Pion Decay Solenoid and Refrigerator Installation

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M Courthold
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and a massive supporting cast
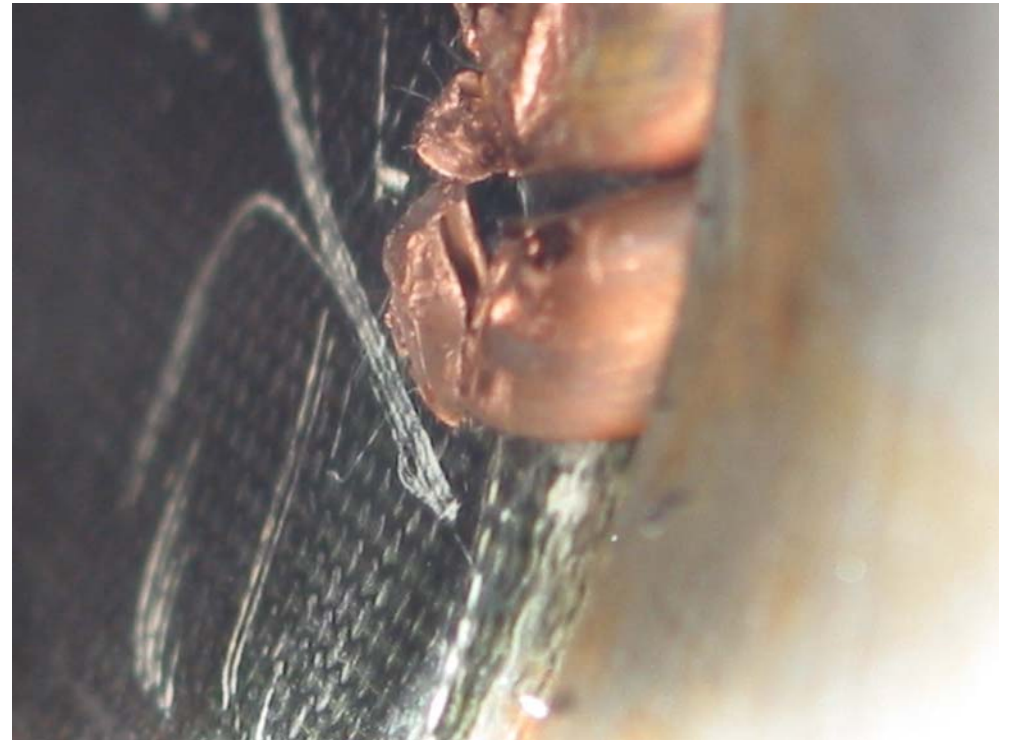….

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Since the last collaboration meeting in October 2007 :

Decay Solenoid

- The leak was successfully repaired

- Multi layer insulation repaired

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Since the last collaboration meeting in October 2007 :

Decay Solenoid

• Completed cold mass alignment

• Performed pressure, vacuum and leak checks

• Completed control system, pipework and cabling

• Connected solenoid to refrigerator and performed a trial run. This was interrupted by Christmas and decision was made to…

• Moved solenoid to final location in "Decay Solenoid Area"

Pictures …..

Since the last collaboration meeting in October 2007 :

Refrigerator

• Installation completed

• Performance checked into test cap

• 34.5W guaranteed cooling power + 21.4W for current leads = 55.9W total + 10W for transfer line = 66W overall. This means that the test cap (plus transfer line) should be able to hold 56W – getting about 46W

Refrigerator Installation

Refrigerator

Modifications made to cold box to improve performance

After the modifications and during the tests into the cold cap it was realised that the performance was still not as expected. There was a problem with the first turbine in the cold box. This was inspected and some unspecified damage noted.

Both turbines have been removed from the cold box and have been sent back to Linde for refurbishment or replacement. The current estimate is that it will be about 10-14 days before we can get them back. They will then need re-installing and the system re-starting. It could be that this was what was causing the performance issues.

- Prove refrigerator performance

- Move transfer line and attach to solenoid (week of the 17th ?)

- Bake and purge

- Complete gas lines from gas panel and hook up instrumentation

- Hook up electrical power supply

- Test

- (some work on control system to control pressure return to refrigerator)

END