U
		For extended high speed riding	DPR9Z	X27GPR-U
	Spark plug gap		0.6 – 0.7 mm (0.023 – 0.028 in)	
	Ignition coil primary peak voltage		100 V minimum	
	Ignition pulse generator peak voltage		0.7 V minimum	
	Exciter coil peak voltage		100 V minimum	
	Ignition timing F mark		8° BTDC at idle	
Bulb	Headlight		12 V 35 W	
	Taillight		12 V 5 W	

TORQUE VALUES

STANDARD

FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)	FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)
5 mm bolt and nut	5 (0.5, 3.6)	5 mm screw	4 (0.4, 2.9)
6 mm bolt and nut	10 (1.0, 7)	6 mm screw	9 (0.9, 6.5)
8 mm bolt and nut	22 (2.2, 16)	6 mm flange bolt (8 mm head: Small flange)	9 (0.9, 6.5)
10 mm bolt and nut	34 (3.5, 25)		
12 mm bolt and nut	54 (5.5, 40)	6 mm flange bolt (8 mm head: Large flange–engine only)	12 (1.2, 9)
			
		6 mm flange bolt (10 mm head) and nut	12 (1.2, 9)
		8 mm flange bolt and nut	26 (2.7, 20)
		10 mm flange bolt and nut	39 (4.0, 29)

· Torque specifications listed below are for important fasteners.
· Others should be tightened to standard torque values listed above.

NOTES: 1. Apply locking agent to the threads.
2. Apply oil to the threads and seating surface.
3. ALOC bolt. Do not reuse.
4. Stake.
5. Loosen the bolt 1/8 to 1/4 turns after tightening it to the specified torque, then tighten the pivot nut.

ENGINE

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Lubrication System:				
Oil drain bolt (at crankcase)	1	12	25 (2.5, 18)	
Oil drain bolt (at frame down tube)	1	10	39 (4.0, 29)	
Frame down tube oil strainer screen	1	27	54 (5.5, 40)	
Oil pipe bolt (at oil strainer)	1	12	37 (3.8, 27)	
Oil cooler joint flare nut (left side)	1	16	20 (2.0, 14)	
(right side)	1	18	20 (2.0, 14)	
Oil pump assembly bolt	2	6	13 (1.3, 9)	
Fuel System:				
Fuel valve mounting bolt	2	6	9 (0.9, 6.5)	
Cylinder Head/Valves:				
Spark plug	1	12	18 (1.8, 13)	
Valve hole cap	4	36	15 (1.5, 11)	
Valve adjusting lock nut	4	7	24 (2.4, 17)	
Head cover bolt	1	8	26 (2.7, 20)	
Rocker arm shaft	2	14	27 (2.8, 20)	NOTE 1
Intake sub-rocker arm shaft	2	14	27 (2.8, 20)	NOTE 1
Exhaust sub-rocker arm shaft	2	12	27 (2.8, 20)	NOTE 1
Cam sprocket bolt	2	7	20 (2.0, 14)	NOTE 1
Cam chain tensioner plug	1	6	4 (0.4, 2.9)	
Cylinder head nut	4	10	44 (4.5, 33)	NOTE 2
Cylinder/Piston:				
Cylinder bolt	4	10	44 (4.5, 33)	NOTE 2

ENGINE (cont'd)

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N•m (kgf•m, lbf•ft)	REMARKS
Clutch/Kickstarter/Gearshift Linkage:				
Kickstarter pedal pinch bolt	1	8	26 (2.7, 20)	
Clutch center lock nut	1	18	108 (11.0, 80)	NOTE 2, 4
Gearshift drum stopper arm pivot bolt	1	6	12 (1.2, 9)	
Primary drive gear nut	1	18	88 (9.0, 65)	NOTE 2
Alternator:				
Timing hole cap	1	14	10 (1.0, 7)	
Crankshaft hole cap	1	30	8 (0.8, 5.8)	
Flywheel bolt	1	12	127 (13.0, 94)	NOTE 2
Left crankcase cover stud bolt	1	6	10 (1.0, 7)	NOTE 1
Transmission:				
Mainshaft bearing setting plate bolt	2	6	12 (1.2, 9)	NOTE 1
Gearshift return spring pin	1	8	24 (2.4, 17)	

FRAME

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N•m (kgf•m, lbf•ft)	REMARKS
Frame/Body Panels/Exhaust System:				
Sub-frame upper mounting nut	1	8	26 (2.7, 20)	
Sub-frame lower mounting bolt	2	8	42 (4.3, 31)	
Exhaust pipe joint nut	4	8	18 (1.8, 13)	
Muffler mounting bolt	2	8	32 (3.3, 24)	
Muffler band bolt	1	8	20 (2.0, 14)	
Engine Removal/Installation:				
Right foot peg mounting bolt	2	10	42 (4.3, 31)	
Gearshift pedal pinch bolt	1	6	12 (1.2, 9)	
Upper engine hanger bracket nut (engine)	1	10	54 (5.5, 40)	
(frame)	2	8	26 (2.7, 20)	
Front engine hanger bracket nut (engine)	1	10	54 (5.5, 40)	
(frame)	2	8	26 (2.7, 20)	
Lower engine mounting nut	1	10	54 (5.5, 40)	
Front Wheel/Suspension/Steering:				
Front axle holder nut	8	6	12 (1.2, 9)	
Front axle	1	16	88 (9.0, 65)	
Front brake disc bolt	4	6	20 (2.0, 14)	NOTE 1
Spoke nipple	36	BC3.5	3.7 (0.38, 2.7)	
Rim lock	1	8	13 (1.3, 9)	
Fork center bolt	2	22	34 (3.5, 25)	NOTE 1
Piston rod lock nut	2	10	20 (2.0, 14)	
Fork cap	2	39	23 (2.3, 17)	
Rebound damping adjuster	2	——	27 (2.8, 20)	
Steering stem nut	1	24	98 (10.0, 72)	
Steering bearing adjustment nut	1	24	——	See page 13-26
Throttle pulley pivot screw	1	5	4 (0.4, 2.9)	

FRAME (cont'd)

