

Small Engines

Spark Plugs for Small Engines

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The proper selection and maintenance of spark plugs for small engines is essential. The spark plug has an important function to perform in the efficient operation of an engine. Operating conditions vary from light loads to heavy, continuous loads where the engine stays hot. An operator can improve the engine's operation by learning how to properly select and maintain spark plugs.

Servicing Plugs

Spark plugs are made in many heat ranges. The range is determined by the distance heat must travel from the lower tip of the center electrode to the spark plug gasket and the engine. The longer the distance the heat must travel, the hotter the plug will run. A cool plug has a shorter distance for the heat to travel. Engines that run under light load or idle much of the time should use "hot" plugs. Engines under heavy load much of the time should use "cold" plugs. The terms "hot," "normal" and "cold" refer to the operating temperature of the plug, not the intensity of the spark.

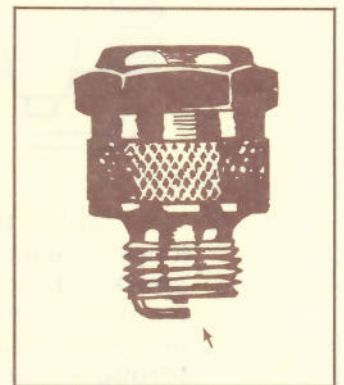
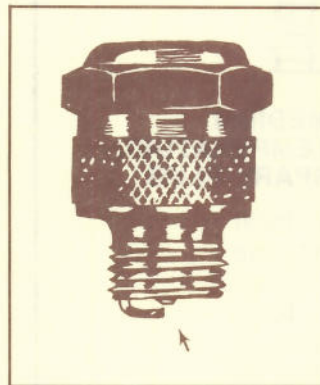
When selecting a spark plug for an older engine, refer to your owner's manual or to a manufacturer's spark plug chart. New plugs with different numbers from the original manufacturer's plug number are often recommended. Spark plugs are made in many thread sizes. Be sure to buy those with the correct thread size. Use the threads on the plug removed from the engine as a guide to correct thread size.

Servicing Plugs

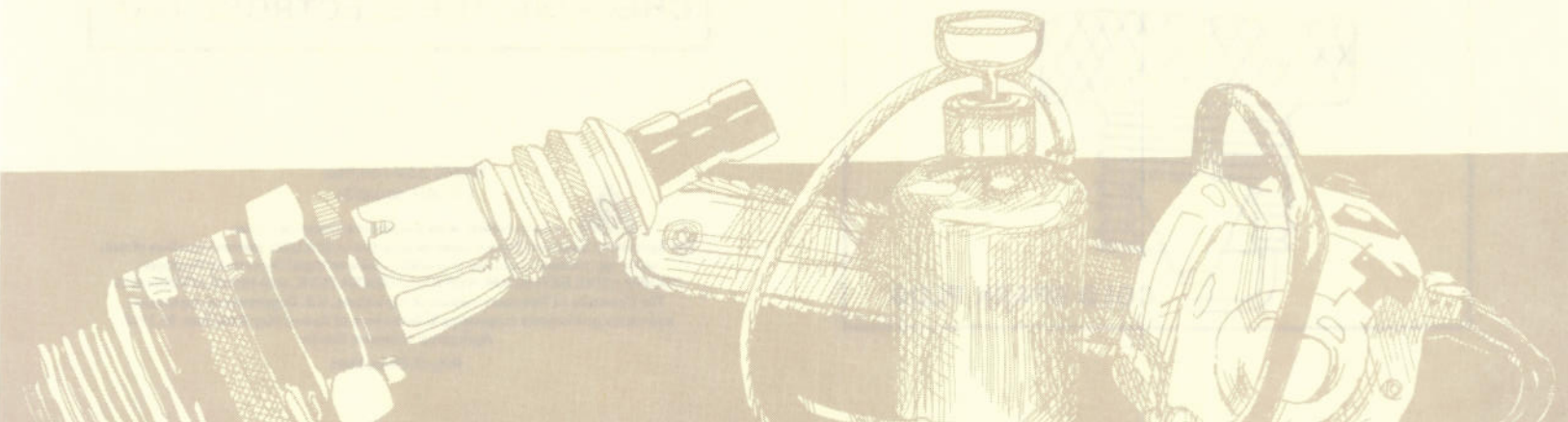
Any condition that reduces the flow of current through the spark plug and across its gap will affect the opera-

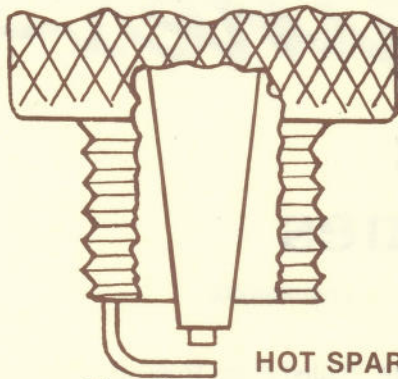
tion of an engine. Fouled plugs from oil or lead deposits, cracked porcelain insulators or too wide a gap from eroded electrodes can cause difficulties. You can easily check the spark plug, service it or replace it if necessary. Plugs should be checked at least every 100 hours of operation.

