CIRCUIT DESCRIPTION

CD-81126-01
ISSUE 2D
APPENDIX 4B
DWG ISSUE 6B

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POWER SYSTEMS
CONTROL CIRCUIT
FRAME AND AISLE LIGHTING
INCANDESCENT TYPE
AND APPLIANCE OUTLETS

CHANGES

A. Changed and Added Functions

A.1 To provide a separate grounding conductor when the phase conductors to 3-wire-grounding type (parallel polarized) appliance outlets are not enclosed in a metallic raceway.

A.2 To provide a new figure (Fig. 35) for a junction box for connecting phase conductors enclosed in a metallic raceway to phase conductors not enclosed in a metallic raceway and which shows the method of connection of the grounding conductor associated with the phase conductors not enclosed in a metallic raceway in order to insure a continuous grounding path.

D. Description of Changes

D.1 "X" Option and connections to FIG. 35 added to FIG. 30.

D.2 Added FIG. 35.

F. Changes in Description of Operation

F.1 Change 5.23 to read:

5.23 FIG. 30 covers the circuit for a single 3-wire-grounding type (parallel polarized) appliance outlet including the use of a separate grounding conductor when the phase conductors are not enclosed in a metallic raceway.

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F.2 Add 5.27:

5.27 FIG. 34 covers the appliance outlet circuit for 3-wire-grounding type (parallel polarized) appliance outlets and is arranged for sheet metal outlet boxes on frames with sheet metal bases.

F.3 Add 5.28:

5.28 FIG. 35 covers the connections at a junction box where the phase conductors enter through a metallic raceway and leave without using a metallic raceway and the method of insuring a continuous grounding path.

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POWER SYSTEMS
CONTROL CIRCUIT
FRAME AND AISLE LIGHTING
INCANDESCENT TYPE
AND APPLIANCE OUTLETS

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Reference to Note 101 added in Figs. 1 and 2.

D.2 Fig. 21 is changed to show splices, thereby conforming to Figs. 19, 20 and 30.

D.3 Note 101 read: All wiring shall be No. 12 ga., N.E. Code Type "RH" solid conductor, unless otherwise specified.

All other headings, no change.

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POWER SYSTEMS
CONTROL CIRCUIT
FRAME AND AISLE LIGHTING
INCANDESCENT TYPE
AND APPLIANCE OUTLETS

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 In Figures 19, 20 and 30 splices are shown in the ac supply line with the notation: "Splices required only when extending existing circuits and double terminal screws are not furnished."

All other headings, no change.

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DEPT. 5152-RAC-JMD-RP

CIRCUIT DESCRIPTION
POWER DEVELOPMENT DEPARTMENT

CD-81126-01
Issue 2-D
Appendix 1-D
Dwg. Issue 3-D

POWER SYSTEMS
CONTROL CIRCUIT
FRAME AND AISLE LIGHTING
INCANDESCENT TYPE
AND APPLIANCE OUTLETS

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Rating of Figs. 17 and 18 are changed from Mfr. Disc. to A & M Only.

D.2 Fig. 31 is rated Mfr. Disc.

D.3 Rating of Fig. 32 and 33 are changed from A & M Only to Mfr. Disc.

D.4 Fig. 34 is added.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 5152-RAC-JMD-F5

POWER SYSTEMS
CONTROL CIRCUIT
FRAME AND AISLE LIGHTING
INCANDESCENT TYPE
AND APPLIANCE OUTLETS

CHANGES

A. CHANGED AND ADDED FUNCTIONS

A.1 Trolley type appliance outlet control circuits are added.

A.2 Appliance outlet circuits for 3-wire grounding type (parallel polarized) receptacles are added.

A.3 3-wire trolley type appliance outlet is added.

A.4 Appliance outlets on rolling ladders are added.

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Figs. 1 and 2 are revised to rate 20 ampere branch circuit, associated fusetron and connection to Figs. 3 and 4 for trolley type appliance outlets "Mfr. Disc.", replaced by 15 ampere branch circuit and associated slow-acting fuse; to add reference to Note 110 and connection to Figs. 3A, 4A, 32 and 33; "105-125V. 60N" read "110-125V. 60N".

D.2 In titles to Figs. 3 and 4 "frame base" is added for clarification, white lamp changed to clear and connection to Figs. 32 and 33 added.

D.3 Figs. 3A and 4A are added to cover trolley type appliance outlet control circuits.

D.4 In titles to Figs. 9 and 10 "including provision for inserting lamps with pull switch control for high intensity locations" is added.

D.5 In Fig. 15 "Trough Lights above Platforms" and "Trough Lights below Platform" read "Upper Trough Lights" and "Lower Trough Lights"; "3 Way Switch" read "3 Way Pull Switch"; bracket added for switches below platform.

D.6 Figs. 16, 17, 18 and 19 are rated "Mfr. Disc.".

D.7 Fig. 21 is rated "A&M Only" is added to title. Description of receptacle read "3 wire polarized plug receptacle".

D.8 In Fig. 22 corrections to Fig. 3 or 4 is rated "Mfr. Disc."; "feed-in end cap" and connection to Figs. 3A or 4A added.

D.9 Fig. 23 is rated "Mfr. Disc.".

D.10 In Figs. 24 and 25 "Equivalent" was added; Fig. 25 is rated "A&M Only".

