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KUWAIT AIR FORCE

LIGHTNING F MK.53

PILOT'S NOTES

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RESTRICTED

(A.L.5, Mar.75)

NOTES TO USERS

1 The Limitations quoted in Part 2 of these Notes are mandatory. The contents of other Parts of the book are mainly descriptive and advisory but instructions containing the word 'must' should also be regarded as mandatory.

2 The Notes are divided into five Parts, each consisting of a number of Chapters and each Chapter has a list of the paragraph headings. For easy reference a complete index of Parts, Chapter and paragraphs is given under 'Contents' at the beginning of the Notes.

3 Throughout these Notes the following conventions apply:-

(a) Words in large capital letters in the text indicate the actual markings on the controls concerned.

(b) Unless otherwise stated, all airspeeds, mach numbers and accelerometer readings quoted are indicated values.

(c) All reference to fluid capacities given in gallons are Imperial gallons.

4 Operating data are contained in the associated Operating Data Manual which should be used in conjunction with these Notes.

5 Amendment Lists will be issued as necessary and should be inserted in the appropriate place in the Notes. New or amended paragraphs will be indicated by triangles thus ◀.....▶ to show the amount of amended text and thus ▶.....◀ to show where text has been deleted.

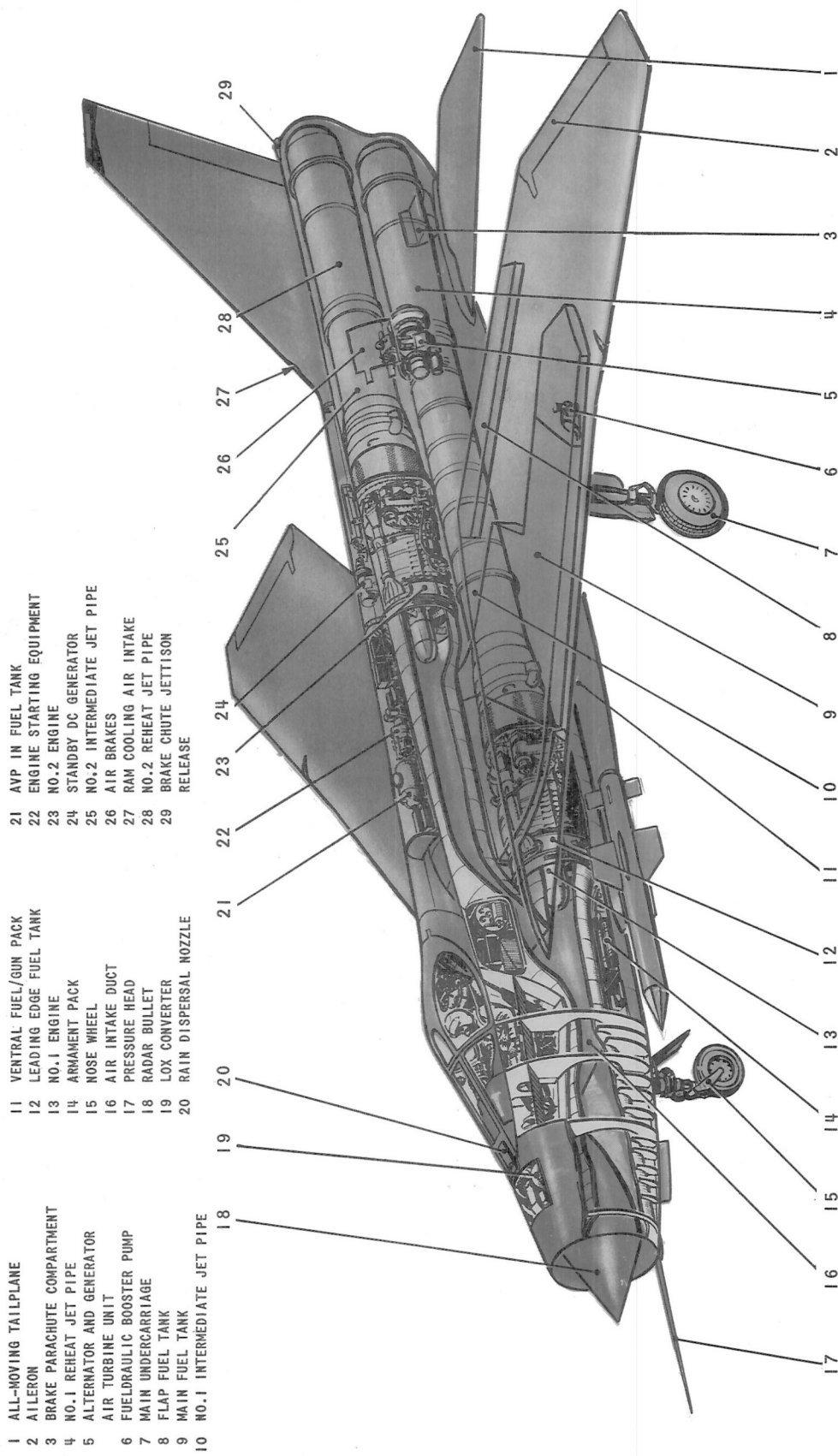
The number of the latest Amendment List affecting a page appears at the bottom of the page and any triangles therefore on the page refer to this Amendment List. However, if a page is issued in a revised form, or consists of completely new text, the triangles do not appear.

