GROUP D.8

ARRESTING HOOK CONTROL (CODE AG)

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Introduction

1. This group contains the description and operation of the arresting hook control circuit, together with information on the servicing required to maintain the equipment in an efficient condition. Routeing and theoretical circuit diagrams are also included. For a description of the aircraft electrical system, reference should be made to Groups A.1, A.2 and A.3 of this chapter. Detailed information on the standard items of equipment used will be found in the Air Publications listed in Table 1.

DESCRIPTION

Equipment details

2. The arresting hook, located below the rear fuselage, is released by the operation of the selector switch which is situated in the cabin on a bracket attached to the port windscreen platform. The switch is marked UP and DOWN and is of the single-pole, spring-return to centre-off type with the switch lever in the form of an arresting hook. The switch controls the hook electro-magnetic release unit located in a housing between frames 56 and 57 in the undersurface of the rear fuselage. A small two-pole plug, located on the port side of frame 46 and accessible via an access panel in the side of the rear fuselage, is provided for testing the hook release unit for correct cocking.

3. To indicate when the hook has been released, a warning lamp is provided adjacent to the selector switch. This lamp is controlled by a microswitch actuated when the hook is released. The microswitch is located just forward of frame 52 in the bottom of the rear fuselage.

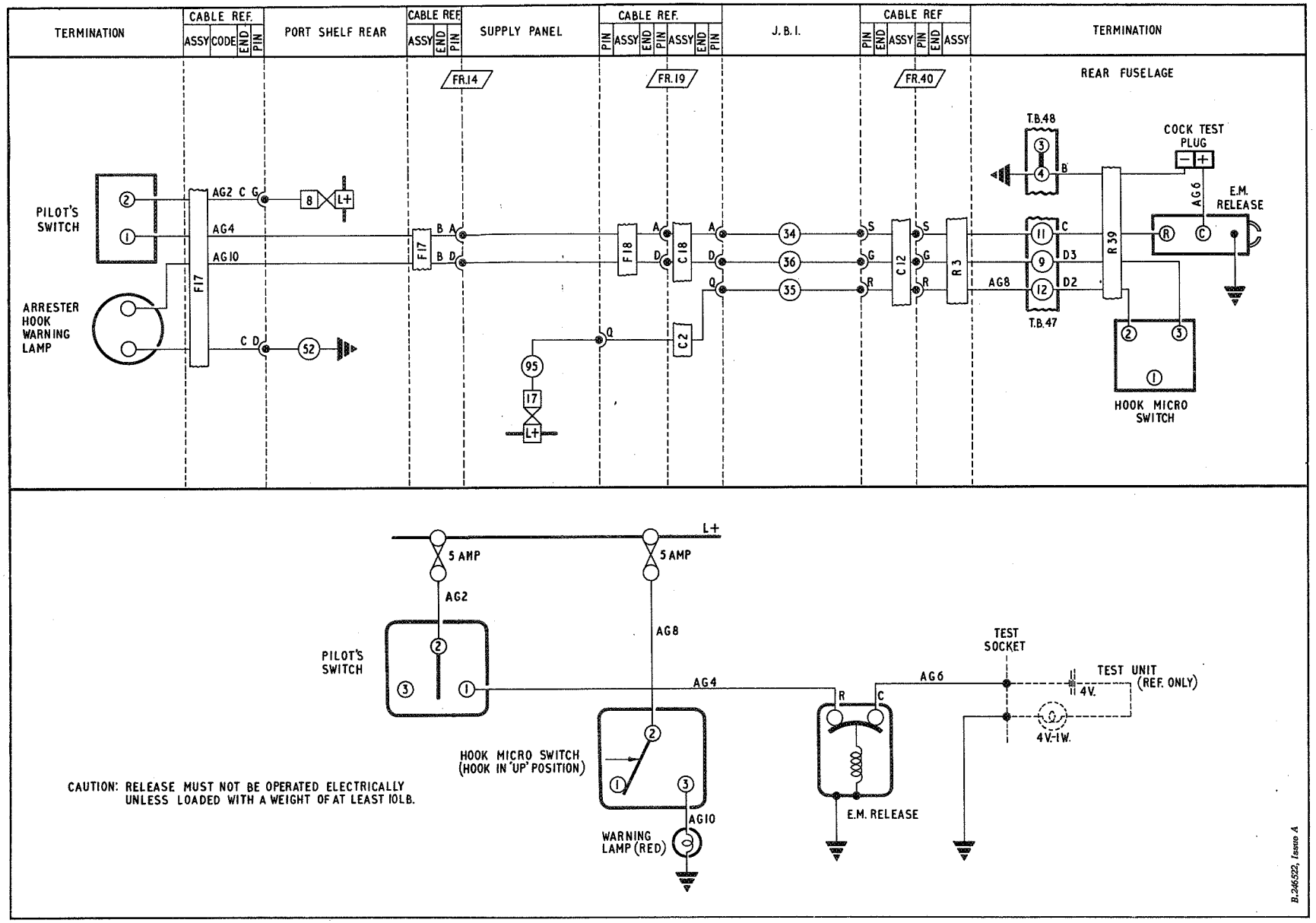

Fig.1 Arresting hook control (routeing and theoretical)

RESTRICTED

Operation

Hook down

4. The circuit *(fig.1)* illustrates the condition found when the arresting hook is in the up position and the release unit locked, i.e. the normal flight condition. If during landing, the selector switch is moved to the DOWN position, the release unit solenoid coil will be energized and open the jaws retaining the arresting hook. When the jaws open, the solenoid coil is de-energized by the opening of the release unit feed switches, which are actuated by the jaw mechanism within the release unit. The hook is thus released and moves to the down position under gravity and the assistance of the damper.

5. In moving to the down position, the arresting hook operates the hook microswitch, which makes contacts 2 and 3 to complete the supply to the hook warning lamp, which is illuminated. This indicates that the arresting hook is in the down position.

Hook up

6. The arresting hook is returned to the up position and inserted into the jaws of the release unit by hand. This action releases the hook microswitch, extinguishes the warning lamp and relocks the release unit ready for the next operation.

Release unit test

7. The test plug is used for the connection of a test set to the release unit circuit. The test set is provided with a socket and consists of a low voltage battery and a lamp, which will light if the release unit is correctly cocked, as a circuit will then be completed through the release unit feed switches, solenoid coil and test set.

SERVICING

General

8. For general servicing of the aircraft electrical system, reference should be made to Group A.1 of this chapter. All the components should be kept clean and inspected periodically for signs of damage and to ensure that they are securely mounted. Apart from the standard routine bench testing of the components, as described in the appropriate Air Publications listed in Table 1, no further servicing should be required. To prevent damage to the release unit, due to an overload, it must be noted that the release unit must not be operated electrically unless it is loaded with a weight of at least 10 lb. This ensures that the jaws open correctly and isolate the solenoid coil so that the current is not applied for an excessive length of time.

TABLE 1

Equipment type and Air Publication reference

Equipment	Air Publications
Tumbler switch, Rotax Type D.5435 (Selector)	A.P.4343C, Vol.1, Book 1, Sect.1
Warning lamp, Type A	A.P.4343E, Vol.1, Sect.18
Hook release unit, E.M. No.1, Mk.1	A.P.4343X, Vol.1, Sect.5
Microswitch, Dowty Type C.1831Y, Mk.102C	A.P.4343C, Vol.1, Book 1, Sect.2

REMOVAL AND ASSEMBLY

General

9. Once access has been obtained, the removal and assembly of the components forming the arresting hook control circuit should present no difficulty. The location and access to all the components is indicated in Group A.3 of this chapter.