

SERVICE INSTRUCTION

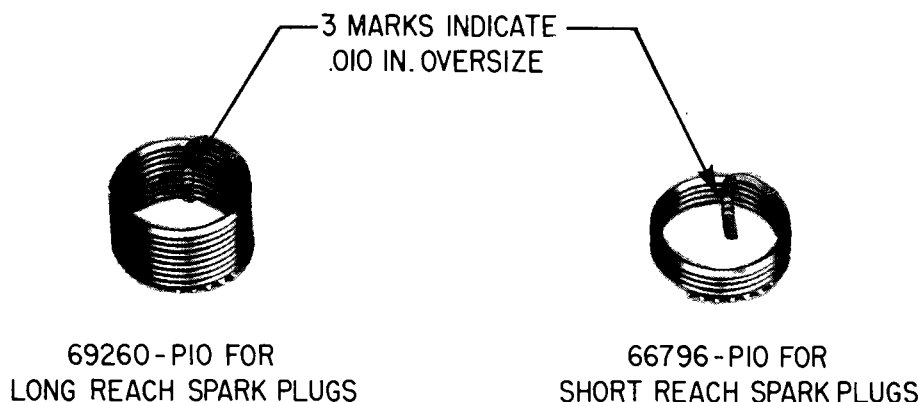
DATE: September 19, 1969Service Instruction No. 1043A
(Supersedes Service Instruction No. 1043)
Engineering Aspects are
FAA (DEER) Approved**SUBJECT:** Spark Plug Heli-Coil Insert Replacement**MODELS AFFECTED:** All Avco Lycoming aircraft engines.**TIME OF COMPLIANCE:** As required during maintenance or overhaul.

Installation of the incorrect size Heli-Coil insert in the spark plug hole is the cause of many instances of damage found in this area of the cylinder head; standard size inserts have been found in spark plug holes that had been tapped oversize - also, standard size inserts have been found in holes with badly damaged threads that had not been repaired by retapping. Avco Lycoming does not recommend standard size Heli-Coil inserts for replacement in the spark plug holes; nor does Avco Lycoming furnish standard size spark plug inserts to our distributors. To avoid these difficulties, repair facilities are urged to stock only .010 in. oversize Heli-Coil spark plug inserts; these are identified by the three marks on the tang of the insert as shown in the accompanying figure. Also, the .010 in. oversize spark plug thread tap No. 64596-1 should be used at anytime the spark plug inserts are replaced. The following procedure is recommended for Heli-Coil spark plug insert replacement.

1. Spark plug insert replacement should be made at anytime it is apparent that damage has occurred to the threads in the spark plug hole in the cylinder. Damage of this sort usually occurs when hard carbon, on the end of the spark plug forces the insert to unwind as the spark plug is removed, at the same time damaging the threads in the spark plug hole.

2. Using the .010 in. oversize tap, No. 64596-1 retap the spark plug hole. If this operation is performed with the cylinder assembled on the engine, some provision must be made for preventing the aluminum shavings from entering the combustion chamber. This can be accomplished by turning the crankshaft to the start of the compression stroke; then insert a 3 foot length of 3/8 dia. nylon rope through the opposite spark plug hole. Turn the crankshaft to force the rope against the bottom of the spark plug hole that is to be tapped. Coat the tap liberally with grease and proceed to tap the hole. Be sure all chips and shavings are removed before removing the rope from the combustion chamber.

3. Install a .010 in. oversize Heli-Coil insert in the spark plug hole. (Use P/N 69260-P10 insert in cylinders using long reach spark plugs; use P/N 66796-P10 in cylinder using short reach spark plugs). P/N 64594 inserting tool is used for installing the insert; P/N 64593 expanding and staking tool is used for securing it in the hole. Complete details for Heli-Coil spark plug insert installation is provided in all Avco Lycoming overhaul manuals.



Heli-Coil Spark Plug Inserts

PARTS AND TOOL DATA:

PART NO.	NAME
69260-P10	Heli-Coil spark plug thread insert (use in cylinders employing long reach spark plugs)
66796-P10	Heli-Coil spark plug thread insert (use in cylinders employing short reach spark plugs)
64596-1	Spark plug thread tap (for installation of .010 in. oversize Heli-Coil inserts)
64594	Heli-Coil inserting tool
64593	Heli-Coil insert expanding and staking tool

NOTE: Revision "A" adds replacement procedure with parts and tool data.