INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

FOR

Helifab, Inc. Radar Altimeter Antenna Installation Provisions STC No: SR02597LA

On

Bell Helicopter Model 206B, 206L, 206L-1, 206L-3, 206L-4 and 407

REPORT NUMBER: HF-CA-7-6

HELI FAB

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www.ArrowAviationCo.com

THIS MANUAL IS PREPARED TO PROVIDE INFORMATION, INSTRUCTIONS FOR CONTINUED AIRWORTHINESS FOR EQUIPMENT MANUFACTURED BY HELIFAB THAT MAY BE INSTALLED. ENSURE THAT THIS MANUAL IS USED FOR <u>ONLY</u> HELIFAB EQUIPMENT.

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Log of Revisions

REV No.	DESCRIPTION OF CHANGE	DATE ISSUED	DRAFTED BY
IR	Initial Release	01/25/2016	KDS

List of Effective Pages

PAGE	REVISION No.	DATE
1 thru 12 and A-1 thru A-12	IR	01/25/2016

1. INTRODUCTION

The purpose of these Instructions for Continued Airworthiness (ICA), is to provide required procedures for maintaining continued airworthiness for Helifab's radar altimeter antenna installation provisions.

1.1. Revisions and Distribution

These instructions are provided with each radar altimeter antenna installation provision kit. Any airworthiness or flight safety revisions will be sent to all who purchased the affected kits. A log of revisions is included in these instructions. Changes to this ICA are to be incorporated and are identified as follows:

Revised or extended text and inserted pages with new text contents or new figures are identified with black marginal bars or referenced symbols. When text is relocated resulting in a renumbering of pages or task, or in case of printing error corrections, no markings are provided.

1.2. Scope of ICA

The purpose of this ICA is to provide necessary information to maintain, inspect, repair, or replace the equipment. Maintenance personnel should be thoroughly familiar with standard abbreviations contained herein. Specific abbreviations or acronyms can be found in the document text with the full meaning. Requests for replacement ICA should be made to:

Address: Helifab 1318 Smede Hwy. Broussard, La 70518 Telephone: (337)364-4357

Website: www.ArrowAviationCo.com

1.3. Precautions

The following precautions may be used throughout this manual and are defined as follows:

WARNING	IS USED WHEN UNQUALIFIED PERFORMANCE OR NEGLECT OF INSTRUCTIONS MAY LEAD TO INJURIES OR DEADLY ACCIDENTS.
CAUTION	IS USED WHEN UNQUALIFIED PERFORMANCE OR NEGLECT OF INSTRUCTIONS MAY LEAD TO EQUIPMENT DAMAGE
NOTE	IS USED WHEN A PARTICULAR ITEM NEEDS TO BE EMPHASIZED

1.4. Abbreviations

The following Abbreviations may be used throughout this manual and are defined as follows:

EMM ICA	Equipment Maintenance Manual Instructions for Continued Airworthiness
HF	Helifab
MIL	US Military Specification
N/C	No Change
Mo.	Months
Y	Years
PN	Part Number
IAW	In Accordance With
LH	Left Hand
RH	Right Hand
NA	Not Applicable
Cont.	Continued
FWD	Forward
CG	Center of Gravity

1.5. Consumable Materials

A. Explanation

Only Consumable materials noted throughout this manual and on referenced drawings are to be used. Helifab, Inc. can be contacted to approve alternate or equivalent materials.

2. General Product Information and Description

Helifab, Inc. radar altimeter antenna installation installs provisions for radar altimeter antennas on either the tailboom or aft lower fairing below the baggage compartment. There are four installation dash numbers as defined below:

Part Number: HF-N-7-6-1 407 Radar Altimeter Antenna Provisions Installation Kit:

This installation kit is for the Bell 407 model and installs two radar altimeter antenna mounts to the tailboom.

Part Number: HF-N-7-6-2 206L Series and 206B Radar Altimeter Antenna Provisions Installation Kit:

This installation kit is for the Bell 206B, 206L, 206L-1, 206L-3, and 206L-4 models and installs two radar altimeter antenna mounts to the tailboom.

Part Number: HF-N-7-6-3 206L series and 407 Radar Altimeter Antenna Provisions Installation Kit:

This installation kit is for the Bell 206L, 206L-1, 206L-3, 206L-4 and 407 models and installs two radar altimeter antenna mounts to the aft lower fairing.

Part Number: HF-N-7-6-4 206B Radar Altimeter Antenna Provisions Installation Kit:

This installation kit is for the Bell 206B model and installs two radar altimeter antenna mounts to the aft lower fairing. This installation allows for an optional access hole cutout in the aft lower fairing for ease of access to the inner side of the fairing.

3. AIRWORTHINESS LIMITATIONS

There are no overhauls, time limits, or airworthiness limitations associated with this type design change.

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

4. INSPECTIONS / MAINTENANCE

4.1. Special Tools Required

Any special tools required for maintenance, removal, or installation of the radar altimeter antenna mounts will be specified in the text of this document where applicable.

4.2. Special Materials Required

Any consumable materials required for maintenance, removal, or installation of the radar altimeter antenna mounts will be specified in the text of this document where applicable.

4.3. Conditional Inspections after Operational Incidents

After any operational incident involving hard landings, sudden stoppage of the drive train or water immersion, the system must not be operated until a thorough inspection of the installation has been accomplished IAW section 4.5 of this document.

4.4. Preflight Inspection

Normal pre-flight inspections to be accomplished per Bell Helicopter rotorcraft flight manual.

4.5. 100 Hour Inspection

This inspection is to be performed by a qualified technician.

All inspections must be recorded in the rotorcraft records IAW 14 CFR Part 43 or other applicable regulations.

