|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Traveler Title | Field Probe Port Fabrication Traveler | | | |
| Traveler Abstract | Outlines the inspection and fabrication steps for the Field Probe Port Assembly for the EIC 197MHz Crab Cavity | | | |
| Traveler ID | EIC197-FAB-FPCP-ASSY1 | | | |
| Traveler Revision | R1 | | | |
| Traveler Author | J. COX | | | |
| Traveler Date | 9-Jul-24 | | | |
| NCR Informative Emails | AREILLY,GEORGED,GROSE,KDAVIS | | | |
| NCR Dispositioners | BLUMER,BUTTLES,HUQUE | | | |
| D3 Emails | AREILLY,GEORGED,GROSE,KDAVIS,BLUMER,BUTTLES,HUQUE | | | |
| Approval Names | J. BLUMER | G. GROSE | J. BUTTLES | N. HUQUE |
| Approval Signatures |  |  |  |  |
| Approval Dates |  |  |  |  |
| Approval Title | Author | Reviewer | Project Manager |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| References | List and Hyperlink all documents related to this traveler. This includes, but is not limited to: safety (THAs, SOPs, etc), drawings, procedures, and facility related documents. | | | |
| [JL0119121](https://misportal.jlab.org/jlabDocs/documents/175657/download) | [JL0150085](https://misportal.jlab.org/jlabDocs/documents/185430/download) | [JL0139908](https://misportal.jlab.org/jlabDocs/documents/175651/download) | [JL0140270](https://misportal.jlab.org/jlabDocs/documents/175650/download) | [11141-S-0033](https://misportal.jlab.org/jlabDocs/documents/70285/download) |
| [FieldProbePortFabricationPlan](https://jeffersonlab.sharepoint.com/:p:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Fabrication%20Plans/Field%20Probe%20Port%20Fabrication%20Plan.pptx?d=wedf4dd387d8e4bb3a8cca928b31fb420&csf=1&web=1&e=LkQEgk) This is in sharepoint, move to DS | [EIC-BPS-JL0140270](https://misportal.jlab.org/jlabDocs/documents/201698/download) | [JL0119121-Step1InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0119121-Step1InspectDim.pdf?csf=1&web=1&e=D8HvjT) This is in sharepoint, move to DS, it is a drawing? | [JL0150085-Step1InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0150085-Step1InspectDim.pdf?csf=1&web=1&e=8jOnuQ) This is in sharepoint, move to DS, it is a drawing? | [JL0139908-Step1InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0139908-Step1InspectDim.pdf?csf=1&web=1&e=6LUYpn) This is in sharepoint, move to DS, it is a drawing? |
| [JL0140270-Step5InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0140270-Step5InspectDim.pdf?csf=1&web=1&e=DUlKDC) This is in sharepoint, move to DS, it is a drawing? | [JL0140270-Step11InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0140270-Step11InspectDim.pdf?csf=1&web=1&e=HMC8E2) This is in sharepoint, move to DS, it is a drawing? |  |  |  |

|  |  |
| --- | --- |
| Revision Note |  |
| R1 | Initial release of this Traveler. |

|  |  |  |
| --- | --- | --- |
| Step No. | Instructions | Data Input |
| PART IDENTIFICATION | | |
| 0 | Enter Serial Number of Finished Part (DOES INSP KNOW WHAT THEY ARE TO DO?)   |  |  |  | | --- | --- | --- | | **STEPS** | **WORK CENTER AREAS** | **ACTIONS** | | 1 | INSP | Initial Dimensional Inspection | | 2 | CHEM | BCP and DEGR | | 3-4 | FURN | Heat Treat and Braze | | 5 | INSP | Verify **perpendicularity** | | 6 | MACHSHOP | Slug Removal | | 7 | CMA | Leak Check | | 8 | INV/SHIP | Ship for Ultrasonic Inspection | | [[FPCPSN]] <<SN>>  [[FPCPNote]]{{FPCP is a new component name: FPC Port Assembly}} <<NOTE>> |
| DIMENSIONAL INSPECTION | | |
| 1 | Verify dimensions in red on [JL0119121](https://misportal.jlab.org/jlabDocs/documents/175657/download) (END GROUP 1 PICK UP PORT FLANGE)  Enter serial number of flange  Upload inspection report  See [JL0119121-Step1InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0119121-Step1InspectDim.pdf?csf=1&web=1&e=D8HvjT) | [[FPFLSN]] <<SN>>  [[InsTech]] <<SRF>>  [[InsTime]] <<TIMESTAMP>>  [[InsComm]] <<COMMENT>>  [[InsFile]] <<FILEUPLOAD>>  [[FPFLNote]]{{FPFL is a new component name: Field Probe Flange}} <<NOTE>> |
| Verify dimensions in red on [JL0150085](https://misportal.jlab.org/jlabDocs/documents/185430/download) (BRAZE TESTING 3.375 FLANGE SLUG)  Upload inspection report  See [JL0150085-Step1InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0150085-Step1InspectDim.pdf?csf=1&web=1&e=8jOnuQ) | [[InsTech2]] <<SRF>>  [[InsTime2]] <<TIMESTAMP>>  [[InsComm2]] <<COMMENT>>  [[InsFile2]] <<FILEUPLOAD>>  SN? |
| Verify dimensions in red on [JL0139908](https://misportal.jlab.org/jlabDocs/documents/175651/download) (END GROUP 1 PICK UP TUBE)  Enter serial number of tube  Upload inspection report  See [JL0139908-Step1InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0139908-Step1InspectDim.pdf?csf=1&web=1&e=6LUYpn) | [[FPBASN]] <<SN>>  [[InsTech3]] <<SRF>>  [[InsTime3]] <<TIMESTAMP>>  [[InsComm3]] <<COMMENT>>  [[InsFile3]] <<FILEUPLOAD>> |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Step No. | | Instructions | | Data Input |
| CHEMISTRY | | | | |
| 2a | Degrease [JL0119121](https://misportal.jlab.org/jlabDocs/documents/175657/download), [JL0150085](https://misportal.jlab.org/jlabDocs/documents/185430/download) and [JL0139908](https://misportal.jlab.org/jlabDocs/documents/175651/download)  According to [11141-S-0033](https://misportal.jlab.org/jlabDocs/documents/70285/download) Vendor Standard Helium Leak Check Procedure  Upload any relevant photos and/or comments  Why leak check in chemistry? | | [[ChemTech]] <<SRFCVP>>  [[ChemTime]] <<TIMESTAMP>>  [[ChemComm]] <<COMMENT>>  [[ChemFile]] <<FILEUPLOAD>> | |
| 2b | BCP to a depth of 15 microns [JL0119121](https://misportal.jlab.org/jlabDocs/documents/175657/download), [JL0150085](https://misportal.jlab.org/jlabDocs/documents/185430/download) and [JL0139908](https://misportal.jlab.org/jlabDocs/documents/175651/download) | | [[ChemTech]] <<SRFCVP>>  [[ChemTime]] <<TIMESTAMP>>  [[ChemComm]] <<COMMENT>>  [[ChemFile]] <<FILEUPLOAD>> | |