D.11 Figs. 26-33 added; Figs. 28, 29, 32 and 33 are rated "A&M Only".

D.12 Notes 109 and 110 added.

All other headings under Changes, no change.

1. PURPOSE OF CIRCUIT

1.1 To provide power supply and control circuits for incandescent type frame and aisle lighting and appliance outlets.

2. WORKING LIMITS

2.1 105-125 volts, 60 cycle AC.

3. FUNCTIONS

3.1 To provide power supply and control for incandescent type frame and aisle lighting and appliance outlets.

5. DESCRIPTION OF OPERATION

5.01 Figs. 1 and 2 cover the ac service distribution to the frame and aisle lights and appliance outlets and are arranged for single phase, 3-wire grounded neutral and 3 phase, 4-wire grounded neutral power service. Lighting fixtures and appliance outlets are served from different branch circuits.

5.02 Fig. 3 covers the frame base appliance outlet control switch and pilot light circuit and is arranged for rigid conduit risers at the end guard.

Fig. 3A covers the trolley type appliance outlet control switch and pilot light circuit and is arranged for rigid conduit at the end guard.

Fig. 4 is the same as Fig. 3, except arranged for armored cable risers at the end guard.

Fig. 4A is the same as Fig. 3A, except arranged for armored cable at the end guard.

5.03 Fig. 5 covers the circuit for single point control of lights and is arranged for rigid conduit risers at the end guard.

Fig. 6 is the same as Fig. 5, except arranged for armored cable risers at the end guard.

5.04 Fig. 7 covers the circuit for two point control of lights with provision for inserting lights with pull switch control for high-intensity locations. Arranged for one or two switches on same end guard and for rigid conduit risers.

Fig. 8 is the same as Fig. 7, except arranged for armored cable risers at end guards.

5.05 Fig. 9 covers the circuit for one and two point control of lights with provision for inserting lamps with pull switch control for high intensity locations and is arranged for rigid conduit risers at the end guards.

Fig. 10 is the same as Fig. 9, except arranged for armored cable risers at the end guards.

5.06 Fig. 11 covers the circuit for single point control of lights with the control switches on the same end guards and is arranged for rigid conduit.

Fig. 12 is the same as Fig. 11, except arranged for armored cable risers at the end guards.

5.07 Fig. 13 covers the circuit for a single lamp fixture.

5.08 Fig. 14 covers the circuit for high-intensity lighting controlled by a single pole pull switch for each pair of lights.

5.09 Fig. 15 covers the lighting and control circuit for distributing frames with mezzanine platforms. The trough lights above the platform are controlled by 3-way switches and the trough lights below the platform by a single pole switch.

5.10 Fig. 16 "Mfr. Disc." is replaced by Fig. 31 for all applications requiring parallel polarized receptacles in sheet metal type outlet boxes on frames with sheet metal bases.

Fig. 17 "Mfr. Disc." is replaced by Fig. 32 "A&M Only" for all applications requiring radial polarized appliance outlets in sheet metal type outlet boxes on frames with sheet metal bases.

5.11 Fig. 18 "Mfr. Disc." is replaced by Fig. 33 "A&M" Only for all applications requiring 3-wire angular polarized appliance outlets in sheet metal type outlet boxes on frames with sheet metal bases.

5.12 Fig. 19 "Mfr. Disc." is replaced by Fig. 30 for all applications requiring parallel polarized receptacles in appliance outlets.

5.13 Fig. 20 "A&M Only" covers the circuit for a single radial polarized appliance outlet.

5.14 Fig. 21 "A&M Only" covers the circuit for a single 3-wire angular polarized appliance outlet with the radial slot connected to the mounting strap of the receptacle.

5.15 Fig. 22 covers the circuit for the end feed fitting of trolley type appliance outlets.

5.16 Fig. 23 "Mfr. Disc." is replaced by Fig. 26 to cover the trolley circuit for 2-wire trolley type appliance outlets.

5.17 Fig. 24 covers the circuit for portable extension lamp with parallel polarized plug cap.

5.18 Fig. 25 "A&M Only" is the same as Fig. 24, except arranged with radial polarized plug cap.

5.19 Fig. 26 covers the trolley circuit for 2 and 3-wire trolley type appliance outlets and for soldering coppers.

5.20 Fig. 27 covers the circuit for a duplex 3-wire grounding type (parallel polarized) appliance outlet on a rolling ladder.

5.21 Fig. 28 "A&M Only" is the same as Fig. 27, except arranged for 3-wire angular polarized appliance outlets.

5.22 Fig. 29 "A&M Only" covers the circuit for 2 radial polarized appliance outlets on a rolling ladder.

5.23 Fig. 30 covers the circuit for a single 3-wire grounding type (parallel polarized) appliance outlet.

5.24 Fig. 31 is the same as Fig. 30, except 2, 3-wire receptacles are mounted in sheet metal outlet box on frames with sheet metal bases.

5.25 Fig. 32 "A&M Only" covers the appliance outlet circuit for radial polarized appliance outlets and is arranged for sheet metal outlet boxes on frames with sheet metal bases.

5.26 Fig. 33 "A&M Only" is the same as Fig. 32, except outlets are 3-wire angular polarized with radial slot connected to the mounting strap.

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