1.1 Cover Page.

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

Aero Pacific Document Number 350UM02-02

AERO PACIFIC MODEL AP350UM02 BELLY UTILITY MOUNT

Manual Part Number AP350UM02-ICA

4/25/03 Rev. NEW

APPLICABLE TO: EUROCOPTER FRANCE AS350 SERIES

MODELS AS350B, B1, B2, B3, BA, C, D, D1.

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1.2 REVISION LIST

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
AERO PACIFIC MODEL AP350UM02 BELLY UTILITY MOUNT
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REVISION #	DESCRIPTION	DATE
NEW	INITIAL RELEASE	4/25/03

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1.3

LIST OF EFFECTIVE PAGES

LIST OF REVISIONS

Revision "New" (Initial Release) 4/25/03

LIST OF EFFECTIVE PAGES

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INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
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1.4 **TABLE OF CONTENTS**

2.1 Section Divider and Section Contents

SECTION 2.0
INTRODUCTION

2.2 GENERAL

This Manual contains maintenance and inspection information as well as other information describing requirements and actions necessary to continue the airworthy condition of the AP350UM02 Utility Mount. Changes in this information will be provided to owners by Aero Pacific Form QC015, Supplemental Type Certificate Notification of Revision. Original owner address is obtained from our database derived from our Supplemental Type Certificate records document "Letter of Conditional Approval for Use" which requires name, address, model, serial number, and registration information. Subsequent owners are requested to provide Aero Pacific with their address to keep our data base current and allow information to reach the correct party.

2.3 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 1.81 square feet may not be exceeded.

2.4 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.

2.5 REQUIREMENTS

All above listed helicopter models must be equipped with Type Certificated High Skid Gear when this mount structure is installed.

2.6 PAYLOAD EQUIPMENT AND OPERATIONAL LIMITATIONS

Only specific approved Payload Equipment and attachment hardware may be used as specified in the STC. Operation of listed applicable helicopter models are limited as stated in the STC Flight Manual Supplement for the AP350UM02 Utility Mount installation .

2.7 EXPLANATION OF ABBREVIATIONS

p/n = Part Number
# = used to denote Item Number, as depicted on drawings, such as Item Number 5, Threaded Bushing = (#5) Threaded Bushing
Assemblage = a group of previously assembled parts.
ICA = Instructions for Continued Airworthiness

2.8 MEASUREMENTS

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

2.9 SPECIAL TOOLS

Maintenance and Inspection requires several special tools in addition to standard mechanics tools. They are:
Torque wrench capable of values from 15 to 150 inch-pounds torque.
Minimum 10X inspection loop or magnifying glass.

2.10 ADDITIONAL INFORMATION

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**.

2.11 WARNINGS, CAUTIONS, OR NOTES

Certain procedures carried out during the course of completing instructions contained in this 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. Underlining and CAPITAL LETTERS are used to bring specific words to your attention.

2.12 WEIGHT AND BALANCE DATA, EQUIPMENT LOCATION

Weight and balance data and equipment location is detailed on Drawing W of this 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.

2.13 CROSS REFERENCE OF PARTS

All parts and fastener hardware cross reference by item number to part number on all drawings and the Parts List and include quantities. Refer to Drawings for correct part location and usage.

2.14 DEFINITIONS

The following nomenclature is used throughout this ICA to describe specific special word groups in a condensed fashion.

Payload Equipment = Any appliance (electrical, electronic, or other), separate or combined, attached to or suspended from the Mount Structure. The Cargo Hook Lug and Forward Attachment Channels are not considered to be attached to the Mount Structure.

Assemblage = Two or more individual separate assemblies or parts combined into one connected assembly.

Attachment Point = Location position on the helicopter hull or structure either created or existing at which something may be attached.(same as Point of Attachment).

3.1 Section Divider and Section Contents

SECTION 3.0
AIRWORTHINESS LIMITATIONS

3.2 DECLARATION OF AIRWORTHINESS LIMITATIONS **"There are no Airworthiness Limitations associated with this design change." This installation has no life-limited parts.**

3.3 SCHEDULED INSPECTION PROCEDURE and DAMAGE LIMITATIONS

3.31 GENERAL This Scheduled Inspection Procedure contains Damage Limitations and Wear Limits used to determine serviceability of parts, and a check sheet designed to be used when performing scheduled inspections. This checklist when completed should become a permanent part of the Aircraft and/or Utility Mount records. Adherence to Maintenance Procedures in this ICA is required, and that material should be consulted when using this checklist.

3.32 PRE-INSPECTION REQUIREMENTS

(a) Only latest revision of Inspection Checklist must be used.

(b) Thoroughly clean all parts, assemblies, and fasteners to be inspected.

3.33 DEFINITIONS OF NOMENCLATURE

(a) Certain special words are used in the check sheet to describe groups or assemblies of specific parts. Definitions of Attachment Point(s), Mount Structure, Payload Equipment, Assemblage, and other special words may be found in the Introduction Section 2.0, part 2.14, on page 3 of this ICA.

(b) Refer to Drawings A-1 through A-3, B-1 through B-3, and C-1 through C-3 of this ICA for part names and numbers. Refer to Drawing T for torque values and procedures, and Drawing W for weight and balance data.

3.34 INCLUDED REQUIREMENTS OF INSPECTION PERIOD

(a) The Annual Inspection is to be performed to the same requirements as a 100 Hour Inspection.

(b) Perform all 100 Hour Inspection items when performing a 1000 Hour or 5000 Hour Inspection.

(c) Perform all 1000 Hour Inspection items when performing a 5000 Hour Inspection.

3.35 DAMAGE LIMITATIONS

Any parts or fasteners showing damage in excess of limits set forth in this section are non-airworthy and must replaced with a serviceable part or fastener. Fasteners with corrosion penetrating the plated coating shall be replaced.

DAMAGE LIMITATIONS			
ENTIRE MOUNT STRUCTURE, BUSHINGS, SPACERS AND FASTENERS			
Part or Item	Damage Limits (All Limits Are Maximum Allowable)		
	Cracks	Scratches	Dents, Gouges, Corrosion
ALL	None Allowed	Maximum Depth: .030 inch Maximum Length: 1.00 inch	Maximum Depth: .020 inch Maximum Length: .500 inch
Bushings	None Allowed	Interior: .020 inch Maximum Exterior: .020 inch Maximum	Interior: .010 inch Maximum Exterior: .010 inch Maximum
FASTENERS	None Allowed	Maximum Depth: .005 inch Maximum Length: .100 inch	Maximum Depth: .005 inch Maximum Length: .100 inch

BOLT HOLE WEAR LIMITS	
Initial Hole Size Diameter	Maximum Measured Diameter In Any Direction
3/8 inch (.375)	.385 inch
1/4 inch (.250)	.260 inch
5/16 inch (.313)	.323 inch

3.4 SCHEDULED INSPECTION CHECKLIST

Registration #	Make:	Model:	TT:	Date:

MOUNT STRUCTURE

Period (Hours)	What To Inspect	Mech.	Insp.
100	Visually inspect all parts for damage and condition. It is not necessary to remove or disassemble Mount Structure for any 100 Hour Inspection items.		
100	Using a 10X or greater magnification lens, examine inside bottom radius on sides of left and right Blocks p/n AP350UM02-04.		
100	Check torque on all attachment fasteners.		
100	Examine surface coating for damage and condition.		
1000	Remove Mount Structure from aircraft at Attachment Points.		
1000	Remove Threaded Bushings p/n AP350UM02-05 and inspect for damage and condition using 10X or greater magnification lens, and bolt hole for wear.		
1000	Inspect all bushings, spacers, and removed attachment hardware for condition using 10X or greater magnification lens.		
5000	Separate Payload from Mount Structure. Disassemble Mount Structure. Examine all bolt holes for wear. Examine all fasteners for condition. Inspect all surfaces previously concealed by assembly.		

3.5 MAINTENANCE PROCEDURES

Introduction:

Maintenance to the mount structure is conducted on an "as needed" basis determined by the results obtained during the Scheduled Inspection Procedure contained in this ICA. Maintenance is limited to removal, disassembly, reinstallation, replacement of damaged parts, general cleaning, corrosion removal, and treatment of the mount surface after corrosion removal or acceptable damage. Serviceability of a part is based solely on condition. There are no life-limited parts. There are no moving parts requiring lubrication or adjustments.

