09DK054-094
Accessory Control Transformer

Installation Instructions

Part no. 09DK900005

GENERAL

These instructions are for field installation of the accessory control transformer kit for 09DK054-094 units. The control transformer is used to convert 208, 230, or 460 v to 115 v for use on 115 v condenser unit control systems. The kit includes a transformer (Fig. 1) and fastener hardware for installation. See Table 1 for kit contents.

Table 1 — Transformer Kit Contents

QUANTITY	ITEM
1	100 va Transformer
4	Pan Head Screw (no. 10-16 x 1/2 in. long)
1	Green-Coated Grounding Screw (Type AB no. 10-16 x ½ in. long)

INSTALLATION

ELECTRIC SHOCK HAZARD

Separate power sources (main and control circuits) are used for these units. Be sure both circuits are disconnected before installing the transformer.

Examine Package Contents — Check kit for shipping damage or missing parts. If damage is found, file a claim with the shipping agency immediately. See Table 1 for kit contents; if any item is missing, notify your Carrier representative.

Mount Accessory Transformer in Control Box

1. Disconnect all power circuits.
2. Open control box door.
3. Remove and save 4 corner holddown screws from control box cover and detach cover.
4. Mount transformer in the control box using the 4 pan head screws provided (Fig. 2).

Complete Electrical Connections — For electrical wiring connections, terminal block 1 uses three 3/16-in. allen head 1/4-20 screws, and terminal blocks 2-7 use no. 8 screws. The transformer uses 1/4-in. double male quick-connect terminals with no. 8 screws.

All wires are field supplied. Wiring must be appliance wiring material, rated 105 C or its equivalent. Wires must be 14 AWG (American Wire Gage) (2.5 mm^2) on the primary side and 16 AWG (1.5 mm^2) on the secondary side. All wiring must comply with NEC (National Electrical Code) and applicable local codes.

To complete electrical connections:

1. Make electrical connections at the appropriate terminals on the primary side of the transformer using 14 AWG size wire. See Fig. 3 for transformer connection points.
2. Make primary side electrical connections at terminal block 1. The factory recommends following the path of the standard unit wiring harness when completing these connections. Any 2 of the 3 connection points at terminal block 1 can be used. See Fig. 4-8 for control transformer wiring.
3. Make electrical connections on the secondary side of the transformer. The proper connections on the secondary side are based on the unit refrigerant coil circuiting applications. Refer to the appropriate control transformer wiring (Fig. 4-8). Use 16 AWG (1.5 mm^2) size wire. Refer to indoor unit wiring diagram for outdoor-fan relay wiring details.

   NOTE: It is important to ground the secondary side. Connect a 16 AWG size wire from terminal X2 on the transformer to a hole in the control box, located above the transformer, using the factory-supplied green coated grounding screw.
4. Check that all connections are correct and tight.

