

DOCKET NO. SA 509

EXHIBIT NO. 9E

NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C.

HONEYWELL STANDARD WINDSHEAR SYSTEM INFORMATION

by

HONEYWELL

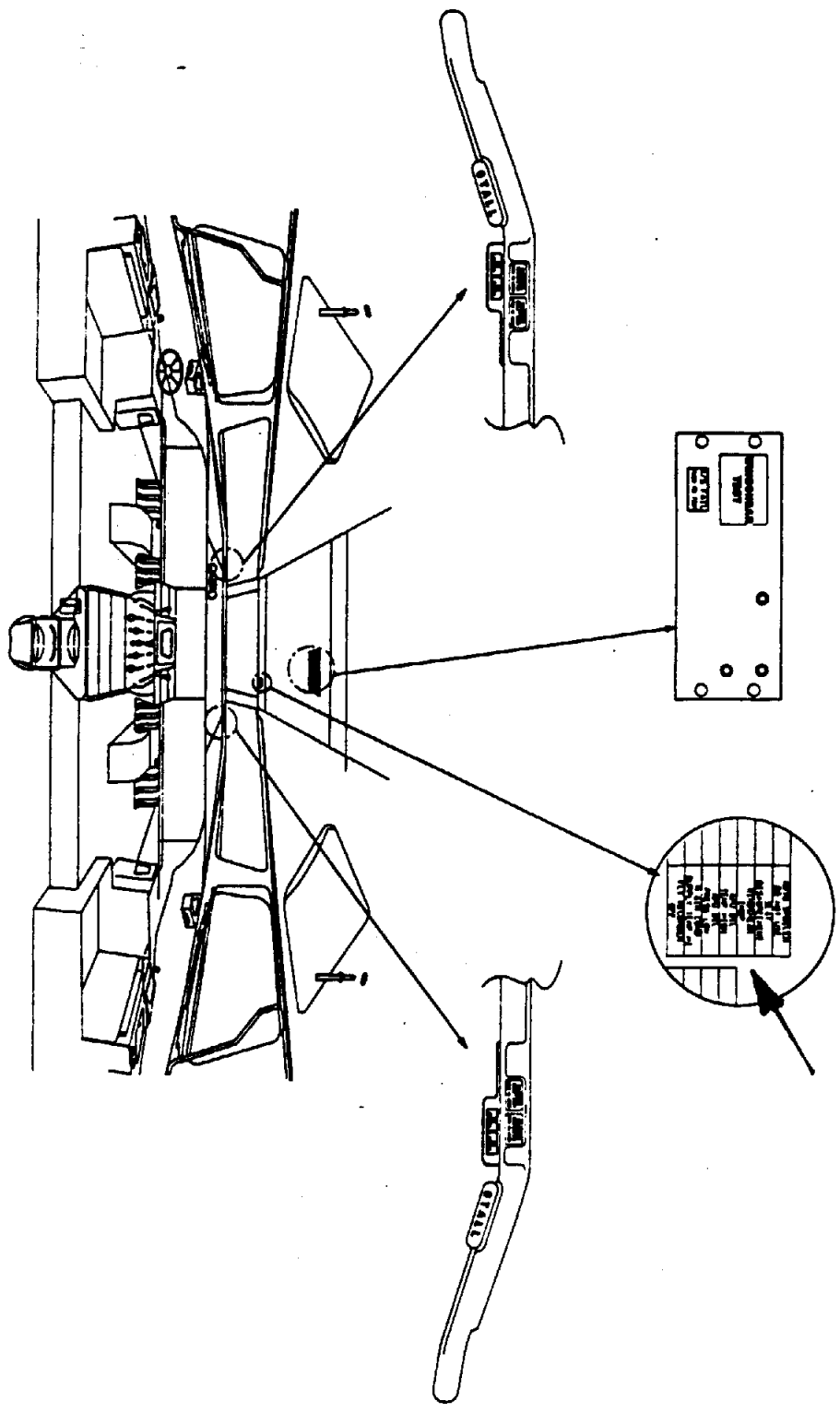
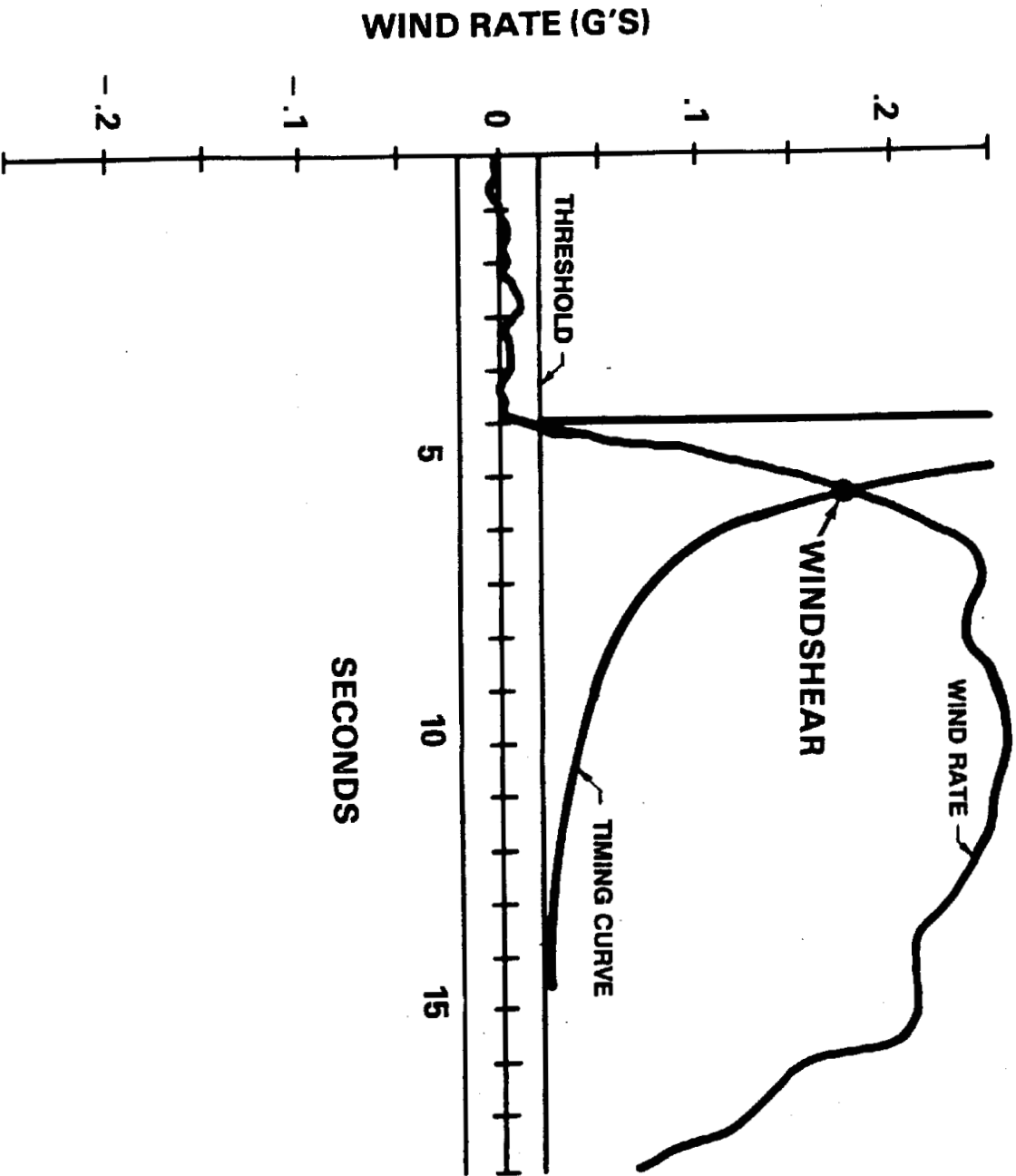


