



# AVIATION TECHNICAL BULLETIN

Champion Spark Plug Company

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DO YOU USE A LOOKING GLASS?

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Your engine trouble diagnosis will be easier and more exacting if you get a better look at the combustion deposits on the spark plugs. You will reduce the possibility of plug malfunction after cleaning and gapping if you get a better look at the entire firing end of the full depth of the terminal well.

Reading the plug deposit can be misleading if you can't examine the plug closely. Deposit color, quantity, and structure are each meaningful. For instance, is the deposit laminate or spherical? Is the deposit black or very deep blue-purple? Is it fuel, oil, combustion or from other causes? And is it normal or abnormal for the engine, air frame, fuel used, and type of operation? Even the expert aviation specialist can't diagnose it unless he can see it and give it identity.

Your own personal plug viewer is the first step in reading the engine by reading the plugs. Bright, well-aimed illumination and a little magnification makes the viewer an indispensable tool. Troubles such as a burned piston or a ruptured sodium-filled exhaust valve are easy to read from the plugs. Also, a better look at lead deposits from the fuel will almost always provide you with some clues on engine operation such as fuel - air ratio, T.E.L. distribution, cylinder heat temperature and power used.

Every plug should be examined for diagnostic reasons as it is removed from the cylinder. If you do so your engine trouble shooting will be improved and be more exact. Also, every plug should be examined after cleaning and regapping and before reinstallation in the engine. This will improve plug cleanliness and minimize risk of plug malfunctioning after servicing.



Champion PM-1 viewer, in use

This could be the best buy that you've ever made. Why don't you order from your supplier now?

The Champion Service Manual (AV-6), the wall chart "Spark Plugs Tell a Story" (AV-73), and the check-a-plug card (AV-27) illustrate typical spark plug firing ends. Use these pictures to tell the story about your engines.

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*first choice for dependable engine performance*