1. Remove plug and examine its condition. Plugs with worn and rounded electrodes should be replaced with a new one of type and size recommended by operators manual.
2. Remove oil deposits with solvent and brush.
3. Clean threads with wire brush.
4. Remove scale and deposits with a small bladed knife.
5. Check electrode gap with wire gauge and regap if needed.
6. Replace plug — use a new gasket if available — tighten about three-fourths turn past finger tight.



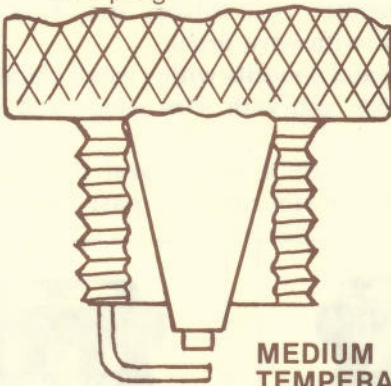
The plug on the left is a Champion J-8J designed for a 2-cycle engine. The J-8 plug on the right is designed for a 4-cycle engine. Note the difference in electrodes.





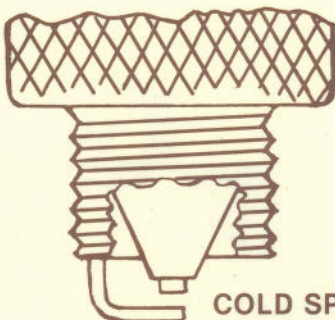
HOT SPARK PLUG

The plugs are made to operate at different temperatures by making the porcelain tips around the center electrode of different lengths. Notice the long porcelain tip is the hot plug.



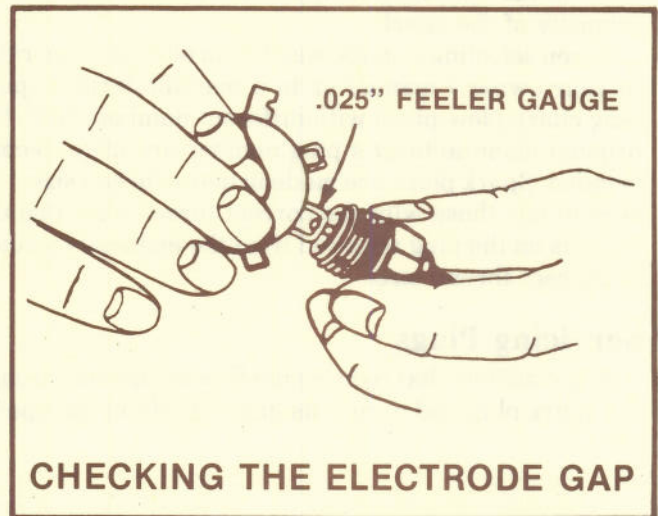
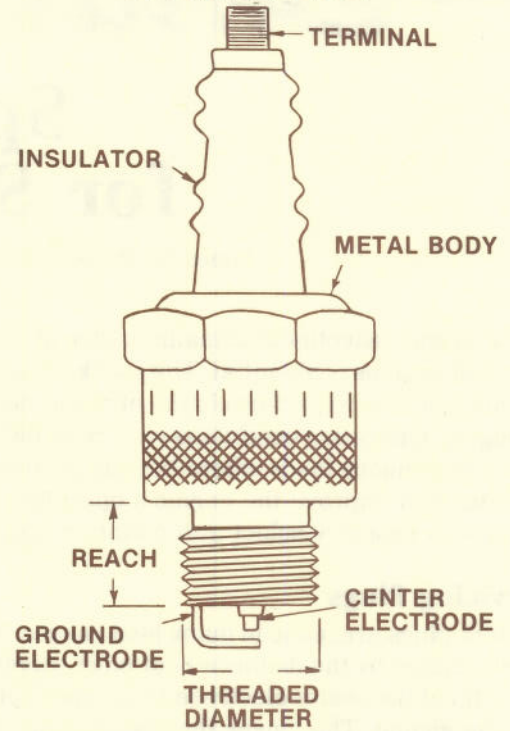
MEDIUM TEMPERATURE SPARK PLUG

It takes the heat longer to escape to the spark plug shell through the long porcelain route than through the shorter routes of the colder plugs. Be sure to use the recommended heat range plug in your engine.



COLD SPARK PLUG

SPARK PLUG



CHECKING THE ELECTRODE GAP

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