

24. '81 ADDENDUM

INTRODUCTION

This Honda Shop Manual addendum contains information for the 1981 CX500 DELUXE and CX500 CUSTOM. Refer to the base Shop Manual for service procedures and data not included in this addendum.

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1. GENERAL INFORMATION SPECIFICATIONS



'81 ADDENDUM

ITEM					SPECIFICATIONS						
					CX500 DELUXE			CX500 CUSTOM			
CARBURETION	Carburetor type			CV 34 mm (1.3 in)							
	Identification number			VB28A VB25A							
	Pilot screw Float level			See page 23-9 15.5 ± 1 mm (0.61 ± 0.04 in)							
DRIVE TRAIN	Clutch Transmission Primary reduction Gear ratio I Gear ratio III Gear ratio IVI Gear ratio V Final reduction Gear shift pattern			Wet, multi-plate 5-speed, constant-mesh 2.242 2.733 1.850 1.416 1.148 0.931 3.091 (11/34) Left foot operated return system 1-N-2-3-4-5							
ELECTRICAL	Ignition Ignition timing "F" mark Full advance RPM from "F" to full advance Starting system Generator Battery capacity Spark plug			CDI 15° BTDC/1,100 ± 100 rpm 37° ± 3° BTDC 1,750—6,000 rpm Starting motor only Three phase A.C. generator 170W/5,000 rpm 12V—14AH							
					climate w 1°F)	Standard		For extended high speed riding			
			N	D	NGK	ND	NGK	ND	NGK		
		USA model	X22	ES-U	D7EA	X24ES-U	D8EA	X27ES-U	D9EA		
		Canadian model	X22	ESR U	DR7ES	X24ESR -U	DR8ES -L	X27ESR U	DR8ES		
	Spark plug gap Fuse			0.6–0.7 mm (0.024–0.028 in) 30A (main), 10A (sub)							
LIGHTS	Headlight (high/low beam) Tail/stoplight Turn signal light (front/rear) Speedometer light Tachometer light Neutral indicator Turn signal indicator High beam indicator Running light			60/55W H4 Bulb (Phillips 12342/99 or equivalent) 8/27W (3/32 cp SAE NO. 1157) 23/23W (32/32 cp SAE NO. F. 1034, R. 1073) 3.4W (2 cp SAE NO. 57) 8.4W (3 cp SAE NO. 1034)							



MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION in the Owner's Manual at each scheduled maintenance.

- I: INSPECT AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY
- C: CLEAN
- R: REPLACE
- A: ADJUST
- L: LUBRICATE

			WHICHEVER ODOMETER READING [NOTE 3]								
		FREQUENCY	COMES FIRST	, 000', 00', 00', 00', 00', 00', 00', 0	3.750 mi.	7.500 mi	1,280 mi	75.00 km 24.00 m;	18,750 mi	(3) (20) (4) (5) (5) (5) (6) (6) (6) (6) (6) (6) (6) (6) (6) (6	REFER
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	*	THROTTLE OPERATION		9		1		-		1	3 5
	*	CARBURETOR-CHOKE		*************************		1		8		1	3- 6
		AIR CLEANER	NOTE 1		С	R	С	R	С	R	3-2
ELATED ITEMS		CRANKCASE BREATHER	NOTE 2		С	С	С	С	С	С	3-3
L		SPARK PLUGS		National Control of the Control of t	R	R	R	R	R	R	23- 6
0	*	VALVE CLEARANCE		1	ı	ı		1		ı	3- 4
1		ENGINE OIL	YEAR	R		R		R		R	2- 2
급		ENGINE OIL FILTER	YEAR	R		R		R		R	2- 2
Œ	49	CAM CHAIN TENSION		А	Α	Α	Α	Α	Α	Α	3- 5
ō	*	CARBURETOR-SYNCHRONIZE		1		ł		1			24 6
EMISSION	*	CARBURETOR-IDLE SPEED		1	and the same of th	1	ı	8880	ı	1	3- 6
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	*	COOLING SYSTEM, HOSES & CONNECTIONS		ance		400	The state of the s	oppe		9000	3 8
	*	DRIVE SHAFT JOINT				L		L		L	2- 3
		FINAL DRIVE OIL				1		1		А	2- 3
ĭ.S		BATTERY	MONTH	- 1		1	1	1	1		3-9
RELATED ITEMS		BRAKE FLUID (FRONT)	MONTH I 2 YEARS *R	1	1.	1	1	1	1	*R	3 9
LLI -		BRAKE SHOE/PAD WEAR				- 1	1	1	1	1	3-11
	(manness-seessed	BRAKE SYSTEM (REAR)				1		1		1	311
	*	BRAKE LIGHT SWITCH		1		- 1		1		T T	3-12
S	*	HEADLIGHT AIM		1		TT		1		1	3-13
SS		CLUTCH		1	1	1	1	1	1	1	3-13
NON-EMISSION		SIDE STAND				1		1			3-14
I	*	SUSPENSION		1		T		1		1	3-14
18	*	NUTS, BOLTS, FASTENERS		1		1		1		1	3-15
olisiaee60	**	WHEELS		1		1		1			3-15
	**	STEERING HEAD BEARING		1		1		1		1	3-15

