

OWNER'S MANUAL
MANUEL D'UTILISATION
MANUAL DEL PROPIETARIO
MANUAL DO PROPRIETÁRIO
РУКОВОДСТВО ПОЛЬЗОВАТЕЛЯ
用户手册
BUKU PETUNJUK PENGGUNAAN
دليل المالك

- ⚠ Read this manual carefully before operating this machine.
- ⚠ Il convient de lire attentivement ce manuel avant la première utilisation de la machine.
- ⚠ Lea este manual atentamente antes de utilizar este equipo.
- ⚠ Leia este manual cuidadosamente antes de conduzir a máquina.
- ⚠ Прочтите данное руководство внимательно и полностью до эксплуатации этого оборудования.
- ⚠ 操作该机器前，请仔细阅读本手册。
- ⚠ Baca buku petunjuk ini secara teliti sebelum mengoperasikan mesin.

⚠ اقرأ هذا الدليل بعناية قبل تشغيل هذه الآلة.

EDL7000SE
EDL7000SDE
EDL11000SE
EDL11000SDE

9CN-28199-U1

ENGLISH

FRANÇAIS

ESPAÑOL

PORTUGUÊS

РУССКИЙ

中国語

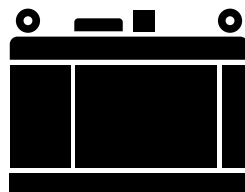
BAHASA INDONESIA

عربي




YAMAHA

OWNER'S MANUAL



ENGLISH

 Read this manual carefully before operating this machine.

EDL7000SE
EDL7000SDE
EDL11000SE
EDL11000SDE

 **Read this manual carefully before operating this machine. This manual should stay with this machine if it is sold.**

INTRODUCTION

Congratulations on your purchase of your new Yamaha.

This manual will provide you with a good basic understanding of the operation and maintenance of this machine.

If you have any questions regarding the operation or maintenance of your machine, please consult a Yamaha dealer.

**EDL7000SE
EDL7000SDE
EDL11000SE
EDL11000SDE**

OWNER'S MANUAL

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1st Edition, November 2013

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Particularly important information is distinguished in this manual by the following notations.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



WARNING

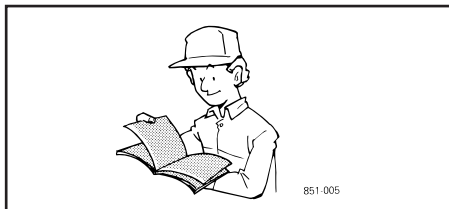
A **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

A **NOTICE** indicates special precautions that must be taken to avoid damage to the machine or other property.

TIP

A **TIP** provides key information to make procedures easier or clearer.



WARNING

PLEASE READ AND UNDERSTAND THIS MANUAL COMPLETELY BEFORE OPERATING THE MACHINE.

TIP

- Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your engine and this manual. If there is any question concerning this manual, please consult a Yamaha dealer.
- This manual should be considered a permanent part of this engine and should remain with this engine when resold.

* Product and specifications are subject to change without notice.

CONTENTS

▲ SAFETY PRECAUTIONS	1
SERVICING OF GENERATOR	13
SPECIFICATION	14
NOMENCLATURE	16
GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLE	19
PREPARATION TO SUPPLY THE ELECTRIC POWER	21
CONNECTING THE LOAD	23
PRE-OPERATION CHECK	25
OPERATING THE GENERATOR	28
SERVICE INTERVALS	32
PERIODIC SERVICE	34
TRANSPORTING / STORAGE	46
TROUBLESHOOTING	47
AUTOMATIC START/STOP UNIT (A S/S UNIT)	49
WIRING DIAGRAM	50

! SAFETY PRECAUTIONS

- To operate the machine safely, be sure to follow the instructions below.



DANGER

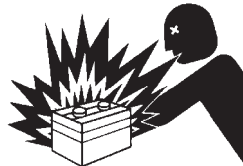
To avoid personal injury:

- Hazard of being caught up in the machine: Do not touch any rotating parts.
- Do not use or charge the battery if its fluid level stands below the LOWER mark. Otherwise, the component parts may deteriorate earlier than expected, which may shorten the service life or cause an explosion. Immediately, add distilled water until the fluid level is between the UPPER and LOWER levels. (for only refillable battery)

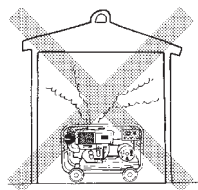
! WARNING

To avoid personal injury:

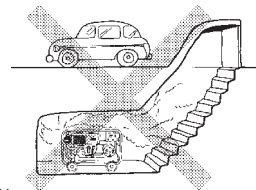
- Exhaust gas poisoning hazard: Do not use the machine in any poorly-ventilated place such as indoors and tunnels.
- Exhaust gas poisoning and fire hazard: Do not direct the exhaust to people and buildings.
- Electric shock hazard: Do not touch the machine with wet hands.
- Electric shock hazard: Do not touch the terminals and sockets while the machine is running.
- Electric shock and injury hazard: Do not check and service the machine while it is running.
- Electric shock and injury hazard: Do not tamper with the machine.
- Fire hazard: Flames prohibited. Keep the machine more than 1 m (3 feet) away from flammable materials.
- Electric shock hazard: Do not use the machine in the rain.



F-8836A



D-2169A



D-2170A



D-2171A

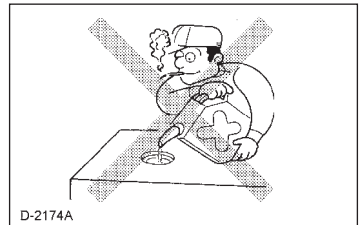
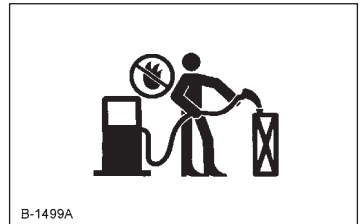
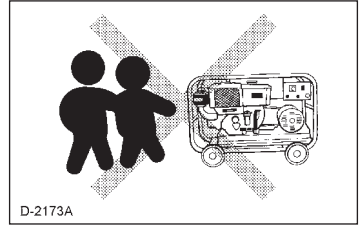


D-2172A

⚠ WARNING

To avoid personal injury:

- Electric shock and fire hazard: Do not connect the machine to any indoor (commercial) power outlet.
- Electric shock and injury hazard: Do not allow children to run the machine.
- Electric shock and injury hazard: Turn off the circuit breaker before starting the machine.
- Injury hazard: Do not touch the muffler.
- Injury hazard: Do not run the machine tilted.
- Injury hazard: Do not move the machine while it is running.
- Fire hazard: Stop the engine before adding fuel.
- Fire hazard: Do not enclose the machine, nor cover it with a box or the like.
- Fire hazard: Pay attention to the type and amount of fuel.
- Do not get the warning label dirty or peeled off.
- Be sure to hand over the operation manual to any other operator.
- Electric shock hazard: Ground the machine using the ground terminal on the control panel.



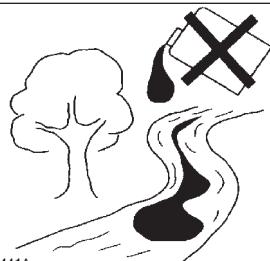
⚠ WARNING

To avoid personal injury:

- Anti-freeze contains poison. Wear rubber gloves to avoid personal injury. In case of contact with skin, wash it off immediately.
- DO NOT mix different types of Anti-freeze. The mixture can produce chemical reaction causing harmful substances. Use approved Anti-freeze.
- Be mindful of the environment and the ecology. Before draining any fluids, find out the correct way of disposing of them. Observe the relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters and batteries.
- When draining fluids from the engine, place some container underneath the engine body.
- DO NOT pour waste onto the grounds, down a drain, or into any water source.



D-2440A

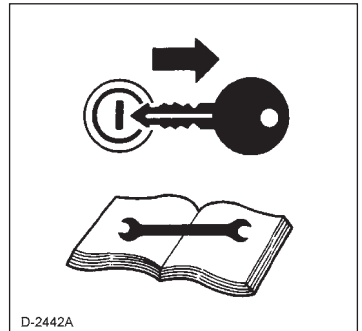


D-2441A

WARNING

To avoid personal injury:

- When checking engine or servicing, place the engine on a wide and level ground. **DO NOT** work on anything that is supported **ONLY** by lift jacks or a hoist. Always use blocks or correct stands to support the engine before servicing.
- Detach the battery from the engine before conducting service. Put a “**DO NOT OPERATE!**” tag in the starter switch (key) to avoid accidental starting.
- To avoid sparks from an accidental short circuit always disconnect the battery’s ground cable (-) first and connect it last.
- Be sure to stop the engine and remove the key when conducting daily and periodic maintenance, servicing and cleaning.
- Check or conduct maintenance after the engine, coolant, muffler, or muffler cover have been cooled off completely.
- Always use the appropriate tools and jig-
fixture in good condition when performing any service work. Make sure you understand how to use them before service.
- Use **ONLY** correct engine barring techniques for manually rotating the engine. **DO NOT** attempt to rotate the engine by pulling or prying on the cooling fan and V-belt. This practice can cause serious personal injury or premature machine damage to the cooling fan.
- Replace fuel pipes and lubricant pipes with their hose clamps every 2 years or earlier whether they are damaged or not. They are made of rubber and are aged gradually.
- When servicing is performed together by two or more persons, take care to perform all work safely.
- Keep first aid kit and fire extinguisher handy at all times.



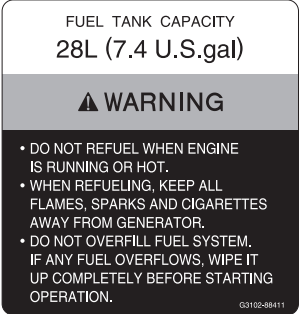
DANGER AND WARNING LABELS (Except for Canada)

Pay special attention to all labels on the generator.
Refer to following representations for labels used on the EDL Series Generator. Labels are available individually from a Yamaha dealer.

(1) Part No. 18901-50902



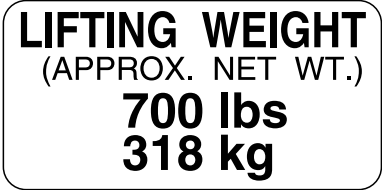
(2) Part No. G3102-88411



(3) Part No. G3102-88471 (EDL7000)



(3) Part No. G3112-88471 (EDL11000)



(4) Part No. 5450 806 1000



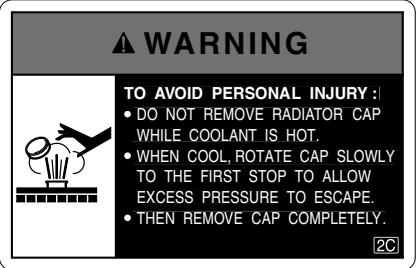
(5) Part No. 5450 929 1000



(6) Part No. 5450 798 4000



(7) Part No. 5450 804 1000



(8) Part No. G3907-88231

OPERATING INSTRUCTIONS

Before operating the engine, please read the Operator's Manual carefully to ensure safe operation.

1. Check the engine oil level and add, if the level is low.
2. Check the engine coolant level and add, if the level is low.
3. Check the fuel level and add, if the level is low.
4. Make sure the terminal cover and access door are closed.
5. Turn off the electrical device connected to the Generator.
6. Check the Circuit breaker and set to OFF position.
7. For the details of other inspection items and notes on safe operation. Read the Operator's Manual.

Starting and operation

1. Turn the key to GLOW until the indicator lamp goes off.
2. Turn the key to START, and the engine will start. After starting, release the key.
3. Make sure the warning lamps are OFF.
4. Operate the engine with no load for a few minutes.
5. Turn ON Set the Circuit breaker.
6. Turn ON the electrical device connected to the Generator.

Stopping the engine

1. Turn OFF the electrical device connected to the Generator.
2. Set the Circuit breaker to OFF.
3. Operate the engine with no load for a few minutes.
4. Turn the key to OFF.

G3907-88231

(9) Part No. 5450 801 1000

⚠ DANGER

TO AVOID SERIOUS INJURY OR DEATH:

- DO NOT OPERATE OR IDLE IN NONVENTILATED AREAS. CARBON MONOXIDE GAS IS COLORLESS, ODORLESS AND DEADLY.
- DO NOT OPERATE IN WET OR DAMP CONDITIONS.

⚠ WARNING
TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE BEFORE STARTING ENGINE :

- (1) TURN OFF GENERATOR CIRCUIT BREAKER.
- (2) TURN OFF ALL SWITCHES ON ELECTRICAL LOAD.
- (3) MAKE CERTAIN LOAD CONNECTIONS AND POWER CABLES ARE IN GOOD CONDITION.