|  |  |  |  |
| --- | --- | --- | --- |
| Step No. | Instructions | | Data Input |
| FURNACE | | | |
| 3 | Heat Treat JL0119121 2 hours at 950C [JL0119121](https://misportal.jlab.org/jlabDocs/documents/175657/download)  Heat Treat JL0150085 2 hours at 950C [JL0150085](https://misportal.jlab.org/jlabDocs/documents/185430/download)  Upload relevant photos and/or comments | [[BrazeTech]] <<SRF>>  [[BrazeComm]] <<COMMENT>>  [[BrazeFile]] <<FILEUPLOAD>> | |
| 4 | Braze as per JLab EIC-BPS-JL0140270  Enter serial number of brazement  Upload relevant photos and/or comments | [[FPPASN2]] <<SN>>  [[BrazeTech2]] <<SRF>>  [[BrazeComm2]] <<COMMENT>>  [[BrazeFile2]] <<FILEUPLOAD>> | |

|  |  |  |  |
| --- | --- | --- | --- |
| Step No. | Instructions | | Data Input |
| **DIMENSIONAL INSPECTION** | | | |
| **5** | **Verify perpendicularity on JL0140270** [JL0140270](https://misportal.jlab.org/jlabDocs/documents/175650/download)  **Upload inspection report**  **See** [JL0140270-Step5InspectDim](https://jeffersonlab.sharepoint.com/:b:/r/sites/EICPartnerProject-TJNAF/Accelerator/RF%20Systems/Cryomodules/197%20MHz%20DVC/Cavity%20Fabrication%20Files/Images/Traveler%20Inspection%20Dimensions/JL0140270-Step5InspectDim.pdf?csf=1&web=1&e=DUlKDC) | [[InsTech4]] <<SRF>>  [[InsTime4]] <<TIMESTAMP>>  [[InsComm4]] <<COMMENT>>  [[InsFile4]] <<FILEUPLOAD>> | |

|  |  |  |  |
| --- | --- | --- | --- |
| Step No. | Instructions | | Data Input |
| MACHINING | | | |
| 6 | Remove slug and machine tube to final ID as per [JL0140270](https://misportal.jlab.org/jlabDocs/documents/175650/download)  Include job number. | [[MachTech]] <<SRF>>  [[MachTime]] <<TIMESTAMP>>  [[MachJobNumber]] <<INTEGER>>  [[MachComm]] <<COMMENT>> | |

|  |  |  |
| --- | --- | --- |
| **Step No** | **Instructions** | **Data Inputs** |
| LEAK CHECK | | |
| 7 | Leak check the assembly in accordance with [11141-S-0033](https://misportal.jlab.org/jlabDocs/documents/70285/download) Vendor Standard Helium Leak Check Procedure  Upload any relevant images/comments | [[VacTech]] <<SRF>>  [[VacTime]] <<TIMESTAMP>>  [[VacPass]] <<YESNO>>  [[VacComm]] <<COMMENT>>  [[VacFile]] <<FILEUPLOAD>> |

|  |  |  |
| --- | --- | --- |
| Step No. | Instructions | Data Input |
| ULTRASONIC INSPECTION | | |
| 8 | Ultrasonic inspection of the braze as per EN ISO 18279 Level B,  and no discontinuities over a length ≥20% of the nominal length of the joint.  Include SRF OPS shipping form number  Upload inspection report | [[UtTech]] <<SRF>>  [[UtTime]] <<TIMESTAMP>>  [[ShippingFormNumber]] <<INTEGER>>  [[UtPass]] <<YESNO>>  [[UtComm]] <<COMMENT>>  [[UtFile]] <<FILEUPLOAD>> |