

# **INSTALLATION MANUAL**

Aero Pacific Document Number 206UM02-08

## **AERO PACIFIC MODEL AP206UM02 BELLY UTILITY MOUNT**

**Manual Part Number AP206UM02-MM**

10/20/2014 Rev. C

APPLICABLE TO BELL HELICOPTER MODELS:

206, 206A, 206B, 206B-1, 206L, 206L-1, 206L-3, 206L-4, 407

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**LIST OF EFFECTIVE PAGES**

LIST OF REVISIONS

Initial Release	5/12/04
Rev. A	8/15/10
Rev. B	7/24/14
Rev. C	10/20/14

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**A. INTRODUCTION.**

**1. GENERAL** This Installation Manual contains information describing the initial installation of the mount structure Aero Pacific Part Number / Model Number AP206UM02 Assembly.

**2. DESCRIPTION OF USE**

This mount is designed to provide sturdy attachment of Microwave Antennas (or other qualifying payload equipment) to Bell Helicopter 206,A and B Series, 206L Series, and 407 Helicopters at a location at the mid section of the cabin belly on centerline. Attachment for the 206, A and B series is accomplished utilizing two existing forward left and right bolt hardpoints located at Station 97.30 and one aft point of attachment at the existing cargo hook strap located at Station 131.24. Attachment for the 206L Series and 407 is accomplished utilizing two existing forward left and right bolt hardpoints located at Station 121.60 and two aft points of attachment on the existing left and right rear skid cross-tube block attachment bolts located at Station 152.76. No permanent modification or change to the aircraft is required. Equipment approved for attachment to this mount structure are restricted for use by size and weight as follows:

Rated load is 150 pounds U.S. maximum.

Combined Cylindrical and Spherical projected flat area of 362 square inches may not be exceeded.

**3. APPLICABILITY**

This installation is applicable to the following Rotor Wing Aircraft Models only: Bell Helicopter Models 206, 206A, 206B, 206B-1, 206L, 206L-1, 206L-3, 206L-4, and 407.

**4. REQUIREMENTS**

All above listed helicopter models must be equipped with standard High Skid Gear, standard external load bolt hardpoints and (206, A and B Series only) aft external load strap when this mount structure is installed.

**5. EXPLANATION OF ABBREVIATIONS**

p/n = Part Number

# = used to Item Number, as depicted on drawings, such as Item Number 5, Threaded Bushing = (#5) Threaded Bushing

Assemblage = a group of previously assembled parts.

**6. MEASUREMENTS**

All measurements are in inches (in. or " ), pounds U.S. (lbs.), inch-pounds (in-lb.) or degrees (deg.).

**7. INSTALLATION TIME**

Estimated time to complete installation of Mount Structure only: 6 Man-Hours.

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**A. INTRODUCTION**

**8. SPECIAL TOOLS**

This installation requires standard mechanics tools for initial installation of this mount assembly and the following special tools only:

1. Torque wrench capable of values from 15 to 200 inch-pounds torque.

**9. SPECIAL PRODUCTS**

None required.

**10. REFERENCE MATERIAL**

This installation manual contains installation instructions for multiple specific models of the 206 and 407 Series helicopters. It is recommended you have access to the **Aircraft Manufacturers Handbook of Maintenance Instructions** for the specific model you are working on.

**11. WARNINGS, CAUTIONS, OR NOTES**

Certain procedures carried out during the course of completing instructions contained in this instruction manual could cause unnecessary damage to parts of the helicopter, work resulting in unacceptable results, or harm to the installer. Warnings are used to help prevent major damage to the aircraft or harm to the installer. Cautions are used to help prevent minor damage to the aircraft or unacceptable work. Notes are informative in nature and generally contain recommendations or suggestions that will result in a successful installation.

**12. WEIGHT AND BALANCE DATA**

Weight and balance data is detailed on Drawing W-1 for the 206, 206A, 206A-1, 206B, AND 206B-1 of this installation manual. Weight and balance data for the 206L, 206L-2, 206L-3, 206L-4, and the 407 is detailed on Drawing W-2. You will be required to prepare and have available in the aircraft a weight and balance calculation expressing the mount and payload configuration which you are using.

13. **CAUTION TO INSTALLING AGENCY** "It is the responsibility of the Installing Agency to verify that existing parts of the aircraft or other equipment and devices installed on the aircraft do not contact or conflict with operation of equipment installed with this Supplemental Type Certificate in all possible configurations, and that in the case of multiple equipment installations installed with this Supplemental Type Certificate, that they do not contact or conflict with one another in all possible configurations."

14. **CAUTION TO INSTALLING AGENCY** "It is the responsibility of the Installing Agency to verify that fasteners used to attach equipment or accessories to the Mount Structure are of the correct size and fit and have sufficient depth of engagement."



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**B. INSTALLATION**

1. **INSTALLATION PREFACE:** The Installation Section is divided into five sub-sections. The **Installation Preface Section 1** contains basic useful information and explanations. The **Assembly and Installation of Main Structure Section 2** details assembly of the basic Mount Structure common to all installations as well as the specific parts that differentiate between the 206, A and B Series, and the 206L Series and 407 Series. The instructions will note **“206, A and B Series Only”** or **“206L Series and 407 Only”** on some instructions. **It is recommended that you read through the instructions before starting the installation and cross out instructions specific to models that are NOT your type. All instructions that are not noted with a specific type are the same on all models.** You are supplied in this kit with only the parts specific to the model helicopter you are completing. Reference Drawings A-1 through A-3 for Models 206, 206A, 206A-1, 206B, and 206B-1 installations. Reference Drawings B-1 through B-3 for 206L, 206L-1, 206L-3, 206L-4 and 407 installations. Top, Front, and Side Views are depicted for each installation. The **Adapters, Accessories and Payload Equipment Section 3** details assembly of individual specific adapters and attachments for specific equipment and Dovetail Plate installation. Reference Drawings C-1 through C-5 for various Adapters and Dovetail Plate installations. The **Completion Section 4** details Weight and Balance and other final steps in completing the installation. The last section is the **Installation Parts List Section 5**. **Note: It is recommended that the series of Drawings you are not using for your particular installation type be removed from the Installation Manual to prevent any confusion.** The term **Assemblage** (see abbreviations section A5) is used on occasion to eliminate the necessity of repeatedly mentioning individual parts making up a group of parts attached to one-another as work progresses. Reference Drawing T for bolt and nut torque information. **All torque values for each fastener group are listed on all drawings at the respective fastener group location. Caution: Torque values specified must be used. Some values are non-standard for the bolt size, and over torque may result in damage to other parts.** Reference drawing W-1 ( 206, A, A-1, B, B-1 Models) or W-2 ( 206L, L-1, L-3, L-4, or 407 Models) for weight and balance information. **Note: The Aircraft Manufacturers Handbook of Maintenance Instructions contains information concerning installation, removal, and torque values for fasteners attaching their accessories.**

**ALL PARTS AND HARDWARE CROSS REFERENCE BY ITEM NUMBER TO PART NUMBER ON ALL DRAWINGS AND THE INSTALLATION PARTS LIST AND INCLUDE QUANTITIES.**

**Note: It is highly recommended to have an assistant to help lift and hold parts in place.**

2. **ASSEMBLY AND INSTALLATION OF MAIN STRUCTURE**  
**Refer to Drawings A-1, A-2, A-3, B-1, B-2 B-3, T, and W-1 or W-2 as necessary.**
  - 2.1. Locate the two 1/4 inch diameter bolts and two 3/16 inch diameter screws (or bolt holes if no bolts are installed) located on the helicopter belly at Station 97.3 Buttline Left and Right 8.0 (for 206, A, A-1, B, B-1) or Station 121.60 Buttline Left and Right 8.0 (for 206L, L-1, L-3, L-4, or 407). If any screws or bolts and nuts are in these holes, remove them.
  - 2.2. Attach left and right forward (#4) Mount Brackets p/n AP206UM02-04 at the above locations using four sets of (#28 Bolt for 206 A and B Series or use #29 Bolt for 407 and 206L Series, and #20 Washer, and #25 Nut) at the rear location, and four sets of (#15. Bolt and #19 Washer) at the forward location. Tighten all bolts to a point where the Mount Brackets are just snug.



