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| Traveler Title | Waveguide and window weldment modification |
| Traveler Abstract |  |
| Traveler ID | P1-WELD-WGWIN-ASSY |
| Traveler Revision  | R1 |
| Traveler Author | Kurt Macha |
| Traveler Date | 26-Jun-20 |
| NCR Informative Emails | georged,lzhao |
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| D3 Emails | scott,macha,areilly |
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| 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. |
| [JL0096481---F100 WELDED WINDOW TO WAVEGUIDE ASSY](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-212790/JL0096481---F100%20WELDED%20WINDOW%20TO%20WAVEGUIDE%20ASSY.pdf) | [JL0076419---C100 WELD WINDOW TO WAVEGUIDE](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-212791/JL0076419---C100%20WELD%20WINDOW%20TO%20WAVEGUIDE.pdf) | [JL0076778--MODIFIED ADAPTER WINDOW ASSEMBLY](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-212792/JL0076778--MODIFIED%20ADAPTER%20WINDOW%20ASSEMBLY.pdf) | [JL0076280---WINDOW ADAPTER RING](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-212794/JL0076280---WINDOW%20ADAPTER%20RING.pdf) | [JL0096478---F100 WELD RING](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-212795/JL0096478---F100%20WELD%20RING.pdf) |
| [JL0096473---CERAMIC WARM WINDOW ASSEMBLY MOD](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-212796/JL0096473---CERAMIC%20WARM%20WINDOW%20ASSEMBLY%20MOD.pdf) |  |  |  |  |

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

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| Step No. | Instructions | Data Input |
| 1 | Select the serial number of the window to be modified for the waveguide window assembly.**Note:** This traveler is for both C100 and F100 style windows/ waveguides that are used for the C70/ P1 cavity string build. The window serial number will designate the type of assembly. Have the window machined appropiatly for the features needed to create a welded window to waveguide modification.Have the proper weld adapter ring machined to adapt the window to the waveguide for welding.Reference drawings on page one for proper machine specifications. Do a quick QC check of the components using a caliper and fit test to verify components are machined properly. The weld ring needs to fit into the pocket of the window flange properly and the overall height of the two parts stacked together need to be correct.If components fail, use the NCR system to correct or remove parts from production | [[ModifiedWindow]] <<SN>>[[QCCheckPass]] <<YESNO>>[[QCCheck\_Notes]] <<COMMENT>>[[InspectionDate]] <<TIMESTAMP>>[[PartsPrep]] <<SRF>> |

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| 2 | Have the machined window assembly and weld adapter ring cleaned properly for the EB Welding. EBW the window to the adapter as per the appropriate top assembly drawing.F100 Style: [JL0096481---F100 WELDED WINDOW TO WAVEGUIDE ASSY](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-212790/JL0096481---F100%20WELDED%20WINDOW%20TO%20WAVEGUIDE%20ASSY.pdf)C100 Style: [JL0096473---CERAMIC WARM WINDOW ASSEMBLY MOD](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-212796/JL0096473---CERAMIC%20WARM%20WINDOW%20ASSEMBLY%20MOD.pdf)Visually inspect the EBW joint looking for a consistant seal weld. Leak test the window to adapter sub-asssembly weld. | [[WindowToAdapterEBW]] <<COMMENT>>[[EBWDate]] <<TIMESTAMP>>[[EBWVisualInspect]] <<YESNO>>[[EBWTech]] <<SRF>>[[SubAssemblyLeakTight]] <<YESNO>>[[LeakTest]] <<FILEUPLOAD>>[[LeakTestTechnician]] <<SRF>> |

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| 3 | Have the window sub-assembly cleaned for EBW of the next step.Send the appropriate waveguide into chemistry for preparation of EBW. The waveguide will not only need to be cleaned for EBW but also the weld area near the knife edge will need to be etched to ensure no copper residue is left that could contaminate the weld.Verfiy the chemisty group has completed the proper cleaning/ chemistry on the waveguide. EBW the window sub-assembly to the waveguide.  | [[ChemistryForEBW]] <<YESNO>>[[FieldName]] <<COMMENT>>[[WaveguideSN]] <<SN>>[[EBWFinalDate]] <<TIMESTAMP>>[[EBWVisualFinalInspect]] <<YESNO>>[[EBWFinalTech]] <<SRF>> |
| 4 | Leak test the welded waveguide/ window assembly. Ensure not only the weld is leak tight but the entire assembly including the bellows and ceramic window. Cold shock the final assembly three times and leak test again. This cold shock can be done in the VTA dewar with He or the cryo cycle cabinet with N2. Cryo cycle 3 times before leak test. | [[PassLeakTest]] <<YESNO>>[[LeakTest]] <<COMMENT>>[[LeakTest]] <<FILEUPLOAD>>[[LeakTest]] <<SRF>>[[PassAfterCS]] <<YESNO>>[[LTAfterCS]] <<FILEUPLOAD>>[[LeakTestAfterColdShock]] <<SRF>>[[CompleteReadyForUse]] <<TIMESTAMP>>[[CompleteReadyForUse]] <<SRF>> |