WARNING: **THIS GENERATOR IS DESIGNED TO GIVE SAFE AND DEPENDABLE SERVICE WHEN OPERATED ACCORDING TO THE INSTRUCTIONS IN THE TECHNICAL MANUALS PROVIDED WITH THE GENERATOR.**

WARNING: **DO NOT OPERATE THE GENERATOR BEFORE YOU HAVE READ AND UNDERSTAND THE INSTRUCTIONS AND THE ENGINE MANUFACTURER'S MANUAL. FAILURE TO DO SO COULD RESULT IN PERSONAL INJURY OR EQUIPMENT DAMAGE.**

1-3 Placards

Placards, shown in Figure 1-1 through Figure 1-8 are attached to the portable generator to warn operating and maintenance personnel of potential hazards, to provide maintenance information, and to provide generator ratings and capabilities. The large label below is located on the front panel of the portable generator. The label presents operational Warnings and Cautions for generator users.

1-4 SAFETY PRECAUTIONS

WARNING: IN ORDER TO ASSURE SAFE AND EFFICIENT OPERATION OF THE GENERATOR, OPERATOR'S SHOULD READ AND COMPLY WITH THE FOLLOWING SAFETY PRECAUTIONS.

- **Do not operate the generator near gasoline or gaseous fuels because of the potential danger from explosion or fire.** Do not fill the fuel tank with fuel while the engine is running. Do not smoke or use open flame near the fuel tank. Be careful not to spill fuel during refueling. If fuel is spilled, wipe it off and let it dry before starting the engine.
- **Do not place flammable materials near the generator.** Be careful not to place fuel, matches, gunpowder, oily cloths, straw, trash, or any other combustibles near the generator.
- **Do not operate the generator inside a room, cave, tunnel, or other insufficiently ventilated area.** Always operate the generator in a well-ventilated area. The engine may become overheated, and the poisonous carbon monoxide gas contained in the exhaust gases will endanger human lives.
- **Keep the generator at least 1 meter (3 feet) away from any structure or building during use.** When a generator is located close to a building or nearby equipment, heat and exhaust from the engine will cause the surrounding temperature to rise. This will degrade the engines cooling efficiency, causing overheating.
- **Do not enclose the generator nor cover it with a box.** The generator has a built-in, forced-air cooling system, and may become overheated if it is enclosed.
- **Operate the generator on a level surface.** It is not necessary to prepare a special foundation for the generator. However, the generator will vibrate on an irregular surface. Therefore, choose a level place without surface irregularities.
- **Shutoff the generator when moving the generator to another work site.** If the generator is tilted or moved during operation, fuel may spill and/or the generator may tip over, causing a hazardous situation. Proper lubrication cannot be expected if the generator is operated on a steep incline or slope. In such a case, the piston may seize; it may seize even if the oil is above the upper level.
- **Do not operate in rain or with wet hands.** The operator may suffer severe electric shock, if the generator is wet due to rain or snow. If wet, dry before starting. Do not pour water directly over the generator, nor wash it with water.
- **Do not connect the generator to a commercial power line.** Connection to a commercial power line may result in short circuit and damage the generator. When connecting to domestic circuits, install only approved transfer switches and make sure power and control circuitry meet local electrical code requirements.
- **Do not smoke or use other smoking materials (pipes, cigars, etc.) while handling the battery.** The battery emits flammable hydrogen gas, which can explode if exposed to electrical arcing or open flame. Keep the work area well ventilated and keep the battery away from open flames/sparks.

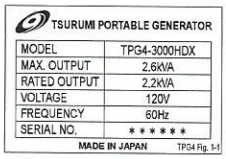


Figure 1-1: Typical Data Plate

Figure 1-3: Carbon Monoxide Warning

Figure 1-2: Electrical Warning

Figure 1-4: Fuel Handling Warning

Figure 1-5: Air Cleaner Maintenance Warning

TPG4 Fig. 1-5

Figure 1-6: Gasoline/Carbon Monoxide Warning

3-0 OPERATING INSTRUCTIONS

3-1 Operating Controls

(1) The main operating controls for the generator are, with a few exceptions, mounted on the front panel of the generator.

(2) The controls consist of an ENGINE switch, an AUTOTHROTTLE switch, a FULL POWER switch, a PILOT light, circuit BREAKER(s), a ground (or earth) post, and electrical receptacles. The specific controls used in each model are shown in Figures 3-1 through 3-4.

NOTE: The auto throttle feature is not available on Model TPG4-3000HDX, which uses a hand operated throttle lever.

