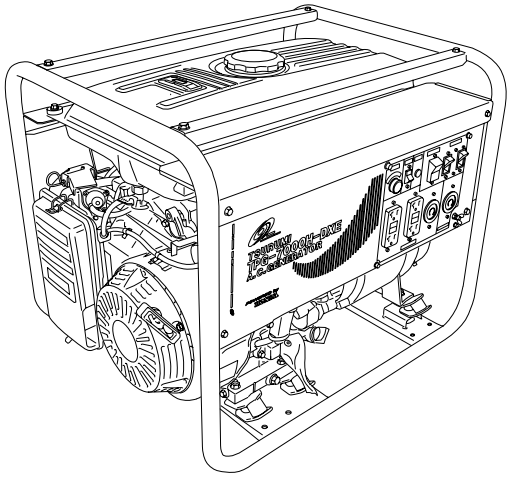
TSURUMI PUMP

# OPERATION, SERVICE, AND REPAIR MANUAL

# FOR TSURUMI TPG-SERIES PORTABLE GENERATORS



## MODELS
## TPG-2900H-DX
## TPG-4300H-DX
## TPG-6000H-DX
## TPG-7000H-DXE

# LIMITED WARRANTY

TSURUMI MANUFACTURING CO., LTD. (“TSURUMI”) warrants to the original end purchaser during the warranty period, every new TSURUMI generator or product to be free from defects in material and workmanship under normal use and service, when properly installed, used, and maintained (in accordance with Tsurumi’s Operation, Service, and Repair Manual) for a period of two years from the date the unit was first installed or twenty six months from the date of shipment by TSURUMI to wholesaler, whichever comes first.

TSURUMI’S sole obligation under this warranty is to repair or replace at TSURUMI’S option, with new or remanufactured parts, any part(s) that fail or that are found to be defective during the warranty period. No allowance will be made for shipping charges, damages, labor, or other charges due to failure, repair or replacement.

This warranty does not apply to any TSURUMI product that has been disassembled without prior approval of TSURUMI nor does it apply to any product that has been subjected to misuse, neglect, alteration, misapplication, accident or act of God.

TSURUMI assumes no responsibility for compliance with any regulations, codes, standards, or ordinances applicable to the installation, location, operation or maintenance of its products.

No other warranty, expressed or implied, is authorized by, or applicable to, the seller. No person, agent or dealer is authorized to enlarge upon this warranty.

TSURUMI expressly disclaims liability for consequential or incidental damages or breach of expressed or implied warranty; and any implied warrant of fitness for a particular purpose and merchantability shall be limited to the duration of the expressed warranty.

Some states do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

**Tsurumi Manufacturing Co., Ltd.**

# TABLE OF CONTENTS

# 1. INTRODUCTION

We thank you for purchasing a Tsurumi Generator. We are sure that the generator you have selected will meet all your portable electric power needs.

This manual applies to the Tsurumi Generators listed below. Specifications for the generators are provided in the **SPECIFICATIONS** section. Key features of the generator are shown in the **DESCRIPTION** section.

TPG-2900H-DX
TPG-4300H-DX
TPG-6000H-DX
TPG-7000H-DXE

This manual provides instructions for operation, service, and repair of your generator. We strongly recommend that those who operate the generator become familiar with the generator's features and controls, and read the operating instructions before using the generator.

The Operation, Repair, and Service Manual also provides instructions to service, checkout, and repair the generator. This manual also provides replacement parts information.

Repair and service information for the Honda engine is provided in the Owner's Manual for Models GX160, GX240, GX340, and GX390. A copy of the Owner's Manual has been provided in the generator's literature package. Parts information for the Honda Engine is available in Honda's Parts Catalogs.

When there are differences between generator models, separate instructions are provided. The separate instructions are provided to make sure the correct procedures are used on the affected generators.

All information in the Tsurumi manuals is based upon the latest production configuration of the generator at the time of approval for printing.

If you have a problem with your generator that cannot be resolved using the Operation, Repair, and Service Manual, or if you have questions about the operation, service, repair, or maintenance of your generator, contact your local Tsurumi generator dealer.

# A. PRECAUTIONS AND PLACARDS

Pay special attention to precautionary notes preceded by the words **WARNING, CAUTION**, and **NOTE**.

**WARNINGS** indicate that there is a strong possibility of personal injury or loss of life if the procedure is not followed, or if cleaning, lubricating, adhesives, and other materials are not used properly.

**CAUTIONS** indicate that there is a possibility of equipment damage if instructions are not followed.

**NOTES** are used in procedures to provide additional or supplemental information to make the procedure easier or more efficient.

**WARNING:**

- **THE GENERATOR IS DESIGNED TO GIVE SAFE AND DEPENDABLE SERVICE WHEN OPERATED ACCORDING TO THE INSTRUCTIONS IN THE TECHNICAL MANUAL PROVIDED WITH THE GENERATOR.**
- **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.**

Placards, shown below, are provided on the portable generator to warn operating and maintenance personnel of potential hazards, to provide maintenance information, and to provide generator rating 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.

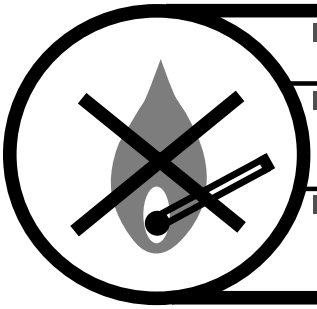
## DATA PLATE

**TSURUMI A.C. GENERATOR**

| | | | |
|---|---|---|---|
| OUTPUT | MAX | 2900W | MODEL |
| | RATED | 2400W | SER.NO. |
| VOLTAGE | | 120V | |
| FREQUENCY | | 60Hz | |

TSURUMI MANUFACTURING CO., LTD.
OSAKA, JAPAN

## FUEL WARNING PLACARD



■CHECK FOR SPILLED FUEL OR FUEL LEAKS.
STOP ENGINE BEFORE REFUELING.

■CONTROLER QU'IL N'Y A NI FUITE NI ESSENCE RÉPANSUE SUR L'APPAREIL.
ARRÉTER LE MOTEUR AVANT DE REFAIRE LE PLEIN.

■INSPECCIONAR PARA COMBUSTIBLE DERRAMADO O ESCAPE.
PARAR MOTOR ANTES DE ECHAR.

## AIR CLEANER MAINTENANCE

**AIR CLEANER MAINTENANCE**

■ **CLEAN ELEMENT EVERY 50 HOURS (*EVERY 10 HOURS UNDER DUSTY CONDITIONS). WASH IN HIGH FLASH-POINT SOLVENT, SQUEEZE DRY, THEN DIP IN CLEAN ENGINE OIL AND SQUEEZE OUT EXCESS OIL.**

## HOT MUFFLER & EXHAUST PLACARD

**HOT· EXHAUST**
**ECHAPPEMENT·CHAUD**

**WARNING**

DO NOT USE INDOORS. EXHAUST GAS CONTAINS POISONOUS CARBON MONOXIDE.

**ATENCION**

NO LO USE EN LUGARES CERRADOS PORQUE EL MONOXIDE DE CARBONO ES VENENOSO

**WARNING**

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

**WARNING**

ELECTROCUTION OR PROPERTY DAMAGE CAN OCCUR. DO NOT CONNECT THIS GENERATOR TO ANY BUILDING'S ELECTRICAL SYSTEM UNLESS AN ISOLATION SWITCH HAS BEEN INSTALLED BY A LICENSED ELECTRICIAN. READ OWNER'S MANUAL CAREFULLY.

**CAUTION**

NOT RESPONSIBLE WHEN EXCEEDING GENERATORS WATTAGE/AMPERAGE CAPACITY CAN DAMAGE GENERATOR AND/OR ELECTRICAL DEVICES CONNECTED TO IT.

- START GENERATOR AND LET ENGINE STABILIZE BEFORE CONNECTING ELECTRICAL LOADS.
- NO SENSITIVE EQUIPMENT LIKE COMPUTERS, STEREOS, TVS, OR ANY PRODUCTS THAT CONSUME CLEAN POWER. (CHECK MANUFACTURER'S PRODUCT MANUAL.)

## B. 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.** It 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, wipe dry well 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 electric arcing or open flame. Keep the work area well ventilated and keep the battery away from open flames/sparks.

# C. SPECIFICATIONS/KEY FEATURES

- ***Honda Powered***…proven reliability…quiet operation…efficient fuel consumption
- ***Automatic Idle Control***…reduces fuel consumption, noise, and engine wear (this feature is not available on Model TPG-2900H-DX).
- ***Large, Silent Muffler*** **(with USDA qualified spark arrestor**) to significantly reduce noise. The spark arrestor is designed to screen out hot sparks.
- ***Large Air Filter***…for superior emission control.
- ***Large Capacity Fuel Tank with Fuel Gauge***…for extended run time.
- ***Rubber Vibration Pads***…isolates generator/engine vibration from the frame for maximum protection and noise reduction.
- ***Ground Fault Circuit Interrupter (GFCI***)…on 120V duplex receptacle protects operator from shock.
- ***Full Power Switch***…allows voltage selection; either full-rated output from 120V receptacle or half-rated output from 120V receptacle and full-rated output from 240V receptacles (this feature is not available on Model TPG-2900H-DX).
- ***Circuit Breaker***…protects generator from overload damage; can be reset with the flip of a switch (no fuse to replace).
- ***100% Copper Windings***…for long life.

| MODELS | | | TPG-2900H-DX | TPG-4300H-DX | TPG-6000H-DX | TPG-7000H-DXE |
|---|---|---|---|---|---|---|
| GENERATOR | Max. / Rated Output | WATTS | 2900/2200 | 4300/3300 | 6000/4700 | 7000/5500 |
| | Max./ Rated Current: at 120V<br>at 240V | Amps | 22.5/18.3 amp<br>- - - - | 31.7/27.5 amp<br>15.8/13.8 amp | 45.8/39.2 amp<br>22.9/19.6 amp | 54.2/45.8 amp<br>27.1/22.9 amp |
| | Voltage | Volts | 120V (60 Hz, 1 $\phi$) | 120V/240V<br>(60 Hz, 1 $\phi$) | 120V/240V<br>(60 Hz, 1 $\phi$) | 120V/240V<br>(60 Hz, 1 $\phi$) |
| | AC Outlet Receptacles | - - - - | 1-NEMA 5-20R Duplex (20A, 120V, w/GFCI) | 2-NEMA 5-20R Duplex (20A, 120V, w/GFCI)<br>1-NEMA L5-30R (30A, 120V, Twist Lock)<br>1-NEMA L14-20R (20A, 120/240V, Twist Lock) | 2-NEMA 5-20R Duplex (20A, 120V, w/GFCI)<br>1-NEMA L5-30R (30A, 120V, Twist Lock)<br>1-NEMA L14-20R (20A, 120/240V, Twist Lock) | |
| ENGINE | Engine Models (Honda) | - - - - | GX160K1VED2 | GX240K1VED2 | GX340K1ED6 | GX390K1EDD2 |
| | Max. HP (rpm) | HP | 5.5 (3600 rpm) | 8.0 (3600 rpm) | 11.0 (3600 rpm) | 13.0 (3600 rpm) |
| | Displacement | CC ($In^3$) | 163 (10) | 242 (15) | 337 (21) | 389 (24) |
| | Fuel Tank Capacity | Gals. | 2.9 | 4.5 | 4.5 | 4.5 |
| | Running Time at Rated Load (1/2 Load) | Hours. | 14.6 (22.0) | 8.5 (14.2) | 5.7 (8.5) | 5.3 (8.1) |
| | Noise Level (Rated Load) | - - - | 64 dB | 68 dB | 72 dB | 78 dB |
| | Starting System | - - - | Recoil | Recoil | Recoil | Electric/Recoil |
| SET | Dimensions (L x W x H) | Inches | 23 1/4 x 18 x 20 1/4 | 25 3/4 x 20 3/4 x 22 1/2 | 26 1/4 x 21 3/4 x 22 1/2 | 26 1/4 x 21 3/4 x 22 1/2 |
| | Shipping Weight | Lbs | 115 | 170 | 188 | 205 |

# 2. DESCRIPTION AND OPERATION

## A. PHYSICAL DESCRIPTION

### (1) Description of the Portable Generator

(a) The key features of the portable generator are shown in Figure 1. A cutaway view of the generator is provided in Figure 2.

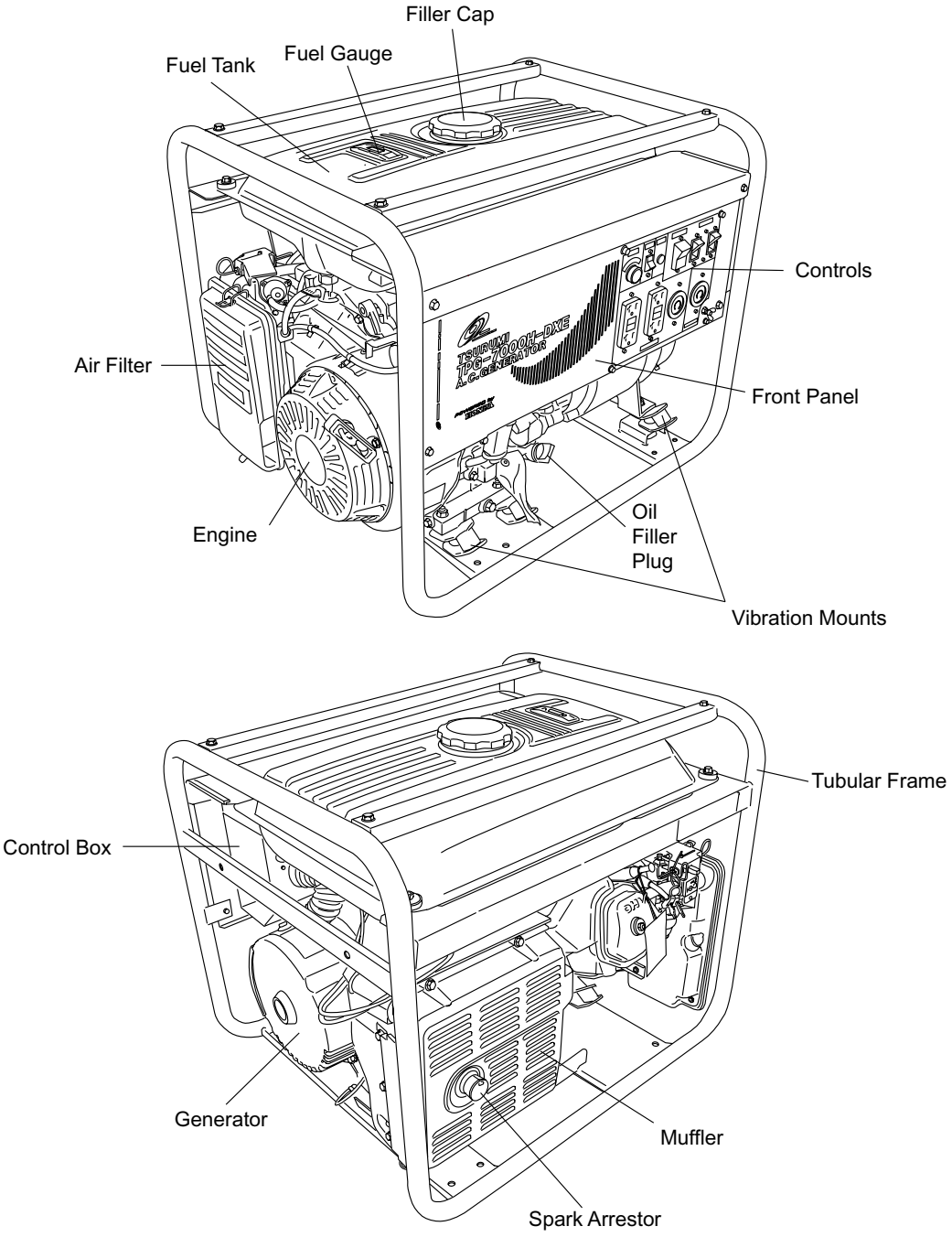



**Figure 1: Key Features of Generator (Model TPG-7000H-DXE Shown)**

(b) The generator consists of a tubular frame onto which is installed the generator, engine, front panel, control box and fuel tank.

(c) The generator and engine are installed on crossover plates that form the base of the tubular frame. Vibration isolators support the generator and engine unit. The isolators are fitted with threaded studs that secure the generator and engine unit to the frame.

**(2) Description of Generator**

(a) The generator consists of a rear cover, stator cover, stator, rotor, and front cover.

(b) The front cover of the generator attaches to the engine and forms the generator-to-engine interface.

(c) The front cover has a series of slots that allow entry of cooling air into the generator. A fan on the rotor circulates air through the generator.

(d) The rear cover has mounting lugs that are the generator-to-frame attachment points. The rear cover supports a ball bearing at the back end of the generator rotor.

(e) The rear cover has a removable access plate to provide access to the stator wiring (an access plate is not used on Model TPG-2900H-DX.)

(f) The rotor consists of a shaft, a stack of steel laminations, and copper wire windings. Components mounted on the rotor include a diode, a surge absorber, two permanent magnets, and a cooling air fan.

(g) The windings and the laminated steel core form the field coil. The permanent magnets are used to induce voltage in the main coil of the stator. The diode and the surge absorber are located under the rotor windings at the bearing end of the rotor shaft.

(h) The rotor is attached to the engine crankshaft with a through bolt (tie-bolt). The engine crankshaft is tapered and mates with a tapered bore in the rotor shaft. The clamping force applied to the through bolt ties the rotor shaft to the engine crankshaft.

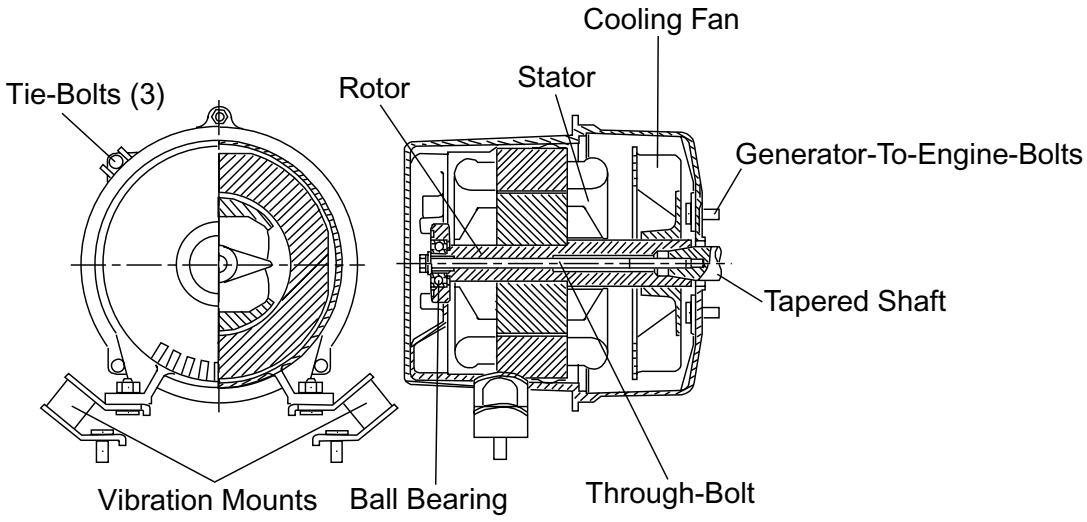



**Figure 2: Cutaway of Generator (Model TPG-2900H-DX Shown)**

### (3) Description of the Engine

**NOTE:**

- Refer to the Honda engine Owner's Manual for Models GX160, GX240, GX340, and GX390 for additional coverage of the engine.

(a) The TPG-7000H-DXE generator has an electric starter and a recoil starter. All other generators are equipped with a recoil starter.

(b) The engine is equipped with an air filter to remove airborne contaminants from the engine inlet air.

(c) The engine is fitted with a muffler that provides quiet operation and controls the flow of engine exhaust gases. The muffler is attached to the rear generator cover using a mounting bracket.

(d) The muffler for Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000-DX expels exhaust gases through a port in the side of the muffler. The muffler for Model TPG-2900H-DX has a smaller muffler that expels gases through a curved tube on the bottom of the muffler.

(e) The muffler is fitted with a spark arrestor to screen-out sparks ejected in the exhaust gases. The spark arrestor for Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000-DX is installed in the exhaust port of the muffler. The spark arrestor for Model TPG-2900H-DX is installed in the inlet side of the muffler.

(f) The engine has an oil filler plug that is used to check engine oil level. Engine oil is added through the same filler plug port. The engine oil drain plug is installed in the engine casing adjacent to the oil filler plug.

(g) The engine has a carburetor choke control for starting the engine during cold weather operation. (Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE have a ring-type choke control; Model TPG-2900H-DX has a choke lever.)

### (4) Description of the Fuel Tank

(a) The fuel tank is attached to one side of the frame by two cushioned mounts. The tank is supported on the opposite side by cushioned pads that fit into a channel on the backside of the front panel.

(b) A screen is provided under the filler cap to prevent entry of large contaminants.

(c) The tank has a fuel shutoff valve that is used to prevent fuel spillage when the generator is not in use. The fuel shutoff valve is used to drain fuel from the tank if needed for replacement of generator components. The fuel shutoff valve should be closed during transport to prevent fuel spillage.

(d) The fuel shutoff valve has a sediment bowl to capture heavier contaminants that may have passed through the fuel tank filler screen.

### (5) Description of the Front Panel

**NOTE:**

- Refer to Figure 7 through Figure 10 for illustrations of the generator front panels. Familiarize yourself with the layout of the front panel for your generator before operating the generator.

(a) The operating controls, switches, lights, electrical receptacles, and circuit breakers for the generator are mounted on the front panel.

(b) A control box is mounted on the back of the front panel. The control box contains the idle control unit, diode, condensers, and dc reset pushbutton switch (refer to Figure 11).

(c) The engine, starter, and control wiring exits through a hole in the side of the control box. The diode and fuse that are part of the DC circuit are located inside the control box.

(d) The generator leads and control wiring are connected inside the control box. A flexible rubber sleeve provides protection for the generator wiring.

## B. FUNCTIONAL DESCRIPTION

### (1) Generation of No-Load Voltage (refer to Figure 3)

(a) When the generator rotor begins to rotate, the permanent magnet in the rotor generates 3 to 6 volts alternating current in the main coil and in the condenser coil windings.

(b) The low voltage generated in the condenser coil also generates minute current flow (a) through the condenser coil. At the same time, low-level magnetic flux intensifies at the rotor's magnetic pole. As the magnetic force intensifies, voltage increases in the main coil and in the condenser coil. As current (a) increases, magnetic flux also increases at the rotor's magnetic pole, and continues to increase as generator speed increases.

(c) As AC current flows through the condenser coil, the density of the magnetic flux in the rotor changes. The change in magnetic flux density induces AC voltage in the field coil, and the diode rectifier in the field coil circuit rectifies the AC voltage into DC voltage. The resultant DC current flows (b) through the field coil and magnetizes the rotor core to generate output voltage in the main coil.

(d) When the generator speed reaches 3000 to 3300 rpm (60 Hz generators), the current in the condenser coil increases rapidly. This acts to stabilize the output voltage of each coil. When the generator speed reaches its rated speed, the generator output will be at its rated value.

### (2) Voltage Fluctuations Under Load (refer to Figure 3)

(a) When output current (c) flows through the main coil to the appliance being used, a magnetic flux is produced and serves to increase current (a) in the condenser coil. As a result, the current flowing in the field coil increases and the generator output voltage is prevented from decreasing.

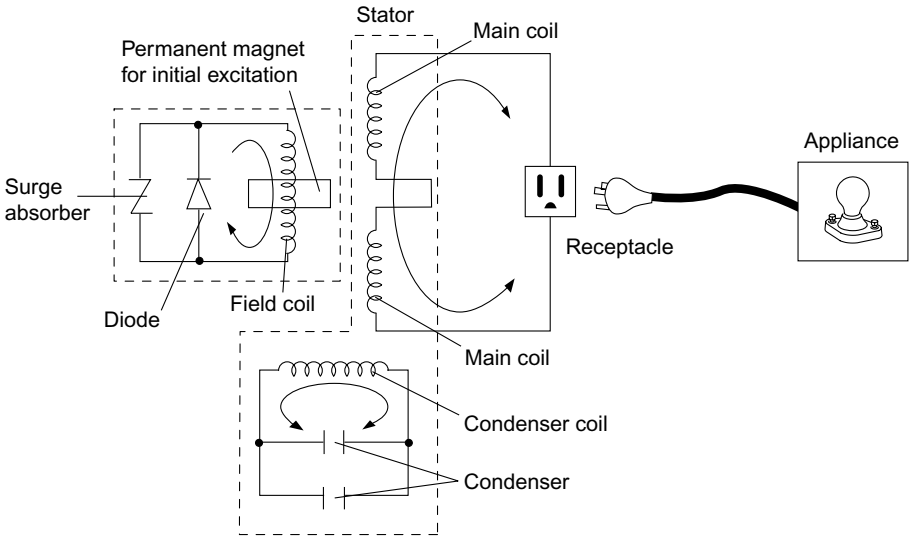



**Figure 3: Generation of No-Load Voltage**

**(3) Full Power Switch (Dual Voltage Type) (refer to Figure 4)**

(a) The full power switch provides both 120V and 240V dual voltages at full rated power. The full rated power will be available from one 120V receptacle and one 240V receptacle.

(b) Two main coils are wound over core of the stator. Each main coil outputs half the rated power at the lower voltage (110V or 120V). These main coils are wound so they are in the same phase. The full power switch reconnects these main coils in parallel or in series.

(c) Refer to the circuit diagram in Figure 4. When the full power switch is set for single lower voltage indication (110V or 120V), the switch position will be as indicated by the lower coils line in the diagram.

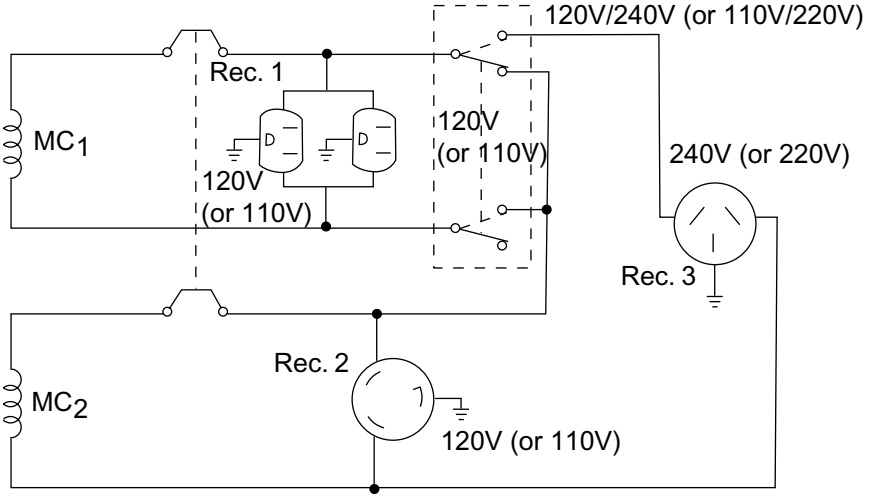



**Figure 4: Full Power Switch Circuit Diagram**

(d) Refer to Figure 5 for a simplified diagram of the circuit. The two main coils are shown in parallel. In this case, the higher voltage (220V or 240V) at Receptacle (Rec.) 3 is not available. Rec. 2 for the lower voltage is available up to the rated power (up to 30A if the rated current is over 30A), and Rec. 1 is available up to 15A. When the full power switch is set for double voltage indication (110V/220V or 120V/240V), the switch position is indicated by the upper dotted line in Figure 8.

(e) Refer to Figure 6 for a simplified diagram of the circuit. The two main coils are shown connected in series. In this example, power is simultaneously available from the receptacles for both voltages. Higher voltage receptacle, Rec. 3, has power available up to rated power, however, Rec. 1 and Rec. 2 for the lower voltage can output only up to the rated power of each receptacle.

(f) Table 1 summarizes in tabular form the power available, or not available, depending upon the position of the full power switch.

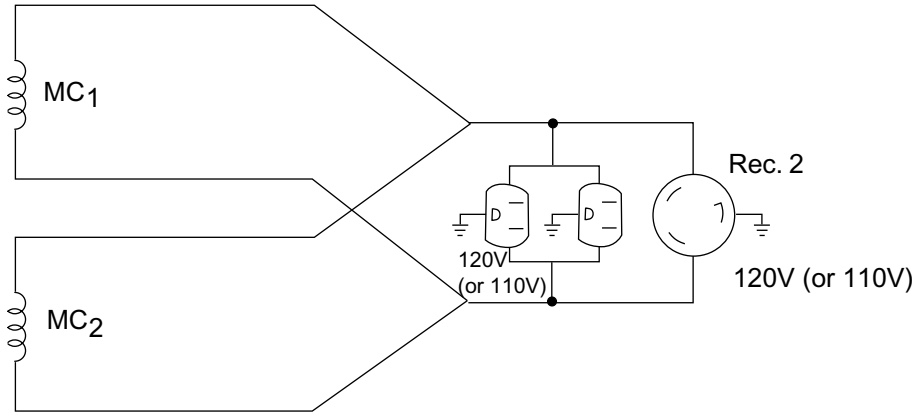



**Figure 5: Full Power Switch Set for Single-Voltage Output**

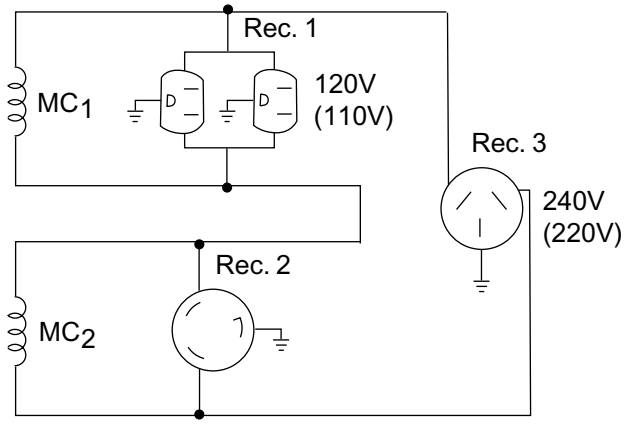



**Figure 6: Full Power Switch Set for Dual-Voltage Output**

**Table 1: Full Power Switch – Switch Setting Versus Output Available**

| Switch Position | Lower Voltage Receptacle | Higher Voltage Receptacles |
|---|---|---|
| 110V or 120V | Rated Output | No Output Can Be Taken |
| 110V /120V or 120V / 240V | Half of Rated Output | Rated Output |

# 3. OPERATING INSTRUCTIONS

## A. 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 IDLE 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 7 through 10.

