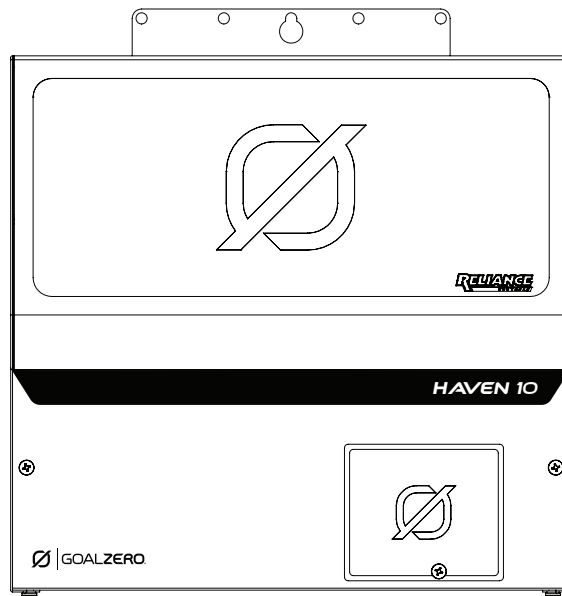


INSTALLATION INSTRUCTIONS



HAVEN 10

MANUAL TRANSFER SWITCH

FROM



Warnings • Cautions



Warning: Improper installation of this transfer switch could cause damage or personal injury by electrocution or fire. Installation must be performed by a qualified electrician in compliance with all applicable electrical codes



Caution: Transfer switches covered in this manual should not be used for appliances or systems that may exceed the capacity of the product.



Caution: When the transfer switch is connected to branch circuits with AFCI or GFCI breakers, the AFCI or GFCI protection will be lost when, and only when, the toggle switch in the transfer switch is in the GEN position. To get AFCI or GFCI protection when running on generator power, install the appropriate breakers in the transfer switch.

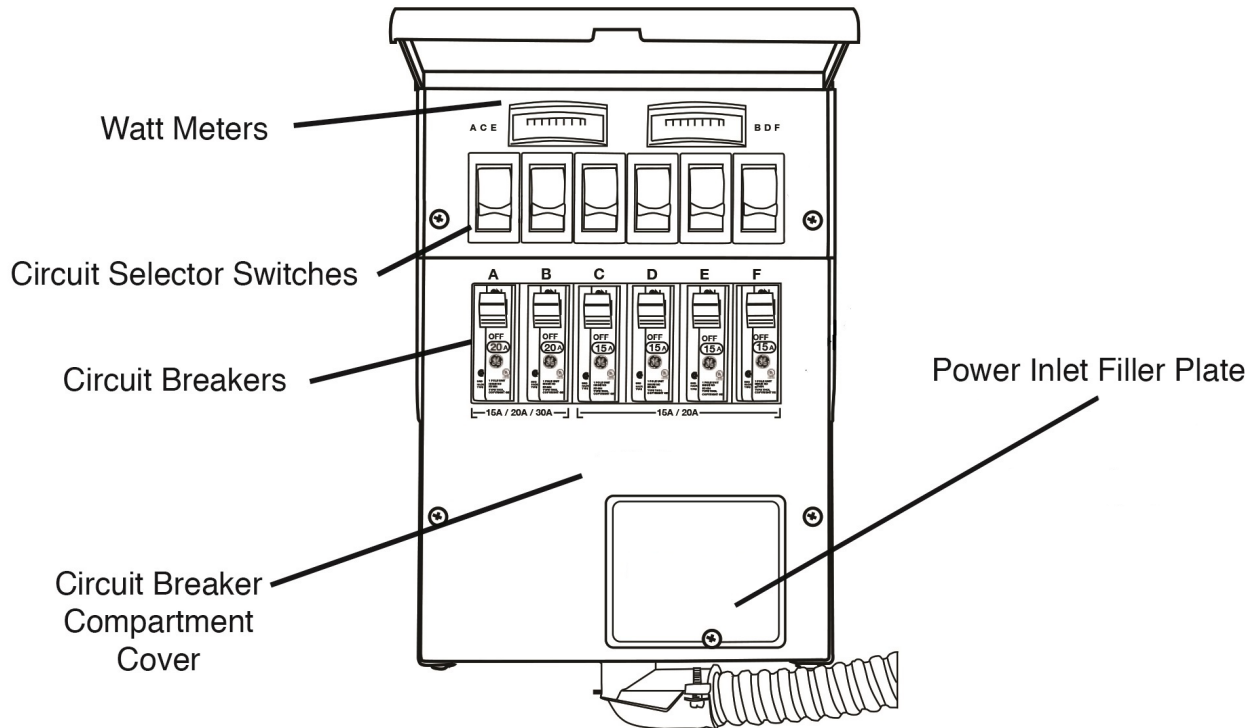
Goal Zero and Reliance Controls Corporation are not responsible for damage or injury caused by incorrect installation of this transfer switch.



