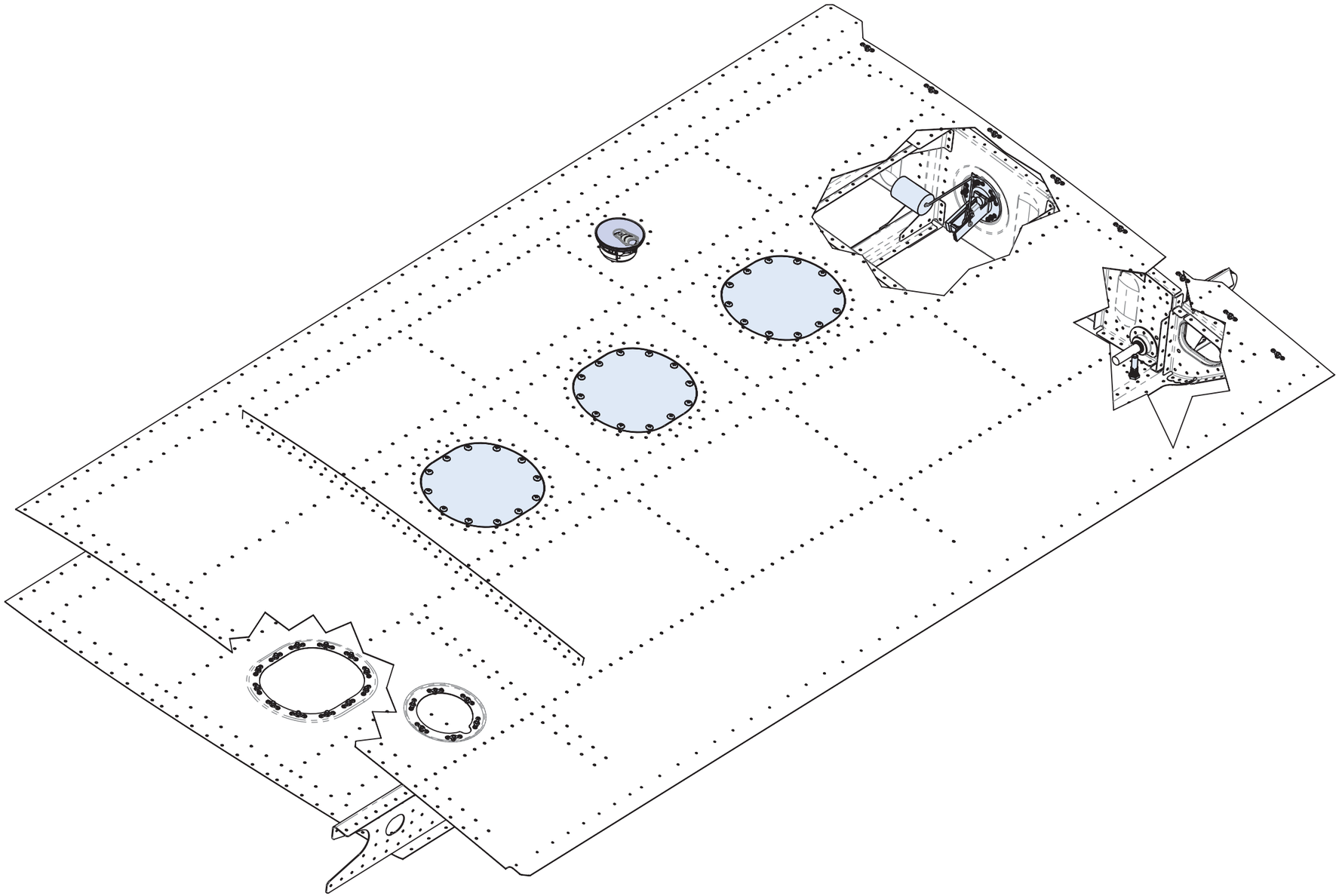
SECTION 21

RV-15
VAN'S AIRCRAFT



T-15511
FUEL SENDER ASSEMBLY

ASSM PARTS LIST					
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	-L ASSM QTY.	-R ASSM QTY.
1	IE F-385B	FUEL LEVEL SENDER UNIT	VARIOUS	1	1
2	T-00007D	FUEL CAP, METAL, NON-LOCKING	SEE DETAIL	1	1
3	T-15509-001	TANK SUBASSM, WING	SEE PARTS LIST	1	-
4	T-15509-002	TANK SUBASSM, WING	SEE PARTS LIST	-	1
5	W-15040-001	PLATE, COVER	.025 2024-T3 ALCLAD SHEET	4	4
6	AN426AD3-3.5	RIVET, SOLID COUNTERSUNK	ALUMINUM	52	52
7	AN525-832R8	SCREW, WASHER HEAD	ALLOY STEEL	5	5
8	AN526C832R6	SCREW	300 SERIES STAINLESS STEEL	48	48
*9	AN929-4D	CAP, FLARED FITTING	2024 ALUMINUM	1	-
*10	AN929-6D	CAP, FLARED FITTING	2024 ALUMINUM	1	-
*11	EA HOSE H177X3	HOSE 3/8 IN ID X 3 IN	RUBBER	1	-
12	ES-00313	RING TERMINAL TO SPADE CONNECTOR	NICKEL PLATED COPPER	1	1
*13	FUEL TANK AIR VALVE	VALVE, AIR TANK LEAK CHECK	BRASS	1	-
*14	HW-00015	#4 HOSE CLAMP	STAINLESS STEEL	2	-
15	K1000-08D	NUTPLATE, 8-32 DIMPLED	STEEL	26	26
16	MS35333-38	WASHER, INTERNAL TOOTH	STEEL	2	2
17	SA187	DRAIN VALVE	CADMIUM PLATED STEEL	1	1

RV-15
VAN'S AIRCRAFT

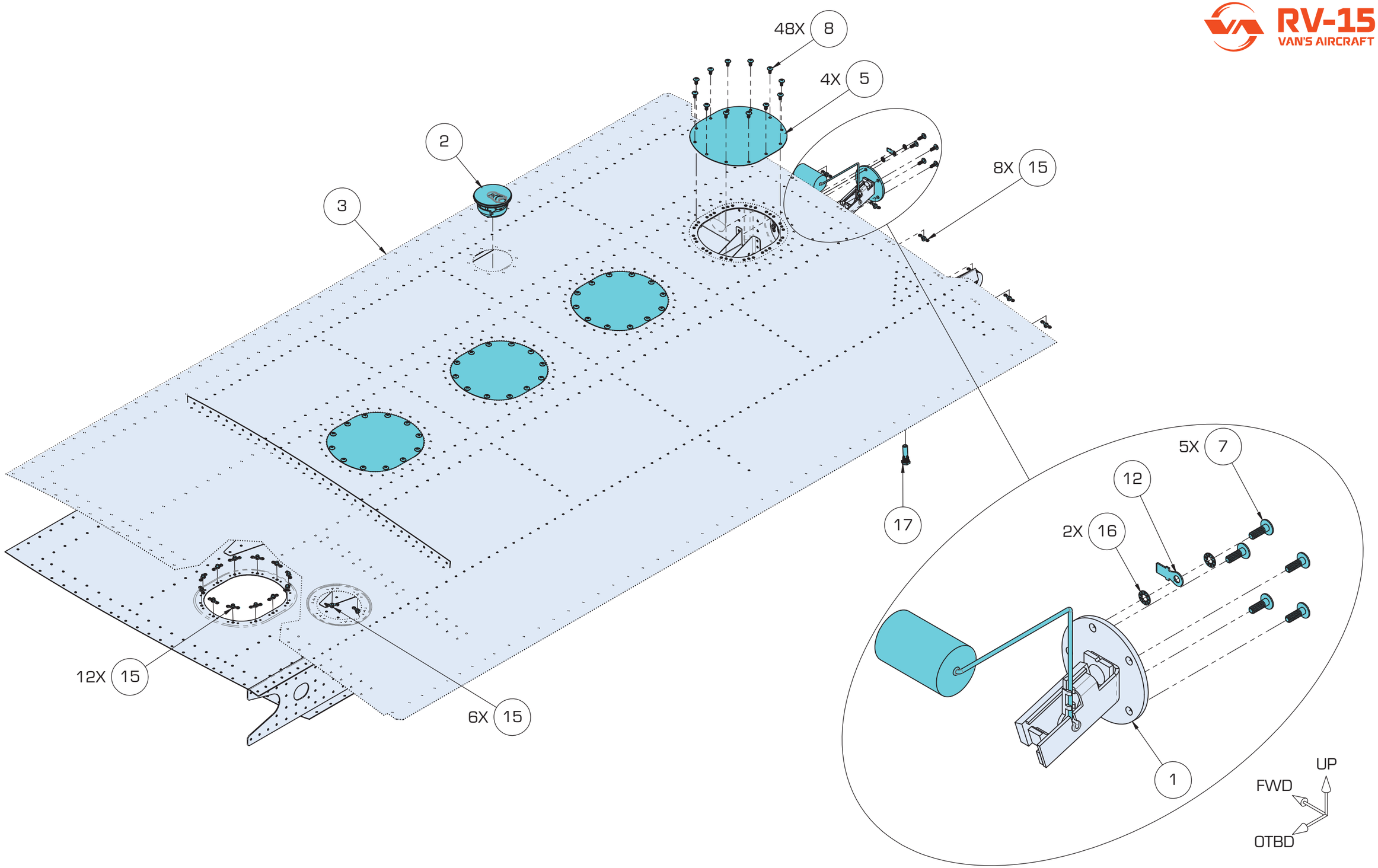
NOTE: Except where separate instructions and/or figures exist for both left and right sides of the aircraft, only the left side parts, assemblies, or installations will be shown.

It is the builder's choice as to whether to complete all steps for the left side before repeating those steps for the right side or to complete each step for both left and right sides concurrently before moving to the next step.

*For pressure testing, not part of the completed aircraft.

