WINCO INC®

A Division of DTE Dyna Technology Inc

OWNERS MANUAL

EMERGENCY TRANSFER SERVICE KIT

INSTALLATION, OPERATION, and MAINTENANCE INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during installation and maintenance of the generator and batteries.

Read and understand all instructions in the manual before starting and operating a generator set with this transfer system

USING THIS MANUAL

Congratulations on your choice of a WINCO Emergency Transfer Kit.

To get the best performance from your new Emergency Tranfer system, it is important that you carefully read and follow the operating instructions in this manual.

PROPER USE AND INSTALLATION

You must be sure your engine generator set and emergency transfer system are::

* Properly serviced before starting
* Operated in a well ventilated area
* Operated so that exhaust gases are dispersed safely
* Wired by a qualified electrician
* Operated only for its designed purposes
* Used only by operators who understand its operation
* Properly maintained

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SAFETY INFORMATION

This engine generator set has been designed and manufactured to allow safe, reliable performance. Poor maintenance, improper or careless use can result in potential deadly hazards; from electrical shock, exhaust gas asphyxiation, or fire. Please read all safety instructions carefully before installation or use. Keep these instructions handy for future reference. Take special note and follow all warnings on the unit labels and in the manuals.

ANSI SAFETY DEFINITIONS

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DANGER:

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

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WARNING:

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

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CAUTION:

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

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NOTE:

CAUTION is also used on the unit labels and in this manual to indicate a situation that could result in serious damage or destruction of the equipment and possible personal injury.

1. **ELECTRIC SHOCK -** The output voltage present in this equipment can cause a fatal electric shock. This equipment must be operated by a responsible person.

   a. Do not allow anyone to operate the generator without proper instruction.
   b. Guard against electric shock.
   c. Avoid contact with live terminals or receptacles.
   d. Use extreme care if operating this unit in rain or snow.
   e. Use only three-prong grounded receptacles and extension cords.
   f. Be sure the unit is properly grounded to an external ground rod driven into the earth.

2. **FIRE HAZARD -** Natural gas and L.P. present a hazard of possible explosion and/or fire.

   a. Do not refuel when the engine is running or hot. Allow the engine to cool at least two minutes before refueling.
   b. Keep fuel containers out of reach of children.
   c. Do not smoke or use open flame near the generator set or fuel tank.
   d. Keep a fire extinguisher nearby and know its proper use. Fire extinguishers rated ABC by NFPA are appropriate.
   e. Store fuel only in an approved container, and only in a well-ventilated area.
   f. Follow local codes for closeness to combustible material.

3. **DEADLY EXHAUST GAS** - Exhaust fumes from any gasoline engine contain carbon monoxide, an invisible, odorless and deadly gas that must be mixed with fresh air.

   a. Operate only in well ventilated areas.
   b. Never operate indoors.
   c. Never operate the unit in such a way as to allow exhaust gases to seep back into closed rooms (i.e. through windows, walls or floors).

4. **NOISE HAZARD** - Excessive noise is not only tiring, but continual exposure can lead to loss of hearing.

   a. Use hearing protection equipment when working around this equipment for long periods of time.
   b. Keep your neighbors in mind when permanently installing this equipment.

5. **CLEANLINESS** - Keep the generator and surrounding area clean.

   a. Remove all grease, ice, snow or materials that create slippery conditions around the unit.
   b. Remove any rags or other material that could create potential fire hazards.
   c. Carefully clean up any gas or oil spills before starting the unit.
   d. Never allow leaves or other flammable material to build up around the engine intake or exhaust area.

6. **SERVICING EQUIPMENT** - All service, including the installation or replacement of service parts, should be performed only by a qualified technician.

   a. Use only factory approved repair parts.
   b. Do not work on this equipment when fatigued.
   c. Never remove the protective guards, cover, or receptacle panels while the engine is running.
   d. Use extreme caution when working on electrical components. High output voltages from this equipment can cause serious injury or death.
   e. Always avoid hot mufflers, exhaust manifolds, and engine parts. They all can cause severe burns instantly.
   f. Installing a generator set is not a “do-it-yourself” project. Consult a qualified, licensed electrician or contractor. The installation must comply with all national, state, and local codes.

