AVIATION TECHNICAL BULLETIN

Champion Spark Plug Company

P. O. BOX 910, TOLEDO, OHIO 43601

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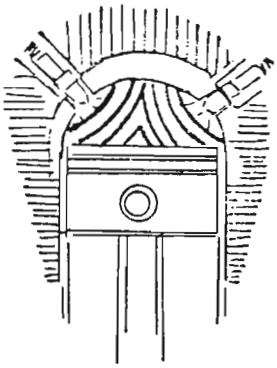
ROUTE TO	
SERVICE MANAGER	
SALES MANAGER	
BULLETIN BOARD	

HOW BAD IS ONE PLUG OUT?

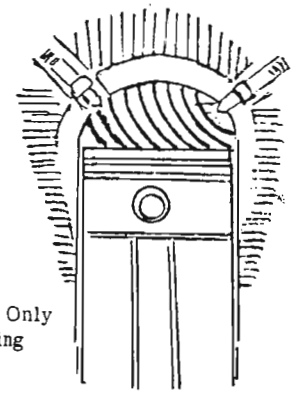
Well it isn't good - but it's not disastrous either. Let's briefly examine what happens, in the cylinder, during the firing process.

When both plugs fire, fuel burning occurs at two points and the flames approach each other evenly. The gases expand most rapidly to fill up the combustion chamber and push the piston down.



Even Burning From Both Plugs Firing

Twin Ignition



Burning From Only One Plug Firing

Single Ignition

When only one plug fires, the flame spreads from only one spot, the gases expand more slowly. There is less pressure build-up within the combustion chamber so less force is applied in pushing the piston down.

Obviously then there is less power developed from this cylinder and a little less power produced by the engine.

Slower expansion of the gases within the combustion chamber means lower combustion gas temperatures. This in turn means the almost impossibility of pre-ignition or detonation in that cylinder. Engine laboratory tests substantiate this.

Dual ignition was originally introduced to give more reliable engine performance - today it is also required to insure the full performance capabilities of the engine.

Piston burning, valve burning, and similar engine problems cannot be caused by having one plug foul out.

If such a problem occurs, look deeper than the spark plug for the cause. Maybe a plug did fail, but maybe something else occurred first - incorrect fuel grade, lean mixtures, improper valve settings, wrong or ignition timing, too tight ring clearances. -- Your good mechanics will know what to look for.

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