

Appendix 2

IDENTIFICATION SCHEME

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Introduction

1. This identification scheme is based on the common need for simplicity of servicing and maintenance of aircraft with ease of production and installation of the wiring. The method is based on a combination of circuit and positional identification. For the purpose of this description, the electrical installation is divided into the following sections:—

- (1) Identification of connector (terminal) groups and plug and socket groups.
- (2) Identification of cable looms (groups of cables).
- (3) Identification of connectors (terminals) and plugs and sockets.
- (4) Identification of fuses.
- (5) Identification of conductors.
- (6) Identification of earth connectors.
- (7) Identification of engines.

Identification of connector groups and plug and socket groups

2. Each group of connectors (terminals), or group of plugs and sockets, or group of equipment capable of being assembled as a separate item is lettered in block letters, omitting I, O, Q, V and Z (*fig. 1*). Odd connector (terminal) blocks or plugs (and/or sockets) are also lettered.

3. When a group of connectors (terminals) are arranged in a box or other means which

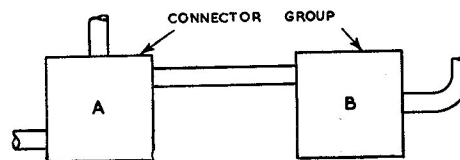


Fig. 1. Identification of connector groups

(A.L.I., Mar. 58)

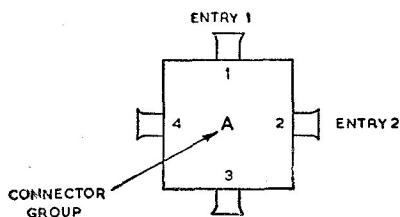


Fig. 2. Identification of entries into connector groups

has entry holes or glands or plugs (and/or sockets), these entry holes or glands or plugs (and/or sockets) are numbered in any order or arrangement to suit the assembly, but the method chosen is maintained on each box throughout the aircraft of any one type, i.e., numbered from left to right, top to bottom, clockwise, anti-clockwise, etc. (fig. 2). This is applicable to J.B.s or panels having definite points of entry.

Identification of cable looms

4. The cable looms are identified by letter reference which is marked on the sleeves at the ends of the looms adjacent to the connector group.

Note . . .

A loom is defined as a group of wires, but cases may occur in some installations where one wire only may constitute a loom.

5. Markers are used at each end of each loom; these markers bear the relevant letter reference adjacent to the connector (terminal) group to which that end connects, coupled with the letter references of the remote connector (terminal) group to that which loom proceeds (fig. 3). Where a loom is not more than approximately 24 in. long and is visible throughout its length as installed, one set of markers only is required.

6. Where there are two or more looms associated with any one connector (terminal) group each individual loom is identified, the first loom by the normal use of the reference letters allotted to that group as described in para. 5. The second of such looms then bears

the same capital letter reference with the addition of a number between the two capitals. A series of four such looms running between connector (terminal) groups A and B is identified as follows (refer to fig. 5):—

- 1st loom = A-B
- 2nd „ = A2B
- 3rd „ = A3B
- 4th „ = A4B

ocal looms

7. The markers on these looms carry the connector (terminal) group letter and the word LOCAL. A series of four such looms leaving connector (terminal) group A., would be marked thus:—