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

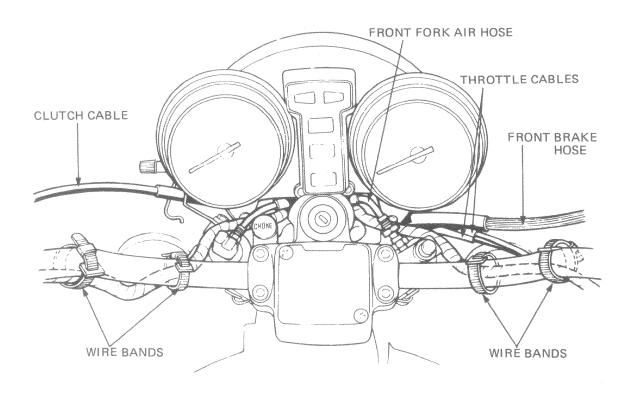
NOTE:

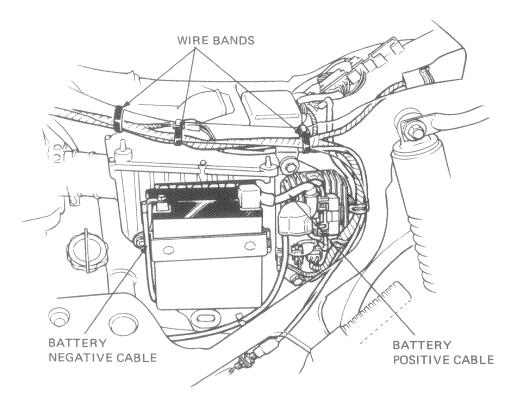
- Service more frequently when riding in dusty areas.
 Service more frequently when riding in rain or at full throttle, or after being washed or overturned.
- 3. For higher odometer readings, repeat at the frequency interval established here.

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



CABLE AND HARNESS ROUTING

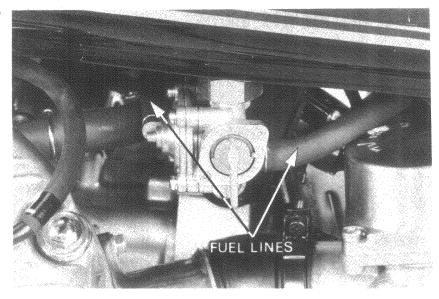






2. INSPECTION AND ADJUSTMENT FUEL LINE

Replace any parts which show deterioration, damage or leakage.



CARBURETOR SYNCHRONIZATION

NOTE

This adjustment is performed with engine at normal operating temperature, transmission in neutral, and vehicle on center stand.

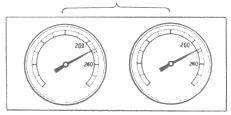
Remove the plugs from the carburetor spacers and install adapters.

Connect the vacuum gauges. (see page 3-7).

Start the engine and adjust the idle speed to $1,100 \pm 100 \, \text{rpm}.$

The difference of vacuum between cylinders should be within 40 mm (1.6 in) Hg.

MUST BE WITHIN 40mm (1.6 in) Hg OF EACH OTHER



ADJUSTMENT

Stop the engine and remove the seat and fuel tank.

Prepare a longer fuel tube and connect it between the fuel tank and carburetor.

Position the tank higher than normal.

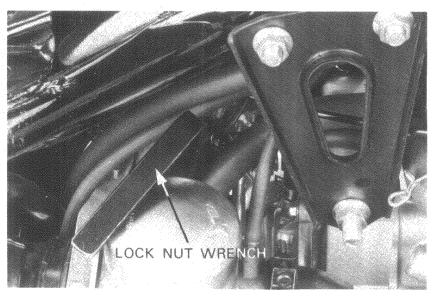
Start the engine and adjust the idle speed to $1,100 \pm 100 \text{ rpm}$.

Loosen the adjusting screw lock nut.

Balance the vacuum between cylinders to within 40 mm (1.6 in) Hg of each other, by turning the adjusting screw. The No. 1 carb is the base and cannot be adjusted.

Hold the adjusting screw, and tighten the lock nut.

Recheck the synchronization and idle speed. Reinstall the fuel tank and seat.



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3. FUEL SYSTEM

WORKING PRACTICE

- The fuel valve is equipped with a fuel line diaphragm. After carburetor overhaul, it is necessary to crank the engine for 2-3 seconds, three times with the throttle fully closed to fill the float chambers.
- For carburetor adjustments, refer to section 4 and the '80 addendum.
- The pilot screw is factory pre-set and should not be removed unless the carburetor is overhauled.

TROUBLE SHOOTING

Fuel Line Diaphragm

- Fuel not reaching carburetor
 - 1. Fuel line diaphragm vent tube clogged.
 - 2. Fuel line diaphragm vacuum tube clogged.
 - 3. Clogged fuel line diaphragm.
 - 4. Clogged fuel line diaphragm check valve.

