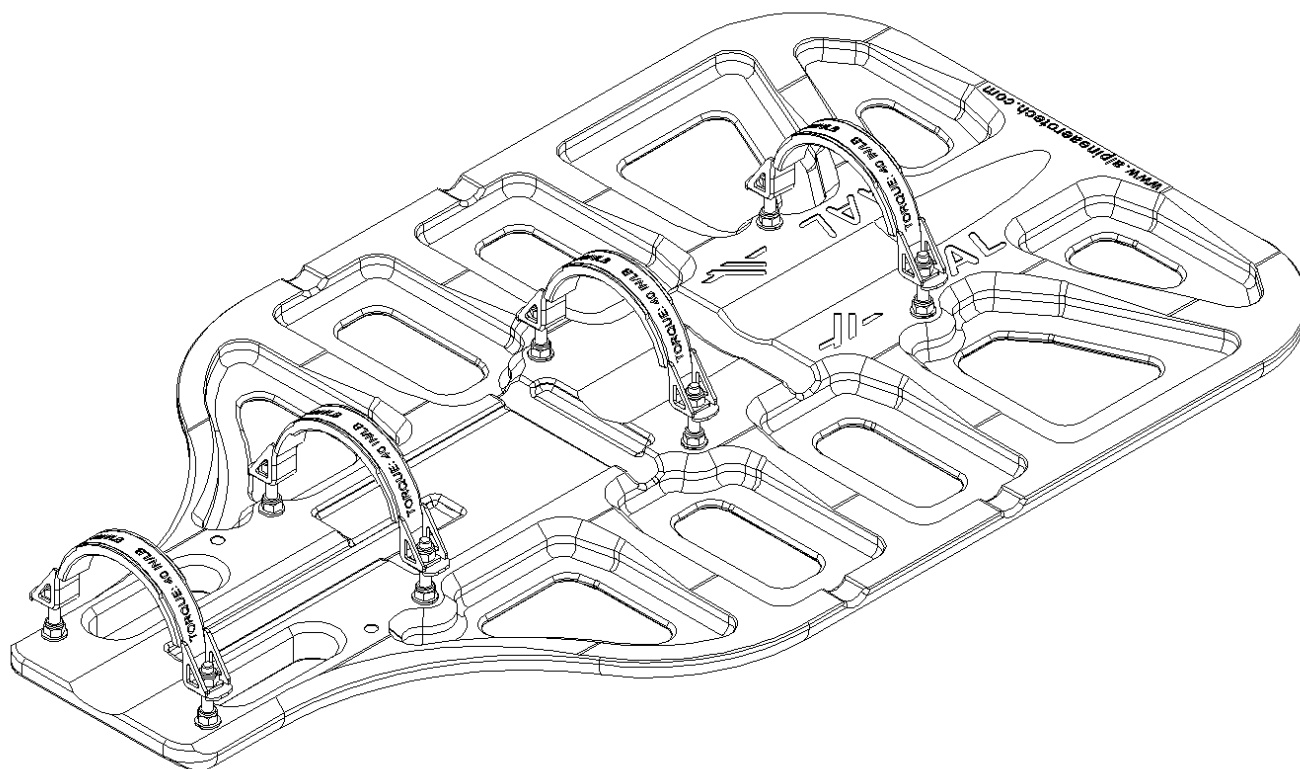




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BEAR PAW, KIT INSTRUCTIONS FOR CONTINUING AIRWORTHINESS

MODELS: BELL 205, 212, 214, 412 & 412EP

Read all of the Instructions for Continuing Airworthiness
thoroughly prior to performing any activities relating to this product



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General Notes

1. If changes to this document are required, Alpine Aerotech LP shall revise all pages and reissue the entire document.
2. Alpine Aerotech LP shall make any subsequent revisions of this document available free of charge upon request. Alpine Aerotech LP also recommends that the end user of this product verify the revision level of this document on a yearly basis.



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Section 1: Maintenance Manual Supplement

General Notes

1. The following information defines the instructions for continuing airworthiness, repair allowances and airworthiness limitations for the item(s) referenced within this document.
2. Refer to the current revision of the BHT Maintenance Manual, BHT-205-MM , BHT-212-MM, BHT-214-MM-1 or BHT-412-MM, for the chapter(s) and section(s) referenced within this document.
3. Refer to the Section 2: Installation & Removal Instructions and Section 3: Illustrated Parts Breakdown for the replacement and/or installation of the item(s) referenced within this section.
4. Scheduled inspection for the item(s) referenced within this document shall be accomplished in accordance with (IAW) the Inspection Procedures specified.
5. Repair allowances for the item(s) referenced within this document shall be accomplished IAW the Repair Procedures specified.
6. Limitations for the item(s) referenced within this document are IAW the Airworthiness Limitations specified.



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Airworthiness Limitations

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

Supplement to applicable Maintenance Manual, Chapter 4, Airworthiness Limitations Schedule

Notes

1. Refer to the applicable Maintenance Manual, Chapter 4-3, for general information on airworthiness limitations and airworthiness limitation schedules.
2. Item(s) **not** listed in the Scheduled Airworthiness Limitations section within this document have an unlimited airworthiness life.

Scheduled Airworthiness Limitations

1. There are no airworthiness limitations associated with the item(s) referenced within this document.



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Inspection Procedures

Supplement to applicable Maintenance Manual, Chapter 5, Inspection and Component Overhaul Schedule

Notes

1. Refer to the applicable Maintenance Manual, Chapters 5-1, 5-2 & 5-3, for general information on inspections, inspection definitions, inspection intervals, inspection methods and inspection schedules.
2. General Inspections, as indicated within this document, are defined as visual, non-thorough checks.
3. Detailed Inspections, as indicated within this document, are defined as visual and thorough, searching checks.
4. Perform Daily Inspections every day, prior to flight operation. If damage is detected, perform the 100 Hour/12 Month Inspections.
5. Perform 100 Hour/12 Month Inspections every 100 hours or every 12 months, whichever occurs first, prior to flight operation. If damage is detected, refer to the Repair Procedures section within this document.

Scheduled Inspections

1. Daily Inspections

Data Reference: Section 2: Installation and Removal Instructions
Section 3: Illustrated Parts Breakdown

- i. Perform a General Inspection on the Bear Paw, Kit, Installation for general condition.
- ii. Perform a General Inspection on the Bear Paw, Kit, Installation for proper security.







Scheduled Inspections

2. 100 Hour/12 Month Inspections

Data Reference: Section 2: Installation and Removal Instructions

Section 3: Illustrated Parts Breakdown

- i. Perform a Detailed Inspection on all materials and finishes in the Bear Paw, Kit, Installation for evidence of corrosion, cracks and damage.
- ii. Perform a Detailed Inspection on all materials and finishes in the Bear Paw, Kit, Installation for proper integrity and condition.
- iii. Perform a Detailed Inspection on the Bear Paw, Kit, Installation for proper security.
- iv. Perform a Detailed Inspection on all hardware and fasteners in the Bear Paw, Kit, Installation for proper security and torque.
- v. In the shaded regions ,  of Figure 1 the Bear Paw may be worn to a maximum depth of 0.125.
- vi. In the shaded  region of Fig 1, it is acceptable to have damaged areas up to a maximum depth of 0.125 over a maximum area of 2 sq. in. Damage includes but not limited to scratches, gouges and deformed areas.
- vii. The edge of a damaged region must be a minimum of 2 in. away from the edge of the nearest damaged region.
- viii. Cracks are acceptable in the shaded  portion of Fig 1 as long as they are restricted to the pockets of the bear paws, and do not exceed 0.50 long. Cracks that penetrate the stiffening ribs of the same area are unacceptable. Stop drill all cracks up to 0.50 long with $\varnothing 0.188$ drill.
- ix. Inspect items 2 & 12 Cap, Assys for damage to their respective components:
 - a. Inspect items 4 & 14, Strap, Assys for cracks and hole elongation. If cracks are detected, or holes are elongated more than 0.025, replace the Strap, Assys (Items 4 & 14) immediately.
 - b. Inspect items 3 & 13 Cap, Details for wear and damage and replace as required.

