

INSTALLATION MANUAL

Aero Pacific Document Number 350UM02-08

AERO PACIFIC MODEL AP350UM02 BELLY UTILITY MOUNT

Manual Part Number AP350UM02-MM

11/12/10 Rev. A

S.N.I.A. / Eurocopter France Model AS350B, B1, B2, B3, BA, C, D, D1

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LIST OF EFFECTIVE PAGES

LIST OF REVISIONS

Initial Release	2/5/03
Rev. A	11/12/10

LIST OF EFFECTIVE PAGES

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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 AP350UM02 Assembly.

2. DESCRIPTION OF USE

This mount is designed to provide sturdy attachment of Microwave Antennas (or other qualifying payload equipment) to Eurocopter France AS350 Series Helicopters at a location on the forward cabin belly centerline. Attachment is accomplished utilizing two existing forward left and right channel hardpoints located at Station 106.6 and one aft point of attachment at the existing cargo hook lift lug located at Station 124.2. 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 80 pounds U.S. maximum.

Combined Cylindrical and Spherical projected flat area of 1.84 square feet may not be exceeded.

3. APPLICABILITY

This installation is applicable to the following Rotor Wing Aircraft Models only: S.N.I.A. Eurocopter France Model AS350 B, B-1, B-2, B-3, BA, C, D, D1.

4. REQUIREMENTS

All above listed helicopter models must be equipped with standard High Skid Gear 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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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 150 inch-pounds torque.
2. (1) "C" Clamp, 2 inch capacity, 3 inch throat.

9. SPECIAL PRODUCTS

None required.

10. REFERENCE MATERIAL

This installation manual contains installation instructions for multiple specific models of the AS350 Series helicopter. It is recommended you have access to the **Aircraft Manufacturers Handbook of Maintenance Instructions**.

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 of this installation manual. 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."

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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1. **INSTALLATION PREFACE:** The Installation section is divided into seven sections. The INSTALLATION PREFACE contains basic useful information and explanations. The INSTALLATION OF MAIN STRUCTURE section details assembly of the basic Mount Structure common to all installations. The next three sections detail assembly of individual specific adapters and attachment for specific equipment. Of the three, choose the section applicable to the specific equipment you are installing. The COMPLETION section details final assembly and completion of the work. The last section is the INSTALLATION PARTS LIST. Reference Drawings A-1 through A-3 for Skypod or BMS Antenna installations, Drawings B-1 through B-3 for MRC / R.F. Tech Antenna installations, or Drawings C-1 through C-3 for Dovetail Plate installations. Side, Front, and Top Views are depicted for each installation. **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 for weight and balance information on all models.

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. **INSTALLATION OF MAIN STRUCTURE (Except Troll AP350UM02-16 Assembly, which comes fully assembled, ready to attach; Proceed to section 6.)**
 - 2.1. Screw one (#5) Threaded Bushing into threaded side of one (#4) Block approximately four turns. Repeat for the other set of (#5) Threaded Bushing and (#4) Block.
 - 2.2. Locate existing left forward belly Attachment Channel at Station 106.6. Take one set of combined Threaded Bushing and Block, and fit it up into the Attachment Channel. The Threaded Bushing end must face inboard toward the centerline of the aircraft belly. Screw (#5) Threaded Bushing inward or outward in (#4) Block until the width of the Block / Threaded Bushing assemblage is a tight fit with the inside width of the Attachment Channel. Remove Block assemblage. Place one (#11) Bolt and one (#12) washer loose into the vertical hole in (#4) Block. Place Block assemblage back in location and align with the two holes in sides of the Attachment Channels. Place two (#38) Bushing 1.00 through the hole in each side of the Attachment Channel and into the Block / Threaded Bushing assemblage until they are flush with the Attachment Channel. Recheck for a tight fit and adjust as necessary.
 - 2.3. Locate the right forward belly Attachment Channel at Station 106.6. Repeat this procedure for the right side Attachment Channel. Remember to face the (#5) Threaded Bushing inboard toward the aircraft belly centerline and to place (#11) Bolt and (#12) Washer loose in the Block / Threaded Bushing assemblage. Leave parts in place.

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- 2.4. Locate (#1) Lateral Arm. Notice that in the center section of the Lateral Arm one side is flat, and not recessed. This surface must face rearward. Notice the oval holes at each end of the Lateral Arm on the top side. With the flat surface facing rearward, lift the (#1) Lateral Arm upward and place the (#11) Bolts hanging from the left and right (#4) Block assemblages into and through the two oval holes at each end of the Lateral Arm. Place one (#6) Spacer Washer, one (#12) Washer, and one plain non-locking 5/16 x 24 nut from shop stock onto each of the two (#11) bolts. Do not use the (#13) Nuts at this time, as you will be removing and re-installing these parts prior to final assembly. Tighten the plain nuts onto the bolts to a point where you are still just able to slide the Lateral Arm sideways relative to the Block assemblage. Notice the amount the Lateral Arm overhangs the outer edge of the Block assemblage at each end. Move the Lateral Arm relative to Block assemblages until both amounts of overhang are equal. Verify all four (#38) Bushings are pushed in place correctly locating the Block assemblages. Tighten both 5/16 x 24 plain nuts to 70 inch-pounds torque.
- 2.5. Locate the Cargo Hook Attachment Lug at Station 124.2 on belly centerline. Attach (#3) Support to Cargo Hook Lug using (#16) Bolt, (#17) Washer, (#8) Bushing .90, (#7) Spacer Washer, (#9) Bushing .56, a second (#17) Washer, and one plain non-locking 3/8 x 24 nut from shop stock in order shown in Drawing. Do not use the (#18) Nut at this time, as you will be removing and re-installing these parts prior to final assembly. Align bottom of (#3) Support to lie horizontal. Tighten 3/8 x 24 plain nut to 30 inch-pounds torque (just snug) to draw parts together.
- 2.6. At forward left and right Attach Channels, remove four (#38) Bushings 1.00 and pull (#1) Lateral Arm assemblage with (#4) Blocks attached clear of Attach Channels. **Note: If factory holes in Attachment Channel are not perfectly square to each other, you may have to loosen 5/16 x 24 plain nuts slightly to remove the (#38) Bushings 1.00 and Lateral Arm assemblage.** Attach (#2) Channel Plate to (#1) Lateral Arm using three sets of (#10) Bolt, two (#14) Washer, and (#15) Nut. **Torque to specification.**
- 2.7. Lift entire Lateral Arm / Blocks / Channel Plate assemblage up into place and locate Block assemblages into left and right forward Attach Channels. Insert four (#38) Bushing 1.00 into holes in Attach Channels and into (#4) Blocks. Swing aft end of (#2) Channel Plate up flush and flat against bottom of (#3) Support. Clamp tightly in place using "C" clamp. Verify Support is centered on top of Channel Plate. Adjust if necessary by loosening nuts attaching Blocks to Lateral Channel and slightly shifting Lateral Channel until alignment is acceptable. Looking at the aft end bottom of the Channel Plate notice two 1/4 inch diameter holes directly under the (#3) Support. Using a 1/4 inch diameter drill bit, and the hole in the Channel Plate as a guide, drill a hole through the bottom of (#3) Support at either of the two hole locations. Place one (#19) Bolt, two (#14) Washers, and one plain non-locking 1/4 x 28 nut from shop stock in this hole. Tighten 1/4 x 28 plain nut to 50 inch-pounds torque. Repeat drilling process in the second hole. Remove clamp.
- 2.8. Remove (#19) Bolt, related hardware, and plain nut. Allow Lateral Arm / Blocks / Channel Plate assemblage to drop down at aft end away from (#3) Support. De-burr holes in Support and clean away any residue from the drilling process. Swing aft end of (#2) Channel Plate back up against the bottom of (#3) Support. Re-install fasteners (#19) Bolt, two (#14) Washer, and (#15) Nut at each of the two hole locations. **Torque to specification.**

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- 2.9. At Cargo Hook Lug, remove 3/8 x 24 plan nut on bolt (#16), remove Bolt and all related fastener hardware. At left and right forward belly Attachment Channels, remove four (#38) Bushings 1.00 and remove entire Mount Assemblage from the aircraft. **Note: it is recommended that each fastener group just removed be placed back into its place of removal to keep track of correct location.** Initial fitting of Mount Structure is now finished.

FROM THE FOLLOWING GROUPS 3., 4., 5., OR 6., CHOOSE THE GROUP DESCRIBING INSTALLATION OF THE ANTENNA MODEL YOU ARE USING AND IGNORE THE REMAINDER.

3. INSTALLATION OF SKYPOD OR BMS ANTENNAS ONLY

- 3.1. Refer to Drawings A-1, A-2, A-3, and T. Physically weigh your Antenna Assembly and record this weight for future use in computing weight and balance report.
- 3.2. Attach (#20) Spider Plate to bottom of (#2) Channel Plate Assemblage at four places around the center hole using four sets of fasteners (#26) Bolt, (#14) Washers, and (#15) Nut. Counterbored side of holes in center of (#20) Spider Plate must be on bottom and bolt heads must be on bottom. **Torque to specification.**
- 3.3. At the tips of the four arms on (#20) Spider Plate, place the correct bolt and washer (as per Drawings) into the four 1/4 inch diameter holes from the top down. Slide one each of (#25) Spacer up onto the bolt at the end of each of the four arms and secure them to the Spider Plate arms using masking tape.
- 3.4. Place Mount assemblage down onto Antenna. Be sure direction orientation of Antenna is correct. Thread Antenna attachment bolts into Antenna while keeping all four (#25) Spacers in place. **Tighten according to Antenna Manufacturers recommendations.**
- 3.5. **Note: The Antenna Manufacturers Handbook of Maintenance Instructions contains information concerning installation of their equipment, fastener information, torque values for attachment hardware, and installation of "O" rings if required.**
- 3.6. Continue to section 6, COMPLETION.