EMERGENCY TRANSFER SERVICE

The Emergency Transfer Service kit includes a UL Approved Square 'D' manual power isolation switch. When properly installed it will safely disconnect the normal power service from your home emergency electrical circuits and reconnect them to a portable generator. It is not designed to transfer your whole electrical system, only selected circuits you need powered during a power failure (i.e. furnace, refrigerator, freezer and minimal lighting). This system is comprised of three major parts. The manual transfer center, exterior 'J' (junction) box for connections and cord storage and the 12' four wire cord set with the plug installed.

The manual transfer center is built around two 60 amp backfeed Square "D" circuit breakers with a mechanical interlock bar installed. Manual transfer center also has additional space for the customer to install two 240 volt breakers, or one 240 volt and two 120 volt breakers or four 120 volt breakers. The load center uses standard Square D circuit breakers type QO and Q1. The 120 volt breakers may be replace with type QO-T circuit breakers, providing up to eight 120 volt circuits.

Before beginning the installation process it is very important to plan which circuits you want to move from your main circuit breaker panel into the manual emergency transfer panel. That way you can purchase only the breakers you need and will have room for everything when you are completed.

WIRING THE EMERGENCY TRANSFER SERVICE KIT

WARNING - PERSONAL INJURY

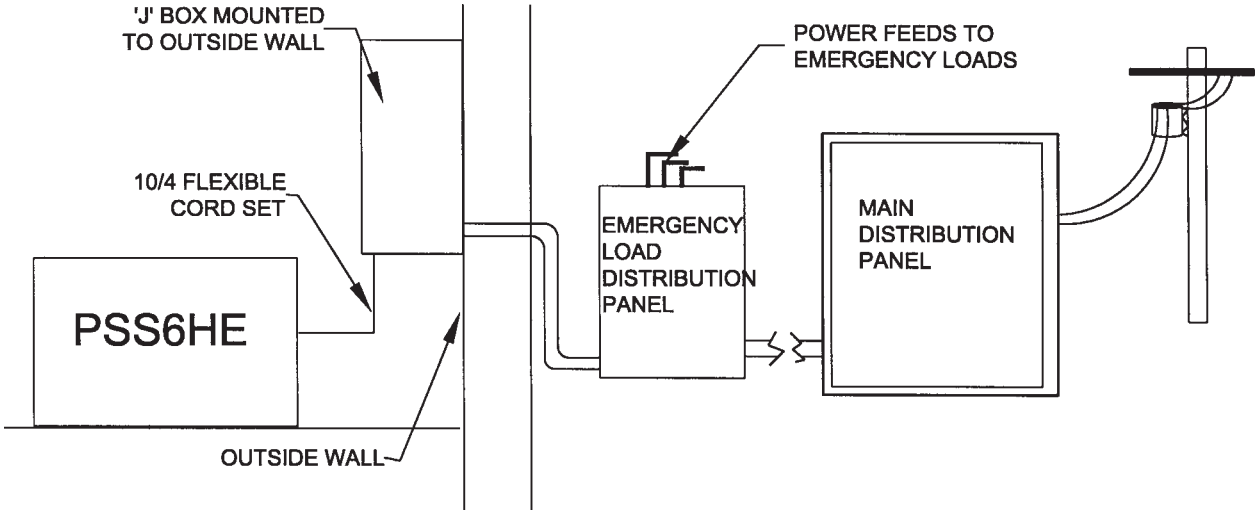
All wiring must be done by a licensed electrician, and must conform to the national electrical code and comply with all state and local codes and regulations. Check with your local electrical inspectors before proceeding!

PREPARATION

Before doing any wiring you must decide which circuits you want to back up. As discussed earlier you will have a limited number of circuits that can be moved from your primary distribution panel to the Emergency Load Distribution Panel.

The primary thing to remember when you are selecting your circuits is that the generator has a very limited amperage capability. What this means is that your combined load on the generator cannot exceed the nameplate rating on either power feed of your generator.

Also take into account any electric motors that you are going to operate. Motor loads have a very high amperage inrush when the motors first start up. If you don't have sufficient generator capability with your other loads running, the motor will stall and possibly do damage to the motor or other connected loads.