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- 2.3. Attach one (#3) Mount Block p/n AP206UM02-03 to each end of (#1) Lateral Arm p/n AP206UM02-01 using four sets of (#17 Bolt, #20 Washer, and #25 Nut). Note: two #20 Washers must be on bottom, one top. Tighten all bolts to a point where you can just move the Mount Blocks in the oval holes easily by hand.
- 2.4. Attach the Lateral Arm Assemblage to the forward end of (#2) Channel Plate p/n AP206UM02-02 using three sets of (#13 Bolt, #21 Washer, and #25 Nut). Relieved side of the Channel Plate must face down. Note that center section of (#1) Lateral Arm is pocketed or relieved only on one side, and flat on the other. The flat area surface must face aft against the forward flat surface of the (#2) Channel Plate. Tighten and torque these three bolts/nuts to specification on the drawing.
- 2.5. **“206, A and B Series Only”** Attach (#5) Aft Channel p/n AP206UM02-05 to Channel Plate Assemblage using four sets of ( #14 Bolt, #21 Washer, and #25 Nut). Relieved side of the Channel Plate must face down. Open side of the Aft Channel must face down. Torque to specification on the drawing.
- 2.6. **“206L Series and 407 Only”** Attach (#9) Aft Channel p/n AP407UM02-09 to Channel Plate Assemblage using four sets of ( #14 Bolt, #21 Washer, and #25 Nut). Relieved side of the Channel Plate must face down. Open side of the Aft Channel must face down. Torque to specification on the drawing.
- 2.7. **“206L Series and 407 Only”** At Station 152.76 Buttline Left and Right 14.36, locate the left and right aft skid cross-tube support blocks bolted to the belly of the helicopter. Remove the forward four attachment bolts (two on each one).
- 2.8. **“206L Series and 407 Only”** Place (#8) Lateral Angle p/n AP407UM02-08 up to the holes in the skid cross-tube support blocks where the bolts were removed. Pointed protrusion with 1/2 inch diameter hole must be pointed down. Attach Lateral Angle with four sets of (#18 Bolt, #20 Washer, and #23 Aluminum Washer) and tighten bolts to a point where you can just move the Lateral Angle in the oval holes. **Warning: The Aluminum Washer #23 p/n NAS1149D0463K must be placed between the aft skid cross-tube support block and the Lateral Angle at all four locations. Do not use a steel washer at this location. The steel washer #20 p/n NAS1149C0463R goes next to the bolt head on the bottom. See Drawings B-2 and B-3.**
- 2.9. At the forward end of the mount assemblage, lift the left and right (#3) Mount Blocks up to and over the top of the left and right (#4) Mount Bracket and insert one set of (#16 Bolt, #22 Washer, and #27 Nut) at each end location. Tighten bolts to a point where you can just move the Mount Assemblage freely by hand.
- 2.10. **“206, A and B Series Only”** **Paying attention to Drawing A-3 Detail A** attach the Aft Bracket p/n AP206UM02-06 to the Vertical Strap Hanger using one set of (#10 Bolt, #24 Washers, #7 Bushing, and #26 Nut) **in the order and direction shown.** The Bushing (#7) has a flat spot on the side in one area. It may be necessary to rotate the bushing to sit flat against the Vertical Strap Hanger due to a protrusion on the Hanger by placing the flat spot in the Bushing at this position. The larger diameter of the bushing faces aft, away from the Vertical Strap Hanger. The Bushing must fit flat against the aft side of the Hanger as the bolt and nut are drawn together. **Caution: Before tightening bolt, at least one (#24) Washer must be between (#6) Aft Bracket and Vertical Strap Hanger, and (#7) Bushing must be laying flat against Vertical Strap Hanger aft face.**



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- 2.10. "206, A and B Series Only" **Paying attention to Drawing A-3 Detail A** attach the Aft Bracket p/n AP206UM02-06 to the Vertical Strap Hanger using one set of (#10 Bolt, #24 Washers, #7 Bushing, and #26 Nut) **in the order and direction shown.** The Bushing (#7) has a flat spot on the side in one area. It may be necessary to rotate the bushing to sit flat against the Vertical Strap Hanger due to a protrusion on the Hanger by placing the flat spot in the Bushing at this position. The larger diameter of the bushing faces aft, away from the Vertical Strap Hanger. The Bushing must fit flat against the aft side of the Hanger as the bolt and nut are drawn together. **Caution: Before tightening bolt, at least one (#24) Washer must be between (#6) Aft Bracket and Vertical Strap Hanger, and (#7) Bushing must be laying flat against Vertical Strap Hanger aft face.**
- 2.11 "206, A and B Series Only" Match drill Aft Bracket p/n AP206UM02-06 to Aft Channel p/n AP206UM02-05 as follows: Swing aft end of Channel up against bottom of Aft Bracket. Be sure Bracket bottom is flat against top of Channel. Center the Aft Bracket on top of the Channel. Clamp or hold the parts in place securely. With a 1/4" (.250") drill bit, using the (3) aft holes in Aft Channel p/n AP206UM02-05 as a drill guide, drill through center hole of the(3) first. Using three sets of (#12 Bolt, #20 Washer, and #25 Nut), place a bolt, nut, and washer(s) at this location and tighten. Drill out either of the remaining (2) holes and install bolts, washers, nuts, and tighten. Drill out remaining hole. Dis-assemble these parts and clean away debris from drilling. Re-install these bolts, washers, and nuts as per instructions. Tighten all bolts to a point where you can just move the Aft Bracket. Check alignment of parts. Torque all nuts and bolts to specification and procedures as detailed on drawings A-1, A-2, A-3, and T.
- 2.12. "206L Series and 407 Only" "206L Series and 407 Only" **Paying attention to Drawing B-3 Detail A** Attach the (#6)Aft Bracket p/n AP206UM02-06 to(#8) Lateral Angle p/n AP407UM02-08 using one set of (#11 Bolt, #24 Washers, and #26 Nut) **in the order and direction shown.** Tighten just snug. Match drill Aft Bracket p/n AP206UM02-06 to Aft Channel p/n AP407UM02-09 as follows: Swing aft end of Channel up against bottom of Aft Bracket. Be sure Bracket bottom is flat against top of Channel. Adjust with washers as necessary. Center the Aft Bracket on top of the Channel. Clamp or hold the parts in place securely. With a 1/4" (.250") drill bit, using the (3) aft holes in Aft Channel p/n AP206UM02-05 as a drill guide, drill through center hole of the(3) first. Using three sets of (#12 Bolt, #20 Washer, and #25 Nut), place a bolt, nut, and washer(s) at this location and tighten. Drill out either of the remaining (2) holes and install bolts, washers, nuts, and tighten. Drill out remaining hole. Dis-assemble these parts and clean away debris from drilling. Re-install these bolts, washers, and nuts as per instructions. Tighten all bolts to a point where you can just move the Aft Bracket. Check alignment of parts. Torque all nuts and bolts to specification and procedures as detailed on drawings B-1, B-2, B-3, and T.
- 2.13. Assembly and installation of the Main Mount Structure is now completed. Proceed to Section 3, attachment of Adapters, Accessories, and Payload Equipment. **The AP206UM02 Belly Utility Mount is now attached to your helicopter.**
3. **INSTALLATION OF ADAPTERS, ACCESSORIES, AND EQUIPMENT**  
**Pick the correct instructions for the equipment you will be installing.**
- 3.1. **INSTALLATION OF SKYPOD ANTENNAS ONLY.** Refer to Drawings C-1 and T as necessary for correct fastener placement and torque. Physically weigh your Antenna Assembly and record this weight for future use in computing weight and balance report. **Torque all fasteners to specification.**



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- 3.2. **INSTALLATION OF BMS ANTENNAS ONLY.** Refer to Drawings C-2 and T as necessary for correct fastener placement and torque. Physically weigh your Antenna Assembly and record this weight for future use in computing weight and balance report. **Torque all fasteners to specification.**
- 3.3. **INSTALLATION OF MRC / R. F. TECH ANTENNAS ONLY.** Refer to Drawings C-3 and T as necessary for correct fastener placement and torque. Physically weigh your Antenna Assembly and record this weight for future use in computing weight and balance report. **Torque all fasteners to specification.**
- 3.4. **DIRECT ADAPTER MOUNTING, OTHER ANTENNAS AND EQUIPMENT.** Refer to Drawings C-4 and T. Adapters not depicted in Drawing C-1, C-2, or C-3 may to be installed directly to the Mount Structure using an Adapter listed in Drawing C-4. Required fasteners listed in the drawing are supplied in this Kit or by request. Fasteners listed as "supplied by equipment manufacturer" should be obtained from the equipment manufacturer. Match your Equipment to the specific Adapter required. Physically weigh your Equipment and Adapter, and record this weight for future use in computing weight and balance report. Install Adapter to mount and Equipment to Adapter using attachment hardware as shown in Drawing C-4. **Torque all fasteners to specification.**
- 3.5. **UPPER AND LOWER DOVETAIL PLATE INSTALLATION, DIRECT OR WITH ADAPTER.** Refer to Drawings C-4, C-5 and T. Required fasteners listed in the drawing are supplied in this Kit or by request. Fasteners listed as "supplied by equipment manufacturer" should be obtained from the equipment manufacturer. Match your Equipment to the specific Adapter required. Physically weigh your Equipment, Adapter, and Dovetail Plates. Record the weights for future use in computing weight and balance report. **Torque all fasteners to specification.**
- 4.0. **COMPLETION.** Refer to all Drawings as necessary. You must physically weigh the Payload Equipment being used on a calibrated scale as various internal configurations may exist and published generic weight may vary. Write this weight down for later use. The maximum allowable suspended payload weight for this mount is 150 pounds.
- 4.1. Referring to Drawing W-1 (for 206, A, A-1, B, B-1) or W-2 (for 206L, L-1, L-3, L-4, or 407), complete weight and balance report to reflect this installation. Use Payload weight derived from physically weighing Payload. If you plan to operate the aircraft in a variety of configurations such as mount on/payload on, mount on, payload off, or mount off, you will need a separate weight and balance report for each specific condition available in the aircraft.
- 4.2. **Installation of RFMS Cabin Placard p/n AP206UM02-26.** Install Cabin Placard as follows:  
Locate a flat area inside cabin in plain view of pilot allowing sufficient clearance around placard for placard to lay flat. Clean area where placard is to be located. The Placard has a Velcro backing with pre-attached adhesive. Remove the protective covering from exposed adhesive, align placard with placard area. Using a clean cloth with no solvent, press placard into place. Carefully press back and forth and pushing down to set adhesive.
- 4.3. **Place p/n AP206UM02-FMS Flight Manual Supplement in Aircraft Flight Manual.**
- END-----

5.