(3) The Model TPG-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 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 control 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.

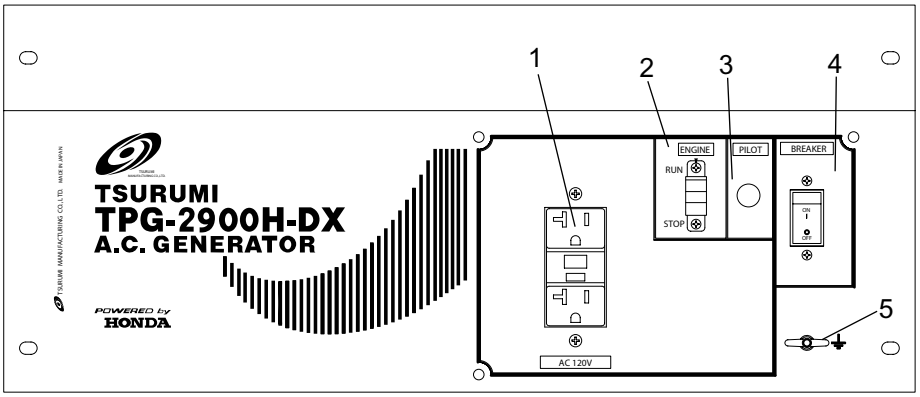
(8) The ground post is used to provide a positive ground for the generator. The post has a wing-nut to quickly connect a ground wire to the generator.

(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.

## B. DC CIRCUIT CONTROLS

(1) The circuitry for DC circuit consists of a 10 Amp fuse, an overload protector, and a re-set switch.

(2) In the event of an overload, the overload protector will trip the reset switch (refer to Figure 11).




**LEGEND**

1 120 Vac Receptacle

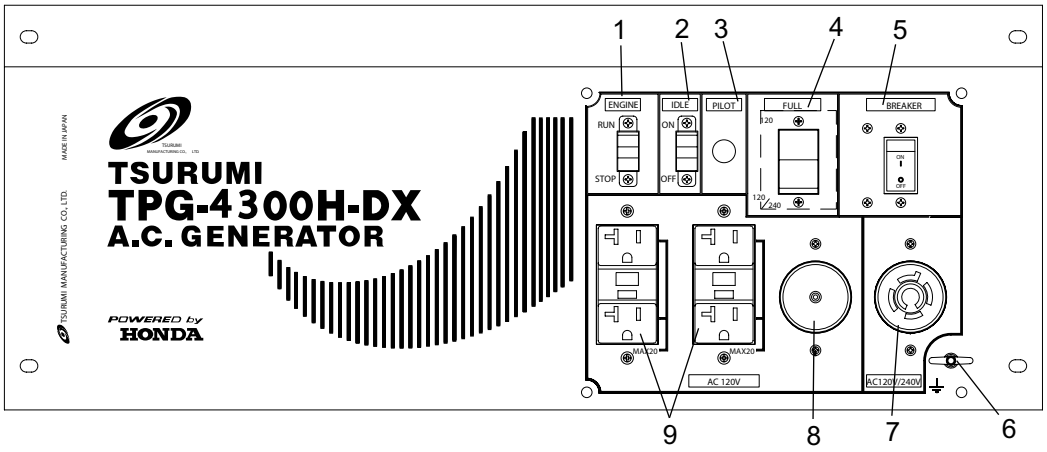
2 Engine Switch

3 Pilot Light

4 18 Amp Circuit Breaker

5 Ground Post

**Figure 7: Model TPG-2900H-DX**




**LEGEND**

1 Engine Switch

2 Idle Switch

3 Pilot Light

4 Full Power Switch

5 14 Amp Circuit Breaker

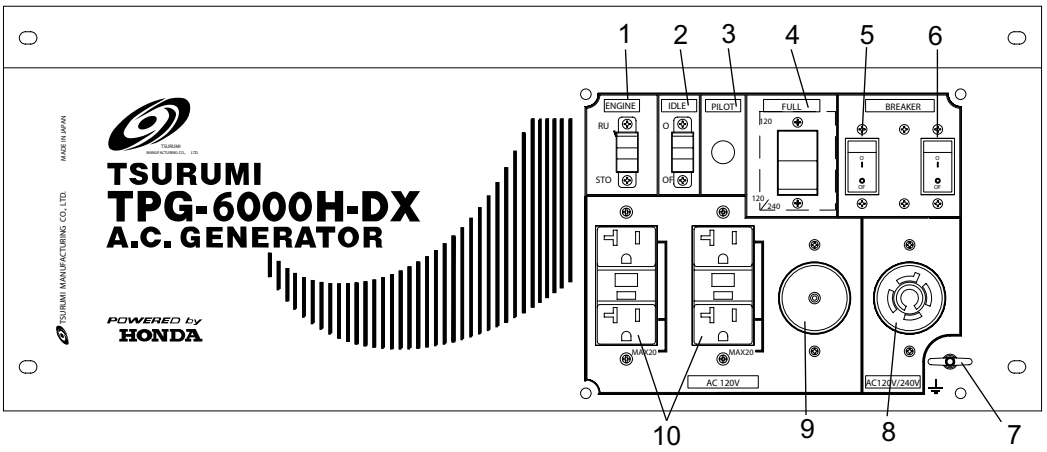
6 Ground Post

7 Receptacle 120Vac / 240Vac

8 Receptacle 120Vac

9 Receptacle 120Vac, GFI (2)

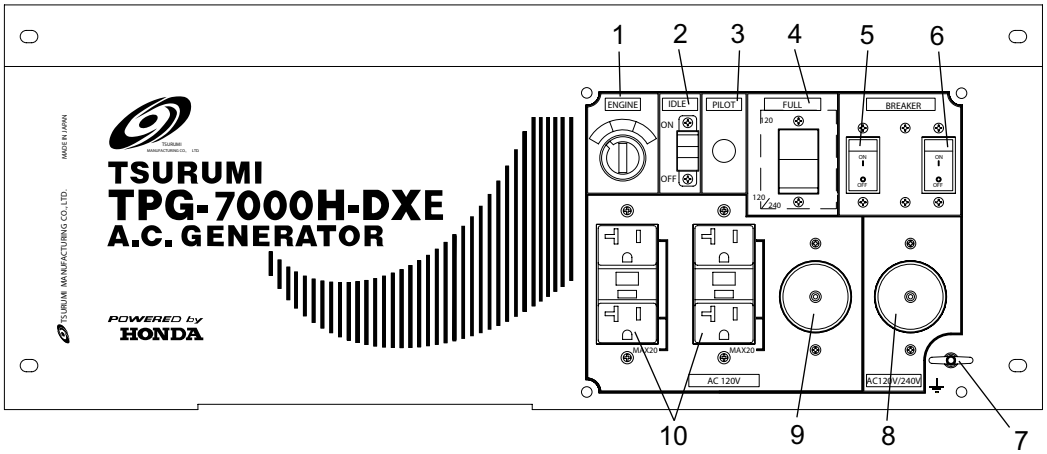
**Figure 8: Model TPG-4300H-DX**




**LEGEND**

| | | | |
|---|---|---|---|
| 1 | Engine Switch | 6 | 20 Amp Circuit Breaker |
| 2 | Idle Switch | 7 | Ground Post |
| 3 | Pilot Light | 8 | Receptacle 120Vac / 240Vac |
| 4 | Full Power Switch | 9 | Receptacle 120Vac |
| 5 | 30 Amp Circuit Breaker | 10 | Receptacle 120Vac, GFI (2) |

**Figure 9: Model TPG-6000H-DX**




**LEGEND**

| | | | |
|---|---|---|---|
| 1 | Engine Switch | 6 | 22 Amp Circuit Breaker |
| 2 | Idle Switch | 7 | Ground Post |
| 3 | Pilot Light | 8 | Receptacle 120Vac / 240Vac |
| 4 | Full Power Switch | 9 | Receptacle 120Vac |
| 5. | 30 Amp Circuit Breaker | 10 | Receptacle 120Vac, GFI (2) |

**Figure 10: Model TPG-7000H-DX**

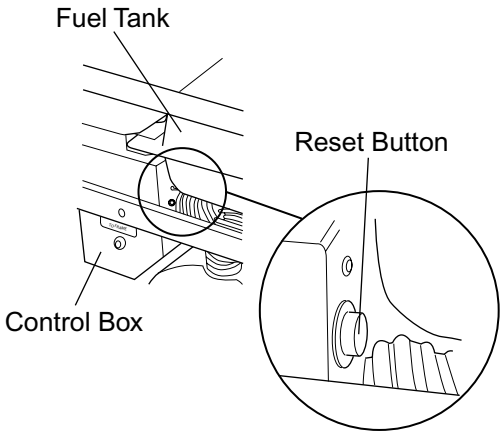



**Figure 11: DC Circuit Reset Pushbutton**

## C. CHECK THE ENGINE OIL LEVEL

**CAUTION:**

- **Engine oil is a major factor affecting performance and service life. Non-detergent oils and 2-stroke oils are not recommended because they have inadequate lubricating characteristics**
- **Check the oil level with the engine on a level surface and the engine stopped.**

(1) Use Honda 4-stroke oil, or use an equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for Service Classification SG, SF. Motor oils classified SG, SF will show this designation on the container.

(2) SAE 10W/30 is recommended for general, all-temperature use.

(3) Other viscosity grades shown in Figure 12 may be used when the average temperature in your area is within the indicated range.

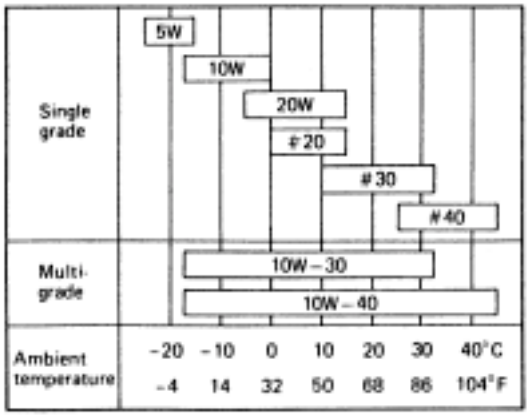



**Figure 12: Oil Viscosity Grade-to-Temperature Recommendations**

When checking oil, observe the following (refer to Figure 13):

(1) Make sure the engine is in a level position.

(2) Remove the oil filler cap/dipstick and wipe it clean.

(3) Insert the filler cap/dipstick into the oil filler neck, but do not screw it in.

(4) Remove the filler cap/dipstick and check the oil level.

(5) If the level is low, fill to the top of the oil filler neck with the recommended oil.

(6) Reinstall the oil filler cap/dipstick.

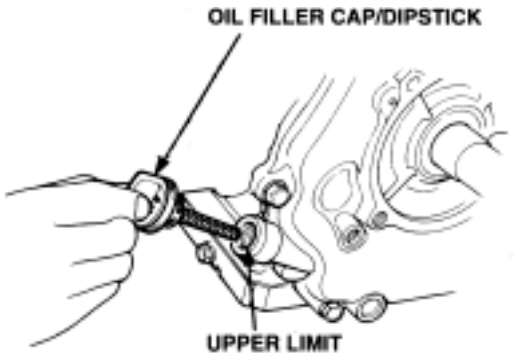



**Figure 13: Checking Oil Level**

## D. 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 FLAME 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 (refer to Figure 14).

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

(3) Fuel tank capacity

| | |
|---|---|
| TPG-2900H-DX | (2.9 gal.) |
| TPG-4300H-DX | (4.5 gal.) |
| TPG-6000H-DX | (4.5 gal.) |
| TPG-7000H-DXE | (4.5 gal.) |

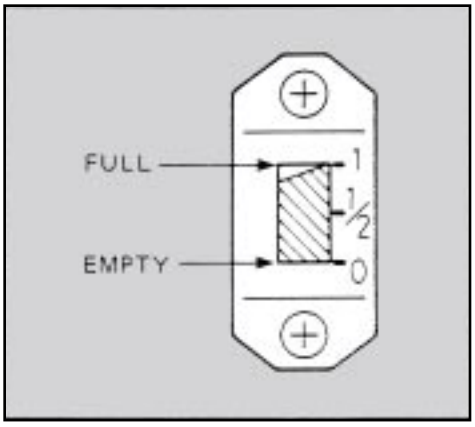



**Figure 14: Fuel Gauge Indications**

## E. PRE-START CHECKS

**WARNING:**

- **MAKE SURE YOU REVIEW EACH WARNING IN ORDER TO PREVENT FIRE HAZARD.**
- **KEEP AREA CLEAR OF FLAMMABLES OR OTHER HAZARDOUS MATERIALS.**

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

(a) Fuel leakage from fuel hose, etc.

(b) Bolts and nuts for looseness.

(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) Only 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.

## F. STARTING & OPERATING THE ENGINE

(1) Before starting the engine, set AC circuit breakers to OFF.

(2) Refer to the Honda engine owner's manual.

(a) Turn the fuel valve to the ON position.

(b) Move the choke lever to the CLOSE position.

**NOTE:**

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

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

(4) (MODEL TPG-7000H-DXE ONLY): To start the engine using the electric starter, proceed as follows:

(a) Turn key in engine START/STOP switch.

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

(c) Release key; the key is spring-loaded to the RUN position.

(d) As the engine warms up, gradually move the choke lever to the OPEN position.

(e) Position the throttle lever at the desired engine speed.

(5) (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, gradually move the choke lever to the OPEN position.

(d) Position the throttle lever at the desired engine speed.

## G. 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.**
- **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.**

## H. 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.

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

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

**NOTE:**

- Check the amperage of the receptacles used referring to Table 2, and be sure not to take a current exceeding the specified amperage.
- Be sure that the total wattage of all appliances does not exceed the rated output of the generator.

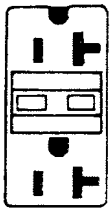
**WARNING:**

- **TO CONNECT AND LOCK A PLUG IN A TWIST LOCK RECEPTACLE, INSERT THE PLUG INTO RECEPTACLE AND TURN CLOCKWISE.**
- **BE SURE TO GROUND THE GENERATOR IF THE CONNECTED ELECTRICAL EQUIPMENT IS GROUNDED.**

**NOTE:**

- When the circuit breaker trips off during operation, the generator is overloaded or the appliance is defective.
- When the circuit breaker trips, stop the generator immediately. Check the appliance and/or generator for an overload or defect and repair as necessary.

**Table 2**
**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.**
- **Please note that other receptacles are not protected by a GFCI.**

| B | Dual Voltage Type |
|---|---|

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

(2) Operate the generator in the same way as step (a) through step (c) of single voltage type.

**Table 3**
**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 Rate Output is Available | Rated Output is Available |

**WARNING:**

- **TO TAKE OUT POWER FROM TWIST LOCK RECEPTACLE, INSERT THE PLUG INTO RECEPTACLE AND TURN CLOCKWISE TO LOCK IT.**
- **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.
- Stop the generator immediately, check the appliance and/or generator for overloading or defect and repair as necessary.

# I. STOPPING THE GENERATOR

(1) Set the power switch to OFF or unplug the cord from the receptacle.

(2) Move the throttle lever fully to the right.

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

(4) Turn the fuel valve to the OFF position.

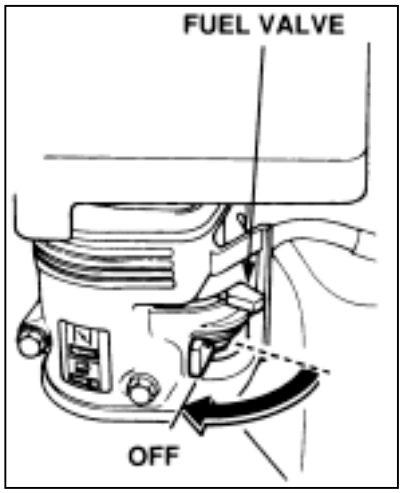



**Figure 15: Fuel Valve**

## J. 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.

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

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

## K. IDLE CONTROL (TPG-4300H-DX, TPG-6000H-DX, AND TPG-7000H-DXE)

The idle control feature automatically reduces engine speed when there is no load on the generator and automatically increases engine speed up to rated speed when load is applied.

The idle control feature provides fuel economy and low noise operation at no-load running.

(1) How To Use Idle Control

(a) Start the engine with IDLE switch set to OFF.

**NOTE:**

- Warm up the engine without a load for a few minutes.

(b) Set IDLE switch to the ON position.

(2) Checking Idle Function

(a) When the idle function does not operate normally, please check the following:

**NOTE:**

- Most induction loads, such as an electric motor, require wattage three to five times larger than their rating at starting. This starting wattage should not exceed the rated output of the generator.

(b) Is the generator overloaded? Make sure that the generator is not overloaded.

(c) Turn the IDLE switch off when the idle control does not work normally under the rated output.

## L. STOPPING THE ENGINE

(1) Turn off the switch of load or disconnect the load.

(2) Turn the IDLE switch off.

(3) Push ENGINE to stop.

**NOTE:**

- Allow the engine about 3 minutes to cool down at no-load before stopping.

## M. WATTAGE INFORMATION

When starting some appliances, a "surge" of energy occurs. Depending upon the nature of the electrical load, the amount of electrical power needed to start the appliance may exceed the amount needed to maintain its use. See Table 4 for appliances you may use with this generator.

Electrical appliances and tools normally come with a label indicating voltage, cycles/Hz, amperage (amps) and electrical power needed to run the appliance or tool. Check with your nearest dealer with questions regarding power surge of certain appliances or power tools.

Electrical loads such as incandescent lamps and hot plates require the same wattage to start as needed to maintain use.

Loads such as fluorescent and mercury lamps require 1.2 to 2 times the indicated wattage to start. Electric motors require a large starting current. Power requirements depend on the type of motor and its use. Once enough "surge" is attained to start the motor, the appliance will require only 50% to 30% of the wattage to continue running.

**CAUTION:**

- **Check motor starting current and power factor carefully.**

Most electrical tools require 1.2 to 3 times their wattage for running. For example, the 5,000 watts generated could power an 1800-watt to a 4000-watt electric drill.

Loads such as submersible pumps and air compressors require a very large force to start. They need 3 to 5 times the wattage needed to maintain the tool in order to start. For example, a 5,000 watt generator would only be able to drive a 1,000 watt to 1,700 watt pump.

**NOTE:**

The wattage chart (Table 4) is a guide only. Refer to your specific appliance for correct wattage.

To determine the total wattage required for operating a particular electrical appliance or tool, multiply the wattage figure of the appliance/tool by the tool's amperage (amps). The voltage and amperage (amps) information can usually be found on a data plate or label, which is normally attached to electric appliances and tools.

**Table 4**
**Wattage Chart**

| Applicable Wattage (W) | Applicable Wattage (w) | | | |
|---|---|---|---|---|
| | TPG-2900H-DX | TPG-4300H-DX | TPG-6000H-DX | TPG-7000H-DXE |
| | 60 Hz | 60 Hz | 60 Hz | 60 Hz |
| Incandescent Lamp, Heater | 2000 | 3300 | 4500 | 5300 |
| Fluorescent Lamp, Mercury Lamp | 1200 | 1900 | 2800 | 3100 |
| Electric Tool | 1200 | 1900 | 2800 | 3100 |
| Pump, Compressor | 500 | 700 | 1000 | 1500 |

# 4. MAINTENANCE

To maintain the generator in peak operating condition, observe and implement the maintenance and adjustment schedule in Table 5. Inspect and/or service the generator as scheduled in Table 5.

**WARNING:**

- **SHUT OFF THE ENGINE BEFORE PERFORMING ANY MAINTENANCE. IF OPERATION OF THE ENGINE IS REQUIRED, MAKE SURE THE AREA IS WELL VENTILATED; THE ENGINE EXHAUST CONTAINS POISONOUS CARBON MONOXIDE GAS.**

**CAUTION:**

- **Refer to the Honda engine owner's manual for other maintenance requirements.**

An initial oil change should be performed after the first twenty (20) hours of use. Thereafter, change oil every 100 hours.

Before changing the oil, check for a suitable way to dispose of the used oil. Do not pour it down sewer drains, onto garden soil or into open streams. Refer to your local zoning and environmental regulations for disposal and handling requirements.

**Table 5: Maintenance Schedule**

| | |
|---|---|
| Daily | • Check oil level.<br>• Check all components according to the PRE-OPERATIONAL CHECKS section. |
| 50 Hours | • Wash cleaner element.<br>• Check spark plug and clean if necessary. |
| 100 Hours | • Change engine oil. |
| 200 Hours | • Adjust spark plug gap.<br>• Clean fuel strainer. |
| 500 Hours<br>(12 Months) | • Replace spark plug and cleaner element.<br>• Clean and adjust carburetor, valve clearance, and valve seat along with cylinder head. |
| 1,000 Hours<br>(24 Months) | • Inspect control panel parts.<br>• Check rotor and stator.<br>• Replace engine mount rubber.<br>• Overhaul engine.<br>• Change fuel lines. |

## A. CHANGING ENGINE OIL

(1) Drain the oil while the engine is still warm to assure rapid and complete draining.

(2) Remove the oil filler dipstick/cap and drain plug.

(3) Allow oil to drain from the engine (Figure 16).

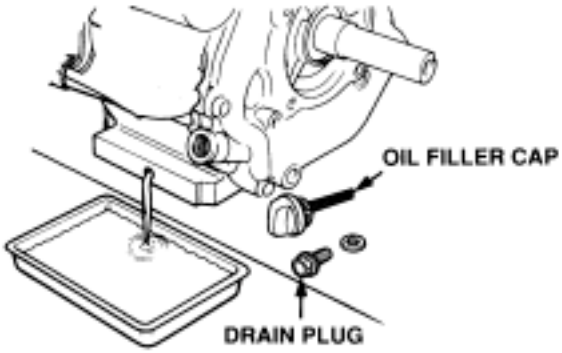



**Figure 16: Draining Engine Oil**

(4) Install the drain plug, and tighten it securely.

(5) Refill with the recommended oil (Figure 12). Check the oil level. Install the oil filler dipstick/cap (Figure 17).

**NOTE:**

- Engine oil capacity: 1.1 liters (1.16 U.S. Quart)

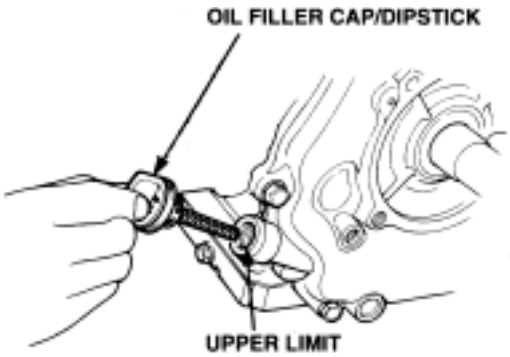



**Figure 17: Checking Oil Level**

## B. AIR CLEANER SERVICE

**WARNING:**

- **NEVER USE GASOLINE OR LOW FLASH POINT SOLVENTS FOR CLEANING THE AIR CLEANER ELEMENT. A FIRE OR EXPLOSION COULD RESULT.**

(1) A dirty air cleaner will restrict airflow to the carburetor. To prevent carburetor malfunction, service the air cleaner regularly. Service more frequently when operating the engine in extremely dusty areas.

**NOTE:**

- Never run the engine without the air cleaner. Rapid engine wear will result from contaminants, such as dust and dirt, being drawn through the carburetor, into the engine.

## C. SEDIMENT CUP CLEANING

**WARNING:**

- **GASOLINE IS EXTREMELY FLAMMABLE AND IS EXPLOSIVE UNDER CERTAIN CONDITIONS. DO NOT SMOKE OR ALLOW FLAMES OR SPARKS IN THE AREA.**
- **AFTER INSTALLING THE SEDIMENT CUP, CHECK FOR LEAKS, AND MAKE SURE THE AREA IS FREE OF RESIDUAL FUEL SPILLS OR SEEPAGE BEFORE STARTING THE ENGINE.**

(1) Turn the fuel valve to OFF.

(2) Remove (turn clockwise) the sediment cup and O-ring. Wash both parts in nonflammable or high flash point solvent.

(3) Wipe the sediment cup and O-ring dry, then reinstall.

(4) Set the fuel shutoff valve (Figure 18) to ON. Check for leaks.

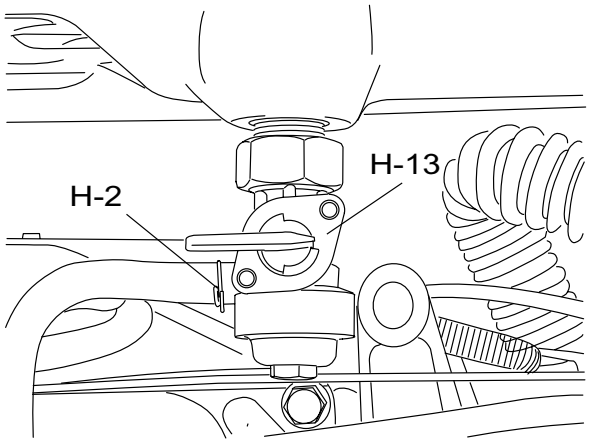



**Figure 18: Fuel Shutoff Valve**

## D. CLEANING AND ADJUSTING SPARK PLUG

Recommended spark plugs: BPR6ES (NGK)
W20EPR-U (NIPPONDENSO)

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

(1) Remove the spark plug cap.

(2) Clean any dirt from around the spark plug base.

(3) Use the proper size spark plug wrench to remove the spark plug.

**WARNING:**

- **THE MUFFLER BECOMES VERY HOT DURING OPERATION AND REMAINS HOT FOR A WHILE AFTER STOPPING THE ENGINE. BE CAREFUL NOT TO TOUCH THE MUFFLER WHILE IT IS HOT.**

(1) Visually inspect the spark plug. Discard it if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.

(2) Measure the plug gap with a feeler gauge. Adjust the gap as necessary by bending the side electrode (Figure 19).

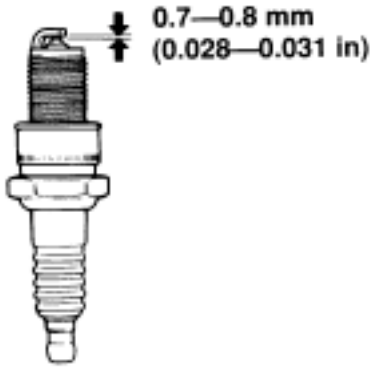



**Figure 19: Spark Plug Gap**

(3) The gap should be 0.7 - 0.8 mm (0.028 - 0.031 inch) as shown.

# 5. TROUBLESHOOTING

The procedures that follow together with the fault isolation tables can be used as a guide to isolate generator faults. Refer to these procedures when the engine fails to start after several attempts, or when electricity is not available at the receptacles.

Before testing generator components, determine if the failure is located in the generator head or in the control panel. Do this by following the instructions below.

If, after following these procedures, your generator fails to start or generate electricity, contact the nearest Tsurumi generator dealer.

## A. ISOLATING FAULT TO THE GENERATOR OR TO THE CONTROL PANEL

(1) This unit uses permanent magnets built into the rotor for initial excitation. Do not "flash the fields" to try to re-excite the field.

(2) Isolate the defect by disconnecting the red, white, black and blue wires from the stator (do not disconnect the two yellow wires). Then measure the AC voltage of each AC coil.

(3) Check for 120 vac (±5%) from the red-white wires and then check for 120 vac (±5%) from the black-blue wires.

(4) If the voltage is correct, the failure is in the control panel. If the voltage is too low from either coil, the defect lies in the rotor, stator, or condensers.

## B. MEASURING INSULATION RESISTANCE (refer to Figure 20)

(5) No AC output - Measuring Insulation Resistance

(6) Use a megger tester to test each component for proper insulation. An insulation resistance of 1 MΩ or greater is normal. The insulation resistance from the factory is at least 10 MΩ.

(7) Insulation Resistance - Stator

(a) Measure the insulation resistance between BLUE lead and the core.

(b) Measure the insulation resistance between WHITE lead and the core.

(c) Measure the insulation resistance between YELLOW lead and the core.

(d) Measure the insulation resistance between BROWN lead and the core.

(8) Insulation Resistance - Rotor

(a) Measure the insulation across one of the soldered terminals of the rotor and the core.

(b) Parts with insulation resistance of less than 1MΩ have faulty insulation, and may cause electric leakage and electric shock. Replace the faulty part.