TYPICAL SYSTEM LAYOUT USING THE WINCO PSS6HE GENERATOR

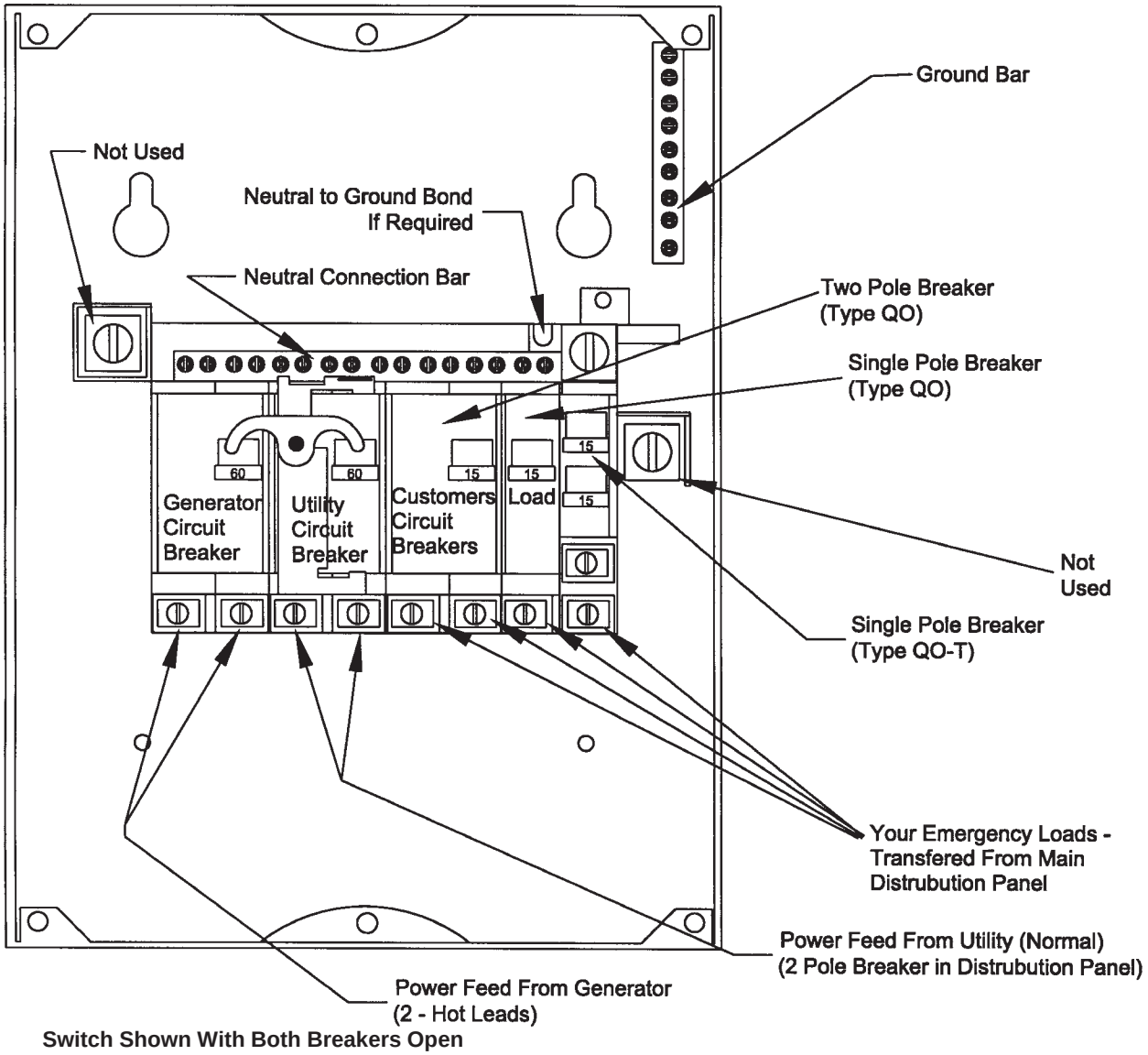
INSTALLATION

The first step will be to install the 'J' box on the outside of the house and the Emergency Load Distribution Panel next to your existing distribution panel. Remember the circuits you take out of the main panel will be reinstalled in the emergency panel, so these should be as close together as possible.

Next you need to install a two pole (240 Volt) circuit breaker in the current distribution panel. This circuit breaker should be sized according to the load you are going to wire into the emergency panel. But in no case can it exceed the 60 amp breaker rating in the Emergency panel.

