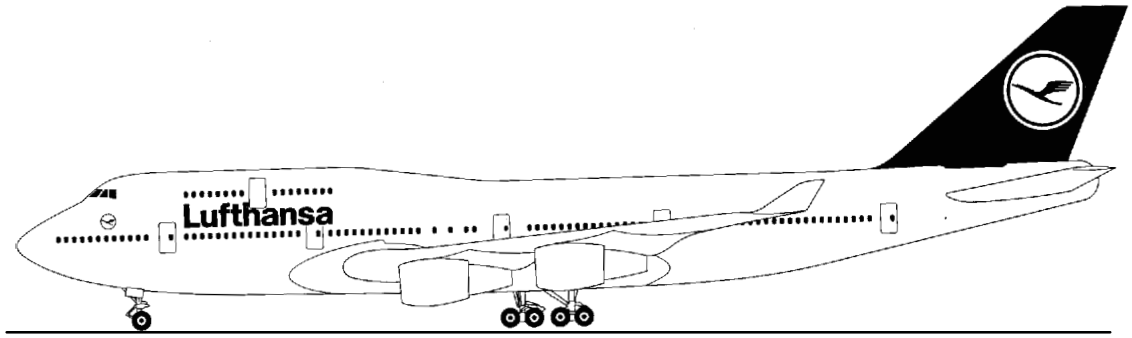
Lufthansa Technical Training

Training Manual B 747-400



ATA 34-22
Standby Magnetic Compass

ATA Spec. 104 Level 3

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ATA 34-22 STANDBY MAGNETIC COMPASS

STANDBY MAGNETIC COMPASS

General

The standby magnetic compass is a backup magnetic heading reference. It is installed forward of the overhead circuit breaker panel (P7). The compass is mounted to the airframe with nonferrous material in an area of nonferromagnetic components.

Characteristics

The standby magnetic compass is a sensitive instrument composed of a circular heading indicator card having two parallel and horizontal magnets. The card is floating in a liquid filled case amd is free to rotate and tilt. The liquid medium serves to dampen rapid movements and oscillations of the compass. The magnets align the compass with the earth's magnetic lines of flux. This rotates the compass card that is calibrated to show the airplane heading relative to the earth's magnetic field. The magnetic heading of the airplane is read from the card against a fixed lubber line.

Power

The compass card is illuminated by a 5v ac bulb. The bulb brightness is controlled by the panel lighting control on the pilots overhead panel (P5). A lamp access cover permits easy replacement of the light bulb.

Adjustment/Test

The standby compass front panel has N-S and E-W compensator adjusters for alignment of the compass card. These compensators correct for magnetic deviations generated by airplane components and electrical currents in local wiring. A compass correction card is installed below the compass to record small errors that cannot be removed by the compass compensators.

NOTE: USE ONLY NON-MAGNETIC TOOLS TO ADJUST THE STANDBY MAGNETIC COMPASS.

Removal/Installation

The standby magnetic compass is attached by four screws on the front panel. To remove the compass follow the maintenance manual procedures and adhere to these cautions:

CAUTION: USE ONLY NONMAGNETIC TOOLS FOR REMOVAL AND INSTALLATION TO AVOID INSTRUMENT DAMAGE.

CAUTION: DO NOT USE STEEL SCREWS TO ATTACH COMPASS TO PANEL AS THEY CAN CAUSE ERRONEOUS COMPASS INDICATIONS.

Upon replacement of the standby compass, a compass swing is required. This is the only compass indicator on a 747-400 which requires a compass swing.

NOTE: FERROMAGNETIC PARTS INSTALLED NEAR THE STANDBY COMPASS CAN CAUSE COMPASS HEADING ERRORS. MAKE SURE NO FERROMAGNETIC PARTS ARE NEAR THE CAPTAIN'S OR FIRST OFFICER'S WINDOW FRAMES. IF FOUND, REPLACE THE PARTS WITH NONMAGNETIC, CORROSION-RESISTANT PARTS.

