

ENGINE

Type		Four-cylinder, single overhead camshaft, air cooled		
Displacement (cu in./cc)	21.1/347	30.38/498	44.93/736	44.93/736
Bore and Stroke (in./mm)	1.850 x 1.969/ 47.0 x 50.0	2.205 x 1.992/ 56.0 x 50.6	2.401 x 2.480 61 x 63	2.401 x 2.480 61 x 63
Compression Ratio	9.3 : 1	9.0 : 1	9.0 : 1	9.0 : 1
BHP (SAE @ rpm)	32 @ 9,500	50 @ 9,000	67 @ 8,000	67 @ 8,000
Torque (ft lb @ rpm)	19.5 @ 8,000	30.4 @ 7,500	44.12 @ 7,000	44.12 @ 7,000
Carburetion	(4) 21 mm Keihin	(4) 22 mm Keihin	(4) 28 mm Keihin	(4) 28 mm Keihin
Lubrication System Type	wet sump	wet sump	dry sump	dry sump
Weight (lb)	N.A.	152	192	192

DRIVE TRAIN

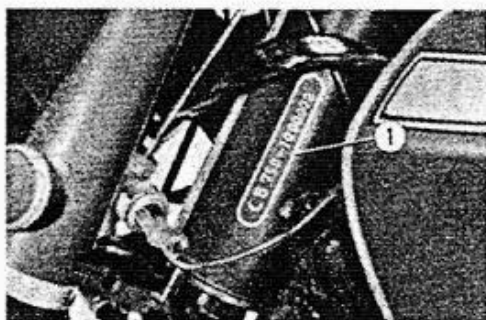
Clutch			wet, multi-plate	
Primary Reduction	3.423	2.0	1.708	1.708
Transmission Ratios (overall)				
1st	2.733	2.353	2.500	2.500
2nd	1.850	1.636	1.708	1.708
3rd	1.416	1.269	1.333	1.333
4th	1.148	1.036	1.097	1.097
5th	0.965	0.900	0.939	0.939
Final Reduction	2.235	2.0 (17/34)	2.812 (16/45)	2.667 (16/45)

CHASSIS

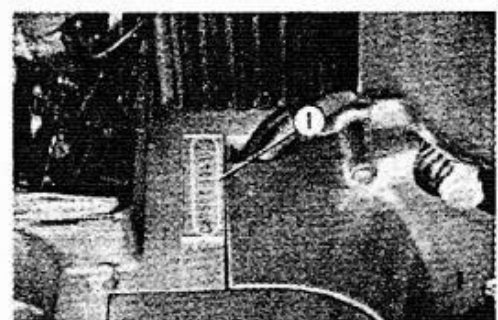
Dry Weight (lb)	373	403.5	480	480
Frame Type	semi-double cradle		Full double cradle, tubular steel	
Wheelbase (in.)	53.3	55.5	57.3	57.3
Tire Size (in.): front	3.00 x 18	3.15 x 19	3.25 x 19	3.25 x 19
rear	3.50 x 18	3.50 x 18	4.00 x 18	4.00 x 18
Overall Length (in.)	81.1	83.0	85.0	85.0
Overall Width (in.)	30.7	32.5	34.8	34.8
Overall Height (in.)	42.9	44.0	45.5	45.5
Ground Clearance (in.)	6.1	6.5	6.3	5.5

ELECTRICAL SYSTEM

Ignition		Battery and coil		
Starting System		Electric and kick		
Charging System				
battery (volts/amp hrs)	12/12	12/12	12/14	12/14
alternator		Three-phase, excited-field-type with silicon rectifier		
regulator		Dual-contact-type voltage regulator		



Frame serial number location (1)



Engine serial number location (1)

TUNE-UP OPERATIONS

Valve Clearance Adjustment

NOTE: Valves should be adjusted with the engine cold.

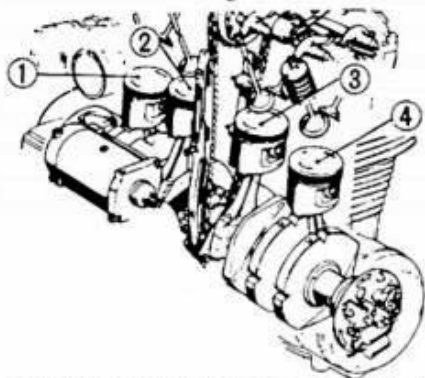
CB 350 F, CB 500, CB 750, CB 750K1—K3

1. Remove the fuel tank.
2. Unscrew the eight adjuster access caps.

3. Remove the ignition points cover.
4. Remove the spark plugs.
5. Turn the crankshaft in its normal direction or rotation and observe the no. 1 cylinder (far left) intake and exhaust valves. When both valves are fully closed (clearance at both rocker arms), the piston is close to top dead center of its compression stroke. Next, align the timing index mark and the "T" (1.4) mark on the ignition advance rotor, as shown.

6. Measure the clearance between the adjusting screw and the valve stem of the "A" valves in the chart below, using a feeler gauge. Correct clearances for the intake and exhaust valves of both the 500 and 750 are 0.002 in. (0.05 mm) intake, and 0.003 in. (0.08 mm) exhaust. Adjust both the intake and the exhaust valves on the 350 to 0.002 in. (0.05 mm).

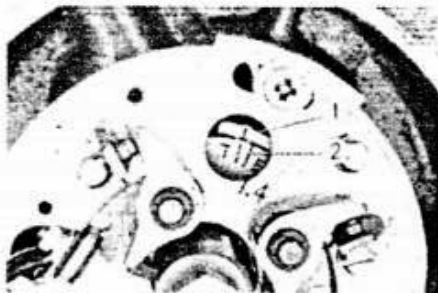
7. If the feeler gauge of the proper clearance thickness will not fit between the adjuster screw and valve stem, or if it slides through with little or no resistance, the clearance should be adjusted. To obtain the proper clearance, loosen the adjuster screw locknut and turn the screw until the feeler gauge just fits, and slides with some resistance. Tighten the locknut firmly (but do not overtighten) while holding the screw to keep it from turning. Recheck clearance in case it changed as the locknut was tightened.



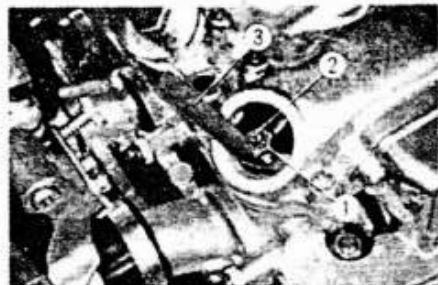
Cylinder numbering sequence (left to right)

8. After all four "A" valves have been checked and adjusted, rotate the crankshaft one turn (360°) in its normal direction of rotation and align the timing index mark and "T" mark exactly as before. This will position no. 4 cylinder on its compression stroke, and the "B" valves in the chart can be checked and

adjusted in the same manner as the "A" valves.



Align the timing index mark (1) with the "T" mark on the ignition advance rotor (2). Make sure that No. 1 cylinder is at TDC on the compression stroke (play at both rockers).



Measure valve clearance with a feeler gauge (3). Loosen the locknut (1) and turn the adjusting screw (2) to alter the clearance.

(Looking down on the engine, from the rider's position.) Right side

	No. 1 Cyl.	No. 2 Cyl.	No. 3 Cyl.	No. 4 Cyl.
Exhaust Valves	A	A	B	B
Intake Valves	A	B	A	B

Cam Chain Tensioner Adjustment

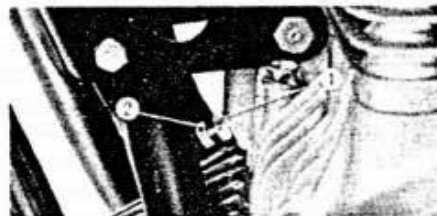
CB 350 F and CB 500

1. Remove the valve adjuster access caps from no. 1 (left outside) cylinder.
2. Rotate the crankshaft in the normal direction of rotation until both valves are closed (clearance at both rocker arms).
3. Remove the ignition points cover (if you have not already done so) and turn the crankshaft clockwise, slowly, until the spring peg on the ignition advance unit is just to the right of the timing index mark (see illustration). At this point, no. 1 piston is positioned 15° After Top Dead Center and the chain tensioner can now be adjusted.