Complete Installation

1. Replace control box cover.
2. Close and secure control box door.
3. Restore power to the unit.

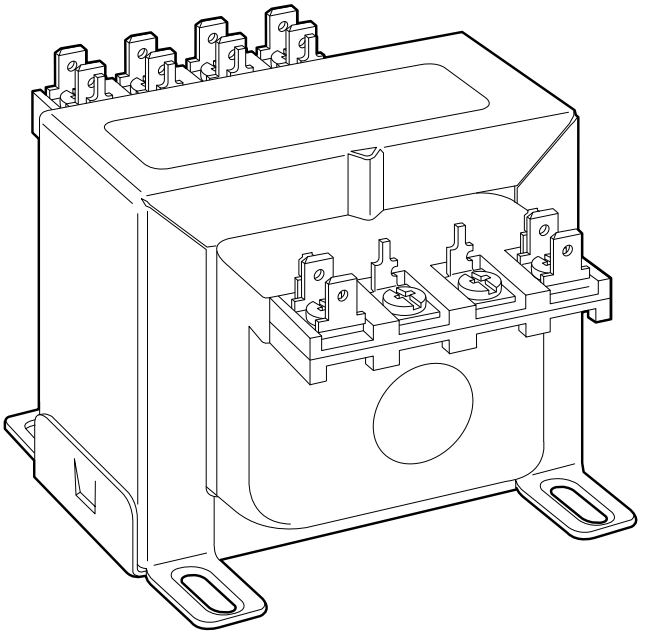
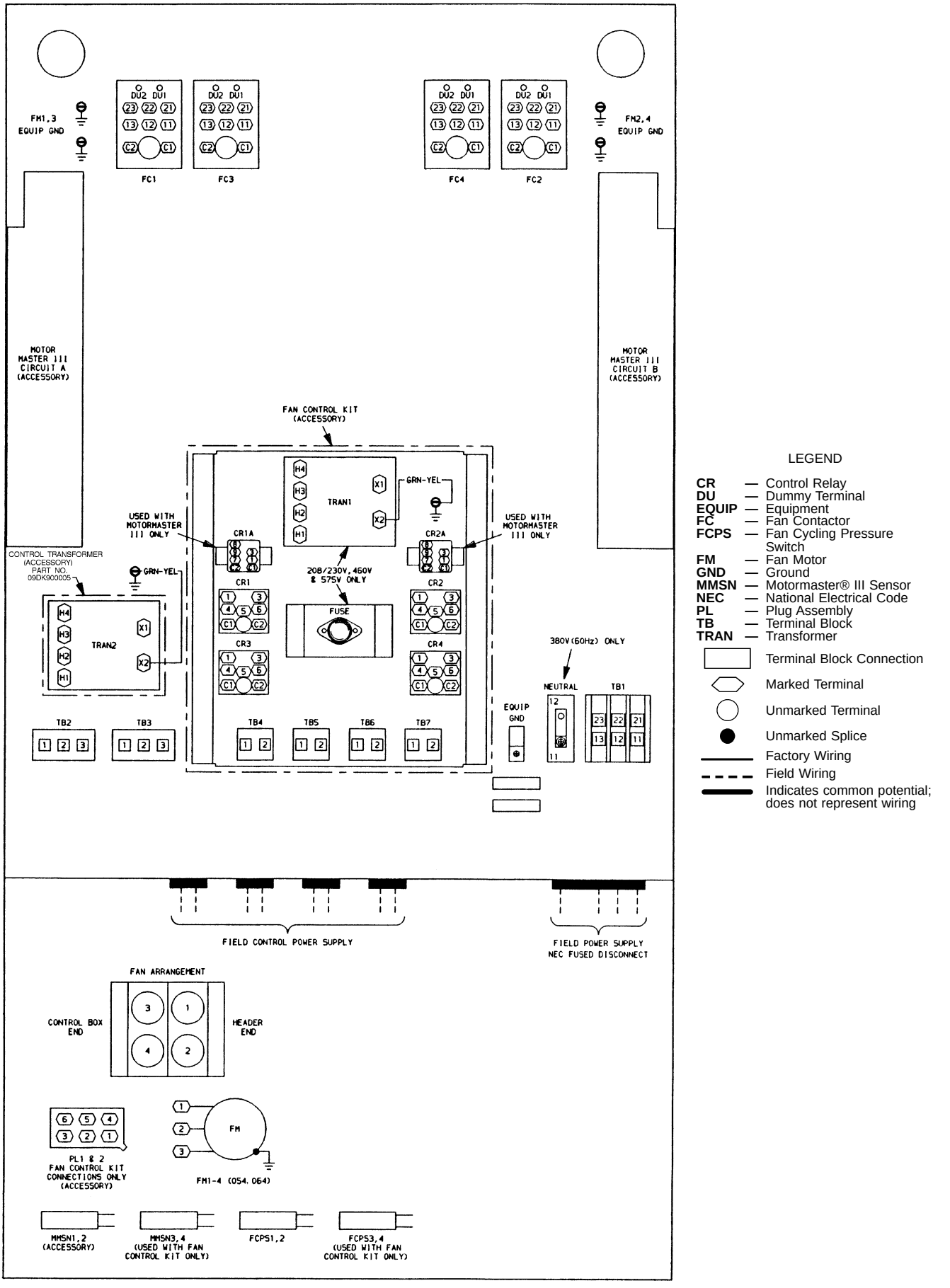