- 1st local loom = A-local
- 2nd „ „ = A2 „
- 3rd „ „ = A3 „
- 4th „ „ = A4 „

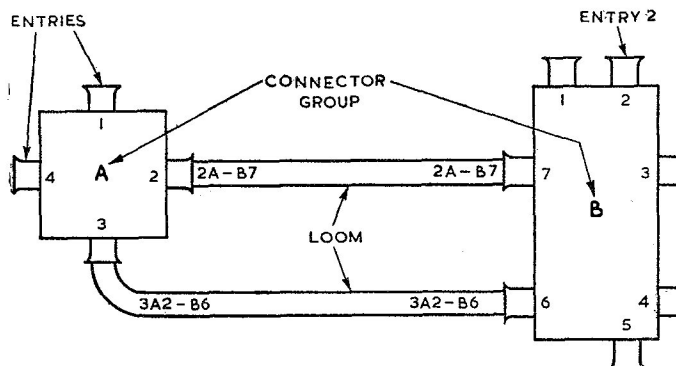


Fig. 3. Identification of looms in terminal groups with numbered entries

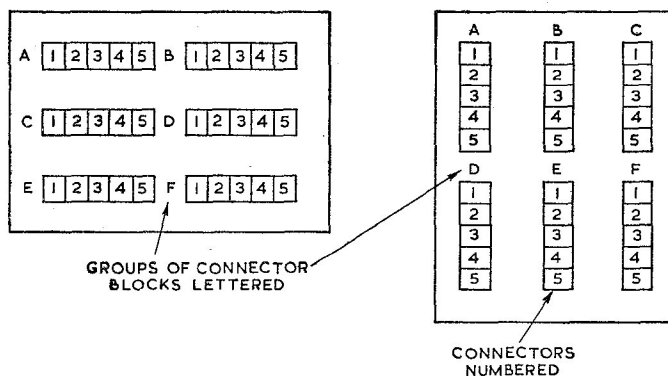
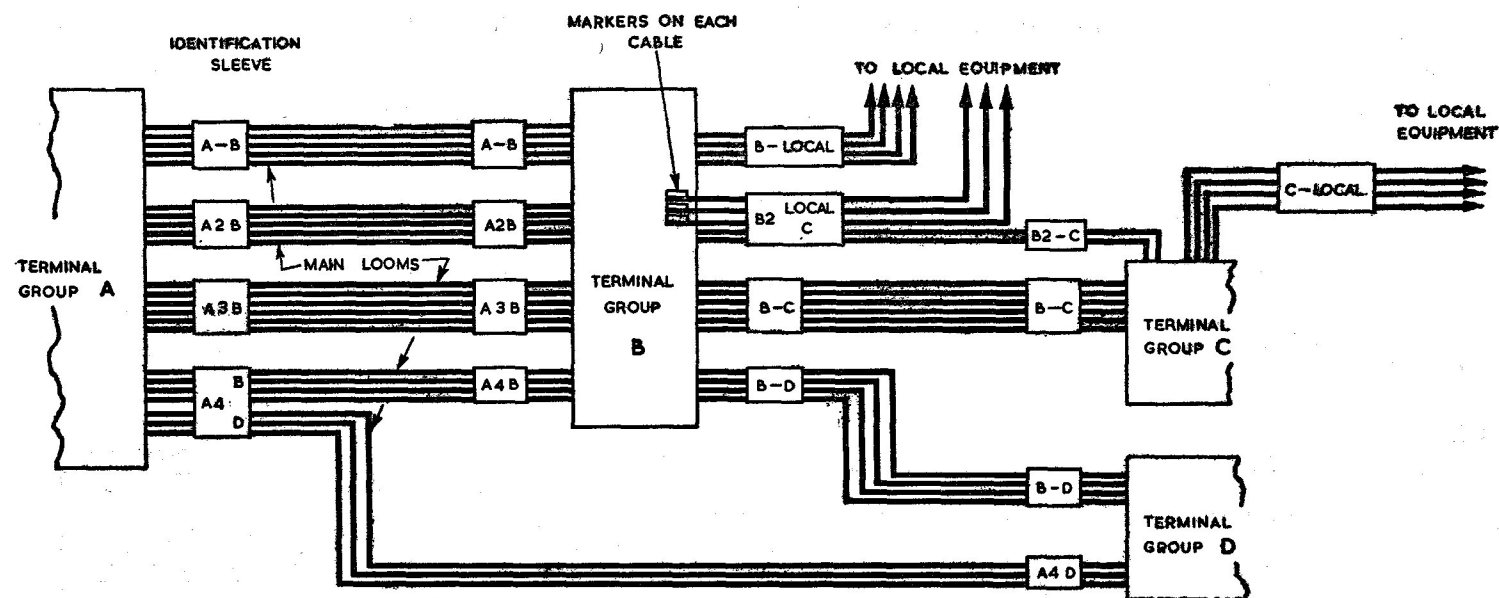


Fig. 4. Identification of terminals

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METHOD OF IDENTIFICATION OF CONNECTOR GROUPS
AND CABLE LOOMS (WHERE SPECIFIC ENTRIES ARE NOT USED)



