Jefferson Lab

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HALL B PROCEDURE NO.:
B000000400 –P007 Rev - 0

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

BY: R. Fair
Intended Checker and Approvers:
CHK: D. Kashy
1. APP: R. Rajput-Ghoshal

DATE: 01 / 24 / 2017

Completed
7/14/2020
RGhoshal

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

Introduction

The checklist below should be completed only in conjunction with the most current release of the B000000400-P002 Hall B Solenoid Operations Power Up Checklists.

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

Checklist

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

Date 7/14/2020

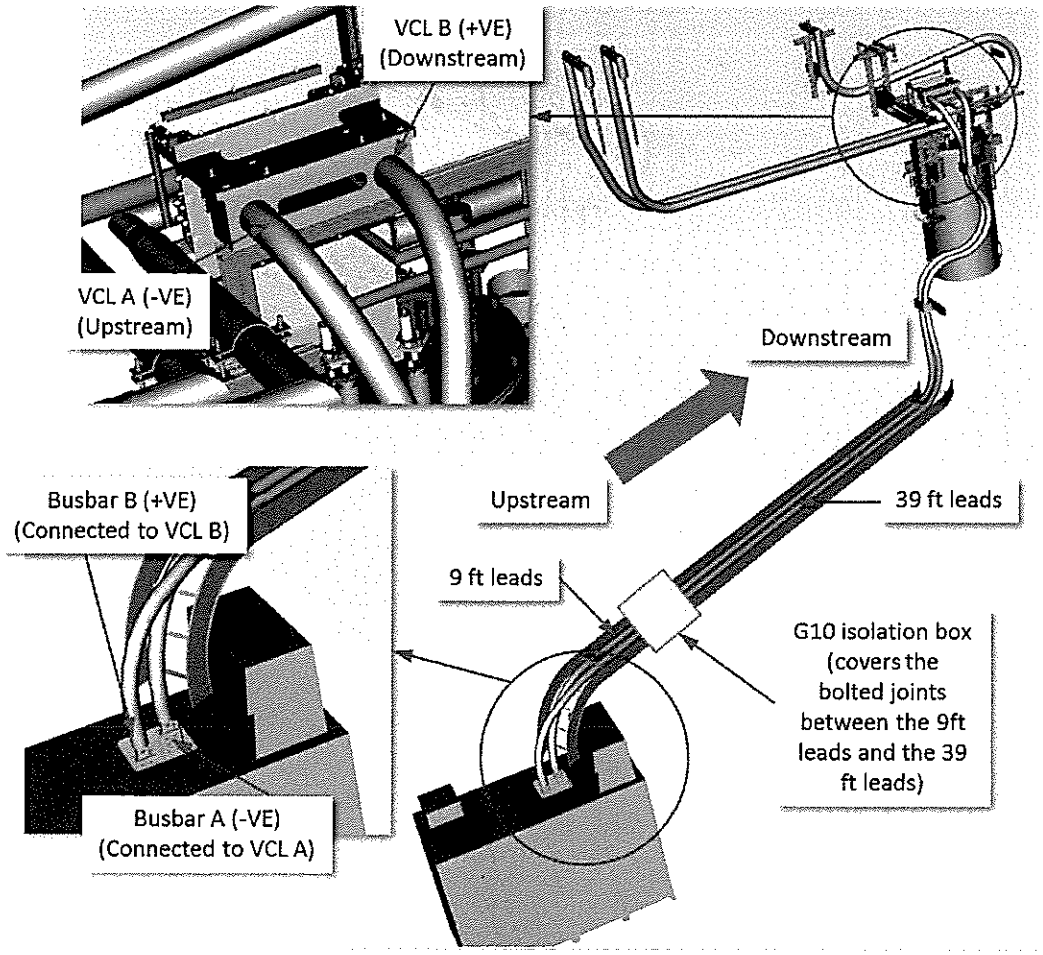

Figure 1 Water-Cooled Leads and Power Supply Bus Bar Connections

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

Indicate relevant items requiring check below!

Relevant Item:	Checked By/Date	Verified By/Date	
			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 EXTENSION BARS been torqued to the correct value? (Required torque setting = 50 foot-pounds)
N/A			3. Have all of the bolts connecting the EXTENSION BARS to the WATER-COOLED LEADS been torqued to the correct value? (Required torque setting = 50 foot-pounds)
N/A			4. Have all of the bolts connecting the 9 FT WATER-COOLED LEADS to the 39 FT WATER-COOLED LEADS been torqued to the correct value? (Required torque setting = 50 foot-pounds)
N/A			5. Have all of the bolts connecting the WATER-COOLED LEADS to the FLEXIBLE JUMPER LEADS on the Solenoid service Tower been torqued to the correct value? (Required torque setting = 50 foot-pounds)
N/A			6. Have all of the bolts connecting the FLEXIBLE JUMPER LEADS to the VAPOR COOLED LEADS on the Solenoid service Tower been torqued to the correct value? (Required torque setting = 50 foot-pounds)
✓	PKG 7/14/20	PC 7/14/20	7. 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 7/14/20	PC 7/14/20	8. Have all the water connections between the 9 FT WATER-COOLED LEADS to the 39 FT WATER-COOLED LEADS been checked – i.e. routed appropriately without any sharp bends or kinks in the hoses
✓	PKG 7/14/20	PC 7/14/20	9. Have all the water connections at the Solenoid 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 7/14/20	PC 7/14/20	10. Has the water been turned ON and the flow rate checked? The flow rate should be higher than 3.4 GPM ~~Flow rate~~ Press Inlet – 105psi O/L = 50psi recorded _____ ~~GPM~~ Date 7/14/2020

