

HAZARDOUS

STEREO Boom EMC Post-Deploy Procedure - HAZARDOUS

Document # IMP-639-DOC

Revision: A nr

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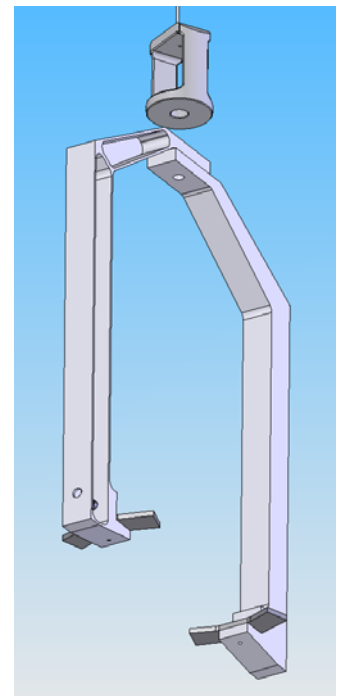
Approved By: Dave Curtis

Date: August 18, 2005

Setup of the STEREO IMPACT Boom for EMC testing after deployment requires handling the deployed Boom with flight instruments and suspended weights attached. Due caution should be taken to assure there are sufficient “keep out” zones below the counterweight and other equipment. Caution should be taken when handling the Boom to maintain a safe distance from any and all obstructions which could cause damage to the Boom or its instrument complement.

A minimum of four (4) people are necessary to perform this operation. Two (2) must be trained in proper handling of the Boom in the deployed configuration.

1. Check that the Boom is fully extended. If necessary, extend by hand until all sections are locked. **CAUTION:** If the Boom is not fully deployed, it may continue to deploy during handling – a situation that is hazardous to personnel and hardware.
2. Remove the Boom from the Spacecraft.
 - a. Disconnect electrical harnesses from connectors J1, J2, J3, J4, J5, and J6.
 - b. Remove two (2) 8-32 screws holding the Grounding Straps to the Spacecraft deck.
 - c. Support the Boom (two people required). Note: Most of the Boom mass is supported by the Counterweight from deployment.
 - d. Remove eight (8) ¼-20 screws holding the Boom to the Spacecraft deck.
3. Slowly walk the fixed end of the Boom away from the spacecraft.
4. When sufficient clearance from the spacecraft is attained (moving the crane trolley may add clearance for the upper end of the Boom), slowly rotate the deployed end of the Boom toward the ground.
5. A second person must catch and support the deployed end as it comes to a reasonable height from the floor.
6. Attach a tether to the Spring Insertion Pin.
7. Remove the Spring Insertion Pin from the hole in Gantry GSE leg 1 and 2 (shown at right).
8. Tie the tether in a convenient place around the room out of the way of activity or personnel for use later retrieving the Spring Insertion Pin.
9. Remove Gantry GSE Leg 1 and 2 (shown at right) from the SWEA.

