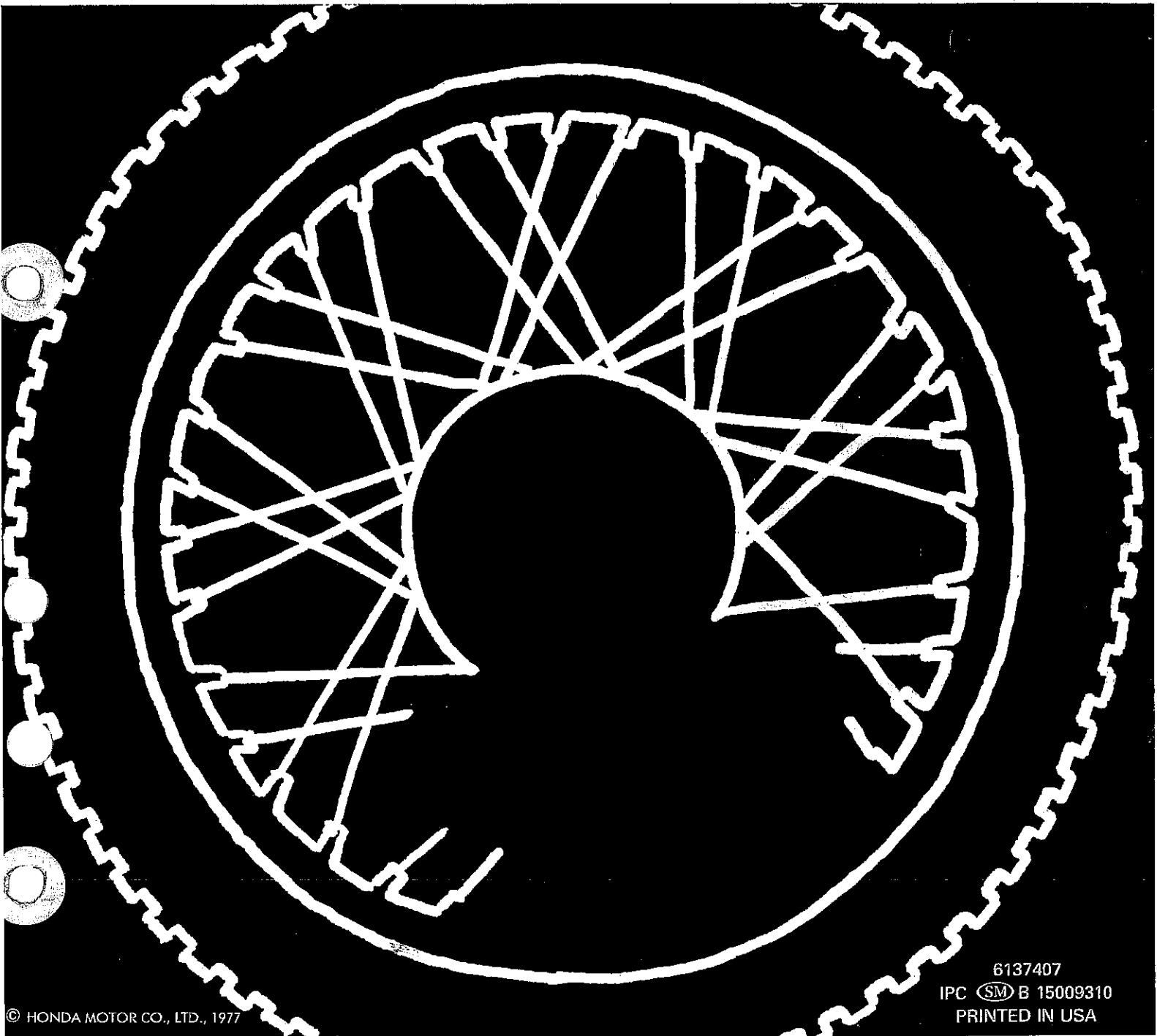


SHOP MANUAL

HONDA CB 500-550

Courtesy of  Honda4Fun
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PREFACE



This shop manual describes the maintenance, inspection and adjustment procedures of the HONDA CB500, 550, 550F and 550K. The manual is divided into various functional groups to simplify the manual use. The pages for the respective groups are indexed on this page.

Each of the groups are divided further into sections: 1. Description, 2. Specifications, 3. Diagnosis, 4. Disassembly, 5. Inspection and 6. Reassembly. Photographs and illustrations are used to make the operations easy to understand.

HONDA MOTOR CO., LTD.

Service Publications Office

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CONTENTS



1. REPAIR PROCEDURE.....	1	7. INSPECTION AND ADJUSTMENT OF CB550.....	107
2. SPECIAL TOOLS.....	3	1. Clutch.....	107
3. MAINTENANCE OPERATIONS .	7	8. NEW FEATURES OF CB550.....	108
4. ENGINE.....	19	1. Blow-by Gas Scavenging Device.....	108
1. Servicing with engine mounted in frame.....	20	2. Starting Motor Safety.....	109
2. Engine removal and installation....	20	3. Front Suspension.....	110
3. Cylinder head, cylinder and piston.....	24	4. Brake Lining Wear Indicator....	112
4. Valves and valve springs.....	33	9. COMPARISON OF CB550 TO CB500.....	113
5. Oil pump and oil filter.....	36	10. ENGINE.....	121
6. Clutch.....	40	1. Clutch.....	121
7. Gear shift mechanism.....	43	2. Gearshift.....	124
8. Cam chain tensioner.....	46	11. TROUBLE SHOOTING.....	128
9. Crankshaft and connecting rod....	47	12. MAINTENANCE SCHEDULE.....	134
10. Transmission, kick starter and primary shaft.....	53	13. TECHNICAL DATA.....	135
11. Carburetor.....	57	14. WIRING DIAGRAM.....	143
5. CHASSIS.....	65	15. SUPPLEMENT TO CB550K1...149	
1. Front wheel and front brake.....	65	16. SUPPLEMENT TO CB550F....153	
2. Rear wheel and rear brake.....	73	17. SUPPLEMENT TO CB550K2 (*76).....	170
3. Steering.....	77	18. INDEX.....	173
4. Front suspension.....	79	19. SUPPLEMENT TO CB550K3/CB550K3 (*77).....	175
5. Rear suspension.....	82	20. SUPPLEMENT TO CB550F2 (*77).....	185
6. Frame body.....	84		
6. ELECTRICAL.....	87		
1. General description.....	87		
2. Ignition system.....	88		
3. Charging system.....	93		
4. Starting system.....	98		
5. Electrical equipment.....	103		



1. SERVICE PRECAUTIONS



1. Always replace gaskets, O-rings, cotter pins, etc. with new ones when reassembling.
2. When tightening bolts, nuts or screws, begin with the larger-diameter or inner ones first and tighten them to the specified torque in a criss-cross pattern.
3. Use genuine Honda-recommended parts and lubricants when servicing.
4. Be sure to use special tools where specified.
5. When working with another person take safety precautions.
6. Clean engine parts when disassembling. Coat their sliding surfaces with a high-quality lubricant when reassembling.
7. Coat or pack grease where specified.
8. After reassembling, check that each part is tightened properly and operating properly.