INSPECTION TASK DESCRIPTION			
1.	~		
	Damage limits are listed in table 1 of this document.		
	If damage is within damage limits listed in table 1, follow the instructions for repair listed below:		
	Corrosion: Blend out corrosion using 320 grit or finer aluminum oxide abrasive paper. A 10:1 width to depth ration of cleanup is to be maintained. Corrosion cleanup must be twice the depth of the corrosion. After repair, prime bare surfaces using primer per MIL-P-23377 and topcoat as required.		
	Scratches or Nicks: Blend out scratches or nicks using 320 grit or finer aluminum oxide abrasive paper. A 10:1 width to depth ration of cleanup is to be maintained. After repair, prime bare surfaces using primer per MIL-P-23377 and topcoat as required.		
2.	Inspect surrounding structure around antenna mounts for corrosion, cracking, or other damage. For repair to surrounding structure, refer to applicable Manufacturer's maintenance manual.		

4.6. 12 Month / Annual Inspection

This inspection is to be performed by a qualified technician.

All inspections must be recorded in the rotorcraft records IAW 14 CFR Part 43 or other applicable regulations.

IN	SPECTION TASK DESCRIPTION	
3.	Inspect antenna mounts and doublers for security, general condition, nicks, scratches, corrosion, dents, and cracks. Inspect for loose, missing, or working fasteners.	
	Damage limits are listed in table 1 of this document.	
	If damage is within damage limits listed in table 1, follow the instructions for repair listed below:	
	Corrosion: Blend out corrosion using 320 grit or finer aluminum oxide abrasive paper. A 10:1 width to depth ration of cleanup is to be maintained. Corrosion cleanup must be twice the depth of the corrosion. After repair, prime bare surfaces using primer per MIL-P-23377 and topcoat as required.	
	Scratches or Nicks: Blend out scratches or nicks using 320 grit or finer aluminum oxide abrasive paper. A 10:1 width to depth ration of cleanup is to be maintained. After repair, prime bare surfaces using primer per MIL-P-23377 and topcoat as required.	
4.	Inspect surrounding structure around antenna mounts for corrosion, cracking, or other damage. For repair to surrounding structure, refer to applicable Manufacturer's maintenance manual.	

Damage and Repair Limits			
Item	Maximum Damage Limits		
	Cracks Dents or Scratches		
Radius Blocks	None Allowed	Maximum Depth After Cleanup .020 inches *	
Doublers	None Allowed	Maximum Depth after Cleanup .010 inches *	

Table 1
Damage and Repair Limits

*Depths listed are maximum based on original thickness of part. If the same area is repaired multiple times, the total combined depth of all repairs must not exceed the maximum depth listed.

4.7. Troubleshooting

Replace any parts that do not function properly or that cannot be repaired in accordance with the instructions given in this manual.

4.8. Repairs

No repairs other than those that can be accomplished with FAA accepted methods or that are called out in this document are allowed.

5. REMOVAL AND INSTALLATION INSTRUCTIONS / PARTS BREAKDOWN

5.1. Antenna or Antenna Mounts

Note

Fastener installation to be in accordance with FAA Advisory Circular AC43-13-1B, Chapter 7. Use standard torques for all fasteners.

5.1.1. Removal

5.1.1.1.Antenna

1. To remove an antenna installed to the provisions, remove the four screws attaching the antennas (two antenna locations) and install four each MS27039 # 10 screw and NAS1149 D0332K washers in the antenna attachment holes.

5.1.1.2. Antenna Mount Provisions

1. To remove the antenna mount installation provisions, remove all screws and rivets attaching the radius blocks and doublers. Remove doublers and radius blocks from the aircraft. Repair holes in the fuselage from the previously installed antenna installation provisions in accordance with FAA approved data.

5.1.2. Installation

5.1.2.1.Antenna

1. Remove the four MS27039 #10 screws and four NAS1149D0332K washers at each antenna installation location. Install antenna per antenna manufacturer instructions using antenna manufacturer specified hardware. If no hardware is specified, install antennas using four each MS24694 #10 cadmium plated screws (four screws per antenna location).

5.1.2.2. Antenna Mount Provisions

1. Reinstall antenna mount provisions in accordance with current STC installation instructions.

5.2. Parts Breakdown

Reference appendix A

Table 1 Parts List

Item Number	Part Number	Part Number Nomenclature Vendor / Manu		Note
1	RESERVED			
2	RESERVED			
3	RESERVED			
4	RESERVED			
5	HF-A-7-6-1	INNER RADIUS BLOCK	HELIFAB	
6	HF-A-7-6-2	INNER RADIUS BLOCK	HELIFAB	
7	HF-D-7-6-3	OUTER RADIUS BLOCK	HELIFAB	
8	HF-D-7-6-4	OUTER RADIUS BLOCK	HELIFAB	
9	HF-A-7-6-3	AFT 407 INNER RADIUS BLOCK	HELIFAB	
10	HF-D-7-6-6	AFT 407 OUTER RADIUS BLOCK	HELIFAB	
11	HF-D-7-6-8	206 FWD DOUBLER	HELIFAB	
12	HF-D-7-6-9	206 AFT DOUBLER	HELIFAB	
13	HF-D-7-6-10	407 FWD DOUBLER	HELIFAB	
14	HF-D-7-6-11	407 AFT DOUBLER	HELIFAB	
15	MS35489-49	GROMMET	HELIFAB	
16	CR3212-4	BLIND FLUSH RIVET	CHERRY AEROSPACE	
17	CR3213-4	BLIND RIVET	CHERRY AEROSPACE	
18	MS27039-1-24	#10 CADMIUM PLATED SCREW		(3)(4)
19	NAS1149D 0332J	WASHER		(1)
20	HF-D-7-7	TAPERED BLOCK	HELIFAB	
21	HF-A-7-6-4	INNER DOUBLER	HELIFAB	
22	HF-A-7-6-5	INNER RING DOUBLER	HELIFAB	
23	HF-D-7-15	OUTER RING DOUBLER	HELIFAB	
24	HF-D-7-16	COVER	HELIFAB	
25	RESERVED			
26	RESERVED			
27	MS27039-1-10	SCREW		(3)
28	RESERVED			
29	HF-D-7-17	SHIM		
30	MS27039-1-26	#10 CADMIUM PLATED SCREW		(3)(4)
31	MS21042L3	NUT		(2)
32	91944A204	FRMALE WASHER		(6)
33	91944A104	MALE WASHER		(6)
34	91944A027	ALIGNING WASHER ASSY	MCMASTER CARR	(6)

