

HANDLE ASSY, KIT INSTALLATION/REMOVAL INSTRUCTIONS

**MODELS: BELL 205, 212, 214B, 214B-1, 412, 412 EP,
412CF**

Read all of the installation/removal instructions thoroughly
prior to the installation of this product



Weight & Balance

<u>Part Number</u>	<u>Description</u>	<u>Weight</u>	<u>Long. Arm</u>	<u>Lat. Arm</u>
AAL-290-050-901	Handle Assy, Kit (Full combination)	1.840* .835 (Kg)	88.42 2.25 (m)	.00 .00 (m)
AAL-290-050-001	Handle Assy, Kit, LHS FWD	.526* .239 (Kg)	85.67 2.17 (m)	49.60 1.25 (m)
AAL-290-050-002	Handle Assy, Kit, RHS FWD	.526* .239 (Kg)	85.67 2.17 (m)	-49.60 -1.25 (m)
AAL-290-050-003	Handle Assy, Kit, LHS AFT	.295* .133 (Kg)	93.69 2.38 (m)	50.84 1.29 (m)
AAL-290-050-004	Handle Assy, Kit, RHS AFT	.295* .133 (Kg)	93.69 2.38 (m)	-50.84 -1.29 (m)

* Total increase in weight to aircraft.

Aircraft Applicability

1. Model: Bell Helicopter 205
Serial No: All
2. Model: Bell Helicopter 212
Serial No: All
3. Model: Bell Helicopter 214B, 214B-1
Serial No: All
4. Model: Bell Helicopter 412, 412 EP
Serial No: All
5. Model: Bell Helicopter 412CF
Serial No: All



General Notes

1. All Installation/Removal Instructions shall be accomplished in accordance with (IAW) standard aircraft practices. Refer to the current revision of the FAA manuals AC 43.13-1B and AC 43.13-2B for details on standard aircraft practices.
2. Torque fasteners IAW the tension type torque limits indicated in the current revision of the FAA publication AC 43.13-1B, Table 7-1 unless otherwise specified.
3. All Dimensions are in imperial measures (inches/pounds).
4. Refer to the current revision of the Handle, Assy, Kit Illustrated Parts Breakdown (AAL-290-055-201) for the part numbers of the item(s) referenced within this document.
5. Refer to the current revision of the Handle, Assy, Kit Maintenance Manual Supplement (AAL-290-055-101) for instructions on continuing airworthiness for the item(s) referenced within this document.
6. If changes to this document are required, Alpine Aerotech Ltd. shall revise all pages and reissue the entire document.
7. Alpine Aerotech Ltd. shall make any subsequent revisions of this document available free of charge upon request. Alpine Aerotech Ltd. also recommends that the end user of this product verify the revision level of this document on a yearly basis.

Installation Notes

- △₁ Typical item number for all like items in this view unless otherwise specified.
- △₂ Remove and retain component.
- △₃ Remove and discard component.



Installation Instructions

FWD Door Sheetmetal:

NOTE: LHS installation shown, RHS opposite.

