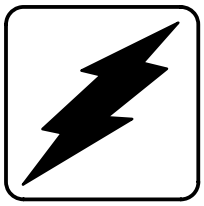
Operation Manual

(Including Electrician's General Installation Guide)

Transfer Switches



Residential/Light Commercial Manual Transfer Switch and Distribution Panel (70 Amp)

PA-320676

KOHLER®
POWER SYSTEMS

TT-1001 5/93

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SAFETY PRECAUTIONS

A transfer switch, like any other electro-mechanical device, can pose potential dangers to life and limb if improperly maintained or imprudently operated. The best safeguards against accident are to be ever mindful of the potential dangers and to always use good common sense. In the interest of safety, some general precautions relating to operating of a transfer switch follow. Keep these in mind. This manual contains several types of safety precautions which are explained below.

DANGER

Danger is used to indicate the presence of a hazard which *will* cause *severe* personal injury, death, or substantial property damage if the warning is ignored.

WARNING

Warning is used to indicate the presence of a hazard which *can* cause *severe* personal injury, death, or substantial property damage if the warning is ignored.

CAUTION

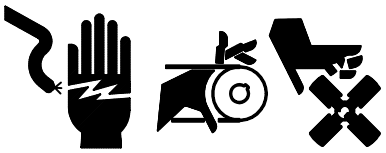
Caution is used to indicate the presence of a hazard which *will* or *can* cause *minor* personal injury or property damage if the warning is ignored.

NOTE

Note is used to notify people of installation, operation, or maintenance information which is important but not hazard-related.

DANGER

HIGH VOLTAGE! Remember that wherever electrical energy is present, there is the potential danger of electrocution. Keep everyone away from the switch and take precautions to prevent unqualified personnel from tampering. Have the switch and electrical circuits serviced only by qualified technicians. Wiring should be inspected at the recommended interval shown in the service schedule—replace leads that are frayed or in poor condition. Do not operate electrical equipment when standing in water, on wet ground, or when your hands are wet.



WARNING

UNIT STARTS WITHOUT NOTICE! Units with Automatic Transfer Switches start automatically. Turn Generator Master Switch on controller to OFF position, and remove battery cables (remove negative lead first and reconnect it last) to disable generator set before working on any equipment connected to transfer switch.

DANGER

HAZARDOUS VOLTAGE! The Automatic Transfer Switch is energized; proceed with care! High Voltage can cause personal injury, damage equipment, or lead to future failures. Remove rings, watches, and jewelry that can cause short circuits. This test should be done only by a qualified electrician. Follow manufacturer's instructions when operating tester.

DANGER

SHOCK HAZARD! De-energize both normal and emergency sources before proceeding. Move Generator Master Switch on controller to OFF position and disconnect battery negative (–) before working on transfer switch! Turn the transfer switch selector switch to the OFF position.

Section 1. Installation

WARNING

Warning: This General Installation Section is provided SPECIFICALLY AND SOLELY as a guide for certified electricians and electrical contractors in the installation and wiring of a transfer switch in conformance with NEC and local codes and regulations. INSTALLATION IS NOT TO BE DONE BY THE HOMEOWNER.

NOTE

The following procedures may be in variance with regard to some local codes and regulations. Consult the appropriate codes and regulations regarding installation of EMERGENCY SYSTEMS and generator sets before proceeding with installation.

NOTE

Notify your local electrical utility of your intent to install the EMERGENCY SYSTEM and generator set, as utility's prior written consent may be necessary to perform installation.

MANUAL TRANSFER SWITCH FUNCTION

A manual transfer switch is an electrical device used to transfer critical loads from a normal (commercial utility) source to an emergency (standby) source of power. The start of the generator set and the transfer of the load must be done manually.

Upon normal source failure, the manual transfer switch will give you the capability of manually transferring to emergency power.

When normal source fails, power is disrupted. The manual switch requires that the generator set be started manually at the generator set. See generator set operation manual for proper starting procedure. The transfer switch must also be manually activated to switch to emergency power.

When the normal source is available, the transfer switch will need to be manually activated to switch to normal source. The generator must be manually stopped.

Should the normal source fail again, the process would need to be repeated.

TYPICAL INSTALLATION

Figure 1-1 shows how the residential/light commercial manual transfer switch (1) and the generator (2) are hooked into your power supply. Included is a diagram of a typical installation. Figure 1-2 shows dimensions for mounting.

