



INSTRUCTION TO SERVICE

ITS: 5000	
SECTION:	260 Battery Compartment
WRITTEN BY:	Mike Pearson
SUBJECT:	Rework BAE Energy Storage System Covers

ITS5000

THIS DOCUMENT AND THE CONTENTS DISCUSSED HEREIN ARE THE CONFIDENTIAL AND PROPRIETARY INFORMATION OF NEW FLYER INDUSTRIES CANADA ULC AND NEW FLYER OF AMERICA INC. AND ARE DISCLOSED BY NEW FLYER IN CONFIDENCE. THIS DOCUMENT AND THE CONTENTS HEREIN ARE NOT TO BE DISCLOSED BY THE INTENDED RECIPIENT WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF NEW FLYER. ANY UNAUTHOIZED DISCLOSURE, REPRODUCTION OR OTHER DISTRIBUTION OF THIS DOCUMENT OR INFORMATION IS STRICTLY PROHIBITED AND MAY RESULT IN ACTION BEING TAKEN AGAINST THE PARTY MAKING THE UNAUTHORIZED DISCLOSURE. THIS DOCUMENT AND ALL COPIES HEREOF MUST BE RETURNED TO NEW FLYER UPON REQUEST.

PROCEDURE:

1. Turn the main battery disconnect switch to the “OFF” position.
2. Follow as per appendix A: Equipment and Personnel Protection.
3. Using approved fall safety protection equipment inspect BAE ESS covers for as follows:
 - a. Hinged filter door installed too far forward exposing the access hole for the filter as shown See Figure 1.