1. Gain access to the LHS passenger door panel. Reference Figure 1.

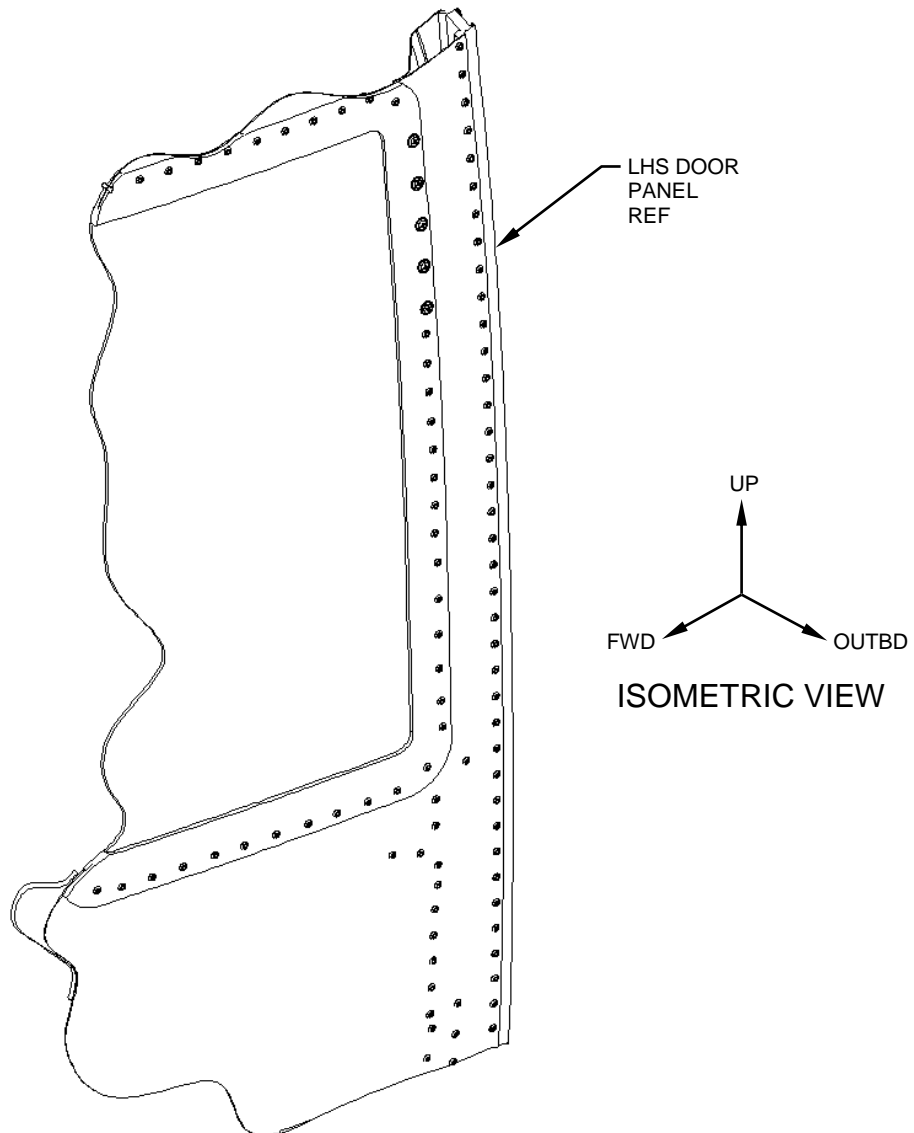


Figure 1
LHS Shown
RHS Opposite



Installation Instructions

2. Drill out the indicated rivets and upsize the resultant holes to $\text{\O}.$ 221 (#2). Reference Figure 2.

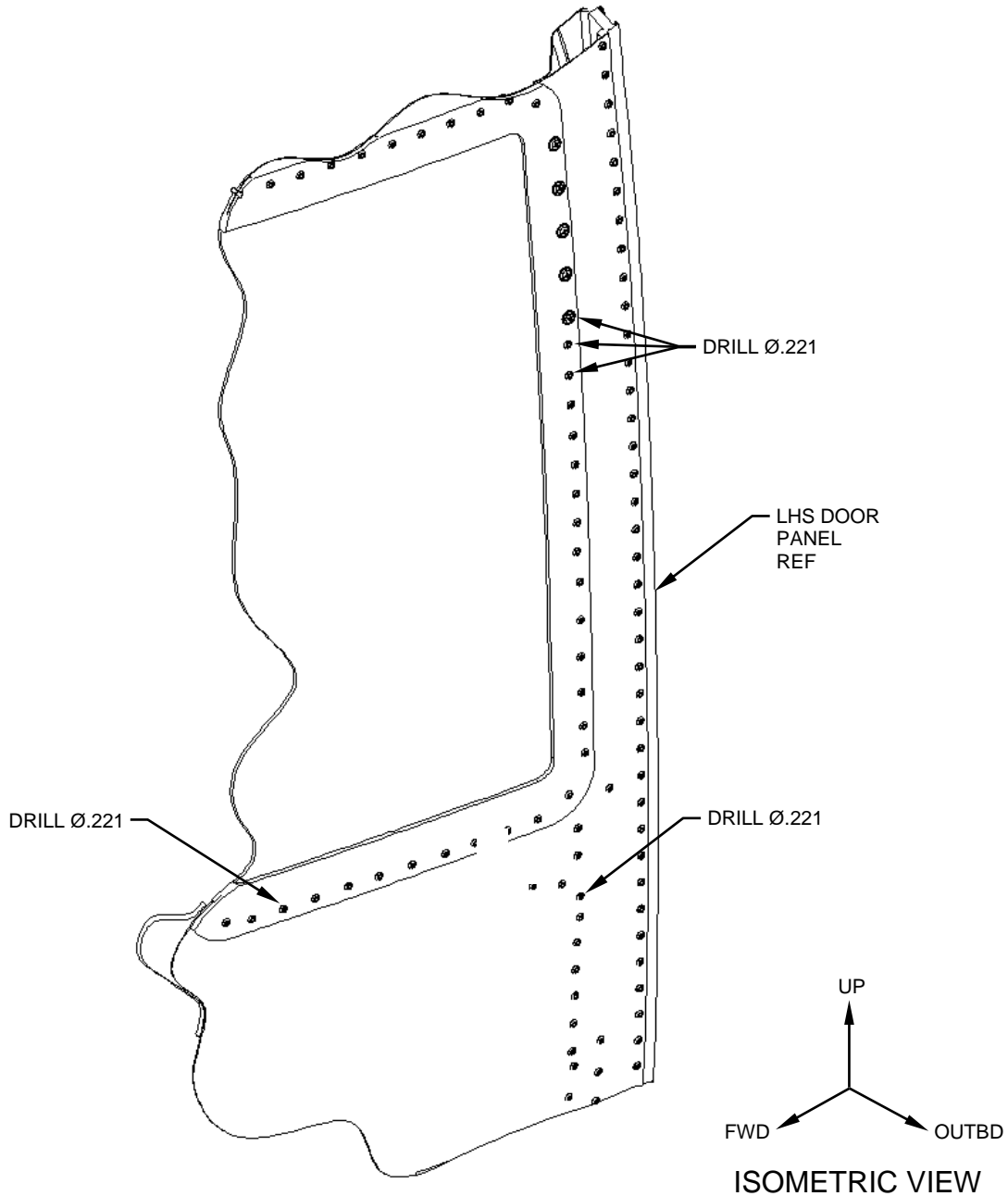


Figure 2
LHS Shown
RHS Opposite



Installation Instructions

3. Remove and retain inspection panel, remove and discard all fasteners. Reference Figure 3.

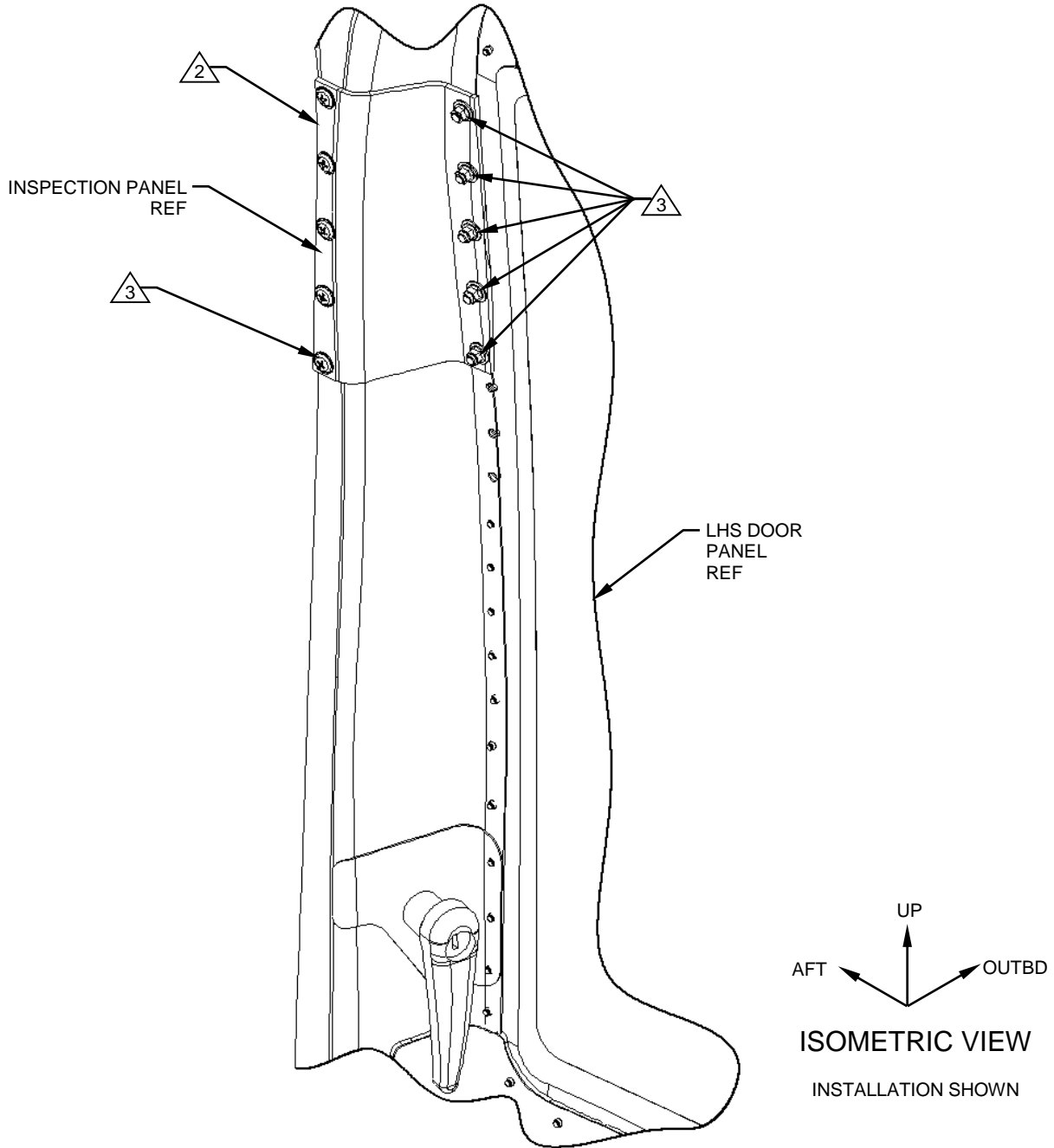


Figure 3
LHS Shown
RHS Opposite



Installation Instructions

4. Temporarily install the Doubler, Detail (Item 13, 25 OPP), with the appropriate fasteners, ensuring that all holes to be back-drilled have the maximum E.D. possible. Clamp the Doubler, Detail (Item 6, 21 OPP) in place and back-drill with the appropriate drill. Reference Figure 4.

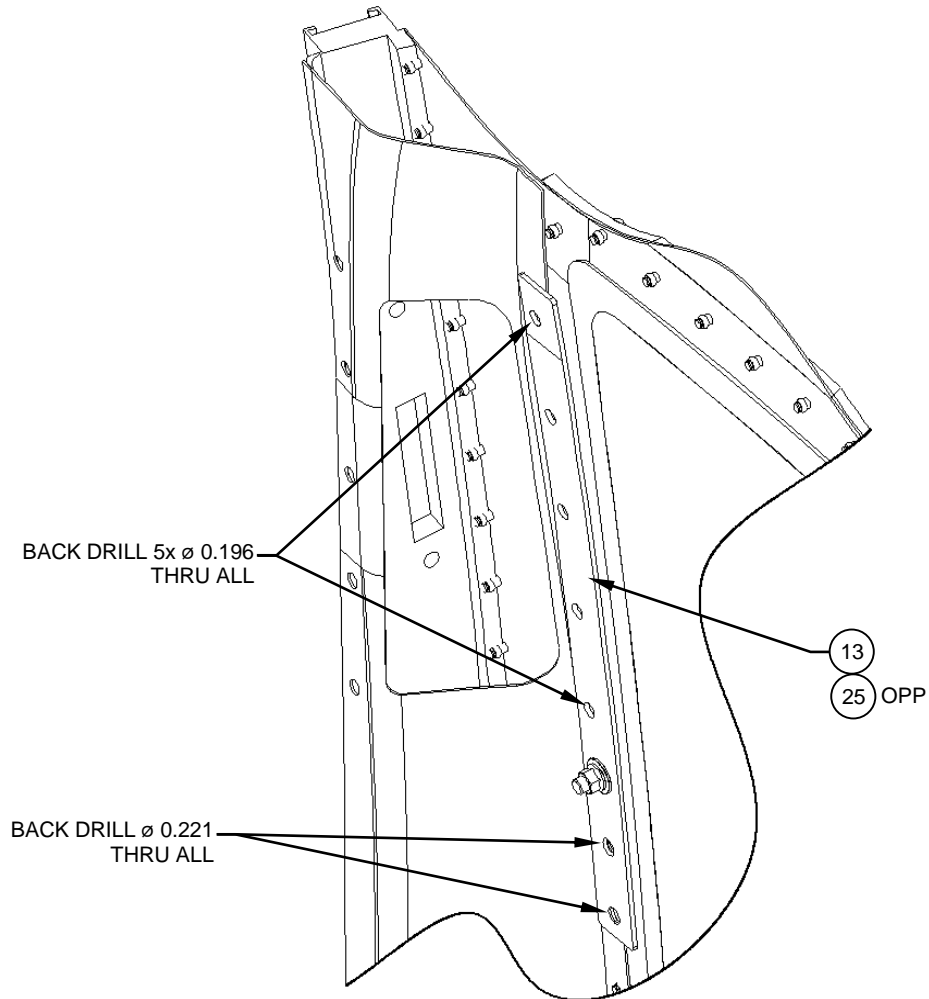


Figure 4
LHS Shown
RHS Opposite

5. Remove Doubler, Detail (Item 13, 25 OPP) deburr and coat the inside of all holes with primer, epoxy, high solids per MIL-PRF-23377, Type1, Class C2. Primer is not supplied, procure locally.



Installation Instructions

6. Re-install the Inspection panel using the Doubler, Detail (Item 13, 25 OPP), Spacer, Detail (Item 14, 26 OPP) and supplied hardware as shown. Reference Figure 5.

