

LIFTING DEVICE

ID# 85

DEVICE NAME: SELMA MAGNET COIL LIFTING FIXTURE

ENGINEERING NOTE NUMBER: MSD-EN-ØØ8-E872

DRAWING NUMBER: 3210.300-ME-<sup>328364</sup><sub>328365</sub>

APPLICABLE STANDARD: ANSI/ASME B30.20, Manual of Steel Construction, Specifications for Aluminum Structures.

RATED LOAD: 26,000 lbs (single beam)

TEST LOAD: 32,400 lbs

TEST LOAD PERCENT: 1.25

LAST LOAD TEST DATE: \_\_\_\_\_

COLOR: Green main beams w/ Aluminum cross-members

STRESS CALCULATIONS:

Done by: Donald V. Mitchell

Date: 2/13/96

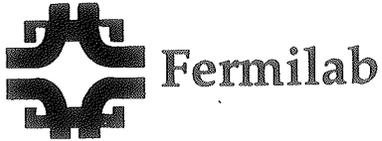
Reviewed by: *[Signature]*

Date: Feb 21, 1996

REMARKS: This fixture was designed specifically to remove and install the 2, 12 ton coils for the SELMA MAGNET for E872.

IDENTIFICATION:

Engineering Note Number & Rated Load Must be Clearly Marked On a Conspicuous Surface.



**MECHANICAL SUPPORT DEPARTMENT  
ENGINEERING NOTE**

**NUMBER: MSD EN-008-E872 DATE: 2/13/96**

**TITLE: E872, Selma Magnet Coil Lifting Fixture**

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**KEY WORDS: E872, Lifting Fixture, Magnet, Coils**

**ABSTRACT/SUMMARY:**

The Selma magnet has 2, 12 ton coils of length 27.5 ft which need to be re-insulated by an outside vendor. The coils must first be lifted out of the existing steel yoke with the coils in a horizontal position. The steel yoke limits access to only three sides of the coil pack. This forces the fixture design to be made of "L" shaped brackets with cross-members and two stiff main beams to prevent the coils from sagging past yield. With the coils removed from the steel, restraining plates are placed around the coil pack so that the entire coil can be safely rotated 90 degrees to a vertical configuration. Once vertical, one main beam is removed while the other is repositioned onto the top of the coil/fixture assembly. The vertical configuration is necessary to move the coils down a limiting narrow hallway and around a 90 degree corner.

This engineering note shows all necessary calculations for beam stress, lifting lug design, bolt and weld sizing, and "L" bracket stress analysis. All associated drawings are attached for clarity.

This lifting fixture is **NOT** intended to be used as a spreader bar for other applications. Its load rating is applicable for removal and installation of Selma Magnet Coils **ONLY**. Future use of this fixture for other applications will require further support documentation.



4" size blocks 2-21-96 LAB A



2-21-96 LAB A 4, C size blocks



4 "C" size blocks 2-21-96 LAB A



4 "C" size blocks 2-21-96 LAB A