3.51 General cleaning is to be performed as necessary using clean dry rags. No abrasives. If used on your installation, keep dove-tail mount grooves clean and free from dirt or oil. Wipe with clean dry rag at any time payload assembly is removed or re-installed.

3.52 For **heavier cleaning** (bugs, imbedded deposits, etc.) use lukewarm water and a mild dish washing liquid soap mix and clean rags. Rinse with clean water. Blow or wipe dry.

3.53 Any **corrosion** found must be removed and treated as follows:

(a) Light surface corrosion: Clean locally with small stainless steel brush (tooth brush size).

(b) Medium corrosion: Disassemble mount as necessary and clean with stainless steel brush. Clean and coat part surface at damaged area as per Aero Pacific Surface Preparation and Conversion Coating for Aluminum Process AP006. Paint damaged area as per Aero Pacific Priming and Painting Process AP003. These processes are contained in Section 5.0 of this ICA.

(c) Heavy corrosion: Disassemble mount as necessary. Mask or block off entire part or assembly exposing only area to be cleaned. Abrasive clean with glass bead blasting. Remove masking materials and thoroughly clean all abrasive materials from part or assembly. Clean and coat surface of part at damaged area as per Aero Pacific Surface Preparation and Conversion Coating for Aluminum Process AP006. Paint damaged area as per Aero Pacific Priming and Painting Process AP003.

(d) Severe corrosion may require part replacement. Consult INSPECTION PROCEDURE and DAMAGE LIMITATIONS contained in this ICA to determine serviceability.

3.54 Treat scratches and gouges in the same manner as corrosion listed above, referring to the same Documents for limitations and processes.

3.55 Parts which fail to meet the requirements of DAMAGE LIMITATIONS contained in this ICA shall be replaced. Refer to PARTS LIST contained in this ICA for correct replacement parts.

3.56. Remove, disassemble, or reinstall the mount structure as per instructions contained in REMOVAL and REINSTALLATION INSTRUCTIONS contained in this ICA.

3.57 Any nuts or bolts removed require torque during re-installation. Refer to Drawing T contained in this ICA for torque values and procedures. **CAUTION**: It is highly recommended to replace all lock nuts with new parts once they are removed. Refer to friction drag torque information in Drawing T.

3.58 Refer to Section 5.0 of this ICA for detailed instructions concerning the following Aero Pacific Special Processes:

(a) Aero Pacific Process AP006: Local Area Surface Preparation and Conversion Coating for Aluminum.

(b) Aero Pacific Process AP003: Priming and Painting Local Areas.

3.6 GENERAL INSTRUCTIONS: REMOVAL AND REINSTALLATION

Reference Drawings A1 through A-3 for Skypod and BMS Installations. Reference Drawings B-1 through B-3 for MRC/R.F. Tech Installations. Reference Drawings C-1 through C-3 for Dovetail Installations and Other Payloads during Removal or Reinstallation. Reference drawing W for weight and balance information on all Removals or Reinstallations. Reference Drawing T for bolt and nut torque values and procedures on all Removals or Reinstallations.

3.7 REMOVAL OF PAYLOAD EQUIPMENT and MOUNT STRUCTURE

CAUTION: Do not remove Mount Structure or Payload Equipment unless all electrical connection and/or other connections have been disconnected.

3.71 SKYPOD SERIES ANTENNA or BMS ANTENNAS: Refer to Drawings A-1 through A-3. **CAUTION-Use help of second person to support mount assembly.** Loosen nuts listed below and remove them leaving bolts in place. Note: Mount Structure and Payload Equipment are removed as a unit. **Note:** It is recommended to bag-up and mark hardware.

(a) Removal of Mount Structure and Payload Equipment.

(1) At Forward Left and Right Attachment Channels located at Station 106.6, loosen and remove Nuts (#37.) Leave bolts in place. At Cargo Hook Lug at Station 124.2, loosen and remove Nut (#18). While supporting Mount and Antenna Assemblage, remove Bolts, Spacers, and Bushings at these locations and carefully lower mount structure and payload equipment down and away from Adaptor and Mount Brackets. Collect hardware and parts removed.

(b) Separation of Payload Equipment from Mount Structure.

(1) Locate the (4) bolts attaching the Skypod or BMS Antenna to Spider Plate (#20).

(2) Loosen and remove (2) Bolts (#21for Skypod) or (#21A for BMS) , (1) Bolt (#23 for Skypod) or (#23A for BMS), and (1) Bolt (#24 for Skypod) or (#24A for BMS). Separate Bolts, Spider Plate (#20), and (4) Spacers (#25). Separate Antenna from Mount Structure. On Skypod Installation retain (4) antenna seal "O" rings below each spacer, as they are part of the antenna.

(c) Disassembly of Mount Structure.

(1) Remove (4) Bolts (#26)and their nuts and hardware attaching Spider Plate (#20) to Channel Plate (#2).

(2) Remove (2) Bolts (#19) and their respective nuts and hardware attaching Support (#3) to Channel Plate (#2).

(3) Remove (3) Bolts (#10) and their respective nuts and hardware attaching Lateral Arm (#1) to Channel Plate (#2).

(4) Remove (2) Bolts (#11) and their respective nuts and hardware attaching Blocks left and right (#4) to Lateral Arm (#1).

(5) Remove Threaded Bushings (#5) from Blocks. Mount Structure is now disassembled.

3.72 MICROWAVE RADIO COMMUNICATIONS/R.F. TECH ANTENNAS: Refer to Drawings B-1 through B-3.

CAUTION-Use help of second person to help support mount assembly. Loosen nuts listed below and remove them leaving bolts in place. Note: Mount Structure and Payload Equipment are removed as a unit.

(a) Removal of Mount Structure and Payload Equipment.

(1) At Forward Left and Right Attachment Channels located at Station 106.6, loosen and remove Nuts (#37.) Leave bolts in place. At Cargo Hook Lug at Station 124.2, loosen and remove Nut (#18). While supporting Mount and Antenna Assemblage, remove Bolts, Spacers, and Bushings at these locations and carefully lower mount structure and payload equipment down and away from Adaptor and Mount Brackets. Collect hardware and parts removed.

(b) Separation of Payload Equipment from Mount Structure.

(1) Locate the (4) bolts (#29) attaching the MRC/R.F.Tech Antenna to Adaptor (#31).

(2) Loosen and remove these(4) Bolts (#29) and their related nuts and washers. Separate Antenna from Mount Structure. Collect hardware removed.

(c) Disassembly of Mount Structure.

(1) Remove (4) Bolts (#27) and their nuts and hardware, (1) Bolt (#39) and its nuts and hardware, and (1) Bolt (#28) and its nuts and hardware. Separate Adaptor (#31) from the remainder of the Mount Structure.

(2) Remove (2) Bolts (#19) and their respective nuts and hardware attaching Support (#3) to Channel Plate (#2).

(3) Remove (3) Bolts (#10) and their respective nuts and hardware attaching Lateral Arm (#1) to Channel Plate (#2).

(4) Remove (2) Bolts (#11) and their respective nuts and hardware attaching Blocks left and right (#4) to Lateral Arm (#1).

(5) Remove Threaded Bushings (#5) from Blocks. Mount Structure is now disassembled.

3.73 DOVETAIL PLATE INSTALLATION: Refer to Drawings C-1 through C-3.

CAUTION-Use help of second person to help support payload and mount assembly.

(a) Removal of Payload Equipment.

(1) Cut safety wire securing (2) bolts (#40) on the side of Lower Dovetail Plate Assembly (#43) attached to payload equipment.

(2) Loosen these bolts and back them out approximately 1/4 inch while supporting the payload.

(3) Slide Payload Equipment and Lower Dovetail Plate (#43) forward or aft, and free from Upper Dovetail Plate (#42).

(b) Removal of Mount Structure

(1) At Forward Left and Right Attachment Channels located at Station 106.6, loosen and remove Nuts (#37.) Leave bolts in place. At Cargo Hook Lug at Station 124.2, loosen and remove Nut (#18). While supporting Mount and Antenna Assemblage, remove Bolts, Spacers, and Bushings at these locations and carefully lower mount structure and payload equipment carefully down and away from Adaptor and Mount Brackets. Collect hardware and parts removed.

(c) Disassembly of Mount Structure.