SPECIFICATIONS

[] Canada Model

		[] Canada Mod
ITEM	CX500 DELUXE	CX500 CUSTOM
Identification mark	VB28A [VB28B]	VB25A [VB25B]
Venturi diameter	34 mm (1.3 in)	
Idle speed	1,100 ± 100 rpm	
Fast idle speed	1,100 — 1,500 rpm	
Float level	15.5 ± 1 mm	
Pilot screw opening	See page 23-9	
Main jets	Primary # 78	
	Secondary #115	- Company of the Comp
Throttle grip free play	2 - 6 mm (1/8 - 1/4 in)	



FUEL LINE DIAPHRAGM

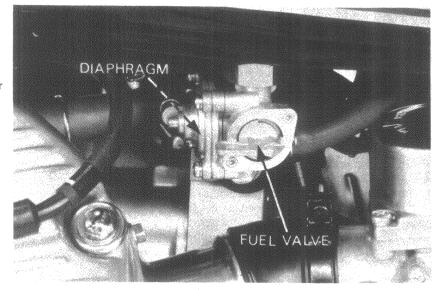
REMOVAL

Turn the fuel valve to OFF.

Remove the seat.

Disconnect the fuel line, vacuum line and air vent tube.

Remove the fuel tank.



INSPECTION

Place a suitable drainage container under the fuel line.

Turn the fuel valve to ON.

If fuel comes out of the fuel line, replace the fuel line diaphragm.

Connect a vacuum gauge to the diaphragm vacuum outlet. Fuel should flow from the fuel line when 12–20 mm Hg (0.48–0.8 in Hg) of vacuum is applied.

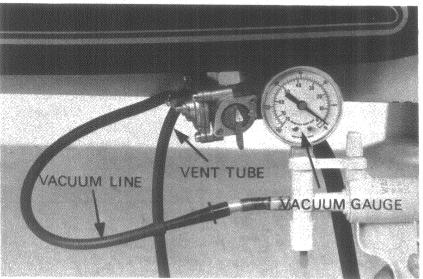
If flow is restricted, replace the fuel line diaphragm.

INSTALLATION

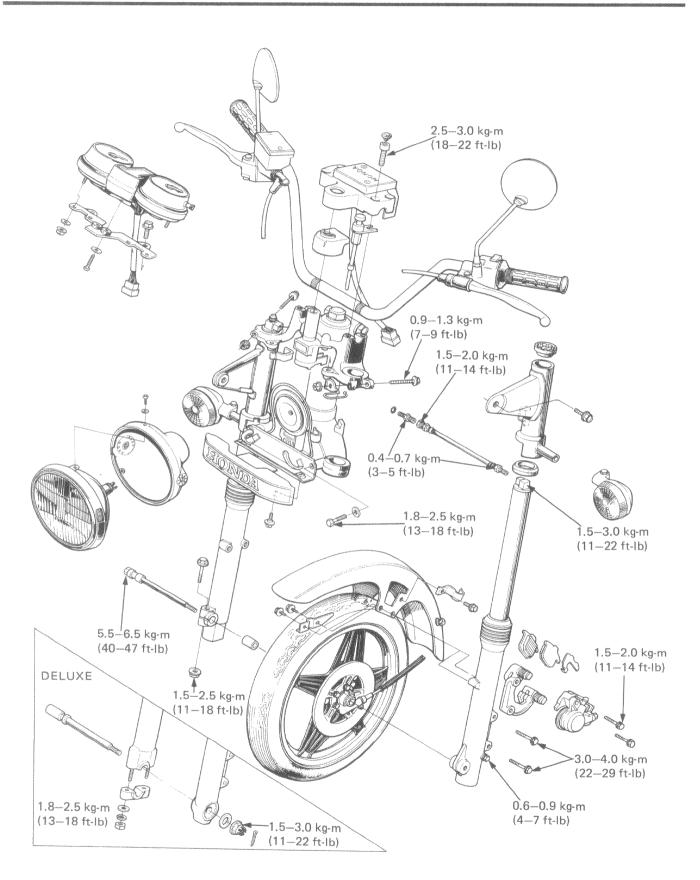
Installation of the fuel line diaphragm is the reverse order of removal.

NOTE

Be sure all fuel line, vacuum line and air vent tube connections are tight and not leaking.









4. FRONT WHEEL/SUSPENSION SERVICE INFORMATION

WORKING PRACTICE

• When removing the front forks, release the air in front fork tubes by depressing the air valve on the right front fork.

SPECIFICATIONS

ITEM	STAN		SERVICE LIMIT			
I I L IVI	CX500 DELUXE	CX50	00 CUSTOM	CX500 DELUXE	CX500 CUSTOM	
Fork spring free	565.2 mm (22.25 in)	Spring A	100.7 mm (3.96 in)	FEC C (24 0 :-)	Spring A	96.7 mm (3.8 in)
length	303.2 mm (22.25 m)	Spring B	503.1 mm (19.8 in)	556.6 mm (21.9 in)	Spring B	495.1 mm (19.5 in)
Front fork tube O.D.	32.950 — 32.975 mm (1.297 — 1.298 in)	34.950 — 34.975 mm (1.396 — 1.377 in)		32.90 mm (1.295 in)	34.90 mm (1.374 in	
Fork tube run out Fork fluid capacity Fork air pressure	185 cc (6.3 oz) 0.7 - 1.1 kg/cm ² (10 - 16 psi)	220 cc (7.5 oz)		0.2 mm (0.01 in)		

TORQUE VALUES

DELUXE: Front axle nut DUSTOM: Front axle DELUXE: Axle holder CUSTOM: Axle holder Fork bridge bolt Steering stem pinch bolt Fork cap bolt Fork drain bolt Fork socket bolt Air hose: right left Air hose connector