ENGINE

	Item	Q'ty	Torque values	
			Kg-m	Ibs-ft
1.	Tappet adjusting nut	8	1.1-1.5	8.0-10.8
2.	Cam sprocket knock bolt, 7×12	2	1.4-1.8	10.1-10.8
3.	Cylinder head nut, 8mm	12	2.0-2.3	14.5-16.6
4.	A. C. generator rotor set bolt	1	5.0-6.0	28.9-30.3
5.	Starting clutch screw, 6×18 cross flat head screw	3	0.8-1.2	14.5-17.3
6.	Upper crankcase bolt, 8×100 Flange hex bolt	3	2.0-2.5	14.5-18.1
7.	Upper crankcase bolt, 8×145 hex bolt	1	2.3-2.5	16.6-18.0
8.	Lower crankcase bolt, 8×100 hex bolt	10	2.0-2.5	14.5-18.1
9.	Connecting rod nut	8	2.0-2.2	14.5-15.9
10.	Oil pump screw, 6×35 cross flat head screw	3	0.8-1.2	5.7- 8.6
11.	Clutch filter fixing bolt, 6×45 hex bolt	1	0.8-1.2	5.7- 8.6
12.	Spark advancer bolt, 6×55 Flange hex bolt	1	1.1-2.5	8.0-10.8
13.	Tachometer gear holder screw, 6×16 cross flat head screw	1	1.0-1.4	7.2-10.0
14.	Exhaust pipe flange nut, 6mm	8	0.8-1.2	5.7- 8.6
15.	Oil pressure switch	1	1.5-2.0	10.8-14.5
16.	Gear shift lever bolt, 6×20 hex bolt	1	0.8-1.0	5.7- 7.2
17.	Oil filter center bolt	1	2.7-3.3	19.5-23.8
18.	Spark plug	4	1.2-1.6	8.6-11.6
19.	Oil drain bolt	1	3.5-4.0	25.3-28.9
20.	Clutch spring, 6×20 hex bolt	4	1.0-1.4	7.2-10.1
21.	Tappet hole cap	8	1.0-1.4	7.2-10.1
22.	Oil path cap	1	1.0-1.4	7.2-10.1
23.	Gear shifter return spring, 8mm bolt	1	2.0-3.0	14.5-21.7
24.	Drive sprocket	1	1.1-1.5	
Standard parts			Kg-m	Ibs-ft
SCREW pan 6 mm			0.7-1.1	5.1- 8.0
SCREW flat 6 mm			0.8-1.2	5.8- 8.7
BOLT hex 6 mm			0.8-1.2	5.8- 8.7
BOLT flange 6 mm			1.0-1.4	7.2-10.1
NUT hex 6 mm			0.8-1.2	5.8- 8.7

FRAME

	Item	Q'ty	Torque values	
			kg-m	lbs-ft
1.	Rear brake pedal bolt, 8×32 hex bolt	1	1.8-2.5	13.0-18.1
2	Foot peg nut, 12mm	2	5.0-6.0	36.2-43.4
3.	Engine hanger bolt A	5	3.0-4.0	21.7-28.9
4.	Engine hanger plate	6	1.8-2.5	13.0-18.1
5.	Rear fork pivot nut, 14mm	1	5.5-7.0	39.8-50.6
6.	Rear suspension upper nut, 10mm cap nut	2	3.0-4.0	21.7-28.9
7.	Rear suspension lower bolt, 10×32 hex bolt	2	3.0-4.0	21.7-28.9
8.	Oil bolt	3	3.4-4.0	24.6-28.9
9.	Brake stop switch	1	3.0-4.0	24.6-28.9
10.	Front brake disc nut, 8mm	6	1.8-2.5	13.0-18.1
11.	Brake oil joint, 6×28 hex bolt	1	0.8-1.0	5.8-87.2
12.	Brake hose joint	1	0.6-1.0	4.3- 7.2
13.	Master cylinder bolt, 6×28 hex bolt	2	0.8-1.0	5.7- 7.2
14.	Caliper set bolt	2	3.4-4.0	24.6-28.9
15.	Holder joint bolt, 8×40, 8×50 hex bolt	3	1.8-2.3	13.0-16.6
16.	Front fork bolt	2	5.5-6.5	39.8-47.0
17.	Steering stem nut	1	8.0-12.0	57.9-86.7
18.	Steering stem bolt, 10×40 hex bolt	2	3.0-4.0	21.7-28.9
19.	Rear wheel axle nut	1	8.0-10.0	57.8-72.3
20.	Front axle holder nut, 8mm	4	1.8-2.3	13.0-16.6
21.	Handlebar holder bolt, 8×40 hex bolt	4	1.8-2.3	13.0-16.6
22.	Front wheel axle nut	1	5.5-6.5	39.8-47.0
23.	Rear brake stopper arm bolt and nut, 8mm	1	1.8-2.3	13.0-16.6
24.	Fork top bridge bolt, 8×56 hex bolt	2	1.8-2.3	13.0-16.6
25.	Drive chain adjuster bolt and nut, 8mm hex bolt	2	1.5-2.0	10.8-14.5
26.	Drive chain adjuster stopper bolt	2	1.8-2.3	13.0-16.6
27.	Main stand pivot bolt, 8×40 hex bolt	2	1.5-2.0	10.8-14.5
28.	Rear foot peg nut, 12mm	2	4.5-6.0	32.5-43.4
29.	Caliper joint pin	1	1.8-2.5	13.0-18.1
30.	Bottom bridge	2	3.0-4.0	21.7-28.9
31.	Final driven sprocket	4	3.0-4.0	21.7-28.9
Standard parts				
Bolt hex. 6mm			0.8-1.2	5.8- 8.7
Bolt hex. 8mm			1.5-2.3	10.8-16.6