(1) NAS1149D 0332K can be used as an alternate for item 19.

(2) MS21042-3 can be used as alternate for item 31.

(3) Fastener length may be changed from that shown if required for proper engagement. Threaded fasteners should not extend past nut or nutplate more than .5 inches. Fastener should not interfere or contact surrounding structure.

- (4) Reference antenna installation instructions for screw type to be used when antenna is installed or MS24694 #10 cadmium plated steel screws if none are specified.
- (5) If desired, coverplates (3.63 x 3.8 inches in size) for the antenna mount locations may be locally fabricated from 0.040 2024-T3 per AMS-QQ-A-250/4 or /5 and installed using existing MS27039#10 screws in the antenna mount provision installation.
- (6) Item 34 consists of item 32 and 33.

6. PLACARDS

There are no placards associated with this type design change.

7. WEIGHT AND BALANCE

The new empty weight and corresponding C.G. location must be determined and entered in the aircraft permanent records.

Installation of Helifab's radar altimeter antenna mount provisions has the following effect on weight and balance.

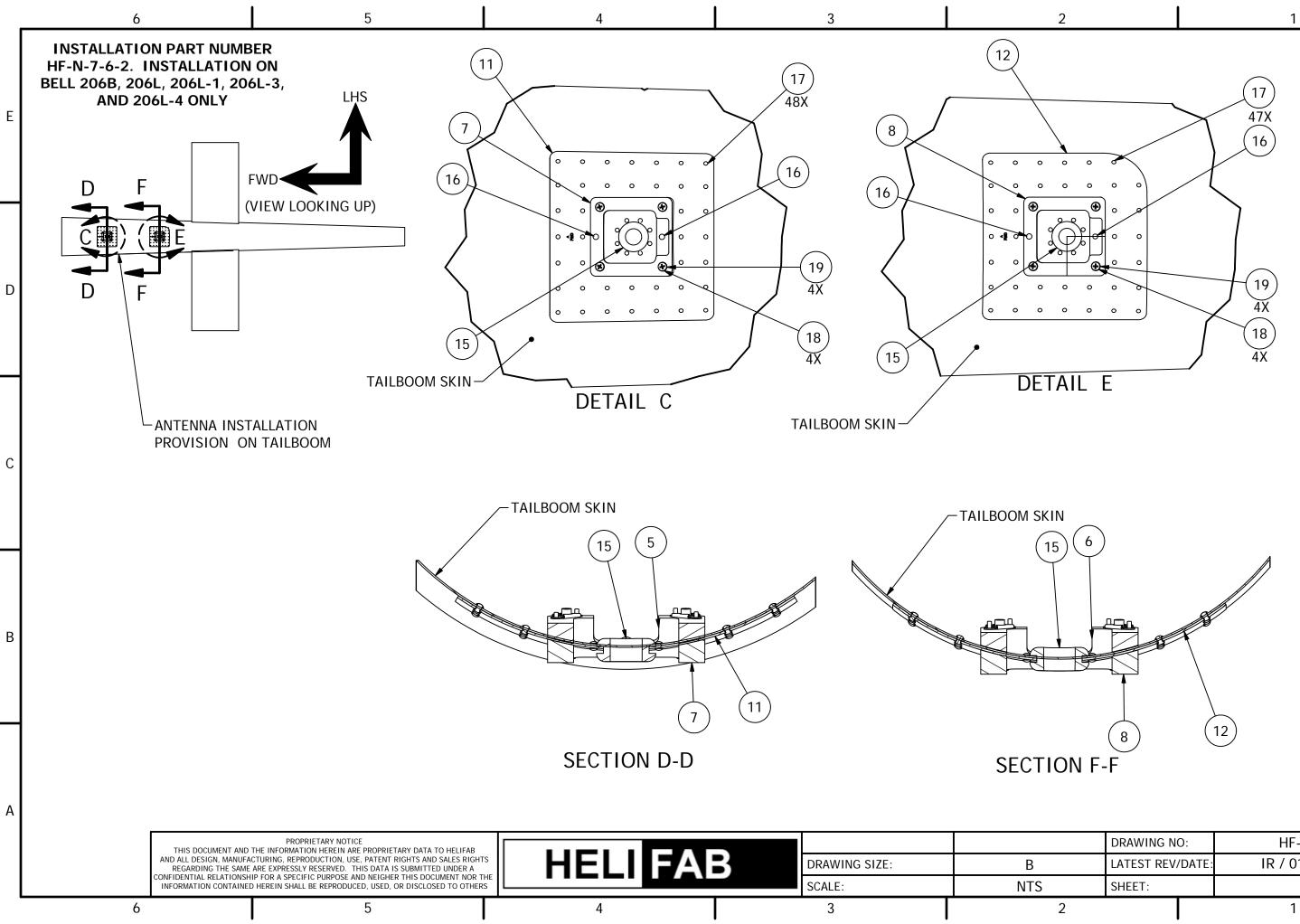
Installation Part Number	Rotorcraft Model	Weight (Lb.)	Fuselage STA	BL	Notes
HF-N-7-6-1 407		2.2 Lb.	269	0	(1)
HF-N-7-6-2	206B	2.0 Lb.	233.4	0	(1)
HF-N-7-6-2	2 206L Series		260.5	0	(1)
HF-N-7-6-3	206L Series and 407	1	163.5	0	(1)
HF-N-7-6-4 (with optional fairing access hole)	ng access 206B		138.3	0	(1)
HF-N-7-6-4 (without optional fairing access hole)	206B	1	140.4	0	(1)

Table 2Equipment Weights and Locations

(1) Weight listed includes both antenna mounting provisions (two antenna positions). Antenna weight is not included and must also be accounted for.