Next you will need to pull four wires from the main panel to the emergency panel. The wire size will depend on what amperage breaker you are using. The two Hot leads will attach to the right hand 60 amp breaker. The neutral and ground will be attached to the appropriate bars in the emergency panel.

You will also need to install four leads from the 'J' box to the emergency panel. These leads should be attached to the cord set provided with the Emergency Transfer Service Kit. The cord set is color coded the red and black leads are hot , white is neutral and green is ground. Be sure to mark your leads before installation to insure that they get attached in the Emergency panel correctly. All connections in the 'J' box should be watertight. The red and black leads will attach to the left hand 60 amp circuit breaker in the emergency panel. The white will be routed to the neutral bar and the green to the ground bar.



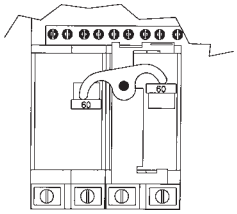
Switch Shown With Both Breakers Open

Next you will need to install your load circuit breakers in the emergency panel. Again you can use any combination of breakers that you want. The emergency panel uses Square "D" circuit breakers type QO, if you need to use the tandem breakers on the 120 circuit they are type QO-T.

The final step will be to move your load leads from the main distribution panel to the emergency panel.

TESTING THE SYSTEM

1. Your first step in testing the Emergency panel will be to close the circuit breaker in the main panel feeding the Emergency panel. Check your voltage in the emergency panel to insure you have the correct voltage in all locations. Then close the utility circuit breaker in the emergency panel.

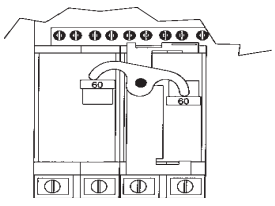


INTERLOCKING BREAKER IN THE UTILITY POSITION

2. Close your load breakers and make sure everything that you have wired to the Emergency panel is working properly on utility power.

3. Start the engine generator set and plug the power cord into the generator. Check your voltages at the bottom lugs on the generator circuit breaker (left 60 amp breaker).

4. If the voltages are correct shut the utility breaker off and move the generator breaker to the on position. The generator should now be powering your connected loads. Monitor the voltage coming from the generator and make sure that it stays at the proper level.



INTERLOCKING BREAKER IN THE GENERATOR POSITION

CAUTION: EQUIPMENT DAMAGE

Caution must be used when loading the generator, overloading either of the 120 volt sides will cause the breaker to trip disconnecting all the loads