5.5—6.5 kg-m (40—47 ft-lb) 5.5—6.5 kg-m (40—47 ft-lb) 1.8—2.5 kg-m (13—18 ft-lb) 1.5—2.5 kg-m (11—18 ft-lb) 0.9—1.3 kg-m (7—9 ft-lb) 1.8—2.5 kg-m (13—18 ft-lb) 1.5—3.0 kg-m (11—22 ft-lb) 0.6—0.9 kg-m (4—7 ft-lb) 1.5—2.5 kg-m (11—18 ft-lb) 1.5—2.0 kg-m (11—14 ft-lb) 0.4—0.7 kg-m (3—5 ft-lb) 0.4—0.7 kg-m (3—5 ft-lb)

TROUBLESHOOTING

Soft Suspension

- 1. Weak springs
- 2. Insufficient oil in fork tubes
- 3. Front fork air pressure incorrect

Hard Suspension

- 1. Incorrect oil in front forks
- 2. Front fork air pressure incorrect

Front Suspension Noise

- 1. Worn slider or tube bushing
- 2. Insufficient oil in fork tubes
- 3. Loose front fork fasteners
- 4. Lack of grease in speedometer gearbox

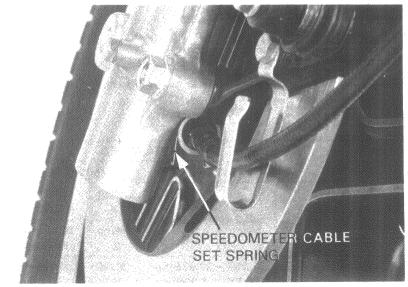


CX500 CUSTOM: FRONT WHEEL

REMOVAL

Raise the front wheel off the ground by placing a support block under the engine.

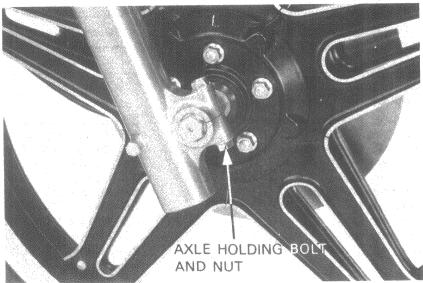
Disconnect the speedometer cable by expanding the speedometer cable set spring.



Remove the front axle holding bolt and nut. Unscrew and pull out the front axle. Remove the front wheel.

NOTE

Do not operate the front brake lever after removing the front wheel. To do so will cause difficulty when refitting the brake disc between the brake pads.



INSTALLATION

Install the front wheel by inserting the front axle through the right fork leg and wheel hub.

Screw the axle into the left fork leg.

NOTE

Make sure the speedometer gearbox is perpendicular to the left fork leg.

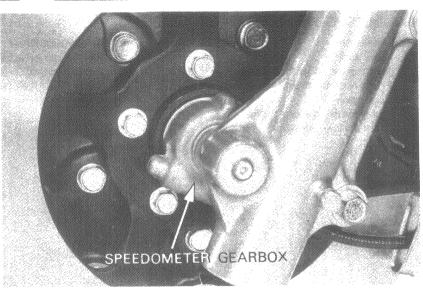
Tighten the axle to the specified torque.

TORQUE: 5.5-6.5 kg-m (40-47 ft-lb)

Install the axle holding bolt and tighten the nut to the specified torque.

TORQUE: 1.5-2.5 kg-m (11-18 ft-lb)

After installing the wheel, apply the brake several times and check for free wheel rotation when released.

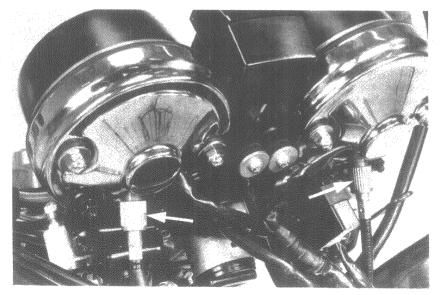




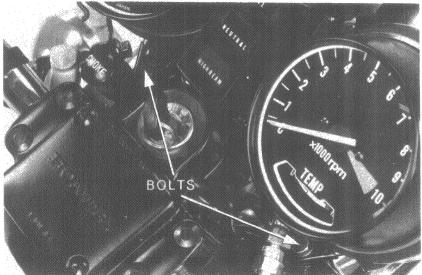
FRONT FORKS

REMOVAL

Remove the speedometer and tachometer cable nuts



Remove the instrument cluster mounting bolts and the instrument cluster.

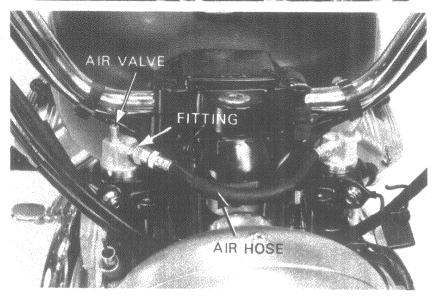


Remove the air valve cap from the air valve on the right fork and release the air in the fork tubes by pressing in on the valve stem.

Disconnect the air hose and remove the connectors from the right and left forks.

WARNING

The fork tube caps are under air and spring pressure. Front fork air pressure must be relieved and care used before removing the fork tube caps to prevent them from becoming projectiles. Wear eye and face protection.



