

BABAR LST MECHANICAL DESIGN REVIEW SOLENOID AND CRYOGENIC ISSUES

Wes Craddock OCTOBER 21, 2003

The magnet inside the cryostat is supported by 6 axial tie rods and 4 pairs of radial tie rods at each end.

The cryostat is supported on the detector iron by 4 axial and 4 radial supports at each end.

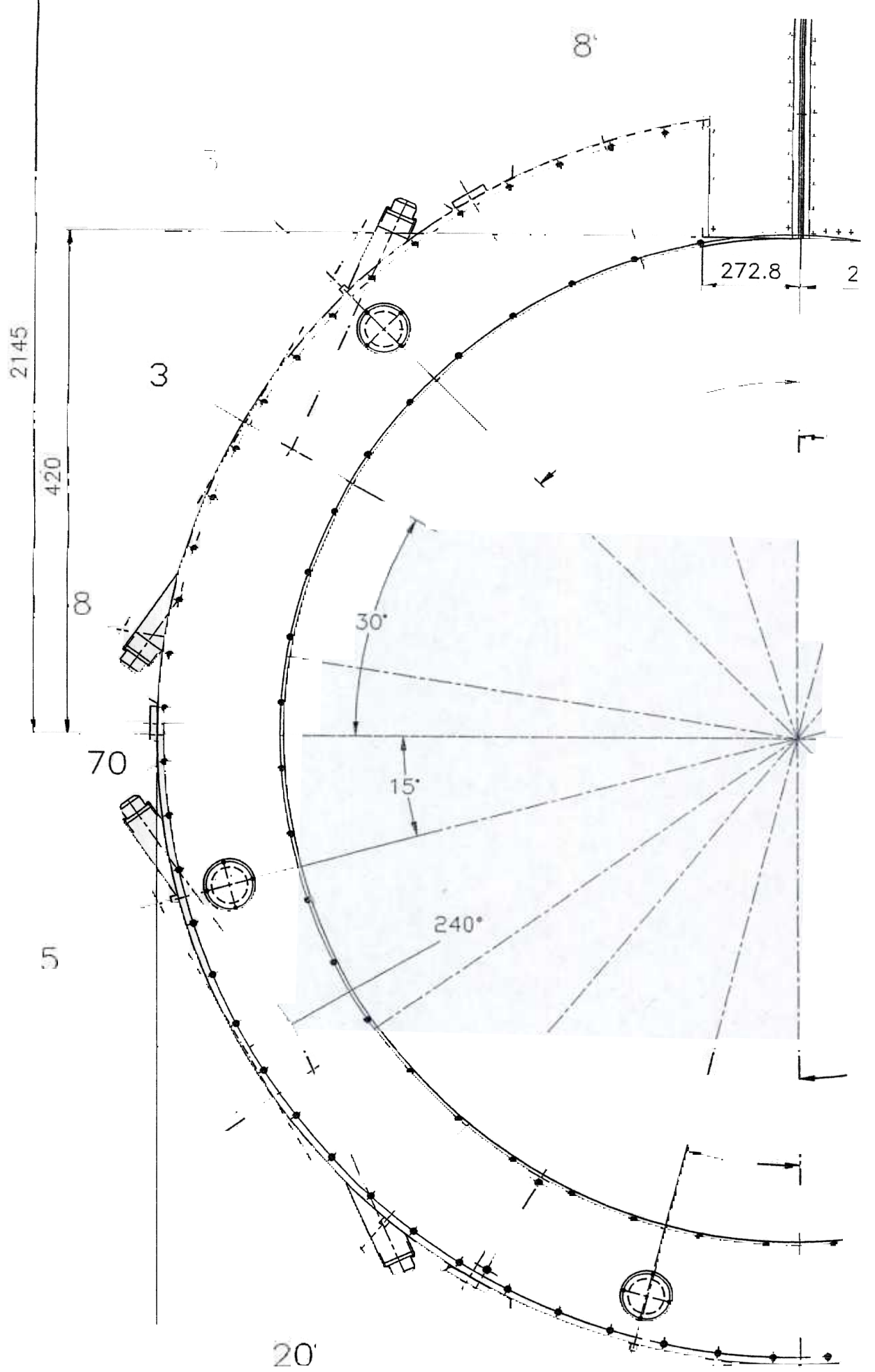
During the 2004 summer shutdown only the forward end cryostat/iron axial supports and possibly the two upper radial supports will be released. Since the cryostat will be completely attached at the backward end, virtually no movement is anticipated.

