WIRING DIAGRAMS

SIMPLIFIED AIRLINE SYSTEM

CONTENTS

1. GENERAL

1.1 Scope of Section

1.11 This section describes and explains wiring diagrams prepared by the simplified airline system.

1.2 General Description

1.21 The Simplified Airline System is the same as the Original Airline System which it replaced, with the following exceptions:

1.211 Terminals on relay conventions are numbered from left to right agree with the circuit schematic, when winding and spring combination details are omitted.

1.212 Individual pieces of apparatus are arranged in rows approximating, as far as possible, the actual physical arrangement of the equipment as viewed from the wiring side.

1.213 Terminals are arranged within rectangles in the order in which they appear on the apparatus viewed for the wiring side and are numbered from right to left to agree with the schematic. In the case of relays with more than one stitch, the convention shows division lines, top and bottom, between the terminals in the left and right stitches.

1.214 Contacts and armatures of relays and the winding arrangement of relays, coils, rheostats, resistances, etc., are not shown.

2. READING SIMPLIFIED AIRLINE WIRING DIAGRAMS

2.1 See Figure 1 for an explanation of the reading of simplified airline wiring diagrams.

2.2 Additional Information (Not Shown on Figure 1)

2.21 Apparatus identification numbers are placed within the rectangle of the apparatus convention where possible, and to the left and above singly mounted or grouped apparatus when not enclosed within a rectangle. Apparatus location numbers for unequipped mounting positions are reserved to permit future additions. Apparatus location numbers for each stitch are shown with the apparatus convention if the apparatus is wired for more than one stitch. Each apparatus location will include all terminals within a stitch. In order to provide for the possible replacement of a "U", "Y" or similar type relay by a different relay with a second stitch, a second apparatus location number is reserved in each case where a single number is assigned.

2.22 Apparatus identification numbers are not duplicated except where a single mounting plate location is assigned on the equipment drawing for one of two or more different pieces of optional components.

2.23 Feed lines of a particular figure terminating on terminal punchings forming a part of the same figure, are understood to end at the point.

2.24 All wires terminating at one apparatus terminal may be represented by one feed line. In such cases the colors of all wires represented by the feed line together with their terminations, F stitch designations, etc., are indicated on the feed line. If congestion results from attempting to show this complete information on one feed line, another feed line is used whose only function is to relieve the congestion.

2.25 Where more than one wire is represented by a single feed line, the identification numbers for all wires represented by the line are shown thereon, and the identification number nearest the base line is associated with the color nearest the base line, etc. In some cases where distinctive colors are not used, an arbitrary designation is used instead, for example, 6A, 6B, etc.

2.26 When several wires of the same color are represented by one feed line, a numerical figure representing the number of wires precedes the color designation.

2.27 Colors are shown enclosed in parentheses on the noncontrolling end of those leads running between figures on the same or different drawings.

