

BOOSTER DIPOLE MAGNET

Dwg. No. 220101-00229



The Booster dipole magnet is used to steer the electron beam around the booster ring. There are 68 dipoles around the ring. The dipole field strength at 7 GeV is .7011 T. Pole gap is 4cm. The beam is injected in quadrant 4 and extracted at quadrant 2. The dipole magnet is identified like B1C1BM1. B1 stand for Booster, quadrant 1. C1 stands for cells 0 thru 9 and BM1 stands for bending magnet number 1. This numbering system continues around the Booster ring.

8 7 6 5 4 3 2 1

H
G
F
E
D
C
B
A

FIG. 1

USE IT'S 11 & 13 TO TACK WELD THE MOUNTING BLOCKS (ITEM 6) TO TUBES AFTER LOCAL BEZEL WITH THE REGULAR HARDWARE AND FISH WELDING.

VIEW C C-11
SCALE=1:1

VIEW E E-11
SCALE=1:1

SECTION A-A
SCALE=1:4

SECTION B-B
SCALE=1:4

VIEW D D-11
SCALE=1:1

VIEW F F-11
SCALE=1:1

VIEW G G-11
SCALE=1:1

VIEW H H-11
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VIEW I I-11
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VIEW J J-11
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VIEW K K-11
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VIEW L L-11
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VIEW M M-11
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VIEW N N-11
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VIEW O O-11
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VIEW P P-11
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VIEW Q Q-11
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VIEW R R-11
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VIEW S S-11
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VIEW T T-11
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VIEW U U-11
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VIEW V V-11
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VIEW W W-11
SCALE=1:1

VIEW X X-11
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VIEW Y Y-11
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VIEW Z Z-11
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VIEW AA AA-11
SCALE=1:1

VIEW BB BB-11
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VIEW CC CC-11
SCALE=1:1

VIEW DD DD-11
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VIEW EE EE-11
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VIEW FF FF-11
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VIEW GG GG-11
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VIEW HH HH-11
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VIEW II II-11
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VIEW JJ JJ-11
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VIEW LL LL-11
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VIEW MM MM-11
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VIEW NN NN-11
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VIEW PP PP-11
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VIEW QQ QQ-11
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VIEW RR RR-11
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VIEW SS SS-11
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VIEW TT TT-11
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VIEW UU UU-11
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VIEW VV VV-11
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VIEW XX XX-11
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VIEW YY YY-11
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VIEW ZZ ZZ-11
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VIEW AAA AAA-11
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VIEW BBB BBB-11
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VIEW CCC CCC-11
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VIEW DDD DDD-11
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VIEW EEE EEE-11
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VIEW RRR



