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INSTALLATION INSTRUCTIONS

PREFLIGHT LIGHTING KIT

407-330-001

FOR

BELL HELICOPTER TEXTRON MODEL 407 HELICOPTERS

Report Number AA-10093

Revision C

June 17, 2011

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**INSTALLATION INSTRUCTIONS
PREFLIGHT LIGHTING KIT**

LOG OF REVISIONS

Revision	Date	Description	Pages	Prepared By / Approved By
-	10-06-10	Original Release	All	BST / PJB
A	12-07-10	Inserted Section 3.6.7 and renumbered subsequent sections Removed 099-050-243 Sealant from Parts List	10 13	BST / PJB
B	05-27-11	Reformatted document Section 1.0, Revised Battery Note Revised ABMM-A-C Cable Tie Mount to ABMM-A Step 3.6.8, Added Washers Parts List, Revised NAS1149DN519J to NAS1149DN516J	All 5 7,10,11,13 10 13	BST / PJB
C	06-17-11	Step 3.3.4, Changed CR3213-4-03 Rivet to CR3213-4-02 Parts List, Revised QTY 9 CR3213-4-03 Rivet to QTY 6 and added QTY 3 CR3213-4-02 Rivet	8 13	BST / [Signature]

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1.0 INTRODUCTION

These instructions provide the information necessary to install the **AERONAUTICAL ACCESSORIES PREFLIGHT LIGHTING KIT** on Bell Helicopter Textron model 407 helicopters. All Engineering aspects of these instructions are FAA approved under STC No. XXXX.

NOTE

Refer to Bell Helicopter Model 407 Maintenance Manual and all applicable maintenance manuals and/or ICAs for disassembly/reassembly instructions not specifically addressed in this document. Read ALL instructions thoroughly and have a clear understanding BEFORE beginning.

NOTE:

Four (4) 9-volt batteries (not supplied) are required (one per Light Assembly). Only alkaline type batteries are approved for this installation.

2.0 PLANNING INFORMATION

2.1 SPECIAL TOOLS

No special tools are required to accomplish this installation. Common electrician and mechanic sheet metal and hand tools are required.

2.2 UNPACKING AND INSPECTING EQUIPMENT

Carefully unpack the equipment and note any damage to the shipping containers or equipment. Visually inspect each component for evidence of damage. Report any evidence of damage to Aeronautical Accessories, Inc. immediately.

2.3 GENERAL NOTES

- 2.3.1 READ ALL INSTRUCTIONS COMPLETELY prior to beginning installation.
- 2.3.2 Tag all parts, including attaching hardware (unless otherwise noted), removed to gain access to work areas. Protect parts from damage until re-installed.
- 2.3.3 During drilling operations, use drill stops to avoid damage to wiring and components in adjacent areas. Following any drilling or cutting operation,

remove burrs and particles. Apply a thin coat of epoxy polyamide primer to bare surfaces.

- 2.3.4 Before applying structural adhesive to bonded surfaces, thoroughly wipe clean with isopropyl alcohol or equivalent, and wipe dry before alcohol evaporates.
- 2.3.5. When installing parts / assemblies where dissimilar materials are in contact, sealant (AMS-S-8802) should be applied between faying surfaces.
- 2.3.6 Torque fasteners per Table 1 unless otherwise noted. Due to variations in aircraft installation, fastener length only may be adjusted to one grip length longer or shorter than specified.

CAUTION

Required Torque Ranges are given in Table 1. Tare Torque shall be added to required torque Value unless otherwise specified.

- 2.3.7 Brush alodine bare aluminum per MIL-DTL-5541.
- 2.3.8 General shop practices to be in accordance with AC43.13.

TABLE 1 – TORQUE VALUES

Thread Size	Torque (In-Lbs)
.164-32 (#8-32)	12 - 15

2.4 PRE-INSTALLATION PREPARATION

- 2.4.1 Remove 206-064-802-XXX Fairing Assy, Transmission. (Reference Sheet 3, Detail A on Drawing 407-330.)
- 2.4.2 Remove 407-064-312-XXX Fairing Assy, Aft. (Reference Sheet 3, View B-B on Drawing 407-330.)
- 2.4.3 Remove 407-030-830-XXX Fairing Assy, Upper and 407-030-830-XXX Fairing Assy, Lower (Reference Sheet 3, View C-C on Drawing 407-330.)
- 2.4.4 Remove 206-064 -819-XXX Fairing Assy, Air Intake. (Reference Sheet 3, Detail D on Drawing 407-330.)

