

TORUS



THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY

12000 Jefferson Avenue

Newport News, VA 23606

HALL B PROCEDURE NO.:

B000000401 -P022 Rev - 0

TITLE: Hall B Torus Pre-Power-Up Water-Cooled Leads Checkout Procedure

BY: R. Fair

DATE: 09 / 20 / 2016

Intended Checker and Approvers:

CHK: D. Kashy

1. APP: P. Ghoshal

*Completed
8/13/16 Pz*

REV.	ECO#	DESCRIPTION	BY	CHK.	APP.	APP.	DATE
SUMMARY OF CHANGES FROM PREVIOUS REVISION:							

Hall B Torus Pre-Power-Up Water-Cooled Leads Checkout Procedure

Introduction

The checklist below should be completed only in conjunction with the most current release of the B000000401-P021 Hall B Torus Operations Power Up Checklists.

This document refers to the water-cooled leads connecting the Torus Magnet Power Supply to the Vapor-Cooled Leads on the Torus Service Tower.

Checklist

Hall B Torus Pre-Power-Up Water-Cooled Leads Checkout Procedure

Date 7/13/2020

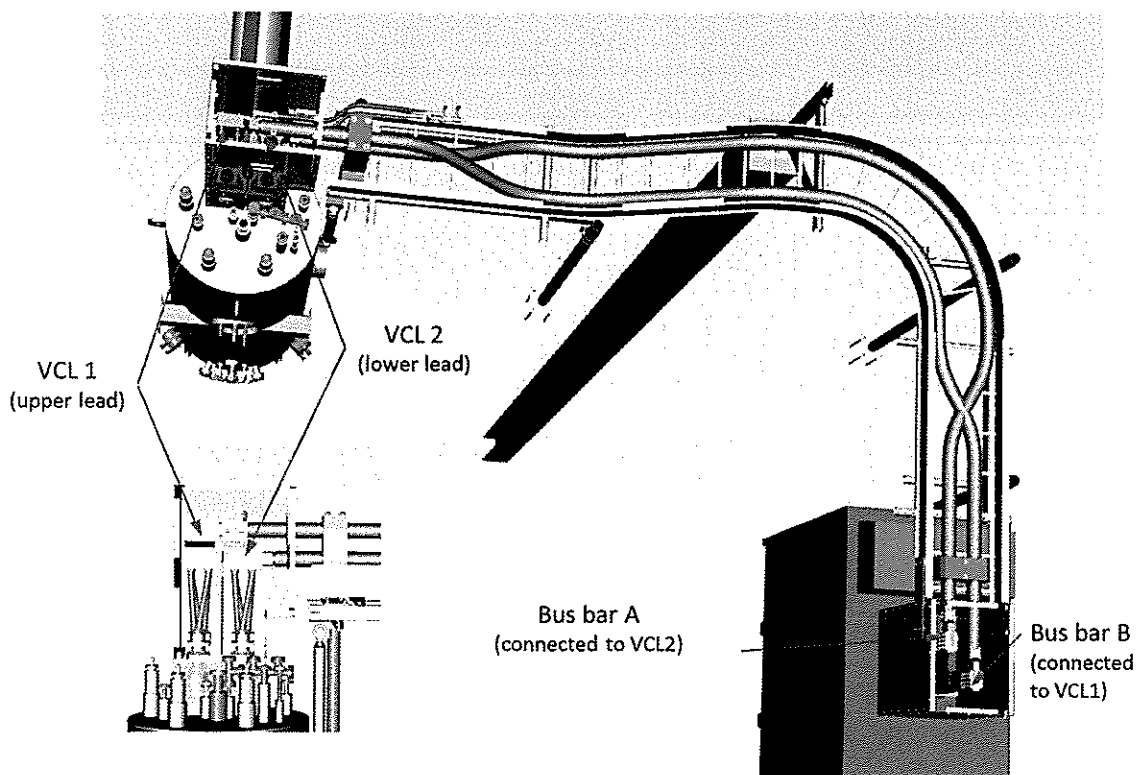


Figure 1 – Water-Cooled Leads and Power Supply Bus Bar Connections (*Inset picture is the view downstream*)

Hall B Torus Pre-Power-Up Water-Cooled Leads Checkout Procedure

Indicate relevant items requiring check below!