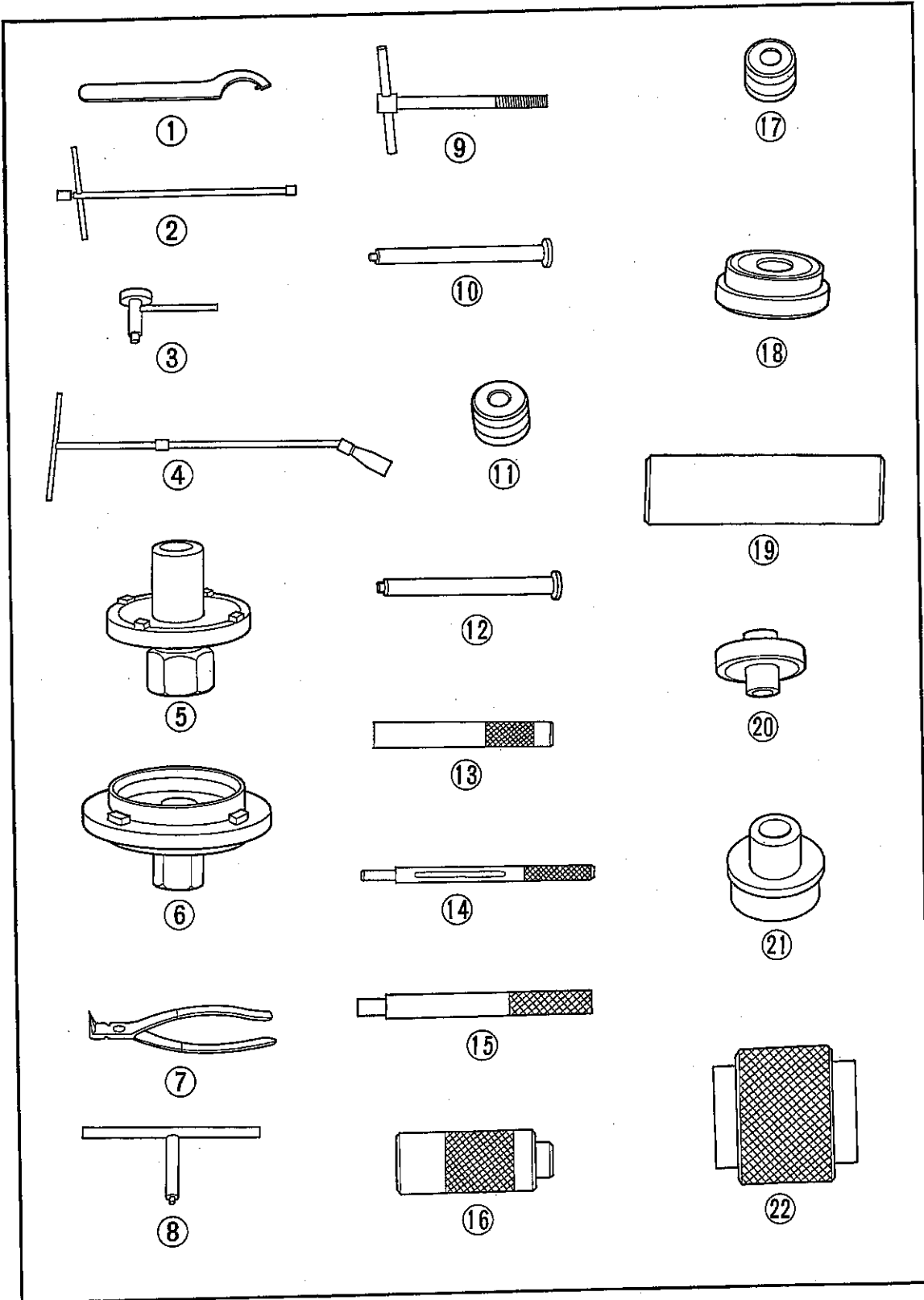
2. SPECIAL TOOLS



* Except U.S.A. model, ○=USED, ×=NOT USED, (op)=optional tool

Ref. No.	Tool No.	Tool Name	CB 500	CB 550	Q'ty	Remarks
①	07902-2000000	Spanner, pin 48mm	○	○	1	
*②	07906-3230000	Wrench, box 12mm	○	○	1	Cylinder head locking nut
③	07908-3230000	Wrench, tappet adjusting	○	○	1	
*④	07909-3000000	Wrench, spark plug	○	○	1	
⑤	07910-3230101	Wrench, F retainer	○	○	1	Front hub dis/assembling
⑥	07910-3230201	Wrench, R retainer	○	○	1	Rear hub dis/assembling
⑦	07914-3230000	Pliers, Snap ring	○	○	1	Master cylinder piston dis/assembling
*⑧	07917-3230000	Wrench, hollow set 6mm	○	○	1	Front fork bottom case dis/assembling
⑨	07933-2160000	Puller, rotor	○	○	1	
⑩	07936-3230100	Shaft, hammer	○	×	1	Primary shaft removing (Use with item No. 11)
⑪	07936-3230200	Weight, hammer	○	×	1	
*⑫	07936-3740100	Shoft, sliding hammer	×	○	1	Primary shaft removing (Use with item No. 17)
⑬	07942-3290100	Driver, valve guide	○	○	1	
⑭	07942-3290200	Remover, valve guide	○	○	1	
*⑮	07945-3230100	Driver A, bearing	○	×	1	
⑯	07945-3230200	Driver B, bearing	○	×	1	
*⑰	07945-3000500	Weight, sliding hammer	×	○	1	
⑱	07945-3330300	Bearing driver attachment	×	○	1	
⑲	07945-3330200	Driver, attachment	×	○	1	Transmission bearing inner driver 6205 (Use with item No. 23)
⑳	07946-3600000	Driver, attachment	×	○	1	Rear hub bearing driver ATT 6305 (Use with item No. 23)
㉑	07946-9350200	Driver, attachment	×	○	1	Front hub bearing driver ATT 6302 Use with item No. 23)
㉒	07947-3290000	Guide, fork seal	○	○	1	
㉓	07949-6110000	Driver, handle	×	○	1	Use with item Nos. 18, 19, 20, and 21
㉔	07953-3330000	Remover, ball race	×	○	1	
㉕	07954-3230000	Compressor, piston ring	○	○	2	
㉖	07957-3290000	Compressor, valve spring	○	○	1	
㉗	07958-2500000	Base, Piston	○	○	2	
㉘	07959-3290000	Compressor, shock absorber	○	○	1	
㉙	07967-3230100	Attachment A, driver	○	×	1	
㉚	07967-3230200	Attachment B, driver	○	×	1	
㉛	07967-3230000	Attachment remover	○	×	1	
㉜	07974-3230100	Piston cup guide	○	○	1	
㉝	07974-3230200	Cup guide	○	×	1	
㉞	07984-0980000	Reamer, valve guide	×	○	1	
㉟	07908-3230200	Wrench, carburetor adjusting	○	○	1	(op)
㊱	07504-3000100	Gauge set, vacuum	○	○	1	Carburetor adjusting (op)
㊲	07975-3000001	Tool set, chain joint	○	○	1	(op)
	07401-0010000	Gauge, flot level	○	○	1	

2. SPECIAL TOOLS





3. MAINTENANCE OPERATIONS



1. TAPPET ADJUSTMENT

Adjust tappet clearance when the engine is cold.

Note:

Pistons are numbered left to right from the rider's position.

