

# Note to document the Rebuild and Recalibration of the Jordan Relief Valve on the 100 L LN2 Dewar at Lab B

October 21, 2015

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We use a 100 L Dewar outside of Lab B as part of a test stand for the DECam LN2 pumps. This system is documented and the documentation is stored in <http://des-docdb.fnal.gov:8080/cgi-bin/ShowDocument?docid=3678>. A part, PRV-6202, which is the Instrument Line Boil-off Regulator, was removed for rework. It was rebuilt, recalibrated, and retagged in the PPD Calibration Shop by Mr. Barger. The tag date is Oct. 20, 2015. It will be returned to the test stand for operation, which will commence as soon as is practical.

A photograph of the part is shown below. A copy of the calibration note from Mr. Barger is included for completeness. This note will be added to docdb 3678.



**BACK-PRESSURE REGULATOR SET/TEST FORM**

**DATE:** 10/20/15

**REQUESTOR:** Andrew Lathrop    **Project/ task:** 40B / 40B.01.01

**DEVICE(S):** (1) Jordan 50-274 1"

**SERIAL # (IF ANY):** 1093120A

**DESCRIPTION OF WORK REQUEST:** Set to 100.0 psi & test.

**WORK PERFORMED:** Disassemble, inspect, remove burr from seat disc, lap disc, set stroke, reassemble and set to 100 psi.

**PARTS USED:** supplied by customer

**PARTS RETURNED:** none

**TEST REFERENCE:** PI-116 Heise 10" test gauge #H 25254 0-500 psig; and Beta Port 5000 #2344000 0-5000 psig

**TEST RESULTS:**

**>7 scfh@psi   13 scfh@psi   Relieves@psi   Resets<7scfh@psi**

Valve #1

Test#1	98	100	102	84
Test#2	97	100	100	84
Test#3	99	100	100	81

**NOTE:** This valve does not achieve true shutoff due to the nature of the seat (designed for steam service and adapted for cryo use). The leak-through at closure ranged between 4 and 7 scfh, and any increase was considered as "weep". The flow began to react audibly at ~13 scfh and pegged the flowmeter at nearly the same value. The design uses upstream pressure to apply thrust to the seat disc.

**LABELED:** Brass Tag w/set pressure attached to adjusting screw.

**DATE COMPLETED:** 10/20/15

**COMPLETED BY:** R. K. Barger