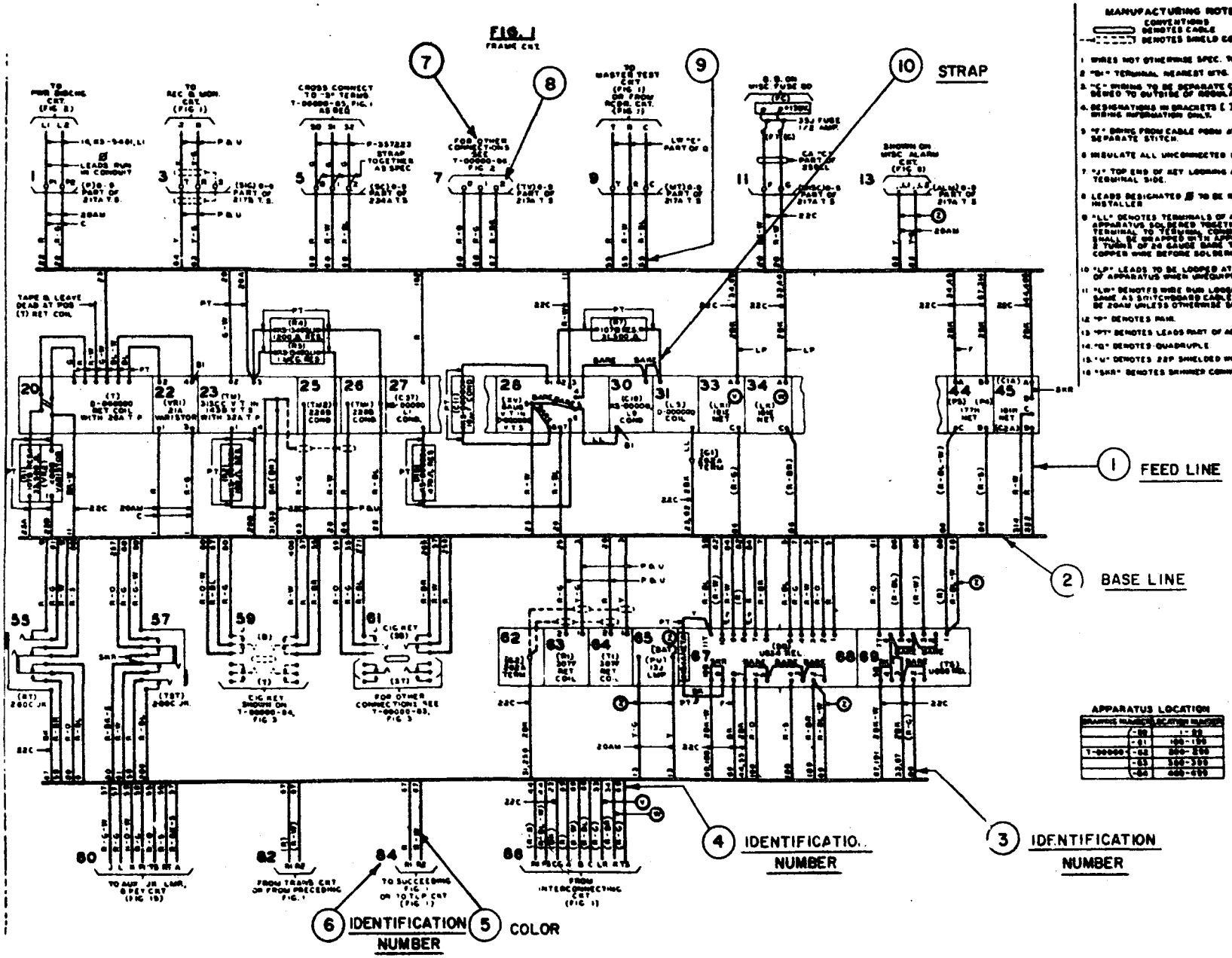
FIG. 1
FRAME CKT.
MANUFACTURING NOTES
CONVENTIONS
DENOTES CABLE
DENOTES SHIELD CONNECTION
1. WIRES NOT OTHERWISE SPEC. TO BE 22C.
2. "GK" TERMINAL NEAREST GTD. PLATE
3. "C" WIRING TO BE SEPARATE CABLE DENIED TO OUTSIDE OF REGULAR CABLE
4. DESIGNATIONS IN BRACKETS [ ] ARE FOR WIRING INFORMATION ONLY.
5. "K" WIRE FROM CABLE FORM AT SEPARATE STITCH.
6. INSULATE ALL UNCONNECTED LEADS.
7. "J" TOP END OF KEY LOOKING AT TERMINAL SIDE.
8. LEADS DESIGNATED ▩ TO BE RUN BY THE INSTALLER
9. "LL" DENOTES TERMINALS OF ADJACENT APPARATUS SOLDERED TOGETHER. ALL TERMINAL TO TERMINAL CONNECTIONS SHALL BE WRAPPED WITH APPROXIMATELY 3 TURNS OF 24 GAUGE BARE TINNED COPPER WIRE BEFORE SOLDERING.
10. "LP" LEADS TO BE LOOPED AT POSITION OF APPARATUS WHEN UNEQUIPPED.
11. "LW" DENOTES WIRE RUN LOOSE ON FRAME SAME AS SWITCHBOARD CABLE AND SHALL BE 20AM UNLESS OTHERWISE SPECIFIED.
12. "P" DENOTES PAIR.
13. "PT" DENOTES LEADS PART OF APPARATUS.
14. "Q" DENOTES QUADRUPLE
15. "W" DENOTES 22P SHIELDED WIRE
16. "SKR" DENOTES SKINNER CONNECTION.
STRAP
FEED LINE
BASE LINE
IDENTIFICATION NUMBER
IDENTIFICATION NUMBER
IDENTIFICATION NUMBER
COLOR
APPARATUS LOCATION
(RP-15757)

