

# SPIRE

**SUBJECT:** PFM WIH MECHANICAL INTEGRATION PROCEDURE

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**SPIRE**

**Procedure**

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## 1. SCOPE

This document describes the procedures to be followed when handling and mating the spacecraft and instrument harnesses to the SPIRE Warm Units.

## 2. PREREQUISITES:

1. The eight SPIRE WIH harnesses (W1, W2, W3, W4, W5, W6, W7 and W8) have been delivered and accepted.
2. The WIH harnesses are mounted on their transportation GSE
3. The dummy SPIRE warm units are integrated onto the SVM panel
4. The harness fixation tie bases are mounted on the SVM and on the dummy units
5. The SVM panel is folded out in the horizontal position so that the WIH can be temporarily placed on the panel with sliding off

## 3. NOTES:

1. The WIH are not ESD sensitive, but conductive wrist straps and ESD safe smocks are to be worn while handling the harness.
2. The harnesses are to be susceptible to damage from mechanical handling. Flexure/straining of the harness is to be kept to a minimum.
3. The dummy SPIRE warm units have jackposts mechanically form and fit to SPIRE ICDwgs in IID-B Issue 4.0
4. The connector covers are removed to visually inspect the integrity of the connectors. After the inspection, the covers are replaced to prevent mechanical damage to the contacts.
5. It is not mandatory to use the tie bases mounted on the dummy DCU and FCU during this sequence of harness integration.
6. It may not be possible to secure the SPIRE WIH-XX at all the designated fixation points due to conflicts with the integration of other harnesses on the SVM panel. If this is the case, then the securing of the remaining harnesses is to be recorded in open work

### 4. DETAILED PROCEDURE

No:	Activity	Proc/Dwg	Remarks/Results	Sign off
	<b>De-integration from transportation GSE</b>			
1.	Remove the cable ties from the tie bases on the transportation GSE			
	<b>W8 Integration</b>			
2.	Remove W8 from the transportation GSE			
3.	Demate the dissipative dust cover from FCU P08			
4.	Inspect contacts on FCU P08 for bent pins, debris etc.			
5.	Re-install dissipative dust cover over contact of FCU P08			
6.	Demate the dissipative dust cover from DCU P04			
7.	Inspect contacts on DCU P04 for bent pins, debris etc.			
8.	Re-install dissipative dust cover over contact of DCU P04			
9.	Lay the W8 harness on the SVM panel and secure the FCU P08 and DCU P04 connectors to the dummy connector jackposts.			
	<b>W7 Integration</b>			
10.	Remove W7 from the transportation GSE			
11.	Demate the dissipative dust cover from FCU P07			
12.	Inspect contacts on FCU P07 for bent pins, debris etc.			
13.	Re-install dissipative dust cover over contact of FCU P07			
14.	Demate the dissipative dust cover from DCU P03			
15.	Inspect contacts on DCU P03 for bent pins, debris etc.			
16.	Re-install dissipative dust cover over contact of DCU P03			
17.	Lay the W7 harness on the SVM panel and secure the FCU P07 and DCU P03 connectors to the dummy connector jackposts.			
	<b>W1 Integration</b>			
18.	Remove W1 from the transportation GSE			
19.	Demate the dissipative dust cover from DPU P07			

No:	Activity	Proc/Dwg	Remarks/Results	Sign off
20.	Inspect contacts on DPU P07 for bent pins, debris etc.			
21.	Re-install dissipative dust cover over contact of DPU P07			
22.	Demate the dissipative dust cover from DCU P01			
23.	Inspect contacts on DCU P01 for bent pins, debris etc.			
24.	Re-install dissipative dust cover over contact of DCU P01			
25.	Lay the W1 harness on the SVM panel and secure the DPU P07 and DCU P01 connectors to the dummy connector jackposts.			
	<b>W2 Integration</b>			
26.	Remove W2 from the transportation GSE			
27.	Demate the dissipative dust cover from DPU P10			
28.	Inspect contacts on DPU P10 for bent pins, debris etc.			
29.	Re-install dissipative dust cover over contact of DPU P10			
30.	Demate the dissipative dust cover from DCU P02			
31.	Inspect contacts on DCU P02 for bent pins, debris etc.			
32.	Re-install dissipative dust cover over contact of DCU P02			
33.	Lay the W2 harness on the SVM panel and secure the DPU P10 and DCU P02 connectors to the dummy connector jackposts.			
	<b>W3 Integration</b>			
34.	Remove W3 from the transportation GSE			
35.	Demate the dissipative dust cover from DPU P09			
36.	Inspect contacts on DPU P09 for bent pins, debris etc.			
37.	Re-install dissipative dust cover over contact of DPU P09			
38.	Demate the dissipative dust cover from FCU P03			
39.	Inspect contacts on FCU P03 for bent pins, debris etc.			
40.	Re-install dissipative dust cover over contact of FCU P03			
41.	Lay the W3 harness on the SVM panel and secure the DPU P09 and FCU P03 connectors to the dummy connector jackposts.			
	<b>W4 Integration</b>			
42.	Remove W4 from the transportation GSE			
43.	Demate the dissipative dust cover from DPU P12			

No:	Activity	Proc/Dwg	Remarks/Results	Sign off
44.	Inspect contacts on DPU P12 for bent pins, debris etc.			
45.	Re-install dissipative dust cover over contact of DPU P12			
46.	Demate the dissipative dust cover from FCU P04			
47.	Inspect contacts on FCU P04 for bent pins, debris etc.			
48.	Re-install dissipative dust cover over contact of FCU P04			
49.	Lay the W4 harness on the SVM panel and secure the DPU P12 and FCU P04 connectors to the dummy connector jackposts.			
	<b>W5 Integration</b>			
50.	Remove W5 from the transportation GSE			
51.	Demate the dissipative dust cover from DPU P08			
52.	Inspect contacts on DPU P08 for bent pins, debris etc.			
53.	Re-install dissipative dust cover over contact of DPU P08			
54.	Demate the dissipative dust cover from FCU P01			
55.	Inspect contacts on FCU P01 for bent pins, debris etc.			
56.	Re-install dissipative dust cover over contact of FCU P01			
57.	Lay the W5 harness on the SVM panel and secure the DPU P08 and FCU P01 connectors to the dummy connector jackposts.			
	<b>W6 Integration</b>			
58.	Remove W6 from the transportation GSE			
59.	Demate the dissipative dust cover from DPU P11			
60.	Inspect contacts on DPU P11 for bent pins, debris etc.			
61.	Re-install dissipative dust cover over contact of DPU P11			
62.	Demate the dissipative dust cover from FCU P02			
63.	Inspect contacts on FCU P02 for bent pins, debris etc.			
64.	Re-install dissipative dust cover over contact of FCU P02			
65.	Lay the W6 harness on the SVM panel and secure the DPU P11 and FCU P02 connectors to the dummy connector jackposts.			
	<b>Secure Harness to SVM panel</b>			
66.	Secure harness to remaining tie-bases on the SVM panel and record any that cannot be fastened in outstanding work.			

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