CAUTION: Do not rotate the crankshaft counterclockwise (opposite direction of normal rotation) if you have turned it too far and gone past the timing mark. Instead, rotate the crankshaft clockwise through two complete turns so that no. 1 piston will again be on the compression stroke and you can

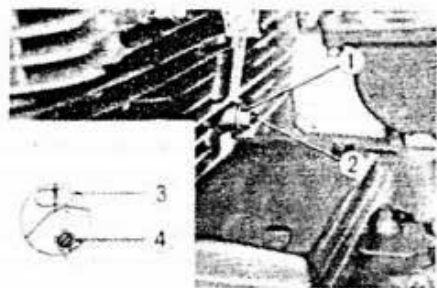
position the spring peg just to the right of the timing mark without having to turn the crankshaft back. Otherwise, the chain slack will not be positioned properly and the tensioner may not be able to take up the full amount of slack.

4. Finally, loosen the tensioner locknut and the proper chain tension will be obtained automatically. Retighten the locknut and install the valve adjuster access caps.



Cam chain adjuster location (CB 350F).

1. Lock nut
2. Adjusting bolt

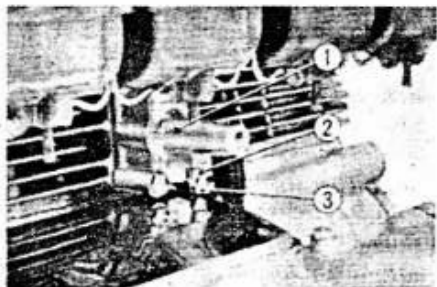


Cam chain tensioner locknut (1) and adjusting screw (2). Chain adjustment is automatically made when the locknut is loosened. Inset shows relationship of of the spring peg (4) to the timing index mark (3) when the crankshaft is correctly positioned for chain adjustment (CB 500 models).

CB 750, CB 750K1—K3

1. Consult Steps 1-3 of the CB 350 F and CB 500 "Cam Chain Tensioner Adjustment" section.

2. Finally, loosen the locknut and back out the adjuster bolt until you can turn it with your fingers. At this point, the adjuster bolt has released pressure on the tensioner rod, which has automatically moved in to take up chain slack. Retighten the adjuster bolt until it is just snug. Do not overtighten. Lock it in position with the locknut.



Cam chain tensioner (1) is at the rear of the cylinders. After the crankshaft has been correctly positioned, loosen the locknut (2) and adjuster bolt (3) and the tensioner will automatically take up the slack in the chain (CB 750 models).

NOTE: If you follow this method you should have no further trouble with the cam chain. However, if it is still excessively noisy, try adjusting the tensioner in the following manner:

Loosen the locknut and adjuster bolt. Insert a thin instrument such as a stiff piece of wire or a small screwdriver into the tail section of the tensioner and seat it gently against the end of the tensioner rod inside. Now, turn the engine over slowly; you can feel the rod move back and forth as the cam chain slack varies. Do this several times and take note of the point at which the rod is farthest in (closest to the engine). Continue turning the engine over slowly until you succeed in stopping it at this point. *Do not use pressure to force the tensioner rod in.* When this is accomplished, the cam chain slack is on the tensioner side of the engine and the tensioner has automatically moved in to take up the slack. Tighten the adjuster bolt and locknut to lock the tensioner rod in this position.

This method has been used for many years on the overhead cam Honda engines and is quite effective if carried out carefully. If you have not used pressure to force the rod in, there is no danger of the cam chain being overly tight.

Ignition Points and Ignition Timing

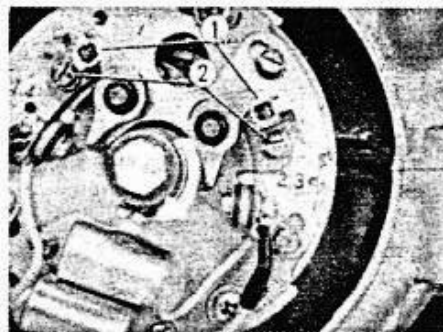
Ignition Points Service

CB 350 F, CB 500, CB 750, AND CB 750K1—K3

If the points are heavily pitted, replace both sets of points and condensers. The components can be unscrewed and removed from the base plate after the electrical leads have been disconnected. Make sure that any insulating washers are replaced in their original positions when reconnecting the wires. Place a drop or two of gasoline or other non-oily solvent on a piece of paper and pull it through the points to remove any dirt or preservative coating on the contact surfaces. Put a *small* dab of distributor cam lubricant or other high-melting-point grease on the contact breaker cam. This will prevent the rubbing blocks that run on the cam from wearing excessively and reducing point gap.

Point gap should be adjusted to 0.012–0.016 in. Adjust one set at a time by loosening the locking screw and swivelling the stationary contact point toward or away from the moving contact as required. The cam must be positioned where it will give maximum opening for the set of points being adjusted. The point gap is not particularly critical as long as it is within the specified range;

however, you should try to adjust each set of points so that their gaps are as close to identical as possible.



Adjust the gap of each set of points when the high side of the breaker cam is toward them. Arrow shows the direction of cam rotation. Points (1) are adjusted by loosening the locking screw (2) and moving the stationary contact.

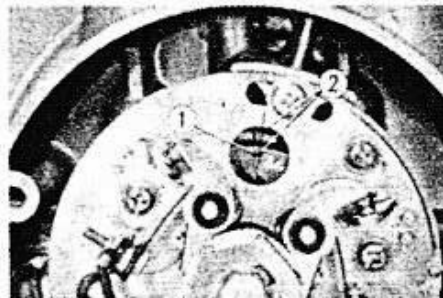
Ignition Timing

CB 350 F, CB 500, CB 750, AND CB 750K1—K3

STATIC TIMING PROCEDURE

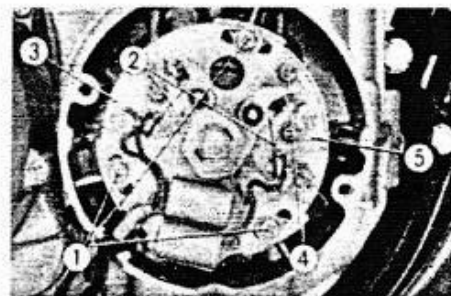
1. Connect one of the test light leads to the small bolt that fastens the condenser and coil wires to the rear (1.4) point set. (The 1.4 point set fires cylinders 1 and 4.) Ground the other test light lead on the engine.

2. Switch the ignition on and turn the crankshaft clockwise until the "F" (1.4) mark on the ignition advance rotor aligns with the timing index mark. The test light should light at the same instant the marks are aligned. If not, loosen screws "B" and move base "B" in the required direction until the light just comes on as the marks are aligned. (Moving the base clockwise will retard timing, counter-clockwise will advance timing.) Cylinders 1 and 4 are now correctly timed. Tighten screws "B" and recheck the setting.



"F" mark for cylinders 1 and 4 (1) aligned with timing index mark (2)

3. To time cylinders 2 and 3, switch the test light lead from the rear (1.4) point set to the front (2.3) point set and turn the crankshaft until the "F" (2.3) mark on the ignition advance rotor aligns with the timing index mark. The test light should light at the instant the marks are aligned, as before. If not, loosen screws "C" and move base "C" in the



Timing adjustment points

1. Screw B
2. Point base plate
3. Base B of the breaker plate
4. Screw C
5. Base C of the breaker plate

required direction until the light comes on just as the marks are aligned. Tighten the screws and recheck the setting. Cylinders 2 and 3 are now correctly timed.

DYNAMIC TIMING PROCEDURE

1. Connect the strobe light as per manufacturer's instructions, picking up the impulses from no. 1 (left outside) cylinder.

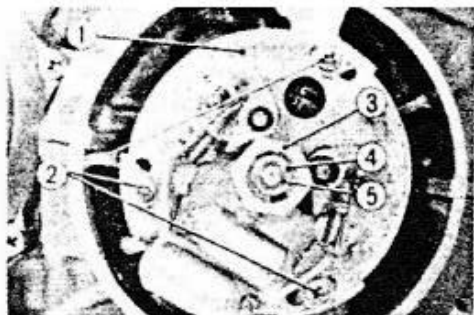
2. Start the engine and adjust the idle, if necessary, to the recommended speed. (Refer to the specifications at the end of the chapter.)

3. Aim the light at the timing marks. At idle speed, the "F" (1.4) mark should be aligned with the timing index mark. If not, loosen screws "B" and move base "B" in the required direction to align the marks. Retighten the screws.