1. Remove the tank.
2. Loosen the tappet hole caps.
3. Remove the point cover and align the "T" (1·4) mark on the spark advancer to the timing mark when the No. 1 piston is at top-dead-center of the compression stroke.
4. Check and adjust valve tappet clearances indicated by "O" in the chart below.
5. Measure the clearances using a feeler gauge. Adjust by loosening the lock nut and turning the adjusting screw. Tighten the lock nut.

Valve tappet clearances:

INTAKE — 0.05 mm (0.002 in.)

EXHAUST — 0.08 mm (0.003 in.)

6. Rotate the crankshaft one revolution and realign the "T" (1·4) mark on the spark advancer to the timing mark. In this position, the No. 4 piston is at top-dead-center of the compression stroke. Check and adjust the valve tappet clearances indicated by "X" in the chart below. See step 5 above for proper valve tappet clearances.

	No. 1 cylinder	No. 2 cylinder	No. 3 cylinder	No. 4 cylinder
Intake valve	O	X	O	X
Exhaust valve	O	O	X	X

Note:

- Hold the adjusting screw so that it does not turn when tightening the lock nut.
- Make sure the clearance is not disturbed when the lock nut is tightened.

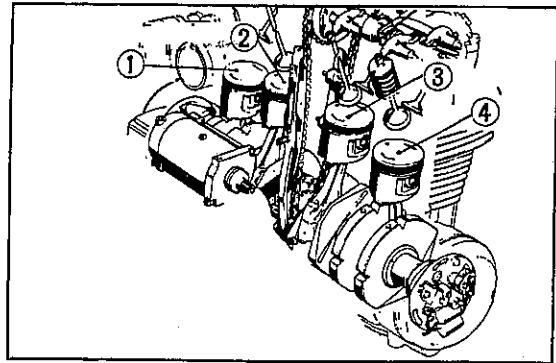


Fig. 1 ① No. 1 piston ③ No. 3 piston
② No. 2 piston ④ No. 4 piston

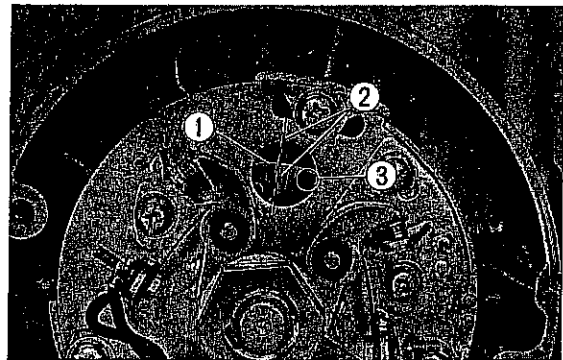


Fig. 2 ① T mark ③ 1·4 mark
② Timing mark

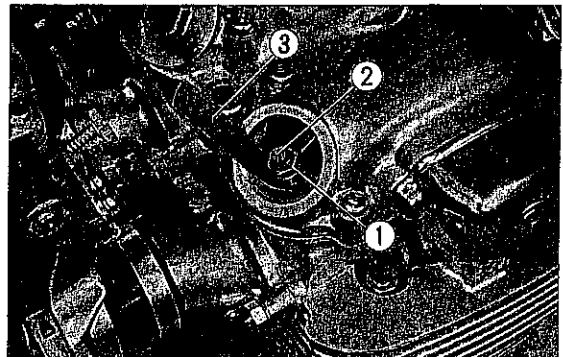


Fig. 3 ① Lock nut ③ Feeler gauge
② Adjusting screw

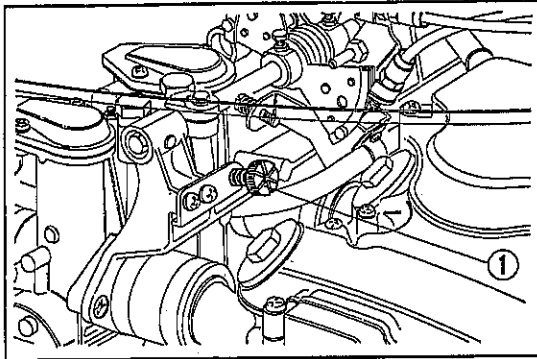


Fig. 4 ① Throttle stop screw

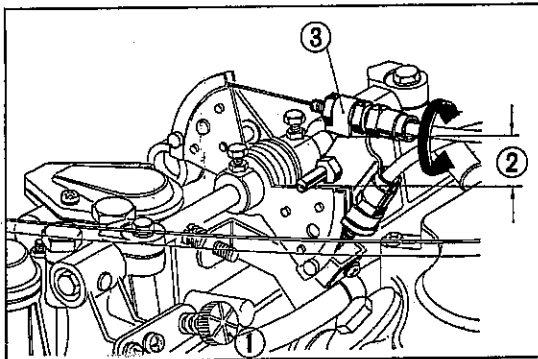


Fig. 5 ① Throttle stop screw
② 49 ± 1.5 mm (1.929 \pm 0.059 in.)
③ Stay

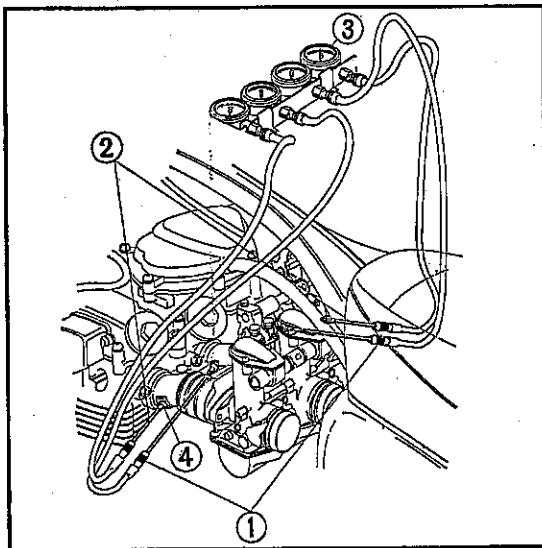


Fig. 6 ① A adaptor
② B adaptor
③ Vacuum gauge
④ Plug hole

2. CARBURETOR ADJUSTMENT

Adjust the carburetor after warming up the engine ($60-70^{\circ}\text{C}/140-158^{\circ}\text{F}$).

Idle adjustment

Adjust the engine idle speed to 950-1050 rpm with the throttle stop screw. Turn the screw clockwise to increase the idle speed and counterclockwise to decrease the idle speed.

Synchronization adjustment

1. Remove the fuel tank.

Note:

Position the tank about 50 cm (20 in.) higher than the mounting position and reconnect with a longer fuel line.