2A

(10) Part No. 5450 968 1000

⚠ WARNING

TO AVOID PERSONAL INJURY

- WORK MUST BE CONDUCTED BY CERTIFIED PEOPLE.
- FIRST, STOP THE ENGINE AND REMOVE STARTER KEY.
- REMOVE THE NEGATIVE TERMINAL OF BATTERY AND CONDUCT THE WORK TO AVOID AUTOMATIC STARTING BY THE SYSTEM.


ADVICE OF INSPECTION AND CLEANING- TO PREVENT A TRACKING FAILURE.
IN DUSTY CONDITIONS, FOREIGN MATTER CAN ACCUMULATE ACROSS THE TERMINAL BLOCK (2) OF THE GENERATOR.
THEN, WHEN IT GETS WET, ELECTRIC ARCING CAN OCCUR BETWEEN MAIN TERMINALS AND IT CAUSES A SHORT CIRCUIT OF MAIN TERMINALS.
TO PREVENT THE FAILURE, REMOVE THE REAR COVER (1), AND CHECK FOR THE DUST AND MOISTURE ON THE TERMINAL BLOCK REGULARLY. (CLEAN WITH APPROVED CLEANING AGENT OR MOISTURE DISPLACER.)
IN CASE ANY DISCOLORATION AND DEFORMATION OF THE TERMINAL BLOCK, REPLACE WITH NEW TERMINAL BLOCK.



① REAR COVER
② TERMINAL BLOCK

2K

(11) Part No. G3907-88331

IMPORTANT


STOP LEVER
STOP

IF THE ENGINE DOES NOT STOP AFTER TURNING THE KEY SWITCH TO "OFF" POSITION, TURN THE ENGINE STOP LEVER TO ARROW DIRECTION.

DO NOT REMOVE OR DISCONNECT THE BATTERY DURING OPERATION. OTHERWISE THE ENGINE CANNOT BE STOPPED WITH THE KEY SWITCH.

G3907-88331

(12) Part No. 6C040-55591

DANGER EXPLOSIVE GASES


Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use booster cables or adjust post connections without proper instruction and training.

KEEP VENT CAPS TIGHT AND LEVEL
POISON CAUSES SEVERE BURNS

Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately.

KEEP OUT OF REACH OF CHILDREN

(13) Part No. G3907-88311 (AUS)

⚠ DANGER

TO AVOID SERIOUS INJURY OR DEATH :

- HAZARDOUS VOLTAGE WILL SHOCK, BURN OR CAUSE DEATH.
- CONNECT OR DISCONNECT THE AC RECEPTACLES OR TERMINALS ONLY WHEN THE ENGINE IS STOPPED.
- DO NOT OPERATE THE MACHINE WITH THIS COVER REMOVED OR OPEN.

TO AVOID SERIOUS INJURY OR DEATH :

- DO NOT CONNECT THIS GENERATOR TO ANY BUILDING'S ELECTRICAL SYSTEM UNLESS AN ISOLATION SWITCH HAS BEEN INSTALLED BY A LICENSED ELECTRICIAN.
- REFER TO THE OPERATOR'S MANUAL FOR DETAILS.

G3907-88311

(14) Part No. G3102-88371



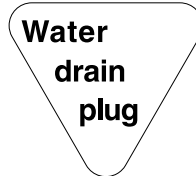
(15) Part No. 5450 802 1000



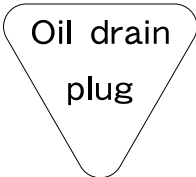
(16) Part No. 18901-50632



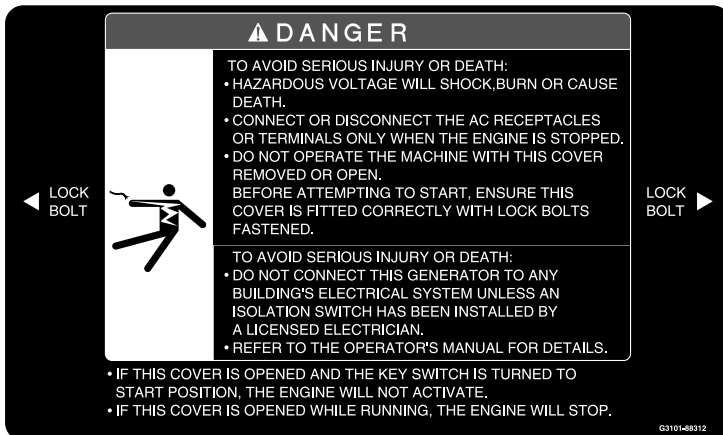
(17) Part No. 18961-51351

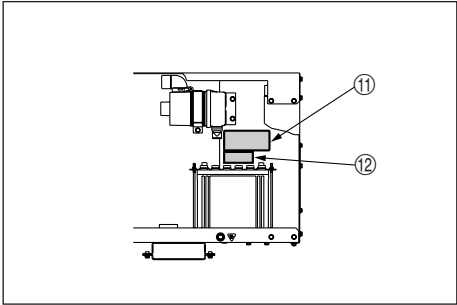
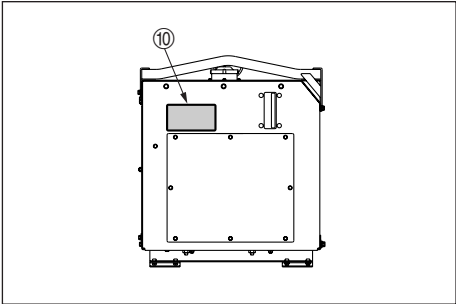
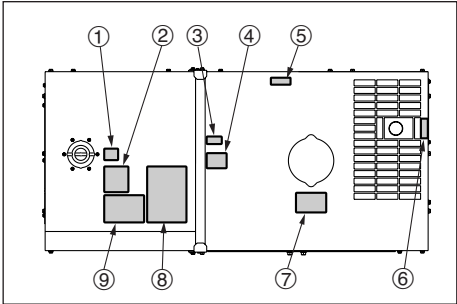


(18) Part No. 18901-51352

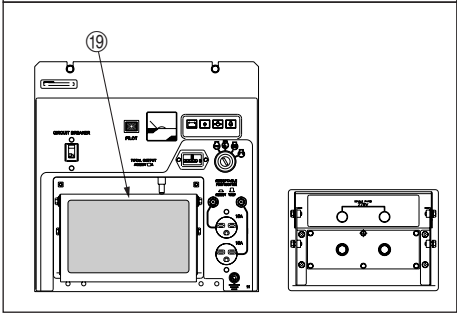


(19) Part No. G3101-88312 (STD)

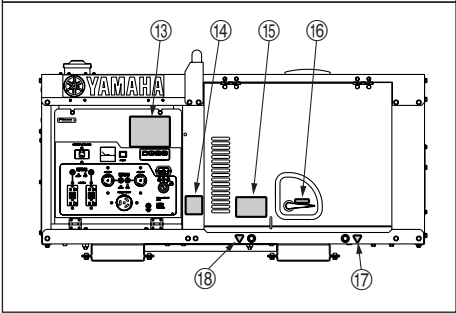




Terminal connection type



Receptacle connection type



DANGER AND WARNING LABELS (For Canada)

Pay special attention to all labels on the generator.
Refer to following representations for labels used on the EDL Series Generator. Labels are available individually from a Yamaha dealer.

(1) Part No. 5450 944 1000

 ⚠ DANGER TO AVOID SERIOUS INJURY OR DEATH: •DO NOT OPERATE OR IDLE IN NONVENTILATED AREAS. CARBON MONOXIDE GAS IS COLORLESS, ODORLESS AND DEADLY. •DO NOT OPERATE IN WET OR DAMP CONDITIONS.	 ⚠ WARNING TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE BEFORE STARTING ENGINE: (1) TURN OFF GENERATOR CIRCUIT BREAKER, (2) TURN OFF ALL SWITCHES ON ELECTRICAL LOAD, (3) MAKE CERTAIN LOAD CONNECTIONS AND POWER CABLES ARE IN GOOD CONDITION.	 ⚠ DANGER POUR ÉVITER DES BLESSURES GRAVES OU LA MORT: •NE PAS UTILISER OU FAIRE FONCTIONNER DANS UN ENDROIT MAL VENTILÉ. LE GAZ MONOXYDE DE CARBONE EST INCOLORE, INODORE ET MORTEL. •NE PAS UTILISER DANS DES CONDITIONS HUMIDES OU MOUILLÉES.	 ⚠ AVERTISSEMENT AVANT DE DÉMARRER LE MOTEUR, POUR ÉVITER DES BLESSURES CORPORELLES OU DES DOMMAGES À L'ÉQUIPEMENT. (1) DÉCONNECTER LE DISJONCTEUR DE LA GÉNÉRATRICE, (2) DÉCONNECTER TOUS LES INTERRUPTEURS SUR LA CHARGE ÉLECTRIQUE, (3) ASSURER QUE LES CONNEXIONS ET LES CÂBLES ÉLECTRIQUES SONT EN BONNE CONDITION.
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(2) Part No. G3106-88382

 ⚠ WARNING TO AVOID PERSONAL INJURY: USING A GENERATOR INDOORS CAN KILL YOU IN MINUTES. EXHAUST CONTAINS CARBON MONOXIDE, A POISONOUS GAS YOU CANNOT SEE OR SMELL. NEVER USE IN THE HOME OR IN PARTLY ENCLOSED AREAS, SUCH AS GARAGES. DO NOT DIRECT THE EXHAUST GAS TOWARD PEOPLE AND ANIMALS. REFER TO THE OPERATOR'S MANUAL FOR DETAILS.	 ⚠ AVERTISSEMENT POUR ÉVITER DES BLESSURES CORPORELLES: L'UTILISATION D'UNE GÉNÉRATRICE À L'INTÉRIEUR PEUT VOUS TUER EN QUELQUES MINUTES. L'ÉCHAPPEMENT CONTIENT DU MONOXYDE DE CARBONE, UN GAZ TOXIQUE QUE VOUS NE POUVEZ PAS VOIR OU SENTIR. NE JAMAIS UTILISER À LA MAISON OU DANS DES ESPACES PARTIELLEMENT CLOS, TELS QUE LES GARAGES. NE DIRIGÉZ PAS LES GAZ D'ÉCHAPPEMENT VERS LES PERSONNES ET LES ANIMAUX. VEUILLÉZ VOUS RÉFÉRER AU MANUEL DE L'OPÉRATEUR POUR LES DÉTAILS.
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(3) Part No. G3106-50902

ULTRA LOW SULFUR DIESEL FUEL ONLY
UTILISER UNIQUEMENT DU CARBURANT À TRÈS FAIBLE TENEUR EN SOUFRE

(4) Part No. G3106-88411

FUEL TANK CAPACITY

CAPACITÉ DU RÉSERVOIR DE CARBURANT

28L (7.4 U.S.gal)

 ⚠ WARNING •DO NOT REFUEL WHEN ENGINE IS RUNNING OR HOT. •WHEN REFUELING, KEEP ALL FLAMES, SPARKS AND CIGARETTES AWAY FROM GENERATOR. •DO NOT OVERFILL FUEL SYSTEM. IF ANY FUEL OVERFLOWS, WIPE IT UP COMPLETELY BEFORE STARTING OPERATION.	 ⚠ AVERTISSEMENT •NE PAS FAIRE LE PLEIN LORSQUE LE MOTEUR EST EN TRAIN DE TOURNER OU LORSQU'IL EST CHAUD. •LORS DU PLEIN DE CARBURANT, ÉLOIGNER TOUTES FLAMMES, ÉTINCELLES ET CIGARETTES DE LA GÉNÉRATRICE. •NE PAS TROP REMPLIR LE CIRCUIT D'ALIMENTATION EN CARBURANT. SI DU CARBURANT DÉBORDE, LESSUYER COMPLÈTEMENT AVANT DE METTRE EN MARCHE LES OPÉRATIONS.
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(5) Part No. G3106-88471 (EDL7000)

LIFTING WEIGHT
(APPROX. NET WT.)

POIDS DU SOULÈVEMENT
(APPROX. POIDS NET)

577 lbs

262 kg

(5) Part No. G3116-88471 (EDL11000)

LIFTING WEIGHT
(APPROX. NET WT.)