Fig. 1 — Accessory Transformer



LEGEND

CR	— Control Relay
DU	— Dummy Terminal
EQUIP	— Equipment
FC	— Fan Contactor
FCPS	— Fan Cycling Pressure Switch
FM	— Fan Motor
GND	— Ground
MMSN	— Motormaster® III Sensor
NEC	— National Electrical Code
PL	— Plug Assembly
TB	— Terminal Block
TRAN	— Transformer

Terminal Block Connection

Marked Terminal

Unmarked Terminal

Unmarked Splice

Factory Wiring

Field Wiring

Indicates common potential; does not represent wiring

Fig. 2 — Typical Transformer Location in Control Box (09DK054, 064 Unit Component Arrangement Shown)

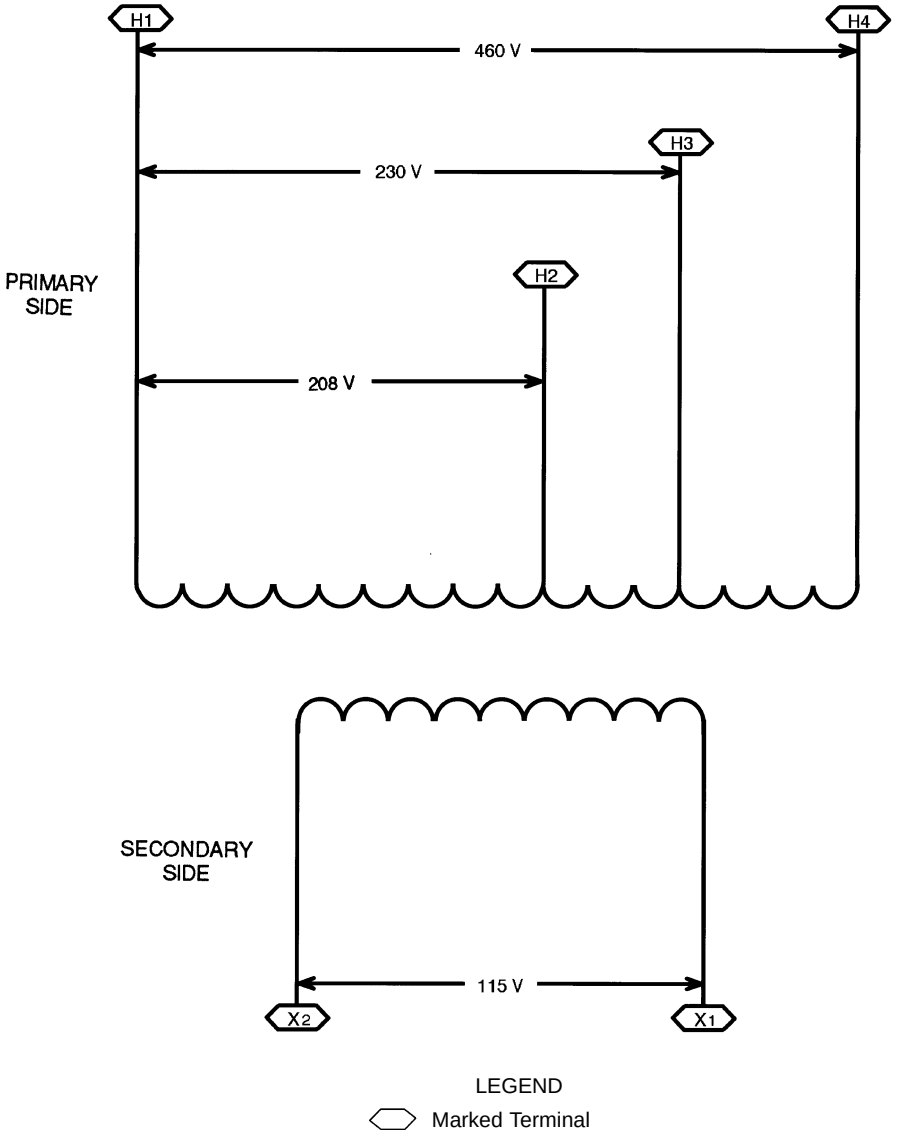
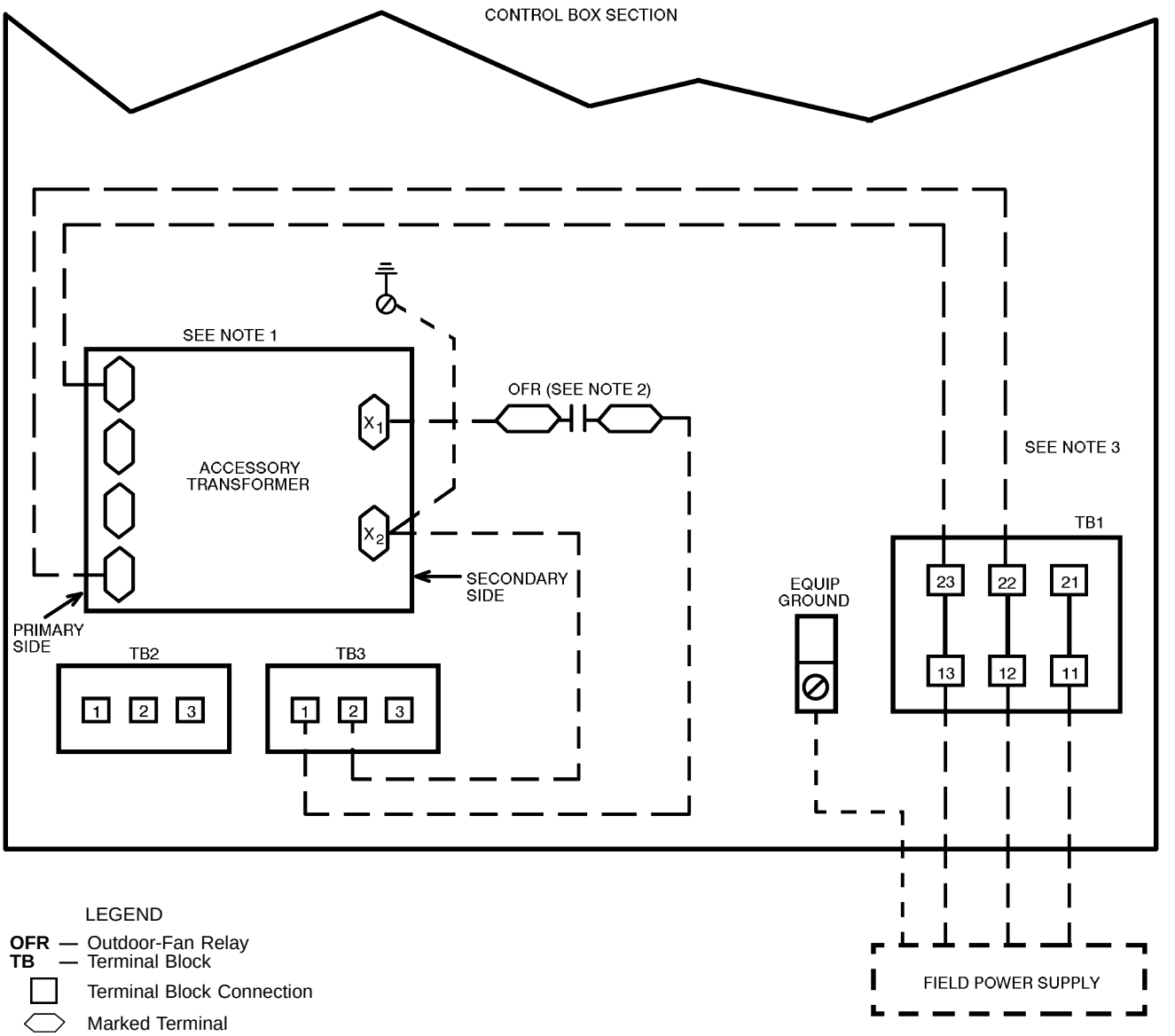


