Official

HONDA

SHOP MANUAL

CBX



'81~'82

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HOW TO USE THIS MANUAL

Follow the Maintenance Schedule recommendations to ensure that the vehicle is in peak operating condition and the emission levels are within the U.S. Environmental Protection Agency standards. Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Sections 1 through 3 apply to the whole motorcycle, while sections 4 through 19 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 page 1 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 are not familiar with this motorcycle, read the TECHNICAL FEATURES in section 20.

If you don't know the source of the trouble, go to section 21, TROUBLESHOOTING.

This Shop Manual is based on the 1981 model. Refer to Section 22 for 1982 service information.

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.

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SERVICE PUBLICATIONS OFFICE

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MODEL IDENTIFICATION







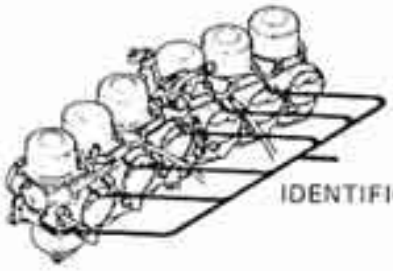
The frame serial number is stamped on the right side of the steering head.



The vehicle identification number (VIN) is on the left side of the steering head.



The engine serial number is stamped on the top of the crankcase.



IDENTIFICATION NUMBER

8422-08

The carburetor identification number is on the left of the carburetor body.

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GENERAL SAFETY

WARNING

If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.

WARNING

Gasoline is extremely frammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.

WARNING

- *The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.*
- *The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially while charging it.*

SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalent. Parts that do not meet HONDA's design specifications may damage the motorcycle.
2. Use the special tools designed for this product.
3. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
4. When torquing bolts or nuts, begin with larger-diameter or inner bolt first, and tighten to the specified torque diagonally, unless a particular sequence is specified.
5. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
6. When installing a new oil seal, make sure that the sealing lip is lubricated with grease. If an oil seal and related parts have been washed, apply proper grease to the lip of the oil seal.
7. After reassembly, check all parts for proper installation and operation.
8. 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.

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SPECIFICATIONS

ITEM			
DIMENSIONS	Overall length		2365 mm (93.1 in)
	Overall width		780 mm (30.7 in)
	Overall height		1360 mm (53.5 in)
	Wheelbase		1535 mm (60.4 in)
	Seat height		810 mm (31.9 in)
	Foot peg height		335 mm (13.2 in)
	Ground clearance		155 mm (6.1 in)
	Dry weight		287 kg (633 lb)
FRAME	Type		Diamond
	Front suspension, travel		Telescopic air forks 160 mm (6.3 in)
	Rear suspension, travel		Swingarm 105 mm (4.1 in)
	Front tire size		3.50V19 (4PR)
	Rear tire size		130/90V18
	Cold tire pressures	Up to 90 kg (200 lbs) load	Front : 250 kPa (2.5 kg/cm², 36 psi) Rear : 250 kPa (2.5 kg/cm², 36 psi)
		Up to vehicle capacity load	Front : 250 kPa (2.5 kg/cm², 36 psi) Rear : 290 kPa (2.9 kg/cm², 41 psi)
	F. brake, lining swept area		Double disc brake, 22 cm² x 4 (3.4 sqin x 4)
	R. brake, lining swept area		Single disc brake, 22 cm² x 2 (3.4 sqin x 2)
	Fuel capacity		22.0 liters (5.8 US gal)
	Fuel reserve capacity		3.0 liters (0.8 US gal)
	Caster angle		62°30'
	Trail		120 mm (4.7 in)
	Front fork oil capacity		345 cc (11.7 ozs)
	Front fork air pressure		70 ± 20 kPa (0.7 ± 0.2 kg/cm², 10 ± 3 psi)
	Rear suspension oil capacity		618 cc (20.9 ozs) at disassembly
	Rear suspension air pressure		200–400 kPa (2.0–4.0 kg/cm², 28–57 psi)
ENGINE	Type		Air cooled 4-stroke
	Cylinder arrangement		Vertical parallel six
	Bore and stroke		64.5 x 53.4 mm (2.54 x 2.10 in)
	Displacement		1047 cc (63.89 cu in)
	Compression ratio		9.3 : 1
	Valve train		Chain driven DOHC 4 valve/cylinder
	Maximum horsepower		100 BHP/9,000 rpm
	Maximum torque		8.5 kg-m (60.8 ft-lb)/7,500 rpm
	Oil capacity		5.5 liters (5.8 US qt) after disassembly 4.0 liters (4.2 US qt) after draining
	Lubrication system		Wet sump dual pump with oil cooler
	Air filtration		Paper
	Cylinder compression		12.0 ± 1.0 kg/cm² (170 ± 14 psi)
	Intake valve	Opens	5° (BTDC) at 1 mm lift, 78° (BTDC) at 0 lift
		Closes	35° (ABDC) at 1 mm lift, 110° (ABDC) at 0 lift
	Exhaust valve	Opens	40° (BBDC) at 1 mm lift, 94° (BBDC) at 0 lift
		Closes	5° (ATDC) at 1 mm lift, 71° (ATDC) at 0 lift
	Valve overlap		149°
	Valve clearance (Cold)		IN: / EX: 0.06–0.13 mm (0.002–0.005 in)
	Engine weight		108 kg (238.1 lb)
	Idle speed		900 ± 100 rpm

