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REPORT NO. PR-206LS-900M

INSTALLATION INSTRUCTIONS

FOR

206LS-100 SYSTEM INSTALLATION
(LEFT SEAT PILOT CERTIFICATION)

BELL MODEL 206A/B AND 206L SERIES HELICOPTERS

REVISIONS

<u>REV.</u>	<u>DATE</u>	<u>DESCRIPTION</u>	<u>BY</u>
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REFERENCES

1. Paravion Drawing 206LS-100 System Configuration.
2. Paravion Drawing 206LS-200 Compass/Placard Installation.

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1.0 INTRODUCTION

- 1.1. This document provides additional information for installation of the 206LS-200 Compass/Placard Installation on Bell 206 series helicopters. The instructions contained herein are intended to supplement the information contained on the installation drawings.

NOTE: FOR ADEQUATE COLLECTIVE AND THROTTLE CLEARANCE (LEFT SEAT PILOT OPERATION), ENSURE THAT NOTHING IS INSTALLED ON THE LOWER INTERIOR PORTION OF THE LEFT CREW SEAT DOOR.

2.0 206LS-200-1/-2 COMPASS/PLACARD INSTALLATION INSTRUCTIONS

- 2.1. Reference 206LS-200 Compass/Placard Installation drawings for the -1 and -2 installations.
 - 2.1.1. 206LS-200-1 Installation is applicable to aircraft S/N 914 and subsequent.
 - 2.1.2. 206LS-200-2 Installation is applicable to aircraft S/N 154 thru 913.
- 2.2. Gain access to the instrument console, overhead breakers, and the instrument light terminal block located in the center console (reference installation drawings for appropriate terminal block).
 - 2.2.1. Insure that the power is off to the Instrument Panel Breaker.
 - 2.2.2. Install the compass and compass bracket per installation drawings.
 - 2.2.3. Run wire(s) inside the center console to the appropriate instrument light terminal block and complete wiring per installation drawings.
- 2.3. Install Placard using adhesive backing in any location that is clearly visible to the pilot.
- 2.4. Once the compass has been installed refer to sections 3.0 Compass Compensation Information and 4.0 Compass Compensation Procedure.
- 2.5. The total weight of the 206LS-200-1 Compass Installation is 0.6 lbs. Therefore, the affects on the weight and balance are negligible.

3.0 COMPASS COMPENSATION INFORMATION

- 3.1. Each aircraft has its own inherent magnetic pattern and no two are alike, even of the same assembly line. The inherent magnetic pattern of an aircraft is a product of magnetic influences, physical presence in ferrous metal used in structure or components, induced by electrical circuits of varying strength and location, and the earth's magnetic field.
- 3.2. From the above, one realizes that it is highly desirable to have the aircraft as close to flying configuration as possible, or flying, as the compensation procedure is followed. Known magnetic headings may be obtained for ground compensation by the use of a compass rose, master compass, or transit-pylorus. For taking each reading, the engine rpm should be at normal cruise and electrical and radio equipment should be in the flying norm. A directional gyro is a convenient azimuth reference with frequent rechecks of the original known magnetic heading to check possible drift. It is a good policy to confirm all ground compensations in flight.

- 3.3. On a smooth air day the 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 from a runway, section lines (with magnetic variation figured), or a railroad.
- 3.4. **IMPORTANT:** *The compensator is in neutral when the dots on the adjusting screws are aligned with the dots on the compensator face – NINE O’CLOCK. MAXIMUM compensator correction is attained when the adjusting screw is rotated – clockwise or counter-clockwise - 180°, or to THREE O’CLOCK. DAMAGE to the compensator mechanism will occur if the adjusting screws are forced beyond 180° in either direction.*

4.0 COMPASS COMPENSATION PROCEDURE

- 4.1. The poly-plane compensator used on the ES59153 Magnetic Compass has a deviation correction range of approximately plus or minus twenty degrees on the cardinal headings. The readings in quadrants between cardinal headings are products of the adjacent cardinal headings corrective adjustments.
- 4.2. Use a non-magnetic screwdriver for making adjustments.
 - 4.2.1. 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.
 - 4.2.2. 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.
 - 4.2.3. 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.
 - 4.2.4. 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.
 - 4.2.5. 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.
 - 4.2.6. 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.
 - 4.2.7. 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.
 - 4.2.8. The compass correction card should be installed close to the compass and convenient for the pilot to read.

4.3. Should the preceding procedure fail to produce satisfactory results, here are some suggestions:

- 4.3.1. Use a magnet to check hardware in the proximity of the compass. Steel screws and nuts can be replaced with brass or aluminum in some uses. Steel shake proof lock washers will hold magnetism.
- 4.3.2. Some radio navigational instruments with meter movements have been the problem when they have no magnetic shield. This is a physical problem and not an electrical problem.
- 4.3.3. If the problem is electrical, manipulation of the switches should point out the site. On some rare occasions, it has been necessary to reroute some wiring.