If a manuscript amendment is called for in an Amendment List the number of the Amendment List should be noted in the margin adjacent to the amended text.

Incorporation of an Amendment List must be certified on the Amendment Record Sheet.

FRONTISPIECE

(to be issued later)



- 1 ALL-MOVING TAILPLANE
- 2 AILERON
- 3 BRAKE PARACHUTE COMPARTMENT
- 4 NO.1 REHEAT JET PIPE
- 5 ALTERNATOR AND GENERATOR
- 6 AIR TURBINE UNIT
- 7 FUELRAULIC BOOSTER PUMP
- 8 MAIN UNDERCARRIAGE
- 9 FLAP FUEL TANK
- 10 NO.1 INTERMEDIATE JET PIPE
- 11 VENTRAL FUEL/GUN PACK
- 12 LEADING EDGE FUEL TANK
- 13 NO.1 ENGINE
- 14 ARMAMENT PACK
- 15 NOSE WHEEL
- 16 AIR INTAKE DUCT
- 17 PRESSURE HEAD
- 18 RADAR BULLET
- 19 LOX CONVERTER
- 20 RAIN DISPERSAL NOZZLE
- 21 AVP IN FUEL TANK
- 22 ENGINE STARTING EQUIPMENT
- 23 NO.2 ENGINE
- 24 STANDBY DC GENERATOR
- 25 NO.2 INTERMEDIATE JET PIPE
- 26 AIR BRAKES
- 27 RAM COOLING AIR INTAKE
- 28 NO.2 REHEAT JET PIPE
- 29 BRAKE CHUTE JETTISON RELEASE

General Arrangement

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INTRODUCTION

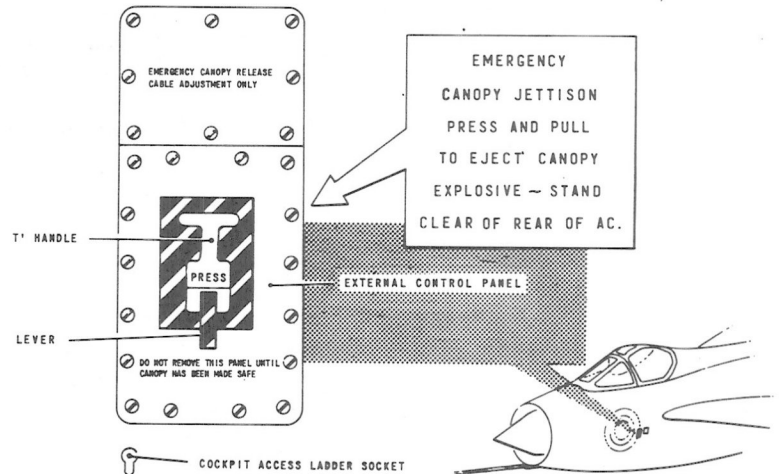
1 The Lightning F Mk.53 is a single-seat, twin-engined, supersonic aircraft designed for interceptor/fighter and ground attack duties.