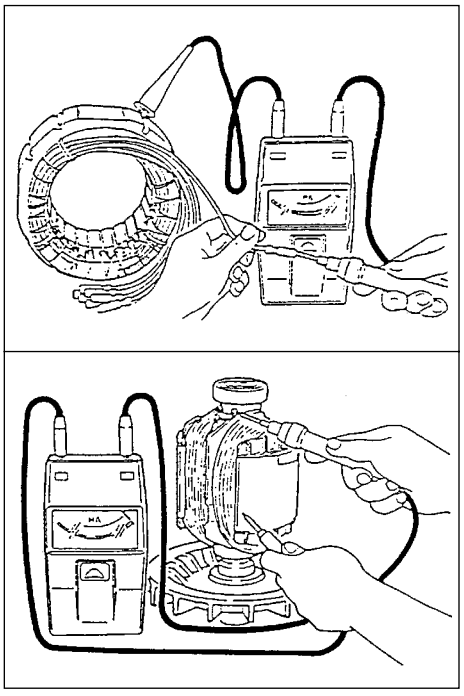


**Figure 20: Measuring Resistance**

## C. ELECTRICAL LIMITS REFERENCE CHART

The Electrical Limits Reference Chart, Table 6, provides a ready reference to electrical component limits.

**Table 6: Electrical Limits Reference Chart**

| Model | Rotor | | Stator | | | | Condenser |
|---|---|---|---|---|---|---|---|
| | Field Coil | Insulation (1)(2) | AC Winding Red/White | AC Winding Red/White | Condenser Winding Yellow/Yellow | Insulation (2)(3) | Capacitance |
| TPG-2900H-DX | 1.70 | > 1 MΩ | 0.58 | 0.58 | 1.56 | > 1 MΩ | 24 µF |
| TPG-4300H-DX | 1.75 | > 1 MΩ | 0.29 | 0.29 | 0.74 | > 1 MΩ | 50 µF |
| TPG-6000H-DX | 1.58 | > 1 MΩ | 0.22 | 0.22 | 0.57 | > 1 MΩ | 56 µF |
| TPG-7000H-DXE | 1.76 | > 1 MΩ | 0.18 | 0.18 | 0.46 | > 1 MΩ | 64 µF |

(1) Measure insulation across one of the solder terminals and the core of the rotor.

(2) Measure between stator leads as follows: BLUE lead and core; WHITE lead and core; YELLOW lead and core: and BROWN lead and core.

**WARNING: Do not use any part with insulation resistance of less than 1 MΩ. Low insulation resistance is an indication that the part is faulty insulation and may cause electrical leakage and potentially fatal electrical shock. Replace all faulty parts.**

# D. TROUBLESHOOTING CHARTS

This section provides the instructions for generator checkout and fault isolation. The troubleshooting procedures are presented in Table 7. The table lists typical faults, presents probable cause, and provides the remedy for the majority of generator operational faults.

**Table 7: Fault Isolation Procedures**

| FAULT | PROBABLE CAUSE | REMEDY |
|---|---|---|
| No AC output. | Condenser failed. | 1. Check condenser<br>**NOTE:** If you do not have measuring equipment, install a known-good condenser. Start the generator and check ac output. If the generator ac output is normal, the fault was in the original condenser.<br>2. Short the condenser leads across each other to discharge the condenser.<br>**NOTE:** To make sure you get a good reading, discharge the condenser before checking capacitance.<br>3. Check capacitance of condensers (refer to Table 6 for capacitance values for each generator model). Replace condensers that do not meet normal capacitance. |
| | Stator fault. | 1. Check Stator<br>2. Remove bolts (31) from front panel (30). Pull the front panel (30) away from frame (28) (to provide clearance for removal of control box).<br>3. Remove four screws (34) from front panel (30) (to separate the control box [32] from the front panel).<br>4. Locate the stator leads. Separate the leads at the in-line connector.<br>5. Use an adhesive label or tag to identify the leads (use the label or tag to make sure you have the proper connection).<br>6. Measure resistance between the in-line connector on the stator leads (refer to Table 6 for resistance values for each generator model).<br>7. Replace stator if it does not meet resistance values in Table 6. |

| FAULT | PROBABLE CAUSE | REMEDY |
|---|---|---|
| No AC output. | | 8. Check insulation resistance between the stator core and each stator leads. Check using a megger tester. Replace the stator if it fails the megger test. |
| | Rotor fault. | 1. Check rotor.<br>2. Remove generator rear cover and stator (refer to **COMPONENT REPLACEMENT** for procedures).<br>3. Using a multimeter, measure field coil resistance. Measure resistance at the soldered terminals of the rotor and the core.<br>**NOTE:** Because a diode is soldered to the coil ends at the terminals, resistance may be measured only when the multimeter probes touch the terminals in one combination of polarity. Therefore, if no resistance reading appears, try checking in reverse polarity.<br>4. Using a megger tester, check insulation resistance between the soldered terminal and the stator core.<br>5. Replace rotor if it does not meet the resistance values in Table 6. |
| AC voltage too high or too low. | Engine speed too high or too low. | 1. Check engine speed.<br>2. Operate the generator with no load applied on the generator.<br>3. If the speed is too high or too low, adjust throttle adjustment screw to set engine speed as specified in Table 6. |
| | Total wattage applied by appliances, lights, power tools, etc., exceeds generator s rated load. | 1. Calculate generator load.<br>2. Calculate total wattage being applied to the generator (rated load of each connected power-consuming device times the power factor of the device).<br>3. Disconnect power-consuming device(s) as required to reduce total wattage to the level shown on the generator data placard. |

| FAULT | PROBABLE CAUSE | REMEDY |
|---|---|---|
| AC voltage is normal at no-load, but load can not be applied (continued). | Engine speed too low (continued). | 4. Check engine speed.<br>5. Operate the generator at no load.<br>6. If the speed is too low, adjust to the normal engine speed specified in Table 6.<br>7. Restart the generator and apply load. If load still can not be applied, check stator, rotor, and condensers (refer to "No AC Output" troubleshooting steps above). |
| | Faulty power-consuming device. | Check for faulty appliance, power tool, or other power-consuming devices. |
| | Engine overheated. | Check for and clear away debris covering engine and generator cooling air inlets and outlets. |
| | Failed generator insulation. | 1. Check Insulation.<br>2. Stop engine. Measure the insulation resistance between the "live" terminal of a receptacle and the ground post on the front panel.<br>3. If the insulation resistance is less than 1MΩ, disassemble the generator to obtain the stator and rotor.<br>4. Disassemble to gain access to the components in the control box.<br>5. Check the insulation resistance of the stator, the rotor, and the "live" electrical components in the control box. (Any component whose insulation resistance is less than 1MΩ is faulty and may cause electrical leakage.)<br>6. Replace any component having insulation resistance of less than 1MΩ. |
| No DC output. | Condenser, stator, or rotor fault. | See "No AC output" above. |
| | DC breaker tripped. | 1. Check the DC breaker.<br>2. If the breaker was tripped while in use (such as charging a battery), check for a short circuit or reverse polarity connection. After verifying that there are no shorted circuits or reversed polarity, reset the breaker. |
| | | **NOTE:** If the DC output was used to charge a large capacity battery or an excessively discharged battery, there is a possibility that excessive current caused the DC breaker to trip. |

| FAULT | PROBABLE CAUSE | REMEDY |
|---|---|---|
| No DC output (continued). | DC fuse blown. | 1. Check DC fuse.<br>2. Check the fuse in the fuse holder in the control box.<br>3. If the fuse is blown, determine the source of the fault. Correct the fault in the DC circuit and replace the fuse (10A).<br>**NOTE:** If the DC output was used to charge a large capacity battery or an excessively discharged battery, there is a possibility that excessive current caused the DC breaker to trip. |
| | Defective wiring. | 1. Check wiring.<br>2. Check wiring to make sure the wires are properly connected (refer to the schematic diagrams in the **Wiring Diagrams** section for wiring information).<br>3. Correct wiring as required. |
| | Defective diode rectifier. | 1. Check the diode rectifier.<br>2. Remove the control panel. Remove the control box and check the diode rectifier. Using a multimeter check continuity of the diode circuitry. (Refer to Table 9 for continuity charts for both analog and digital meters.) |
| | DC coil fault. | 1. Check the diode rectifier.<br>2. Check resistance between leads from stator (see Table 6).<br>3. If resistance reading is much larger or smaller than the specified value, the DC coil of the stator is faulty.<br>4. Replace stator. |
| Engine speed does not increase when load applied. | Solenoid damaged. | Check bend angle of solenoid bracket. Correct as required. |
| | Wattage of connected appliance or electric tool exceeds rating. | 1. Check rating of connected appliance or electric tool exceeds rating. Use appliance or tool having compatible rating.<br>2. Check the slow set RPM. Normal idling speeds are as follows: |

| FAULT | PROBABLE CAUSE | REMEDY |
|---|---|---|
| Engine speed does not increase when load applied (continued). | Wattage of connected appliance or electric tool exceeds rating. (continued). | TPG-2900H-DX 1900 to 2100 RPM<br>TPG-4300H-DX 2000 to 2200 RPM<br>TPG-6000H-DX 2000 to 2200 RPM<br>TPG-7000H-DXE 2000 to 2200 RPM<br><br>**NOTE:** The engine speeds are for a cold engine. If the engine speed adjustment screw is out of its adjustment range, move the solenoid backward.<br><br>3. Check the wiring through the coil on the idle control unit.<br><br>SINGLE VOLTAGE TYPE: Make sure that an output wire form the main coil is passing through the coil on the idle control unit.<br><br>DUAL VOLTAGE TYPE: Check to make sure that the two output wires from the main coils pass through the coil on the idle control unit in the same direction.<br><br>4. Check the idle control unit. Check resistance between the five leads.<br><br>5. Observe the terminal identification diagram below:<br><br>6. Refer to Table 6 for resistance values.<br><br>**NOTE:** The resistance readings in Table 6 will vary depending upon the type of circuit tester being used. Table 6 is an example of the resistance readings measured by an ordinary analog circuit tester with a 1.5-volt battery power source. It is advisable to check the resistance readings using your standard circuit tester and adjust the values accordingly. |
| Engine speed does not decrease when load removed. | Solenoid bracket damaged or distorted. | Check bend angle of solenoid bracket. Correct as required. |
| | Wire leads damaged. | Check to make sure two solenoid leads are securely connected. |
| | Check wiring to idle control unit. | Check to make sure wire leads to the idle control unit are securely connected. |
| | Solenoid failed. | Check resistance between two solenoid leads (refer to Table 6) for resistance limits. If resistance is higher or lower than limits, replace solenoid. |

## Table 8: Idle Control Unit – Circuit Parameters

| Circuit Tester Power Source | | Apply Black (Negative) Probe of the Circuit Tester | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| Apply Red (Positive) Probe of Circuit Tester | 1 | - - - | ∞ | 250 kΩ | 250 kΩ | 250 kΩ |
| | 2 | | - - - | ∞ | ∞ | ∞ |
| | 3 | 250 kΩ | ∞ | - - - | 250 kΩ | 75 kΩ |
| | 4 | 250 kΩ | ∞ | 250 kΩ | - - - | 75 kΩ |
| | 5 | 8.5 kΩ | ∞ | 7.8 kΩ | 7.8 kΩ | - - - |

## Table 9: Diode Rectifier Checking

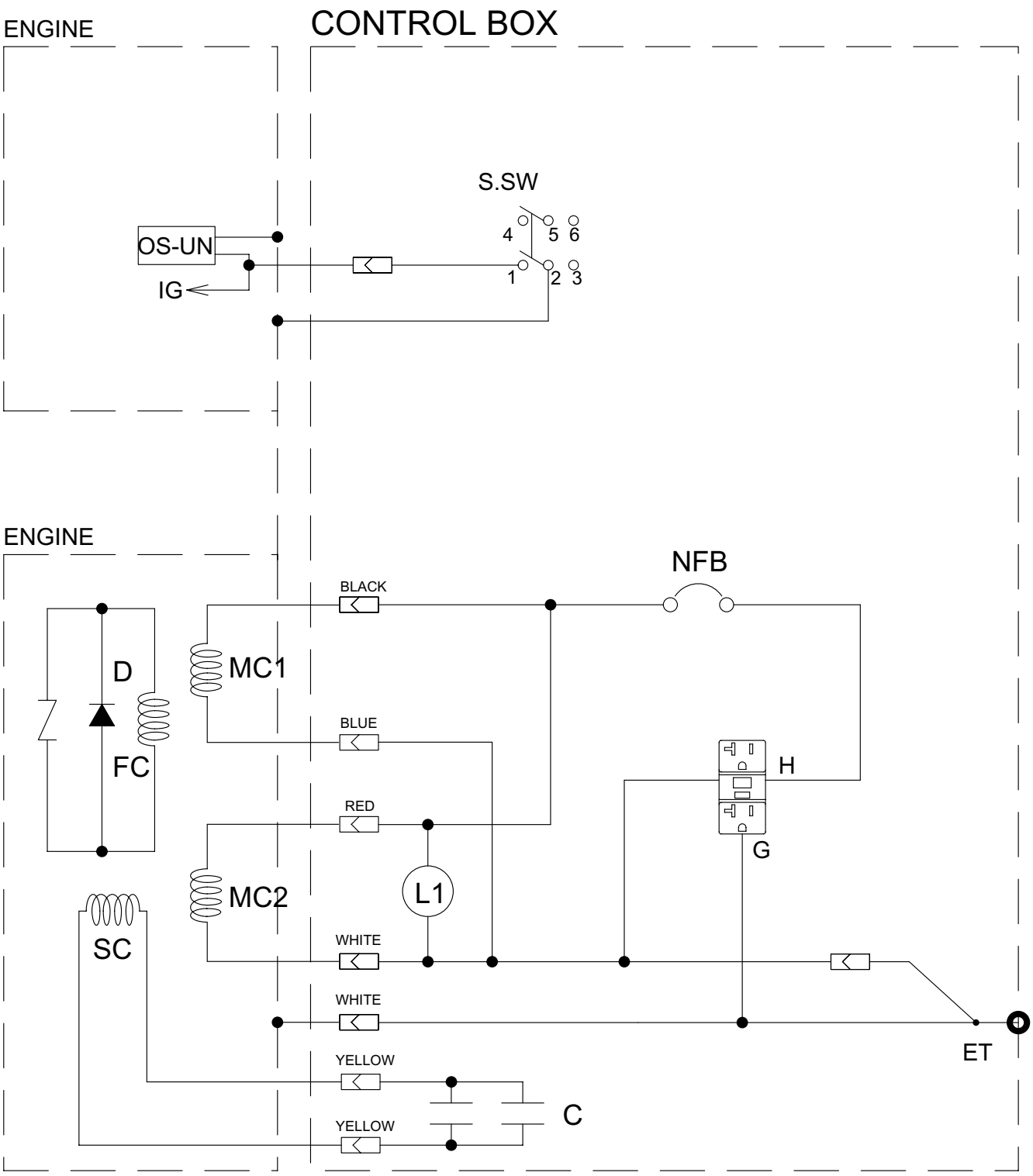
| Using Analog Circuit Tester | | Apply Black (Negative) Probe of the Circuit Tester | | | |
|---|---|---|---|---|---|
| | | Brown | Brown | Orange | Brown/White |
| Apply Red (Positive) Probe of Circuit Tester | Brown | - - - | No Continuity | No Continuity | Continuity |
| | Brown | No Continuity | - - - | No Continuity | Continuity |
| | Orange | Continuity | Continuity | - - - | Continuity |
| | Brown/White | No Continuity | No Continuity | No Continuity | - - - |
| **Using Digital Circuit Tester** | | **Apply Red (Positive) Probe of the Circuit Tester** | | | |
| | | Brown | Brown | Orange | Brown/White |
| Apply Black (Negative) Probe of Circuit Tester | Brown | - - - | No Continuity | No Continuity | Continuity |
| | Brown | No Continuity | - - - | No Continuity | Continuity |
| | Orange | Continuity | Continuity | - - - | Continuity |
| | Brown/White | No Continuity | No Continuity | No Continuity | - - - |

**NOTE:** Because of the difference of measuring methods between the analog circuit tester and the digital circuit tester, polarity of the tester needles should be reversed.

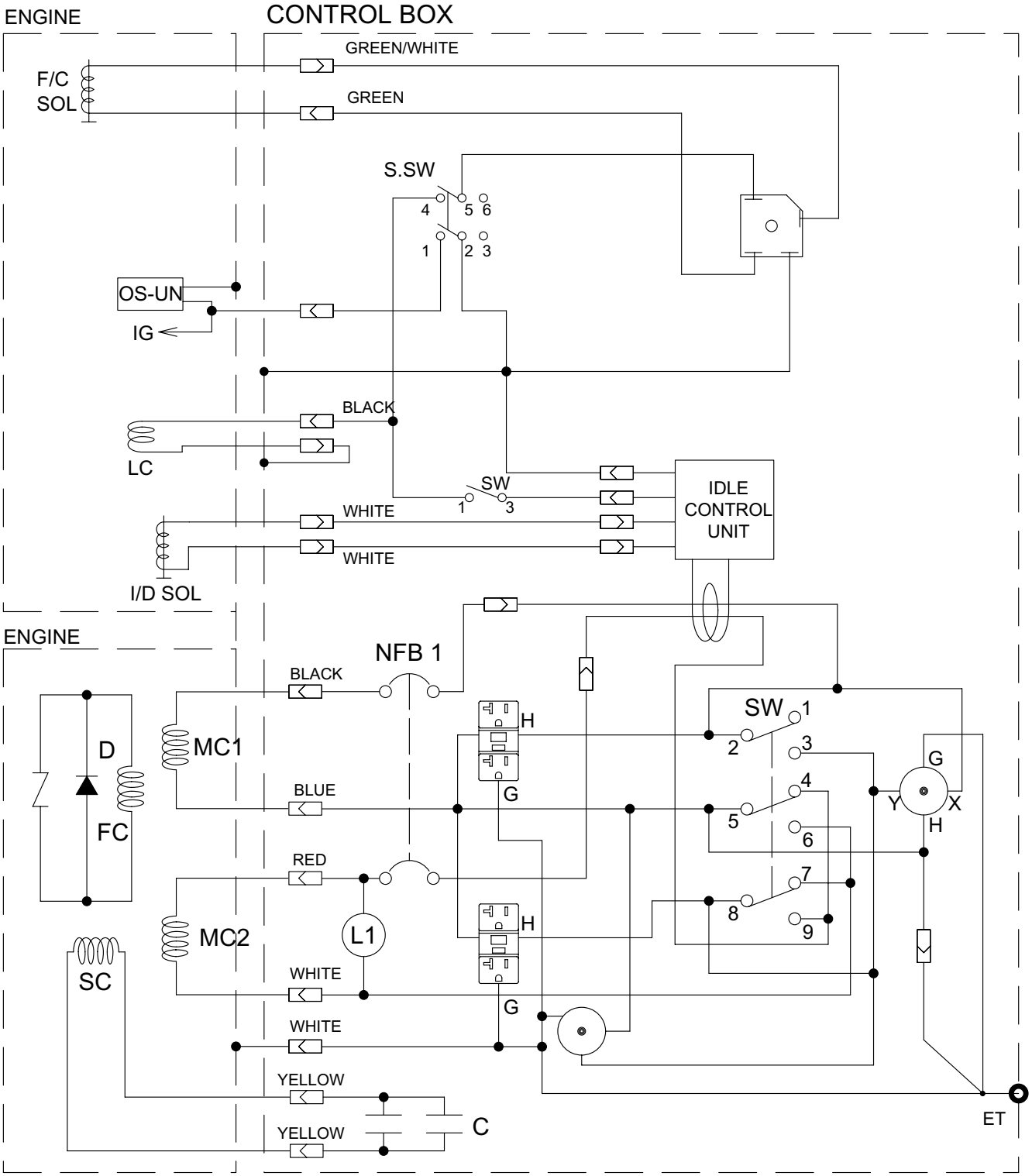
**NOTE:** "Continuity" means forward direction characteristics of the diode, and is different from short circuit condition in which a pointer of the tester goes out or its normal scale, it shows resistance to some extent. When results of the checking indicates failure even in one section, replace with a new diode.

**NOTE:** Simpson brand analog testers have the same characteristics as a digital tester.

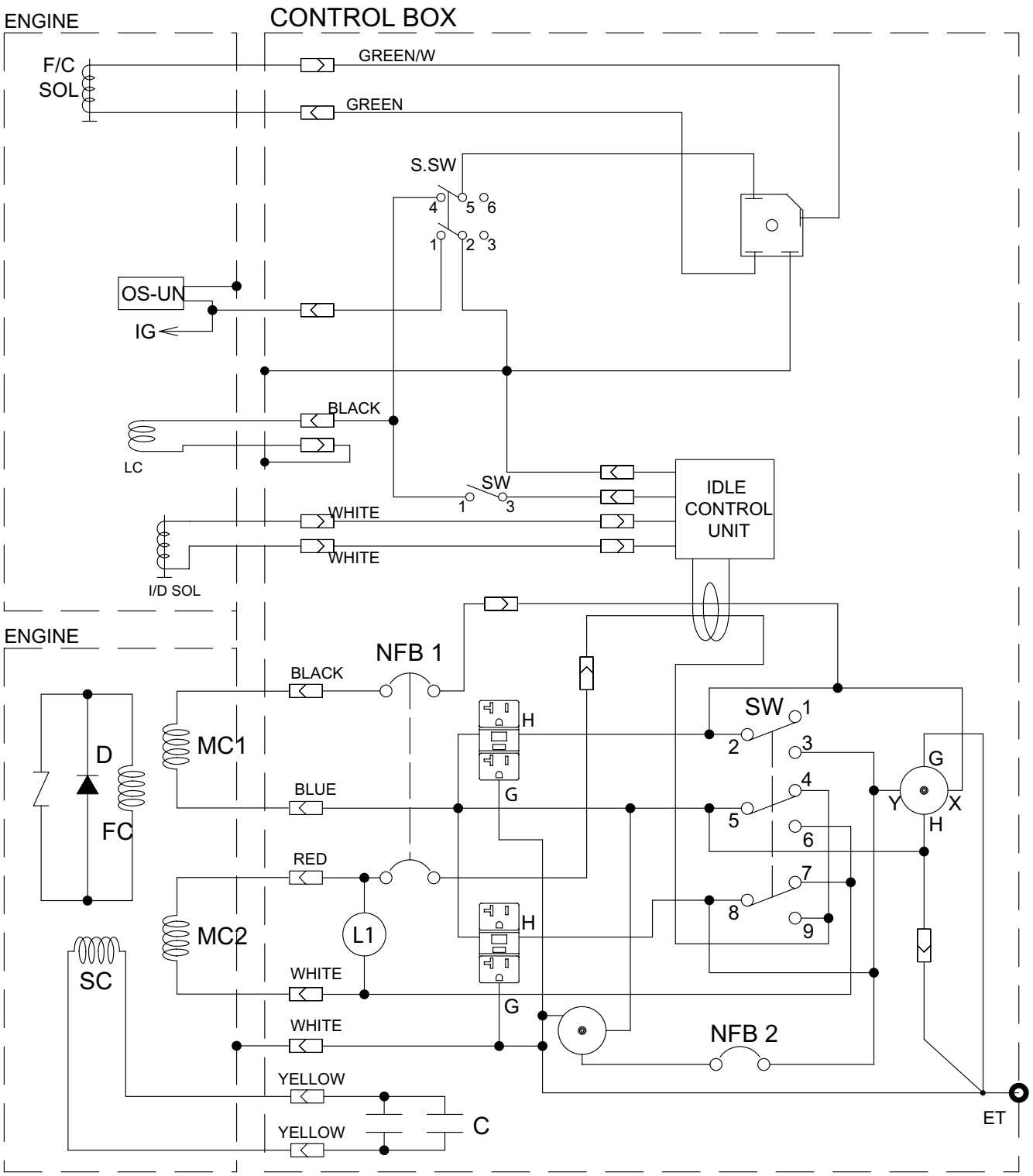
## E. WIRING DIAGRAMS



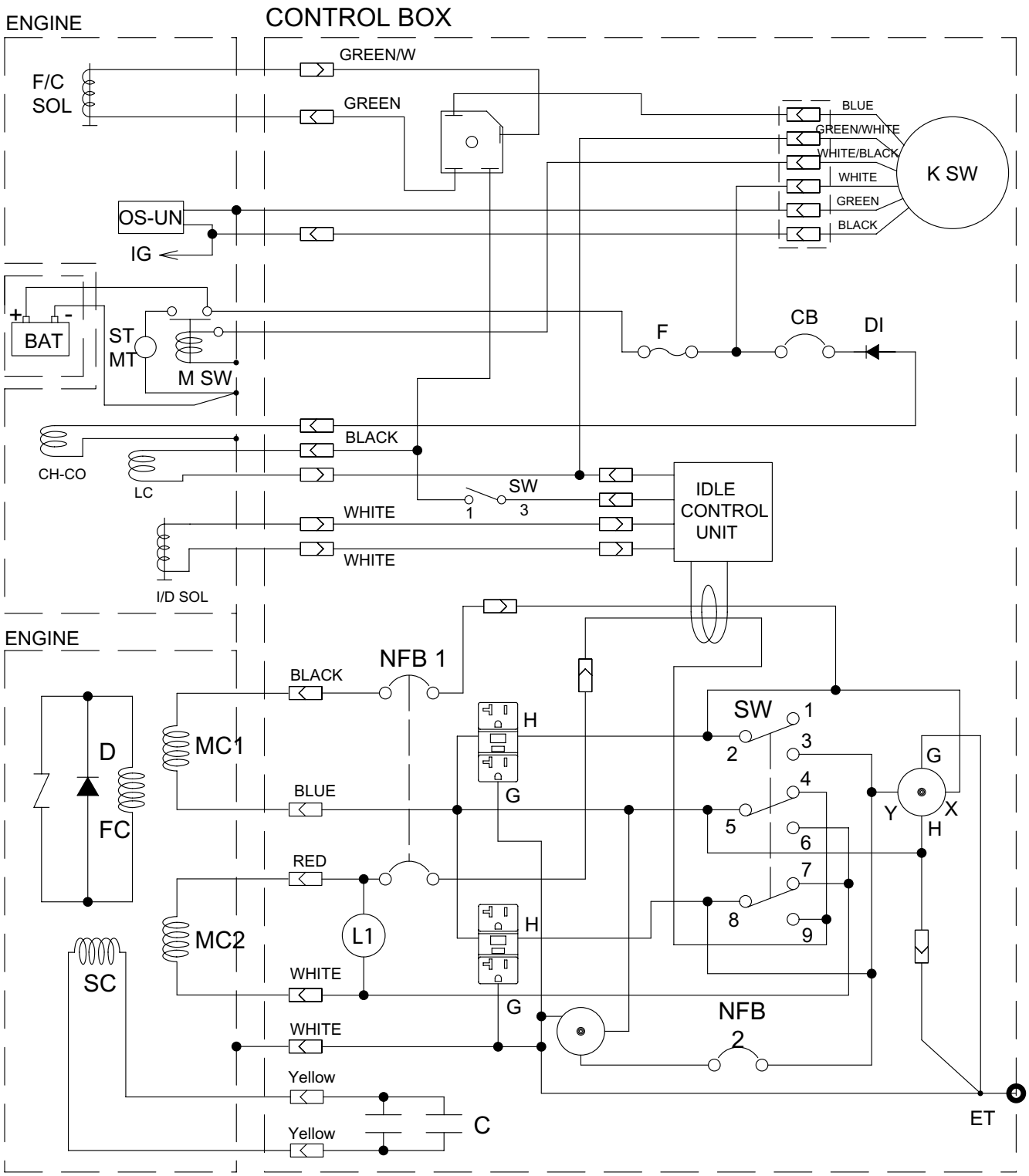

**Wiring Diagram - Model TPG-2900H-DX**




**Wiring Diagram - Model TPG-4300H-DX**




**Wiring Diagram - Model TPG-6000H-DX**




**Wiring Diagram - Model TPG-7000H-DXE**

# 6. REMOVAL/INSTALLATION

Repair of the generator is limited to the replacement of failed components. This section provides the procedures for removal of failed components and installation of replacement components.

Exploded views and other Illustrations are provided to supplement the replacement procedures.

The item numbers used in the component replacement procedures are identical to item numbers in the **Replacement Parts** section. Refer to the **Replacement Parts** section for part numbers of replacement parts.

Table 10 provides torque values for the fasteners used on the generator. Tighten the fasteners to torque value shown to provide the required clamping force.