T-15511 ASSEMBLY

RV-15
VAN'S AIRCRAFT



T-15511 ASSEMBLY

GENERAL NOTES AND COMMON REFERENCES

Applicable Section References:

- **Section 5.2** - Edge Finishing, Deburring & Scratch Removal
- **Section 5.3** - Marking Parts
- **Section 5.4** - Riveting
- **Section 5.17** - Fuel Tank Sealant
- **Section 5.20** - Nut & Bolt Torques
- **Section 5.26** - Hardware Reference
- **Section 5.27** - Fluid Fittings

Tools & Consumables Used This Section:

- Acetone
- Avgas
- Fuel Tank Sealant
- Balloon
- Bench Vice (Soft Jaws or Soft Jaw Inserts)
- Die Set [Flush Head]
- Hammer or Mallet
- Hand Pump
- Multimeter
- Plastic Razor Blade
- Rivet Squeezer
- Scotch Brite Pad
- Screwdriver [Phillips]
- Spring Clecos [3/32 VANS P/N "TOOL CL332"]
- Tape
- Thread Sealant

BUILDER FEEDBACK QR CODE

www.vansaircraft.com/kit-assembly-instructions-feedback/

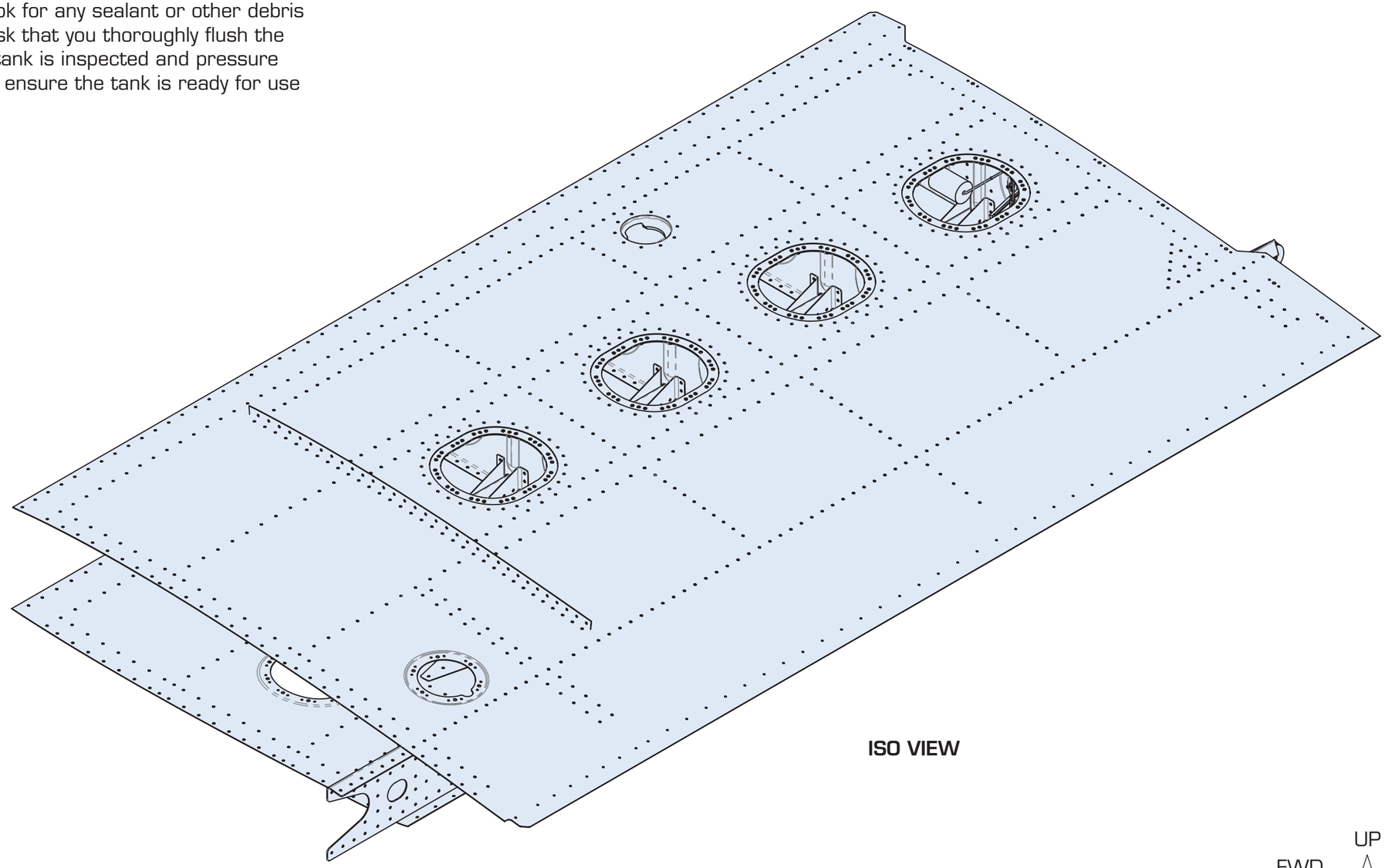
WARNING: Do NOT prime any surface that will be in contact with Fuel or Fuel Tank Sealant.

Part Preparation:

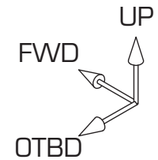
- ☐ **Step 1:** Layout all parts
- ☐ **Step 2:** Deburr all edges
- ☐ **Step 3:** Scuff and clean all surfaces that interface with Fuel Tank Sealant
- ☐ **Step 4:** Prime all parts as required

T-15511 ASSEMBLY

After liberating the tanks from the packing, inspect thoroughly for damage that might have occurred in transit. Inspection panels are uninstalled for your convenience. Conduct a full inspection of the interior of the tank, in particular looking for “tendrils” or drips of sealant that may become loose. Fuel passageways between the ribs and the hat sections and the tank end ribs must remain clear to allow water to drain and proper fuel supply to the engine at low fuel levels. Use a bright light and mirror to look for any sealant or other debris that may obstruct water or fuel. Finally, we ask that you thoroughly flush the tanks with avgas as a final step. While each tank is inspected and pressure tested at the factory, it’s vitally important you ensure the tank is ready for use before continuing.



ISO VIEW



T-15511 ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
3	T-15509-001	TANK SUBASSM, WING	1

RV-15
VAN'S AIRCRAFT

☐ **Step 1:** Conduct full inspection of tank interior.

☐ **Step 2:** Use bright light and mirror to inspect corners [A] (8 places) of spanwise lateral hat sections where skins meet. Verify no sealant obstructs gaps. Check for "tendrils" of sealant at structure/skin joints. Tendrils may be (and most commonly are) dangling from bottom of rivets as well.

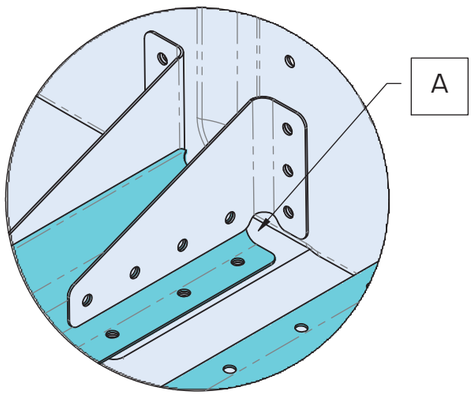
☐ **Step 3:** Thoroughly clean tank interior and remove any debris or contamination found during inspection.

☐ **Step 4:** Add clean **Avgas** to tank. Use only enough to wet and wash all bays and low areas (approx. 3 gallons).

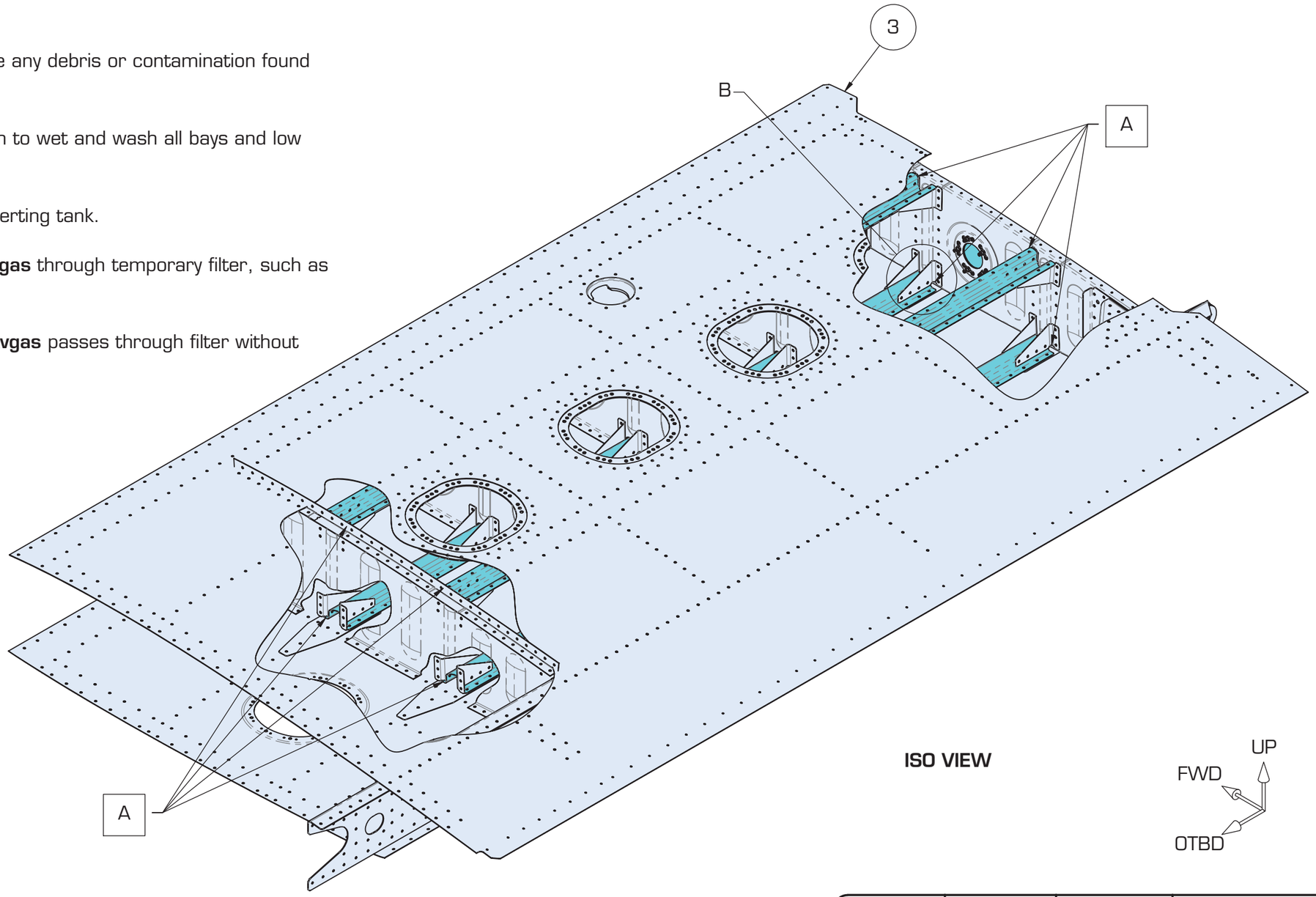
☐ **Step 5:** Gently slosh and rotate tank, including inverting tank.

☐ **Step 6:** Drain **Avgas** into clean container. Run **Avgas** through temporary filter, such as fine cloth draped over clean bucket.

☐ **Step 7:** Repeat Steps 4 through 6 until drained **Avgas** passes through filter without visible debris.