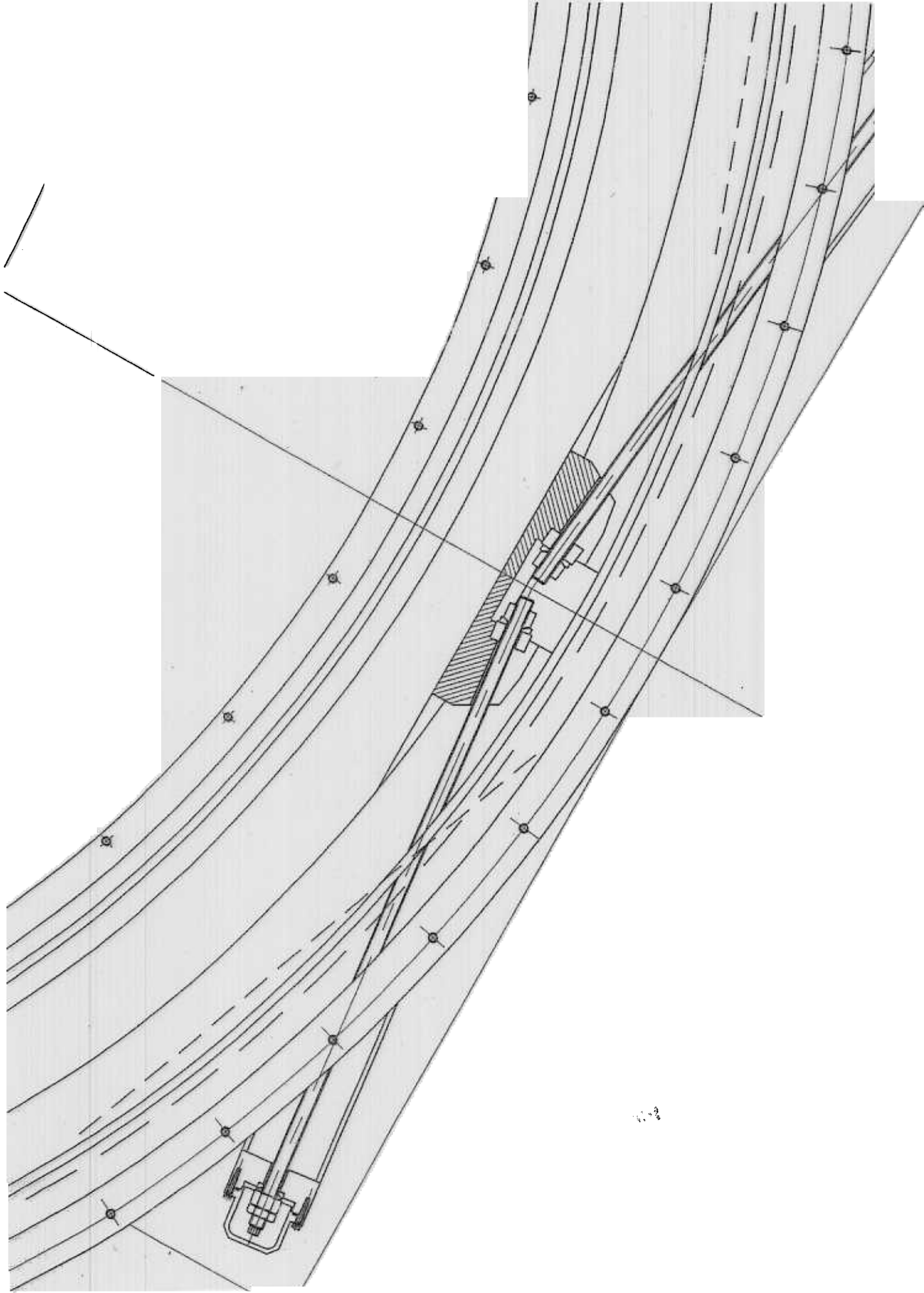
RELEASE OF THE FORWARD END CRYOSTAT SUPPORT BRACKETS:

