



AVIATION TECHNICAL BULLETIN

Champion Spark Plug Company

P. O. BOX 910, TOLEDO, OHIO 43601

June 28, 1978

NO. 78-4

CHAMPION FHE161-9 IGNITER

ROUTE TO	
SERVICE MANAGER	
SALES MANAGER	
BULLETIN BOARD	

The FHE161-9 is a low voltage series igniter. A semi-conductor material bridges the electrodes and is required for proper function of ignition. When servicing this type of igniter, care must be taken 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 closer inspection, remove deposits with 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 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 shell if body is swollen or distorted.
4. Check igniter plug for electrical erosion. *See Illustration Below:* If erosion equals or exceeds this measurement, reject.



TESTING

NEW IGNITER

WORN OUT

1. Spark test. Test at normal open air pressure using the standard 250-C engine ignition unit, including the shielded lead and terminal fittings.
2. Connect the ignition unit to the igniter.
3. Clamp the igniter with the firing end up.
4. 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).
5. 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 INPUT POWER SOURCE AND WAIT AT LEAST ONE MINUTE TO PERMIT STORED ENERGY TO DISSIPATE BEFORE WORKING WITH IGNITION UNIT.

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