Figure 2.1-1. USAir Cockpit Layout

G-Sec Detection



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WINDSHEAR SYSTEM SELF-TEST FUNCTION

- **Continuous Built-In Test monitors:**
 - Internal Windshear Computer circuitry and processor.
 - External interfacing circuitry, including sensor integrity.
- **Pilot Initiated Test Function:**
 - Exercised prior to first flight of the day and at every crew change.
 - Operable only when the aircraft is on the ground.
 - Duration is approximately eight seconds.
 - Amber W/S Fail lamp is illuminated steady for eight seconds.
 - Amber Caution lamps are illuminated flashing for the first four seconds.
 - Red Warning lamps are illuminated flashing for the last four seconds.
 - Aural "Windshear" is annunciated once beginning at four seconds.
 - After eight seconds, results of continuous Built-In Test are reported.
 - W/S Fail lamp is extinguished if no failures detected.
 - W/S Fail lamp remains illuminated if any failure detected.
 - Aural message(s) annunciated if any failures detected.
 - Temperature range not tested on the ground.
 - AOA range and comparison not tested on the ground.

CONTINUOUS BUILT-IN TEST SYSTEM DEBILITATING FAILURES

SENSORS

- Normal Accelerometer Range Test
- Longitudinal Accelerometer Range Test
- Normal Accel. Self Test
- Long. Accel. Self Test
- TAT Range Test
- TAT OPEN/SHORT Tests
- P₀ Frequency/Temperature/Range/Calibration Tests
- P₁ Frequency/Temperature/Range/Calibration Tests
- Pitch Leg/Range/Step/Comparison Tests
- Roll Leg/Range/Step/Comparison Tests
- Attitude Reference 1 Valid Test
- Attitude Reference 2 Valid Test
- AOA 1 Excitation/Validity/Range/Step Tests
- AOA 2 Excitation/Validity/Range/Step Tests
- AOA Comparison Test
- Flap Leg/Range/Step Test
- Leading Edge Reasonableness Test
- AWS Output Monitor/Driver Tests
- AWS Message Active/Message Timeout/Initialization/Interrupt Tests
- 28 VDC Monitors 1 and 2 Tests
- 28 VDC Power Input Test
- Weight-On-Wheels 70 Knot Reasonableness Test
- Landing Gear Lever 70 Knot Reasonableness Test
- Weight-On-Wheels 200 Knot Reasonableness Test
- Landing Gear Lever 305 Knot Reasonableness Test
- Aircraft Configuration Not Supported or Configuration Parity Test
- Environmental Configuration Tests

INTERNAL

- Processor Execution/Memory Failures
- Memory CRC Tests
- Scratchpad Ram Data/Address Tests
- Power-Save Memory Data/Address Tests
- P₀ Calibration Memory Test
- P₁ Calibration Memory Test
- MUX A,B,C,D Calibration Tests
- Power-Loss Timer Test
- Power-up Discrete End-Around Test
- Sychro Reference Tests
- A/D Conversion Complete Test