Fig. 3 — Transformer Connection Points



LEGEND

OFR — Outdoor-Fan Relay
TB — Terminal Block

Terminal Block Connection

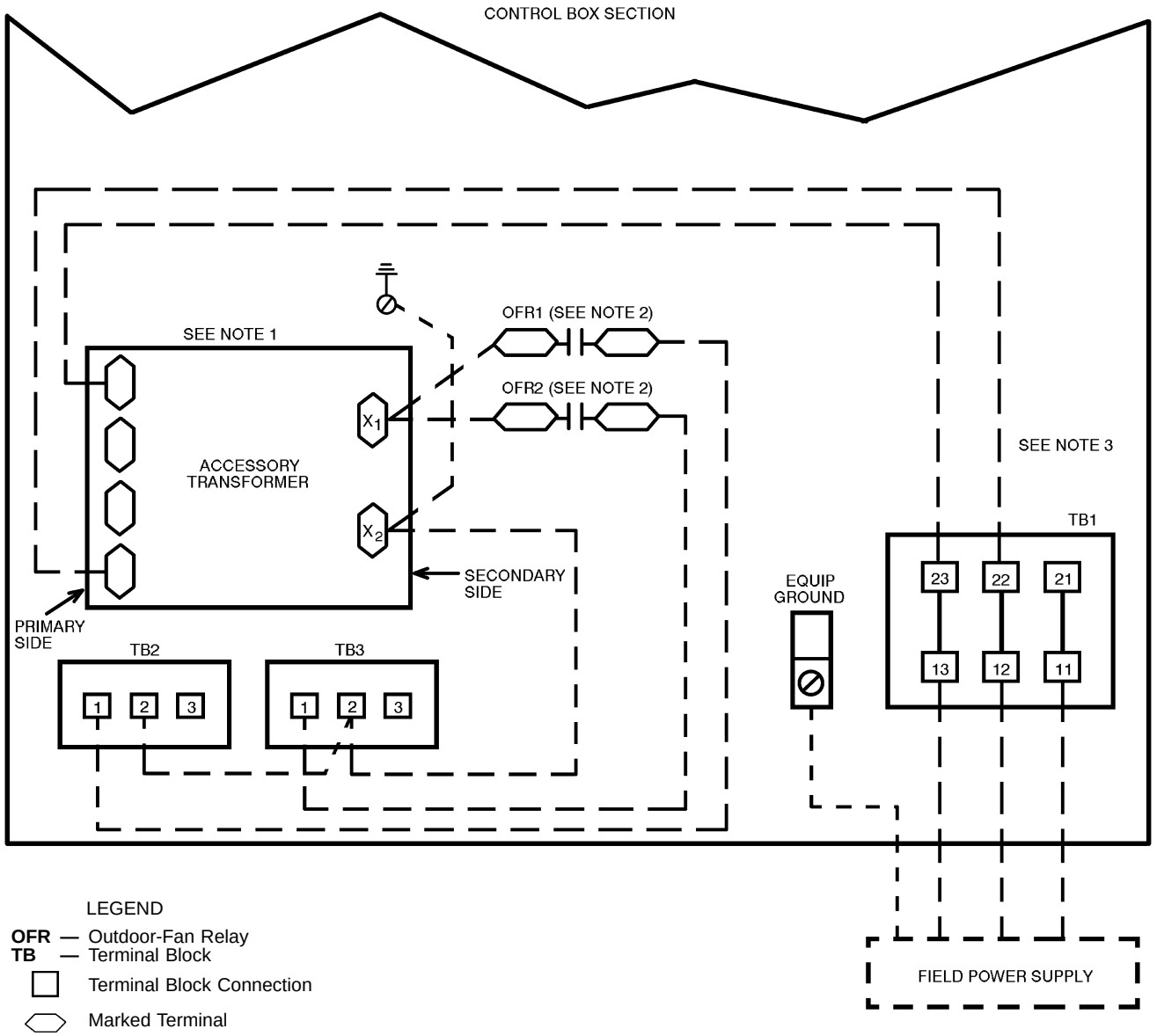
Marked Terminal

Field Wiring

NOTES:

1. See Fig. 3 for transformer connection points for each voltage.
2. Refer to indoor unit wiring diagram for details of OFR coil connections.
3. Typical TB1 connection points shown; any 2 of the 3 points can be used.

