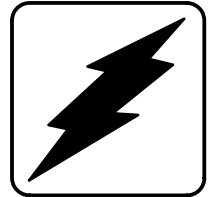


# Operation Manual

(with General Installation Guide)

## Transfer Switches



### Residential/Light Commercial Automatic Transfer Switch (100 Amp)

PA-320677 (VSR)  
PA-320678 (VSR,TDES)  
PA-320679 (VSR,TDES,PENL)  
PA-320680 (VSR,TDES,TDNE,TDEN)  
PA-320681 (VSR,TDES,TDNE,TDEN,PENL)  
PA-320682 (VSR,TDES,TDNE,TDEN,PENL)

**KOHLER**<sup>®</sup>  
POWER SYSTEMS

# Table of Contents

SUBJECT	PAGE	SUBJECT	PAGE
<b>Safety Precautions</b> .....	<b>i</b>	Time Delay Emergency to Normal .....	2-4
<b>Section 1. Typical Installation</b> .....	<b>1-1</b>	Emergency Source Voltage Lockout .....	2-4
Automatic Transfer Switch Function .....	1-1	Plant Exerciser .....	2-4
General Installation Description .....	1-1	Timer Settings .....	2-4
<b>Section 2. Operation</b> .....	<b>2-1</b>	Plant Exerciser Settings .....	2-5
Instructions .....	2-1	Setting The Time .....	2-5
Application .....	2-1	Entering Programs .....	2-5
Safety Practices .....	2-1	Changing Or Checking Programs .....	2-5
Identification .....	2-1	Cancelling Programs .....	2-5
Description .....	2-2	Manual Switch .....	2-5
Installation .....	2-2	Load Indicator .....	2-5
Location Selection .....	2-2	Battery-Powered Reserve .....	2-6
Switch Mounting .....	2-2	Daylight Savings/Standard Time Change .....	2-6
Power Cable Connections .....	2-2	Functional Testing .....	2-6
Engine Start Connection .....	2-3	Preliminary Checks .....	2-6
Preliminary Checks .....	2-3	Energize The ATSBP .....	2-6
Optional Features .....	2-3	Operational Checks .....	2-6
Time Delay Engine Start .....	2-3	Maintenance .....	2-7
Time Delay Normal to Emergency .....	2-4	Replacement Parts .....	2-7
		Storage .....	2-7

# 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 that 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 that 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 that will or can cause minor personal injury or property damage if the warning is ignored.

## NOTE

Note is used to communicate installation, operation, or maintenance information that is important but not hazard-related.

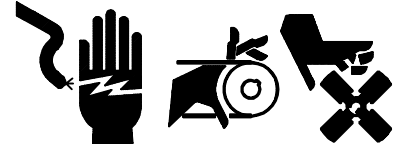
## DANGER

**HIGH VOLTAGE!** Remember that wherever electrical energy is present, there is the potential danger of electrocution. Keep everyone away from the set and



take precautions to prevent unqualified personnel from tampering. Have the set 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. The following safety precautions apply to electricians and any personnel who are installing or servicing the 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!



# Section1. Typical Installation



## WARNING

**Warning:** The following 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.

## AUTOMATIC TRANSFER SWITCH FUNCTION

An automatic transfer (ATS) switch is an electrical device used to transfer critical loads from a normal (commercial utility) source to an emergency (standby) source of power. This transfer automatically occurs when the normal source voltage fails or is substantially reduced and the emergency source voltage has reached an acceptable level.

Upon normal source failure, the automatic transfer switch signals the start of the generator set. When the

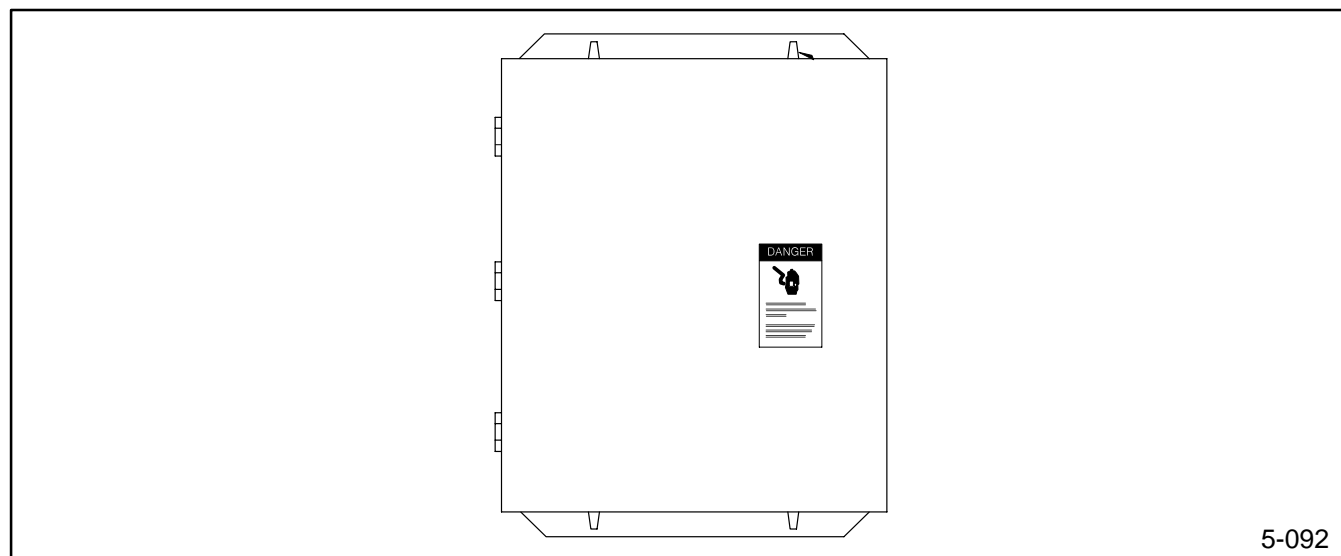
emergency source is within the acceptable voltage limits, transfer of the electrical load to the emergency source will occur.

