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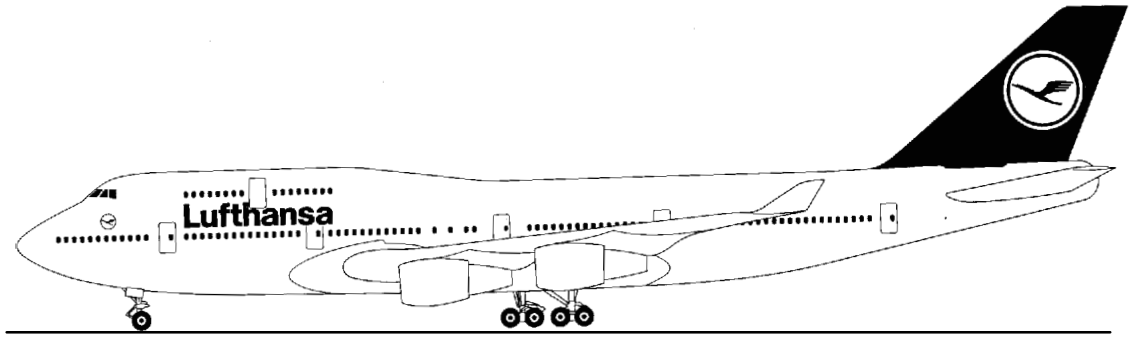
Training Manual B 747-400



ATA 34-13
Air Data Instruments

ATA Spec. 104 Level 3

Book No:

Lufthansa
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Lufthansa Base

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ATA 34-13 AIR DATA INSTRUMENTS

