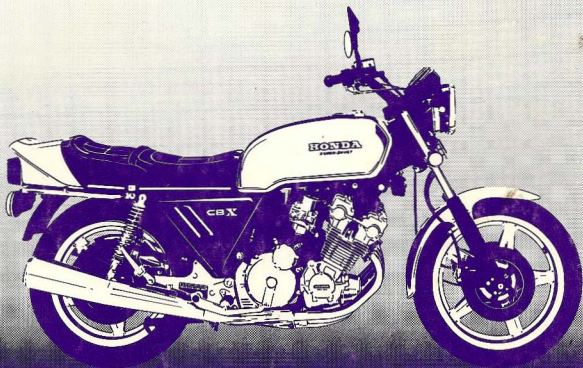


Official

# HONDA

## SHOP MANUAL

### CBX



'79 ~ '80

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PRINTED IN JAPAN

6142202  
Ⓢ Ⓢ A5308504A

## IMPORTANT SAFETY NOTICE

**WARNING**

*Indicates a possibility of personal injury or loss of life if instructions are not followed.*

**CAUTION**

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

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.



## HOW TO USE THIS MANUAL

Follow the Maintenance Schedule recommendations for each model year to ensure that the vehicle is in peak operating condition and the emission levels are within the US 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.

Refer to section 22 for 1980 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 WHATSOEVER.

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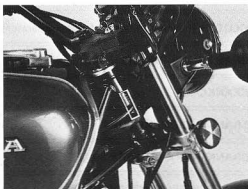
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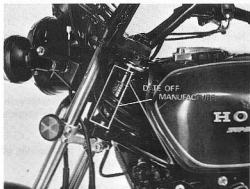


**HONDA**  
**CB X**

## MODEL IDENTIFICATION



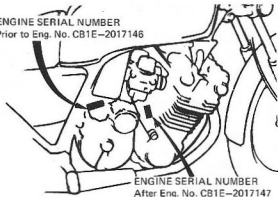
The frame serial number is stamped on the right side of the steering head.



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

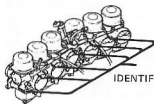
### ENGINE SERIAL NUMBER

Prior to Eng. No. CB1E-2017146



ENGINE SERIAL NUMBER  
After Eng. No. CB1E-2017147

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



IDENTIFICATION NUMBER

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

B422-08



GENERAL SAFETY	1-1	WIRING DIAGRAMS	1-7
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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 flammable 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.



## SPECIFICATIONS

ITEM		
DIMENSIONS	Overall length	2,220 mm (87.4 in)
	Overall width	885 mm (34.8 in)
	Overall height	1,175 mm (46.3 in)
	Wheelbase	1,495 mm (58.9 in)
	Seat height	810 mm (31.9 in)
	Foot peg height	330 mm (13.0 in)
	Ground clearance	150 mm (5.9 in)
	Dry weight	249 kg (548.9 lb)
FRAME	Type	Back-bone Style Diamond-configuration Structure
	Front suspension, travel	Telescopic fork 160 mm (6.3 in)
	Rear suspension, travel	Swing arm 100 mm (3.9 in)
	Front tire size	3.50H19 (4PR)
	Rear tire size	4.25H18 (4PR)
	Cold tire pressures	Up to 90 kg (200 lbs) load Front 2.0 kg/cm <sup>2</sup> (28 psi)
		Rear 2.8 kg/cm <sup>2</sup> (40 psi)
		Up to vehicle capacity load Front 2.0 kg/cm <sup>2</sup> (28 psi)
		Rear 2.8 kg/cm <sup>2</sup> (40 psi)
	F. brake, lining swept area	Double disc brake
	R. brake lining, swept area	Single disc brake
	Fuel capacity	20.0 liters (5.28 US gal)
	Fuel reserve capacity	5.0 liters (1.32 US gal)
	Caster angle	62°30'
ENGINE	Trail	120 mm (4.7 in)
	Front fork oil capacity	177-182 cc (6.0-6.2 ozs)
		157-162 cc (5.3-5.5 ozs) at draining
	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 D.O.H.C. 4 valve
	Maximum horsepower	103.0 BHP/9,000 rpm
	Maximum torque	8.5 kg-m (61.5 ft-lb)/8,000 rpm
	Oil capacity	5.5 liters (5.8 US qt)
	Lubrication system	Wet sump dual pump system with oil cooler
	Air filtration	Oiled polyurethane form
	Cylinder compression	12.0 ± 1.0 kg/cm <sup>2</sup> (170 ± 14 psi)
	Intake valve	Opens 5° (BTDC) at 1 mm lift, 58° (BTDC) at 0 lift
		Closes 40° (ABDC) at 1 mm lift, 115° (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 clearance	IN: } 0.08 mm (0.003 in) +0.05 mm (+0.002 in)
		EX: } -0.02 mm (-0.001 in)
	Engine weight	106 kg (234 lb)
	Idle speed	900 ± 100 rpm
CARBURETION	Carburetor type	VB type, 28 mm (1.1 in) venturi bore
	Identification number	VB60A
	Pilot screw	Refer to 4-26.
	Float level	15.5 mm (0.61 in)



ITEM																									
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 (15/35)																							
Gear shift pattern	Left foot operated return system																								
ELECTRICAL	Ignition	Transistorized																							
	Ignition timing "F" mark	10° BTDC at 900 ± 100 rpm idle																							
	Full advance	41° BTDC at 8,000 rpm																							
	Starting system	Starting motor only																							
	Generator	Three phase A.C. generator 0.35 kw/5,000 rpm																							
	Battery capacity	12V — 18AH																							
	Spark plug																								
	( ): Canada Model																								
		<table><tr><td colspan="2">For cold climate below 5°C, 41°F</td><td colspan="2">Standard</td><td colspan="2">For extended high speed operation</td></tr><tr><td>ND</td><td>NGK</td><td>ND</td><td>NGK</td><td>ND</td><td>NGK</td></tr><tr><td>X22ES-U</td><td>D7EA</td><td>X24ES-U (X24ESR-U)</td><td>D8EA (D8ES-L)</td><td>X27ES-U</td><td>D9EA</td></tr></table>						For cold climate below 5°C, 41°F		Standard		For extended high speed operation		ND	NGK	ND	NGK	ND	NGK	X22ES-U	D7EA	X24ES-U (X24ESR-U)	D8EA (D8ES-L)	X27ES-U	D9EA
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ND	NGK	ND	NGK	ND	NGK																				
X22ES-U	D7EA	X24ES-U (X24ESR-U)	D8EA (D8ES-L)	X27ES-U	D9EA																				
Spark plug gap	0.6—0.7 mm (0.024—0.028 in)																								
LIGHTS	Headlight (low/high beam)	55/60W H4 BULB (Philips 12342/99, or equivalent)																							
	Tail/stoplight	3/32 cp SAE NO. 1157																							
	Turn signal light (front/rear)	32/32 cp SAE NO. F. 1034, R. 1073																							
	Speedometer light	2 cp SAE NO. 57																							
	Tachometer light	2 cp SAE NO. 57																							
	Neutral indicator	2 cp SAE NO. 57																							
	Turn signal indicator	2 cp SAE NO. 57																							
	High beam indicator	2 cp SAE NO. 57																							
	Running light	3 cp SAE NO. 1073																							



## TORQUE VALUES

## • ENGINE

Item	Q'ty	Thread Dia (mm)	Torque kg-m (ft-lb)	Remarks
Cylinder head cover	8	6	0.8-1.2 (6-9)	{ Apply molybdenum disulfide base grease to threads and underside of nuts
Cam holder	32	6	1.2-1.4 (9-10)	
Cylinder head	8	10	3.2-3.4 (23-25)	
Cylinder head	10	8	1.9-2.1 (14-15)	
Cam sprocket	4	7	1.4-1.6 (10-12)	
Spark plug	6		1.2-1.6 (9-12)	{ Apply molybdenum disulfide base grease to threads and underside of bolts
Crankcase		8	2.3-2.7 (17-20)	
A.C. generator	1	14	3.6-4.4 (26-32)	
Primary shaft drive gear	1	22	4.0-5.0 (29-36)	
Primary shaft driven sprocket	1	38		
Mainshaft	1	25	4.5-5.5 (33-40)	See page 12-18
Drive sprocket	1	10	3.3-3.7 (24-27)	
Connecting rod nut	12	8	2.8-3.2 (20-23)	
Oil filter center bolt	1	20	2.7-3.3 (20-24)	
Oil pressure switch	1		1.5-2.0 (11-15)	Apply THREE-BOND
Neutral switch	1	10	1.1-1.5 (8-11)	
Oil drain bolt	1	12	2.8-3.2 (20-23)	
Oil pipe	1	8	1.8-2.2 (13-16)	
Oil pipe	1	10	2.0-2.4 (14-17)	

## • CHASSIS

Item	Q'ty	Thread Dia (mm)	Torque kg-m (ft-lb)	Remarks
Steering stem nut	1	24	8.0-12.0 (58-87)	
Steering handlebar	2	8	2.8-3.2 (20-23)	
Front fork top bridge	2	7	0.9-1.3 (7-9)	
Front fork bolt	2	31	2.0-3.0 (14-22)	
Front axle nut	1	12	5.5-6.5 (40-47)	
Front/rear brake disc	10	8	2.7-3.3 (20-24)	UBS
Brake hose bolt	5	10	2.5-3.5 (18-25)	
Rear axle	1	18	8.0-10.0 (58-72)	
Final driven sprocket	5	12	8.0-10.0 (58-72)	UBS
Swing arm pivot nut	1	14	6.0-7.0 (43-51)	
Seat strap	2	6	0.8-0.95 (6-7)	
Engine hanger nut	3	14	9.0-10.0 (65-72)	
Air cleaner inlet duct	2	5	0.3-0.6 (2-4)	
Head top thread	1	26	0.8-1.2 (6-9)	

Torque specifications listed above are for the most important tightening points. If a torque specification is not listed, follow the standards given below.