The automatic transfer switch continuously senses for an acceptable normal source, and will retransfer the load to the normal source after it has been restored to an acceptable level. After retransfer of the load, the start signal from the automatic transfer switch is cancelled and the generator set is allowed to shut down. See Figure 1-1.

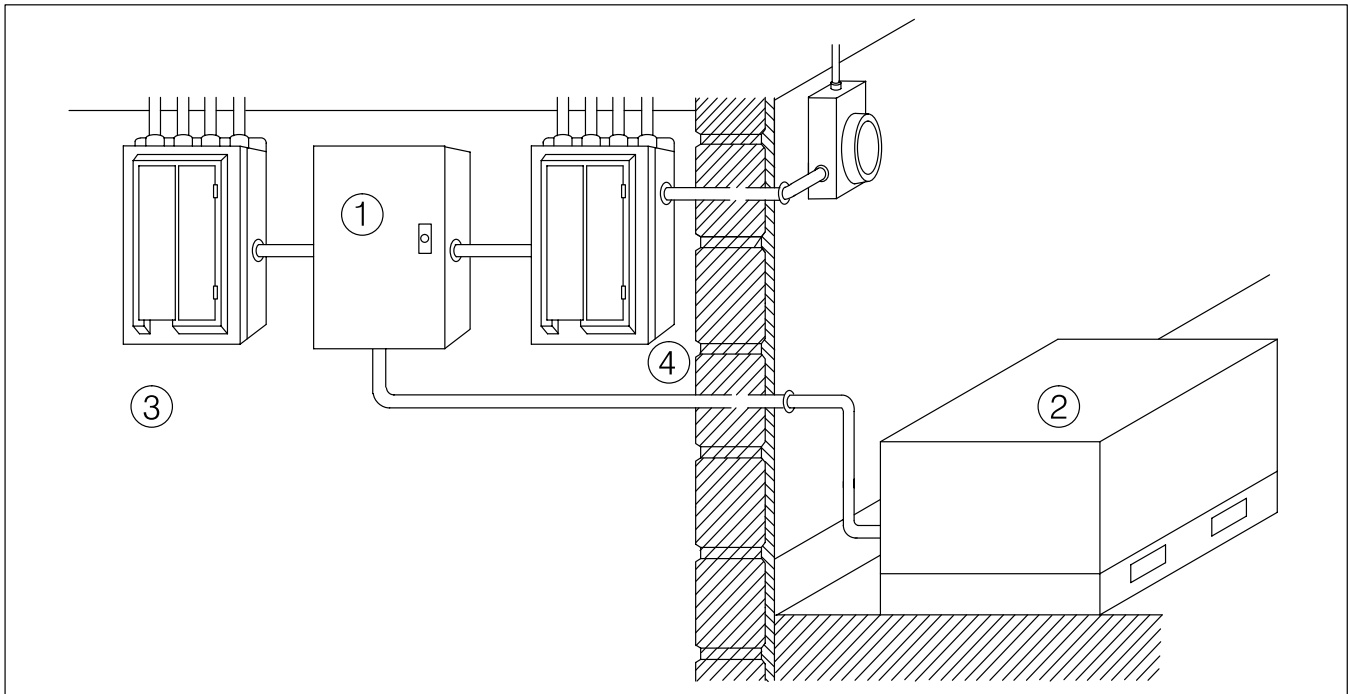
## GENERAL INSTALLATION DESCRIPTION

These are not comprehensive instructions, for further installation instructions, wiring diagrams and overall dimensions see the following operation instructions.

The typical Installation sketch (Figure 1-1) shows how the ATS and generator set are hooked into your power supply. The ATS (1) and emergency distribution panel (3) get their normal power from a dedicated breaker (100 amp max.) in the utility service panel (4). The ATS and emergency panel get their emergency power from the generator set (2). Utility power feeds the utility panel. When normal power fails, the ATS will sense the failure, start the generator, and switch all loads to the emergency panel. All emergency loads will get their power from the generator set. A line breaker is required between the emergency source (generator set) and the transfer switch as shown in Figure 1-1. When normal power returns the ATS will switch all power back to the utility and shut down the generator set.



