



Central Magnet Nose Cone Installation Procedure

procedure name

PHENIX Procedure No. PP-2.5.5.4-02

Revision: A

Date: 3-3-99

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Approvals

PHENIX SE & I 3/18/99
Date

Cognizant Scientist/Engineer 3/18/99
Date
/Activity Manager

PHENIX QA/Safety 3/18/99
Date

RHIC ES&H 3/18/99
Date

REVISION CONTROL SHEET

LETTER	DESCRIPTION	DATE	WRITTEN BY	APPROVED BY	CURRENT OVERSIGHT-
A	First	3/03/1999	n/a	P. Kroon, W, Lenz, (2 unintelligible)	n/a
RETIRED	Installation completed	3/16/2007	n/a	D. Lynch, R. Pisani, P. Giannotti for PHENIX	D.Lynch

1.0 Purpose & Scope

- 1.1 The purpose of this procedure is to provide directions for installing the two Nosecones on the Central Magnet. There are two separate sections to this procedure, one covering the Nosecone Base and the other the Nosecone Extension.

Note that the Nosecone Bases weigh an estimated 900-lbs. each and the Extensions approximately 2400-lbs. each.

2.0 Responsibilities

- 2.1 All operations shall be performed under the direction of the Phenix Experimental Hall "Person-in-Charge" or his designee.
- 2.2 Due to the component value, as well as the inherent personnel risk involved in handling such large objects, this procedure and all relevant BNL safety guidelines must be strictly adhered to. In accordance with BNL policy, any individual may cease operations if they in any way feel unsafe or if they believe unsafe procedures are being followed. Such a complaint shall be reviewed by the cognizant engineer, and if necessary, BNL ES & H Services.

3.0 Prerequisites

- 3.0 Training: All personnel involved in this procedure shall have reviewed this procedure, and be fully knowledgeable about the way in which the Nosecone attaches to the magnet.
- 3.1 All personnel involved in this procedure must have a current BNL Safety Awareness Certificate (SAC).
- 3.2 All personnel involved in this procedure shall wear hard hats in accordance with RHIC SEAPPM 1.16.0.
- 3.3 Personnel involved in this procedure shall wear safety shoes.

4.0 Precautions

- 4.1 Visitors shall not be permitted in the PEH during these procedures.
- 4.2 The area where rigging operations will be performed shall be cordoned-off to all personnel except for the Person-in-Charge and the technicians assigned to perform this procedure. Others may enter the area only with the specific approval of the Person-in-Charge.
- 4.3 Some operations will require personnel to work in close proximity to suspended loads. Do not permit yourself or anyone else to be positioned under the load.

5.0 Equipment/Parts List

- 5.1 The following equipment, hardware, & parts are called for in various sections of this procedure:

Equipment/Rigging Hardware:

Phenix Coil Lift Bracket, Dwg. No. 002-0504-204, 3000-lb. capacity
Side-pull hoist ring: ¾"-10; 5000-lb. capacity
Shackle: 4-3/4" Crosby
Sling: Yellow, 6-ft., nylon, 6200-lb. capacity in vertical configuration
Man-Lift
12-ton Collision Hall crane

Nosecone Parts & Hardware:

Nosecone Base (1), Part No. 105-0216-002
Nosecone Extension (1), Part No. 105-0216-003
Dowell Pins (2), SS, .500" diameter x 1.5" long
Socket Head Cap Screws (8), SS, M24 x 70mm long
Socket Head Cap Screws (8), SS, ½"-13 x 6" long

6.0 Preparations

- 6.1 Locate the Central Magnet in a convenient spot in the Collision Hall so as to have access to both the east & west sides.
- 6.2 Position a man-lift so as to have access to the nosecone region of the Central Magnet.

7.0 Procedure

7.1 *Nosecone Base*

- 7.1.1 Attach the ¾" hoist ring to the lift hole on the in the edge of the base.
- 7.1.2 Attach the 4-3/4" shackle to the lift point on the lifting bracket.
- 7.1.3 Attach the 6-ft. yellow sling to the shackle.
- 7.1.4 Lift the lifting bracket using the 12-ton crane & attach the other end of the sling to the hoist ring on the Nosecone Base.
- 7.1.5 Lift the Nosecone Base & position it within the Central Magnet. Attach a tag-line for ease of control. Adjust the vertical position using the crane.
- 7.1.6 With personnel in the man-lift, adjust the Nosecone Base position so as to ensure concentricity with the Central Magnet bore to within <1-mm. Insert the two dowel pins and adjust to vertical using a carpenters level. Secure in place using eight M24 screws. Do not release the load from the crane until all of the bolts are in and the Nosecone Base is fully supported. Torque bolts to 120 ft-lbs. Reference: Dwg. No. 105-0216-001.

7.2 *Nosecone Extensions*

- 7.2.1 Attach the ¾" hoist ring to the lift hole on the flat in the edge of the extension.
- 7.2.2 Attach the 4-3/4" shackle to the lift point on the lifting bracket.
- 7.2.3 Attach the 6-ft. yellow sling to the shackle.
- 7.2.4 Lift the lifting bracket using the 12-ton crane & attach the other end of the sling to the hoist ring on the Nosecone Extension.
- 7.2.5 Lift the Nosecone Extension & position it against the already installed Nosecone Base using the two dowel pins for alignment. Use a tag-line for ease of control.
- 7.2.6 Secure in place using eight ½-13 screws. Torque to 35 ft-lb. Do not release the load from the crane until all of the bolts are in and the Extension is fully supported. Reference: Dwg. No. 105-0216-001.

