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| 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 |  |

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| 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/%3Ap%3A/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/%3Ab%3A/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/%3Ab%3A/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/%3Ab%3A/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/%3Ab%3A/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/%3Ab%3A/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? |  |  |  |

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

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| Step No. | Instructions | Data Input |
| PART IDENTIFICATION |
| 0 | Enter Serial Number of Finished Part (DOES INSP KNOW WHAT THEY ARE TO DO?)

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| **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 flangeUpload inspection reportSee [JL0119121-Step1InspectDim](https://jeffersonlab.sharepoint.com/%3Ab%3A/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 reportSee [JL0150085-Step1InspectDim](https://jeffersonlab.sharepoint.com/%3Ab%3A/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 tubeUpload inspection reportSee [JL0139908-Step1InspectDim](https://jeffersonlab.sharepoint.com/%3Ab%3A/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>> |

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| 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 ProcedureUpload any relevant photos and/or commentsWhy 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>> |

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| 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 brazementUpload relevant photos and/or comments | [[FPPASN2]] <<SN>>[[BrazeTech2]] <<SRF>>[[BrazeComm2]] <<COMMENT>>[[BrazeFile2]] <<FILEUPLOAD>> |

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| 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/%3Ab%3A/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>> |

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| 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>> |

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| **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 ProcedureUpload any relevant images/comments | [[VacTech]] <<SRF>>[[VacTime]] <<TIMESTAMP>>[[VacPass]] <<YESNO>>[[VacComm]] <<COMMENT>>[[VacFile]] <<FILEUPLOAD>> |

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| 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>> |