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N•m (kgf•m, lb•ft)	REMARKS
Rear Wheel/Suspension:				
Rear axle nut	1	16	88 (9.0, 65)	
Rear brake disc bolt	4	8	42 (4.3, 31)	NOTE 3
Driven sprocket bolt	6	8	32 (3.3, 24)	
Spoke nipple	32	BC3.5	3.7 (0.38, 2.7)	
Rim lock nut	1	8	13 (1.3, 9)	
Shock absorber damper rod end nut	1	12	30 (3.1, 22)	
Shock absorber compression damping adjuster	1	—	18 (1.8, 13)	
Shock absorber spring lock nut	1	—	88 (9.0, 65)	
Shock absorber upper mounting nut	1	10	44 (4.5, 33)	
Shock absorber lower monuting nut	1	10	44 (4.5, 33)	
Shock arm-to-swingarm nut	1	12	69 (7.0, 51)	
Shock link-to-frame nut	1	10	49 (5.0, 36)	
Shock link-to-shock arm nut	1	10	44 (4.5, 33)	
Swingarm pivot nut	1	14	88 (9.0, 65)	
Rear brake hose guide screw	2	5	4.2 (0.43, 3.1)	NOTE 3
Chain slider screw	2	5	4.2 (0.43, 3.1)	NOTE 3
Chain adjuster stopper pin	2	10	34 (3.5, 25)	NOTE 1
Wheel setting plate fixing screw	4	5	4.2 (0.43, 3.1)	NOTE 3
Hydraulic Disc Brake:				
Brake hose oil bolt	4	10	34 (3.5, 25)	
Pad pin	2	10	18 (1.8, 13)	
Pad pin plug	2	10	2.5 (0.25, 1.8)	
Caliper bleed valve	2	8	5.5 (0.55, 4.0)	
Front caliper mouning bolt	2	8	30 (3.1, 22)	NOTE 3
Front caliper pin bolt	1	8	23 (2.3, 17)	NOTE 1
Front caliper bracket pin blot	1	8	13 (1.3, 9)	NOTE 1
Front master cylinder reservoir cap screw	2	4	1.5 (0.15, 1.1)	
Front brake lever pivot bolt	1	6	6 (0.6, 4.3)	
nut	1	6	6 (0.6, 4.3)	
Front brake lever adjusting bolt	1	5	6 (0.6, 4.3)	
Rear caliper pin bolt	1	12	27 (2.8, 20)	
Rear caliper bracket pin bolt	1	8	13 (1.3, 9)	NOTE 1
Rear master cylinder mounting bolt	2	6	14 (1.4, 10)	NOTE 3
Rear master cylinder push rod lock nut	1	8	18 (1.8, 13)	
Others:				
Side stand pivot bolt	1	10	10 (1.0, 7)	NOTE 5
nut	1	10	39 (4.0, 29)	

TOOLS

NOTES: 1. Equivalent commercially available in U. S. A.
2. Not available in U. S. A.
3. Alternative tool.

DESCRIPTION	TOOL NUMBER	REMARKS	REF. SEC.
Carburetor float level gauge	07401-0010000		5
Universal bearing puller	07631-0010000	NOTE 1	12
Spoke wrench C, 5.8 x 6.1 mm	07701-0020300	NOTE 1	3, 13, 14
Gear holder	07724-0010100	NOTE 2	9
Clutch center holder	07724-0050002	NOTE 1	9
Flywheel holder	07725-0040000	NOTE 1	10
Flywheel puller	07733-0020001	NOTE 3: 07933-3950000	10
Remover weight	07741-0010201	NOTE 3: 07936-371020 A or 07936-3710200	11, 12
Valve guide driver, 5.5 mm	07742-0010100		7
Attachment, 32 x 35 mm	07746-0010100		9, 12, 13
Attachment, 37 x 40 mm	07746-0010200		11, 12, 14
Attachment, 42 x 47 mm	07746-0010300		11, 13, 14
Attachment, 52 x 55 mm	07746-0010400		11
Attachment, 72 x 75 mm	07746-0010600		12
Attachment, 24 x 26 mm	07746-0010700		14
Pilot, 12 mm	07746-0040200		12
Pilot, 15 mm	07746-0040300		12
Pilot, 17 mm	07746-0040400		9, 11, 13, 14
Pilot, 25 mm	07746-0040600		11
Pilot, 30 mm	07746-0040700		12
Pilot, 22 mm	07746-0041000		11
Bearing remover shaft	07746-0050100		13, 14
Bearing remover head, 17 mm	07746-0050500		13, 14
Driver	07749-0010000		9, 11, 12, 13, 14
Valve spring compressor	07757-0010000		7
Valve seat cutter, 29 mm (45° EX)	07780-0010300	NOTE 1	7
Valve seat cutter, 35 mm (45° IN)	07780-0010400	NOTE 1	7
Valve seat cutter, 30 mm (32° EX)	07780-0012200	NOTE 1	7
Valve seat cutter, 35 mm (32° IN)	07780-0012300	NOTE 1	7
Valve seat cutter, 30 mm (60° IN/EX)	07780-0014000	NOTE 1	7
Valve seat cutter holder, 5.5 mm	07781-0010101	NOTE 1	7
Compression gauge attachment	07908-KK60000	NOTE 1	7
Snap ring pliers	07914-3230001		15
Steering stem socket	07916-KA50100		13
Needle bearing remover	07931-MA70000	NOTE 3: 07936-3710600 and 07936-3710100 and 07936-3710200	14
Remover shaft	07936-1660120		12
Remover handle	07936-3710100		11
Bearing remover, 17 mm	07936-3710300		11
Bearing remover set, 15 mm	07936-KC10000	NOTE 2	12
– bearing remover, 15 mm	07936-KC10500		12
– remover shaft	07936-KC10100	NOTE 2	12
– bearing remover	07936-KC10200	NOTE 2	12
– remover weight	07741-0010201	NOTE 3: 07936-371020A or 07936-3710200	12

DESCRIPTION	TOOL NUMBER	REMARKS	REF. SEC.
Steering stem driver	07946-4300101	NOTE 3: 07946-MB00000 and 07946-KA6000A or GN HT-51	13
Needle bearing remover	07946-KA50000		14
Driver head (After '97)	07946-KM40701	NOTE 2	14
Driver shaft (After '97)	07946-MJ00100		14
Fork seal driver attachment	07947-KA40200		13
Fork seal driver weight	07947-KA50100		13
Oil seal remover	07948-4630100	NOTE 3: M9360-277-91774 and 07953-MJ1000B or 07953-MJ1000A	13
Crankcase assembly tool	07965-VM00000	NOTE 2	12
– assembly collar	07965-VM00100		12
– assembly shaft	07965-VM00200	NOTE 3: 07931-ME4010B and 07931-HB3020A	12
– threaded adaptor	07965-VM00300	NOTE 3: 07931-KF00200	12
Slider guide, 14 mm	07974-KA40000	NOTE 2	14
Slider guide attachment	07974-KA50102	NOTE 2	14
Valve guide reamer, 5.5 mm	07984-2000001	NOTE 3: 07984-200000D	7
Pin driver	07GMD-KT80100	NOTE 2	14
Peak voltage adaptor	07HGJ-0020100	NOTE 3: Peak voltage tester (U.S.A. only)	16
Spherical bearing driver ('96, '97)	07HMF-KS60100	NOTE 3: 07965-GM00100 or 07965-VM00100	14
Bearing remover, 13 mm	07LMC-KZ10100	NOTE 2	12
Fork damper holder	07WMB-KCY0100	NOTE 3: 07TMB-KCY010A and 07TMB-001010A	13