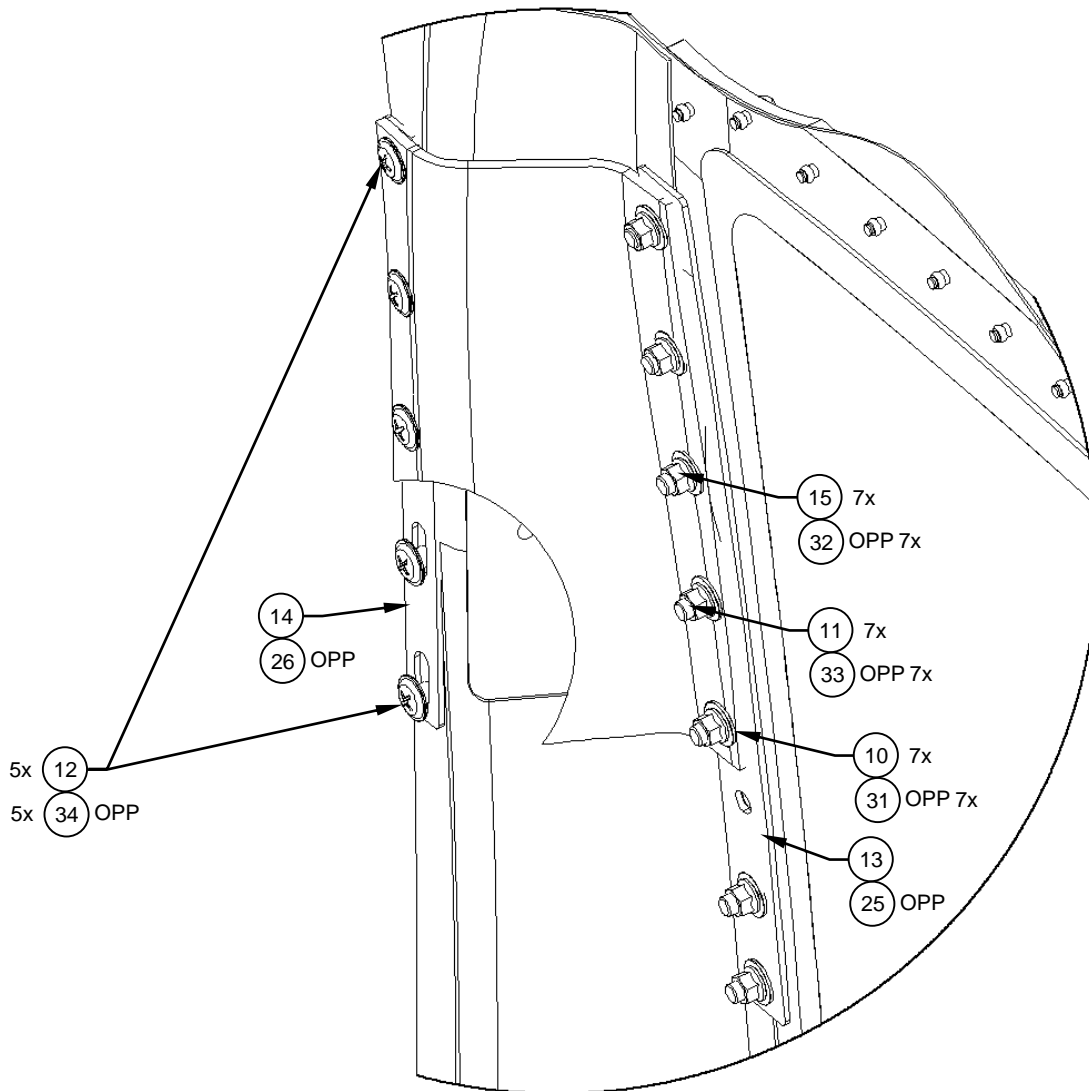


Figure 5
LHS Shown
RHS Opposite



Installation Instructions

7. Attach the Handle, Assy (Item 2, 21 OPP) using the supplied hardware, as shown. Reference Figure 6.

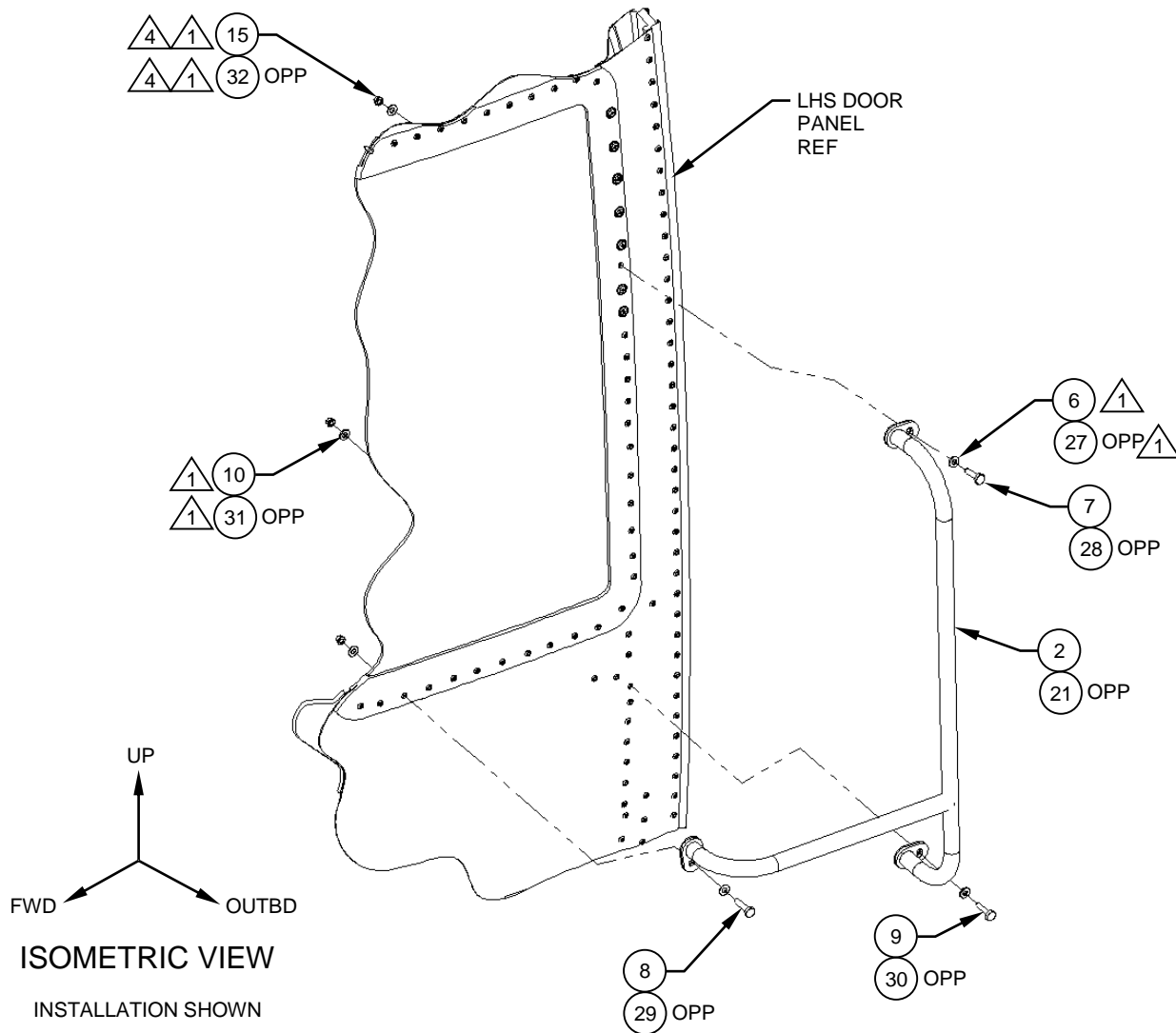


Figure 6
LHS Shown
RHS Opposite



Installation Instructions

8. Installation complete.
9. Perform a General Inspection of all items to ensure proper installation.
10. Update the aircraft logbook for the installation of the Handle, Assy, Kit.

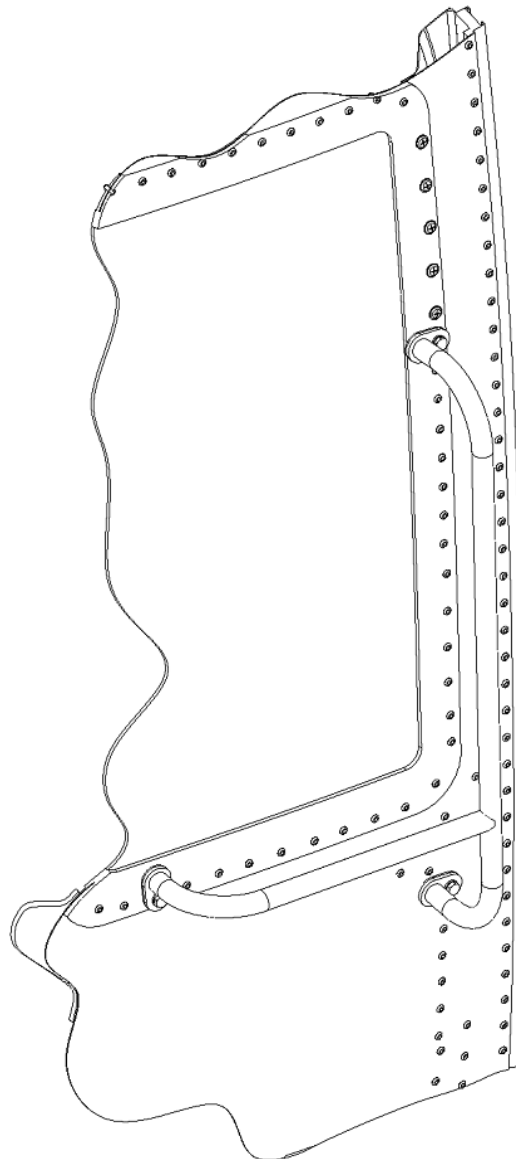
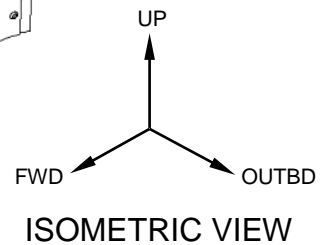


Figure 7
LHS Shown
RHS Opposite





Installation Instructions

FWD Door Composite:

NOTE: LHS installation shown, RHS opposite.

1. Gain access to the inside of the door by removing the lower access panel and the inner door handle access panel. Reference Figure 8.

NOTE: It may be easier to remove the door from the aircraft and install the handle on the bench.

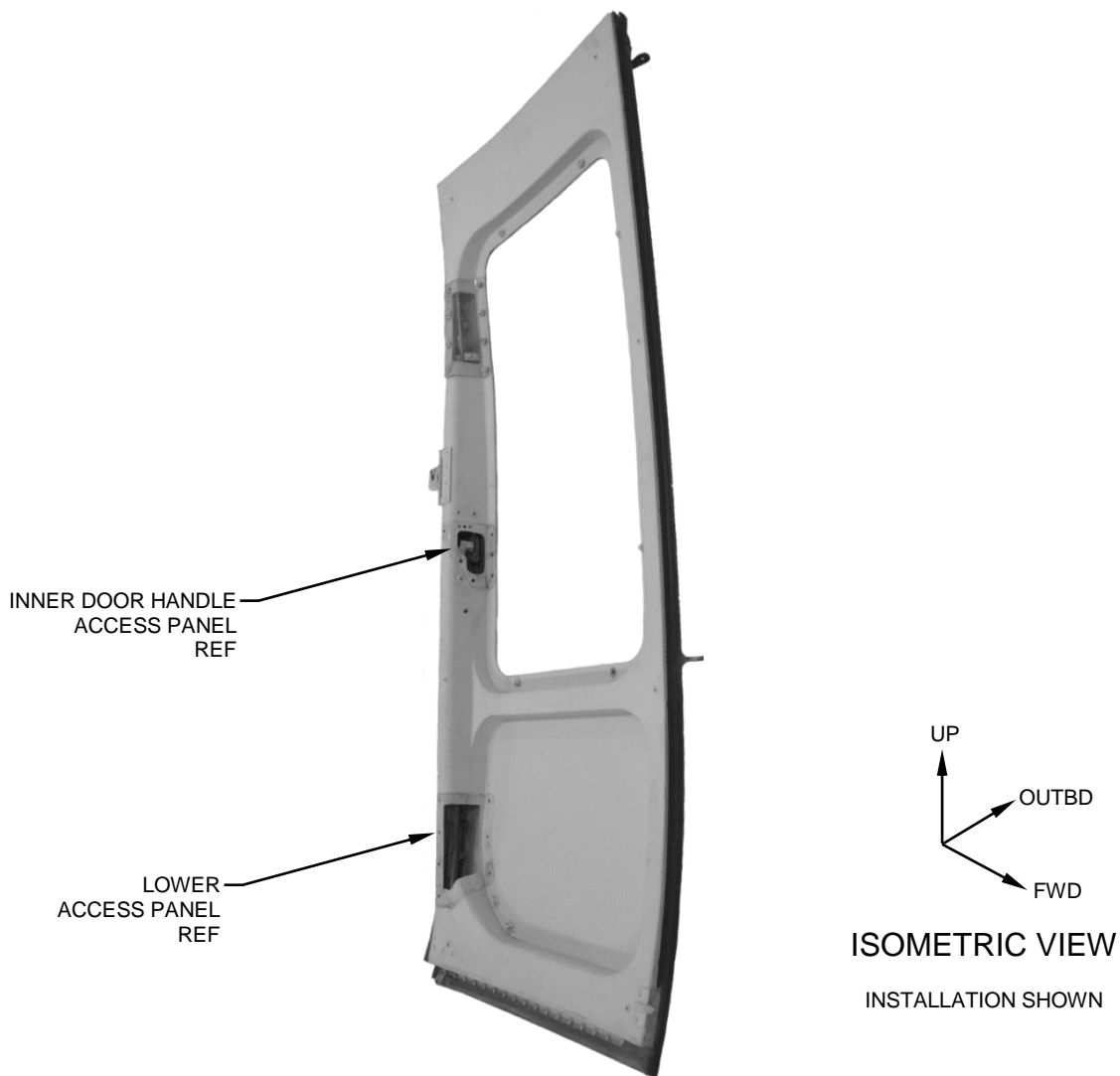
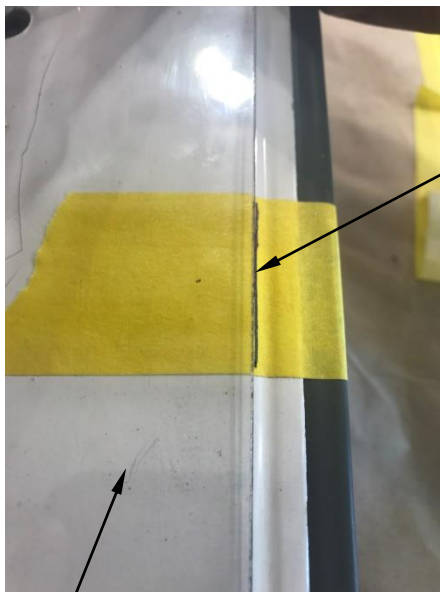


Figure 8
LHS Shown
RHS Opposite

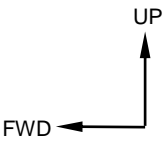


Installation Instructions

- Line up the edge of the Template, Detail (Item 17 & 36) to the aft edge of the joggle of the door. Reference Figure 9. Line up the horizontal mark on the Template, Detail (Item 17 & 36) with the top screw of the inner door handle access panel. Reference Figure 8 & 10. Transfer locations for the three fastener holes. Ensure that the three locations do not interfere with any existing structure.