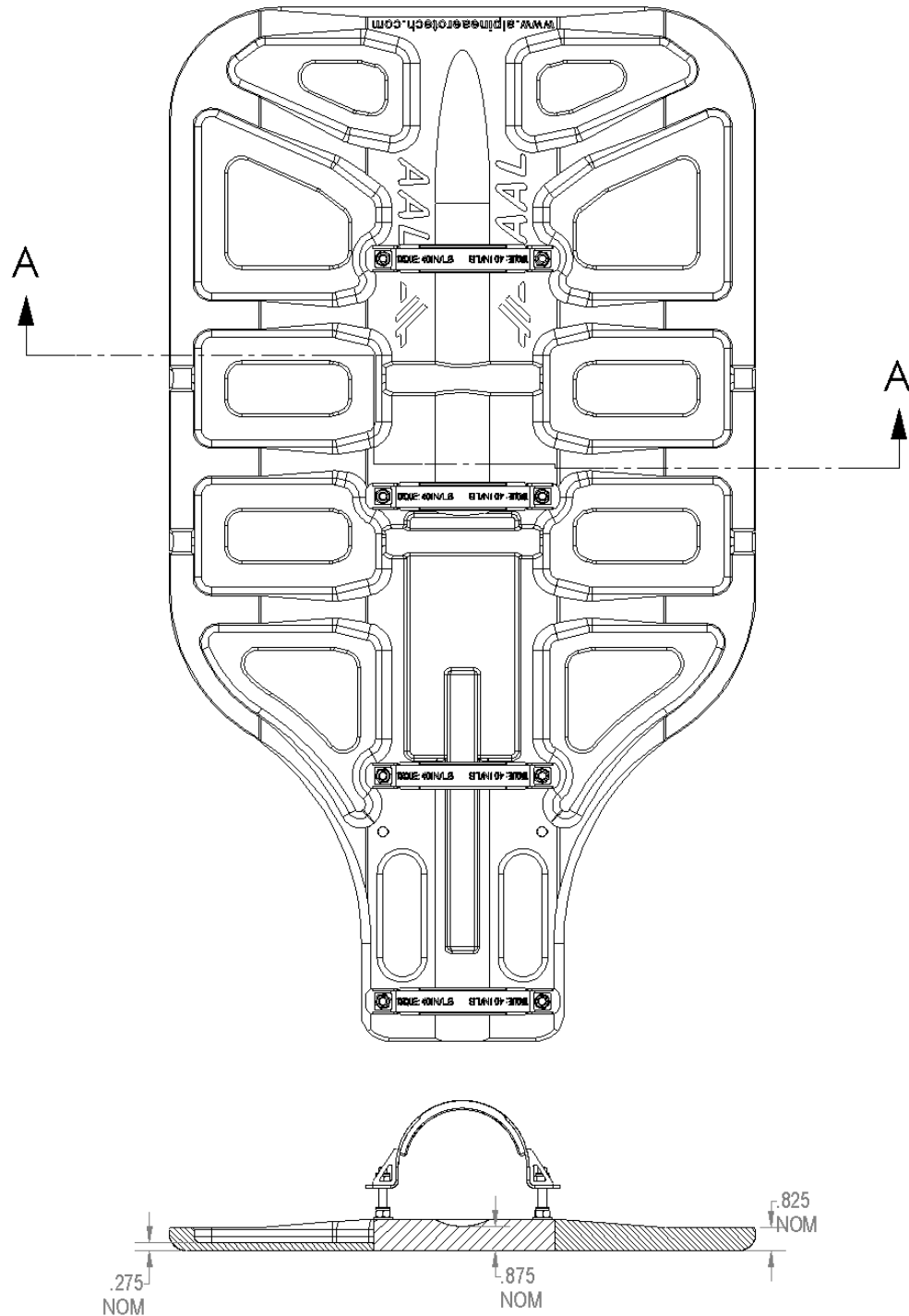


Figure 1



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Repair Procedures

1. Repairs to the item(s) referenced within this document are **not** permitted. Contact Alpine Aerotech Ltd. for further information if repairs are required to the item(s) referenced within this document.



Section 2: Installation & Removal Instructions

Weight & Balance

<u>Part Number</u>	<u>Description</u>	<u>Weight</u>	<u>Long. Arm</u>	<u>Lat. Arm</u>
AAL-290-040-001	Bear Paw, Kit	30.140*	166.807	.00
		17.75 (Kg)	4.24 (m)	.00 (m)

* Total increase in weight to aircraft.

General Notes

1. All Installation 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 Section 1: Maintenance Manual Supplement for instructions on maintenance for the item(s) referenced within this section.
5. Refer to the Section 3: Illustrated Parts Breakdown for the part numbers of the item(s) referenced within this section.

Installation Notes

1. Typical item number for all like items in this view unless otherwise specified.
2. Align the Aft side of the Cap, Assy (Item 12) with the Fwd face of the saddle, detail.
3. Prior to final torque ensure that there is zero gap between the Bear Paw, Detail and the skidtube.
4. Align the Cap, Assy (Item 12) with the Fwd edge of the lifting fitting as shown.



Installation Instructions

Installation on OEM Skidtube:

NOTE: LHS installation shown, RHS opposite.

1. Pre-install the supplied hardware as shown. Reference Figure 1.

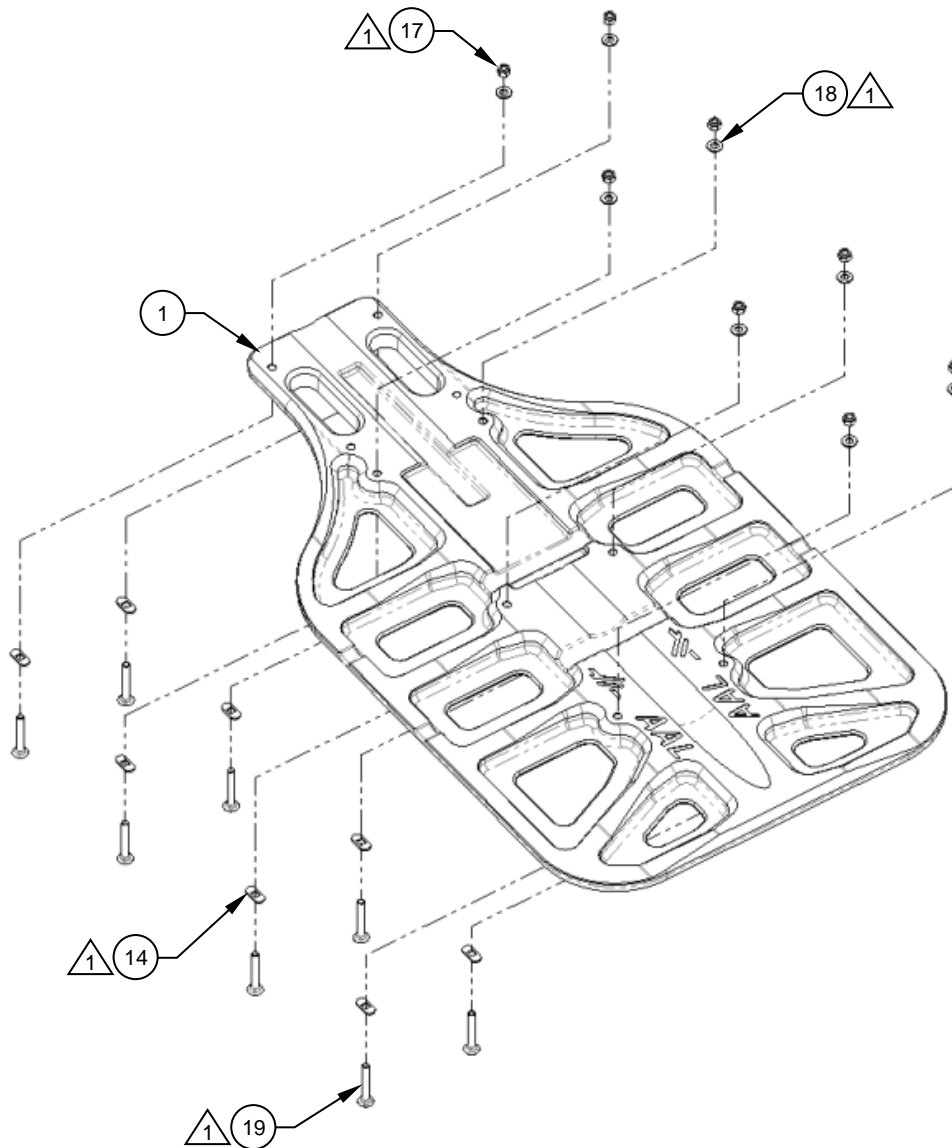
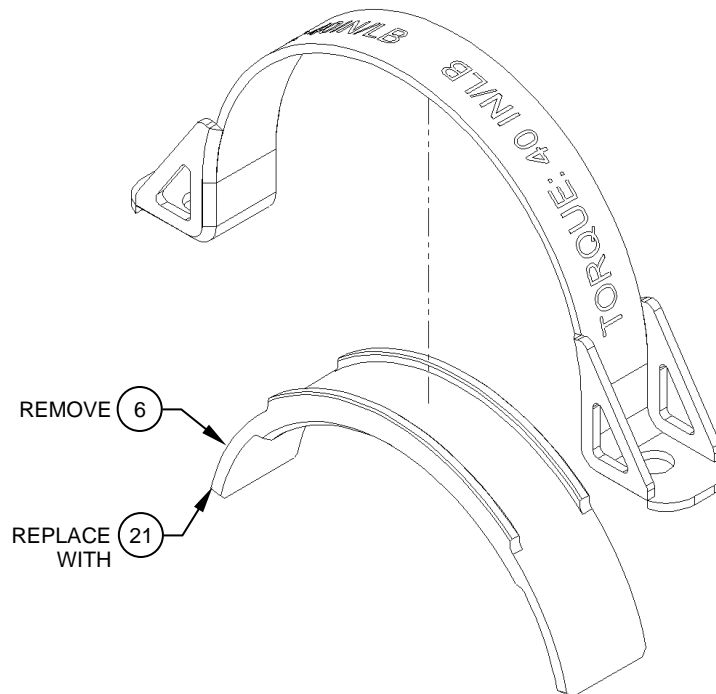


Figure 1
LHS Shown
RHS Opposite



Installation Instructions

2. Modify the Cap, Assy (Items 5), by removing the Cap, Detail (Item 6) and replacing it with 2 each Cap, Details (Items 21) effectively turning them into Cap, Assy (Items 2)



Cap, Assy
Shown
Item 5



Installation Instructions

3. Raise the aircraft, so that the Bear Paw, Detail (Item 1) can slide under the skidtube.
4. Once the Bear Paw, Detail (Item 1) is under the skidtube in its approximate location place the Cap, Assy's (Item 2) on their corresponding studs and capture the stud with its respective self-locking nut (Item 17) and washer (Item 16). Reference Figures 2 & 3.
5. Align the Aft side of the Cap, Assy (Item 2) with the Fwd side of the saddle fitting. Reference Figure 3.

