



Fermilab

TS-SSC 90-050

8/31/90

To: Reid Rihel  
From: Jim Strait *for Strait*  
Subject: DC0302 Collaring Shims and Spot Heaters

In addition to the normal ground insulation adhesive backed Kapton strips of the following thicknesses should be added to the pole faces of the inner coil and the outer coil. (The thickness listed here refers to the label written on the tape spool by Imre Gonczy. The actual thickness in the magnet is not precisely known at this point because of uncertainties in the thickness of the adhesive layer under the high stresses in the coil.)

Inner coil: 2 layers of 5 mil + 1 layer of 1 mil Kapton

Outer coil: 2 layers of 5 mil Kapton

The extra Kapton should be extended as far as possible into the end of the coil with the ends of the different Kapton layers staggered by about 3/16".

This memo supercedes the one from me on the same subject dated 8/22/90.

cc: Rodger Bossert  
John Carson  
Steve Delchamps  
Wayne Koska  
Gale Pewitt  
Gary Sliwicki  
Masayohsi Wake

To File:

*For 2nd attempt, with replaced inner coil, use*

*inner: 2 layers of "5" mil Kapton*

*outer: 1 layer of "5" mil, 1 layer of "3.5" mil*

*Per discussion with John Carson 9/17/90.*

*Jim Strait*

	base	ball	flat	IMRE
DSO30 inner:	4.9	5.8	6.7	
	<u>4.7</u>	<u>5.8</u>	<u>6.7</u>	
	9.8	11.6	13.4	12.2

→ correct pressures	+1.5	+1.5	+1.5	
	<u>11.3</u>	<u>13.1</u>	<u>14.9</u>	

<del>DSO30</del>				
DSO311-DC0302	-0.8	-0.8	-0.8	
Desired	<u>10.5</u>	<u>12.3</u>	<u>14.1</u>	
Closest choice	9.8	11.6	13.4	

Choice - Desired	-0.7	-0.7	-0.7
Alt	10.3	12.5	15.0
Alt - Desired	-0.2	+0.2	+0.9

	base	ball	flat	
DSO311 outer	4.9	5.8	6.7	
	<u>0.5</u>	<u>0.9</u>	<u>1.6</u>	
	5.4	6.7	8.3	7.4

correct pressures	+0.5	+0.5	+0.5	
	<u>5.9</u>	<u>7.2</u>	<u>8.8</u>	

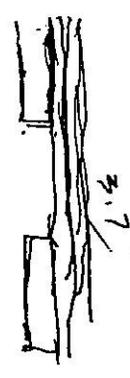
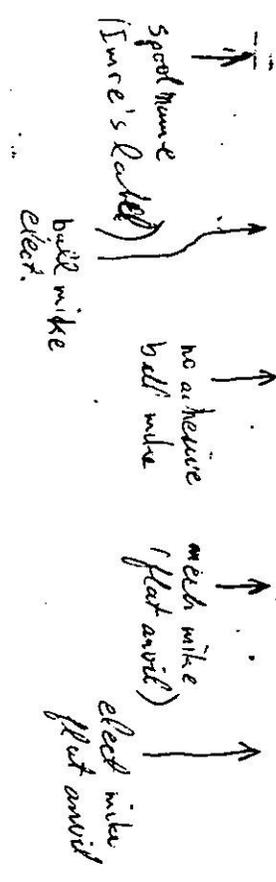
DSO311-DC0302	+3.7	+3.7	+3.7	
Desired	<u>9.6</u>	<u>10.9</u>	<u>12.5</u>	
Closest choice	9.8	11.6	13.4	

Choice - Desired	+0.2	+0.5	+0.9
Alt Choice	6.7	8.5	10.4
Alt - Desired	-2.9	-2.4	-2.1

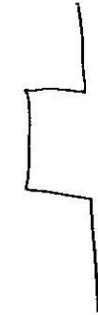
<u>Shims</u>	<u><math>\nabla</math></u>	
(12/7) "Desired"	10.6/8.7	
(11.3/7.2) - 0.7/+0.2	9.1/9.4	
(11.3/7.3) - 0.7/+0.5	8.9/9.8	
(11.3/7.5) - 0.7/+0.9	8.7/10.4	
(11.3/4.1) - 0.7/-2.9	11.1/5.1	} used for 2nd attempt.
(11.3/4.6) - 0.7/-2.4	10.7/5.8	
(11.3/4.5) - 0.7/2.1	10.6/6.2	
(11.8/7.2) - 0.2/+0.2	10.1/9.1	} used for first attempt
(12.2/7.5) + 0.2/+0.5	10.6/9.3	
(12.9/7.9) + 0.9/+0.9	11.7/9.4	

1.5 - 2.7 = 1.8  
 3.8  
 3.7  
 2.7 m  
 2 mil Comp 1 mil  
 1 mil Comp 0.6 m

1.0 = 0.9 .5  
 1.5  
 1.6  
 6.0 = 5.8 4.9  
 6.8  
 6.7  
 add = 1.7 m 1 Comp 1 m  
 add = 2 m 1 Comp 1 m



3.5  
 5.8  
 w/5.8 m  
 w/ FDIH  
 w/ FDIH



1.0  
 5.0 6.4  
 4.7  
 .2 From Kaplan

Steve Delchamps 406-1463

8-11 = 3  
 8-11 = 3  
 7-11 4 9.5  
 8-13 5 10.5

ROK B