**Table 10: Fastener Torque Values**

| Ref. No. | Fastener | Size | Model | Ft-lbs | N.m | Kg-cm |
|---|---|---|---|---|---|---|
| 4 | Through Bolt (M8) | M8 | TPG-2900H-DX | 8.7 — 10.1 | 11.8 — 13.7 | 120 — 140 |
| | Through Bolt (M10) | M10 | TPG-4300H-DX<br>TPG-6000H-DX<br>TPG-7000H-DXE | 17.4 — 18.8 | 23.5 — 25.5 | 240 — 260 |
| 8 | Rear Cover-to-Front Cover Screws | M6 | TPG-2900H-DX | 3.6 — 4.3 | 4.5 — 5.9 | 50 — 60 |
| | Rear Cover-to-Front Cover Screws | M8 | TPG-4300H-DX<br>TPG-6000H-DX<br>TPG-7000H-DXE | 3.6 — 4.3 | 4.5 — 5.9 | 50 — 60 |
| 11 | Brush Cover Screws | M5 | TPG-4300H-DX<br>TPG-6000H-DX<br>TPG-7000H-DXE | 2.9 — 3.3 | 3.9 — 4.4 | 40 — 45 |
| 13 | Front Cover-to-Engine Screws | M8 | ALL MODELS | 8.7 — 10.1 | 11.8 — 13.7 | 120 — 140 |
| 14 | Ground Wire-to-Rear Cover | M3 | TPG-2900H-DX | 1.5 — 2.2 | 2.0 — 2.9 | 20 — 30 |
| | | M4 | TPG-4300H-DX<br>TPG-6000H-DX<br>TPG-7000H-DXE | 1.5 — 2.2 | 2.0 — 2.9 | 20 — 30 |
| 15 | Rear Cover Bracket-to-Lower Muffler Support Screw | M12 | TPG-4300H-DX<br>TPG-6000H-DX<br>TPG-7000H-DXE | 21.7 — 28.9 | 29.4 — 39.2 | 300 — 400 |
| 19 | Muffler Support Bracket-to-Front Cover Screw | M8 | TPG-2900H-DX | 8.7 — 10.8 | 11.8 — 13.7 | 120 — 140 |
| | Muffler Support Bracket-to-Rear Cover Screw | M8 | TPG-4300H-DX<br>TPG-6000H-DX<br>TPG-7000H-DXE | 8.7 — 10.8 | 11.8 — 13.7 | 120 — 140 |
| 21 | Support Bar Screw | M8 | TPG-2900H-DX | 8.7 — 10.8 | 11.8 — 13.7 | 120 — 140 |
| | | M6 | TPG-4300H-DX<br>TPG-6000H-DX<br>TPG-7000H-DXE | 8.7 — 10.8 | 11.8 — 13.7 | 120 — 140 |
| 25 | Ground Wire-to-Frame Screw | M5 | ALL MODELS | 2.9 — 3.3 | 3.9 — 4.4 | 40 — 45 |
| 26 | Vibration Mount Flange Nut | M8 | ALL MODELS | 8.7 — 10.8 | 11.8 — 13.7 | 120 — 140 |

# A. REPLACEMENT OF BATTERY

**WARNING:**

- **DISCONNECT THE SPARK PLUG WIRE FROM THE SPARK PLUG BEFORE WORKING ON THE GENERATOR TO PREVENT INADVERTENT ENGINE START**
- **MAKE SURE THAT YOU DISCONNECT OR REMOVE THE BATTERY WHEN YOU DO MAINTENANCE. EXPLOSIVE HYDROGEN GAS MAY BE PRESENT AROUND THE BATTERY.**
- **SPARKS FROM STATIC ELECTRICITY OR FROM HAND TOOLS CONTACTING BATTERY TERMINALS CAN CAUSE HYDROGEN GAS TO IGNITE, CAUSING INJURY AND BURNS TO NEARBY PERSONNEL.**

**NOTE:**

- Do not disassemble the battery enclosure unit unless disassembly is required to gain access to the affected components.
- Refer to exploded view in Replacement Parts section for parts information. The item numbers in the following procedure are identical to those in the **Replacement Parts** exploded views.
- The model TPG-7000H-DXE generator has a 12-volt DC starting system. Use a 12-volt, garden tractor-type battery as a replacement battery.

(1) Refer to Figure 21 or 22. Remove two wing nuts (79) and clips (78). Remove hold-down plate (76) and two tie-down rods (77) from battery base plate (74).

(2) Remove terminal fasteners from battery terminals.

(3) Remove battery from battery enclosure.

(4) Put replacement battery in battery enclosure.

(5) Place hold-down plate (76) on battery, being careful not to contact the battery terminals.

(6) Insert L-shaped ends of tie-down rods (77) in holes in plate (74) in base of battery enclosure unit.

(7) Put threaded ends of tie-down rods (77) in holes in hold-down plate (76). Install clips (78) and wing nuts (79) on threaded rods to secure battery.

(8) Connect cables to terminals on the battery.

(9) Operate generator to verify that the battery is properly connected.

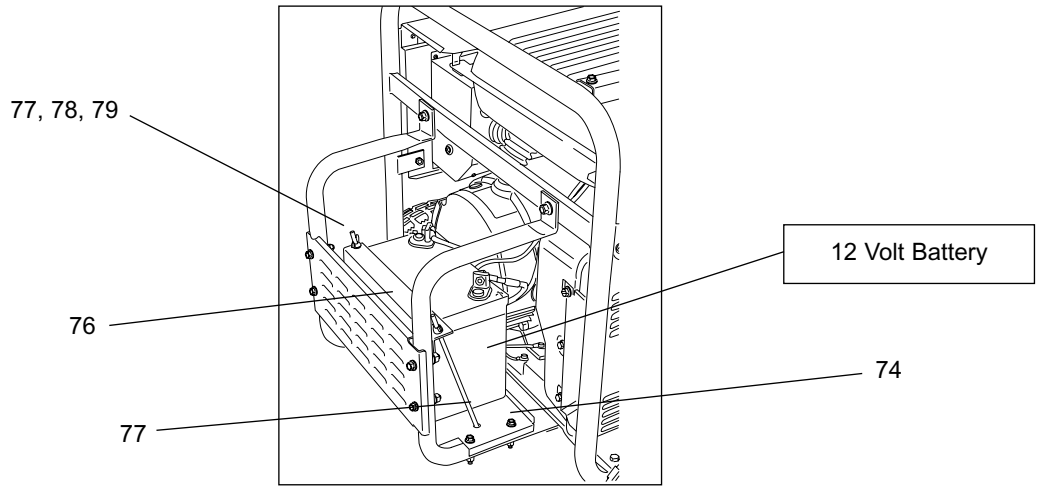



**Figure 21: Battery Enclosure Components**

## B. REMOVAL/INSTALLATION OF BATTERY ENCLOSURE

**WARNING:**

- **MAKE SURE THAT YOU DISCONNECT OR REMOVE THE BATTERY WHEN YOU DO MAINTENANCE. EXPLOSIVE HYDROGEN GAS MAY BE PRESENT AROUND THE BATTERY.**
- **SPARKS FROM STATIC ELECTRICITY OR FROM HAND TOOLS CONTACTING BATTERY TERMINALS CAN CAUSE THE HYROGEN GAS TO IGNITE, CAUSING INJURY AND BURNS TO NEARBY PERSONNEL.**

**NOTE:**

- Do not remove the battery enclosure unit unless required to gain access to other components. If removal of the battery support is required, remove according to the following procedures.

  (1) Remove battery (refer to Replacement of Battery section).

  (2) Refer to Figure 22. Remove two bolt-and-washer assemblies (82) and two self-locking nuts (83) from bottom of frame. Then remove two bolt-and-washer assemblies (80) and two self-locking nuts (81) from top of the frame.

  (3) Remove entire battery enclosure unit and set aside for installation later.

**NOTE:**

- Do not disassemble the battery enclosure unit any further unless disassembly is required to replace damaged battery enclosure components. If necessary, follow procedures beginning with step (4).

  (4) Remove four bolt-and- washer assemblies (82) and four nuts (83) from base plate (74).

  (5) Remove four bolt-and-washer assemblies (84) and four nuts (85) from shield plate (75).

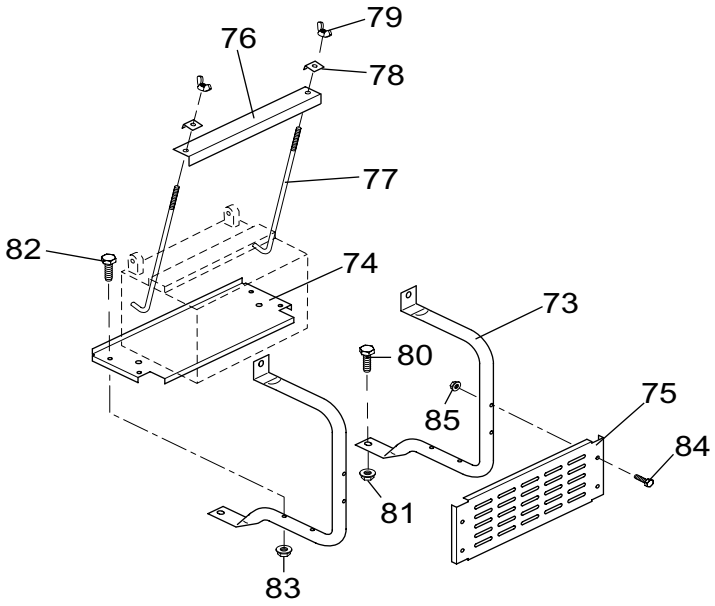



**Figure 22: Battery Enclosure Exploded View**

(6) Perform repair and/or maintenance, then proceed as follows.

(a) Align screw holes in battery base plate (74) with holes in support tubes (73). Install and tighten four bolt-and-washer assemblies (82) and four nuts (83).

(b) Align screw holes in battery shield plate (75) with holes in support tubes (73). Install and tighten four bolt-and-washer assemblies (84) and four nuts (85).

## C. REPLACEMENT OF ENGINE MUFFLER (Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE)

(1) Refer to Figure 23. Disconnect muffler from engine exhaust connection.

(2) Remove screw (H-26) securing the muffler to support bracket (18).

(3) Remove inner shield (H-23) and separate muffler from bracket (18).

(4) Remove spacer (H-37) from the muffler support bracket (18).

(5) Install shield (H-23) and replacement muffler (H-20).

(6) Install spacer (H-37) between the lugs of the support bracket (18). Use a probe (such as a Phillips screwdriver) to align spacer (H-37) with the mounting lugs in the lower muffler support bracket (H-19) with the muffler support bracket (18).

(7) Install bolt (H-35) and washer (H-36) in lower lug of bracket (18). Insert screw far enough to engage the outermost screw threads in the lower support bracket (18); do not tighten screw at this time.

(8) Install new exhaust flange gasket (H-21) and connect exhaust flange to the muffler.

(9) Tighten all fasteners and apply torque to the values shown in Table 10.

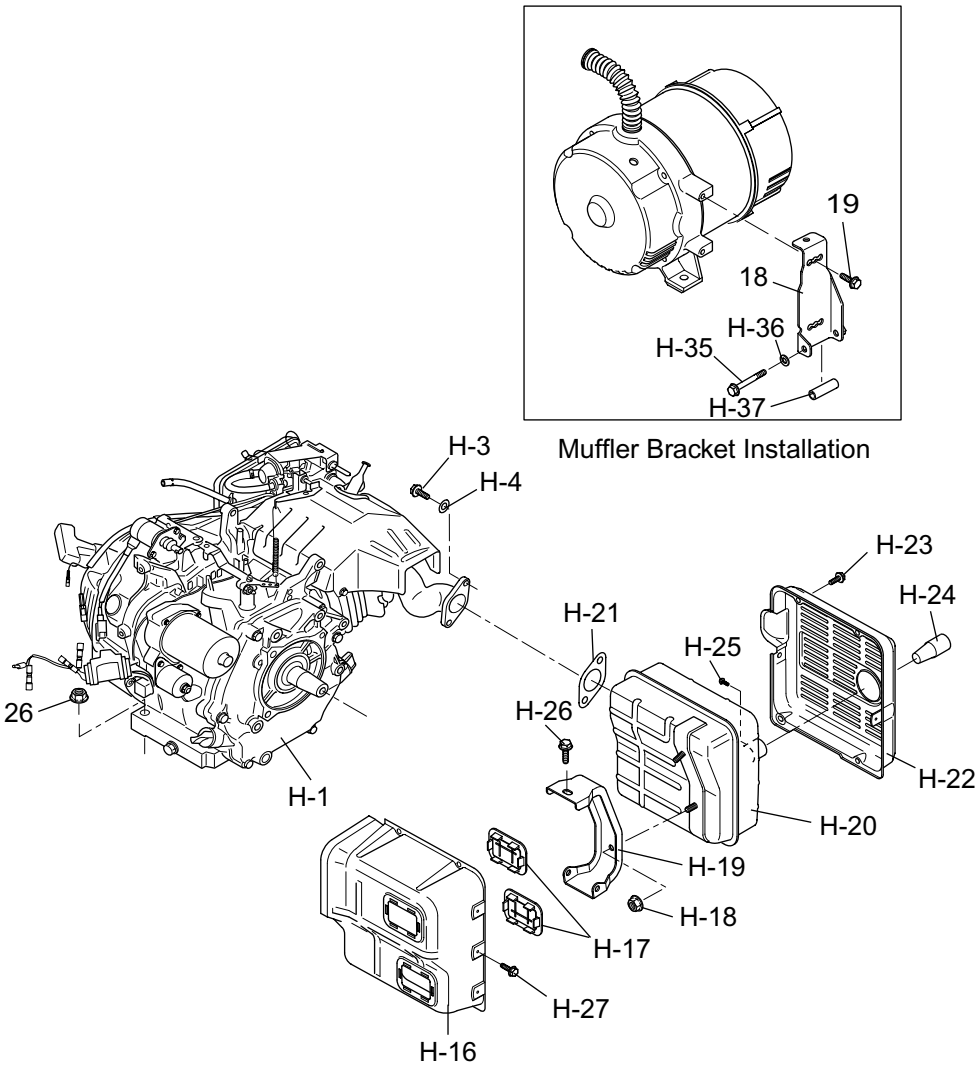



**Figure 23: Replacement of Muffler**
**(Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE)**

## D. REPLACEMENT OF ENGINE MUFFLER (MODEL TPG-2900H-DX)

(1) Refer to Figure 24. Remove fasteners and muffler shields to expose the muffler.

(2) Disconnect muffler from engine exhaust connection.

(3) Remove screw (H-26) from muffler support bracket (18).

(4) Remove inner shield (H-23) and separate muffler from bracket (18).

**NOTE:**

- There are two attachment points on the muffler. The lower support has a lip that fits into a slot in the bracket on the side of the generator. The upper support has a screw hole for securing the muffler to the generator bracket (18).

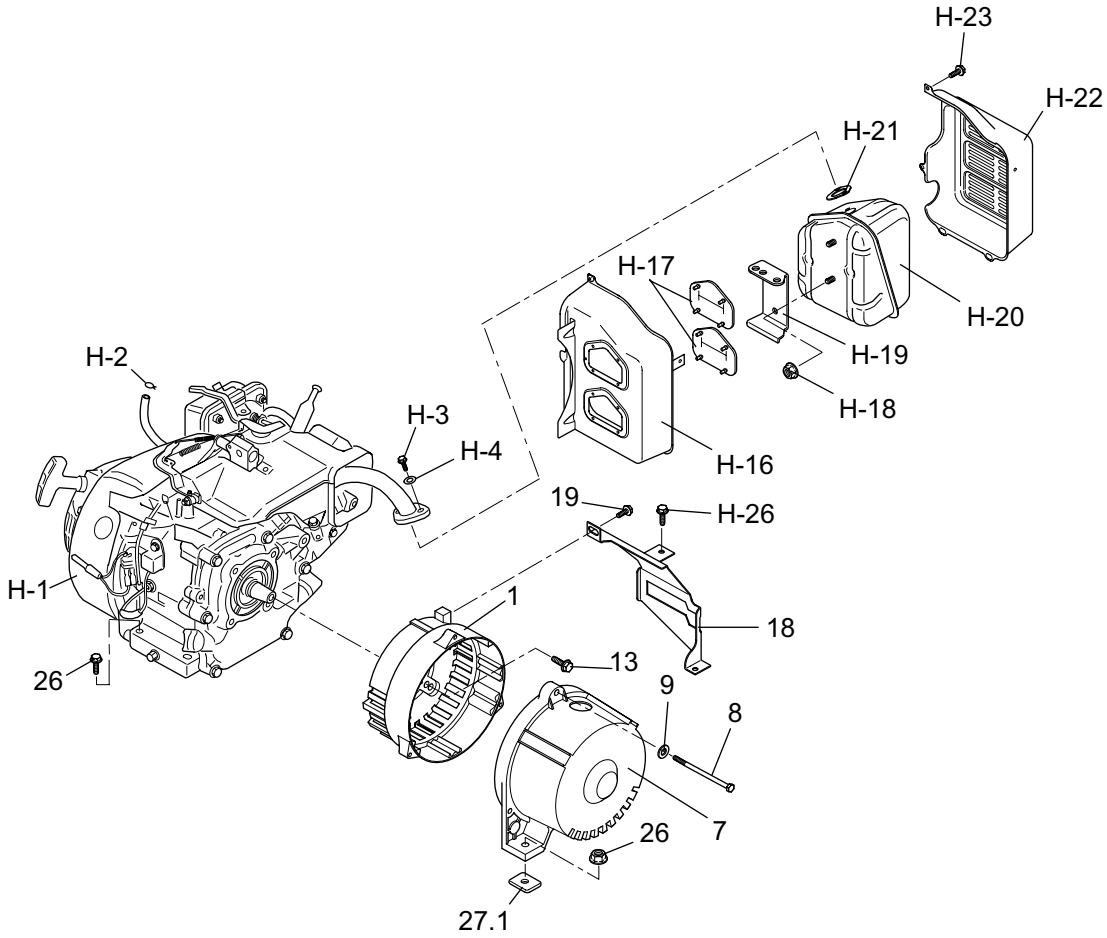



**Figure 24: Replacement of Muffler (Model TPG-2900H-DX)**

(5) After removing screw (H-26), lift the muffler so the lip clears the slot in the generator bracket. Then move the muffler away from the generator bracket.

(6) Install inner shield (H-16) and replacement muffler (H-20).

(7) Install new exhaust flange gasket (H-21) and connect exhaust flange to the muffler.

(8) Align upper screw hole in top of the muffler support with the screw hole in tab of generator bracket (18). Install screw (H-26).

(9) Tighten fasteners to the torque values shown in Table 10.

# E. REPLACEMENT OF FUEL TANK

**WARNING:**

- **DO NOT DRAIN FUEL WHILE SMOKING OR WHILE IN CLOSE PROXIMITY TO OPEN FLAME. ENGINE FUEL (GASOLINE) IS HIGHLY FLAMMABLE AND IF ACCIDENTALLY IGNITED CAN CAUSE SEVERE BURNS AND DEATH.**
- **MAKE SURE THAT YOU DISCONNECT OR REMOVE THE BATTERY BEFORE DRAINING FUEL OR ANYTIME MAINTENANCE WILL INVOLVE HANDLING ENGINE FUEL. ENGINE FUEL IS EXTREMELY FLAMMABLE AND CAN CAUSE SEVERE OR FATAL BURNS IF IGNITED.**
- **MAKE SURE THAT YOU DISCONNECT OR REMOVE THE BATTERY WHEN YOU DO MAINTENANCE. EXPLOSIVE HYDROGEN GAS MAY BE PRESENT AROUND THE BATTERY, AND CAN BE IGNITED BY STATIC ELECTRICITY OR BY CONTACT WITH THE BATTERY TERMINALS.**
- **BE SURE TO FOLLOW LOCAL GASOLINE HANDLING, TRANSPORT, AND FUEL DISPOSAL REGULATIONS.**

(1) Draining the Fuel Tank

(a) It is not necessary to drain the engine fuel tank for the majority of routine maintenance tasks. However, the tank should be drained anytime the generator will be stored or when the fuel tank must be removed for maintenance.

(b) If the engine can be started, start the engine and close the fuel tank shutoff valve (H-13) (refer to Figure 25). Let the engine operate until it is starved of fuel and stops. By doing so, residual fuel in the fuel lines and carburetor will be reduced to a minimum.

(c) Disconnect the fuel hose from the fuel tank shutoff valve (H-13) (refer to Figure 26).

(d) Connect a drain hose to the fuel tank shutoff valve and place the free end of the tube in an approved gasoline container. The container should have a capacity of 4.5 gallons minimum.

(e) Open the fuel shutoff valve (H-13) and allow the fuel to drain from the tank.

(f) Tighten the cap on the fuel container.

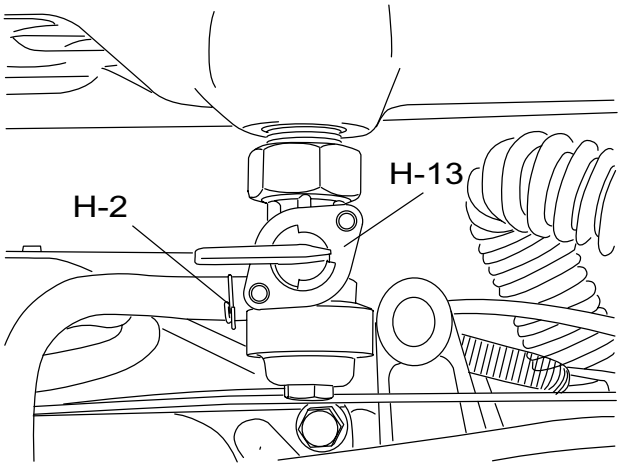



**Figure 25: Fuel Shutoff Valve (Shown in CLOSED Position)**

**WARNING:**

- **DO NOT DRAIN FUEL WHILE SMOKING OR WHILE IN CLOSE PROXIMITY TO OPEN FLAME. ENGINE FUEL (GASOLINE) IS HIGHLY FLAMMABLE AND IF ACCIDENTALLY IGNITED CAN CAUSE SEVERE BURNS AND DEATH.**
- **MAKE SURE THAT YOU DISCONNECT OR REMOVE THE BATTERY BEFORE DRAINING FUEL OR WHENEVER MAINTENANCE WILL INVOLVE HANDLING ENGINE FUEL. ENGINE FUEL IS EXTREMELY FLAMMABLE AND CAN CAUSE SEVERE OR FATAL BURNS IF IGNITED.**
- **MAKE SURE THAT YOU DISCONNECT OR REMOVE THE BATTERY WHEN YOU DO MAINTENANCE. EXPLOSIVE HYDROGEN GAS MAY BE PRESENT AROUND THE BATTERY.**
- **SPARKS FROM STATIC ELECTRICITY OR FROM HAND TOOLS CONTACTING BATTERY TERMINALS CAN CAUSE THE HYROGEN GAS TO EXPLODE, CAUSING INJURY AND BURNS TO NEARBY PERSONNEL.**

**NOTE:**

- Refer to exploded view in **Replacement Parts** section for parts information. The item numbers in the following procedure are identical to those in the **Replacement Parts** exploded views.

(2) Removal of Fuel Tank

(a) Drain fuel from fuel tank (refer to **Draining of the Fuel Tank**).

(b) Remove two bolts (21) from support bar (22) on the muffler side of the generator.

(c) Remove two bolts (H-9) and washers (H-10) from the fuel tank (H-5).

(d) Slip the flange on the opposite side of the fuel tank out of the channel in the front panel (29).

(e) If the fuel tank is being replaced, remove the fuel shutoff valve (H-13), two rubber bushings (H-12), and two bushings (H-11).

(3) Installation of Fuel Tank.

(a) Install parts that were removed from the previously installed tank on the replacement tank.

(b) Slip the flange on the fuel tank into the channel on the back of the front panel (29).

(c) Install two bolts (H-9) and washers (H-10) to secure fuel tank. Tighten fasteners.

(d) Connect fuel tube from engine to fuel shutoff valve.

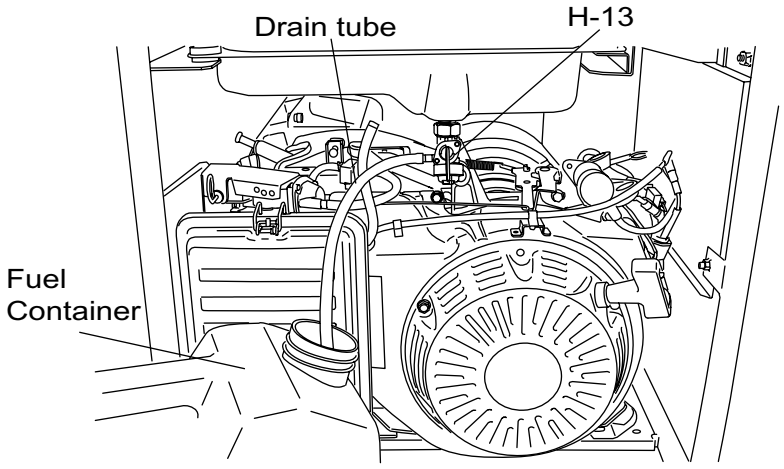



**Figure 26: Draining Fuel from Fuel Tank**

## F. REMOVAL/INSTALLATION OF THE ENGINE AND GENERATOR AS A UNIT

**WARNING:**

- **THE COMBINED WEIGHT OF THE ASSEMBLED ENGINE AND GENERATOR IS APPROXIMATELY 125 POUNDS. USE OF AN OVERHEAD LIFTING DEVICE IS RECOMMENDED.**
- **INJURY TO MAINTENANCE PERSONNEL MAY RESULT FROM ATTEMPTING TO LIFT THE HEAVY ENGINE AND GENERATOR ASSEMBLY FROM THE FRAME WITHOUT THE AID OF A LIFTING DEVICE.**

**NOTE:**

- Refer to exploded view in **Replacement Parts** section for parts information. The item numbers in the following procedure are identical to those in the **Replacement Parts** exploded views.
- Tsurumi recommends that the heavy engine and generator assembly be removed from the frame before removing generator components.
- The engine and generator wires have in-line plug and socket connectors that can be disconnected to take electrical measurements or to allow component replacement. Tag both ends of the wires as they are disconnected. Write the wire color and/or other characteristics (such as color of stripe) on the tag to assure the wires are properly reconnected.

(1) In order to gain access for removal of the generator and engine as a unit, the fuel tank will first need to be drained and removed. (Refer to the procedures in **Draining of the Fuel Tank** and to **Replacement of the Fuel Tank**.)

(2) In addition, the front panel and control box will need to be removed as covered in the procedures that follow.

(3) Tag and disconnect engine wiring from the front panel (29). The engine wiring is in the cable that exits the control box (32).

(4) Remove two screws (11) from the generator brush cover (10). Tag and disconnect generator wiring.

**NOTE:**

- Only Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE have a wiring access plate.

(5) Separate the flexible tube (12) from the rear cover (7). Pull generator wires out of the access opening in the rear cover (7).

(6) Disconnect engine wiring from the generator as required.

(7) Remove four flanged bolts (21) to remove support bar (22).

(8) With engine and generator wiring disconnected, the front panel can now be removed.

(9) Remove four frame bolts (31) from front panel (29).

(10) Remove flanged nuts (26) from generator vibration mounts (27.2).

(11) Remove four flanged nuts (26) from four engine vibration mounts (27). Remove spacers (27.1).

(12) Lift the engine and generator assembly from the frame (28) using an overhead-lifting device.

**CAUTION:**

- **Be sure to protect the engine from damage. Put cushioning material between the engine and the workbench. Use wooden blocks to support the engine and generator assembly during removal and installation of generator components.**

(13) Set engine and generator assembly on the workbench. Position the assembly with the generator end facing up; use support blocks to steady the assembly.

(14) If you are replacing the stator (6), refer to **Replacement of Generator Stator.**

(15) If you are replacing the rotor (2), refer to **Replacement of Rotor.**

(16) If your are replacing the rotor bearing (3), refer to **Replacement of Rotor Bearing.**

(17) If you are replacing the engine (H-1), refer to **Replacement of Engine.**

(18) Install front cover (1) with cooling slots down. Align screw holes and install four bolt and washer assemblies (13).

(19) Tighten bolt and washer assemblies (13) to the torque values shown in Table 10.

**NOTE:**

- Model TPG-2900H-DX uses four vibration mounts of two different part numbers. Two vibration mounts of one part number are used to support the generator. Two vibration mounts of another part number are used to support the engine. Refer to the **Replacement Parts** section for part numbers and location.

- Model TPG-4300H-DX uses six vibration mounts of the same part number to support both the engine and the generator. Refer to the **Replacement Parts** section for part numbers and location.

- Models TPG-6000H-DX and TPG-7000H-DXE use six vibration mounts of two different part numbers. Two vibration mounts of one part number are used to support the generator. Four vibration mounts of another part number are used to support the engine. Refer to the **Replacement Parts** section for part numbers and location.

(20) If vibration mounts (27 and 27.2) are being replaced, first install the mounts on frame (28) as follows:

(a) Install engine vibration mounts (27) and secure to frame (28) with flanged nuts (26).

(b) Install generator vibration mounts (27.2) and secure to frame (28) with flanged nuts (26).

(c) When used, install two spacers (27.1) over the two generator vibration mounts (27.2).

(21) Install assembled engine and generator as a unit over vibration mounts (27 and 27.2).

(22) Install flanged nuts (26) on the engine vibration mounts (27).

(23) Connect engine wiring from the front panel (29) according to the tags attached to the wires during disassembly. (The engine wiring is in the cable that exits the control box (32).)

(24) Install the brush cover (10) and secure with two screws (11).

**NOTE:**

- A wiring access cover (brush cover) is provided only on Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE.

(25) Slip the flexible tube (12) in the hole in the rear cover (7) making sure the groove in the tube is seated in the hole in control box (32) and rear cover (7).

(26) Connect engine wiring to the generator as required. (Refer to the Wiring Diagrams section.)

(27) Install front panel and control box (see **Removal/Installation of Front Panel and Control Box**, fuel tank (see **Replacement of Fuel Tank**), and engine muffler (see **Replacement of Engine Muffler**).

(28) Install four flanged bolts (21) to secure support bars (22).

