Chapter 5 FIRE PROTECTION SYSTEM

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DESCRIPTION AND OPERATION

Introduction

1. A fire warning and a fire extinguishing system are installed as a protection against fire in the engine bay. The systems, which are electrically operated, are independent and their circuits, together with servicing details of the electrical components are covered in Section 5, Chapter 1. The two fire bottles are operated by a press switch mounted on the starboard side of the cockpit.

Fire warning system

2. This system comprises twelve resetting type fire detectors disposed about the combustion chambers and the fuel system at the front of the engine (*fig.* 1). Six switches are mounted on the front former of the rear cone, one port and starboard on rib No. 1, and four on the engine mounting frame. The detectors will operate in the event of fire or a rise in temperature above 300 deg. C., and illuminate a red warning lamp which is mounted on the starboard side of the cockpit above the instrument flying panel (*Sect.* 1, *Chap.* 3).

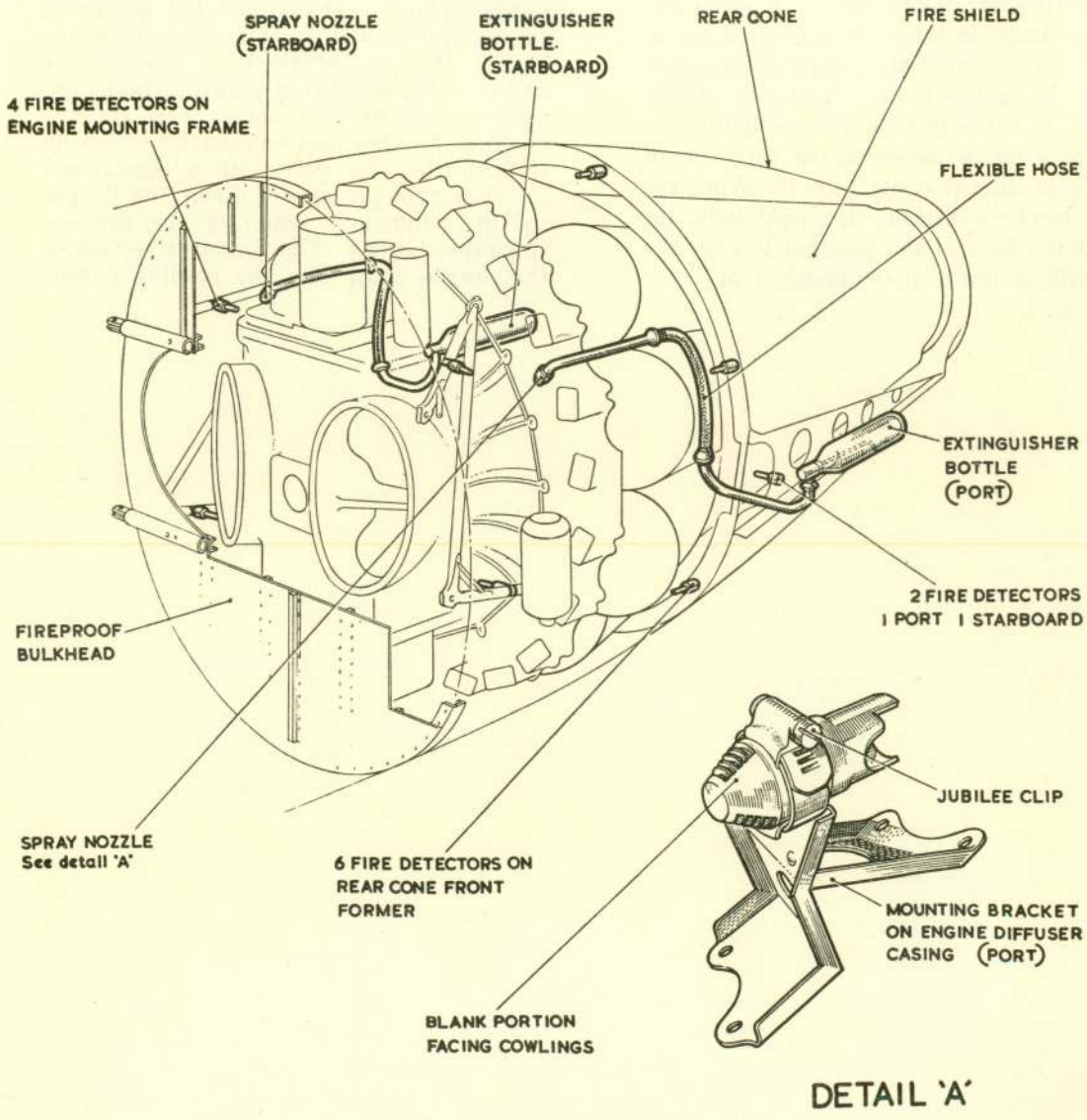

Fig. 1. Fire protection system

Fire extinguisher system

3. Two Graviner bottles containing methyl bromide at a pressure of 250 lb. per sq. in. are mounted outboard of rib No. 1 in the flap shrouds (one port, one starboard), and are accessible when the flaps are lowered. The bottles are discharged by a small explosive charge in the neck, detonated by an electric current when the cockpit extinguisher switch is operated. The contents of the bottles are discharged simultaneously through two spray nozzles mounted one each side of the engine diffuser casing (*fig.* 1). When the bottle has been discharged, a small indicator pin at the base of the junction box on the neck will protrude approximately $\frac{1}{8}$ in.

SERVICING

General

4. Instructions for the testing and servicing of the electrical components of the fire warning and fire extinguishing systems are given in Sect. 5 Chap. 1. Any sign of leakage must be immediately investigated and the bottle replaced. The correct full weight to the nearest half ounce is stamped on the bottle. The spray nozzles must be kept clear and it is *important* that periodic checks are made to ensure that these holes are unobstructed. They may be cleared by blowing through the pipe runs with a compressed air blast at a pressure of about 100 lb. per sq. in., after first removing the fire extinguisher bottles. The shrouded portion of the nozzles must face the cowling panels.

REMOVAL AND ASSEMBLY

General

5. The procedure for the removal and assembly of most of the components will be apparent when viewed on the aircraft. The bottles must always be mounted with the electrical socket on the neck facing vertically downwards. This will ensure that the stackpipe within the bottle is correctly positioned for the maximum discharge of the contents. The fire detector on the port top engine mounting frame should be mounted facing outboard, at approximately 30 deg. below horizontal.

Note . . .

The fire detector heads must not be shrouded by any part of the structure or by adjacent accessories.

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