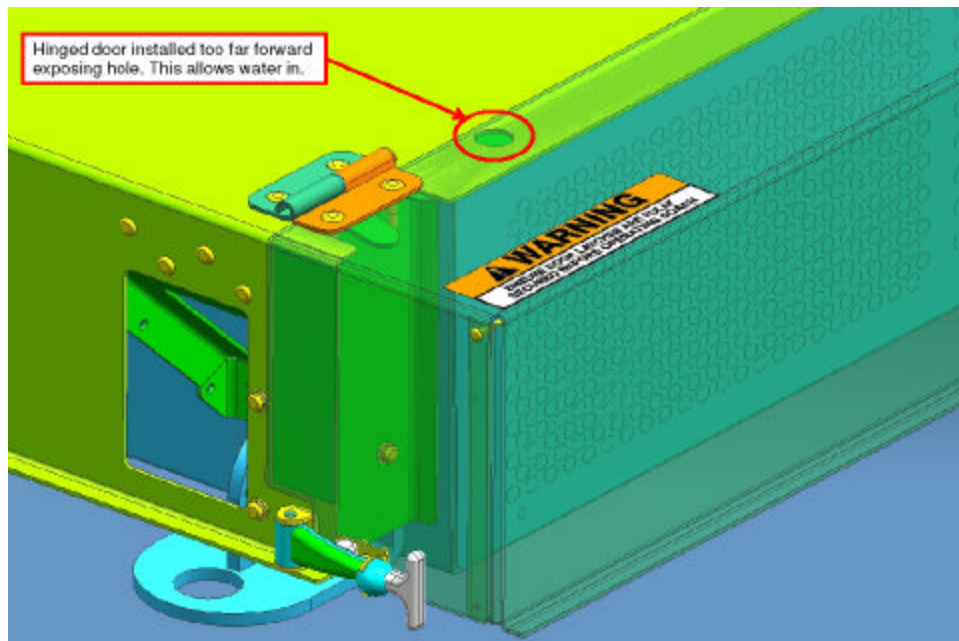
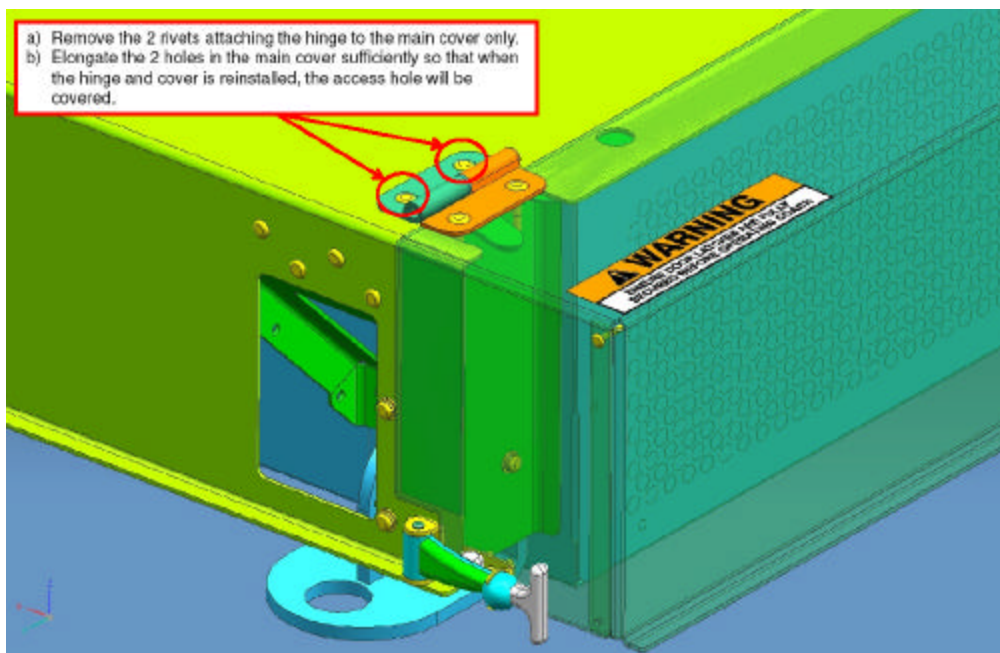
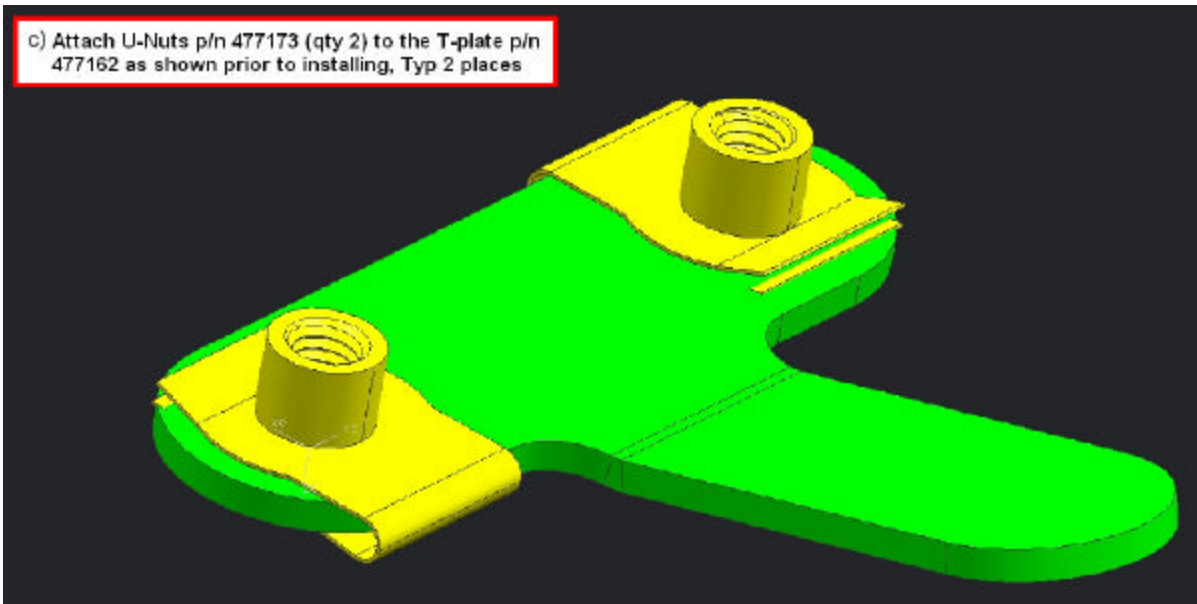