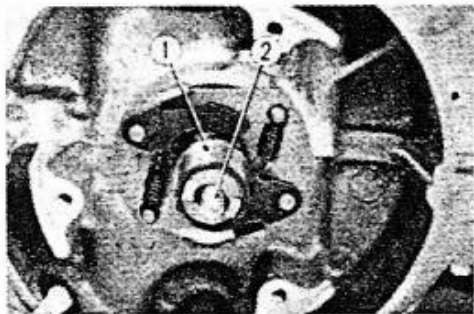
4. To check the timing at full ignition advance, increase the engine speed to 2,500–3,000 rpm and hold it steady. The timing index mark should be between the two lines scribed into the ignition advance rotor. If it is, the advance unit is functioning properly and cylinders 1 and 4 are correctly timed. If it is not, or if the timing is unsteady even though the engine speed is held constant, the fault probably lies with either the ignition points or advance unit spring (see step 6).

5. To time cylinders 2 and 3, shut the engine off, transfer the strobe light lead to no. 2 cylinder, and restart the engine. If the "F" (2.3) mark and timing index mark are not aligned at normal idling speed, loosen screws "C" and move base "C" until the marks align and retighten the screws. Check the timing at full ignition advance in the same manner as for cylinders 1 and 4 in step 4, above.

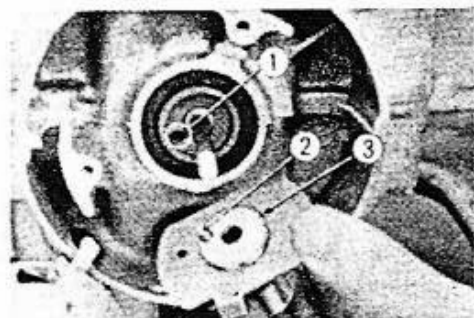
6. If the timing is unsteady, remove the contact breaker plate assembly and examine the advance unit. Look for weak or broken springs, or a bent advance shaft. If either spring is defective, replace both of them. If the advance shaft is bent (noticeable as the engine is turned over), remove the advance unit and bend the shaft until total runout is less than 0.004 in. (0.1 mm).



Remove the breaker plate assembly (1) by removing the retaining screws (2), nut (5), and washers (3 and 4)



The breaker cam and advancer assembly (1) fit over the advancer shaft



Make sure the advancer dowel fits in its locating hole

1. Locating hole
2. Dowel pin
3. Automatic advance unit

Carburetor Synchronization and Adjustment

CB 350 F AND CB 500

Synchronization

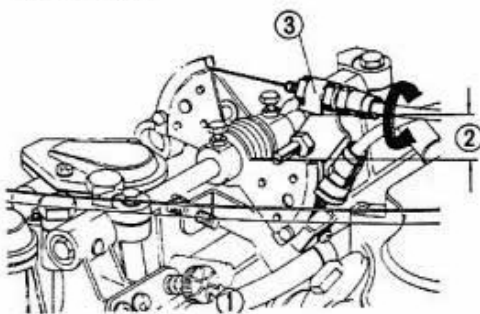
1. Raise the rear of the fuel tank as far as the fuel lines will allow and support the tank in this position. (If the carburetors are not fully accessible, it may be desirable to fit longer fuel lines, temporarily, so that the tank can be raised higher.)

2. Adjust the throttle stop screw so that the throttle lever is 2.205 in. (350) or 1.938 in. (500) from the cable adjuster bracket, as shown.

3. Install the vacuum gauge hoses at the intake manifold tubes.

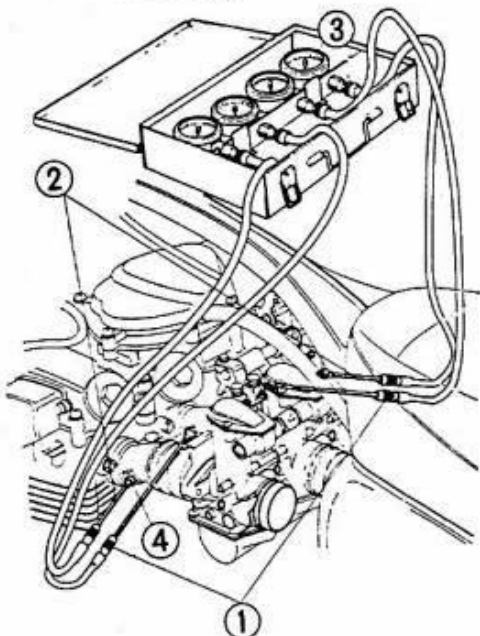
4. Start the engine, loosen the carburetor adjuster locknuts, and turn the adjuster screws so that all four carburetors

maintain the correct idle speed during adjustment.



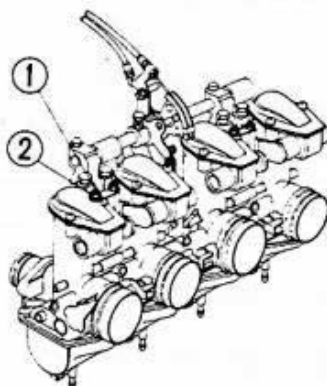
Throttle stop screw adjustment

1. Throttle stop screw
2. 1¹⁵/₁₆-2.0 in.
3. Bracket



Adjusting manifold vacuum pressure

1. Long adapter
2. Short adapter
3. Vacuum gauge set
4. Vacuum pick-up hole



Carburetor adjuster screw (1) and locknut (2)

NOTE: Provision is made on some vacuum gauges for dampening needle movement if the needle tends to oscillate over a wide range. This will facilitate obtaining accurate vacuum settings.

5. After the desired settings have been achieved, snap the throttle open several

CAUTION: Do not run the engine more than about five minutes while the motorcycle is stationary. If the bike at moderate speeds for a few minutes to cool it down or use an electric fan in front of the engine to provide a stream of air to keep it cool while running.

If the vacuum reading is less than 18 cm Hg for any carburetor, check the following: ignition timing, valve clearance, spark plug gap, and compression. Also check for air leaks at the carburetor intake manifold tube.

Idle Adjustment

1. After all four carburetors have been adjusted to the same vacuum, adjust the carburetor air screws for maximum idle speed consistent with smoothness. Standard air screw setting is one turn from the fully closed position and it should not be necessary to turn from this setting more than 1/4 turn in either direction to obtain the desired results.

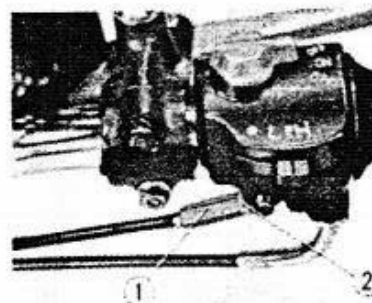
2. Adjust idle speed to 1,200 rpm (350) or 1,000 rpm (500) with the throttle stop screw.

3. Recheck vacuum uniformity and idle smoothness. Remove the vacuum gauge tubes and tighten the intake manifold plugs firmly.

Throttle Cable Adjustment

PLAY ADJUSTMENT

1. Back off the cable adjuster handlebar to increase cable play. Make a small amount of adjustment rather than a large one so that final, small adjustments can be made.

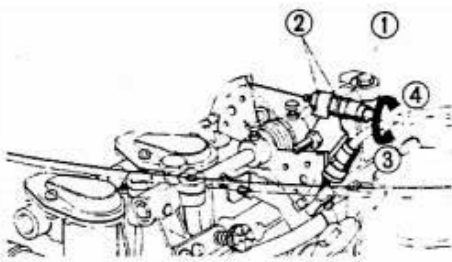


Throttle cable adjuster at the carburetor end

1. Adjuster
2. Locknut

2. Loosen the cable locknut at the carburetor end and turn the adjuster screw there is about 1/8-1/16 in. (3-4 mm) from the throttle grip. Retighten the locknut.

NOTE: The throttle lever is held in the closed position by the eccentric pin when the throttle grip is forced to the fully closed position. If the lever will not hold in the closed position, replace the return cable.



Throttle cable adjuster at the carburetor

1. Adjuster
2. Locknut
3. Decrease play
4. Increase play

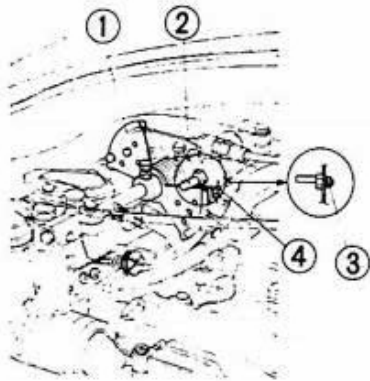
3. Make any desired, final cable play adjustment at the handlebar adjuster.