LUBRICATION & SEAL POINTS

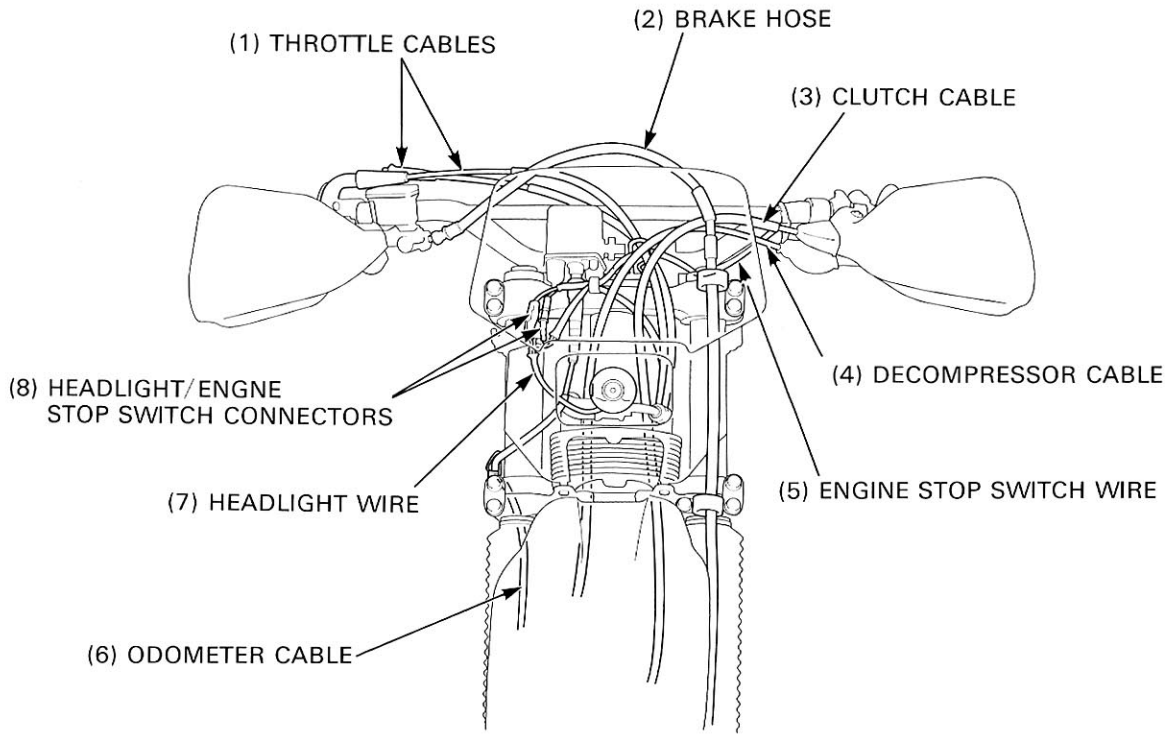
ENGINE

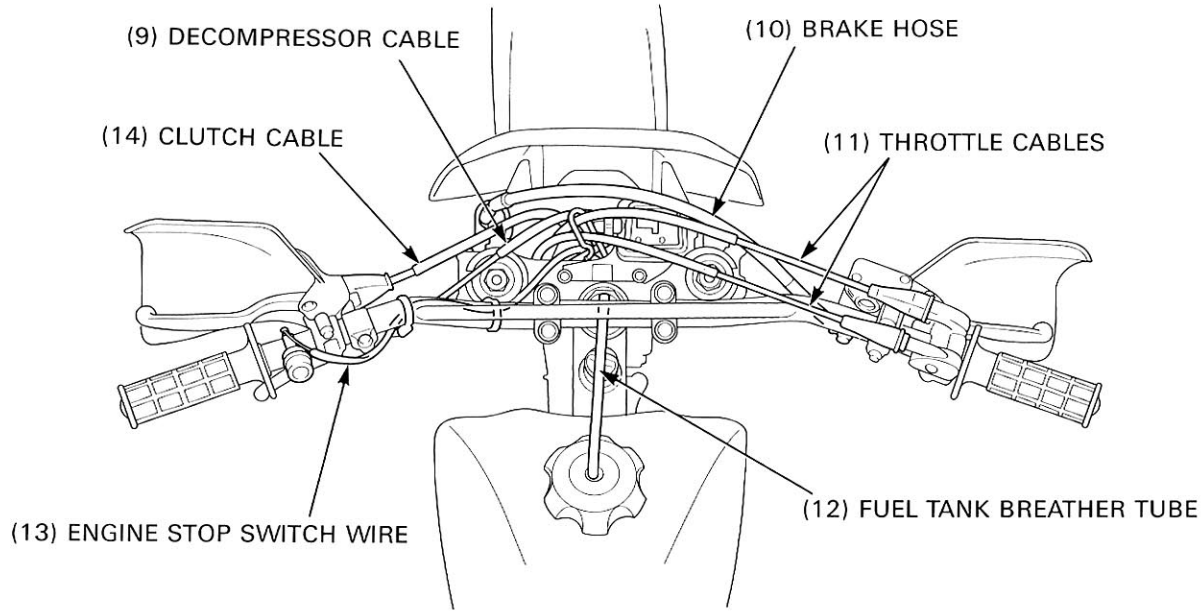
LOCATION	MATERIAL	REMARKS
Camshaft journal and lobes Rocker arm slipper surfaces Sub-rocker arm slipper surfaces Valve stem (valve guide sliding surfaces) Clutch outer guide sliding surfaces Kickstarter spindle spline Piston pin outer surface Connecting rod small end inner surface Transmission gear and sliding surfaces Transmission gear shift fork grooves	Molybdenum oil solution (a mixture of 1/2 engine oil and 1/2 molybdenum disulfide grease)	
Rocker arm shaft sliding surface Sub-rocker arm shaft sliding surface Cam chain Cylinder head nut threads and seating surfaces Piston outer surface and piston pin hole Piston rings Cylinder bore Cylinder bolt threads and seating surfaces (10 mm only) Clutch arm shaft Clutch lifter piece Clutch disc lining Clutch center lock nut threads and seating surfaces Primary drive gear lock nut threads and seating surfaces Flywheel bolt threads and seating surfaces Transmission gear teeth Gearshift fork shaft Gearshift fork pins and inner surfaces Shift drum grooves Connecting rod big end side surfaces Oil pump rotors Bearings O-rings	Engine oil	
Oil seal lips	Multi-purpose grease	
Rocker arm shaft threads Sub-rocker arm shaft threads Gearshift cam plate bolt threads Left crankcase cover stud bolt threads Alternator wire clamp bolt threads (inside the left crankcase cover) Stator bolt threads Mainshaft bearing setting plate bolt threads Cam chain tensioner guide bolt threads Cam sprocket bolt threads	Locking agent	Coating area (page 7–24) Coating area (page 7–24) Coating width: 6.5 mm (0.26 in) from tip Coating width: 5 mm (0.2 in) from tip
Alternator wire grommet seating surface	Liquid sealant	