(3) The Model TPG4-7000H-DXE generator is equipped with a electric starter motor. The ENGINE switch in this model is a key-operated, STOP/RUN/START switch. The spring-loaded switch is turned to the right to start the engine, and to the left to shut off the engine.

(4) The IDLE Control switch allows the generator speed to drop to idle speed if there is no electrical load demand on the generator. When an electrical load is sensed, the idle function increases the speed of the generator up to operating speed level. When there is no load, the engine speed returns to idle.

(5) The FULL POWER switch allows the generator to provide full rated power for the loading appliances and/or tools. When the FULL POWER switch is set to on, power will be provided to only one 120 Vac receptacle and one 240 Vac receptacle.

(6) The PILOT light provides an indication to the operator that the generator is generating electricity.

(7) Circuit breakers are provided to protect the generator in the event of a short circuit. The breakers will trip when the circuit load exceeds the breaker's rated value.

(8) The ground post is used to provide a positive ground for the generator. The post has a wing-nut to quickly connect a ground wire to the generator.

(9) There are three types of receptacles: one 120 Vac, GFI-protected receptacles (two on most models), one twist-type, 120 Vac receptacle, and one 120 Vac / 240 Vac, combination receptacle.

3-2 DC Circuit Controls

(1) The circuitry for DC circuit consists of a 10 Amp fuse, an overload protector, and a reset switch. (Model TPG4-7000HDXE only.)

(2) In the event of an overload, the overload protector will trip the reset switch located immediately below the engine key starter switch.

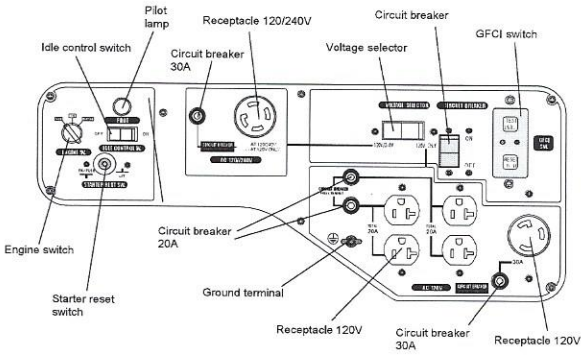


Figure 3-3: Model TPG4-7000HDXE

3-3 Grounding Provisions

WARNING: TO PREVENT ELECTRICAL SHOCK FROM FAULTY APPLIANCES, THE PORTABLE GENERATOR SHOULD BE GROUNDED. CONNECT A LENGTH OF HEAVY WIRE BETWEEN THE GENERATOR'S GROUND TERMINAL AND EXTERNAL GROUND SOURCE.

WARNING: CONNECTIONS FOR STANDBY POWER TO A BUILDING'S ELECTRICAL SYSTEM MUST BE MADE BY A QUALIFIED ELECTRICIAN AND MUST COMPLY WITH ALL APPLICABLE LAWS AND ELECTRICAL CODES. IMPROPER CONNECTIONS CAN ALLOW ELECTRICAL CURRENT FROM THE GENERATOR TO BACKFEED INTO THE UTILITY LINES. SUCH BACKFEED MAY ELECTROCUTE UTILITY COMPANY WORKERS OR OTHERS WHO CONTACT THE LINES DURING A POWER OUTAGE, AND WHEN UTILITY POWER IS RESTORED, THE GENERATOR MAY EXPLODE, BURN, OR CAUSE FIRES IN THE BUILDING'S ELECTRICAL SYSTEM.

A. Electrical Connection Hazards

(1) If you plan to use the portable generator as a backup for the facility's power supply, make sure the connections are made in compliance with applicable laws and electrical codes.

(1) Connection to a building's electrical system must be made by a qualified electrician.

(2) Improper connections can allow electrical current from the generator to backfeed into the utility lines which may electrocute utility company workers or others who contact the lines during a power outage. When utility power is restored, the generator may explode, burn, or cause fires in the building's electrical system.

B. Grounding Post Components

(1) The portable generator is fitted with a grounding post on the right side of the control panel. The parts that make up the grounding post are shown in the Replacement Parts section. The grounding post components and their installation sequence are shown in more detail in Figure 3-4.

(2) If the grounding post has been disassembled, reassemble as follows:

(a) Install star washer (68) on screw (69). Insert screw (69) in backside of panel (46).

(b) Install nut (69) on screw (69) and tighten.

(c) Install cup washer (70) with sides facing out.

(d) Install flat washer (71), lock washer (72), and wing nut (73).

C. Typical Connection of Ground Wire

(3) Form a loop in ground wire and slip wire between flat washer (71) and cup washer (70). Tighten wing nut (73).