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ITEM		
CARBURETION	Carburetor type	VB 28 mm (1.1 in) venturi bore
	Identification number	VB64A
	Pilot screw	Refer to page 4-28
	Float level	15.5 mm (0.61 in)
DRIVE TRAIN	Clutch	Wet, multi-plate
	Transmission	5-speed constant-mesh
	Primary reduction	2.269
	Gear ratio I	2.438
	Gear ratio II	1.750
	Gear ratio III	1.391
	Gear ratio IV	1.200
	Gear ratio V	1.037
	Final reduction	2.333 (18/42)
	Gear shift pattern	Left foot operated return system 1–N–2–3–4–5
ELECTRICAL	Ignition	Transistorized
	Ignition timing "F" mark	10° BTDC static
	Full advance	41° BTDC at 8,000 rpm
	Firing order	1–5–3–6–2–4
	Starting system	Electric starter
	Alternator	Three phase Alternator 350 W/5,000 rpm
	Battery capacity	12V – 18AH
	Spark plug ( ): Canada Model USA Model with radio installed.	For cold climate below 5°C, 41°F: ND X22ES-U (X22ESR-U), NGK D7EA (DR7ES) Standard: ND X24ES-U (X24ESR-U), NGK D8EA (DR8ES-L) For extended high speed riding: ND X27ES-U (X27ESR-U), NGK D9EA (DR8ES)
	Spark plug gap	0.6–0.7 mm (0.024–0.028 in)
LIGHTS	Headlight (high/low beam)	60/55W H4 BULB (Philips 12342/99, or equivalent)
	Tail/stoplight	8/27W, 3/32 cp SAE NO. 1157
	Turn signal Front	8/23W, 3/32 cp SAE NO. 1034
	Rear	23W, 32 cp SAE NO. 1073
	Speedometer light	3.4W, 2 cp SAE NO. 57
	Tachometer light	3.4W, 2 cp SAE NO. 57
	Neutral indicator	3.4W, 2 cp SAE NO. 57
	Turn signal indicator	3.4W, 2 cp SAE NO. 57
	High beam indicator	3.4W, 2 cp SAE NO. 57
	Rear suspension air pressure warning light	3.4W, 2 cp SAE NO. 57
	Running light	8W, 3 cp SAE NO. 1034

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TORQUE VALUES

- ENGINE

Item	Q'ty	Thread Dia (mm)	Torque N.m (kg-m, ft-lb)	Remarks
Cylinder head cover	8	6	8–12 (0.8–1.2, 6– 9)	
Cam holder	32	6	12–16 (1.2–1.6, 9–12)	
Cylinder head	12	10	33–35 (3.3–3.5, 24–25)	
Cylinder head	4	8	19–21 (1.9–2.1, 14–15)	
Cam sprocket	4	7	14–18 (1.4–1.8, 10–13)	
Spark plug	6	—	12–16 (1.2–1.6, 9–12)	Apply molybdenum disulfide base grease to threads and bottom of bolts
Crankcase	—	8	23–27 (2.3–2.7, 17–20)	
A.C. generator	1	14	36–44 (3.6–4.4, 26–32)	
Primary shaft	1	22	40–50 (4.0–5.0, 29–36)	
Mainshaft	1	25	45–55 (4.5–5.5, 33–40)	
Drive sprocket	1	10	50–54 (5.0–5.4, 36–39)	
Connecting rod nut	12	8	30–34 (3.0–3.4, 22–25)	
Oil filter center bolt	1	20	27–33 (2.7–3.3, 20–24)	
Oil pressure switch	1	—	15–20 (1.5–2.0, 11–14)	Apply THREE–BOND
Neutral switch	1	10	11–15 (1.1–1.5, 8–11)	
Oil drain bolt	1	12	28–32 (2.8–3.2, 20–23)	
Oil pipe	1	8	18–22 (1.8–2.2, 13–16)	
Oil pipe	1	10	20–24 (2.0–2.4, 14–17)	