2. Adjust the throttle stop screw so that the throttle lever is 49 ± 1.5 mm ($1\frac{15}{16} \pm \frac{1}{16}$ in.) from the stay.
3. Install the vacuum gauge in the intake manifolds. Remove the plugs from the intake manifolds. Install the long A adaptors of the vacuum gauge to the two inside manifolds and the short B adaptors to the outside manifolds.
4. Start the engine, loosen the adjusting lock nuts and turn the adjusting screws so that all four carburetors are uniform (16-24 cm Hg) on the vacuum gauge (H/C 39340).

Turn the screws clockwise to increase vacuum. Turn the screws counterclockwise to decrease vacuum. All the carburetors should be adjusted to within 3.0 cm Hg of each other.

Note:

If the gauge needle is oscillating over a wide range, dampen the movement with the vacuum adjuster on the gauge.

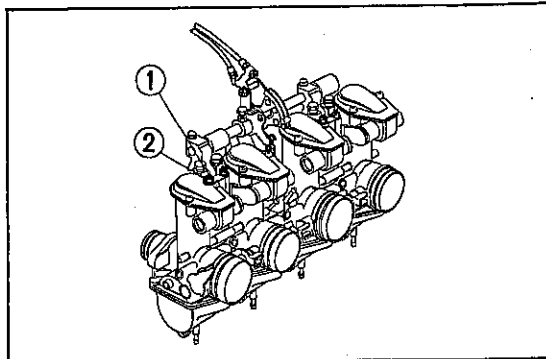


Fig. 7 ① Screw
② Lock nut

5. Snap the throttle back several times and recheck the vacuum pressures after the four carburetors indicate the same vacuum pressure.

Repeat the adjustment in step 4 if the vacuum pressures lack uniformity.

Check the following items if the vacuum pressure is less than 15 cm Hg for any of the carburetors:

1. Be sure the ignition timing is $-5^{\circ}/1,150-30^{\circ}/2,500$ rpm BTDC.
 2. Check the tappet clearances.
Intake: 0.05mm (0.002 in.)
Exhaust: 0.08mm (0.003 in.)
 3. Check the spark plug gap.
Gap: 0.6-0.7 mm (0.024-0.028 in.)
 4. Check the compression pressure.
Pressure: 11-12 kg/cm²
(156.45-170.67 psi.)
6. After all four carburetors have been adjusted to the same vacuum pressure, adjust the throttle stop screw to an idle speed of 950~1,050 rpm.
 7. Adjust the air screw on each carburetor. (The standard adjustment for the air screws is $1\pm 3/8$ turns open from the fully closed position.)
 8. Readjust the engine idle speed to 950-1,050 rpm with the throttle stop screw.

Note:

Tighten the intake manifold plugs after synchronizing the carburetors.

Throttle Cable Adjustment

1. Turn the adjuster counterclockwise at the handlebar end to increase free play in the throttle cable. Turn it clockwise to decrease the free play.

Note:

Leave about 3 mm (0.12 in) range of adjustment at the cable adjuster for final micro-adjustment.

2. Loosen the cable lock nut and turn the adjuster at the carburetor end to provide 3~4 mm ($1/8\sim 5/32$ in.) free play at the throttle grip flange.

Note:

The throttle lever should hit the eccentric pin when the grip is forced to the fully closed position. If it doesn't, replace the return cable with a new one.

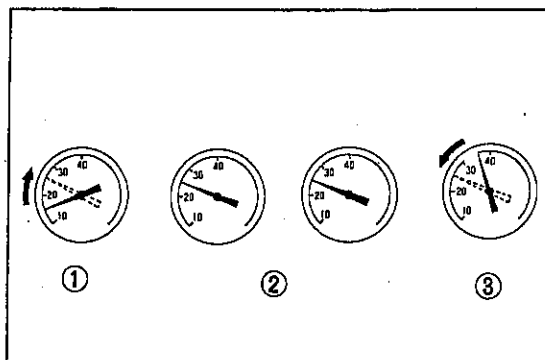


Fig. 8 ① Low vacuum ② Normal ③ High vacuum

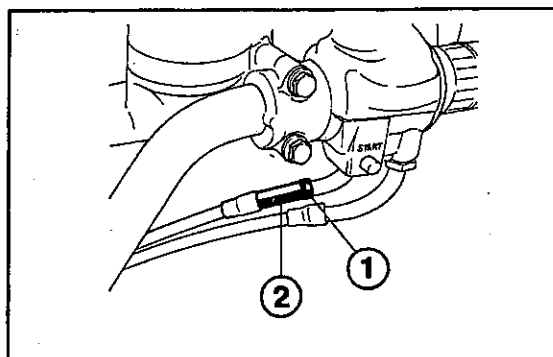


Fig. 9 ① Lock nut ② Adjuster

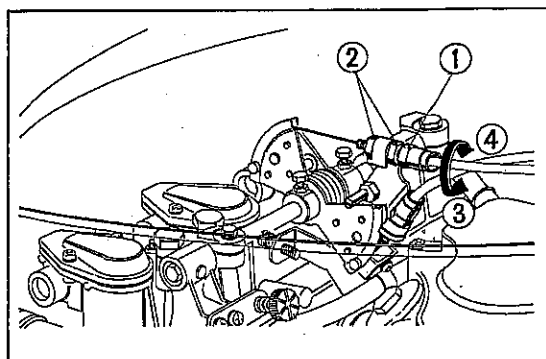


Fig. 10 ① Adjuster ② Lock nut ③ Decrease ④ Increase

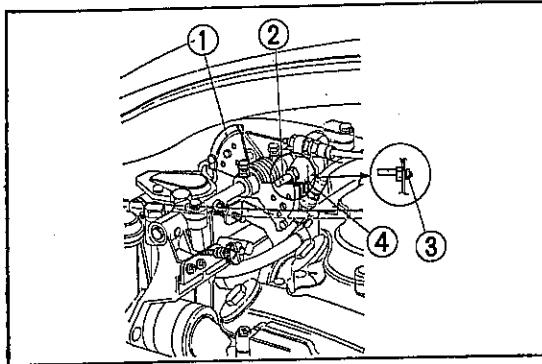


Fig. 11 ① Throttle lever ③ Lock nut
② Eccentric pin
④ 2~3 mm (0.08~0.12 in.)

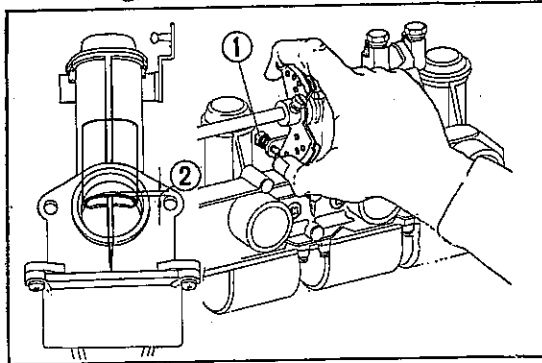


Fig. 12 ① Stop screw ② 0~1.0 mm (0~0.04 in.)