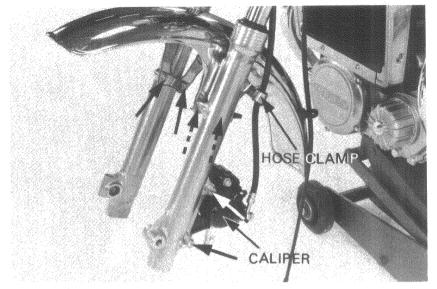


Remove the front wheel (DELUXE: see page 13-5, CUSTOM: see page 24-12).

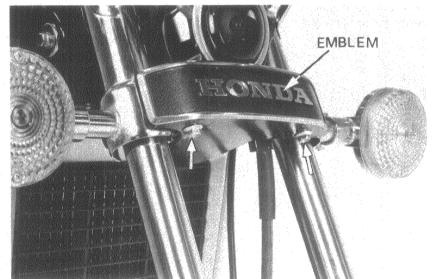
Remove the brake caliper mounting bolts and caliper.

Remove the front brake hose from the clip on the front fender.

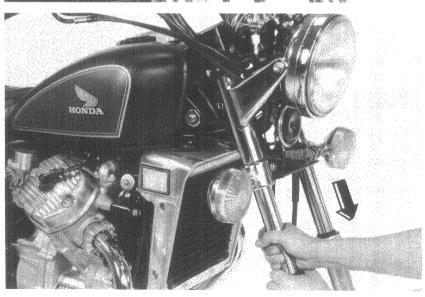
Remove the front fender mounting bolts and fender.



Remove the front emblem by removing the mounting bolts.



Loosen the front fork tube pinch bolts. Pull each fork tube down and out while twisting them.





DISASSEMBLY

WARNING

The fork tube caps are still under spring pressure. Use care when removing the fork tube caps to prevent them from becoming projectiles. Wear eye and face protection.

Remove the oil drain bolt and drain the oil. Remove the socket bolt from the bottom of fork leg with the hex wrench.

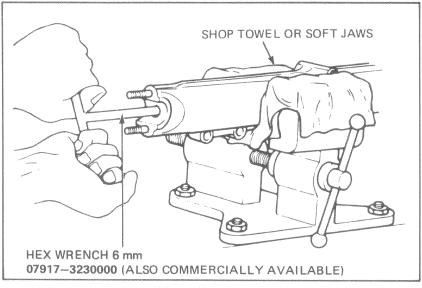
NOTE

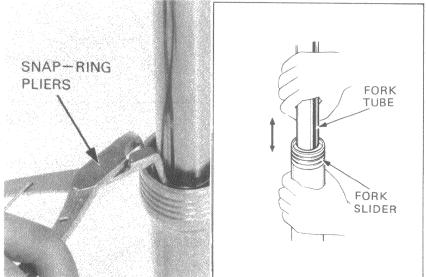
- Hold the fork slider in a vise with soft jaw, being careful not to overtighten it.
- Temporarily install the spring and fork cap bolt should difficulty be encounterd in removing the socket bolt.

Remove the piston and rebound spring. Remove the dust cover.

Remove the snap-ring and the back-up plate. Pull the fork tube out until resistance from the slider busing is felt.

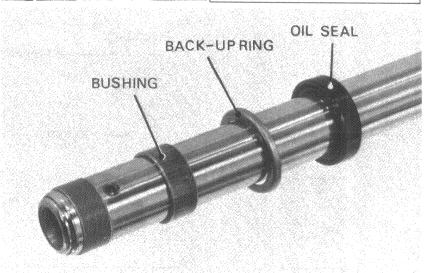
Then move it in and out, tapping the bushing lightly until the fork tube separates from the slider. The slider bushing, seal and back-up ring will come out with the fork tube.



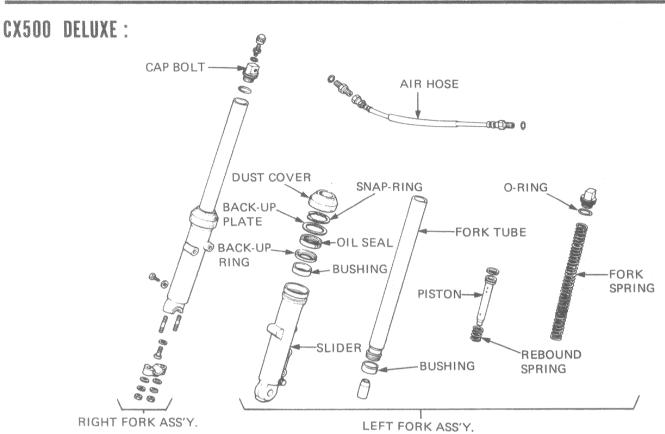


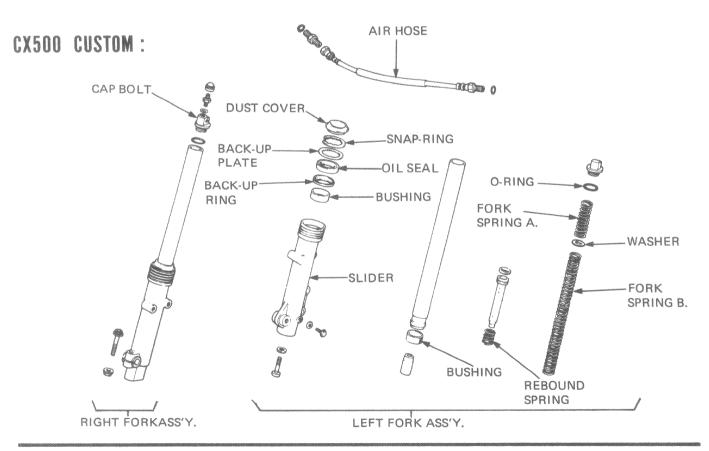
Remove the oil seal and back-up ring from the fork tube.