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BOOSTER CORRECTION MAGNET



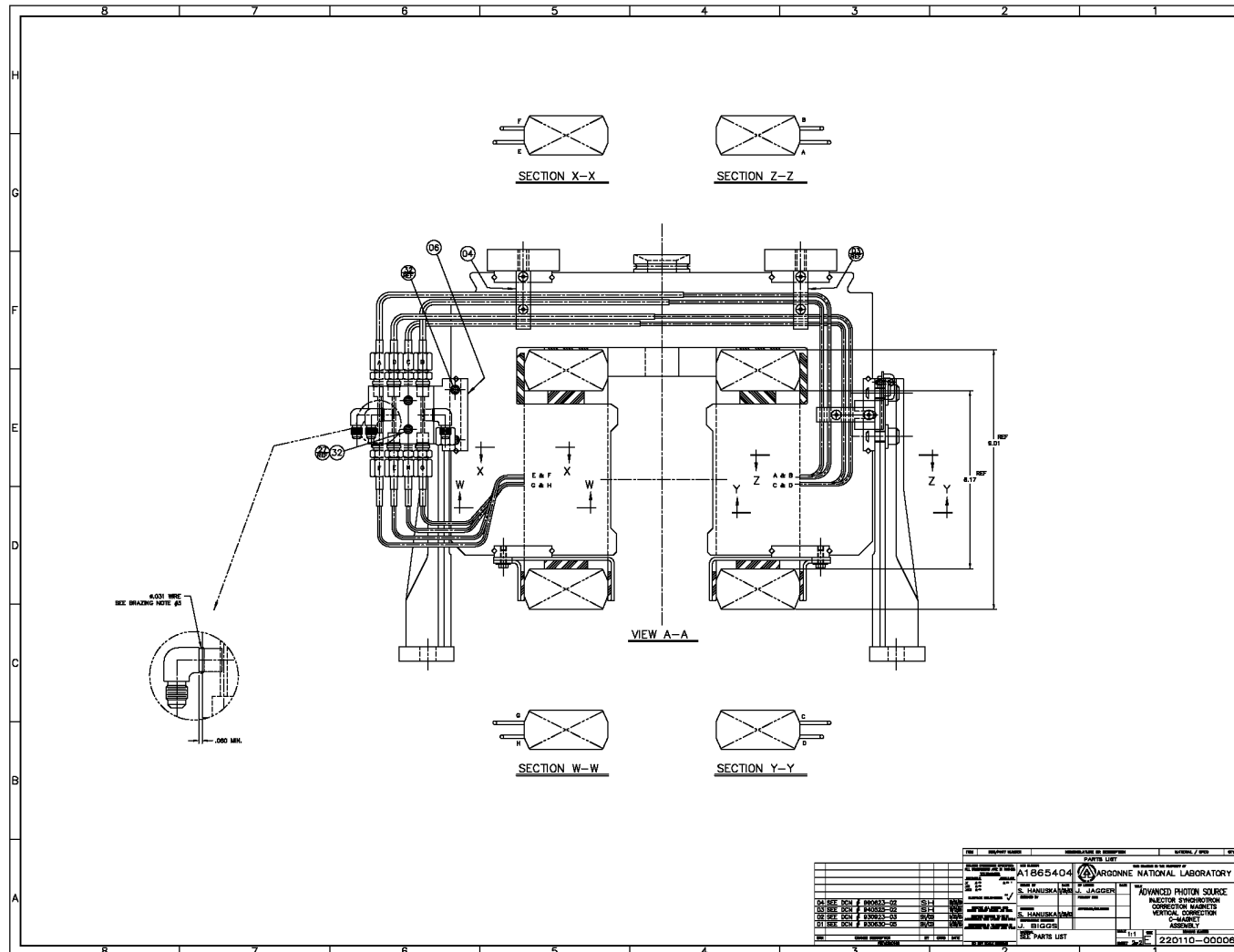
Dwg. No. 220110-00006

The Booster vertical correction magnet corrects the electrons in the vertical plane. There are 40 magnets in the Booster ring. Peak field is .15 T. Magnetic length is .1435 m. The vertical corrector magnet is identified as B1C1V. The B1 stands for Booster quadrant 1. The C1 stands for cell 1 of 0 to 9 and V stands for vertical corrector magnet. The numbering system continues in this manner around the ring.

James Humbert
7/27/2005

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ACCELERATOR SYSTEMS DIVISION