- 1) Survey solenoid cryostat position with respect to iron**
- 2) Measure the cryostat/magnet axial position, axial and radial strain gages**
- 3) Determine that all eight cryostat/iron axial supports are snug**
- 4) Release the four forward end cryostat/iron axial supports**
- 5) Remove the four support brackets**
- 6) Release the loading on the two upper cryostat radial supports, if needed, to remove the iron corner pieces**

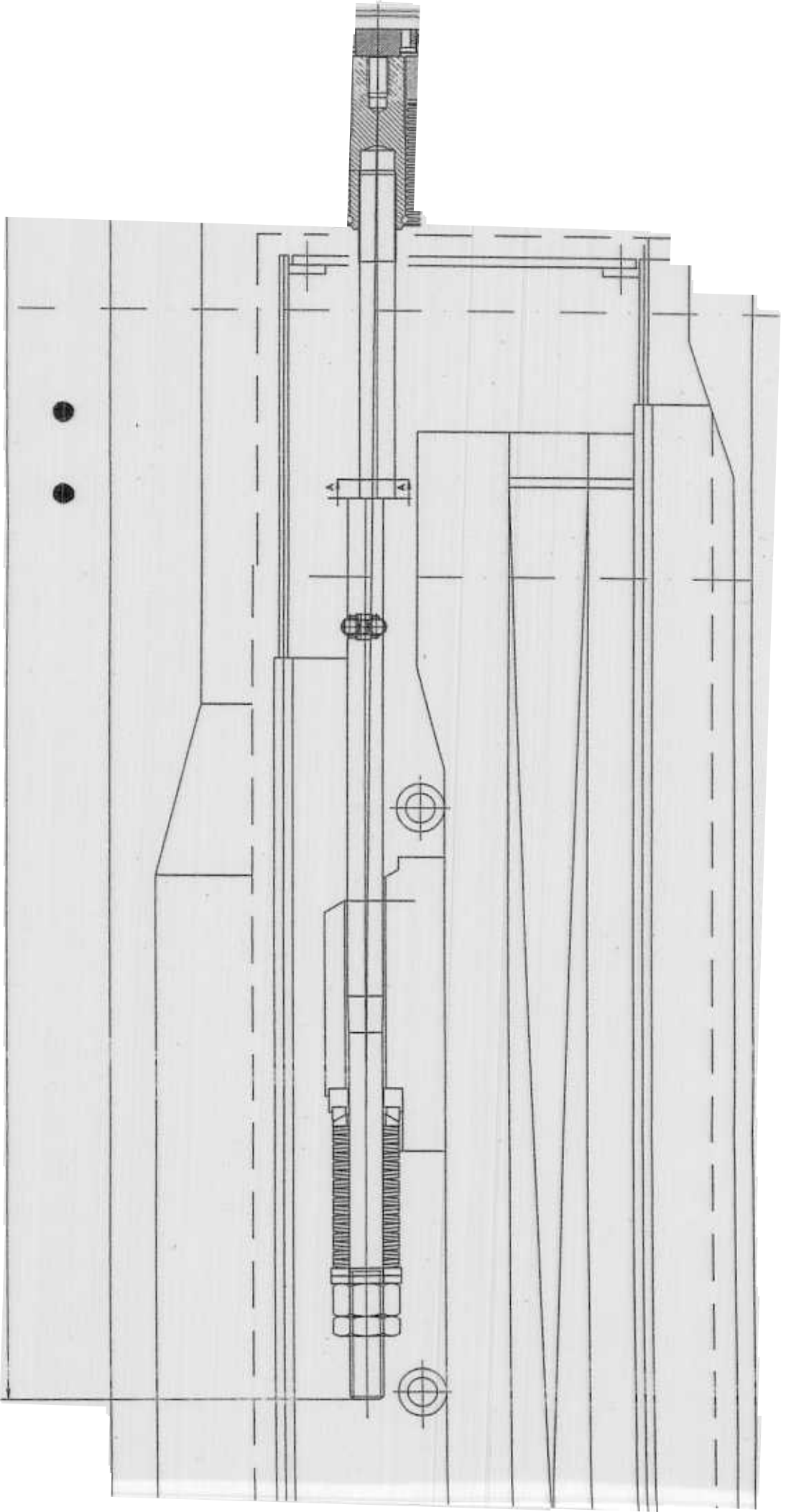
OTHER (Non-LST) JOBS:

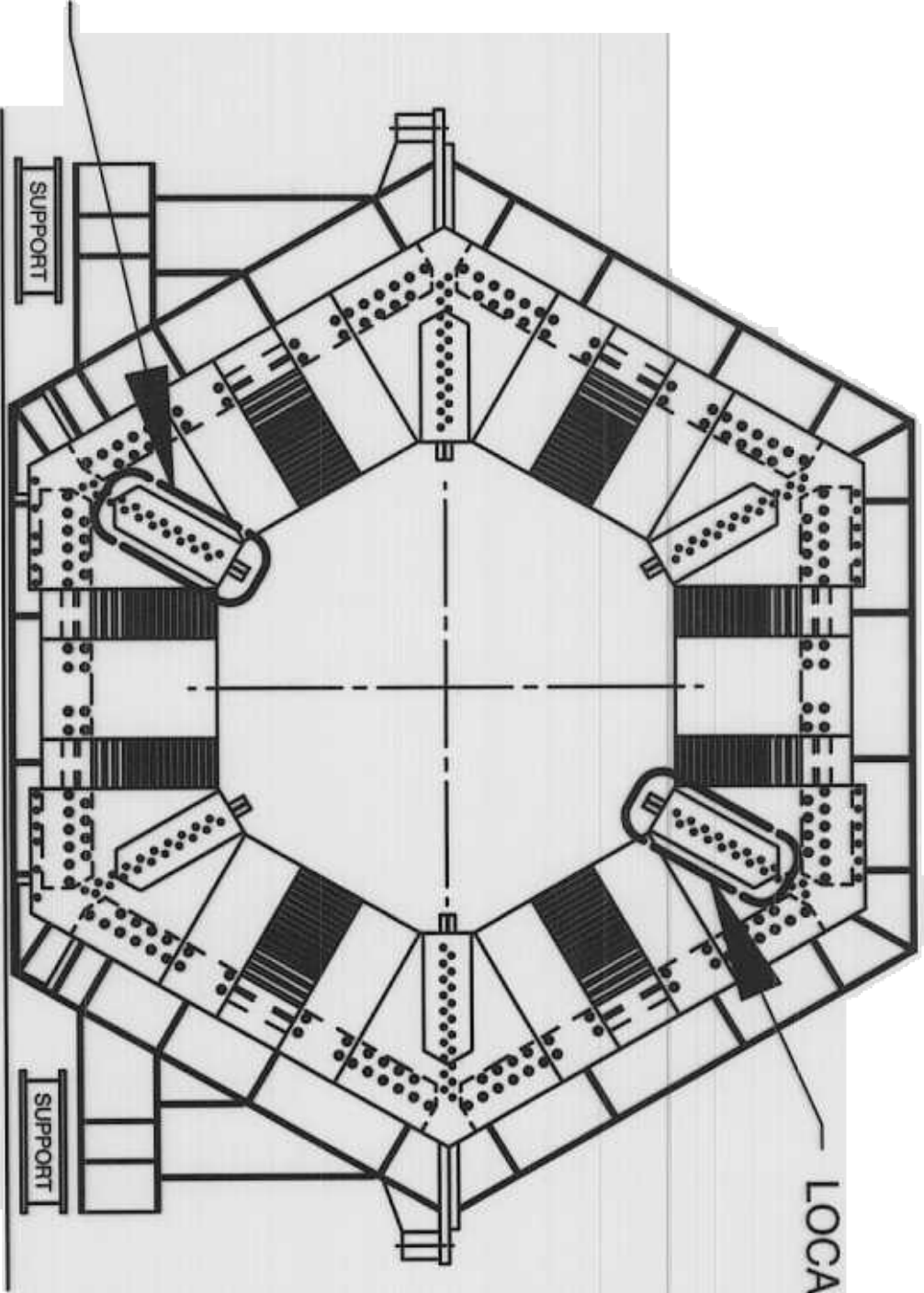
- 1) Replace both of the vacuum pump systems**
- 2) Install a new back up compressed air line for the magnet valves**
- 3) Retest the dump breaker**
- 4) Check/Replace the batteries in the dump breaker box**
- 5) Replace the magnet quench hardwired protection modules**
- 6) Software upgrades and upgrades to the Compressor Facility as needed**





