



AVIATION TECHNICAL BULLETIN

Champion Spark Plug Company

P. O. BOX 910, TOLEDO, OHIO 43601

ROUTE TO	
SERVICE MANAGER	
SALES MANAGER	
BULLETIN BOARD	

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NO. A74-6

CHAMPION FHE-176 IGNITER

**CONTROLLED
COPY**

The FHE-176 is a low voltage series igniter. A semi-conductor material bridges the electrodes and is required for the proper function of ignition. When servicing this type of igniter, care must be taken so as not to disturb the semi-conductor material.

CLEANING

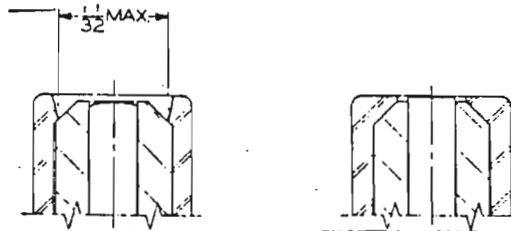
1. Wipe combustion deposits from exterior with a lint-free cloth.
2. DO NOT DISTURB THE COMBUSTION DEPOSITS IN THE GAP AREA.

Note: If gap area deposits must be removed for a closer inspection, they may be removed by a wood scraper. DO NOT TOUCH SEMI-CONDUCTOR SURFACE DEPOSITS in the gap area; they aid plug operation.

3. Terminal well may be cleaned with a felt swab saturated in mineral spirits, distillation range of 314° - 393° F. or methyl, wood, or methanol alcohol, distillation range of 147° - 149° F.

INSPECTION

1. Visually check for mechanical damage. Reject if it shows impact damage, or if connector well or firing end insulator is cracked or loose.
2. Check firing end shell for chafing or fretting wear. This wear is not to exceed .015. If this wear is more than one half the circumference of the shell, reject.
3. Reject if shell body is swollen or distorted.
4. Check igniter plug for electrical erosion. Note: See illustration. If erosion equals or exceeds this measurement, reject.



TESTING

1. Spark Test. Test at normal open air pressure using the standard Avon engine ignition unit, including the shielded lead and terminal fittings.
2. Put three drops of turbine fuel on the firing end tip. Shake plug to remove excess fuel.
3. Connect the ignition unit to the igniter.
4. Clamp the igniter with the firing end up.
5. Switch on the ignition unit. Wait 30 seconds, then test fire. Allow the igniter to fire consistently for 15 seconds. (If misfiring or irregularity in sparking occurs, discard the igniter).
6. Turn off the ignition unit.

WARNING: THE OUTPUT OF THIS IGNITION SYSTEM IS SUFFICIENT TO CAUSE A LETHAL ELECTRICAL SHOCK. DO NOT TOUCH ANY EXPOSED OR LIVE PORTION. ALWAYS DISCONNECT LEADS FROM IGNITION POWER SOURCE AND WAIT AT LEAST ONE MINUTE TO PERMIT STORED ENERGY TO DISSIPATE BEFORE WORKING WITH IGNITION UNIT.

7. Wait for at least one minute to elapse; disconnect the igniter from the ignition unit unclamp the igniter.