POIDS DU SOULÈVEMENT
(APPROX. POIDS NET)

700 lbs

318 kg

(6) Part No. 5450 948 1000

⚠ WARNING
HOT SURFACES DO NOT TOUCH

⚠ AVERTISSEMENT
SURFACES CHAUDES NE PAS TOUCHER

(7) Part No. 5450 798 5000

⚠ WARNING
HOT EXHAUST

⚠ AVERTISSEMENT
ÉCHAPPEMENT CHAUD

(8) Part No. G3106-88321

⚠ WARNING

TO AVOID PERSONAL INJURY:

- DO NOT REMOVE RADIATOR CAP WHILE COOLANT IS HOT.
- WHEN COOL, ROTATE CAP SLOWLY TO THE FIRST STOP TO ALLOW EXCESS PRESSURE TO ESCAPE.
- THEN REMOVE CAP COMPLETELY.

⚠ AVERTISSEMENT

POUR ÉVITER DES BLESSURES CORPORELLES:

- NE PAS ENLEVER LE CAPUCHON DU RADIATEUR LORSQUE LE RÉFRIGÉRANT EST CHAUD.
- LORSQUE LE RÉFRIGÉRANT EST REFROIDI, TOURNER LE CAPUCHON LENTEMENT JUSQU'À LA PREMIÈRE BUTÉE POUR PERMETTRE À LA PRESSION DE S'ÉCHAPPER.

G3106-88321

(9) Part No. 5450 946 1000

⚠ WARNING

TO AVOID PERSONAL INJURY:

- 1. DO NOT SWING WHILE LIFTING.
- 2. NEVER USE THE HOOK WHEN THE BONNET IS REMOVED OR WHEN ANY BOLTS ARE LOOSE.

⚠ AVERTISSEMENT

POUR ÉVITER DES BLESSURES CORPORELLES:

- 1. NE PAS FAIRE PIVOTER LORS DU LEVAGE.
- 2. NE PAS UTILISER LE CROCHET LORSQUE LE CAPOT EST ENLEVÉ OU LORSQUE LES BOULONS SONT DESSERRÉS. [2H]

(10) Part No. G3106-88231

OPERATING INSTRUCTIONS

Before operating the engine, please read the Operator's Manual carefully to ensure safe operation.

1. Check the engine oil level and add, if the level is low.
2. Check the engine coolant level and add, if the level is low.
3. Check the fuel level and add, if the level is low.
4. Make sure the terminal cover and access door are closed.
5. Turn off the electrical device connected to the Generator.
6. Check the Circuit breaker and set to OFF position.
7. For the details of other inspection items and notes on safe operation, Read the Operator's Manual.

See the Operator's Manual for other instructions for use.

INSTRUCTIONS POUR LE FONCTIONNEMENT

Avant de mettre en marche le moteur, lire attentivement le manuel de l'opérateur afin de s'assurer d'un fonctionnement en toute sécurité.

1. Vérifier le niveau de l'huile du moteur et en ajouter, si le niveau est trop bas.
2. Vérifier le niveau du fluide de refroidissement du moteur et en ajouter, si le niveau est trop bas.
3. Vérifier le niveau du carburant et en ajouter, si le niveau est trop bas.
4. S'assurer que le couvercle des bornes et la porte d'accès sont fermés.
5. Mettre hors circuit le dispositif électrique raccordé à la génératrice.
6. Vérifier le disjoncteur de circuit et le régler sur la position "OFF".
7. Pour les détails concernant d'autres articles d'inspection et les remarques sur un fonctionnement en toute sécurité.

Voir le manuel de l'opérateur pour d'autres instructions sur l'utilisation.

G3106-88231

(11) Part No. 5450 969 1000

⚠ WARNING

TO AVOID PERSONAL INJURY

- WORK MUST BE CONDUCTED BY CERTIFIED PEOPLE.
- FIRST STOP THE ENGINE AND REMOVE STARTER KEY.
- REMOVE THE NEGATIVE TERMINAL OF BATTERY AND CONDUCT THE WORK TO AVOID AUTOMATIC STARTING BY THE SYSTEM.

ADVICE OF INSPECTION AND CLEANING - TO PREVENT A TRACKING FAILURE.

IN DUSTY CONDITIONS, FOREIGN MATTER CAN ACCUMULATE ACROSS THE TERMINAL BLOCK (2) OF THE GENERATOR.

THEN WHEN IT GETS WET, ELECTRIC ARCING CAN OCCUR BETWEEN MAIN TERMINALS AND IT CAUSES A SHORT CIRCUIT OF MAIN TERMINALS.

TO PREVENT THE FAILURE, REMOVE THE REAR COVER (1), AND CHECK FOR THE DUST AND MOISTURE ON THE TERMINAL BLOCK REGULARLY. (CLEAN WITH APPROVED CLEANING AGENT OR MOISTURE DISPLACER.)

IN CASE ANY DISCOLORATION AND DEFORMATION OF THE TERMINAL BLOCK, REPLACE WITH NEW TERMINAL BLOCK.

① REAR COVER
COUVERTURE POSTÉRIEURE

② TERMINAL BLOCK
BLOC DÉLIMITANT

⚠ AVERTISSEMENT

POUR ÉVITER DES BLESSURES CORPORELLES.

- CES TRAVAUX DOIVENT ÊTRE RÉALISÉS PAR UN ÉLECTRICIEN AGRÉÉ.
- EN PREMIER LIEU ARRÊTER LE MOTEUR ET RETIRER LA CLÉ DE CONTACT.
- ENLEVER LA BORNE NÉGATIVE DE LA BATTERIE POUR ÉVITER COMMENCER AUTOMATIQUE PAR LE SYSTÈME, PROCÉDER.

AVIS CONCERNANT L'INSPECTION ET LE NETTOYAGE - AFIN D'ÉVITER LE VAGABONDAGE DU COURANT ÉLECTRIQUE

DANS DES CONDITIONS POUSSÉRIEUSES IL SE PEUT QUE DES CORPS ÉTRANGERS S'ACCUMULENT SUR LES PLAQUES À BORNES (2) DE LA GÉNÉRATRICE.

SI CES CORPS ÉTRANGERS SONT MOUILLÉS, IL POURRAIT ALORS SE FORMER UN ARC ÉLECTRIQUE ENTRE LES BORNES PRINCIPALES PROVOQUANT UN COURT CIRCUIT.

AFIN DE PRÉVENIR UN TEL INCIDENT RETIRER RÉGULIÈREMENT LE COUVERCLE ARRIÈRE (1) ET VÉRIFIER S'IL Y A ACCUMULATION DE POUSSIÈRE OU D'HUMIDITÉ SUR LES PLAQUES À BORNES. (NETTOYER À L'AIDE D'UN PRODUIT DE NETTOYAGE OU D'UN DISPOSITIF D'ÉLIMINATION DE L'HUMIDITÉ APPROUVÉ.)

S'IL Y A DÉCOLORATION OU DÉFORMATION DE LA PLAQUE À BORNES, LA REMPLACER IMMÉDIATEMENT. [2L]

(12) Part No. 1H773-88911 (EDL7000)

EMISSION CONTROL INFORMATION (SUPPLEMENTAL LABEL)

THIS ENGINE MEETS Tier 4 EMISSION REGULATIONS FOR U.S. EPA AND CALIFORNIA NONROAD CI ENGINES.

Kubota KUBOTA Corporation

MODEL : ***** ENGINE DISP : *****
FAMILY : ***** EGS: EM IF1
POWER : *** kW/*****rpm CATEGORY: *****kW
VALVE CLEARANCE (COLD): IN ***** mm EX: ***** mm
INJ. TIMING: ** DEG BTDC CONSTANT SPEED ONLY
ULTRA LOW SULFUR DIESEL FUEL ONLY
CONTACT KUBOTA FOR FUEL SETTING | 1H *****

(12) Part No. 1H774-88911 (EDL1000)

EMISSION CONTROL INFORMATION (SUPPLEMENTAL LABEL)

THIS ENGINE MEETS Tier 4 EMISSION REGULATIONS FOR U.S. EPA AND CALIFORNIA NONROAD CI ENGINES.

Kubota KUBOTA Corporation

MODEL : ***** ENGINE DISP : *****L
FAMILY : ***** EGS: EM IF1
POWER : *** kW/*****rpm CATEGORY: *****kW
VALVE CLEARANCE (COLD): IN ***** mm EX: ***** mm
INJ. TIMING: ** DEG BTDC CONSTANT SPEED ONLY
ULTRA LOW SULFUR DIESEL FUEL ONLY
CONTACT KUBOTA FOR FUEL SETTING | 1H *****

(13) Part No. G3106-88331

**STOP LEVER
LEVIER D'ARRÊT**

IMPORTANT

IF THE ENGINE DOES NOT STOP AFTER TURNING THE KEY SWITCH TO "OFF" POSITION.
TURN THE ENGINE STOP LEVER TO ARROW DIRECTION.

SI LE MOTEUR NE S'ARRÊTE PAS APRÈS AVOIR TOURNÉ LE COMMUTATEUR À CLÉ SUR LA POSITION "OFF", TOURNER LE LEVIER D'ARRÊT DU MOTEUR DANS LA DIRECTION DE LA FLECHE.

DO NOT REMOVE OR DISCONNECT THE BATTERY DURING OPERATION. OTHERWISE THE ENGINE CANNOT BE STOPPED WITH THE KEY SWITCH.

NE PAS RETIRER OU DÉBRANCHER LA BATTERIE PENDANT LE FONCTIONNEMENT. SINON LE MOTEUR NE POURRA PAS ÊTRE ARRÊTÉ AVEC LE COMMUTATEUR À CLÉ.

G3106-88331

(14) Part No. 5451-089 1000

WARNING

AVERTISSEMENT

SHIELD EYES.
EXPLOSIVE GAS,
AVOID SPARKS / FLAME,
SULFURIC ACID.

PORTEZ DES LUNETTES DE SÉCURITÉ.
GAZ EXPLOSIFS.
ÉVITEZ LES ÉTINCELLES / FLAMME,
ACIDE SULFURIQUE.

2M

RECYCLABLE

(15) Part No. G3106-88311

⚠ DANGER

TO AVOID SERIOUS INJURY OR DEATH:

- HAZARDOUS VOLTAGE WILL SHOCK, BURN OR CAUSE DEATH.
- CONNECT OR DISCONNECT THE AC RECEPTACLES OR TERMINALS ONLY WHEN THE ENGINE IS STOPPED.
- DO NOT OPERATE THE MACHINE WITH THIS COVER REMOVED OR OPEN.

TO AVOID SERIOUS INJURY OR DEATH:

- DO NOT CONNECT THIS GENERATOR TO ANY BUILDING'S ELECTRICAL SYSTEM UNLESS AN ISOLATION SWITCH HAS BEEN INSTALLED BY A LICENSED ELECTRICIAN.
- REFER TO THE OPERATOR'S MANUAL FOR DETAILS.

⚠ DANGER

POUR ÉVITER D'ÊTRE GRAVEMENT BLESSÉ OU LA MORT:

- UNE TENSION DANGEREUSE PROVOQUERA UNE SECOUSSE, DES BRÛLURES OU MÊME LA MORT.
- NE RACCORDER OU DÉBRANCHER LES BORNES OU LES PRISES DE COURANT SECTEUR QUE LORSQUE LE MOTEUR EST ARRÊTÉ.
- NE PAS FAIRE FONCTIONNER LA MACHINE AVEC CE COUVERCLE RETIRÉ OU OUVERT.

POUR ÉVITER D'ÊTRE GRAVEMENT BLESSÉ OU LA MORT:

- NE PAS RACCORDER CETTE GÉNÉRATRICE À N'IMPORTE QUEL SYSTÈME ÉLECTRIQUE D'UN BÂTIMENT, À MOINS QU'UN COMMUTATEUR D'ISOLEMENT AIT ÉTÉ INSTALLÉ PAR UN ÉLECTRICIEN AGRÉÉ.
- SE RÉFÉRER AU MANUEL DE L'OPÉRATEUR POUR LES DÉTAILS.

G3106-88311

(16) Part No. 5450 939 1000

⚠ WARNING

TO AVOID PERSONAL INJURY:

- MAY RESULT IF FINGERS OR CLOTHING ARE CAUGHT IN ROTATING PARTS.
- DO NOT OPERATE THE MACHINE WITH THE SIDE COVERS OR ACCESS DOORS REMOVED OR OPEN.

⚠ AVERTISSEMENT

POUR ÉVITER DES BLESSURES CORPORELLES:

- ON RISQUE D'ÊTRE BLESSÉ SI LES DOIGTS OU UNE PARTIE DES VÊTEMENTS SONT PRIS DANS LES ORGANES EN TRAIN DE TOURNER.
- NE PAS FAIRE FONCTIONNER LA MACHINE AVEC LES COUVERCLES LATÉRAUX OU LA PORTE D'ACCÈS RETIRÉS OU OUVERTS.