Figure 1: Hinged Door Installed Correctly

1. If any of the of the filter access hole is exposed rework as follows,

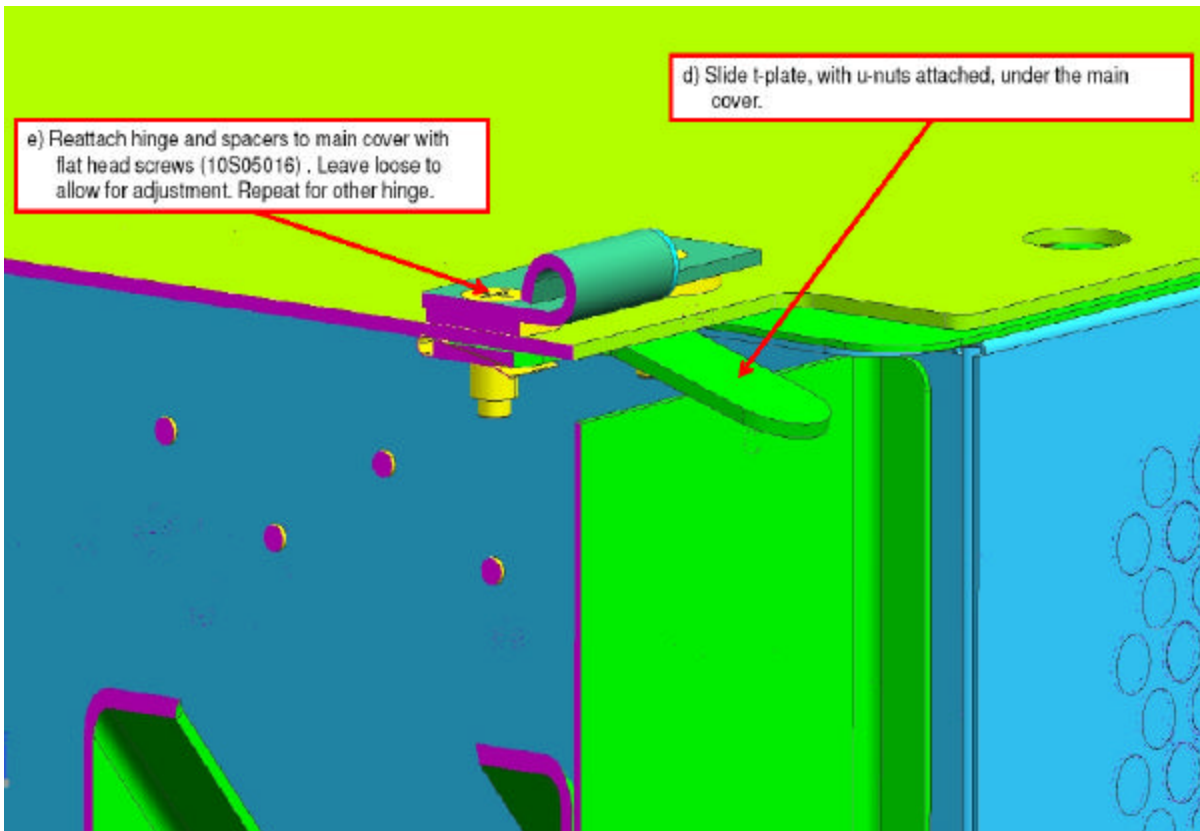


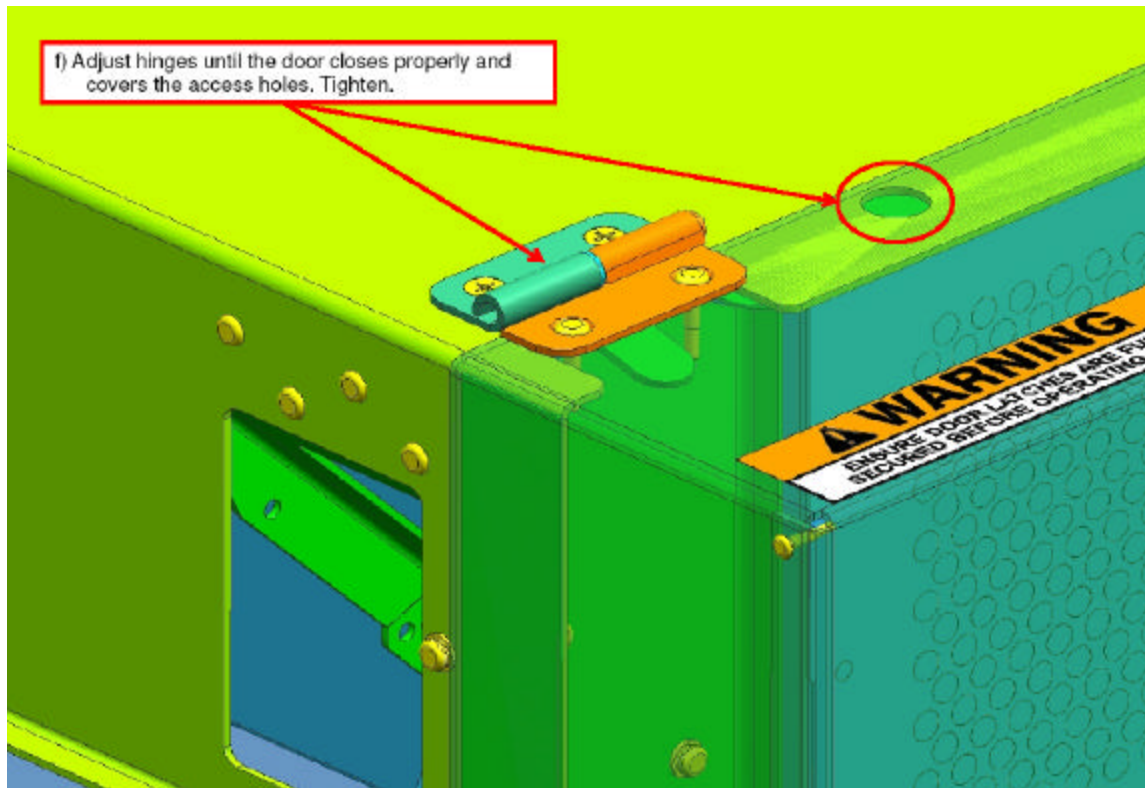
c) Attach U-Nuts p/n 477173 (qty 2) to the T-plate p/n 477162 as shown prior to installing, Typ 2 places