OVERTRAVEL LIMIT ADJUSTMENT

Simply loosen the locknut and turn the eccentric pin, as illustrated, until clearance between the pin and throttle lever is 0.08–0.083 in. (2–2.1 mm) for the 350, or 0.08–0.12 in. (2–3 mm) for the 500.

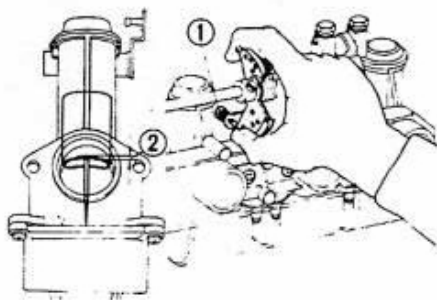
FULL THROTTLE LIMIT ADJUSTMENT

Adjust the throttle lever stop screw so that the carburetor slides are pulled 0–0.04 in. (0–1.0 mm) above the top of the carburetor bore at full throttle.



Adjusting overtravel

1. Throttle lever
2. Eccentric pin
3. Locknut
4. 0.08–0.12 in. (2–3 mm)



Adjusting full throttle limit

1. Stop screw
2. 0–0.04 in. (0–1.0 mm)

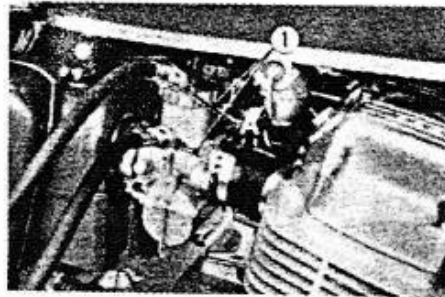
CB 750

Carburetor Synchronization

1. Connect the vacuum gauge hoses at the carburetors. It may be helpful to raise

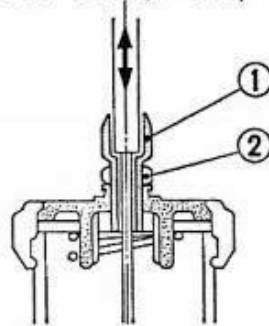
the rear of the fuel tank as described in the preceding section for the CB 500.

2. Start the engine and drop the idle below 1,000 rpm using the throttle stop screws. Next, lift up the rubber boots at the top of the carburetors, loosen the locknuts, and rotate the individual throttle cable adjusters until the engine is idling at 1,000–1,100 rpm and the carburetors are drawing an equal amount of vacuum (within 3 cm Hg of each other). It may be necessary to decrease throttle cable slack with the adjuster at the handlebar to provide sufficient adjustment range.



Installation of the vacuum gauge adapters

0.04~0.08in(1~2mm)



Throttle cable adjuster

1. Cable adjuster
2. Locknut

NOTE: Some vacuum gauges are equipped with adjustable dampers to eliminate needle oscillation. Do not overdampen the needles. A fluctuation of about one gradation on the scale is acceptable.

CAUTION: Do not allow the engine to overheat by idling it for long periods while stationary. A household electric fan can be used to provide a flow of air over the engine when adjustment time exceeds more than about five minutes.

3. After the carburetors have been synchronized, tighten the locknuts on the adjusters and fit the rubber boots down over the carburetor tops. Proceed to the following section on idle adjustment. If the vacuum reading is less than 15 cm Hg at normal idle speed, investigate the following possibilities: intake air leak, low compression due to insufficient valve clearance or a sticking valve, loose spark plug, or idle speed set too high.

Idle Adjustment

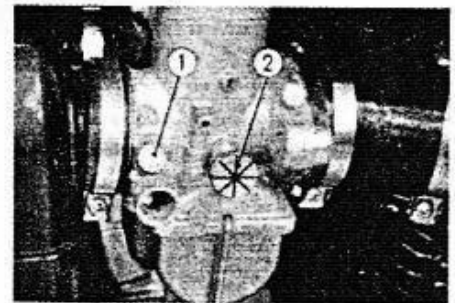
1. Back off the throttle cable adjuster at the handlebar to provide about ¼ in. of slack in the cable.

2. Start the engine and adjust the idle to about 1,000 rpm with the throttle stop screws. The vacuum gauge can be used to obtain equal throttle screw settings.

3. Turn the air screws slowly in or out to obtain the highest idle speed consistent with smoothness. Standard air screw opening is one turn from fully closed, and it should not be necessary to exceed ¼ turn in either direction from this setting. Individual cylinders can be checked for even firing by feeling the exhaust pressure with your hand. Reset the throttle stop screws again, if necessary, to obtain the correct idle speed.

NOTE: If the carburetors are unresponsive to large changes in air screw openings, investigate the following possible causes: clogged air passage, worn air screw, float level too high, or loose low-speed jet. If air screw adjustment requires less than ½ turn opening, look for: clogged low-speed jet or jet passage, float level too low, or worn air screw seat.

4. Adjust throttle cable play to the desired amount at the adjuster near the grip. Swing the handlebars to full-lock in both directions to make sure that the throttle cable is not binding and pulling the carburetors open.



Idle adjustment points; air screw (1) and throttle stop screw (2)

CB 750K1—K3

Synchronization

1. Raise the rear of the fuel tank as far as the fuel lines will allow and support the tank in this position. It may be helpful to temporarily fit longer fuel lines so that the tank can be raised higher.

2. Slide the rubber boots on the carburetor tops back on the linkage arms.

3. Connect the vacuum gauge tubes to the carburetors.

4. Start the engine and adjust the idle speed with the throttle stop screw to about 1,000 rpm.

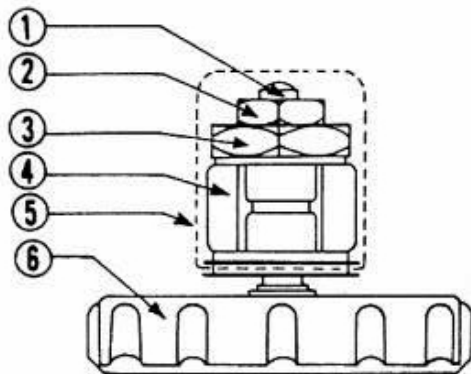
5. Loosen the adjuster nut locknuts and turn the adjuster nuts until all carburetors are indicating uniformly (within 3.0 cm Hg) between 16–24 cm Hg. Turning the adjuster nuts clockwise increases

vacuum, and counterclockwise decreases vacuum. Try not to increase the idle speed while making adjustments.

NOTE: Some vacuum gauges are equipped with adjustable dampers to eliminate needle oscillation. Do not overdampen the needle. A fluctuation of about one graduation on the scale is acceptable.

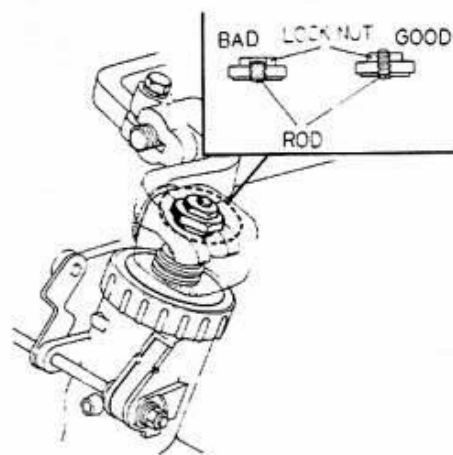
CAUTION: Do not allow the engine to overheat by idling it for long periods while stationary. A household electric fan can be used to provide a flow of air over the engine to prevent overheating when adjustment time exceeds more than about five minutes.

6. After adjustment has been made, check to see that at least one thread on each throttle rod protrudes above the locknuts. If not, turn all four adjuster nuts in an equal amount until at least one thread on each throttle rod is exposed, reset the idle speed with the throttle stop screw, and recheck the vacuum readings.