(1) Remove (4) Bolts (#10) and their respective nuts and hardware. Separate Upper Dovetail Plate (#42) from the remainder of the Mount Structure.

(2) Remove (2) Bolts (#19) and their respective nuts and hardware attaching Support (#3) to Channel Plate (#2).

(3) Remove (3) Bolts (#10) and their respective nuts and hardware attaching Lateral Arm (#1) to Channel Plate (#2).

(4) Remove (2) Bolts (#11) and their respective nuts and hardware attaching Blocks left and right (#4) to Lateral Arm (#1).
(5) Remove Threaded Bushings (#5) from Blocks. Mount Structure is now disassembled.
(6) This completes removal and disassembly procedure.

3.8 RE-ASSEMBLY AND INSTALLATION OF MOUNT STRUCTURE AND PAYLOAD ATTACHMENT

Note 1. It is highly recommended to have an assistant help lift and hold parts in place.
Note 2. All parts and hardware cross reference by Item Number to Part Number on all drawings and the Parts List and include quantities.
Note 3.It is recommended that each fastener group just removed be placed back into its place of removal to keep track of correct location or bagged and marked.

3.81 REINSTALLATION OF MAIN STRUCTURE (ALL CONFIGURATIONS)

Refer to Drawings A-1 through A-3, B-1 through B-3, and C-1 through C-3 as necessary.

(a) 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.
(b) 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.
(c) Locate the right forward belly Attachment Channel at Station 106.6. Repeat this previous 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.
(d) Locate (#2) Channel Plate and (#1) Lateral Channel. Notice that in the center section of the (#1) Lateral Arm one side is flat, and not recessed. This surface must face rearward. Attach (#2) Channel Plate to (#1) Lateral Arm using three (#10) Bolts, six(#14) Washers (one washer under bolt head, one washer under nut) and three (#15) Nuts. **Torque to specification.**
(e) Locate (#3) Support. Attach (#3) Support to aft end of (#2) Channel Plate using two (#19) Bolts, four (#14) Washers (one washer under bolt head, one washer under nut) and two (#15) Nuts.**Torque to specification.**
(f) Notice the oval holes at each end of the Lateral Arm on the top side. With (#2) Channel to the rear, lift the (#1) Lateral Arm Assemblage 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 (#13) Nut onto each of the two (#11) bolts. Tighten the (#13) Nuts onto the bolts to a point where you are still just able to slide the Lateral Arm sideways relative to the Block assemblage.

(g) 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 (#18) Nut in order shown in Drawing. Leave (#18) Nut loose.

(h) Notice the amount (#1) 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 as equal as possible. Verify all four (#38) Bushings are pushed in place correctly locating the Block assemblages. **Tighten both (#13) Nuts to specification.**

(i) At aft (#3) Support, remove (#18) Nut, (#16) Bolt, Washers, and related hardware attaching Support to Cargo Hook Lug..

(j) 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 Existing Left and Right Attach Channels. Set entire Assemblage on a table for further work. **Note: If factory holes in Attachment Channel are not perfectly square to each other, you may have to loosen (#11) Nuts slightly to remove the (#38) Bushings 1.00 and Lateral Arm assemblage.** Be sure to re-torque. Initial fitting of Mount Structure is now finished.

FROM THE FOLLOWING GROUPS 3.82, 3.83, OR 3.84, CHOOSE THE GROUP DESCRIBING INSTALLATION OF THE ANTENNA MODEL YOU ARE USING AND IGNORE THE REMAINING TWO.

3.82 INSTALLATION OF SKYPOD OR BMS ANTENNAS ONLY

(a) 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 if any antenna changes are made.

(b) 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.**

(c) 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.

(d) 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.**

(e) 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.

(f) Continue to section 3.85, COMPLETION.

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

(a) 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 if necessary.

(b) 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.**

(c) 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.**

(d) 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.**

(e) Note: The Antenna Manufacturers Handbook of Maintenance Instructions contains information concerning installation of their equipment, fastener information, and torque values for attachment hardware.

(f) Continue to section 3.85, COMPLETION.

3.84 INSTALLATION OF DOVETAIL PLATES ONLY

(a) 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 if necessary.

(b) 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.**

(c) 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.**

3.85 COMPLETION Refer to all Drawings as necessary**. Note: Mount Assemblage and Payload are attached as a unit to Helicopter, except for Dovetail Plate Installation, which may be attached and removed independently.**

(a) Lift entire Lateral Arm / Blocks / Channel Plate / Adaptor / Payload 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.**

(b) 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.**

(c) 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 Belly Utility Mount Structure is now fitted to your helicopter.

(d) If you are changing payloads to a different type or manufacturer, 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.

(e) Referring to Drawing W, complete weight and balance report to reflect this installation if any changes in Payload Equipment have been made.

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.

(f). 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."

(g) 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."

3.9 REPLACEMENT OF AN INDIVIDUAL PART

(a) Removal.

(1) Removal of an individual part is accomplished by utilizing the "Removal " Section 3.6 and 3.7of this ICA to the degree necessary to effectively remove the individual part.

(b) Part Replacement.

(1) Once an approved replacement part has been obtained, installation of that part is accomplished utilizing the "Reassembly and Installation" Section 3.8 of this ICA to the degree necessary to effectively reinstall the part and return the assembly to an airworthy condition.

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

PARTS LIST
AERO PACIFIC MODEL AP350UM02 BELLY UTILITY MOUNT
Manual Part Number AP350UM02-ICA
4/25/03 Rev. NEW

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	4.