2F

(17) Part No. 18974-50631

**CLOSE
FERMETURE**

(18) Part No. 18974-51351

**Water
drain
plug**

**Bouchon
de purge
d'eau**

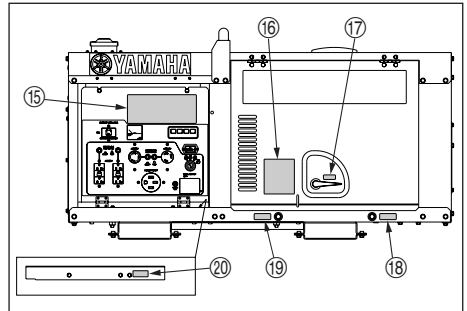
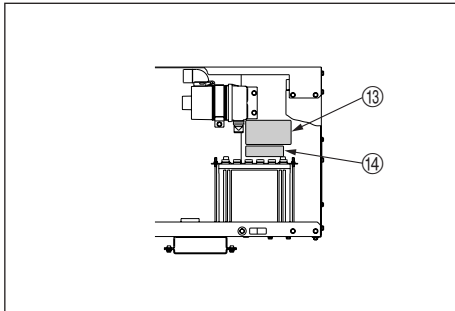
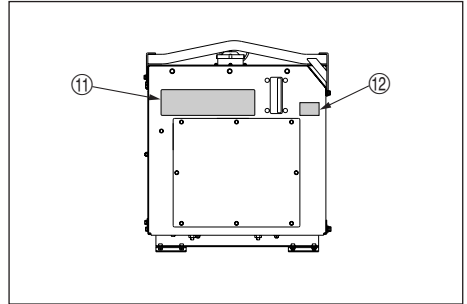
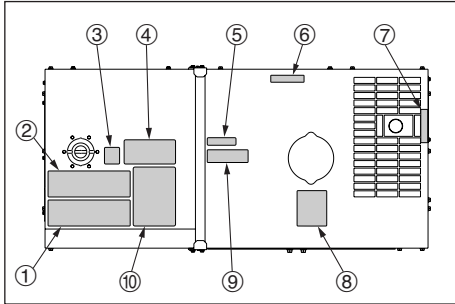
(19) Part No. 18974-51341

**Oil drain
plug**

**Bouchon
de vidange
d'huile**

(20) Part No. 18422-88995

NEUTRAL BONDED TO FRAME
NEUTRE MIS À LA MASSE À LA
CARCASSE DU MOTEUR 



CARE OF DANGER AND WARNING LABELS

1. Keep danger and warning labels clean and free from obstructing material.
2. Clean danger and warning labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing danger and warning labels with new labels from a Yamaha dealer.
4. If a component with danger and warning label(s) affixed is replaced with new part, make sure new label(s) is (are) attached in the same location(s) as the replaced component.
5. Mount new danger and warning labels by applying on a clean dry surface and pressing any bubbles to outside edge.

SERVICING OF GENERATOR

Your dealer is interested in your new generator and has the desire to help you get the most value from it. After reading this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see a Yamaha dealer.

For service, contact the Yamaha dealership from which you purchased your generator or a Yamaha dealer.

When in need of parts, be prepared to give your dealer the generator and engine serial numbers. Locate the serial numbers now and record them in the space provided below.

	model	Serial No.
Generator		
Engine		
Date of Purchase		
Name of Dealer		
(To be filled in by purchaser)		

- (1) Generator serial number
- (2) Generator model
- (3) Engine serial number

Serial No. ①

YAMAHA GENERATOR

Model *****

Rated output COP ***** kW

Rated voltage *** V

Rated current ** A

Frequency ** Hz

Phase Single

Powerfactor *** %

Mass(dry) *** kg

Mass(wet) *** kg

②

NOTICE

■ Operate engine as per Safety Caution Label

■ For operating engine, be sure to carry out as per our Operation Manual.

YAMAHA MOTOR POWERED PRODUCTS CO., LTD. MADE IN JAPAN

For Canada

YAMAHA EDL-*****

LR110747 YAMAHA MOTOR POWERED PRODUCTS CO., LTD.

②

FOR ELECTRICAL EQUIPMENT ONLY

1. DO NOT USE IN RAIN OR SNOW

2. USE IN WELL VENTILATED LOCATIONS

POUR ACCESSOIRES ELECTRIQUES

1. NE PAS UTILISER QUAND IL PLEUT OU IL NEIGE

2. UTILISER DANS LOCATION BIEN VENTILEE

RATED OUTPUT
AC ***** Hz SINGLE PH. *COS φ=1

CLASS OF INSULATION ***** °C

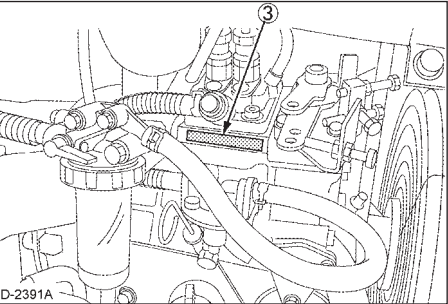
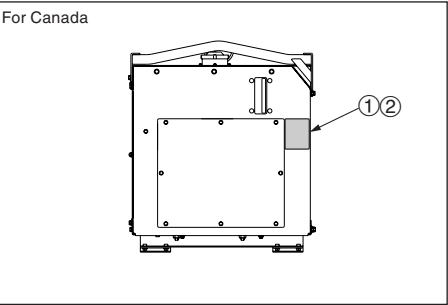
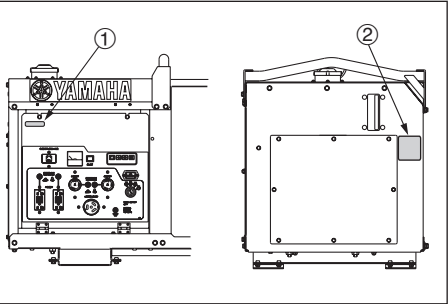
MAXIMUM AMBIENT TEMPERATURE ***** °C

RATED LOAD SPEED ***** rpm

SERIAL NO. *****

MADE IN JAPAN

①



SPECIFICATION

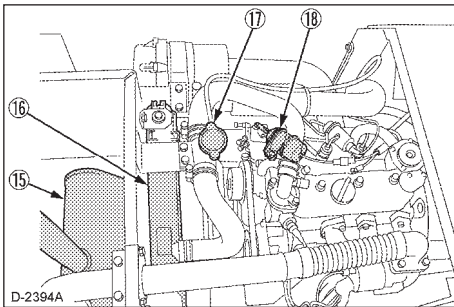
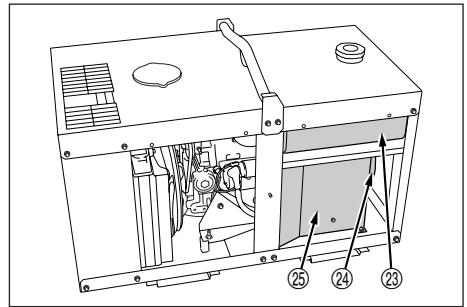
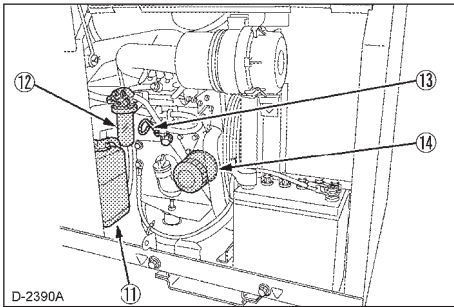
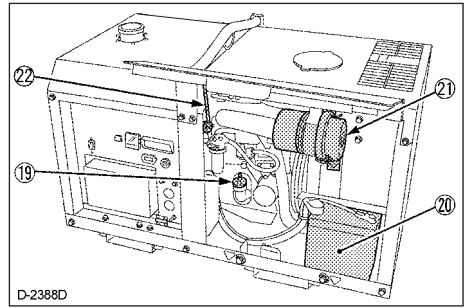
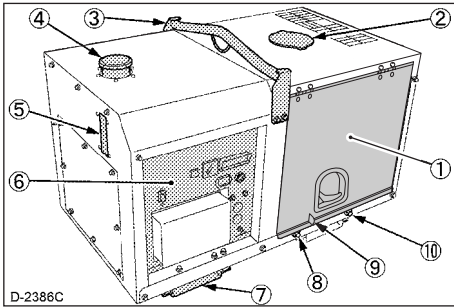
	Model	EDL7000SE-STD	EDL7000SE-AUS	EDL7000SDE-CAN
Generator	Frequency	50 Hz		60 Hz
	Rated output	5.5 kW		6.5 kW
	Maximum output	6.0 kW		7.0 kW
	Rated voltage	220 V	240 V	120 / 240 V
	Rated current	25.0 A	22.9 A	54.2 / 27.1 A
	Phase and wire	1-2		1-4
	Number of poles	2		
	Power factor	1		
	Insulation	Stator coil: B Rotor coil: F		
Engine	Design	Vertical, liquid cooled, 4 cycle, diesel		
	Model name	Z482		
	Rated output	6.9 kW		8.1 kW
	Speed	3000 min ⁻¹ (rpm)		3600 min ⁻¹ (rpm)
	Number of cylinder - Bore × Stroke	2- ø 67 × 68 mm (2 - ø 2.64 × 2.68 in.)		
	Displacement	0.479 L (29.23 cu.in.)		
	Fuel tank capacity	28 L (7.4 U.S.gals)		
	Crankcase oil capacity	2.2 L (0.58 U.S.gals)		
	Starting system	Electric type 12 V / 0.8 kW		
	Battery	38B20R 12 V × 28 Ah / 5 Hr		
Continuous operating hours (at rated load)		12 hrs		10 hrs
Net weight kg (lbs)		235 kg (518 lbs)		
Output	Receptacle	6-15R × 2	15 A × 2	L6-30R L5-30R 5-20RA (GFCI)
	Terminal	2P	—	—

*Conversion Formula: HP=0.746 kW, PS=0.7355 kW

Model		EDL11000SE-STD	EDL11000SE-AUS	EDL11000SDE-CAN
Generator	Frequency	50 Hz		60 Hz
	Rated output	8.0 kW		10.0 kW
	Maximum output	8.8 kW		11.0 kW
	Rated voltage	220 V	240 V	120 / 240 V
	Rated current	36.4 A	33.3 A	83.3 / 41.7 A
	Phase and wire	1-2		1-3
	Number of poles	2		
	Power factor	1		
	Insulation	Stator coil: B Rotor coil: F		
Engine	Design	Vertical, liquid cooled, 4 cycle, diesel		
	Model name	D722		
	Rated output	10.3 kW		12.2 kW
	Speed	3000 min ⁻¹ (rpm)		3600 min ⁻¹ (rpm)
	Number of cylinder - Bore × Stroke	3- ø 67 × 68 mm (3 - ø 2.64 × 2.68 in.)		
	Displacement	0.719 L (43.87 cu.in.)		
	Fuel tank capacity	28 L (7.4 U.S.gals)		
	Crankcase oil capacity	3.4 L (0.90 U.S.gals)		
	Starting system	Electric type 12 V / 1.0 kW		
	Battery	55B24R 12 V × 36 Ah / 5 Hr		
Continuous operating hours (at rated load)		8.5 hrs		7 hrs
Net weight kg (lbs)		295 kg (650 lbs)		
Output	Receptacle	6-15R × 2	15 A × 3	14-50R (50A) 120 / 240 V L6-30R (240 V) L5-30R (120 V) 5-20RA (GFCI) (120 V)
	Terminal	2P	—	—

*Conversion Formula: HP=0.746 kW, PS=0.7355 kW

NOMENCLATURE



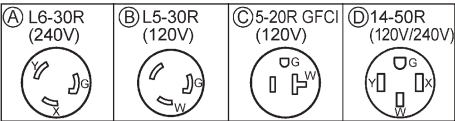
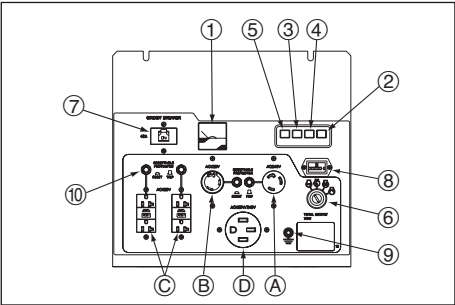
- | | |
|---------------------------|---------------------------|
| (1) Door | (14) Oil filter cartridge |
| (2) Coolant filling port | (15) Muffler |
| (3) Hook | (16) Radiator |
| (4) Fuel tank cap | (17) Radiator cap |
| (5) Fuel gauge | (18) Solenoid |
| (6) Control panel | (19) Engine oil port |
| (7) Base | (20) Battery |
| (8) Engine oil drain plug | (21) Air cleaner |
| (9) Door lock | (22) Door stopper |
| (10) Coolant drain plug | (23) Fuel tank |
| (11) Reserve tank | (24) Alternator |
| (12) Fuel filter | (25) Safety shield |
| (13) Oil dipstick | |

