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| Traveler Title | FPC End group Dimensional Inspection |
| Traveler Abstract | INSPECTION BEFORE END GROUPS REMOVED BY MACHINE SHOP. This traveler details the steps required to inspect C20 end groups. Steps include visual, dimensional, RF inspection. |
| Traveler ID | C20-CAV-INSP-EGFPCPREMOD |
| Traveler Revision  | R2 |
| Traveler Author | Aaron DeKerlegand |
| Traveler Date | 10/10/2019 |
| NCR Emails | macha, gciovati, georged |
| Approval Names | A. DeKerlegand | G. Ciovati | K. Macha |  |
| 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. |
| 11115-D-0001 | C20 five cell cavity assy |  |  |
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| Revision Note |  |
| R1 | Initial release of this Traveler. |
| R2 | Added box to specify Formed or Welded end group type |
| R3 |  |

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| Step No. | Instructions | Data Input |
| 1 | Select the serial number from the drop down box and serialize end group with engraver. End group SN will match cavity SN. | [[FPCEndgroupSN]] <<FPCEndgroupSN |
| 2 | Select **Welded** or **Formed** for end group type. | [[Endgrouptype1]] <<EndgroupTYPE>> |
| 3 |  RF incoming inspection. Record Q ext. of FPC | [[RFlInspUser1]] <<USERNAME>>[[RFInspDate1]] <<TIMESTAMP>>[[RFInspComment1]] <<COMMENT>>[[MeasValue1]] <<FLOAT>>[[AdditionalFiles1]] <<FILEUPLOAD>> |
| 4 | Visually inspect the end group externally and internally (borescope). Record any damage found in the comment box.  | [[VisualInspUser1]] <<USERNAME>>[[VisualInspDate1]] <<TIMESTAMP>>[[VisualInspComment1]] <<COMMENT>>[[AdditionalFiles2]] <<FILEUPLOAD>> |
| 5 | Dimensionally inspect the end group. **NOTE – Inspection performed before end groups are removed from cavity.** | [[CMMUser2]] <<USERNAME>>[[CMMDate2]] <<TIMESTAMP>>[[CMMComment2]] <<COMMENT>>[[AdditionalFiles3]] <<FILEUPLOAD>> |
|  | **TABLE A - CMM Measurements**   |
| **Drawing Number** | **Description** | **Drawing Value** | **Tolerance** | **Measured Value** | **Within Tolerance** |
|  | End cell to Fpc WG flange center | 3.303 | ± .010” | [[MeasValue2]] <<FLOAT>> | [[Tolerance2]] <<YESNO>> |
|  | Fpc WG flange thickness | 0.500 | ± .010” | [[MeasValue 3]] <<FLOAT>> | [[Tolerance3]] <<YESNO>> |
|  | Fpc BT flange thickness | 0.375 | ± .010” | [[MeasValue 4]] <<FLOAT>> | [[Tolerance4]] <<YESNO>> |
|  | BT distance to Fpc WG |  1.817 | ± .005” | [[MeasValue5]] <<FLOAT>> | [[Tolerance5]] <<YESNO>> |
|  | Fpc depth inside WG | 7.510 | ± .010” | [[MeasValue6]] <<FLOAT>> | [[Tolerance6]] <<YESNO>> |
|  | Fpc flange distance to beamline | 2.996 | ± .005” | [[MeasValue7]] <<FLOAT>> | [[Tolerance7]] <<YESNO>> |

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| 5 | **TABLE A – CONT.** |
| **Drawing Number** | **Description** | **Drawing Value** | **Tolerance** | **Measured Value** | **Within Tolerance** |
|  | Fpc WG flange flatness | 0.000 | 0.002 | [[MeasValue 8]] <<FLOAT>> | [[Tolerance8]] <<YESNO>> |
|  | Fpc Beam Tube flange flatness | 0.000 | 0.002 | [[MeasValue 9]] <<FLOAT>> | [[Tolerance9]] <<YESNO>> |
|  | Fpc distance #1 | 8.560 |  ± .010” | [[MeasValue10]] <<FLOAT>> | [[Tolerance10]] <<YESNO>> |
|  | Fpc distance #2 | 5.540 | ± .010”  | [[MeasValue11]] <<FLOAT>> | [[Tolerance11]] <<YESNO>> |
|  | Fpc distance #3 |  1.240 |  ± .010” | [[MeasValue12]] <<FLOAT>> | [[Tolerance12]] <<YESNO>> |
|  | Fpc distance #4 | 3.360 | ± .010” | [[MeasValue13]] <<FLOAT>> | [[Tolerance13]] <<YESNO>> |
|  |  Fpc distance #5 | 3.360 | ± .010” | [[MeasValue14]] <<FLOAT>> | [[Tolerance14]] <<YESNO>> |
|  | Fpc distance #6 | 1.240 | ± .010” | [[MeasValue15]] <<FLOAT>> | [[Tolerance15]] <<YESNO>> |
|  | FPC distance #7 | 1.240 | ± .010” | [[MeasValue16]] <<FLOAT>> | [[Tolerance16]] <<YESNO>> |
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