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	Assembly Procedure for Installing Sense Wires		
ATLAS project document no. ATL-IT-AP-0035	Date last modified. 24 May, 2001	Approval status Full Production	

1 Scope

1.1 Scope

This procedure establishes requirements for installation of sense wires during module assembly.

1.2 Applicability

1.2.1 Applicability

This procedure applies to the installation of all sense wires by the Indiana and Duke Production Facilities.

1.2.2 Relation to Other ATLAS Project Requirements

The assembly procedure described by this specification is in addition to other tests and inspections required for module assembly. Module assembly may continue only after acceptable results from this procedure.

2 Applicable Documents

2.1 Document List

The following documents of the issue in effect on the effective date of this specification form a part of this specification to the extent specified herein.

2.1.1 ATL-IT-EY-0004, ATLAS U.S. Environmental, Health, and Safety Plan

2.2 Amendments and Revisions

Whenever this procedure is amended or revised subsequent to its effective date, the Revised Version will be placed in the Engineering Data Management System, the Production DataBase displays, and released to the technicians. The Production Engineers will coordinate release to the technicians.

3 Requirements

3.1 Background

The sense wires attract the electrons, which are liberated by the passage of a charged high-energy particle through the straw. The number of electrons is increased greatly by an amplification process, which occurs in the gas close to the sense wires. The electrons are transferred to the wire and from there to the tension plate and the electronics on the tension plate. In order that the amplification is the same along the wire, the wire must be centered in the straw tube. This is done by making the straw straight by tensioning the wire and by holding the wire in the middle of the straws by the wire supports. A wire must be pulled through each straw, tensioned and tested. A semi-automated procedure has been developed to do this.

Appendix A provides a checklist to be used by Technicians performing this procedure.

4 Preparation for Delivery


4.1.1 Storage, Packing , and Shipping Requirements

There are no storage, packing, and shipping requirements applicable to this procedure.

5 Environment, Health, and Safety (EH&S)

6 References

6.1 **ATLITD_0008, Wire Subassembly**

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Appendix A

Table Name: tblChecklistInstallSenseWires

Step Check List Steps

1 Scan the "Assembly Procedure for Installing Sense Wires" Product ID Barcode.

2 Scan the Sense Wire Spool Product ID barcode.

3 Scan the Taper Pins Product ID barcode.

4 Insure the work area is clean and wipe down the machine and tools with alcohol. Check wiring, speaker arrangement, and HV box connections. Enter "Done."

5 Wearing gloves, turn on power, air supply, alarm, position the target, and check level. Enter "Done."


6 Check for adequate lead wire on the spool and check for tangles. Enter "Done."

7 Display the Wire Stringing pop-up form.

8 Cover sense wire spool, lead wire, and module ends in bags at the end of the session. Return tools to the box. Enter "Done".

9 To resume stringing later, enter "Repeat"; this will take you to the "Insure work area is clean" step, then click on Save/Restore. When you Restore you will continue from that point. If you are done with the module, scan "Done"

10 Enter "Save" to record data and exit form. Otherwise enter "Cancel" to exit form without saving data.

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Appendix B


frmInstallSenseWires

Tie a parallel knot joining the leader and sense wire and train (without kinks). Take up slack with reel motor if needed.
 Release the weight on the module end.
 While holding the insertion pin, carefully lift the wire out of the slot and start the reel motor.
 . Place a taper pin on the insertion tool.
 . Gently guide the wire until it is ~1 inch from the eyelet.
 . Using the remote turn off the reel motor.
 . Holding the pin about 1 inch from the eyelet, activate the auto-tensioner.
 . Seat the pin and trim wire 0.5 mm from eyelet. Place test wires in position.
 . Move to the back end of the module and check tension.

. If the wire is caught on a twister and the straw must be restrung.
 9.. Place another taper pin on an insertion tool and seat the pin.
 10. Release the tensioner and test the tension.
 11. If the tension low, remove taper pin, replace pin, and retension until in spec.
 12. When the tension is in spec, cut the sense wire 0.5 mm from the eyelet and cut off the knot and remaining bent leader and discard.
 13. Re-set auto-spool in preparation to repeat procedure.

Comment

Exit

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Assembly Procedure for Installing Sense
Wires Product ID Barcode

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Procedure Part Number

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Approvals

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