R44 SERVICE LETTER SL-91

DATE: 14 November 2024

TO: R44-series Owners, Operators, and Maintenance Personnel

SUBJECT: C907-1 & C907-2 Yokes, Magnetic Particle Inspection (MPI)

EFFECTIVITY: Per FAA Airworthiness Directive (AD) 2024-19-11. If helicopter was overhauled at RHC factory refer to this 775-24-00418 – AMOC to FAA AD 2024-19-11.

BACKGROUND: FAA AD 2024-19-11 paragraph (g)(4)(ii) specifies MPI of C907-1 & C907-2 yokes. MPI guidance follows.

PROCEDURE:

WARNING

Paint stripper is poisonous & caustic. Review stripper manufacturer's instructions and use proper Personal Protective Equipment.

1. Prior to MPI, strip paint from yoke using either Bonderite S-ST 5351 (refer to 775-24-00419 – AMOC to FAA AD 2024-19-11) or Cee-Bee A-292 liquid stripper. Do not allow stripper to dry. After removing paint, remove all traces of stripper. Visually inspect yoke per FAA AD 2024-19-11 paragraph (g)(4)(i).
2. Perform magnetic particle inspection in accordance with:
   - ASTM E 1444 Standard Practice for MPI
   - AMS 2300 Premium Aircraft-Quality Steel Cleanliness, MPI Procedure
   - AMS 2301 Cleanliness, Aircraft-Quality Steel, MPI Procedure
   - or foreign equivalents approved by local airworthiness authority

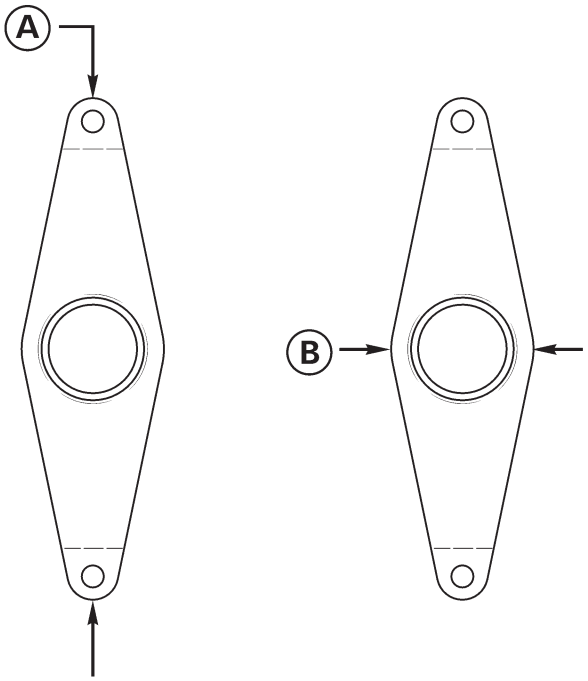
CAUTION

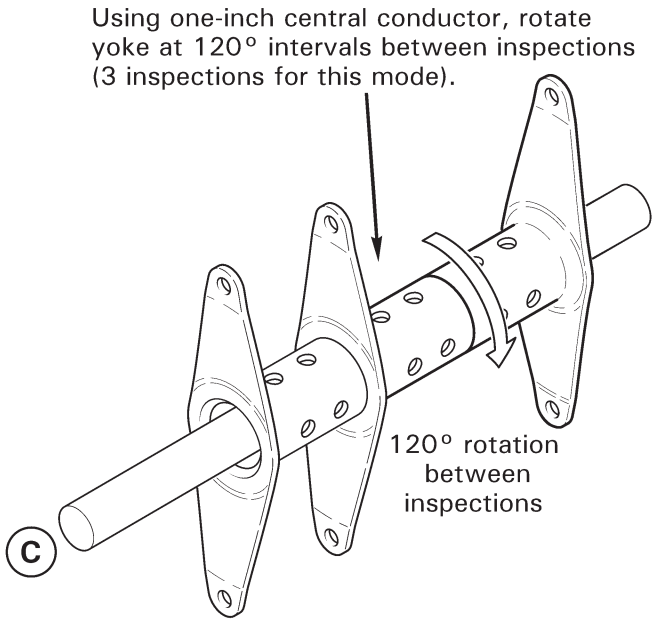
Magnetic induction creates heat. Excess heat can invisibly harm part(s). MPI machines differ; an inspector qualified & certified to Level III (as described in FAA Advisory Circular 65-31B) is required.