- CHASSIS

Item	Q'ty	Thread Dia (mm)	Torque N.m (kg-m ft-lb)	Remarks
Steering stem nut	1	24	80–120 (8.0–12.0, 58–87)	
Steering handlebar	2	8	28–32 (2.8–3.2, 20–23)	
Front fork bridge	2	7	9–13 (0.9–1.3, 7– 9)	
Front fork cap bolt	2	34	15–30 (1.5–3.0, 11–22)	
Front axle nut	1	12	55–65 (5.5–6.5, 40–47)	
Front/rear brake disc	10	8	27–33 (2.7–3.3, 20–24)	UBS
Brake hose bolt	5	10	25–35 (2.5–3.5, 18–25)	
Rear axle	1	18	85–105 (8.5–10.5, 62–76)	"U" nut
Final driven sprocket	5	12	80–100 (8.0–10.0, 58–72)	UBS
Swingarm pivot nut	1	16	80–110 (8.0–11.0, 58–80)	"U" nut
Seat strap	2	6	8–9.5 (0.8–0.95, 6– 7)	
Engine hanger nut	3	14	90–100 (9.0–10.0, 65–72)	"U" nut
Air cleaner inlet duct	2	5	3– 6(0.3–0.6, 2– 4)	
Steering stem adjusting nut	1	26	11–13 (1.1–1.3, 8– 9)	
Rear suspension link bolt and nut	—	10	40–50 (4.0–5.0, 29–36)	

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

STANDARD TORQUE VALUES

Type	Torque N.m (kg-m ft-lb)	Type	Torque N.m (kg-m, ft-lb)
5 mm bolt, nut	4.5–6.0 (0.45–0.6, 3.5–4.5)	5 mm screw	3.5–5.0 (0.35–0.5, 2.5–3.6)
6 mm bolt, nut	8–12 (0.8–1.2, 6– 9)	6 mm screw	7–11 (0.7–1.1, 5– 8)
8 mm bolt, nut	18–25 (1.8–2.5, 13–18)	6 mm flange bolt, nut	10–14 (1.0–1.4, 7–10)
10 mm bolt, nut	30–40 (3.0–4.0, 22–29)	8 mm flange bolt, nut	24–30 (2.4–3.0, 17–22)
12 mm bolt, nut	50–60 (5.0–6.0, 36–43)	10 mm flange bolt, nut	30–40 (3.0–4.0, 22–29)
14 mm bolt, nut	90–100 (9.0–10.0, 65–72)		