## STANDARD TORQUE VALUES

Type	Torque kg-m (ft-lb)	Type	Torque kg-m (ft-lb)
5 mm bolt, nut	0.45-0.6 (3.3-4.3)	5 mm screw	0.35-0.5 (2.5-3.6)
6 mm bolt, nut	0.8-1.2 (6-9)	6 mm screw	0.7-1.1 (5-8)
8 mm bolt, nut	1.8-2.5 (13-18)	6 mm flange bolt, nut	1.0-1.4 (7-10)
10 mm bolt, nut	3.0-4.0 (22-29)	8 mm flange bolt, nut	2.4-3.0 (17-22)
12 mm bolt, nut	5.0-6.0 (36-43)	10 mm flange bolt, nut	3.0-4.0 (22-29)




**SPECIAL TOOLS/COMMON TOOLS**

- SPECIAL TOOLS (Newly provided)  
 CB X SPECIAL TOOL SET No. 07900-4220101 (Includes special tool case)

Tool Name	Part No.	Q'ty	Ref. page
Oil pressure gauge attachment	07510-4220100	1	2-3
Carburetor throttle wrench	07908-4220100	1	3-8, 4-12
Carburetor pilot screw wrench	07908-4220201	1	4-26
Lock nut wrench	07916-4220000	1	8-4, 8-11
Primary gear holder	07924-4250000	1	8-7, 8-8
Piston ring compressor	07954-4220000	4	7-8
Valve lifter holder	07964-4220001	2	3-11
Degree wheel	07974-4220001	1	3-6
Valve lifter hole protector	07999-4220000	1	6-12, 6-18
Pin spanner 55 mm	07902-4220000	1	12-3, 12-18

- SPECIAL TOOLS (Other models)

Tool Name	Part No.	Q'ty	Ref. page
Vacuum gauge set	07504-3000100 (H/C No. 20176)	1	3-7
Oil pressure gauge	07506-3000000	1	2-3
Snap ring pliers	07914-3230001	1	15-8, 15-15
Steering stem socket	07916-3710100	1	13-27
6 mm hex. wrench	07917-3230000	1	13-20, 13-23
Primary shaft holder	07924-6340300	1	12-18
Race bearing remover	07946-3710500	1	13-26
Steering stem driver	07946-3710600	1	13-26
Bearing driver attachment	07946-3710700	1	13-27
Piston base	07958-2500001	4	7-8
Valve guide reamer (5.5 mm)	07984-2000000	1	6-14, 6-16



## • COMMON TOOL

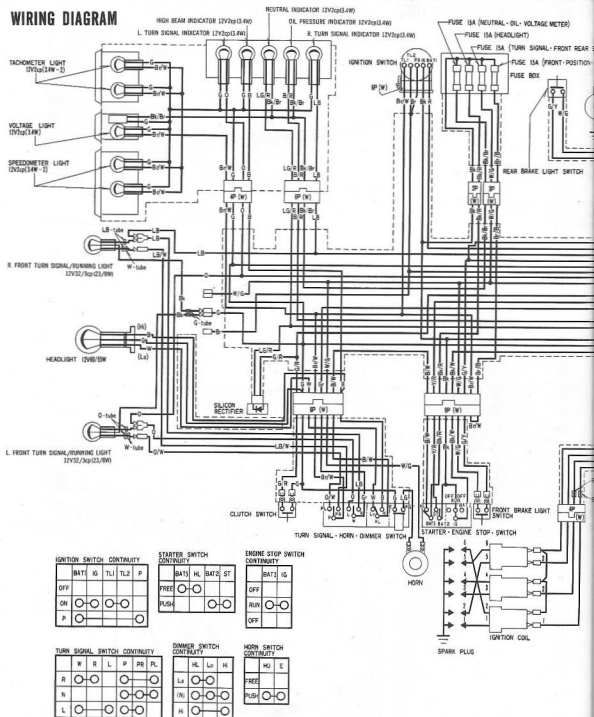
Tool Name	Part No.	Q'ty	Appropriation List (Common tool → Special tool)	Ref. Page
Floot level gauge	07401-0010000	1		4-9
Pin spanner	07702-0010000	1		14-4, 14-7
Retainer wrench (A)	07710-0010100	1		14-4, 14-7
Retainer wrench (C)	07710-0010300	1	Bearing retainer wrench 07910-3930000	13-15, 13-17
Retainer wrench body	07710-0010401			13-15, 13-17, 14-4, 14-7
Lock nut wrench socket (26 x 30 mm)	07716-0020202	1		13-25, 13-28
Extension bar	07716-0020500	1		13-25, 13-28
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
Bearing driver outer (32 x 35)	07745-0010100	1	Bearing driver 07945-4150200	16-7
Bearing driver outer (37 x 40)	07746-0010200	1		12-15, 16-7
Bearing driver outer (42 x 47)	07746-0010300	1	Bearing driver 07946-9350000	13-17
Bearing driver outer (52 x 55)	07746-0010400	1	Bearing driver 07946-3290000	12-16, 14-6
Bearing driver outer (62 x 68)	07746-0010500	1	Bearing driver 07946-3600000	14-6
Bearing driver handle (C)	07746-0030100	1		11-13, 12-16
Bearing driver inner (25 mm)	07746-0030200	1		12-16
Bearing driver inner (30 mm)	07746-0030300	1		11-13
Bearing driver pilot (15 mm)	07746-0040300	1		13-17
Bearing driver pilot (20 mm)	07746-0040500	1		14-6
Bearing driver pilot (25 mm)	07746-0040600	1		12-15, 12-16, 14-6
Front fork oil seal driver body	07747-0010100	1	Fork seal driver 07947-3290000	13-22
Front fork oil seal attachment (E)	07747-0010600	1		13-22
Bearing driver handle (A)	07749-0010000	1	Driver handle attachment 07949-6110000	12-15, 12-16, 13-17
Valve spring compressor	07757-0010000	1	Valve spring compressor 07957-3290001	14-6, 16-7
Shock absorber compressor	07959-3290001	1		6-12, 6-18 14-9, 14-10



**HONDA**  
**CB X**

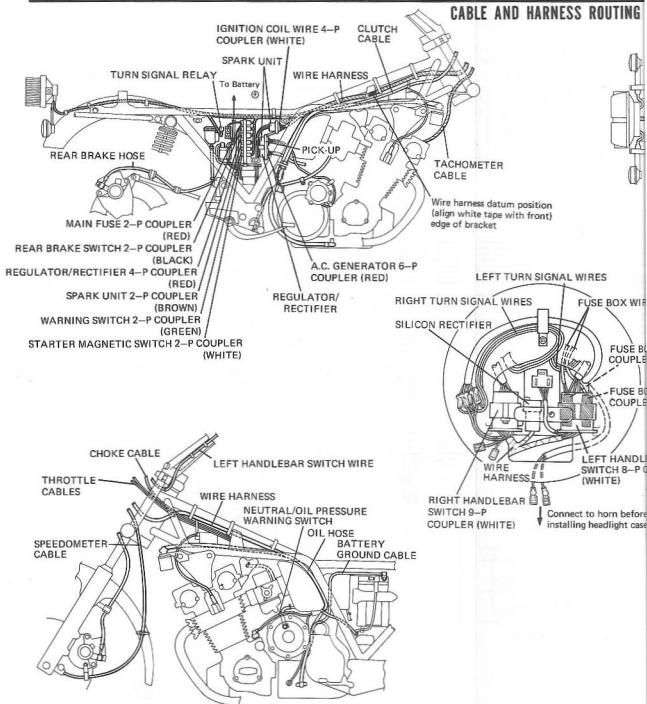
# GENERAL INFORMATION

## WIRING DIAGRAM



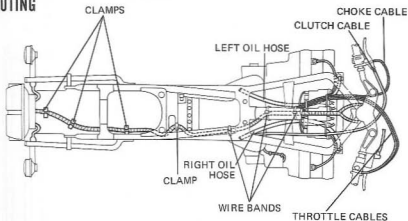


## CABLE AND HARNESS ROUTING



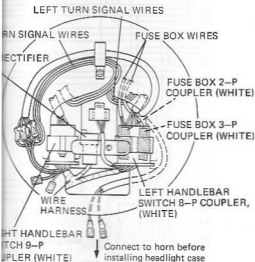


# CABLE AND HARNESS ROUTING

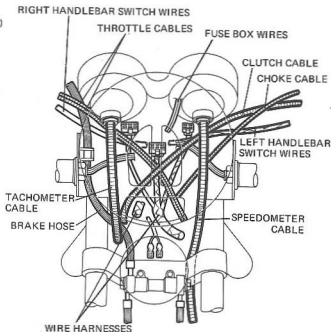


TACHOMETER  
CABLE

Use harness datum position  
on white tape with front  
view of bracket



Connect to horn before  
installing headlight case





# **MAINTENANCE SCHEDULE**

Perform the PRE-RIDE INSPECTION in the Owner's Manual at every maintenance period.