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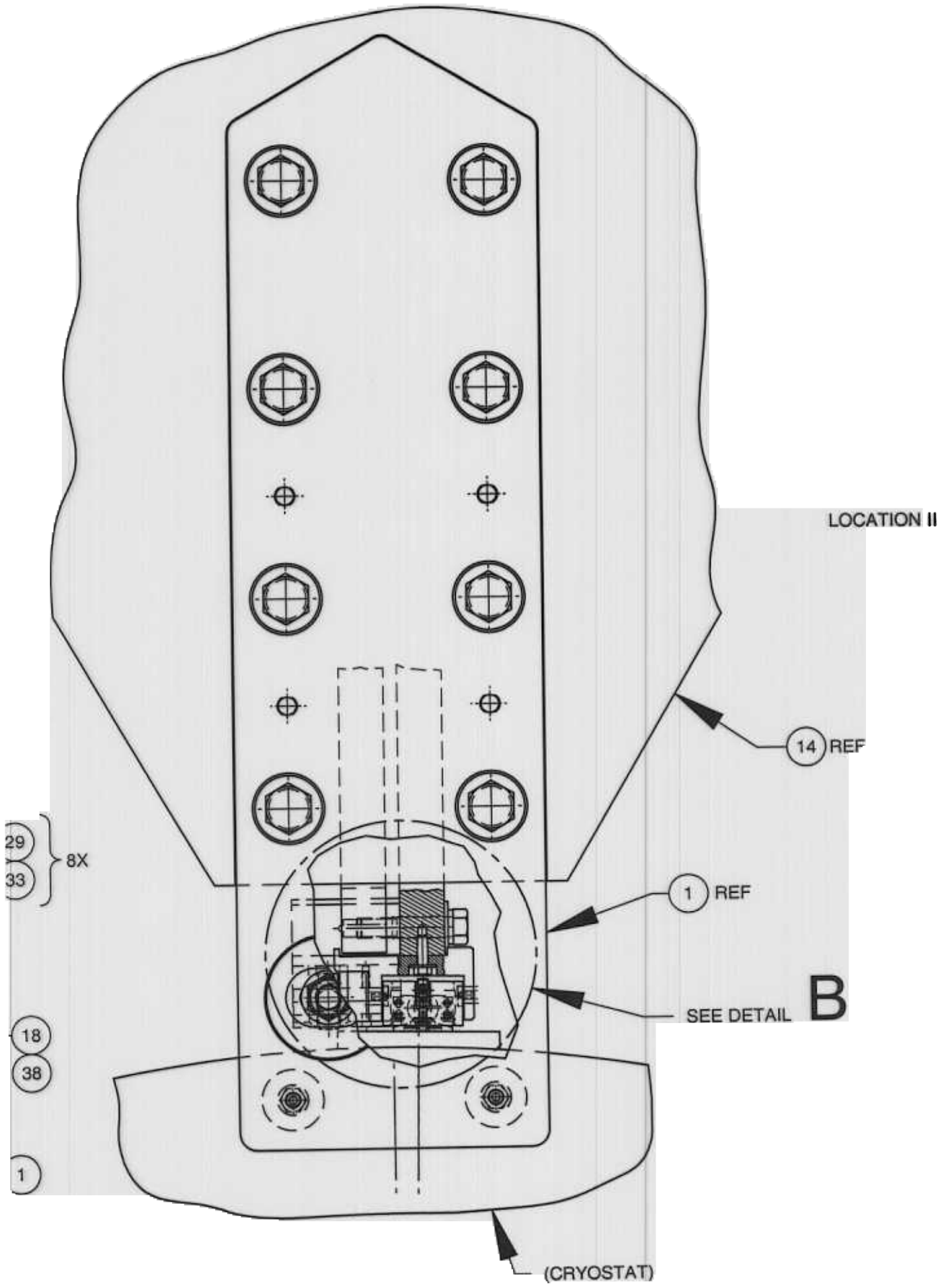