2 The power units are two, Rolls-Royce Avon Mk.302C, axial-flow gas turbines mounted in the fuselage, No.2 to the rear of and above No.1. Engine thrust may be augmented by reheat which is fully variable between the minimum and maximum available. Each engine develops 12,580 lb (maximum) static thrust at sea level ISA without reheat and 16,300 lb (maximum) with maximum reheat.

3 Fuel is carried in integral wing tanks and in the flaps, and in a non-jettisonable ventral pack. Provision is made for flight refuelling.

4 Electrical power is derived from a generator and an alternator, both driven by an

air turbine unit powered by air tapped from the engine compressors. A standby generator is fitted for emergency use; service and emergency batteries are provided.



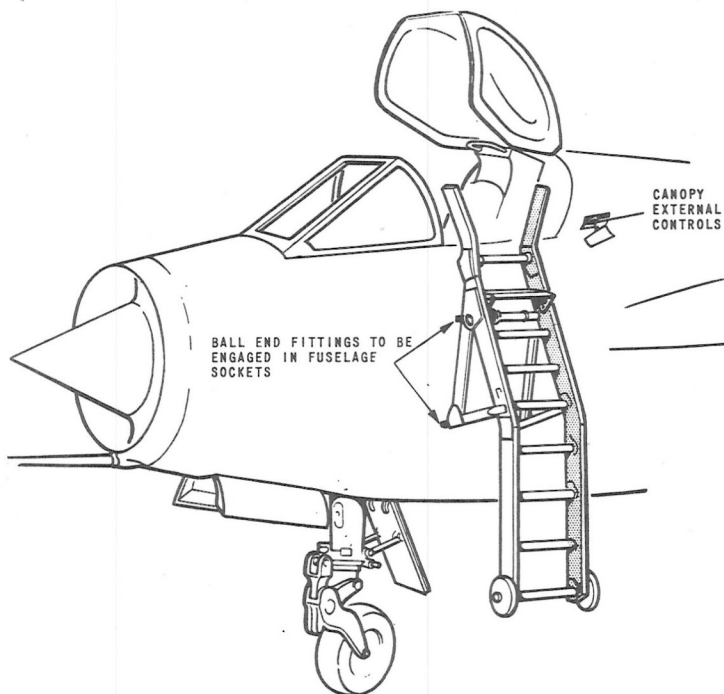
C2017-1

External canopy jettison control

5 The flying controls (ailerons, rudder, and all-moving tailplane) are fully power-operated and incorporate artificial feel; hydraulic supplies to these controls are duplicated. Two-position flaps and two-position air brakes are electrically controlled and hydraulically operated. A braking parachute is housed in a compartment on the underside of the fuselage.

6 An integrated flight instrument and control system uses an air data system and master reference gyro to provide speed, height, attitude and direction information to the flight instruments and to the flight control system which provides autostabilization, programmed climb, attitude hold, height and heading locks and ILS coupled approaches.

7 A weapons pack mounted in the lower front of the fuselage may be either Firestreak, Red Top, or rockets. The Firestreak and Red Top packs each carry two pylon-mounted guided missiles; the rocket