■ Control Panel

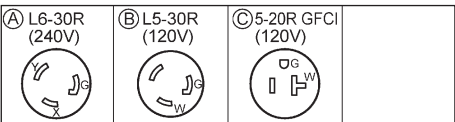
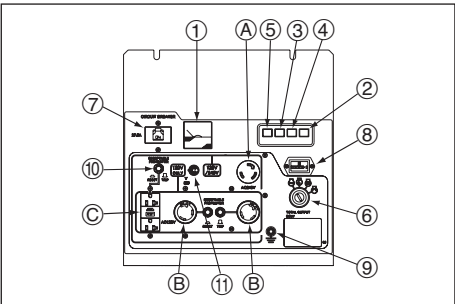
Standard Model

◆ 1 Phase Type
(120 V/240 V Dual voltage Type)

[EDL11000SDE-CAN]



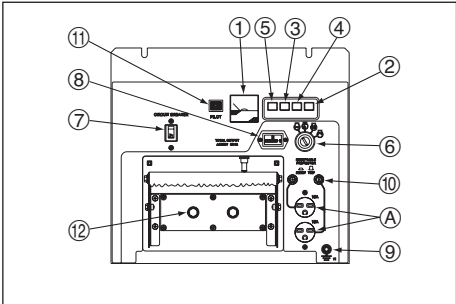
[EDL7000SDE-CAN]



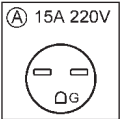
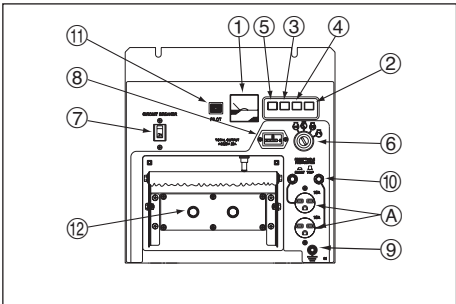
- | | |
|-----------------------------|----------------|
| (1) A.C. Voltmeter | (A) Receptacle |
| (2) Glow timer lamp | (B) Receptacle |
| (3) Water temperature lamp | (C) Receptacle |
| (4) Oil pressure lamp | (D) Receptacle |
| (5) Battery charge lamp | |
| (6) Starter switch (key) | |
| (7) Circuit breaker | |
| (8) Hour meter | |
| (9) Ground terminal | |
| (10) Protector (Receptacle) | |
| (11) Full power switch | |

◆ 1 Phase Type (220 V Type)

[EDL11000SE-STD]



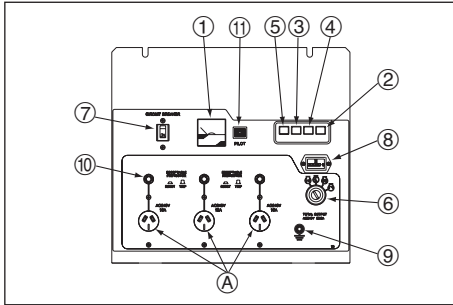
[EDL7000SE-STD]



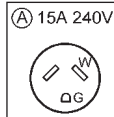
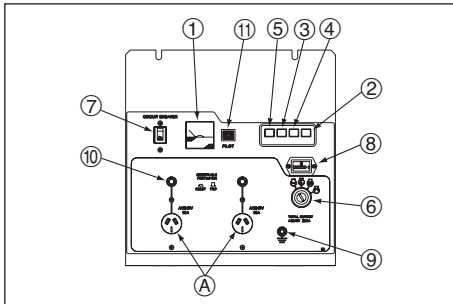
- | | |
|-----------------------------|----------------|
| (1) A.C. Voltmeter | (A) Receptacle |
| (2) Glow timer lamp | |
| (3) Water temperature lamp | |
| (4) Oil pressure lamp | |
| (5) Battery charge lamp | |
| (6) Starter switch (key) | |
| (7) Circuit breaker | |
| (8) Hour meter | |
| (9) Ground terminal | |
| (10) Protector (Receptacle) | |
| (11) Pilot lamp | |
| (12) Terminals (Output) | |

◆ 1 Phase Type (240 V Type)

[EDL11000SE-AUS]



[EDL7000SE-AUS]



- (1) A.C. Voltmeter
- (2) Glow timer lamp
- (3) Water temperature lamp
- (4) Oil pressure lamp
- (5) Battery charge lamp
- (6) Starter switch (key)
- (7) Circuit breaker
- (8) Hour meter
- (9) Ground terminal
- (10) Protector (Receptacle)
- (11) Pilot lamp

(A) Receptacles

GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLE

⚠ WARNING

- (1) **Do not operate in wet or damp conditions.**
- (2) **This Ground Fault Circuit Interrupter reduces the hazards of ground fault currents that can cause loss of life.**
- (3) **The GFCI will not protect against short circuits or over loads.**
- (4) **Do not use the GFCI or other standard receptacles on the circuit until the GFCI has been fully and successfully tested.**

See following test procedure.

TESTING PROCEDURE

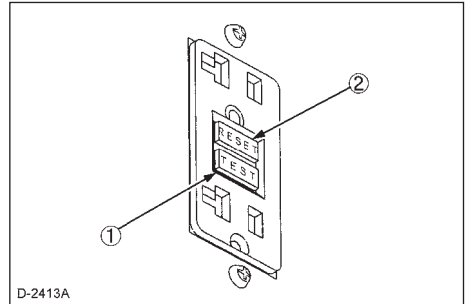
- (1) Unplug all appliances from the GFCI receptacle.
- (2) Start the engine.
- (3) At the circuit breaker turn power ON to the circuit.
- (4) Depress the "TEST" button.
The "RESET" button should extend with a click.
If the "RESET" button does not extend, contact a Yamaha dealer.
- (5) Depress the "RESET" button firmly into the GFCI unit, until an audible click is heard.
If it resets properly, the "RESET" button will be flush with the surface of the "TEST" button.
If the "RESET" button is not flush with "TEST" button, contact a Yamaha dealer.

■ When the "RESET" Button Extends During Operation:

- (1) Unplug all appliances from the GFCI receptacle.
- (2) Depress the "RESET" button firmly into the GFCI unit, until an audible click is heard.
If the GFCI can not be reset, the GFCI is faulty.
Contact a Yamaha dealer. If the GFCI resets properly, check such things as fault insulation or wet wiring inside the appliance or its cord. If you've found the short, it should be repaired before it is used again.

1. Perform this test on a regular monthly basis to ensure proper operation of the GFCI receptacle.
2. If the generator is stored outdoors, unprotected from the weather, test the GFCI receptacle before each use.
3. An attached "OCCUPANT'S TEST RECORD" label should be retained and placed in a conspicuous location to remind the operator that for maximum protection against electrical shock.
4. Record your test on the GFCI test card.

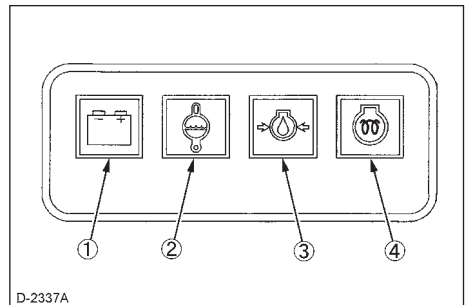
5. After disassembling and assembling the generator, check the circuit of GFCI with the RECEPTACLE CIRCUIT TESTER and test as above TEST PROCEDURE.



- (1) "TEST" button
- (2) "RESET" button

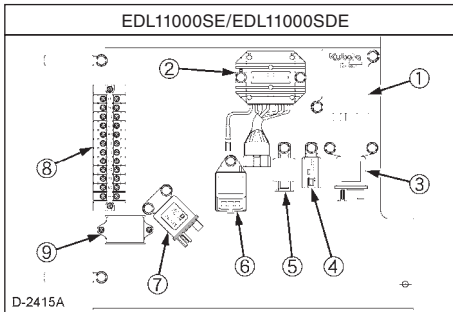
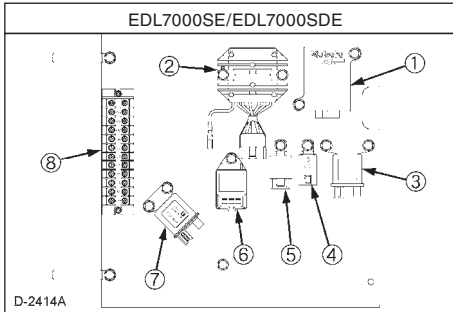
■ Easy Checker

When an abnormal condition occurs with a part monitored by the easy checker while the engine is running, a lamp flashes to warn the operator of the impending trouble.



- (1) Charge warning lamp
- (2) Water temperature-overheat warning lamp, flashes on when cooling water rises to 112 to 118°C.
- (3) Engine oil pressure drop warning lamp, flashes on below 68.7 to 127.5 kPa (0.7 to 1.3 kgf/cm²) oil pressure.
- (4) Glow timer lamp

■ Control Box



- (1) Emergency unit
- (2) Regulator
- (3) Glow relay
- (4) Relay A
- (5) Relay B
- (6) Glow lamp timer
- (7) Starter relay
- (8) Exterior connection terminal taps
- (9) Separate excitation unit

PREPARATION TO SUPPLY THE ELECTRIC POWER

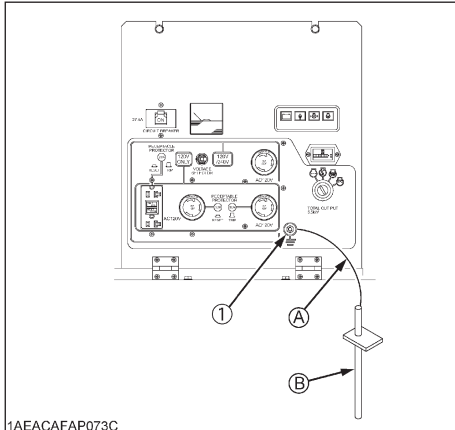
■ Generator Grounding

The end user, equipment owner or operator must contact his local, state, county or municipal electric code department to determine the approved generator grounding method to be used in his application or location.

Recommendations in the NEC (National Electrical Code), NFPA (National Fire Protection Association), AUSTRALIAN STANDARDS and OSHA (Occupational Safety and Health Administration) regulations must be followed to assure compliance and safe operation.

Always be sure to ground (earth) the generator terminals to comply with the local, state, national or OSHA requirements.

One possible connection method for construction site use is as follows:



1AEACAFAP073C

- (1) Generator ground terminal (A) #6AWG Flexible copper ground connection
(B) Metal ground rod or building cold water pipe system per N.E.C. code

■ Recommended Capacity of Electrical Devices

◆ Application range

You can operate the EDL-series generator in the following range.

Typical Apparatus	Light and heaters	Commutator motor	Induction motor
EDL7000SE	5.5 kW	2.8 kW	0.8 kW
EDL7000SDE	6.5 kW	3.3 kW	0.8 kW
EDL11000SE	8 kW	4.0 kW	1.2 kW
EDL11000SDE	10 kW	5.0 kW	1.6 kW

TIP

- Keep an inverter load below 50% of the generator capacity.
- Make sure that total active mercury lamp load is below 30% or so of the generator capacity. Turn on the mercury lamps one by one. Be careful not to turn off the lamps and on again immediately. The generator voltage may rise to extremely high levels and the AVR may get damaged.
- Before turning on the lamps again, wait for 10 minutes or so until the lamps cool down enough.
- The data shown above is only a guideline to approximate load capacities and may vary from generator model to generator model, with different types of loads at rated outputs. These values may be different from actual applications because of the input characteristics peculiar to each load.

- **Connecting a motor.**

When starting the motor, the voltage drops immediately. The circuit may be opened if an electromagnetic switch is connected to the same circuit. When connecting two motors or more, make sure the total current capacity of the motors does not exceed the total rated current.

- **Connecting to lights and electric heaters.**

When connecting to lights or electric heaters, the generator can be used up to the rated capacity. When using a single phase, it can be used up to the rated current.

