



To: John Carson  
From: Jim Strait  
Subject: Collaring Shims for DC0305

The Kapton collaring shims for DC0305[1] should be 17 mils in the inner coil and 10 mils in the outer coil. These thicknesses include the adhesive and represent the thickness that would be measured with a flat anvil micrometer. The thickness, with and without adhesive, of each of the layers used to make the shim packages should be measured and recorded in the traveller. The Kapton should be placed on the outer surface of the ground wrap insulation and should be extended as far as possible into the region of the G-10 end keys. The ends of the different Kapton layers used to make the pole shim should be staggered by about 1/8 inch.

The inner and outer coils in DC0305 are, on the average, 2.1 mils smaller (at 10 kpsi) and 0.5 mils (at 8 kpsi) larger than those in DC0304 and 0.6 mils smaller and 1.3 mils larger than those in DC0303. The shims specified here are the same as those in DC0304[2] and the same on the inner and 3 mils thinner on the outer coil than those in DC0303[3]. The prestresses after collar keying were 8.6 and 8.5 kpsi in DC0303[4] and 13.7 and 9.2 kpsi in DC0304[5] in the inner and outer coils respectively. The sum of coil plus shim thickness for DC0305 is roughly within the range of those for the two previous magnets whose prestresses were acceptable.

### Footnotes

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|-----|-------------|-----------|-------------|-----------|
| [1] | Upper Inner | 17M-1011R | Upper Outer | 17M-2014R |
|     | Lower Inner | 17M-1007R | Lower Outer | 17M-2015  |
- [2] J. Strait, Collaring Shims for DC0304 with New Coils, TS-SSC 90-106, 12/17/90.
- [3] J. Strait, DC0303 Collaring Shims, TS-SSC 90-074, 10/16/90.
- [4] J. Strait, Keying of DC0303: Strain Gage Data, TS-SSC 90-079, 10/5/90.
- [5] J. Strait, DC0304 Collar Keying Strain Gauge Data, TS-SSC 91-004, 1/14/91.

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