

Figure 6-3. Aligning to the T timing mark

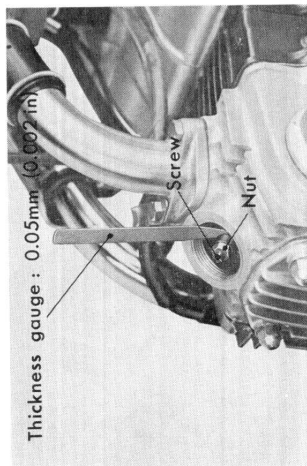


Figure 6-4. Adjusting tappet clearance

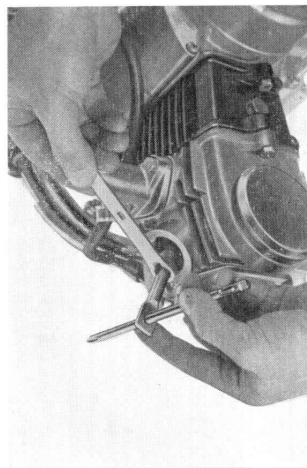


Figure 6-5. Locking the adjusting nut

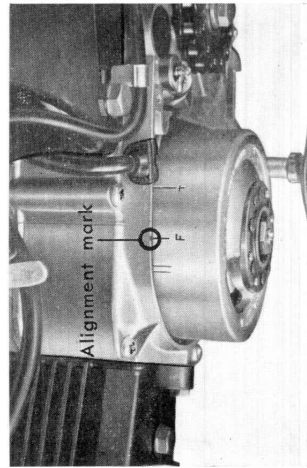


Figure 6-6. Aligning to the "F" mark

The tappet clearance will have a great deal of effect on the valve timing. If the clearance is too small, it may prevent the valve from fully closing and result in pressure leak at the valve. On the other hand, an excessive tappet clearance will produce tappet noise and result in noisy engine operation. The tappet clearance will have a varying degree of effect on the engine power output, engine operation at low speed and engine noise.

1. Valve clearance

- Remove the left crankcase cover and align the timing mark "T" on the flywheel with the alignment mark on the crankcase. (Fig. 6-3)
- Remove the tappet adjusting cap on the cylinder head and check the clearance between the adjusting screw and the valve. (Fig. 6-4) If the valve is actuated by the rocker arm and is in the open position, rotate the flywheel one complete turn to set the piston at top dead center of the compression stroke, and then perform the check.

2. Adjustment

Loosen the adjusting screw locking nut and make the adjustment with the adjusting screw to obtain the standard clearance of 0.05 mm (0.002 in) for both the inlet and exhaust valves.

Turn screw clockwise for closer clearance.

Turn screw counter clockwise for wider clearance.

The tappet clearance adjustment for the C50, C50M, C65, C65M, S50, S65 are identical.

(Note)

- The adjustment must be made with a cold engine and the clearance measured with a thickness gauge.
- When locking the adjusting screw, hold the screw to prevent its turning. (Fig. 6-5)

3. Inspection

- Check to make sure that the tappet clearance is within standard tolerance. Too small a clearance will cause the valve to stay open with a consequent pressure leakage and resulting in hard starting or no starting at all.
- Check for improper valve timing.
- Check for stretch in the cam chain.
- Check for any slippage of the timing sprocket.

3. IGNITION TIMING ADJUSTMENT

An improper ignition timing, regardless of the accuracy of the valve timing or the proper compression pressure, will not realize a satisfactory engine performance. Ignition timing out of adjustment will seriously affect engine power output as well as the fuel consumption

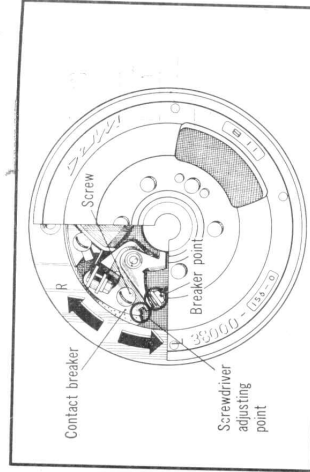


Figure 6-7. Adjusting the ignition timing

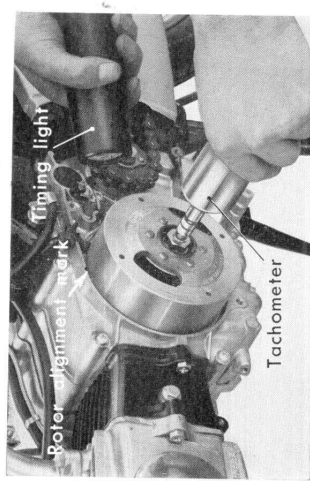


Figure 6-8. Adjusting the ignition timing advance

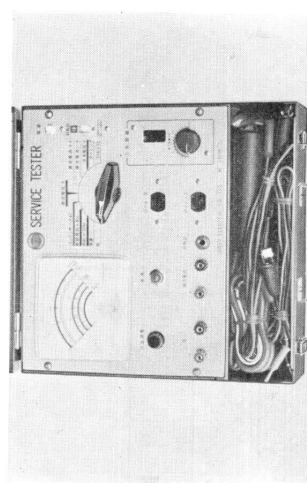


Figure 6-9. Service tester

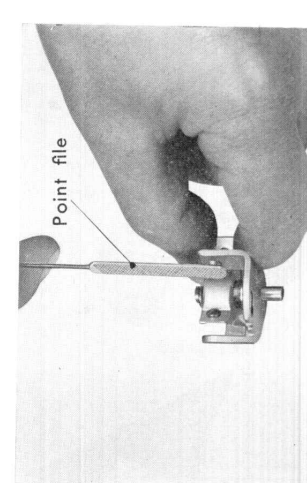


Figure 6-10. Filing breaker point contact

1. Alignment of the "F" timing mark

- Remove the left crankcase cover and align the "F" marking on the flywheel to the timing mark on the crankcase. In this position, check to make sure that the spark is produced across the spark plug points. (Fig. 6-6) Perform this test by removing and placing the spark plug on top of the cylinder head.

2. Adjustment

Make the adjustment by loosening the contact breaker lock screw.

- When the ignition timing is retarded, move the contact breaker toward the right.
- When the ignition timing is advanced, move the contact breaker toward the left.

3. Breaker point gap, 0.3 to 0.4mm (0.012-0.016 in) max.

Improper ignition timing will result in combustion to take place at the incorrect point of compression, making it impossible to obtain smooth crankshaft rotation; the throttle grip will require greater opening, consequently, the fuel consumption is increased.

Results of retarded ignition timing:

- Drop in power output.
- Drastic increase in fuel consumption.
- Engine overheats with a possibility of piston seizure.

Results of advanced ignition timing:

- Produces knocking and drop in power output. In severe cases, damage to piston, connecting rod, crankshaft may result, therefore, periodic inspection should be performed.
- Upon completion of the point gap and ignition timing adjustment, check for proper operation of the spark advancer with a timing light. (Fig. 6-8)

(Use of Service Tester)

Checking the operation of the spark advancer with a tachometer

- Connect the battery power, place the selector switch to "Timing".
- Insert the plug end with the red and white parallel stripes of the timing light into the receptacle marked "Timing".
- Screw the hexagonal connector, included with the timing light, on the top of the spark plug and after installing the rubber cap, attach the high tension cord of the timing light to the connector with the alligator clip.
- Position the switch on the tachometer to "connect", insert the plug from the tachometer into the jack on the tester marked "Jack". The 6,000 rpm is read off the green zone of the meter dial. (Fig. 6-9)