Parts Breakdown



	DRAWING NO:		HF-CA-7-6
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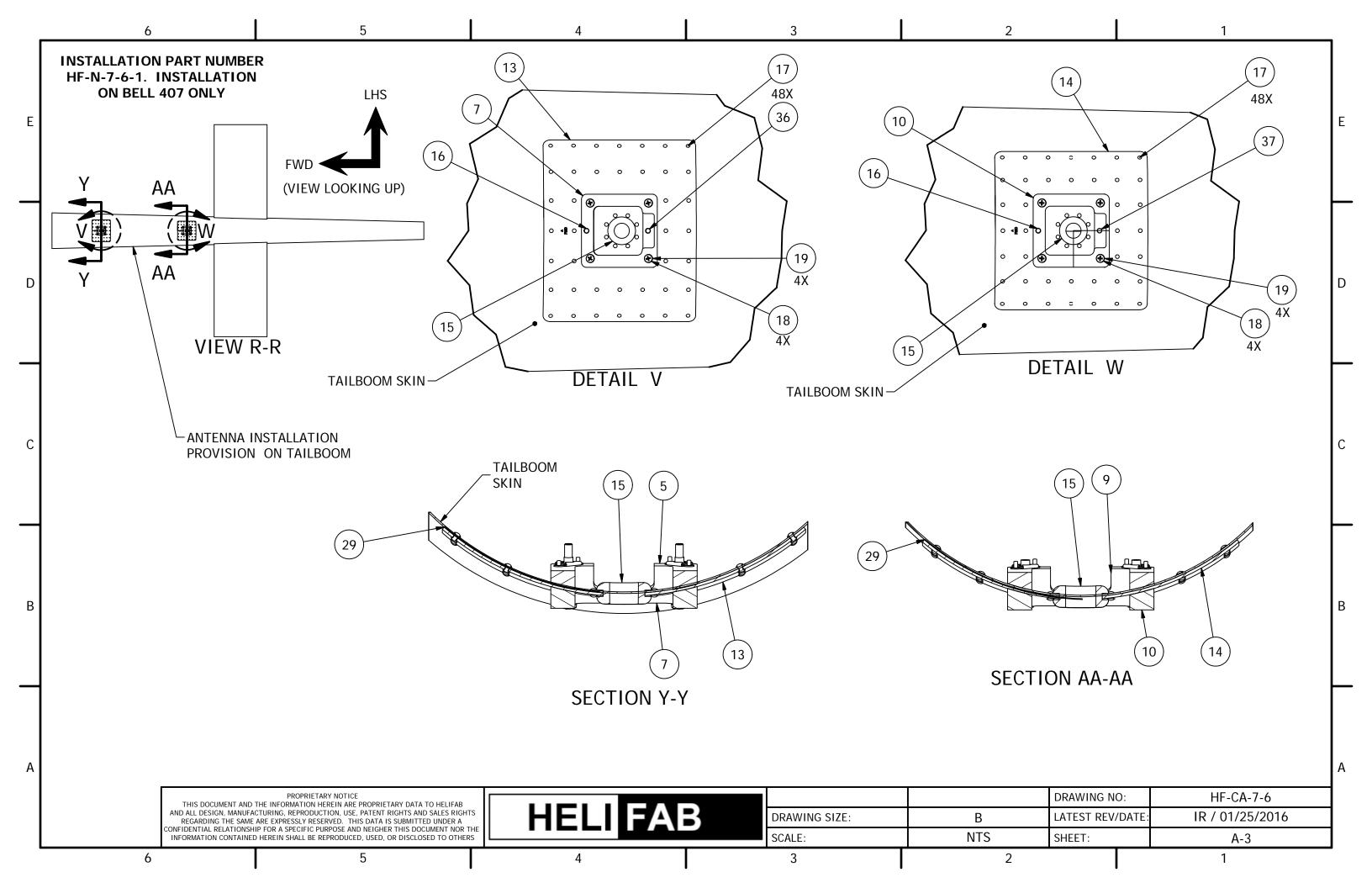
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