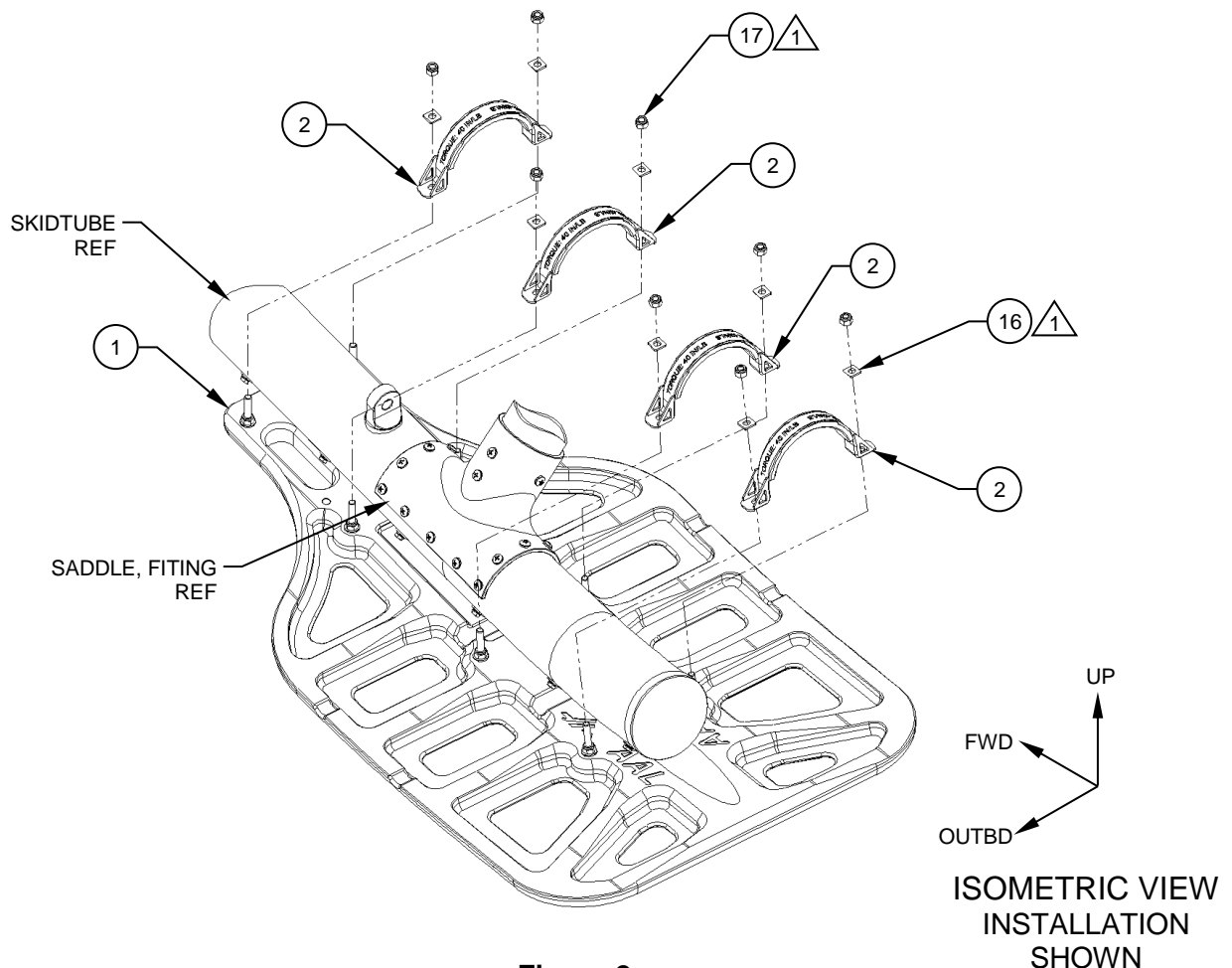
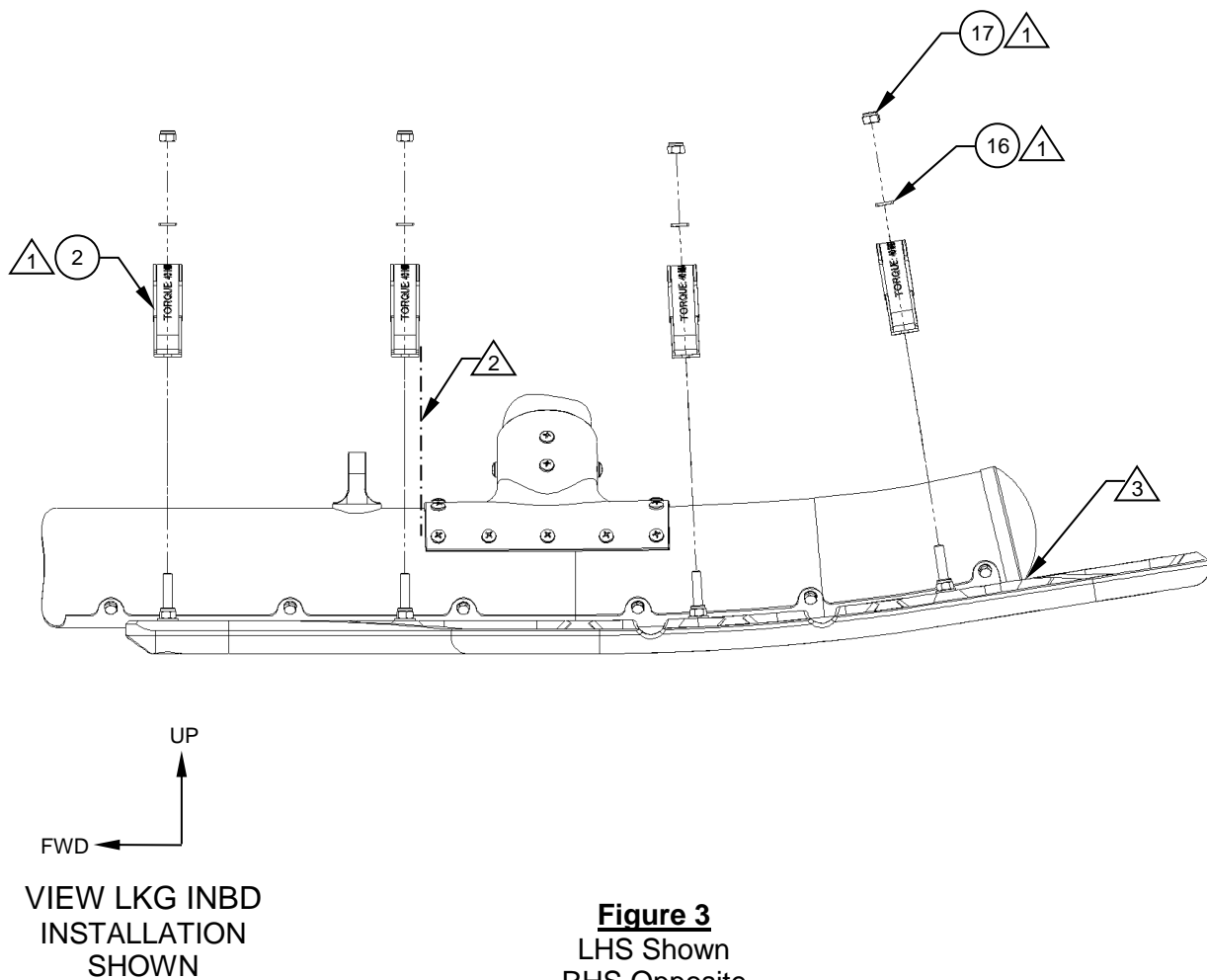


Figure 2
LHS Shown
RHS Opposite



Installation Instructions

6. Lower the aircraft onto the Bear Paw, Detail (Item 1) and torque fasteners equally to 40 in/lbs. For the Aft most Cap, Assy (Item 2), prior to final torque of the fasteners ensure there is zero gap between the Bear Paw, Detail (Item 1) and the skidtube. Reference Figures 2 & 3.





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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 Bear Paw, Kit.



Installation Instructions

Installation on DART skidtube:

NOTE: LHS installation shown, RHS opposite.

