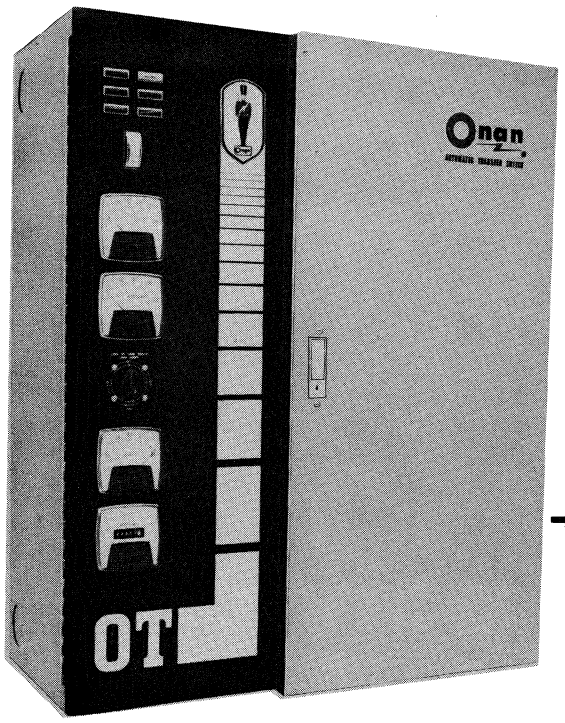
Onan

Service Manual

OT

Transfer Switches

Prior to Spec E



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Safety Precautions

This manual includes the following symbols to indicate potentially dangerous conditions to the operator or equipment. Read the manual carefully and know when these conditions exist. Then take the necessary steps to protect personnel and the equipment.

WARNING ***This symbol is used throughout the text to warn of possible serious personal injury or death.***

CAUTION ***This symbol refers to possible equipment damage.***

The automatic transfer switch has components with high voltages which present shock hazards which might cause serious personal injury or death. For this reason, read the following suggestions.

Keep the automatic transfer switch cabinet closed and locked. Make sure only authorized personnel have the cabinet keys.

Always move the operation selector switch on the generator set or automatic transfer switch to *STOP*, disconnect the starting batteries of the generator set, and remove AC line power to the automatic transfer switch before performing maintenance or adjustments (unless specified otherwise in the instructions—then only using extreme caution due to danger of shock hazard).

Before using the disconnect plug (if equipped) for de-energizing the control panel, be sure to place the operation selector switch on the generator set or automatic transfer switch to the *STOP* position. Neglect of this procedure results in set starting and energization of the transfer switch generator side.

Use rubber insulative mats placed on dry wood platforms over floors that are metal or concrete when working on any electrical equipment. Do not wear damp clothing (particularly wet shoes) or allow skin surfaces to be damp when handling electrical equipment.

Jewelry is a good conductor of electricity and should be removed when working on the electrical equipment.

Do not work on this equipment when mentally or physically fatigued.

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General Information

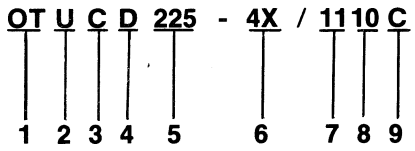
ONAN SERVICE MANUAL

This manual contains operation descriptions of typical OT transfer switches, modifications, adjustments, and troubleshooting procedures. Whenever troubleshooting or planning a repair for an OT automatic transfer switch, remember the generator set, automatic transfer switch and commercial power source are all interdependent. Decide which is the source of the problem and then repair using necessary and normal safety precautions.

The service manual contains operation descriptions of typical OT automatic transfer switches, and modifications, adjustments, and toubleshooting procedures. Non-automatic OT transfer switches do not have a control system as do the automatic transfer switches. Because of this, use only the *Transfer Switch* section for service information on these models.

MODEL NUMBER SYSTEM

Following is a typical model number with explanations of the different parts.



1. **Series Identification**
2. **Transfer Switch Type**
   U-2-or 3-pole transfer switch
   N-2-or 3-pole transfer switch with over-lap switched neutral
   S—Special or CSA Approved
3. **Starting Circuit**
   C—2-wire, 24-volt
   D—2-wire, 12-volt
   E—3-wire, 12-volt
   A—Non-automatic
   B—No Starting circuit, utility-to-utility model.
4. **Transfer Switch and Cabinet Combinations**
   All transfer switches below are mechanically-held both sides and have manual operators.
   D—two auxiliary contacts on each side, NEMA 1 cabinet
   H—Two auxiliary contacts on each side, open construction model
   K—One auxiliary contact on each side, programmed transition, NEMA 1 cabinet
   L—One auxiliary contact on each side, programmed transition, open construction
   M—Two auxiliary contacts on each side, NEMA 1 cabinet, dust-proofed
   N—One auxiliary contact on each side, programmed transition, NEMA 1 cabinet, dust-proofed
   P—One auxiliary contact on each side, programmed transition, rainproof cabinet
   R—Programmed transition, NEMA 1 cabinet
   S—Programmed transition, open construction
5. **Current Rating (amperes)**
6. **Voltage Code**
   3 —120/240, 1-phase, 3-wire
   4 —120/208, 3-phase, 4-wire
   4X—277/480, 3-phase, 4-wire
   5D—120/240, 3-phase, 4-wire delta
   7 —220/380, 3-phase, 4-wire
   9X—347/600, 3-phase, 4-wire

Voltage code with prefix "5" indicates 50 hertz (e.g. 53 indicates 50 hertz, 120/240 volts, 1-phase, 3-wire).