JOGGLE ON AFT
EDGE OF DOOR



VIEW LKG INBD
INSTALLATION SHOWN

17
36 OPP

Figure 9
LHS Shown
RHS Opposite



TOP SCREW HOLE

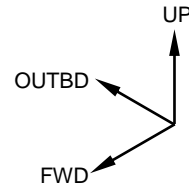


Figure 10
LHS Shown
RHS Opposite

ISOMETRIC VIEW
INSTALLATION SHOWN

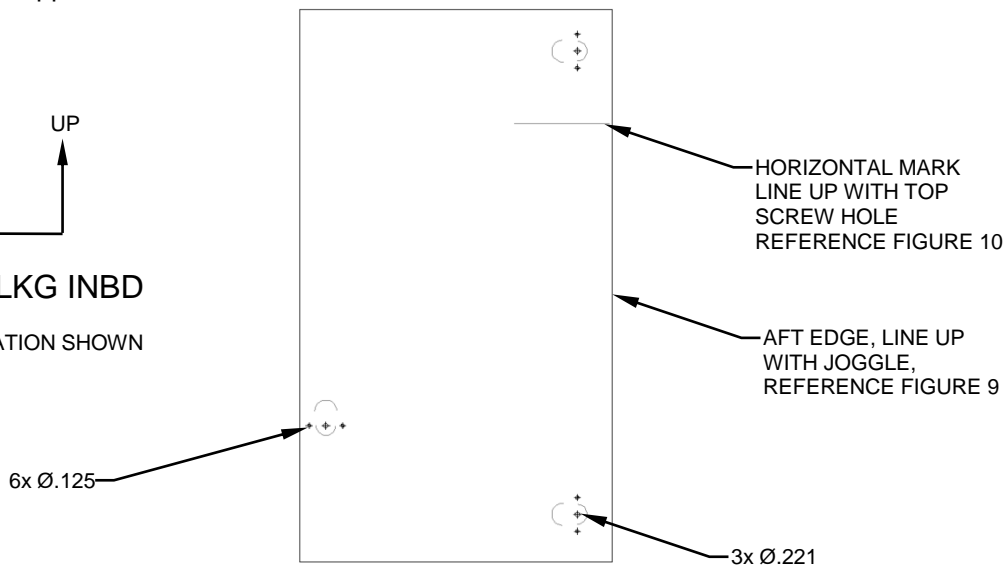
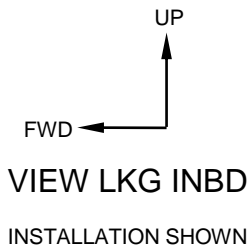


Figure 11
Item 17, Template, Detail Shown
Item 36, Opposite
Doc. No.: AAL-290-055-001



Installation Instructions

3. Drill three 3 x \varnothing .221 and 6 x \varnothing .125 at their marked locations. Reference Figure 10, 11 & 12.

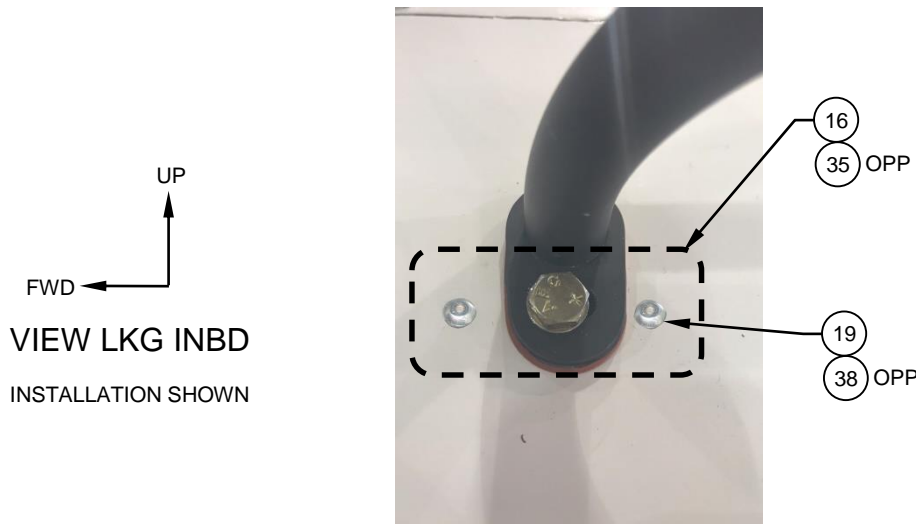


Figure 12
LHS Shown
RHS Opposite

4. Temporarily install the 3x Doubler, Assy's (Items 16 & 35), on the inside of the door in their respective locations. For the upper location, place the Doubler, Assy's (Items 16 & 35) inside the tunnel, through the inner door handle access panel, reference Figure 8, & use the supplied Wrench (Items 18 & 37), place the opening of the wrench over the body of the nutplate and use it to feed the upper Douber, Assy's (Items 16 & 35) into location. Backdrill through the Doubler, Assy's (Items 16 & 35), 6x \varnothing .125 using the holes in the door.
5. Install the 3x Doubler, Assy's (Items 16 & 35), using the rivets (Items 19 & 38), IAW MIL-STD-403. The two lower Doubler, Assy's (Items 16 & 35) can be installed conventionally. For the upper location, use the same technique as mentioned in step 4.



Installation Instructions

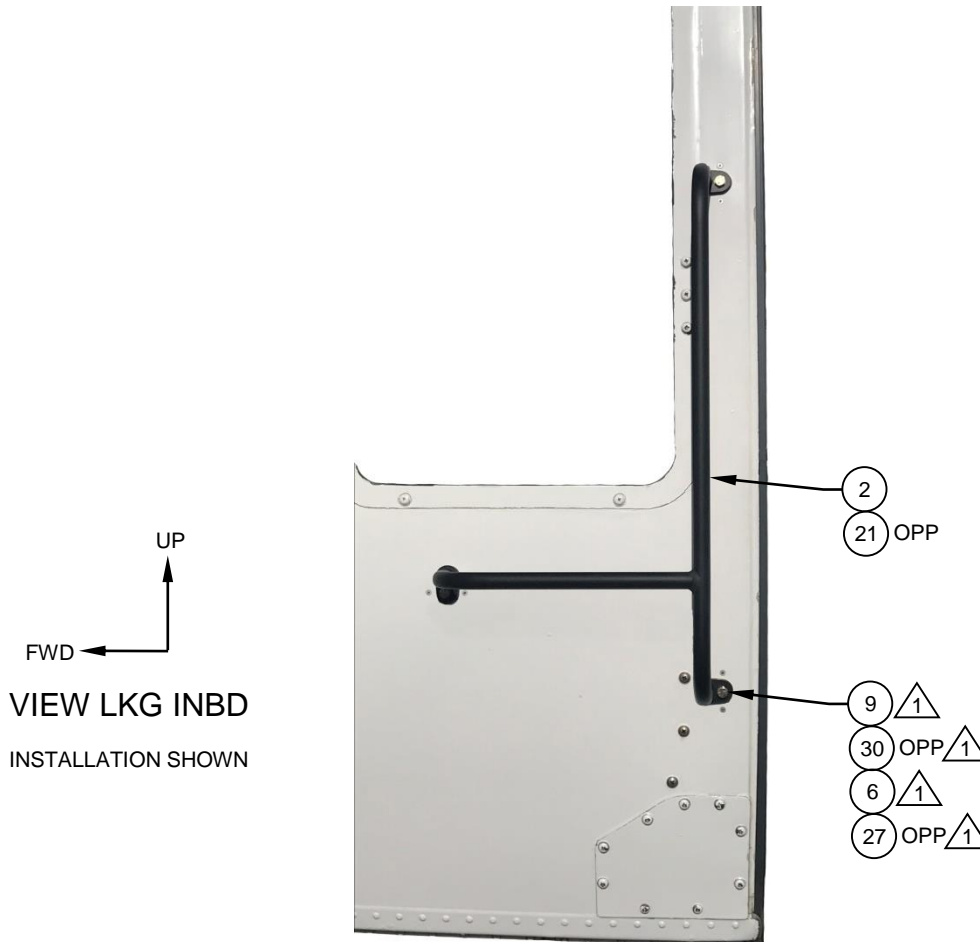


Figure 13
LHS Shown
RHS Opposite

6. Attach the Handle, Assy (Items 2 & 21 OPP) using the supplied hardware as shown. Reference Figure 13.
7. Installation complete.
8. Perform a General Inspection of all items to ensure proper installation.
9. Update the aircraft logbook for the installation of the Handle, Assy, Kit.



Installation Instructions

AFT Door One Piece Outer Skin:

NOTE: LHS installation shown, RHS opposite.

1. Gain access to the inside of the Door by removing the upper and middle inner panels and inner door latch. Reference in Figure 14.