4.1 Section Divider and Section Contents

SECTION 4.0

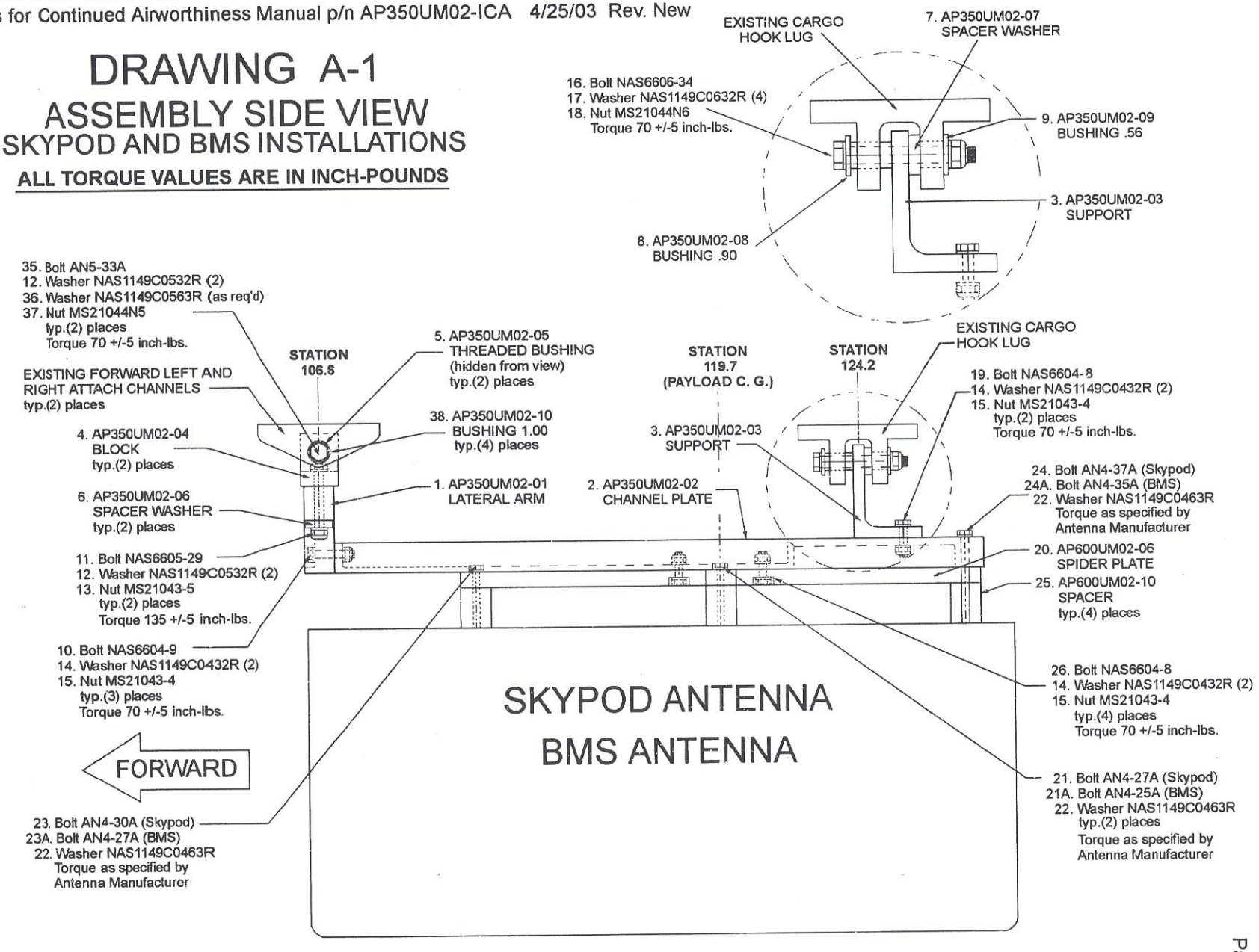
DRAWINGS

1. SECTION DIVIDER AND SECTION CONTENTS
2. DRAWING A-1
3. DRAWING A-2
4. DRAWING A-3
5. DRAWING B-1
6. DRAWING B-2
7. DRAWING B-3
8. DRAWING C-1
9. DRAWING C-2
10. DRAWING C-3
11. DRAWING T
12. DRAWING W