e) Reattach hinge and spacers to main cover with flat head screws (10S05016) . Leave loose to allow for adjustment. Repeat for other hinge.

d) Slide t-plate, with u-nuts attached, under the main cover.





- b. Buckling in the 3 piece cover and delaminating between the cover pieces as Shown in Figure 2.

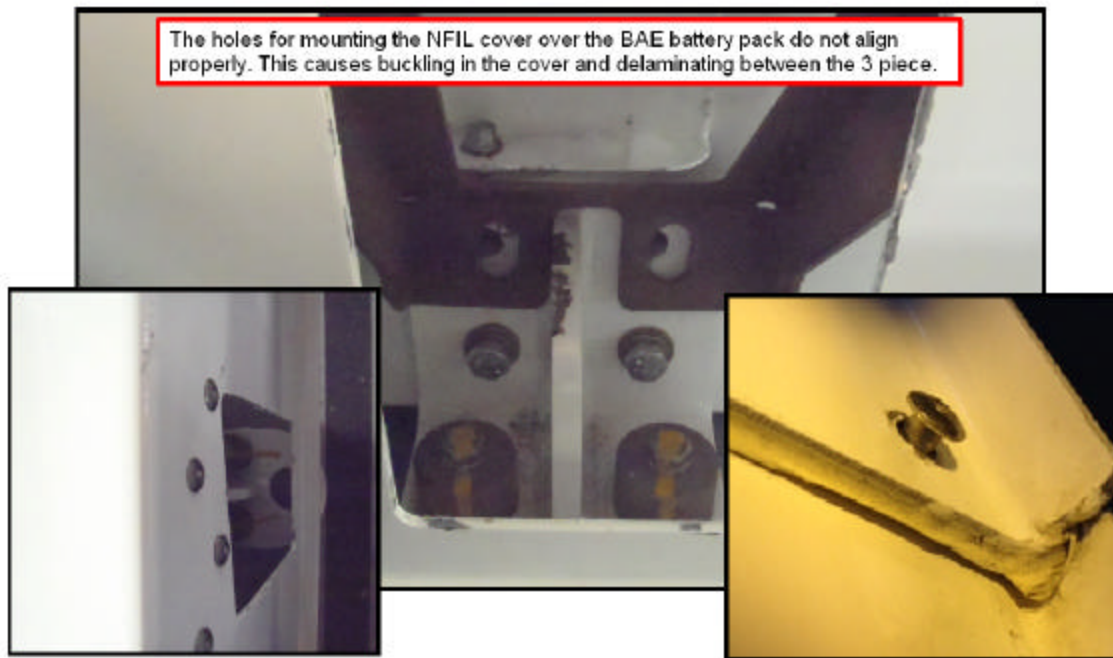
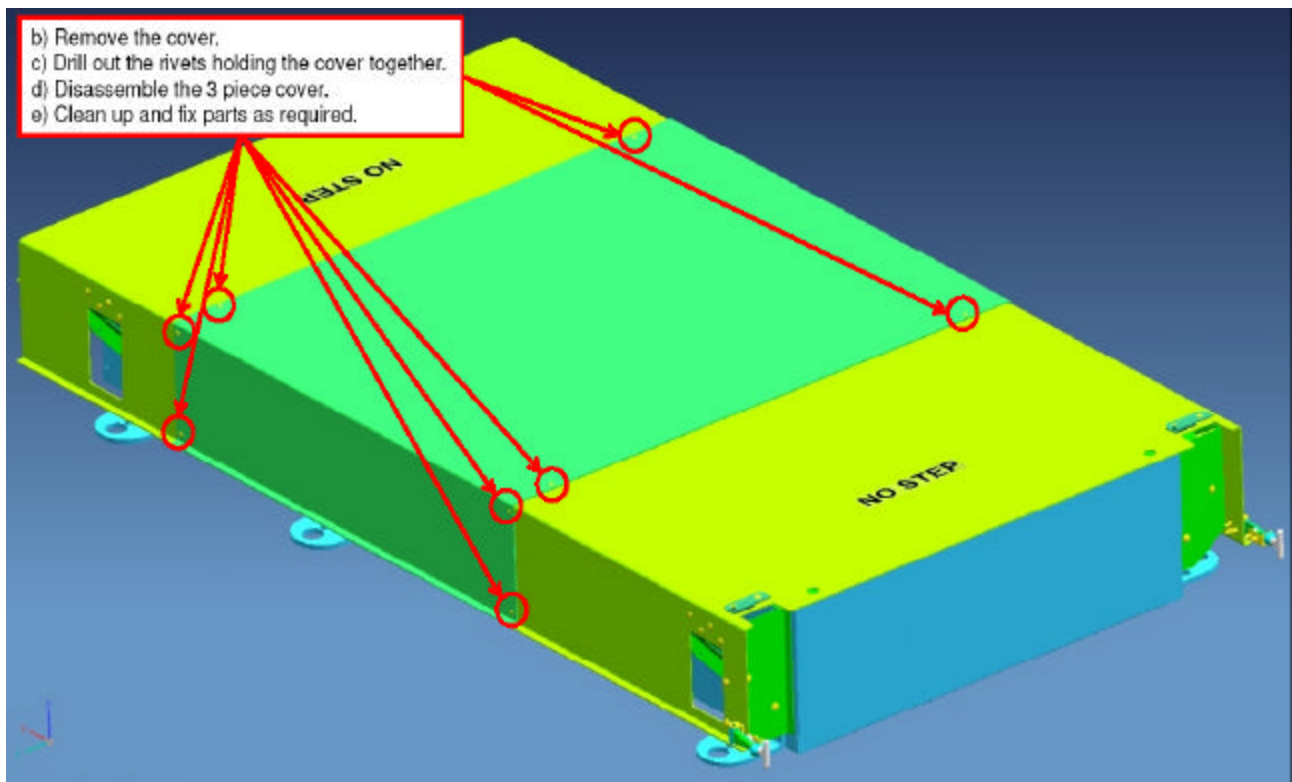