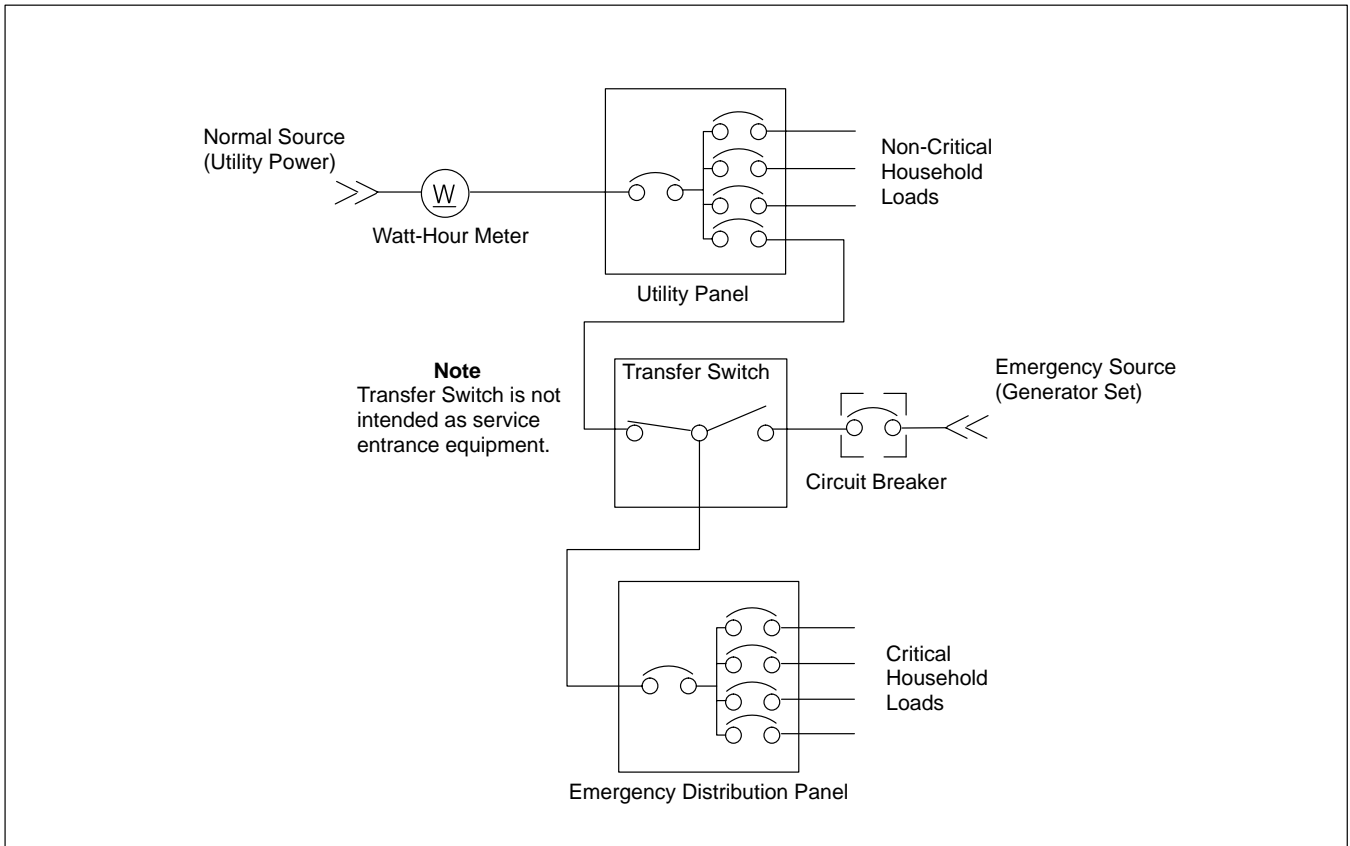
**Figure 1-1. Transfer Switch (typical)**



**Figure 1-2. Typical Installation**

The sketch shows how the residential/light commercial automatic transfer switch (1) and the generator set (2) are hooked into your power supply. The sketch also

shows the emergency distribution panel (3) hooked into the system. See Figure 1-3 below for typical diagram.



**Figure 1-3. Typical Installation Diagram**

# Section 2. Operation

## INSTRUCTIONS

These instructions are not comprehensive in scope and may not contain all of the relevant information necessary to diagnose or solve a particular problem you face. If you have any question concerning correct operating or maintenance procedures, please contact your local Kohler representative.

There are no understandings, agreements, representations, or warranties expressed or implied including warranties of merchantability or fitness for a particular purpose other than those specifically set forth in any separate contract between the parties. Any such contract states the sole obligations of Kohler and the contents of this document are not intended to and shall not become part of or in any way modify the terms set forth in such a contract. Information in this literature is intended to be comprehensive but not all inclusive. Should further information be required, please contact the nearest Kohler sales office.

## APPLICATION

Kohler residential/light commercial automatic transfer switches (ATSBR) are listed under Underwriters' Laboratories UL-1008 Standard for Safety for Automatic Transfer Switches. The power contact assemblies utilized in ATSBR switches are also covered under UL-1087 Standard for Safety for Molded Case Switches or UL-489 Standard for Safety for Circuit Breakers.

The Kohler ATSBR Transfer Switches meet emergency system rating requirements as defined in National Electric Code (NEC) Article 700.

## SAFETY PRACTICES



### WARNING

The Kohler residential/light commercial automatic transfer switch has been designed, manufactured, and tested to provide safe and reliable operation. To protect personnel associated with the installation, operation and maintenance of this equipment, the following practices must be followed:

Only qualified persons, as defined in the National Electrical Code, who are familiar with the installation and maintenance of low-voltage circuits and equipment should perform any work associated with this equipment.

COMPLETELY READ AND UNDERSTAND THESE INSTRUCTIONS before attempting any installation, operation, maintenance, or modification of this equipment.