BOOSTER CORRECTION MAGNET

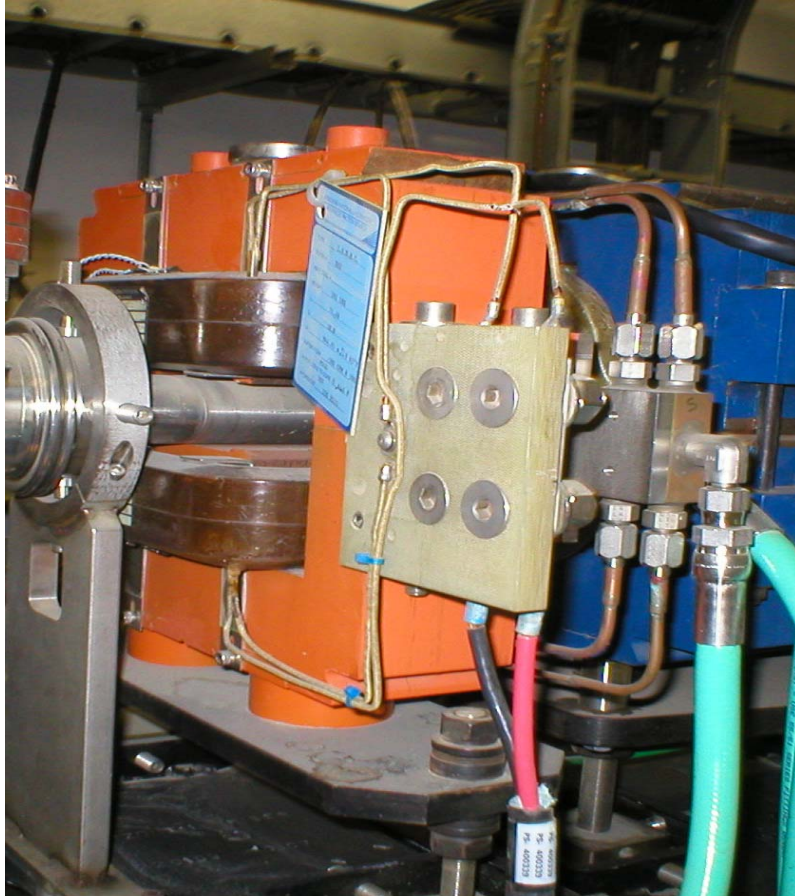


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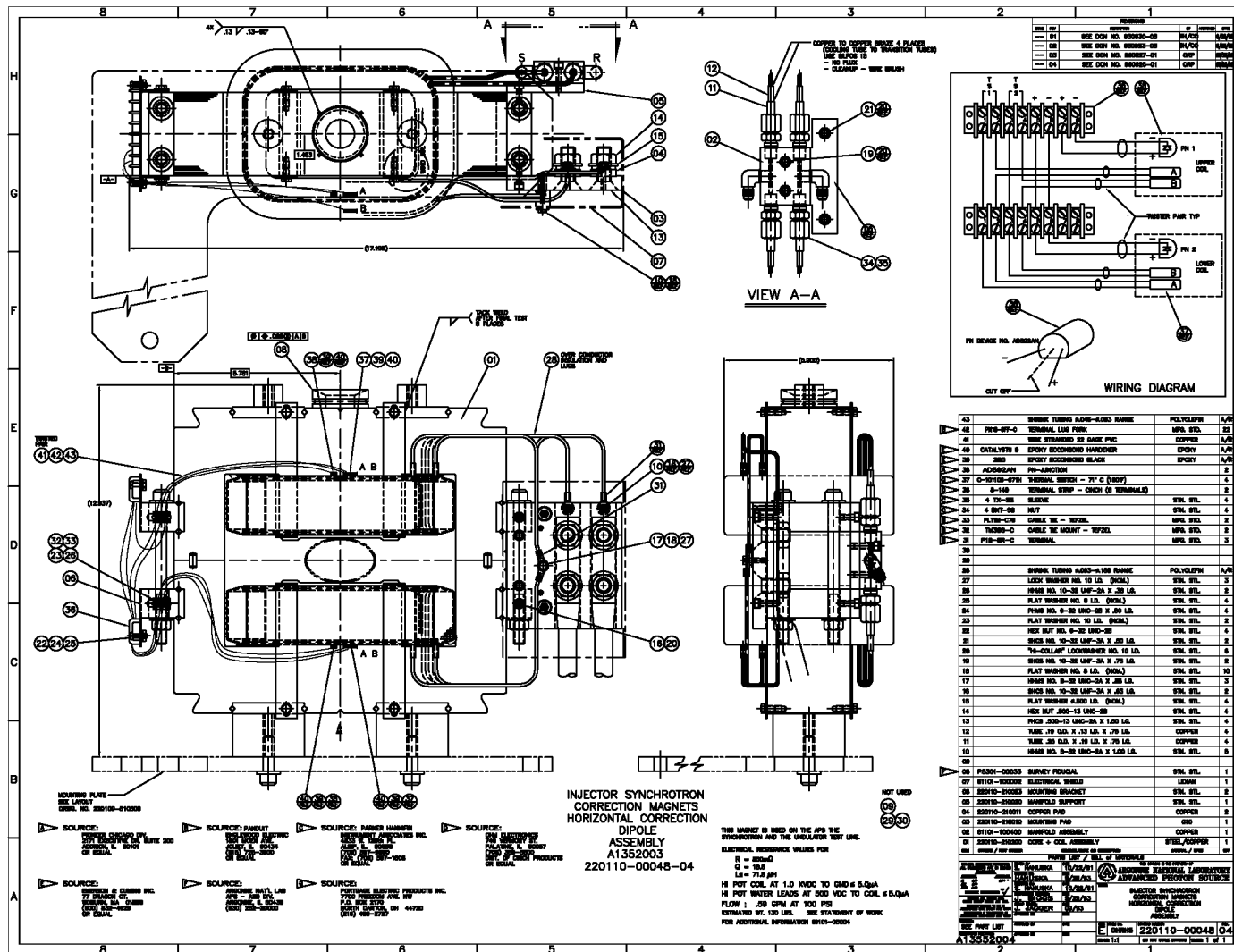
BOOSTER CORRECTION MAGNET