DETAIL B



ISO VIEW

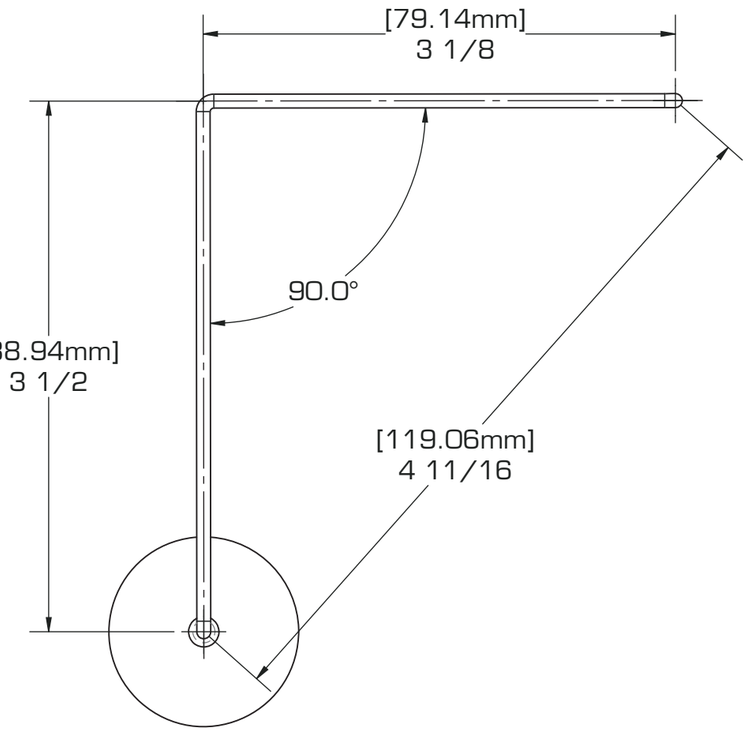
T-15511 ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	IE F-385B	FUEL LEVEL SENDER UNIT	1

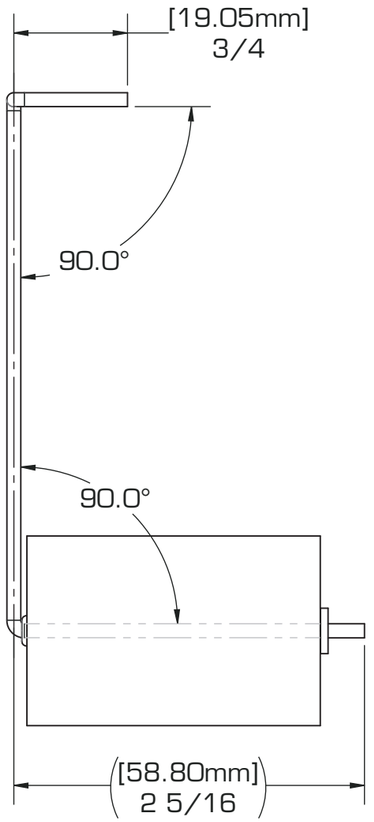
NOTE: Confirm printed scale is precisely **1:1** per **Section 3, Figure 5** before using the following views as templates.

NOTE: Left and right side **Float Wire Arms** are identical.

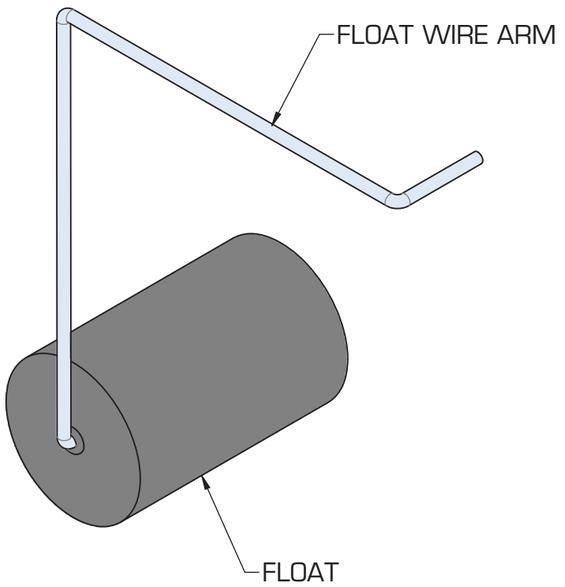
☐ **Step 1:** Add bends to **Float Wire Arm** to match template specifications.



SIDE VIEW



BACK VIEW



ISO VIEW

[266.70mm]
10 1/2
FOR SCALE

[419.10mm]
16 1/2
FOR SCALE

1:1 TEMPLATE

T-15511 ASSEMBLY

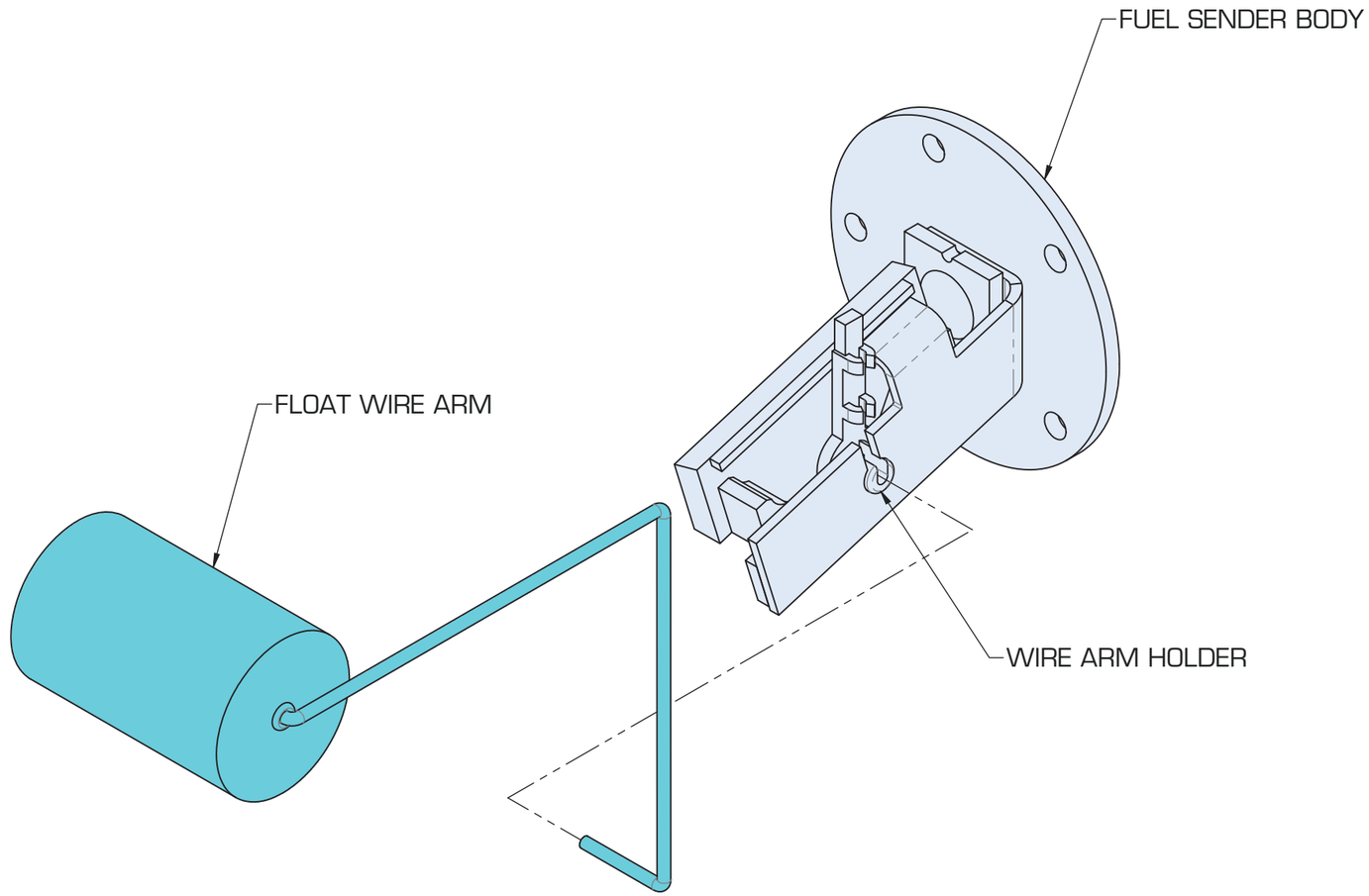
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	IE F-385B	FUEL LEVEL SENDER UNIT	1

RV-15
VAN'S AIRCRAFT

NOTE: Ensure components securely snap together.

NOTE: Setup for left and right side **Fuel Level Sender Unit** is identical.

☐ **Step 1:** Install **Float Wire Arm** into **Wire Arm Holder** in **Fuel Sender Body**.



T-15511 ASSEMBLY

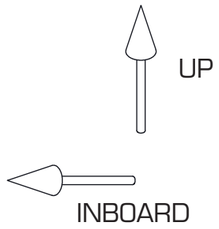
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	IE F-385B	FUEL LEVEL SENDER UNIT	1
3	T-15509-001	TANK SUBASSM, WING	1

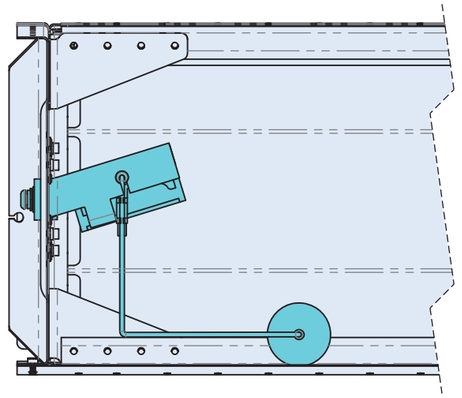
NOTE: Float and **Float Wire** shall not contact either top or bottom tank skin when sender reaches travel limits.

NOTE: Right wing **Fuel Level Sender Unit** is rotated 180°. EFIS will need to be programmed with one side indicating FULL with high resistance and the other side indicating EMPTY with high resistance.

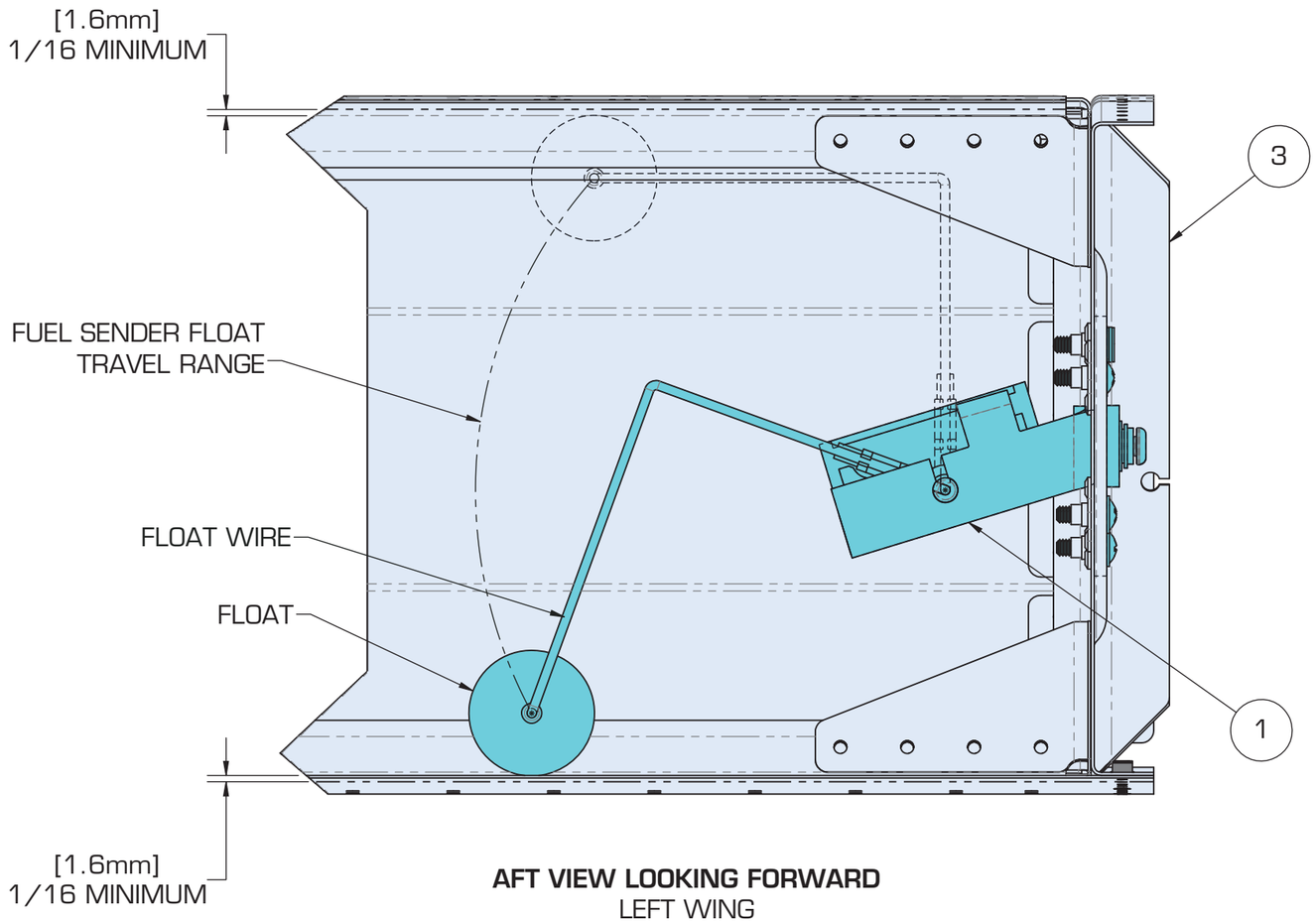
☐ **Step 1:** Install (1) into (3) temporarily.