Adjuster components

- | | |
|-----------------|----------------|
| 1. Throttle rod | 4. Linkage arm |
| 2. Locknut | 5. Rubber boot |
| 3. Adjuster nut | 6. Cap |



At least one thread of the throttle rod should protrude above the locknut

7. Snap the throttle open several times to verify synchronization before tightening the locknuts.

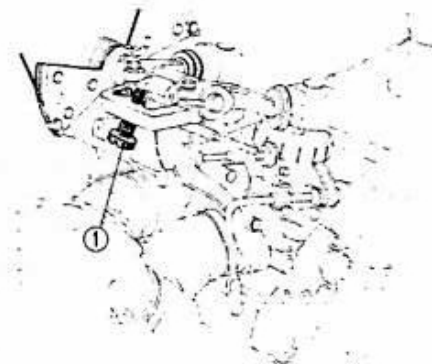
CAUTION: When tightening the locknuts, hold the adjuster nut in position with a wrench to prevent the torque from being transferred through the

throttle rod and twisting it off. Tighten the locknuts to 11–17 in. lbs, or about 1 ft lb. Do not overtighten.

8. When refitting the rubber boots, make sure that the bottom rim is fully seated in the groove at the base of the adjuster linkage. It is a good idea at this time to open the throttle wide to expose the throttle rods and lubricate the rods and adjuster linkage with silicone grease. Do not use a petroleum-base lubricant. The throttle shaft pivots may be lubricated with motor oil.

Idle Adjustment

Adjust the carburetor air screws so that the maximum vacuum draw is obtained, consistent with engine smoothness. Standard air screw adjustment range is $\frac{3}{4}$ – $1\frac{1}{4}$ turns from the fully closed position. Readjust the throttle stop screw, if necessary, to reduce idle speed to about 1,000 rpm. Recheck vacuum uniformity and idle smoothness. Remove the vacuum gauge tubes and tighten the carburetor plugs firmly.

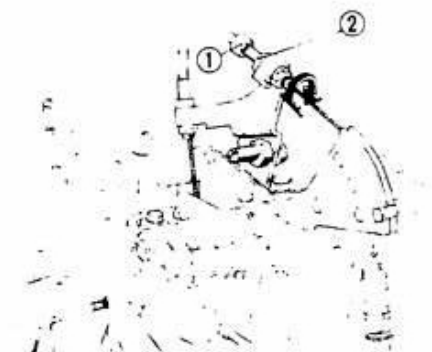


Throttle stop screw (1)

Throttle Cable Adjustment PLAY ADJUSTMENT

1. Back off the cable adjuster at the handlebar to increase cable play. Leave a small amount of adjustment range available so that final, small adjustments can be made.

2. Loosen the cable locknut at the carburetor end and turn the adjuster until there is about $\frac{1}{8}$ – $1/6$ in. (3–4 mm) play at the throttle grip. Retighten the locknut.



Throttle cable play adjustment

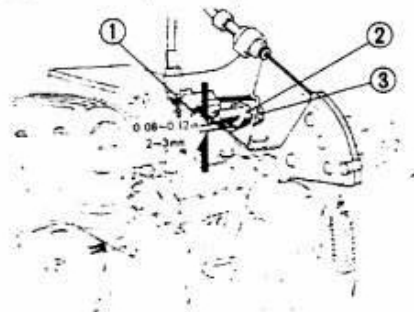
- | | |
|-----------------|------------|
| 1. Adjuster nut | 2. Locknut |
|-----------------|------------|

NOTE: The throttle lever should hit the eccentric pin when the throttle grip is forced to the fully closed position. If the lever will not hit the pin, replace the return cable.

3. Make any desired final cable play adjustment at the handlebar adjuster.

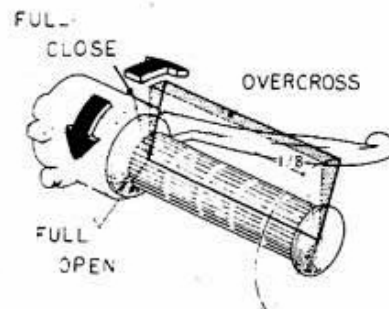
OVERTRAVEL LIMIT ADJUSTMENT

Simply loosen the locknut and turn the eccentric pin, as shown, until clearance between the pin and the throttle lever is 0.08–0.12 in. (2–3 mm).



Throttle cable overtravel adjustment

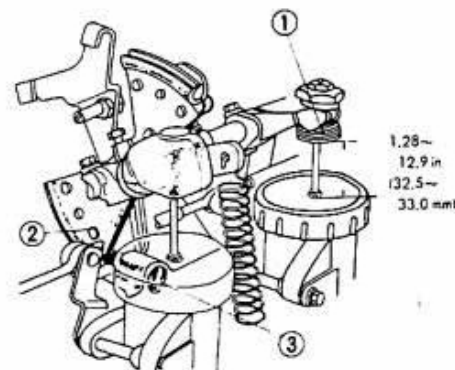
- | |
|-------------------|
| 1. Throttle lever |
| 2. Eccentric pin |
| 3. Locknut |



Overtravel comes into play just before the throttle is fully closed

FULL THROTTLE LIMIT ADJUSTMENT

Adjust the throttle lever stop screw so that there is a distance of 1.28–1.29 in. (32.5–33.0 mm) between the carburetor top and the bottom of the adjuster linkage with the throttle fully open, as shown.



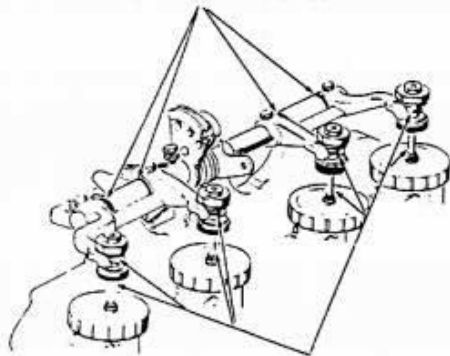
Full throttle limit adjustment

- | |
|------------------------------|
| 1. Adjuster linkage |
| 2. Throttle lever |
| 3. Full throttle limit screw |

THROTTLE ROD AND LINKAGE LUBRICATION

Lubricate the throttle rods and seals, and the linkage pivot points as shown in the illustration. If this does not restore smooth throttle operation, the carburetor tops should be removed, the throttle components thoroughly cleaned and dried, and the throttle rod guides and seals lubricated with silicone grease. *Do not use a petroleum base grease.*

lubricate with motor oil



apply a thin coating of silicone grease

Throttle rod and linkage lubrication points

MAINTENANCE ITEMS

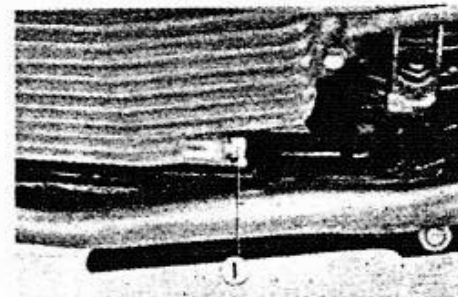
Engine Oil

NOTE: *Oil changes—(1,000 mi/60 days summer, 30 days winter)*

Change the oil after the engine has been run long enough to be up to operating temperature. This ensures that the oil is fluid enough to drain completely and that impurities suspended in the oil while it is circulating will be removed. Honda recommends that SAE 10W-40 or 20W-50 oil of SC (previously MS) service rating be used. Also recommended are the new 10W-50 oils of SE rating, which withstand heat even better than the SD oils. If a single-viscosity oil is to be used, it must be a high detergent, heavy-duty oil of SD service rating. For temperatures above 60 deg F, use SAE 30W-30 oil. Between 32 and 60 deg F, use SAE 20W-20, and below 32 deg F, use SAE 10W-10 oil. Do not use a vegetable-based or non-detergent oil.