- **Power factor calculations.**

The power factor calculation is used to determine input of the electrical devices.

AC devices

Electric power (W)

$$= \text{Voltage (V)} \times \text{Current (A)} \div \text{Power factor}$$

Power factors of commonly used devices are listed in the following table.

Load type	Power factor
Single-phase induction motors	0.4 to 0.75
Electric heaters, incandescent lamps	1.0
Commutator motor	0.8 to 0.95
Fluorescent lamps, mercury lamps	0.4 to 0.9
AC arc welder	0.4 to 0.6

- Ordinarily, a motor is rated in kW. This does not refer to motor output.

Motor input (kVA)

$$= \frac{\text{Motor output (kW)}}{\text{Motor efficiency} \times \text{power factor}}$$

TIP

- If a lighting system is employed together with some types of computers and inverter air-conditioners and/or the regulated power supply for TV sets, the lights might suffer flickering. This phenomenon does not indicate a fault of the generator: it is caused by poor matching between the above-mentioned regulated power supply and the generator's automatic voltage regulator. In such a case, modify the load combination to eliminate the flickering.

CONNECTING THE LOAD

■ Connection Notes

⚠ WARNING

To avoid personal injury:

- Before the generator can be connected to a building's electrical system, a licensed electrician must install an isolation (transfer) switch in the building's main fuse box. The switch is the connection point for generator power and allows selection of generator or main line power to the building. This will prevent the generator from charging the main power line (backfeeding) when the main power supply has failed or has been turned off for line repair. Backfeeding can electrocute or injure line maintenance personnel. Also, generator and building electrical system damage can occur when normal operating power returns if unit is used without an isolation switch.

1. Avoid connecting the generator to commercial power outlet.
2. Avoid connecting the generator in parallel with any other generator.

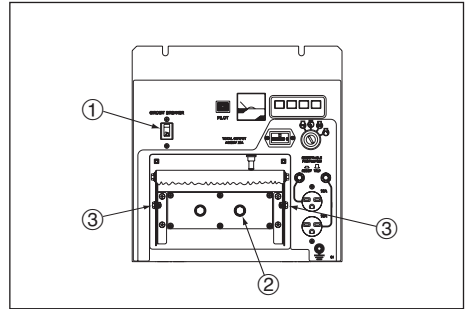
■ Connecting the Load (Terminal Output Model)

⚠ WARNING

To avoid personal injury:

- Connect or disconnect the load to the AC receptacles or terminals only when the engine is stopped.
- For your safety, close the terminal cover after connecting the load.
- For your safety, secure the cover with the lock bolts.

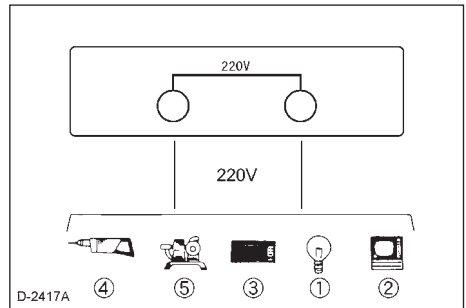
1. Turn OFF the circuit breaker on the control panel.
2. Connect the load to the A.C. output terminals.
3. Be sure to close the terminal cover after connecting the load.



- (1) Circuit breaker
- (2) Terminals (output)
- (3) Cover lock bolt

◆ Single phase 2 terminals type

- i) EDL7000SE-STD, EDL11000SE-STD
50 Hz 220 V



- (1) Light
- (2) Television
- (3) Air conditioner
- (4) Electric drill
- (5) Motor pump

■ Connecting the Load (Receptacles Output Model)

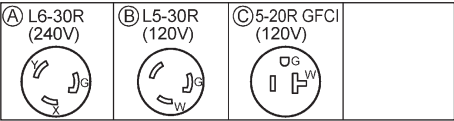
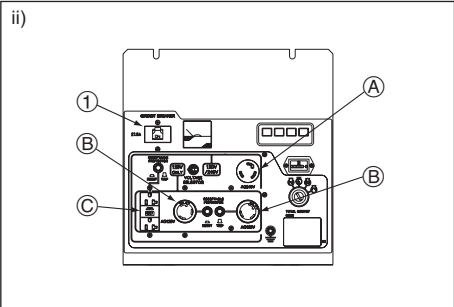
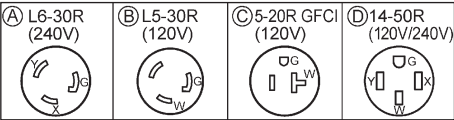
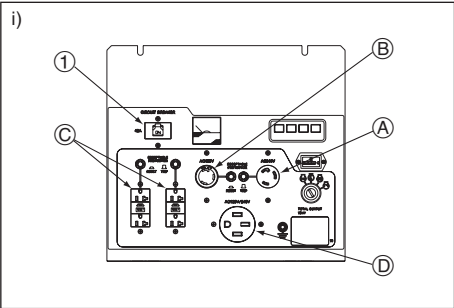


To avoid personal injury:

- Connect or disconnect the load to the AC receptacle only when the engine is stopped.

- i) EDL11000SDE-CAN
60 Hz 120/240 V
- ii) EDL7000SDE-CAN
60 Hz 120/240 V

1. Turn OFF the circuit breaker on the control panel.



(1) Circuit breaker

(A) Receptacle
(B) Receptacle
(C) Receptacle
(D) Receptacle

2. Connect the load to the A.C. receptacles.

■ Connecting the Load (AUS Model)

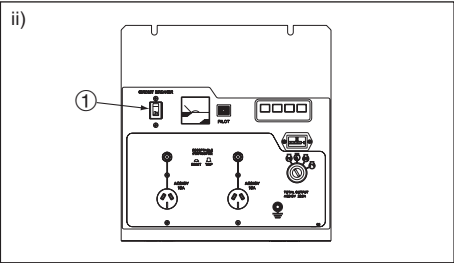
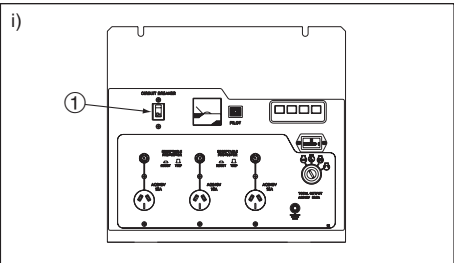


To avoid personal injury:

- Connect or disconnect the load to the AC receptacle only when the engine is stopped.

- i) EDL11000SE-AUS
50 Hz 240 V
- ii) EDL7000SE-AUS
50 Hz 240 V

1. Turn OFF the circuit breaker on the control panel.



(1) Circuit breaker

2. Connect the load to the A.C. receptacles.

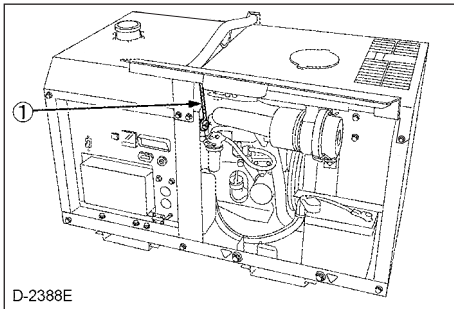
PRE-OPERATION CHECK

■ How to Open the Door

⚠ WARNING

To avoid personal injury from contact with moving parts:

- DO NOT open the door or generator side cover while the engine is running.
- Do not touch muffler or exhaust pipes while they are hot; Severe burns could result.



(1) Door stopper

■ Daily Check

To prevent problems from occurring, it is important to know the condition of the generator. Always perform the following check items before starting the generator.

⚠ WARNING

To avoid personal injury:

- Before checking or servicing the generator, make sure it is on a level surface with the engine shut off.

◆ Check items

- Check for oil and coolant leakage
- Check cooling air inlet and outlet for obstructions or clogging
- Check radiator fins for clogging
- Check fan belt tension
- Check engine oil level
- Check coolant level
- Check generator grounding
- Refuel
(See "Fuel" in "PERIODIC SERVICE" section.)
- Care of danger and warning labels
(See "DANGER AND WARNING LABELS" in "⚠ SAFETY PRECAUTIONS" section.)

⚠ WARNING

To avoid personal injury from contact with moving parts:

- DO NOT open the door or generator side cover while the engine is running.
- Do not touch muffler or exhaust pipes while they are hot; Severe burns could result.

◆ Battery

The battery is shipped in dry, charged condition without electrolyte.

The battery must be charged properly before using for the first time.



DANGER

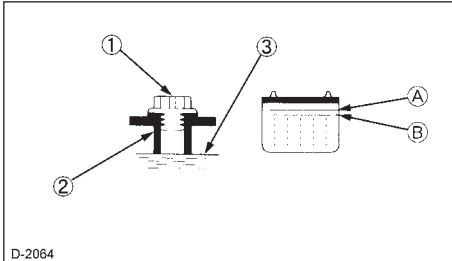
To avoid the possibility of battery explosion:

The battery comes in two types: refillable and non-refillable. For using the refillable type battery, follow the instructions below.

- DO NOT use or charge the battery if the fluid level is below the LOWER (lower limit level) mark. Otherwise, the battery component parts may deteriorate prematurely, shorten the battery's service life; which may cause an explosion. Immediately, add distilled water until the battery's fluid level comes somewhere between the UPPER and LOWER levels.

- **Keep all sparks and flames away from the battery and fuel tank. A battery, especially when charging, will give off hydrogen and oxygen gases which can explode and cause serious personal injury.**

1. Remove the vent plugs.
2. Fill cells up to the upper level with electrolyte.
[Specific gravity of sulfuric acid 1.270 to 1.290 (at 20°C = 68°F)]
3. Allow the battery to sit for about one hour after filling.
4. If the electrolyte level is dropped, refill with electrolyte up to the upper level.
5. Replace the vent plugs.
6. Charge the battery at the normal charging rate of 6.0 amperes.
7. Wash off any electrolyte which may have spilled.



- (1) Vent plug opening (A) Upper level
 (2) Electrolyte level indication (B) Lower level tube
 (3) Indicated level

TIP

- The duration of dry charged efficiency, will decrease in proportion to the period of time elapsed after shipment and during storage. To obtain the longest service life of the battery, it is necessary for the battery to be charged for a sufficient period of time. Continue to charge until all cells are gassing freely, and the voltage and specific gravity reading in all cells remain constant for 3 or more successive readings taken at 30 minute intervals.
- When the battery has been charged fully, the specific gravity of electrolyte should be 1.270 to 1.290 (at 20°C = 68°F).

◆ Engine oil

The generator has been shipped without engine oil. Fill with oil to the correct level before attempting to start the engine.

1. Place the machine on a level surface.
2. Remove the oil cap.
3. Add engine oil of grade CD or higher, up to the upper mark on the oil level gauge.

TIP

- See "Engine Oil" in "PERIODIC SERVICE" section for engine oil capacity and checking engine oil level.

◆ Coolant



To avoid personal injury:

- **Place the machine on a level surface.**
- **DO NOT remove the radiator cap while coolant is hot. When cool, rotate the radiator cap slowly to the first stop to allow excess pressure to escape. Then remove cap completely.**

1. Remove the radiator cap and fill with specified coolant until the coolant level is just below the port.
2. Fill with coolant to the "FULL" mark on the reserve tank.
3. Securely tighten radiator cap and reserve tank cap.

TIP

- See "Radiator" in "PERIODIC SERVICE" section for changing coolant.

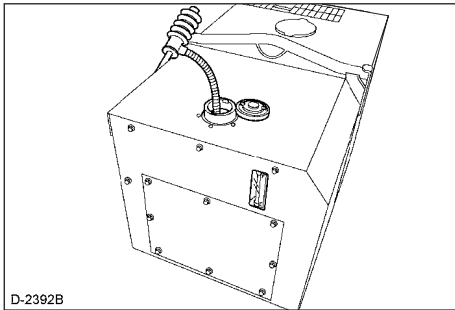
◆ Fuel

⚠ WARNING

To avoid personal injury:

- **DO NOT** refuel when engine is running or hot.
- Always shut off the engine before refueling.
- **DO NOT** overfill fuel system. If any fuel overflows, wipe it up completely before starting operation.
- When refueling, keep all flames, sparks and cigarettes away from generator.

1. Always fill the fuel through the fuel tank strainer.
2. Make sure that dirt or water does not enter the fuel tank.
3. Fill with Diesel fuel No.2-D (ASTMD975).
4. Below 0°C (32°F) a mix of No.1-D and No.2-D is acceptable.
5. Fuel level is read by fuel gauge.