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TOOLS

- SPECIAL

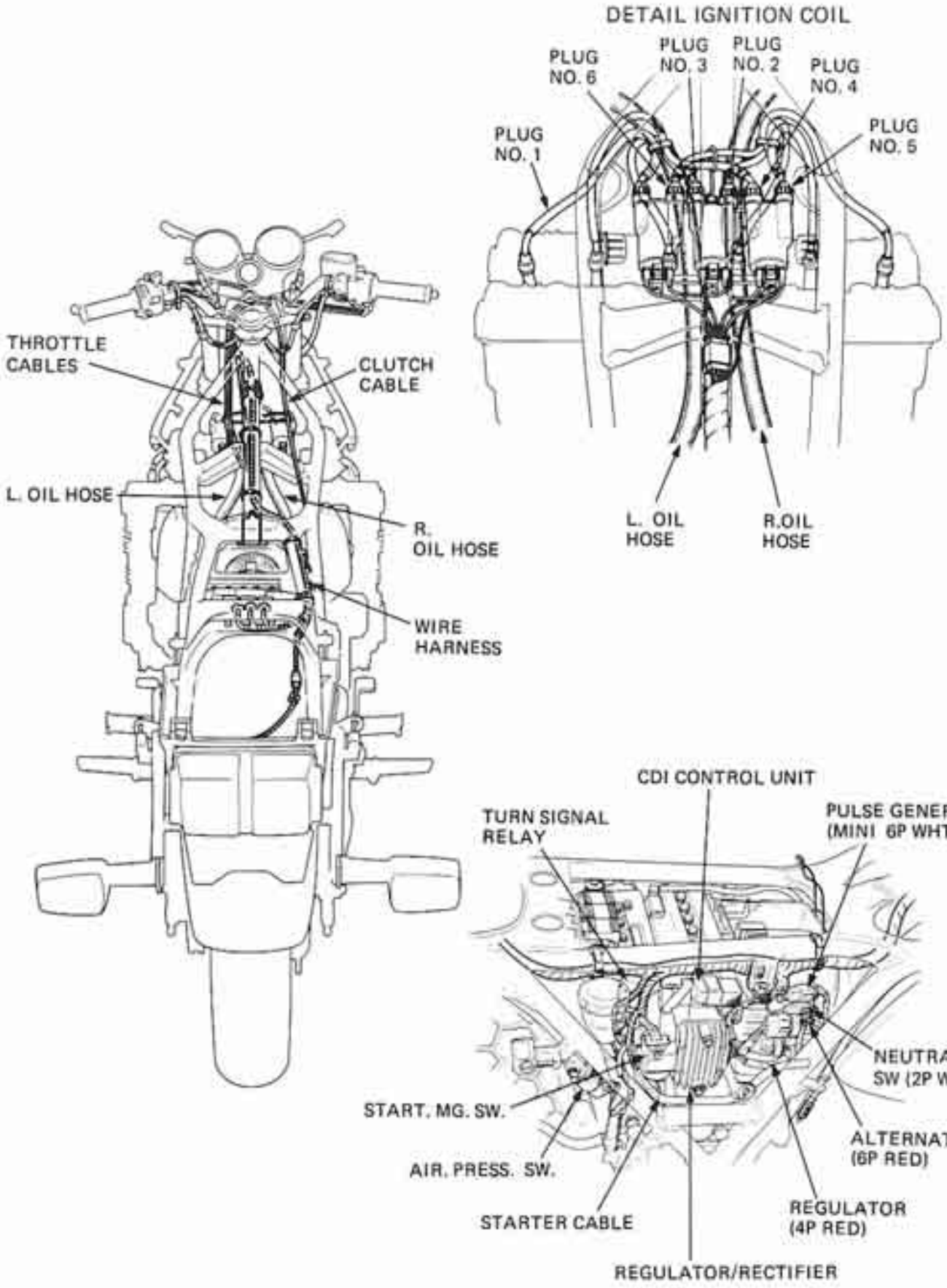
Tool Name	Part No.	Q'ty	Ref. page
Oil seal driver	07965–MA10100	1	14–13
Oil seal driver attachment	07965–MA10200	1	14–13
Seal driver	07947–4630100	1	13–33
Vacuum gauge set	07504–0020000	1	3–8
	(H/C No. 47978)	1	
	or M937B–021–XXXXX		
Oil pressure gauge	07506–3000000	1	2–3
Snap ring pliers	07914–3230001	1	15–1, 14–14
Steering stem socket	07916–3710100	1	13–38
6 mm hollow set wrench	07917–3230000	1	13–30
Race bearing remover	07946–3710500	1	13–37
Steering stem driver	07946–3710600	1	13–37
Bearing driver attachment	07946–3710700	1	13–38
Piston base	07958–2500000	1	7– 8
Valve guide reamer (5.5 mm)	07984–2000000	1	6–14, 6–16
Oil pressure gauge attachment	07510–4220100	1	2–3
Carburetor throttle wrench	07908–4220100	1	3–9, 4–14
	07908–4600000	1	3–9
Carburetor pilot screw wrench	07908–4220200 or	1	4–29
	07908–4220201	1	
Lock nut wrench	07916–4220000	1	8–4
Primary gear holder	07924–4250000	1	8–7
Piston ring compressor	07954–4220000	1	7–8
Valve lifter holder	07964–4220002 or	1	3–11, 3–12
	M9501–277–94752 (USA only)	1	
Degree wheel	07974–4220000 or	1	3–5
	07974–4220002		
Lifter hole protector	07999–4220000	1	6–12, 6–18
Lock nut wrench	07908–4690001	1	14–22
Retainer wrench	07910–4690100 or	1	
	KS-HBA–08–469 (USA only)	1	14–20
Bearing driver (needle bearing)	07946–4690100 or	1	
	07946–3710300	1	14–19
Bearing driver (angular bearing)	07946–4690200	1	14–20
Dust seal driver	07948–4690100	1	14–20
Driver handle	07949–3710000	1	14–18, 14–19
Pin spanner, 55 mm	07902–4220000	1	12–18
Primary shaft holder	07924–6340300	1	12–18
Steering race remover	07953–4250002	1	13–38