**INSTALLATION PARTS LIST**  
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**PARTS LIST ITEM NUMBERS MATCH DRAWING ITEM NUMBERS.**

ITEM	PART NUMBER	DESCRIPTION	APPLICABILITY	QTY.per ASSY.
1.	AP206UM02-01	LATERAL ARM	ALL	1.
1A.	AP206UM02-01A	LATERAL ARM, STRAIGHT	INCREASE GROUND CLEARANCE	1.
2.	AP206UM02-02	CHANNEL PLATE	ALL	1.
3.	AP206UM02-03	MOUNT BLOCK	ALL	2.
4.	AP206UM02-04	MOUNT BRACKET	ALL	2.
5.	AP206UM02-05	AFT CHANNEL	206A, B SERIES	1.
6.	AP206UM02-06	AFT BRACKET	ALL	1.
7.	AP206UM02-07	BUSHING	206A, B SERIES	1.
8.	AP407UM02-08	LATERAL ANGLE	407, 206L SERIES	1.
9.	AP407UM02-09	AFT CHANNEL	407, 206L SERIES	1.
10.	AN8-14A	BOLT 1/2 X 20	206A, B SERIES	1.
11.	AN8-12A	BOLT 1/2 X 20	407, 206L SERIES	1.
12.	NAS6604-7	BOLT 1/4 X 28	ALL	3.
13.	NAS6604-9	BOLT 1/4 X 28	ALL	3.
14.	NAS6604-14	BOLT 1/4 X 28	ALL	4.
15.	AN3-6A	BOLT 3/16 X 32	ALL	4.
16.	AN5-12A	BOLT 5/16 X 24	ALL	2.
17.	NAS6604-23	BOLT 1/4 X 28	ALL	4.
18.	NAS6604-20	BOLT 1/4 X 28	407, 206L SERIES	4.
19.	NAS1149C0332R	WASHER	ALL	4.
20.	NAS1149C0463R	WASHER	ALL	26.
21.	NAS1149C0432R	WASHER	ALL	22.
22.	NAS1149C0532R	WASHER	ALL	4.
23.	NAS1149D0463K	WASHER, ALUMINUM	407, 206L SERIES	4.
24.	NAS1149C0863R	WASHER	ALL	4.
25.	MS21043-4	NUT	ALL	18.
26.	MS21044N8	NUT	ALL	1.
27.	MS21043-5	NUT (ALT. MS21044N5)	ALL	2.
28.	NAS6604-10	BOLT 1/4 X 28	206A, B SERIES	4.
29.	NAS6604-18	BOLT 1/4 X 28	407, 206L SERIES	4.
30B.	AP206UM02-MM	INSTALLATION MANUAL		1.
31B.	AP206UM02-ICS	INSTRUCTIONS FOR CONTINUED AIRWORTHINESS		1.
32B.	AP206UM02-RFMS	ROTOR-WING FLIGHT MANUAL SUPPLEMENT		1.
33B.	AP206UM02-26	CABIN PLACARD RFMS		1.
45.	AP206UM02-22	ADAPTER, AFT BRACKET		1.

**ADDITIONAL WESCAM SKYPOD / BMS AUTOPOD ANTENNA REQUIRED PARTS (SUPPLIED IN KIT)**

20.	NAS1149C0463R	WASHER		4.
21.	NAS1149C0432R	WASHER		12.
25.	MS21043-4	NUT		4.
31.	AP600UM02-06	SPIDER PLATE		1.
32.	AN4-31A (Skypod Only)	BOLT 1/4 X 28		3.
32A.	AN4-25A (BMS Only)	BOLT 1/4 X 28		3.
34.	AN4-40A (Skypod Only)	BOLT 1/4 X 28		1.
34A.	AN4-35A (BMS Only)	BOLT 1/4 X 28		1.
35.	AP600UM02-10	SPACER		4.
36.	NAS6604-8	BOLT 1/4 X 28		4.

**ADDITIONAL MRC / RF TECH ANTENNA REQUIRED PARTS (SUPPLIED IN KIT)**

21.	NAS1149C0432R	WASHER		12.
25.	MS21043-4	NUT		5.
37.	NAS6604-7	BOLT 1/4 X 28		4.
38.	NAS6604-18	BOLT 1/4 X 28		1.
39.	AN4-6A	BOLT 1/4 X 28		4.
40.	MS21044N4	NUT		4.
41.	AP600UM02-14	ADAPTER, MRC / RF TECH		1.
	AP600UM02-18 ASSY. (alternate)	ADAPTER ASSEMBLY, MRC / R.F. TECH		1.

**ADDITIONAL DOVETAIL PLATE INSTALLATION REQUIRED PARTS (SUPPLIED IN KIT)**

13.	NAS6604-9	BOLT 1/4 X 28		4.
20.	NAS1149C0463R	WASHER		2.
21.	NAS1149C0432R	WASHER		8.
25.	MS21043-4	NUT		4.
43.	AN4H10A	BOLT 1/4 X 28		2.
44.	AP001UM01B	UPPER DOVETAIL PLATE		1.
48.	AP001UM02 ASSY.	LOWER DOVETAIL PLATE /CLAMP ASSEMBLY		1.

NOTE: OTHER ADAPTERS, ACCESSORIES, AND THEIR ATTACHMENT HARDWARE LISTED SEPARATELY.