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STANDBY AIR DATA INSTRUMENTS INTRODUCTION

The standby air data instruments provide the flight crew with backup indications of airplane altitude and indicated airspeed (IAS). These instruments are pneumatic and receive inputs from the pitot-static system.

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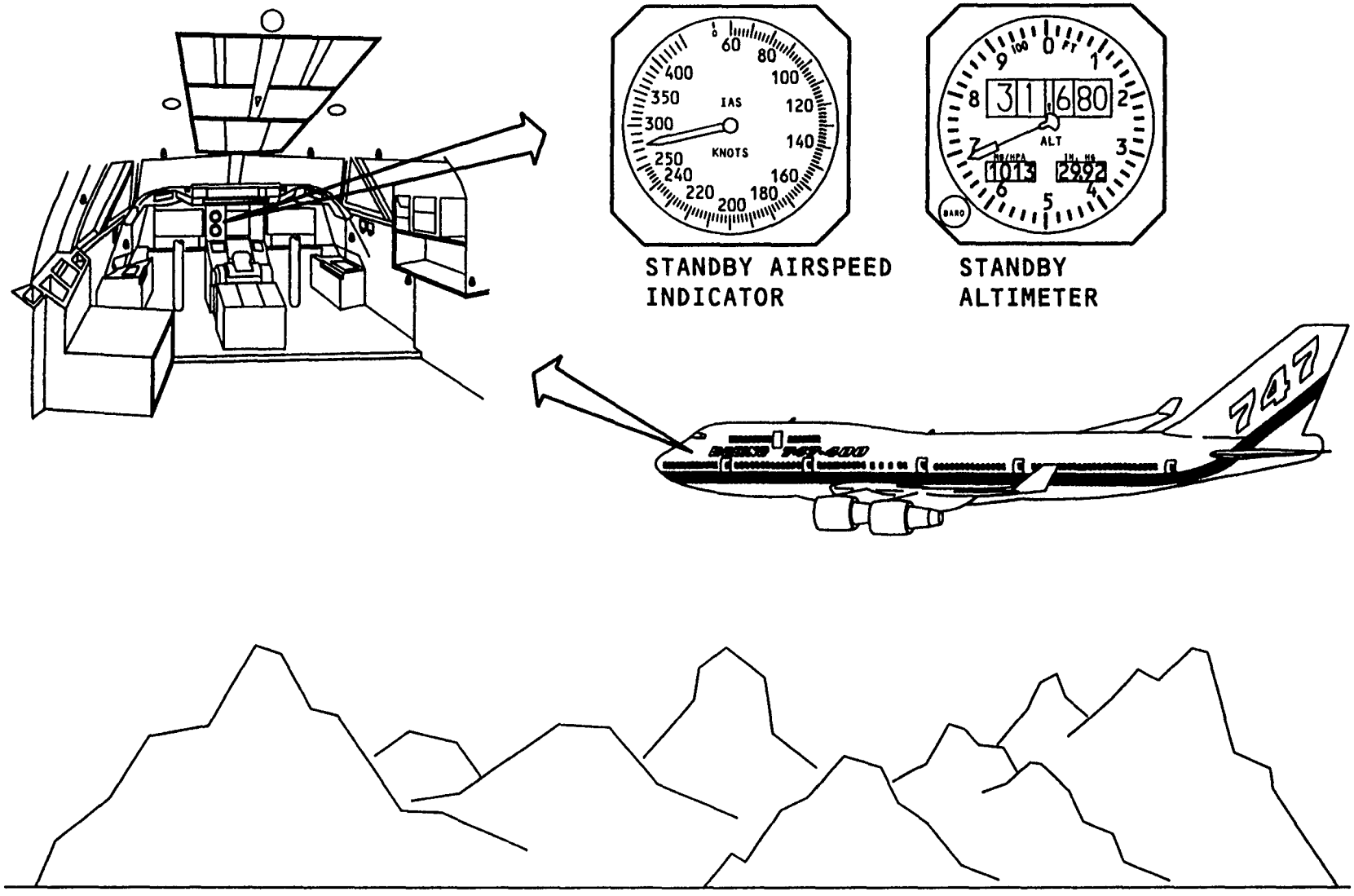