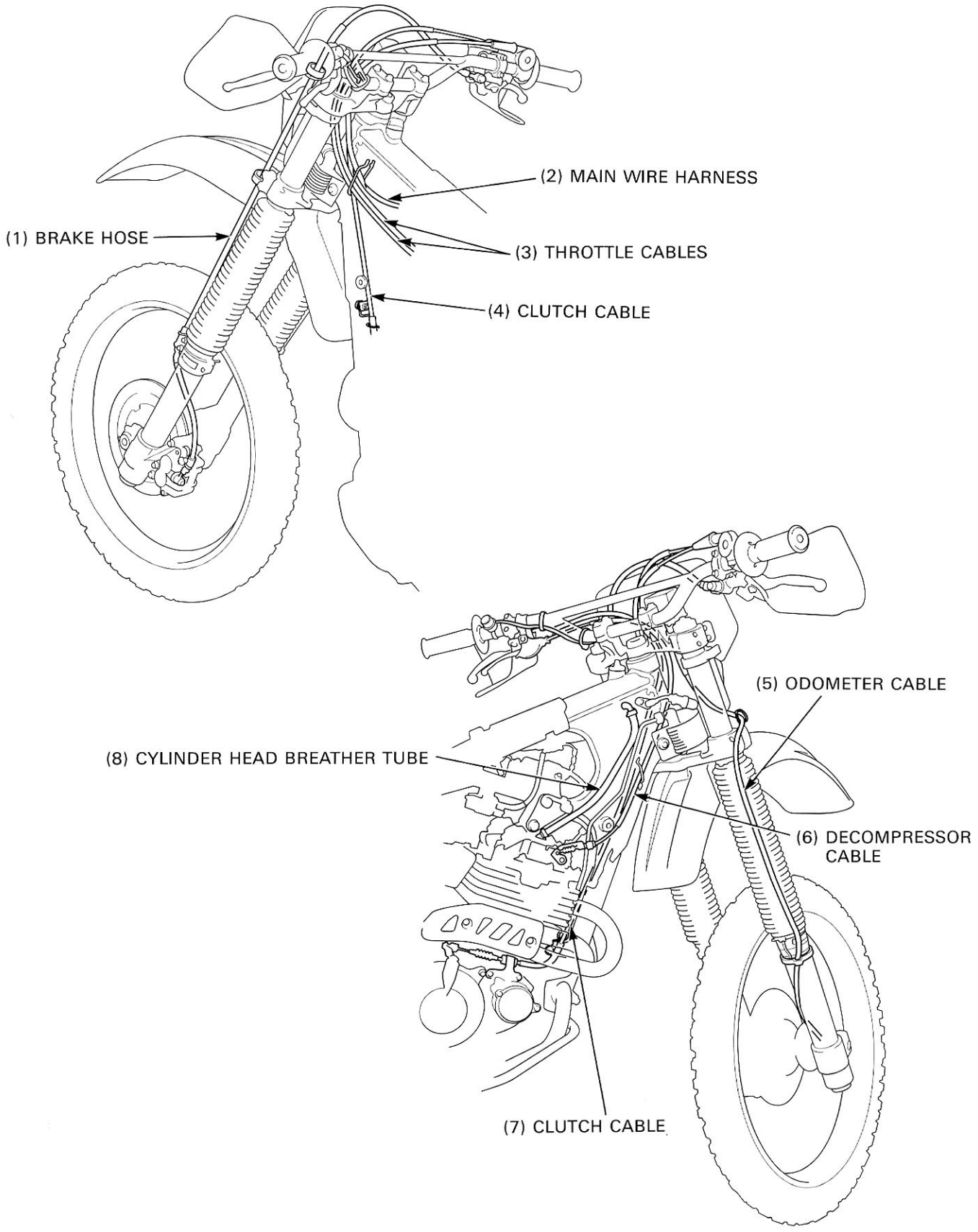
FRAME

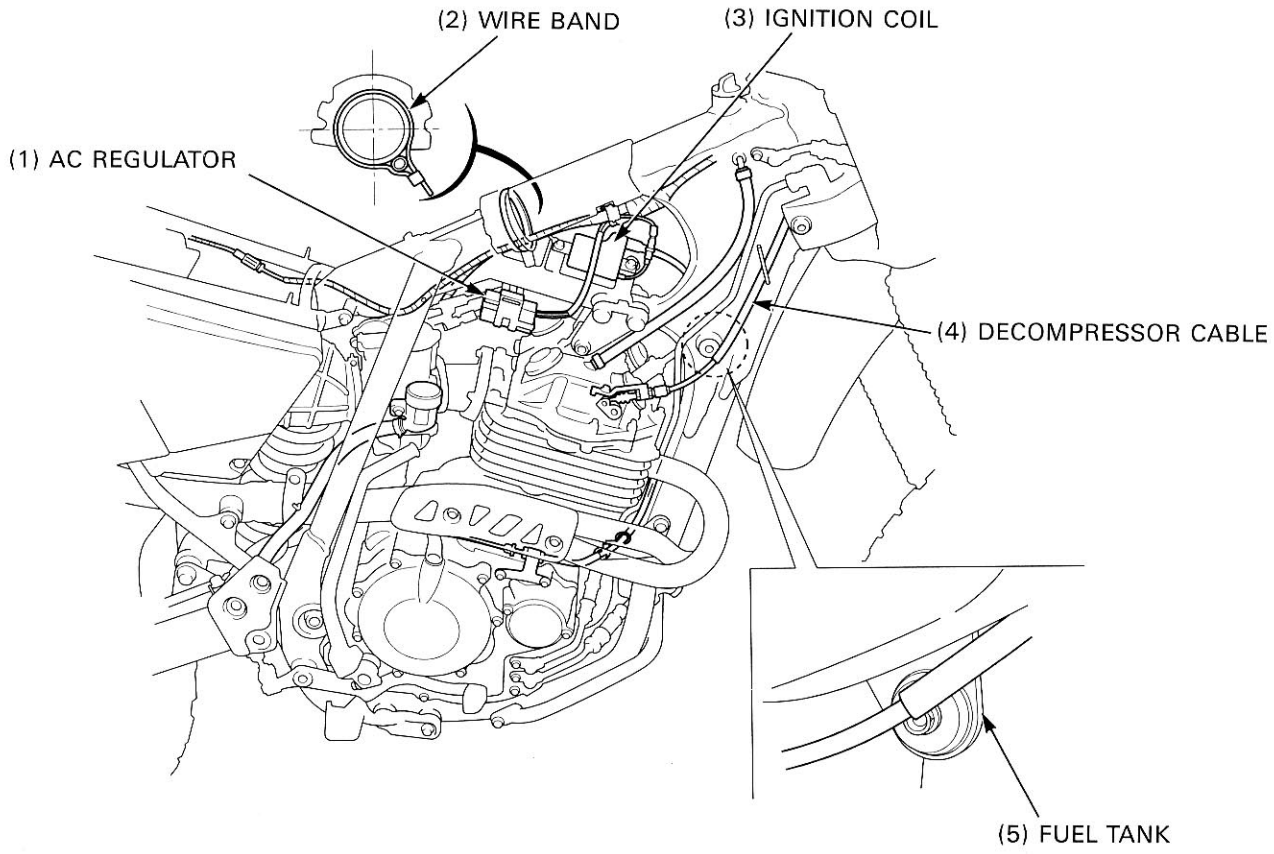
LOCATION	MATERIAL	REMARKS
Clutch lever pivot sliding surface Decompressor lever pivot sliding surface Throttle grip pipe flange groove and sliding surface Throttle cable slider groove Throttle cable pulley groove Side stand pivot sliding surface Wheel bearings Odometer gear teeth and sliding surface Steering head bearing rollers Shock link/arm bearings Swingarm pivot bearings Rear brake pedal pivot sliding surface Each dust seal lips and dust seal cap lips	Multi-purpose grease	Fill up 3 g (0.1 oz) to each bearing.
Shock absorber upper mounting bearing (spherical)	Molybdenum disulfide paste	
Brake master pistons and cups Caliper pistons Rear master cylinder reservoir joint O-ring	DOT 4 brake fluid	
Front brake lever pivot sliding surface Front brake lever adjusting bolt tip Rear master cylinder push rod tip and boot groove Caliper piston seals Caliper pin sliding surfaces Caliper bracket pin sliding surfaces	Silicone grease	
Fork oil seal lips Fork dust seal lips Fork cap O-ring Rear damper rod guide case oil seal/O-ring Rear damper piston ring/ O-ring	Pro Honda Suspension Fluid SS-8 or equivalent	
Handlebar grip rubber inside surfaces Air cleaner connecting tube–housing mating surface Air cleaner inlet duct seat rubber and inlet duct seating surface	Honda bond A, Honda Hand Grip Cement (U.S.A. only) or Cemedine #540	
Front brake disc bolt threads Chain adjuster stopper pin threads Swingarm wheel setting plate screw threads Front caliper mounting bolt threads Front caliper pin bolt and bracket pin blolt threads Rear caliper bracket pin bolt threads	Locking agent	