I : INSPECT, CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.

C: CLEAN

R: REPLACE

A: ADJUST

L: LUBRICATE

FREQUENCY			WHICHEVER OCCURS FIRST ↓	ODOMETER READING (NOTE (3))							
				600 mi. (1,000 km)	3,750 mi. (6,000 km)	7,500 mi. (12,000 km)	11,250 mi. (18,000 km)	15,000 mi. (24,000 km)	18,750 mi. (30,000 km)	Refer to	
ITEM			EVERY								
EMISSION RELATED ITEMS		ENGINE OIL	YEAR	R	R	R	R	R	R	Page 2- 2	
		ENGINE OIL FILTER	YEAR	R	R	R	R	R	R	Page 2- 2	
	*	ENGINE OIL SCREEN					C			Page 2- 3	
		CRANKCASE BREATHER	NOTE (1)		C	C	C	C	C	Page 3- 3	
		AIR CLEANER	NOTE (2)		C	C	C	C	C	Page 3- 2	
	*	FUEL LINES			I	I	I	I	I	Page 3- 3	
		SPARK PLUGS			I	R	I	R	I	Page 3- 4	
	*	VALVE CLEARANCE			I	I	I	I	I	Page 3-10	
	*	IGNITION TIMING			I	I	I	I	I	Page 3- 5	
	*	CAM CHAIN TENSION		A	A	A	A	A	A	Page 3-14	
	*	THROTTLE OPERATION			I	I	I	I	I	Page 3- 6	
	*	CARBURETOR IDLE SPEED			I	I	I	I	I	Page 3- 9	
	*	CARBURETOR CHOKE				I	I	I	I	Page 3- 9	
	*	CARBURETOR SYNCHRONIZE			I	I	I	I	I	Page 3- 7	
NON-EMISSION RELATED ITEMS		DRIVE CHAIN		I, L EVERY 300 mi. (500 km)						Page 3-16	
		BATTERY	MONTH		I	I	I	I	I	Page 3-17	
		BRAKE FLUID	MONTH I 2 YEARS R		I	I	I	*R	I	Page 3-17	
		BRAKE PAD WEAR			I	I	I	I	I	Page 3-18	
		BRAKE SYSTEM			I	I	I	I	I	Page 3-18	
	*	BRAKE LIGHT SWITCH			I	I	I	I	I	Page 3-19	
	*	HEADLIGHT AIM			I	I	I	I	I	Page 3-19	
		CLUTCH FREE PLAY			I	I	I	I	I	Page 3-20	
		SIDE STAND			I	I	I	I	I	Page 3-21	
	*	SUSPENSION			I	I	I	I	I	Page 3-22	
	*	NUTS, BOLTS, FASTENERS			I	I	I	I	I	Page 3-23	
	**	WHEELS			I	I	I	I	I	Page 3-22	
	**	STEERING HEAD BEARING			I	I		I		Page 3-23	

\*\* IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

\* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

NOTES: (1) MORE FREQUENT SERVICE MAY BE REQUIRED WHEN RIDING IN RAIN, OR AT FULL THROTTLE. (U.S.A. ONLY)

(2) MORE FREQUENT SERVICE MAY BE REQUIRED WHEN RIDING IN DUSTY AREAS.

(3) FOR HIGHER ODOMETER READINGS, REPEAT AT THE FREQUENCY INTERVAL ESTABLISHED HERE.



## EMISSION CONTROL SYSTEM

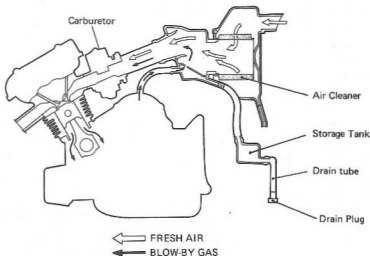
The CBX is equipped with two Emission Control Systems.

### 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 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 LABEL

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







**HONDA**  
**CB X**

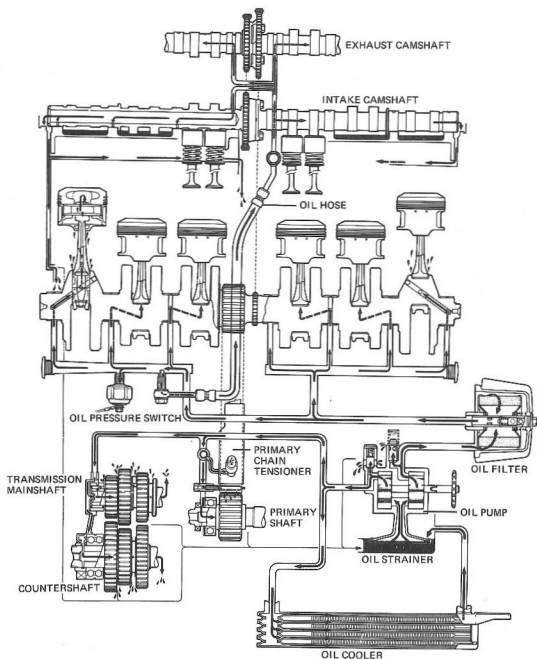
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MEMO



**LUBRICATION**

**ENGINE LUBRICATION DIAGRAM**





SERVICE INFORMATION	2-1	OIL PRESSURE	2-3
TROUBLESHOOTING	2-1	OIL COOLER INSPECTION	2-3
<u>ENGINE LUBRICATION</u>		OIL HOSE AND BOLT INSPECTION	2-4
ENGINE OIL LEVEL	2-2	<u>CHASSIS LUBRICATION</u>	
ENGINE OIL & FILTER CHANGE	2-2	LUBRICATION POINTS	2-5
OIL STRAINER SCREEN CLEANING	2-3	DRIVE CHAIN	2-5

## SERVICE INFORMATION

### WORKING PRACTICE

Oil pump: See Section 11

Oil pressure relief valve: See Section 11

### SPECIFICATIONS

Oil capacity		Approximately 4.0 liter (4.2 US qt) at change 5.5 liter (5.8 U.S. qt) at engine assembly	
Recommended oil		HONDA 4-stroke oil or equivalent General, all temperature Alternate Above 15°C (60°F) -10° to 15°C (15° to 60°F) Above -10°C (15°F) Below 0°C (32°F)	API service classification-SE SAE 10W-40 SAE 30 SAE 20 or 20W SAE 20W-50 SAE 10W
Oil pump delivery	Right	36.5 liters/min/4,000 rpm	(38.6 qt/min/4,000 rpm)
	Left	27.0 liters/min/4,000 rpm	(28.5 qt/min/4,000 rpm)
Oil pressure (at oil pressure switch)		4.5-5.0 kg/cm <sup>2</sup> (64-71 psi)/4,000 rpm	80°C (176°F)

## SPECIAL TOOLS

### Special Tools

Oil Pressure Gauge	07506-3000000
Oil Pressure Gauge Attachment	07510-4220100

## TORQUE VALUES

Oil drain plug	2.8-3.2 kg-m (20-23 ft-lb)	Pressure switch	1.5-2.0 kg-m (11-15 ft-lb)
Oil filter bolt	2.7-3.3 kg-m (20-24 ft-lb)	Oil bolt (Cylinder head)	1.8-2.2 kg-m (13-16 ft-lb)
Oil pan bolt	0.8-1.2 kg-m ( 6- 9 ft-lb)	Oil bolt (Crankcase)	2.0-2.4 kg-m (14-17 ft-lb)

## TROUBLESHOOTING

### Oil Level Too Low

1. External oil leaks
2. Worn piston rings
3. Worn valve guide or seal

### Oil Contamination

1. Oil or filter not changed often enough
2. Head gasket faulty
3. Worn piston rings

### Low Oil Pressure

1. Oil level low
2. Pressure relief valve stuck open
3. Plugged oil pick-up screen
4. Oil pump worn
5. External oil leaks

### High Oil Pressure

1. Pressure relief valve stuck closed
2. Plugged oil filter, gallery, or metering orifice
3. Incorrect oil being used

### No Oil Pressure

1. Oil level low
2. Oil pump drive chain broken
3. Oil pump faulty
4. Internal oil leakage



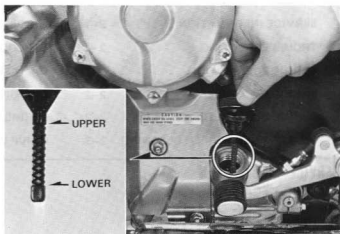
## ENGINE LUBRICATION

### ENGINE OIL LEVEL

Run the engine and allow to idle for a few minutes.\*

Stop the engine and place the motorcycle on its center stand. Check the oil level with the filler cap/dipstick after a few minutes. Do not screw in the cap when making this check. If the level is below the lower level mark on the dipstick, fill to the upper level mark.