Figure 1 STANDBY AIR DATA INSTRUMENTS INTRODUCTION

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STANDBY AIR DATA INSTRUMENTS

The standby air data instruments are mechanical-pneumatic devices. They receive pressure inputs from the pitot-static system.

A standby pneumatic altimeter is a backup indication of the airplane's altitude.

The standby pneumatic airspeed indicator is a backup indication of the airplane's indicated airspeed (IAS).

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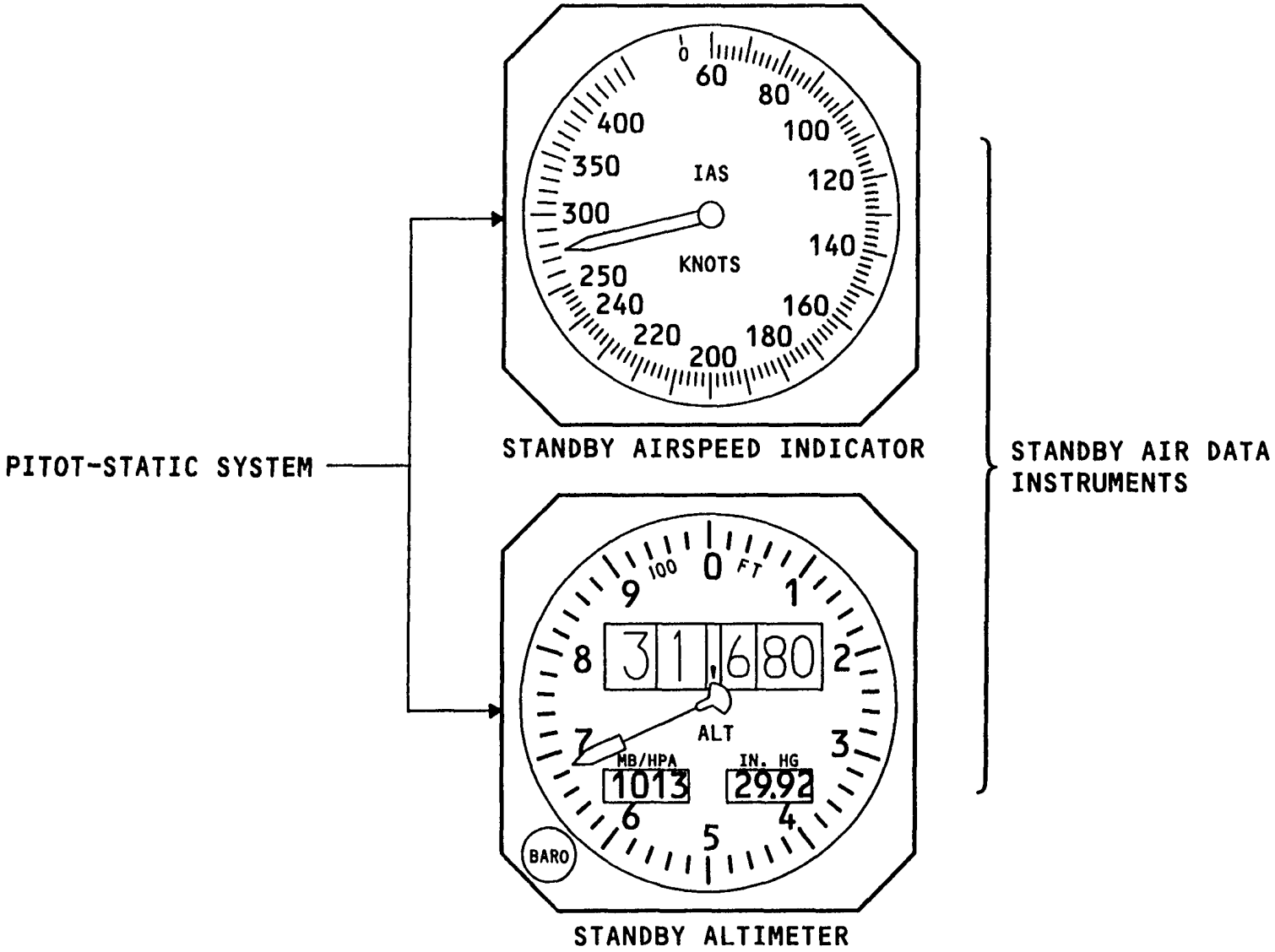

Figure 2 STANDBY AIR DATA INSTRUMENTS

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COMPONENT LOCATIONS

The standby airspeed indicator and the standby altimeter are on the pilots center instrument panel (P2).

The circuit breaker for the standby altimeter vibrator is on the overhead circuit breaker panel (P7).