# INSTALLATION MANUAL

## AERO PACIFIC MODEL AP206UM02 BELLY UTILITY MOUNT

### Manual Part Number AP206UM02-MM

8/15/2010 Rev. A

B 206A, A-1, B, B-1

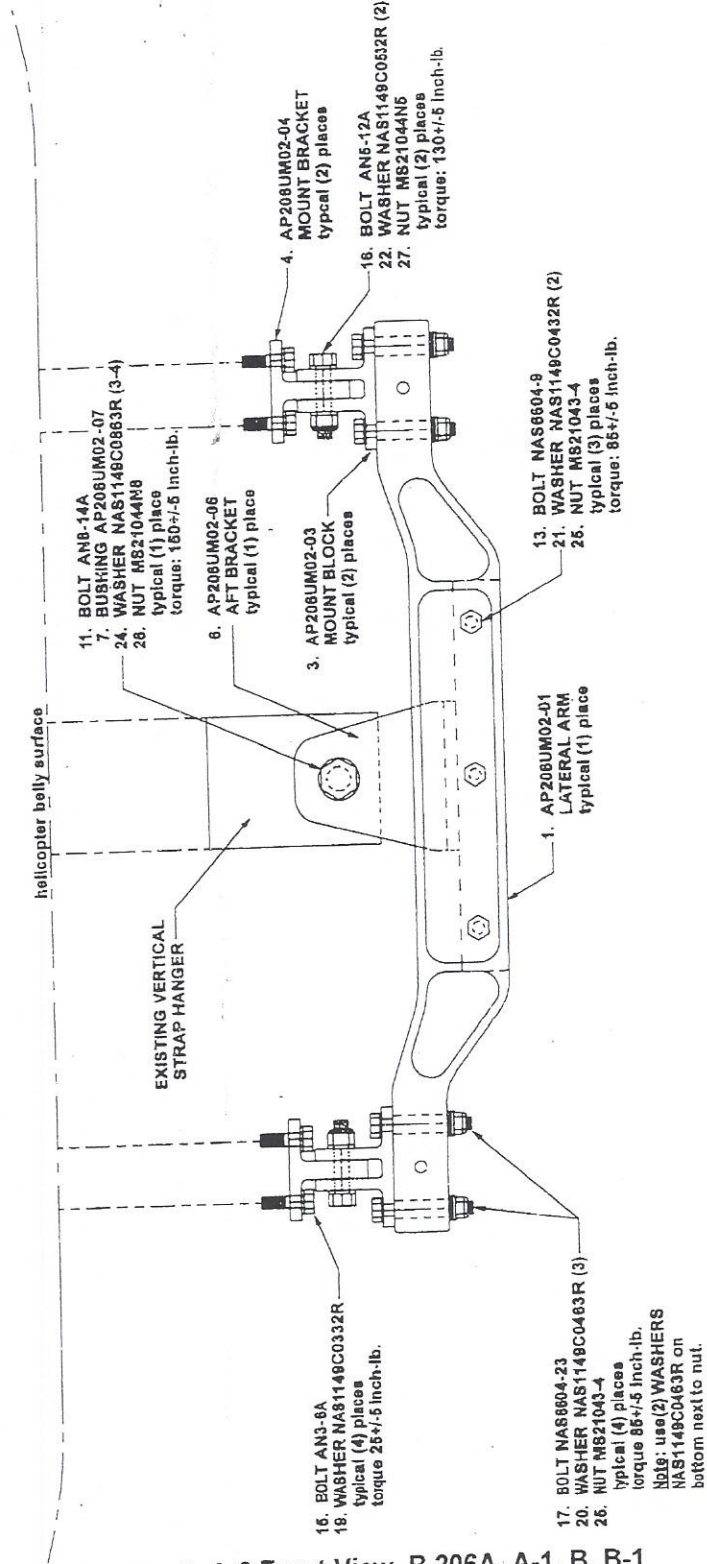


Figure 2. A-2 Front View, B 206A, A-1, B, B-1

# INSTALLATION MANUAL

## AERO PACIFIC MODEL AP206UM02 BELLY UTILITY MOUNT

Manual Part Number AP206UM02-MM  
10/20/14 Rev. C

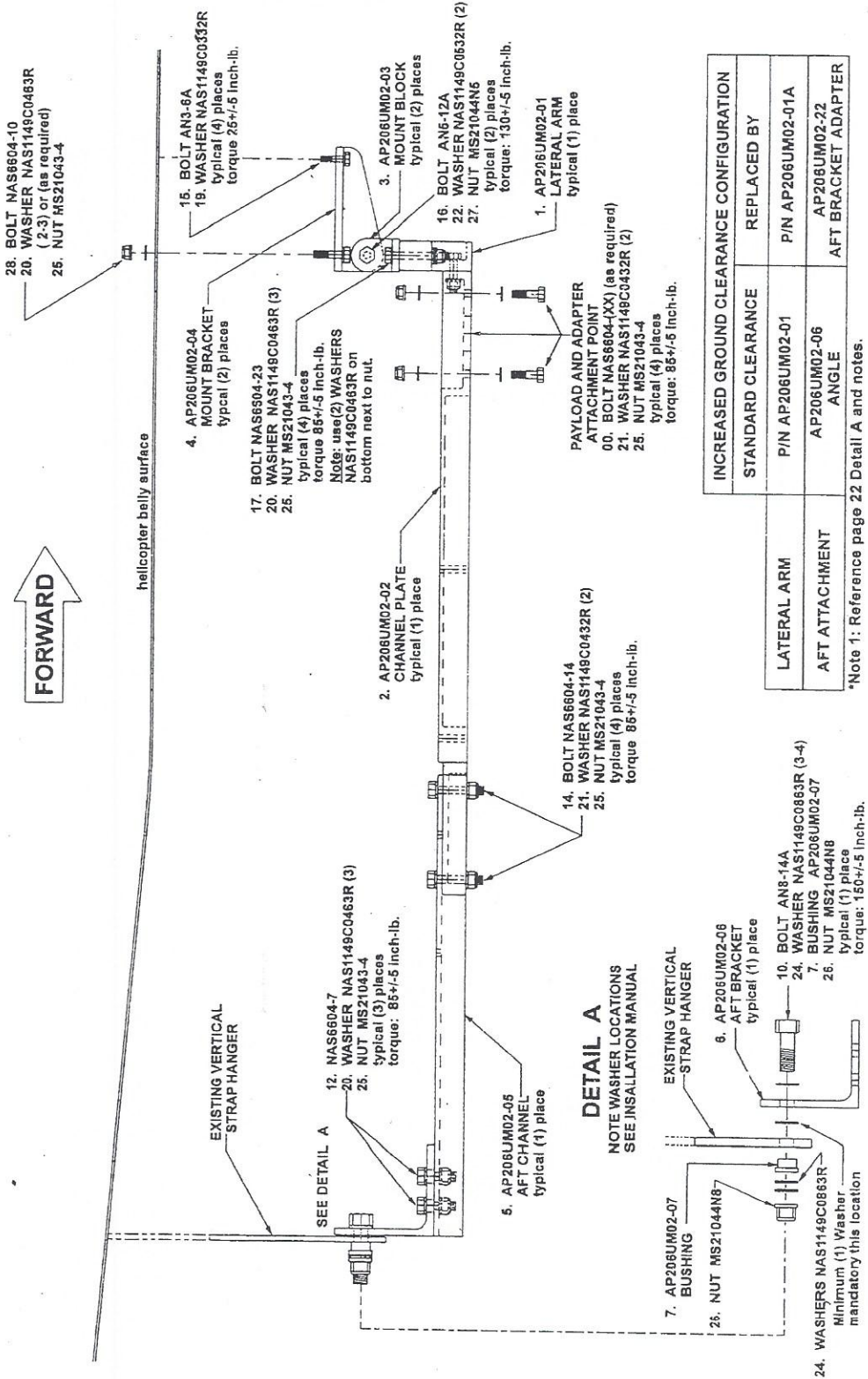


Figure 3. A-3 Side View, B206A, A-1, B, B-1



**INSTALLATION MANUAL**  
**AERO PACIFIC MODEL AP206UM02 BELLY UTILITY MOUNT**  
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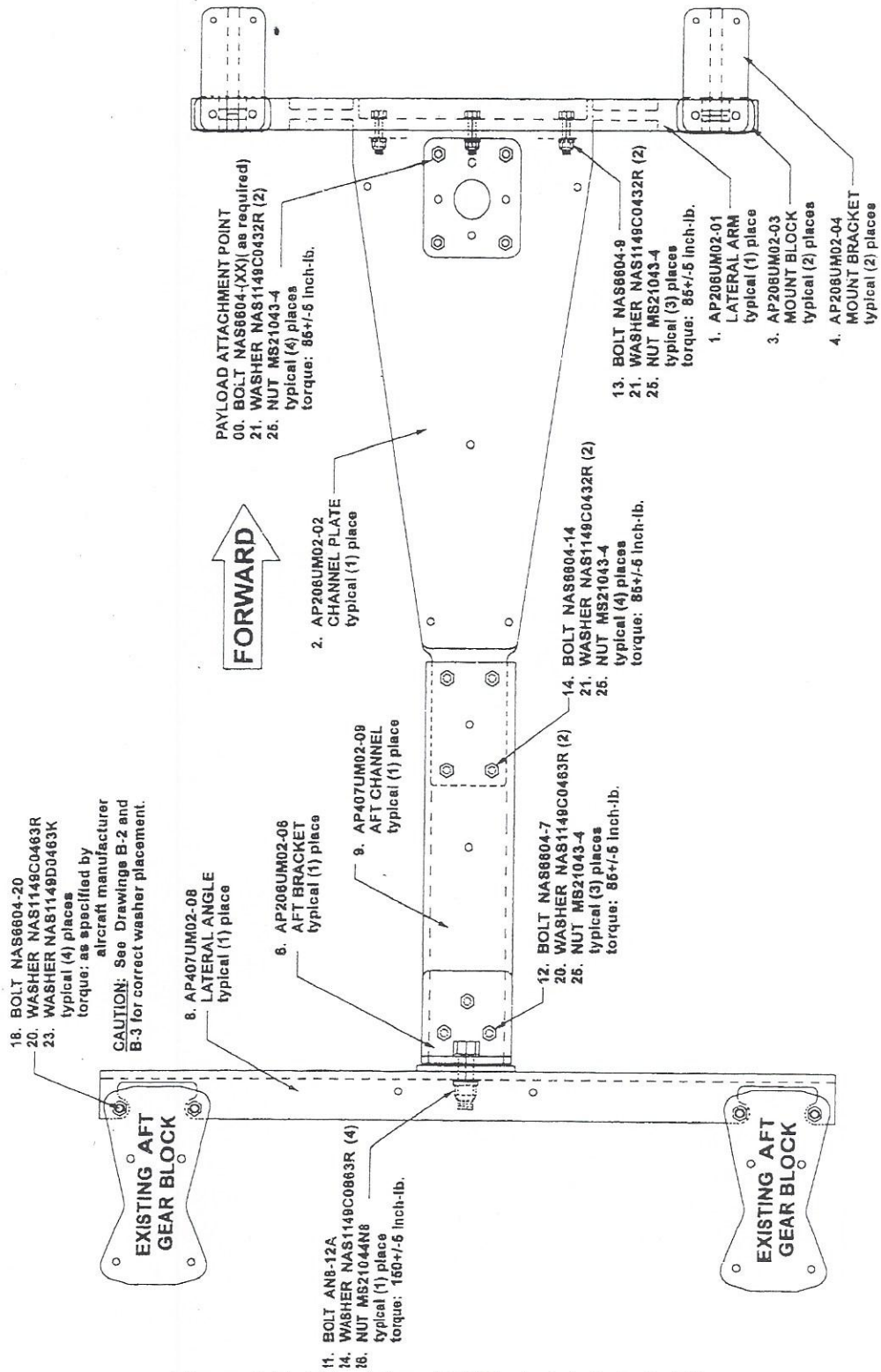


Figure 4. B-1 Top View, B 206L, L-1, L-3, L-4, 407



**INSTALLATION MANUAL**  
**AERO PACIFIC MODEL AP206UM02 BELLY UTILITY MOUNT**  
 Manual Part Number AP206UM02-MM  
 8/15/2010 Rev. A