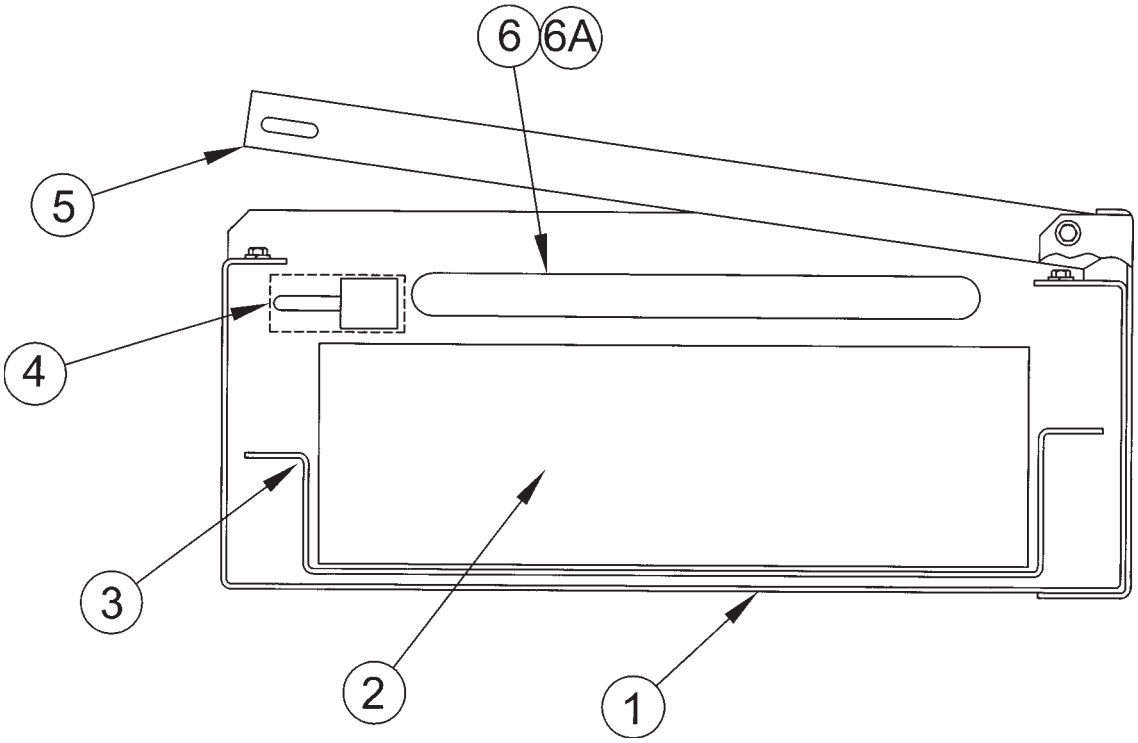
CAUTION: EQUIPMENT DAMAGE

Failure to properly limit and balance the load applied to the generator will cause the generator to produce low voltage and may damage the engine generator set. It may also cause severe damage to the loads connected to the generator at that time. Improper loading of the generator set constitutes abuse and will not be covered by warranty. 5. If the voltage from the generator should drop too far, turn the generator side breaker off. This will remove the load from the generator. At this point you are going to have to determine why the voltage dropped. Either you have it overloaded or the engine is not getting enough fuel to carry the load.

6. After correcting the problem, retest the system starting at step 3.

7. If everything tests ok, you can turn the generator breaker off and turn the utility breaker back on. This is how the system is left until you need the generator.

EMERGENCY TRANSFER SERVICE KIT
30 & 60 AMP PARTS LIST



REF #	PART NUMBER	QTY	DESCRIPTION
1	64482-000	REF	Box Assembly
2	64489-000	REF	Service Panel Assembly
3	64485-000	1	Panel
4	91720-000	1	Padlock
5	64484-000	1	Cover
6	64490-000	REF	Cord Assembly 30A
6A	64490-001	REF	Cord Assembly 60A
NI	64494-000	1	Load Center 100A
NI	56899-004	2	Circuit Breaker 60A, 240V
NI	64495-000	1	Interlock
NI	64496-000	1	Ground Bar Kit
NI	64492-000	1	Plug, NEMA L14-30P, 30A
NI	300137	1	Plug, NEMA 14-60P, 60A
NI	92157-001	1	1” Romex Connector
NI	98400-000	12FT	10/4 AWG Flexible Cord, 30A
NI	64072-000	12FT	6/4 AWG Flexible Cord, 60A
NI	Not Illustrated		

WINCO INC

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12 MONTH LIMITED WARRANTY

WINCO, Incorporated warrants to the original purchaser for 12 months or 1000 hours which ever occurs first, that goods manufactured or supplied by it will be free from defects in workmanship and material, provided such goods are installed, operated and maintained in accordance with WINCO written instructions.

WINCO's sole liability, and Purchaser's sole remedy for a failure under this warranty, shall be limited to the repair of the product. At WINCO's option, material found to be defective in material or workmanship under normal use and service will be repaired or replaced. For warranty service, return the product within 12 months or 1000 hours which ever occurs first from the date of purchase, transportation charges prepaid, to your nearest WINCO Authorized Service Center or to WINCO, Inc. at Le Center Minnesota.

THERE IS NO OTHER EXPRESS WARRANTY.

To the extent permitted by law, any and all warranties, including those of merchantability and fitness for a particular purpose, are limited to 12 months or 1000 hours which ever accurs first, from date of purchase. In no event is WINCO liable for incidental or consequential damages.

Note: Some states do not allow limitation on the duration of implied warranty and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply in every instance. This warranty gives you specific legal rights which may vary from state to state.

WINCO reserves the right to change or improve its products without incurring any obligations to make such changes or improvement on products purchased previously.

EXCLUSIONS:

WINCO does not warrant Engines. Engines are covered exclusively by the warranties of their respective manufacturers, see enclosed warranties.

WINCO does not warrant Batteries, or Other Component Parts that are warranted by their respective manufacturers.

WINCO does not warrant modifications or alterations which were not made by WINCO, Inc.

WINCO does not warrant products which have been subjected to misuse and/or negligence or have been involved in an accident.

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