Fig. 4 — Control Transformer Wiring for 100% Refrigerant Coil Circuiting



LEGEND

OFR — Outdoor-Fan Relay
TB — Terminal Block

Terminal Block Connection

Marked Terminal

Field Wiring

NOTES:

1. See Fig. 3 for transformer connection points for each voltage.
2. Refer to indoor unit wiring diagram for details of OFR coil connections.
3. Typical TB1 connection points shown; any 2 of the 3 points on TB1 can be used.

Fig. 5 — Control Transformer Wiring for 50/50% Refrigerant Coil Circuiting

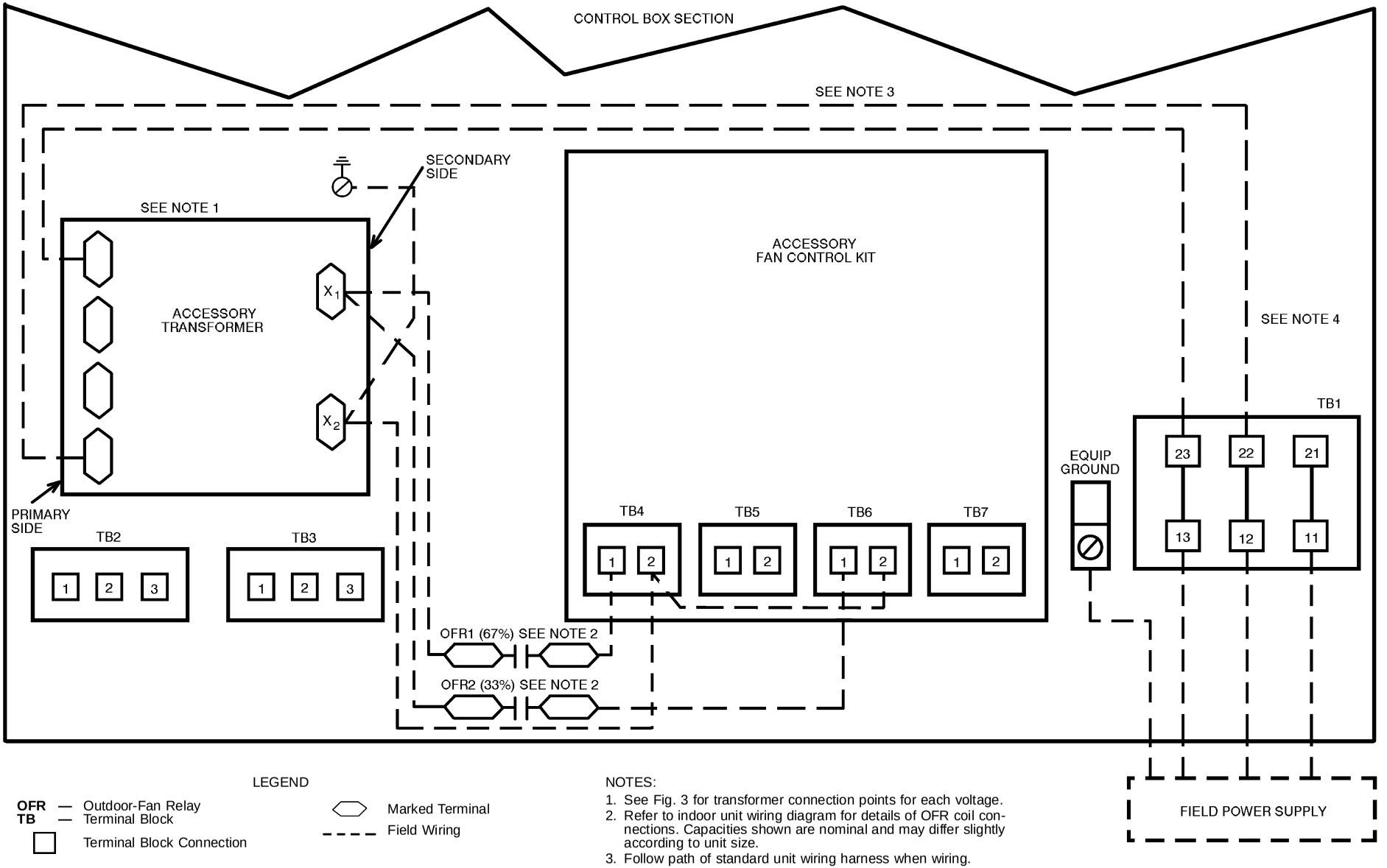


Fig. 6 — Control Transformer Wiring for Nominal 67/33% Refrigerant Coil Circuiting (09DK054-084 Only)