3.0 PREFLIGHT LIGHTING INSTALLATION**NOTE**

Refer to Drawing 407-330 PREFLIGHT LIGHTING INSTALLATION to complete each Step in Sections 3.1 through 3.7.

3.1 HYDRAULIC RESERVOIR LIGHT INSTALLATION**NOTE**

Reference Drawing Sheet 4 for steps in Section 3.1.

- 3.1.1 Locate 407-332-123 Doubler on 206-064 -802-XXX Fairing Assy, Transmission as shown on Drawing.
- 3.1.2 Mark locations for hardware and switch installation holes.
- 3.1.3 Prepare hardware installation holes on 206-064-802-XXX Fairing Assy, Transmission, per Drawing Note 19.
- 3.1.4 Prepare switch installation hole on 206-064-802-XXX Fairing Assy, Transmission per Drawing Note 20.
- 3.1.5 Attach 407-332-123 Doubler per drawing.
- 3.1.6 Install battery (not provided) in 407-331-103 Light Assembly.
- 3.1.7 Attach one (1) 407-331-103 Light Assembly using:
 - Two (2) AN525-832R26 Screws
 - Six (6) NAS1149DN832J Washers
 - Two (2) NAS43DD3-64FC Spacers
 - Two (2) MS21042L08 Nuts
- 3.1.8 Install Switch (Part of 407-331-103 Light Assembly) using the following hardware (part of 407-331-103 Light Assy): Gasket, Lockwasher, and Nut. Seal using 099-050-177 Adhesive, Threadlocker.
- 3.1.9 Attach one (1) ABMM-A Cable Tie Mount using 099-050-121 Adhesive.
- 3.1.10 Secure Connector (Part of 407-331-103 Light Assembly) to Cable Tie Mount using (1) MS3367-4-0 Cable Tie.
- 3.1.11 Attach one (1) 407-332-133 Decal OR one (1) 407-332-135 Decal to exterior of fairing.
- 3.1.12 Reinstall 206-064-802-XXX Fairing Assy, Transmission.

3.2 OIL TANK LIGHT INSTALLATION**NOTE**

For aircraft serial number 53292 and prior, see Section 3.3.
For aircraft serial number 53293 through 53559, see Section 3.4.
For aircraft serial number 53560 and subsequent, see Section 3.5.

3.3 SERIAL 53292 AND PRIOR**NOTE**

Reference Drawing Sheet 5 for steps in Section 3.3.

- 3.3.1 Align 407-332-139 Spacer with edge of 407-332-137 Bracket and locate per Drawing on 206-064-515-XXX Support Assy.
- 3.3.2 Match drill 407-332-139 Spacer, 206-064-515-XXX Support Assy, and 407-332-137 Bracket.
- 3.3.3 Attach 407-332-137 Bracket and 407-332-139 Spacer to 206-064-515-XXX Support Assy using three (3) CR3213-4-04 Rivets.
- 3.3.4 Secure 407-332-137 Bracket to 206-064-515-XXX Support Assy using three (3) CR3213-4-02 Rivets.
- 3.3.5 Install battery (not provided) in 407-331-105 Light Assembly.
- 3.3.6 Attach 407-331-105 Light Assembly to 407-332-137 Bracket using:
 - Two (2) AN525-832R24 Screws
 - Two (2) NAS43DD3-64FC Spacers
 - Six (6) NAS1149DN832J Washers
 - Two (2) MS21042L08 Nuts
- 3.3.7 Reinstall 407-064-312-XXX Fairing Assy, Aft.

3.4 SERIAL 53293 THROUGH 53559**NOTE**

Reference Drawing Sheet 7 for steps in Section 3.4.

- 3.4.1 Align 407-332-139 Spacer with edge of 407-332-141 Bracket and locate per Drawing on 206-064-515-XXX Support Assy
- 3.4.2 Match drill 407-332-139 Spacer, 206-064-515-XXX Support Assy, and 407-332-141 Bracket.
- 3.4.3 Attach 407-332-141 Bracket and 407-332-139 Spacer to 206-064-515-XXX Support Assy using three (3) CR3213-4-04 Rivets.