4. INSTALLATION OF MRC / R.F. TECH ANTENNAS ONLY

- 4.1. Refer to Drawings B-1, B-2, B-3, and T. Physically weigh your Antenna Assembly and record this weight for future use in computing weight and balance report.
- 4.2. Attach (#31) Adaptor MRC / R.F. Tech to bottom of (#2) Channel Plate Assemblage at four places around the center hole using four sets of fasteners (#27) Bolt, (#14) Washers, and (#15) Nut. Bolt heads must be on bottom. **Notice on Drawing B-1 (side view) that shorter beveled end of (#31) Adaptor MRC / R.F. Tech must face forward. Torque to specification.**

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- 4.3. Attach forward end of Adaptor to Channel plate using fasteners (#39) Bolt, (#14) Washers, and (#15) Nut. Attach aft end of Adaptor to Channel Plate using fasteners (#28) Bolt, (#14) Washers. And (#15) Nut. **Torque to specification.**
- 4.4. Place Mount assemblage down onto Antenna. Be sure direction orientation of Antenna is correct. Place the Adaptor side flanges inside the Attachment Rails on top of the Antenna. Attach Antenna to Adaptor using four sets of attachment fasteners (#29 Bolt, (#14) Washers, and (#30) Nut at four locations as shown in Drawings. **Tighten according to Antenna Manufacturers recommendations.**
- 4.5. **Note: The Antenna Manufacturers Handbook of Maintenance Instructions contains information concerning installation of their equipment, fastener information, and torque values for attachment hardware.**
- 4.6. Continue to section 6, COMPLETION.

5. INSTALLATION OF DOVETAIL PLATES ONLY

- 5.1. Refer to Drawings C-1, C-2, C-3, and T. Physically weigh your Accessory Assembly and record this weight for future use in computing weight and balance report.
- 5.2. Attach (#42) Upper Dovetail Plate to bottom of (#2) Channel Plate Assemblage at four places at locations as shown in Drawings around the center hole using four sets of fasteners (#10) Bolt, (#14) Washers, and (#15) Nut. Bolt heads must be on bottom. Counterbored holes side of (#42) Upper Dovetail Plate must be on bottom. **Torque to specification.**
- 5.3. Attach (#43) Lower Dovetail Assembly to top of Accessory being installed. **Note: The Accessory Manufacturers Handbook of Maintenance Instructions contains information concerning correct installation of their equipment, fastener information, and torque values for attachment hardware. Warning: Safety wire bolt heads attaching Lower Dovetail Plate to Payload.**

6. INSTALLATION OF TROLL ADAPTER AP350UM02-16 ASSEMBLY

- 6.1 The AP350UM02-16 Assembly comes fully assembled and ready to attach to the helicopter. Refer to Drawings D-1, D-2, and D-3 as necessary. Set the Troll Assembly on top of the Antenna and line-up the four attachment bolt holes. Orient the Troll Mount Structure with the "protrusion" aft. **Orient the Payload and electronic outlets as recommended by the payload manufacturer.** Tighten and torque #48 Bolt AN4-10A and # 22 Washer NAS1149C0463R at the three locations indicated on the Drawings. Tighten and torque #47 Bolt AN4-12A and #22 Washer at the remaining attachment point aft.
- 6.2 Optional quick release pins may be used to attach the Mount Structure to the aircraft. Refer to Drawings D-1, D-2, and D-3 for location and part number of the Ball-Lock Pins.

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6.3 Lift entire Lateral Arm / Blocks / Support / Adaptor assemblage up into place and locate Block assemblages into left and right forward Attach Channels at Station 106.6. Insert left and right Ball-Lock Pins into their respective locations. Push the ball lock pins in fully until they bottom. Locate the Cargo Hook Attachment Lug at Station 124.2 on belly centerline. Lift the aft end of the Mount Assembly up into place and install the aft Ball-Lock Pin. These pins are equipped with an attachment lanyard to prevent handling loss and small snap pin as extra safety to prevent loss of the ball lock pin. Place the snap pin into the small hole at the tip of the ball lock pin and snap it over. Hardware used for this installation is listed on Drawings D-1, D-2, and D-3. Review this information as necessary.

7. COMPLETION Refer to all Drawings as necessary. (BOLTED METHOD)

7.1. Lift entire Lateral Arm / Blocks / Channel Plate or troll / Adaptor assemblage up into place and locate Block assemblages into left and right forward Attach Channels at Station 106.6. Insert four (#38) Bushing 1.00 into holes in Attach Channels and into (#4) Blocks. Locate the Cargo Hook Attachment Lug at Station 124.2 on belly centerline. At aft end of Assemblage Attach (#3) Support to Cargo Hook Lug using (#16) Bolt, (#17) Washer, (#8) Bushing .90, (#7) Spacer Washer, (#9) Bushing .56, a second (#17) Washer, and (#18) Nut in order shown in Drawing.
Torque to specification.

7.2. At left forward Attachment Channel, place one (#35) Bolt with one (#12) Washer through outboard (#38) Bushing 1.00 and through opposite inboard (#38) Bushing 1.00. Bolt head must be to the outside, threaded end toward belly centerline. Install combination of (#12) Washer and (#36) Washers as necessary to prevent Nut (#37) from bottoming on Bolt shank. Install and tighten (#37) Nut. **Torque to specification.**

7.3. At right forward Attachment Channel, place one (#35) Bolt with one (#12) Washer through outboard (#38) Bushing 1.00 and through opposite inboard (#38) Bushing 1.00. Bolt head must be to the outside, threaded end toward belly centerline. Install combination of (#12) Washer and (#36) Washers as necessary to prevent Nut (#37) from bottoming on Bolt shank. Install and tighten (#37) Nut. **Torque to specification. Re-check Torque on all fasteners. The AP350UM02 Utility Mount Structure is now fitted to your helicopter.**

7.4. You must physically weigh the Payload Equipment being used on a calibrated scale as various internal configurations exist and published generic weight may vary. Write this weight down for later use. **The maximum allowable suspended payload weight is 80 pounds.**

7.5. Referring to Drawing W, 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.

7.6. Complete Form 337 as required.

7.7. Place p/n AP350UM02-FMS Flight Manual Supplement in Aircraft Flight Manual.

-----**END**-----

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

ITEM	PART NUMBER	DESCRIPTION	QTY. per ASSY.
1.	AP350UM02-01	LATERAL ARM	1.
2.	AP350UM02-02	CHANNEL PLATE	1.
3.	AP350UM02-03	SUPPORT	1.
4.	AP350UM02-04	BLOCK	2.
5.	AP350UM02-05	THREADED BUSHING	2.
6.	AP350UM02-06	SPACER WASHER	2.
7.	AP350UM02-07	SPACER WASHER	1.
8.	AP350UM02-08	BUSHING .90	1.
9.	AP350UM02-09	BUSHING .56	1.
10.	NAS6604-9	BOLT 1/4 X 28	3.
11.	NAS6605-29	BOLT 5/16 X 24	2.
12.	NAS1149C0532R	WASHER (as required)	12.
13.	MS21043-5	NUT	2.
14.	NAS1149C0432R	WASHER	20.
15.	MS21043-4	NUT	5.
16.	NAS6606-34	BOLT 3/8 X 24	1.
17.	NAS1149C0632R	WASHER (as required)	6.
18.	MS21044N6	NUT	1.
19.	NAS6604-8	BOLT 1/4 X 28	2.
32.	AP350UM02-MM	INSTALLATION MANUAL	1.
33.	AP350UM02-ICS	INSTRUCTIONS FOR CONTINUED AIRWORTHINESS	1.
34.	AP350UM02-FMS	ROTOR-WING FLIGHT MANUAL SUPPLEMENT	1.
35.	AN5-33A	BOLT 5/16 X 24	2.*
36.	NAS1149C0563R	WASHER (as required)	8.*
37.	MS21044N5	NUT	2.*
38.	AP350UM02-10	BUSHING 1.00	4.*

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

14.	NAS1149C0432R	WASHER	12.
15.	MS21043-4	NUT	4.
20.	AP600UM02-06	SPIDER PLATE	1.
21.	AN4-27A (Skypod Only)	BOLT 1/4 X 28	2.
21A.	AN4-25A (BMS Only)	BOLT 1/4 X 28	2.
22.	NAS1149C0463R	WASHER	4.
23.	AN4-30A (Skypod Only)	BOLT 1/4 X 28	1.
23A.	AN4-27A (BMS Only)	BOLT 1/4 X 28	1.
24.	AN4-37A (Skypod Only)	BOLT 1/4 X 28	1.
24A.	AN4-35A (BMS Only)	BOLT 1/4 X 28	1.
25.	AP600UM02-10	SPACER	4.
26.	NAS6604-8	BOLT 1/4 X 28	4.