DRAWING A-1

ASSEMBLY SIDE VIEW
SKYPOD AND BMS INSTALLATIONS

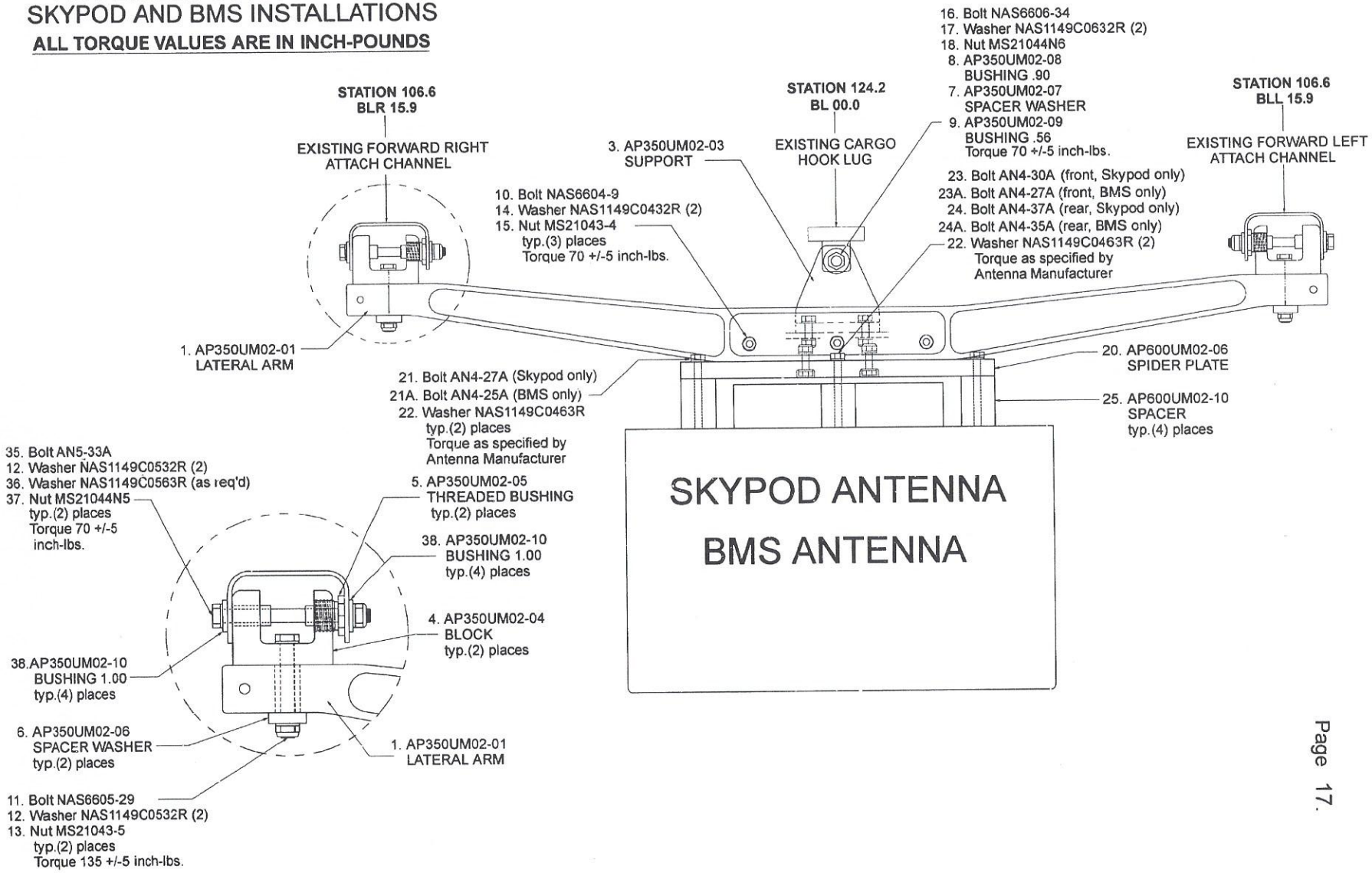
ALL TORQUE VALUES ARE IN INCH-POUNDS



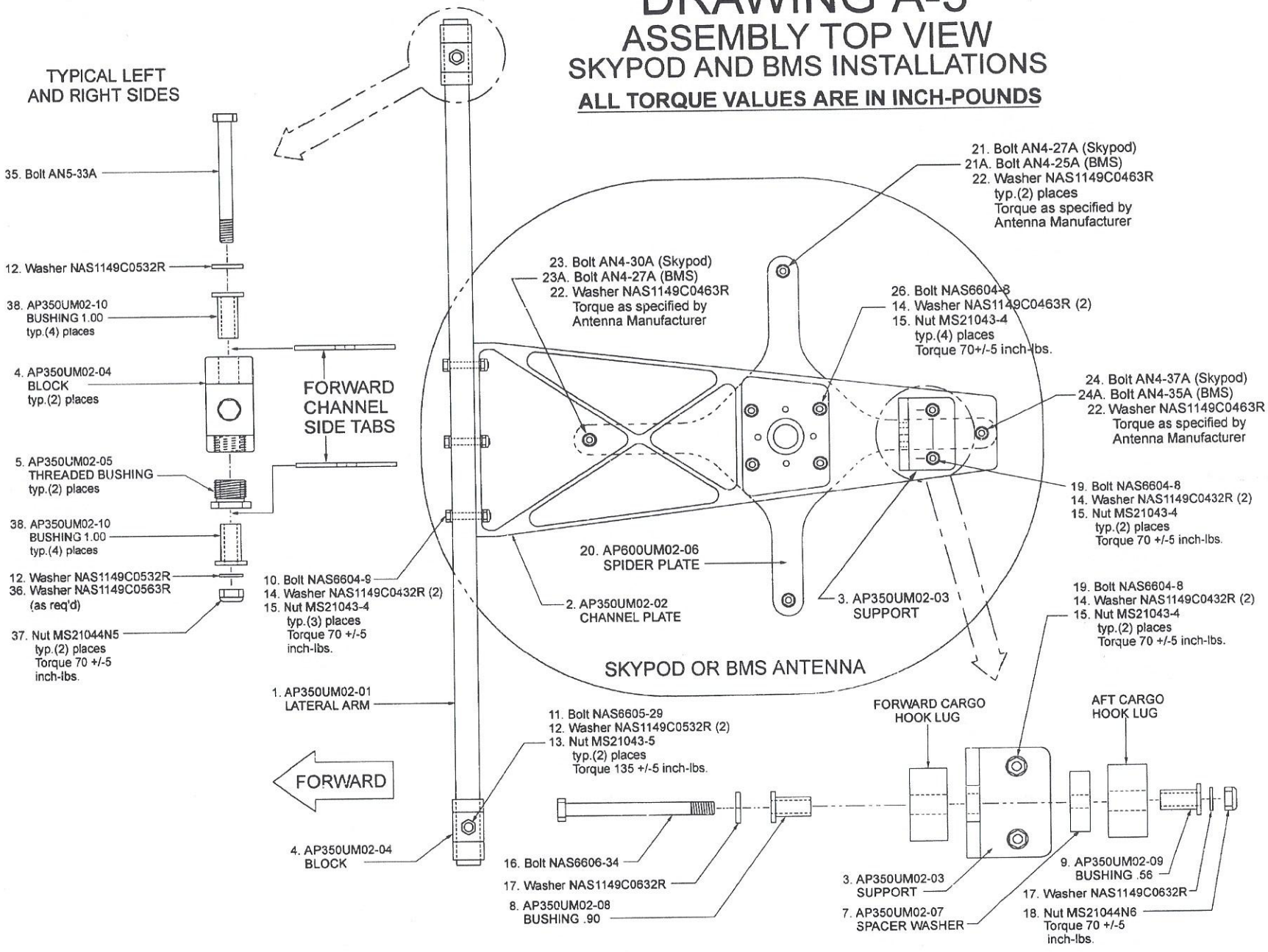
DRAWING A-2

ASSEMBLY FRONT VIEW
SKYPOD AND BMS INSTALLATIONS

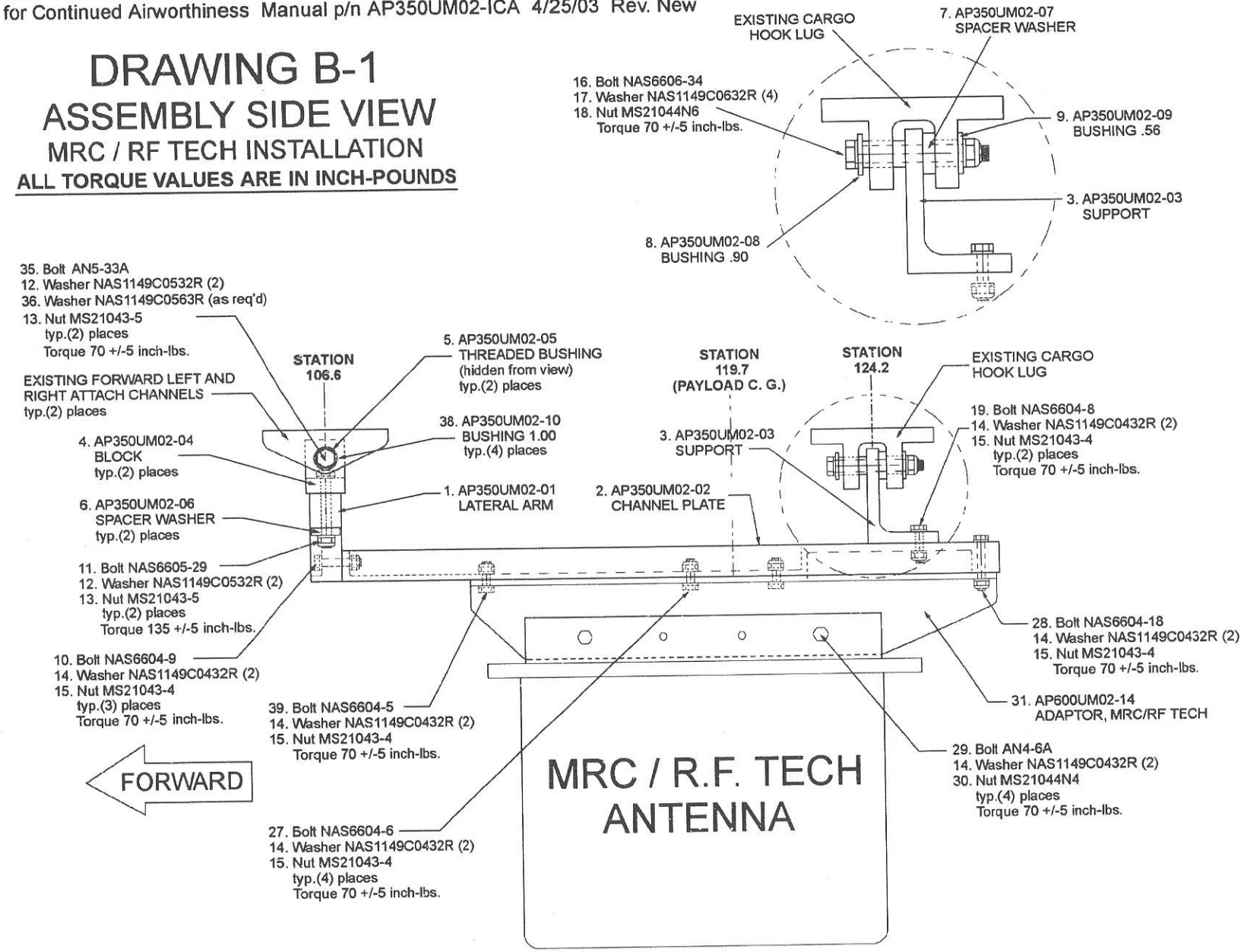
ALL TORQUE VALUES ARE IN INCH-POUNDS



