

MAINTENANCE 179

the electrodes during the exhaust stroke, there is no effect since there is no compression and no fuel to burn. Therefore, to eliminate any need for a distributor (thus simplifying the system and making it more reliable), the system is constructed so that both spark plugs fire every time both pistons rise (once every 360° of crankshaft rotation) although one piston is on the compression stroke and the other on the exhaust stroke.

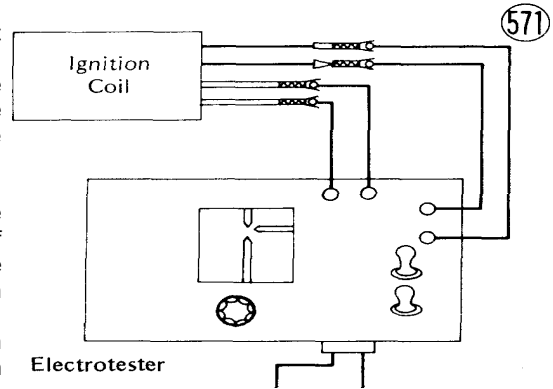
The contact breaker consists of one fixed and one movable contact point. The movable point is pivoted, and the heel on one end is held against the cam surface on the timing advancer by a single leaf spring. As the crankshaft rotates, the heel rides on the cam surface, and, as the crankshaft reaches the position where ignition takes place, the high spot on the cam surface pushes out on the heel, which opens the points. As the heel wears down, the point gap narrows, affecting ignition timing. Consequently, the ignition timing must be periodically adjusted to compensate for heel wear.

The capacitor is connected in parallel across the contact breaker points and serves to prevent current from arcing across the points as they open. Arcing across the points would reduce the sharpness of the voltage drop in the primary winding, thus weakening the spark plug spark, and also damaging the surface of the points. When the points are first opening, the capacitor absorbs a certain amount of current, giving the points time to open far enough apart to where current will not arc across. However, if the capacitor shorts, the current will simply flow through the capacitor whenever the points open. When the capacitor

the current through one spark plug must go also through the other. Consequently, if a spark will not jump across the electrodes on one spark plug (due to dirty electrodes, faulty plug lead, etc.), no spark will jump across the electrodes on the other plug as well.

Contact breaker inspection

When the points become dirty, pitted, or burned,



if the spring weakens, the points will not make the contact necessary to produce a good spark, resulting in unstable idling, misfiring, or the engine not running at all. Inspect the contact breaker in accordance with the Periodic Maintenance Chart (Pg. 195), and repair or replace if necessary.

Clean the points with clean paper or cloth using an oil-free solvent. A business card soaked in trichloroethylene can be used to remove traces of oil. To repair light damage, use emery cloth or an oilstone. If the points are badly worn down or damaged, or if the spring is weak, replace the contact breaker.

Whenever the contact breaker is inspected or replaced, apply a small amount of point cam grease to the felt to lubricate the cam. This will minimize wear of the contact breaker heel. Be careful not to apply

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Battery

otherwise defective, the current will not be prevented from arcing across the points at the time of ignition, resulting in poor spark plug performance and burned and pitted points.

Because the two spark plugs are connected in series,

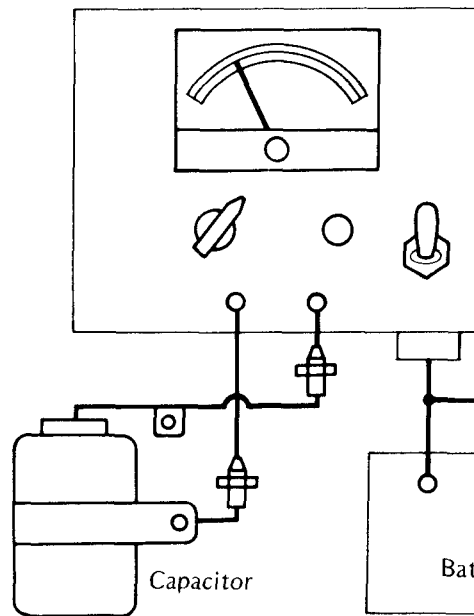
so much grease that it can drop off or be thrown onto the points, which will cause the points to foul and burn.

Capacitor inspection

The capacitor can usually be considered to be defective if a long spark is seen arcing across the points as they open or if the points are burned or pitted for no apparent reason. Replace the capacitor any time it appears defective and whenever the contact breaker is replaced.

NOTE: For checking with a capacitor tester, capacitor specifications are: $0.22 \pm 0.02 \mu\text{F}$, 1.000WVDC.

Capacitor Test



Ignition coil inspection

The most accurate test for determining the condition of the ignition coil is made with the Kawasaki electro-tester. The ignition coil must be connected to the tester in accordance to the tester directions and should produce at least a 5 mm spark. Since an electrotester other than the Kawasaki electrotester may produce a different arcing distance, the Kawasaki electrotester is recommended for a reliable result.

Ignition Test