CB 350 F AND CB 500

Remove the drain plug from the crankcase sump and remove the filler cap to assist draining. When most of the oil has drained, kick the engine over a few times to remove any oil remaining in the delivery system. Replace the drain plug and add approximately 3.5 qts of oil. Start the engine and let it idle for a few minutes to circulate the oil. Shut the engine off and check oil level with the filler dipstick. To obtain a true reading on the dipstick, three precautions must be observed:



Oil drain plug (1)

TUNE-UP SPECIFICATIONS

	CB 350F	CB 500	CB 750	CB 750K1—K3
VALVE CLEARANCE (cold)				
Intake: (in./mm)	0.002/0.05	0.002/0.05	0.002/0.05	0.002/0.05
Exhaust: (in./mm)	0.002/0.05	0.003/0.08	0.003/0.08	0.003/0.08
COMPRESSION				
Pressure, psi	140-170	140-170	140-170	140-170
Maximum Variation, psi	15	15	15	15
IGNITION				
Spark Plugs				
Standard make*	NGK	NGK	NGK	NGK
Type: standard	D8ESL	D7ES	D8ES	D8ES
cold	D10E	D8E, D8ES	D10E	D10E
hot	D8E, D7ES	D7E	D8E, D7ES	D8E, D7ES
Gap, in.	0.025-0.028	0.025-0.028	0.025-0.028	0.025-0.028
Point Gap, in.	0.012-0.016	0.012-0.016	0.012-0.016	0.012-0.016
Static Timing, deg BTDC	5	5	10	10
Maximum Advance,**				
deg @ rpm	28-31 @ 2,500	28-31 @ 2,500	33-36 @ 2,500	33-36 @ 2,500
CARBURETION				
Idle Speed, rpm	1,200	1,000	1,000	1,000
Air Screw Opening	7/8 ± 3/8	1 ± 1/4	1 ± 1/4	1 ± 1/4
Synchronization				
Vacuum range, (in./cm Hg)	6.2-9.5 (16-24)	6.2-9.5 (16-24)	6.2-9.5 (16-24)	6.2-9.5 (16-24)
Uniformity, (in./cm Hg)	1.2/3.0	1.2/3.0	1.2/3.0	1.2-3.0



* Other reputable makes are also acceptable. Be sure to select plugs of the correct heat range, reach, and diameter. Most spark plug application charts also have conversion tables and a heat range chart, enabling you to select the spark plug that fits your needs exactly. The Fours use 12 mm diameter plugs with a half-inch (12.7 mm) reach.

** Includes initial (static) advance.

1. Allow the oil a few seconds to drain down into the crankcase.

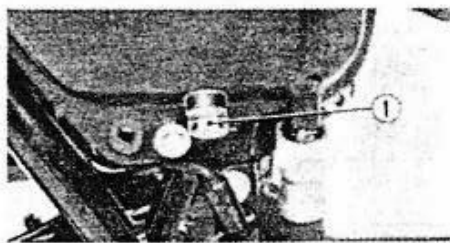
2. Place the machine on its center stand, on a level surface.

3. Do not screw the dipstick/filler cap into the case when checking oil level or a false (high) reading will be obtained.

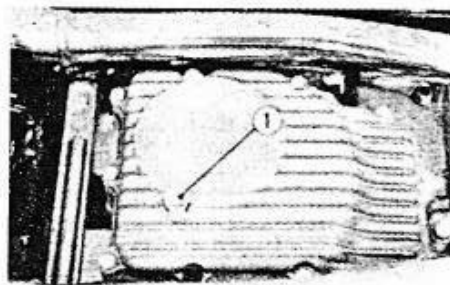
Add oil, if necessary, to bring the level to the upper mark on the dipstick.

CB 750 AND CB 750K1 —K3

Remove the oil tank filler cap and unscrew the oil tank and crankcase drain plugs. When most of the oil has drained, operate the kick-starter several times to chase out any oil remaining. Install the drain plugs and tighten firmly. Pour 3.0 qts of oil into the oil tank and start the engine. After the oil pressure light goes off, run it at 1,000–1,500 rpm for a minute or two. Shut the engine off and check the level. Make sure that the machine is level to obtain an accurate dipstick reading. Add oil, if necessary, to bring the level to the upper mark on the dipstick.



Oil tank drain plug (1)

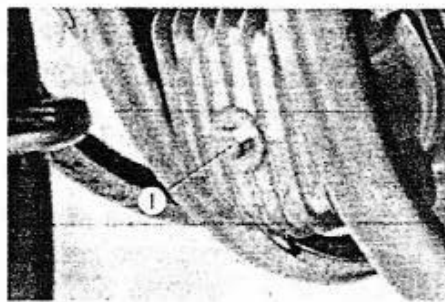


Crankcase sump drain plug (1)

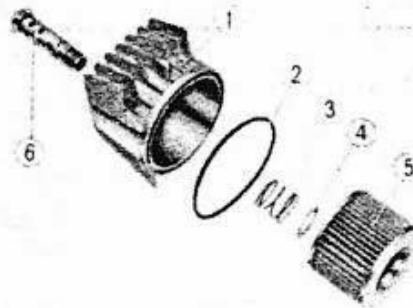
Oil Filter, Disposable Type (2,000 mi)

CB 350 F, CB 500, CB 750
AND CB 750K1—K3

A disposable cartridge, automotive-type oil filter is used as the main filter on the Honda Fours. It should be replaced initially at the first oil change and thereafter at every second oil change. To replace the cartridge, place a pan underneath the filter and unbolt the housing. Discard the old element and O-ring and clean the housing in solvent. Dry thoroughly. Install the new element and O-ring in the housing and reinstall on the engine. *Do not overtighten the bolt.* Start the engine and check for oil leakage around the filter.



Oil filter mounting bolt (1)



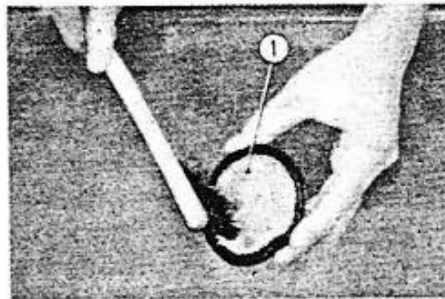
Oil filter components

- | | |
|-------------------|-------------------------|
| 1. Filter housing | 4. Washer |
| 2. O-ring | 5. Filter element |
| 3. Spring | 6. Filter mounting bolt |

Oil Filter, Strainer Type (12,000 mi/24 mo)

CB 350 F, CB 500, CB 750
AND CB 750K1—K3

The oil strainer is located at the oil pump pick-up and may be removed for cleaning after the oil pan is unbolted and lowered. (Do not forget to drain the oil.) Withdraw the strainer from the pump body and clean it in solvent, or replace it with a new one if damaged. Refit the strainer in the oil pump and install the oil pan using a new gasket. After refilling with oil, start the engine and check for oil leaks.



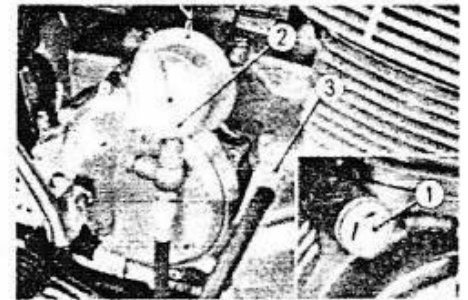
Cleaning the oil strainer (1)

Oil Pressure (6,000 mi/12 mo)

CB 750 AND CB 750K1—K3

A gauge may be connected at the oil gallery access hole at the right side of the engine after the plug has been removed. Honda service tools 07068–30001 (adaptor) and 07065–30001 (pressure gauge) may be used. The gauge should register 50–64 psi when the engine is warm (oil temperature 140–160 deg F) and running at approximately 3,000 rpm. If oil

pressure is unsatisfactory, determine and correct the fault (restricted oil passage, clogged filter, pressure relief valve failure, etc.). Refer to the "Lubrication" section.



Checking oil pressure on the 750

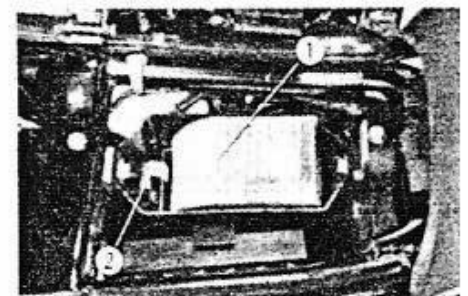
Air Filter (3,000 mi/6 mo)

CB 350 F, CB 500, CB 750
AND CB 750K1—K3

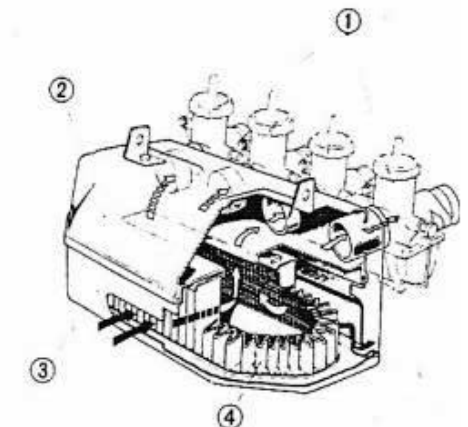
To remove the filter on the 350 and 500, simply raise the seat and pull out the spring clip.

The element can then be withdrawn. On the 750, it is necessary to remove the left side-cover and loosen the lower, filter-housing wing bolts to gain access to the element.