3. Fluorescent, wet-continuous method shall be used. Yoke material is heat-treated 4130 or 4340 steel. Yoke surface is machined & cadmium-plated.
4. Circular magnetizations shall precede longitudinal magnetization to permit more effective demagnetization after inspection is complete. Perform in sequence A, B, C, D, then E, as illustrated on the following page. Parts shall be completely inspected by one mode before proceeding to another. Using gaussmeter, verify measured tangential field is 30 to 60 gauss; use minimum current necessary to achieve 30 to 60 gauss.

(OVER)

DIRECT INDUCTION

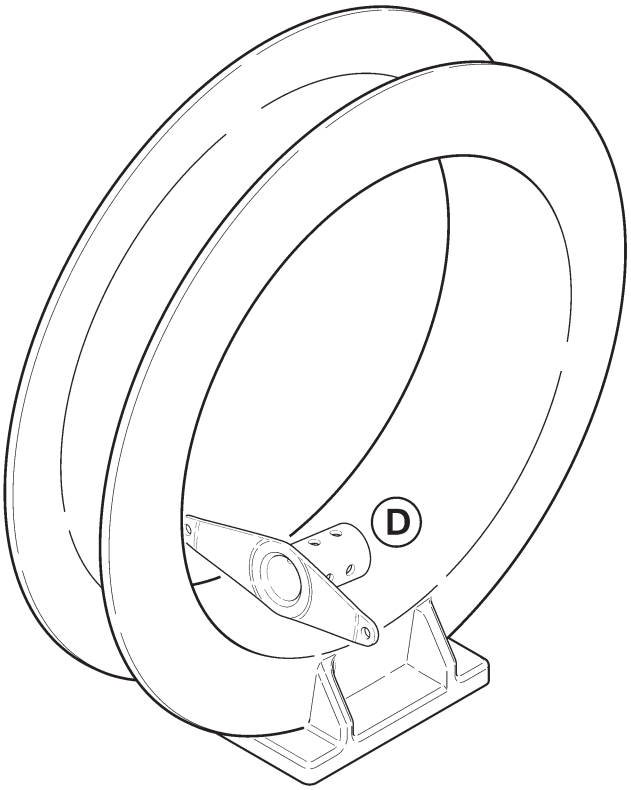


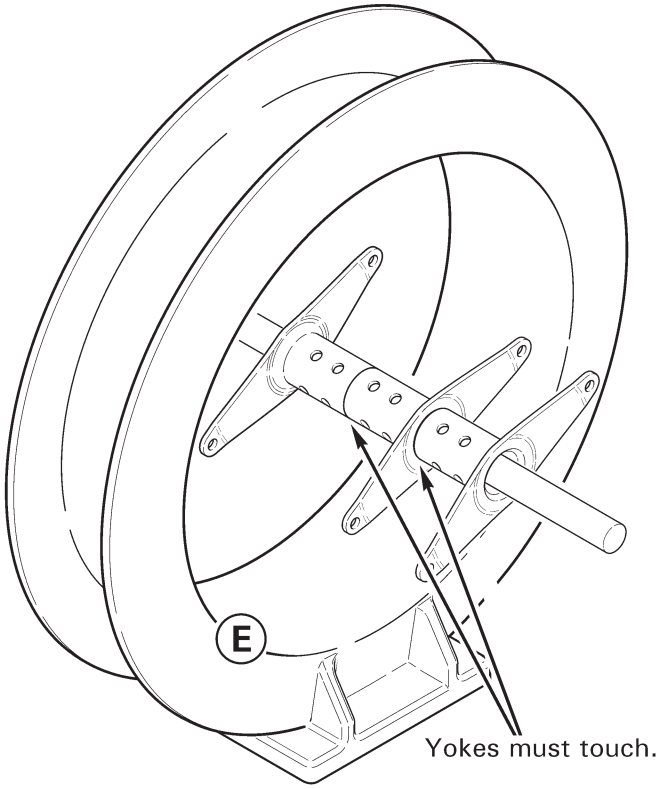


NOTE

Depicted yoke quantity must be determined by LEVEL III inspector.

INDIRECT INDUCTION





(CONTINUES)

5. Demagnetize AC ± 3 oersteds maximum; no residual fields with an absolute value above three gauss, measured, are permitted.
6. Scrap yoke if arcing is encountered during inspection.