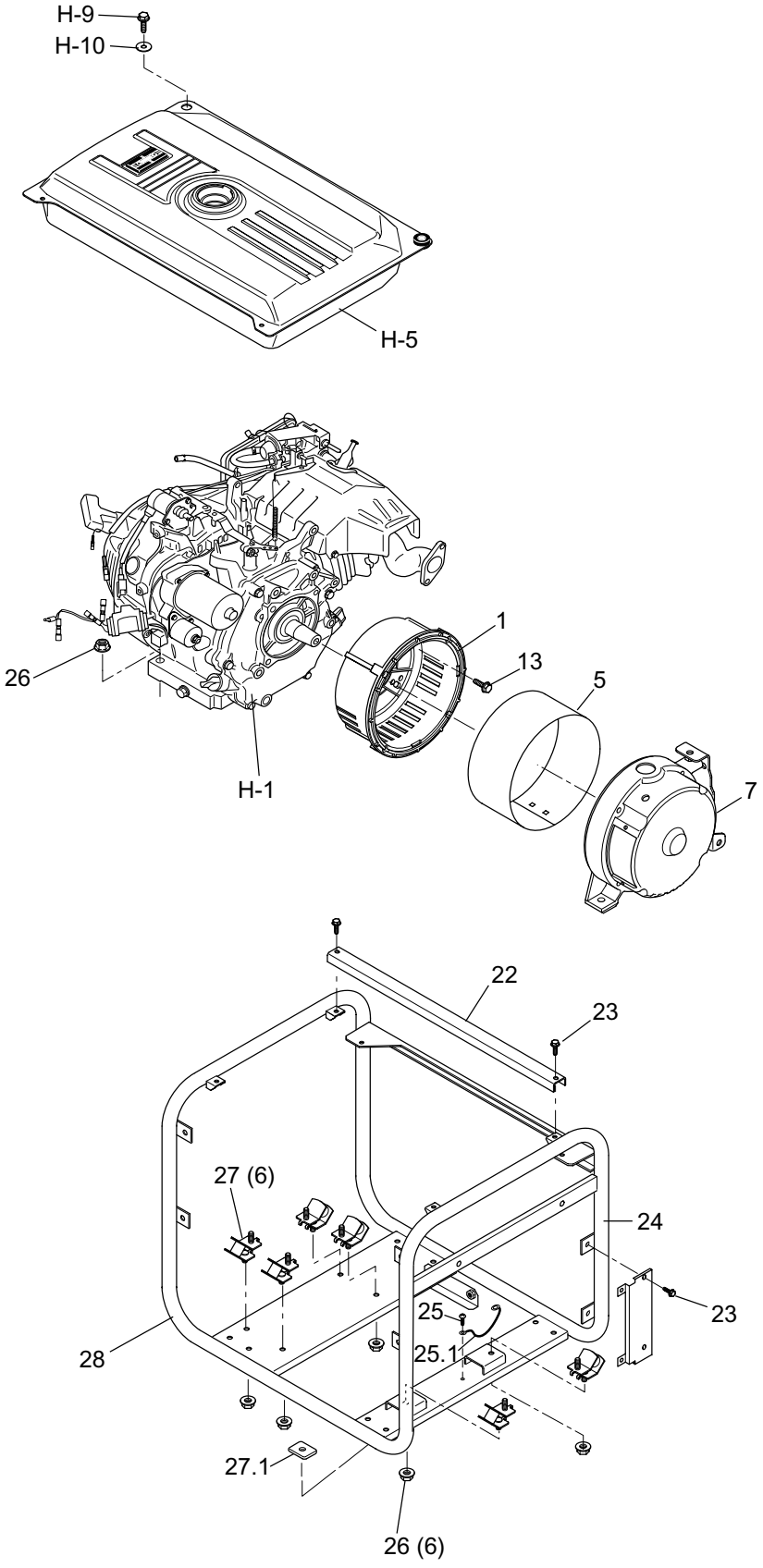



**Figure 27: Removal of Engine and Generator as a Unit**

# G. REPLACEMENT OF GENERATOR STATOR

**NOTE:**

- Refer to exploded view in **Replacement Parts** section for parts information. The item numbers in the following procedure are identical to those in the **Replacement Parts** exploded views.

(1) Drain and remove fuel tank (H-5) (refer to **Replacement of Fuel Tank** for removal instructions).

(2) Remove the muffler (H-20) and shields to gain access to generator (refer to **Replacement of Muffler** for removal instructions).

(3) Remove muffler support bracket (18), (Figure 23) as follows:

(a) **For Model TPG-2900H-DX.** Remove bolt and washer assembly (19), (Figure 24). Remove flanged nut (26) securing bracket (18) to rear cover (7).

(b) **For Model TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE.** Remove two bolt and washer assemblies (19), (Figure 23) securing bracket (18) to rear cover (7).

(4) Remove the flexible tube (12), (Figure 28) from the rear cover (7). Pull the wires out of the access opening in the rear cover. Tag and disconnect the wires.

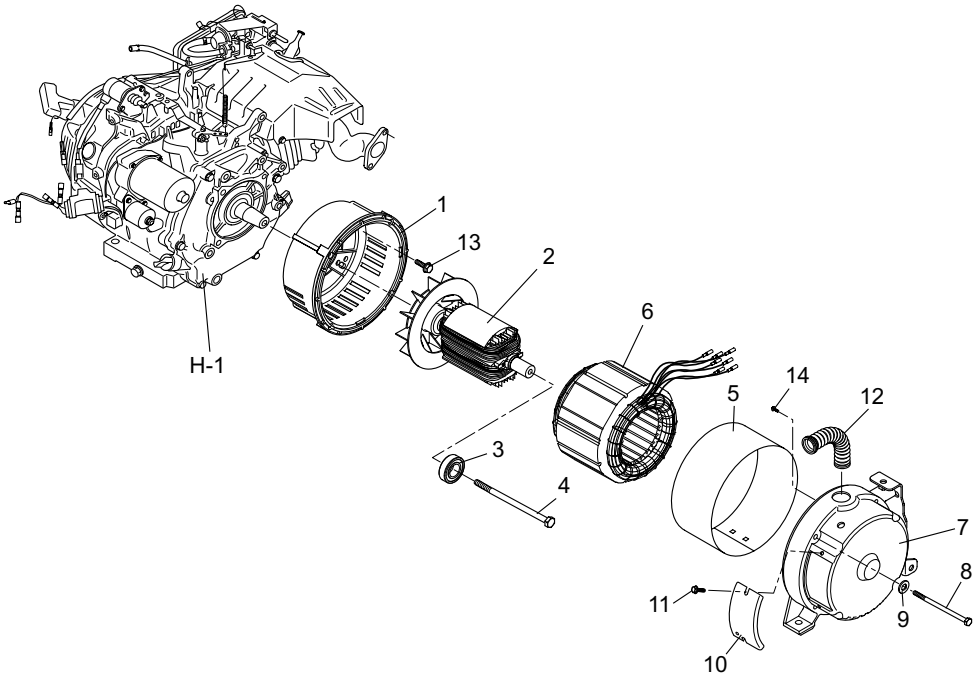



**Figure 28: Replacement of Stator**

(5) Remove bolts (8) and washers (9). Use a plastic, rubber, or other soft-faced hammer to loosen the rear cover (7). Alternately tap upward on the generator mounting lugs until the rear cover can be removed by hand.

(6) With the rear cover loosened, carefully position the rear cover so you have access to ground screw and washer assembly (14).

(7) Remove screw and washer assembly (14) from the lug of the ground wire. Separate the rear cover (7) from the generator.

(8) Remove the stator cover (5).

**WARNING:**

- **TO AVOID BEING INJURED, BE PREPARED TO LIFT THE HEAVY STATOR (APPROXIMATELY 37 POUNDS).**

**NOTE:**

- It is suggested that you have second person assist with stator removal. While you tap upward with the hammer, the other person should lift the stator from the front cover.

(9) Use a plastic, rubber, or other soft-faced hammer to loosen the stator. Tap upward on the side of the laminations. Tap upward and alternate tapping the near side and far side of the stator until loosened enough to remove by hand.

(10) Put the removed stator away from the work area.

(11) Position the replacement stator (6) with the wires as shown in Figure 28. Put stator (6) over rotor (2) and against the front cover (1).

(12) Install stator cover (5) evenly over the stator.

(13) Align the bore in rear cover (7) with the rotor bearing (3). Position the rear cover (7) with the hole for flexible tube (12) aligned with the stator wires.

(14) Route the stator wires through the access hole in the rear cover (7).

(15) Slip the flexible tube (12) over the wires. Put the flexible tube (12) in the wire access hole making sure the groove in the tube is seated in the lip of the wire access hole.

(16) Install cover bolts (8) and washer (9). Tighten bolts (8) in small increments and in an alternating pattern. Tighten the bolts so the stator cover is pulled down evenly against the relief at the edge of the front cover (1) and rear cover (7).

(17) Make sure the thin stator cover is seated all 360 degrees in the relief on both covers.

(18) Tighten fasteners to the torque values shown in Table 10.

## H. REPLACEMENT OF ROTOR BEARING

**NOTE:**

- Refer to exploded view in **Replacement Parts** section for parts information. The item numbers in the following procedure are identical to those in the **Replacement Parts** exploded views.

(1) Remove the generator rear cover (7). (Refer to **Replacement of Stator** for removal instructions.)

**NOTE:**

- Make sure the diameter of the bearing puller threaded rod is larger than the threaded bore in the center of the rotor shaft.

(2) Install a three-jaw gear or bearing puller on the rotor shaft. Make sure all three jaws are under the outer race of the bearing (refer to Figure 29).

(3) Rotate the threaded rod of the bearing puller and remove the bearing (3) from the rotor shaft (2).

(4) Pre-heat an oven to 350° ± 25° Fahrenheit. Place the replacement bearing (3) in the oven for 30 minutes.

**WARNING:**

- **TO AVOID BEING BURNED BY THE HEATED BEARING, WEAR THERMAL-INSULATED GLOVES.**

(5) Wear insulated gloves and remove bearing from the oven. Immediately place the bearing on the rotor shaft. Make sure the bearing is seated against the shoulder of the shaft.

(6) Let the bearing cool to room temperature.

(7) Check the bearing for free rotation.

(8) Install the rear cover (1). (Refer to **Replacement of Stator** for rotor installation instructions.)

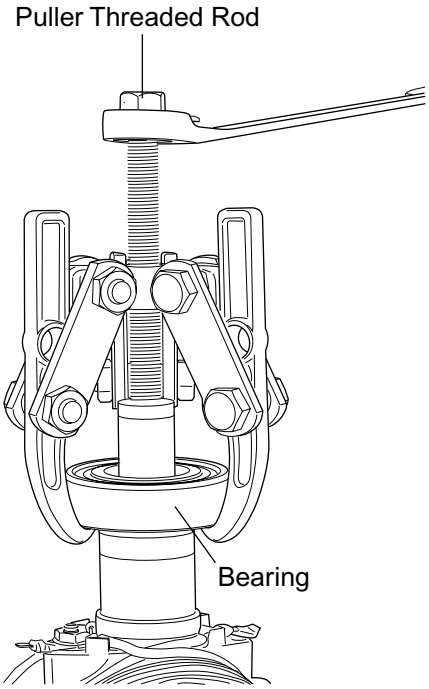



**Figure 29: Bearing Puller in Use**

# I. REPLACEMENT OF ROTOR

(1) The generator stator (6), (Figure 28) must be removed before the rotor (2) can be removed. Refer to **Replacement of Stator** for stator removal instructions.

**NOTE:**

- The rotor (2), (Figure 28) at this point is free to rotate and must be kept from rotating to enable removal of the through bolt (4).

    (2) Restrain the rotor to keep it from rotating.

    (3) Put a box-end wrench on the hex of the through bolt (4).

    (4) Using a plastic, rubber, or other soft-faced hammer, strike the side of the wrench using sharp blows to loosen the through bolt (4).

    (5) When the through bolt (4) is loosened, it can easily be removed.

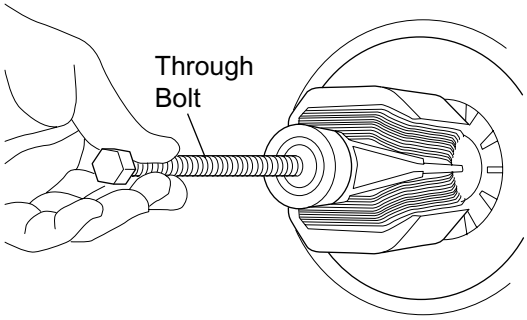



**Figure 30: Removal of Through Bolt**

**NOTE:**

- In the steps that follow, motor oil is used to generate hydraulic pressure. Hydraulic pressure is used to separate the tight-fitting engine and generator shafts.

    (6) Refer to Figure 31. With the generator in the vertical position, pour a small amount of motor oil in the bore in the center of the rotor shaft. (The oil level should be flush with the end of the rotor shaft.)

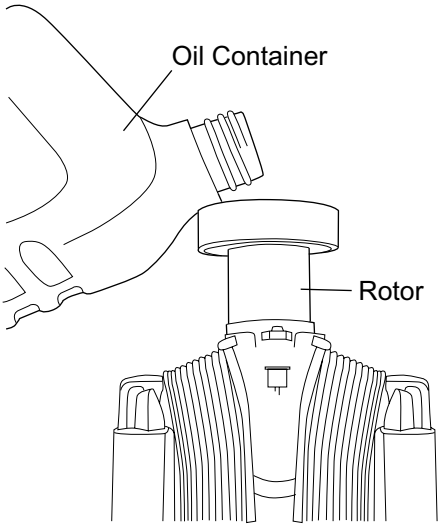



**Figure 31: Pouring Oil in Rotor Shaft**

(7) Refer to Figure 32. Wrap electrical tape around the threads of a bolt to form a seal; do not put tape on the first two threads of the bolt.

(a) **For Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE**, use a 12mm, 1.5-pitch bolt with a 25mm thread length.

(b) **For Model TPG-2900H-DX**, use a 10mm, 1.5 pitch bolt with a 25 mm thread length.

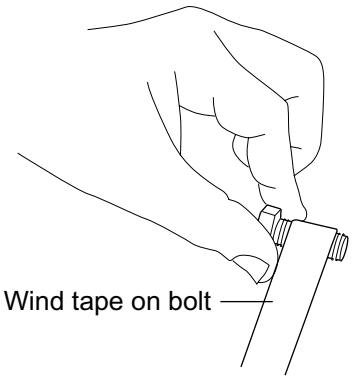



**Figure 32: Wrapping Bolt with Tape**

**NOTE:**

- Have shop towels available to wipe up spilled oil.

(8) Install the bolt in the center of the rotor shaft refer (to Figure 33). Turn the bolt into the shaft; the force required to turn the bolt will increase as the pressure increases.

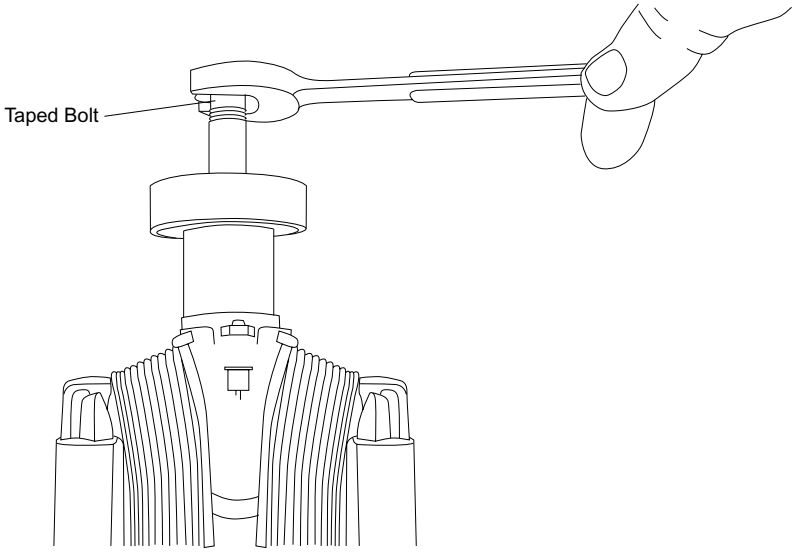



**Figure 33: Tightening of Through Bolt for Separation of Engine and Generator**

(9) When the shafts separate, place the rotor on a shop towel and let the oil drain from the shaft. Wipe up oil that drained into the front cover.

(10) The front cover may remain installed unless it is damaged or the engine is being replaced. To remove the front cover, remove four bolt and washer assemblies (13), (Figure 34).

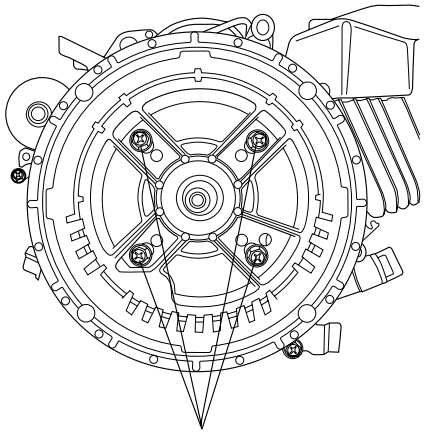



**Figure 34: Front Cover Bolts**

(11) If the front cover was removed, position front cover with cooling air slots on the bottom of the generator. Secure with four bolt and washer assemblies (13). Tighten to the torque values shown in Table 10.

(12) Complete assembly of the generator as follows:

(a) Install rotor (2). (Refer to **Replacement of Rotor** for rotor installation procedures.)

(b) If bearing (3) was removed, install according to the bearing installation procedures in **Replacement of Rotor Bearing**.

(c) Install the stator (6), stator cover (5), and rear cover. (Refer to **Replacement of Generator Stator** for installation procedures.)

# J. REPLACEMENT OF FRONT PANEL COMPONENTS

(1) Removal/Installation of Front Panel and Control Box

**NOTE:**

- To ease the replacement of components, drain and remove the fuel tank and remove the front panel and/or control box (32) from the frame.

    (a) Refer to Figure 35. Remove four screw and washer assemblies (34) to separate control box (32) from front panel (29).

    (b) Disconnect flexible tube (12) from rear cover (7).

    (c) Tag and disconnect generator wires. Pull generator wires free from the control box (32).

**CAUTION:**

- **Carefully remove the front panel from the frame to avoid damage to wiring and/or electrical or electronic components.**
- **Use care to avoid damage by the wire loop that passes through the coil on the idle control unit.**

    (d) Remove four frame bolts (31) at the corners of the front panel (29). Separate the front panel (29) from the frame.

    (e) Replace panel-mounted or control box-mounted components as applicable.

    (f) After replacing the panel-mounted component, connect generator and engine wires using the tags as a guide. Install control box (32) on front panel (29) and secure with screw and washer assemblies (34).

    (g) Install front panel (29) on frame and secure with four frame bolts (31).

(2) Reset Pushbutton (TPG-7000H-DXE Only)

    (a) Refer to Figure 35. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

    (b) Disconnect wiring.

    (c) Remove screws (H-31) and pushbutton (H-30).

    (d) Install replacement pushbutton (H-30) and secure with screws (H-31).

    (e) Connect wiring.

    (f) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

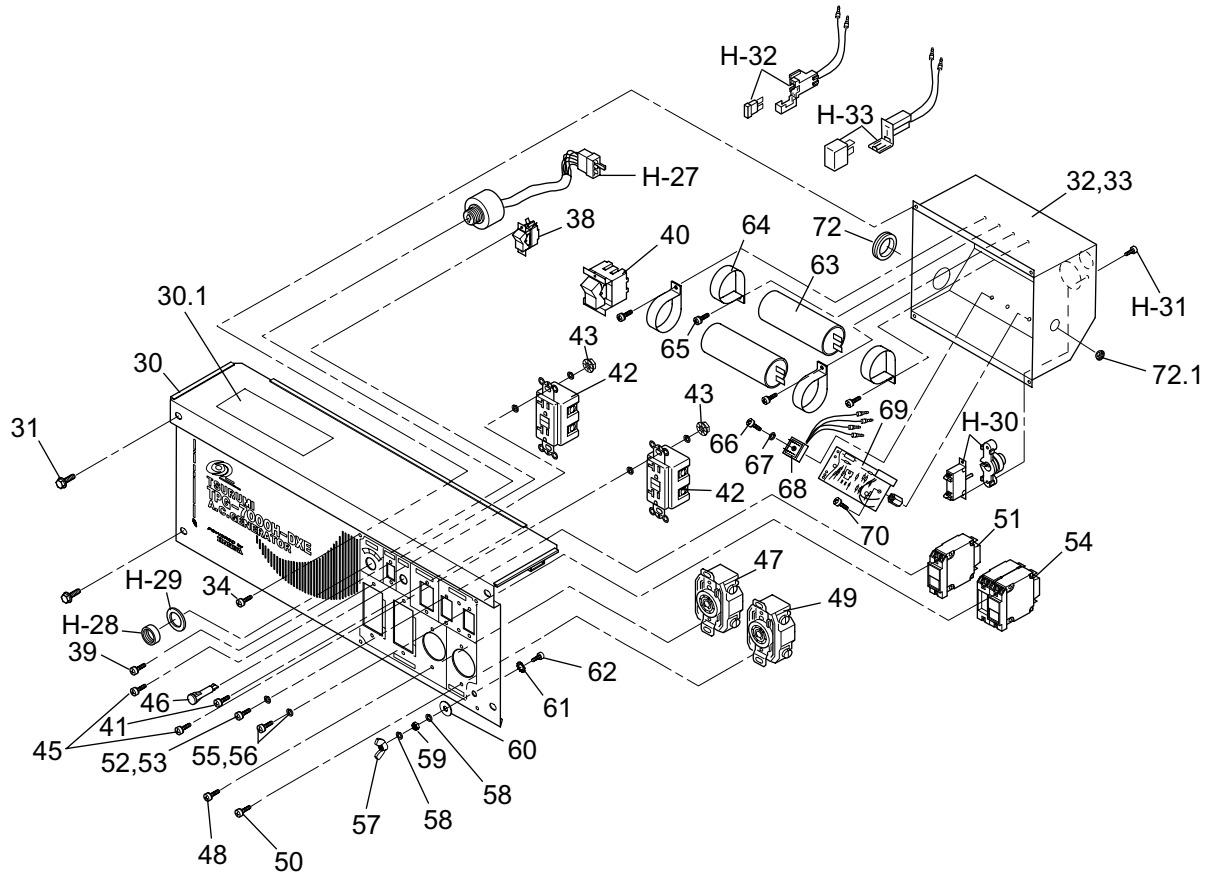



**Figure 35: Front Panel and Control Box Components**
(Model TPG-7000H-DXE Shown)

(3) Overload Protector (TPG-7000H-DXE)

(a) Refer to Figure 35. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(b) Remove overload protector (H-33) from its connector.

(c) Install replacement overload protector (H-33) in its connector.

(d) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(4) DC Fuse (TPG-7000H-DXE)

(a) Refer to Figure 35. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(b) Remove fuse (H-32) from its fuse holder.

(c) Install replacement fuse (H-32) in its fuse holder.

(d) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(5) Engine Start (Key) Switch (TPG-7000H-DXE)

(a) Refer to Figure 35. Remove ring nut (H-28) and fiber washer (H-29). Pull switch (H-27) from backside of front panel (29).

(b) Separate switch from its connector.

(c) Align notch in panel with the key on the switch. Install replacement switch (35) in back side of front panel (29).

(d) Install fiber washer (H-29) and ring nut (H-28). Tighten ring nut (H-28).

(e) Connect switch with mating connector.

(6) Engine Switch (Models TPG-2900H-DX, TPG-4300H-DX and TPG-6000H-DX)

(a) Refer to Figure 36. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(b) Disconnect wiring.

(c) Connect wiring and install replacement switch (35) in back of front panel (29). Secure with screw and washer assemblies (36).

(d) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(7) Pilot Lamp (ALL MODELS)

(a) Refer to Figure 36. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(b) Disconnect wire from pilot light (46). Squeeze inward on tab to release the pilot light (46) from the panel (30).

(c) Install replacement pilot light (46) from front of panel. Install pilot light (46) until the tab snaps into place.

(d) Connect the wire to the pilot light (46).

(e) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(8) Circuit Breaker (51)

(a) Refer to Figure 36. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(b) **For breaker (51)**, remove two screw and washer assemblies (52) and washers (53).

(c) Disconnect wiring.

(d) Connect wiring and install replacement breaker (51) in back of front panel (29). Secure with two screw and washer assemblies (52) and two washers (53).

(9) Circuit Breaker (54)

(a) **For breaker (54)**, remove four screw and washer assemblies (55) and washers (56).

(b) Disconnect wiring.

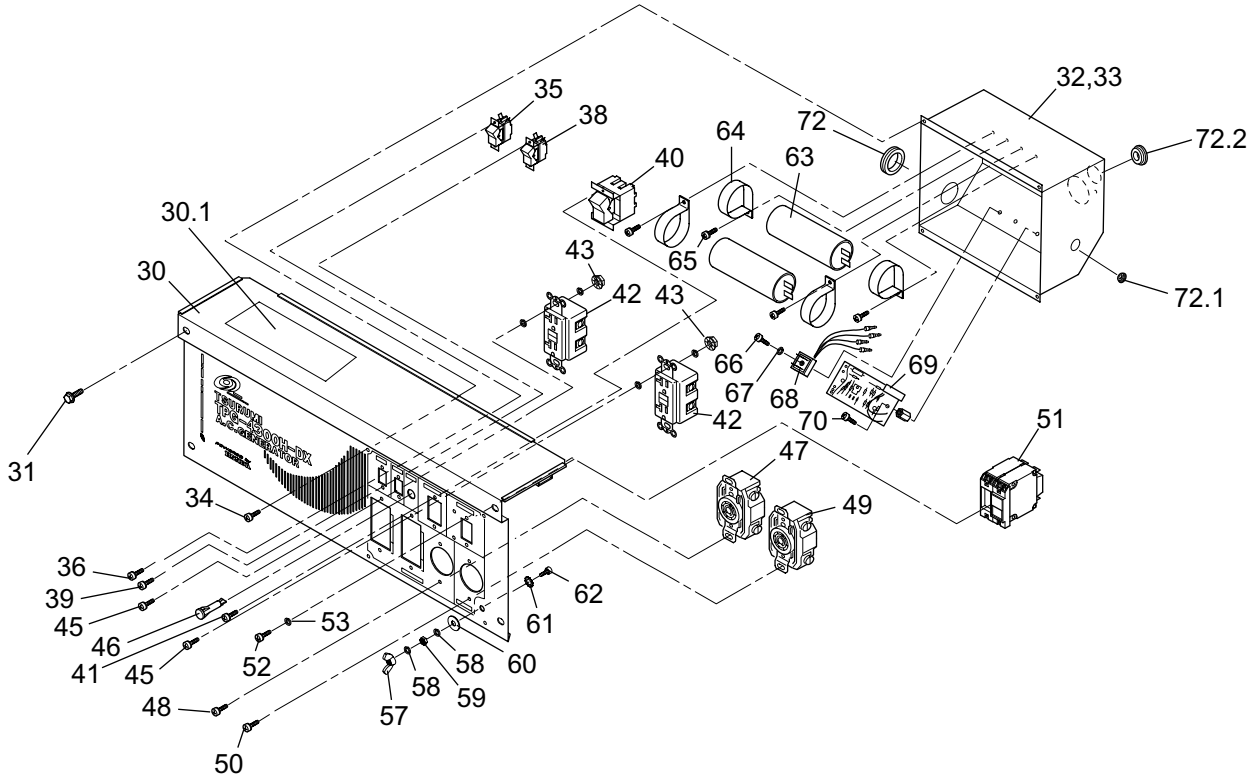



**Figure 36: Front Panel and Control Box Components**
(Model TPG-4300H-DX Shown)

(c) Connect wiring and install replacement breaker (54) in back of front panel (29). Secure with two screw and washer assemblies (55) and two washers (56).

(d) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(10) Idle Control Switch
(Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE)

(a) Refer to Figure 36. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(b) Remove two screw and lock washer assemblies (39) from switch (38).

(c) Disconnect wiring.

(d) Connect wiring and install replacement switch (38) in back of front panel (29). Secure with two screw and lock washer assemblies (39).

(e) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(11) Full-power Switch

(Models TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE)

(a) Refer to Figure 36. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(b) Remove two screw and lock washer assemblies (41) from switch (40).

(c) Disconnect wiring.

(d) Connect wiring and install replacement switch (40) in back of front panel (29) and secure with two screw and lock washer assemblies (41).

(e) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(12) Twist Lock Receptacles

(f) Refer to Figure 36. Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(g) For receptacle (47), remove two screw and lock washer assemblies (48).

(h) Disconnect wiring.

(i) Connect wiring and install replacement receptacle (47) in back of front panel (29) and secure with two screw and lock washer assemblies (48).

(j) For receptacle (49), remove two screw and lock washer assemblies (50).

(k) Disconnect wiring.

(l) Connect wiring and install replacement receptacle (49) in back of front panel (29) and secure with two screw and lock washer assemblies (50).

(m) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(13) GFCI Receptacles

(n) Refer to Figure 36. Remove front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

(o) Remove two screw and lock washer assemblies (45) and receptacle (42).

(p) Disconnect wiring and remove receptacle.

(q) Connect wiring to replacement receptacle.

(r) Install two screw and washer assemblies (45) through screw holes in front panel (29).

(s) Install receptacle (42). Secure with the two screw and washer assemblies (45) and two nuts (43).

(t) Install front panel (29) and control box (32) (refer to **Removal/Installation of Front Panel and Control Box**).

# 7. STORAGE INSTRUCTIONS

**WARNING:**

- **TO AVOID SEVERE BURNS OR FIRE HAZARDS, LET THE ENGINE COOL BEFORE TRANSPORTING IT OR STORING IT INDOORS.**
- **WHEN TRANSPORTING THE GENERATOR, TURN THE FUEL SHUTOFF VALVE TO THE OFF POSITION AND KEEP THE ENGINE LEVEL TO PREVENT FUEL SPILLAGE. FUEL VAPOR OR SPILLED FUEL MAY IGNITE.**

(1) The following procedures should be followed before storing your generator for periods of 6 months or longer.