Member, National Electrical Manufacturers Association

HAVEN10 Installation and Operating Instructions

Key Components of the Transfer Switch



Circuit breakers. Each transfer switch circuit has a 1-in interchangeable circuit breaker that protects the branch circuit when the circuit selector switch is in the YETI position. In the GRID position, each branch circuit is protected by the breaker in the load center. A list of acceptable breakers can be found on the inside of the transfer switch cover.

Circuit selector switches. These switches allow you to select either YETI (power station) or GRID (utility) as the power source for the branch circuits that have been wired through the transfer switch. The OFF position is generally not used, as a switch in the OFF position removes that branch circuit from both utility and power station power.

Power inlet filler plate. This can be replaced with the power inlet (included in package). The power cord from the Yeti is plugged into this inlet. If this indoor model is installed outdoors, make sure it is installed in a dry location.

Circuit Breaker Compartment Cover. Remove to change circuit breakers. Also includes a wiring space that can be used to hard-wire the unit to a remote power inlet box.

Analog wattmeters. These meters indicate the total load, in watts.

The left meter measures the load on A, C, E, G and I

The right meter measures the load on B, D, F, H and J
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Note: The watt meters will register only if power is being used from the Yeti.

Installation Instructions

Preparing for Installation

You will need the following items:

- Electric drill
- Screwdriver
- Wire cutters/stripper
- Hammer
- Four anchors and screws

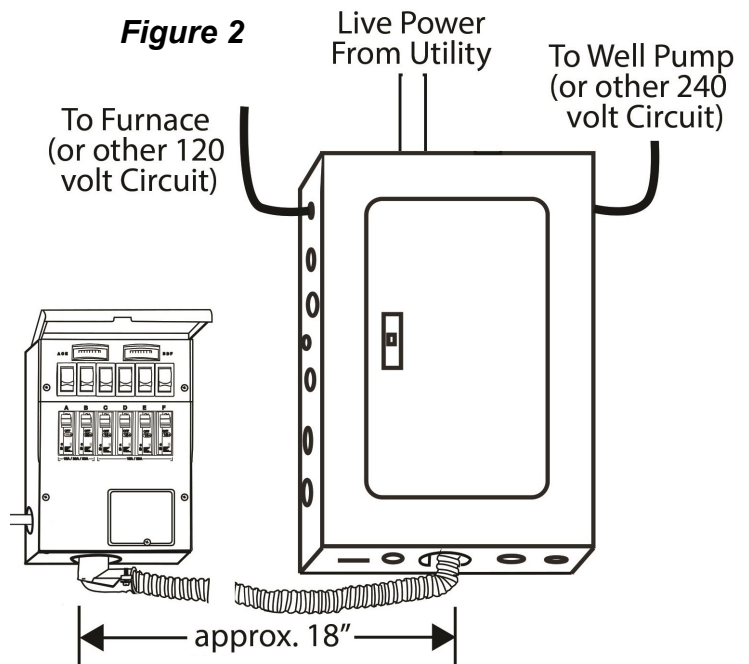
The following five steps generally apply to all transfer switch installations. The transfer switch may be installed on either side of the load center.

