


# SERVICE LETTER SL2010-001

Rev.	Date	Description of Revision	Prepared By	Approved
I/R	Mar 17, 2010	Initial Release	T. Bliss	S.F.
A	Aug 9, 2010	Revised Revision Block on Page 1 of 8	C. Hathaway	

**Subject:** Tank Attachment Inspection

**Applicability:** This service letter is applicable to Simplex Manufacturing Model 316 Fire Attack Systems installed on Eurocopter AS322L and EC225 Series Rotorcraft.

**References:** Reference Simplex Model 316 Maintenance Manual (MM) Document Number 316-102005-001 Revision B and Installation Manual Document Number 316-102002-001 Revision D. Follow instructions in manuals where applicable to avoid damage to system while performing procedures in this Service Letter.

**NOTE:** *The information contained in this document is for reference only and does not supersede the service instructions contained in the Maintenance Manual (316-102005-001).*

**Purpose:** This document was drafted as a major inspection guide to ensure system performance and safety is not diminished by age or extended use in a highly corrosive and cyclic environment. Performing the recommended inspections will improve service life of the system and reduce unscheduled maintenance during peak usage.

**Compliance:** Compliance of this service letter is recommended prior to heavy seasonal use on systems that have 3000 hours time in service since new and every 3000 hours thereafter, whichever comes first.

**Weight and Balance:**

No effect.

**Electrical Loads:**

No effect.

**Equipment:**

1. Typical mechanics tool kit
2. Suitable ground handling equipment
3. Shop rags

**Consumables:**

1. Water
2. Acetone
3. MIL-C-16173-D grade 4 Corrosion Inhibitor
4. MS20995C041 Safety wire

**Parts:**

Parts required to comply with this service letter are listed in Table 1. Replacement parts and service kits may be ordered through your local authorized Simplex Representative or directly from Simplex Manufacturing.

**Table 1: Parts**

Tank Attachment Replacement Parts			
Quantity (316)	Quantity (L2 Option)	Part Number	Description
2	2	316-302007-001	Forward Short Cable Assembly
2	2	316-302008-001	Forward Long Cable Assembly
2	2	316-301011-001	Turnbuckle Assembly
2	2	316-301018-001	Aft Support Assembly
2	-	316-301013-001	Hardpoint Link Assembly (standard installation)
-	2	316-301020-001	Hardpoint Link Assembly (L2 option installation)
1	1	316-301007-001	Forward Hardpoint Spacer Block, Center
1	1	316-301002-001	Forward Hardpoint, Center, Upper
1	1	316-301006-001	Forward Hardpoint, Center, Lower
2	2	316-302003-001	Forward Side Hardpoint
2	2	316-302004-001	Aft Hardpoint
2	-	316-301009-001	Aft Side Hardpoint
-	2	316-301025-001	Aft Side Hardpoint Strap



Tank Attachment Replacement Parts			
Quantity (316)	Quantity (L2 Option)	Part Number	Description
-	1	316-301026-001	Aft Side Hardpoint, Left
-	1	316-301026-002	Aft Side Hardpoint, Right
-	2-Ref	316-301024-001	Plate, Hardpoint
Ref	Ref	316-301003-001	Bracket, Forward Hardpoint, Fuselage, Right
Ref	Ref	316-301003-002	Bracket, Forward Hardpoint, Fuselage, Left
Ref	Ref	316-301014-001	Bracket, Aft Strut Mount, Fuselage
Ref	Ref	316-301005-001	Bracket, Forward Hardpoint, Fuselage, Right
Ref	Ref	316-301004-001	Bracket, Forward Hardpoint, Fuselage, Left
-	22	000-110150-000	Bolt, ¼-28
4	12	000-110201-000	Bolt, ¼-28
-	4	000-110200-000	Bolt, ¼-28
-	12	000-110173-000	Bolt, ¼-28
42	30	000-110170-000	Bolt, ¼-28
24	20	000-110172-000	Bolt, ¼-28
12	12	000-001180-000	Bolt, ¼-28
94	105	000-111045-000	Nut, ¼-28
188	199	000-112100-000	Washer, ¼
2	2	000-159100-000	Sealant, 732

**Procedure:**

1. Review rotorcraft log books and determine date of initial installation, hours in service, and time in service of System.
2. At 3000 hours since new, remove tank from rotorcraft in accordance with the MM.