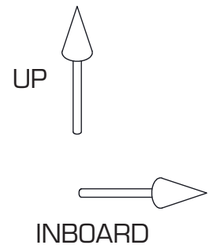
☐ **Step 2:** Adjust **Float Wire** bends as required to allow full travel of **Float** within 1/16 in [1.6mm] of top and bottom of tank.





AFT VIEW LOOKING FORWARD
RIGHT WING





AFT VIEW LOOKING FORWARD
LEFT WING

T-15511 ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	IE F-385B	FUEL LEVEL SENDER UNIT	1
3	T-15509-001	TANK SUBASSM, WING	1
7	AN525-832R8	SCREW, WASHER HEAD	5
12	ES-00313	RING TERMINAL TO SPADE CONNECTOR	1
16	MS35333-38	WASHER, INTERNAL TOOTH	2

NOTE: Leaving specified thickness of sealant is important, should (1) ever need to be removed.

Allows sufficient gap for blade to be inserted between (1) and (3) to cut sealant bond.

NOTE: (12) must have electrical continuity to (3) after installation. Check using **Multimeter**.

☐ **Step 1:** Discard gasket supplied with (1)

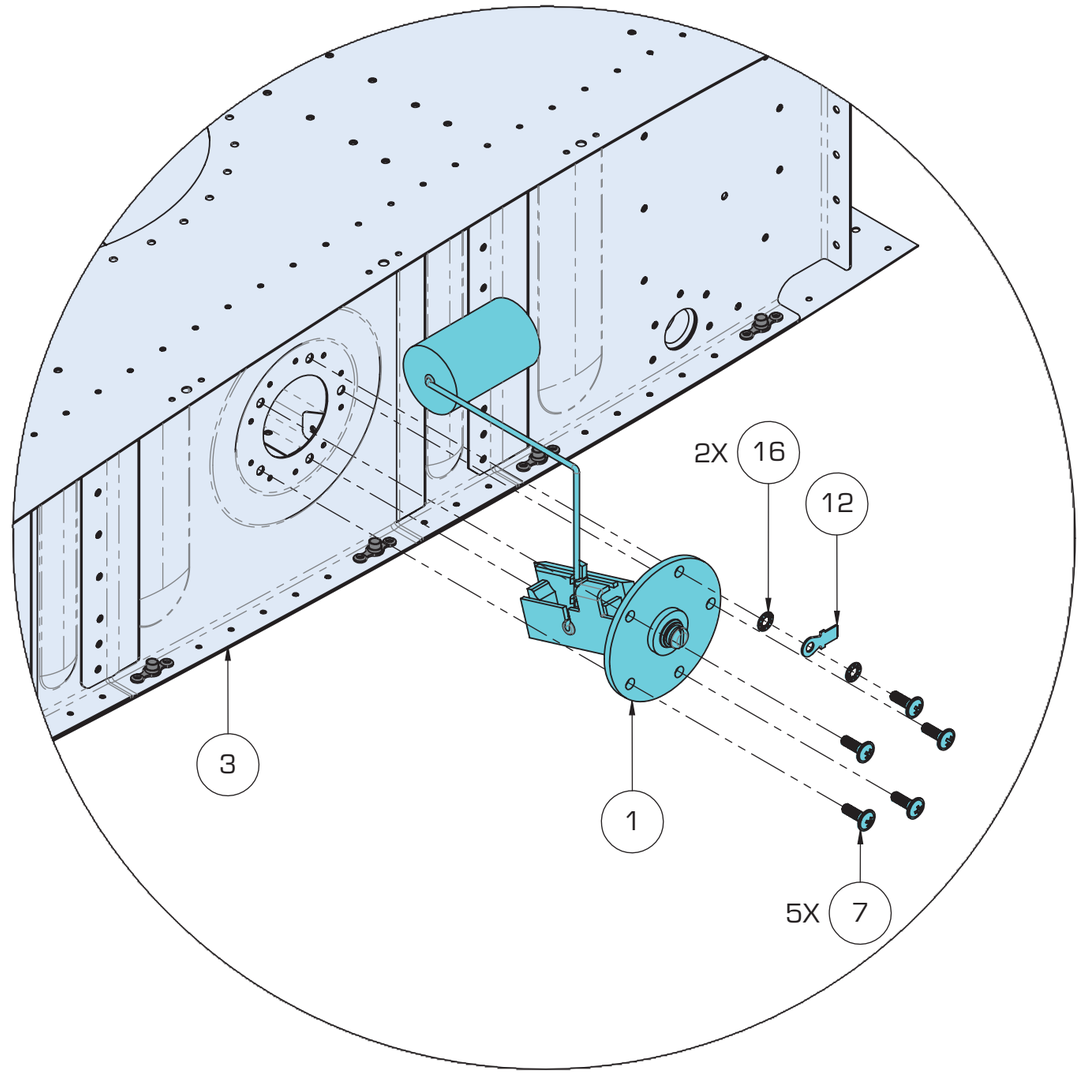
☐ **Step 2:** Apply 1/16 in [1.6 mm] thick layer **Fuel Tank Sealant** to (3) where (1) will be installed.

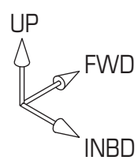
☐ **Step 3:** Place (1) into position on (3) Do not push completely down into "bed" of sealant.

☐ **Step 4:** Start each (7) into holes of (1) Stack (16) (12) (16) under head of topmost (7) which shall be free of sealant to ensure continuity.

☐ **Step 5:** Evenly and progressively tighten (7) just enough to cause sealant to bulge evenly from underneath perimeter of (1). When finished, there shall be minimum 1/32 in [0.7mm] sealant layer between (1) and (3)

☐ **Step 6:** Backseal each (7) with **Fuel Tank Sealant** inside tank.





T-15511 ASSEMBLY

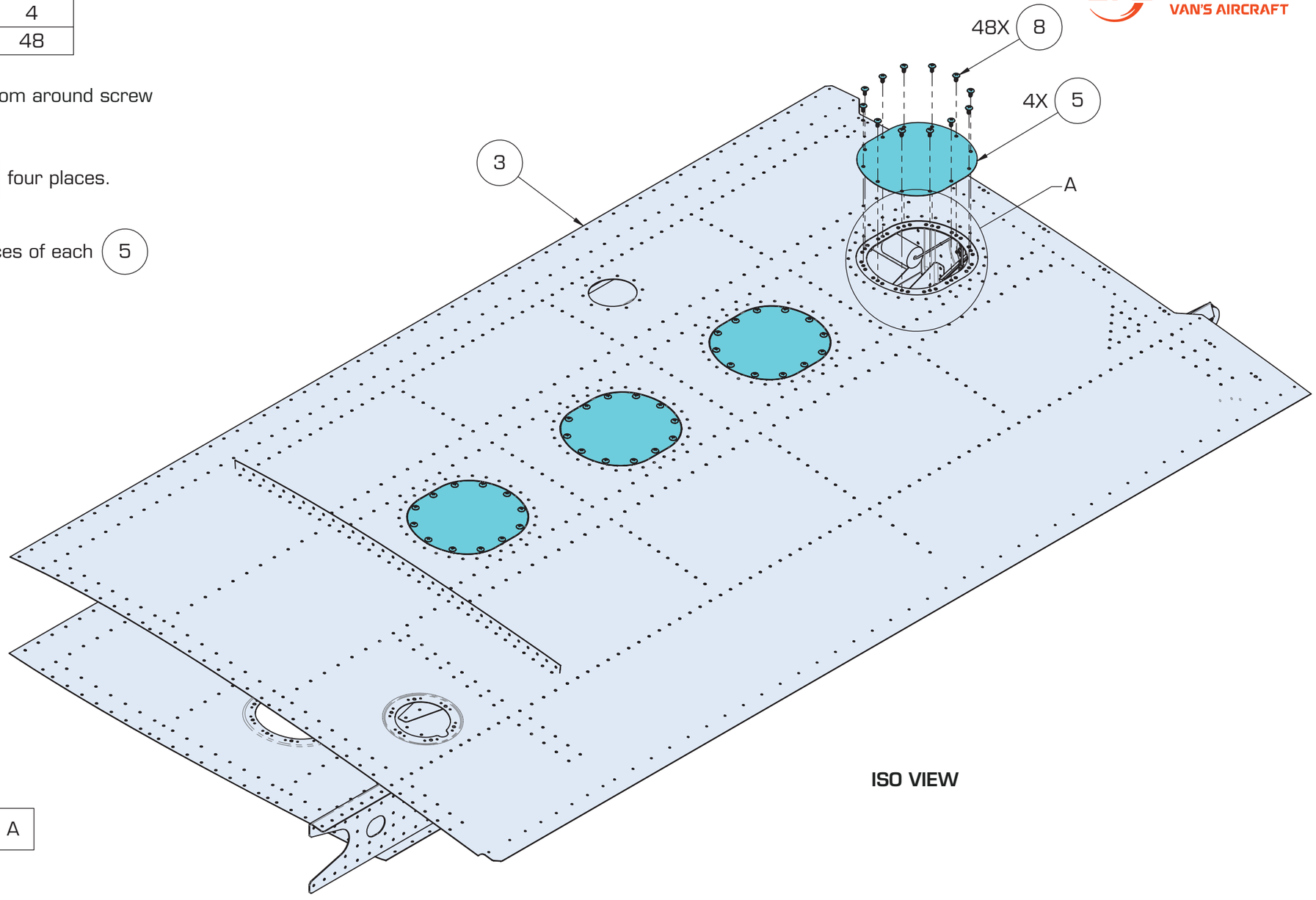
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
3	T-15509-001	TANK SUBASSM, WING	1
5	W-15040-001	PLATE, COVER	4
8	AN526C832R6	SCREW	48

NOTE: After sealant cure, excess may be removed from around screw head with **Plastic Razor Blade** or equivalent tool.