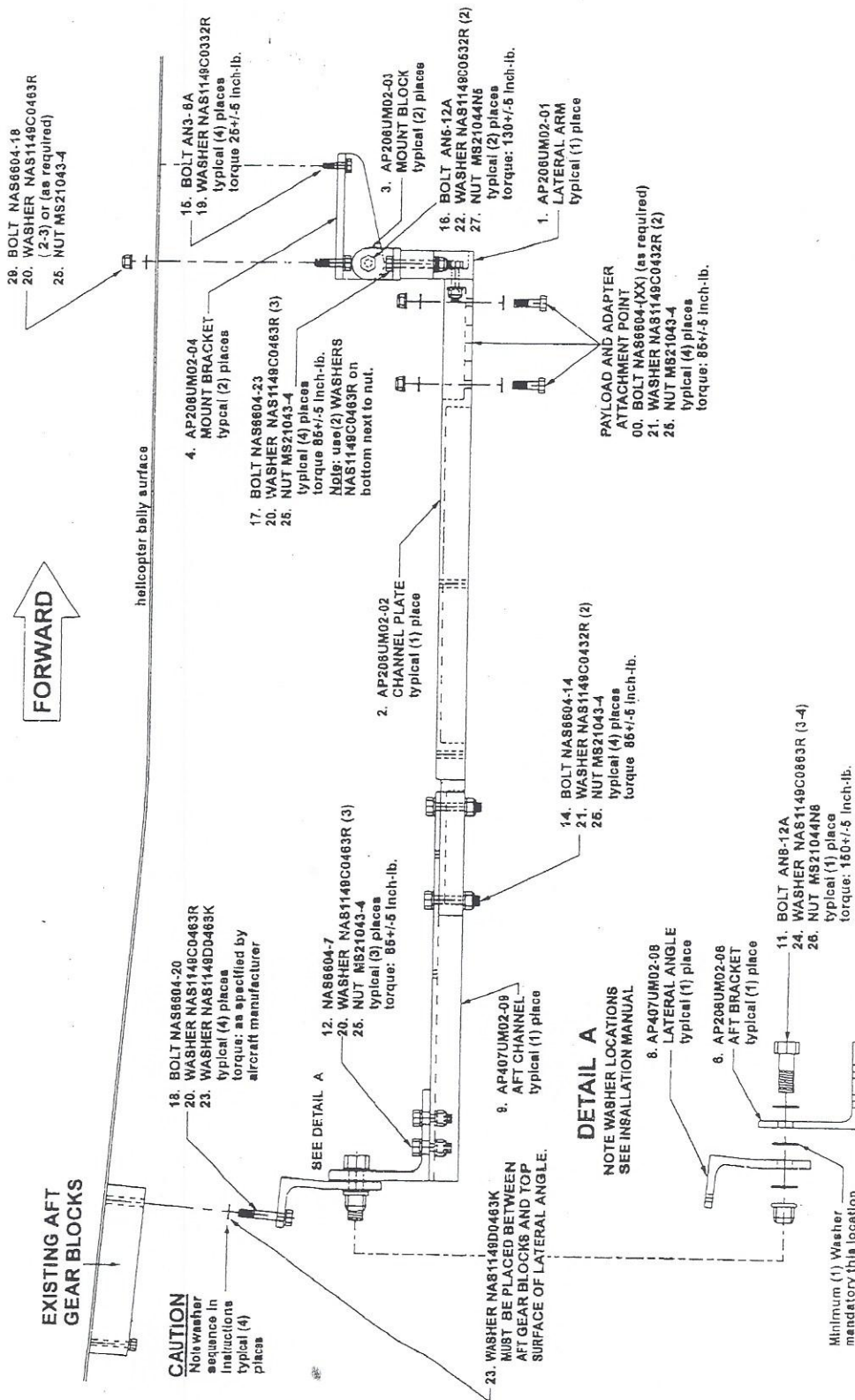


Figure 6. B-3 Side View, B 206L, L-1, L-3, L-4, 407

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**AERO PACIFIC MODEL AP206UM02 BELLY UTILITY MOUNT**  
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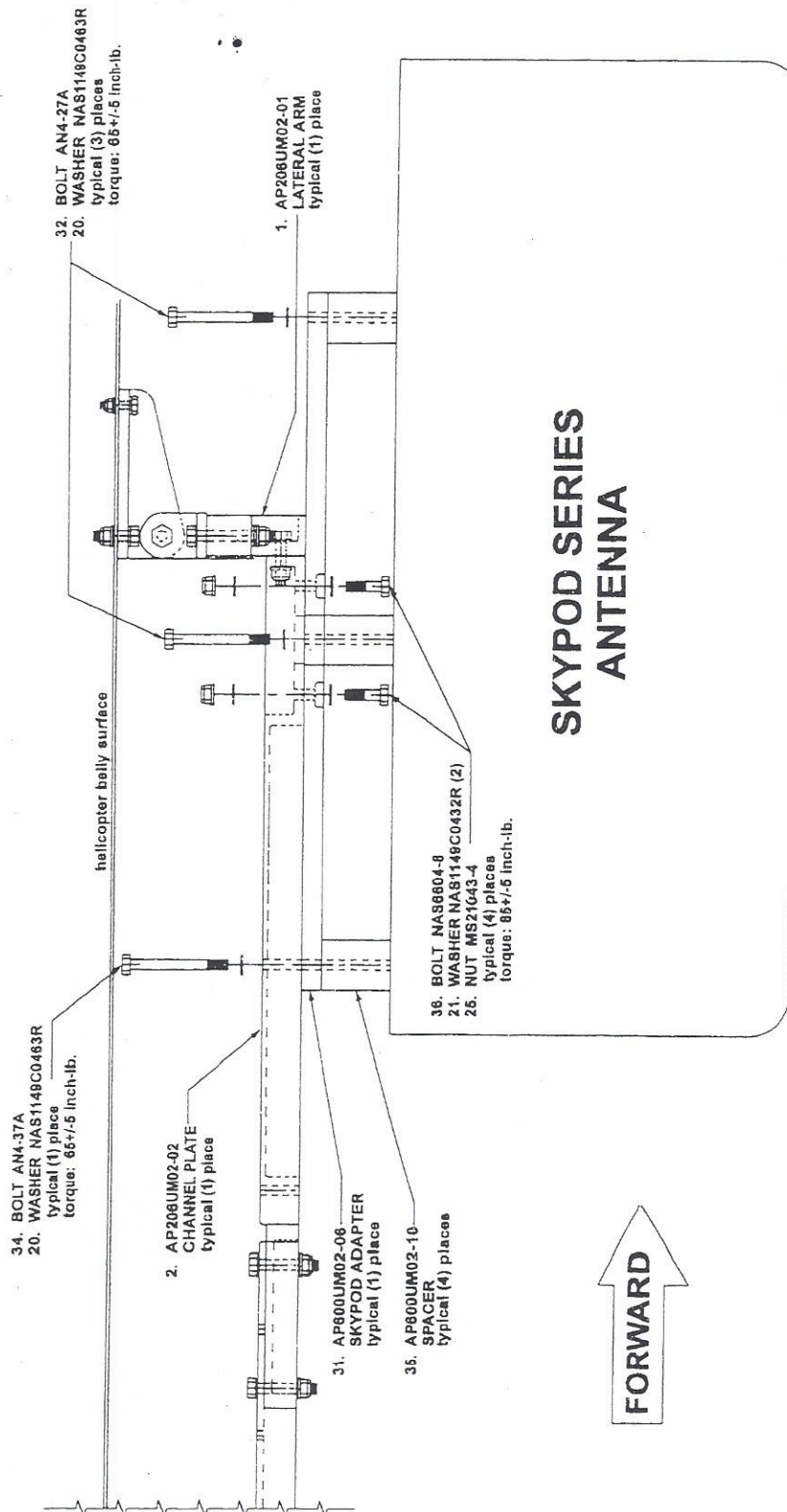


Figure 7. C-1 Side View. Skypod Installation



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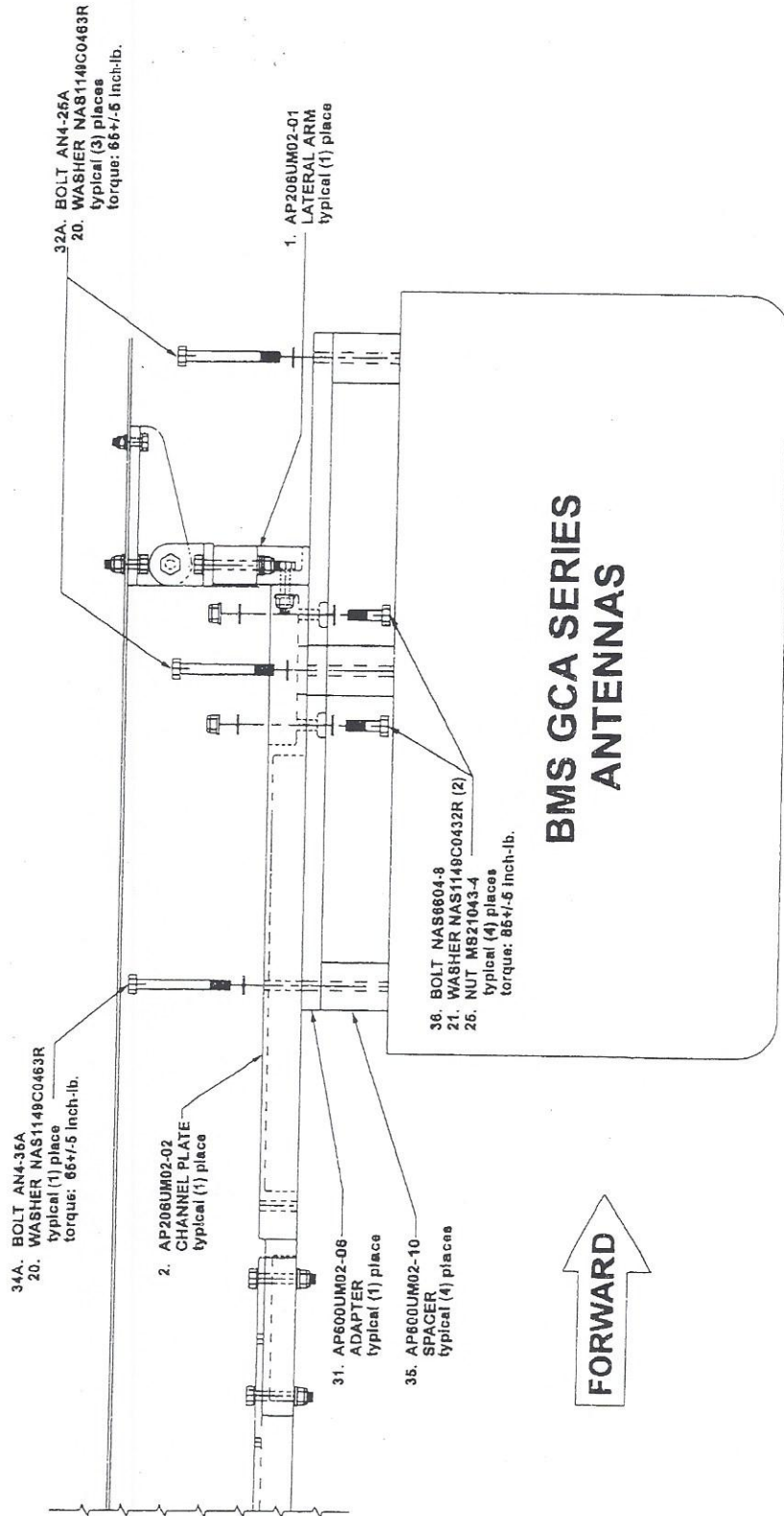
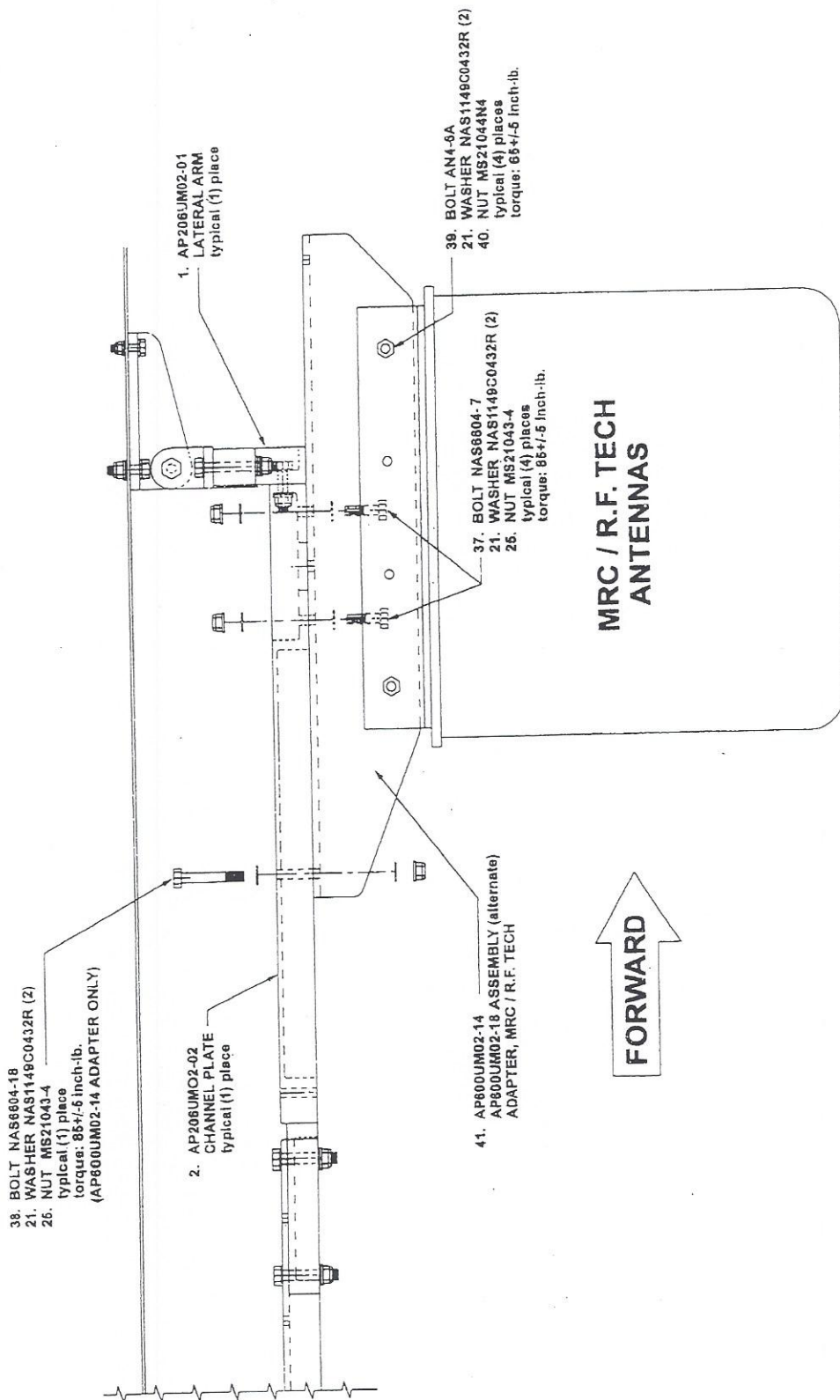