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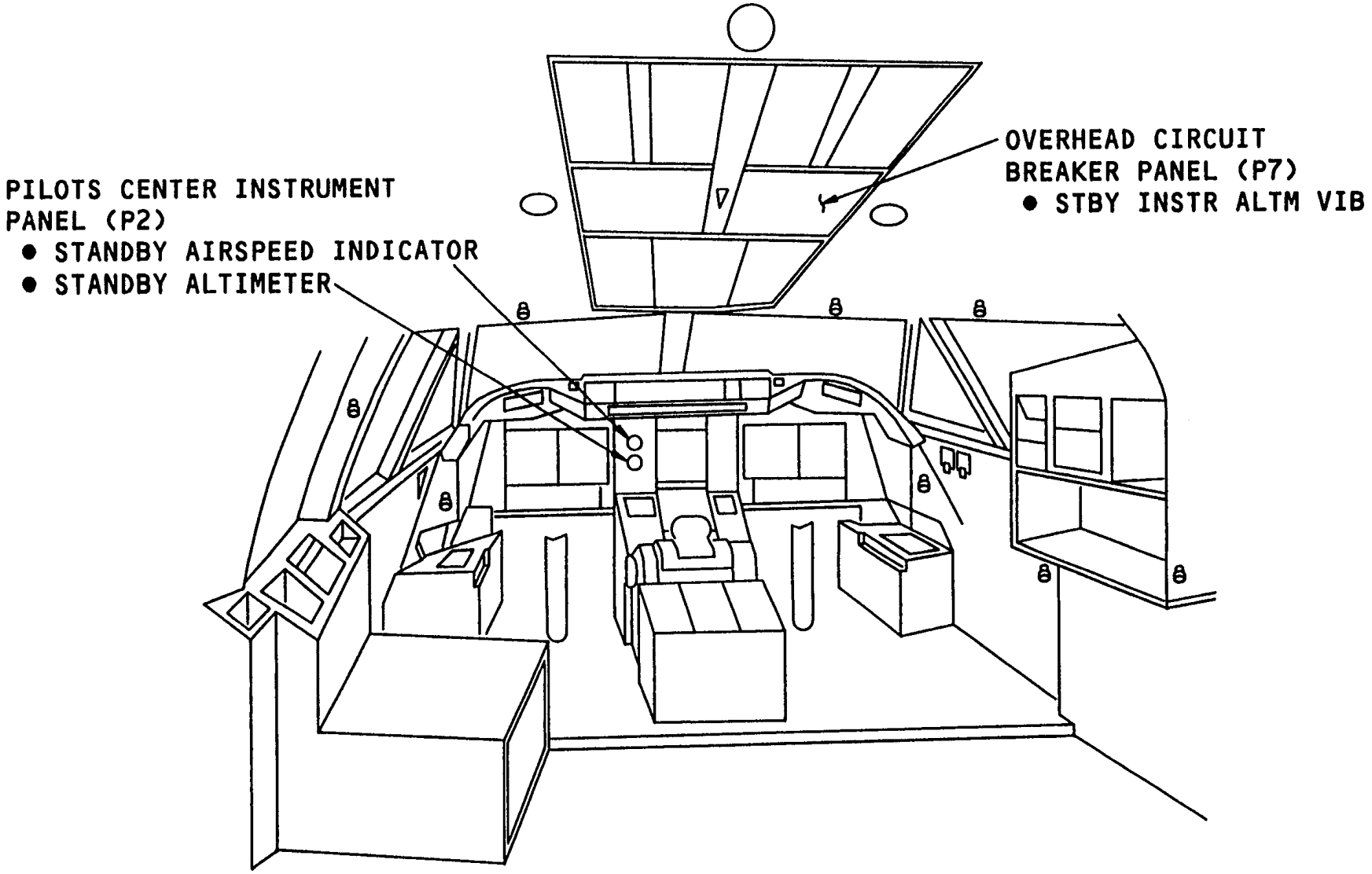

Figure 3 COMPONENT LOCATIONS

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INTERFACE DIAGRAM

The standby airspeed indicator receives static pressure from the left and right alternate static ports. It also receives pitot pressure from the auxiliary pitot No. 1 probe.

The standby altimeter receives static pressure from the left and right alternate static ports. It also receives 28v dc Vibrator power from the main battery bus.