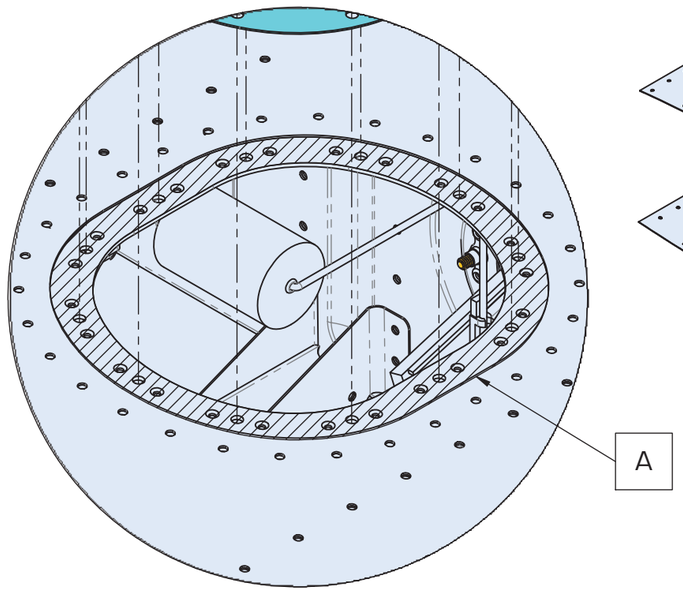
☐ **Step 1:** Apply **Fuel Tank Sealant** to (3) in [A] four places.

☐ **Step 2:** Apply **Fuel Tank Sealant** to mating surfaces of each (5)

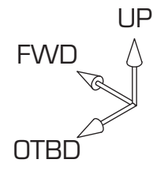
☐ **Step 3:** Affix each (5) to (3)



ISO VIEW



DETAIL A
4 PLACES

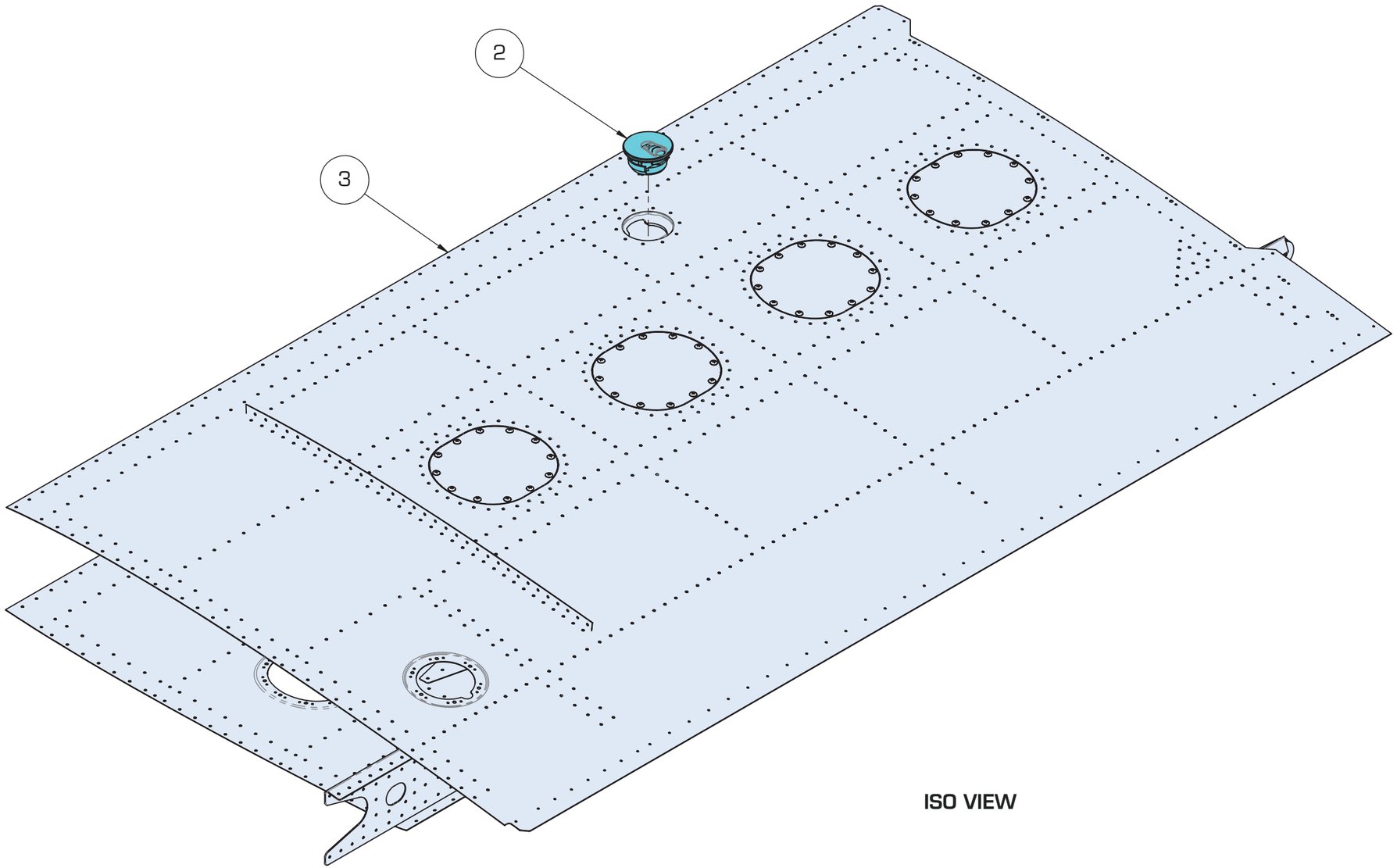


T-15511 ASSEMBLY

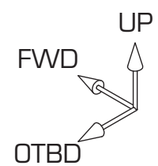
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
2	T-00007D	FUEL CAP, METAL, NON-LOCKING	1
3	T-15509-001	TANK SUBASSM, WING	1

RV-15
VAN'S AIRCRAFT

☐ **Step 1:** Install (1) into (2)



ISO VIEW



T-15511 ASSEMBLY

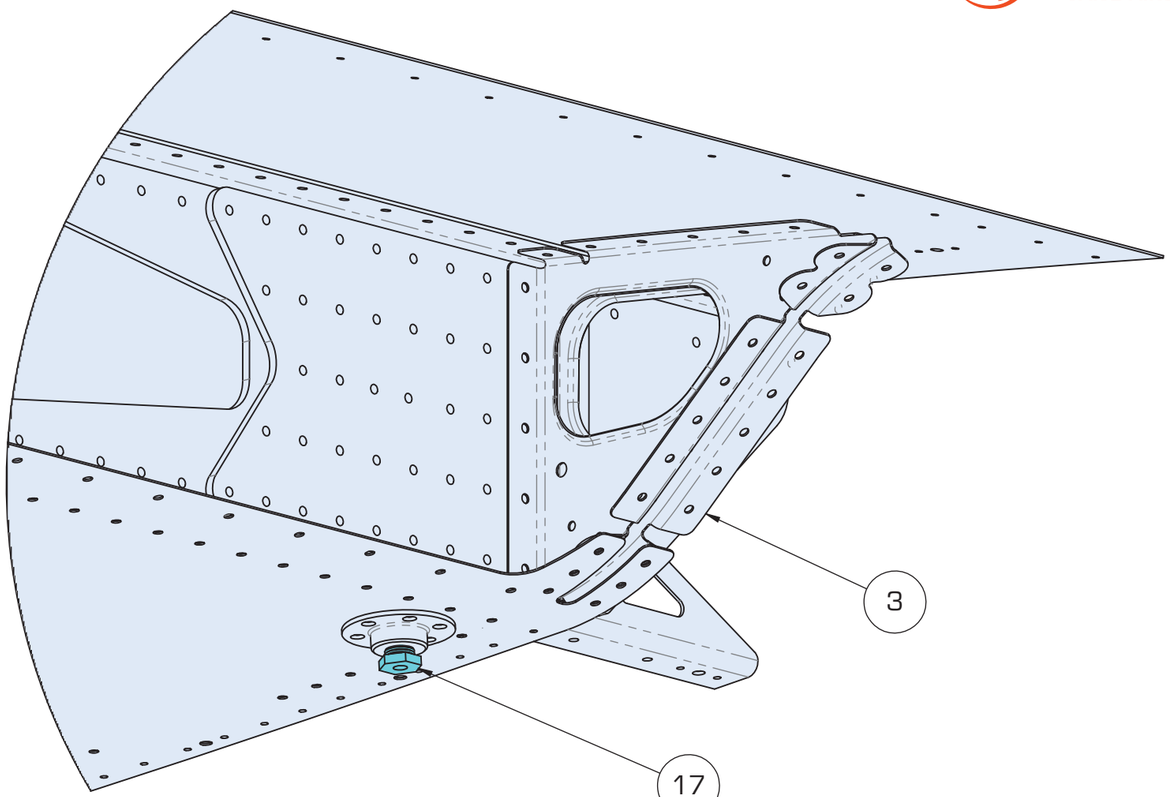
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
3	T-15509-001	TANK SUBASSM, WING	1
17	SA187	DRAIN VALVE	1

WARNING: Utilize **Fuel Compatible** thread sealant.