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

14.	NAS1149C0432R	WASHER	12.
15.	MS21043-4	NUT	6.
27.	NAS6604-6	BOLT 1/4 X 28	4.
28.	NAS6604-18	BOLT 1/4 X 28	1.
29.	AN4-6A	BOLT 1/4 X 28	4.
30.	MS21044N4	NUT	4.
31.	AP600UM02-14	ADAPTER, MRC / RF TECH	1.
39.	NAS6604-5	BOLT	1.

ADDITIONAL DOVETAIL PLATE INSTALLATION REQUIRED PARTS (SUPPLIED IN KIT)

10.	NAS6604-9	BOLT 1/4 X 28	4.
14.	NAS1149C0432R	WASHER	8.
15.	MS21043-4	NUT	4.
22.	NAS1149C0463R	WASHER	2.
40.	AN4H10A	BOLT 1/4 X 28	2.
42.	AP001UM01B	UPPER DOVETAIL PLATE	1.
43.	AP001UM02 ASSY.	LOWER DOVETAIL PLATE ASSEMBLY	1.

THE FOLLOWING EUROCOPTER PARTS MAY BE SUBSTITUTED FOR ITEMS 35., 36., 37., AND 38. AS DESIGNATED BY ASTERISK (*):

p/n 22201BE120074L	BOLT 12 MM	2.
p/n ASN52320BH120N	NUT	2.
P/n 23111AG120LE	WASHER	6.

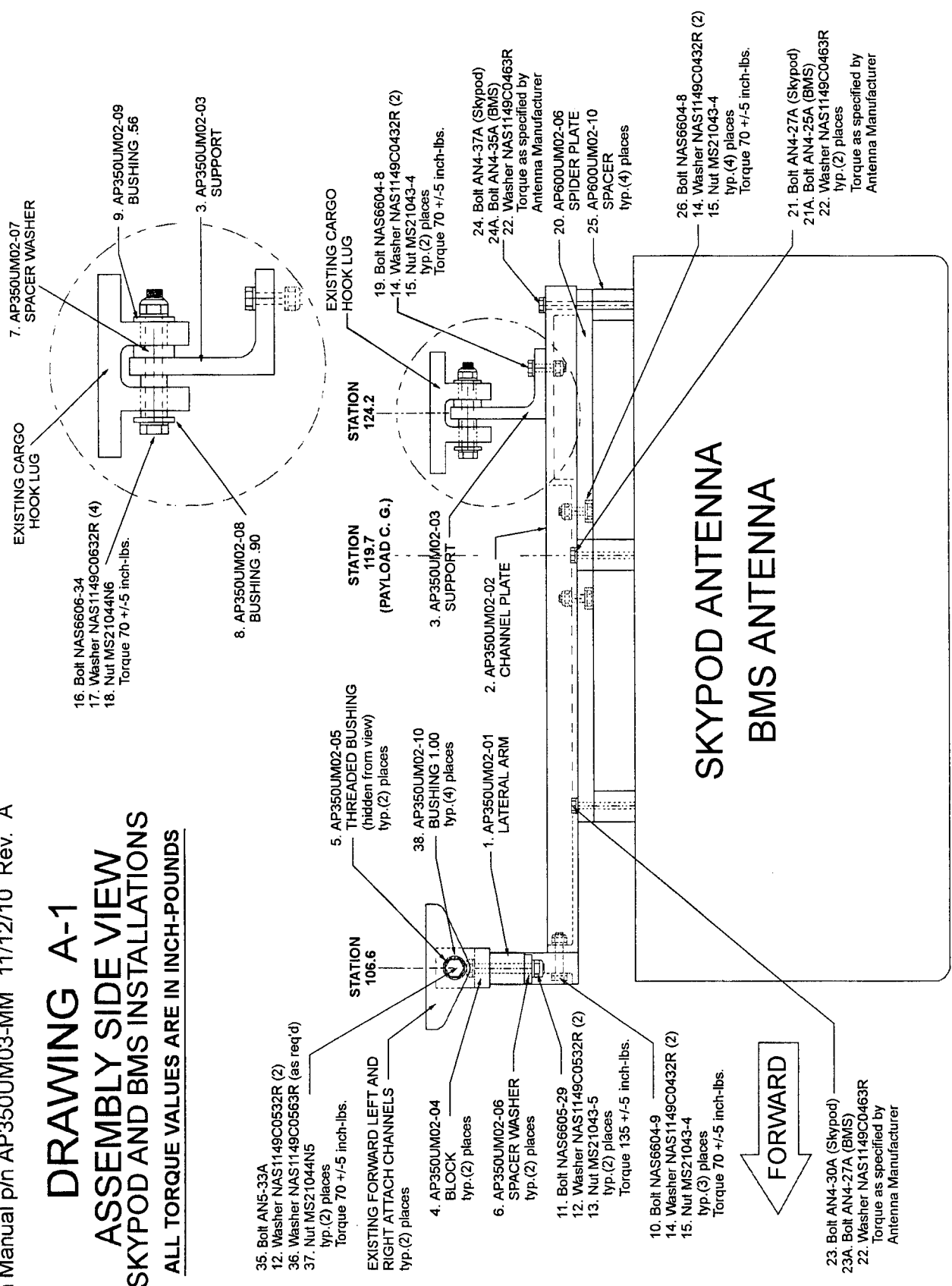
See Drawings D-1, D-2, and D-3 for hardware listing for the AP350UM02-16 Assy. Troll Installation. List of Parts and Attachment Hardware are listed on Drawing D-2.