Clean the filter element using compressed air (directed from the inside out) or by tapping it lightly and brushing away the dirt. Wipe the inside of the filter housing clean before replacing the element.



The air filter element (1) is secured by a spring clip (2)—CB 500 models



Cutaway of the air filter assembly on the 750

- | | |
|------------------|-------------------|
| 1. Carburetors | 3. Lower housing |
| 2. Upper housing | 4. Filter element |

**PERIODIC MAINTENANCE
CHART CB 350F, CB 500,
CB 750, CB 750K1—K3**

EVERY 1,000 MILES/60 days (summer)
30 days (winter)

- Engine
1) Change oil

EVERY 2,000 MILES/4 months (summer)
2 months (winter)

- Engine
1) Replace oil filter

EVERY 3,000 MILES/ 6 months

- Engine
1) Service air filter element

- Clutch
1) Adjust clutch

- Battery
1) Check electrolyte level and state of charge

- Fuel System
1) Clean fuel filter
2) Check fuel flow
3) Examine fuel lines and tank filler cap

- Rear Suspension
1) Lubricate fork pivot

- Wheels, Tires, and Brakes
1) Check spokes

- 2) Check wheel runout
3) Examine tires for wear and damage
4) Check brake wear

Frame

- 1) Examine for cracks and misalignment check tightness of nuts and bolts

Final Drive

- 1) Service chain
2) Check sprockets for wear and damage

EVERY 6,000 MILES/12 months

- Engine
1) Check oil pressure (750 only)

- Front Suspension and Steering
1) Check movement of steering head bearings
2) Change oil in front fork legs

EVERY 12,000 MILES/24 months

- Engine
1) Clean oil strainer
- Fuel System
1) Examine carburetor rubber caps
- Brakes
1) Examine brake hose (front) and cable (rear)

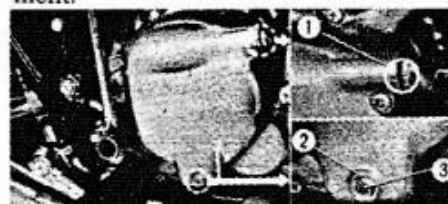
**Clutch Adjustment
(3,000 mi/6 mo)
CB 350 F**

1. Align the clutch lever and right crankcase index marks as illustrated, then loosen the clutch adjuster locknut.

2. Rotate the clutch adjuster counterclockwise until resistance is felt, then back it off about ¼ turn and secure the locknut.

3. Check the ball end of the clutch lever for free play. The lever should have 0.4–0.8 in. (10–20 mm) of free movement.

4. Adjust the play if necessary by loosening the locknut at the lower adjuster, and rotating the adjuster clockwise (direction "A") to increase play, and counterclockwise (direction "B") to decrease it. Secure the lower adjuster locknut, and make fine adjustment at the hand lever by loosening the upper adjuster locknut and rotating the adjuster until free play is within the specified limits. Secure the locknut when satisfied with the adjustment.



Adjusting the clutch release mechanism (350) 1. Matching mark 2. Lock nut 3. Clutch adjuster

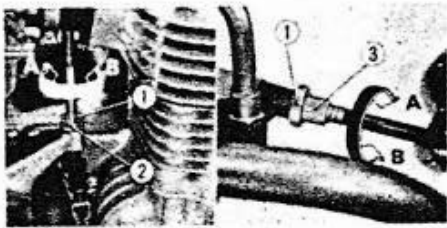
MAINTENANCE DATA

	CB 350F	CB 500	CB 750	CB 750K1—K3
ENGINE OIL				
Recommended oil		10W-40 or 20W-50, service rating SD (previously MS)		
Capacity (qt)	3.7	3.2	3.7 ^②	3.7 ^②
Oil pressure (psi)	N.A.	N.A.	50-64 ^③	50-64 ^③
TRANSMISSION OIL				
Recommended oil	①	①	①	①
Capacity	①	①	①	①
FRONT FORK				
Recommended oil	10W-30	10W-30	10W-30	10W-30
Capacity (oz/cc)	4.2/125	5.4/160	7.0-7.3/220-230	7.0-7.3/220-230
FUEL TANK				
Total capacity (gal)	3.2	3.7	4.5	4.5
Reserve (gal)	0.5	1.6	1.3	1.3
Recommended fuel	premium	premium	premium	premium
TIRE PRESSURE				
Front	26	25	28	28
Rear	28	28	30	30

① Transmission lubricated by engine oil.

② Oil tank capacity at upper mark on dipstick is 2.1 qt. The crankcase sump and oil filter contain the remaining 1.6 qt.

③ With engine warm (oil temperature 140-160 deg F) and running at 3,000 rpm.



Fine adjustments can be made at the cable (350)

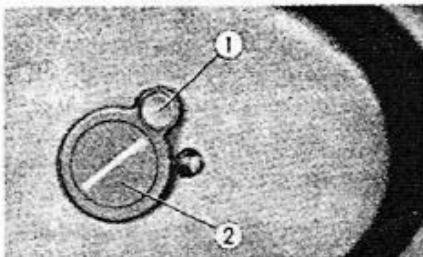
1. Lock nut
2. Clutch cable lower adjuster
3. Clutch cable upper adjuster

CB 500

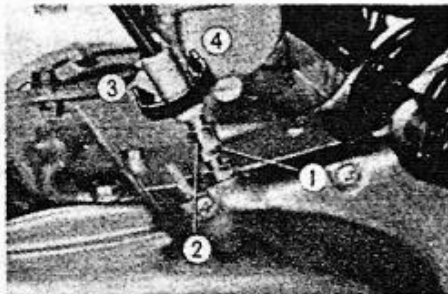
1. Screw the cable adjuster at the clutch lever all the way into the lever (increasing lever free-play).

2. Back off the locknut and turn the cable adjuster at the engine into the housing (increasing cable free-play to maximum).

3. Loosen the clutch adjuster lockbolt and, using a large screwdriver, turn the adjuster clockwise until a slight resistance is felt. At this point, back the adjuster out approximately $\frac{1}{8}$ in. and tighten the lockbolt.

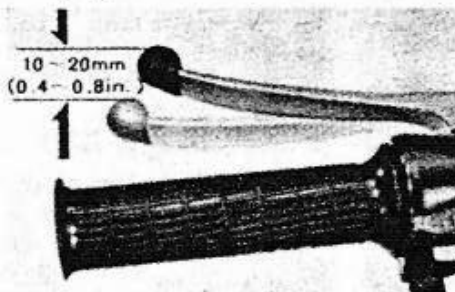


Clutch adjuster locknut (1) and adjuster screw (2). The grease fitting is shown immediately to the right of the adjuster screw.



Cable adjuster at the clutch housing

1. Locknut
2. Adjuster
3. Turning clockwise increases play
4. Turning counterclockwise decreases play



Final free-play at the lever end should be approximately $\frac{3}{8}$ in.

4. Turn the cable adjuster at the engine out until there is about 2-3 in. free-play at the clutch lever.

5. Remaining adjustment is made at the lever. Free-play at the end of the lever should be 0.4-0.8 in.

6. Lubricate the release mechanism, located at the cable adjuster, by giving it one or two squirts with the grease gun.

CB 750 AND CB 750K1 —K3

1. Screw the cable adjuster at the clutch lever all the way into the lever (increasing lever free-play).

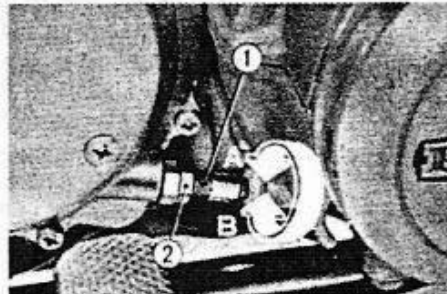
2. Back off the locknut and turn the cable adjuster at the engine into the housing (increasing cable free-play to maximum).

3. Remove the clutch housing cover plate and loosen the adjusting screw locknut.

4. Turn the adjusting screw clockwise until a slight resistance is felt, and then counterclockwise $\frac{1}{4}$ - $\frac{1}{2}$ turn (90-180 deg). Tighten the locknut while holding the screw in position. Replace the cover plate.