**TIP**

- If the fuel tank should empty completely causing the engine to stop, then the fuel system requires air bleeding after filling the tank and before restarting the engine.
(See "Air bleeding the fuel system" in "PERIODIC SERVICE" section.)

OPERATING THE GENERATOR

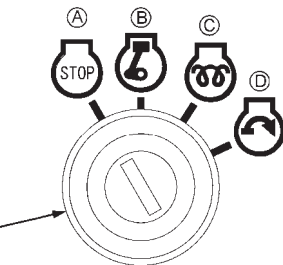
⚠ WARNING

To avoid personal injury:

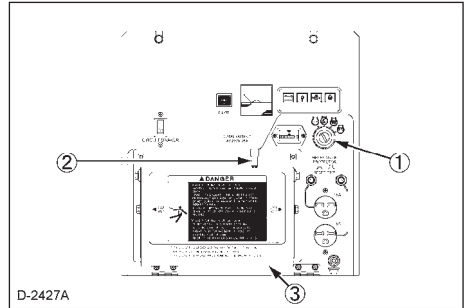
- Read “**SAFETY PRECAUTIONS**” in the front of this manual.
- Read the danger and warning labels located on the generator.
- To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- Always turn OFF the circuit breaker before starting the generator.
- Turn OFF all switches on the electrical devices.
- Check the wiring and connections of the electrical devices before starting the machine.
- DO NOT touch the live parts during operation.

■ Safety Devices

1. Terminal cover is equipped with safety devices to detect the opening and/or closing condition of cover.
 2. Safety switch (2) is located on the terminal cover. If you turn the starter switch (key) to “START” with the terminal cover open, the starter of engine will not activate.
 3. Turn the starter switch (key) to “STOP” to close the terminal cover and then restart the engine.
 4. If you open the terminal cover while the engine is running, the emergency stop system will stop the engine.
- To maintain the battery's life as much as possible, turn the starter switch (key) to the “STOP” position.



D-2426A

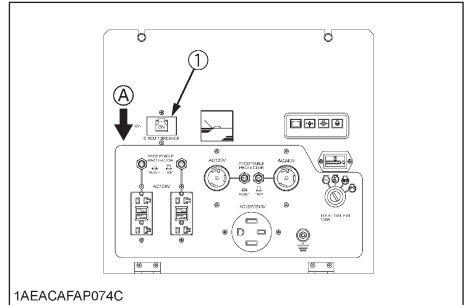


D-2427A

- | | |
|--------------------------|---------------|
| (1) Starter switch (key) | (A) “STOP” |
| (2) Safety switch | (B) “ON” |
| (3) Terminal cover | (C) “PREHEAT” |
| | (D) “START” |

■ Starting the Engine

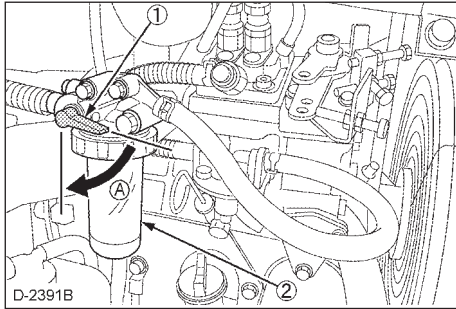
1. Turn OFF all switches on the electrical devices.
2. Turn OFF the circuit breaker on the control panel.



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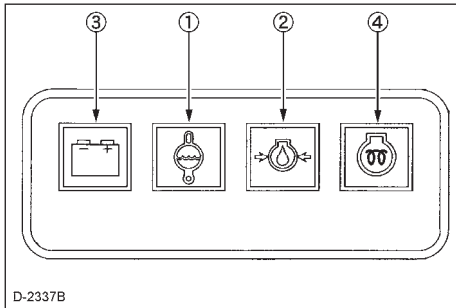
- | | |
|---------------------|-----------|
| (1) Circuit breaker | (A) “OFF” |
|---------------------|-----------|

3. Ensure that the fuel filter cock is set to the "OPEN" position.



- (1) Fuel filter cock
 - (2) Fuel filter pot
- (A) "OPEN"

4. Insert the key into the starter switch and turn it "ON".
5. Check the battery charge lamp and oil pressure lamp are ON.



- (1) Water temperature lamp
- (2) Oil pressure lamp
- (3) Battery charge lamp
- (4) Glow timer lamp

NOTICE

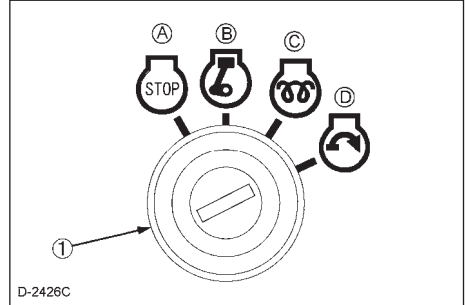
- Do not use ether or any starting fluid for starting the engine, or severe engine damage will occur.

6. Turn the starter switch (key) to "PREHEAT" position.

TIP

- See "Cold Weather Starting" section as to the preheating times.

7. Turn the starter switch (key) to the "START" position and release when the engine starts.



- (1) Starter switch (key)
- (A) "OFF"
(B) "ON"
(C) "PREHEAT"
(D) "START"

NOTICE

- Do not run the starter motor continuously for more than 10 seconds at a time, or it may damage the starter. If the engine fails to start, wait for about 30 seconds and try again.

8. Check to see that the battery charge lamp, oil pressure lamp and water temperature lamp are OFF.

9. Check the warning lamps.

Whenever the engine stops automatically during operation, correct the problem before restarting the engine.

NOTICE

- Be sure to warm up the engine, not only in winter, but also in warmer seasons. An insufficiently warmed-up engine can shorten its service life.

◆ Warm-up in cold ambient temperatures

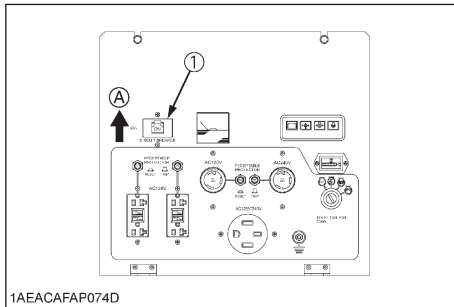
In cold weather, the engine oil may be cold with increased viscosity. This can delay oil circulation or abnormally low oil pressure for some time after engine start-up. This can result trouble in the lubrication circuit or damage to the engine moving parts.

To prevent the above problems, perform the following instructions:

Warm up the engine at rated revolution with no load.

Ambient temperature	Warm-up time requirement
Above 0°C (32°F)	At least 10 minutes
0°C (32°F) to -10°C (14°F)	10 to 20 minutes
Below -10°C (14°F)	More than 20 minutes

10. Turn ON the circuit breaker on the control panel.



(1) Circuit breaker

(A) "ON"

NOTICE

- When there is a severe overload or short circuit in the wiring of the generator, the circuit breaker turns OFF. If this happens, eliminate the cause and then turn the circuit breaker ON again.

11. Turn ON the electrical device switches for the connections.

■ Cold Weather Starting

If the ambient temperature is below * -5°C (23°F) and the engine is very cold, start it in the following manner: Take steps (1) through (5) in "Starting the Engine" section.

6. Turn the starter switch (key) to the "PREHEAT" position until the glow plug indicator goes off.

TIP

- If the ambient temperature is low, the preheating time will take longer.

NOTICE

- Shown below are the standard preheating times for various temperatures. This operation, however, is not required, when the engine is warmed up.

Ambient temperature	Preheating time
Above 10°C (50°F)	NO NEED
10°C (50°F) to -5°C (23°F)	Until glow lamp goes off
*Below -5°C (23°F)	Approx. 5 seconds after the glow lamp goes off
Limit of continuous use	20 seconds

7. Turn the starter switch (key) to “START” position and the engine should start.

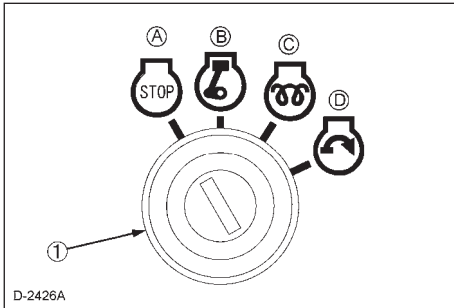
(If the engine fails to start after 10 seconds, turn off the starter switch (key) for 30 seconds. Then repeat steps (6) and (7) above.)

NOTICE

- Do not allow the starter motor to run continuously for more than 10 seconds.
- Be sure to warm up the engine, not only in winter, but also in warmer seasons. An insufficiently warmed-up engine can shorten its service life.
- When there is possibility of temperature drops below -15°C (5°F) detach the battery from the machine, and keep it indoor in a safe area. Reinstalled the battery before the next operation.

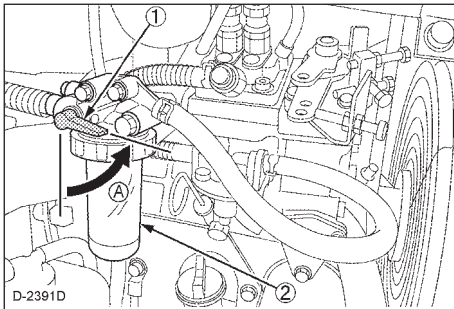
■ Stopping the Engine

1. Turn OFF all electrical device switches for connected loads.
2. Turn OFF the circuit breaker.
3. Allow the engine to run with no load for about 5 minutes before stopping the engine completely.
4. Turn the starter switch (key) to the "OFF" position.



- (1) Starter switch (key)
- (A) "OFF"
(B) "ON"
(C) "PREHEAT"
(D) "START"

5. Turn the fuel filter cock to the "CLOSE" position.



- (1) Fuel filter cock
(2) Fuel filter pot
- (A) "CLOSE"

■ If the Engine Fails to Stop in the Usual Procedure (EMERGENCY STOP)

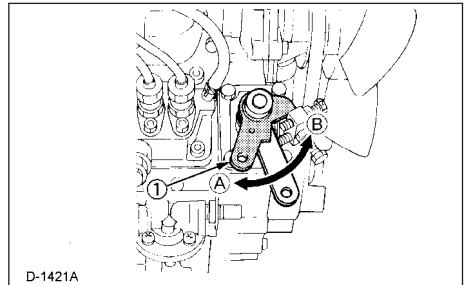
If the engine does not stop after turning the starter switch (key) to "OFF" position, take the following (EMERGENCY STOP) procedure.

⚠ WARNING

To avoid personal injury:

- Keep your hands away from the rotating parts, such as cooling fan and V-belt. Otherwise personal injury may be caused when manipulating the engine stop lever.

1. Open the door, using the door knob.
2. Turn the engine stop lever to "STOP" direction and hold it for 5 to 10 seconds to shut off the engine.



- (1) Engine stop lever
(A) "START"
(B) "STOP"

3. After stopping the engine, make sure that the door is closed and the starter switch (key) is at OFF.
4. The following causes are possible for such unusual engine shut-off.
Pinpoint and correct the cause of trouble.
 - Check for the stop solenoid.
 - Check to see if the battery has discharged too much or is in trouble.
 - Check for disconnection of the battery terminals.

SERVICE INTERVALS

Observe the following for service and maintenance.

The lubricating oil change intervals listed in the table below are for Classes CF, CE and CD lubricating oils of API classification with a low-sulfur fuel in use. If the CF-4 or CG-4 lubricating oil is used with a high-sulfur fuel, change the lubricating oil at shorter intervals than recommended in the table below depending on the operating condition.

No.	Check point	Interval										Ref. page	
		First 50 hours	Every 50 hours	Every 100 hours	Every 200 hours	Every 400 hours	Every 500 hours	Every 800 hours	Every 1500 hours	Every 3000 hours	Every 1 year	Every 2 years	
1	Check of fuel pipes and clamp bands		○									35	@
2	Change of engine oil	○		○								37	○
3	Cleaning of air cleaner element			○								38	*1 @
4	Check of battery electrolyte level			○							○	42	
5	Check of fan belt tension			○								45	
6	Check of radiator hoses and clamp bands				○							41	
7	Check of intake air hose				○							—	@
8	Replacement of oil filter cartridge	○			○							37	○
9	Replacement of fuel filter cartridge or element					○						—	@
10	Cleaning of fuel filter			○								36	
11	Cleaning of water jacket (radiator interior)						○					41	
12	Replacement of fan belt							○				45	
13	Check of valve clearance							○				—	
14	Replacement of air cleaner element										○	38	*2 @
15	Check of damage in electric wiring and loose connections										○	44	
16	Check of fuel injection nozzle injection pressure								○			—	*3 @
17	Check of injection pump									○		—	*3 @
18	Replacement of fuel pipes, fuel gauge and clamp bands										○	35	*3 @
19	Replacement of radiator hoses and clamp bands										○	41	
20	Replacement of battery										○	42	
21	Change of radiator coolant (L.L.C.)										○	40	
22	Replacement of intake air hose										○	—	*4 @

NOTICE

- The jobs indicated by ○ must be done after the first 50 hours of operation.