(a) Carefully drain fuel from the fuel tank; gasoline left in the fuel tank will eventually deteriorate making engine start difficult.

(b) Remove the carburetor float chamber and also drain the carburetor.

(c) Change engine oil.

(d) Check for loose bolts and screws, tighten if necessary.

(e) Clean generator thoroughly with oiled cloth. Spray with preservative if available. **NEVER USE WATER TO CLEAN GENERATOR**!

(f) Pull starter handle until resistance is felt, leaving handle in that position.

(g) Store generator in a well-ventilated, low humidity area.

**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.**
- **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.**

# 8. REPLACEMENT PARTS

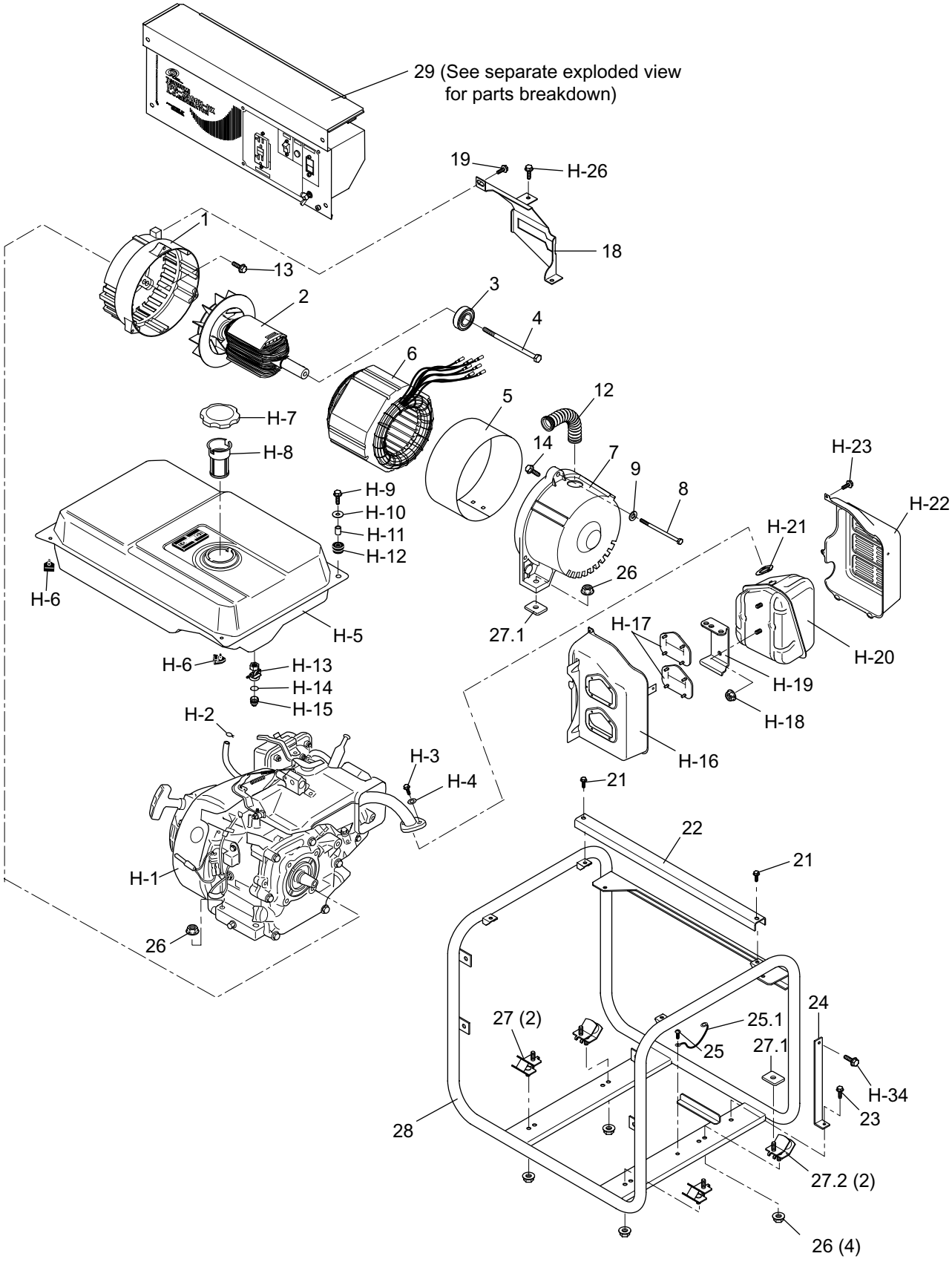
## A. INTRODUCTION

This section provides exploded view illustrations that show the replacement parts for Tsurumi Portable Generators, Models TPG-2900H-DX, TPG-4300H-DX, TPG-6000H-DX, and TPG-7000H-DXE. Also provided are parts listings that provide part number, description, and quantity. The item numbers shown on the illustrations correspond with the item numbers in the facing parts listing.

## B. ORDERING PARTS

Order replacement parts from:

Tsurumi (America), Inc.
845 North Dillon Drive
Wood Dale, IL 60191
Tel: 1-888-878-7864
Fax: 1-630-766-6445
E-mail: info@tsurumiamerica.com



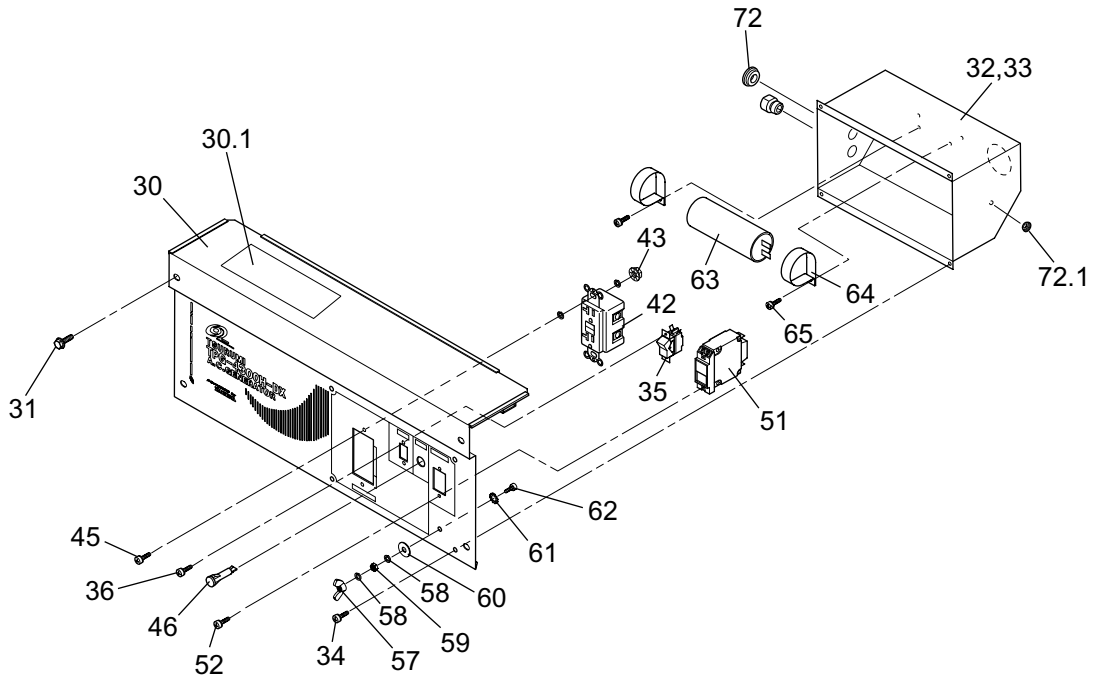

**Exploded View - Generator - Model TPG-2900H-DX**

## Parts List – Generator – Model TPG-2900H-DX

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 1 | G010000790 | Front Cover, Generator | 1 |
| 2 | G020001201 | Rotor (Complete) | 1 |
| 3 | 0006203ZZ0 | Bearing, Ball (6203ZZ) | 1 |
| 4 | 0013508245 | Bolt, Through (M8 X 245) | 1 |
| 5 | G120001202 | Cover, Stator | 1 |
| 6 | G040005812 | Stator | 1 |
| 7 | G080000800 | Rear Cover, Generator (Note 1) | 1 |
| 8 | 0012506110 | Bolt, Cover (M6 X 110) | 3 |
| 9 | 0030306000 | Washer, Spring (M6) | 3 |
| 10 | - - - - - - - - - | - - - - - - - - - | - - - |
| 11 | - - - - - - - - - | - - - - - - - - - | - - - |
| 12 | G070000130 | Tube, Flexible | 1 |
| 13 | 0013708020 | Bolt and Washer Assembly (Front Cover) (M8 X 20) | 4 |
| 14 | 0011203006 | Screw and Washer Assembly (M3 X 6) | 1 |
| 14.1 | C190000950 | Wire, Ground (Not Shown) | 1 |
| 15 | - - - - - - - - - | - - - - - - - - - | - - - |
| 16 | - - - - - - - - - | - - - - - - - - - | - - - |
| 17 | - - - - - - - - - | - - - - - - - - - | - - - |
| 18 | E070000183 | Bracket, Muffler Support (Note 1) | 1 |
| 19 | 0013708020 | Bolt and Washer Assembly (Bracket to Rear Cover) (M8 X 20) | 1 |
| 20 | - - - - - - - - - | - - - - - - - - - | - - - |
| 21 | 0013006010 | Bolt, Flanged (M6 x 10) (Support Bar) | 4 |
| 22 | F020000590 | Bar, Support | 2 |
| 23 | 0011008020 | Bolt, Flanged (M6 X 12) | 1 |
| 24 | E070000120 | Brace (Muffler Shield) | 1 |
| 25 | 0011305008 | Screw and Washer Assembly (M5 X 8 NI) | 1 |
| 25.1 | F070000230 | Cable, Ground | 1 |
| 26 | 0022008000 | Nut, Flanged (M8) | 8 |
| 27 | G060000482 | Mount, Vibration Isolator (Engine) | 2 |
| 27.1 | G150000421 | Spacer | 2 |
| 27.2 | G060000492 | Mount, Vibration Isolator (Generator) | 2 |
| 28 | F011003191 | Frame | 1 |
| 29 | C012011840 | Front Panel (Complete) | 1 |

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| **NOTE 1:** Old rear cover G080000043 is no longer available. When ordering replacement rear cover (7), order new rear cover G080000080 and new muffler support bracket (18) E070000183. | | | |

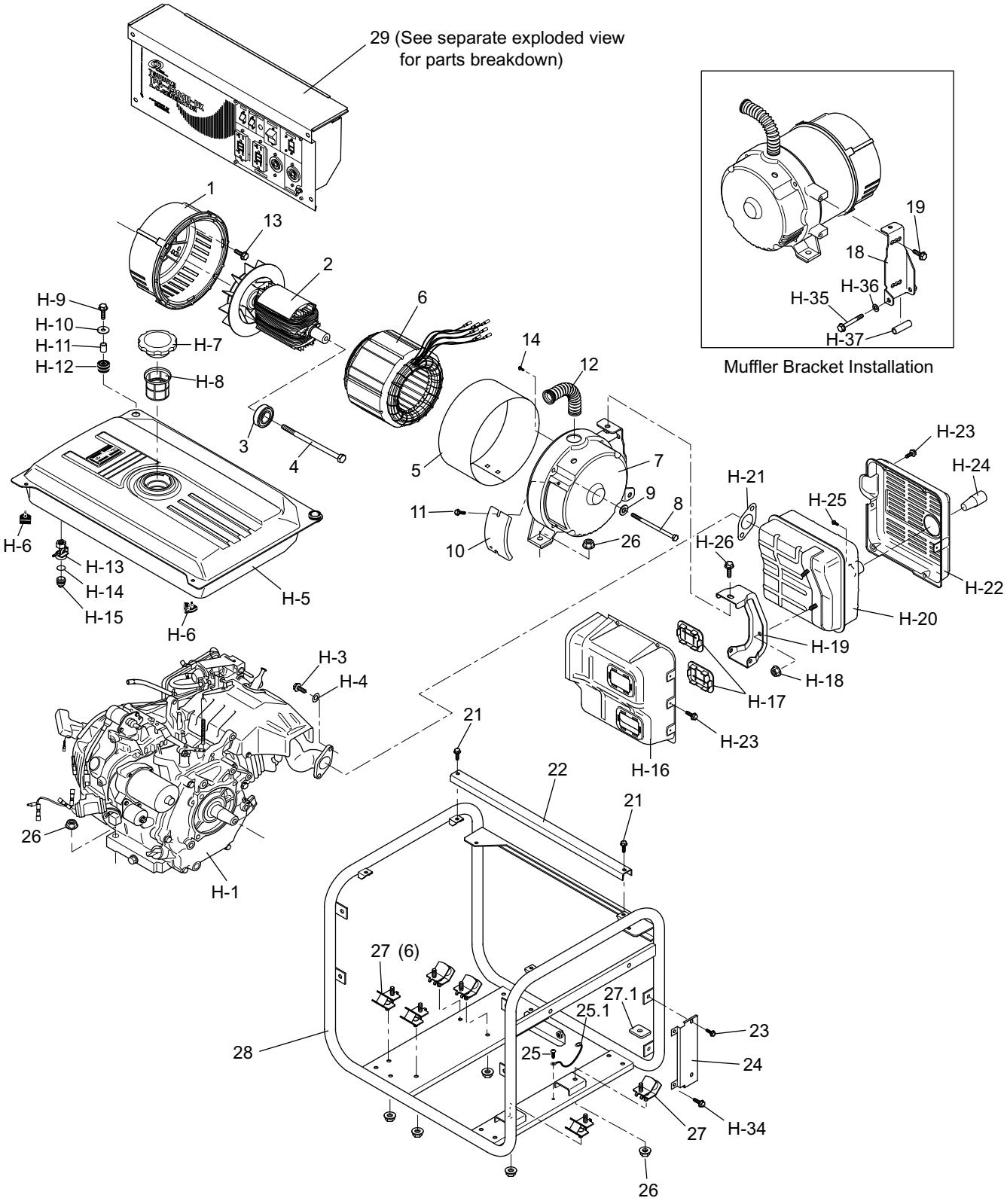
| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| H-1 | GX160K1VED2 | Engine (Honda) | 1 |
| H-2 | - - - - - - - - - | Clamp, Fuel Tube | 1 |
| H-3 | - - - - - - - - - | Bolt, Exhaust Flange | 2 |
| H-4 | - - - - - - - - - | Gasket, Exhaust Flange | 1 |
| H-5 | - - - - - - - - - | Fuel Tank | 1 |
| H-6 | - - - - - - - - - | Cushion | 2 |
| H-7 | - - - - - - - - - | Cap, Filler | 1 |
| H-8 | - - - - - - - - - | Screen, Fuel | 1 |
| H-9 | - - - - - - - - - | Bolt | 2 |
| H-10 | - - - - - - - - - | Washer, Flat | 2 |
| H-11 | - - - - - - - - - | Bushing, Steel | 2 |
| H-12 | - - - - - - - - - | Bushing, Rubber | 2 |
| H-13 | - - - - - - - - - | Valve, Fuel Shutoff | 1 |
| H-14 | - - - - - - - - - | Seal, Sediment Cup | 1 |
| H-16 | - - - - - - - - - | Shield, Inner | 1 |
| H-17 | - - - - - - - - - | Seal | 2 |
| H-18 | - - - - - - - - - | Nut | 2 |
| H-19 | - - - - - - - - - | Support, Muffler | 1 |
| H-21 | - - - - - - - - - | Gasket, Exhaust Flange | 1 |
| H-22 | - - - - - - - - - | Shield, Outer Muffler | 1 |
| H-23 | - - - - - - - - - | Bolt, Flanged (Muffler Shield) | 8 |
| H-24 | - - - - - - - - - | Spark Arrestor | 1 |
| H-25 | - - - - - - - - - | - - - - - - - - - | - - - |
| H-26 | - - - - - - - - - | Screw (Upper Muffler Support) | 1 |
| H-34 | - - - - - - - - - | Screw (Brace to Shields) | 1 |
| **NOTE:** Items prefixed with letter H are Honda Engine parts. Refer to Honda Parts Catalog for part numbers. | | | |




**Exploded View - Front Panel - Model TPG-2900H-DX**

## Parts List – Front Panel – Model TPG-2900H-DX

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 30 | C011017970 | Front Panel (less parts) | 1 |
| 30.1 | C011900180 | Label | 1 |
| 31 | 0013006010 | Bolt, Frame (M6 X 10) | 4 |
| 32 | C020004695 | Control Box (Complete) | 1 |
| 33 | C021103243 | Control Box (less parts) | 1 |
| 34 | 0014305012 | Screw and Washer Assembly (M5 X12) | 4 |
| 35 | SW-3211 | Switch, Engine | 1 |
| 36 | 0013303008 | Screw and Washer Assembly (M3 X 8) | 2 |
| 37 | --------- | --------- | --- |
| 38 | --------- | --------- | --- |
| 39 | --------- | --------- | --- |
| 40 | --------- | --------- | --- |
| 41 | --------- | --------- | --- |
| 42 | GF53BKA | Receptacle, 120V, GFCI | 1 |
| 43 | 0022004000 | Nut, Flanged (M4) | 2 |
| 44 | --------- | --------- | -- |
| 45 | 0013304010 | Screw and Washer Assembly (M4 X 10) | 2 |
| 46 | 01401110G0 | Pilot (Light) | 1 |
| 47 | --------- | --------- | --- |
| 48 | --------- | --------- | --- |
| 49 | --------- | --------- | --- |
| 50 | --------- | --------- | --- |
| 51 | IEGBX618 | Breaker | 1 |
| 52 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 2 |
| 53 | N/A | Washer, Flat (see #52) | 2 |
| 54 | --------- | --------- | --- |
| 55 | --------- | --------- | --- |
| 56 | --------- | --------- | --- |
| 57 | 0021805000 | Wing Nut (M5) | 1 |
| 58 | 0030405000 | Washer, Spring (M5 Ni) | 2 |
| 59 | 0021905000 | Nut, Hex (M5 Ni) | 1 |
| 60 | 0030105000 | Washer, Flat (M5 Ni) | 1 |
| 61 | 0030705000 | Washer, Lock (M5 Ni) | 1 |
| 62 | 0010205015 | Screw, Grounding (M5 X 15Ni) | 1 |
| 63 | C220000440 | Condenser | 1 |
| 64 | C222000010 | Condenser Holder | 2 |
| 65 | 0011204010 | Screw and Washer Assembly (M4 X 10) | 2 |
| 66 | --------- | --------- | --- |
| 67 | --------- | --------- | --- |
| 68 | --------- | --------- | --- |
| 69 | --------- | --------- | --- |
| 70 | --------- | --------- | --- |
| 71 | --------- | --------- | --- |
| 72 | 0321302509 | Grommet | 1 |
| 72.1 | 0321090509 | Grommet | 1 |




**Exploded View - Generator - Model TPG-4300H-DX**

## Parts List – Generator – Model TPG-4300H-DX

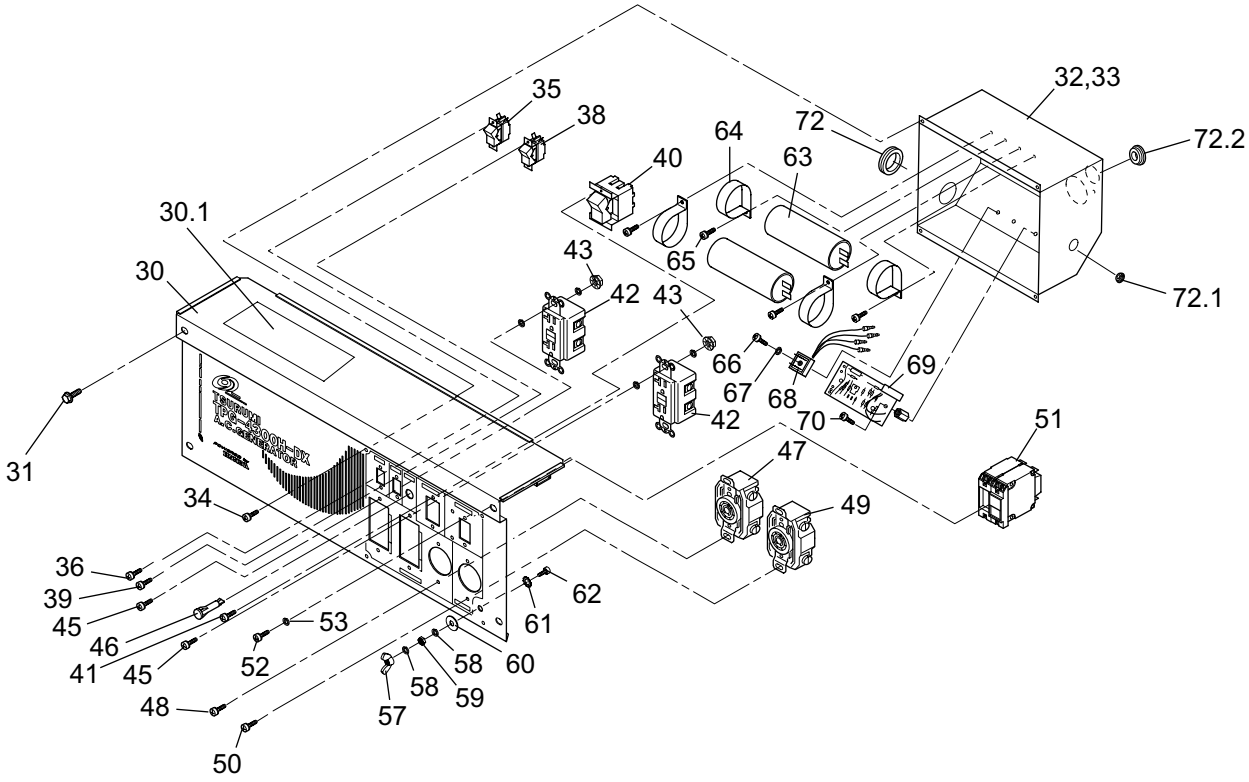
| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 1 | G01000062 | Front Cover, Generator | 1 |
| 2 | G 020001231 | Rotor (Complete) | 1 |
| 3 | 0006205ZZ0 | Bearing, Ball | 1 |
| 4 | 0014810240 | Bolt, Through (Tie-Bolt) (M10 X 260, P1.25) | 1 |
| 5 | G 120001311 | Cover, Stator | 1 |
| 6 | G 040005820 | Stator | 1 |
| 7 | G080001252 | Rear Cover, Generator (Note 1) | 1 |
| 8 | 0013508140 | Bolt, Cover (M8 X 140) | 4 |
| 9 | 0030308000 | Washer, Spring (M8) | 4 |
| 10 | G110000020 | Cover, Brush | 1 |
| 11 | 0013705012 | Bolt and Washer Assembly (M5 X 12) | 2 |
| 12 | G070000130 | Tube, Flexible | 1 |
| 13 | 0013708020 | Bolt and Washer Assembly (Front Cover) (M8 X 20) | 4 |
| 14 | 0011204006 | Screw and Washer (Ground Cable) (M4 X 6) | 1 |
| 14.1 | C190000670 | Wire, Ground (Not Shown) | 1 |
| 15 | - - - - - - - - - | - - - - - - - - - | - - - |
| 16 | - - - - - - - - - | - - - - - - - - - | - - - |
| 17 | - - - - - - - - - | - - - - - - - - - | - - - |
| 18 | E070000230 | Brace, Muffler Support (Note 1) | 1 |
| 19 | 0013708020 | Bolt and Washer Assembly (Bracket to Rear Cover) (M8 X 20) | 2 |
| 20 | - - - - - - - - - | - - - - - - - - - | - - - |
| 21 | 0013006010 | Bolt, Flanged (M6 x10) (Support Bar) | 4 |
| 22 | F020000600 | Bar, Support | 2 |
| 23 | 0013006012 | Bolt, Flanged (M6 x12) | 2 |
| 24 | E070000440 | Brace, Inner Shield | 1 |
| 25 | 0011305008 | Screw and Washer Assembly (M5 X 8 NI) | 1 |
| 25.1 | F070000230 | Cable, Ground | 1 |
| 26 | 0022008000 | Nut, Flanged | 12 |
| 27 | G060000492 | Mount, Vibration Isolator (Engine & Generator) | 6 |
| 27.1 | G150000421 | Spacer | 2 |
| 28 | F011003202 | Frame | 1 |
| 29 | C012011860 | Front Panel (Complete) | 1 |

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|

**NOTE 1:** Old rear cover G080001180 is no longer available. When ordering replacement rear cover (7), order new rear cover G080001252 and new muffler support bracket (18) E070000230.

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| H-1 | GX240K1VED2 | Engine (Honda) | |
| H-2 | - - - - - - - - | Clamp, Fuel Tube (Not Shown) | 1 |
| H-3 | - - - - - - - - | Bolt, Exhaust Flange | 2 |
| H-4 | - - - - - - - - | Gasket, Exhaust Flange | 1 |
| H-5 | - - - - - - - - | Tank, Fuel | 1 |
| H-6 | - - - - - - - - | Cushion | 2 |
| H-7 | - - - - - - - - | Cap, Filler | 1 |
| H-8 | - - - - - - - - | Screen, Fuel | 1 |
| H-9 | - - - - - - - - | Bolt | 2 |
| H-10 | - - - - - - - - | Washer, Flat | 2 |
| H-11 | - - - - - - - - | Bushing, Steel | 2 |
| H-12 | - - - - - - - - | Bushing, Rubber | 2 |
| H-13 | - - - - - - - - | Valve, Fuel Shutoff | 1 |
| H-14 | - - - - - - - - | Seal, Sediment Cup | 1 |
| H-15 | - - - - - - - - | Cup, Sediment | 1 |
| H-16 | - - - - - - - - | Shield, Inner | 1 |
| H-17 | - - - - - - - - | Seal | 2 |
| H-18 | - - - - - - - - | Nut | 2 |
| H-19 | - - - - - - - - | Support, Muffler | 1 |
| H-20 | - - - - - - - - | Muffler | 1 |
| H-21 | - - - - - - - - | Gasket, Exhaust | 1 |
| H-22 | - - - - - - - - | Shield, Outer Muffler | 1 |
| H-23 | - - - - - - - - | Bolt, Flanged (Muffler Shield) | 8 |
| H-24 | - - - - - - - - | Spark Arrestor | 1 |
| H-25 | - - - - - - - - | Screw (Spark Arrestor) | 1 |
| H-26 | - - - - - - - - | Screw (Upper Muffler Support) | 1 |
| H-34 | - - - - - - - - | Screw (Brace to Shields) | 1 |
| H-35 | - - - - - - - - | Bolt | 1 |
| H-36 | - - - - - - - - | Washer | 1 |
| H-37 | - - - - - - - - | Spacer | 1 |

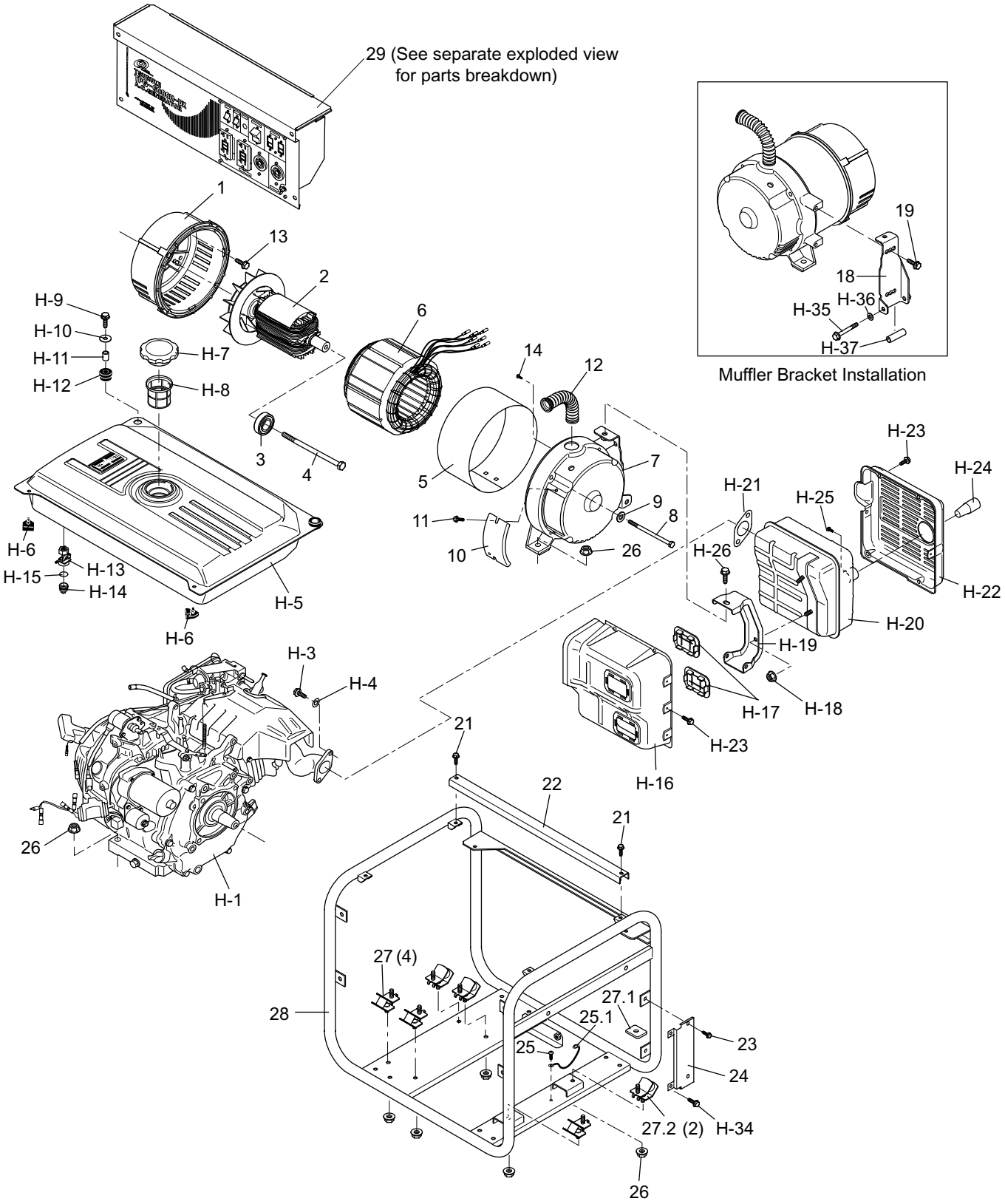
**NOTE:** Items prefixed with letter H are Honda Engine parts. Refer to Honda Parts Catalog for part numbers.