1. Pre-install the supplied hardware as shown. Reference Figure 5.

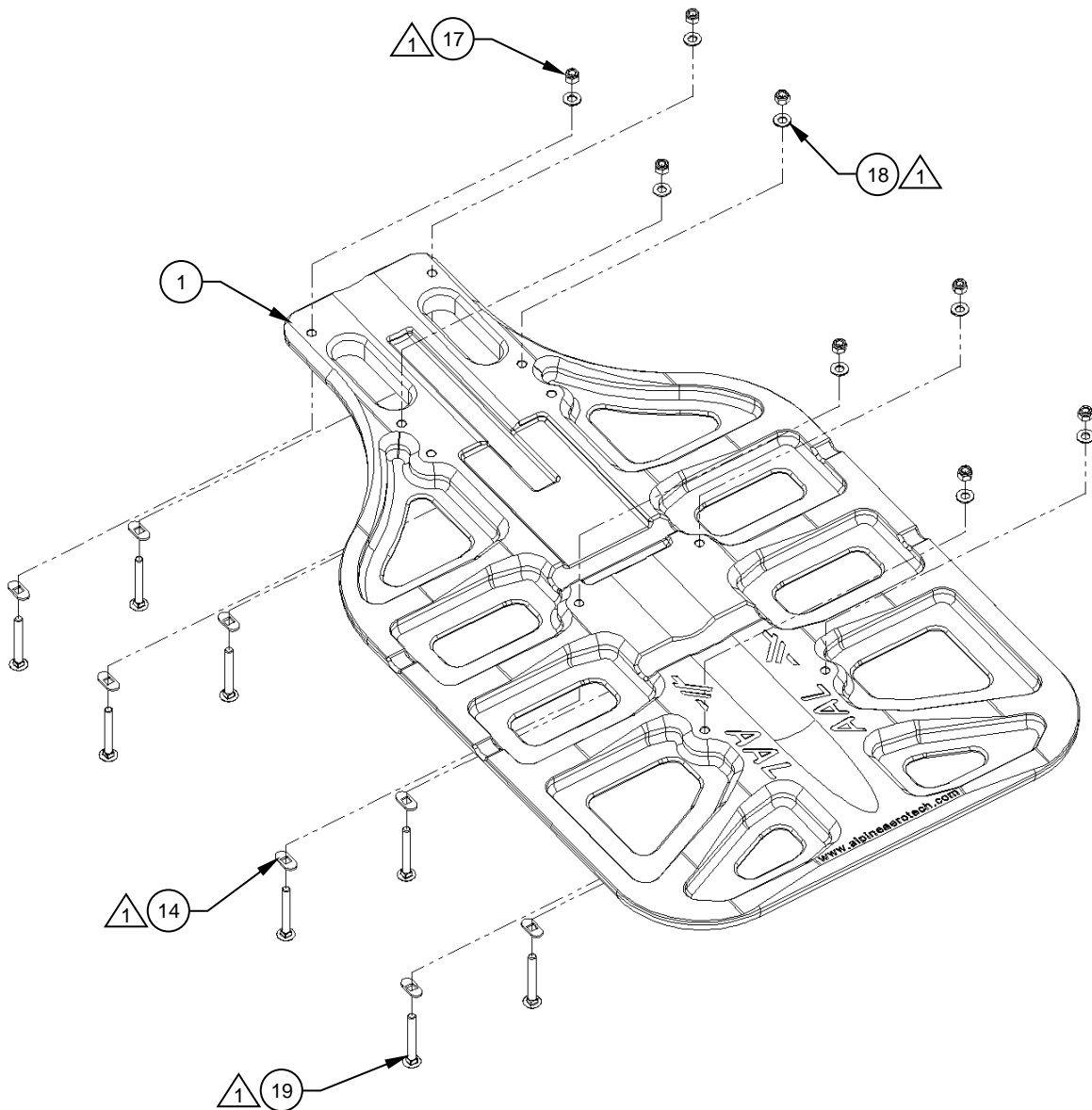


Figure 5
LHS Shown
RHS Opposite



Installation Instructions

2. Raise the aircraft, so that the Bear Paw, Detail (Item 1) can slide under the skidtube.
3. Once the Bear Paw, Detail (Item 1) is under the skidtube in its approximate location place the Cap, Assy's (Items 2 & 5) on their corresponding studs and capture the stud with its respective self-locking nut (Item 17) and washer (Item 16). Reference Figures 6 & 7.
4. Align the Cap, Assy (Item 5) in relation to the forward edge of the Lifting Fitting as shown. Reference Figure 7.

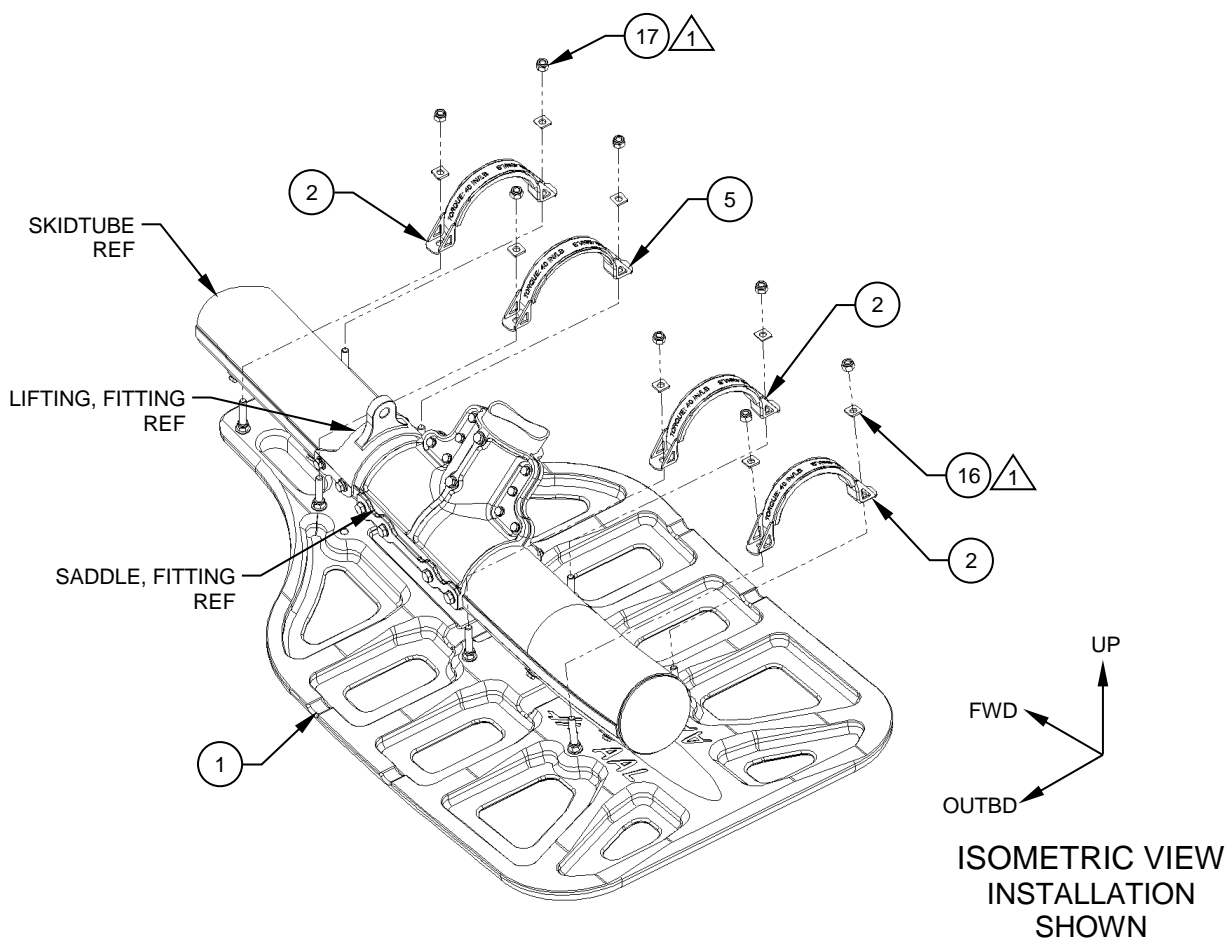
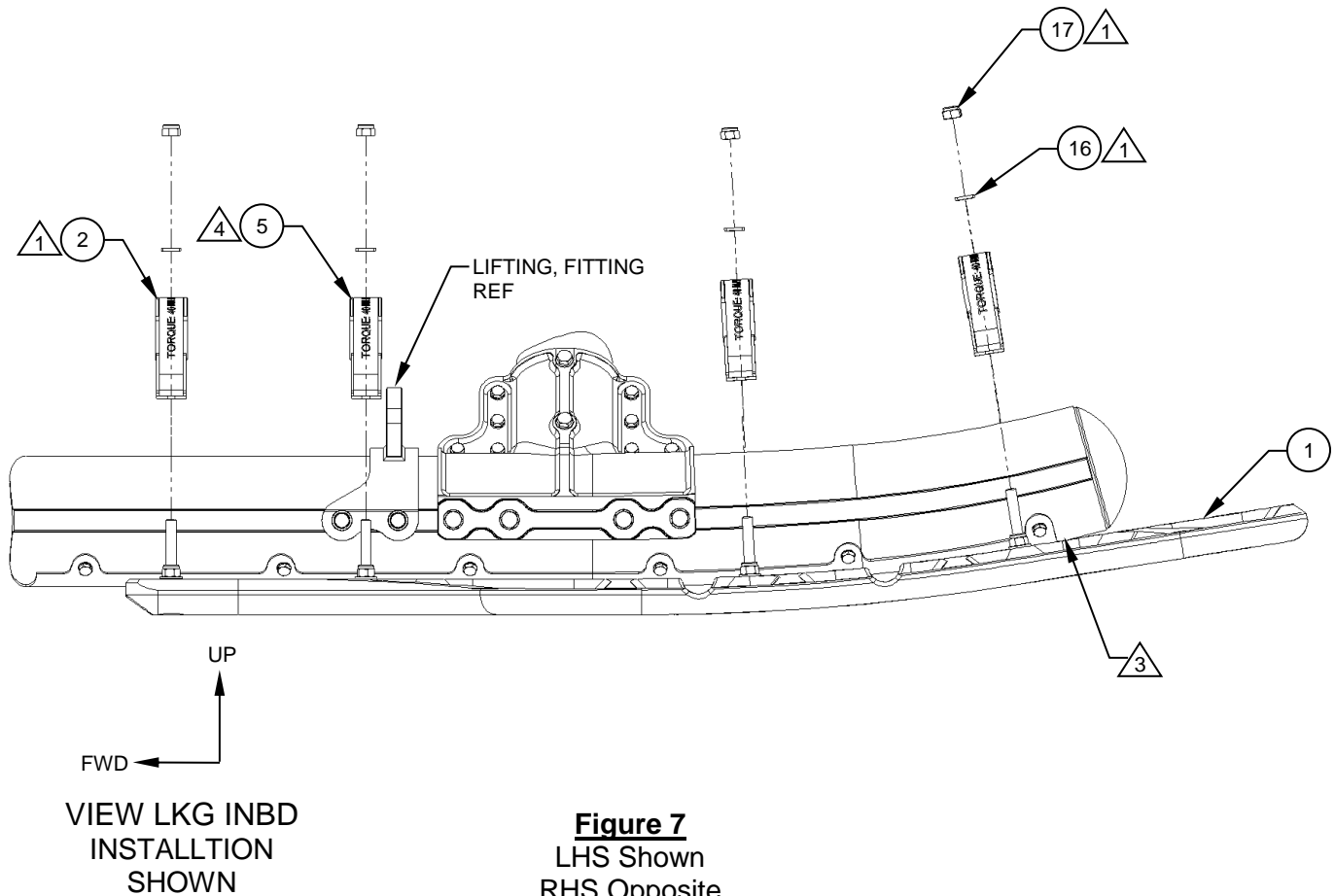


Figure 6
LHS Shown
RHS Opposite



Installation Instructions

5. Lower the aircraft onto the Bear Paw, Detail (Item 1) and torque fasteners equally to 40 in/lbs. For the Aft most Cap, Assy (Item 2), prior to final torque of the fasteners ensure there is zero gap between the Bear Paw, Detail (Item 1) and the skidtube. Reference Figures 6 & 7.