LOCATION I

FORWARD END

LOOKING NORTH

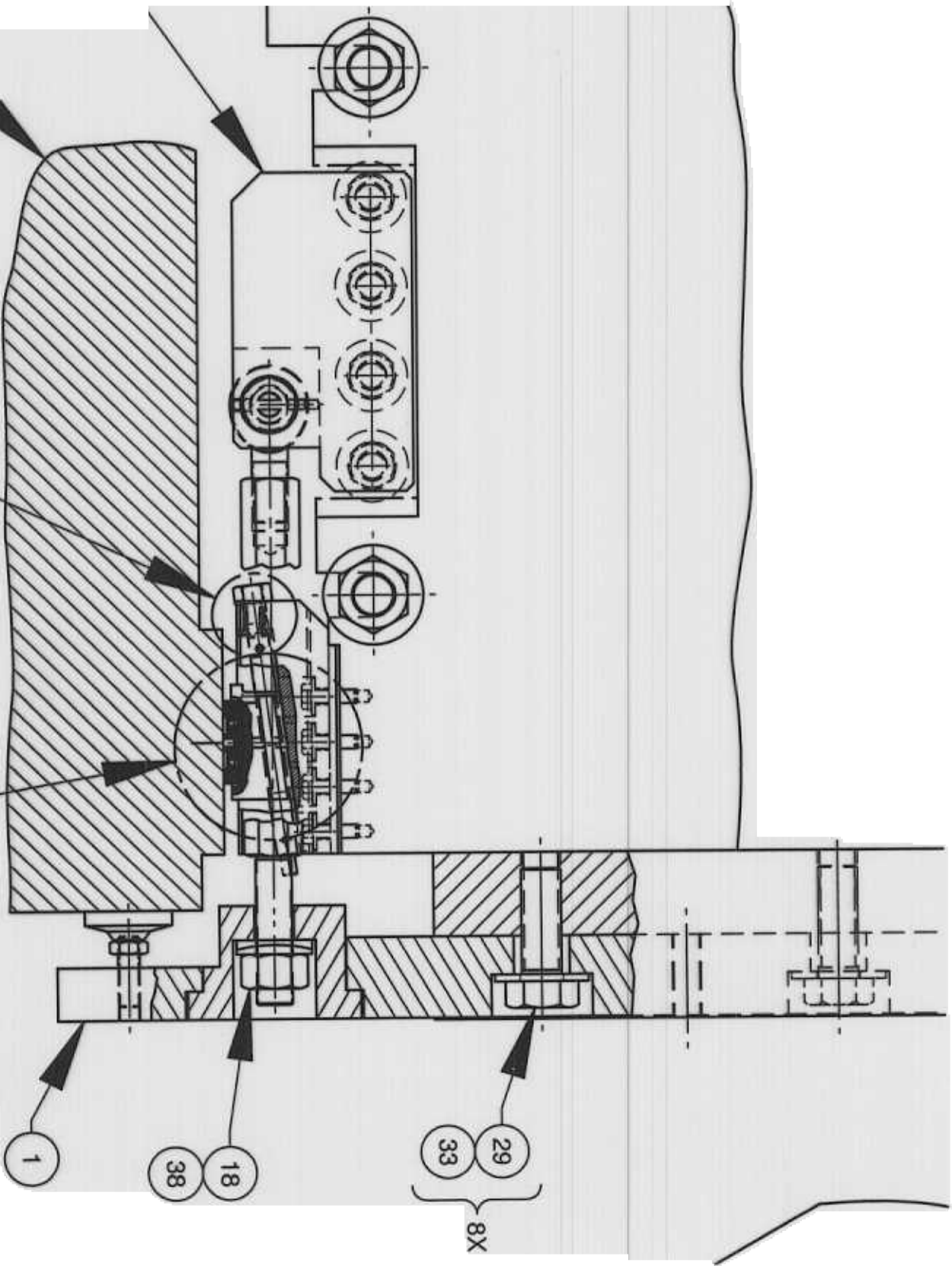


SEE DETAIL