Remove the oil lock piece from inside the











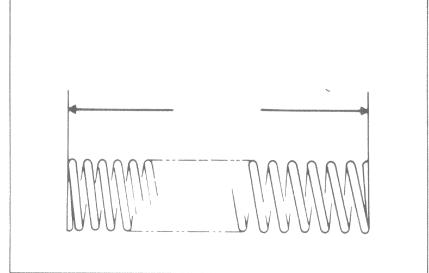
SPRING FREE LENGTH INSPECTION

Check the free length of the fork springs. Replace them if they are shorter than the service limit.

SERVICE LIMIT:

DELUXE: 556.6 mm (21.9 in) CUSTOM: SPRING A: 96.7 mm (3.8 in)

SPRING B: 495.1 mm (19.5 in)



FORK TUBE/SLIDER/PISTON INSPECTION

Check the fork tubes, fork sliders and pistons for score marks, scratches, excessive or abnormal wear, replacing those parts which cannot be used

Measure the outside diameter of the fork tubes:

FORK TUBE O.D. SERVICE LIMIT:

DELUXE: 32.90 mm (1.295 in) CUSTOM: 34.90 mm (1.374 in)

BUSHING/BACK-UP RING INSPECTION

Visually inspect the slider and fork tube bushings.

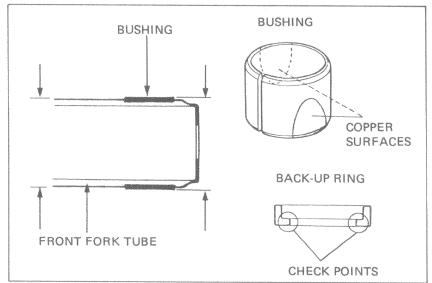
Replace if there is excessive scoring or scratches, or if the teflon overlay is worn so that the copper surface appears on more than 3/4 of the entire surface.

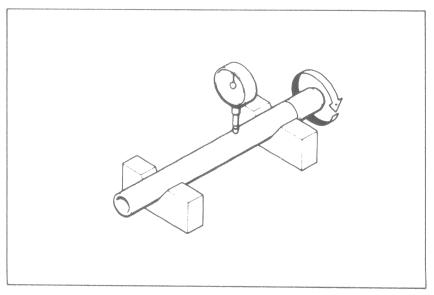
Check the back-up ring at the points shown. Replace if there is any distortion.

FORK TUBE INSPECTION

Set the fork tube in V blocks and read the runout. 1/2 the total indicator reading is the actual runout.

RUNOUT SERVICE LIMIT: 0.2 mm (0.01 in)







ASSEMBLY

Clean all disassembled parts.

Place the oil lock piece into the slider and insert the fork tube.

Install the rebound spring and piston into the fork tube.

Apply a locking agent to the socket bolt and thread it into the piston. Tighten with a hex wrench.

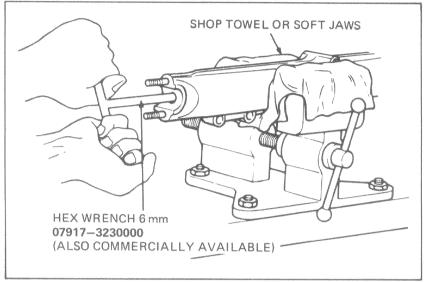
TORQUE: 1.5-2.0 kg-m (11-14 ft-lb)

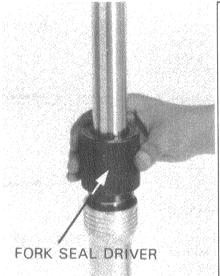
CAUTION

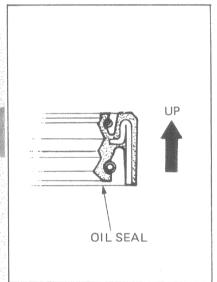
Do not overtighten the fork slider in a vise,

Place the slider bushing over the fork tube and rest it on the slider. Put the back-up ring and on old bushing or equivalent tool on top of the bushing. Drive the bushing into place with the seal driver (P/N 07947—3290000). Remove the old bushing or equivalent tool.

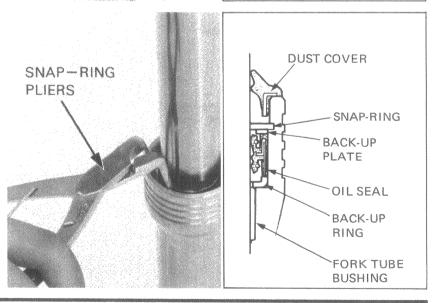
Dip the new oil seal in ATF and install it over the fork tube with the marks facing up. Drive the oil seal into position until the snap-ring groove appears.







Install the back-up plate.
Install the snap-ring and dust cover.





Use ATF (Automatic Transmission Fluid) to fill the front forks.