METHOD AS APPLIED TO PLUGS AND SOCKETS

Fig. 5. Identification of looms in terminal groups without numbered entries

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RESTRICTED PANELS

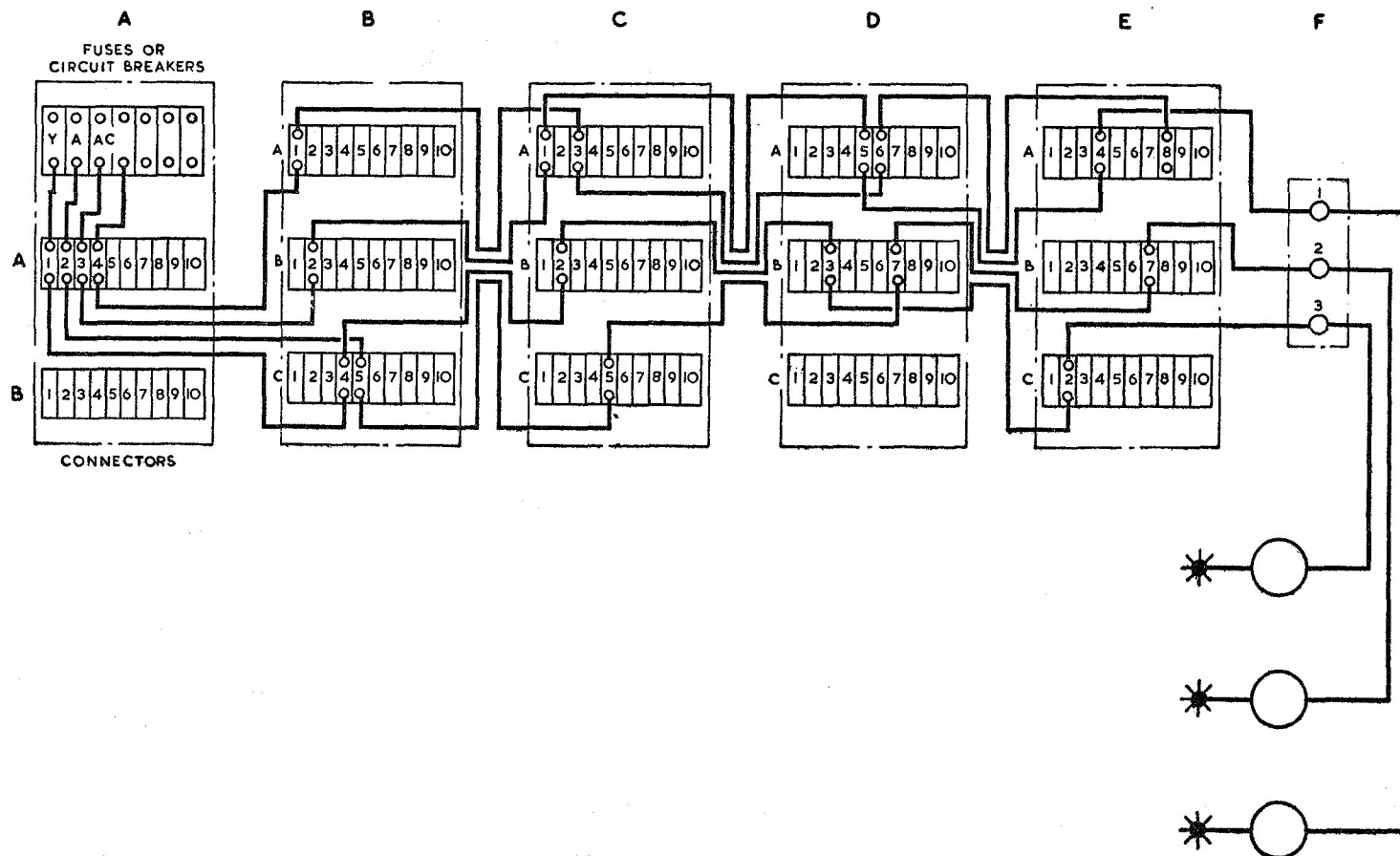


Fig. 6. Layout of panels, connector blocks and method of marking

Note . . .

Local looms are defined as a group of wires leaving a connector (terminal) group and terminating apparatus. There cannot be any marking on the remote end of such a loom as the separate pieces of apparatus it feeds may be widely scattered.

8. If the installation contains connector (terminal) groups with specific points of entry then the loom markers also carry the number of the port of entry; this number precedes the connector (terminal) group letter at the outgoing end and follows the group letter of the ingoing end (fig. 3).