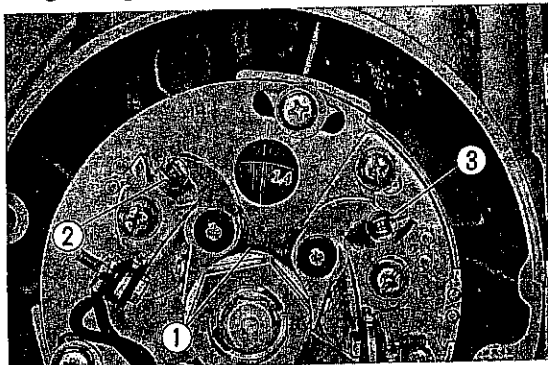


Fig. 13 ① Slipper ③ 2-3 points
② 1-4 points

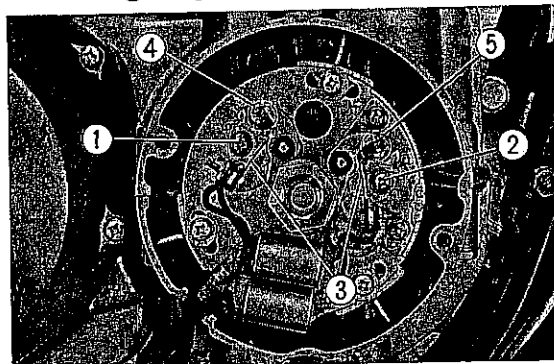


Fig. 14 ① Screw (a) ③ Breaker ⑤ 2-3 points
② Screw (b) ④ 1-4 points

Overtravel stopper adjustment

Loosen the lock nut and turn the eccentric pin. Clearance between the throttle lever and the eccentric pin should be 2~3 mm (0.08~0.12 in.).

Full throttle opening stopper adjustment

Adjust the stop screw so that the throttle valve extends 0~1.0 mm (0~0.04 in.) above the throttle bore in the fully open position.

3. BREAKER POINT GAP AND IGNITION TIMING ADJUSTMENT

Check the condition of the contact points, point gap and ignition timing. Adjust the ignition timing of the 1-4 points first.

Breaker point gap adjustment, 1-4 points

1. Rotate the crankshaft until the contact breaker slipper comes up on the highest position of the cam lobe. Measure the point gap with a feeler gauge.

Standard point gap: 0.3~0.4 mm (0.012~0.016 in.)

2. Loosen the screw (a) and move the breaker point assembly if it needs to be adjusted.

Breaker point gap adjustment, 2-3 points

Adjust the 2-3 point gap in the same manner as the 1-4 points by loosening the screw (b).

Note:

Clean the point surfaces with a point file or an oil stone if they are pitted or rough.

Ignition timing adjustment, 1·4 points

1. Connect a 12V test lamp to 1·4 points primary wire (blue) and to ground. (See Fig. 15)
2. Turn the main switch to the "ON" position.
3. Rotate the crankshaft clockwise slowly. If the test lamp comes on when the "F" (1·4) mark on the spark advancer is aligned to the timing mark, the timing is correct.
4. If the adjustment is necessary, align the "F" (1·4) mark to the timing mark and loosen the screws (D), and then move the base (E) until the lamp goes on. Tighten the screws.

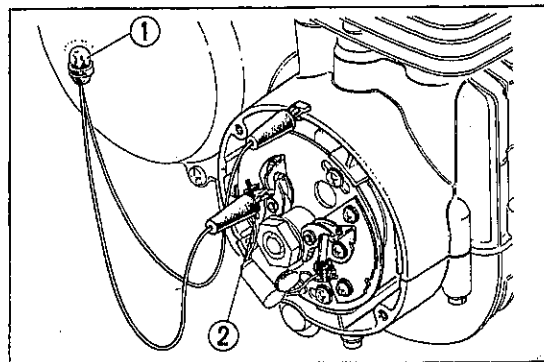


Fig. 15 ① 12 V Lamp ② Blue cord

Ignition timing adjustment, 2·3 points

1. Connect the 12V test lamp to the primary cord (yellow) of the opposite contact breaker and align the "F" (2·3) mark to the timing mark.
2. Loosen the screw (C) and move the base (D) as shown above.

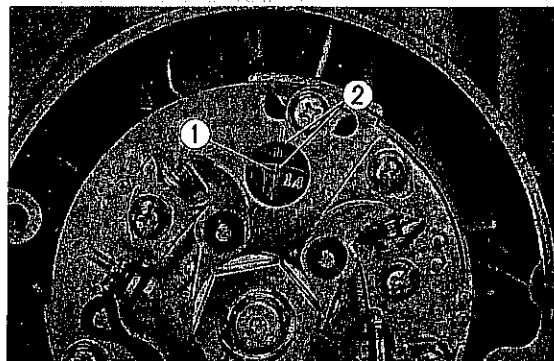


Fig. 16 ① "F" (1·4) Mark ② Timing mark

Ignition timing adjustment with a stroboscopic timing light

The use of the stroboscopic timing light is recommended to obtain the most accurate timing.

1. Plug the timing light cord into the timing light receptacle.
2. Remove the spark plug cap from the No. 4 cylinder and install the timing attachment between the spark plug and the cap.
3. Connect the high tension cord of the timing light to the timing attachment, position the switch knob to TIMING, and start the engine. The timing light will flash.
4. Aim the timing light toward the timing mark and make sure the "F" (1·4) mark and the timing mark are aligned. Increase the engine rpm to approximately 2500 rpm. At this speed, if the timing mark is between the two index lines located 23.5~26.5° before the "F" mark, the ignition timing at full advance condition is satisfactory.

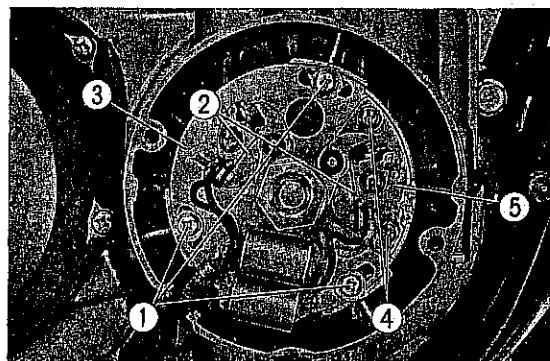


Fig. 17 ① Screw (1) ② Breaker ③ Base (B) ④ Screw (C) ⑤ Base (C)