CABLE & HARNESS ROUTING

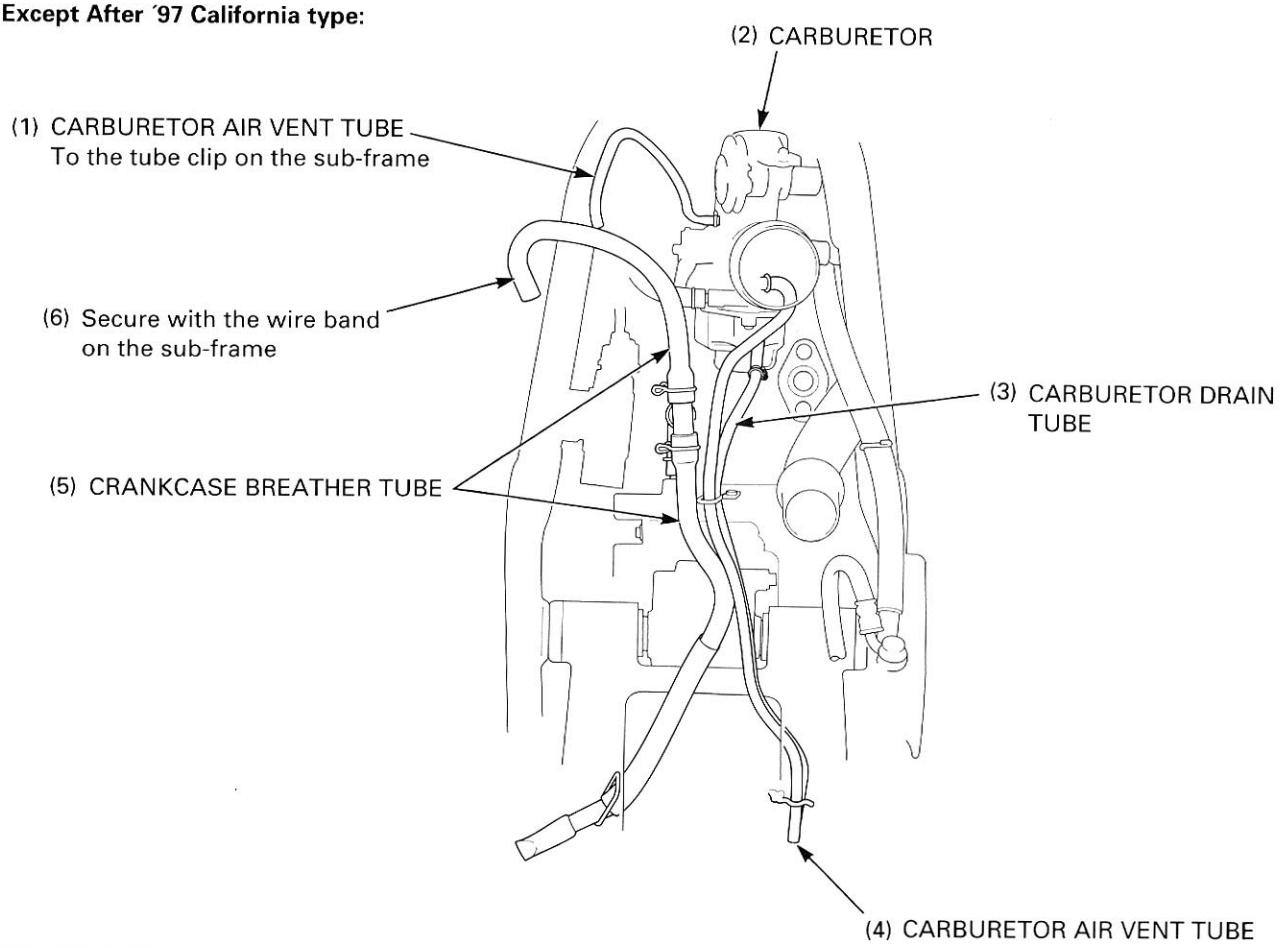





(1) BRAKE HOSE
(2) MAIN WIRE HARNESS
(3) THROTTLE CABLES
(4) CLUTCH CABLE
(5) ODOMETER CABLE
(6) DECOMPRESSOR CABLE
(7) CLUTCH CABLE
(8) CYLINDER HEAD BREATHER TUBE


(2) WIRE BAND
(3) IGNITION COIL
(1) AC REGULATOR
(4) DECOMPRESSOR CABLE
(5) FUEL TANK

Except After '97 California type:



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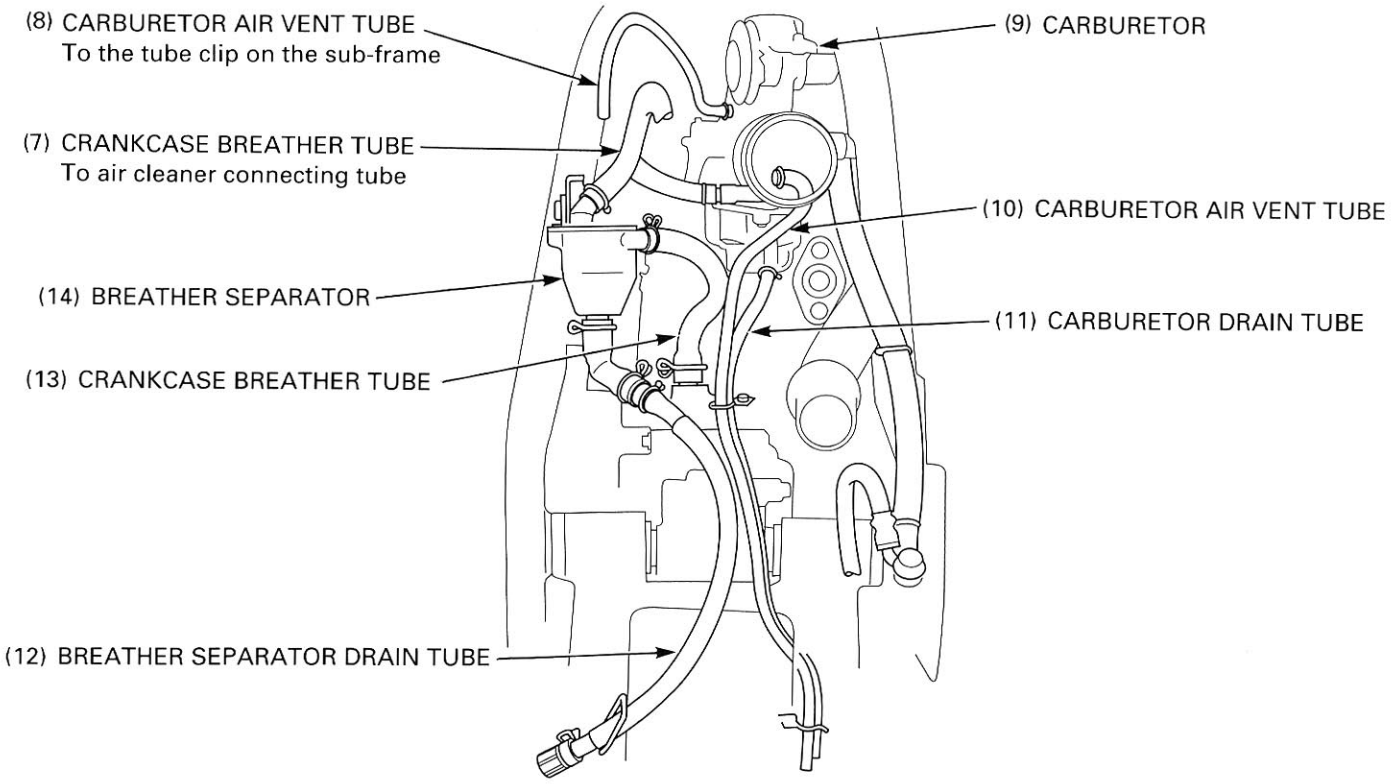
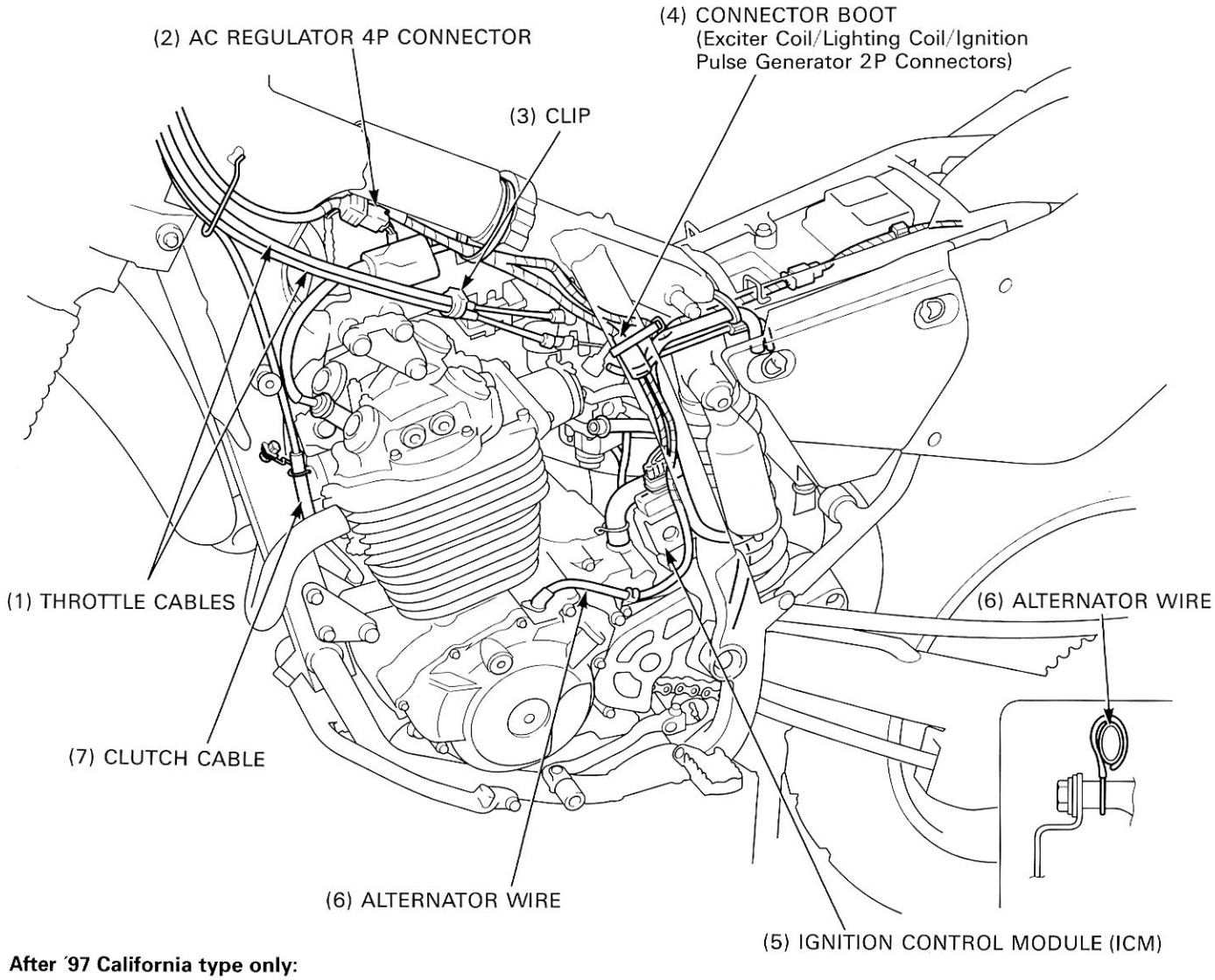