Check the oil pressure warning light. This light should go off when the engine starts. If it does not, check the oil pump operation and/or oil circuit.



## ENGINE OIL & FILTER CHANGE

### NOTE

Before draining the oil, warm the engine to normal operating temperature.

Stop the engine.

Place the motorcycle on its center stand.

Remove the oil filler cap, drain plug and oil filter bolt and drain the oil.

Replace the oil filter and install the oil filter bolt and drain plug.

### CAUTION

*Do not interchange the oil filter with those for other models as it has a greater rate of oil flow.*

Make sure that the sealing washer on the drain plug and the O-rings on the oil filter bolt and oil filter case are in good condition.

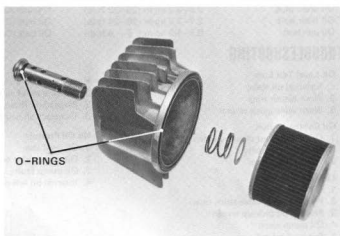
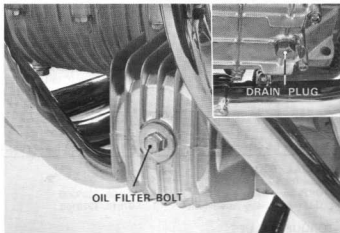
Fill the crankcase with 4.0 lit (4.2 US qt) of the recommended oil.

Reinstall the oil filler cap.

Start the engine and idle it for a few minutes. Stop the engine.

Add the recommended oil to the upper level.

Make sure that there are no oil leaks.





## OIL STRAINER CLEANING

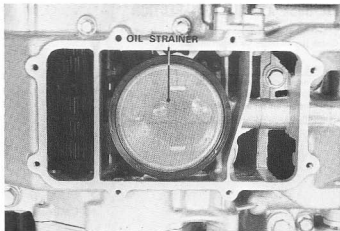
Remove the oil filler cap, drain plug and oil filter bolt.

Remove the oil pan bolts and oil pan.

Remove and clean the oil strainer.

Install the oil strainer and oil pan.

Fill the crankcase with the recommended oil (Page 2-2).



## OIL PRESSURE

Connect the oil pressure gauge.

Check the oil level.

Warm the engine up to normal operating temperature (approximately 80° C = 176° F).

Check the pressure at 4,000 rpm.

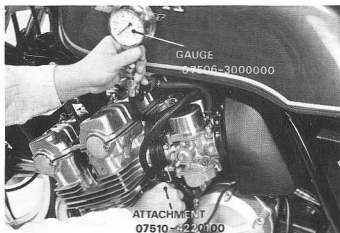
**STANDARD:** 4.5–5.0 kg/cm<sup>2</sup> (64–71 psi)  
at 4,000 rpm 80° C (176° F)

### NOTE

Before installing the pressure switch, apply a liquid sealant to the thread.

Check that the oil pressure warning light goes out. If the oil pressure warning light stays on, stop the engine immediately and determine the cause.

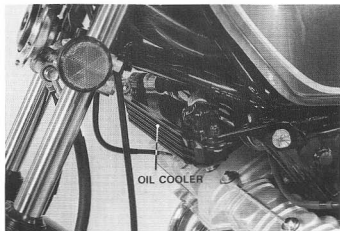
Also, check to be sure by touching the oil cooler that the cooler is warmed up by the oil coming from the auxiliary oil pump.



## OIL COOLER INSPECTION

Check for damage to the oil cooler core.

Clean the core if necessary.





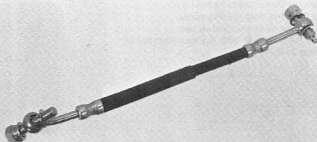
## OIL HOSE AND BOLT INSPECTION

Check for oil leaks at hose connections.  
Check the oil hoses for deterioration.

### NOTE

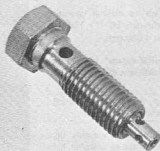
- Install new sealing washers, if the hose is removed.
- Install the oil bolt with the oil orifice on the crankcase side.

to CRANKCASE



to CYLINDER HEAD

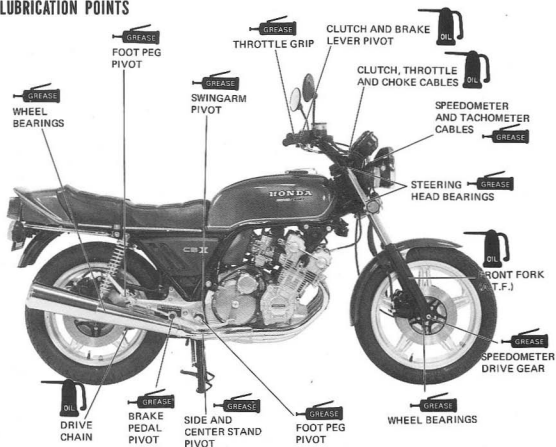
Check that the oil orifice is not clogged.





## CHASSIS LUBRICATION

### LUBRICATION POINTS



## DRIVE CHAIN

Clean the drive chain with kerosene and wipe dry.

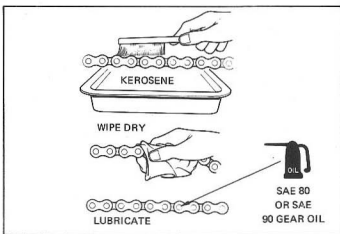
### CAUTION

*Do not use a steam cleaner, high pressure washers or solvents as these will damage the O-rings.*

Lubricate the drive chain with SAE 80 or 90 gear oil.

### CAUTION

*Do not use commercial aerosol chain lubricants. They contain solvents which could damage the O-rings.*





**HONDA**  
**CB X**

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<b>SERVICE INFORMATION</b>	<b>3-1</b>		
<b>&lt;ENGINE&gt;</b>		<b>&lt;CHASSIS&gt;</b>	
AIR CLEANER	3-2	DRIVE CHAIN	3-16
CRANKCASE BREATHER	3-3	BATTERY	3-17
FUEL LINES	3-3	BRAKE FLUID	3-17
SPARK PLUGS	3-4	BRAKE PAD WEAR	3-18
IGNITION TIMING	3-5	BRAKE SYSTEM	3-18
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COMPRESSION TEST	3-15	NUTS, BOLTS, FASTNERS	3-23

**SERVICE INFORMATION**
**WORKING PRACTICE**

Engine oil level check	See page 2-2
Engine oil change	See page 2-2
Oil strainer screen cleaning	See page 2-3

**SPECIFICATION**
**<ENGINE>**

Spark plug gap	0.6-0.7 mm (0.024-0.028 in)
Spark plug type	
U.S.A. model only	

Usage Manu- facturer	For cold climate (below 5°C)	Standard	For extended high speed operation
ND	X22ES-U	X24ES-U	X27ES-U
NGK	D7EA	D8EA	D9EA

**CANADA model only**

ND	X24ESR-U	Manufacturer	ND: Nippondenso Co., Ltd.
NGK	DR8ES-L		NGK: NGK Spark Plug Co., Ltd.