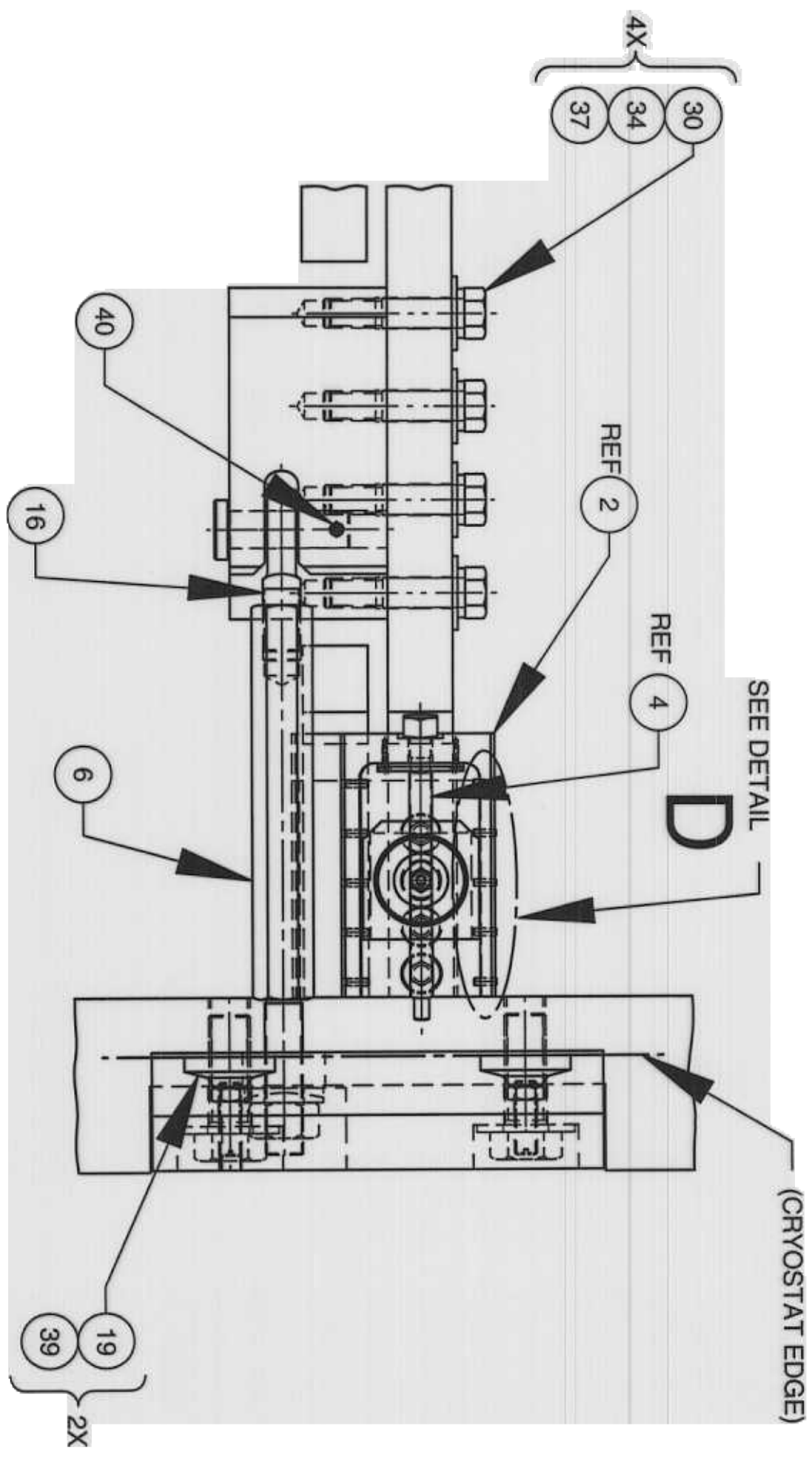
C

SEE DETAIL

A



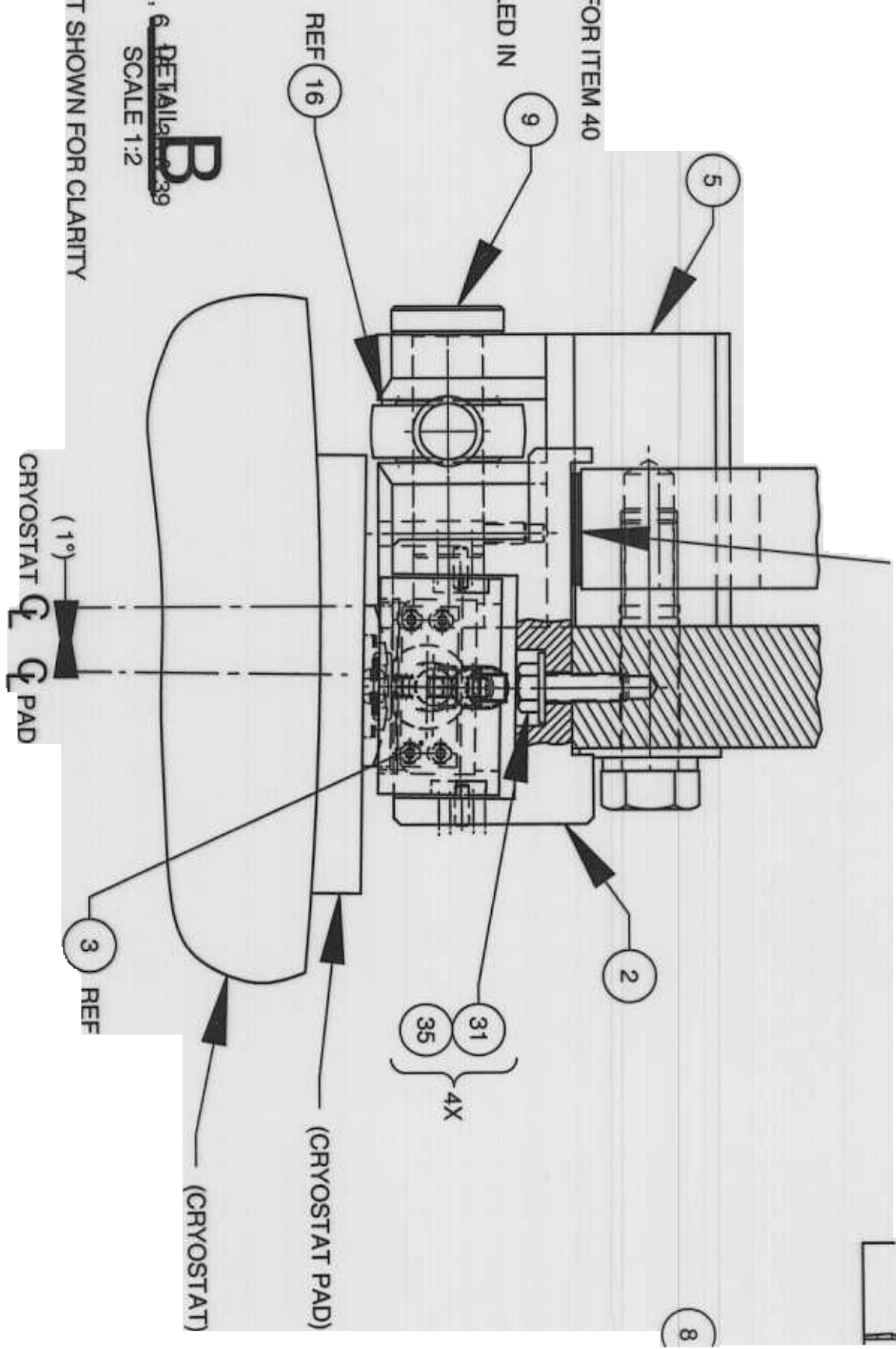
SEE DETAIL



SEE ZONE 7C FOR ITEM 40

TO BE INSTALLED IN

ITEM 5 & 9



ITEMS 1, 6, 39
SCALE 1:2

ARE NOT SHOWN FOR CLARITY