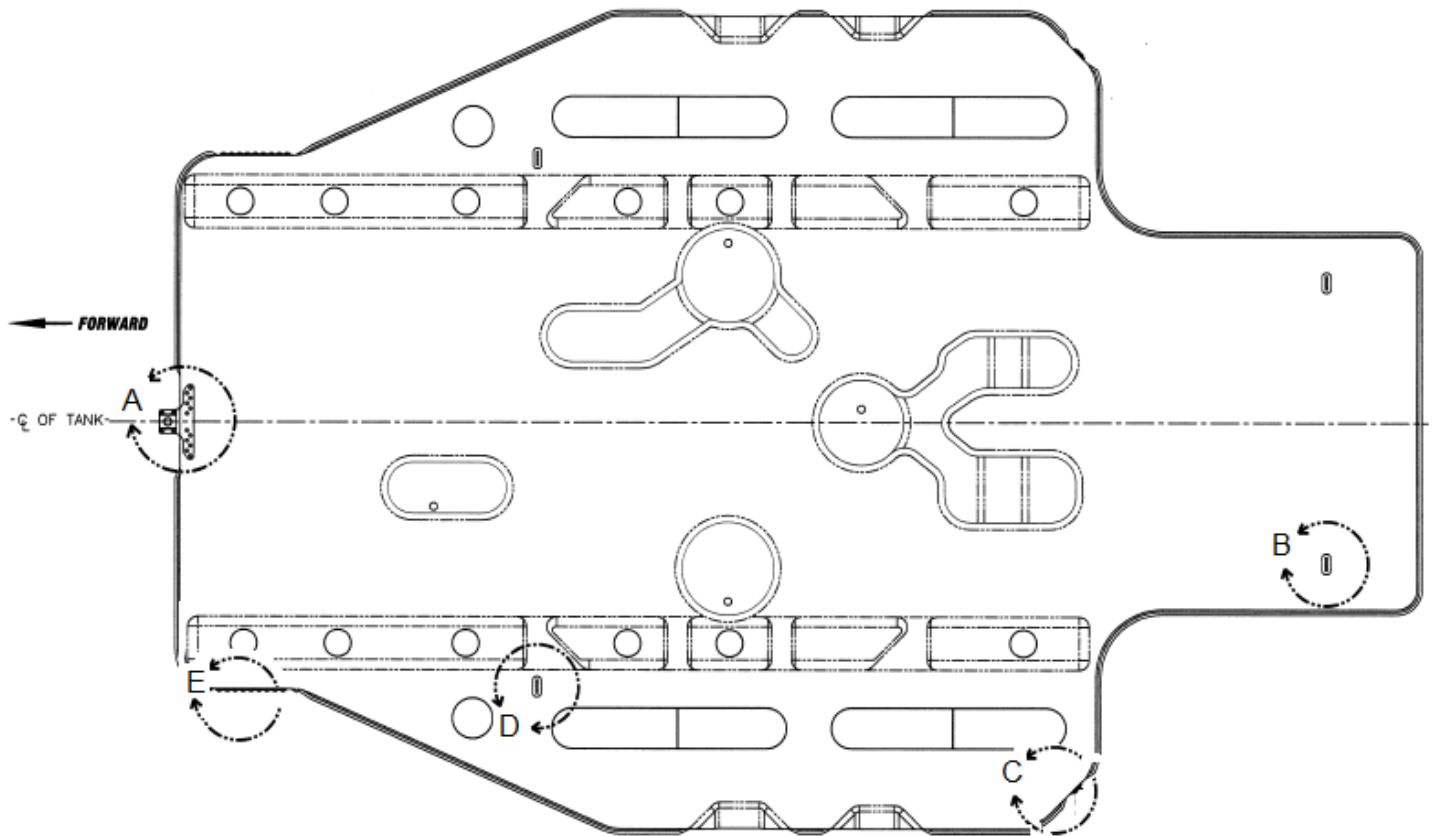
**NOTE:**

*Failure to follow tank removal and installation instructions from the MM could result in damage to system or rotorcraft.*

3. Thoroughly clean tank, inside and out.
4. Flush system with fresh water.
5. Inspect tank for signs of corrosion, leaks, loose or missing hardware and other signs of damage.
6. Inspect fuselage and tank mounting brackets for condition, hole elongation, cracks and loose hardware. Replace brackets if any damage is found.