ALWAYS TURN OFF AND LOCK OUT THE POWER SOURCE(S) FEEDING THIS EQUIPMENT PRIOR TO PERFORMING ANY INSTALLATION, MAINTENANCE, OR MODIFICATION OF THIS EQUIPMENT. Failure to do so can result in electrical shock leading to death, personal injury, or property damage.

## IDENTIFICATION

Each Kohler ATSBR Switch is supplied with a permanently affixed nameplate which provides the user with data on that specific unit. The switch may only be applied within the limits identified on this nameplate without additional modification. The catalog number appearing on the nameplate will provide the user with the following application information:

Switch Type ATSBR	No. of Switched Poles	Ampere Rating 0100	Voltage	Enclosure Type
			W	S
Resid./Light Commercial Automatic Transfer Switch	2 = 2 Pole	0100 = 100 Amps	W = 240V	S = NEMA 1

The nameplate will also list the shop order number/style number of the unit which should be referenced when contacting the factory for technical support.

A ratings nameplate will also be affixed to the switch identifying the withstand, interrupting, and closing ratings for which the unit is intended.



### WARNING

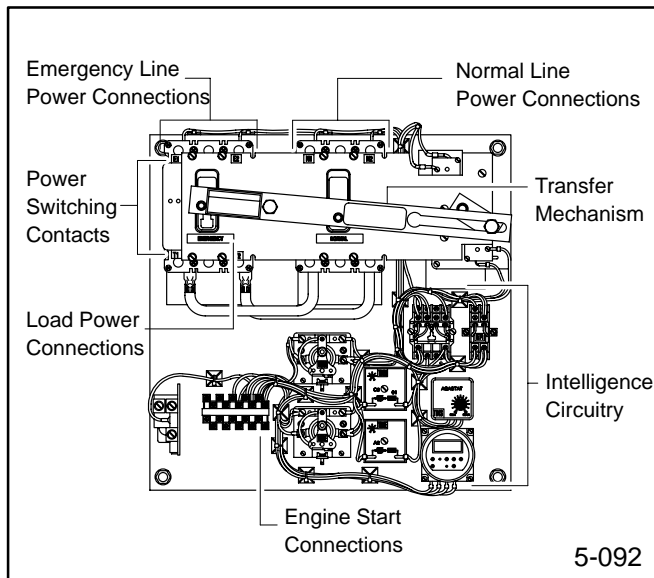
**DO NOT APPLY THIS PRODUCT AT RATINGS WHICH EXCEED THE VALUES NOTED ON THE RATINGS LABEL OF THIS UNIT. EXCEEDING THE NOTED RATINGS CAN CAUSE DEATH, SEVERE PERSONAL INJURY, OR PROPERTY DAMAGE.**

## DESCRIPTION

The Kohler residential/light commercial automatic transfer switch is a completely factory assembled and tested apparatus used in conjunction with standby power distribution equipment to provide alternate power availability to critical load circuits in the event of primary power interruption.

The ATSBR performs the function of monitoring both normal and standby power sources and accomplishing an automatic transfer of critical load circuits between these sources as dictated by source availability. The normal source will be the preferred source and the ATSBR will remain connected to this source if available. The ATSBR consists of three basic elements (See Figure 2-1):

- A. Power switching contacts which close or open to connect or disconnect the load circuits to the respective power sources.
- B. Transfer mechanism which functions to drive the power switching contacts to the appropriate positions.
- C. Intelligence circuitry which monitors the condition of the power sources and makes transfer operation decisions.



**Figure 2-1. Typical ATSBR Components**

## INSTALLATION

Kohler ATSBR Switches are factory wired and tested. Installation simply requires mounting and connection of power cables and engine start signal wires.

## Location Selection

The transfer panel must be mounted on a flat, rigid supporting surface and in an atmosphere free of excessive moisture and extreme temperatures. The panels provide ample room to permit cable entry from top, bottom or sides. At no time should cables be routed to retard the action of relays, or cover control devices in a way that restricts adjustments. Maintain proper electrical clearance between live metal parts and grounded metal.

For installation and maintenance purposes, the primary and secondary sources must have an overcurrent protective device upstream of the transfer switch.

## Switch Mounting

1. Carefully uncrate the transfer switch. Visually check to see that cabinet has not been damaged.
2. Make a visual check to see that there are no broken or damaged components, and that there is no evidence of bent or distorted metal or loose wires as a result of rough handling. If there is visible damage, please contact your local Kohler sales representative.
3. Verify that the total connected loads do not exceed 100 amps and that line voltage is 240 volts AC at the point of application.
4. See Figure 2-2 to layout the mounting bolt pattern for the ATSBR enclosure.
5. Install all mounting bolt anchors and the two upper mounting bolts.
6. Gently lift cabinet and guide keyway holes onto upper mounting bolts and tighten bolts. Install lower mounting bolts and tighten. Use shims to prevent deformation of cabinet when wall is distorted.

## POWER CABLE CONNECTIONS

Test all power cables prior to connection to the unit to ensure that conductors or cable insulation has not been damaged while being pulled into position. Power cables are to be connected to solderless screw type lugs. Refer to wiring diagrams supplied with unit for power termination identification. Verify that the lugs supplied will accommodate the power cables being used.