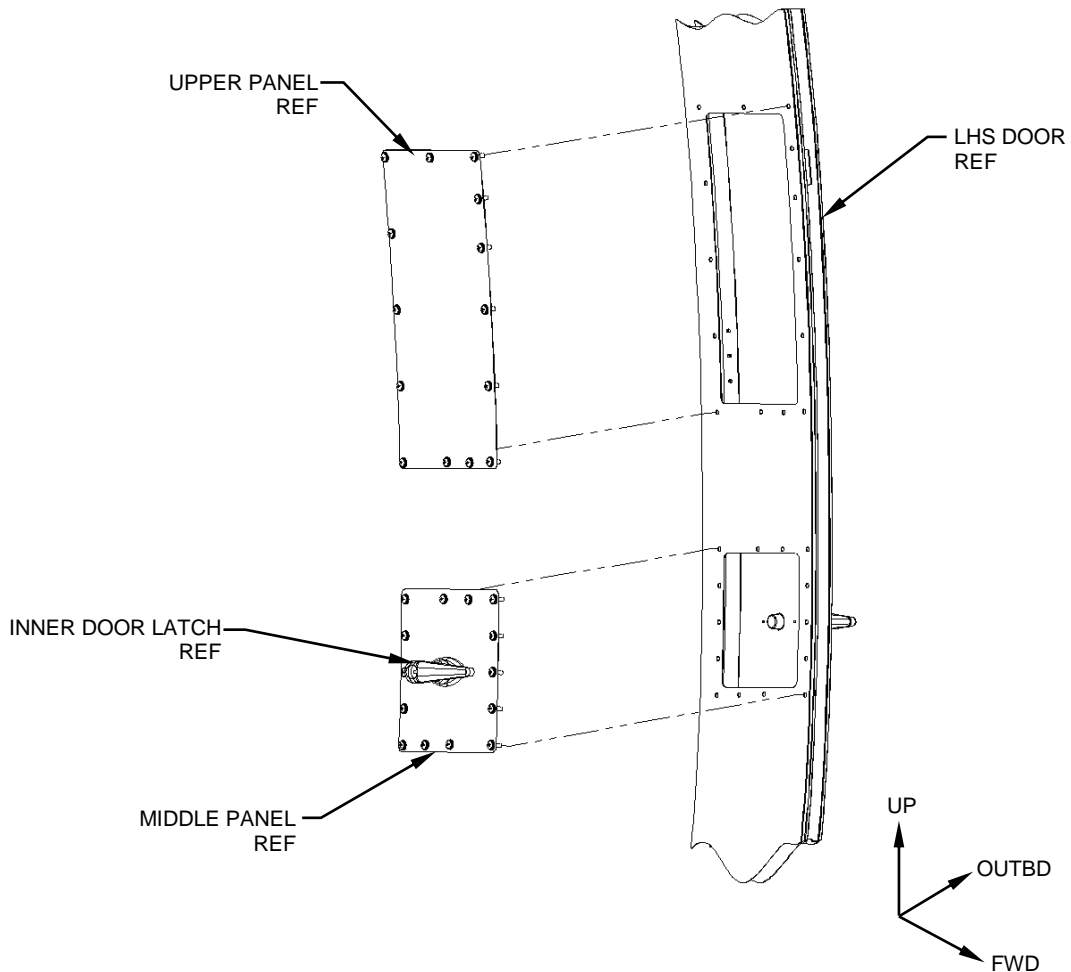


Figure 14
LHS Shown
RHS Opposite

ISOMETRIC VIEW



Installation Instructions

2. Drill out and upsize indicated rivets to $\text{\O}.$ 221 (#2). Reference Figure 15.

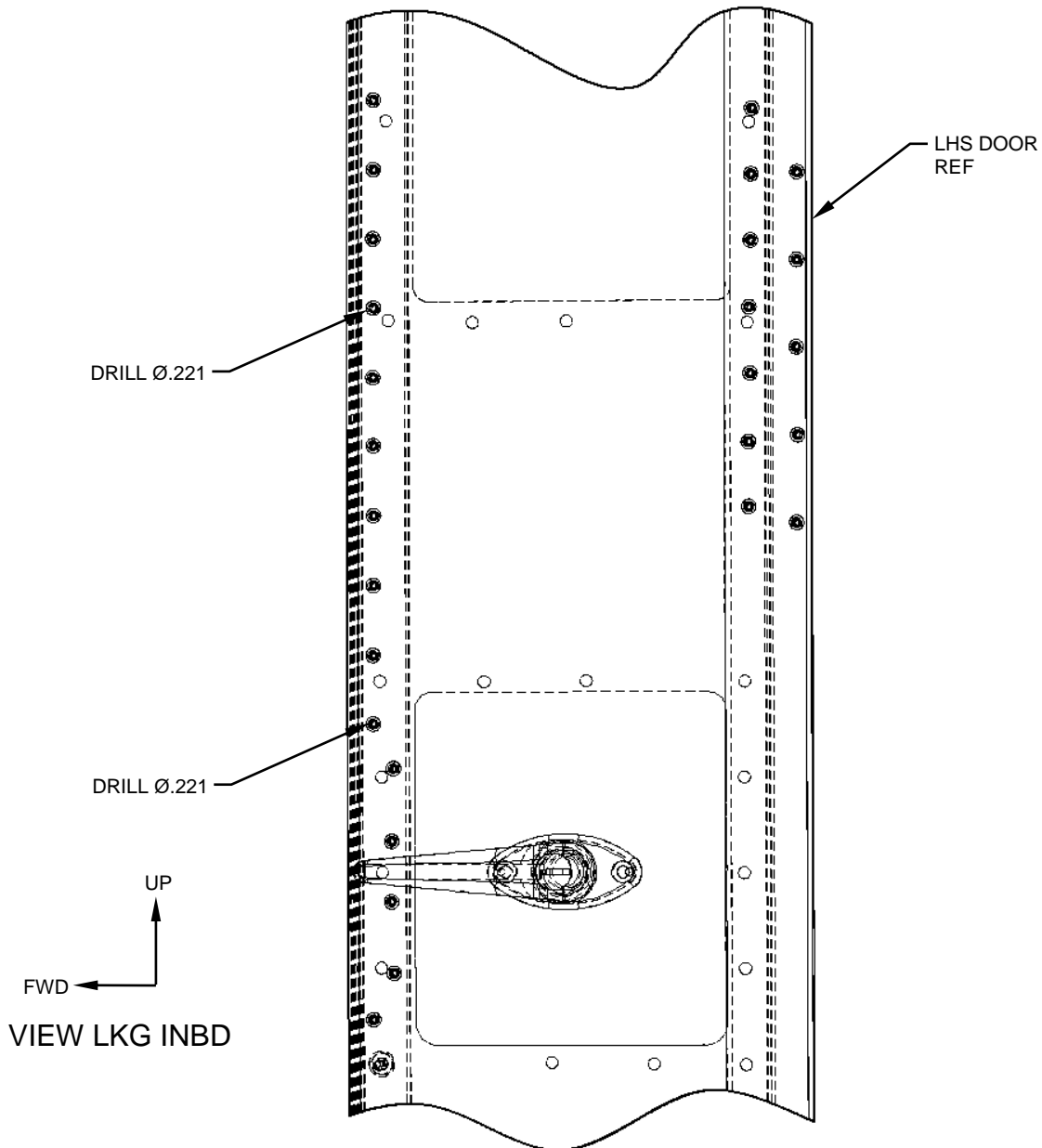


Figure 15
LHS Shown
RHS Opposite



Installation Instructions

3. Temporarily install the Handle, Assy (Item 40, 52 OPP) using the supplied hardware in the holes that were drilled out. Use this to scribe a center mark for the third foot. Reference Figure 16.

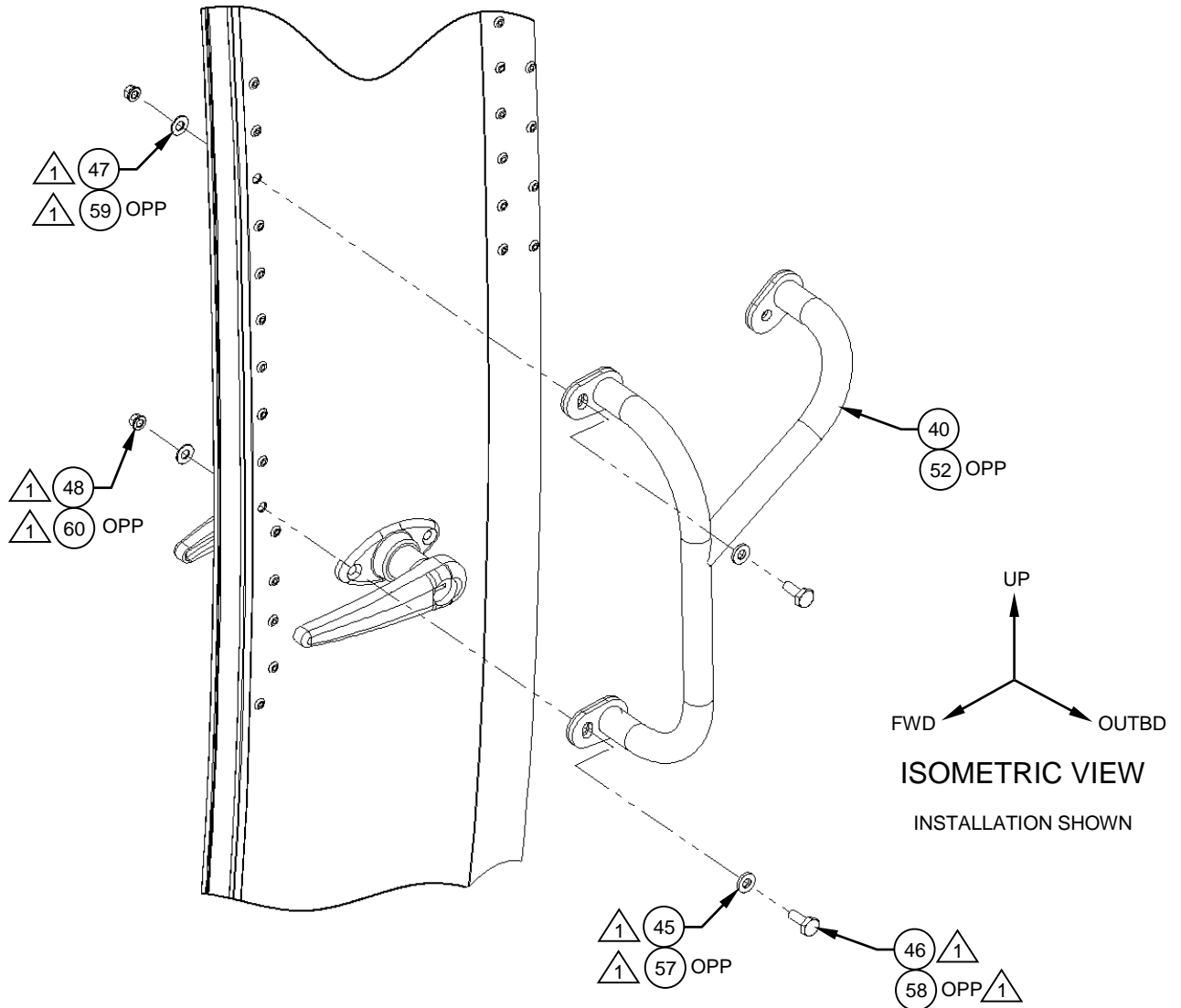


Figure 16
LHS Shown
RHS Opposite



Installation Instructions

4. Remove the Handle, Assy (Item 40, 52 OPP) and drill out the marked location at \varnothing 0.221 or #2 drill. Reference Figure 17.
5. Coat the inside of all holes with primer, epoxy, high solids per MIL-PRF-23377, Type1, Class C2. Primer is not supplied, procure locally.