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Installation Instructions

6. Installation complete.
7. Perform a General Inspection of all items to ensure proper installation.
8. Update the aircraft logbook for the installation of the Bear Paw, Kit.



Installation Instructions

Installation on OEM Float Skidtube:

NOTE: LHS installation shown, RHS opposite.

NOTE: Installing AAL Bear Paw, Kit on an OEM **Float** Skidtube is the same as for an an OEM Skidtube except as follows.

1. Gain access to the AFT portion of the skid tube, this may require the temporary removal of the float bag, assy.
2. Install the FWD **three** Cap, Assy's (Item 2) as per pages 12 & 13, steps 2 thru 6 of this document.
3. Install the AFT Strap, Assy (Item 11). The Strap, Assy may need to be bent slightly to fit it over the tube. Reference Figure 9.
4. The remainder of the installation instructions are the same as steps 6 thru 9 on pages 13 & 14 of this document.

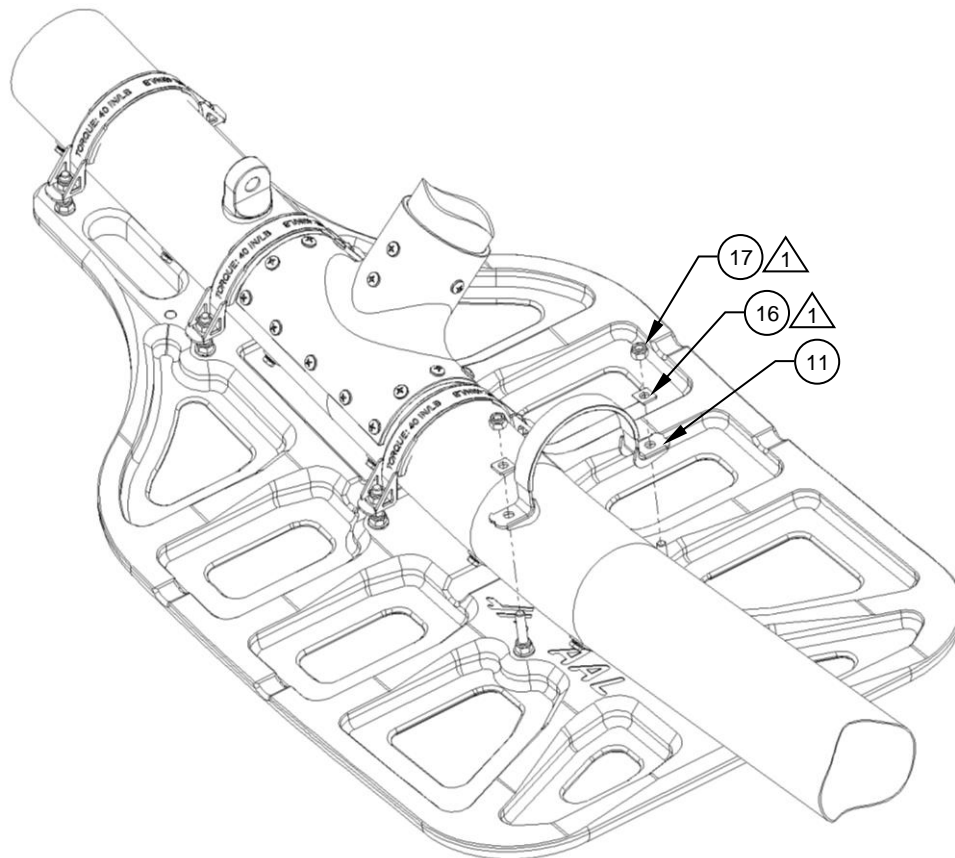


Figure 9



Installation Instructions

Installation on DART Float Skidtube:

NOTE: LHS installation shown, RHS opposite.

NOTE: Installing AAL Bear Paw, Kit on a DART Float Skidtube is the same as for an an DART Skidtube except as follows.

1. For the Cap, Assy AFT of the saddle fitting, use Carriage, Bolt (Item 15) in both holes. For the AFT most Cap, Assy position use Carriage, Bolt (Item 20) in both holes. Reference Figure 10.

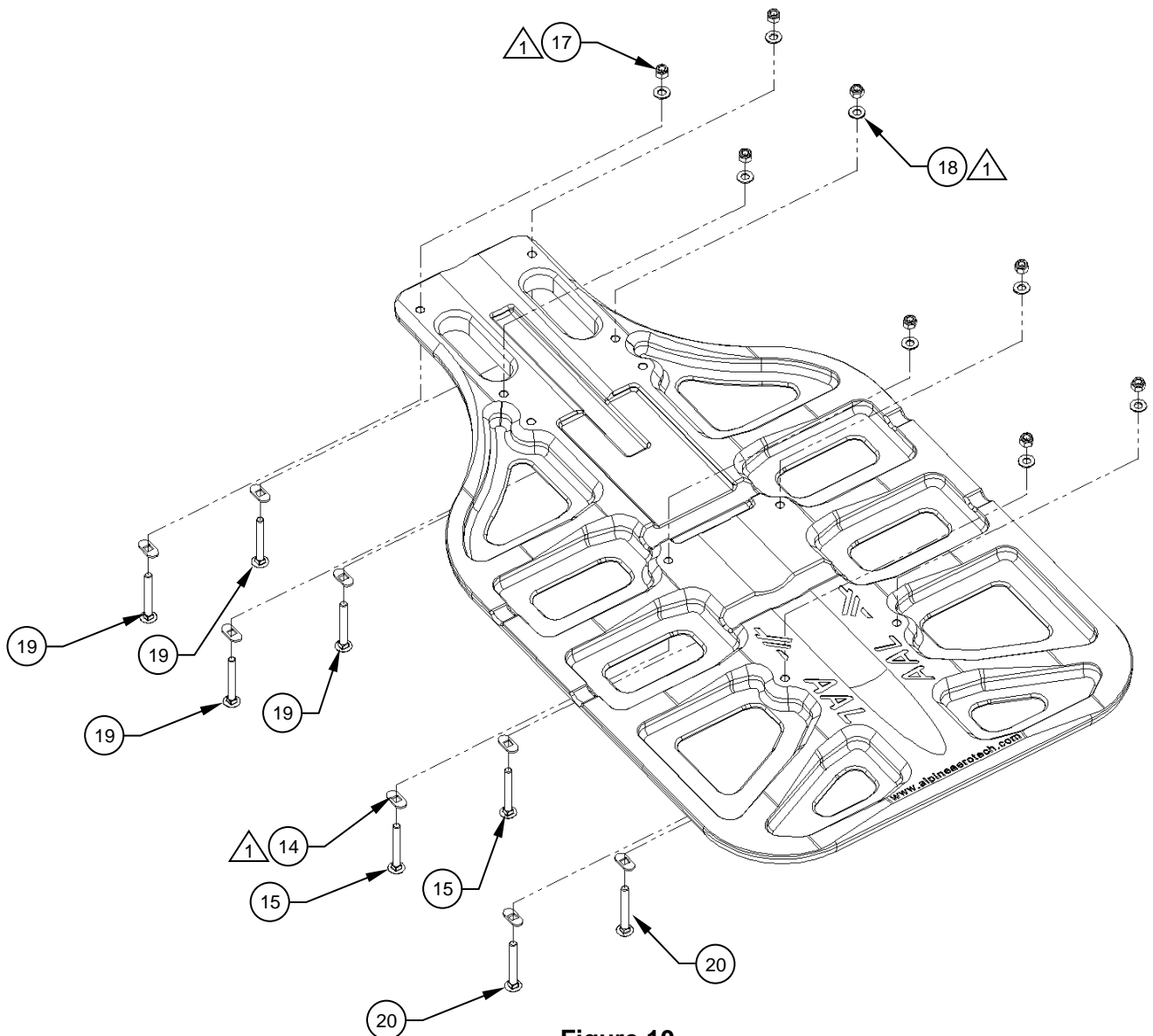


Figure 10



Installation Instructions

2. Gain access to the AFT portion of the skid tube, this may require the temporary removal of the float bag, assy.
3. Install the FWD **three** Cap, Assy's (Item 2) as per pages 16 & 17, steps 2 thru 5 of this document.
4. Install the AFT Strap, Assy (Item 8). The Strap, Assy may need to be bent slightly to fit it over the tube. Reference Figure 11.
5. The remainder of installation instructions are the same as steps 5 thru 8 on pages 17 & 18 of this document.