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

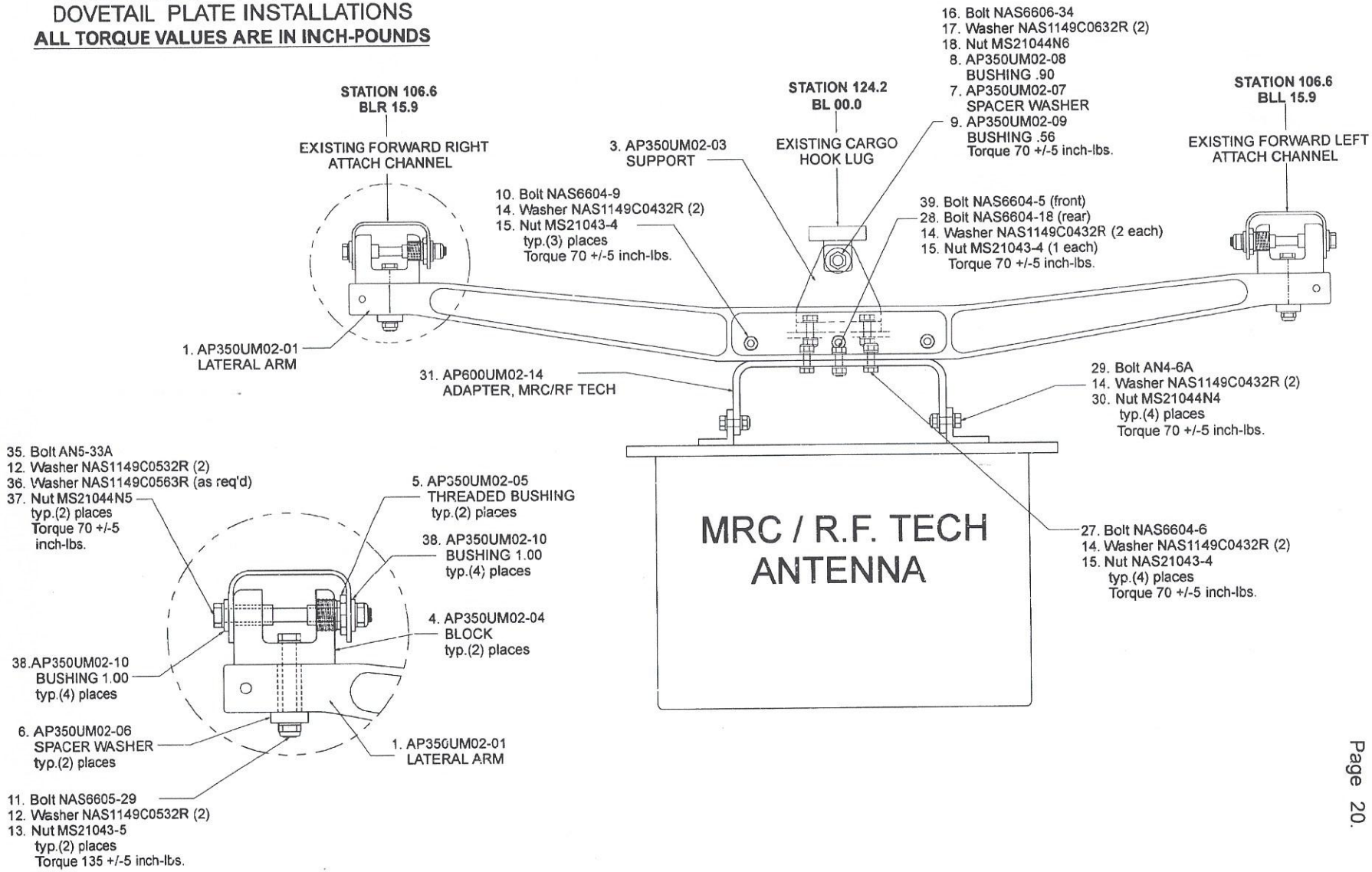


DRAWING B-2

ASSEMBLY FRONT VIEW

DOVETAIL PLATE INSTALLATIONS

ALL TORQUE VALUES ARE IN INCH-POUNDS

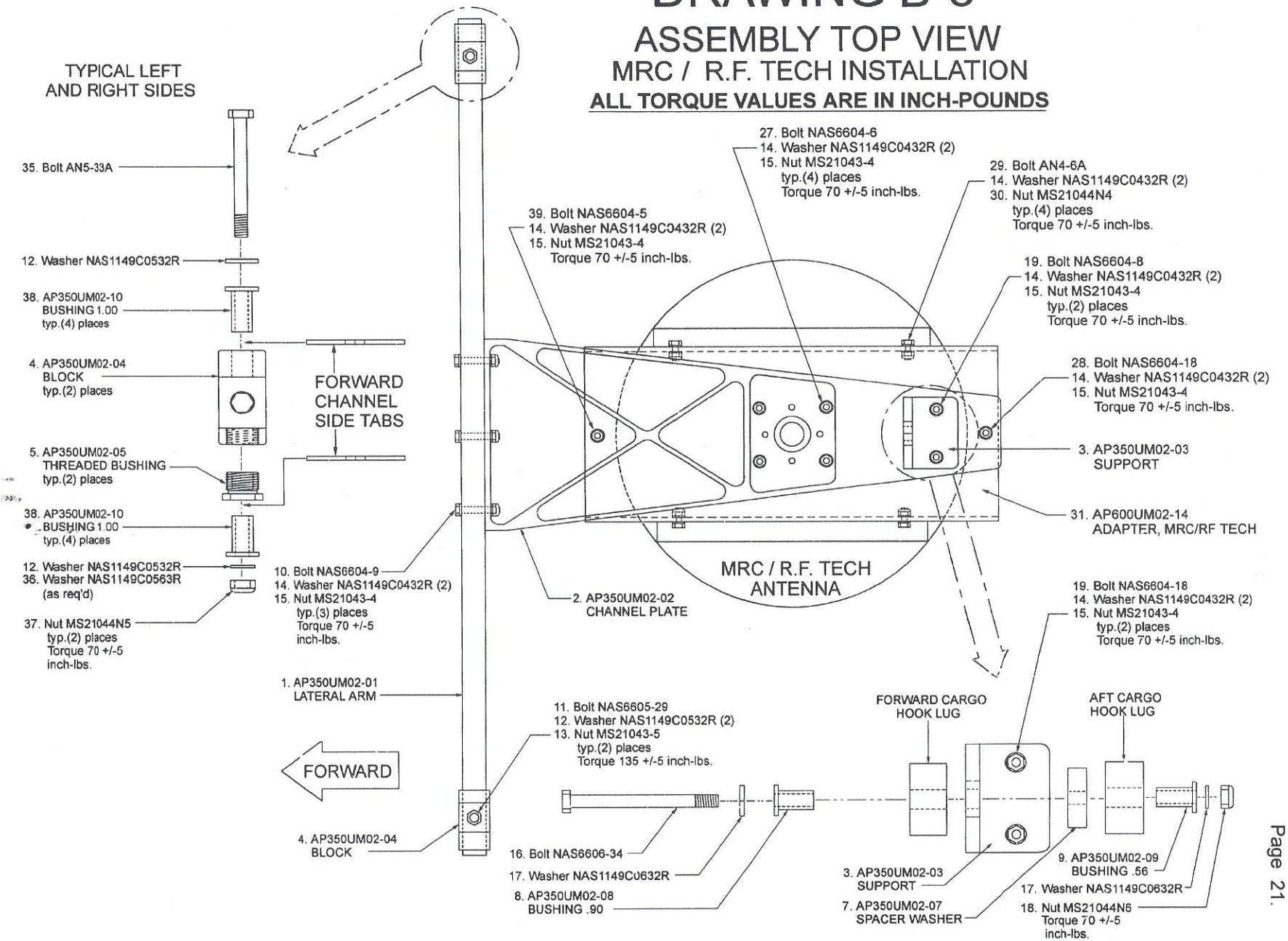


DRAWING B-3

ASSEMBLY TOP VIEW

MRC / R.F. TECH INSTALLATION

ALL TORQUE VALUES ARE IN INCH-POUNDS