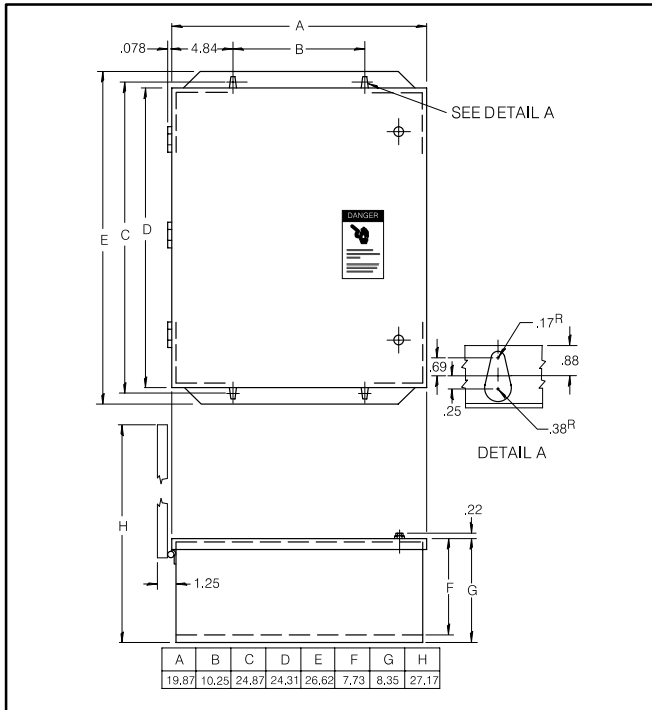


## DANGER

**DE-ENERGIZE ALL POWER CABLE OR CONTROL WIRING INTENDED FOR CONNECTION TO THE UNIT. CONTACT WITH LIVE POWER CONNECTORS WILL CAUSE SEVERE PERSONAL INJURY OR DEATH.**

### NOTE

The ATSBR equipment's intelligence circuit must have a control reference to the neutral conductor. This means that neutral conductor connection to the solid neutral bar supplied with the equipment must be in place to insure proper operation of the logic circuitry. The neutral conductor connection is via a similar solderless screw type lug as used for power cable connections.



**Figure 2-2. ATSBR Mounting Dimensions**

Carefully strip insulation from the power cables avoiding nicking or ringing of the conductor strands. Prepare stripped conductor termination end by cleaning with a wire brush. If aluminum conductors are used, apply an appropriate joint compound to the clean conductor surface area. Tighten cable lugs to the torque values identified on the label affixed to the unit immediately adjacent to the lugs.



## WARNING

**IMPROPER POWER CABLE CONNECTIONS CAN CAUSE EXCESSIVE HEAT GENERATION AND SUBSEQUENT EQUIPMENT FAILURE.**

### ENGINE START CONNECTION

The engine control contact connections are located on the lower right of the intelligence portion of the ATS. NOTE: Prior to making the engine start connection to the ATSBR equipment, set engine generator controls selector switch in the Off position to prevent an unwanted engine start condition. Connect the engine start wires to the RED terminal blocks marked 51 and 52. A contact closes between these terminal blocks when an engine start signal is provided by the ATSBR logic. See wiring diagram supplied with the equipment for additional engine start connection information.

### PRELIMINARY CHECKS

After the ATSBR enclosure is installed and power cables are connected to the equipment, make a thorough inspection of the unit to insure no tools are left inside and that the cabinet is free of debris. If necessary use a vacuum cleaner to remove any and all construction or installation debris from the equipment.

Read and understand all labels affixed to the equipment. Review and understand the wiring diagrams supplied with the equipment. Note any optional accessories that may have been furnished with this unit and review their operation. See following Optional Features section.

Verify the phase to phase line voltages of both the normal and emergency power sources are the same and that they match rated voltage as indicated on the ATSBR equipment ratings label.



## WARNING

**SEVERE EQUIPMENT DAMAGE CAN RESULT IF UNIT IS NOT APPLIED AT PROPER VOLTAGE.**

**DO NOT ENERGIZE EQUIPMENT IF SUPPLY VOLTAGES DO NOT MATCH EQUIPMENT RATINGS LABEL. CONTACT THE FACTORY FOR FIELD VOLTAGE RATING MODIFICATION INSTRUCTIONS.**



## OPTIONAL FEATURES

Before proceeding with functional testing of the equipment, it is important to understand the purpose and operation of certain optional features which may be installed on the ATSBRE equipment.

### Time Delay Engine Start

When supplied, this panel mounted, plug-in type timer is provided as a part of the intelligence circuitry. The timer will be marked TDES and performs the function of delaying engine starting upon loss of normal power. Timer begins timing upon loss of normal power and prevents nuisance engine starts upon momentary power interruptions. See Figure 2-3. Adjustable from 0.5 to 15 seconds.

### Time Delay Normal to Emergency

When supplied, this solid state timer is provided as a part of the intelligence circuitry. The timer will be marked TDNE and performs the function of delaying transfer of connected loads from the normal to emergency power source. See Figure 2-3. Timer begins timing when emergency voltage is present. This option is sometimes referred to as the engine preheat timer. Adjustable from 3-60 seconds.

### Time Delay Emergency to Normal

When supplied, this panel mounted timer is provided as a part of the intelligence circuitry. The timer will be marked TDEN and performs the function of delaying retransfer from the emergency to normal power source. Timer begins timing upon restoration of normal power. Includes a fail-safe instantaneous retransfer to normal should the emergency source fail while timing to retransfer. See Figure 2-3. Adjustable from 24 seconds to 8 minutes.