Ignition timing	Initial 10° (BTDC)
Valve clearance: IN. and EX.	0.08 +0.05 -0.02 mm (0.003 +0.0020 -0.0008 in)
Idle speed	900 ± 100 rpm
Synchronization vacuum	Difference of each cylinder 40 mm Hg (1.6 in Hg)
Compression	12 ± 1 Kg/cm² (170 ± 14 psi)

**SPECIAL TOOLS**

Special tools	
Valve lifter holder	07964-4220000
Carb. throttle wrench	07908-4220100
Degree wheel	07974-4220000
Vacuum gauge	07404-0020000 or H/C 20176

**<CHASSIS>**

Drive chain free play	15-25 mm (5/8 in)
Clutch free play	10-20 mm (3/8-3/4 in)

**Tire**

Cold tire pressures Kg/cm² (psi)	Front 2.0 (28) Rear 2.8 (40)
Vehicle capacity load limit	163 Kg (360 lbs)
Tire size	Front 3.50H19-4PR Rear 4.25H18-4PR
Tire brand Tubeless only	Front GOLD SEAL F11 (DUNLOP) M&G. MOPUS-S703 (BRIDGESTONE) Rear GOLD SEAL K127 (DUNLOP) M&G. MOPUS-G504 (BRIDGESTONE)

**TORQUES**

Front axle holder nut	1.8-2.5 kg-m (13-18 ft-lb)
Rear axle nut	8.0-10.0 kg-m (58-72 ft-lb)

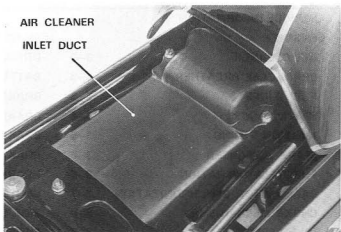


## AIR CLEANER MAINTENANCE

Remove the seat.  
Remove the two screws and the air cleaner inlet duct.

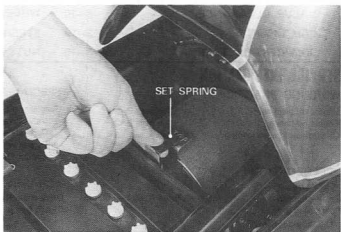
AIR CLEANER

INLET DUCT



Remove the air cleaner set spring.

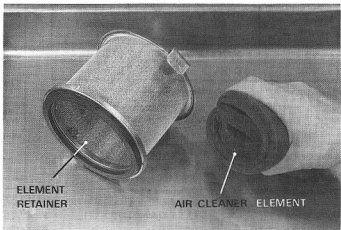
SET SPRING



Remove the air cleaner element retainer and element.

ELEMENT  
RETAINER

AIR CLEANER ELEMENT

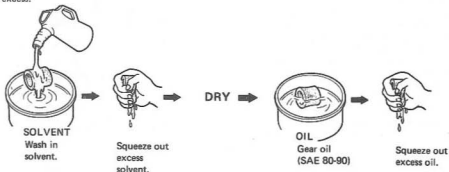




Wash the element in non-flammable or high flash point solvent.

Allow to dry.

Soak the element in gear oil (SAE 80-90) and squeeze out the excess.



Install the air cleaner element.

Install the holder, set spring and air cleaner inlet duct.

Install the seat.

## CRANKCASE BREATHER

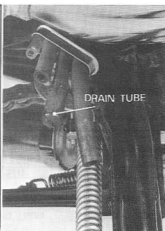
For U.S.A. model

Remove the drain plug from the tube and drain deposits.

Reinstall the drain plug.

### NOTE

Service more frequently when driven in rainy conditions or at wide open throttle, or if the deposit level can be seen in the transparent section of the drain tube.



For Canada model

Squeeze to open the lower end of the drain tube.

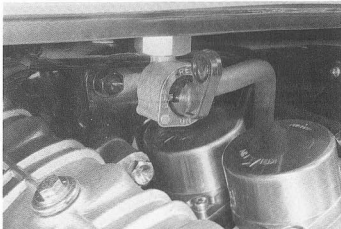
Remove any oil or water which may have accumulated.

### CAUTION

Check the drain tube for clogging and routing.

## FUEL LINES

Replace any parts which show deterioration, damage or leakage.



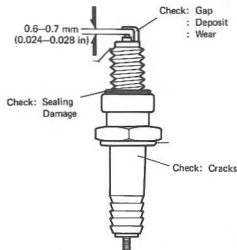


## SPARK PLUGS

Disconnect the spark plug caps and remove the spark plugs.

Visually inspect the spark plug electrodes for wear. The center electrode should have square edges and the side electrodes should have a constant thickness. Discard the spark plug if there is apparent wear or if the insulator is cracked or chipped. If the spark plug deposits can be removed by sandblasting, the spark plug can be reused. Adjust the spark plug gap by bending the side electrode.

**SPARK PLUG GAP: 0.6–0.7 mm**  
(0.024–0.028 in)



### RECOMMENDED SPARK PLUG

For U. S. A. model only

Usage Manufacturer	For cold climate (below 5° C)	Standard	For extended high speed operation
ND	X22ES-U	X24ES-U	X27ES-U
NGK	D7EA	D8EA	D9EA

For CANADA model only

ND: X24ESR-U      NGK: DR8ES-L

Manufacturer: ND: Nippondenso Co., Ltd.  
NGK: NGK Spark Plug Co., Ltd.

Reinstall the spark plugs and reconnect the spark plug caps.

#### NOTE

First tighten the spark plug finger tight, then tighten with a spark plug wrench.



### IGNITION TIMING CHECK

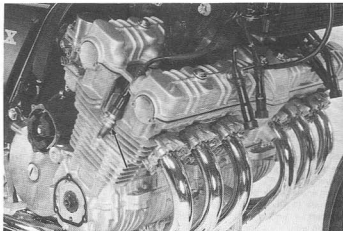
#### • DYNAMIC

##### NOTE

Drain oil from engine for this inspection method. Place an oil drain pan under the right crankshaft end.

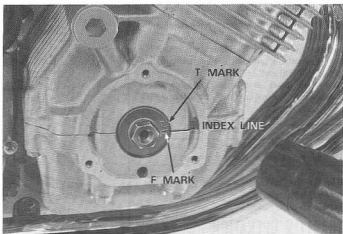
Remove all spark plug caps and either No. 6 spark plug or No. 1 spark plug. Connect the removed plug with the spark plug cap and ground the plug to the cylinder head.

Remove the right crankshaft cap. Connect a stroboscopic timing light to the grounded high tension cord. Operate the starter motor while aiming the timing light at the right crankshaft end. The "F" mark should align with the front crankcase mating surfaces.



#### ADJUSTMENT

Remove the pulser coil cover. Adjust by loosening the three pulser base plate screws and rotating the plate. Tighten the screws and recheck the timing.



#### ALTERNATIVE METHOD

(Can be done with oil in engine.)

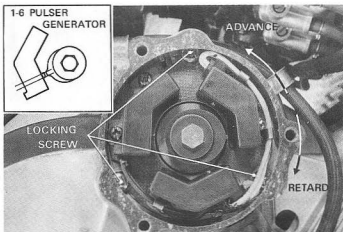
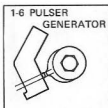
#### • STATIC

Remove right crankshaft cap and pulser coil cover. Rotate crankshaft clockwise and align "F" mark with front crankcase mating surfaces.

##### NOTE

Either No. 6 or No. 1 piston must be near T.D.C. of the compression stroke at this time.

The timing is correct if the narrow projection of "1-6" pulser generator is aligned with the rotor tooth.





## SPARK ADVANCER

### NOTE

- Check the spark advancer only if engine performance difficulties occur.
- A high quality stroboscopic timing light designed for transistorized ignition systems must be used. It should also be capable of accurate operation at 8,000 rpm.

Remove the pulser cover.

Remove the rotor bolt and install the special degree wheel.

Align initial mark on the degree wheel with the rotor tooth and tighten the bolt.

Connect a timing light to the No.6 high tension wire.

Start the engine.

Check that the initial mark remains aligned with the rotor tooth at idle.

Increase engine speed and check that the 23.5 degree mark aligns with the rotor tooth between 2,200 and 2,600 rpm.

And then check that the 31 degree mark aligns with the rotor tooth between 6,400 and 8,000 rpm.

### CAUTION

*Do not allow engine speed to exceed 8,000 rpm or engine damage may result.*

Replace the advancer assembly if it is not functioning properly.

Install the pulser cover.

## THROTTLE OPERATION

Make sure that there is no deterioration, damage, or kinks in the throttle cables, and that the throttle grip free play is 2-6 mm (1/8-1/4 in) on the outer edge of the throttle grip flange.

Check for smooth throttle grip rotation from fully closed to fully open in all steering positions and that it automatically returns to "fully closed" when released.

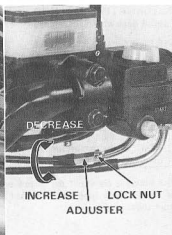
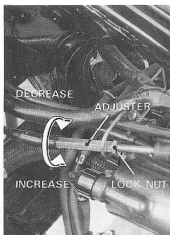
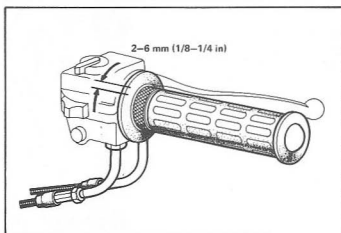
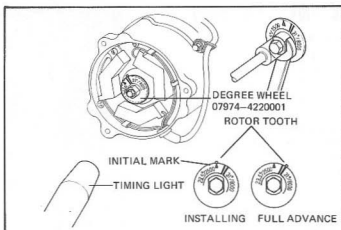
Adjust if necessary.