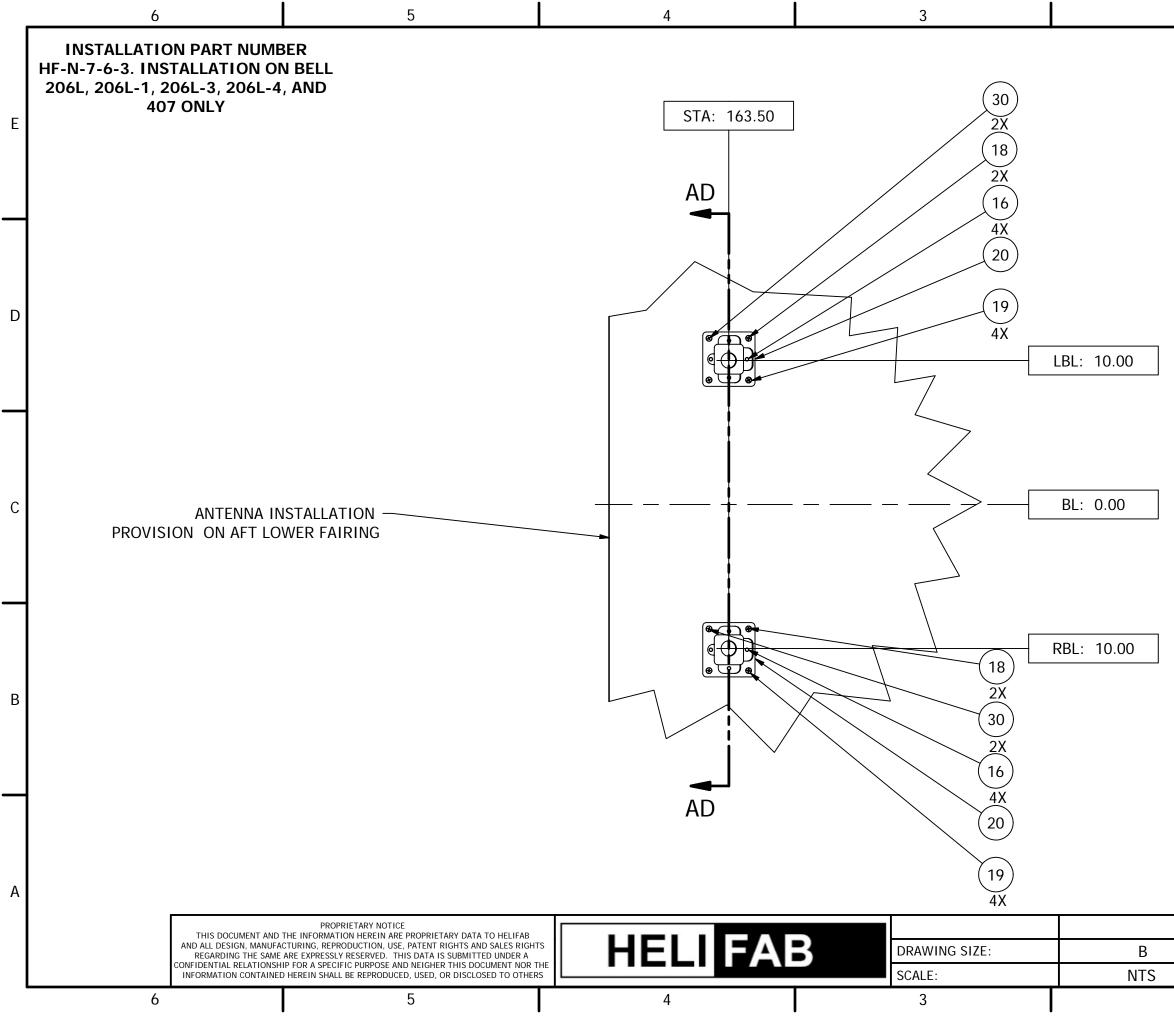
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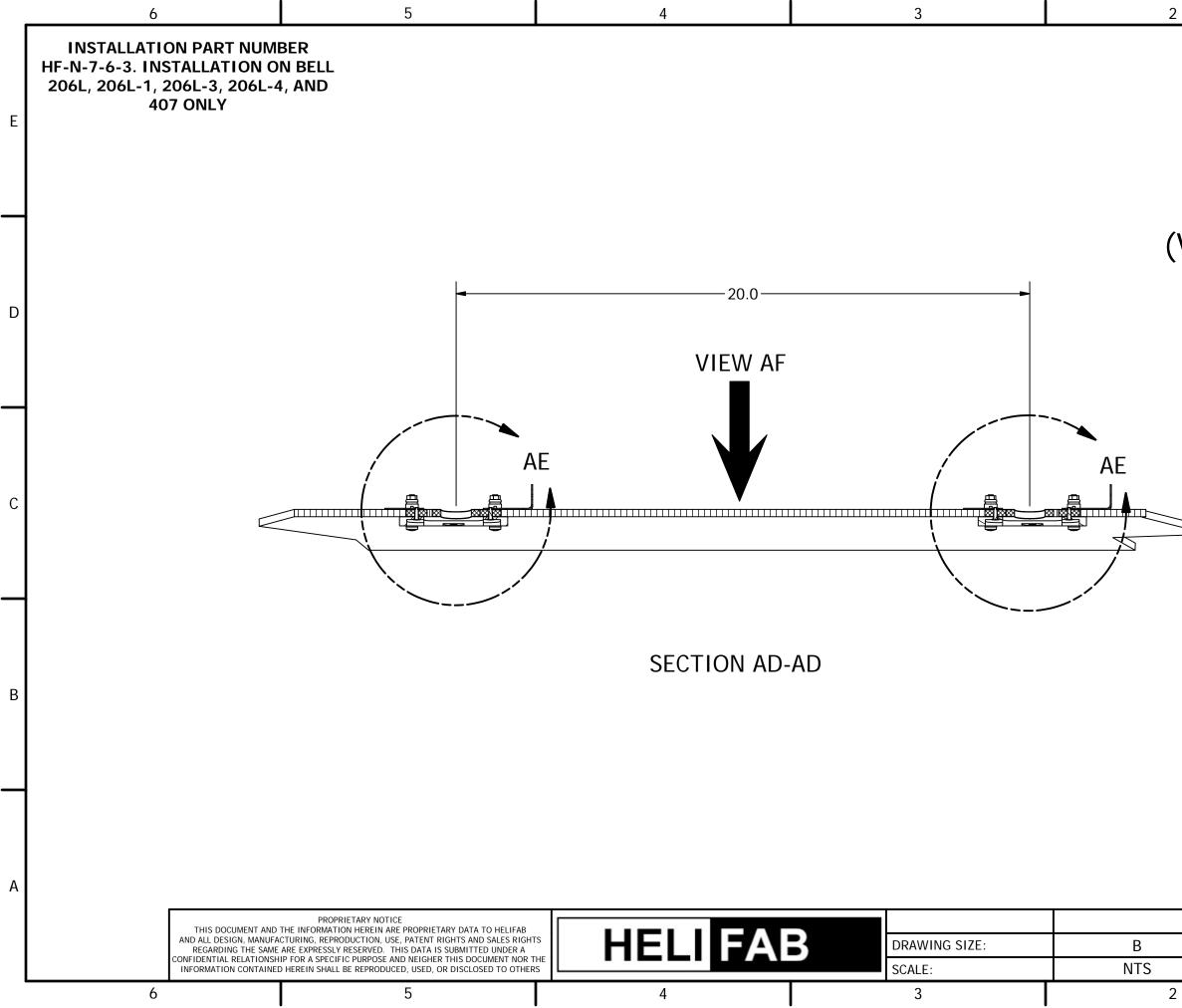
