Chapter 5 FIRE PROTECTION SYSTEM

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DESCRIPTION AND OPERATION

Introduction

1. A fire warning and 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 the servicing of the electrical components are covered in Sect. 5.

Fire warning system

2. This system comprises twelve re-setting fire detectors, disposed about the combustion chambers and the fuel system at the front of the engine. Eight of the detectors are mounted on the front former of the rear cone, the upper four facing forward and the lower four facing aft, the remaining four being mounted on the engine bearers, two port and two starboard. A rise in temperature above 300 deg. C will cause the detectors to operate and complete an electrical circuit, to light a red warning lamp housed in the fire extinguisher push switch in the cockpit (*Sect.* 1, *Chap.* 3). Rib No. 1 on both main planes is fireproofed to protect the flying controls in the main planes in the event of fire in the engine bay.

Note . . .

The red warning lamp circuit may be tested by pulling out the push switch.

Fire extinguishing system

3. The system comprises two Graviner high rate discharge bottles containing methyl bromide at a pressure of 250 lb. per sq. in. The bottles are mounted outboard of the No. 1 ribs in the port and starboard flap shrouds respectively, and are accessible when the flaps are lowered. The methyl bromide is discharged through the two spray nozzles, on either side of the engine diffuser casing, when the fire extinguisher push-switch is depressed, the push-switch completing an electrical circuit to detonate a small explosive charge in the neck of each bottle. When a bottle has been discharged, a small indicator pin protrudes approximately $\frac{1}{8}$ in. at the base of the junction box on the neck of the bottle.

SERVICING

General

4. When fully charged each bottle should weigh 10 lb. 4 oz., without the cartridge and this weight should be periodically checked, allowing a permissible tolerance of $\pm 3\frac{1}{2}$ oz. Electrical test instructions are given in Sect. 5, Chap. 1.

5. Periodical checks must be carried out to ensure that the holes in the spray nozzles are kept clean and free from any foreign matter.

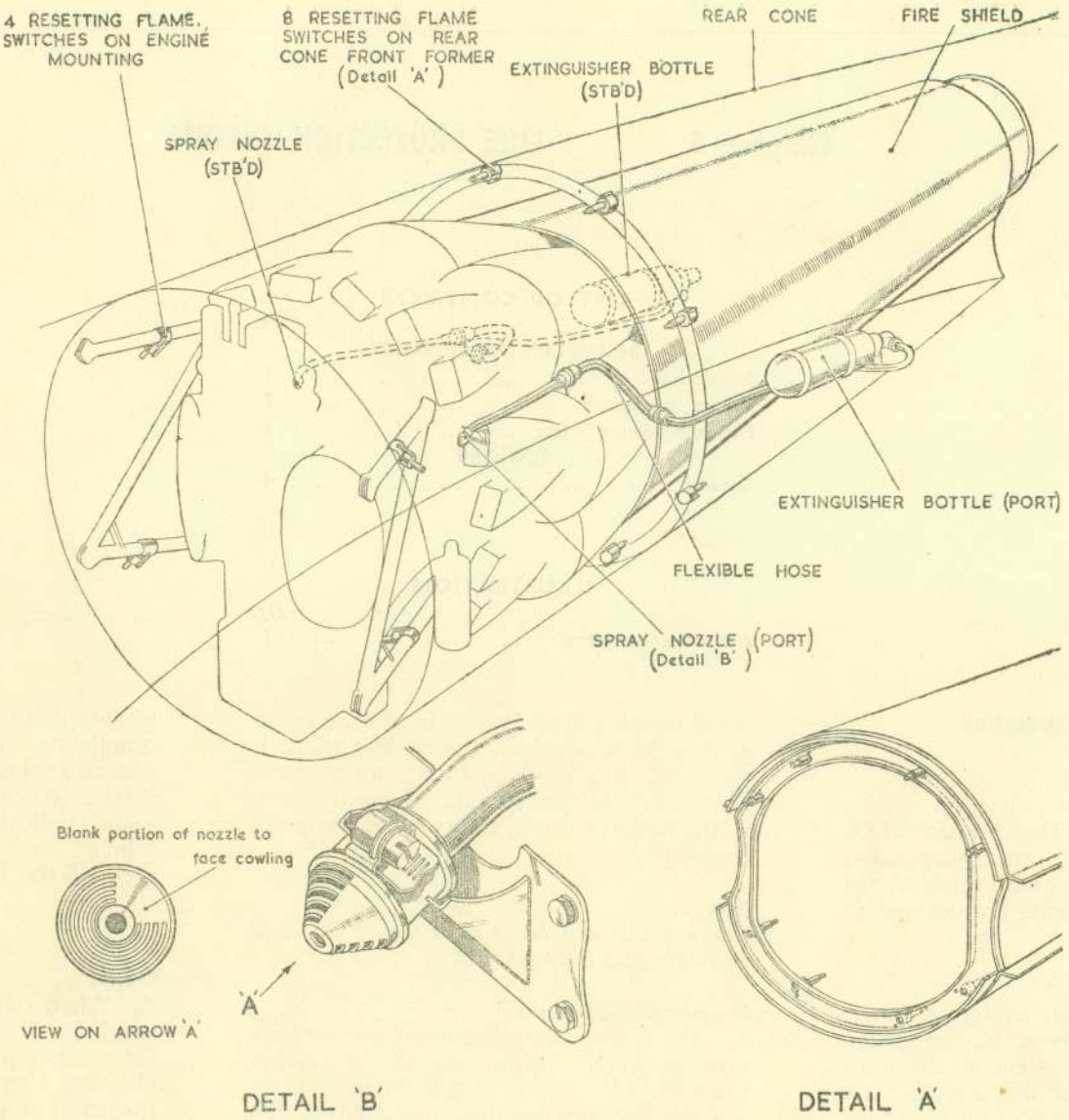

Fig. 1 Fire protection system

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