1. Turn off the main circuit breaker in the load center to ensure your safety.



Danger: All current-carrying parts on the LINE side of the main are still live

2. Remove the cover of the load center.
3. Locate and remove a knockout (ko) in the bottom of the load center (*Figure 2*). Use a 1" ko.
4. Insert the wires extending from the end of the flexible conduit through the ko. Attach the conduit connector securely with the locknut provided.
5. Anchor the transfer switch to the wall using the top bracket and bottom mounting holes located in the cabinet behind the wiring compartment cover. Do not attempt to bend the flexible conduit beyond its structural capabilities.



Wiring the Transfer Switch to the Load Center

Determine which circuits will be used during an emergency. If a selected circuit is part of a multi-wire branch circuit, it should not be connected to this system. Multi-wire branch circuits require opposing phases of power, and therefore can only be connected to 125/250V systems.



Warning: Improperly installing a multi-wire branch circuit could result in overloading the neutral wire.

Changing Circuit Breakers

This product is supplied with a combination of 15- and 20-amp circuit breakers. All circuit breaker positions will accommodate 15- and 20-amp circuit breakers, and may be easily changed in the field. To remove a circuit breaker, remove the circuit breaker compartment cover, unscrew the terminal screw in the breaker to be removed, removed the wire, tilt the top of the circuit breaker towards you and lift up and out. Reverse the procedure to install another breaker. In addition, positions A and B (but only these positions) will accommodate 30-amp circuit breakers.

This product is UL approved for use with the field-installed breakers listed on the side of the cabinet: Use 30 amps maximum in positions A and B, 20 amps maximum in all other positions.

Rating of a transfer switch circuit breaker should not exceed the rating of the corresponding branch circuit breaker in the load center.

Do not install any breaker larger than 20 amps., except in positions A and B which may be 30 amps.

Installing 120-volt Circuits



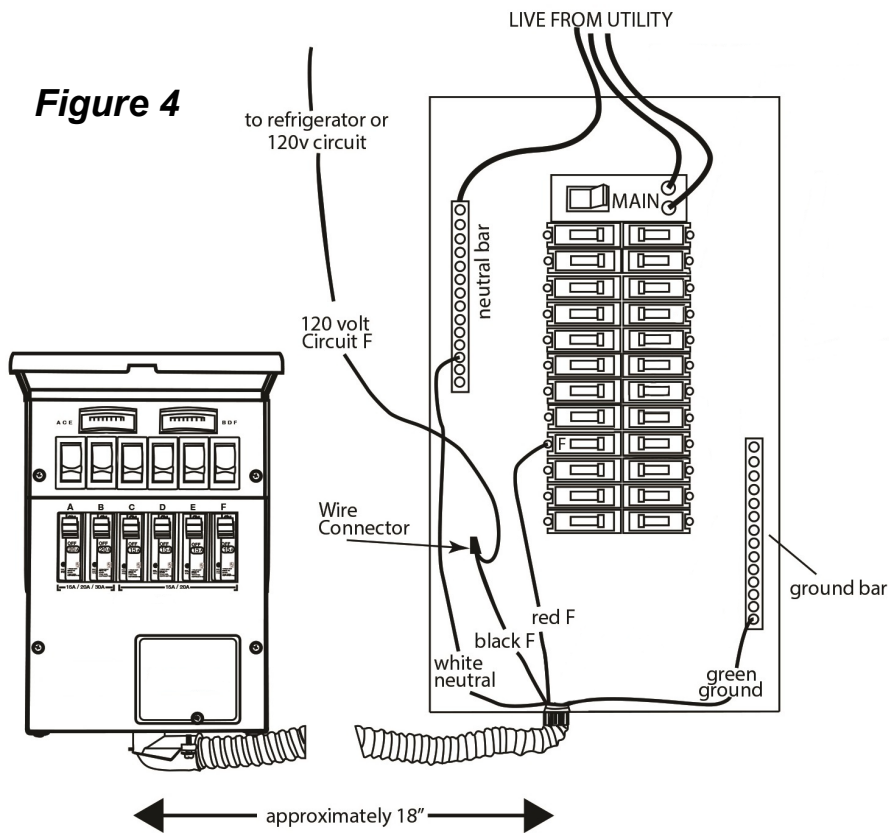
Warning: Transfer switch circuits with 20 amp breakers must be installed on only those branch circuits with 20 amp branch circuit breakers. Transfer switch circuits with 15 amp breakers can be installed on 15 or 20 amp branch circuits. **Do not install any transfer switch circuit on branch circuits greater than 20 amps, except in position A and B which maybe 30 amps.**