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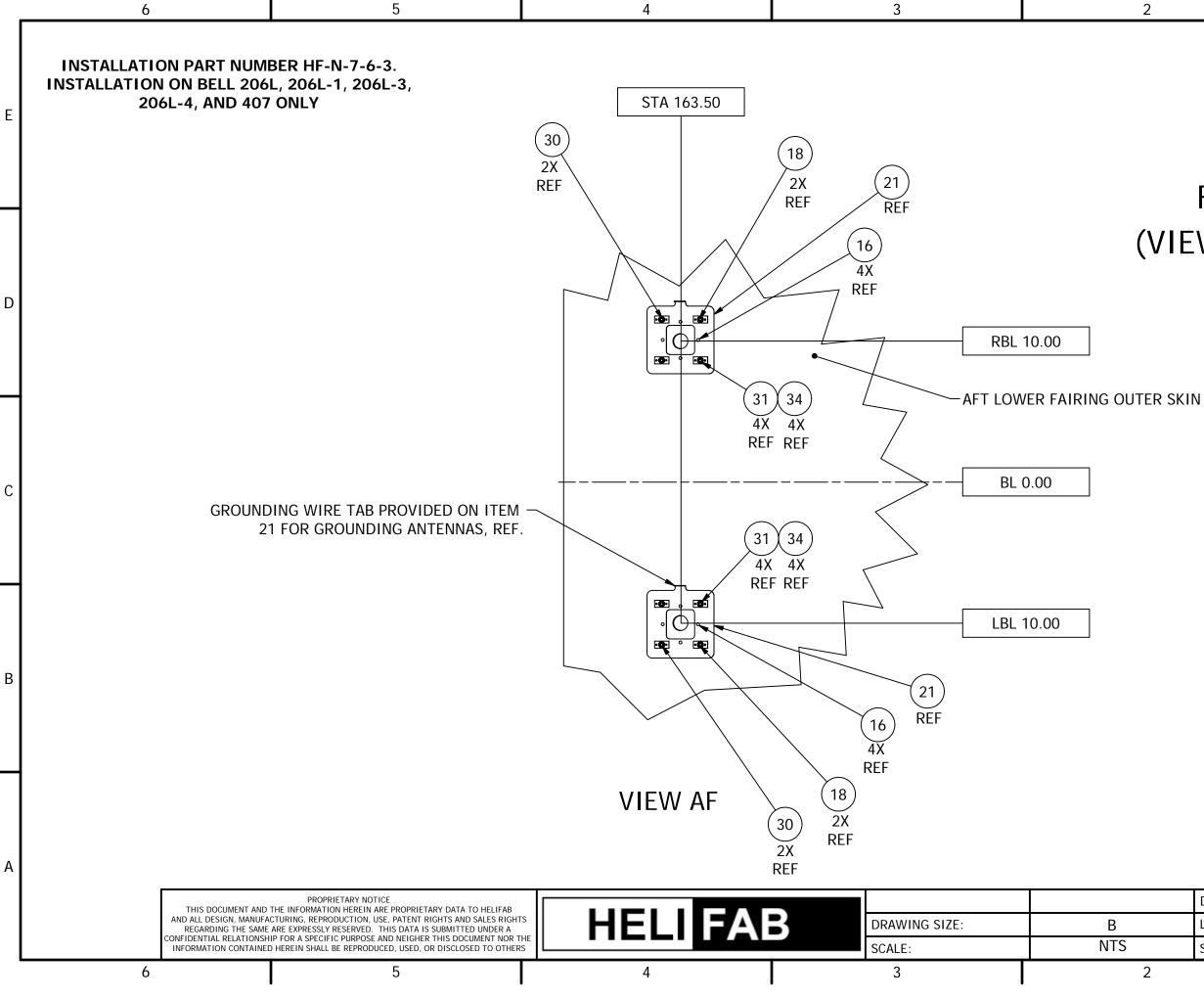
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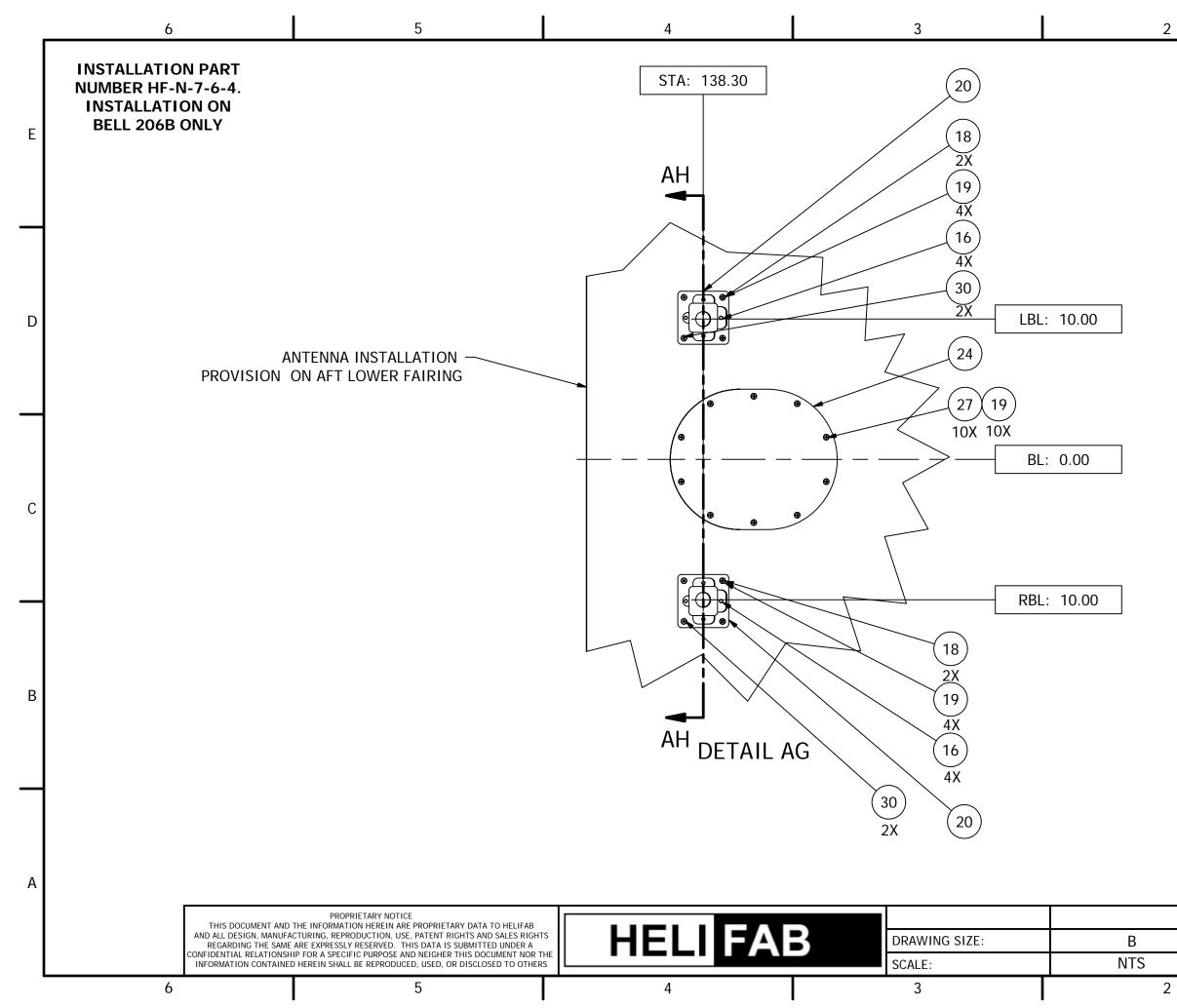