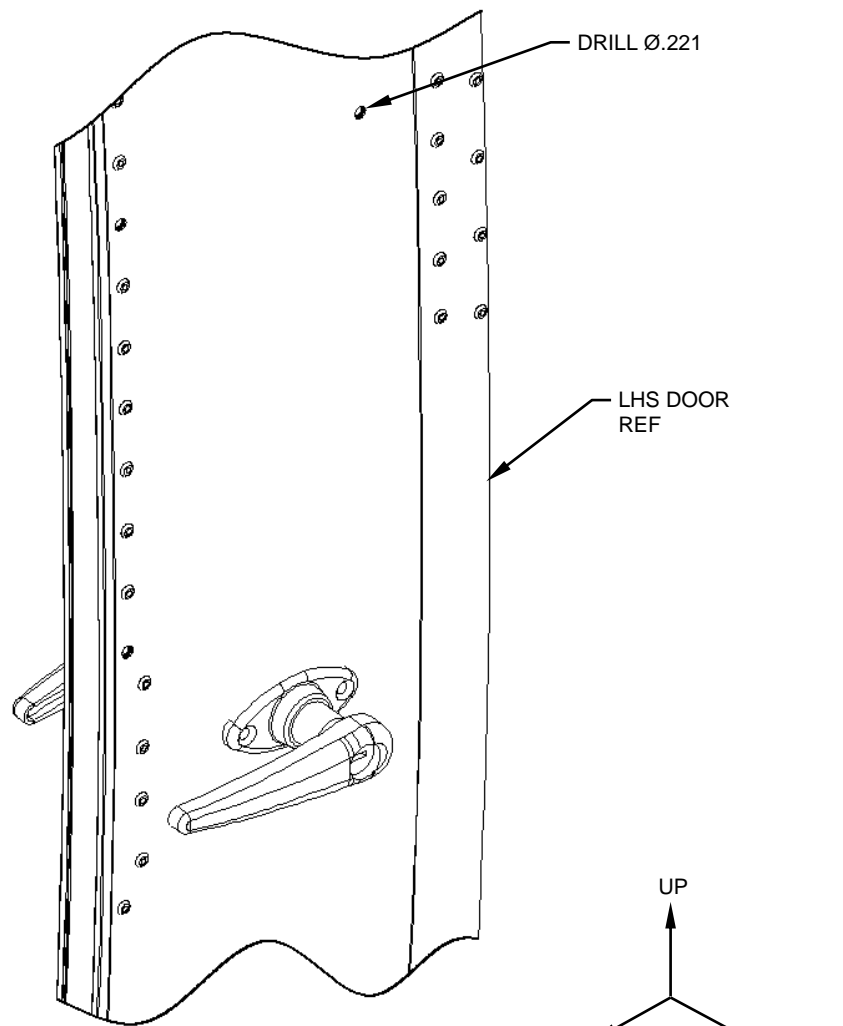


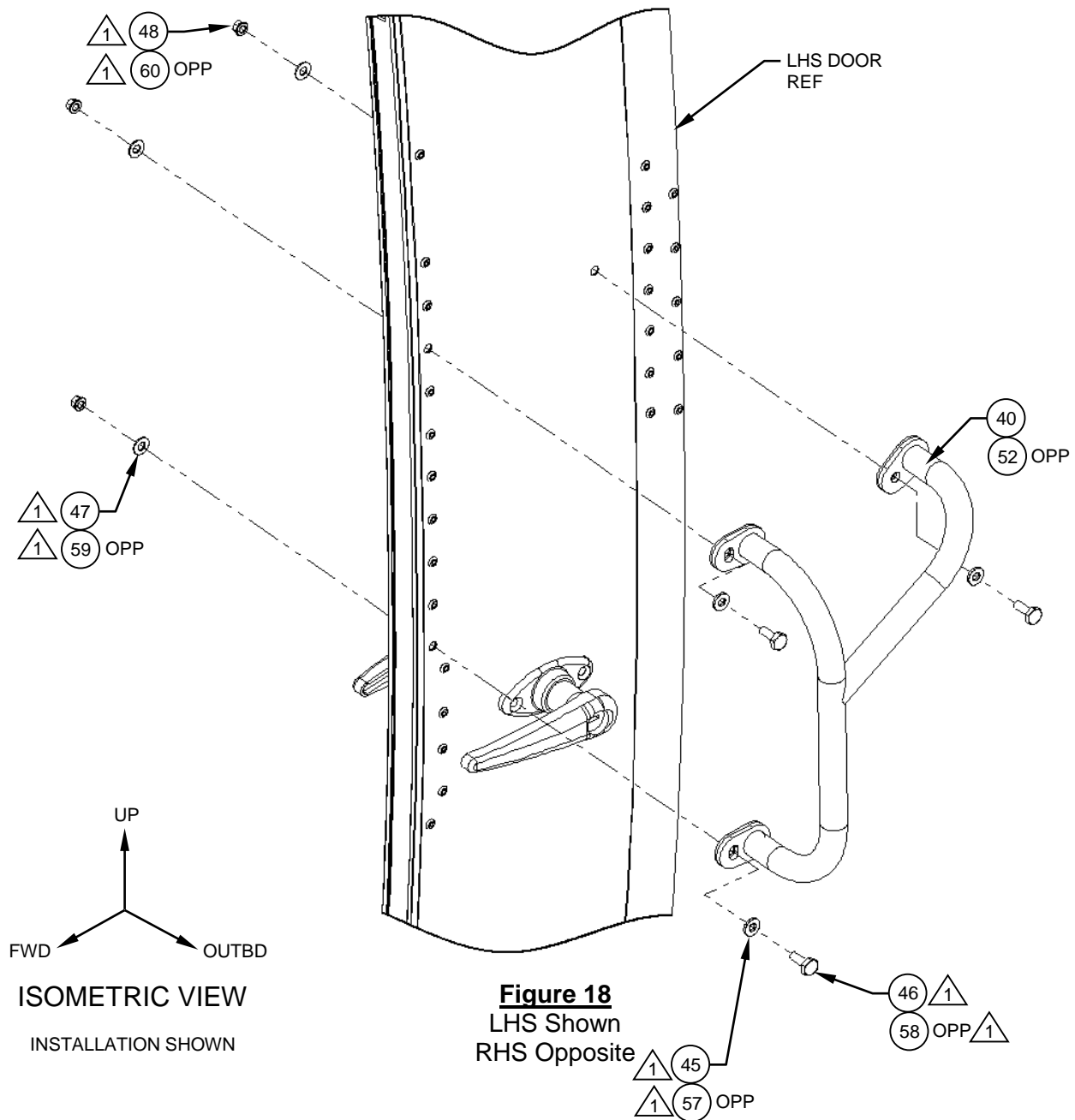
Figure 17
LHS Shown
RHS Opposite

ISOMETRIC VIEW
INSTALLATION SHOWN



Installation Instructions

6. Attach the Handle, Assy (Items 40 & 52 OPP) using the supplied hardware as shown. Reference Figure 18.





Installation Instructions

7. Installation complete.
8. Perform a General Inspection of all items to ensure proper installation.
9. Update the aircraft logbook for the installation of the Handle, Assy, Kit.



Installation Instructions

AFT Door Two Piece Outer Skin:

NOTE: LHS installation shown, RHS opposite.

1. Gain access to the inside of the passenger compartment door by removing the upper panel. Reference Figure 19.

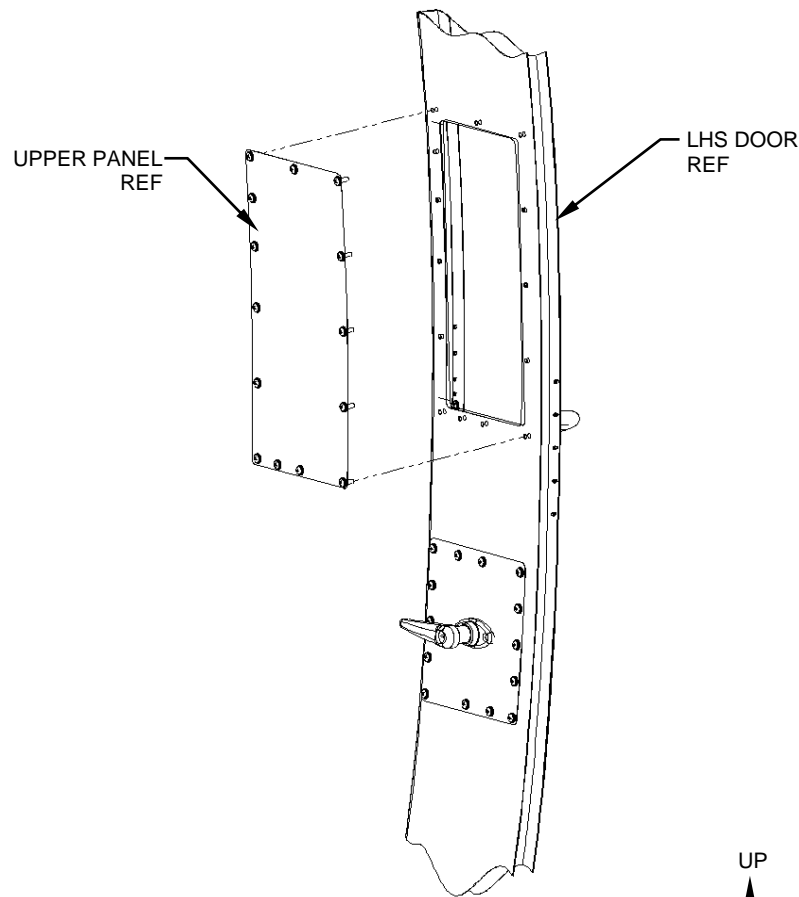
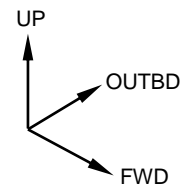


Figure 19
LHS Shown
RHS Opposite



ISOMETRIC VIEW
INSTALLATION SHOWN



Installation Instructions

2. Drill out the indicated rivets, upsize the resultant holes to $\text{Ø}.221$ (#2). Reference Figure 20.

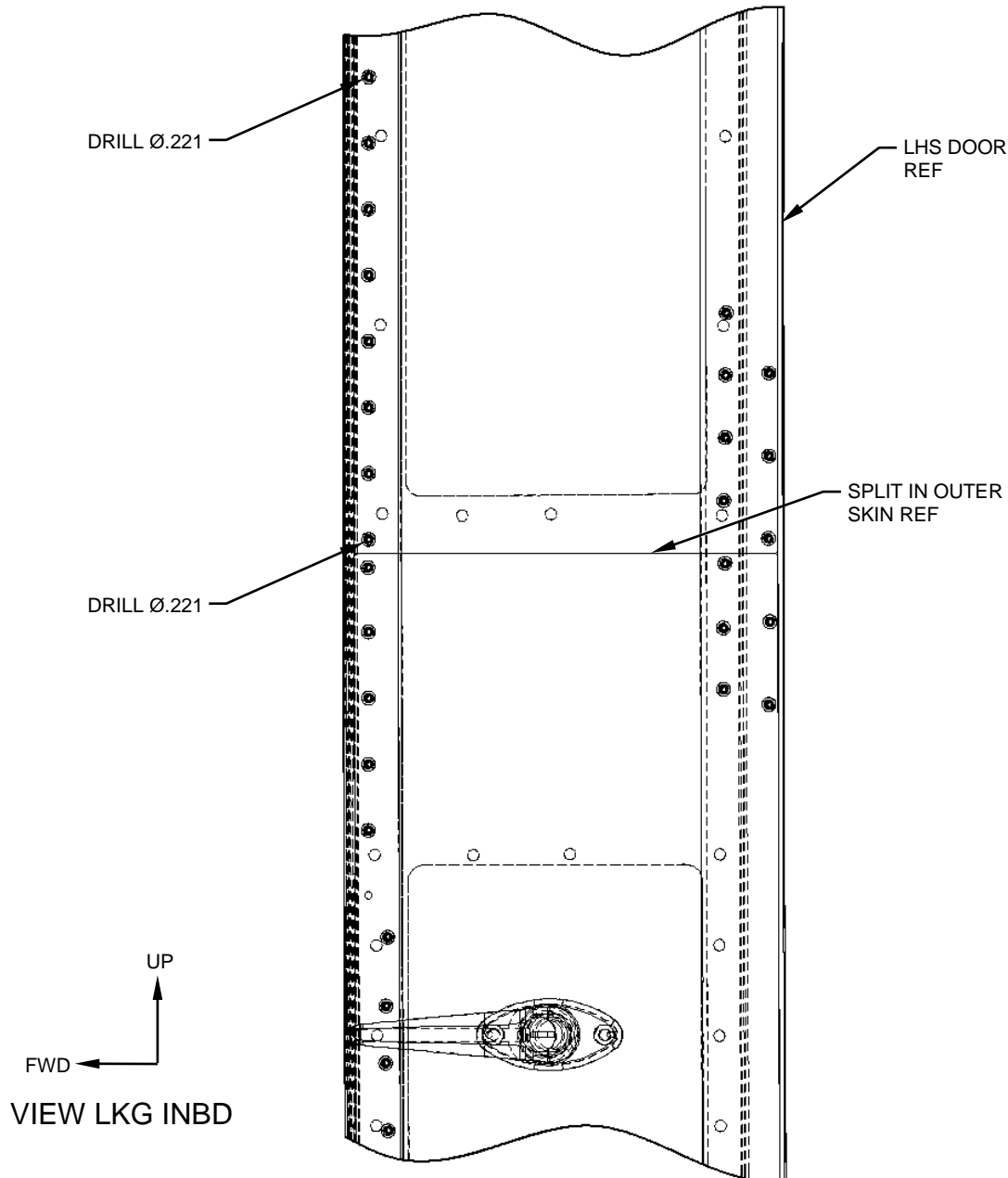


Figure 20
LHS Shown
RHS Opposite

Installation Instructions



3. Temporarily install the Handle, Assy (Item 40, 52 OPP) using the supplied hardware in the holes that were drilled out. Use this to scribe a center mark for the third foot. Transfer the location of the third hole through the existing hole in the third foot. Reference Figure 21.