Identification of connectors (terminals) and plugs and sockets

9. All terminals in boxes or on panels used as wire junctions are numbered, and each individual block of connectors (terminals) is given a separate letter. The method of lettering connector (terminal) blocks is done from left to right commencing from the top left-hand corner (fig. 4). The method of lettering individual terminals may be done from left to right or from top to bottom, whichever is most convenient. All pins of plugs and sockets are identified by a number (preferably) or by a letter.

Note . . .

Markers of plug and socket pins should be outside the outlet gland of the plug and socket to enable the pin number to which the wire is connected to be read without disconnecting the plug and socket.

10. If a plug (and/or socket) is used as a port of entry to a connector (terminal) group this plug is numbered as in para. 3. The pins of the plug may also be numbered, and to avoid confusion between a plug port of entry and a grommet-type port of entry, a letter P should be added between the entry number and the pin number or letter, as given in the following example:—

Entry number	...	...	...	3
The letter denoting a plug or socket				P
The pin number	...	...	...	6
The circuit letter	...	...	...	A

The marker would therefore read 3P6A.

Identification of fuses (or circuit breakers)

11. All fuses are marked by a letter (or letters), and this letter (or letters) is known as the circuit code letter (or letters—block letters, omitting I, O, Q, Z, and V). Engine

services which are repeated for each engine have the engine number added before the circuit identification letter or letters. Fuses for circuits which are not part of the distribution system (e.g., power failure warning lamp, a.c./d.c. box), have the letters GA, GB, etc.

Identification of conductors

12. Each wire carries at any junction the following information:—

- (1) The connector (terminal) block letter.
- (2) The connector (terminal) number.
- (3) The circuit letter.

Example:—

- (a) The connector (terminal) block is E.
- (b) The connector (terminal) number is 12.
- (c) The circuit letter is A.

The marking will be E12A.

If this example had been in connection with a service to No. 3 engine, the marking would be E12A3.

13. Each wire carries at its connection to apparatus the following information:—

- (1) Apparatus marker.
- (2) Apparatus terminal marker. (This marker should be contained in hyphens).
- (3) The circuit letter.

Example:—

- (a) The apparatus is the oil pressure indicator
- (b) The apparatus terminal is R.
- (c) The circuit letter is A.

The marking will be:—

Oil press.
indicator-R-A

14. Each wire connected to a plug (and/or socket) carries the following information. (See also the note following para. 9).

- (1) The plug (or socket) letter.
- (2) The pin marking. (This marking should be contained in hyphens).
- (3) The circuit letter.

Example:—

- (a) The plug (or socket) is lettered G.
- (b) The pin is marked 9.
- (c) The circuit letter is A.

The marking is G-9-A.

(A.L.1, Mar. 58)