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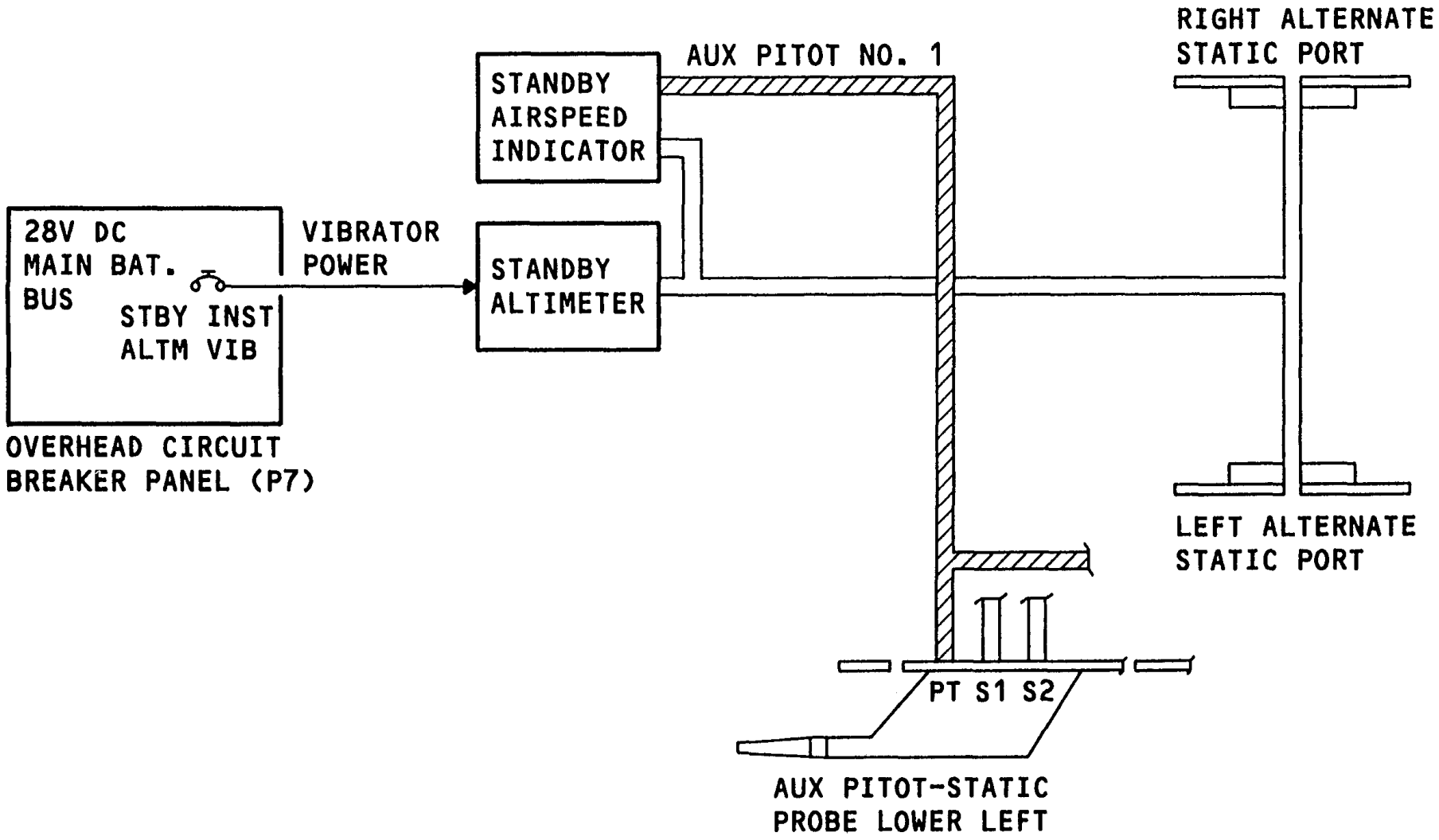

Figure 4 INTERFACE DIAGRAM

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STANDBY ALTIMETER

General

The following are features of the standby altimeter:

- The standby altimeter shows barometric altitudes from -2000 feet to 50,000 feet by a drum counter.
- The drum counter provides a digital readout of ten thousands, thousands, hundreds, and tens of feet.
- The drum counter is black with white digits. At altitudes below 10,000 feet, the left digit of the drum is green (blank). At altitudes below zero feet, the left digit reads NEG (black with white letters).
- The altitude display pointer shows 20 foot increments.
- The indicator is adjusted to local barometric pressure by the BARO set knob. Two counters show the barometric setting. One counter reads from 22.00 to 31.99 inches of mercury (in Hg). The second counter reads from 745 to 1083 Millibars/Hecto Pascal
- Power required is 5v ac for dial lighting and 28v dc for the vibrator.
- The internal vibrator provides for smooth altimeter operation. Without the vibrator, the altimeter sticks and shows wrong indications.
- There is no failure flag on the standby altimeter.

Removal and Installation

The static pressure input to the standby altimeter is a quick-disconnect fitting. The electrical connector is a cannon-plug-type connector.