### Emergency Source Voltage Lockout

When supplied, this panel mounted voltage sensing relay is provided as a part of the intelligence circuitry. The relay is marked VSR-E and performs the function of inhibiting transfer to the emergency source until same is producing proper voltage. The relay is calibrated at the factory to pick-up at 85% of nominal line voltage. Transfer to emergency will not occur until this relay picks up (energizes). This relay is not field adjustable.

#### NOTE

A Voltage Sensing Relay (VSR-N) is supplied as standard on ATSBRE equipment. This relay constantly monitors the normal power source and functions to initiate all timing and transfer actions. The relay is factory calibrated for 85% pick-up and 70% drop-out of nominal line voltage. The relay is not field adjustable.

## Plant Exerciser

When supplied, this panel mounted, programmable timer is provided as a part of the intelligence circuitry. The timer is marked P.E. and performs the function of exercising the emergency engine generator only (no load transfer) or engine generator and transfer switch (load transfer) at pre-programmed time periods. The timer may be programmed to initiate exercise periods on a specific day of the week and time of day for any desired period of time. (See Adjustment Instructions for Plant Exerciser.)

### Timer Settings

All timers are supplied with adjustments to increase or decrease time settings. Time Delay Normal to Emergency (TDNE) and Emergency to Normal (TDEN) timers are provided with recessed screwdriver type adjustments. Continuous adjustments over the full range of each timer is accomplished by turning the adjustment screw clockwise to increase and counterclockwise to decrease time settings. Incremental reference time values are imprinted on the timer face to assist in specific time settings. See Figure 2-3.

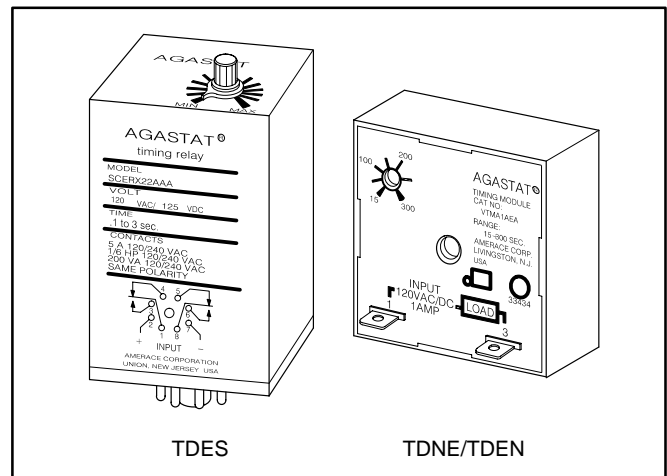


Figure 2-3. Timers



#### WARNING

**Hazardous voltages that can cause death or severe personal injury may be present inside the transfer switch enclosure.**

**Only qualified personnel who are familiar with the installation and maintenance of low voltage circuits and equipment should set all timer adjustments after insuring complete de-energization of the transfer switch.**

The Time Delay Engine Start (TDES) timer is provided with an external finger adjustment knob. Continuous adjustments over the range of the TDES timer is accomplished by turning the adjustment knob clockwise

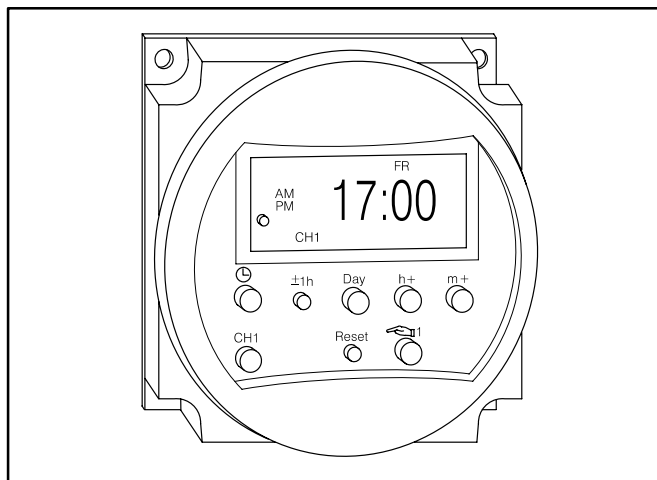
to increase and counterclockwise to decrease time settings.

## ⚠ CAUTION

**The transfer switch should be de-energized while setting all timers.**

### Plant Exerciser Settings

The plant exerciser is a seven-day electronic time switch used to exercise the engine generator. See Figure 2-4.



**Figure 2-4. Plant Exerciser Clock**

### SETTING THE TIME

1. Depress the reset button.
2. Depress  Clock  symbol  key  
 during entire time setting procedure.
3. Press  $\pm 1h$  button once if installed during daylight savings period; do nothing if installed during standard time.
4. Press Day key to bring the actual day of the week into display.
5. Press h+ and m+ to set the actual time of day. If keys are depressed for more than a second, counting will continue automatically.
6. Release  the  
 key when the correct time and day are shown in the display. The colon between the hours and minutes will be flashing.

### ENTERING PROGRAMS

1. Press CH1 once (do not keep depressed). The display will show "CH1 (channel 1) ON" and "--:--" for the time.
2. Press Day key to select the desired day of the week. Successive depressing of the "Day" key beyond Sunday will bring the following blocks of days into the display:  
Monday through Sunday  
Monday through Friday  
Saturday and Sunday  
All days shown in the respective blocks will be switched on (or off) at the selected hour and minute.
3. Insert the hour and minutes at which time an "ON" command is to take place.
4. Press key CH1 to enter program. The display will show CH1 OFF.
5. Program off command using steps outlined above.
6. Press  key to return to time of day display.