FIGURE 1

SIMPLIFIED AIRLINE SYSTEM

A. A Single wire is represented by two FEED LINES, one at the originating end and one at the terminating end. However, all wires terminating at one apparatus terminal may be represented by one feed line. (See Paragraphs 2.34, 2.35 and 2.36)

B. FEED LINES (1) are carried a short distance and terminated at a BASE LINE (2) or bracket.

C. The IDENTIFICATION NO. of the apparatus or bracket where a wire terminates is shown on the feed line at a point where it joins the base line (3). Likewise at the terminating end of the wire, the identification number of the apparatus or bracket where it originates is shown (4).

D. The color of the wire is shown at each feed line at a point between the baseline and the apparatus or bracket (5). (See Paragraphs 2.35 and 2.36.)

E. All apparatus except resistances, keys, lamps etc. are enclosed in rectangles.

F. Each piece of apparatus and most brackets (see Paragraph 2.31) are given an identification number (6). This number is placed within the rectangle where possible.

G. Connections between figures are made either by the "Bracket" method (7) or by direct reference to the terminating apparatus identification number ("Baseline" method). In the "Bracket" method, feed lines start at the baseline or apparatus if no baseline is present and are extended and bracketed. These feed lines are given identification numbers corresponding to the terminating apparatus within that figure (9). In addition, arbitrary numbers or letters are assigned to aid in locating the associated feed line at the brackets in the other figure (8).

H. Straps and pigtail leads between terminals of the same or adjacent apparatus are run direct (10).

FIGURE 1 (Cont.)