Figure 8. C-2 Side View, BMS GCA Installation

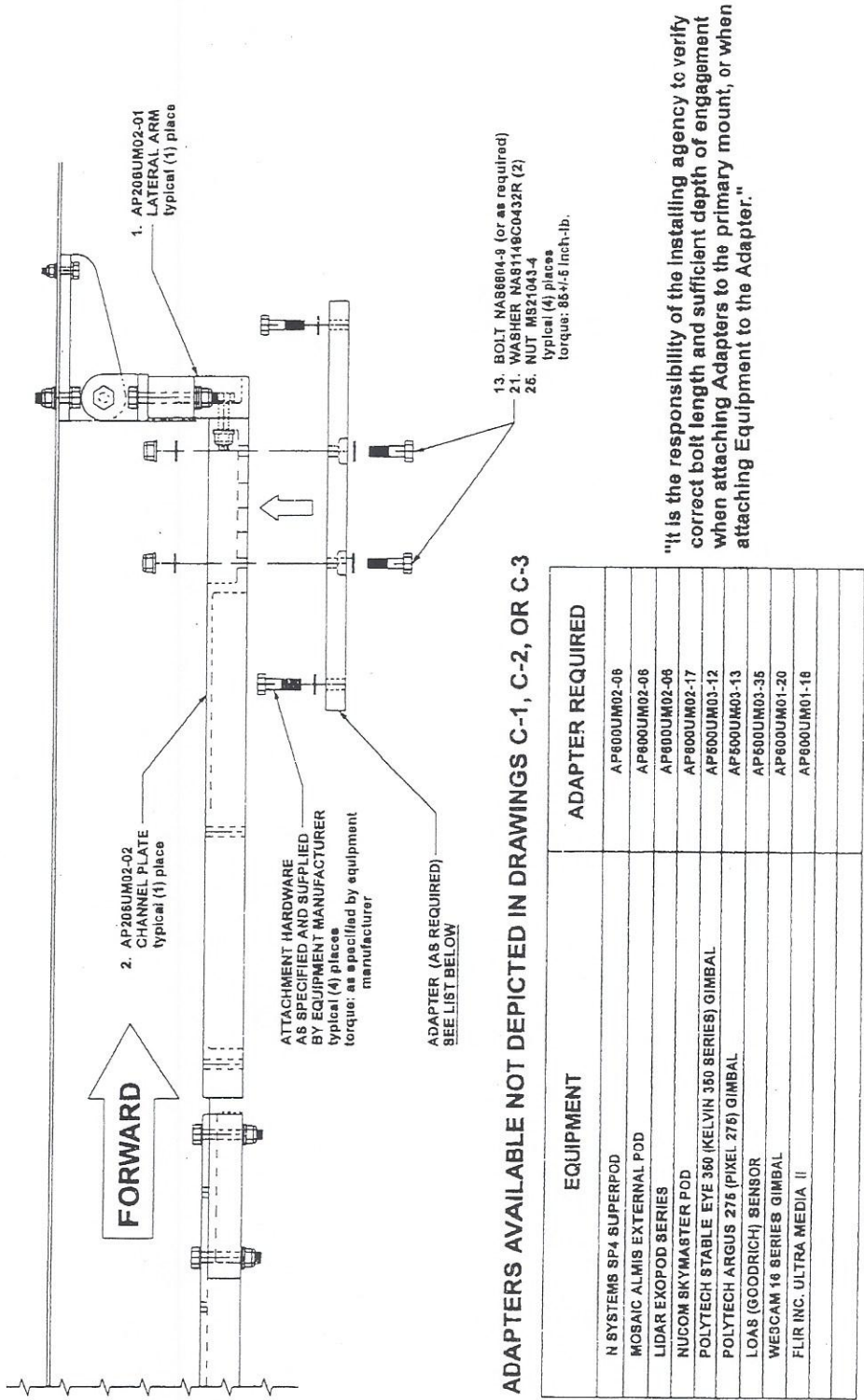


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**Figure 9. Side View, MRC / RF Tech Installation**

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"It is the responsibility of the installing agency to verify correct bolt length and sufficient depth of engagement when attaching Adapters to the primary mount, or when attaching Equipment to the Adapter."

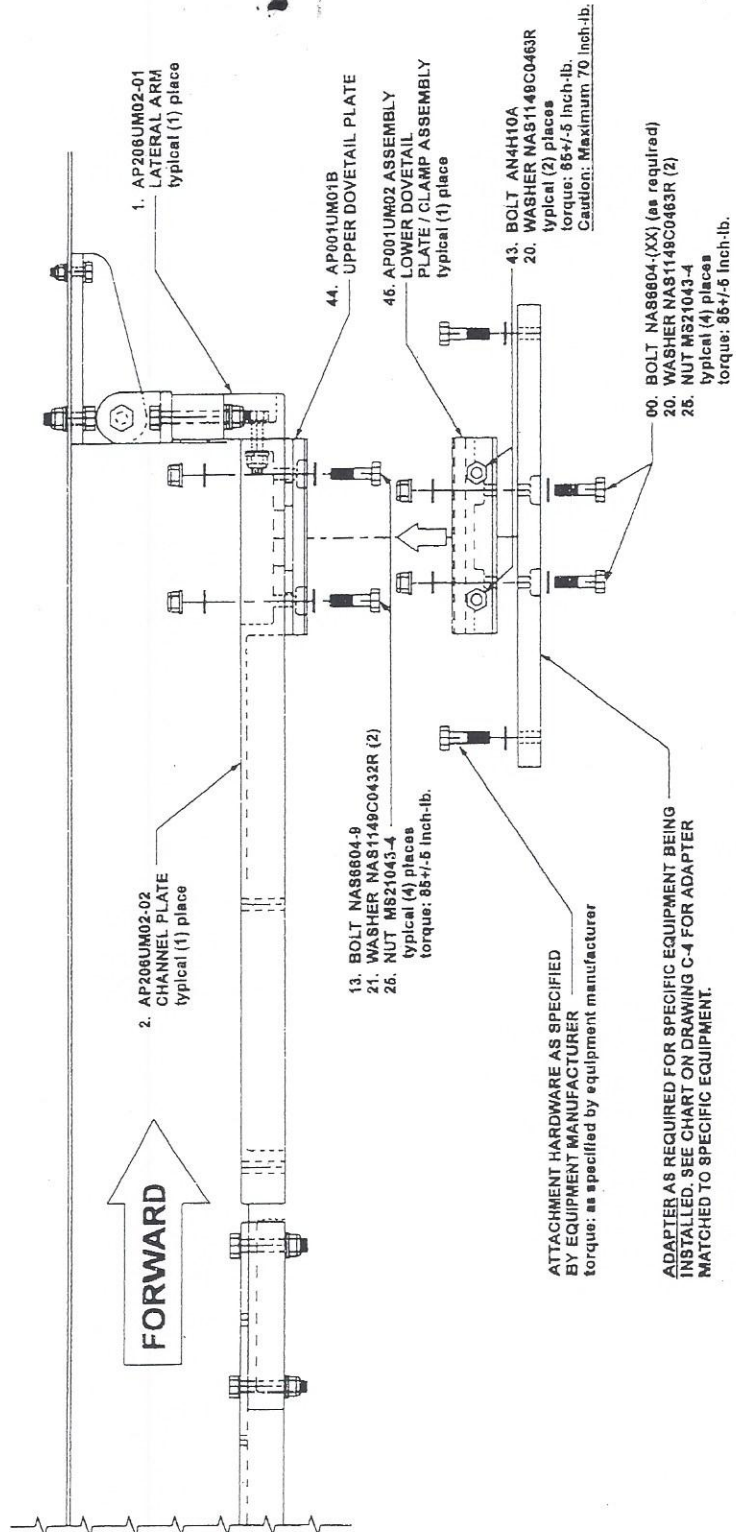
Figure 10. C-4 Side view, Adaptors & Direct Mounts