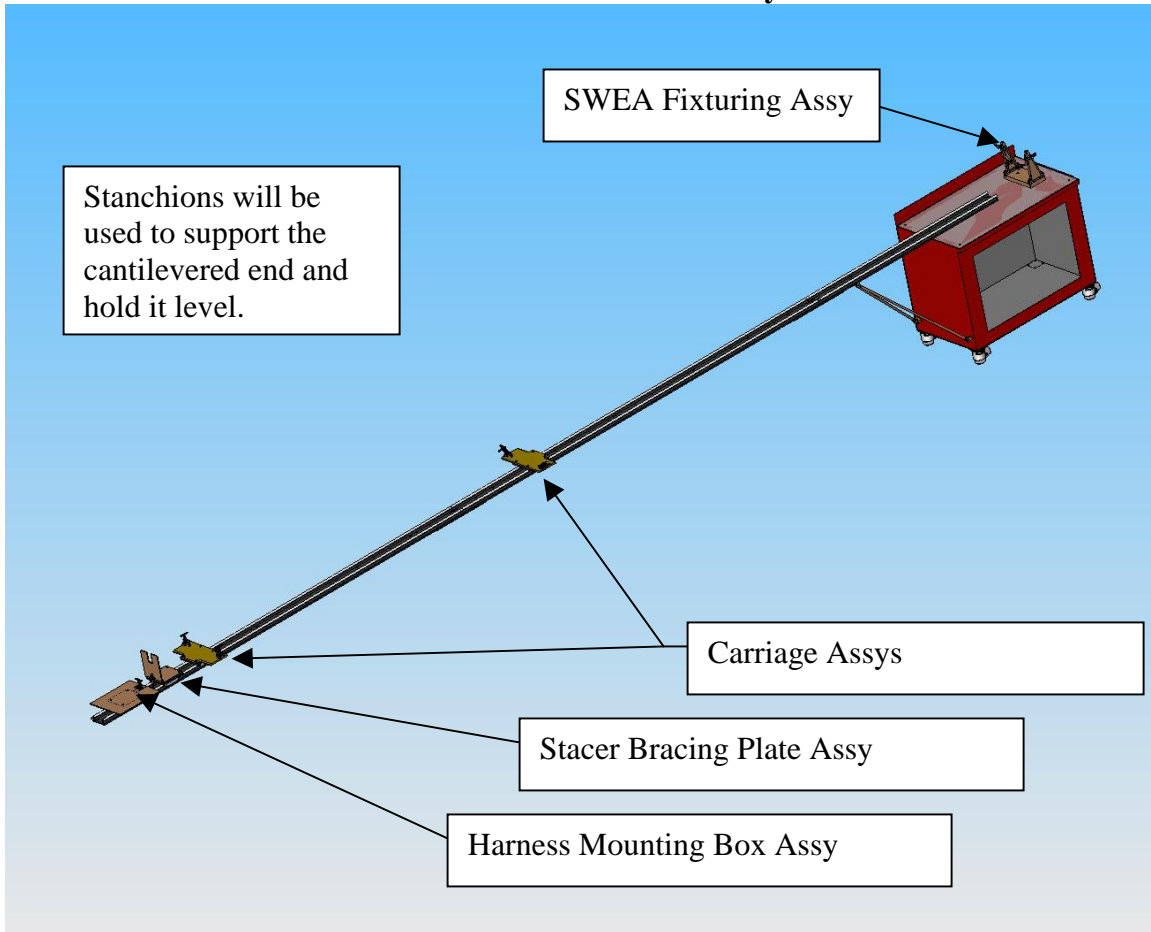


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10. Insert the Boom into the Track Assembly (shown below)
 - a. Insert the SWEA Instrument into the SWEA Fixturing Assembly.
 - b. Align the Boom Mounting feet with the pins in the Boom Carriage Assemblies and secure with the available Destaco clamps. Use caution to prevent damage to SWEA through extraneous motion.
 - c. Tighten thumb screws (4) on the SWEA Fixturing Assembly.

STEREO BOOM Track Assembly GSE



11. Attach the STE-D Red Tag Cover and SWEA Red Tag Purge GSE.
12. Move the Spacecraft and set up for EMC test per APL Procedure APL-PROC-TBD.
13. Remove the Boom from the Track Assembly
 - a. Loosen thumb screws (4) on the SWEA Fixturing Assembly.
 - b. Unlatch the Destaco clamps.
 - c. Remove the Boom from the Assembly.
14. Walkthrough the move of the Boom into the EMC chamber. Check for limitations in clearance for the deployed Boom and check orientation of the Boom. The Boom cannot be manipulated inside the EMC chamber.
15. Slowly walk the Boom into the EMC chamber. One (1) person per end is sufficient.

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16. Align the Boom with the Spacecraft.
17. Attach the Boom to the Spacecraft per APL Procedure APL-PROC-TBD.
 - a. Insert eight (8) 1/4-20 screws holding the Boom to the Spacecraft deck.
 - b. Insert two (2) 8-32 screws holding the Grounding Straps to the Spacecraft deck.
 - c. Connect electrical harness to connectors J1, J2, J3, J4, J5, and J6.
18. Support the SWEA end of the Boom using the EMC Support (GSE-629, shown at right). Adjust the support height as necessary.
19. Attach the purge feed to the Boom Manifold and the purge lines to the instruments (a 20 foot long purge line will be necessary to reach SWEA).
20. Remove the STE and SWEA Red Tag Covers.
21. Run the EMC Test per APL Procedure APL-PROC-TBD.
22. After the test, attach the SWEA and STE Red Tag Covers.
23. Walkthrough the move of the Boom out of the EMC chamber. Check for limitations in clearance for the deployed Boom and check orientation of the Boom. The Boom cannot be manipulated inside the EMC chamber.
24. Disconnect the purge feed to the Boom Manifold and the purge lines to the instruments.
25. Remove the Boom from the Spacecraft.
 - a. Disconnect electrical harnesses from connectors J1, J2, J3, J4, J5, and J6.
 - b. Remove two (2) 8-32 screws holding the Grounding Straps to the Spacecraft deck.
 - c. Support the Boom (two people required) and remove the EMC Support.
 - d. Remove eight (8) 1/4-20 screws holding the Boom to the Spacecraft deck.
26. Slowly walk the Boom out of the EMC chamber. One (1) person per end is sufficient.
27. Insert the Boom into the Track Assembly
 - a. Insert the SWEA Instrument into the SWEA Fixturing Assembly.
 - b. Align the Boom Mounting feet with the pins in the Boom Carriage Assemblies and secure with the available Destaco clamps. Use caution to prevent damage to SWEA through extraneous motion.
 - c. Tighten thumb screws (4) on the SWEA Fixturing Assembly.
28. Refer to the STEREO Boom Stowing Procedure, IMP-449-DOC, Rev. E for further operations.