**Exploded View - Front Panel - Model TPG-4300H-DX**

## Parts List – Front Panel – Model TPG-4300H-DX

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 30 | C011017981 | Front Panel (less parts) | 1 |
| 30.1 | C011900180 | Label | 1 |
| 31 | 0013006010 | Bolt, Flanged (M6 X 10) | 4 |
| 32 | C020004706 | Control Box (Complete) | 1 |
| 33 | C021103684 | Control Box (Less Parts) | 1 |
| 34 | 0014305012 | Screw and Washer Assembly (M5 X 12) | 4 |
| 35 | SW3116 | Switch (Engine Stop) | 1 |
| 36 | 0013303008 | Screw and Washer Assembly (M3 X 8) | 2 |
| 37 | - - - - - - - - - | - - - - - - - - - | - - - |
| 38 | SW-3211 | Switch, Idle | 1 |
| 39 | 0013303008 | Screw and Lock Washer Assembly (M3 X 8) | 2 |
| 40 | SW-3832 | Switch, Full Power | 1 |
| 41 | 0013303008 | Screw and Lock Washer Assembly (M3 X 8) | 2 |
| 42 | GF53BKA | Receptacle, 120V, GFCI | 2 |
| 43 | 0022004000 | Nut (M4) | 4 |
| 44 | - - - - - - - - - | - - - - - - - - - | - - |
| 45 | 0013304010 | Screw and Washer Assembly (M4 X 10) | 4 |
| 46 | 01401110G0 | Pilot (Light) | 1 |
| 47 | 0065605130 | Receptacle, 120V, Twist-lock | 1 |
| 48 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 2 |
| 49 | 0065706320 | Receptacle, 120V/240V, Twist-lock | 1 |
| 50 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 2 |
| 51 | IEGBX6614 | Breaker, 20 A | 1 |
| 52 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 4 |
| 53 | N/A | Washer, Flat (see #52) | 4 |
| 54 | - - - - - - - - - | - - - - - - - - - | - - - |
| 55 | - - - - - - - - - | - - - - - - - - - | - - - |
| 56 | - - - - - - - - - | - - - - - - - - - | - - - |
| 57 | 0021805000 | Wing Nut (M5) | 1 |
| 58 | 0030405000 | Washer, Spring (M5 Ni) | 2 |
| 59 | 0021905000 | Nut, Hex (M5 Ni) | 1 |
| 60 | 0030105000 | Washer, Flat (M5 Ni) | 1 |
| 61 | 0030705000 | Washer, Lock (M5 Ni) | 1 |
| 62 | 0010205015 | Screw, Grounding (M5 X 15) | 1 |
| 63 | C220000390 | Condenser Set (2 per set) | 1 |
| 64 | C222000010 | Condenser Holder | 4 |
| 65 | 0011204010 | Screw and Washer Assembly (M4 X 10) | 4 |
| 66 | 0011204018 | Screw and Washer Assembly (M4 X 18) | 1 |
| 67 | - - - - - - - - - | - - - - - - - - - | - - - |
| 68 | 015S15VB10 | Diode Stack | 1 |
| 69 | C150000250 | Idle Control Unit | 1 |
| 70 | 0011204006 | Screw and Washer Assembly (M4 X 6) | 2 |
| 71 | - - - - - - - - - | - - - - - - - - - | - - - |
| 72 | 0321302509 | Grommet | 1 |
| 72.1 | 0321090509 | Grommet | 1 |
| 72.2 | 0321201509 | Grommet | 1 |



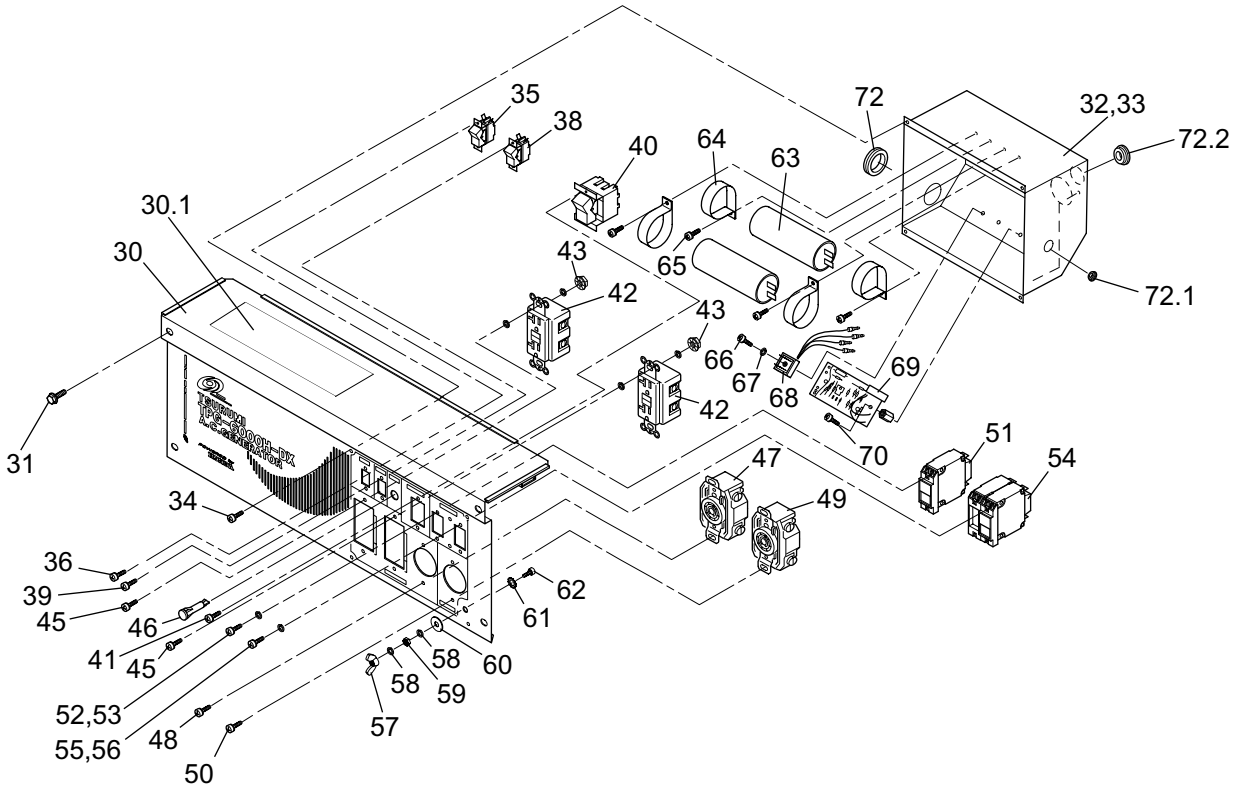

**Exploded View - Generator - Model TPG-6000H-DX**

## Parts List – Generator – Model TPG-6000H-DX

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 1 | G010000551 | Front Cover, Generator | 1 |
| 2 | G020001241 | Rotor (Complete) | 1 |
| 3 | 0006205ZZ0 | Bearing, Ball | 1 |
| 4 | 0014810260 | Bolt, Through (Tie-Bolt) (M10 X 260, P1.25) | 1 |
| 5 | G120001331 | Cover, Stator | 1 |
| 6 | G040005830 | Stator | 1 |
| 7 | G080001262 | Rear Cover, Generator (Note 1) | 1 |
| 8 | 0013508160 | Bolt, Cover (M8 X 160) | 4 |
| 9 | 0030308000 | Washer, Spring (M8) | 4 |
| 10 | G110000020 | Cover, Brush | 1 |
| 11 | 0013705012 | Bolt and Washer Assembly (M5 X 12) | 2 |
| 12 | G070000130 | Tube, Flexible | 1 |
| 13 | 0013708020 | Bolt and Washer Assembly (Front Cover) (M8 X 20) | 4 |
| 14 | 0011204006 | Screw and Washer (Ground Cable) (M4 X 6) | 1 |
| 14.1 | C190000670 | Wire, Ground (Not Shown) | 1 |
| 15 | - - - - - - - - - | - - - - - - - - - | - - - |
| 16 | - - - - - - - - - | - - - - - - - - - | - - - |
| 17 | - - - - - - - - - | - - - - - - - - - | - - - |
| 18 | E070000230 | Bracket, Muffler Support (Note 1) | 1 |
| 19 | 0013708020 | Bolt and Washer Assembly (Bracket to Rear Cover) (M8 X 20) | 2 |
| 20 | - - - - - - - - - | - - - - - - - - - | - - - |
| 21 | 0013006010 | Bolt, Flanged (M6 x10) (Support Bar) | 4 |
| 22 | F020000610 | Bar, Support | 2 |
| 23 | 0013006012 | Bolt, Flanged (M6 x12) | 2 |
| 24 | E070000052 | Brace, Inner Shield | 1 |
| 25 | 0011305008 | Screw and Washer Assembly (M5 X 8 NI) | 1 |
| 25.1 | F070000230 | Cable, Ground | 1 |
| 26 | 0022008000 | Nut, Flanged | 12 |
| 27 | G060000492 | Mount, Vibration Isolator (Engine) | 4 |
| 27.1 | G150000421 | Spacer | 2 |
| 27.2 | G060000482 | Mount, Vibration Isolator (Generator) | 2 |

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| H-1 | GX340K1ED6 | Engine (Honda) | |
| H-2 | - - - - - - - - | Clamp, Fuel Tube (Not Shown) | 1 |
| H-3 | - - - - - - - - | Bolt, Exhaust Flange | 2 |
| H-4 | - - - - - - - - | Gasket, Exhaust Flange | 1 |
| H-5 | - - - - - - - - | Tank, Fuel | 1 |
| H-6 | - - - - - - - - | Cushion | 2 |
| H-7 | - - - - - - - - | Cap, Filler | 1 |
| H-8 | - - - - - - - - | Screen, Fuel | 1 |
| H-9 | - - - - - - - - | Bolt | 2 |
| H-10 | - - - - - - - - | Washer, Flat | 2 |
| H-11 | - - - - - - - - | Bushing, Steel | 2 |
| H-12 | - - - - - - - - | Bushing, Rubber | 2 |
| H-13 | - - - - - - - - | Valve, Fuel Shutoff | 1 |
| H-14 | - - - - - - - - | Seal, Sediment Cup | 1 |
| H-15 | - - - - - - - - | Cup, Sediment | 1 |
| H-16 | - - - - - - - - | Shield, Inner | 1 |
| H-17 | - - - - - - - - | Seal | 2 |
| H-18 | - - - - - - - - | Nut | 2 |
| H-19 | - - - - - - - - | Support, Muffler | 1 |
| H-20 | - - - - - - - - | Muffler | 1 |
| H-21 | - - - - - - - - | Gasket, Exhaust | 1 |
| H-22 | - - - - - - - - | Shield, Outer Muffler | 1 |
| H-23 | - - - - - - - - | Bolt, Flanged (Muffler Shield) | 8 |
| H-24 | - - - - - - - - | Spark Arrestor | 1 |
| H-25 | - - - - - - - - | Screw (Spark Arrestor) | 1 |
| H-26 | - - - - - - - - | Screw (Upper Muffler Support) | 1 |
| H-34 | - - - - - - - - | Screw (Brace to Shields) | 1 |
| H-35 | - - - - - - - - | Bolt | 1 |
| H-36 | - - - - - - - - | Washer | 1 |
| H-37 | - - - - - - - - | Spacer | 1 |

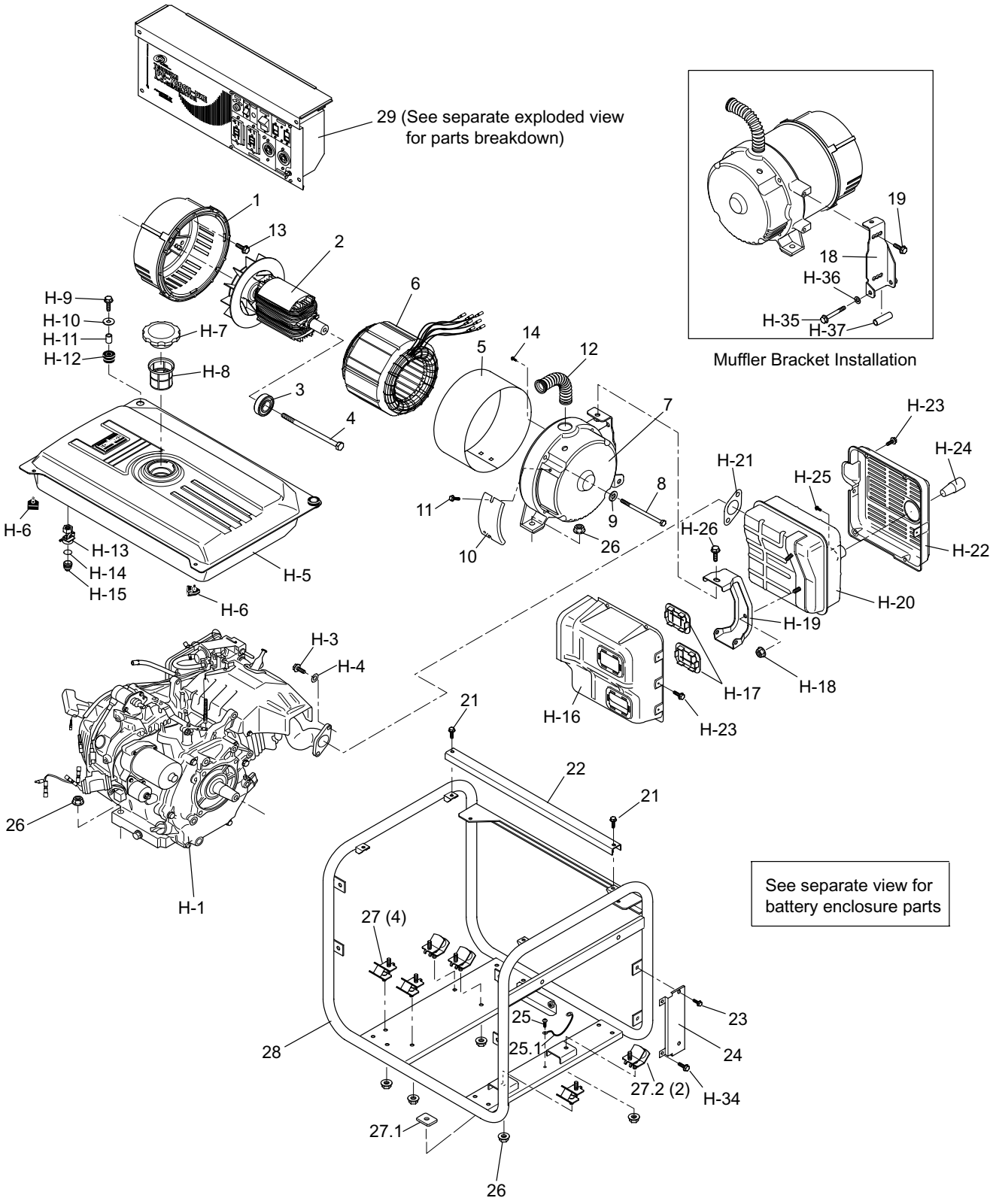
**NOTE:** Items prefixed with letter H are Honda Engine parts. Refer to Honda Parts Catalog for part numbers.




**Exploded View - Front Panel - Model TPG-6000H-DX**

## Parts List – Front Panel – Model TPG-6000H-DX

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 30 | C011017991 | Front Panel (less parts) | 1 |
| 30.1 | C011900180 | Label | 1 |
| 31 | 0013006010 | Bolt, Flanged (M6 X 10) | 4 |
| 32 | C020004716 | Control Box (Complete) | 1 |
| 33 | C021103684 | Control Box (Less Parts) | 1 |
| 34 | 0014305012 | Screw and Washer Assembly (M5 X 12) | 4 |
| 35 | SW-3116 | Switch (Engine Stop) | 1 |
| 36 | 0013303008 | Screw and Lock Washer Assembly (M3 X 8) | 2 |
| 37 | - - - - - - - - - | - - - - - - - - - | - - - |
| 38 | SW-3211 | Switch, Idle | 1 |
| 39 | 0013303008 | Screw and Lock Washer Assembly (M3 X 8) | 2 |
| 40 | SW-3832 | Switch, Full Power | 1 |
| 41 | 0013303008 | Screw and Lock Washer Assembly (M3 X 8) | 2 |
| 42 | GF53BKA | Receptacle, 120V, GFCI | 2 |
| 43 | 0022004000 | Nut (M4) | 4 |
| 44 | - - - - - - - - - | - - - - - - - - - | - - |
| 45 | 0013304010 | Screw and Washer Assembly (M4 X 10) | 4 |
| 46 | 01401110G0 | Pilot (Light) | 1 |
| 47 | 0065605130 | Receptacle, 120V, Twist-lock | 1 |
| 48 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 2 |
| 49 | 0065706320 | Receptacle, 120V/240V, Twist-lock | 1 |
| 50 | 0015130630 | Screw and Washer Assembly (6-32 X 10) | 4 |
| 51 | IEGBX630 | Breaker | 1 |
| 52 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 2 |
| 53 | N/A | Washer, Flat (see #52) | 2 |
| 54 | IEGBX6620 | Breaker | 1 |
| 55 | 0015130510 | Screw and Washer Assembly(6-32 X 10) | 2 |
| 56 | N/A | Washer, Flat (see #55) | 4 |
| 57 | 0021805000 | Wing Nut (M5) | 1 |
| 58 | 0030405000 | Washer, Spring (M5 Ni) | 2 |
| 59 | 0021905000 | Nut, Hex (M5 Ni) | 1 |
| 60 | 0030105000 | Washer, Flat (M5 Ni) | 1 |
| 61 | 0030705000 | Washer, Lock (M5 Ni) | 1 |
| 62 | 0010205015 | Screw, Grounding (M5 X 15Ni) | 1 |
| 63 | C220000131 | Condenser Set (2 per set) | 1 |
| 64 | C222000010 | Condenser Holder | 4 |
| 65 | 0011204010 | Screw and Washer Assembly (M4 X 10) | 4 |
| 66 | 0011204018 | Screw and Washer Assembly (M4 X 18) | 1 |
| 67 | - - - - - - - - - | - - - - - - - - - | - - - |
| 68 | 015S15VB20 | Diode Stack | 1 |
| 69 | C150000250 | Idle Control Unit | 1 |
| 70 | 0011204006 | Screw and Washer Assembly (M4 X 6) | 2 |
| 71 | - - - - - - - - - | - - - - - - - - - | - - - |
| 72 | 0321302509 | Grommet | 1 |
| 72.1 | 0321090509 | Grommet | 1 |
| 72.2 | 0321201509 | Grommet | 1 |




**Exploded View - Generator - Model TPG-7000H-DXE**

## Parts List – Generator – Model TPG-7000H-DXE

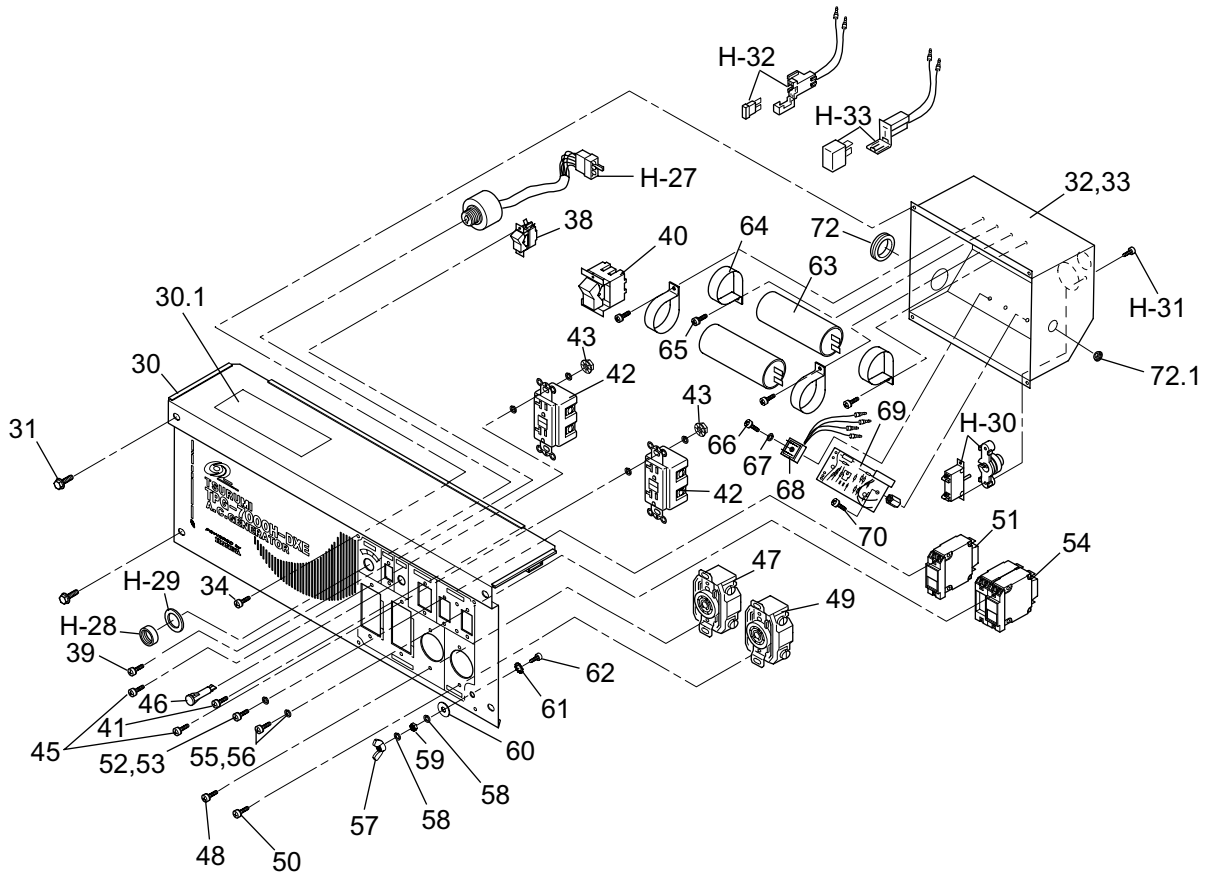
| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 1 | G010000551 | Front Cover, Generator | 1 |
| 2 | G020001591 | Rotor (Complete) | 1 |
| 3 | 0006205ZZ0 | Bearing, Ball | 1 |
| 4 | 0014810270 | Bolt, Through (Tie-Bolt) (M10 X 270, P1.25) | 1 |
| 5 | G120001341 | Cover, Stator | 1 |
| 6 | G040006380 | Stator | 1 |
| 7 | G080001262 | Rear Cover, Generator (Note 1) | 1 |
| 8 | 0013508170 | Bolt, Cover (M8 X 160) | 4 |
| 9 | 0030308000 | Washer, Spring (M8) | 4 |
| 10 | G110000020 | Cover, Brush | 1 |
| 11 | 0013705012 | Bolt and Washer Assembly (M5 X 12) | 2 |
| 12 | G070000130 | Tube, Flexible | 1 |
| 13 | 0013708020 | Bolt and Washer Assembly (Front Cover) (M8 X 20) | 4 |
| 14 | 0011204006 | Screw and Washer (Ground Cable) (M4 X 6) | 1 |
| 14.1 | C190000670 | Wire, Ground (Not Shown) | 1 |
| 15 | | Bolt (Lower Muffler Support) | 1 |
| 16 | | Washer | 1 |
| 17 | | Spacer, Tubular | 1 |
| 18 | E070000230 | Bracket, Muffler Support (Note 1) | 1 |
| 19 | 0013708020 | Bolt and Washer Assembly (M8 X 20) | 1 |
| 20 | --------- | --------- | --- |
| 21 | 0013006012 | Bolt, Flanged (M6 x10) (Support Bar) | 4 |
| 22 | F020000600 | Bar, Support | 2 |
| 23 | 0013006010 | Bolt, Flanged (M6 x12) | 2 |
| 24 | E070000052 | Brace, Inner Shield | 1 |
| 25 | 0011305008 | Screw and Washer Assembly (M5 X 10 NI) | 1 |
| 25.1 | F070000230 | Cable, Ground | 1 |
| 26 | 0022008000 | Nut, Flanged | 12 |
| 27 | G060000492 | Mount, Vibration Isolator (Engine) | 4 |
| 27.1 | G150000421 | Spacer | 2 |
| 27.2 | G060000482 | Mount, Vibration Isolator (Generator) | 2 |

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 28 | F011003215 | Frame | 1 |
| 29 | C012011890 | Front Panel (Complete) | 1 |

**NOTE:** Old rear cover G080001190 is no longer available. When ordering replacement rear cover (7), order new rear cover G080001262 and new muffler support bracket (18) E070000230.