Major adjustments are made at the middle adjuster. To adjust, loosen the grip play adjuster lock nut and turn the adjuster. Tighten the lock nut.

Minor adjustments are performed at the upper adjuster.

Recheck throttle operation.

Replace any damaged parts.



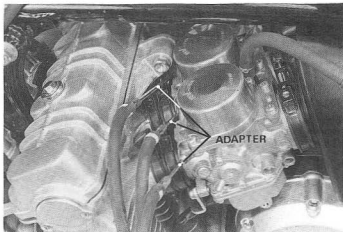


## CARBURETOR SYNCHRONIZATION

### NOTE

Perform carburetor synchronization with engine at normal operating temperature, transmission in neutral and motorcycle on the center stand.

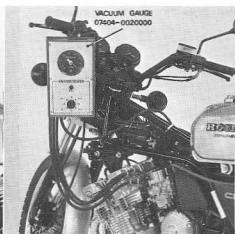
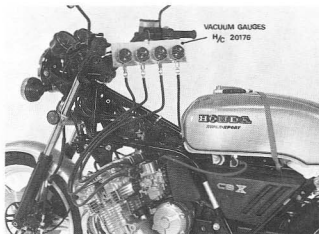
Remove the seat and air cleaner inlet duct. Turn the fuel valve OFF and remove the fuel tube and fuel tank. Prepare a longer fuel tube and reconnect it to the fuel tank and carburetor.



Position the fuel tank higher than its normal position.

Remove vacuum plugs from the carburetor and install long adapters to inner carburetors and short adapters to outer carburetors. Connect vacuum gauges.

Start the engine and adjust the idle speed to  $900 \pm 100$  rpm, then make sure that the maximum difference in vacuum readings is within 40 mmHg (1.6 inHg).



**ADJUSTMENT****NOTE**

The No.4 carburetor cannot be adjusted; it is the base.

Start the engine and adjust the idle speed.

**IDLE SPEED:  $900 \pm 100$  rpm**

Make sure that the maximum difference in vacuum readings does not exceed 40 mmHg (1.6 inHg).

Adjust by turning the adjusting screws with the special tool "Carburetor Throttle Wrench" to achieve a maximum difference in vacuum readings between cylinders of less than 40 mmHg (1.6 inHg).

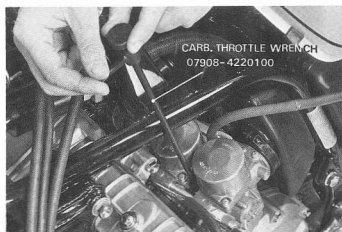
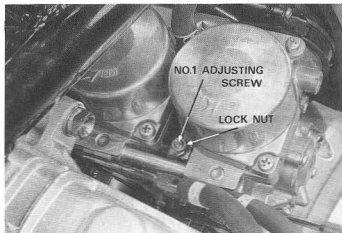
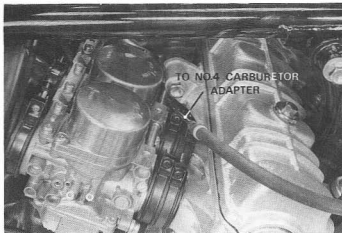
Adjust in the following order:

**CARBURETOR**

No. 5 → No. 6

No. 3 → No. 2 → No. 1

Recheck the idle speed and synchronization.







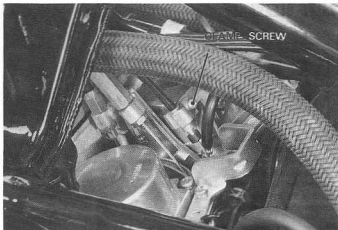
## CHOKE MECHANISM MAINTENANCE

Operate the choke lever and check for smooth operation.

Pull the choke to "fully closed" and make sure that the choke lever is fully closed at the carburetors.

Adjust by loosening the choke wire clamp and removing the choke wire.

Retighten the clamp, holding the choke lever fully closed.



## IDLE SPEED ADJUSTMENT

### NOTE

Adjust idle speed after synchronizing carburetors. The engine must be warm for accurate idle adjustment. Ten minutes of stop-and-go driving is sufficient.

Warm up the engine, shift to NEUTRAL, and place the motorcycle on its center stand.

Turn the throttle stop screw as required to obtain the specified idle speed.

**IDLE SPEED: 900  $\pm$  100 rpm**



### NOTE

Pilot screws are factory pre-set. Do not adjust the pilot screw unless the carburetors are overhauled.

### VALVE CLEARANCE

NOTE

- Inspect and adjust valve clearance while the engine is cold. (Below 35°C, 95°F).
- Before removing the cylinder head cover, allow oil to drain from the cylinder head into the crankcase by placing the motorcycle on its side stand.

Remove the seat.

Turn the fuel valve OFF and remove the fuel tube and fuel tank.

Remove the No. 1 and No. 6 spark plugs.

Remove the cylinder head brackets.

Remove the tachometer cable.

Remove the tachometer gear cap and driver gear.

**CAUTION**

The tachometer driven gear must be removed to prevent No. 4 camshaft holder breakage when the camshafts are rotated. Camshaft holder breakage necessitates cylinder head assembly replacement.

Remove the four cylinder head side covers.

Remove the eight cylinder head cover mounting bolts and cylinder head cover.

### NOTE

- Do not allow engine oil to enter the combustion chambers when the cylinder head cover is removed.
- Make sure the torque of the camshaft holder mounting bolts (32 bolts) is 1.2–1.4 kg-m (104–122 in-lb).

Remove the right crank cap.

## INSPECTION

Measure intake and exhaust valve clearances by inserting a feeler gauge between the camshaft and valve lifter shim.

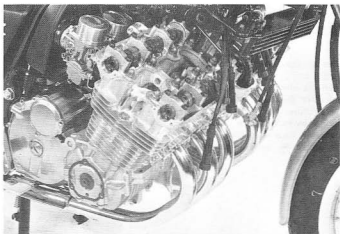
**VALVE CLEARANCE:**

$$0.08 \begin{smallmatrix} +0.05 \\ -0.02 \end{smallmatrix} \text{ mm } (0.003 \begin{smallmatrix} +0.0020 \\ -0.0008 \end{smallmatrix} \text{ in})$$

Rotate the crankshaft clockwise and measure the valve clearances in the following sequence:

Open No. 2 Ex. Valves to maximum and Measure	No. 2 In., No. 1 Ex., No. 3 Ex. clearance
Open No. 4 Ex. Valves to maximum and Measure	No. 4 In., No. 5 Ex., No. 6 Ex. clearance
Open No. 2 In. Valves to maximum and Measure	No. 1 In., No. 3 In., No. 5 In. clearance
Open No. 5 Ex. Valves to maximum and Measure	No. 6 In., No. 2 Ex., No. 4 Ex. clearance

Record the valve clearances.





### ADJUSTMENT

#### NOTE

Adjustment shims are available in 0.05 mm increments, from 2.30 to 3.50 mm.

Select a replacement shim to achieve the specified valve clearance, using the following procedures.

Rotate the valve lifter until the notch of the lifter appears on the shim so that the shim can be removed.

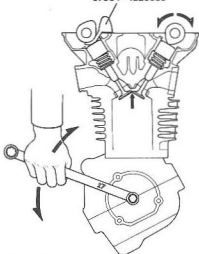
Rotate the crankshaft so that the valve being adjusted is at maximum lift.

Insert the special tool (Valve Lifter Holder) between the camshaft and two adjacent lifters.

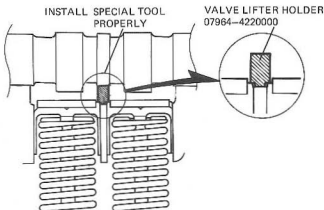
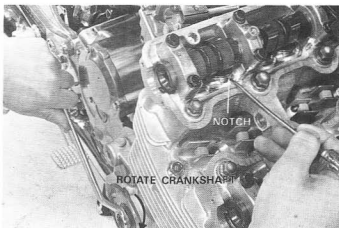
#### CAUTION

*Do not rotate the crankshaft too far or in the wrong direction when the Valve Lifter Holder is depressing a pair of Valves. To do so will cause the intake and exhaust valves to strike and damage each other.*

VALVE LIFTER HOLDER  
07964-4220000

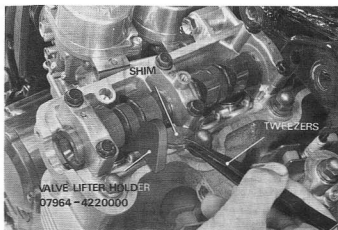


Rotate the crankshaft one turn in the proper direction, so that the cam lobe points away from the lifter.