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✓	PKL 7/14/20	PC 7/14/20	11. Check that there are no leaks from any of the water connections
✓	PKL 7/14/20	PC 7/14/20	12. Check that the electrical isolation G10 collar has been installed correctly on the roof of the power supply. Refer to figures in the appendix of this document. No seal, Multimeter check > 2MΩ
N/A			13. Check that the electrical isolation box at the power supply end has been installed correctly and has been bolted to the cable tray. Refer to figures in the appendix of this document.
✓	PKL 7/14/20	PC 7/14/20	14. Check that Mylar drip tray is in place within the electrical isolation box at the power supply end. Refer to figures in the appendix of this document.
✓	PKL 7/14/20	PC 7/14/20	15. Check that the G10 electrical isolation box has been installed correctly over the bolted joints between the 9 ft water-cooled leads and the 39 ft water-cooled leads – within the cable tray.
N/A			16. Power up the Solenoid magnet with 10 Amps using a ramp rate of 0.4 Amps/sec. Once the magnet is at 10 Amps, make a note of the hall sensor reading from the installed hall sensor. The expected reading from the hall sensor is approx. 174 Gauss. This will be the Bz (i.e. axial) field component Hall Sensor #1_____ Gauss Hall Sensor #2_____ Gauss Hall Sensor #3_____ Gauss *Note: The hall sensor reading should be a positive number. If the reading is negative or zero, then swap the two relay wires for the hall sensor within the relevant instrumentation rack on Level 2. Record the hall sensor reading.* Make a note of the polarity indicator on the power supply (i.e. positive or negative polarity): Polarity _____
N/A			17. Power down the Solenoid magnet to 0 (zero) Amps using a ramp rate of 0.4 Amps/sec.
WATER-COOLED LEAD CHECKS COMPLETE			

APPENDIX – Pictures of Installed Isolation Box at PSU End

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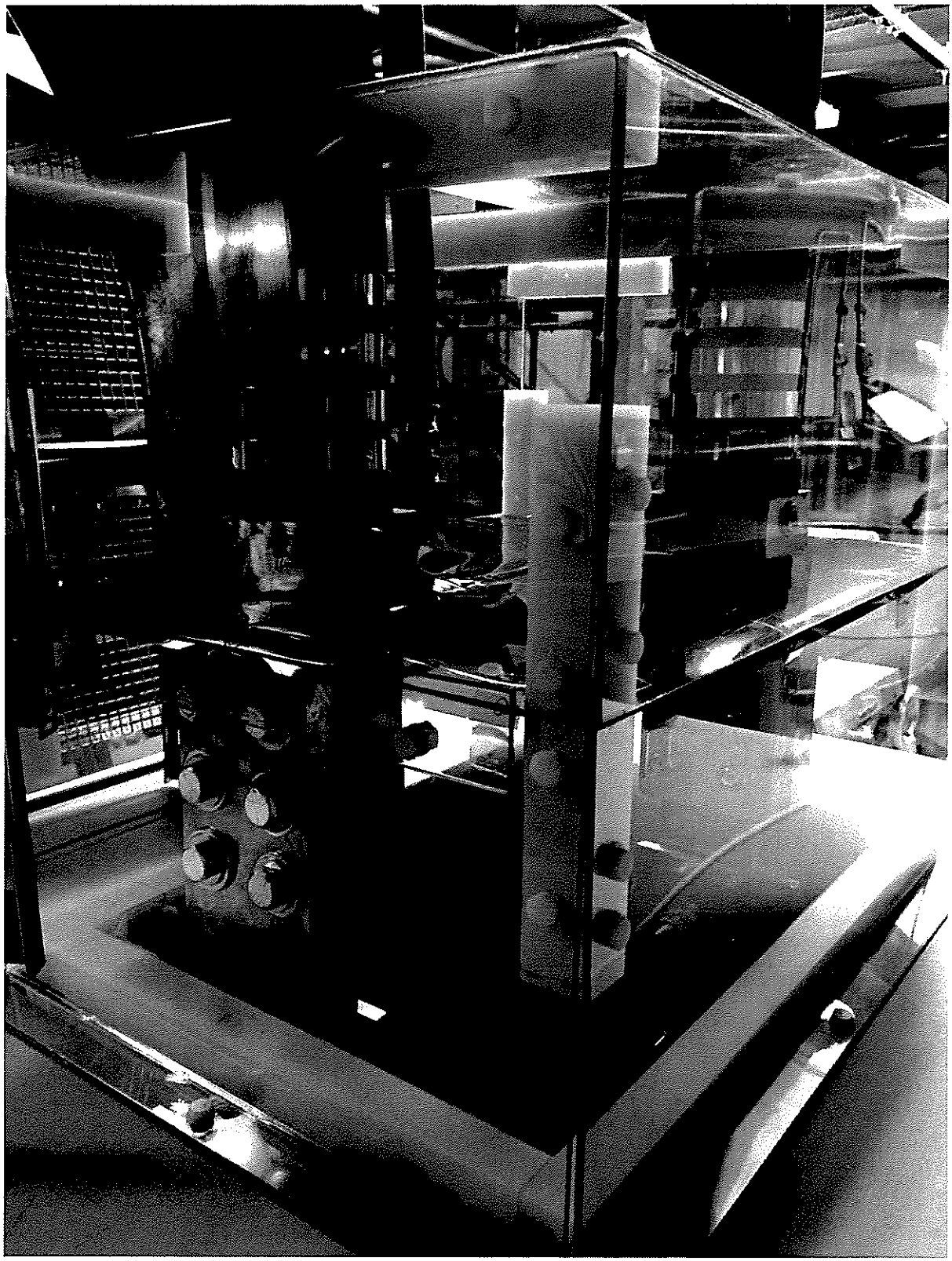

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