DRAWING A-1

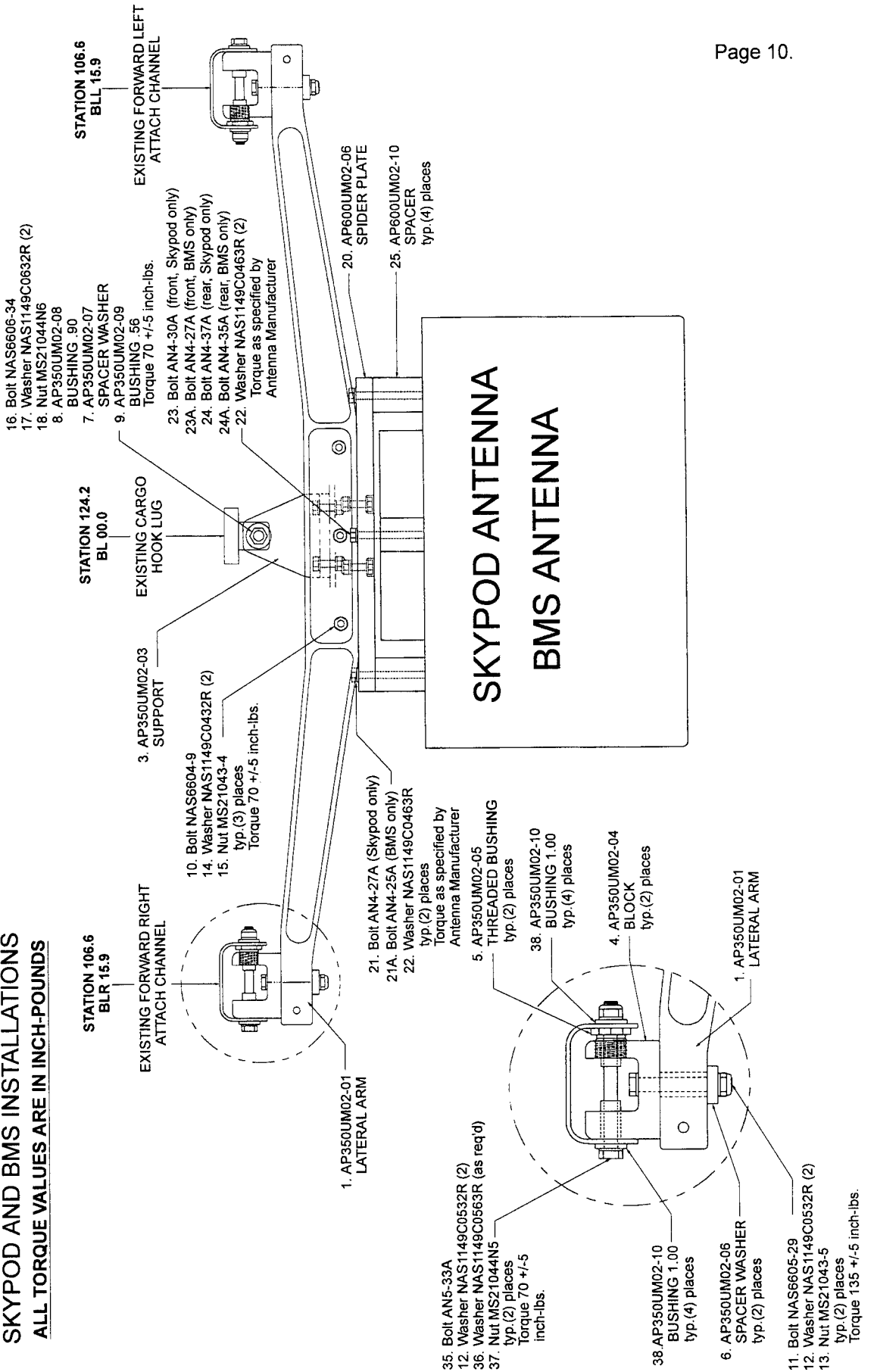
ASSEMBLY SIDE VIEW

SKYPOD AND BMS INSTALLATIONS

ALL TORQUE VALUES ARE IN INCH-POUNDS



DRAWING A-2
ASSEMBLY FRONT VIEW
SKYPOD AND BMS INSTALLATIONS
ALL TORQUE VALUES ARE IN INCH-POUNDS

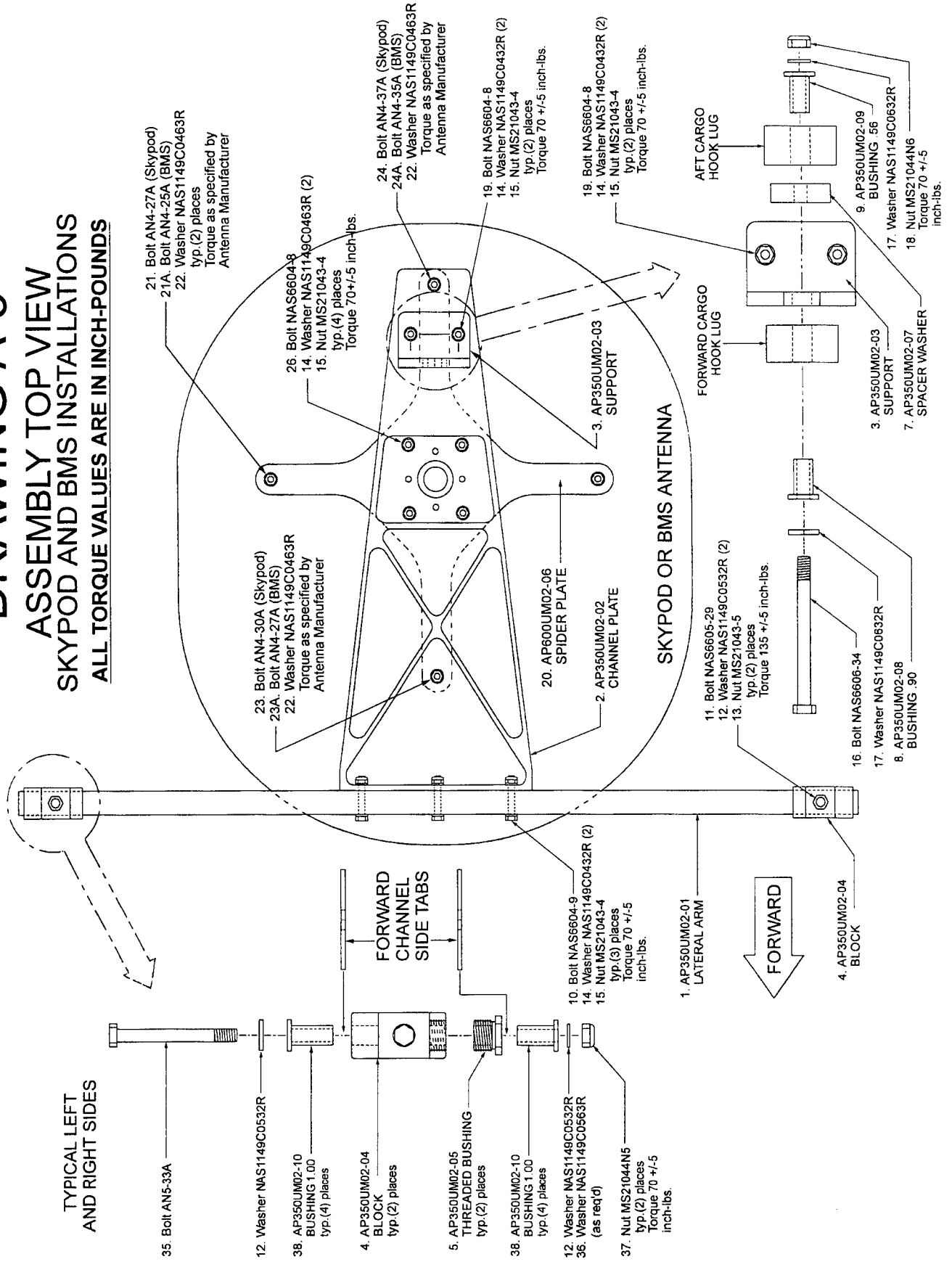


DRAWING A-3

ASSEMBLY TOP VIEW

SKYPOD AND BMS INSTALLATIONS

ALL TORQUE VALUES ARE IN INCH-POUNDS

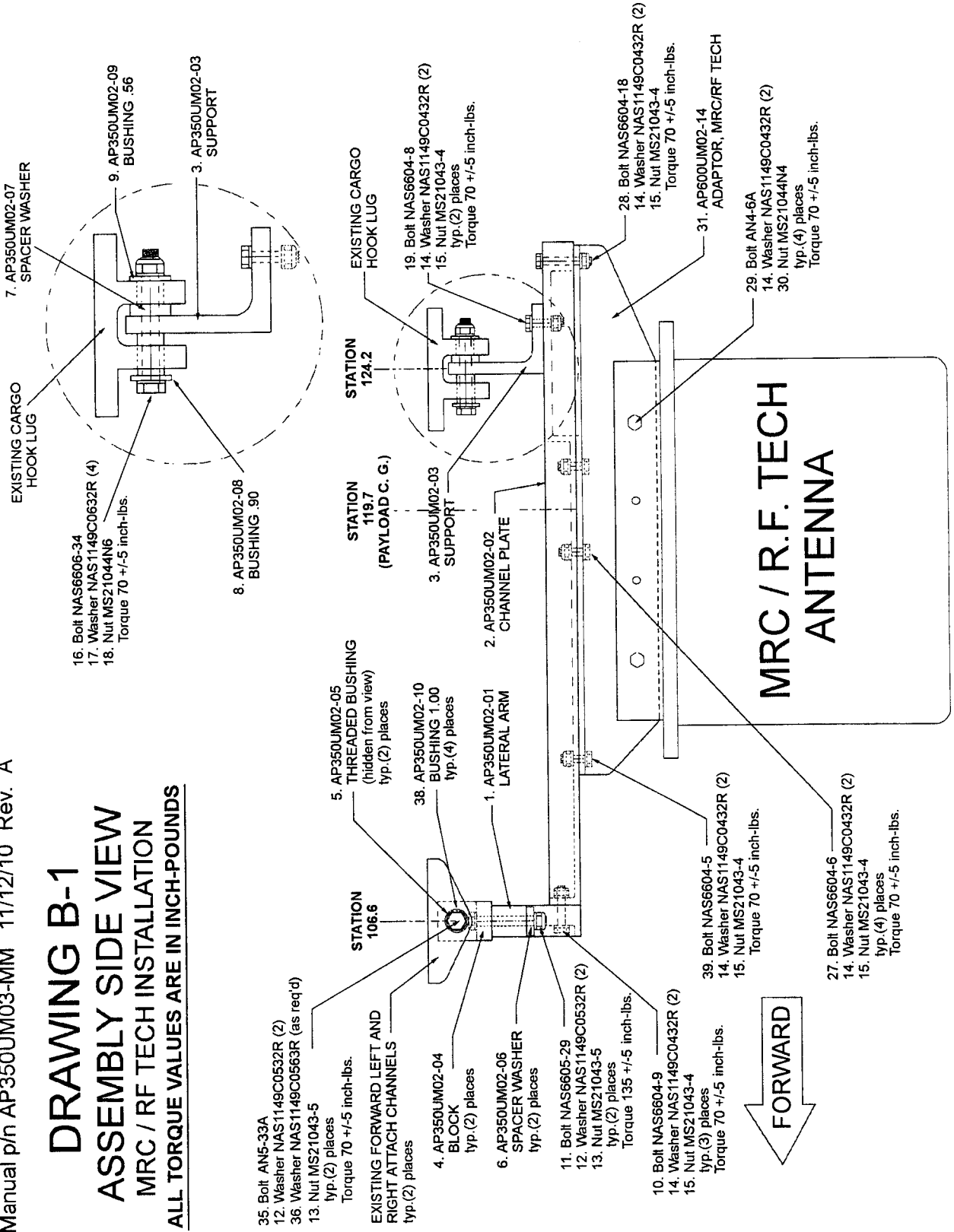


DRAWING B-1

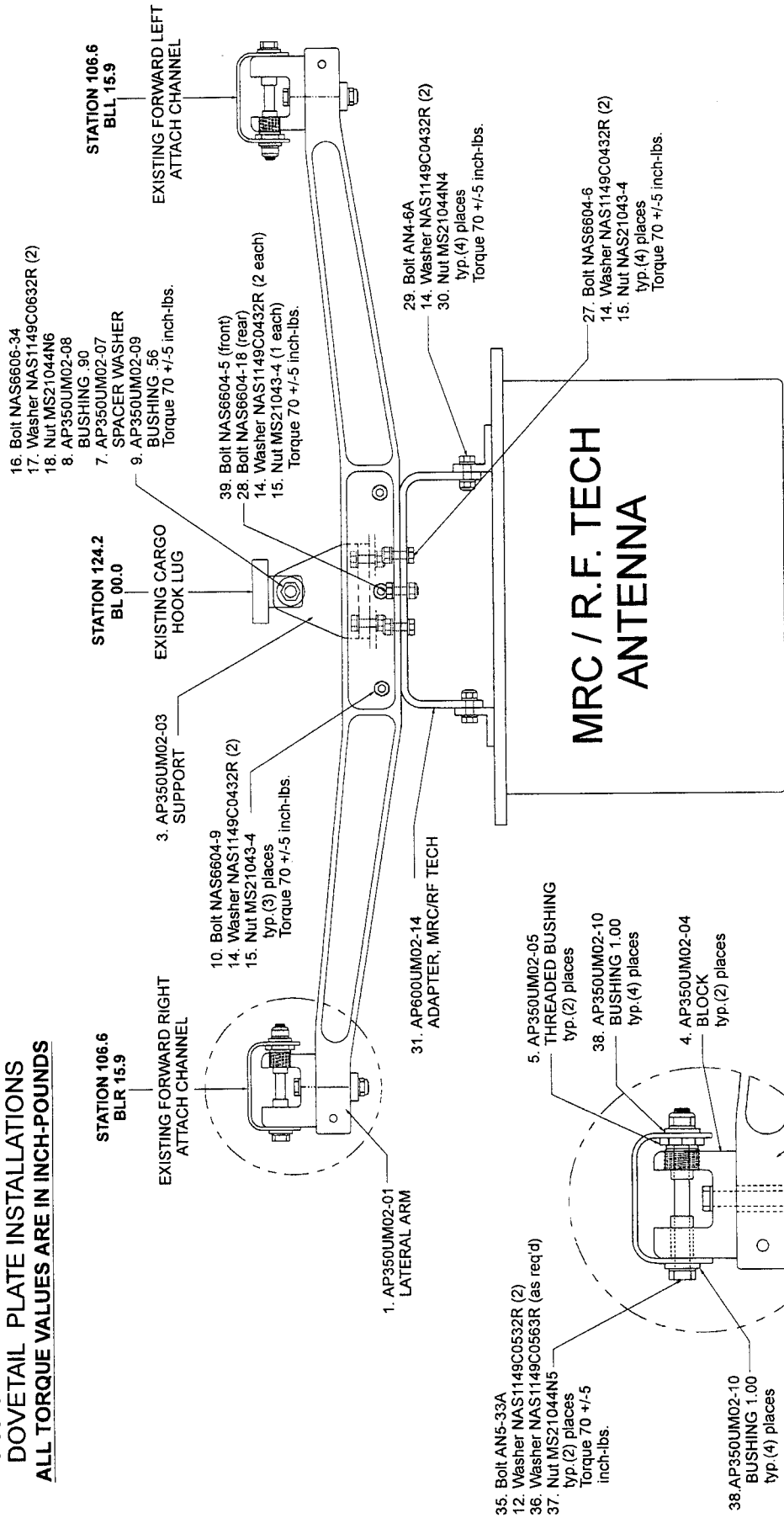
ASSEMBLY SIDE VIEW

MRC / RF TECH INSTALLATION

ALL TORQUE VALUES ARE IN INCH-POUNDS



DRAWING B-2
ASSEMBLY FRONT VIEW
DOVETAIL PLATE INSTALLATIONS
ALL TORQUE VALUES ARE IN INCH-POUNDS

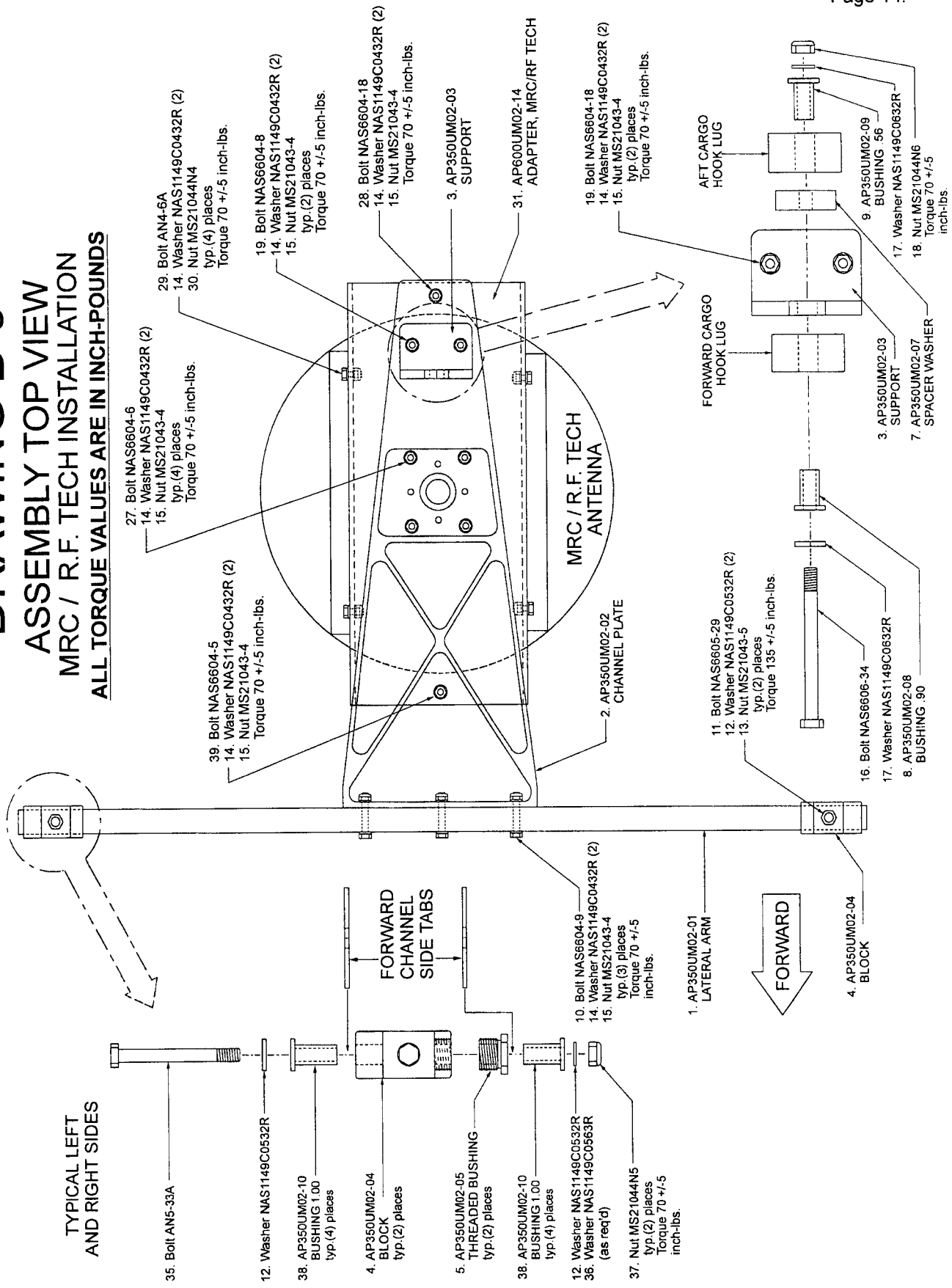


DRAWING B-3

ASSEMBLY TOP VIEW

MRC / R.F. TECH INSTALLATION

ALL TORQUE VALUES ARE IN INCH-POUNDS

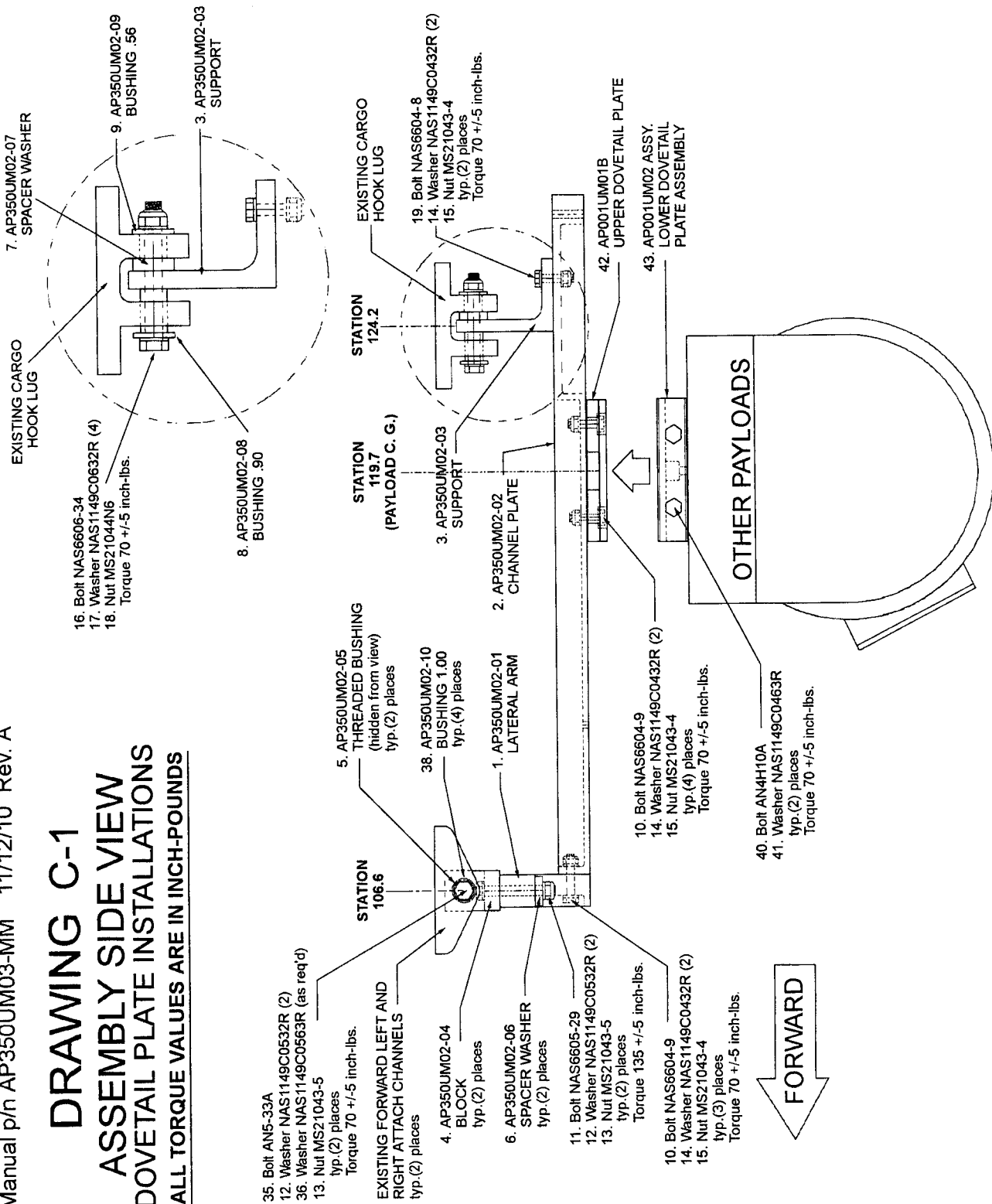