Dwg. No. 220110-00048

The Booster horizontal correction magnet corrects the electrons in the horizontal plane. There are 40 horizontal correction magnets in the Booster ring. Peak field is .12 T. Magnetic length is .1155 m. The horizontal corrector magnet is identified as B1C1H. The B1 stands for Booster quadrant 1. The C1 stands for cell 1 of 0 to 9 and H stands for horizontal corrector magnet. The numbering system continues in this manner around the ring.

BOOSTER CORRECTION MAGNET

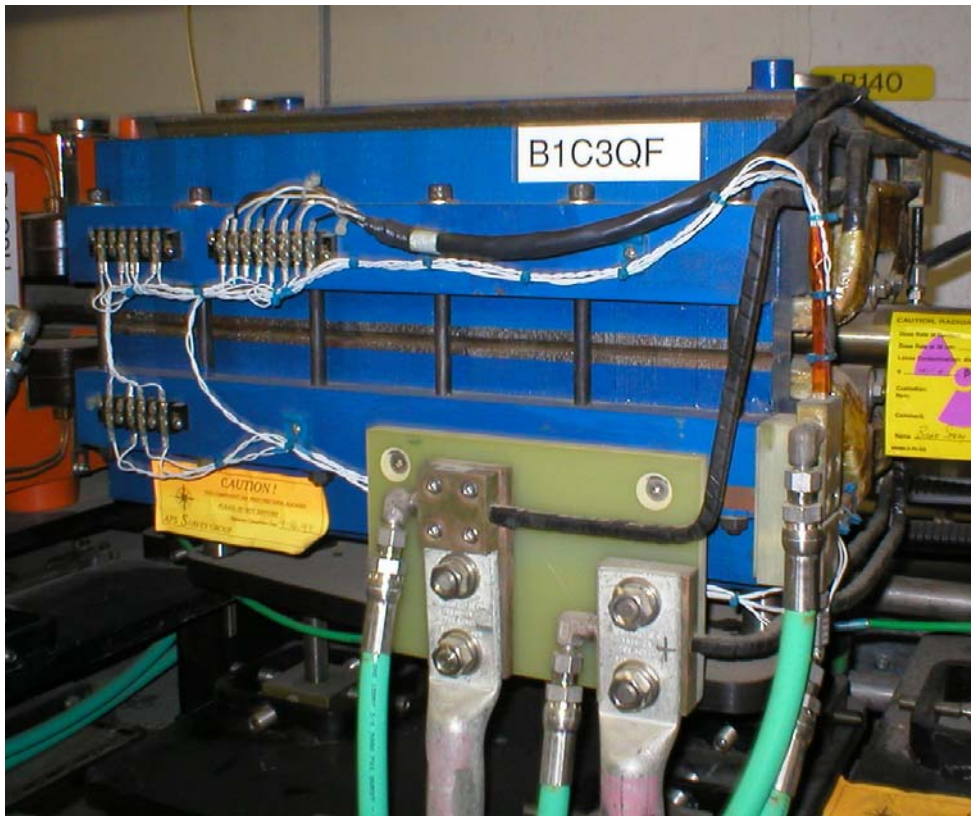


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BOOSTER QUADRUPOLE MAGNET



Dwg. No. 220102-00046

The Booster uses 40 focus and 40 defocusing quadrupole magnets in the Booster ring. These magnets are used to focus and defocus the electron beam as needed. The magnetic length is .5 m. The gradient at 7 GeV is 16.6 T/m. The quadrupole magnet is identified as B1C3QF. The B1 stands for Booster quadrant 1. The C3 stands for cell 3 as there are 0 to 9 cells in a quadrant and the QF stands for quadrupole focusing magnet.