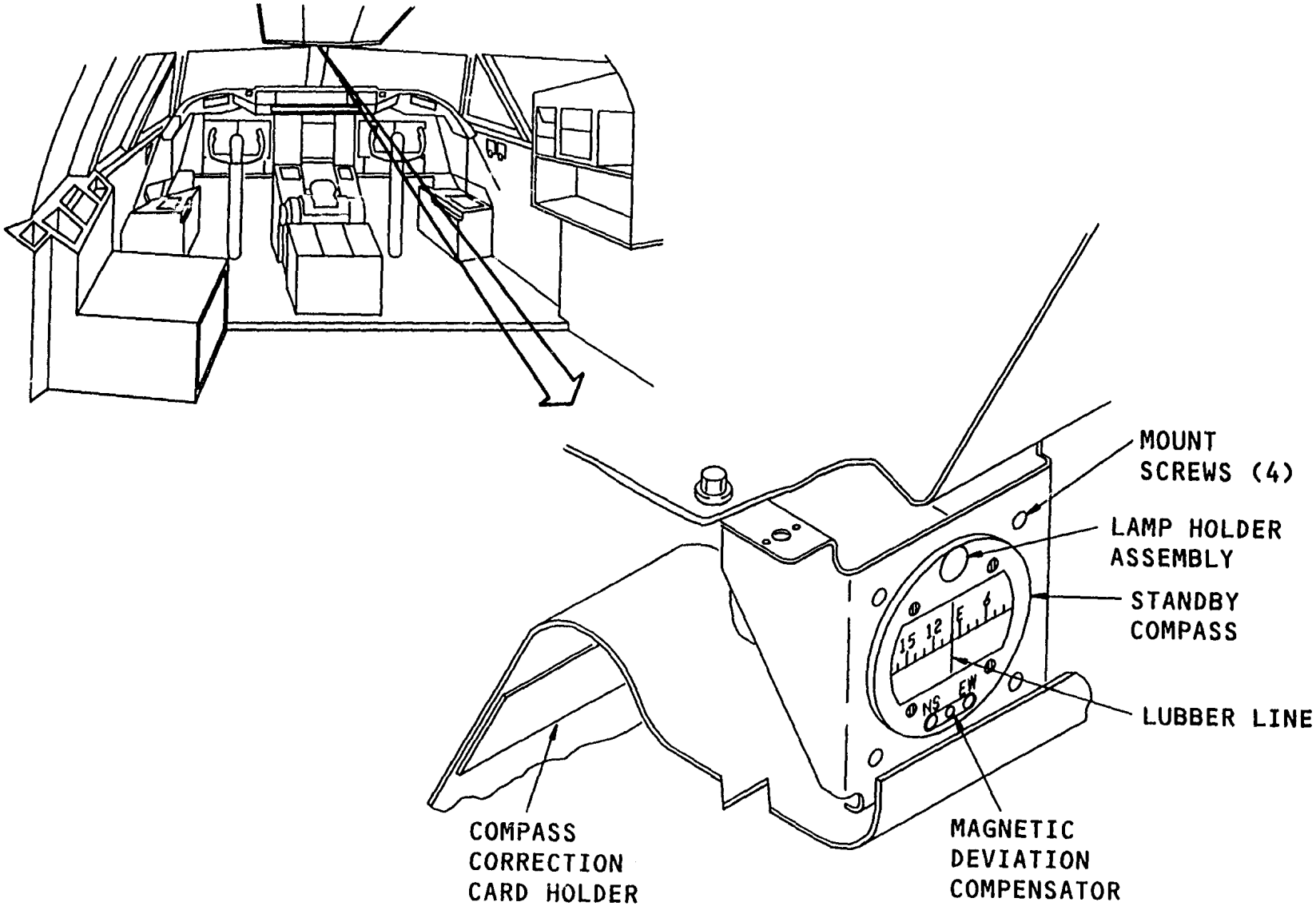

Figure 1 STANDBY MAGNETIC COMPASS

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