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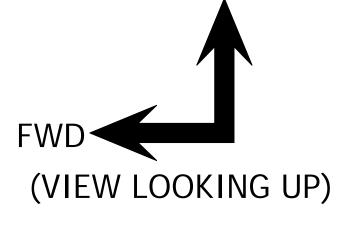
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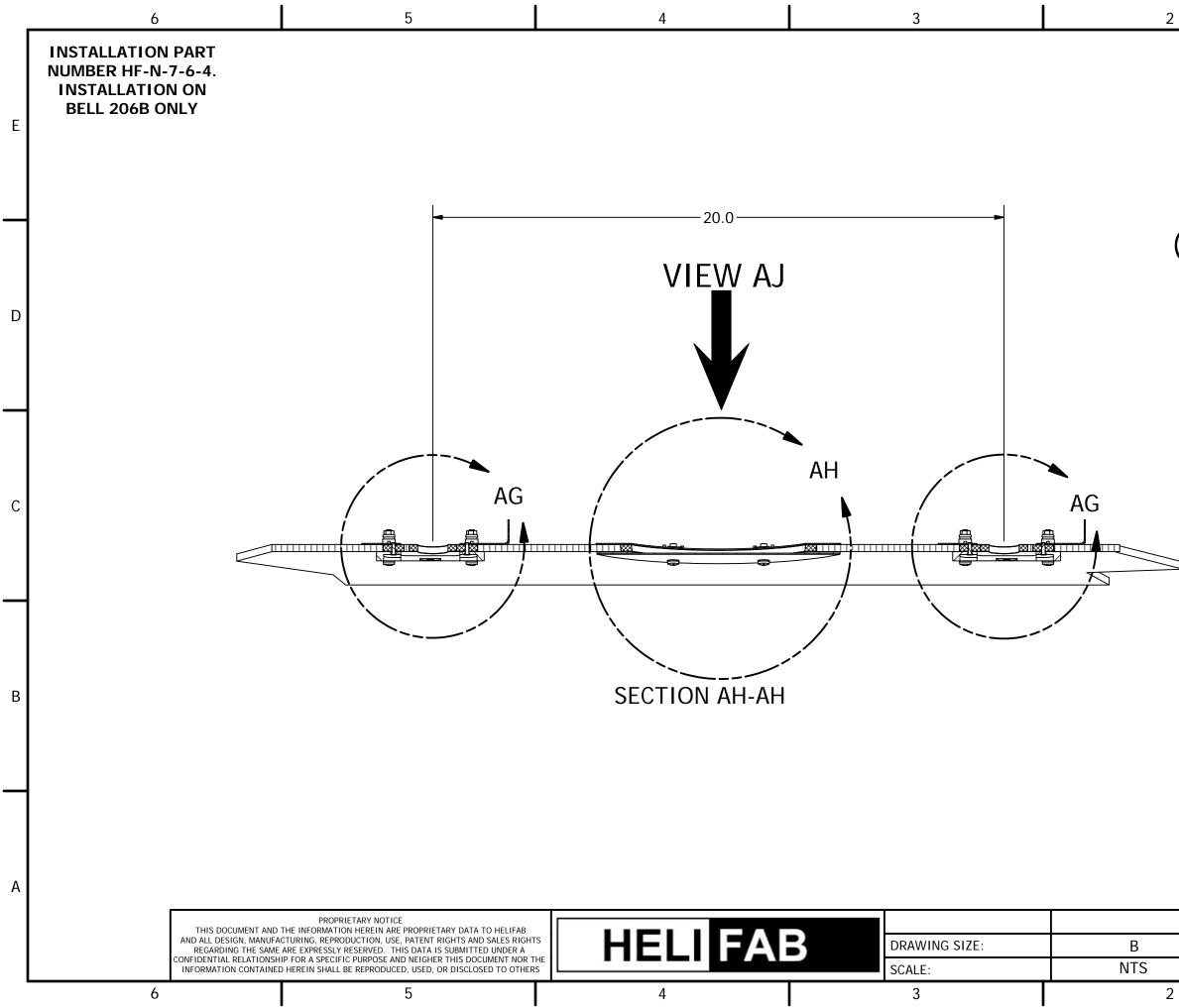