Wire the most critical circuits first, starting with any circuit position on the transfer switch. Let's assume that Switch C will be designated to supply power to the refrigerator.

1. Turn off the refrigerator circuit breaker. Loosen the screw that secures the wire to the circuit breaker. Disconnect the wire from the circuit breaker.
2. On the transfer switch, find the black and red wires marked C.
3. Feed the **red wire** to the selected **breaker**, in this case the refrigerator breaker.
4. Cut the red wire C to a convenient length. Strip approximately 5/8" from the end of the wire. Connect the **red wire** to the refrigerator circuit **breaker** and retighten the screw.
5. Cut the black wire C to a convenient length for aligning with the wire removed from the refrigerator circuit breaker in step 1. Strip approximately 5/8" from the end of the wire.
6. Insert both wires (the wire removed from the circuit breaker in step 1 and the black wire) into a yellow wire connector. Twist the connector tightly and push the wires back into the wiring compartment of the load center.

This completes the installation of the transfer switch for your refrigerator.

Repeat steps 1-6 for each of the remaining considering the following:



30-Ampere Circuits. Only circuits A and B may be used for 30-amp. circuits. Follow the above wiring instructions for installing 240-volt circuits. If 30-amp. single-pole circuits are being used, refer to the previous section regarding installation of 120-volt circuits.

Inlet Installation

The inlet can be installed on the unit by removing the circuit breaker compartment cover (described in the preceding section) and the power inlet filler plate, installing the inlet with the enclosed screws onto the wiring compartment cover, and connecting the wire leads to the inlet as described in the instructions included with the inlet. Make sure the unit is installed in a dry location.

Completing the Installation

When you have wired all the load circuits in the transfer switch, only the white neutral wire and the green ground wire remain.

