Open Actions EN-MEF-SU

Open Actions EN-MEF-SU

Outline:

- Investigate issue of radial alignment of main PSB bending magnets (jacks and oil injection) and provide a solution for the future.
- Study the fabrication of a new precision tilt measurement tool for the PSB main bending magnets.
- Work out a tool to move magnets in the PSB whose screws are currently not accessible.
- Report about the possibility to align the BRx.BHZ162 with a precision below 1 mm.

Open Actions EN-MEF-SU

Outline:

- Investigate issue of radial alignment of main PSB bending magnets (jacks and oil injection) and provide a solution for the future
- Study the fabrication of a new precision tilt measurement tool for the PSB main bending magnets.
- Work out a tool to move magnets in the PSB whose screws are currently not accessible
- Report about the possibility to align the BRx.BHZ162 with a precision below 1 mm

Open Actions EN-MEF-SU

- Situation today: vertical movement OK, radial / longitudinal not used since more than 20 years. Furthermore: pumps for oil film injection not anymore available.
- Solution could be to adapt existing pumps to the oil injection system (connectors), BUT: uncertainty about leak tightness of the jacks.
- Other (better) solution: change jacks.
- Found a good jack which could replace the existing ones with minor modification:

Open Actions EN-MEF-SU

- Fits with the weight of the magnet (~13T): 2 types of these jacks available (for 6 and 10T)
- Fits with the dimensions in width (existing plate underneath the magnets) and height (needs a steel block to «shim» of around 17 X 17 X 17 cm)
- Easy to align with small effort
- Can be tested in the next YETS, as some are available immediately.
- Exchange scenario to be discussed with transport and RP.

Open Actions EN-MEF-SU

Outline:

- Investigate issue of radial alignment of main PSB bending magnets (jacks and oil injection) and provide a solution for the future
- Study the fabrication of a new precision tilt measurement tool for the PSB main bending magnets.
- Work out a tool to move magnets in the PSB whose screws are currently not accessible
- Report about the possibility to align the BRx.BHZ162 with a precision below 1 mm

Open Actions EN-MEF-SU

- Starting with the existing tool for the main quads,
- Needs modification of the length and the parts which have contact with the magnet,
- Needs calibration on a precision table
- Can probably be manufactured in our workshop.
- Drawings need to be made and fabrication launched.
- First test possible in YEST 2015/16

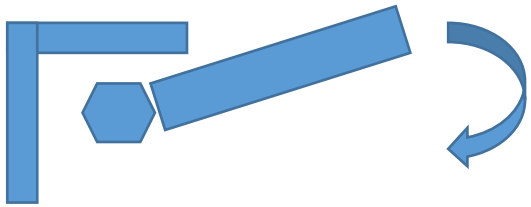
Open Actions EN-MEF-SU

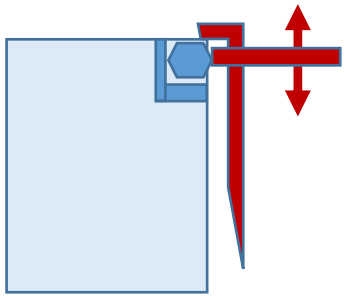
Outline:

- Investigate issue of radial alignment of main PSB bending magnets (jacks and oil injection) and provide a solution for the future
- Study the fabrication of a new precision tilt measurement tool for the PSB main bending magnets.
- Work out a tool to move magnets in the PSB whose screws are currently not accessible
- Report about the possibility to align the BRx.BHZ162 with a precision below 1 mm

Open Actions EN-MEF-SU

- For the time being , no good and simple solution found, as nothing available on the market for this size of nuts (36mm), for example «cliquet-type-demultiplication-keys».
- Therefore, the idea is, to have a frame which can be fixed to the magnet which contains a motorized mecanism to turn a very short key (10cm range) with the needed force of ~10-15kg.





Open Actions EN-MEF-SU

- Even with such a device: not sure to reach all feet, as we can see:
  - Pumps
  - Cables
  - «passerelle»
  - …..

Open Actions EN-MEF-SU

Open Actions EN-MEF-SU

Outline:

- Investigate issue of radial alignment of main PSB bending magnets (jacks and oil injection) and provide a solution for the future
- Study the fabrication of a new precision tilt measurement tool for the PSB main bending magnets.
- Work out a tool to move magnets in the PSB whose screws are currently not accessible
- Report about the possibility to align the BRx.BHZ162 with a precision below 1 mm

Open Actions EN-MEF-SU

- More precisely: a procedure needs to be found for the alignment of the vacuum chamber (injection).
- Meeting held in December with magnet and vacuum people.
- Solution:
  - to fabricate a plate which can easily be referenced to the magnet references / target points
  - To place a plumb line at the edge of these plate (edge is in the direction of the chamber), and thus position / align the chamber accordingly.