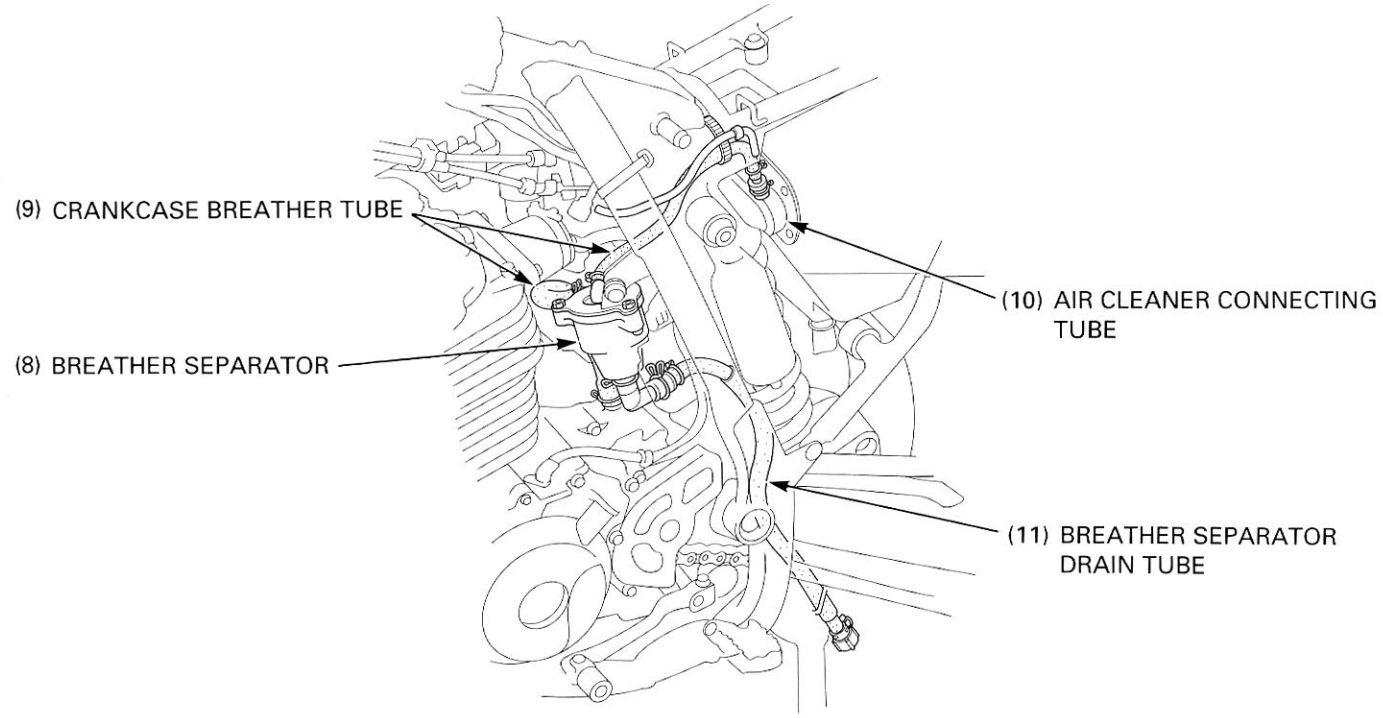
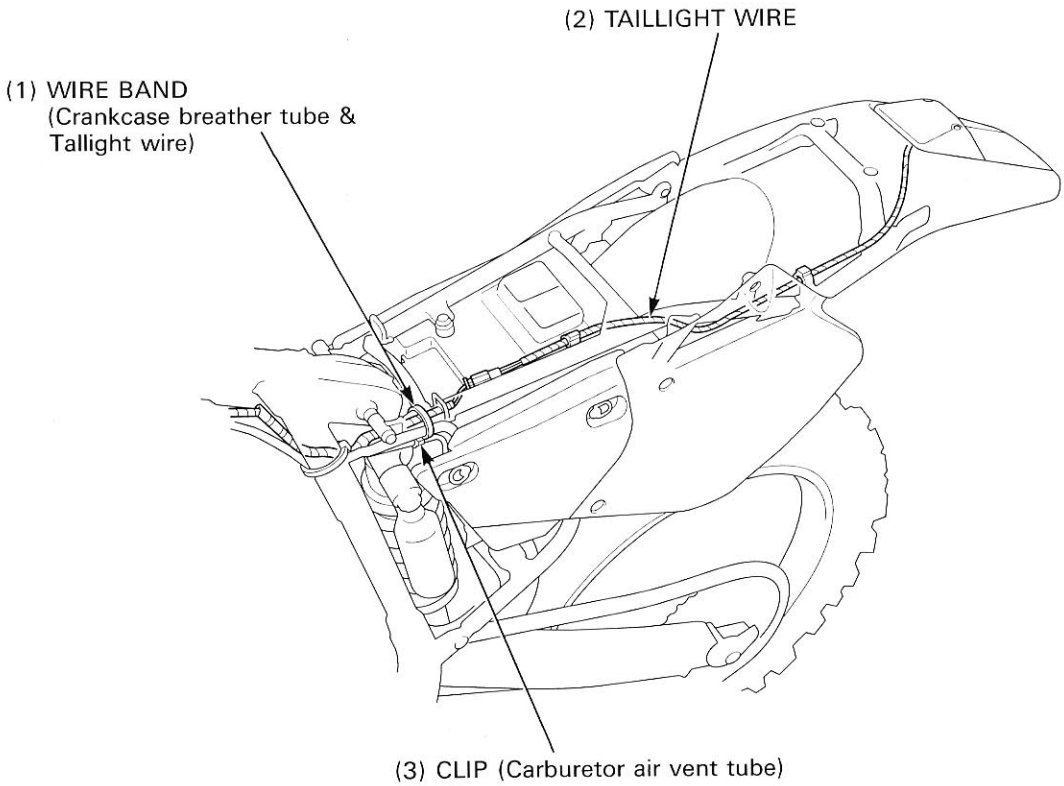
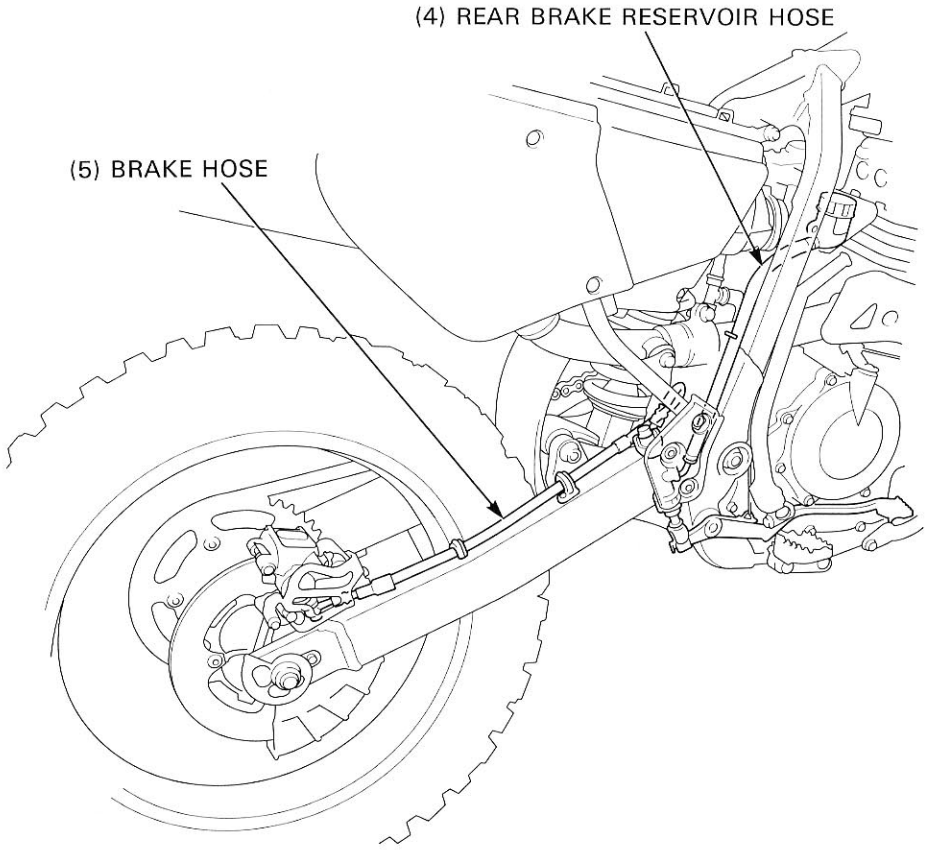




