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**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
407LS-100 INSTALLATION**

BELL 407 HELICOPTERS

PR-407LS-120M
Revision 1, 12/19/05

Cover

Paravion[®]
✓Technology Inc.

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RECORD OF REVISIONS

REVISION NO.	ISSUE DATE	DATE INSERTED	BY
ORIGINAL	12/05/02		
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REVISION CONTROL PROCEDURE

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LIST OF EFFECTIVE PAGES

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These Instructions for Continued Airworthiness (ICA) except for the Airworthiness Limitations Section, have been reviewed and found to comply with the applicable requirements of Appendix A to the Federal Aviation Regulations Part 27.

FAA Acceptance Manuel Perez Date 01/07/03.

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AIRWORTHINESS LIMITATIONS

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

No airworthiness limitation associated with this type design change.

This system has no life-limited components.

REVISION	DATE	APPROVED
0	01/07/03	Manuel Perez
1	01/03/06	Dave Grossman

1.0 SYSTEM DESCRIPTION

The **407LS-100-1** Installation adds a Compass/Placard, located on the left side of the center instrument console, to the cockpit of Bell Model 407 helicopters. The **407LS-200 Compass/Placard Installation** is provided as part of the Left Seat pilot certification for 407 helicopters, to allow single pilot operation of the aircraft from the left crew seat.

System Weight: 0.6 lb., at F.S. 36 inches

2.0 INSPECTION AND MAINTENANCE

It is the objective of this inspection and maintenance procedure to ensure that component installations are secure and that the electrical system is airworthy. In the event of a damaged or malfunctioning compass, the compass must be returned to the manufacturer (or approved instrument repair station) for repair or replacement.

2.1 Compass Installation

- 2.1.1 Inspect compass wiring for insulation damage and chafing. Replace compass wire or compass as necessary.
- 2.1.2 Inspect compass and compass mount for stress, corrosion, and cracking. Any components with cracks should be removed and sent to Paravion Technology, Inc.
- 2.1.3 Inspect and replace all worn self-locking nuts. Torque replacement nuts to 3 to 6 in/lbs.

2.2 Compass Compensation Information

- 2.2.1 Each aircraft has an inherent magnetic pattern. This pattern is a product of magnetic influences, the physical presence of ferrous metal used in structure or components, electrical currents of varying strength and location in the aircraft circuits, and the earth's magnetic field.
- 2.2.2 The aircraft must be in flying configuration, or flying, when this compensation procedure is accomplished. Engine & rotor. NP/NR, tachometer should be at 100%. Normally used electrical and radio equipment should be on and operating.
- 2.2.3 Known magnetic headings for ground compensation may be obtained using a compass rose, master compass, or transit-pylorus. It is good policy to confirm all ground compensations in flight.
- 2.2.4 On a smooth air day this compensation procedure may be followed in flight using the directional gyro azimuth with frequent rechecks of the original known magnetic heading to check possible drift. A known magnetic heading may be determined from a runway, from section lines in certain locations (with magnetic variation figured), or from a railroad.
- 2.2.5 **IMPORTANT:** The compensator is NEUTRAL when the dots on the adjusting screws and the dots on the compensator face are aligned (NINE O'CLOCK) Compensator correction is maximum when the adjusting screw is rotated (clockwise or counter-clockwise) to the THREE O'CLOCK position. The compensator mechanism will be damaged by forcing the screws beyond 180 degrees in either direction.

2.3 Compass Compensation Procedure

- 2.3.1 The ES59153-1 Magnetic Compass has a deviation correction range of approximately plus or minus twenty degrees at the cardinal headings. Readings in quadrants between cardinal headings are products of the adjacent cardinal headings corrective adjustments.
- 2.3.2 Use a non-magnetic screwdriver for making adjustments.
 - 2.3.2.1 Starting with the aircraft on a known magnetic heading of North, use the N-S adjusting screw to remove all deviation so the compass indicates North. The N-S adjusting screw is the LH screw on the compensator.
 - 2.3.2.2 Rotate the aircraft to a known magnetic heading of East, use the E-W adjusting screw to remove all deviation so the compass indicates East. The E-W adjusting screw is the RH screw on the compensator.
 - 2.3.2.3 Rotate the aircraft to a known magnetic heading of South. Note the degrees of deviation. Using the N-S adjusting screw, remove one half of the deviation.
 - 2.3.2.4 Rotate the aircraft to a known magnetic heading of West. Note the degrees of deviation. Using the E-W adjusting screw, remove one half of the deviation.
 - 2.3.2.5 Return the aircraft to the known magnetic heading of North to confirm its relation to South. The deviation should be the same. In some aircraft “fine tuning” adjustments and rechecks are necessary.
 - 2.3.2.6 Return the aircraft to the known magnetic heading of East to confirm its relation to West. The deviation should be the same. In some aircraft “fine tuning” adjustments and rechecks are necessary.
 - 2.3.2.7 On completion of the preceding procedure, the aircraft is rotated to each 30 degree known magnetic heading thru 360 degrees and the deviation is recorded on the compass correction card.
 - 2.3.2.8 The compass correction card should be installed near the compass, in a location readily visible to the pilot.

3.0

COMPONENT REMOVAL AND REPLACEMENT

3.1 Compass Removal

- 3.1.1 Insure that the power is off to the Instrument Panel Breaker.
- 3.1.2 Disconnect compass wires from the 8TB3 Terminal Block and ground lug.
- 3.1.3 Loosen and remove the fastening screws from the compass mount/instrument panel shroud.