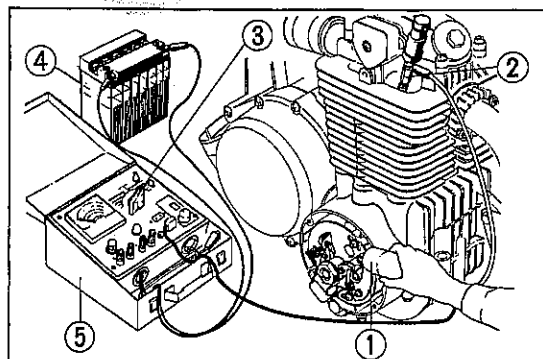


Fig. 18 ① Timing light ② Timing attachment ③ Switch knob ④ Battery ⑤ Service tester

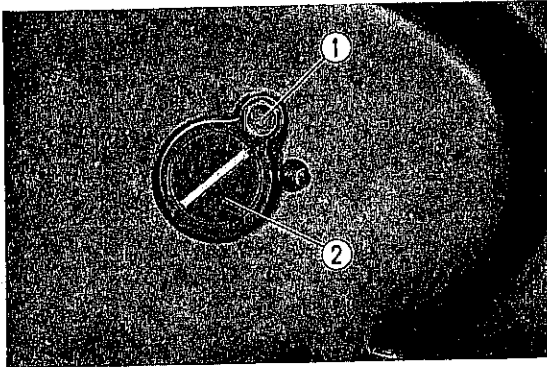


Fig. 19 ① Lock bolt ② Adjuster

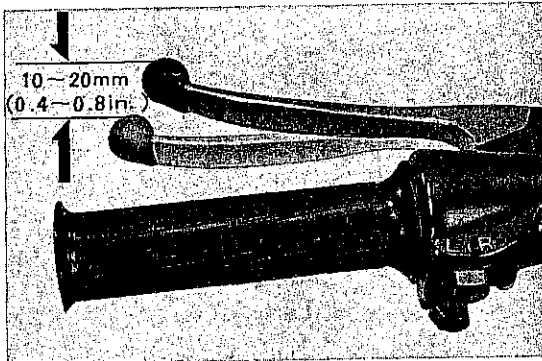


Fig. 20

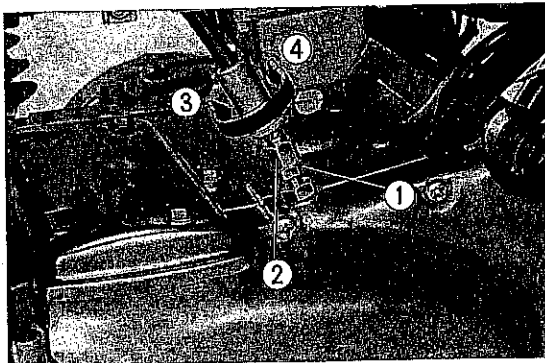


Fig. 21 ① Lock nut ② Adjuster ③ Increase free play ④ Decrease free play

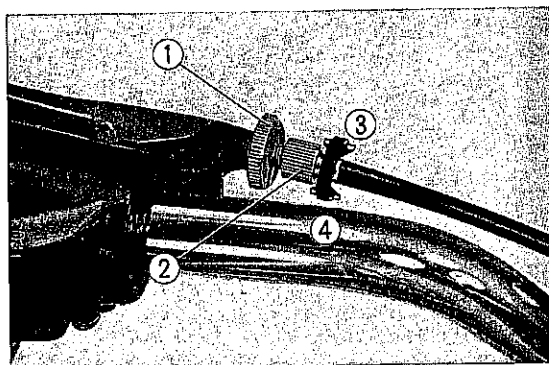


Fig. 22 ① Lock nut ② Adjuster ③ Increase free play ④ Decrease free play

5. Remove the spark plug cap from the No. 3 cylinder and install the timing attachment between the spark plug and the cap. Check the ignition timing ("F" 2-3) as described in steps 1~4.
6. Adjust if the timing is incorrect.

4. CLUTCH ADJUSTMENT

1. To provide free play in the clutch cable, loosen the clutch adjuster lock bolt.
2. Turn the adjuster clockwise until a slight resistance is felt, and then turn counterclockwise about 3 mm ($\frac{1}{8}$ in.). At that point, tighten the lock bolt.
3. Adjust free play in the clutch cable at the lock nut and adjuster on the engine. The play should be 10~20 mm (0.4~0.8 in.). Perform micro adjustment with the adjuster at the clutch lever.

5. CAM CHAIN ADJUSTMENTS

Perform cam chain tension adjustment in the following manner.

1. Remove the tappet hole caps from the No. 1 cylinder.
2. Remove the point cover, and align the "T" (1-4) mark to the timing mark.
3. Check both valves of the No. 1 cylinder. If both valves are free, proceed to the next step. If either or both of the valves are

tight, rotate the crankshaft 360°, and proceed with the next step.

4. Rotate the crankshaft clockwise until the spring peg on the advancer assembly at the 1-4 position is at the right of a line from the timing mark. This position is 15° ATDC.
5. At this point, loosen the lock nut so that proper chain tension can be obtained automatically.
6. Retighten the lock nut, and reinstall the point cover and tappet covers.

6. SPARK PLUG INSPECTION

Remove the spark plug with a spark plug wrench and check the gap and the insulator for damage or fouling.

1. Clean the plug with a spark plug cleaner or a wire brush.
2. Check the gap with a feeler gauge and adjust the opening to the standard 0.6~0.7 mm (0.02~0.03 in).
3. Replace the plug or plug gasket if the insulator or gasket is damaged.

Standard spark plugs: **D-7ES (NGK)**
X 22 ES (DENSO)

7. ENGINE OIL INSPECTION AND CHANGE

Oil Level Inspection

Check the oil level with the dipstick gauge without screwing it into the case. If the level is below the lower mark on the gauge, add oil to the upper mark.

Recommended oil classification:

Honda 4-stroke oil or equivalent

SAE 10W-40 or SAE 20W-50

Oil change

Perform the oil change while the engine is warm so that the oil will drain properly.

1. Loosen the drain bolt and remove the filler cap to assist draining.
2. Remove the oil filter to drain the oil completely.
3. Tighten the drain bolt and fill with 2.5 l (2.6 U.S. qt., 2.2 Imp. qt.) of clean oil through the filler opening. Add oil as necessary to bring the oil level to the upper mark on the gauge.