**NOTE:** *Cracked or loose paint is an indication of underlying damage, if found, remove any paint from attachment parts for further inspection by dye-penetrant or equivalent non-destructive method.*

7. Remove tank attachment brackets shown circled in Figure 1 (symmetric about the tank centerline) and discard. Detail C is different for the L2 option and shown in Figure 4.



**Figure 1 Model 316 Tank Attachment Locations**

8. Clean mounting locations thoroughly to ensure removal of any old sealant residue.

**NOTE:** *Failure to thoroughly clean the tank pass-through locations could result in leaks.*

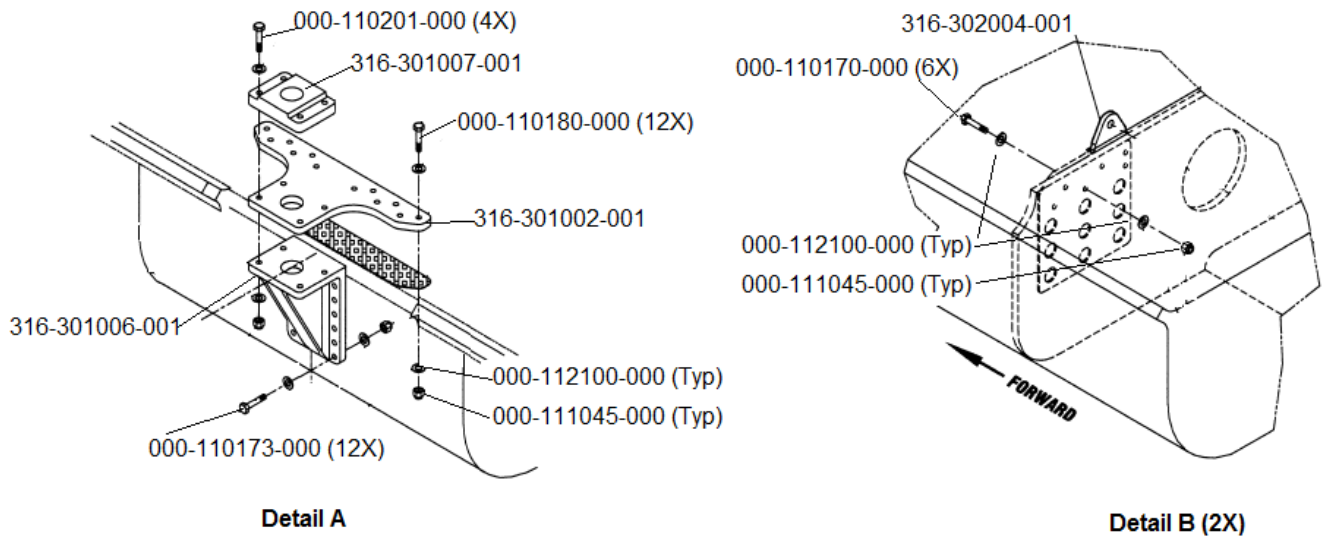
9. Inspect composite tank structure for damage and repair in accordance with MM, tank repair procedures.

**NOTE:** *Cracks within 2" of any tank attachment point are not customer repairable. Contact Simplex Manufacturing for direction if a crack is found in the vicinity of an attachment fitting (Ref MM 316-102005-001).*

10. Clean and inspect all tank attachment fittings by dye penetrant inspection or other nondestructive testing method. Certify all fittings free of flaws. If a flaw or defect is found, replace the defective component as listed in Table 1.
11. Replace defective tank attachment brackets and fittings from Step 5. Replace all hardware and support cables. See details A through E for exploded views and parts identification.