DRAWING C-1

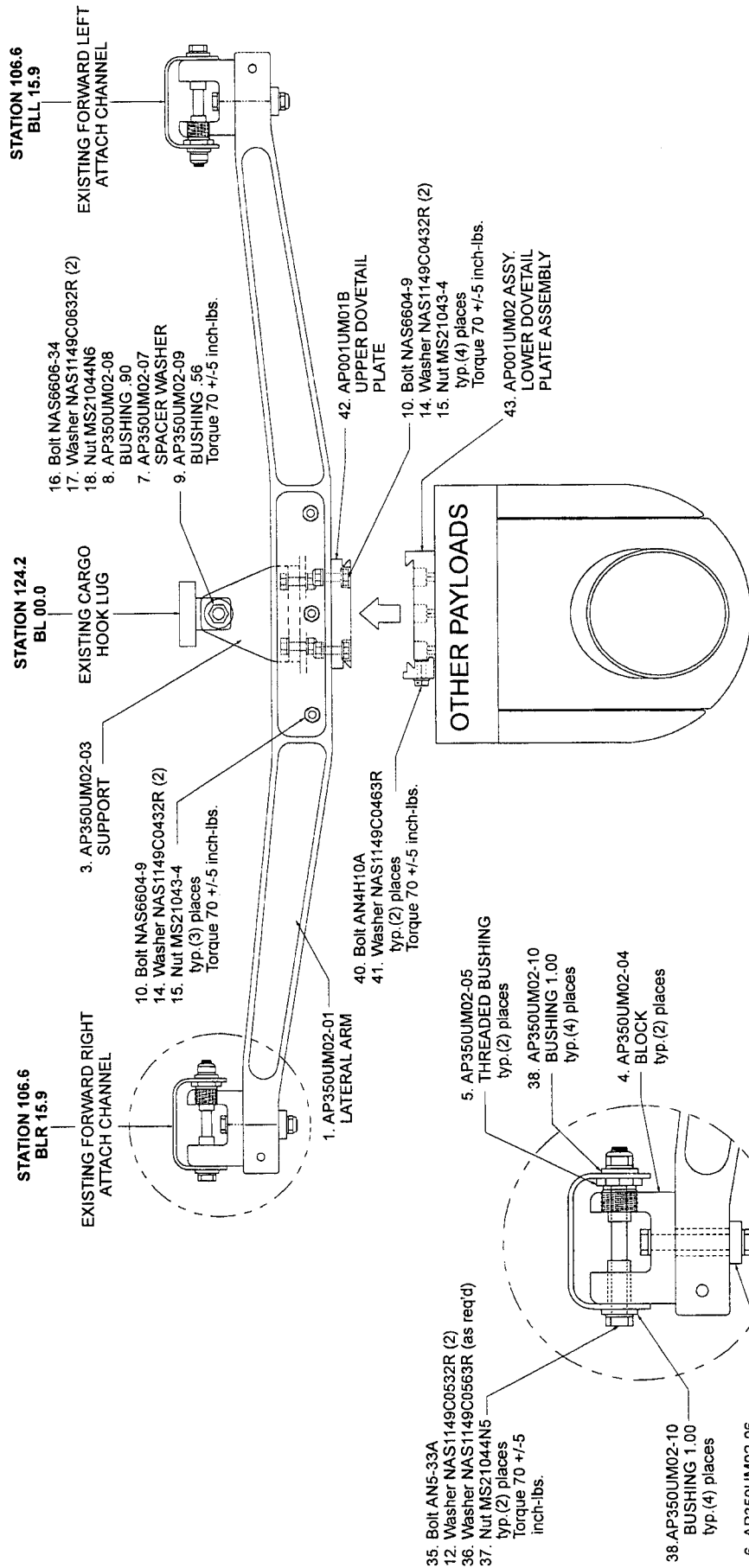
ASSEMBLY SIDE VIEW

DOVETAIL PLATE INSTALLATIONS

ALL TORQUE VALUES ARE IN INCH-POUNDS



DRAWING C-2
ASSEMBLY FRONT VIEW
DOVETAIL PLATE INSTALLATIONS
ALL TORQUE VALUES ARE IN INCH-POUNDS

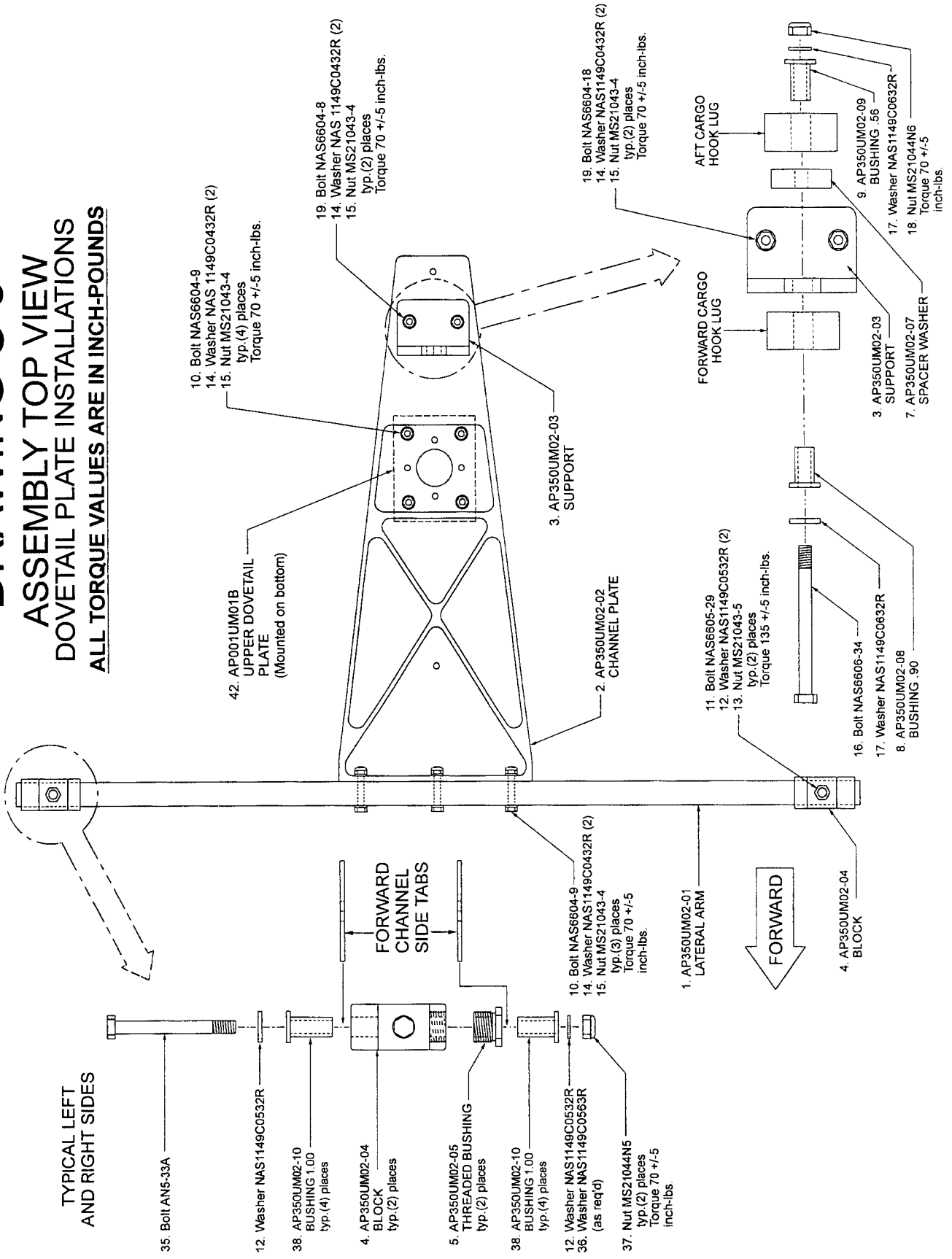


DRAWING C-3

ASSEMBLY TOP VIEW

DOVETAIL PLATE INSTALLATIONS

ALL TORQUE VALUES ARE IN INCH-POUNDS

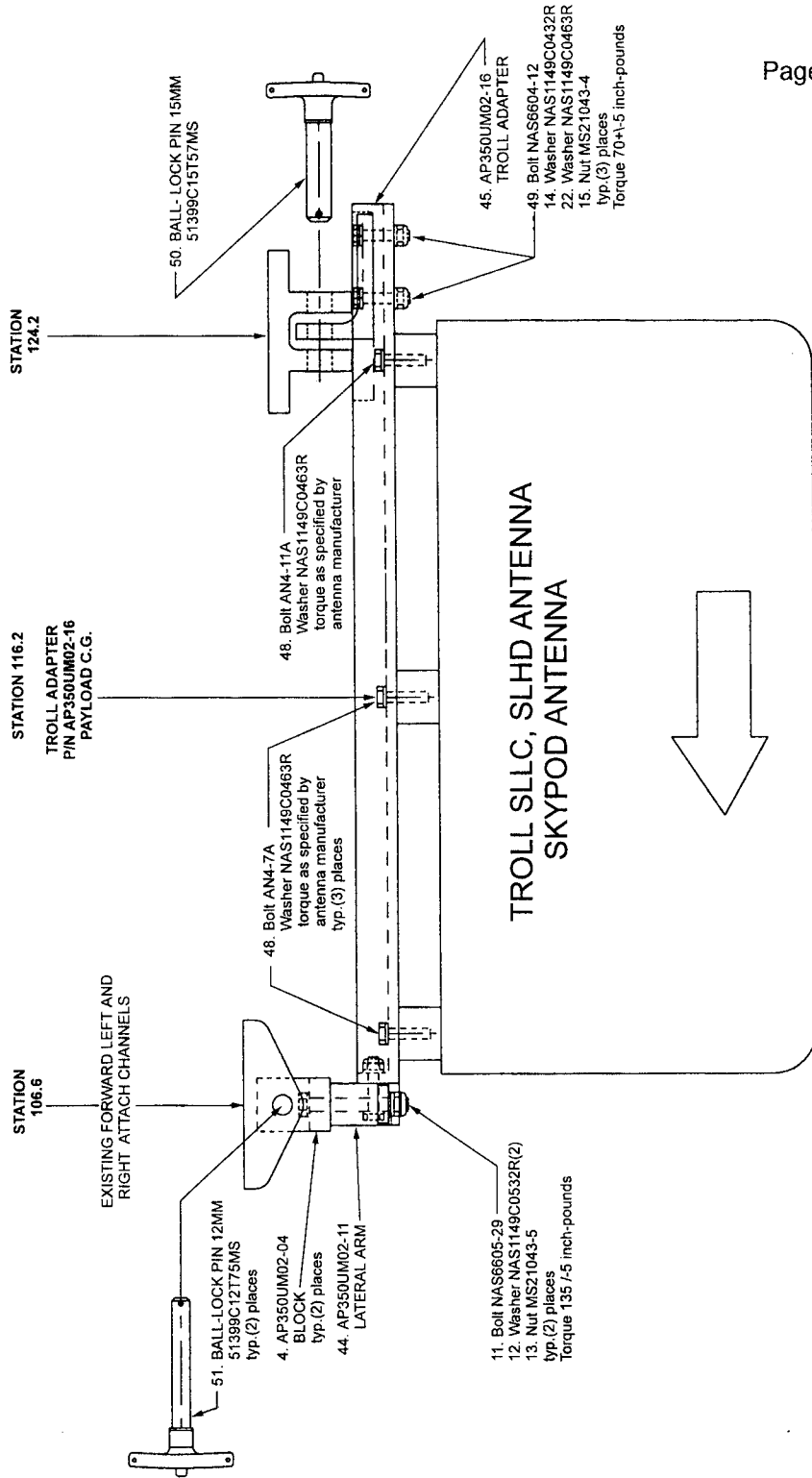


DRAWING D-1

AP350UM02-16 ASSEMBLY SIDE VIEW

TROLL SLLC, SLHD, SKYPOD INSTALLATIONS

ALL TORQUE VALUES ARE IN INCH-POUNDS



DRAWING D-2

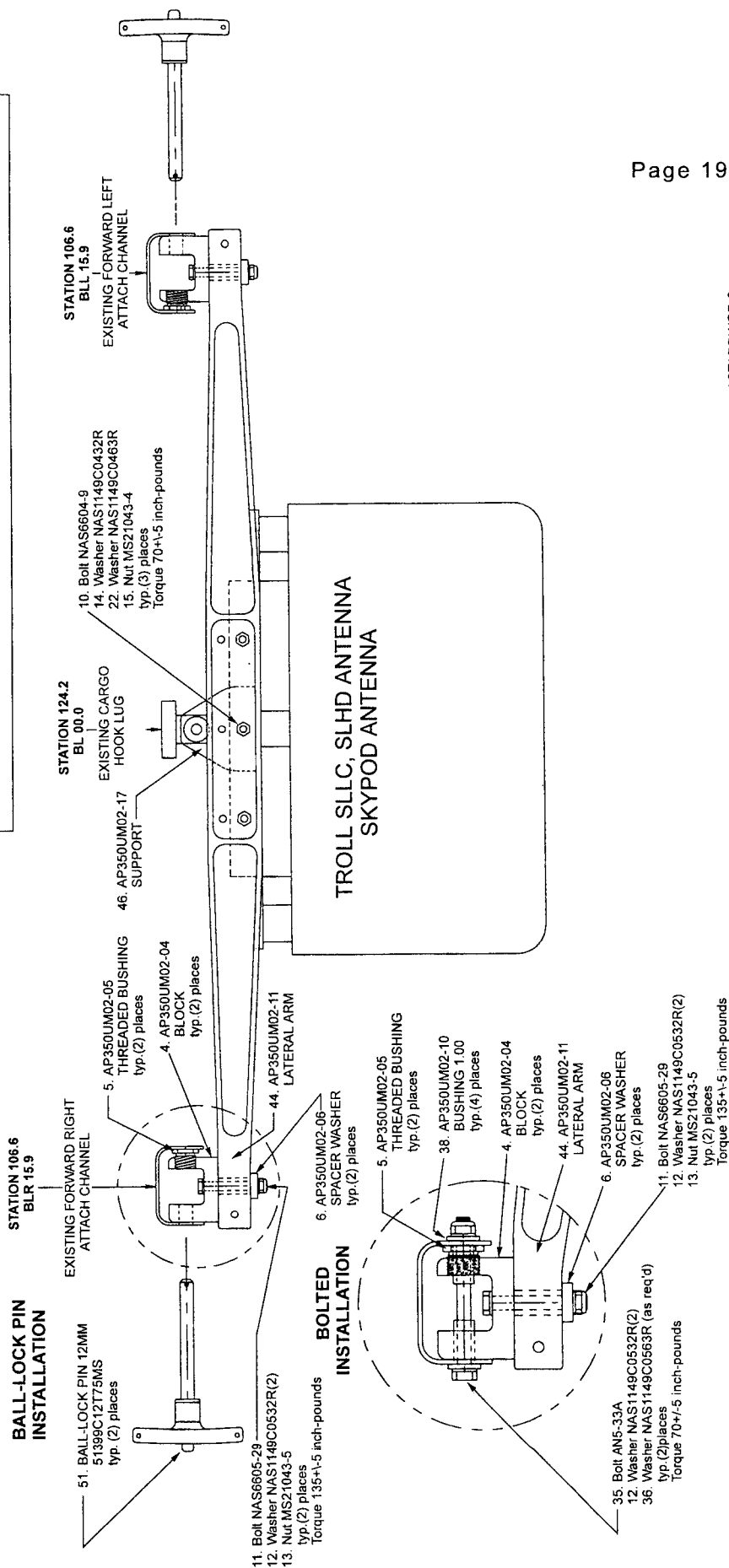
AP350UM02-16 ASSEMBLY FRONT VIEW

TROLL SLHC, SLHD, SKYPOD INSTALLATIONS

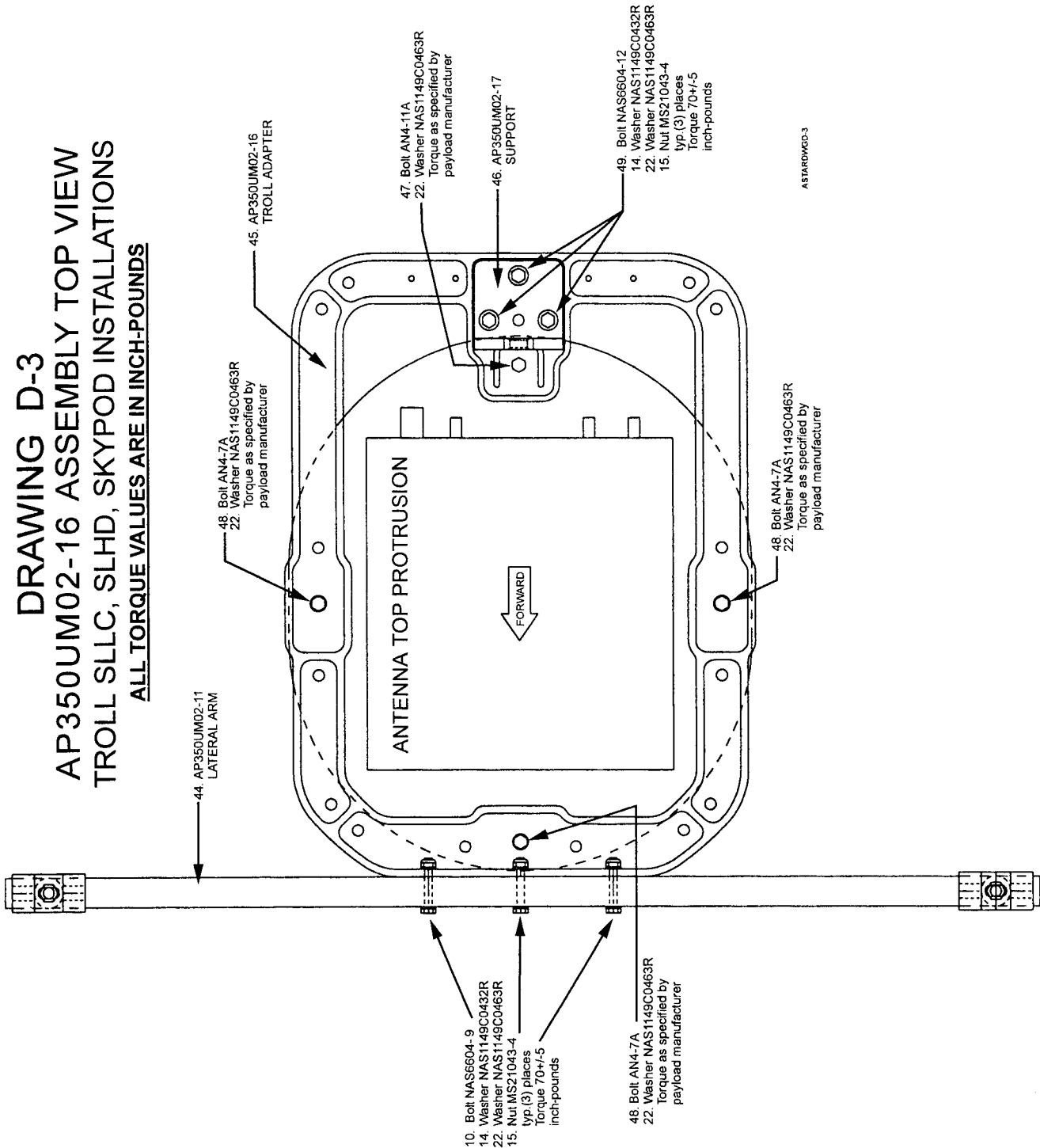
ALL TORQUE VALUES ARE IN INCH-POUNDS

LIST OF ATTACHMENT HARDWARE

ITEM	PART NUMBER	DESCRIPTION	QTY. per ASSY.