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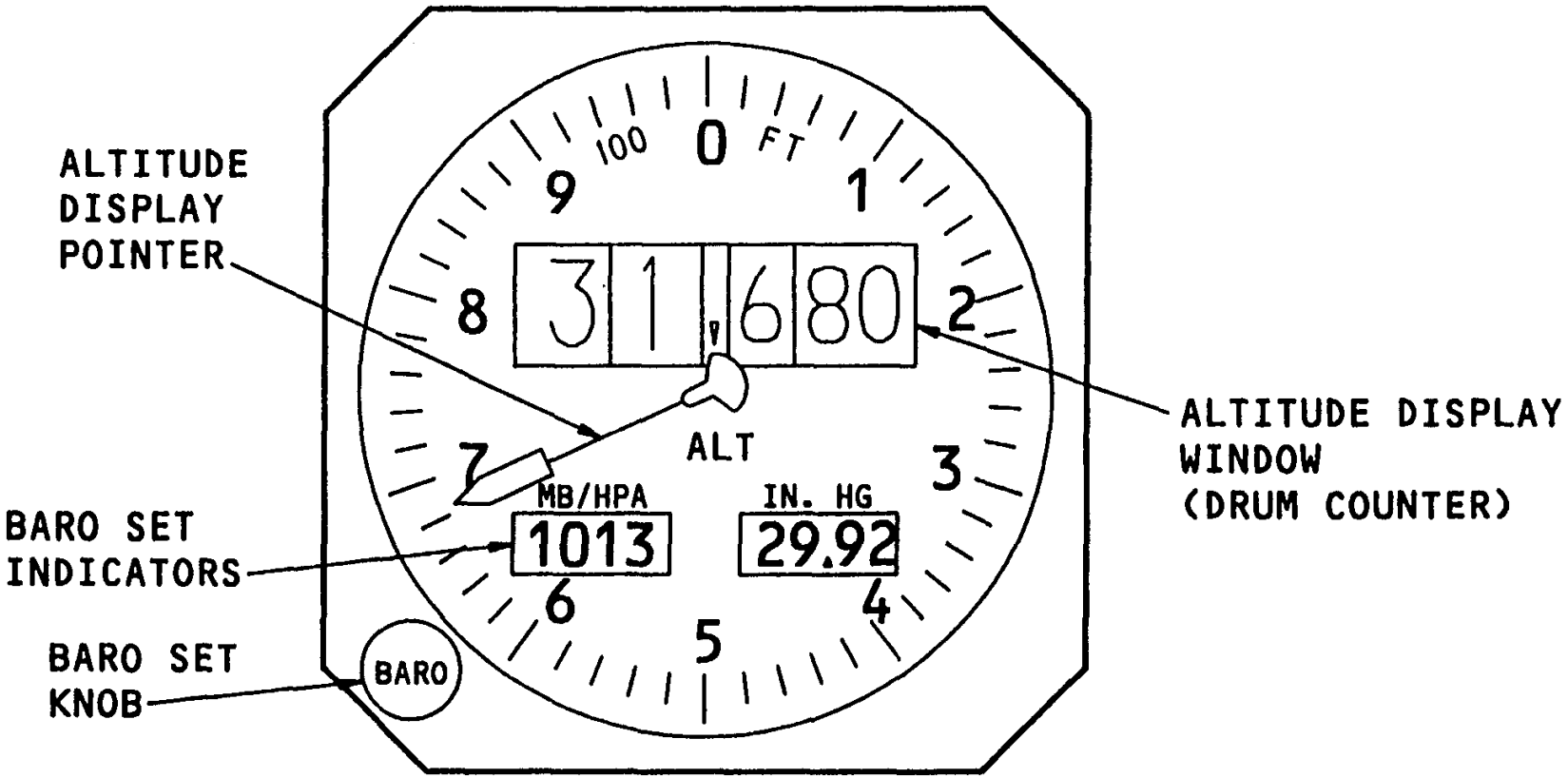

Figure 5 STANDBY ALTIMETER

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STANDBY AIRSPEED INDICATOR

General

The standby airspeed indicator shows indicated airspeed. The airspeed range is from 60 to 450 knots. Airspeed is indicated by an airspeed pointer read against a graduated scale. The major increment of this scale is 20-knots, from 60 to 240 knots, and 50-knots, from 250 to 450 knots.