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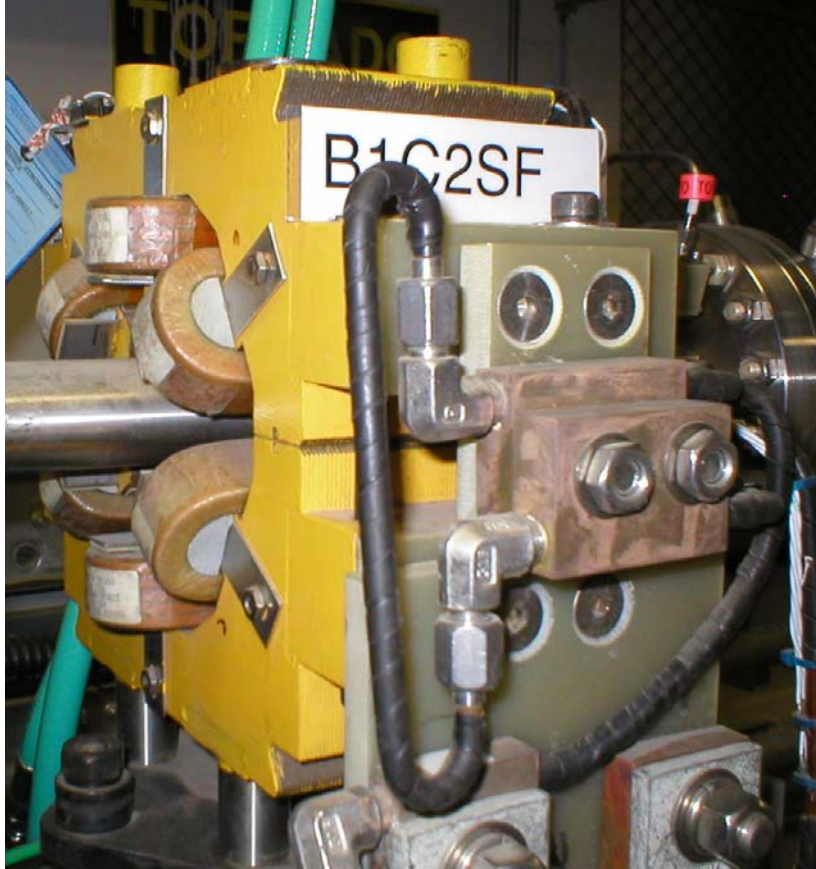
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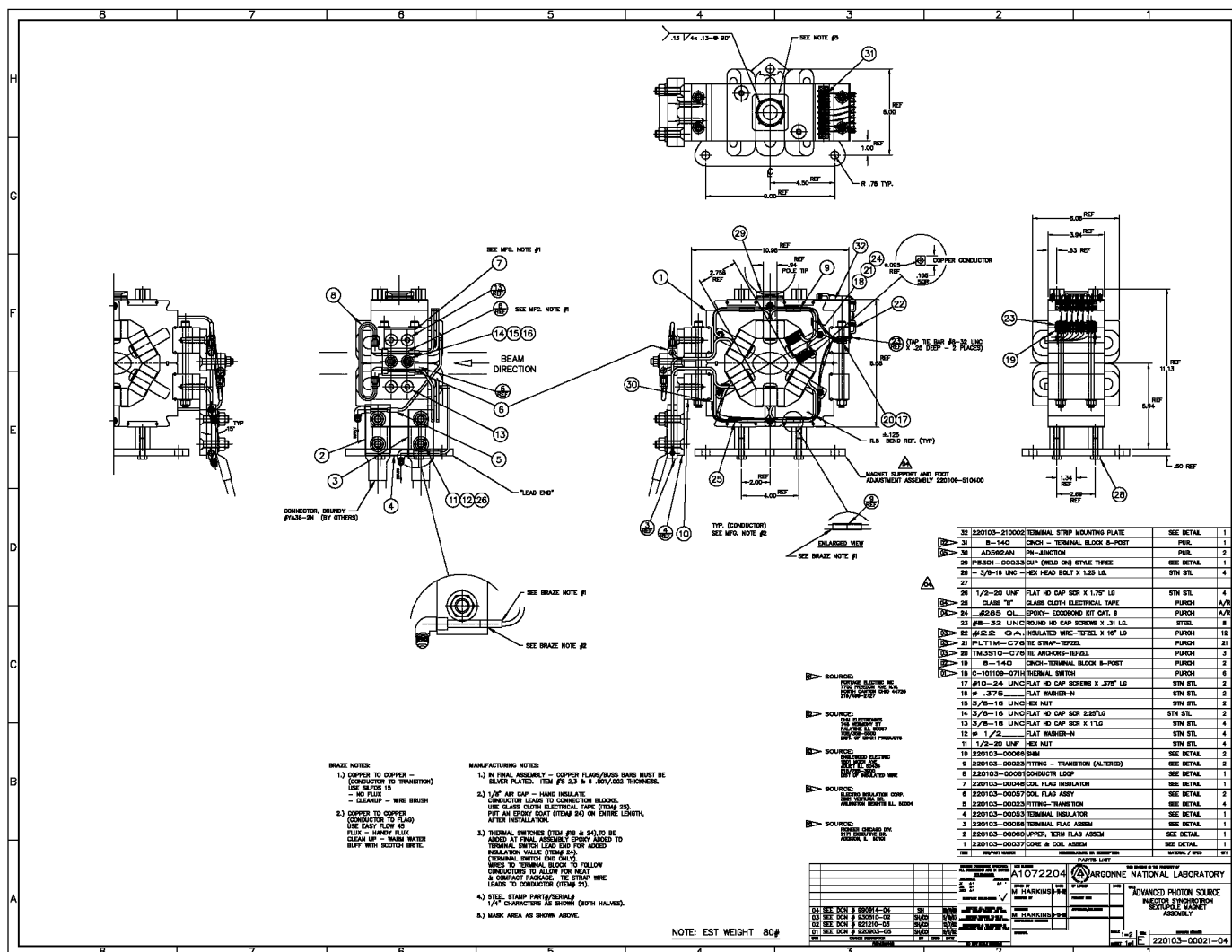
BOOSTER SEXTUPOLE MAGNET

Dwg. No. 220103-00021

There are 64 sextupole magnet located in the Booster. The sextupole corrects for the nonlinearity field errors of the quadrupole and dipole magnets in the Booster ring. These magnets are also called focus and defocusing magnets. The magnet length is .1 m and the maximum strength is 248 T/m. There are 32 focus and 32 defocusing magnets. The sextupole magnets are identified as B1C2SF. B1 stands for Booster quadrant 1. C2 is cell 2 of the cells 0 to 9 and SF stands for Sextupole focusing magnet.



BOOSTER SEXTUPOLE MAGNET



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