CAPACITY: DELUXE: 185 cc (6.3 oz)

CUSTOM: 220 cc (7.5 oz)

NOTE

Do not overfill,

Slide the fork spring and spring seat into position and install the cap bolt.

NOTE

- Place the fork tube in a vise with a shop towel, avoiding the sliding surface.
- · Note the spring direction.



Install the front fork into the steering stem and bridge, rotating it by hand if necessary.

NOTE

Align the front fork alignment line with the top of the bridge.

Tighten the upper and lower fork pinch bolts.

TORQUE:

UPPER: 0.9-1.3 kg-m (7- 9 ft-lb) LOWER: 1.8-2.5 kg-m (13-18 ft-lb)

Tighten the fork tube cap bolts.

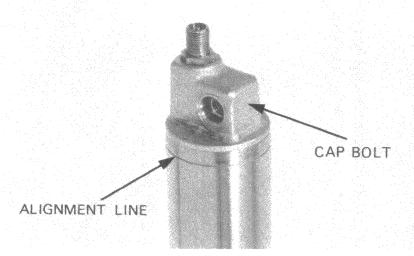
TORQUE: 1.5-3.0 kg-m (11-22 ft-lb)

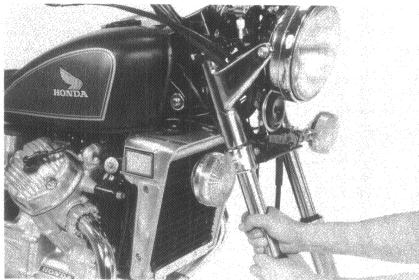
Apply grease to the new O-rings.

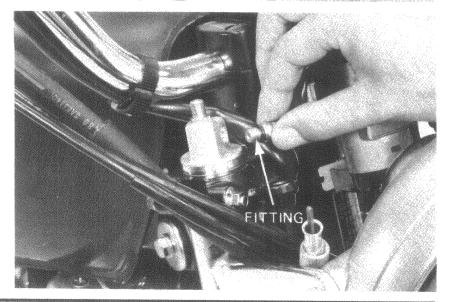
Place new O-rings on the air hose connectors.

Install and tighten the air hose connector,

TORQUE: 0.4-0.7 kg-m (3-5 ft-lb)



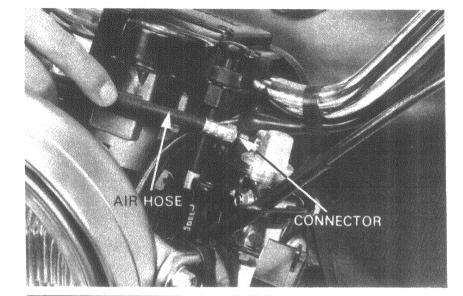






Install the air hose to the left fork cap.

TORQUE: 0.4-0.7 kg-m (3-5 ft-lb)



Connect the air hose to the right fork cap.

TORQUE: 1.5-2.0 kg-m (11-14 ft-lb)

Install the removed parts in the reverse order of removal.

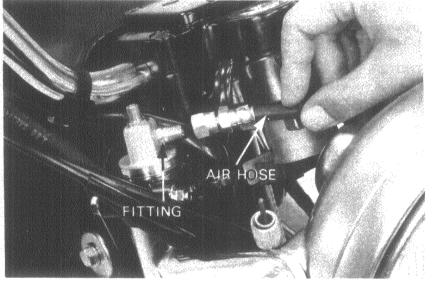
Use a bicycle air pump to fill the fork tube with air to the recommended air pressure.

AIR PRESSURE: 0.7-1.1 kg/cm2 (10-16 psi)

CAUTION

- Use only a hand operated air pump to fill the fork tubes.
 - Do not use compressed air.
- Maximum pressure is 3 kg/cm² (43 psi). Do not exceed this or fork tube component damage may occur.

With the front brake applied, pump the front forks up and down several times. Place the motorcycle on its center stand. Check the air pressure and adjust if necessary.

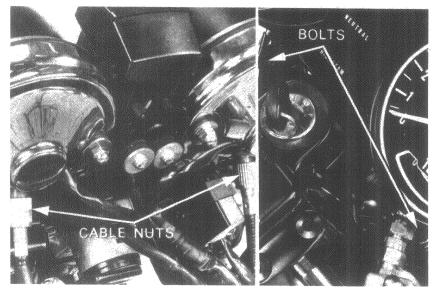




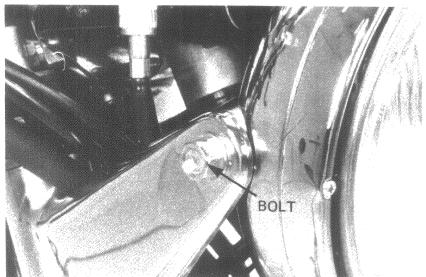
5. SWITCHES IGNITION SWITCH

REMOVAL

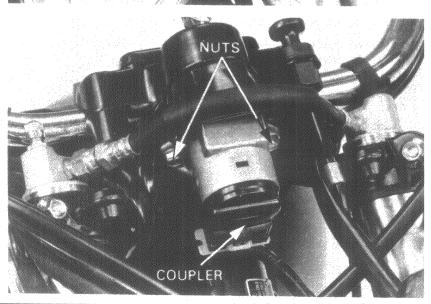
Remove the speedometer and tachometer cable nuts. Remove the instrument cluster mounting bolts and the instrument cluster.



