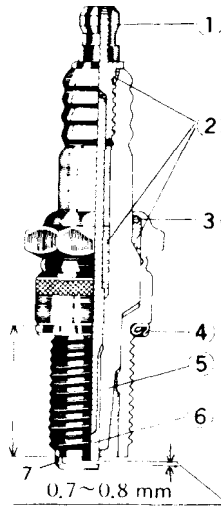


SPARK PLUGS

The spark plugs ignite the fuel/air mixture in the combustion chamber. To do this effectively and at the proper time, the correct spark plugs must be used, and the spark plugs must be kept clean and adjusted.

is used -
that is, a "cold" plug that cools itself too well -
the plug

Spark Plug



Tests have shown the NGK B8ES or ND W24ES, set to a 0.7~0.8 mm gap to be the best plug for general use. But since spark plug requirements change with ignition and carburetion adjustments and with riding conditions, this plug may have to be replaced for one of the next higher or lower heat range. Whether or not a spark plug of a different heat range should be used is generally determined by removing and inspecting the plug.

When a plug of the correct heat range is being used, the electrodes will stay hot enough to keep all the carbon burned off, but cool enough to keep from damaging the engine and the plug itself. This temperature is about 400~800°C (750-1,450°F) and can be judged by noting the condition and color of the ceramic insulator around the center electrode. If the ceramic is clean and of a light brown color, the plug is operating at the right temperature.

A spark plug for higher operating temperatures is used for racing and other high speed applications. Such a plug is designed for better cooling efficiency so that it will not overheat and thus is often called a "colder" plug. If a spark plug with too high a heat range

will stay too cool to burn off the carbon, and the ceramic carbon will collect on the electrodes and the ceramic insulator.

This carbon conducts electricity, and can short the center electrode to ground by either coating the ceramic insulator or bridging across the gap. Such a short will prevent an effective spark. Carbon build-up on the plug can also cause other troubles: it can heat up red-hot and cause preignition and knocking and may eventually burn a hole in the top of the piston.

A spark plug in the lower heat range is used when engine temperature is comparatively low such as for constant city use or during the break-in period. Such a plug is designed to hold the heat and thus is often referred to as a "hotter" plug. If a "hot" plug is used for racing or other high speed use, the plug will run too hot, causing engine overheating, preignition and knocking, which may burn a hole in the piston.

Inspection and replacement

Remove each plug and inspect the ceramic insulator. Whether or not the right temperature plug is being used can be ascertained by noting the condition of the ceramic insulator around the electrode. A light brown color indicates the correct plug is being used.

If the ceramic is black, it indicates that the plug is firing at too low a temperature, so the next hotter type (NGK B7ES) should be used instead. If the ceramic is white, the plug is operating at too high a temperature and it should be replaced with the next colder type (NGK B9ES).

The heat range of the spark plug functions like a thermostat for the engine. Using the wrong type of spark plug can make the engine run too hot (resulting in engine damage) or too cold (with poor performance, misfiring, and stalling). The standard plug has been selected to match the normal usage of this motorcycle in combined street and highway riding. Unusual riding conditions may require a different spark plug heat range. For extended high speed riding, install the NGK B9ES plug (colder). For constant low speed riding, it may be necessary to use NGK B7ES plug (hotter) to avoid fouling. This is especially true during the break-in period, where engine speed must be limited to insure long engine life.

CAUTION If the spark plugs are replaced with a type other than those mentioned below, make certain the replacement plugs have the same thread pitch and reach (length of threaded portion) as the standard plugs.

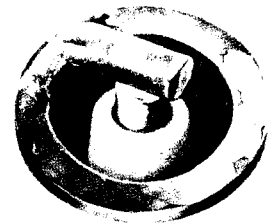
Spark Plug Condition



Carbon Fouling
Overheating



oil fouling



Normal operation