3.2 Compass Replacement

- 3.2.1 Insure that the power is off to the Instrument Panel Breaker.
- 3.2.2 Connect the compass wires to the 8TB3 Terminal Block and available ground lug.
- 3.2.3 Install compass assembly on the instrument panel shroud with the fastening hardware as shown in figure 2.

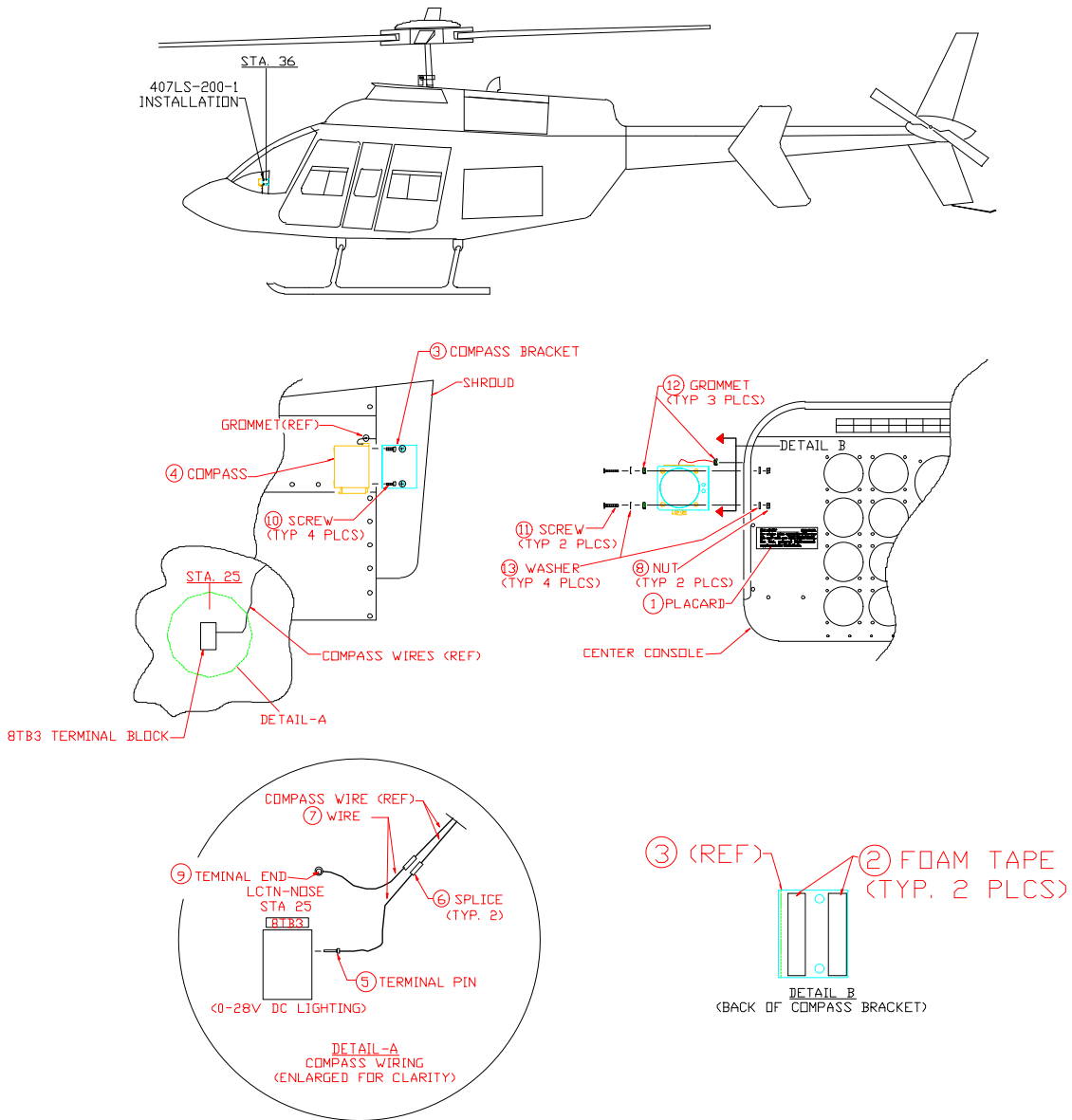


Figure 1: 407LS-200-1 Compass Installation

ITEM	P/N	DESCRIPTION	QTY	TYP
1	407LS-2000-1	PLACARD	1	EA.
2	ES06022-5	FOAM TAPE	6	IN.
3	ES59152-1	COMPASS BRACKET	1	EA.
4	ES59153-1	COMPASS	1	EA.
5	M39029/22-191	TERMINAL PIN	1	EA.
6	M7928/5-2	SPLICE	2	EA.
7	MIL-W-22759/16-22	WIRE	AS REQUIRED	
8	MS20365D632	NUT(ALT. MS21044D06)	2	EA.
9	MS25036-103	TERMINAL END	1	EA.
10	MS35214-27	SCREW	4	EA.
11	MS35214-32	SCREW	2	EA.
12	MS35489-1	GROMMET	3	EA.
13	NAS1149BN632H	WASHER	4	EA.

TABLE I

Annual/300 Hour Inspection Checklist

INSPECTION	COMMENTS	INITIALS
1. Inspect compass and compass bracket for stress, cracks, and corrosion. Replace if necessary.		
2. Inspect aircraft structure at attachment points.		
3. Inspect all screwed connections. Replace all worn screws and/or fittings. Torque all screws to 3 to 6 in/lbs.		
4. Inspect compass wiring for insulation damage and chafing. Replace compass wire or compass as necessary.		