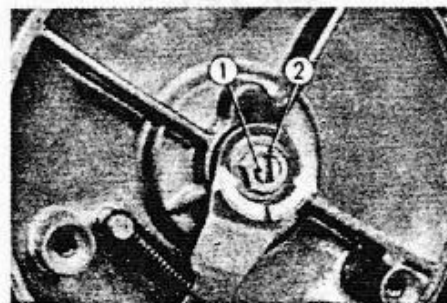
5. Turn the cable adjuster at the engine until there is about 2-3 in. free-play at the end of the clutch lever.

6. Turn the adjuster at the clutch lever until 0.4-1.0 in. free-play remains at the end of the lever.



Cable adjuster at the clutch housing

1. Adjuster
2. Locknut



Clutch adjuster screw (1) and locknut (2) located under the cover plate

Fuel System (3,000 mi/6 mo)

CB 350 F, CB 500, CB 750, AND CB 750K1—K3

The fuel filter, located in the fuel tap, should be removed and cleaned at the

prescribed intervals or whenever fuel feed problems are suspected. Simply turn the fuel tap to "stop" and unscrew the cup to gain access to the filter. Fuel flow at both the "on" and "reserve" positions can be checked at this time.

CAUTION: Do not start the engine until any gasoline spilled has evaporated or has been wiped off the engine. Use a can or jar to catch gasoline when checking flow. If the tap allows any gasoline to pass while in the "stop" position, the tap should be repaired or replaced, or gasoline may leak into the crankcase and dilute the oil.

Clean the filter screen and reinstall the cup and filter on the fuel tap. Use a new O-ring if necessary. Do not overtighten. Examine the fuel lines for leakage and for restriction caused by kinks or sharp bends. Check to see that the vent hole in the tank filler cap is not plugged to preclude the possibility of fuel starvation.

Front Suspension and Steering (6,000 mi/12 mo)

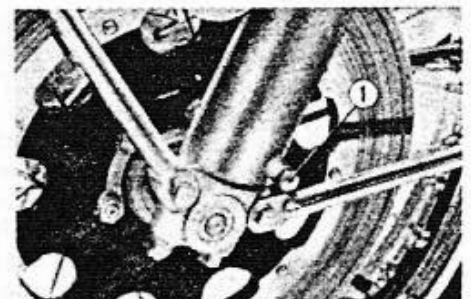
CB 500, CB 750, CB 750K1, AND CB 750K2

Steering Head Bearings

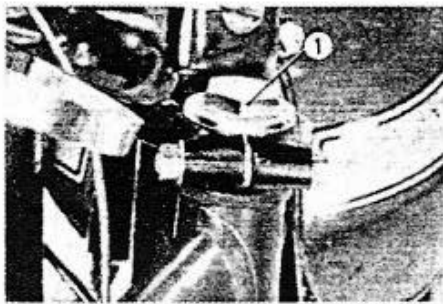
To check the bearings, place the bike on its center stand and swing the forks slowly through full steering travel. Movement should be smooth, light, and free from any binding. Check for play in the bearings by grabbing the bottom of the forks and trying to move them back and forth in line with the motorcycle. Play can be removed by tightening the steering head main nut. Tighten no more than necessary to eliminate play. If steering movement remains unsatisfactory the bearings should be replaced. Refer to the "Chassis" section.

Fork Oil

Remove the small drain plug at the bottom of each leg and work the suspension until all the oil has been expelled. Replace the drain plugs. Remove the top filler plugs and fill each leg with 4-202/125 cc (350), 5.4 oz/160 cc. (500) or 7.0-7.3 oz/220-230cc (750) of SAE 10W-30 engine oil or special fork oil (available from most dealers).



Fork drain plug (1)



Filler plug (1)

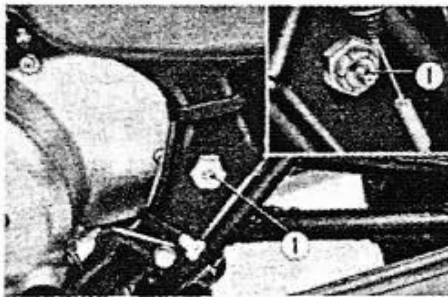
NOTE: Fork oil is not available in multi-viscosity form and viscosity selection must be made relative to riding and temperature conditions. Generally, SAE 30 is acceptable for summer and SAE 20 is acceptable for winter riding.

After the oil has been poured into the forks, work them up and down slowly a few times to expel any air in the hydraulic passages before replacing the filler caps.

Rear Suspension (3,000 mi/6 mo)

CB 350 F, CB 500, CB 750, AND CB 750K1—K3

Lubricate the swing arm pivot grease fittings using a high-pressure grease gun. Wipe off any excess grease. There should be absolutely no side-play and the swing arm must not be bent or weakened from cracked welds, or else handling (especially at high speed) will become quite erratic and dangerous.



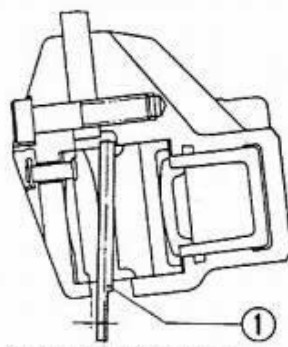
Fork pivot grease fittings (1). Inset shows right side fitting.

Brakes (3,000 mi/6 mo)

CB 350 F, CB 500, CB 750, AND CB 750K1—K3

Front Brake

Replace both brake pads on the 350, 500, or 750K2—K3 when either one has worn to the red wear indicator groove. On the 750 and 750K1 pad wear is measured by checking the clearance between the front of the caliper and the brake disc using a feeler gauge. Replace both pads when clearance is less than 0.08 in./2.0 mm. Brake squeal can usually be eliminated by careful attention to pad alignment. Refer to the chassis section.



0.06~0.08in(1.5~2mm)

Brake pads on the 750 models must be replaced when the clearance between the disc (1) and caliper is less than 0.08 in.

Examine the hydraulic lines for leaks and damage. Check the operation of the brake and if the lever feels spongy or lever travel is excessive, bleed the hydraulic system. Use only brake fluid conforming to SAE specification J1703. Refer to the "Chassis" chapter.

Rear Brake

Rear brake lining wear can be determined by observing the angle formed by the brake operating lever and rod (at the brake drum) while the brake is applied. When the lever and rod move past perpendicular as the brake is applied, the brake shoes should be replaced. The brake should be adjusted so that there is approximately 1.0 in./25 mm free-play at the end of the pedal. Adjustment is made by turning the eccentric nut at the end of the operating rod. Make sure that the nut is seated properly on the lever and readjust the brake light switch if necessary. Examine the following components: brake pedal, brake operating rod, operating lever, backing plate, and torque link.

Final Drive

CB 350 F, CB 500, CB 750 AND CB 750K1—K3

Chain Adjustment

To check chain adjustment, place the bike on the center stand and move the chain up and down at the midway point on either run. If total movement exceeds 1.5 in., the chain is too loose and must be adjusted. The procedure is as follows:

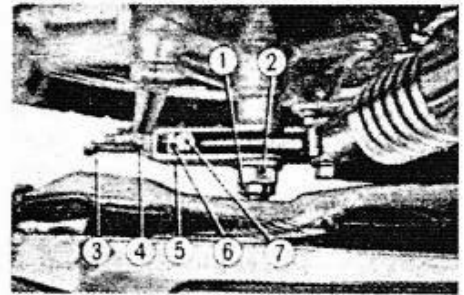
1. Remove the rear axle nut cotter pin and loosen the nut until it can be turned by hand.

2. Loosen the locknuts on the two chain-adjuster bolts. To tighten the chain, turn the adjuster bolts in equally until total chain slack is within $\frac{1}{2}$ – $\frac{3}{4}$ in. Turning the adjusters an unequal amount will affect wheel alignment. Scales are provided on both sides of the swing arm to facilitate adjustment. Make sure that they are both in the same position.

3. Tighten the adjuster bolt locknuts until they are just snug, while holding the bolts to keep them from turning. Do not overtighten.

4. Tighten the axle nut to 58–72 ft lbs and install a new cotter pin. Recheck chain movement.

NOTE: A dry chain should be lubricated before adjustment so that the links will not bind and restrict chain movement, making it seem tighter than it really is. If tension varies alternately between too loose and too tight as the chain is rotated, remove it and inspect for excessive wear.



Rear axle nut and right-side chain adjuster assembly—shown is a 750

1. Cotter pin
2. Axle nut
3. Chain adjuster bolt
4. Locknut
5. Adjuster bracket
6. Swing arm end cap
7. End cap retaining bolt

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