



Service Instruction

ENGINE COMPONENTS, INC.

S.I. No.: 93-3-1

Page: 1 of 1

Title: FREEDOM™ BRAND CYLINDERS/IFR IDENTIFICATION

Issued: 08/13/96

Revision: 2 (11/07/05)

Technical Portions are FAA DER Approved.

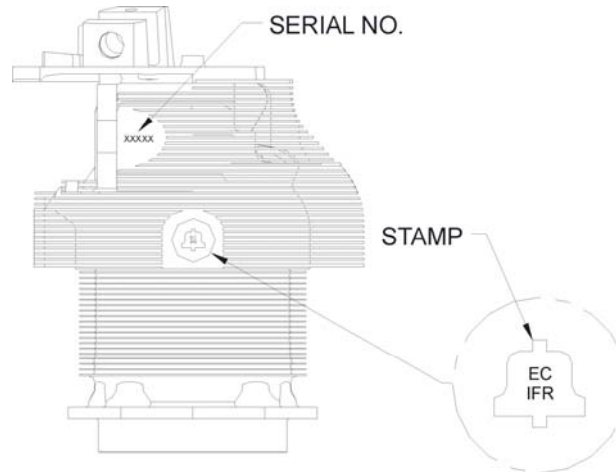
BACKGROUND: Cylinder head cracking is caused by fatigue (due to cyclical loading and a corrosive environment) and excessive and detrimental alloy precipitation (generated by high temperatures). Until recently the only remedy for returning a head to service was routing out the crack and welding. This process in no way addressed the fatigue strength degradation.

NEW TECHNOLOGY: On March 31, 1990, Engine Components, Inc. (ECi®) initiated production of its new IFR (Improved Fatigue Resistance) process that combines crack repair with a reversion process which homogenizes the weld, heat affected zone and parent metal through a solution heat treatment and aging process.

Each time a head is IFR treated, it will be identified by metal stamping the head with the illustrated “bell” in a location near the repair serial number.

All FREEDOM™ Brand Cylinders are IFR treated.

EXAMPLE OF IDENTIFICATION: Marking area will vary from cylinder type to cylinder type, but the location will be near the serial number. The only exception to this is the 470/520/550 Continental head, which is marked as shown.



Barrel material type will be color coded on the flange as follows:

TEAL BLUE BETWEEN SILVER DOUBLE BAND™	CERMINIL® PROCESS AND/OR NICKEL+CARBIDE BORE AND IFR HEAD
TEAL BLUE AND WHITE BANDS	AIRMOTIVE STEEL BARREL AND IFR HEAD