**NOTE:**

*Ensure all tank pass-throughs are sealed with 732 sealant or equivalent. Torque all 1/4" hardware that passes through tank wall to 30-40 inch pounds (316-102002-001).*


**Figure 2 Details A and B**

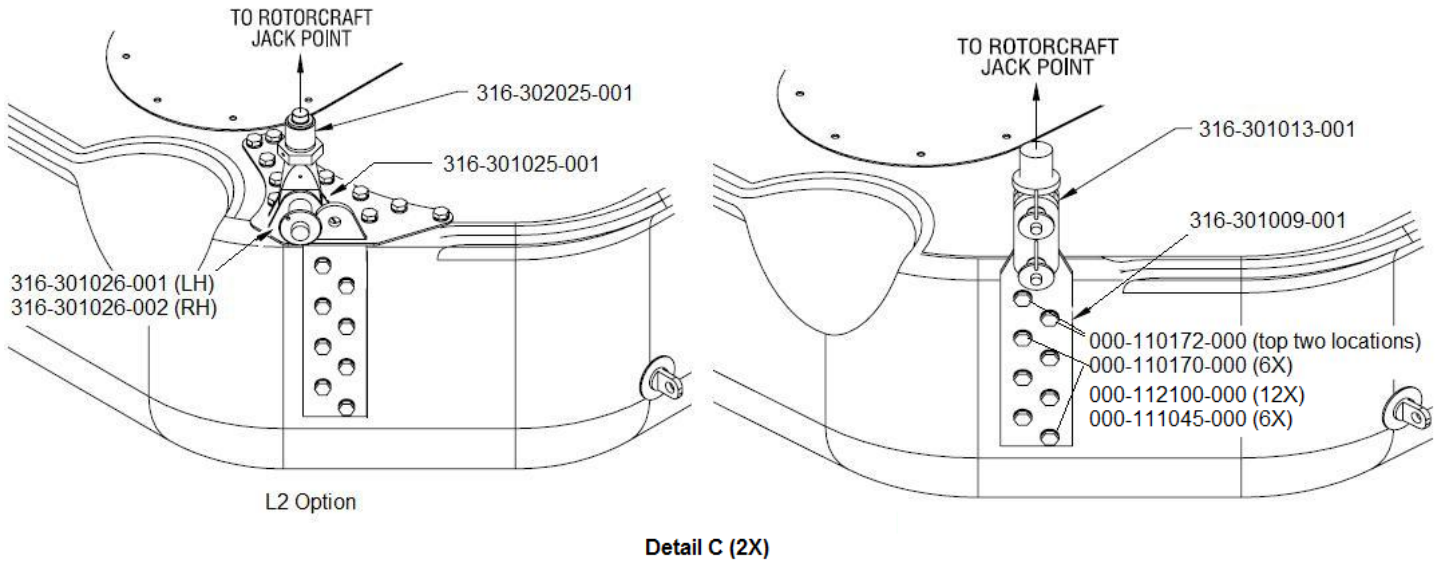


Figure 3 Detail C (1 of 2)