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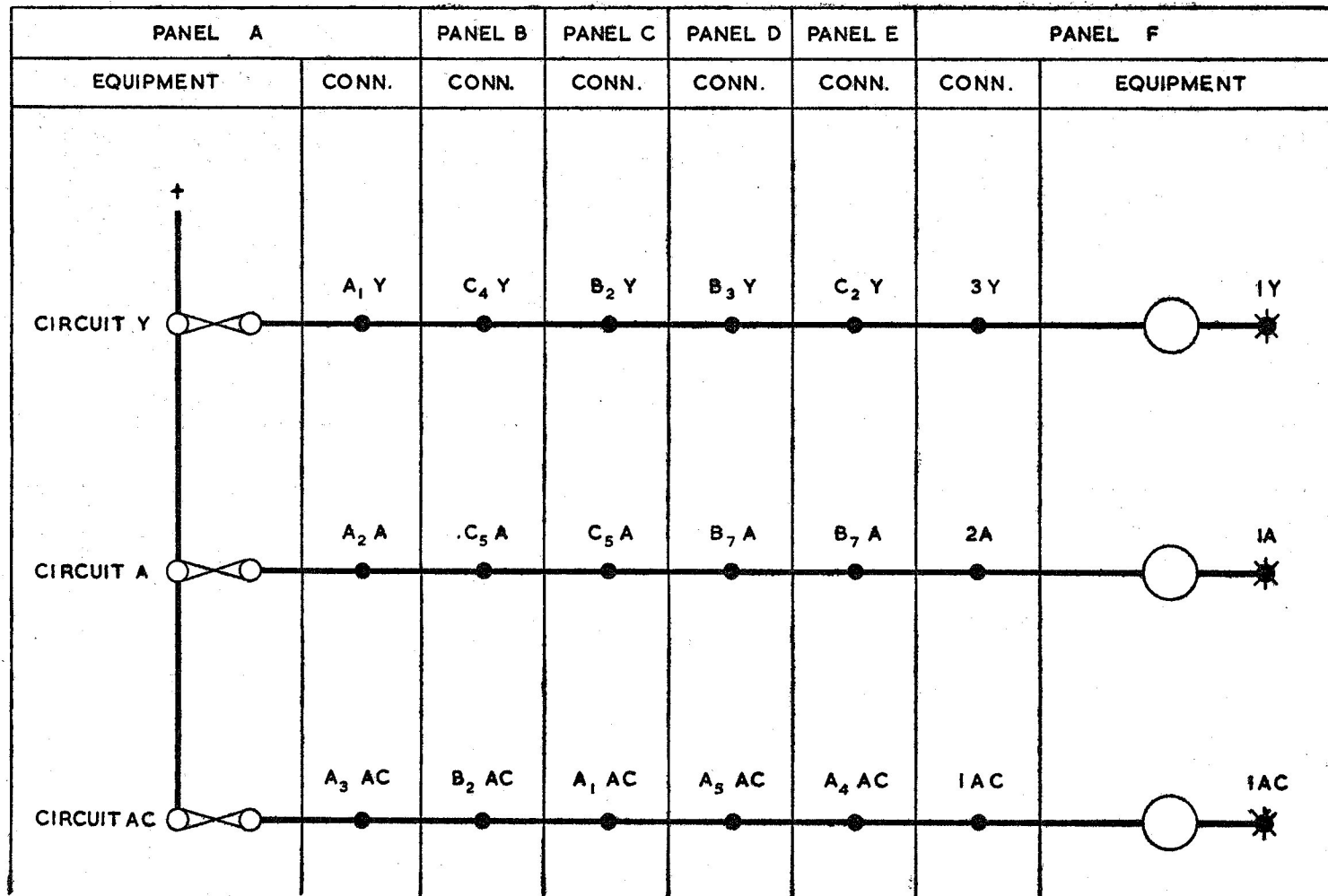


Fig. 7. Typical example of wiring circuit

Identification of earth connectors

15. All earth connections have the following information marked on the cable end:—

- (1) A six-point star indicating earth.
- (2) The circuit letter.

Example:—

The circuit letter is A.

The marker will then be *A.

When the earth connection applies to an engine, the circuit letter will be followed by the engine number, e.g., the marker will then be *A3.

Identification of engines

16. Engines are numbered consecutively from port to starboard, the outermost port engine being numbered 1. Where engines are mounted in tandem, the forward engine in that particular set will have the lower number; where engines are superimposed, the lower engine in that particular set will have the lower number. Where, however, more than two engines are mounted in one nacelle, they are considered in pairs and numbered in accordance with the preceding examples; the number follows the marking which would be applied to the wire as stated in para. 11 and 12.

17. The circuit letter chosen for an engine service is retained for all engines, the addition of the engine number serving to identify the engine.

Example:—

Circuit identification letter B

In a four-engined aircraft—

Port outer engine	= B1
Port inner engine	= B2
Starboard inner engine	= B3
Starboard outer engine	= B4

Identification charts

18. An identification chart should be attached to the panel (or panels) containing

fuses. This chart should give the identification letters of all fuses contained in the panel to which it is attached; a typical chart is shown in Table 1.

TABLE 1**Typical circuit identification chart**

Code	Description
LA	Navigation lamps
LB	Resin lamps
LC	Identification lamps
LD	Formation lamps
NB	Beam approach
ED	Oil dilution valve
LE	Landing lamp (port)
LF	Landing lamp (std.)
EF	Fuel contents gauge
LG	Dashlamp (port)
LH	Dashlamp (std.)
LJ	Station lamps
LK	Cabin lamps
AA	Reflector gun sight
NH	Pressure head
LL	Call lamps
NA	Astrograph
AB	Torpedo sight
EA	Air temperature thermometer
EO	Oil temperature thermometer
EB	Booster coil
ES	Starter relay

Typical circuits

19. Two typical circuits following the above scheme are shown in fig. 6 and 7; fig. 6 shows how three circuits Y, A and AC are connected physically and fig. 7 shows the same three circuits when drawn as a routing chart.