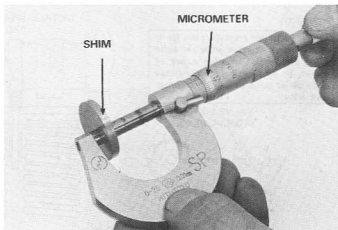




Remove the shim with tweezers.



Measure the thickness of used shim with a micrometer. Select a replacement shim using the chart on Page 3-13.



Insert the replacement shim.

**CAUTION**

*Make sure the opposite pair of valves does not open. The valves could be bent or damaged if the crankshaft is rotated incorrectly.*

Rotate the crankshaft one turn until the valves are at maximum lift.  
Remove the special tool "Valve Lifter Holder".  
Rotate the crankshaft 2-3 revolutions to fully seat the replacement shim.  
Recheck the valve clearance.



# HONDA

## CB X

### INSPECTION AND ADJUSTMENT

EXAMPLE: 1. Measure valve clearance = 0.16 mm  
2. Measure present shim size = 2.50 mm  
3. Refer to chart. (See shaded columns)  
4. Replacement shim size = 2.55 mm

		STANDARD VALVE CLEARANCE = 0.08 +0.05 -0.02 mm																		
		PRESENT SHIM SIZE mm																		
VALVE CLEARANCE mm	SHIM mm	SPECIFIED CLEARANCE																		
		NO CHANGE REQUIRED																		
0.01-0.05		2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20
0.06-0.13		2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25
0.14-0.16		2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30
0.17-0.21		2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35
0.22-0.26		2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40
0.27-0.31		2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45
0.32-0.36		2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50
0.37-0.41		2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	
0.42-0.46		2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50		
0.47-0.51		2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50			
0.52-0.56		2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50				
0.57-0.61		2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50					
0.62-0.66		2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50						
0.67-0.71		2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50							
0.72-0.76		3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50								
0.77-0.81		3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50									
0.82-0.86		3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50										
0.87-0.91		3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50											
0.92-0.96		3.20	3.25	3.30	3.35	3.40	3.45	3.50												
0.97-1.01		3.25	3.30	3.35	3.40	3.45	3.50													
1.02-1.06		3.30	3.35	3.40	3.45	3.50														
1.07-1.11		3.35	3.40	3.45	3.50															
1.12-1.16		3.40	3.45	3.50																
1.17-1.21		3.45	3.50																	
1.22-1.26		3.50																		
1.27-1.31																				

- NOTE
- Measure the valve clearance while the engine is cold.
  - For shim replacement, see page 3-11.
  - Measure old and new shims with a micrometer.
  - The chart is for reference purpose only. After installing new shims, recheck the valve clearance. Before rechecking, rotate the camshafts several times to seat the shims in the lifters.
  - If the shim thickness required exceeds 3.5 mm, there is carbon build-up on the valve seat. Remove the carbon and reface the seat.

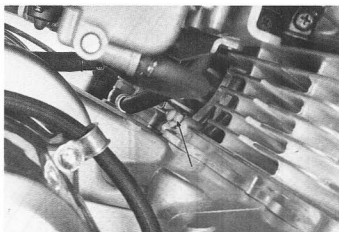


## CAM CHAIN

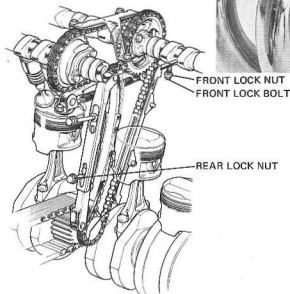
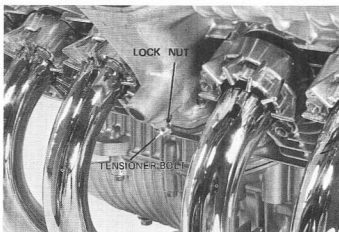
Start the engine and allow it to idle.  
Loosen the rear cam chain tensioner lock nut  
1/2 turn.  
Tighten the lock nut.

### NOTE

The tensioner will automatically position itself to provide the correct tension.



Loosen the front cam chain tensioner lock nut  
and bolt 1/2 turn.  
Tighten the bolt and lock nut.





## COMPRESSION TEST

Warm up the engine.  
Remove all spark plugs.  
Insert the compression gauge.  
Open the choke and throttle valves fully.  
Crank the engine with the starter motor.

### NOTE

Crank the engine until the gauge reading stops rising. The maximum reading is usually reached in several seconds (electric starter).

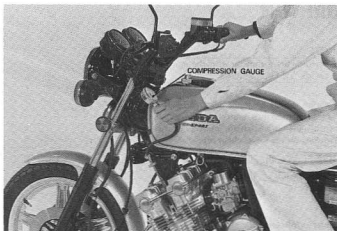
### COMPRESSION PRESSURE:

$12 \pm 1 \text{ kg/cm}^2$  ( $170 \pm 14 \text{ psi}$ )

If **compression is low**, check the following:

- Leaky valves
- Improper valve clearance
- Leaking cylinder head gasket
- Worn piston/rings/cylinder

If **compression is high**, it indicates that carbon deposits have accumulated on the combustion chamber wall or on the piston crown.





## DRIVE CHAIN

### NOTE

Perform the following with the ignition switch "OFF".

Place the vehicle on its center stand and shift the transmission into neutral.  
Inspect the drive chain midway between sprockets on the lower chain run.

**FREE PLAY:** 15–25 mm (5/8–1 in.)

**SERVICE LIMIT:** 40 mm (1.5 in.)

### Adjust as follows:

Remove the rear axle cotter pin and loosen the nut.  
Loosen the adjuster bolt lock nuts.  
Turn the adjuster bolts an equal number of turns to obtain the specified free play.

### CAUTION

Be sure that the index mark aligns with the same graduation of the scale on both sides.

Tighten the adjuster bolt lock nuts.  
Tighten the axle nut and install a new cotter pin.

Recheck free play and free wheel rotation.  
Lubricate the drive chain (Page 2-5).

### AXLE NUT TORQUE:

8.0–10.0 kg-m (58–72 ft-lb)

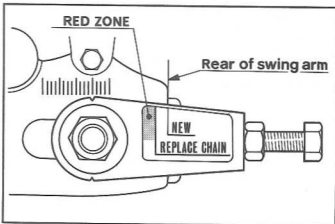
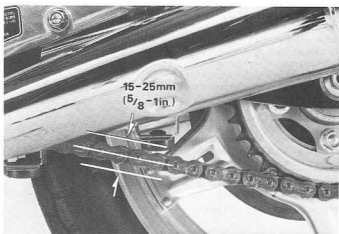
Replace the drive chain when the red zone on the label aligns with the rear of the swing arm with a free play of 20 mm (3/4 in.).

Replacement chain: RK 630B0 or DID 630ZL

Inspect the sprocket teeth for excessive wear or damage.  
Replace if necessary.

### NOTE

Never install a new drive chain on worn sprockets or a worn chain on new sprockets. Both chain and sprockets must be in good condition or the replacement chain or sprockets will wear rapidly.







### BATTERY

Remove the right and left side covers.  
Disconnect the ground cable at the battery terminal.  
Disconnect the positive cable at the magnetic switch terminal.  
Remove the battery.

Inspect the battery fluid level.  
When the fluid level nears the lower level, refill with distilled water to the upper level.

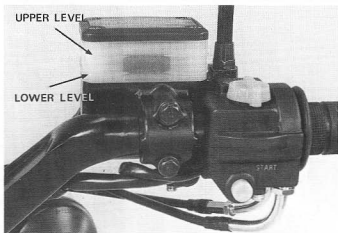
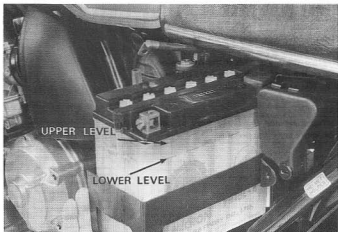
#### NOTE

Add only distilled water. Tap water will shorten the service life of the battery.

#### 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.*

Replace the battery, if sulfation forms or sediments accumulate on the bottom.



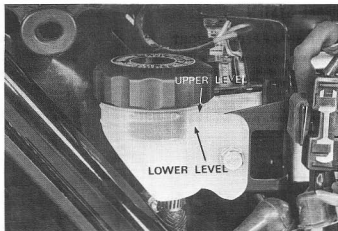
### BRAKES

#### BRAKE FLUID

Check that the front and rear brake fluid reservoirs are filled to the upper level mark.  
If the level nears the lower level mark, fill the reservoir with DOT-3 BRAKE FLUID to the upper level mark.  
Check the entire system for leaks, if the level is low.