4.	AP350UM02-04	BLOCK	2.
5.	AP350UM02-05	THREADED BUSHING	2.
6.	AP350UM02-06	SPACER WASHER	2.
10.	NAS6604-9	BOLT	3.
11.	NAS6605-29	BOLT	2.
12.	NAS1149C0532R	WASHER	8.
13.	MS21043-5	NUT	2.
14.	NAS1149C0432R	WASHER	10.
15.	MS21043-4	NUT	6.
22.	NAS1149C0463R	WASHER	10.
36.	NAS1149C0563R	WASHER	4.
44.	AP350UM02-11	LATERAL ARM	1.
45.	AP350UM02-16	TROLL ADAPTER	1.
46.	AP350UM02-17	SUPPORT	1.
47.	AN4-11A	BOLT	1.
48.	AN4-7A	BOLT	3.
49.	NAS6604-12	BOLT	3.
50.	51399C15T57MS	BALL LOCK PIN	1.
51.	51399C12T75MS	BALL LOCK PIN	2.



DRAWING D-3
AP350UM02-16 ASSEMBLY TOP VIEW
TROLL SLLC, SLHD, SKYPOD INSTALLATIONS
ALL TORQUE VALUES ARE IN INCH-POUNDS



DRAWING T

INSTALLATION MANUAL AERO PACIFIC MODEL AP350UM02 BELLY UTILITY MOUNT Manual Part Number AP350UM02-MM 11/12/10 Rev. A

Page 21.