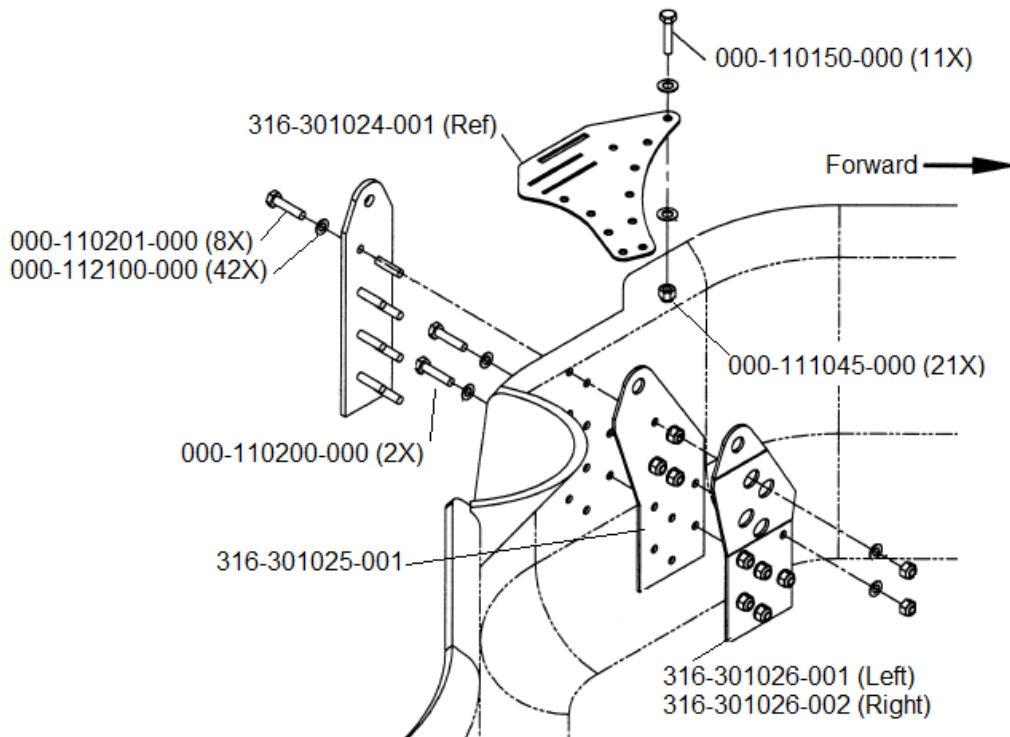


Figure 4 Detail C (2 of 2) Sta. 232.48, L2



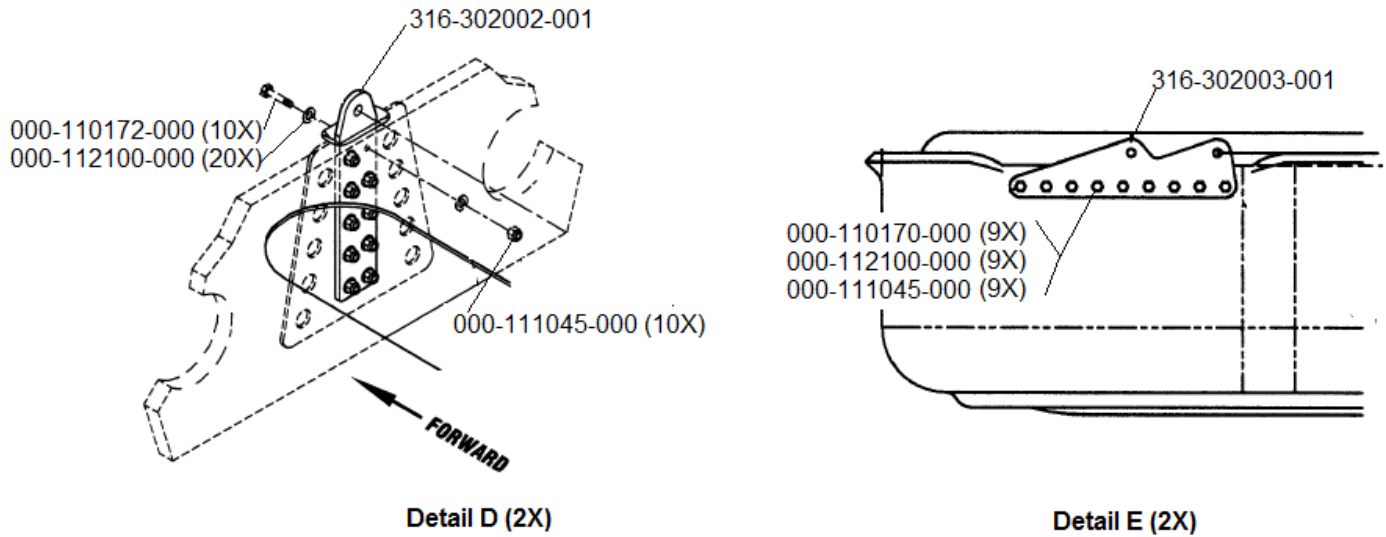


Figure 5 Details D and E

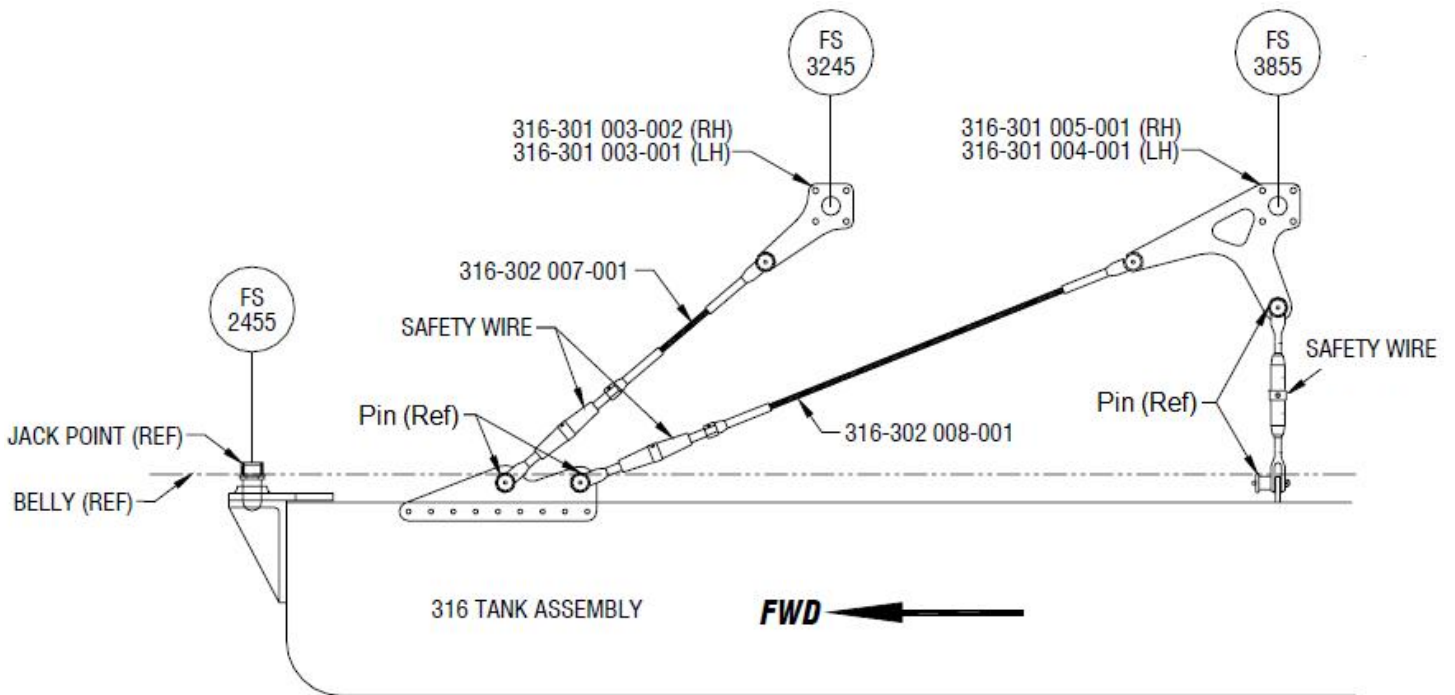


Figure 6 Cable Details

12. Allow a minimum of 24 hours for 732 sealant to dry prior to filling tank with liquid.
13. Leak check tank prior to reinstallation.
14. Reinstall tank per MM 316-102005-001.
15. Adjust turnbuckles and aft hardpoint links per Installation Manual 316-102002-001 (Figure 6).
16. Tank should be centered with aft support rods equal  $\pm 0.125$ " (316-102002-001).
17. All four support cables should be taut but not tight and deflect approximately  $\frac{1}{2}$ " when a side load of 10 pounds is applied (316-102002-001).
18. Safety wire turnbuckles or use MS series locking clips as appropriate per standard aviation practices and AC43.13.
19. Make the appropriate logbook entries and return rotorcraft to service.

