GROUP D.10

ARRESTING HOOK CONTROL (CODE AG)

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Introduction

1. This Group contains the description and operation of the aircraft's 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 general description of the aircraft's electrical system, reference should be made to Groups A.1, A.2 and A.3. Detailed information on the standard items of equipment used in the circuit will be found in the Air Publications listed in Table 1.

DESCRIPTION

Arresting hook control

2. The arresting hook, located below the rear fuselage, is released by the operation of either the instructor's or pupil's selector switch situated in the cabin on the centre instrument panel and armament panel respectively. Each switch is marked ARRESTER HOOK DOWN and is of the single-pole, spring-return to centre-off type, with the switch lever in the form of an arresting hook. To prevent inadvertent operation a guard plate is fitted to the pupil's selector switch. The switches control a 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. A warning lamp adjacent to the instructor's selector switch is operated from a microswitch forward of frame 12.

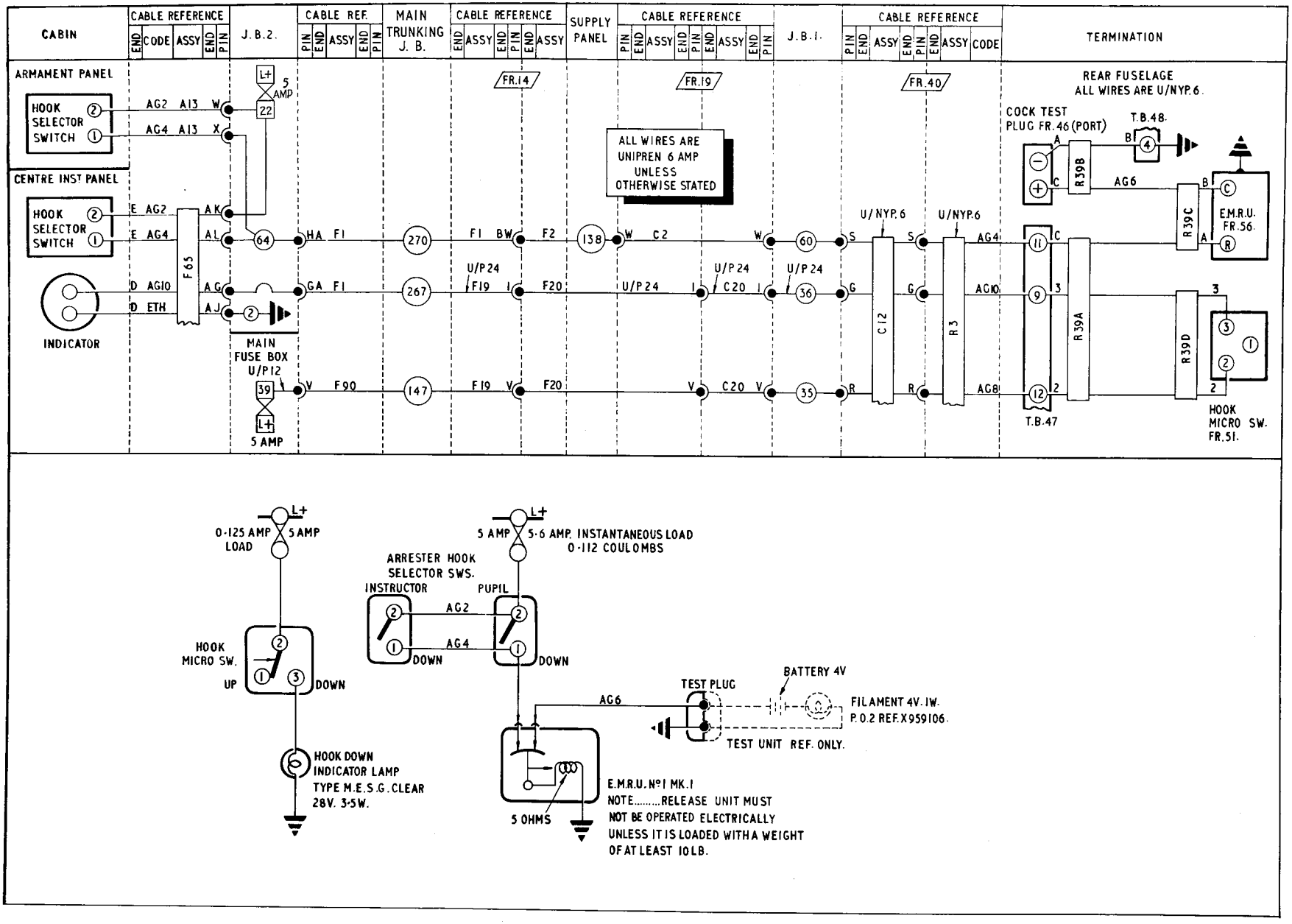

Fig.1. Arresting hook control (routeing and theoretical)

RESTRICTED

This indicates when the hook is 30 deg. or more down from the horizontal.

Operation

Hook down

4. The diagram of the circuit *(fig.1)* is shown for the condition found when the arresting hook is in the up position and the release unit locked, *(i.e. the normal flight conditions)*. If during landing, the instructor's or pupil's 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, when 30 deg. from the horizontal, the arresting hook operates the hook microswitch which makes contacts 2 and 3 to complete the supply to the hook warning lamp. This lamp is, therefore, illuminated to indicate to the crew 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 to connect a test set, consisting of a lamp and low voltage battery to the release unit circuit. The lamp will light when the release unit is correctly cocked, as a circuit is then 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. 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 is to ensure that the jaws open and isolate the solenoid coil so that the current is not applied for an excessive length of time.

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 difficulties. The location and access to all the components is indicated in Group A.3.

TABLE 1

Equipment used and Air Publications reference

Equipment Type	Air Publication
Hook selector switches, Rotax D.5435	A.P.4343C, Vol.1, Book 1, Sect.1.
Hook warning lamp, Type B...	A.P.4343E, Vol.1, Book 4, Sect.18.
Hook release unit, E.M. No.1, Mk.1	A.P.4343X, Vol.1, Sect.5.
Hook microswitch, Dowty Type C.1831Y, Mk.102C	A.P.4343C, Vol.1, Book 1, Sect.2.