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| H-1 | GX390K1EDD2 | Engine (Honda) | |
| H-2 | -------- | Clamp, Fuel Tube (Not Shown) | 1 |
| H-3 | -------- | Bolt, Exhaust Flange | 2 |
| H-4 | -------- | Gasket, Exhaust Flange | 1 |
| H-5 | -------- | Tank, Fuel | 1 |
| H-6 | -------- | Cushion | 2 |
| H-7 | -------- | Cap, Filler | 1 |
| H-8 | -------- | Screen, Fuel | 1 |
| H-9 | -------- | Bolt | 2 |
| H-10 | -------- | Washer, Flat | 2 |
| H-11 | -------- | Bushing, Steel | 2 |
| H-12 | -------- | Bushing, Rubber | 2 |
| H-13 | -------- | Valve, Fuel Shutoff | 1 |
| H-14 | -------- | Seal, Sediment Cup | 1 |
| H-15 | -------- | Cup, Sediment | 1 |
| H-16 | -------- | Shield, Inner | 1 |
| H-17 | -------- | Seal | 2 |
| H-18 | -------- | Nut | 2 |
| H-19 | -------- | Support, Muffler | 1 |
| H-20 | -------- | Muffler | 1 |
| H-21 | -------- | Gasket, Exhaust | 1 |
| H-22 | -------- | Shield, Outer Muffler | 1 |
| H-23 | -------- | Bolt, Flanged (Muffler Shield) | 8 |
| H-24 | -------- | Spark Arrestor | 1 |
| H-25 | -------- | Screw (Spark Arrestor) | 1 |
| H-26 | -------- | Screw (Upper Muffler Support) | 1 |
| H-34 | -------- | Screw (Brace to Shields) | 1 |
| H-35 | -------- | Bolt | 1 |
| H-36 | -------- | Washer | 1 |
| H-37 | -------- | Spacer | 1 |

**NOTE:** Items prefixed with letter H are Honda Engine parts. Refer to Honda Parts Catalog for part numbers.



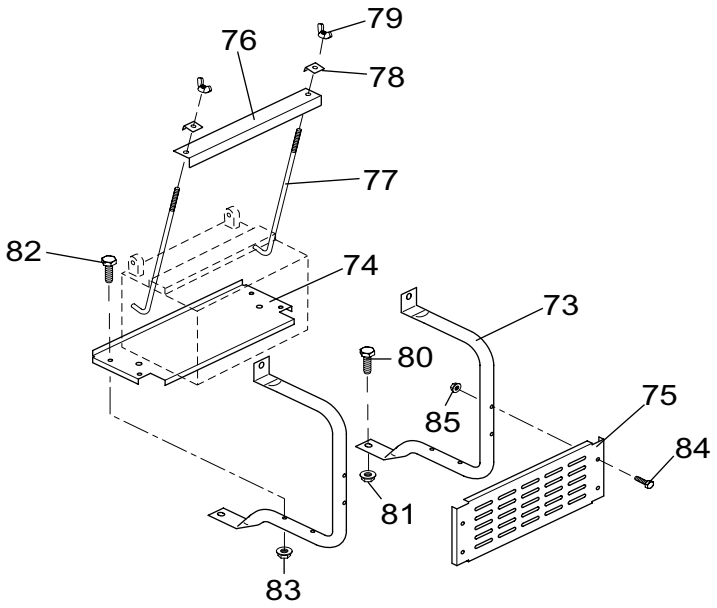

**Exploded View - Front Panel - Model TPG-7000H-DXE**

## Parts List – Front Panel – Model TPG-7000H-DXE

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| 30 | C011018001 | Front Panel (less parts) | 1 |
| 30.1 | C011900180 | Label | 1 |
| 31 | 0013006010 | Bolt, Flanged (M6 X 10) | 4 |
| 32 | C020007853 | Control Box (Complete) | 1 |
| 33 | C021103684 | Control Box (Less Parts) | 1 |
| 34 | 0014305012 | Screw and Washer Assembly (M5 X 12) | 4 |
| 35 | - - - - - - - - - | - - - - - - - - - | - - |
| 36 | - - - - - - - - - | - - - - - - - - - | - - |
| 37 | - - - - - - - - - | - - - - - - - - - | - - |
| 38 | SW-3211 | Switch, Idle | 1 |
| 39 | 0013303008 | Screw and Lock Washer Assembly (M3 X 8) | 2 |
| 40 | SW-3832 | Switch, Full Power | 1 |
| 41 | 0013303008 | Screw and Lock Washer Assembly (M3 X 8) | 2 |
| 42 | GF53BKA | Receptacle, 120V, GFCI | 2 |
| 43 | 0022004000 | Nut (M4) | 4 |
| 44 | - - - - - - - - - | - - - - - - - - - | - - |
| 45 | 0013304010 | Screw and Washer (M4 X 10) | 4 |
| 46 | 01401110G0 | Pilot (Light) | 1 |
| 47 | 0065605130 | Receptacle, 120V, Twist-lock | 1 |
| 48 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 2 |
| 49 | 0065906330 | Receptacle, 120V/240V, Twist-lock | 1 |
| 50 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 2 |
| 51 | IEGBX630 | Breaker | 1 |
| 52 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 2 |
| 53 | N/A | Washer, Flat (see #52) | 2 |
| 54 | IEGBX6622 | Breaker | 1 |
| 55 | 0015130510 | Screw and Washer Assembly (6-32 X 10) | 4 |
| 56 | N/A | Washer, Flat (see #55) | 4 |
| 57 | 0021805000 | Wing Nut (M5) | 1 |
| 58 | 0030405000 | Washer, Spring (M5 Ni) | 2 |
| 59 | 0021905000 | Nut, Hex (M5 Ni) | 1 |
| 60 | 0030105000 | Washer, Flat (M5 Ni) | 1 |
| 61 | 0030705000 | Washer, Lock (M5 Ni) | 1 |
| 62 | 0010205015 | Screw, Grounding (M5 X 15Ni) | 1 |
| 63 | C220000530 | Condenser Set (2 per set) | 1 |
| 64 | C222000010 | Condenser Holder | 4 |
| 65 | 0011204010 | Screw and Washer Assembly (M4 X 10) | 4 |
| 66 | 0011204018 | Screw and Washer Assembly (M4 X 18) | 1 |
| 67 | - - - - - - - - - | - - - - - - - - - | - - |
| 68 | 015S15VB20 | Diode Stack | 1 |
| 69 | C150000250 | Idle Control Unit | 1 |
| 70 | 0011204006 | Screw and Washer Assembly (M4 X 6) | 2 |
| 72 | 0321302509 | Grommet | 1 |
| 72.1 | 0321090509 | Grommet (Not Shown) | 1 |

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| H-27 | - - - - - - - - - | Key Switch, Engine | 1 |
| H-28 | - - - - - - - - - | Nut, Ring (Part of 35) | 1 |
| H-29 | - - - - - - - - - | Washer, Fiber (Part of 35) | 1 |
| H-30 | - - - - - - - - - | Reset Switch | 1 |
| H-31 | - - - - - - - - - | Screw | 2 |
| H-32 | - - - - - - - - - | Fuse Holder with Fuse(15A) | 1 |
| H-33 | - - - - - - - - - | Overload Protector | 1 |

**NOTE:** Items prefixed with letter H are Honda Engine parts. Refer to Honda Parts Catalog for part numbers.




## Parts List – Battery Enclosure – Model TPG-7000H-DXE

## Parts List - Battery Enclosure - Model TPG-7000H-DXE

| Ref. No. | Part Number | Description | Qty |
|---|---|---|---|
| - - - | FU11003215 | Pipe Frame Unit ( Electric (Complete) (Not Shown) | 1 |
| 73 | F200000260 | Tube, Battery Support | 2 |
| 74 | F080000300 | Base Plate, Battery | 1 |
| 75 | F241000050 | Plate, Battery Shield | 1 |
| 76 | F090000130 | Plate, Battery Hold-down | 1 |
| 77 | F100000011 | Rod, Tie Down (M6 X 200) | 2 |
| 78 | F091000031 | Clip | 2 |
| 79 | 0021506000 | Wing Nut (Tie Down) (M6) | 2 |
| 80 | 0013708020 | Bolt and Washer Assembly (Tube-to-Frame) (M8 x 20L) | 4 |
| 81 | 0022008000 | Nut, Self-locking (M8) | 4 |
| 82 | 0013706040 | Bolt and Washer Assembly (Base Plate-to-Tube) (M6 X 40L) | 4 |
| 83 | 0022006000 | Nut, Self-locking (M6) | 4 |
| 84 | 0013706040 | Screw and Washer Assembly (Shield to Tube) (M6 X 40L) | 4 |
| 85 | 0022006000 | Nut, Self-locking (M6) | 4 |
| 86 | B040000451 | Cord, Battery (Not Shown) | 2 |

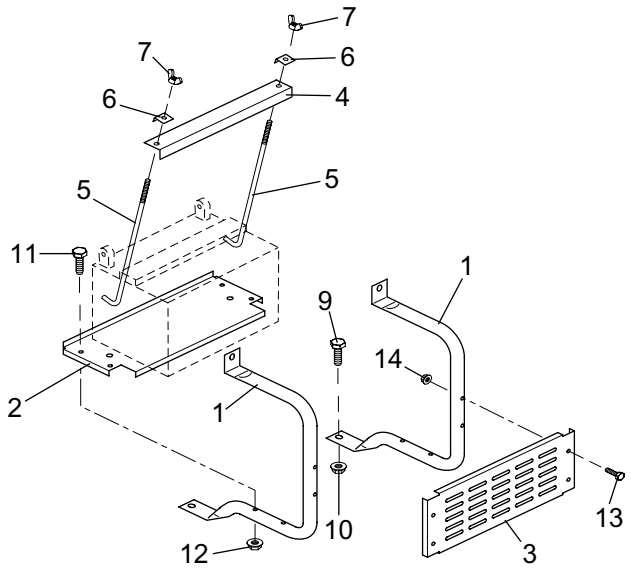
**NOTE**: Components listed above are available in Kit BTKTPG7000.

# APPENDIX A

# BATTERY ENCLOSURE KIT ASSEMBLY AND INSTALLATION INSTRUCTIONS

# FOR TSURUMI MODEL TPG-7000H-DXE PORTABLE GENERATOR

# ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR TSURUMI PORTABLE GENERATOR BATTERY ENCLOSURE




| Ref. | Part No. | Description | Qty |
|---|---|---|---|
| 1 | F200000260 | Tube, Battery Support | 2 |
| 2 | F080000300 | Base Plate, Battery | 1 |
| 3 | F241000050 | Plate, Battery Shield | 1 |
| 4 | F090000130 | Plate, Battery Hold-down | 1 |
| 5 | F100000011 | Rod, Hold-down | 2 |
| 6 | F091000031 | Clip | 2 |
| 7 | 0021506000 | Nut, Wing | 2 |
| 8 | - - - - - - | - - - - -- | - - - |
| 9 | 0013708020 | Bolt and Washer Assembly (Tube-to-Frame) (M8X20L) | 4 |

| Ref. | Part No. | Description | Qty |
|---|---|---|---|
| 10 | 0022006000 | Nut, Self-Locking | 4 |
| 11 | 0013706040 | Bolt and Washer Assembly (Base Plate-to-Tube) | 4 |
| 12 | 0022006000 | Nut, Self-Locking | 4 |
| 13 | 0013706040 | Bolt and Washer Assembly (Shield to Tube) | 4 |
| 14 | 0022006000 | Nut, Self-Locking | 4 |

## CHECK KIT CONTENTS

Check to make sure the parts listed above are included in the kit. Contact Tsurumi to obtain any missing parts.

## ASSEMBLY OF BATTERY ENCLOSURE

1. Align holes in base plate (2) with holes in battery support tube (1). Install two bolts (9) and two nuts (10).

2. Repeat step 1 for second battery support tube (1).

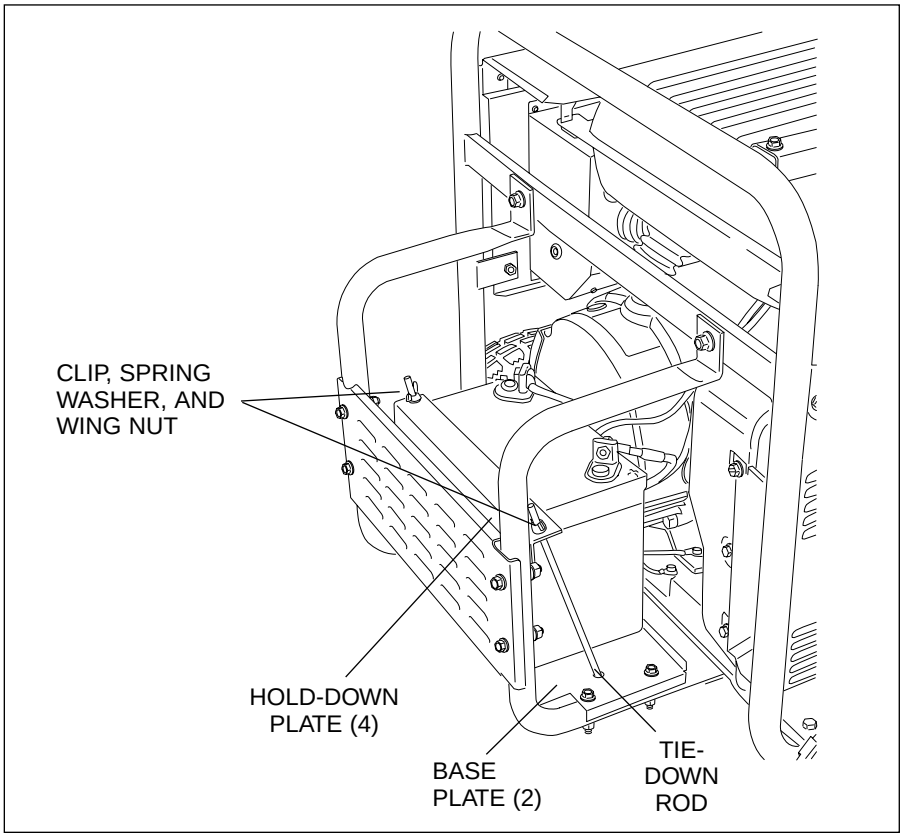
3. Align holes in plate (3) with holes in battery support tubes (1). Install four bolts (13) and four nuts (14). Tighten all fasteners.

## INSTALLATION OF BATTERY ENCLOSURE

1. Position assembled enclosure on crossover support on bottom of generator frame. Install two bolts (11) through support tubes (1) and generator frame. Install and tighten nuts (12).

2. Align holes in support tubes (1) with holes in upper frame. Install two bolts (13) and nuts (14).

3. Check to make sure all bolts and nuts are tight.




## INSTALLATION OF BATTERY

1. Set battery on base plate (2). Place hold-down plate (4) on front edge of battery.

2. Install hooked end of tie-down rods (5) in holes in base plate (2). Put threaded ends of tie-down rods (5) up through holes in hold-down plate (4).

3. Install raised edge clips (6) toward terminals. Install wing nuts (7) on tie down rods. Tighten wing nuts (7).

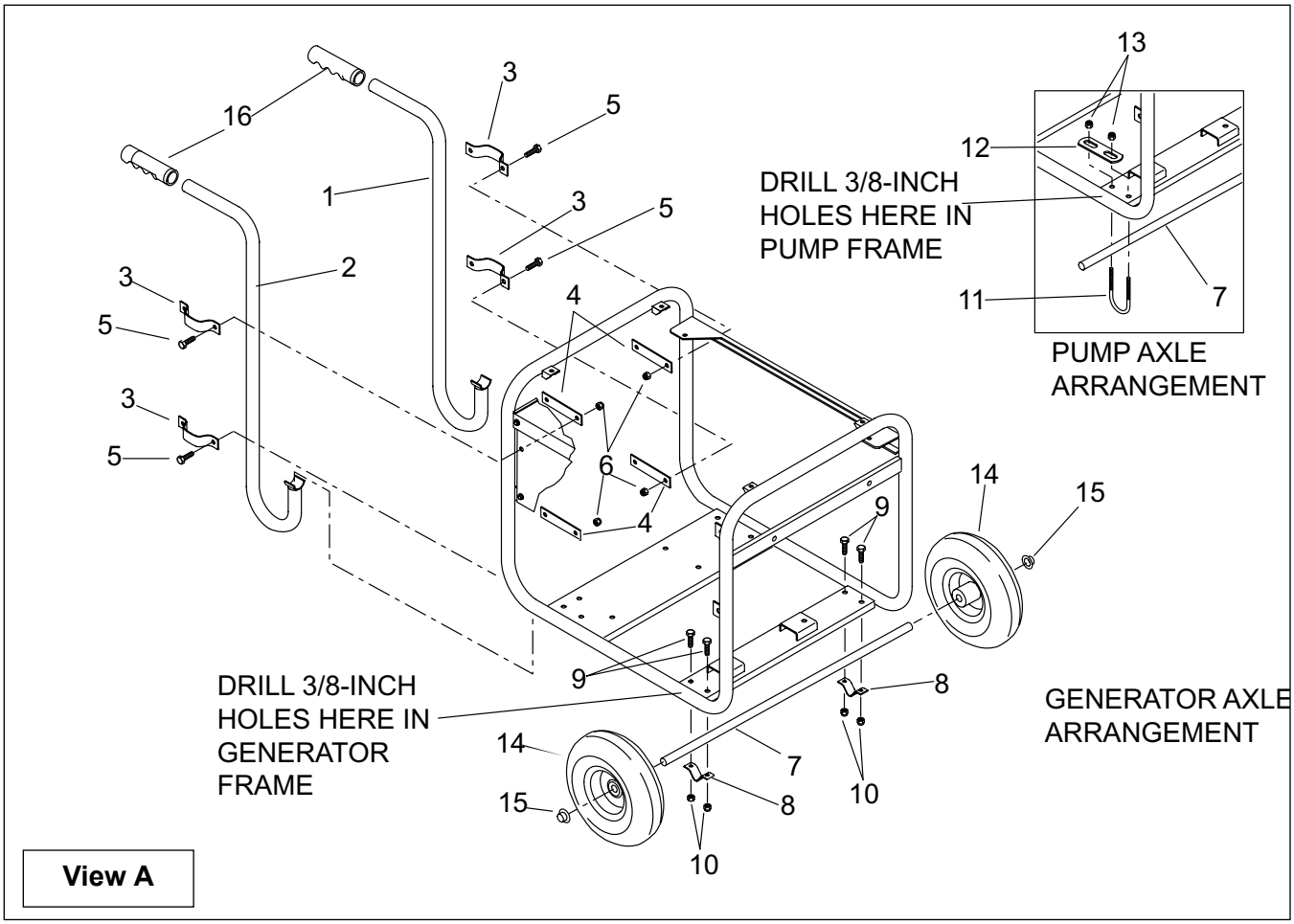
4. Connect battery cables to terminals.

5. Start the generator to verify that the battery is properly connected.

# APPENDIX B

# PGWK-100 WHEEL KIT INSTALLATION INSTRUCTIONS

# WHEEL KIT INSTALLATION INSTRUCTIONS FOR TSURUMI GENERATORS AND PUMPS




| Ref. | Part No. | Description | Qty |
|---|---|---|---|
| 1 | PGWK-1 | Handle, Left | 1 |
| 2 | PGWK-2 | Handle, Right | 1 |
| 3 | PGWK-3 | Clamp, Handle | 4 |
| 4 | PGWK-4 | Plate, Handle Clamp | 4 |
| 5 | PGWK-5 | Screw | 8 |
| 6 | PGWK-6 | Nut | 8 |
| 7 | PGWK-7 | Axle | 1 |
| 8 | PGWK-8 | Clamp, Axle | 2 |

| Ref. | Part No. | Description | Qty |
|---|---|---|---|
| 9 | PGWK-9 | Screw | 4 |
| 10 | PGWK-10 | Nut | 4 |
| 11 | PGWK-11 | U-Bolt | 2 |
| 12 | PGWK-12 | Plate, U-Bolt | 2 |
| 13 | PGWK-13 | Nut | 4 |
| 14 | PGWK-14 | Wheel | 2 |
| 15 | PGWK-15 | Cap, Axle | 2 |
| 16 | PGWK-16 | Grip, Handle | 2 |

**KIT CONTENTS**

Check to make sure the following parts are included the kit. Contact Tsurumi to obtain any missing parts.

**DRAIN FLUIDS**

Drain oil from engine and drain fuel from fuel tank to avoid spillage during installation of the wheel kit (refer to Tsurumi Operation, Service, and Repair Manual for draining instructions).

**INSTALL AXLE ON GENERATOR**

1. Position portable generator frame on end (engine downward and generator upward).
2. Place a clamp (8) on the frame cross-member. Use clamp (8) as a template and mark center of the holes in clamp (8) with a center punch.
3. Use the center punch dimple as a guide and drill two 3/8-inch holes through the frame cross-member as shown in View A.
4. Repeat step 2 and 3 for the second set of axle clamp holes.
5. Place axle (7) on frame cross-member. Install two axle clamps (8) over axle (7) and secure with screws (5) and nuts (6). Before tightening screws, make sure axle extends an equal amount from the sides of the generator frame. Tighten nuts (6).

**INSTALL AXLE ON TRASH PUMP**

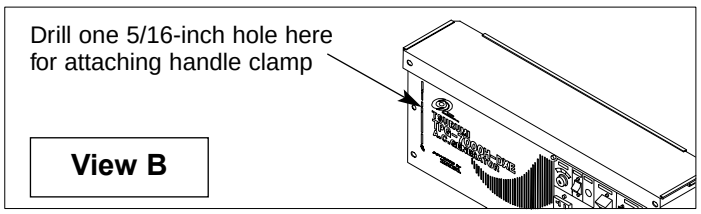
1. Position pump frame on end (engine downward and pump upward).
2. Position a U-bolt plate (12) to the frame cross-member. Use plate (12) as a template and mark center of the holes with center punch.
3. Use the center punch dimple as a guide and drill two 3/8-inch holes through the frame cross-member as shown in View A.
4. Repeat steps 2 and 3 for the second set of U-bolt holes.
5. Place axle (7) on frame cross-member. Install U-bolts (11) over the axle (7). Put plate (12) over threaded ends of U-bolts (11) and install nuts (13). Before tightening nuts, make sure axle extends an equal amount from the sides of the pump frame. Tighten nuts (13).

**INSTALL WHEELS**

1. Position hub side of wheel toward frame and slide wheel (14) onto axle (7). Install cap (15) over end of axle (7) and drive onto axle using a hammer.
2. Repeat step 1 for the second wheel (14).

**INSTALL HANDLES**

1. Position frame upright on wheels. Place frame into channel at lower end of the left handle (1). Position the left handle (1) against the vertical tube of the frame.
2. Hold one clamp (3) on the outside of the frame and one plate (4) on the inside of the frame. Align holes in clamp and plate and install screws (5). Install nuts but do not tighten.
3. If wheel kit is being installed on a pump, repeat steps 1 and 2 for right handle (2), then proceed to step 9.
4. If you are installing the kit on a portable generator, complete steps 5 through 8. (A 5/16-inch hole must be drilled through the generator's front panel to enable installation of one of the handle clamp screws.)
5. Hold a handle clamp (3) against the generator's right handle and front panel. Use a center punch and mark the location of the hole in clamp (3) on the front panel.
6. Use the center punch dimple as a guide and drill a 5/16-inch hole through the front panel (see View B).
7. Position clamp (3) over the frame and over the hole in the front panel. Align holes in clamp (3) and plate (4) and install screws (5) and nuts (6).
8. Tighten screws (5) and nuts (6). Install handle grips (16) on handles.




**View B**

# APPENDIX C

# PGWK-200 WHEEL KIT INSTALLATION INSTRUCTIONS

TSURUMI PUMP

# WHEEL KIT
# PGWK-200

**FITS TSURUMI PUMPS & GENERATORS**

## Installation Instructions

### Product Features

- *DESIGNED FOR LIFELONG DURABILITY*
- *STATE - OF - THE-ART ADJUSTABLE SLIDING AXLE SYSTEM*
- *FITS MOST GENERATOR SIZES AND PUMPS*
- *HIGHEST QUALITY METAL TUBING*
- *ALL BRACKETS ARE PRECISION FIT*
- *WIDE ANGLE HANDLE BARS FOR EASY PORTABILITY*
- *EASY COMFORTABLE GRIP*
- *DOUBLE BALL BEARINGS ON EACH AIRLESS TIRE*
- *IMPOSSIBLE TO PUNCTURE*
- *SMOOTH SLEEK DESIGN*

### Wheel Kit Parts Include

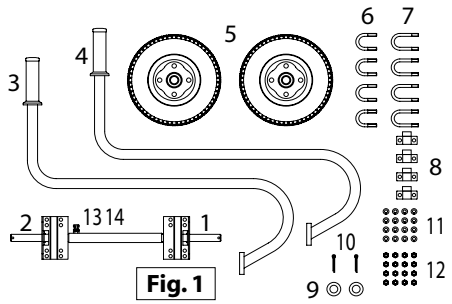



**Fig. 1**

| Ref# | Q'TY | Description |
|---|---|---|
| 1 | 1 | AXLE ASSY, RIGHT |
| 2 | 1 | AXLE ASSY, LEFT |
| 3 | 1 | HANDLE, RIGHT WITH GRIP |
| 4 | 1 | HANDLE, LEFT WITH GRIP |
| 5 | 2 | TIRE |
| 6 | 4 | U-BOLT FOR AXLE ASSY, SHORT |
| 7 | 4 | U-BOLT FOR HANDLE, LONG |
| 8 | 4 | HANDLE BRACKET |
| 9 | 2 | PLAIN WASHER FOR TIRE |
| 10 | 2 | COTTER PIN FOR TIRE |
| 11 | 16 | SPRING WASHER |
| 12 | 16 | NUT (M8) #1 |
| 13 | 1 | BOLT (M8-20) |
| 14 | 1 | NUT (M8) #3 |

### Before Installation

- Ensure there is no oil in the engine, and the oil is properly drained from the engine.
- Ensure there is no gasoline in the fuel tank, and close the fuel petcock at the base of the fuel tank.
- Drain fuel from carburetor bowl.
- Ensure the wheel kit contains the appropriate pieces **(See Fig. 1)**
- This installation is best performed by two people.
- Please support the underside of the dolly with a sturdy and stable block.

## Completed Chart

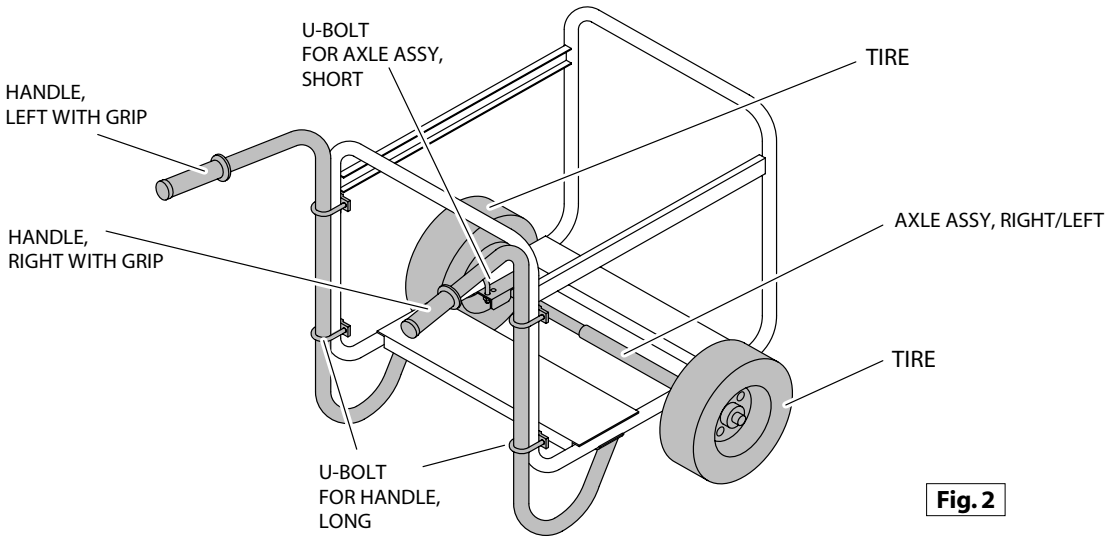



**Fig. 2**

## Step 1 - Install Axle Assembly and Wheels

1) Follow this step carefully in order to do the installation task safely. With the unit elevated, place the block which will hold the load of the unit between the ground and the lower chassis side where it meets the handle. This will ensure that the necessary installation space is available.
2) Place the axle assembly (A) underneath the frame (B) **(See Fig. 3)** and attach the axle assembly to the bottom of the frame with two U-bolts, nuts and washers.
3) Use two short U-bolts, two nuts and two washers to secure each axle assembly to the bottom of the frame.
4) There are 8 holes in each axle assembly for use with the U-bolts. Use 4 holes to secure each axle assembly to the pipe frame.
5) **Important: Ensure the bolts/washers are balanced as far apart to form a square.**
6) Attach the axle assembly at an optional position in order to prevent contact with other parts.
7) The axle assembly is adjustable with a sliding system. The adjustable pipe frame width is 330mm - 530mm.
8) Tighten bolts with the proper torque 78 - 95 lbf-m (8.8 -10.8 N-m).
9) Next, install each tire with the 4 bolts & nuts facing each other to the inside. Therefore, the hubcap should face the outside.
10) Insert the cotter pins into the axle hole and bend the end of each cotter pins with pliers to secure the tires in place.

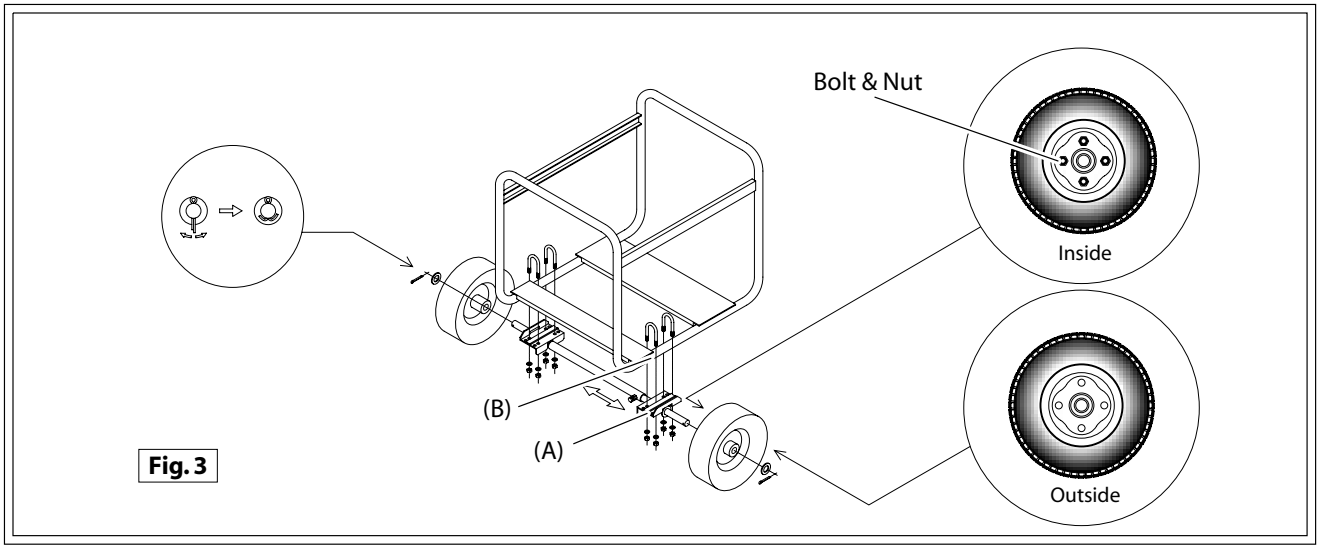


Fig. 3

## Step 2 - Install Handles

1) Carefully stabilize the generator or pump unit and install handles near the engine side (C) by placing each handle on the bottom pipe frame. Then attach the handle to the pipe frame with the two U-bolts (D) and the two handle brackets. **(See Fig. 4)**
2) Use the two long U-bolts, two nuts and two washers to secure each handle bracket to the frame. Tighten bolts with the proper torque 78 - 95 lbf-m (8.8 -10.8 N-m).

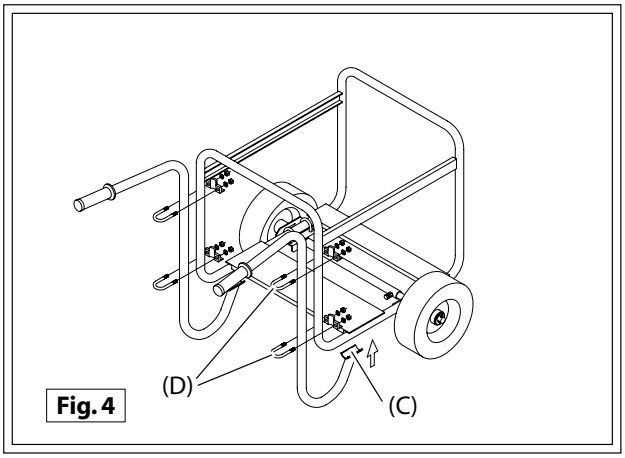


Fig. 4