(4) Drive ground rod in ground (or attach to known facility ground). Insert free end of ground wire in clamping screw on rod (or other clamping device) and tighten.

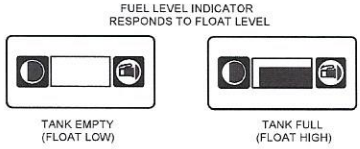
3-6 Check Engine Fuel

WARNING:

- MAKE SURE YOU REVIEW EACH WARNING IN ORDER TO PREVENT FIRE HAZARD.
- DO NOT REFILL TANK WHILE ENGINE IS RUNNING OR HOT.
- CLOSE FUEL SHUT OFF VALVE BEFORE REFUELING WITH FUEL.
- BE CAREFUL NOT TO GET DUST, DIRT, WATER OR OTHER FOREIGN OBJECTS INTO FUEL.
- WIPE OFF SPILLED FUEL THOROUGHLY BEFORE STARTING ENGINE.
- KEEP AWAY FROM OPEN FLAMES.
- DO NOT USE SMOKING MATERIALS WHEN FILLING THE FUEL TANK.
- DO NOT REFUEL WHILE SMOKING OR NEAR OPEN FLAMES OR OTHER SUCH POTENTIAL FIRE HAZARDS. OTHERWISE FIRE ACCIDENT MAY OCCUR.
- AVOID REPEATED OR PROLONGED CONTACT WITH SKIN OR BREATHING OF VAPOR.
- KEEP OUT OF REACH OF CHILDREN.

(1) Check fuel level at fuel level gauge (see Figure 3-7).

(2) If fuel level is low, refill with unleaded automotive gasoline.



TPG4 FIG 3-7

Figure 3-7: Fuel Gauge Indications

Fuel tank capacity	**TPG4-3000HDX (4.2 gal.)**
	TPG4-4500HDX (6.6 gal.)
	TPG4-6000HDX (6.6 gal.)
	TPG4-7000HDX (6.6 gal.)
	TPG4-7000HDXE (6.6 gal.)

3-7 Pre-Start Checks

WARNING: MAKE SURE YOU REVIEW EACH WARNING IN ORDER TO PREVENT FIRE HAZARD.

WARNING: KEEP AREA CLEAR OF FLAMMABLES OR OTHER HAZARDOUS MATERIALS.

(1) Check the following items before starting the engine.

(a) Fuel leakage from fuel hoses, shutoff valve, auto-throttle unit, engine, and fitttingd

(b) Loose bolts and nuts.

(c) Components for damage or breakage.

(2) Check generator surroundings.

(a) Keep generator at least 3 feet (1 meter) away from buildings or other structures.

(b) Operate generator in a dry, well-ventilated area.

(c) Keep exhaust pipe clear of foreign objects.

(d) Keep generator away from open flame.

(e) Keep generator on a stable and level surface.

(f) Do not block generator air vents with paper or other material.

3-8 Grounding the Generator

WARNING: IMPROPER CONNECTIONS CAN ALLOW ELECTRICAL CURRENT FROM THE GENERATOR TO BACKFEED INTO THE UTILITY LINES WHICH MAY ELECTROCUTE UTILITY COMPANY WORKERS OR OTHERS WHO CONTACT THE LINES DURING A POWER OUTAGE. WHEN UTILITY POWER IS RESTORED, THE GENERATOR MAY EXPLODE, BURN, OR CAUSE FIRES IN THE BUILDING'S ELECTRICAL SYSTEM.

WARNING: A POTENTIAL ELECTROCUTION HAZARD EXISTS IF THE GENERATOR IS NOT GROUNDED. A GENERATOR GROUNDING POST IS PROVIDED ON THE CONTROL PANEL OF THE GENERATOR (REFER TO 3-4 FOR GROUNDING PROVISIONS.)

(1) If you plan to use the portable generator as a backup for the facility's power supply during power outages, make sure the connections are made in compliance with applicable laws and electrical codes.

(5) Connection to a building's electrical system must be made by a qualified electrician.

(6) Refer to the **Removal/Installation** section for grounding post installation procedures and connection of generator ground wire.

3-9 Starting & Stopping the Engine

(1) MANUAL START: (Models TPG4-3000HDX, TPG4-4500HDX, TPG4-6000HDX, and TPG7-7000HDX.

(a) Before starting the engine, set AC circuit breakers to OFF (the generator may be hard to start if a load is connected.

(b) Refer to the Honda engine owner's manual for location of fuel valve. Turn the fuel valve to the ON position.