Remove the headlight case mounting bolts and headlight case.



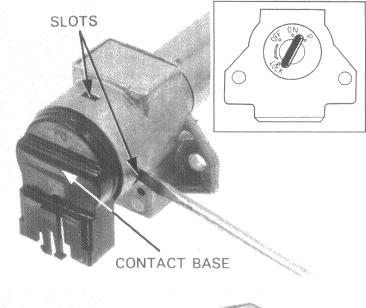
Remove the ignition switch mounting bolts and disconnect the ignition switch coupler.

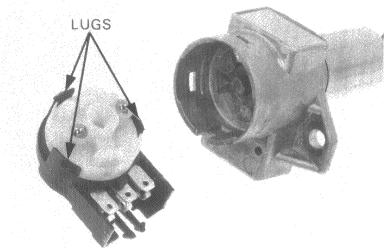




DISASSEMBLY

Insert the ignition key into the switch and position it in between the ON and P detents. Push the lugs from the slots and remove the contact base.



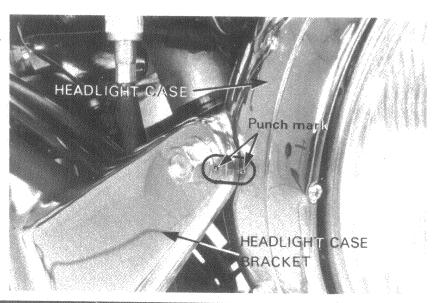


ASSEMBLY AND INSTALLATION

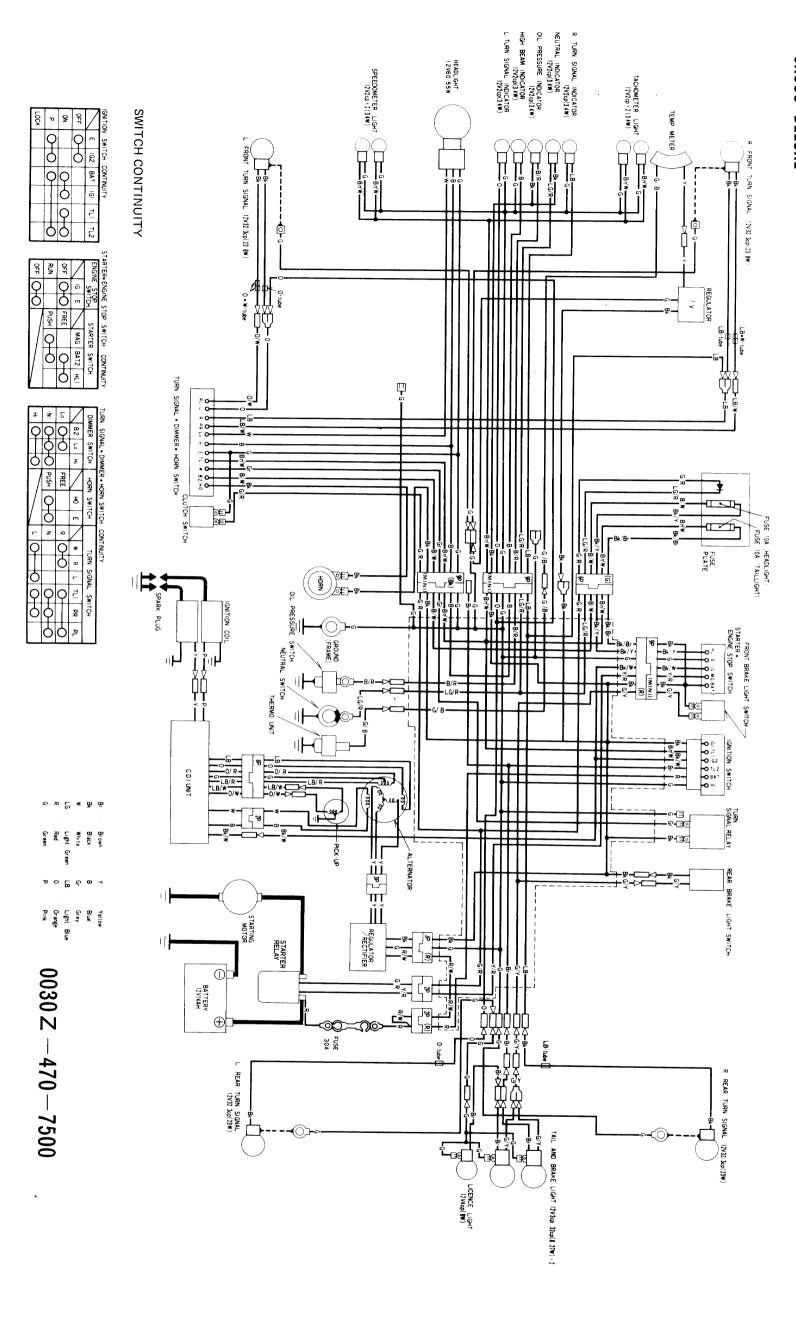
Assembly and installation are the reverse order of disassembly and removal.

NOTE

When installing the headlight case, align the punch marks on case with the punch marks on the headlight case brackets.



6. WIRING DIAGRAM CX500 DELUXE



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