#### CAUTION

- Do not mix different brands of fluid as they may not be compatible.
- Do not remove the cap until the handlebar has been turned full right so that the reservoir is level.
- Avoid operating the brake lever with the cap removed. Brake fluid will flow out if the lever is pulled.





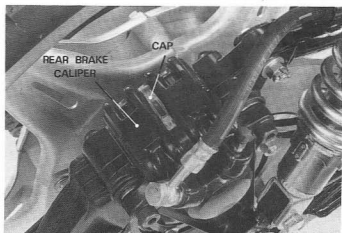
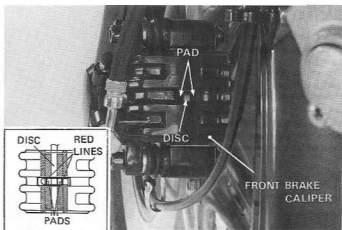
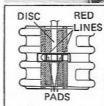
## BRAKE PADS WEAR

Remove the cap from the caliper and check for brake pad wear.

Replace the brake pads if the red line on the top of the pads reaches the edge of the brake disc. (Refer to Section 12).

### CAUTION

*Always replace the brake pads in pairs to assure even disc pressure.*



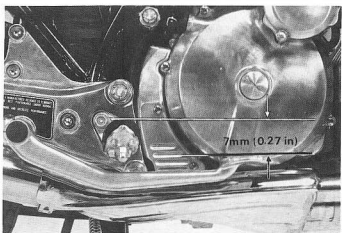
## BRAKE SYSTEM

### REAR BRAKE PEDAL HEIGHT

Adjust the pedal height so that the distance between the pedal and upper face of the footpeg is 7 mm (0.27 in).

### CAUTION

*Improper brake pedal height adjustment can cause brake drag.*





### Adjust as follows:

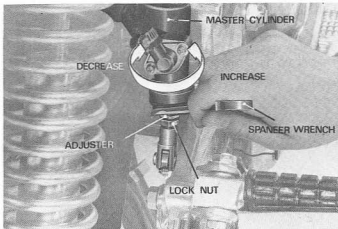
Loosen the lock nut.

Turn the adjuster until the correct pedal height is obtained.

Tighten the lock nut securely.

#### NOTE

After adjusting pedal height, adjust the brakelight switch.

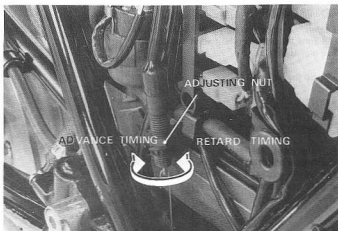


## BRAKELIGHT SWITCH

Adjust the brakelight switch so that the brakelight will light when the brake pedal is depressed and the brake begins engagement.

#### NOTE

Do not turn the switch body. The front brakelight switch does not require adjustment.



Adjust by bending the switch adjusting nut as shown.

## HEADLIGHT AIM

Adjust vertically by loosening both headlight case mounting bolts.

Adjust horizontally by turning the adjusting screw on the headlight rim.

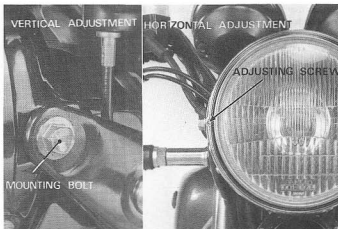
Turn the adjusting screw clockwise to direct the beam toward the right side of the rider.

#### NOTE

Adjust the headlight beam as specified by local laws and regulation.

#### WARNING

*An improperly adjusted headlight may blind oncoming drivers, or it may fail to light the road for a safe distance.*

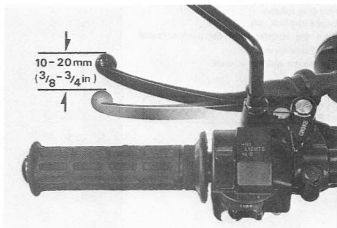




## CLUTCH FREE PLAY

Inspect the clutch lever free play at the end of the lever.

**FREE PLAY:** 10–20 mm (3/8–3/4 in)



## ADJUSTMENT

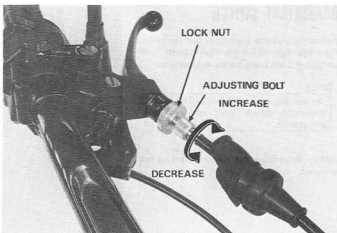
Loosen the upper adjusting bolt's lock nut and turn the adjusting bolt until the correct free play is obtained.

Tighten the lock nut.

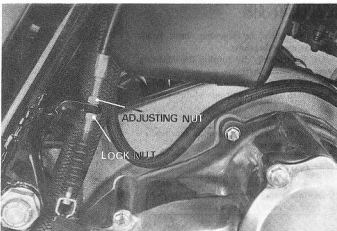
### NOTE

Do not expose the adjusting bolt threads more than 8 mm (3/4 in).

If adjustment cannot be made with the clutch lever adjusting bolt, screw the adjusting bolt all the way in. Adjustment must be made at the clutch housing.



Loosen the lower clutch cable adjusting lock nut and turn the adjusting nut all the way in.





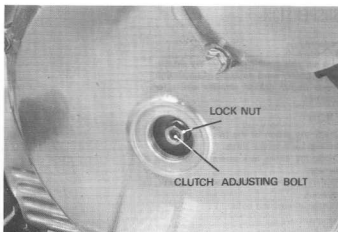
Remove the clutch lifter cap, loosen the clutch lifter lock nut. Turn the adjusting screw in until a slight resistance is felt. From this position, turn the clutch adjusting screw counterclockwise 1 turn, and tighten the lock nut.

Turn the clutch cable lower adjusting nut so that there is 10–20 mm (3/8–3/4 in) of free play at the end of the clutch lever. Tighten the lock nut.

Any minor adjustment can be obtained with the adjusting bolt and lock nut at the clutch lever.

After adjustment, be sure all lock nuts are tightened securely.

Check to see that the clutch is not slipping and is properly disengaging.



### SIDE STAND

Check the rubber pad for deterioration or wear.

Replace if any wear extends to the wear line as shown.

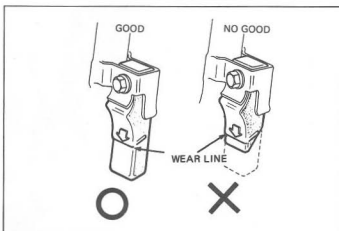
Check the side stand spring for damage and loss of tension, and the side stand assembly for freedom of movement and bending.



#### NOTE

When replacing, use a rubber pad with the mark "OVER 260 lbs ONLY".

Spring tension is correct if the measurements fall within 1.5–2.5 kg (3.3–5.5 lb) when pulling the side stand lower end with a spring scale.





## SUSPENSION

### WARNING

*Do not ride a vehicle with faulty suspension. Loose, worn or damaged suspension parts impair vehicle stability and rider control.*

### FRONT

Check the action of the front forks by compressing them several times.

Check the entire fork assembly for leaks or damage.

Replace any components which cannot be repaired.

Tighten all nuts and bolts.

### REAR

Place the motorcycle on its center stand.

Move the rear wheel sideways with force to see if the swing arm bushings are worn. Replace if excessively worn.

Check the entire suspension assembly to see if it is securely mounted, and not damaged or distorted.

Tighten all nuts and bolts.

Lubricate the swing arm bushings.



## WHEELS

### TIRE PRESSURE

#### NOTE

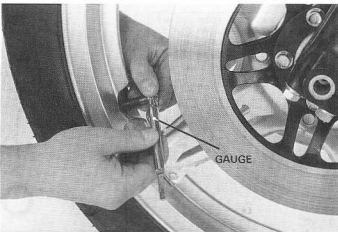
Tire pressure should be checked when tires are **COLD**.

Check the tire for cuts, imbedded nails, or other sharp object.

Recommended tire pressure and tire size:

Cold tire pressure kg/cm <sup>2</sup> (psi)	Front	2.0 (28)
	Rear	2.8 (40)
Vehicle capacity load limit	163 kg (360 lbs)	
Tire size	Front	3.50H19-4PR
	Rear	4.25H18-4PR
Tire brand Tubeless only	Front	GOLD SEAL F11 (DUNLOP) M&G. MOPUS-S703 (BRIDGESTONE)
	Rear	GOLD SEAL K127 (DUNLOP) M&G. MOPUS-G504 (BRIDGESTONE)

Check the front and rear wheels for trueness (page 14-5).





## STEERING HEAD BEARINGS

### NOTE

Check that the control cables do not interfere with the handlebar rotation.

Raise the front wheel off the ground.  
Check that the handlebar rotates freely.  
If the handlebar moves unevenly, binds, or has vertical movement, adjust the steering head bearing by turning the steering head adjusting nut with a pin spanner. (page 13-27)



## NUTS, BOLTS, FASTENERS

Check that all chassis nuts and bolts are tightened to correct torque values.  
Check all cotter pins and safety clips.