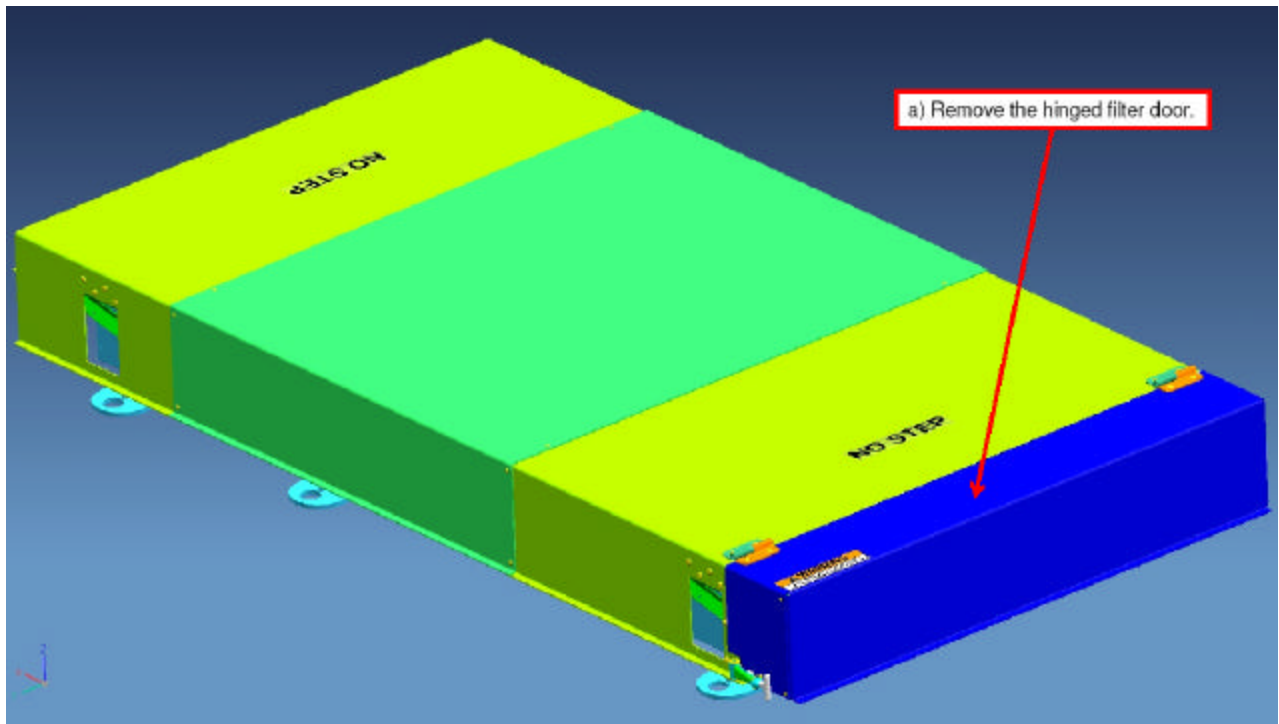
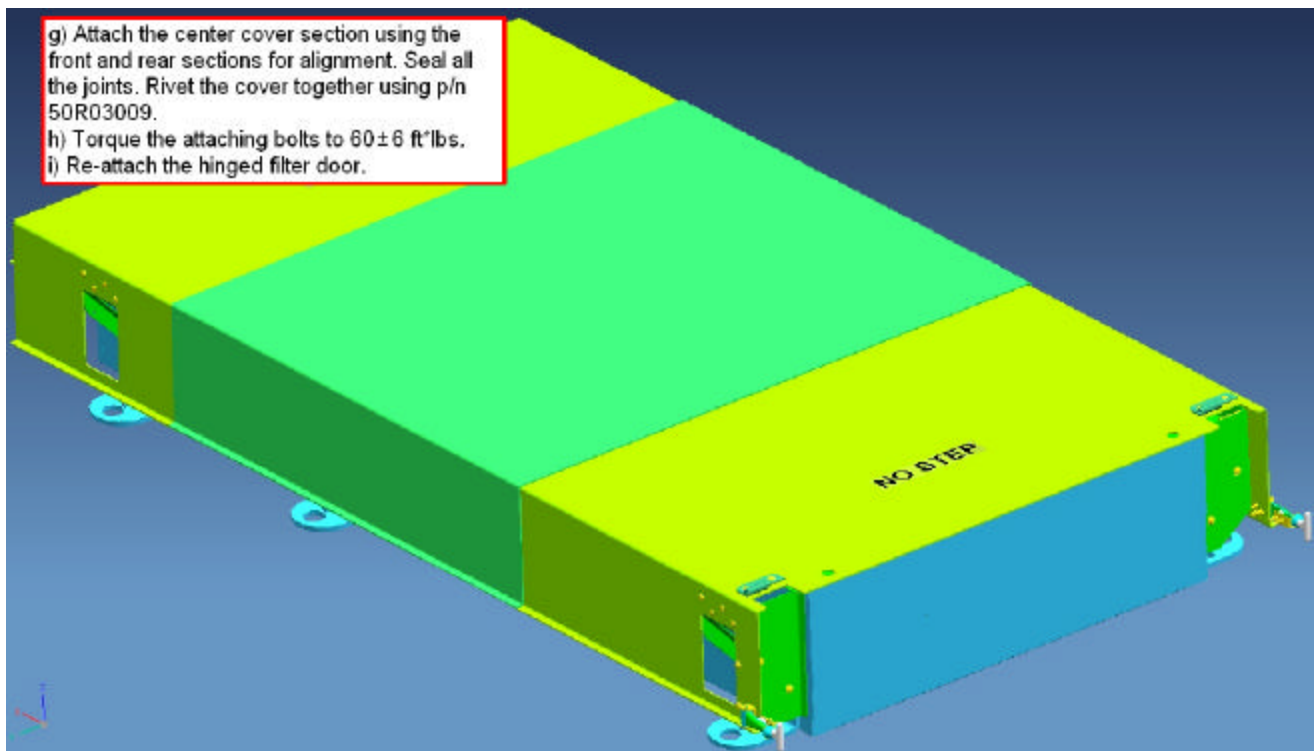
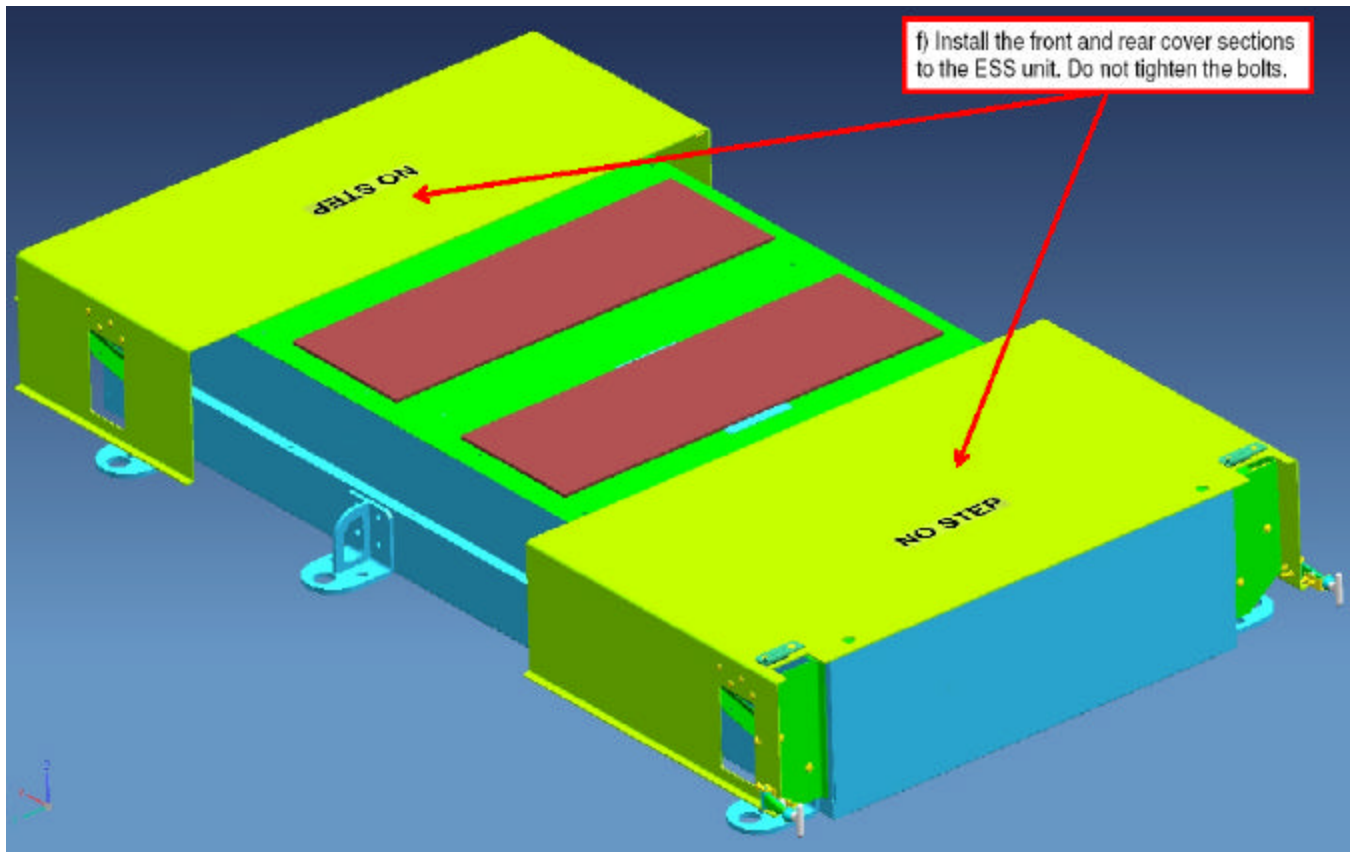