After '97 California type only:




(2) TAILLIGHT WIRE
(1) WIRE BAND
(Crankcase breather tube &
Tallight wire)
(3) CLIP (Carburetor air vent tube)


(4) REAR BRAKE RESERVOIR HOSE
(5) BRAKE HOSE

EMISSION CONTROL SYSTEMS (After '97)

The California Air Resources Board (CARB) requires manufacturers to certify that their motorcycles comply with applicable exhaust emissions standards during their useful life, when operated and maintained according to the instructions provided (California type only).

SOURCE OF EMISSIONS

The combustion process produces carbon monoxide and hydrocarbons. Control of hydrocarbons is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

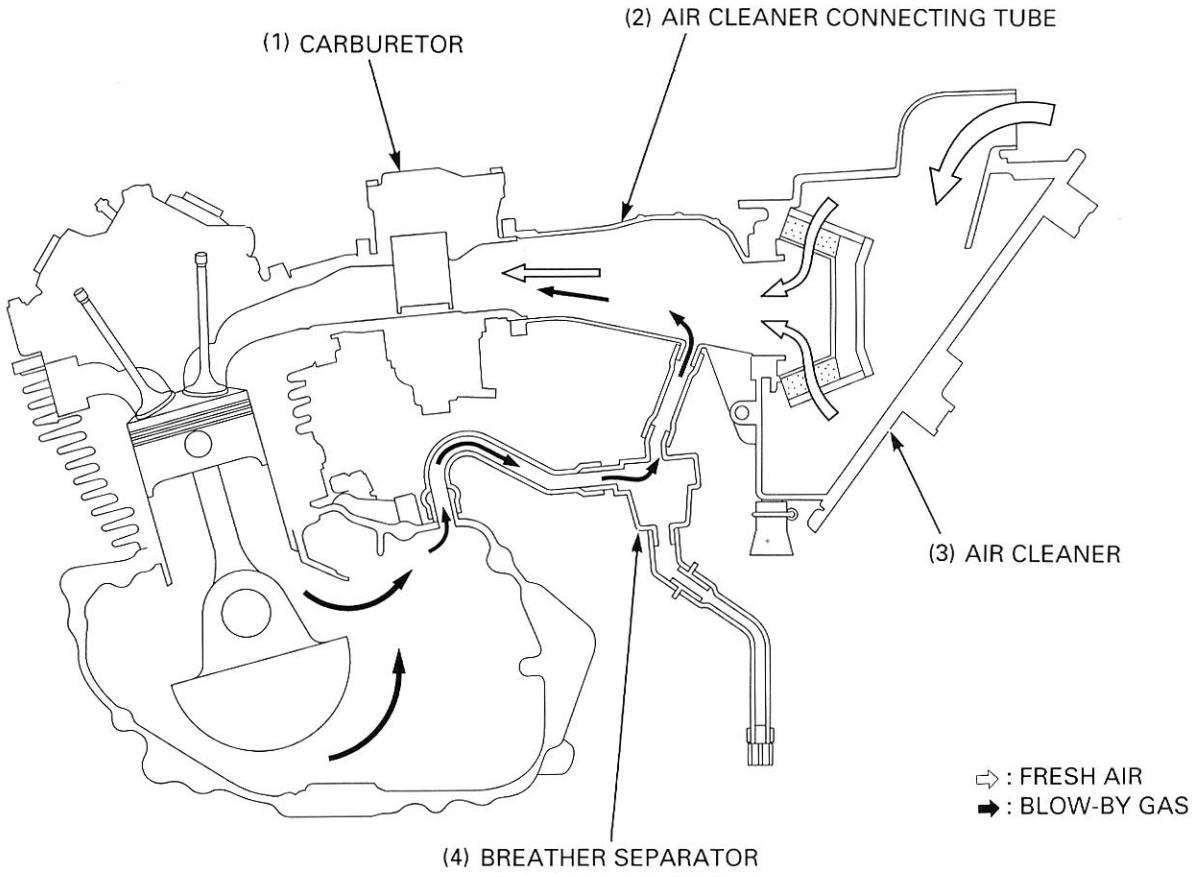
Honda motor Co., Ltd. utilizes lean carburetor settings as well as other systems, to reduce carbon monoxide and hydrocarbons.

EXHAUST EMISSION CONTROL SYSTEM (California type only)

The exhaust emission control system is composed of a lean carburetor setting, and no adjustments should be made except idle speed adjustment with the throttle stop screw. The exhaust emission control system is separate from the crankcase emission control system.

CRANKCASE EMISSION CONTROL SYSTEM (California type only)

The engine is equipped with a closed crankcase system to prevent discharging crankcase emissions into the atmosphere. Blow-by gas is returned to the combustion chamber through the air cleaner connecting tube and carburetor.



Product: Honda XR400R Motocycle Service Repair Workshop Manual
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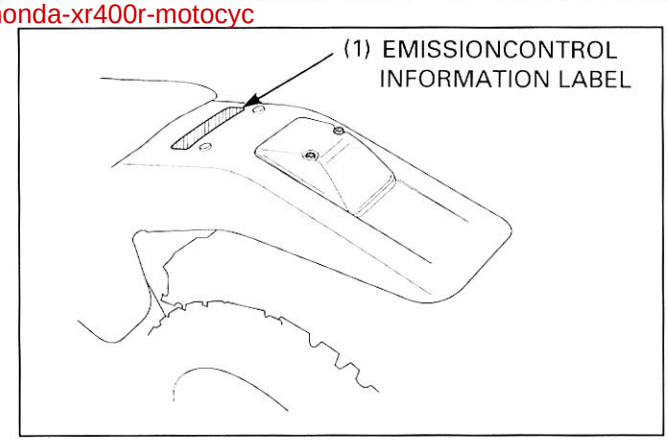
le-service-repair-workshop-manual/

EMISSION CONTROL INFORMATION LABEL (After '97 California type only)

The Emission Control Information Label is located on the rear fender.



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