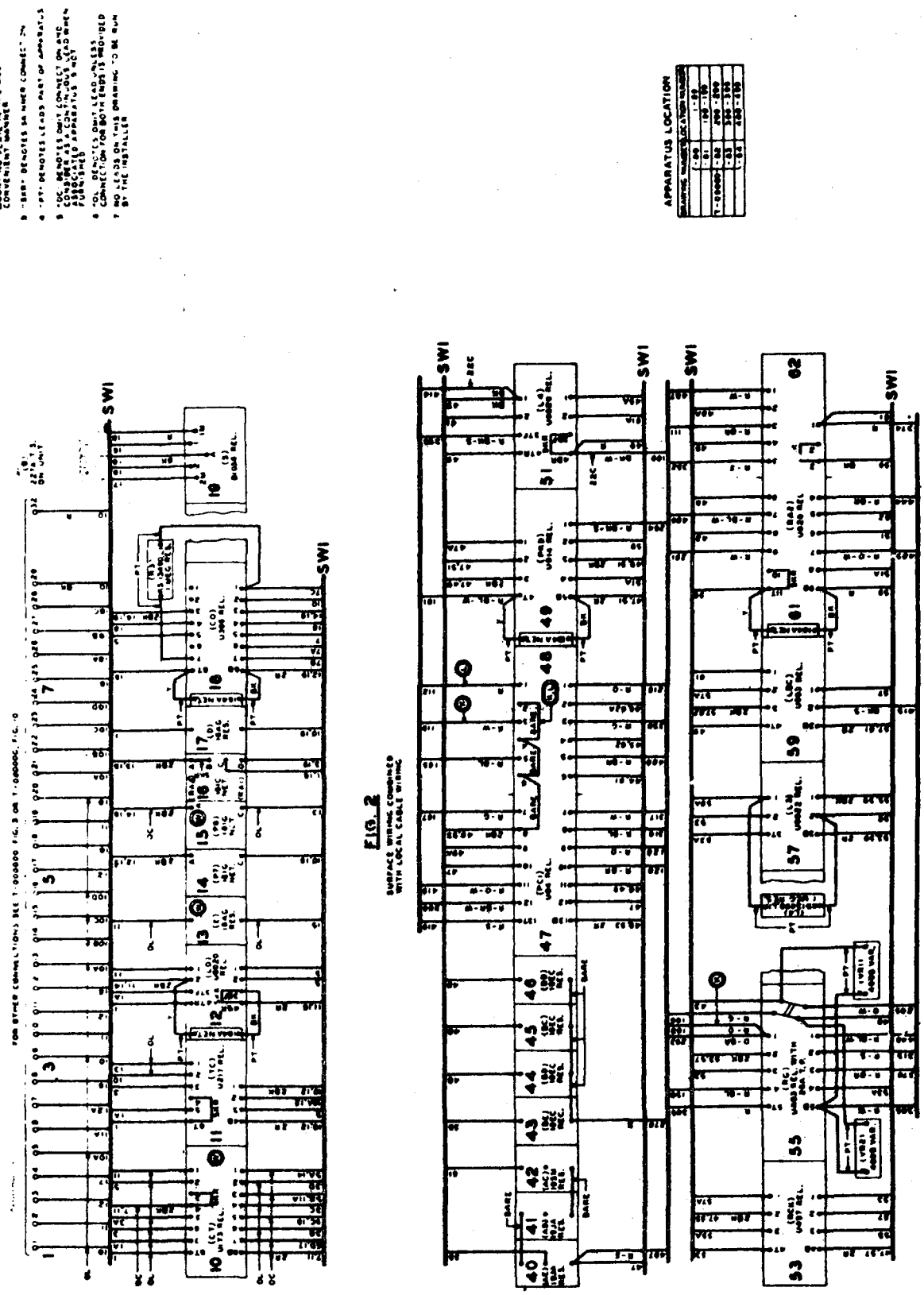

FIG. 2 TYPICAL SURFACE WIRING DRAWING
(PAR. 2.3)

2.28 Information showing the gauge of wire, pairing, shielding, etc., when necessary, is shown at both ends of the wires at the color designation.

2.29 Cable conventions, or information showing type, gauge pairing, shielding, etc., of wire run in lieu of cable, are shown only on the controlling end of the connection.

2.3 Surface Wiring

2.31 If all wiring on a unit is surface wiring it will be shown the same as for the simplified airline diagram, except as follows:

2.311 The base line may be drawn either inside or outside of the apparatus convention.

2.312 Since surface wiring does not employ color coded wire, letters A, B, C, etc. are used on the wiring diagram with the connecting apparatus location number to distinguish between leads where two or more leads run to the same piece of apparatus. A manufacturing note on the drawing indicates when the wiring is surface wiring.

2.313 Where both surface wirng and local cable or switchboard cable are used on the same unit an additional base line will be drawn for the surface wiring and the feed lines run to it, using letter designations as described above to distinguish between the leads. This base line will be designated SW or SW1 and may be located either inside or outside of the apparatus convention. A manufacturing note will explain that leads to base lines designated SW or SW1 are surface wiring. See Figure 2.

No arrows are shown due to extensive changes.

Manager, Engineering Practices

Reason for Reissue:
As part of the general updating of wiring diagram information.

Replaces Section 3D dated 8-19-65.