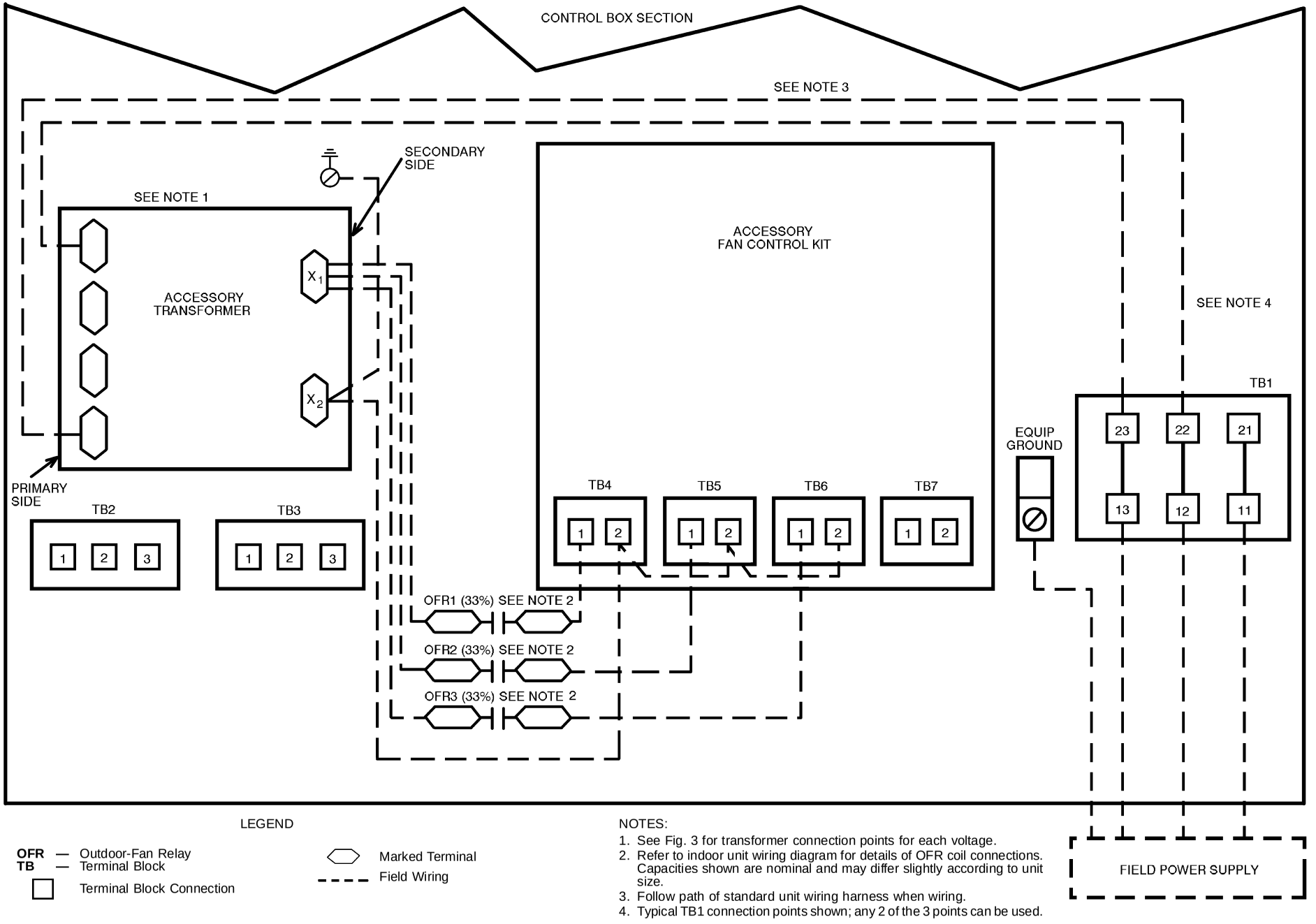


Fig. 7 — Control Transformer Wiring for Nominal 33/33/33% Refrigerant Coil Circuiting (09DK054-084 Only)

