

SMITHS

Flight Data System

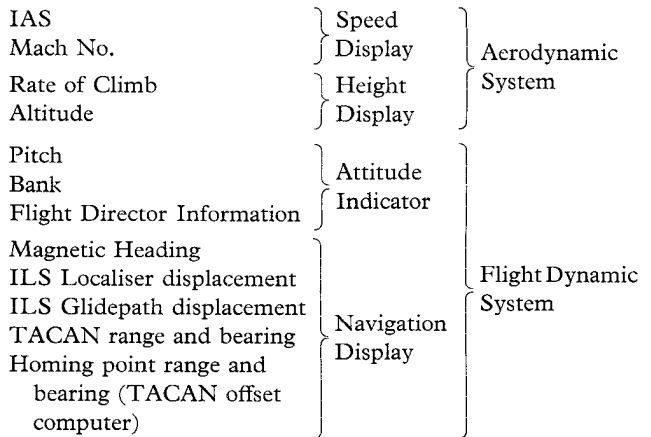
The Flight Data System has been specifically designed for high performance military aircraft and provides in a single compact cockpit panel four very clear and accurate display units which combine all the functions of a normal set of flight and radio navigation instruments.

The purpose of this leaflet is to give a general description of the Flight Data System and the facilities it can provide. For more detailed information please write to:

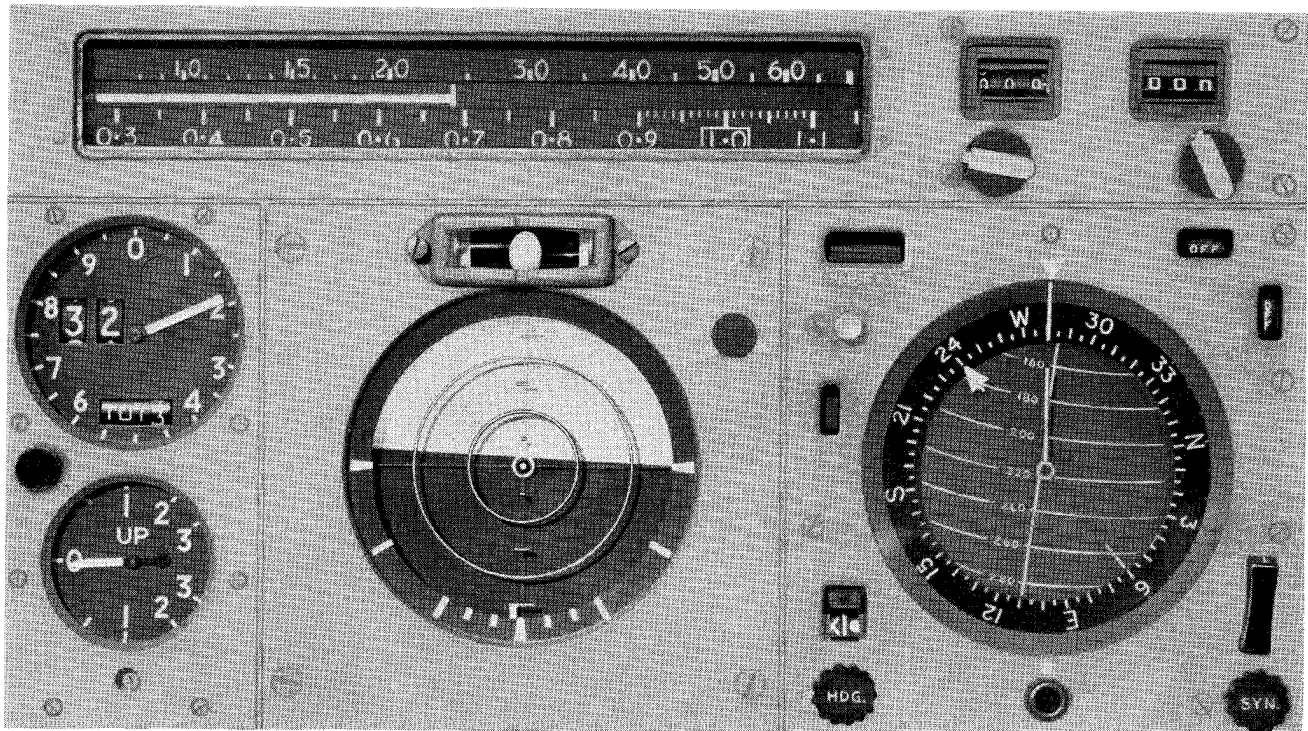
Technical Sales Department,
S. Smith & Sons (England) Ltd.,
Aviation Division,
Kelvin House, Wembley Park Drive,
Wembley, Middlesex.

Facilities

The Flight Data System is made up of two entirely separate sub-systems - the Aerodynamic System and the Flight Dynamic System. In the full installation the two sub-systems are combined to provide the following information on the cockpit panel:



NOTE: Slip indication is provided by a ball-in-tube inclinometer which forms part of the attitude display.
An additional Navigation Display Unit can be fitted to repeat Heading and TACAN information to a second crew member.



Flight Data System Display Panel

F2-2 Flight Data System

Aerodynamic System

The Aerodynamic System is essentially an Air Data Computer which measures pitot and static pressures by the well-proven Force Balance principle to produce very accurate servo outputs for driving the indicators of the Height and Speed displays.

Additional facilities which can be made available from the Air Data Computer are:

- 1 Rotary shaft outputs proportional to static and pitot-static pressures for Auto-pilot control of height and Indicated Airspeed.
- 2 Rotary shaft outputs proportional to True Airspeed or Mach number.
- 3 A rotary shaft output proportional to rate of change of altitude.

Flight Dynamic System

The flight Dynamic System co-ordinates and presents information from a number of different sources.

External requirements for the Altitude and Navigation displays of this system are:

- 1 Vertical and azimuth gyro references for pitch, bank and heading.
- 2 A Flight Director Computer to produce flight director command signals.
- 3 Compass detector to provide magnetic monitoring of heading information.

- 4 Compass and servo amplifier unit.

- 5 ILS and TACAN radio equipment.

Items 2-4 inclusive are supplied by Smiths as part of the full Flight Data System installation. Item 1 can be supplied by Smiths if required and item 5 is normally the responsibility of the aircraft constructor.

Simplified Installations

Where the fitting of a full Flight Data System is not justified various combinations of the display units which make up the complete installation can be supplied to suit the operational requirements of particular aircraft. In this way full advantage may be taken of the improved presentations and very accurate performance offered by the individual instruments in this system.

The following simplified installations are available:

- 1 Speed and/or Height Display with or without Air Data Computer.
- 2 Attitude display only with gyro references if required.
- 3 Combined Attitude and Flight Director display with gyro references if required, and Flight Director Computer.
- 4 Navigation display with compass detector and gyro references. (Suitable radio equipment would be required for ILS and TACAN modes).
- 5 TACAN Offset Computer (TACAN radio equipment would be required).

SMITHS

AVIATION DIVISION

The Aviation Division of
S. Smith & Sons (England) Ltd.
Smiths, Kelvin Hughes and Waymouth
aviation instruments and systems

Kelvin House, Wembley Park Drive, Wembley, Middx. Wembley 8888 Grams; Airspeed Wembley Telex: 25366