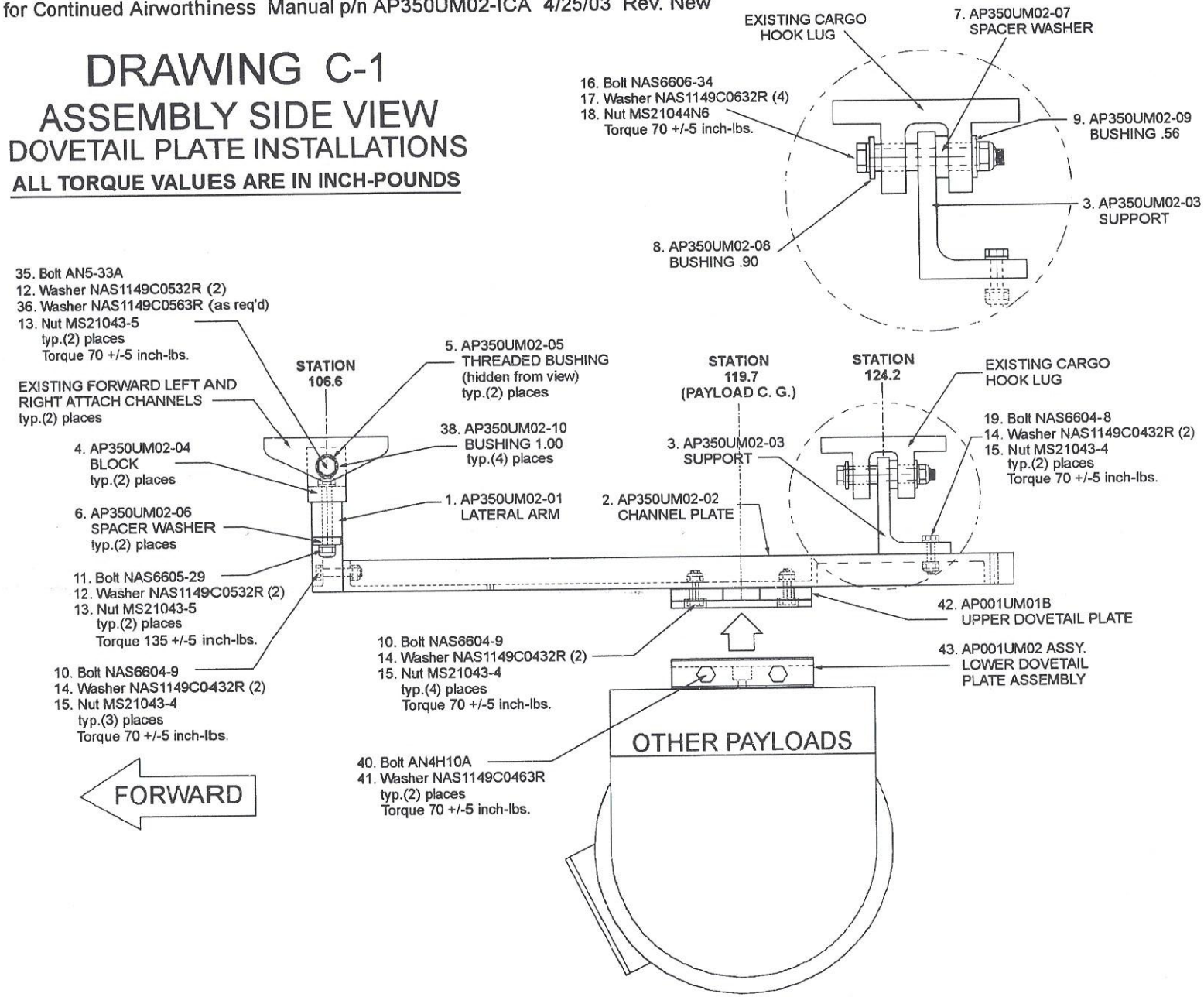


DRAWING C-1

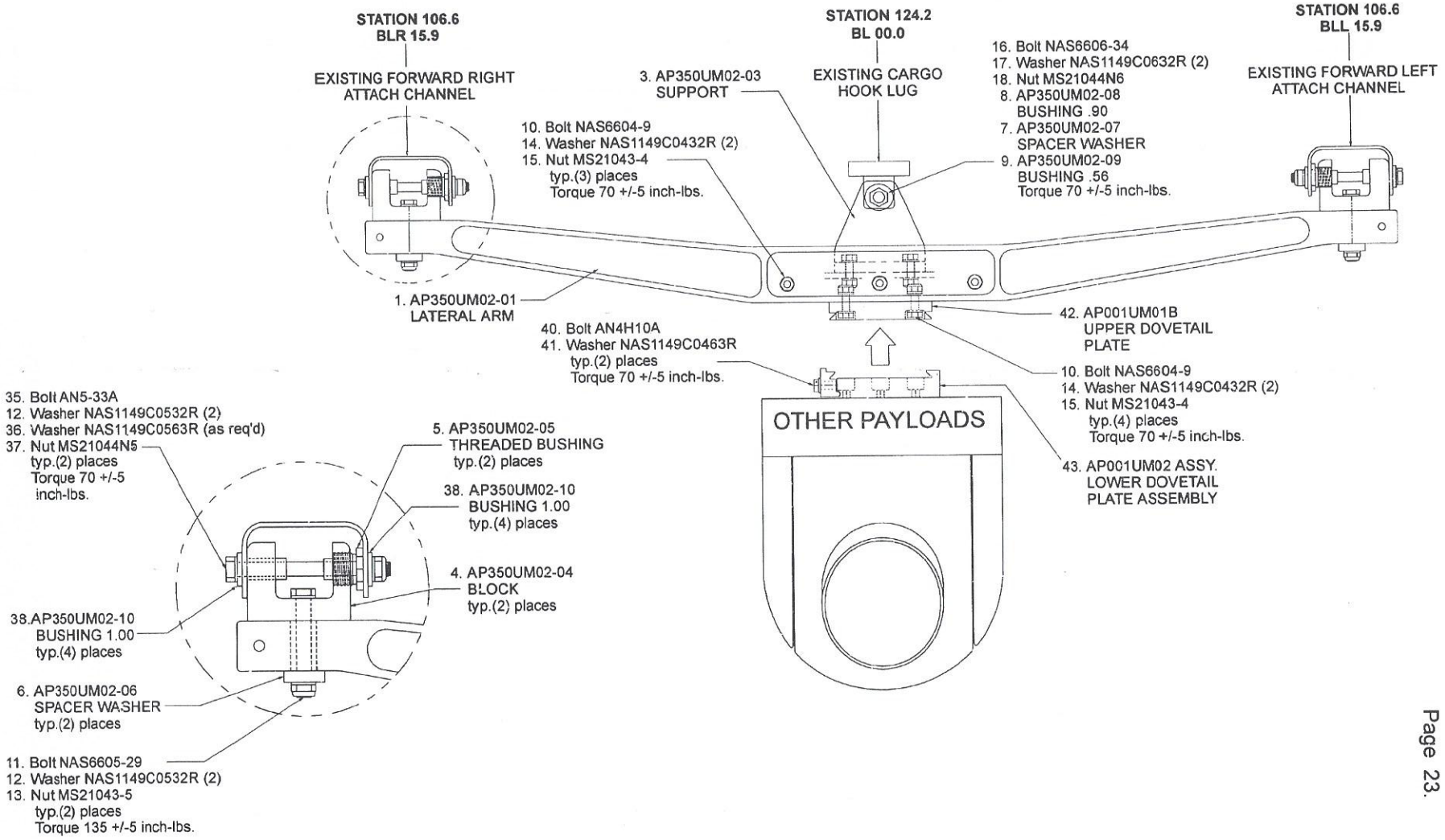
ASSEMBLY SIDE VIEW

DOVETAIL PLATE INSTALLATIONS

ALL TORQUE VALUES ARE IN INCH-POUNDS



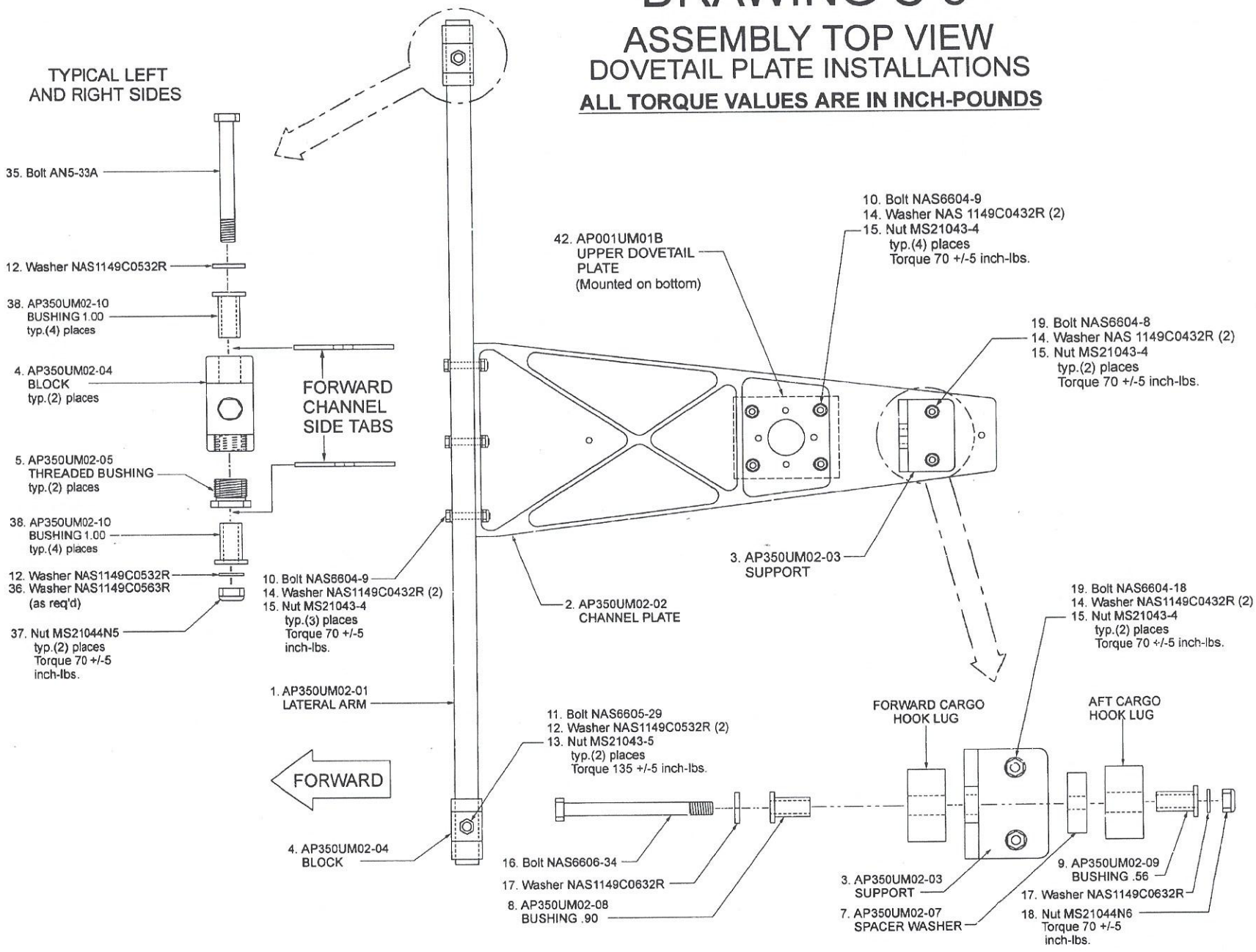
DRAWING C-2
ASSEMBLY FRONT VIEW
DOVETAIL PLATE INSTALLATIONS
ALL TORQUE VALUES ARE IN INCH-POUNDS