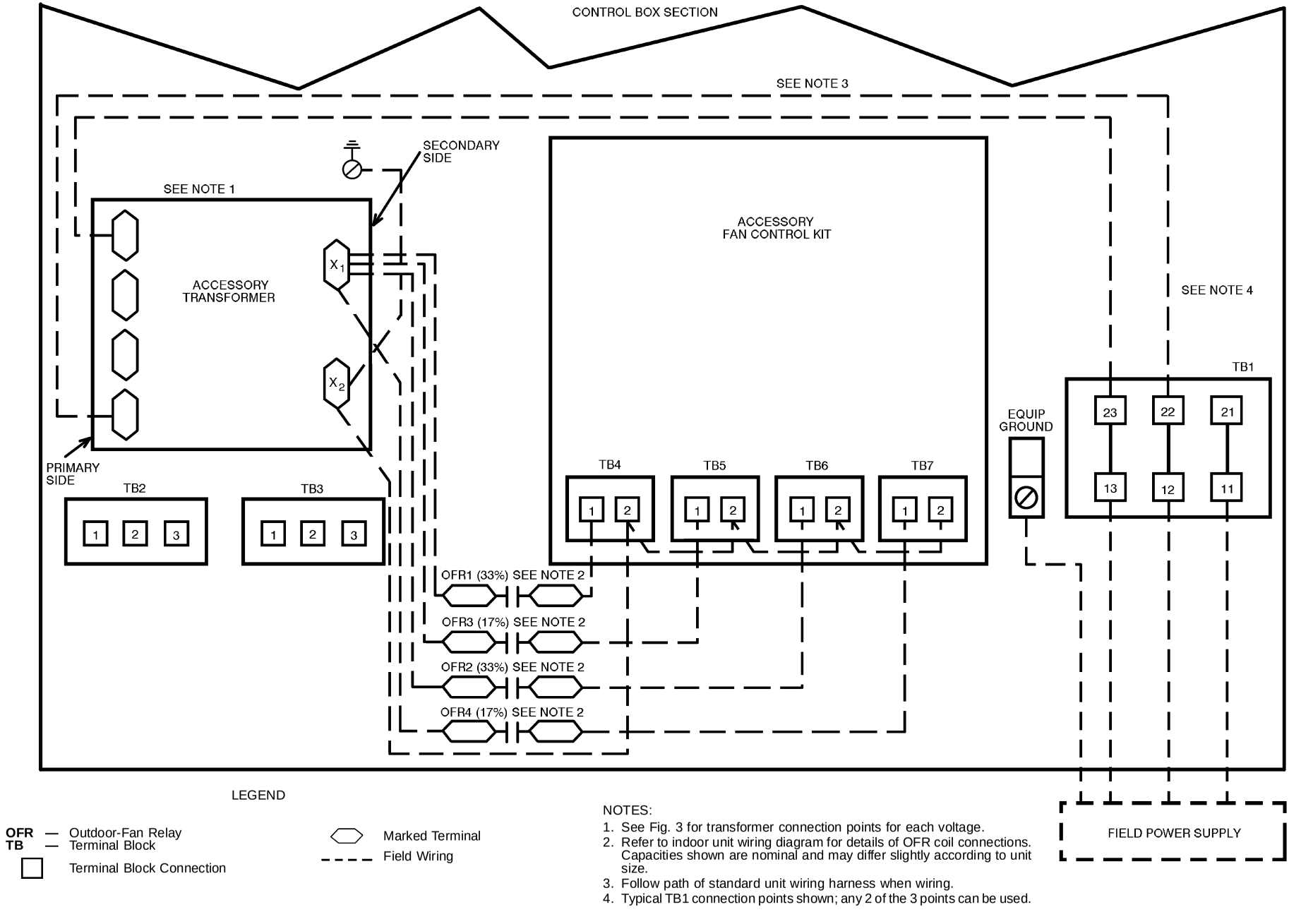


Fig. 8 — Control Transformer Wiring for Nominal 33/33/17/17% Refrigerant Coil Circuiting (09DK054-084 Only)