



STANFORD LINEAR ACCELERATOR CENTER

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IR-2 RIGGING PROCEDURE and JOB HAZARD ANALYSIS FOR SPECIAL PURPOSE HANDLING FIXTURE FORWARD LOWER CORNER BLOCK

1.0 Loads:

FWD Lower Corner Block	4314 lbs
Corner Block Adaptor	181 lbs
Fixture	1270 lbs
Total Load (excluding rigging)	5765 lbs

2.0 Rigging Layout:

Drawing number SK-HJK080104-1

3.0 Rigging Equipment:

The 10 ton hoist shall have a 10,000 lb capacity digital crane scale (Scale 10) supported from the hook. The crane scale shall support a 4-ft long sling of 10,000 lb minimum working load rating plus two 1.5 ton minimum capacity manual hoists (come-alongs) and four 6.5 ton minimum capacity screw pin shackles. The 50 ton main hoist shall have a 5,000 lb capacity crane scale (Scale 50) supported from the hook. This scale shall support a 4-ft long sling of 5,000 lb minimum working load rating plus a 6.5 ton minimum capacity screw pin shackle on each end.

4.0 Removal Procedure:

Refer to drawing number SK-HJK080104-1. Point A represents the unloaded CGZ and Point B represents the loaded CGZ including the weight of the Corner Block plus the Corner Block Adaptor.

- 4.1 Zero the crane scale readouts with the rigging hardware hanging clear of the ground.
- 4.2 50 ton hoist: Connect the lower screw pin shackle to Point A on the fixture.
- 4.3 10 ton hoist: Connect the sling shackle to Point B on the fixture. Connect the two manual hoists to Points C & D respectively on the fixture.
- 4.4 Lift the fixture with the 50 ton hoist. Remove the slack on the 10 ton hoist as the fixture is raised. Scale 50 should read 1270 lbs.
- 4.5 Place the fixture in the proper position to mate to the Corner Block Adaptor using both hoists and the crane trolley. It may be necessary to make slight angular adjustments using the manual hoists. Bolt the fixture to the Corner Block Adaptor.
- 4.6 Lift gently on the 10 ton hoist until Scale 10 reads 5765 lbs.
- 4.7 Gently lower 50 ton hoist until Scale 50 reads approximately 50 lbs.
- 4.8 Gently loosen corner block bolts as described in *Bolting & Unbolting Sequence for BaBar Flux Return Corner Blocks*.

- 4.9 Readjust fixture/corner block position using both hooks and manual hoists as needed to minimize side loading on the corner block bolts until all bolts are removed.
- 4.10 Remove the corner block.
- 4.11 Place the corner block in the Corner Block Receptacle and remove the rigging.

5.0 Installation Procedure:

- 5.1 Place corner block with Corner Block Adaptor in Corner Block Receptacle.
- 5.2 Zero the crane scale readouts with the rigging hardware hanging clear of the ground.
- 5.3 50 ton hoist: Connect the lower screw pin shackle to Point A on the fixture.
- 5.4 10 ton hoist: Connect the sling to Point B on the fixture. Connect the two manual hoists to Points C & D respectively on the fixture.
- 5.5 Place the fixture in the proper position to mate to the Corner Block Adaptor using both hoists and the crane trolley. It may be necessary to make slight angular adjustments using the manual hoists.
- 5.6 Bolt the fixture to the Corner Block Adaptor.
- 5.7 Lift the corner block using the 10 ton hoist. Remove any slack in the sling on the 50 ton hoist. Scale 10 should read approximately 5765 lbs.
- 5.8 Place the corner block in the appropriate position on the BaBar Detector.
- 5.9 Gently install corner block bolts. Readjust fixture/corner block position as needed to minimize side loading on the corner block bolts until all bolts are installed.
- 5.10 Torque bolts as described in *Bolting & Unbolting Sequence for BaBar Flux Return Corner Blocks*.
- 5.11 Lift 50 ton hoist until scale 50 reads 1270 lbs.
- 5.12 Lower 10 ton hoist until sling becomes slightly unloaded.
- 5.13 Unbolt fixture from Corner Block Adaptor.

6.0 Potential Hazards:

- 6.1 Crushed extremities.
- 6.2 Personnel in path of load movement or under load.
- 6.3 Unexpected load movement.
- 6.4 Operator error.
- 6.5 Equipment failure.

7.0 Hazard Controls:

- 7.1 Crane Operator shall be a SLAC-certified (EFD) rigger.
- 7.2 No one will be allowed under a suspended load or in the path of a load.
- 7.3 Strict controls of crane control box and rigging procedures.
- 7.4 Inspection of equipment prior to use.
- 7.5 Inspection of crane functions.
- 7.6 Current training of personnel.
- 7.7 Crane maintenance current.
- 7.8 Review of procedures with rigging personnel.
- 7.9 Appropriate use of personnel protection equipment.
- 7.10 Appropriate supervision of tasks.
- 7.11 Continuous safety oversight is preferred.