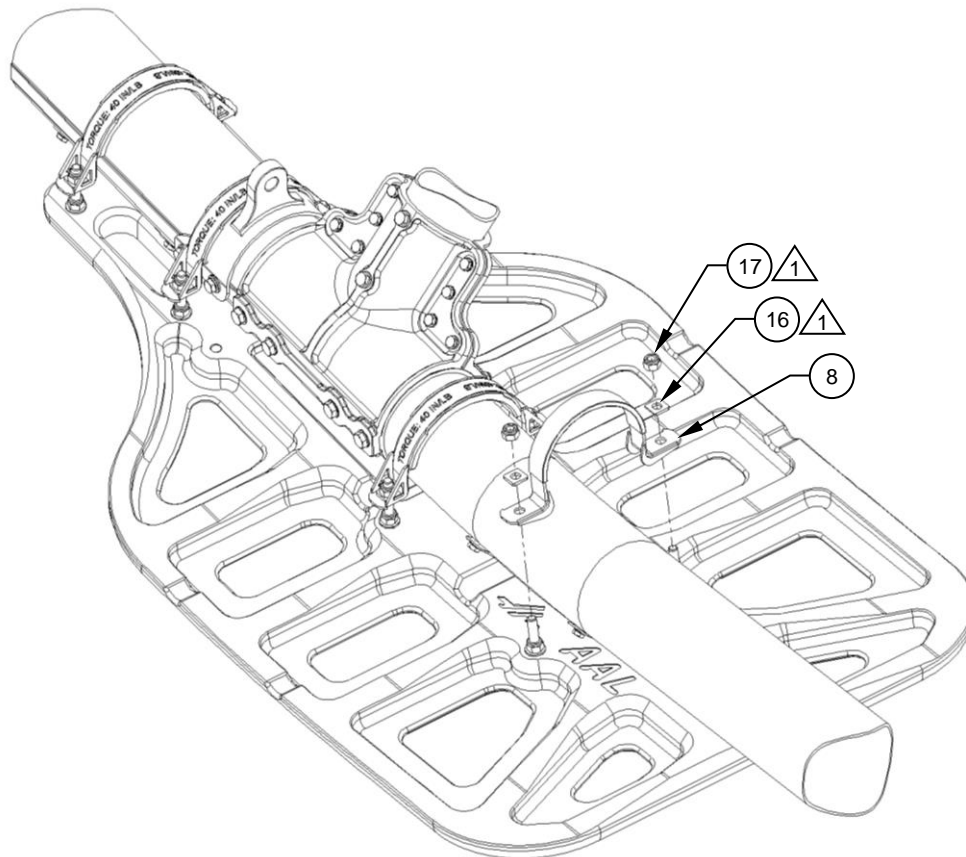


Figure 11

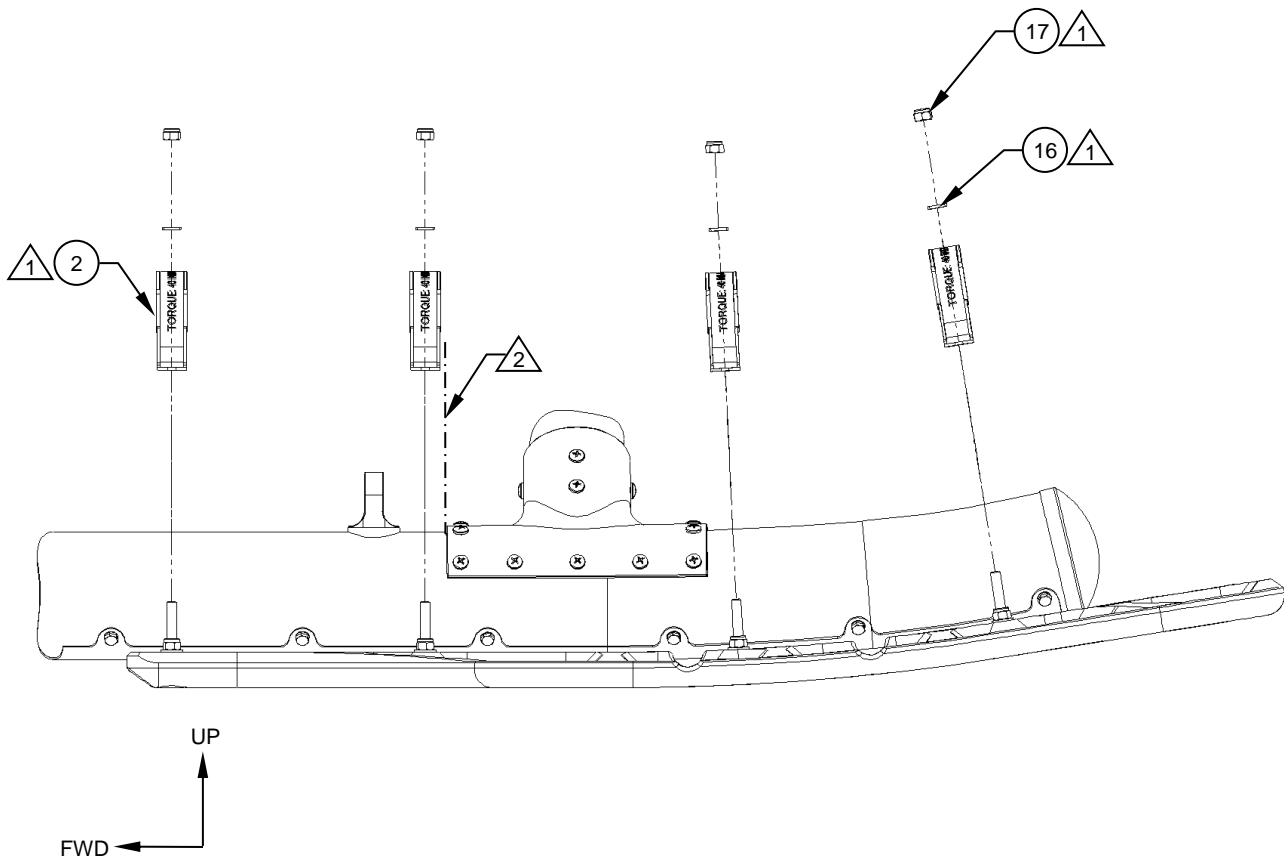


Removal Instructions

Removal on OEM/DART Skidtube:

NOTE: LHS removal shown, RHS opposite.