(c) The automatic choke will be closed if the engine is cold. If you want to operate the choke manually, move the choke lever to the CLOSED position.

NOTE: The choke may not be needed if the engine is warm or the air temperature is high.

(d) Move the throttle lever slightly to the left.

(e) Set the switch to the ON position.

(f) Pull the starter grip lightly until resistance is felt, then pull briskly.

NOTE: Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the engine.

(2) ELECTRIC START (Model TPG4-7000HDXE)

NOTE: The engine on the Model TPG4-7000HDXE generator is primarily started using the electric starter, but may be started using the recoil starter.

NOTE: The model TPG4-7000HDXE generator has a 12-volt DC starting system.

Use a 12-volt, garden tractor-type battery as a replacement battery.

(a) Connect battery cables to battery.

(b) Turn ENGINE SWITCH to the START position and hold for 5 seconds, or until the engine starts.

(c) Verify that the starter reset pushbutton switch is not extended. If extended, push in to reset. If reset switch resets (stays in), proceed to next step. If not, correct the reason for the trip before attempting to start the engine.

(d) To start the engine using the starter, turn key switch to START.

(e) Turn key fully right to START position. Hold in START position until engine starts.

NOTE: Operating the starter motor for more than 5 seconds can damage the motor. If the engine fails to start, release the switch and wait 10 seconds before operating the starter again.

(g) As the engine warms up, gradually open the choke ring.

(h) Set auto throttle switch to ON. The engine idle function is enabled and will remain at idle until a load is sensed and increases speed in response to the load.

(7) (ALL MODELS): When starting the engine using recoil starter, proceed as follows:.

(a) Turn the engine switch to the ON position.

(b) Pull the starter grip lightly until resistance is felt, then pull briskly.

NOTE: When using the recoil starter, do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.

(c) As the engine warms up (two to three minutes), gradually move the choke lever or choke ring to the OPEN position.

(d) Position the throttle lever to the desired engine speed or set the auto throttle switch to ON.

(8) Emergency Stopping of the Engine

(a) To stop the engine in an emergency, set the ENGINE SWITCH to the OFF position.

(b) For normal use, turn the AC circuit breaker to the OFF position

(c) Disconnect battery cables.

(d) Turn the engine switch to the OFF position.

(e) Turn the fuel valve lever to the OFF POSITION.

3-10 Using The Generator

WARNING: **TO PREVENT ELECTRICAL SHOCK FROM FAULTY APPLIANCES, THE GENERATOR SHOULD BE GROUNDED. CONNECT A LENGTH OF HEAVY WIRE BETWEEN THE GENERATOR'S GROUND TERMINAL AND EXTERNAL GROUND SOURCE.**

WARNING: **CONNECTIONS FOR STANDBY POWER TO A BUILDING'S ELECTRICAL SYSTEM MUST BE MADE BY A QUALIFIED ELECTRICIAN AND MUST COMPLY WITH ALL APPLICABLE LAWS AND ELECTRICAL CODES. IMPROPER CONNECTIONS CAN ALLOW ELECTRICAL CURRENT FROM THE GENERATOR TO BACK-FEED INTO THE UTILITY LINES. SUCH BACK-FEED MAY ELECTROCUTE UTILITY COMPANY WORKERS OR OTHERS WHO CONTACT THE LINES DURING A POWER OUTAGE, AND WHEN UTILITY POWER IS RESTORED, THE GENERATOR MAY EXPLODE, BURN, OR CAUSE FIRES IN THE BUILDING'S ELECTRICAL SYSTEM (REFER TO 3-4).**

3-11 AC Application

A **Single Voltage Type**

(1) Check the pilot lamp for proper voltage.

NOTE: The generator is thoroughly tested and adjusted in the factory. If the generator does not produce the specific voltage, consult your nearest Tsurumi Generator dealer

(9) Set switches on the electrical appliances to OFF before connecting to the generator.

(10) Insert the plug of the electrical appliance into the appropriate receptacle.

NOTE: Check the amperage of the receptacles used referring to Table 3-1, and be sure not to take a current exceeding the specified amperage.

(11) Be sure that the total wattage of all appliances does not exceed the rated output of the generator.

WARNING: **TO CONNECT AND LOCK A PLUG IN A TWIST LOCK RECEPTACLE, INSERT THE PLUG INTO RECEPTACLE AND TURN CLOCKWISE.**

WARNING: **BE SURE TO GROUND THE GENERATOR IF THE CONNECTED ELECTRICAL EQUIPMENT IS GROUNDED**

NOTE: Whenever a circuit breaker trips off during operation, the generator is overloaded or the appliance is defective.