DRAWING C-3

ASSEMBLY TOP VIEW
DOVETAIL PLATE INSTALLATIONS

ALL TORQUE VALUES ARE IN INCH-POUNDS



DRAWING T

INSTRUCTIONS for CONTINUED AIRWORTHINESS

AERO PACIFIC MODEL AP350UM02 BELLY UTILITY MOUNT

Manual Part Number AP350UM02-ICA

4/25/03 Rev. New

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

ITEM	PART NUMBER	DESCRIPTION	MINIMUM FRICTION DRAG TORQUE(inch-pounds)
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

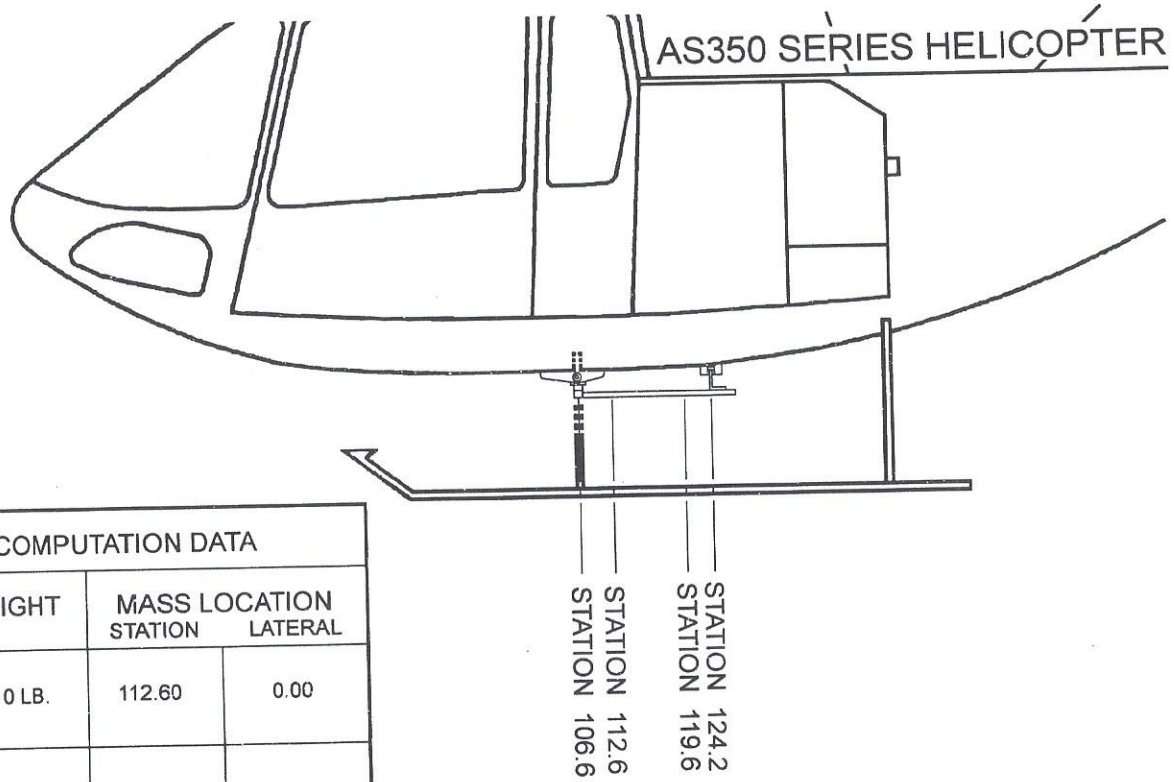
BOLT HEAD MARKINGS Specifications require that most bolts which are made to conform with standard drawings be identified by a specific marking on the bolt head. Shown here are the markings of sample bolts. The initials "RM" and "RBM" identify the manufacturer of the bolt. AN bolt heads do not display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

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

NAS6604-(length)

AERO PACIFIC MODEL AP350UM02 BELLY UTILITY MOUNT

Instructions for Continued Airworthiness Manual p/n AP350UM02-ICA 4/25/03 Rev. New



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
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.**

COMPONENT LOCATION DRAWING W

WEIGHT AND BALANCE INFORMATION

5.1 Section Divider and Section Contents

SECTION 5.0

SPECIAL PROCESSES

1. SECTION DIVIDER AND SECTION CONTENTS
2. AERO PACIFIC PROCESS AP006
   Local Area Surface Preparation and Conversion Coating For Aluminum
3. AERO PACIFIC PROCESS AP003
   Priming and Painting Local Areas

5.2

AERO PACIFIC PROCESS AP006

Page 1 of 2.

LOCAL AREA SURFACE PREPARATION AND CONVERSION COATING FOR ALUMINUM

SURFACE PREPARATION

1. Remove any excessive amounts of oil, dirt, chemicals, or other coatings from the part(s) if necessary by wiping thoroughly with Stoddard Number 5 Solvent or Dupont First Kleen 3900S fast-dry initial surface cleaner. Use protective clothing, eye protection, and gloves as necessary on this and all following operations.

2. Remove any final surface film from part(s) by wiping thoroughly with Dupont Kwik-Kleen 3949S or Dupont Prep-Sol 3919S cleaning solutions. Use clean rags.

3. Blow dry or thoroughly wipe off part(s) with clean dry rag. Keep part(s) clean and dry until step 4.

4. Carefully wipe part(s) with rag moderately soaked with Dupont Aluminum Metal Cleaner 225S or a 2% solution of Muriatic Acid and water. Contain solution to immediate area of repair by wiping with dry rag or masking unwanted areas. Reaction will be indicated by a small amount of white bubbling at exposed area of unprotected aluminum. Reaction may be accelerated by light scrubbing of part(s) with 3M brand Scotchbrite pad 07448 lightly soaked with solution. Dilute 225S Cleaner as per manufacturers instructions if used.

5. Immediately rinse part thoroughly with clean water, temperature between 40 and 120 degrees Fahrenheit. Conversion coating must be applied within five minutes, or before part is allowed to completely dry. Do not blow dry.

CONVERSION COATING

1. Within five minutes, or before part is allowed to dry, wipe immediate area with a clean rag moderately soaked with DuPont 226S Conversion Coating or Chemical Commodities Alodine 1200 Conversion Coating. Both these products are used full strength with no dilution. Follow respective manufacturers instructions. Wipe and soak for five minutes. Temperature at time of application should be between 40 and 90 degrees Fahrenheit. Examine part occasionally and continue to soak area until desired gold finish density is obtained.

2. Immediately rinse with clean water. Blow or wipe dry with clean rag. Inspect for complete coverage of coating. Re-coat with conversion coating if necessary and repeat this step.

5.2

AERO PACIFIC PROCESS AP006

LOCAL AREA SURFACE PREPARATION AND CONVERSION COATING FOR ALUMINUM

REQUIRED MATERIALS

PRODUCTS:
First Kleen 3900S
Kwick Kleen 3949S
Prep Sol 3919S
Cleaner 225S
Aluminum 226S
Conversion
Coating

MANUFACTURED BY:
E.I. Dupont De Nemours
Wilmington Delaware
19898 (800) 441-7515

PRODUCT:
Alodine 1200
Aluminum Conversion Coating

MANUFACTURED BY:
Chemical Commodities
27447 Pacific St.
Highland, CA. 92346
(909) 864-2310

PRODUCT:
Scotchbrite Pad 07448

MANUFACTURED BY:
3-M Company
Automotive Trades Div.
St. Paul MN. 55144-1000

5.3

AERO PACIFIC PROCESS AP003

PRIMING AND PAINTING LOCAL AREAS

1. Wipe area to be painted with Methyl Ethyl Keytone (M.E.K.).
2. Tape and mask areas to be painted. Allow a minimum of 1/8 inch overlap of applied coating over non-damaged area of original anodized surface.
3. Using recommended primer mixed as per manufactures instructions, prime desired area using spray gun.
4. Allow recommended drying time as per manufacturers instructions.
5. Using recommended paint mixed as per manufacturers instructions, paint desired area using spray gun.
6. Allow recommended drying time. Remove masking materials.

RECOMMENDED MATERIALS

PRIMER

Manufacturer: Dupont Chemical
Type: Corlar 824S
Color: Gray or Red
Activator: 826S

PAINT

Manufacturer: Dupont Chemical
Type: Imron
Color: 99 Black
Activator: 192S