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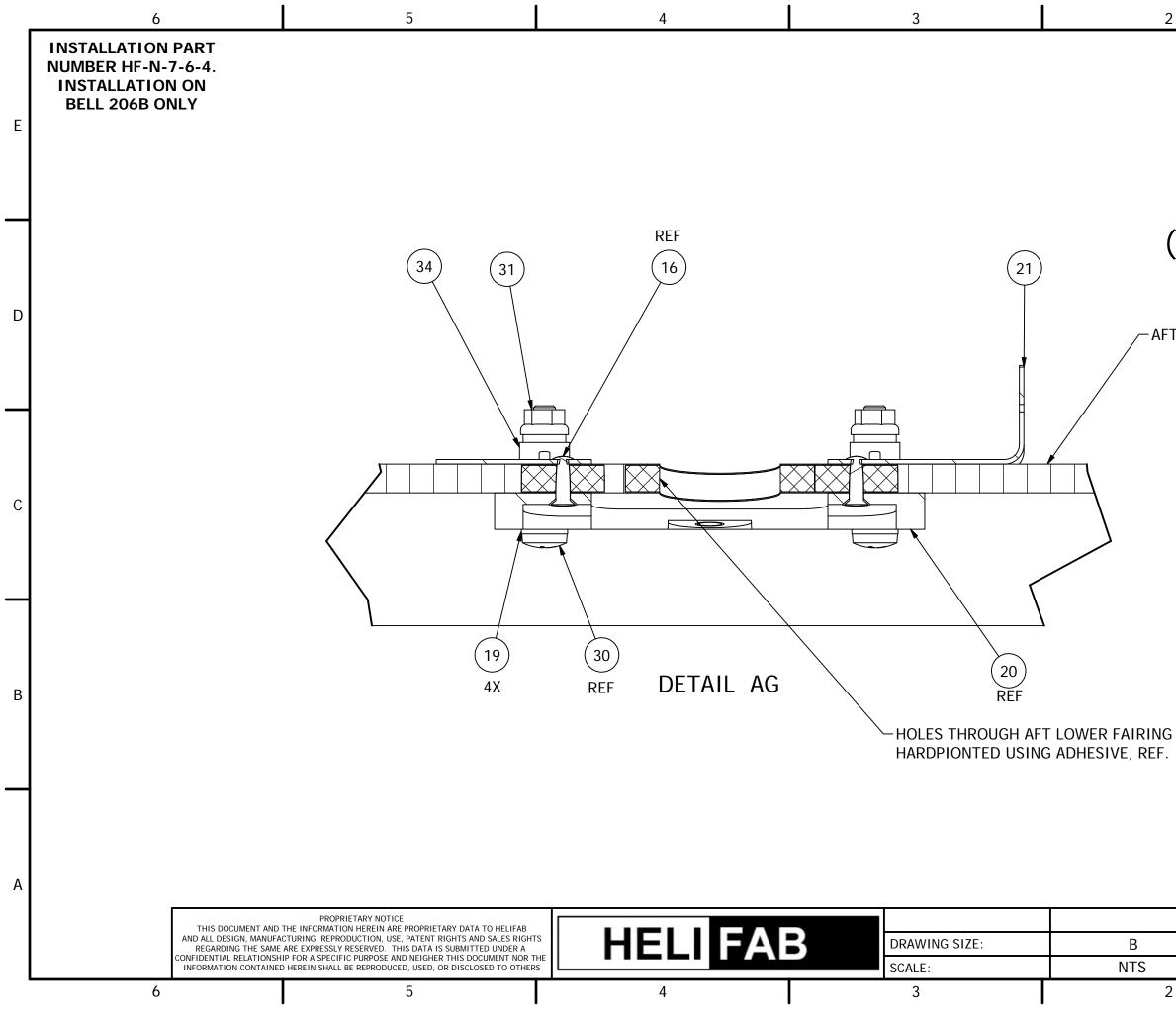


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