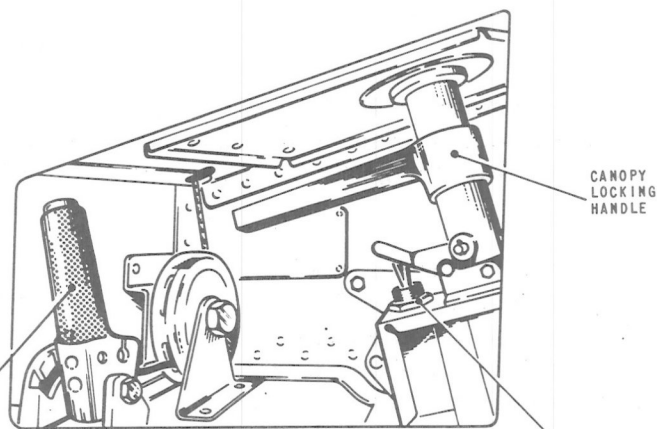
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Access to cockpit

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launchers forty-four 2-inch unguided rockets. The engine hatch fuel tank is interchangeable with a pack containing two Aden guns and ammunition, and fuel. Underwing pylons allow two 1000 lb bombs, two 540 lb retarded bombs, or thirty-six SNEB rockets to be carried. Al 23S, search and interception radar, is in a compact container mounted in the intake duct.



EMERGENCY CANOPY-JACK RELEASE HANDLE

CANOPY LOCKING HANDLE

CANOPY JACK CONTROL SWITCH

53-4010-1

8 The pressurized cockpit is covered by a power-operated clam-shell type canopy. On ejection, the canopy is jettisoned automatically but can be jettisoned independently of seat ejection by internal or external controls. The pilot is provided with an ejection seat equipped with escape and survival equipment.

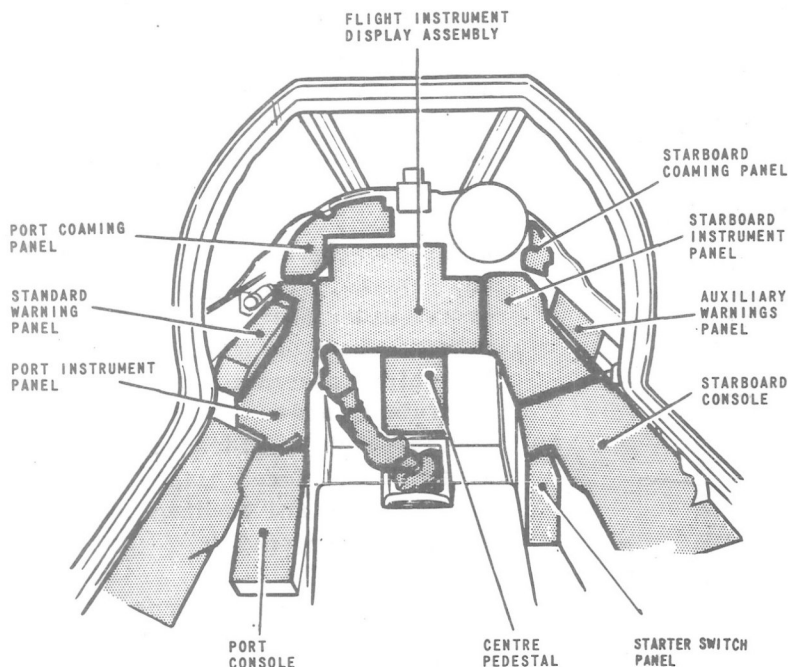
9 Entry to the cockpit is gained from the port side of the aircraft by an access ladder which is part of the ground equipment. The canopy is opened from the outside by means of a handle and switch located behind

External canopy controls

a panel on the port side of the fuselage spine.

10 The various panels on which the pilot's controls and indicators are located are referred to throughout the Notes as shown on the accompanying illustration.

11 The principal dimensions of the aircraft are:-



53-4008-1

Principal instrument and control panels

Length (including pressure head) 55 ft 3 in.

Height (to top of fin) 19 ft 7 in.

Wing span 34 ft 10 in.

Track 12 ft 10.35 in.

Canopy height 11 ft 6 in.

WARNING: Whenever the aircraft is on the ground, the ejection seat and canopy must be left 'safe for parking', i.e. safety pins must be fitted to the ejection seat face-screen and seat-pan firing handles and in the canopy jettison unit firing sear.