### NOTE

Once the time switch is programmed, it will automatically look back and assume the correct ON or OFF switch position.

### CHANGING OR CHECKING PROGRAMS

By operating key "CH1" the individual commands as programmed can, at any time, be brought consecutively into the display for revision or checking. Revisions are carried out by writing over the existing programs using the steps outlined above.

### CANCELLING PROGRAMS

Use procedure above to bring program to be canceled into display. Use h+ and m+ keys to set hours and minutes to zero; symbol --:-- will be in display. This program has been made ineffective and will no longer be carried out. To cancel all programs, depress reset key. This clears entire memory, including time base and program storage.

### MANUAL SWITCH

1. Press  override  switch  
 once to turn load on or off without affecting the stored programs (temporary override).

2. Press override switch a second time and the channel is now on permanent on (display shows "FIX ON").
3. Press override switch three times and the channel is now on permanent off (display shows "FIX OFF").
4. Press override switch again to turn operation back to automatic.

## LOAD INDICATOR

The load is shown in the display as either on or off.

## BATTERY-POWERED RESERVE

In case of power failure, the built-in nickel-cadmium battery maintains the time of day, program storage and LCD display for 150 hours. During power outage relays are de-energized.

## DAYLIGHT SAVINGS/STANDARD TIME CHANGE

When a time change to Daylight Savings time is required, press  $\pm 1h$  once. The time base in the unit will automatically advance by one hour and  $\pm 1h$  will appear in the display.

To change to standard time, press  $\pm 1h$  again; the time base is set back one hour and  $\pm 1h$  will disappear.

## FUNCTIONAL TESTING



### DANGER

**YOU ARE READY TO ENERGIZE THE EQUIPMENT. VOLTAGES WILL EXIST WITHIN THE ENCLOSURE THAT WILL CAUSE SEVERE PERSONAL INJURY OR DEATH.**

**USE EXTREME CAUTION TO AVOID CONTACT WITH ENERGIZED EQUIPMENT.**

### Preliminary Checks

1. Pre-set all time delays (as supplied) per the preceding adjustment instructions.
2. Check all loads connected to the ATSBAR to insure that they are ready to be energized.

### Energize The ATSBAR

1. Close the upstream Normal source breaker or switch to connect the ATSBAR to Normal supply source voltage.

2. If the ATSBAR unit is not already in the Normal position, the motorized transfer mechanism will engage and automatically switch to the Normal position.
3. Utilizing a voltmeter, measure line-to-line and line-to-neutral voltages across the normal line terminals to ensure normal voltage is correct



### DANGER

**CONTACT WITH ENERGIZED COMPONENTS WILL CAUSE ELECTRICAL SHOCK CAPABLE OF PRODUCING SEVERE PERSONAL INJURY OR DEATH. USE EXTREME CAUTION TO AVOID CONTACT WITH ENERGIZED COMPONENTS WHEN USING A METER FOR VOLTAGE CHECKS.**

4. Position the engine control selector switch located on the standby engine generator to the Auto Start position. (May also be labeled Remote Start.)
5. Close the upstream emergency source breaker or switch to connect the ATSBAR to the emergency supply source.

### Operational Checks

1. Open the upstream normal breaker originally closed in step 2 of the preceding "Energize" section.

### NOTE

This will simulate a normal power source interruption.

2. After a brief time delay (if ATSBAR is equipped with Time Delay Engine Start Option), the standby engine generator will start.
3. If Supplied, the ATSBAR time delay normal to emergency will begin to time after the engine begins to run and the emergency voltage relay picks-up (if supplied). After time out (or instantaneously if no TDNE supplied) the motorized transfer mechanism will engage and automatically switch from the normal to emergency position.
4. Utilizing a voltmeter, measure line-to-line and line-to-neutral voltages across the emergency line terminals to ensure emergency voltage is correct. If necessary, make adjustments to the voltage regulator on the generator according to the manufacturer's recommendations to correct and observed voltage deviations. The ATSBAR will only respond to proper emergency source voltage.

5. Reclose the normal breaker described in step 1.
6. If supplied, the ATSB R time delay emergency to normal relay will begin timing, after time-out (or instantaneous if no TDEN supplied), the motorized transfer mechanism will engage and automatically switch from the emergency to normal position and the engine generator will shut down.

#### **NOTE**

Although not optionally offered on the ATSB R, some engine generator controls may be equipped with a time delay engine cool-off feature which keeps the engine running for a pre-set time after retransfer to normal. Contact engine generator factory or representative for verification.

Alternate operational testing can be accomplished via use of the Plant Exerciser Timer (when supplied) by programming immediate exercise events or by depressing the manual override switch. See plant exerciser setting instructions.

Make sure the plant exerciser timer program memory is reset to clear the immediate exercise events and reprogrammed with intended weekly programs after operational testing is complete.

#### **MAINTENANCE**

The transfer switch is maintenance free under normal usage. Local conditions, however, may make it necessary to periodically blow dust and dirt from the relays and timers, and to see that grease or oil do not accumulate on the switch components.

Follow the recommendations of the generator set manufacturer as to testing frequency. Following instructions for operational testing, test the ATS and associated generator a minimum of 1 time per month.