There is no failure flag on the indicator.

Power required is 5v ac for dial lighting.

Removal/Installation

There are two quick-disconnect fittings for the pitot and static input connections.

CAUTION: CAREFULLY REMOVE AND INSTALL THE AIRSPEED INDICATOR AS TOO MUCH FORCE CAN CAUSE DAMAGE TO THE ELECTRICAL CABLE AND PITOT-ST ATIC HOSES ON THE REAR OF THE INDICATOR.

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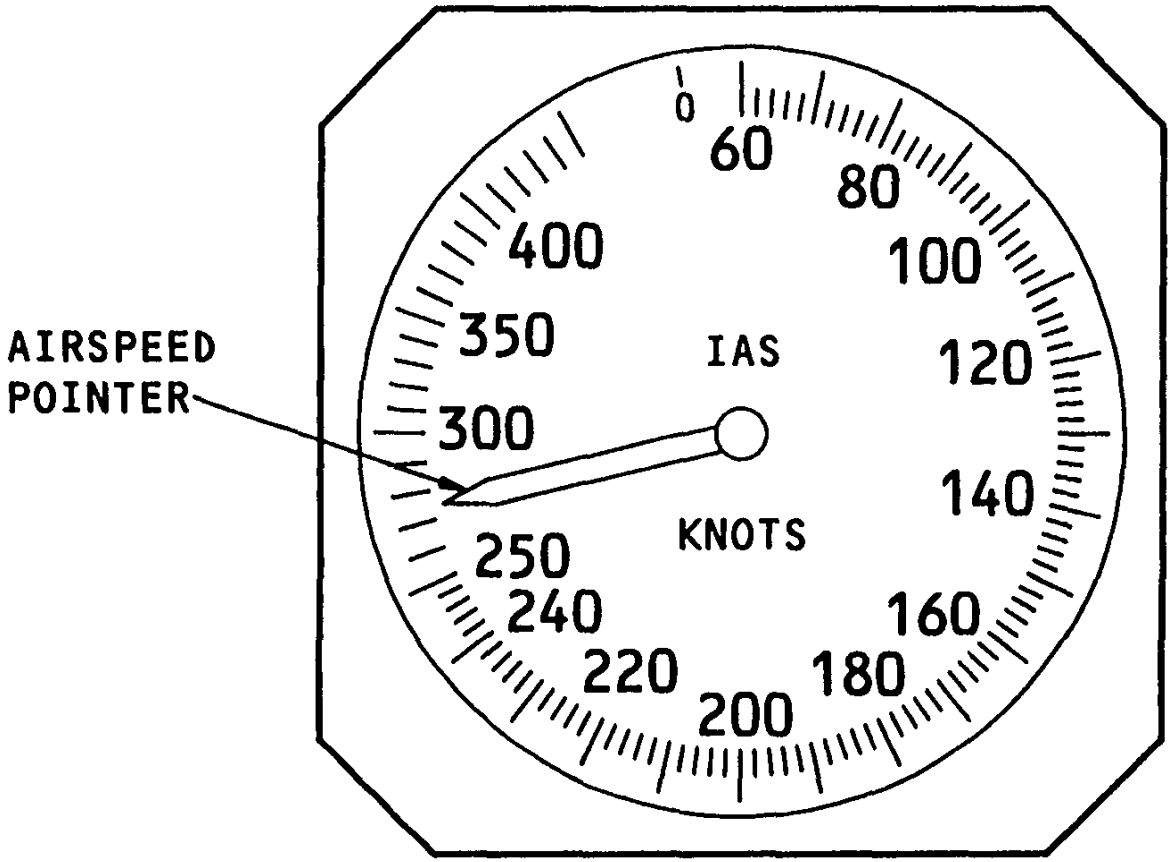