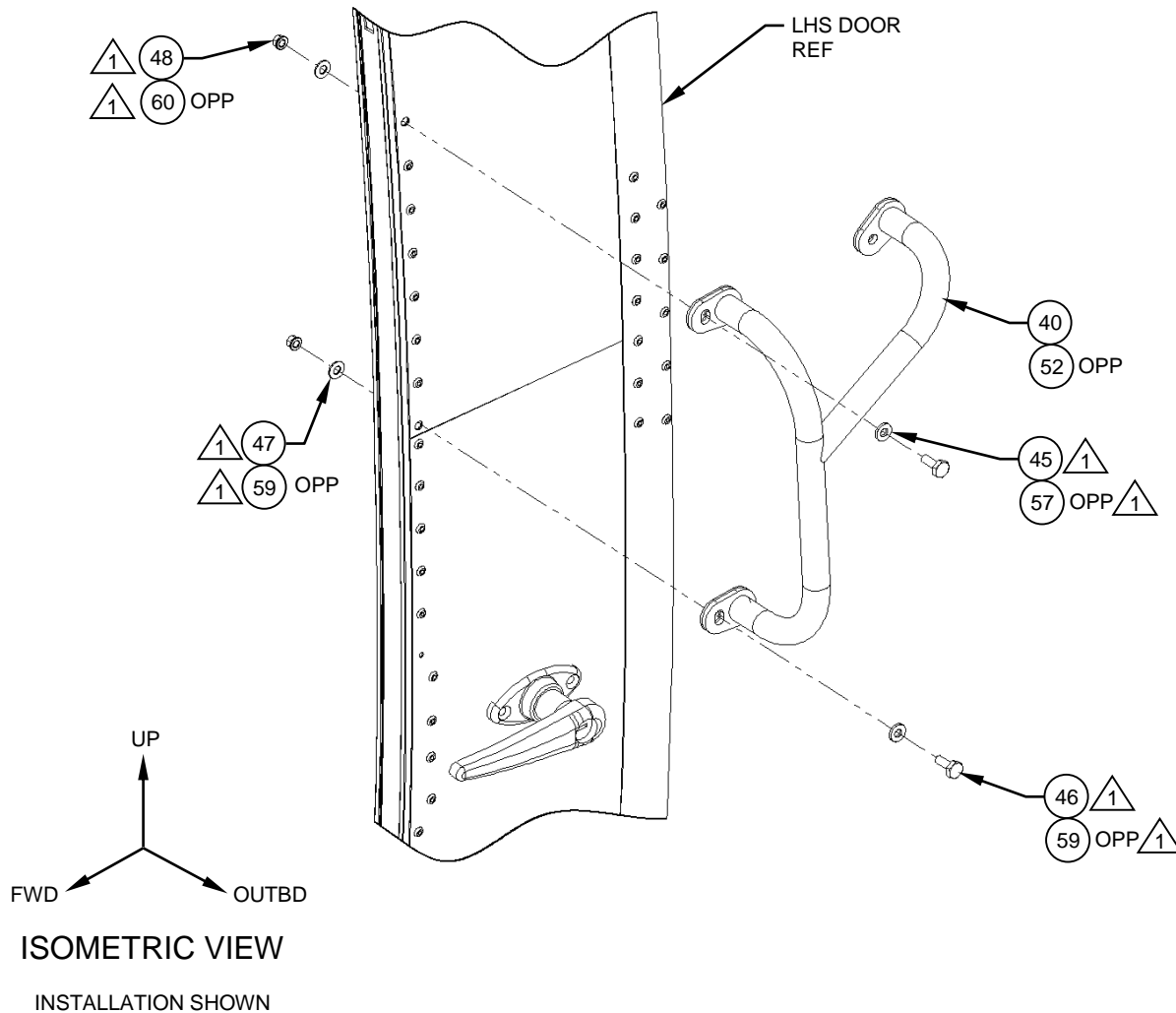


Figure 21
LHS Shown
RHS Opposite



Installation Instructions

4. Remove the Handle, Assy (Item 40, 52 OPP) and drill out the scribed location to $\text{Ø}.221$ (#2). Reference Figure 22.
5. Coat the inside of all holes with primer, epoxy, high solids per MIL-PRF-23377, Type1, Class C2. Primer is not supplied, procure locally.

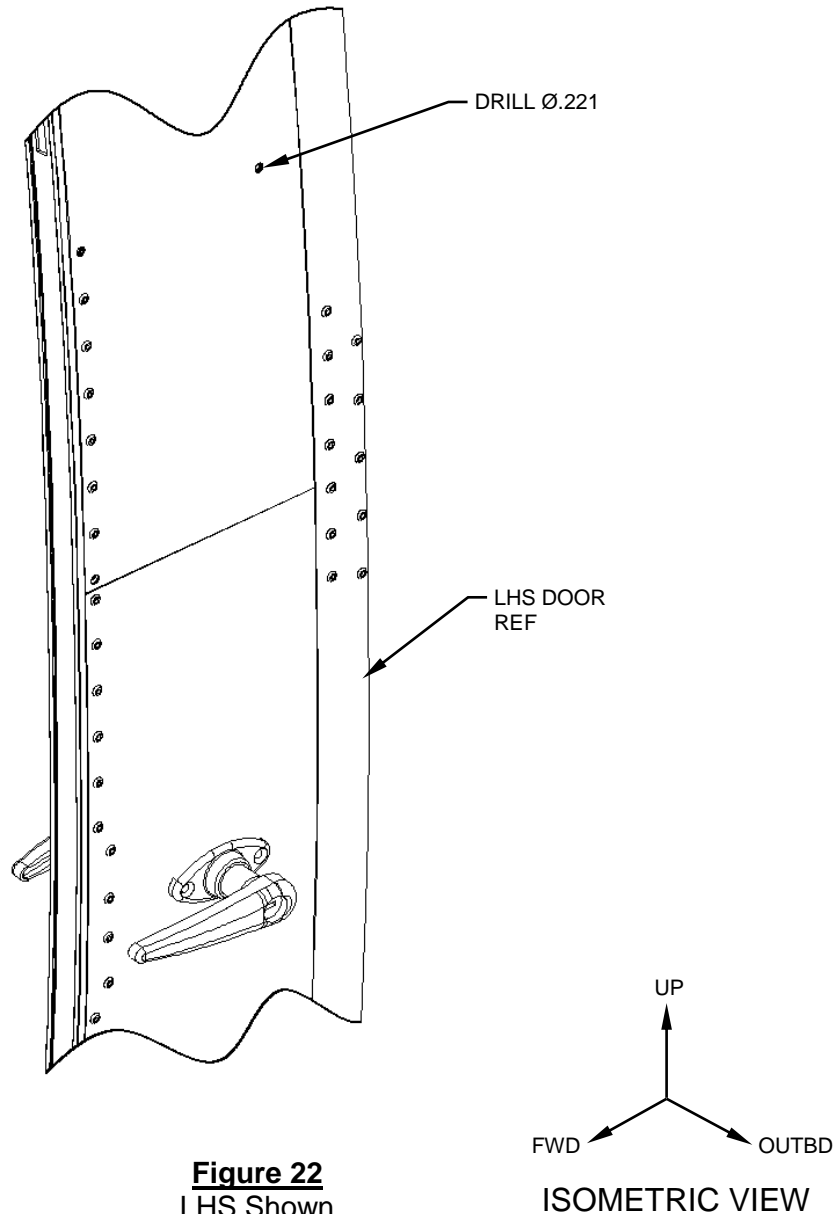
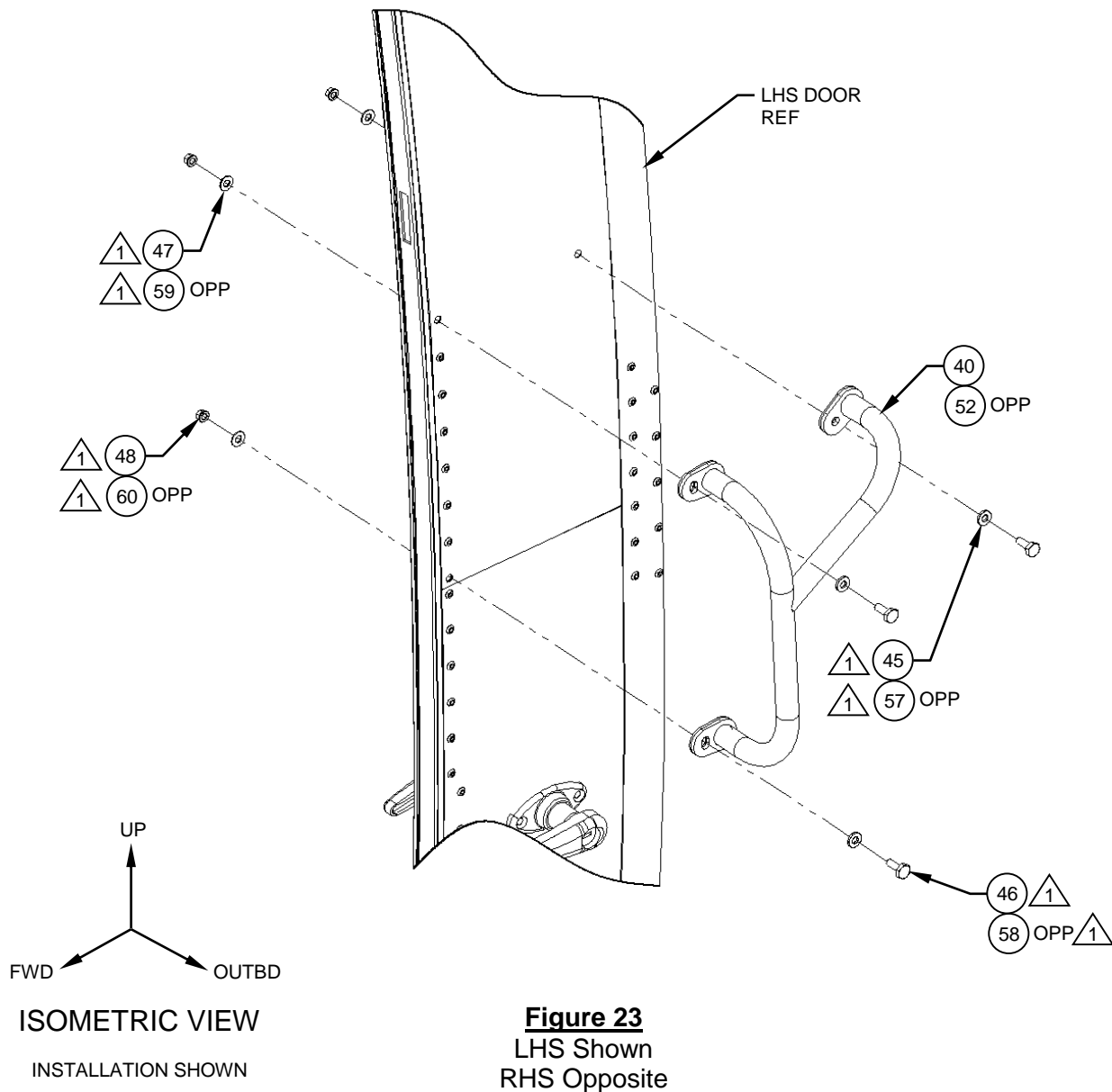


Figure 22
LHS Shown
RHS Opposite



Installation Instructions

6. Attach the Handle, Assy (Items 40 & 52) using the supplied hardware as shown. Reference Figure 23.





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admin@alpineaerotech.com

Installation Instructions

7. Installation complete.
8. Perform a General Inspection of all items to ensure proper installation.
9. Update the aircraft logbook for the installation of the Handle, Assy, Kit.



Installation Instructions

AFT Door Composite:

NOTE: LHS installation shown, RHS opposite.

1. Gain access to the inside of the passenger compartment door by removing the panel, and associated hardware. Reference Figure 24.

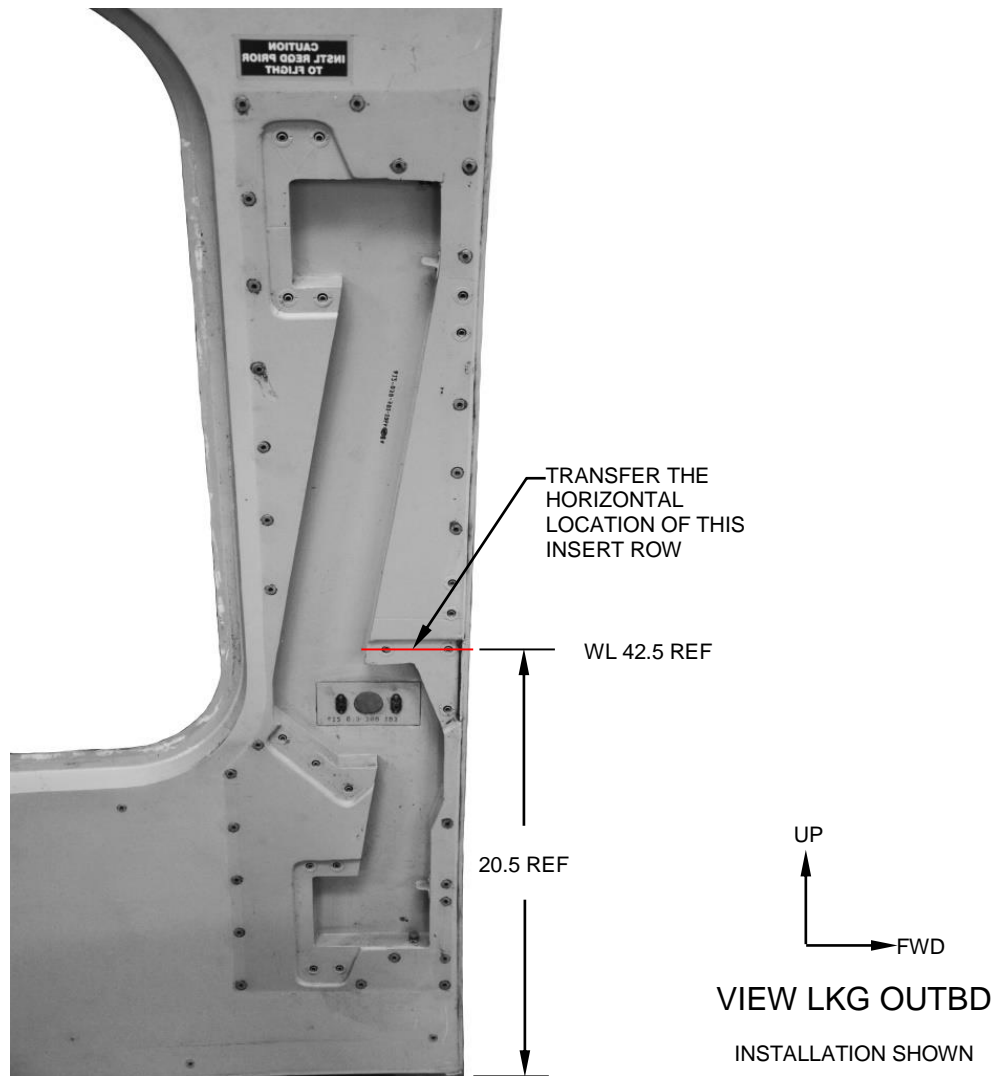


Figure 24
LHS Shown
RHS Opposite

2. Transfer the horizontal location of the row of inserts, to the outside of the door using tape or other means. Reference Figure 24 & 25.