NOTE: When a circuit breaker trips, stop the generator immediately. Check the appliance and/or generator for an overload or defect and repair as necessary..

Table 3-1
Receptacle Types and Amperage

Style	Ampere	Receptacle	AC Plug	Description
	Up to 20A	NEMA 5-20R	NEMA 5-20P	Receptacle, Duplex, GFCI (Ground Fault Circuit Interrupter)
	Up to 20A	NEMA L14-20R	NEMA L14-20P	Locking Receptacle
	Up to 30A	NEMA L5-30R	NEMA L5-30P	Locking Receptacle

CAUTION: The 120V duplex receptacle is protected by a GFCI (Ground Fault Circuit Interrupter). The GFCI shuts off the output current from the 120V duplex receptacle when a ground fault occurs in the generator or the appliance.

B **Dual Voltage Type**

(1) Select the voltage using the FULL POWER switch in accordance with the electrical appliance. Refer to Table 3-2.

(12) Operate the generator in the same way as step (1) through step (3) of single voltage type.

Table 3-2: Available Receptacles With Full Power Switch On

Switch Setting	Lower Voltage Receptacle	Higher Voltage Receptacle
120V	Rated Output is Available	Unavailable
120V / 240V	Half of Rated Output is Available	Rated Output is Available

WARNING: **TO TAKE OUT POWER FROM TWIST LOCK RECEPTACLE, INSERT THE PLUG INTO RECEPTACLE AND TURN CLOCKWISE**

WARNING: **BE SURE TO GROUND THE GENERATOR IF THE CONNECTED ELECTRICAL EQUIPMENT IS GROUNDED.**

NOTE: When the circuit breaker turns off during operation, the generator is overloaded or the appliance is defective.

NOTE: Stop the generator immediately, check the appliance and/or generator for overloading or defect and repair as necessary.

3-12 Stopping the Generator

(1) Set the ENGINE SWITCH to OFF or unplug from the cord receptacle of the generator.

(2) Set the engine switch to the OFF position.

(3) Turn fuel valve on fuel tank to CLOSE.

Figure 3-8: Fuel Valve

3-13 Oil Alert

(1) The oil alert detects the fall in oil level in the crankcase and automatically stops the engine when the oil level falls down below the predetermined level.

(13) When the engine has stopped automatically, check the oil level. Refill engine oil to the upper level and restart the engine.

(14) If the engine does not start by usual starting procedures, check the oil level.

3-17 Ground Fault Circuit Interrupter (GFCI)

WARNING: USING THE GENERATOR IN RAIN, SNOW OR NEAR WATER CAN LEAD TO DEATH FROM ELECTRIC SHOCK.
KEEP THE GENERATOR DRY.

All receptacles on the generator are protected by a ground fault circuit interrupter (GFCI) for protection against the shock hazard of ground fault current.
The GFCI has TEST and RESET buttons and is connected to the circuit breaker.

An example of ground fault current is the current which would flow through a person who is using an appliance with faulty insulation and, at the same time, is in contact with an electrical ground such as a plumbing fixture, wet floor, or earth.

The ground fault circuit interrupter will not protect against short circuits or overloads. The circuit breaker in the control panel which supplies power to the circuit provides that protection (refer to circuit breaker).

Observe the following precautions to ensure proper GFCI operation and to reduce shock hazards:

- Use grounded 3-conductor extension cords, tools, and appliances, or double-insulated tools and appliances.
- Inspect cords and plugs, and replace if damaged.
- Do not use cord lengths greater than 164 feet (50 meters), and do not use multiple tools and appliances with built-in noise filters.
  Such use may activate the GFCI and trip the circuit breaker.

Inspection: (Models TPG4-4500HDX, TPG4-6000HDX, TPG4-7000HDX and TPG4-7000HDXE)

NOTE: ALWAYS CHECK GFCI OPERATION BEFORE USING THE GENERATOR.

WARNING: YOU RISK ELECTRIC SHOCK IF YOU OPERATE THIS GENERATOR WITH A FAULTY GFCI(GROUND FAULT CIRCUIT INTERRUPTER).
TEST GFCI BEFORE USE.
If the GFCI FAILS TESTING, DO NOT USE YOUR GENERATOR. CONTACT YOUR TSURUMI DEALER.

Inspection

(1) Unplug all tools and appliances from the generator.
(2) Start the engine.
(3) Turn the circuit breaker to the ON position.
The GFCI green LED lamp lights up.
(4) Turn the Idle Control switch to the OFF position.
(5) Press the GFCI TEST button.
Circuit breaker to be automatically OFF position.
The GFCI red LED lamp lights up.