- 3.4.4 Secure 407-332-141 Bracket to 206-064-515-XXX Support Assy using three (3) CR3213-4-03 Rivets.
- 3.4.5 Install battery (not provided) in 407-331-105 Light Assembly.
- 3.4.6 Attach 407-331-105 Light Assembly to 407-332-141 Bracket using:
 - Two (2) AN525-832R24 Screws
 - Two (2) NAS43DD3-64FC Spacers
 - Six (6) NAS1149DN832J Washers
 - Two (2) MS21042L08 Nuts
- 3.4.7 Reinstall 407-064-312-XXX Fairing Assy, Aft.

3.5 SERIAL 53560 AND SUBSEQUENT

NOTE

Reference Drawing Sheet 6 for steps in Section 3.5.

- 3.5.1 Drill hardware installation holes in 407-030-018-XXX SPRT, VERT, LH per Drawing.
- 3.5.2 Install battery (not provided) in 407-331-105 Light Assembly.
- 3.5.3 Attach 407-331-105 Light Assembly to 407-030-018-XXX SPRT, VERT, LH using:
 - Two (2) AN525-832R24 Screws
 - Two (2) NAS43DD3-64FC Spacers
 - Six (6) NAS1149DN832J Washers
 - Two (2) MS21042L08 Nuts

3.6 TAIL ROTOR GEAR BOX LIGHT INSTALLATION

NOTE

Reference Drawing Sheets 8 and 9 for steps in Section 3.6.

- 3.6.1 Measure 407-030-830-XXX Fairing Assy, Lower per Drawing and mark location for 407-332-121 Tailboom Doubler.
- 3.6.2 Measure 407-030-830-XXX Fairing Assy, Lower per Drawing and mark location for 407-332-129 Viewport Doubler.

NOTE

If necessary for fit against 407-030-830-XXX Fairing Assy, Lower, modify shape of 407-332-121 Tailboom Doubler using hand tools.

- 3.6.3 Apply 099-050-121 Adhesive to faying surfaces and attach 407-332-121 Tailboom Doubler and 407-332-129 Viewport Doubler to Fairing Assy, Lower.
- 3.6.4 Locate 407-332-125 Tailboom Bracket on 407-332-121 Tailboom Doubler and mark hole locations.

NOTE

If necessary for fit against 407-332-121 Tailboom Doubler, modify shape of 407-332-125 Tailboom Bracket using hand tools.

- 3.6.5 Match drill 407-030-830-XXX Fairing Assy, Lower, 407-332-121 Tailboom Doubler, and 407-332-125 Tailboom Bracket.
- 3.6.6 Match drill 407-030-830-XXX Fairing Assy, Lower and 407-332-129 Viewport Doubler.
- 3.6.7 Seal around periphery of hole in 407-030-830-XXX Fairing Assy, Lower, using 099-050-223 Sealant.
- 3.6.8 Attach 407-332-125 Tailboom Bracket using six (6) CR3213-4-03 Rivets and six (6) NAS1149DN516J Washers.
- 3.6.9 Install battery (not provided) in 407-331-103 Light Assembly.
- 3.6.10 Attach one (1) 407-331-103 Light Assembly using:
 - Two (2) AN525-832R24 Screws
 - Six (6) NAS1149DN832J Washers
 - Two (2) NAS43DD3-64FC Spacers
 - Two (2) MS21042L08 Nuts
- 3.6.11 Install Switch (Part of 407-331-103 Light Assembly) using the following hardware (part of 407-331-103 Light Assy): Gasket, Lockwasher, and Nut. Seal using 099-050-177 Adhesive, Threadlocker.
- 3.6.12 Attach one (1) ABMM-A Cable Tie Mount using 099-050-121 Adhesive.
- 3.6.13 Secure Connector (Part of 407-331-103 Light Assembly) to Cable Tie Mount using one (1) MS3367-4-0 Cable Tie.
- 3.6.14 Install 407-331-101 Viewport Assembly OR 3483 Grommet.
- 3.6.15 Attach one (1) 407-332-133 Decal OR one (1) 407-332-135 Decal to exterior of fairing.
- 3.6.16 Reinstall 407-030-830-XXX Fairing Assy, Upper and 407-030-830-XXX Fairing Assy, Lower.