# INSTALLATION MANUAL

## AERO PACIFIC MODEL AP206UM02 BELLY UTILITY MOUNT

### Manual Part Number AP206UM02-MM

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**"It is the responsibility of the installing agency to verify correct bolt length and sufficient depth of engagement when attaching Upper or Lower Dovetail Plates or Adapters to the primary mount, or Dovetail Plates to the Adapter, or when attaching Equipment to the Adapter or Upper and Lower Dovetail Plates."**

Figure 11. C-5 Side View, Dovetail Plate



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**FASTENER TORQUE REQUIREMENT PROCEDURE**

Following torque limits as stipulated on the Assembly Drawings for initial installation, repairs, and subsequent removal and/or reinstallation of the AP206UM02 mount or any parts thereof. All torque values are stated in inch-pounds. The importance of correct application of torque cannot be overemphasized. Under-torque can result in unnecessary wear of nuts and bolts as well as to the parts they are holding. Over-torque can be equally damaging because of failure of a bolt or nut from over stressing the threaded areas or damaging parts by over-compression resulting in structural failure. Some torque values stipulated on the Drawings are non-standard. The torque values stipulated must be used.

1. Always use a calibrated torque wrench.
2. If possible, always use torque wrench on nut end of fastener assembly.
3. Do not lubricate threads prior to torque application. Threads must be clean and dry on both the bolt and the nut. Apply a smooth even pull when applying torque pressure. If chattering or jerking motion occurs during final torque, back off and re-torque.
4. On self locking nuts, run nut down near contact with the washer or bearing surface and check "friction drag torque" required to turn the nut (or bolt if going into hidden self-locking nut plate). If "friction drag torque" is less than the minimum listed below, the nut (or hidden self locking nut plate) is not to be used. Minimum allowable "friction drag torque" values are listed by size below. Bolts and Nuts should be torqued to the values listed below. These values DO NOT include "friction drag torque". Add recommended torque to friction drag torque to get FINAL TORQUE.
5. Re-use of self locking nuts is not recommended. Minimum "friction drag torque" values are listed below. Under no circumstance should any nut or bolt combination testing a friction drag torque less than the limits expressed below be used for flight. Nuts or bolts exhibiting corrosion which has penetrated the outer plated coating should be replaced.

**NUTS**

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>MINIMUM FRICTION DRAG TORQUE(Inch-pounds)</u>
25.	MS21043-4	NUT, LOCKING (METAL), 1/4	15
26.	MS21044N8	NUT, LOCKING (NYLON), 1/2	20
27.	MS21043-5	NUT, LOCKING (METAL), 5/16	15
27.	MS21044N5 (alternate)	NUT, LOCKING (NYLON), 5/16	15

**BOLTS**

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>RECOMMENDED TORQUE (inch-pounds)</u>
10.	AN8-14A	BOLT 1/2 X 20	150+/-5
11.	AN8-12A	BOLT 1/2 X 20	150+/-5
12.	NAS8804-7	BOLT 1/4 X 28	85+/-5
13.	NAS8804-9	BOLT 1/4 X 28	85+/-5
14.	NAS8804-14	BOLT 1/4 X 28	85+/-5
15.	AN3-5A	BOLT 3/16 X 32	25+/-5
16.	AN5-12A	BOLT 5/16 X 24	130+/-5
17.	NAS8804-23	BOLT 1/4 X 28	85+/-5
18.	NAS8804-20	BOLT 1/4 X 28	85+/-5

**BOLT HEAD MARKINGS** Specifications require that most bolts which are made to conform with standard drawings be identified by a specific marking on the bolt head. Shown here are the markings of sample bolts. The initials such as "RM" and "RBM" identify the manufacturer of the bolt. AN bolt heads do not display size (diameter) or length. NAS bolt heads indicate bolt size (diameter) and length.

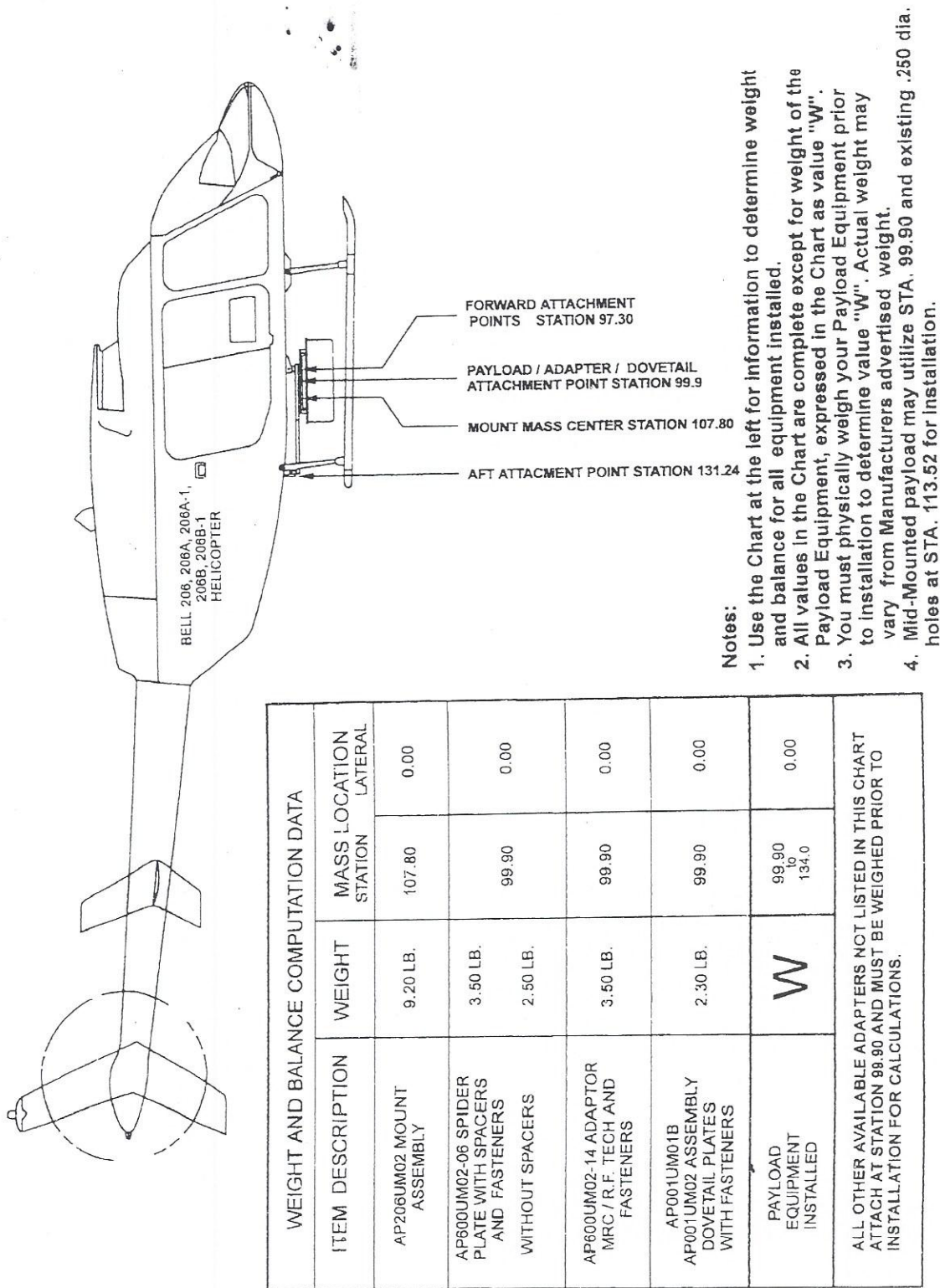
AN3-(length), AN4-(length), AN5-(length)

NAS8804-(length)