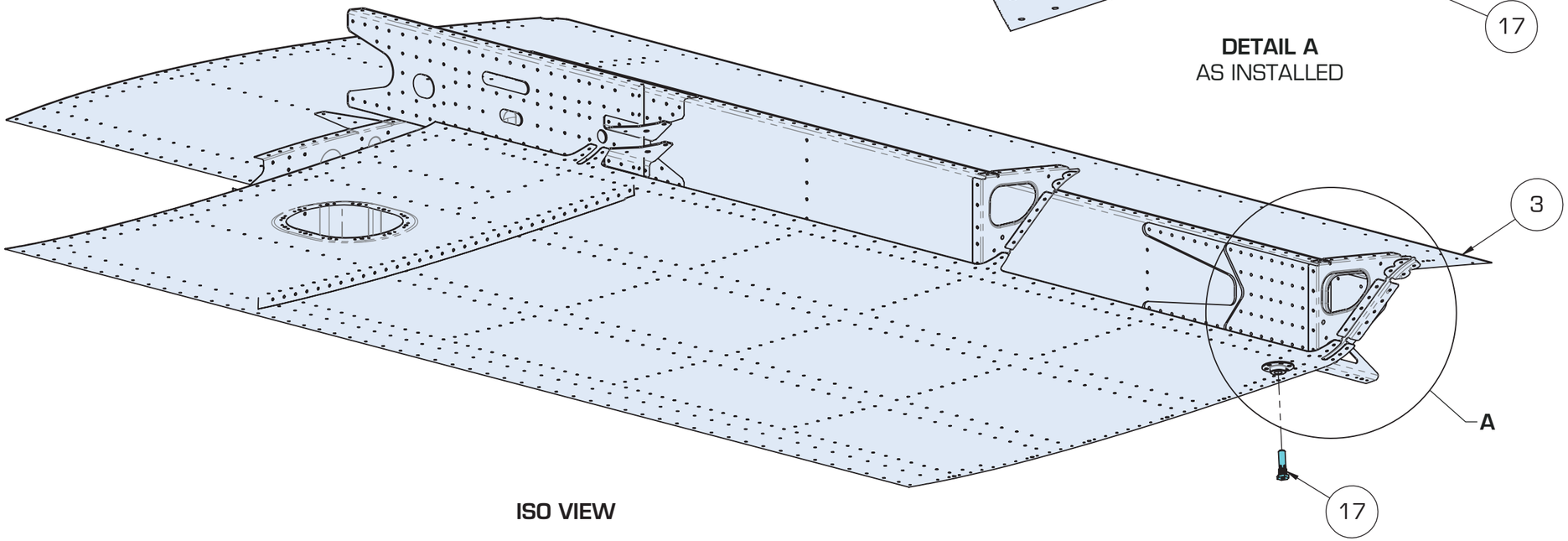
☐ **Step 1:** Apply **Thread Sealant** to (17)

☐ **Step 2:** Thread (17) into (3)

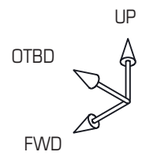
☐ **Step 3:** Tighten (17)



DETAIL A
AS INSTALLED



ISO VIEW



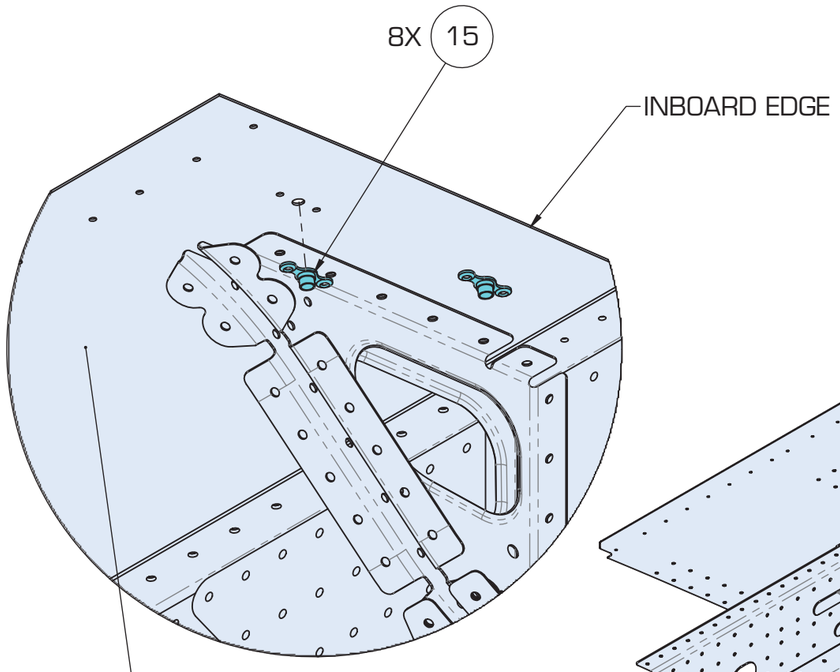
T-15511 ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
3	T-15509-001	TANK SUBASSM, WING	1
6	AN426AD3-3.5	RIVET, SOLID COUNTERSUNK	16
15	K1000-08D	NUTPLATE, 8-32 DIMPLED	8

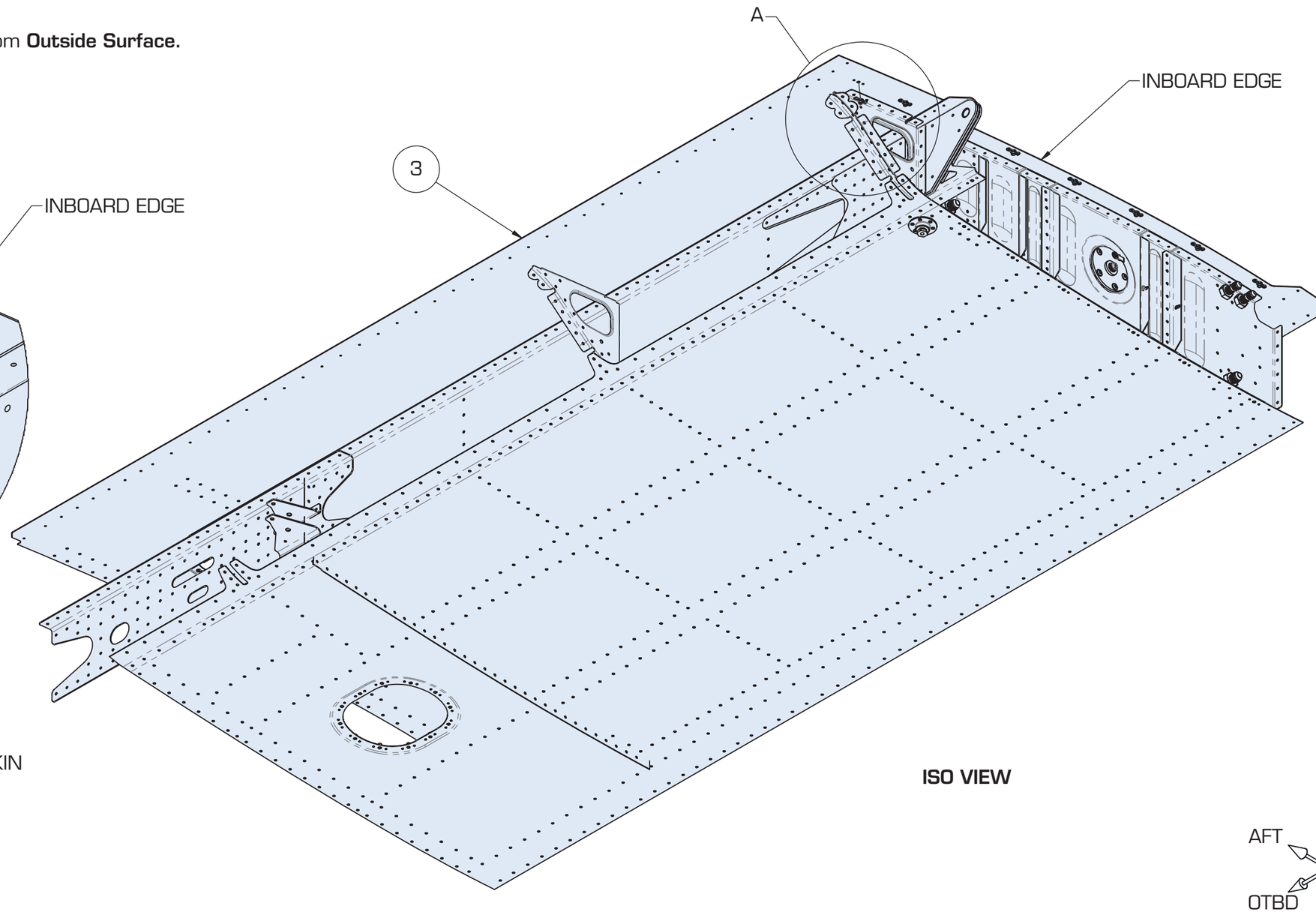
RV-15
VAN'S AIRCRAFT

☐ **Step 1:** Cleco each (15) to (3) on **Inside Surface** of **Upper Tank Skin** along **Inboard Edge**.

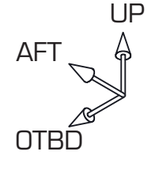
☐ **Step 2:** Rivet each (15) to (3) with (6) from **Outside Surface.**



DETAIL A



ISO VIEW



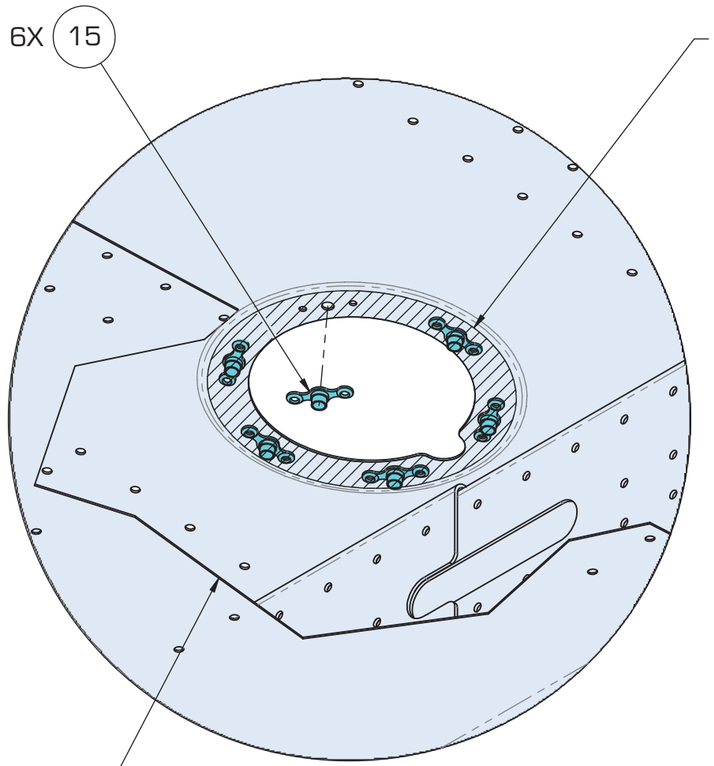
T-15511 ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
3	T-15509-001	TANK SUBASSM, WING	1
6	AN426AD3-3.5	RIVET, SOLID COUNTERSUNK	12
15	K1000-08D	NUTPLATE, 8-32 DIMPLED	6