1. Raise the aircraft and remove fasteners. Reference Figures 13, 14, 15 & 16.

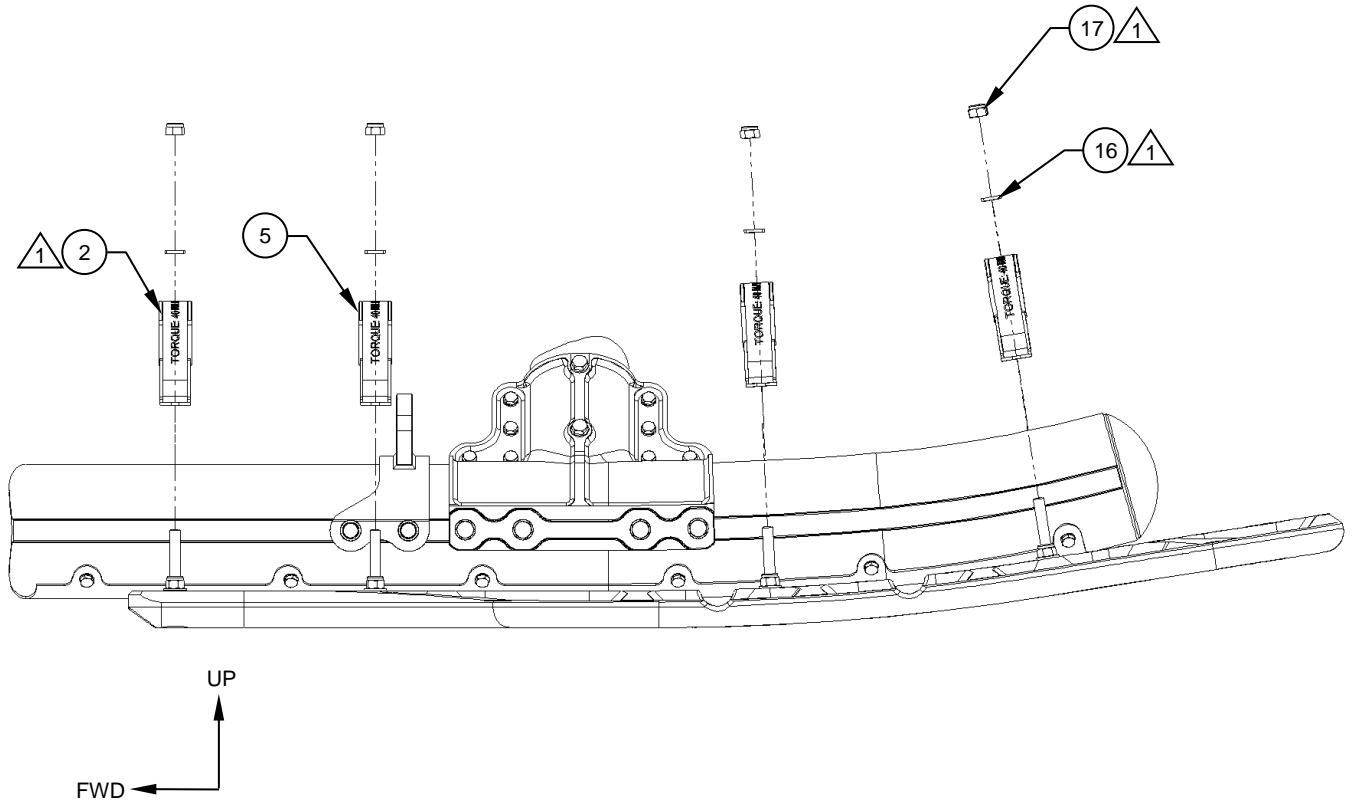


VIEW LKG INBD
INSTALLATION
SHOWN

Figure 13
OEM LHS Shown
OEM RHS Opposite



Removal Instructions



VIEW LKG INBD
INSTALLATION
SHOWN

Figure 14
DART LHS Shown
DART RHS Opposite



Removal Instructions

2. Slide the Bear Paw, Detail (Item 1) from under the skidtube.

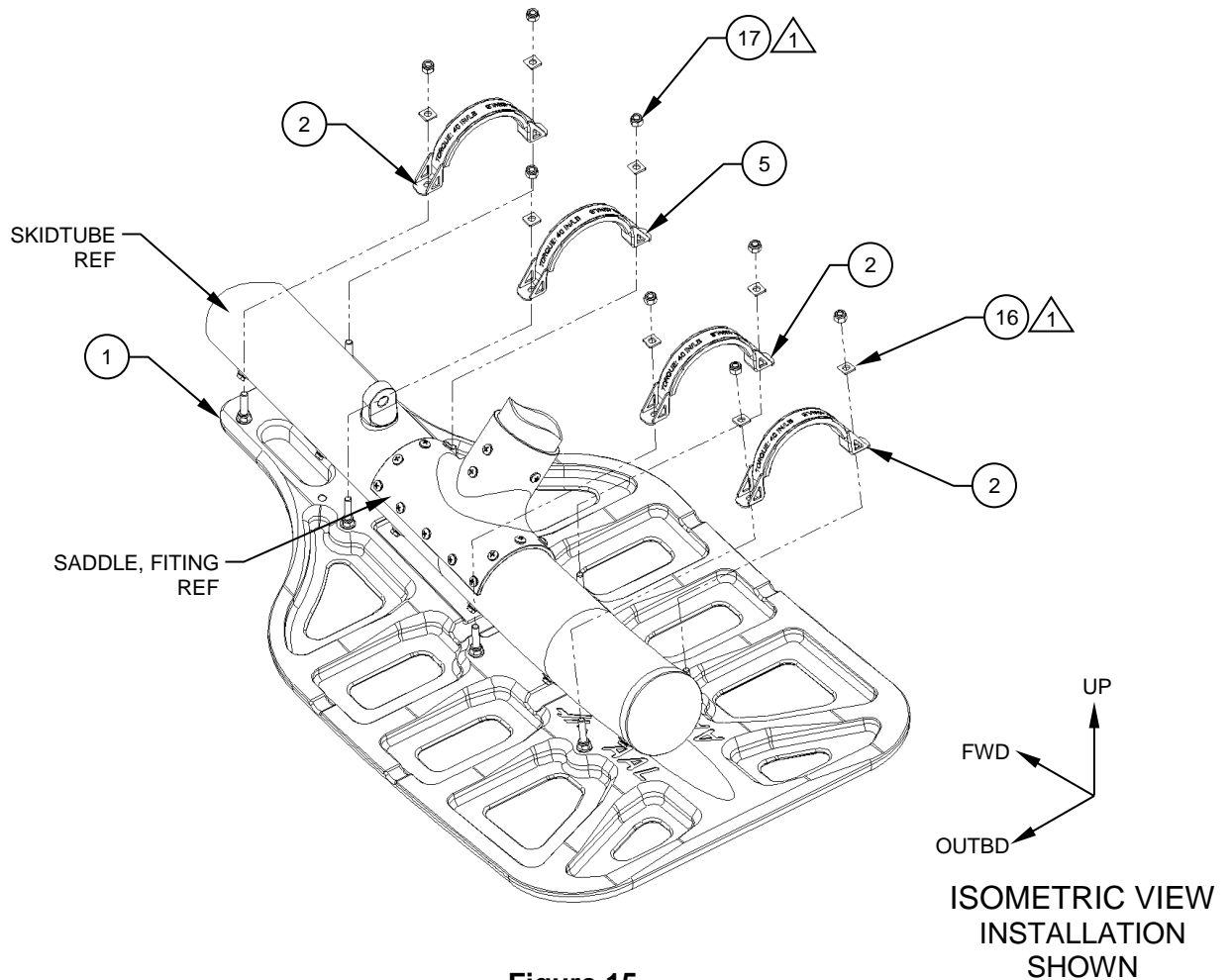


Figure 15
OEM LHS Shown
OEM RHS Opposite



Removal Instructions

3. Lower aircraft.

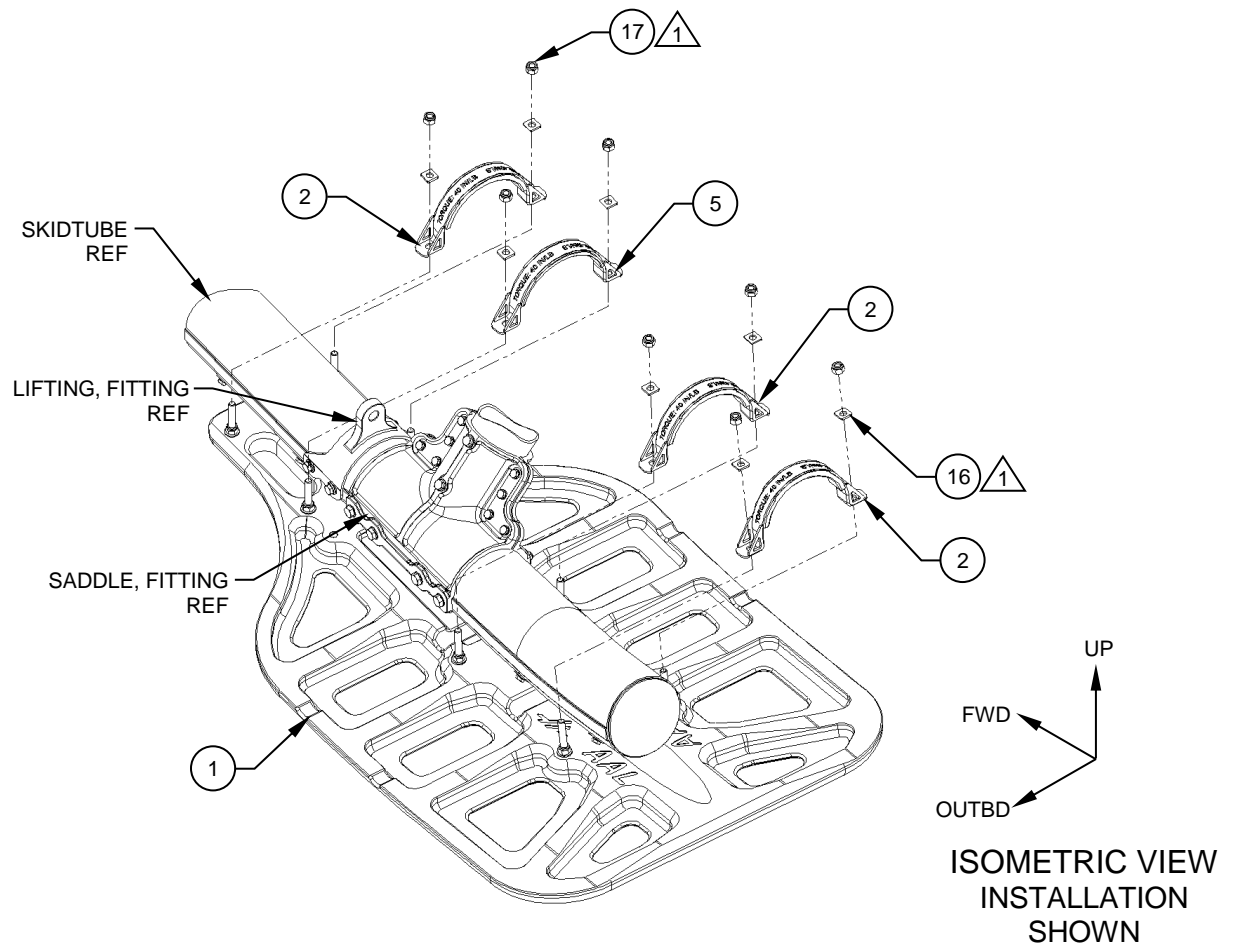


Figure 16
DART LHS Shown
DART RHS Opposite



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Removal Instructions

4. Removal complete.
5. Perform a General Inspection of all items to ensure proper removal.
6. Update the aircraft logbook for the removal of the Bear Paw, Kit.



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


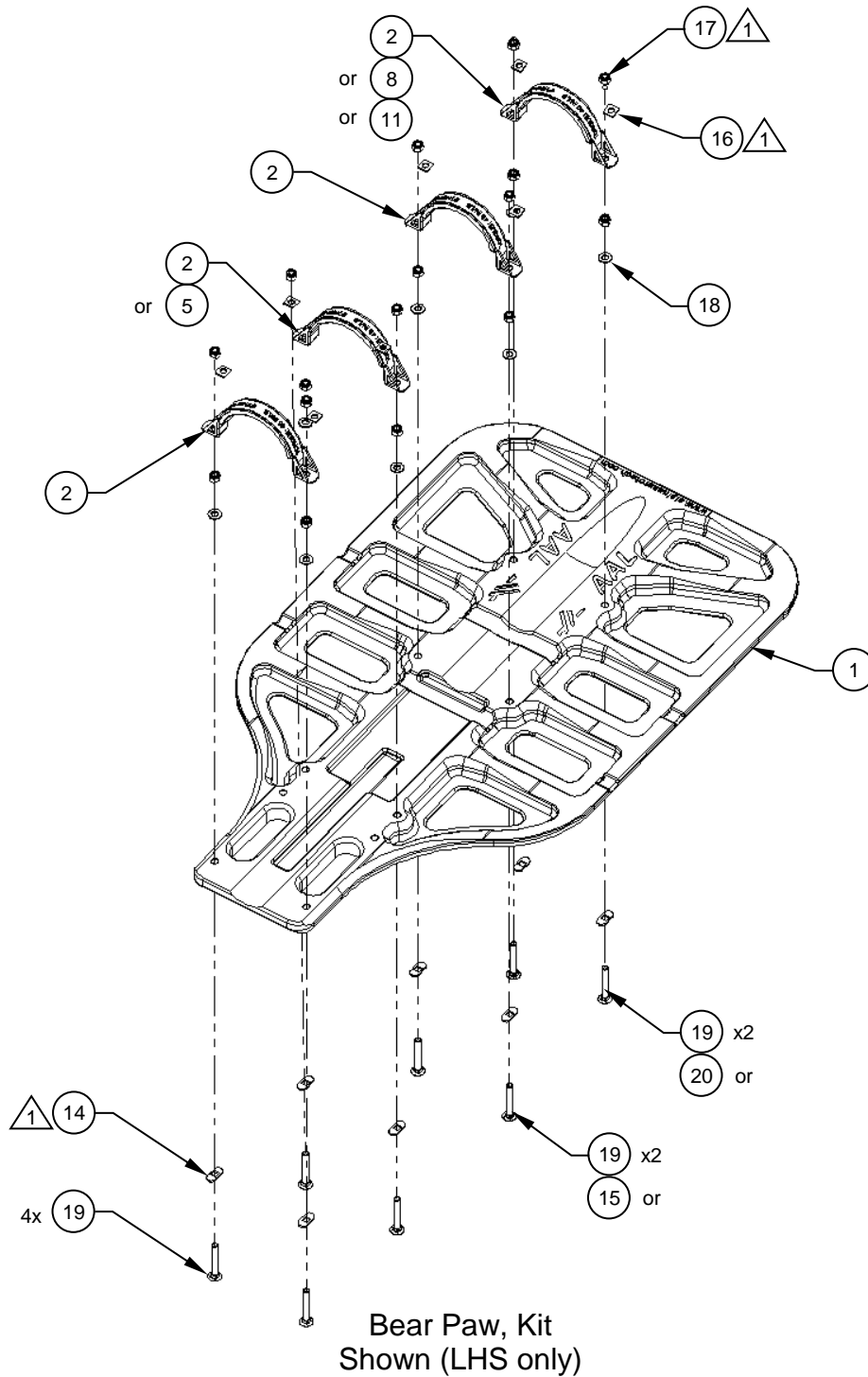
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Section 3: Illustrated Parts Breakdown

General Notes

1. Alternate items listed.

 Typical item number for all like items in this view unless otherwise specified.