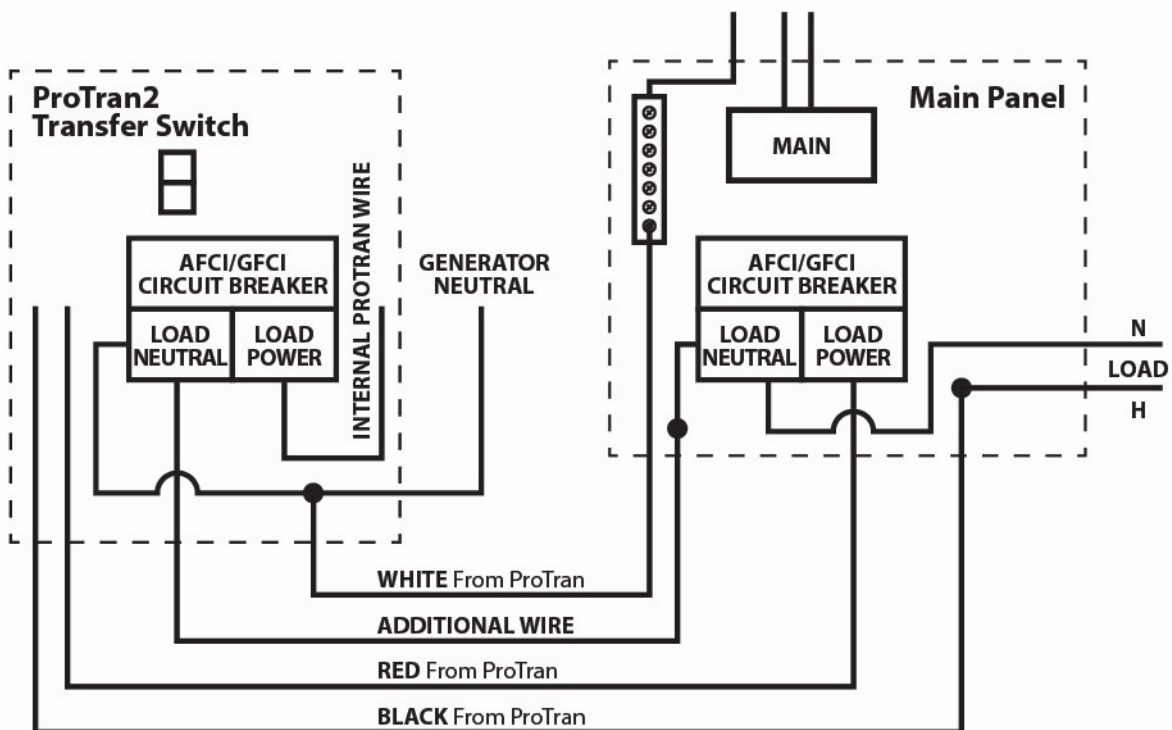
1. Insert the white neutral wire into an unused opening in the neutral bar in the load center and tighten the screw (*Figure 4*).
 2. Insert the green ground (bond) wire into an unused opening in the ground bar in the load center and tighten the screw (*Figure 4*).
 3. Replace the cover to the load center.
 4. Fill in the chart on the transfer switch to identify your emergency circuits and corresponding circuit numbers in the load center.
 5. Return all load center branch circuit and main breakers to the "ON" position.
 6. Move all circuit selector switches on the transfer switch to the "GRID" position.
- Installation is now complete.

Installing AFCI or GFCI Circuit Breakers

Proper installation of AFCI or GFCI circuit breakers requires additional steps:

1. Replace the desired circuit breaker with an AFCI/GFCI circuit breaker of the same value as the corresponding breaker in your main panel. Connect the internal wire in the transfer switch to the LOAD or POWER terminal on the AFCI/GFCI circuit breaker. Suitable circuit breakers are listed on the side of the cabinet.
2. Remove the white pigtail wire on the main panel AFCI/GFCI from the neutral bus on the main panel.
3. Connect a white wire of the proper gauge to this pigtail and route it into the transfer switch cabinet (ADDITIONAL WIRE in Figure 6).
4. Connect this new white wire to the NEUTRAL terminal on the AFCI/GFCI breaker in the transfer switch (see Figure 6).
5. Connect the white pigtail wire on the transfer switch AFCI/GFCI breaker to the main neutral wire in the transfer switch. This is the same white wire that the Yeti neutral is connected to.
6. Attach the corresponding red wire from the transfer switch to the LOAD or POWER terminal on the AFCI/GFCI circuit breaker in the main panel, similar to connection of a standard circuit breaker described in previous instructions.
7. Attach the corresponding black wire from the transfer switch to the load or branch circuit wire that was in the LOAD terminal on the main panel circuit breaker, similar to the connection of a standard circuit breaker in previous instructions.
8. Repeat the above steps for each AFCI/GFCI circuit breaker added to the transfer switch.

Figure 6:



Warranty

Each Haven10 transfer switch or accessory is guaranteed against mechanical or electrical failure due to manufacturing defects for a period of 60 months following shipment from the factory. The manufacturer's responsibility during this warranty period is limited to repair or replacement, free of charge, of products proving defective under normal use or service when returned to the factory, transportation charges prepaid. Guarantee is void on products that have been subjected to improper installation, misuse, alteration, abuse or unauthorized repair. The manufacturer makes no warranty with respect to the fitness of any goods for a user's particular application and assumes no responsibility for proper selection and installation of its products. This warranty is in lieu of all other warranties, expressed or implied, and limits the manufacturer's liability for damages to the cost of the product. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.



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