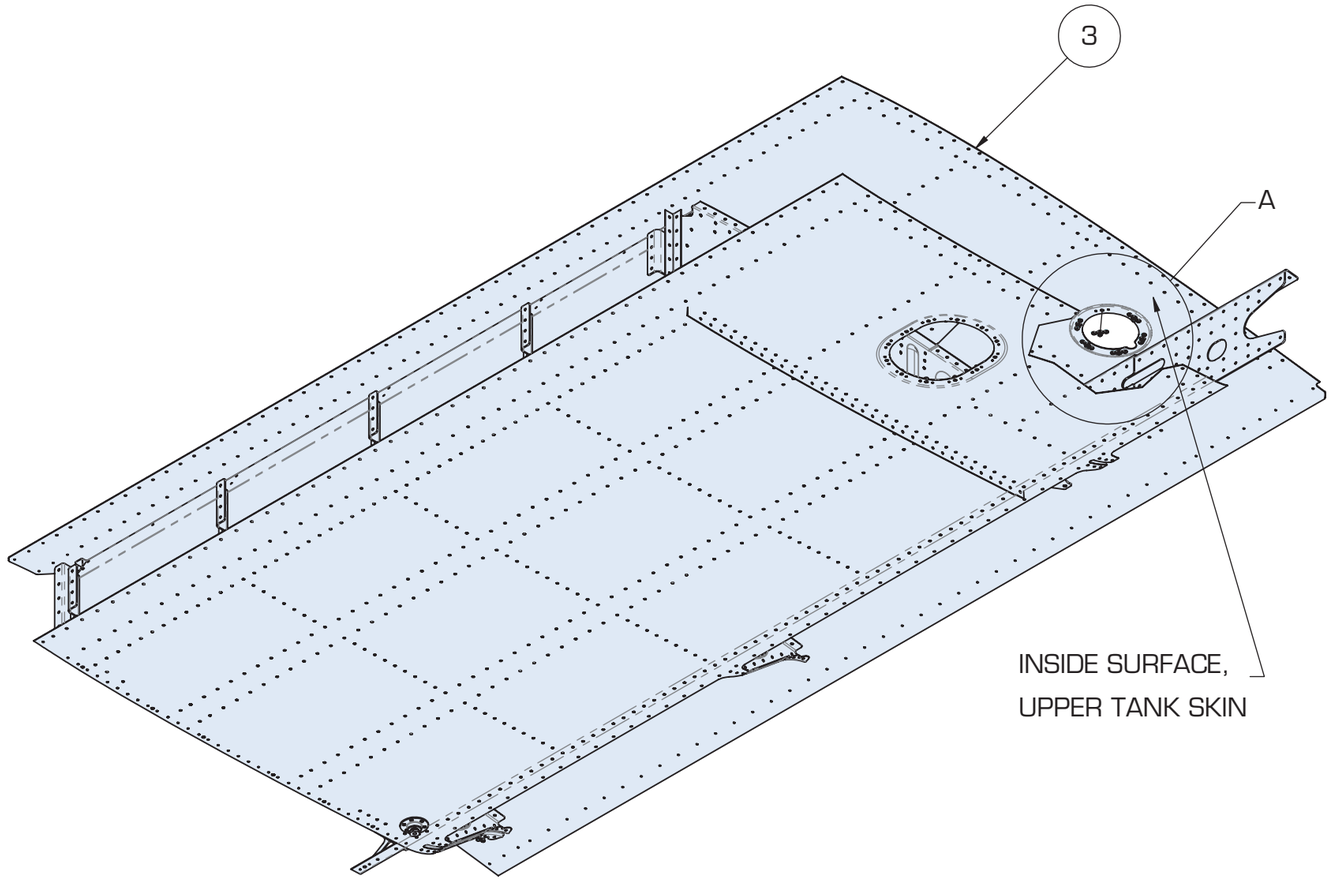
RV-15
VAN'S AIRCRAFT

☐ **Step 1:** Cleco each (15) to (3) on **Inside Surface** of **Upper Tank Skin** in [A]

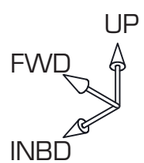
☐ **Step 2:** Rivet each (15) to (3) with (6) from **Outside Surface** of **Upper Tank Skin**.



DETAIL A



ISO VIEW



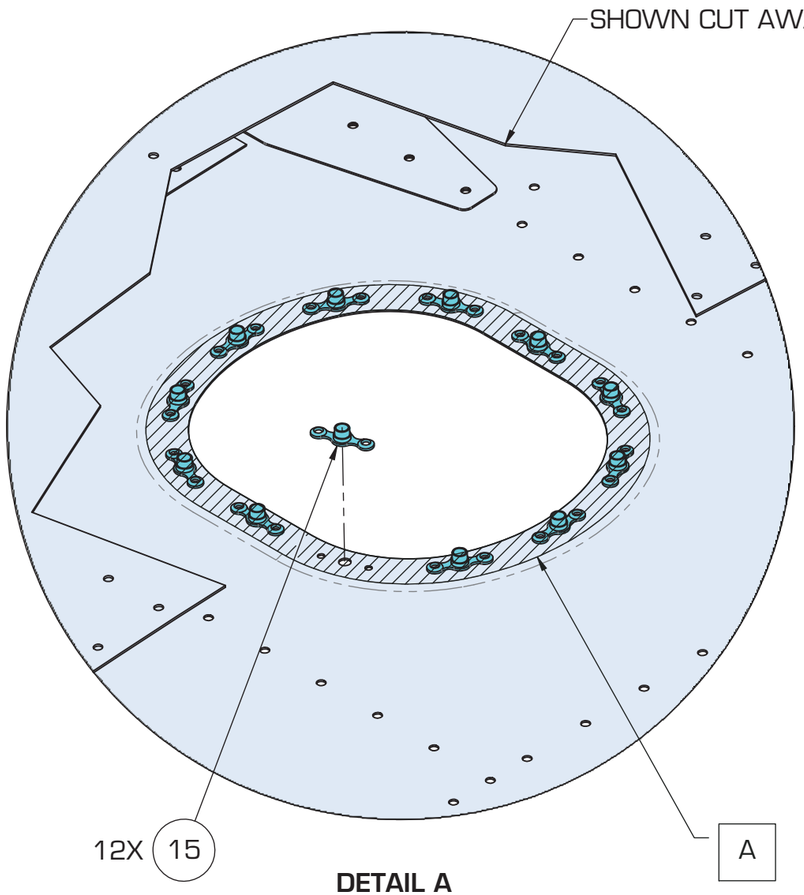
T-15511 ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
3	T-15509-001	TANK SUBASSM, WING	1
6	AN426AD3-3.5	RIVET, SOLID COUNTERSUNK	24
15	K1000-08D	NUTPLATE, 8-32 DIMPLED	12

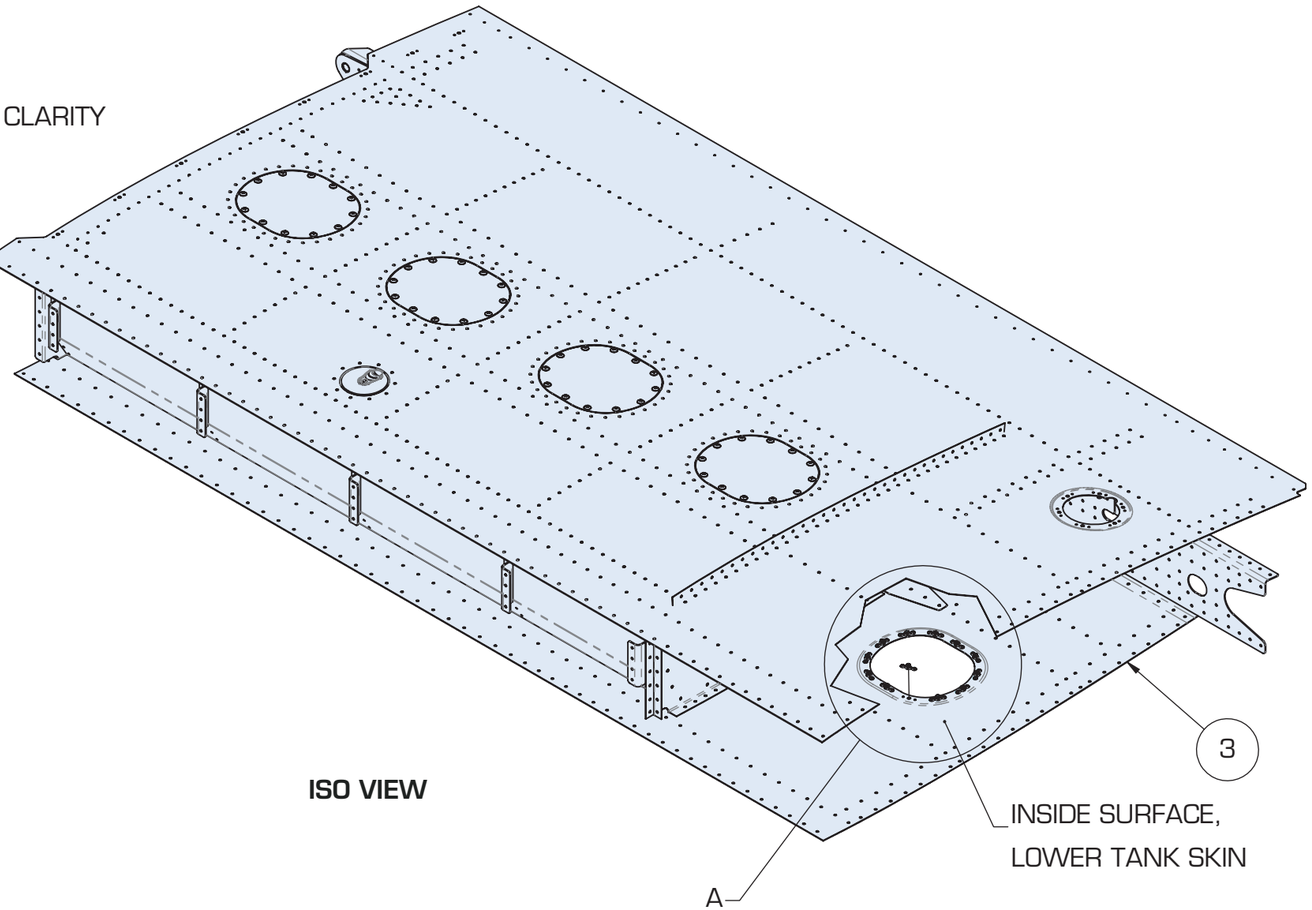
RV-15
VAN'S AIRCRAFT

☐ **Step 1:** Cleco each (15) to (3) on **Inside Surface** of **Lower Tank Skin** in [A]

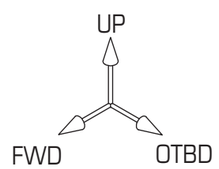
☐ **Step 2:** Rivet each (15) to (3) with (6) from **Outside Surface** of **Lower Tank Skin**.



DETAIL A



ISO VIEW



T-15511 ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
3	T-15509-001	TANK SUBASSM, WING	1
*9	AN929-4D	CAP, FLARED FITTING	1
*10	AN929-6D	CAP, FLARED FITTING	1
*11	EA HOSE H177X3	HOSE 3/8 IN ID X 3 IN	1
*13	FUEL TANK AIR VALVE	VALVE, AIR TANK LEAK CHECK	1
*14	HW-00015	#4 HOSE CLAMP	2

CAUTION: Tank sealant must fully cure prior to leak testing Fuel Tank Assembly. Use **LESS THAN 1 psi**. **DO NOT** over pressurize Fuel Tank Assembly. **DO NOT** use shop air or compressor.

☐ **Step 1:** Install (9) on one **AN832-4D fitting**.