Figure 2: Misalignment of Cover mounting holes

1. If the holes for mounting the NFIL cover over the BAE battery pack do not align properly rework as follows,





c. Paint damage on covers and hinged filter door as shown in Figure 3.



Figure 3: Paint Damage

1. If paint is damaged on any of the 3 piece cover or hinged filter door, prep the surface, prime and paint to match existing color and finish.
4. Turn the main battery disconnect switch to the "ON" position.

Appendix A: Equipment and Personnel Protection



DANGER

RISK OF ELECTRIC SHOCK. ONLY TRAINED SERVICE PERSONNEL SHOULD ACCESS COMPONENT OF THE HYBRIDRIVE® SYSTEM. FAILURE TO OBSERVE ALL HIGH VOLTAGE ELECTRICAL SAFETY PRECAUTIONS MAY RESULT IN PERSONNEL INJURY AND/OR DEATH. REVIEW THE JACKING AND HOISTING PROCEDURES AS DESCRIBED IN THE OEM SERVICE MANUAL PRIOR TO SERVICING THE VEHICLE. USE OF TEST MODE IN IDS IS PROHIBITED WHILE THE VEHICLE IS RAISED ON JACKS OR ON A HOIST. FAILURE TO COMPLY CAN RESULT IN PERSONNEL INJURY AND/OR DEATH AND SEVERE DAMAGE TO THE VEHICLE. EVEN WITH THE BATTERY ISOLATION/MASTER DISCONNECT SWITCH IN THE OFF POSITION, THE HYBRIDRIVE® BATTERY SYSTEM REMAINS A SEVERE SHOCK HAZARD BECAUSE THE BATTERY MODULES THEMSELVES ARE NOT DE-ENERGIZED BY THIS SWITCH. DURING SERVICE REMOVE JEWELRY, WEAR SAFETY GLASSES, AND SAFETY SHOES. WEAR LINESMAN'S HIGH VOLTAGE GLOVES (ASTM CLASS 00 MINIMUM), FIRE-RETARDANT CLOTHING WITH ARC RATING, AND HARD HAT) WHEN WORKING IN OR AROUND THE HYBRIDRIVE® TRACTION BATTERY ENCLOSURES.



WARNING

USE OF THE BATTERY ISOLATION/MASTER DISCONNECT SWITCH IS MANDATORY DURING HYBRIDRIVE® SYSTEM MAINTENANCE. IF THE HEV WAS RUNNING JUST PRIOR TO CONDUCTING MAINTENANCE, ALLOW FOUR MINUTES FOR PROPULSION SYSTEM COMPONENTS TO DISCHARGE ELECTRICITY BEFORE PROCEEDING. THE BATTERY ISOLATION/MASTER DISCONNECT SWITCH MUST BE LOCKED IN THE OFF POSITION WHILE MAINTENANCE IS PERFORMED ON ANY HYBRIDRIVE® COMPONENT. THIS WILL PREVENT ANY INADVERTENT REAPPLICATION OF POWER WHILE MAINTENANCE PERSONNEL MAY BE TOUCHING ANY OF THE HYBRIDRIVE® HIGH VOLTAGE ELECTRICAL CONNECTIONS. ALWAYS USE EXTREME CAUTION WHEN WORKING AROUND THE TRACTION BATTERY ENCLOSURES. ALWAYS VERIFY WITH A DIGITAL MULTI-METER (DMM) THAT AN ELECTRICAL CIRCUIT IS DE-ENERGIZED BEFORE TOUCHING ANY ELECTRICAL CONDUCTOR DURING HYBRIDRIVE® SYSTEM SERVICE.



LABOUR ESTIMATE

	Operation	Men	Hours	Labour Time MX HR
1	Rework BAE Energy Storage System Covers	1	1.5	1.5

PARTS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	477162	Plate-BAE Battery Cover Mods	2	EA	
2	477173	Nut-Clip On 5/16-18	4	EA	
3	10S05016	Screw-FH CR 5/16-18UNC x 1.0" SST	4	EA	
4	50r03009	Rivet-Mono 3/16 Aluminum	12	EA	

SPECIAL TOOLS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1		High Voltage Gloves-ASTM class 00 Min	1	Pair	
2		Safety Shoes	1	Pair	
3		Fire Retardant Clothing with Arc Rating	1	Pair	
4		Hard Hat	1	EA	