The enclosure door should only be opened by a competent electrician familiar with the transfer switch.

Good maintenance procedure calls for periodic inspection of all electrical apparatus including tightening of power conductor connections.

#### **REPLACEMENT PARTS**

Many of the logic components of the ATSB R equipment are individually replaceable with field installable kits.

Contact your local Kohler Authorized Service Dealer. Be sure to include the switch kit number for your switch. See the front cover of this manual for a list of the switch kit numbers. The style and catalog number of the switch is located on the inside of the switch.

#### **STORAGE**

If the ATSB R is to be stored prior to installation it should be ordered with packaging/crating suitable for the storage environment both mechanically and environmentally. The equipment is not designed or packaged for outdoor storage and warranty will be withdrawn upon evidence of extended outdoor exposure. It is strongly suggested that this equipment be stored in a climate controlled environment with temperature ranges between 20°C to 85°C with a relative humidity of 80% noncondensing or less.

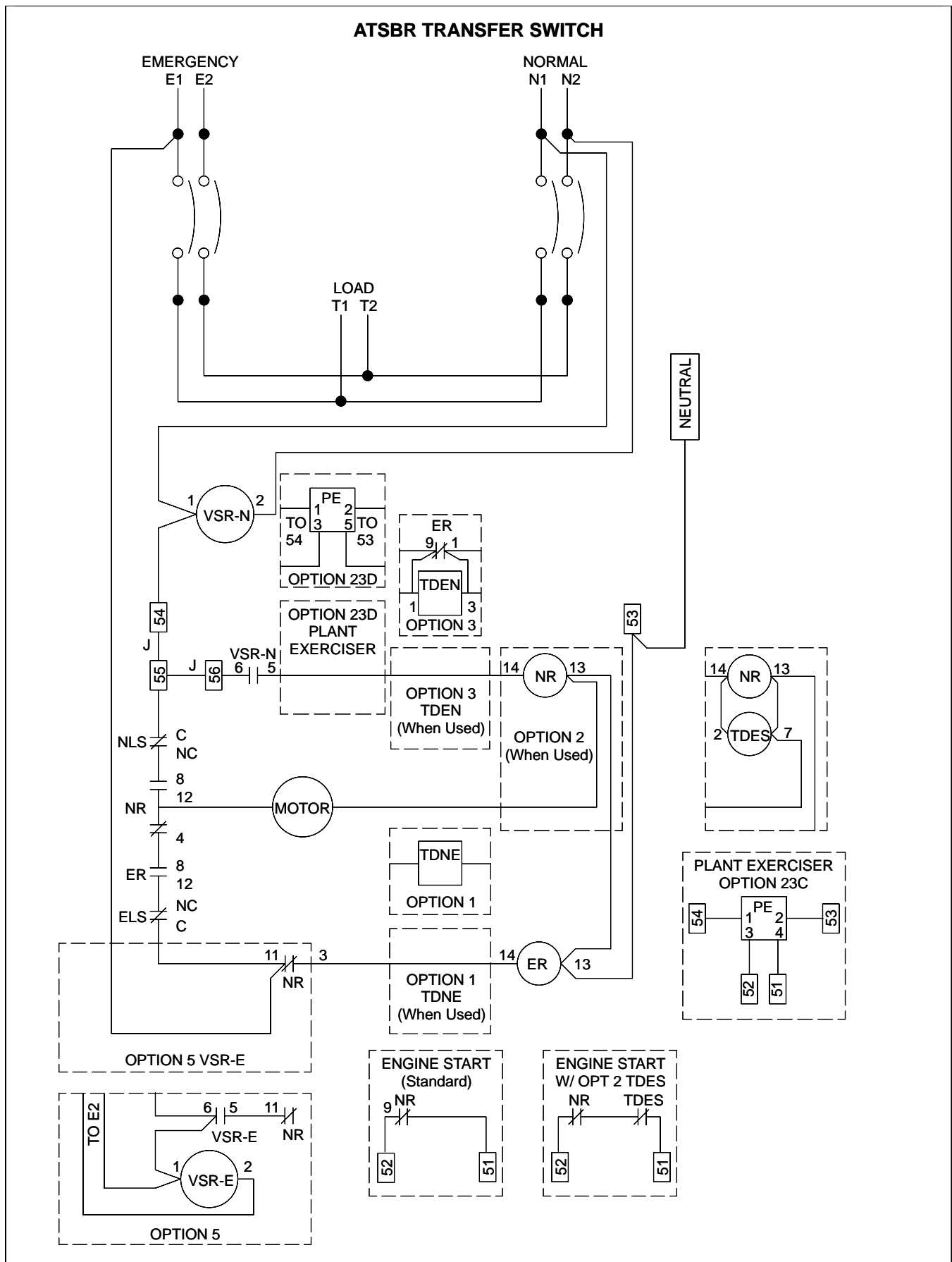


Figure 2-5. Typical Wiring Diagram

**TT-942      3/94**

**PRINTED IN U.S.A.**

# **KOHLER<sup>®</sup>** **POWER SYSTEMS**

KOHLER CO. KOHLER, WISCONSIN 53044  
PHONE 414-565-3381,  
FAX 414-459-1646 (North American Sales), 414-459-1614 (International)  
FOR SALES & SERVICE IN U.S.A. & CANADA PHONE 1-800-544-2444