Relevant Item:	Checked By/Date	Verified By/Date	
✓	PKG 7/13/20	PC 7/13/20	1. Refer to Figure 1 above and ensure that each water-cooled lead is connected to the correct power supply bus-bar and the correct vapor cooled lead.
N/A			2. Have all of the bolts connecting the POWER SUPPLY BUS-BARS to the FLEXIBLE JUMPER LEADS been torqued (e.g., all bolts set to 50 foot-pounds)?
N/A			3. Have all of the bolts connecting the FLEXIBLE JUMPER LEADS to the WATER-COOLED LEADS been torqued (e.g., all bolts set to 50 foot-pounds)?
NA			4. Have all of the bolts connecting the WATER-COOLED LEADS to the FLEXIBLE JUMPER LEADS on the Torus service Tower been torqued (e.g., all bolts set to 50 foot-pounds)?
N/A			5. Have all of the bolts connecting the FLEXIBLE JUMPER LEADS to the VAPOR COOLED LEADS on the Torus service Tower been torqued (e.g., all bolts set to 50 foot-pounds)?
✓	PKG 7/13/20	PC 7/13/20	6. Have all the water connections at the power supply end been checked – i.e. feed hoses connected between water manifold and the water-cooled leads, routed appropriately without any sharp bends or kinks in the hoses
✓	PKG 7/13/20	PC 7/13/20	7. Have all the water connections at the Torus Service Tower end been checked - i.e. interconnecting hoses connected between the two water-cooled leads and the air-in bleed valve is in the CLOSED position, routed appropriately without any sharp bends or kinks in the hoses
✓	PKG 7/13/20	PC 7/13/20	8. Has the water been turned ON and the flow rate checked? The flow rate should be higher than 1.4 GPM Press. 113 PSI Flow rate recorded 113 GPM Date 7/13/2020
✓	PKG 7/13/20	PC 7/13/20	9. Check that there are no leaks from any of the water connections
N/A			10. Check that the electrical isolation G10 collar has been installed correctly on the roof of the power supply (Ref. Drawing No. B00000-09-01-0824)

Hall B Torus Pre-Power-Up Water-Cooled Leads Checkout Procedure

N/A			11. Check that the electrical isolation box at the power supply end has been installed correctly and has been bolted to the cable tray (Ref Drawing No. B00000-09-01-0824)
N/A			12. Check that Mylar drip tray is in place within the electrical isolation box at the power supply end.
✓	RCX 3/13/10		13. Check that the G10 isolation plate is in position on the top of the power supply cabinet – i.e. located between the two flexible jumpers. (Ref. Drawing Nos. B00000-04-01-2835 and B00000-04-01-2830)
N/A			<p>14. Power up the Torus magnet with 10 Amps using a ramp rate of 0.2 Amps/sec. Once the magnet is at 10 Amps, make a note of the hall sensor readings from each of the 6 hall sensors. The expected reading from each hall sensor is approx. 50 Gauss</p> <p>Coil A Hall Sensor _____ Gauss Coil B Hall Sensor _____ Gauss Coil C Hall Sensor _____ Gauss Coil D Hall Sensor _____ Gauss Coil E Hall Sensor _____ Gauss Coil F Hall Sensor _____ Gauss</p> <p><i><u>Note:</u> The hall sensor readings should all be positive numbers. If the readings are negative or zero, then swap the two relay wires for each hall sensor within the relevant instrumentation rack on Level 2. Record the hall sensor readings.</i></p> <p>Make a note of the polarity indicator on the power supply (i.e. positive or negative polarity):</p> <p>Polarity _____</p>
N/A			15. Power down the Torus magnet to 0 (zero) Amps using a ramp rate of 0.2 Amps/sec.
WATER-COOLED LEAD CHECKS COMPLETE			