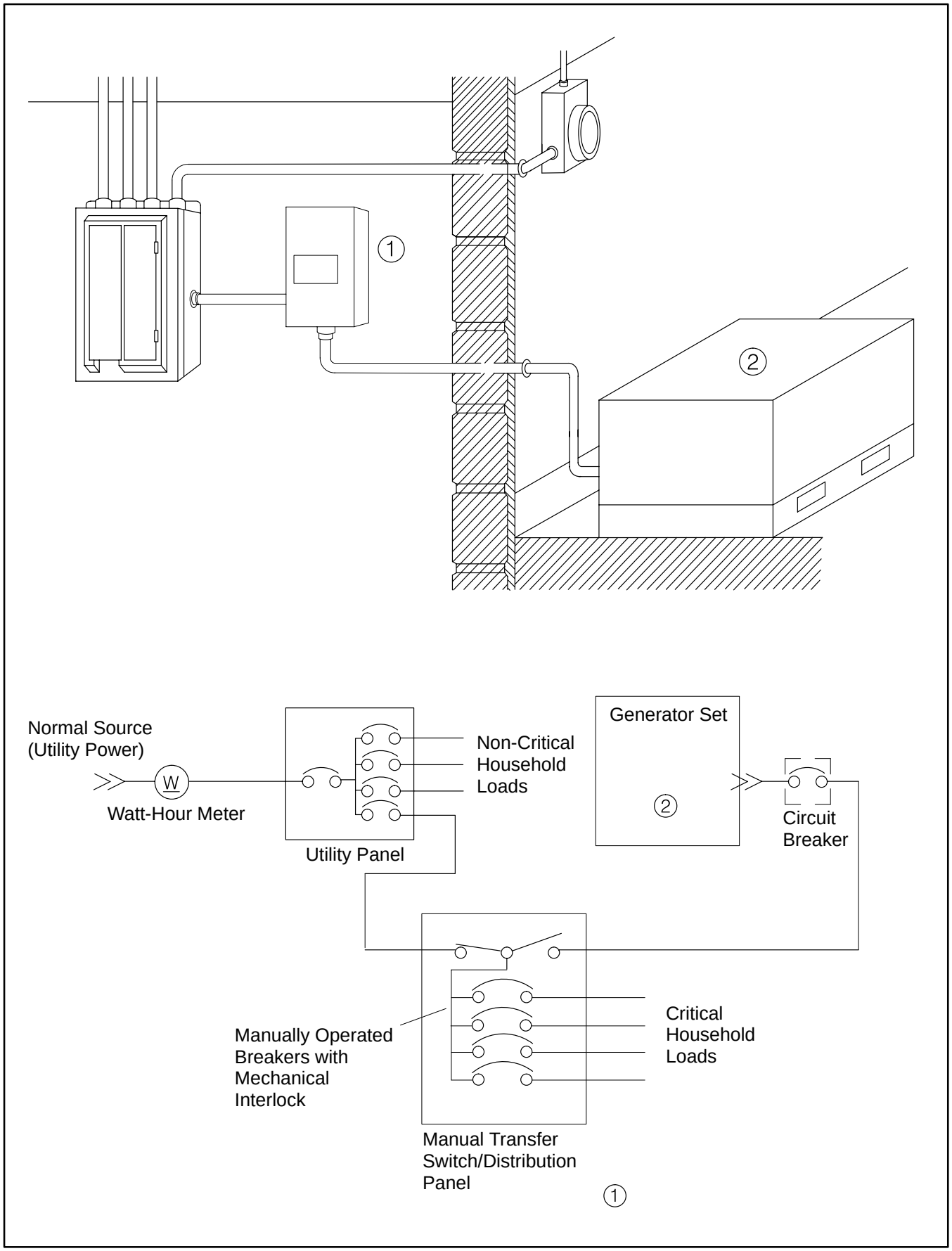


Figure 1-1. Typical Installation Diagram

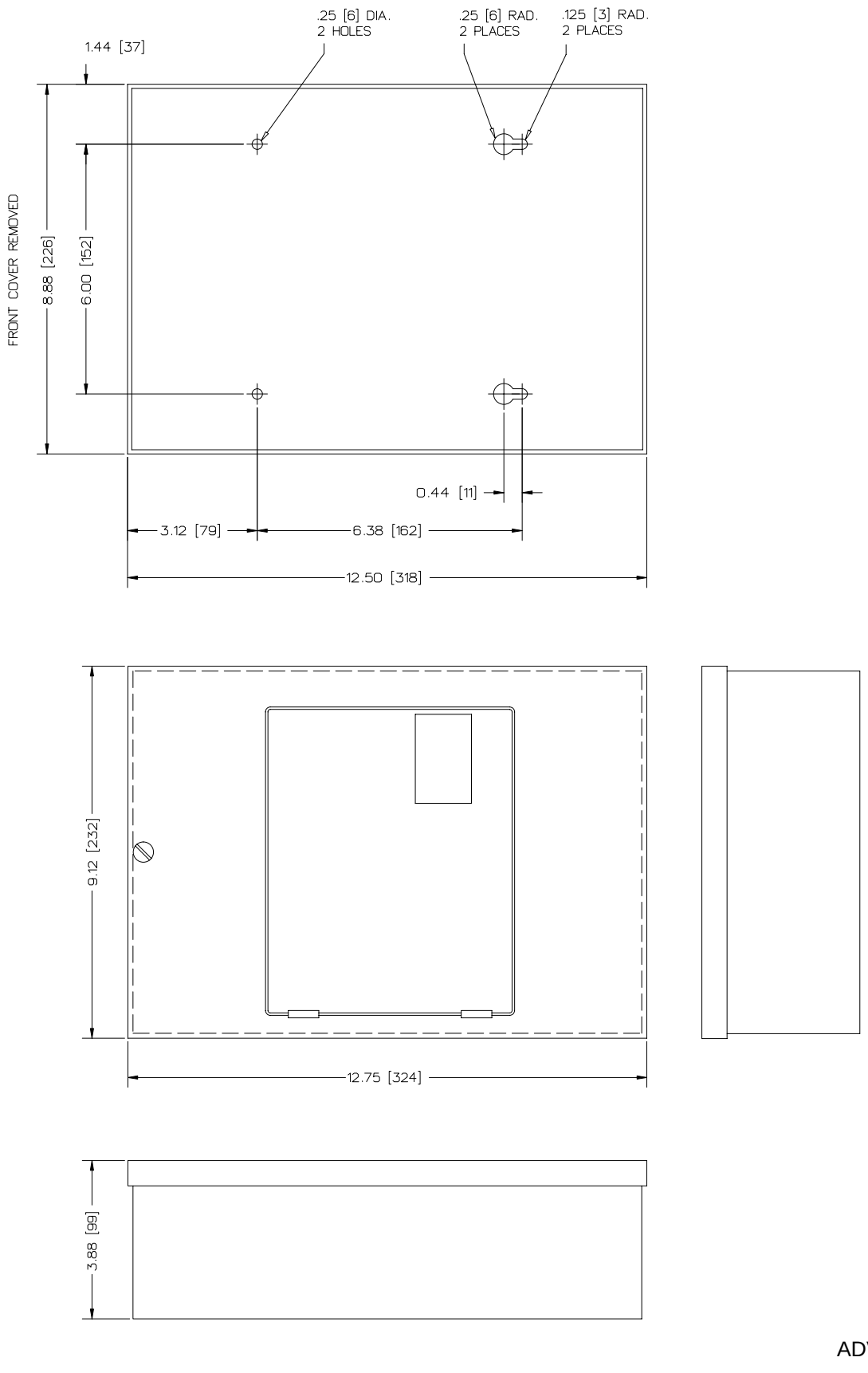


Figure 1-2. Dimensions

Section 2. System Operation

MANAGING YOUR POWER DEMANDS

When using electricity generated by your generator set, remember that the power is limited compared to your commercial utility. Consult with your electrician to determine which loads to put onto the emergency circuit to keep your power or wattage demands within your generator set's capabilities.

TRANSFERRING TO STANDBY POWER

When commercial-utility power outage occurs, take the following steps in transferring to standby power. After your standby system has been installed, hold an "emergency drill" to acquaint family members and other concerned with system use.

1. Consult generator set owner's manual for all necessary information prior to start-up and then start generator set.
2. Push normal circuit breaker to OFF position. See Figure 2-1.
3. Push emergency circuit breaker to ON position, the generator is now connected to your emergency circuits.

WARNING

HIGH VOLTAGE! INTERLOCK must not be removed or defeated. Damage to equipment or personal injury may result.

TRANSFERRING TO NORMAL POWER

When commercial-utility power returns, take the following steps in transferring to normal power.

