Procedure for Locating Turn-to-Turn Short in Lower Inner Coil of DC0305

Steve Delchamps
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TS-SSC 91-022

Introduction: This is a **provisional** procedure for locating the turn-to-turn short in the lower inner coil of DC0305 (coil number 17M-1007-R.) Before any deviations from any of the steps in this procedure are made, notify Steve Delchamps x2416, Dan Smith, and the relevant crew chiefs in ICB.

1) Remove DC0305 from the keying press.

2) Place DC0305 with lower coils facing up, on a long table.

3) Remove the collar packs from the coil.

4) Send the collar strain gage packs to Ethel Gonzy in IB3 for rework. Notify Mike Winters when this has been done.

5) Remove the lower outer coil and lay aside.

6) Remove the lower inner coil and place in holding mandrel.

7)

i- Set up Valhalla meters to monitor two resistances (see attached sheet): R1 is the full coil resistance. R2 is the resistance between voltage taps 9A and 0A. If there are any questions about this step, notify Steve Delchamps.

ii- Record initial values for time and R1 and R2. **At this point, please notify Steve Delchamps.**

8) Inspect visually the outer turns of the coil, specifically the turns between voltage taps 9A and 0A. This is the portion of the coil in which the turn-to-turn short appears. If anything out of the ordinary is apparent, STOP and notify Steve Delchamps, Dan Smith, and relevant crew chiefs.

9)

i- Beginning at the West end of the North side of the coil, press the coil with the sizing fixture in 3 inch increments. **Operate the sizing fixture at 5000 pump psi at every position.**

ii- Record time, R1, and R2 for each position. If a change from initial value in either resistance of more than 5 mΩ is observed at any sizing fixture pressure, STOP and notify Steve Delchamps, Dan Smith, and relevant crew chiefs. Do the entire length of the coil, from West to East.

iii- Redo step ii on the South side of the coil.

10) Record time, R1, and R2 at the end of the measurement.

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DC305 Lower Inner Coil Turn-to-Turn Short Location

Date/Time	R1 (full coil) (Ohms)	R2 (0A to 9A) (Ohms)	Position

Addendum to TS-SSC 91-022:

11) If, during the pressing of the coil with the sizing fixture, the turn-to-turn short can be reproduced, needle probes will be used to localize the short to an adjacent pair of cable turns. However, nothing should be done until the "magnet mother" (Steve Delchamps) or another physicist can be informed.

cc: J. Carson
D. Smith