Figure 6 STANDBY AIRSPEED INDICATOR

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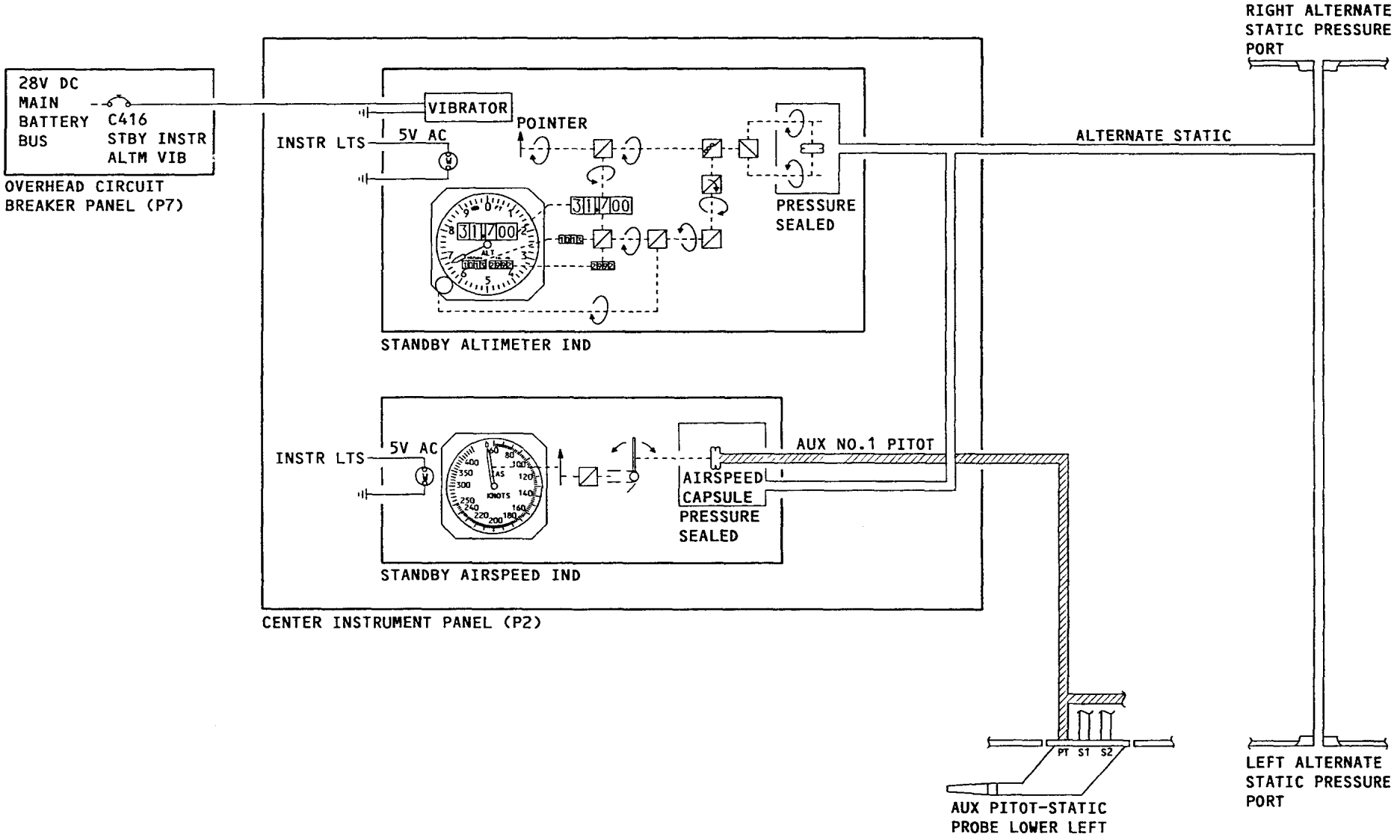

Figure 7 AIR DATA INSTRUMENTS SCHEMATIC DIAGRAM

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