Oil capacity: **3.0 liters (3.2 U.S. qt., 2.6 Imp. qt.)**

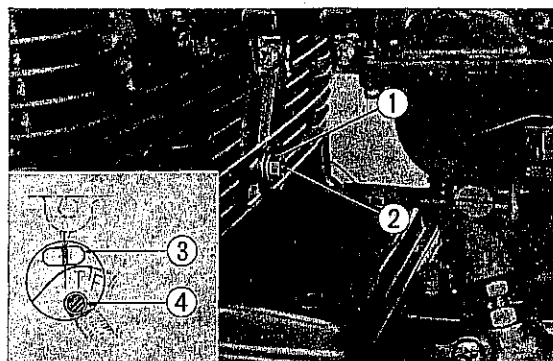


Fig. 23 ① Nut ③ Timing mark
② Adjusting screw ④ Spring peg

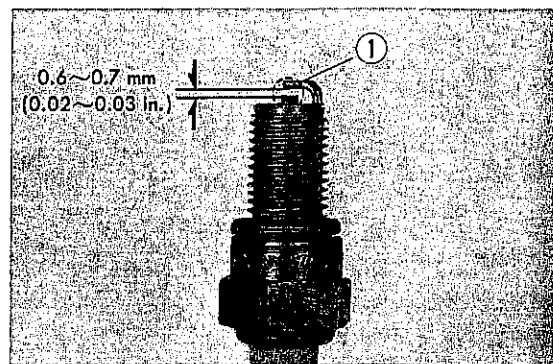


Fig. 24 ① Gap

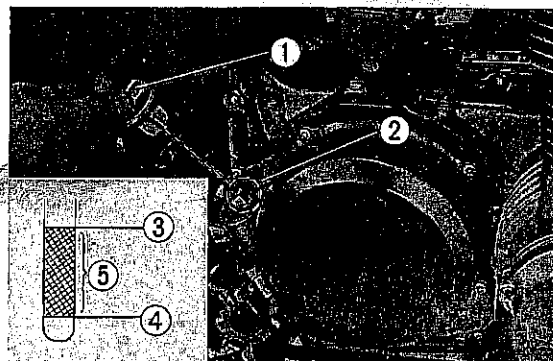


Fig. 25 ① Filler cap ④ Lower level
② Oil level gauge ⑤ Serviceable range
③ Upper level

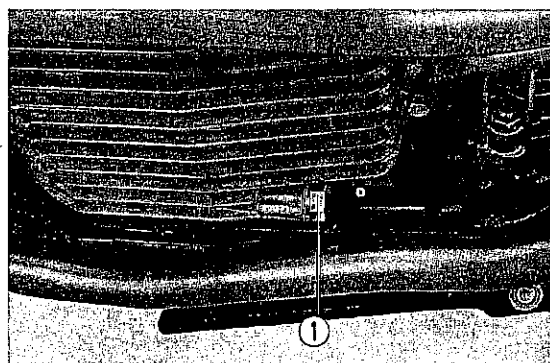


Fig. 26 ① Drain bolt

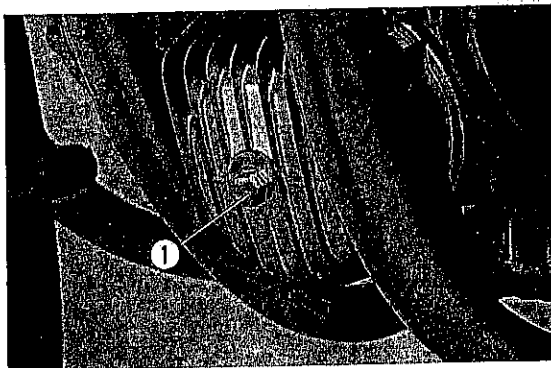


Fig. 27 ① Oil filter center bolt

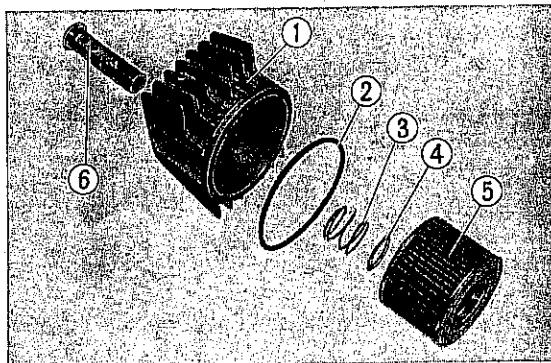


Fig. 28 ① Oil filter cover ④ Washer
② O ring ⑤ Oil filter element
③ Spring ⑥ Oil filter center bolt

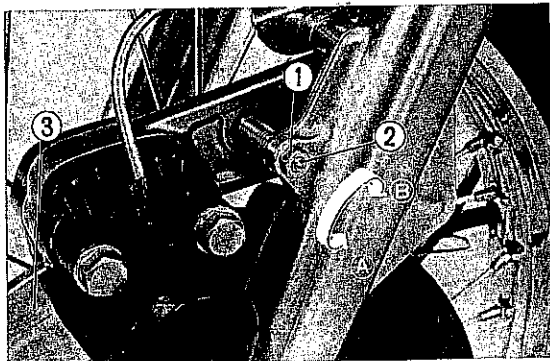


Fig. 29 ① Stopper bolt lock nut ③ Disc
② Stopper bolt

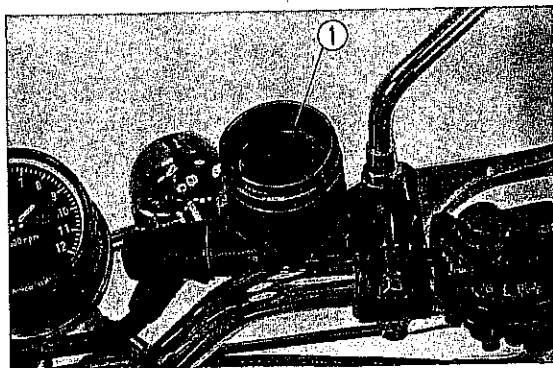


Fig. 30 ① Level mark

8. OIL FILTER SERVICING

Service the oil filter when changing the engine oil.

1. Loosen the oil filter center bolt and remove the filter element.

Note:

- A small amount of oil will drip from the filter when it is removed.
- When reinstalling the element, replace all parts. Any pieces of rubber left on the seat will cause poor sealing.
- Replace the oil filter element every 6,000 km (4,000 miles).

9. BRAKE INSPECTION AND ADJUSTMENT

Adjusting Brake Caliper

Whenever the brake pads are replaced, the brake caliper must be adjusted. The adjustment is made in the following manner, so that there is a small clearance between the fixed friction pad and the brake disc.

1. Raise the front wheel off the ground using a block or jack.
2. Loosen the caliper stopper bolt lock nut.
3. Turn the stopper bolt in direction ④ until the friction pad contacts the brake disc. When the wheel is rotated, a slight drag should be noticed.
4. While rotating the front wheel, turn the stopper bolt in direction ③ until the front wheel rotates freely.
5. Turn the stopper bolt 1/2 turn in direction ③ further and tighten the lock nut.

Replenishing Brake Fluid

Remove the reservoir cap, washer and diaphragm, and if the level is lower than the level mark engraved inside the reservoir, fill the reservoir with **DOT 3 BRAKE FLUID** to the level mark. Reinstall the diaphragm and washer, and tighten the reservoir cap securely.

Note:

- Do not mix brands of brake fluid. A chemical reaction may occur or brake problems could result.
- Do not use any other fluid in the brake system.