Installation Instructions

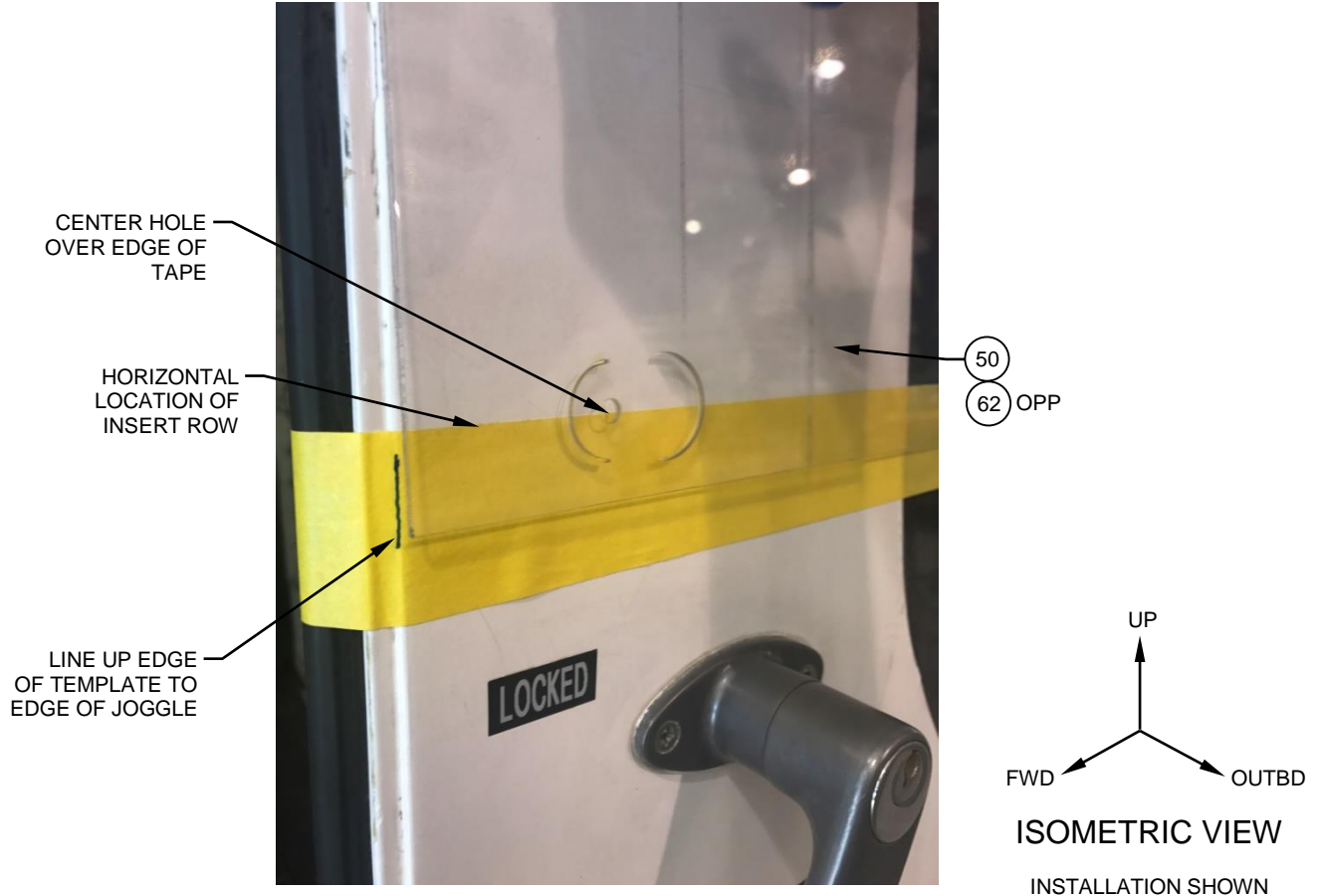


Figure 25
LHS Shown
RHS Opposite

3. Orient the center of the lower hole on the Template, Detail (Items 50 & 62 OPP), with the edge of the tape. Orient the forward edge of the Template, Detail with the forward edge of the joggle on the door. Reference Figure 25.
4. Mark the three hole locations in the Template, Detail onto the door. **NOTE:** Ensure the three locations do not interfere with any of the existing potted inserts on the opposite side of the door. Reference Figure 24.
5. Install the Insert, Detail (Item 49 & 61) at the marked locations. Refer to the current revision of the BHT-ALL-SRM section 3-2-12. Reference Figure 26.



Installation Instructions

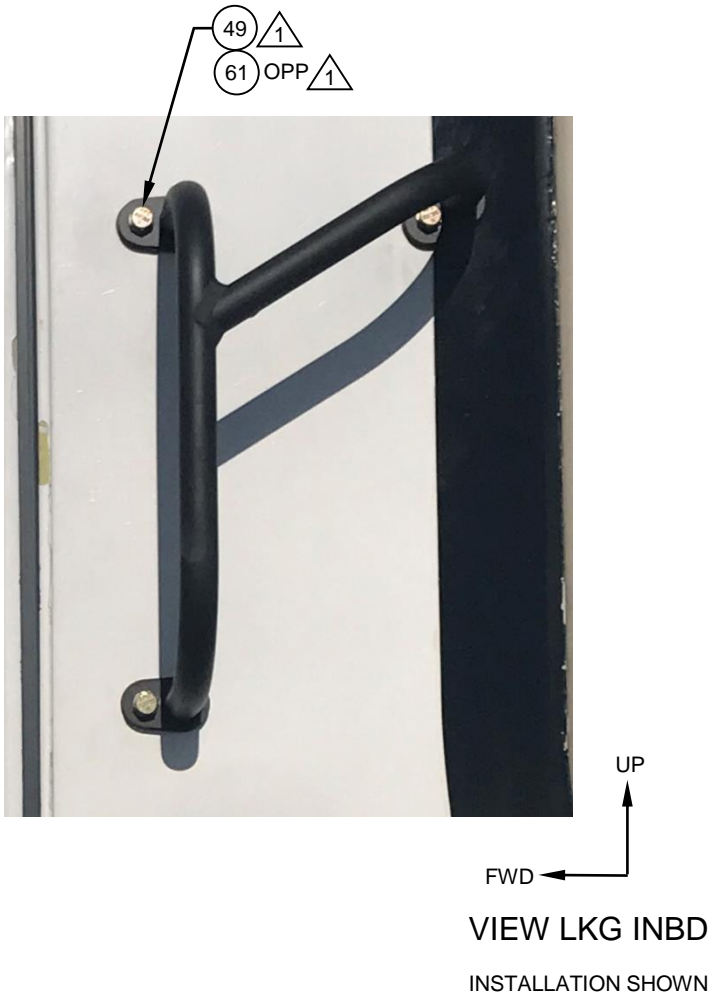


Figure 26
LHS Shown
RHS Opposite

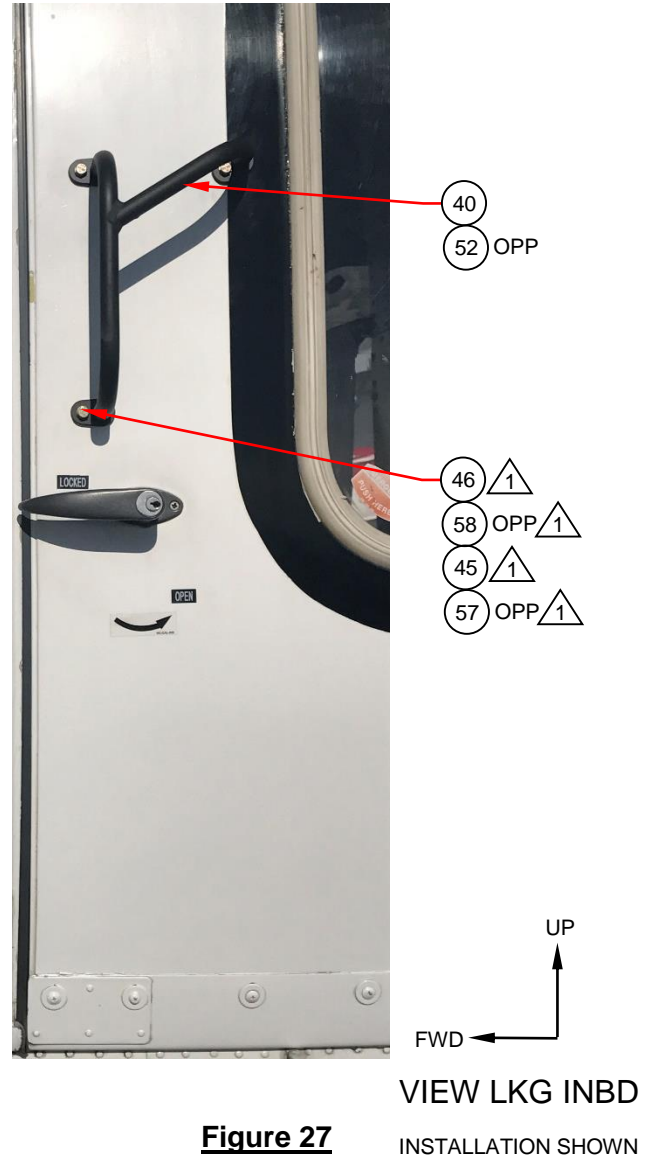


Figure 27
LHS Shown
RHS Opposite

6. Once the potting compound has cured install the Handle, Assy, LHS, AFT (Items 40 & 52 OPP), using the supplied hardware as shown. Reference Figure 27.
7. Installation complete.
8. Perform a General Inspection of all items to ensure proper installation.
9. Update the aircraft logbook for the installation of the Handle, Assy, Kit.



Removal Instructions

FWD Door Sheetmetal:

1. Removal instructions for all FWD Door handle kits is the opposite of installation.

FWD Door Composite:

1. Removal instructions for all FWD Door handle kits is the opposite of installation.

AFT Door One Piece Outer Skin:

1. Removal instructions for all AFT Door handle kits from one piece outer skin is the opposite of installation.

AFT Door Two Piece Outer Skin:

1. Removal instructions for all AFT Door handle kits from two piece outer skin is the opposite of installation.

AFT Door Composite:

1. Removal instructions for all AFT Door handle kits from composite door is the opposite of installation.