1. Push emergency circuit breaker to OFF position.
2. Push Normal circuit breaker to ON position, utility power is now connected to all your circuits.
3. Allow the generator set to cool down, consult generator set owner's manual for cool down period. After cool down period Stop generator set. Consult generator set owner's manual.

WARNING

HIGH VOLTAGE! INTERLOCK must not be removed or defeated. Damage to equipment or personal injury may result.

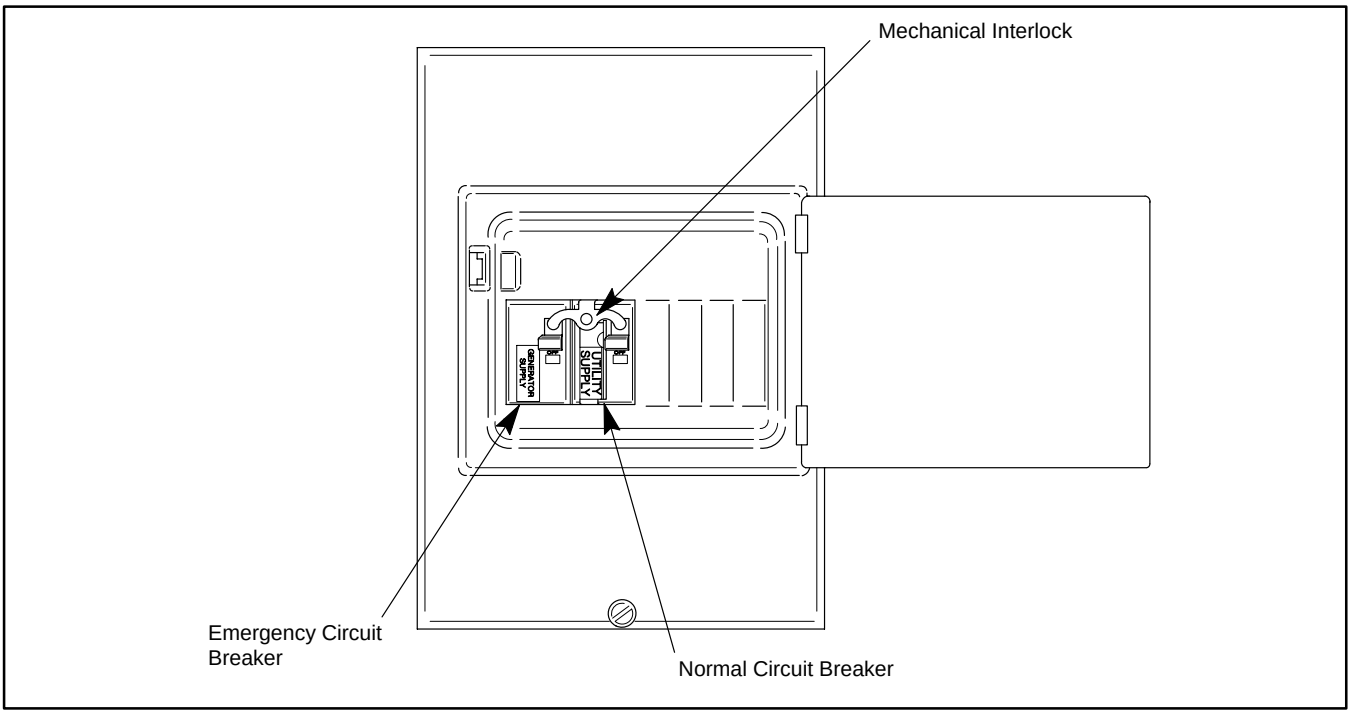


Figure 2-1. Circuit Breakers and Mechanical Interlock

Section 3. Service Instructions

In any communications regarding your manual transfer switch please include the switch kit number on the front of this manual. All components are also labeled with their individual part numbers.

Your authorized service dealer will need these numbers to provide the correct parts and information for your transfer switch. Do not attempt to replace major items or any item that calls for special tools or procedures—have this done only by qualified Kohler Power Systems Specialists. Check the yellow pages of your telephone directory under the heading GENERATORS—ELECTRIC for Kohler Generator Service Dealers in you area.

For Sales & Service in U.S.A. & Canada phone 1-800-544-2444.

Routine Service Parts

Contact Your Kohler Generator Dealer.

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KOHLER CO. KOHLER, WISCONSIN 53044
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