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• COMMON

Tool Name	Part No.	Q'ty	Alternate Tools (Common tool → Special tool)	Ref. Page
Float level gauge	07401–0010000	1		4–11
Retainer wrench attachment	07710–0010100	1	07910–2830000&07910–3600000	14–5, 14–8
Retainer wrench attachment	07710–0010300	1	Bearing retainer wrench 07910–3230101	13–23, 13–26
Retainer wrench body	07710–0010400	1		13–23, 13–26
Lock nut wrench socket (26 x 30 mm)	07716–0020202	1		13–26
Extension bar	07716–0020500	1	Commercially available	13–26
Universal holder	07725–0010101	1	Flywheel holder 07923–0400000	8–3
Valve guide remover (5.5 mm)	07742–0010100	1	Valve guide driver 07942–3290100	6–15, 6–16
Attachment (32 x 35 mm)	07746–0010100	1	Bearing driver 07945–4150200	16–8, 16–9
Attachment (37 x 40 mm)	07746–0010200	1	Bearing driver 07946–2880200	12–15, 16–9
Attachment (42 x 47 mm)	07746–0010300	1	Bearing driver 07946–9350200	13–25
Attachment (52 x 55 mm)	07746–0010400	1	Bearing driver 07946–9370100 Bearing driver 07946–3710200	12–15, 14–7
Attachment (62 x 68 mm)	07746–0010500	1	Bearing driver 07946–3600000	14–7
Driver	07746–0030100	1		11–3, 12–15
Attachment (25 mm)	07746–0030200	1		12–15
Attachment (30 mm)	07746–0030300	1		11–3
Pilot (15 mm)	07746–0040300	1		13–25
Pilot (20 mm)	07746–0040500	1		14–7
Pilot (25 mm)	07746–0040600	1		12–14, 12–15, 14–7
Driver (A)	07749–0010000	1	Driver 07949–6110000	12–14, 13–25, 14–7, 14–20, 16–8, 16–9
Valve spring compressor	07757–0010000	1	Valve spring compressor 07957–3290001	6–12, 6–18

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EMISSION CONTROL SYSTEM

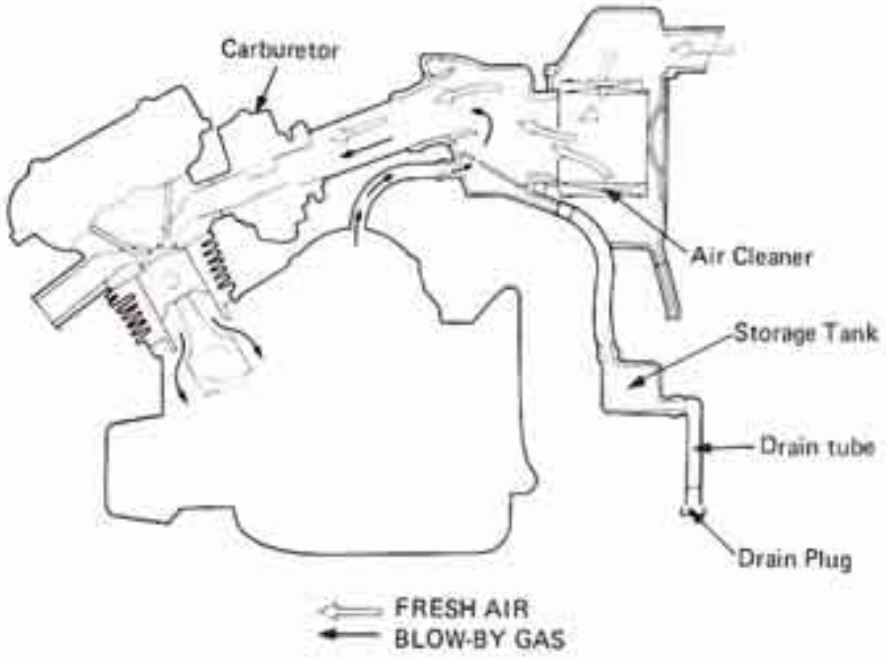
The CBX is equipped with two Emission Control Systems.

EXHAUST EMISSION CONTROL SYSTEM

The exhaust emission control system is composed of a factory pre-set carburetor.
No. adjustment should be made except to the idle speed with the throttle stop screw.

CRANKCASE EMISSION CONTROL SYSTEM

The engine is equipped with a "Closed Crankcase System" to prevent crankcase emissions entering the atmosphere.
Blow-by gas is returned to the combustion chamber through the air cleaner and carburetor. Liquids are collected in the drain tube.



EMISSION CONTROL INFORMATION LAVEL

An Emission Control Information Label is located on the frame as shown. It contains basic tune-up specifications.



EMISSION CONTROL INFORMATION LABEL

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