Figure 12. T, Torque Requirements

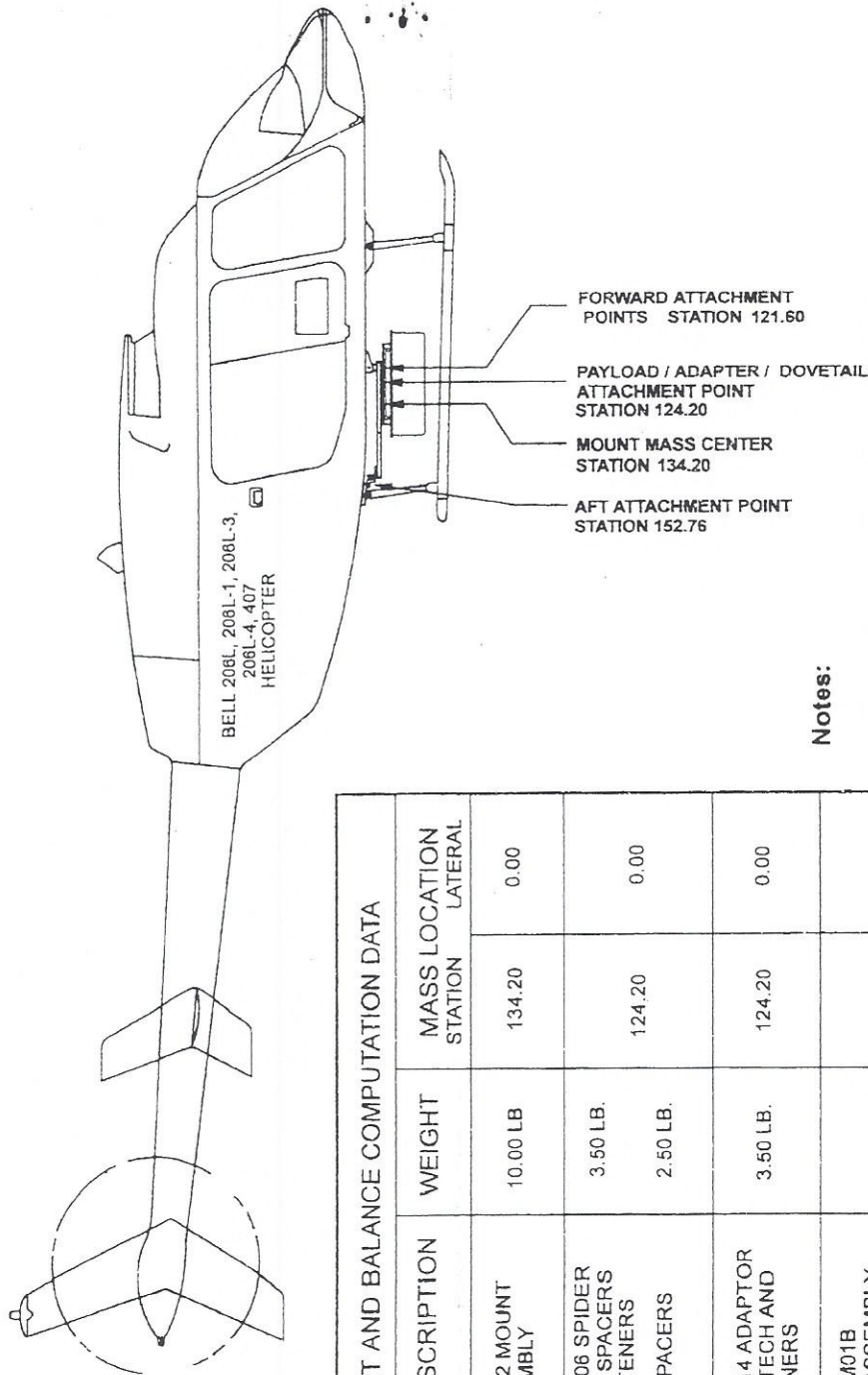
**INSTALLATION MANUAL**  
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**Figure 13. W-1 Weight & Balance, B206, 206A-1, 206B, 206B-1**



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**Notes:**

1. Use the Chart at the left for information to determine weight and balance for all equipment installed.
2. All values in the Chart are complete except for weight of the Payload Equipment, expressed in the Chart as value "W". You must physically weigh your Payload Equipment prior to installation to determine value "W". Actual weight may vary from Manufacturers advertised weight.
3. Mid-Mounted payload may utilize STA. 99.90 and existing .250 dia. holes at STA. 137.82

WEIGHT AND BALANCE COMPUTATION DATA		
ITEM DESCRIPTION	WEIGHT	MASS LOCATION STATION      LATERAL
AP206UM02 MOUNT ASSEMBLY	10.00 LB	134.20      0.00
AP600UM02-06 SPIDER PLATE WITH SPACERS AND FASTENERS WITHOUT SPACERS	3.50 LB. 2.50 LB.	124.20      0.00
AP600UM02-14 ADAPTOR MRC / R.F. TECH AND FASTENERS	3.50 LB.	124.20      0.00
AP001UM01B AP001UM02 ASSEMBLY DOVETAIL PLATES WITH FASTENERS	2.30 LB.	124.20      0.00
PAYLOAD EQUIPMENT INSTALLED	<b>W</b>	124.20 to 134.0      0.00
ALL OTHER AVAILABLE ADAPTERS NOT LISTED IN THIS CHART ATTACH AT STATION 124.20 AND MUST BE WEIGHED PRIOR TO INSTALLATION FOR CALCULATIONS.		

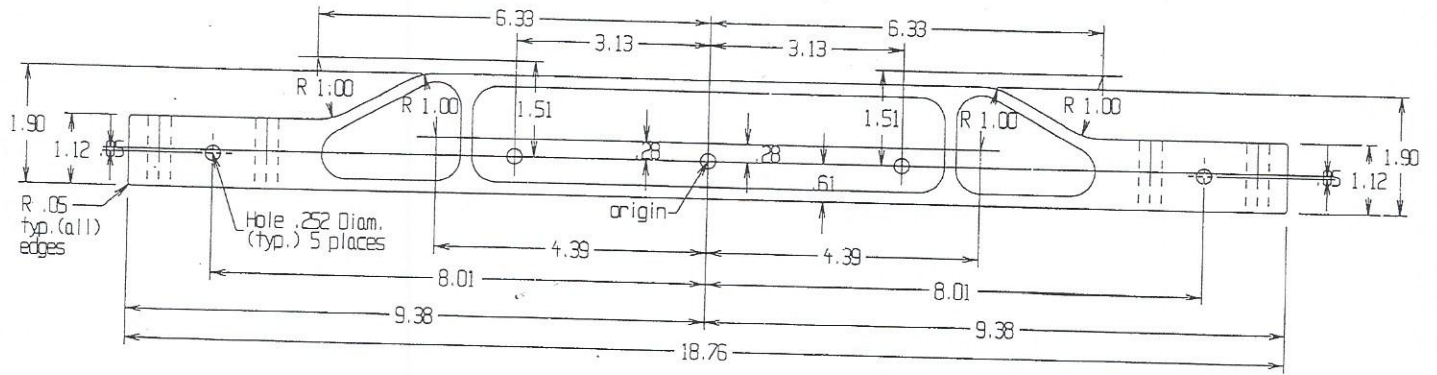
Figure 14. W-2 Weight & Balance B206L, 206L-1, 206L-3, 206L-4, 407



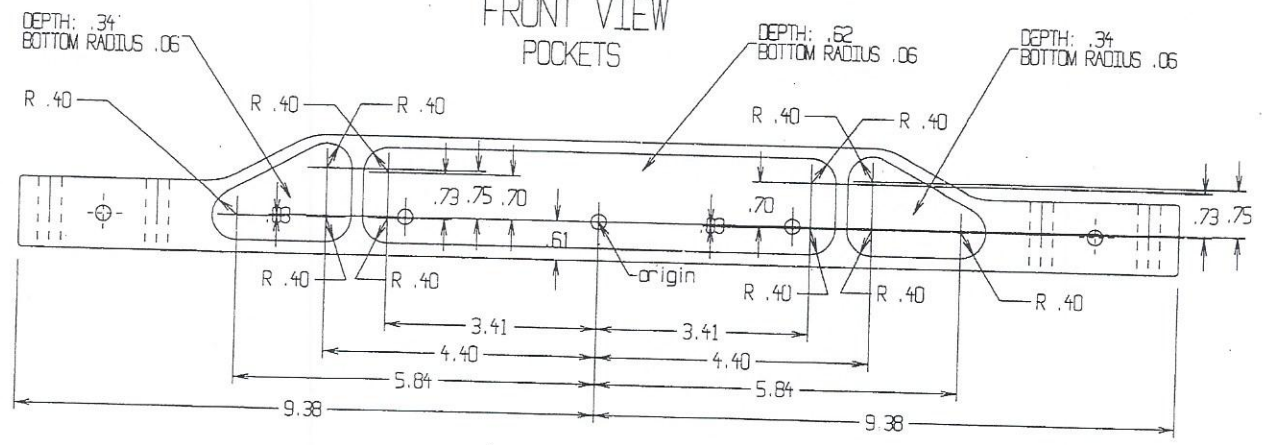


**PRODUCTION APPROVED** *[Signature]*

**FRONT VIEW PERIMETER AND HOLES**



**FRONT VIEW POCKETS**



**NOTES:**

1. Perform all fabricating and/or dimensional inspections prior to application of any surface treatments.
2. Penetrant inspect as per Aero Pacific Penetrant Inspection Process AP001.
3. Remove surface sheen as per Aero Pacific Surface Treatment Process AP005.
4. Anodize finish as per MIL-A-8625F Type III Class 2 Black.

1	AP206UM02-01A	19.3Lx2.5Wx1.0T RECT BAR	6061AL.	QQA-200/8	T6511
QUANTITY	PART NUMBER	DESCRIPTION	MATERIAL	MATERIAL SPEC.	HEAT TREAT
		UNLESS OTHERWISE SPECIFIED:	DRAWN BY: <i>[Signature]</i>	DATE: 10/20/14	<b>AERO PACIFIC</b> OCEANSIDE, CA. U.S.A. DRAWING TITLE <b>LATERAL ARM STRAIGHT</b> DRAWING NUMBER <b>20602-01A</b>
		TOLERANCES ON:	CHECKED: <i>[Signature]</i>	ENGINEERING:	
		2 PL DECIMALS +/- .03	STRESS:		
		3 PL DECIMALS +/- .010	DATE APPROVED: 10/20/14		
	AP206UM02 ASSY.	ANGLES +/-			
NEXT ASSEMBLY	USED ON	FRACTIONS +/-			
DRAWING CODE: BELL 6BBA.MC7		HOLES +/- ±.005			
APPLICATION		Surface roughness .125 max. Remove sharp edges .015 max.	SIGNATURES	REV. NEW	PAGE 1 of 3