3.7 TRANSMISSION FLUID LIGHT INSTALLATION**NOTE**

Reference Drawing Sheet 10 for steps in Section 3.7.

- 3.7.1 Locate 407-332-123 Doubler on 206-064-819-XXX Fairing Assy, Air Intake.
- 3.7.2 Mark locations for hardware and switch installation holes.
- 3.7.3 Match drill hardware installation holes and switch installation hole.
- 3.7.4 Attach 407-332-123 Doubler per drawing.
- 3.7.5 Install battery (not provided) in 407-331-103 Light Assembly.
- 3.7.6 Attach (1) 407-331-103 Light Assembly using:
 - Two (2) AN525-832R26 Screws
 - Six (6) NAS1149DN832J Washers
 - Two (2) NAS43DD3-64FC Spacers
 - Two (2) MS21042L08 Nuts
- 3.7.7 Install Switch (Part of 407-331-103 Light Assembly) using the following hardware (part of 407-331-103 Light Assy): Gasket, Lockwasher, and Nut. Seal using 099-050-177 Adhesive, Threadlocker.
- 3.7.8 Attach one (1) ABMM-A Cable Tie Mount using 099-050-121 Adhesive.
- 3.7.9 Secure Connector (Part of 407-331-103 Light Assembly) to Cable Tie Mount using one (1) MS3367-4-0 Cable Tie.
- 3.7.10 Attach one (1) 407-332-133 Decal OR one (1) 407-332-135 Decal to exterior of fairing.
- 3.7.11 Reinstall 206-064-819-XXX Fairing Assy, Air Intake.
- 3.7.12 Installation complete.

4.0 WEIGHT AND BALANCE

<u>Part</u>	<u>Weight</u>	<u>Station</u>	<u>Lateral Arm</u>
Hydraulic Reservoir Light	.31 lbs (.141 Kg)	108.00 in (2743.20 mm)	15.00 in (381.00 mm) (Left)
Tail Rotor Gear Box Light	.46 lbs (.209 Kg)	395.00 in (10,033.00 mm)	0.0 in (0.0 mm)
Transmission Fluid Light	.31 lbs (.141 Kg)	126.00 in (3200.40 mm)	15.00 in (381.00 mm) (Right)
Oil Tank Light*	.33 lbs (.150 Kg)	192.00 in (4876.80 mm)	14.00 in (355.60 mm) (Left)
Oil Tank Light†	.24 lbs (.109 Kg)	192.00 in (4876.80 mm)	14.00 in (355.60 mm) (Left)

* Serial Numbers 53559 and prior

†Serial Numbers 53560 and subsequent

5.0 PARTS LIST

407-330-001 PREFLIGHT LIGHTING KIT

<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	099-050-121	Adhesive (Magnobond 6398 A&B)
3	099-050-177	Adhesive, Threadlocker (Loctite)
1	099-050-223	Sealant (CS3204B4)
1	3483	Grommet
1	407-331-101	Viewport Assembly
3	407-331-103	Light Assembly
1	407-331-105	Light Assembly
1	407-332-121	Tailboom Doubler
2	407-332-123	Doubler
1	407-332-125	Tailboom Bracket
1	407-332-129	Viewport Doubler
3	407-332-133	Decal
3	407-332-135	Decal
1	407-332-137	Bracket
1	407-332-139	Spacer
1	407-332-141	Bracket
3	ABMM-A	Cable Tie Mount
4	AN525-832R24	Screw
4	AN525-832R26	Screw
3	CR3213-4-02	Rivet
6	CR3213-4-03	Rivet
3	CR3213-4-04	Rivet
8	MS21042L08	Nut
3	MS3367-4-0	Cable Tie
6	NAS1149DN516J	Washer
24	NAS1149DN832J	Washer
8	NAS43DD3-64FC	Spacer
1	DWG 407-330	Installation Drawing
1	RPT AA-10079	Instructions for Continued Airworthiness

Confirm inventory prior to installation.

Packed by: _____ / _____ / _____