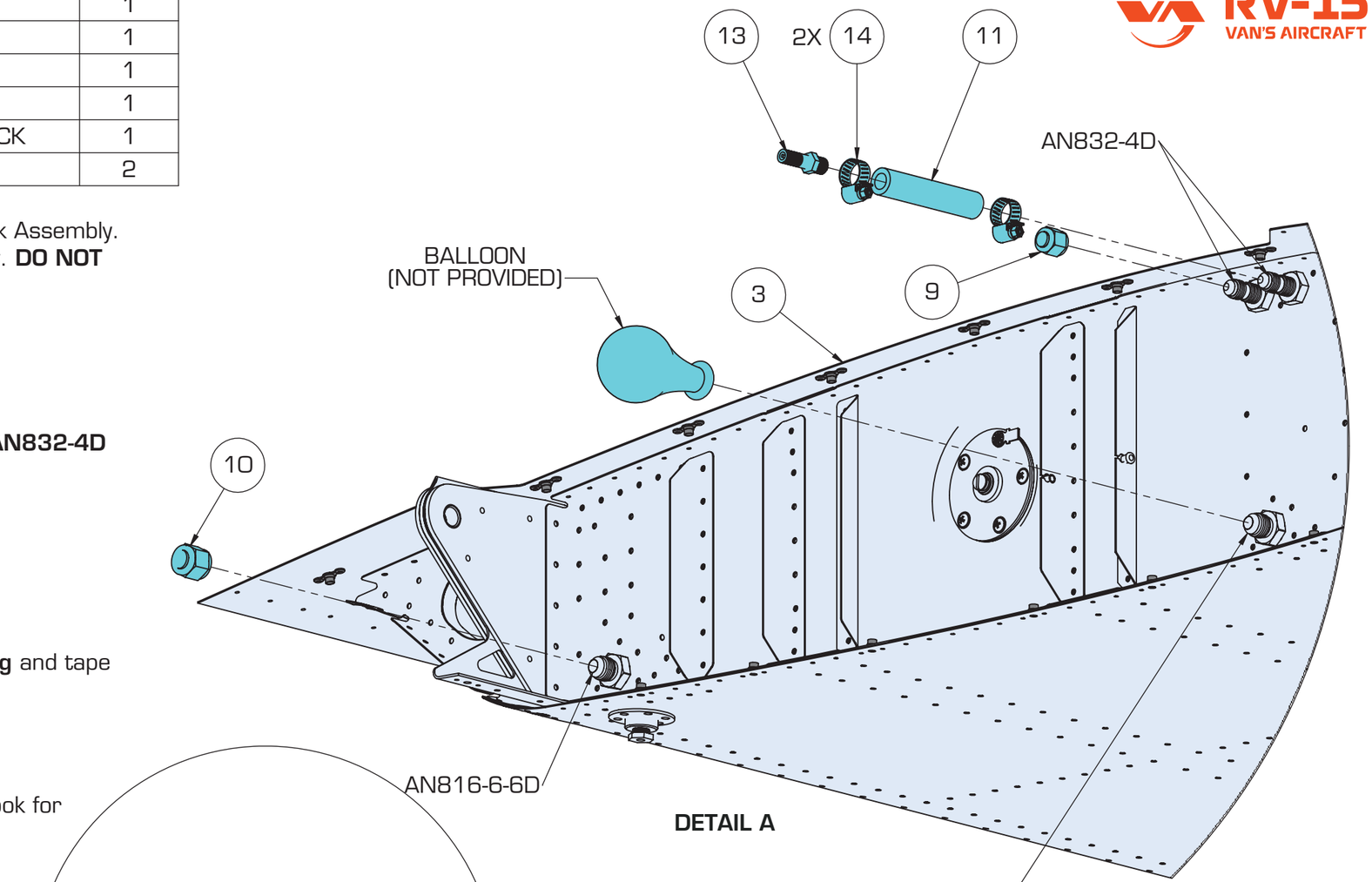
☐ **Step 2:** Install (13) to (11) with (14) then (11) to second **AN832-4D fitting** with (14)

☐ **Step 3:** Install (10) on one **AN816-6-6D fitting**.

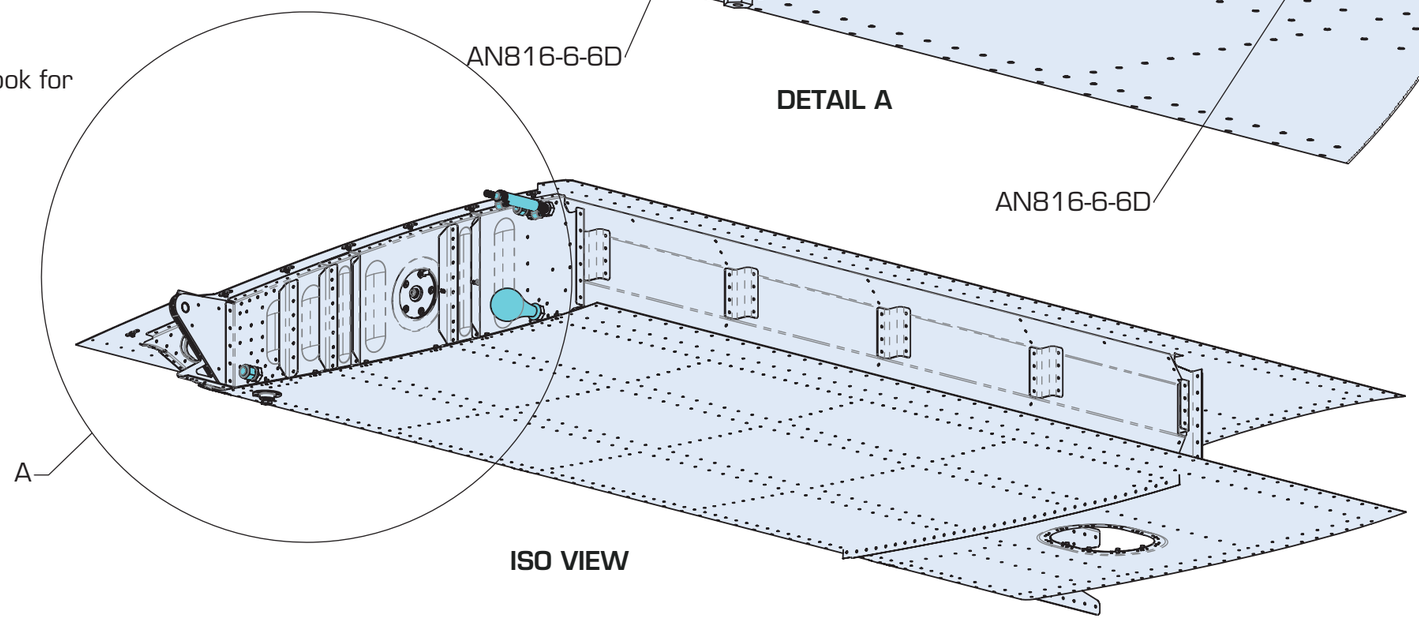
☐ **Step 4:** Add **Balloon** (not provided) to second **AN816-6-6D fitting** and tape tightly.

☐ **Step 5:** Use **Hand Pump** to pressurize tank and inflate **Balloon**.

☐ **Step 6:** Squirt soapy water on all screws, seams, and fittings. Look for bubbles. Fuel Cap is only area where bubbles are acceptable.



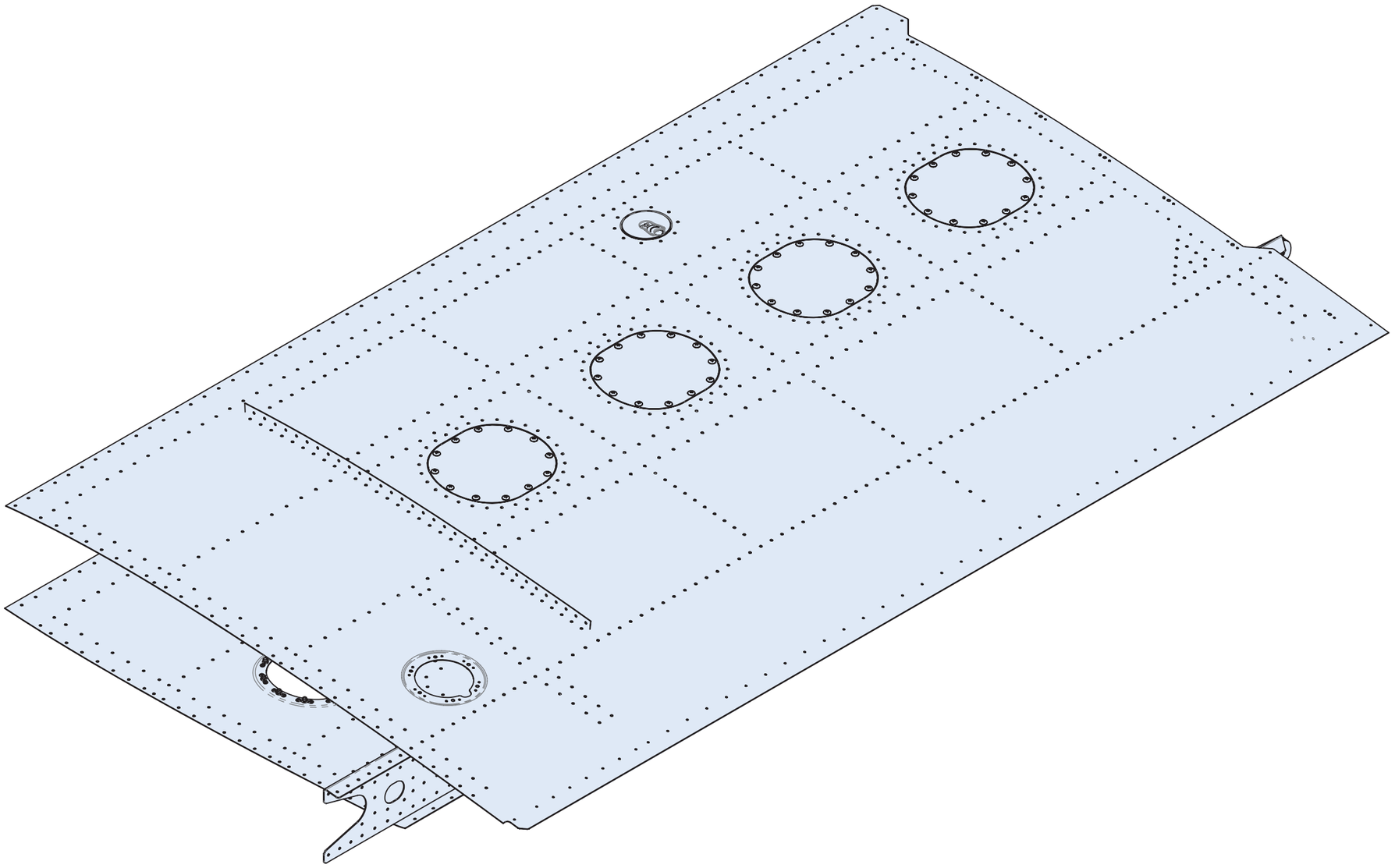
DETAIL A



ISO VIEW

T-15511 ASSEMBLY

T-15511-001 ASSEMBLY COMPLETE



T-15511 ASSEMBLY

BUILDER 1 NAME _____ SIGNATURE _____ DATE _____

BUILDER 2 NAME _____ SIGNATURE _____ DATE _____

START DATE DATE _____

END DATE DATE _____

HOURS QTY _____

INSPECTED BY NAME _____ SIGNATURE _____ DATE _____

RV-15
VAN'S AIRCRAFT

MODIFICATIONS _____

_____

REPAIRS _____

_____

ISSUES _____

_____

NAME _____ SIGNATURE _____ DATE _____

T-15511 ASSEMBLY

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