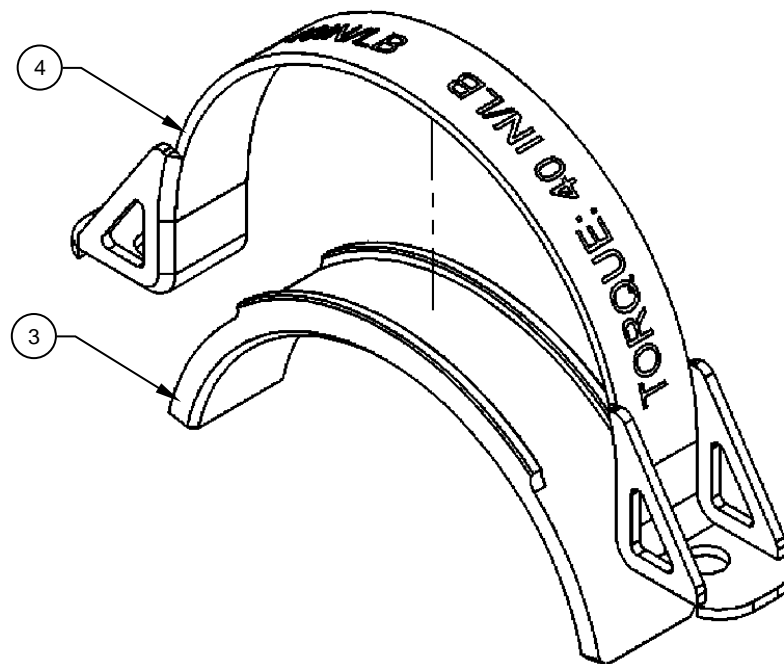




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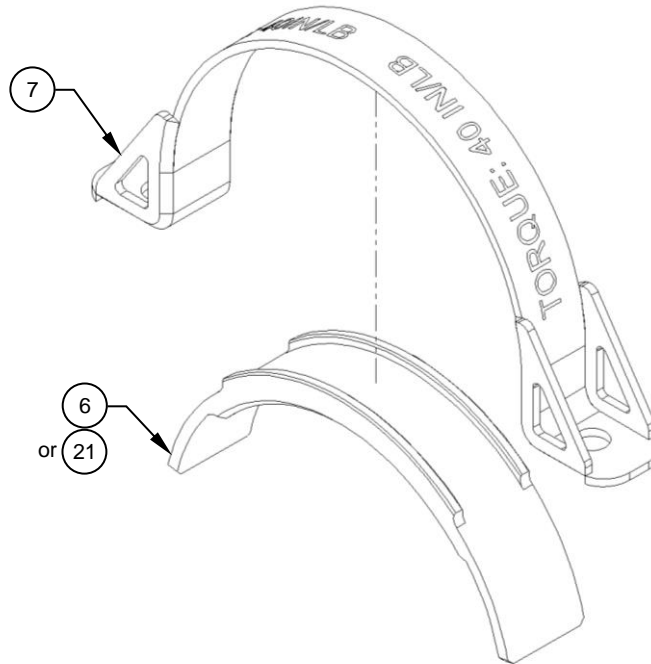
Cap, Assy
Shown
Item 2



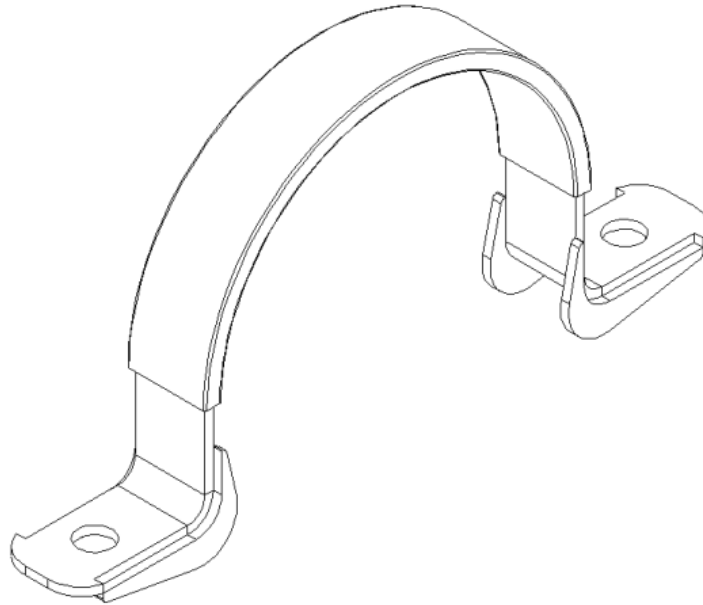
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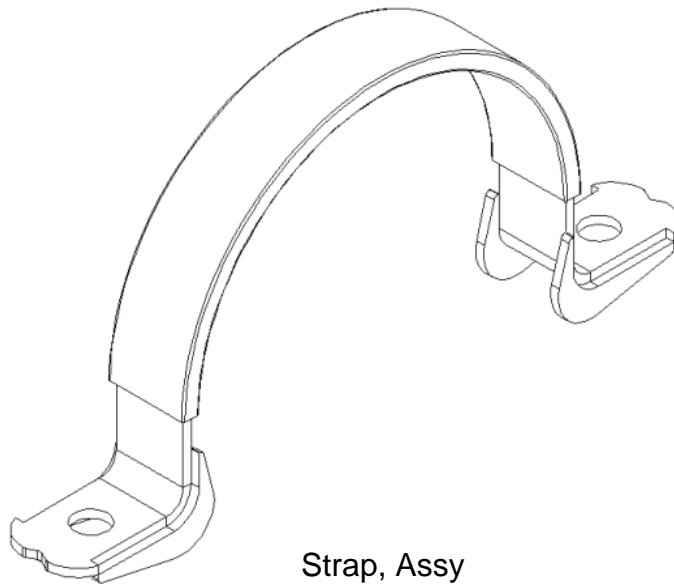
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Cap, Assy
Shown
Item 5



Strap, Assy
Shown
Item 8



Strap, Assy
Shown
Item 11



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ITEM	QTY	NUMBER	DESCRIPTION	MATERIAL	REF STOCK SIZE	SPEC	FINISH	MANUFACTURER	NCAGEC
-	-	AAL-290-040-001	BEAR PAW, KIT	C/O SHADED ITEMS ONLY					
1	2	AAL-290-042-001	BEAR PAW, DETAIL	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
2	6	AAL-290-041-001	CAP, ASSY	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
3	1	AAL-290-042-002	CAP, DETAIL	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
4	1	AAL-290-041-003	STRAP, ASSY	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
5	2	AAL-290-041-002	CAP, ASSY	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
6	1	AAL-290-042-003	CAP, DETAIL	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
7	1	AAL-290-041-003	STRAP, ASSY	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
8	2	AAL-290-041-005	STRAP, ASSY	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
9	1	AAL-290-041-004	STRAP, ASSY	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
10	1	SAE-AMS-DTL-23053	HEAT SHRINK, TUBING	SEE SPEC	SEE SPEC	MIL-DTL-23053	SEE SPEC	SOURCE AS REQUIRED	NA
11	2	AAL-290-041-007	STRAP, ASSY	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
12	1	AAL-290-041-006	STRAP, ASSY	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
13	1	SAE-AMS-DTL-23053	HEAT SHRINK, TUBING	SEE SPEC	SEE SPEC	MIL-DTL-23053	SEE SPEC	SOURCE AS REQUIRED	NA
14	16	AAL-290-042-006	TAB, DETAIL	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171
15	4	Ø.3125-18 x 2.750 x 2.750	BOLT, ROUND HEAD, SQUARE NECK	ASTM A307 GRADE A	SEE SPEC	ASME B18.5	ZINC PLATE	SOURCE AS REQUIRED	NA
16	16	NAS1401-5C3	WASHER, RADIUS	SEE SPEC	SEE SPEC	NAS1401	SEE SPEC	SOURCE AS REQUIRED	NA
17	32	Ø.3125-18, STYLE NE	NUT, HEX, SELF LOCKING	ASME B18.16.6 GRADE N2	SEE SPEC	ASME B18.16.6	ZINC PLATE	SOURCE AS REQUIRED	NA
18	16	MS15795-812	WASHER, FLAT	SEE SPEC	SEE SPEC	MS15795	SEE SPEC	SOURCE AS REQUIRED	NA
19	16	Ø.3125-18 x 2.500 x 2.500	BOLT, ROUND HEAD, SQUARE NECK	ASTM A307 GRADE A	SEE SPEC	ASME B18.5	ZINC PLATE	SOURCE AS REQUIRED	NA
20	4	Ø.3125-18 x 2.000 x 2.000	BOLT, ROUND HEAD, SQUARE NECK	ASTM A307 GRADE A	SEE SPEC	ASME B18.5	ZINC PLATE	SOURCE AS REQUIRED	NA
21	2	AAL-290-042-002	CAP, DETAIL	NA	NA	NA	NA	ALPINE AEROTECH LTD.	L0171