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 AP350UM02 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 retorque.
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 include "friction drag torque". Apply recommended 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

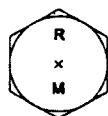
<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>MINIMUM FRICTION DRAG TORQUE(inch-pounds)</u>
37.	MS21044N5	NUT, LOCKING (NYLON), 5/16	10
18.	MS21044N6	NUT, LOCKING (NYLON), 3/8	15
30.	MS21044N4	NUT, LOCKING (NYLON), 1/4	5
15.	MS21043-4	NUT, LOCKING (METAL), 1/4	15
13.	MS21043-5	NUT, LOCKING (METAL), 5/16	15

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 "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)

NAS6604-(length)

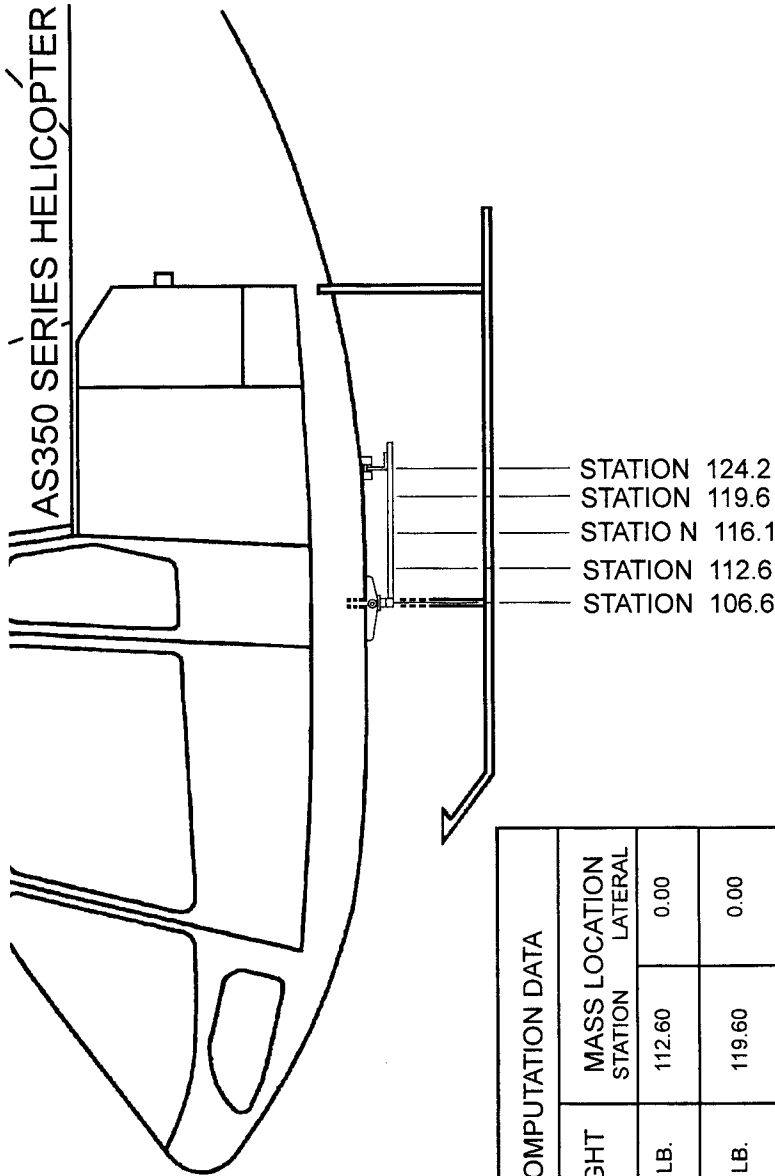


COMPONENT LOCATION DRAWING W

WEIGHT AND BALANCE INFORMATION

AERO PACIFIC MODEL AP350UM02 BELLY UTILITY MOUNT

Installation Manual p/n AP350UM02-MM 11/12/10 Rev. A



WEIGHT AND BALANCE COMPUTATION DATA			
ITEM DESCRIPTION	WEIGHT	MASS LOCATION	
		STATION	LATERAL
AP350UM02 MOUNT ASSEMBLY	8.10 LB.	112.60	0.00
AP600UM02-06 SPIDER PLATE WITH SPACERS AND FASTENERS	3.50 LB.	119.60	0.00
AP600UM02-14 ADAPTOR MRC / R.F. TECH AND FASTENERS	3.50 LB.	119.60	0.00
AP001UM01B AP001UM02 ASSEMBLY DOVETAIL PLATES WITH FASTENERS	2.30 LB.	119.60	0.00
TROLL ADAPTER ASSY. USING AP350UM02-17 - 16 ADAPTER, AP350UM02-17 SUPPORT, AP350UM02-11 LATERAL ARM	10.7 LB.	116.10	0.00
PAYLOAD EQUIPMENT INSTALLED	W	119.60	0.00

- 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".
 3. You must physically weigh your Payload Equipment prior to installation to determine value "W". Actual weight may vary from Manufacturers advertised weight.