*1 Air cleaner should be cleaned more often in dusty conditions than in normal conditions.

*2 After 6 times of cleaning.

*3 Consult a Yamaha dealer for this service.

*4 Replace earlier if necessary.

- The items listed above (@ marked) are registered as emission related critical parts by Yamaha in the U.S. EPA non-road emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the above instruction.

Please see the Warranty Statement in detail.

- When the battery is used for less than 100 hours in a year, check its electrolyte yearly. (for refillable battery's only)

For North American market

TIP

■ Engine Oil:

- Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperatures as shown P37.
- Refer to the following table for the suitable API classification engine oil according to and the fuel.

Fuel used	Engine oil classification (API classification)
Ultra Low Sulfur Fuel [$<0.0015\%$ (15 ppm)]	CF, CF-4, CG-4, CH-4 or CI-4

- The CJ-4 engine oil is intended for DPF (Diesel Particulate Filter) type engines.

■ Fuel:

- Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5000 ft).
- Diesel fuels specified to EN 590 or ASTM D975 are recommended.
- No.2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service. (SAE J313 JUN87)
- Since this engine adopts EPA Tier 4 and Interim Tier 4 standards, the use of ultra low sulfur fuel is mandatory in EPA regulated area (North America). Therefore, please use No.2-D S15 diesel fuel as an alternative to No.2-D, or use No.1-D S15 diesel fuel as an alternative to No.1-D if outside air temperature is below -10°C (14°F).

For other than North American market

TIP

■ Engine Oil:

- Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperatures as shown P37.
- With the emission control now in effect, the CF-4 and CG-4 lubricating oils have been developed for use of a low-sulfur fuel on on-road vehicle engines. When an off-road vehicle engine runs on a high-sulfur fuel, it is advisable to employ the "CF or better" lubricating oil with a high Total Base Number (TBN of 10 minimum).
- Refer to the following table for the suitable API classification engine oil according to the fuel.

Fuel used	Engine oil classification (API classification)
High Sulfur Fuel [$\geq 0.05\%$ (500 ppm)]	CF (If the "CF-4, CG-4, CH-4 or CI-4" lubricating oil is used with a high-sulfur fuel, change the lubricating oil at shorter intervals. (approximately half))
Low Sulfur Fuel [$<0.05\%$ (500 ppm)] or Ultra Low Sulfur Fuel [$<0.0015\%$ (15 ppm)]	CF, CF-4, CG-4, CH-4 or CI-4

- The CJ-4 engine oil is intended for DPF (Diesel Particulate Filter) type engines.

■ Fuel:

- Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5000 ft).
- If diesel fuel with sulfur content greater than 0.5% (5000 ppm) sulfur content is used, reduce the service interval for engine oil and filter by 50%.
- DO NOT use diesel fuel with sulfur content greater than 1.0% (10000 ppm).
- Diesel fuels specified to EN 590 or ASTM D975 are recommended.
- No.2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service. (SAE J313 JUN87)

PERIODIC SERVICE

Fuel

Fuel is flammable and can be dangerous. You should handle fuel with care.

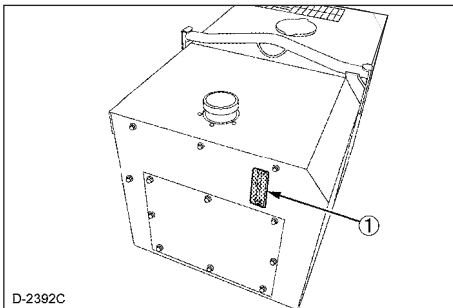
WARNING

To avoid personal injury:

- **DO NOT** mix gasoline or alcohol with diesel fuel. This mixture can cause an explosion.
- Be careful not to spill fuel during refueling. If fuel should spill, wipe it off at once, or it may cause a fire.
- Stop the engine before refueling. Keep the machine away from fire.
- Be sure to stop the engine while refueling or bleeding and when cleaning or changing fuel filter or fuel pipes. **DO NOT** smoke when working around the machine or when refueling.
- Check the above fuel systems in a well ventilated and open place.
- When fuel and lubricant are spilled, refuel after the machine cooled down.

Fuel level check and refueling

1. Check to see that the fuel level is above the lower limit of the fuel level gauge.
2. If the fuel is too low, add fuel to the upper limit. Do not overfill.



D-2392C

(1) Fuel level gauge

No.2-D is a distillate fuel oil of lower volatility for engines in industrial and heavy mobile service. (SAE J313 JUN87)

Grade of Diesel Fuel Oil According to ASTM D975

Flash Point, °C (°F)	Water and Sediment, volume %	Carbon Residue on, 10 percent Residuum, %	Ash, weight %
Min	Max	Max	Max
52 (125)	0.05	0.35	0.01

Distillation Temperatures, °C (°F) 90% Point		Viscosity Kinematic cSt or mm ² /s at 40°C		Viscosity Saybolt, SUS at 100°F		Sulfur, weight %	Copper strip Corrosion	Cetane Number
Min	Max	Min	Max	Min	Max	Max	Max	Min
282 (540)	338 (640)	1.9	4.1	32.6	40.1	0.50	No.3	40

The cetane number is required not to be less than 45.

NOTICE

- Be sure to use a strainer when filling the fuel tank, or dirt or sand in the fuel may cause trouble in the fuel injection pump.
- Always use diesel fuel. You are required not to use alternative fuel, because its quality is unknown and affect the generator performance. Kerosene, which is very low in cetane rating, adversely affects the engine. Diesel fuel differs in grades depending on the temperature.
- Be careful not to let the fuel tank become empty, or air can enter the fuel system, necessitating bleeding before next engine start.

Fuel tank capacity

L (U.S.gal.)

Model	Capacity
EDL7000SE/EDL7000SDE [Engine model : Z482]	28 (7.4)
EDL11000SE/EDL11000SDE [Engine model : D722]	

◆ Air bleeding the fuel system

⚠ WARNING

To avoid personal injury:

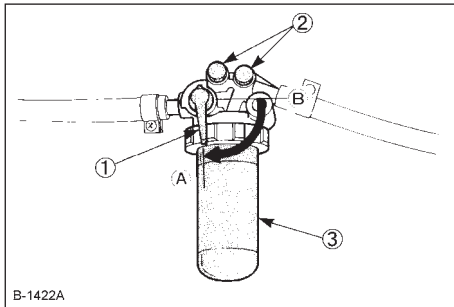
- Do not bleed a hot engine as this could cause fuel to spill onto a hot exhaust manifold creating a danger of fire.

Air bleeding of the fuel system is required if;

- After the fuel filter and pipes have been detached and refitted;
- After the fuel tank has become empty; or
- Before the engine is to be used after long storage.

[PROCEDURE]

1. Fill the fuel tank to the fullest extent. Open the fuel filter cock.
2. Loosen air vent plug of the fuel filter a few turns.
3. Screw back the plug when bubbles do not come up any more.
4. Open the air vent plug on top of the fuel injection pump.
5. Retighten the plug when bubbles do not come up any more.



B-1422A

- (1) Fuel filter cock
(2) Air vent plug
(3) Fuel filter pot

(A) "OPEN"
(B) "CLOSE"

◆ Checking the fuel pipes

⚠ WARNING

To avoid personal injury:

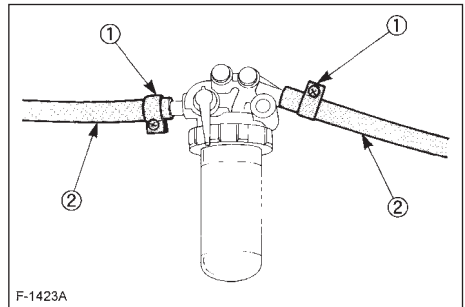
- Check or replace the fuel pipes after stopping the engine. Broken fuel pipes can cause fires.

Check the fuel pipes every 50 hours of operation. When if;

1. If the clamp band is loose, apply oil to the screw of the band, and tighten the band securely.
2. If the fuel pipes made of rubber became worn out replace them and clamp bands every two years.
3. If the fuel pipes and clamp bands are found worn or damaged before two years' time, replace or repair them at once.
4. After replacement of the pipes and bands, air-bleed the fuel system.

NOTICE

- When the fuel pipes are not installed, plug them at both ends with clean cloth or paper to prevent dirt from entering. Dirt in the pipes can cause fuel injection pump malfunction.



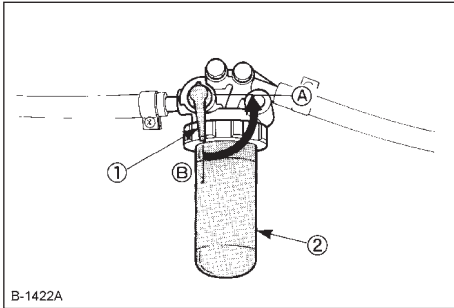
F-1423A

- (1) Clamp band
(2) Fuel pipe

◆ Cleaning the fuel filter pot

Every 100 hours of operation, clean the fuel filter in a clean place to prevent dust intrusion.

1. Close the fuel filter cock.



- (1) Fuel filter cock
(2) Fuel filter pot
(A) "CLOSE"
(B) "OPEN"

2. Remove the top cap, and rinse the inside with diesel fuel.
3. Take out the element, and rinse it with diesel fuel.
4. After cleaning, reinstall the fuel filter, keeping out of dust and dirt.
5. Air-bleed the injection pump.

NOTICE

- Entrance of dust and dirt can cause a malfunction of the fuel injection pump and the injection nozzle. Wash the fuel filter pot periodically.

■ Engine Oil

⚠ WARNING

To avoid personal injury:

- Be sure to stop the engine before checking and changing the engine oil and the oil filter cartridge.
- **DO NOT** touch muffler or exhaust pipes while they are hot; severe burns could result. Always stop the engine and allow it to cool before conducting inspections, maintenance, or cleaning.
- Contact with engine oil can damage your skin. Put on gloves when handling engine oil. If you come in contact with engine oil, wash it off immediately.

TIP

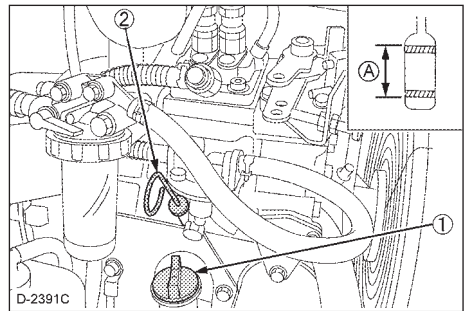
- Be sure to check the engine oil on a level surface. If placed on gradients, oil quantity can not be measured accurately.

NOTICE

- Do not operate a diesel engine when engine oil is overfilled. This can effect the air intake system which could result in engine damage or malfunction.

◆ Checking oil level and adding engine oil

1. Check the engine oil level before starting or more than 5 minutes after stopping the engine.
2. Remove the oil level gauge, wipe it clean and reinstall it.
3. Take the oil level gauge out again, and check the oil level.



- (1) Oil port
(2) Oil level gauge
[Lower end of oil level gauge]
(A) Engine oil level within this range is proper.

4. If the oil level is too low, remove the oil port, and add new oil to the prescribed level.
5. After adding oil, wait more than 5 minutes and check the oil level again. It takes some time for the oil to drain down to the oil pan.
6. If the engine is operated with the oil level nearing the lower limit, the oil may deteriorate more quickly than normal, therefore, keeping the oil level near the upper limit is recommended.

Engine oil capacity L (U.S.qts.)

Model	Capacity
EDL7000SE/EDL7000SDE [Engine model : Z482]	2.2 (2.3)
EDL11000SE/EDL11000SDE [Engine model : D722]	3.4 (3.6)

NOTICE

- Engine oil should be MIL-L-2104C or have properties of API classification CD grades or higher. Change the type of engine oil according to the ambient temperature.

above 25°C (77°F)	SAE30 or SAE10W-30 SAE10W-40
0 to 25°C (32 to 77°F)	SAE20 or SAE10W-30 SAE10W-40
below 0°C (32°F)	SAE10W or SAE10W-30 SAE10W-40

- When using oil of different brands from the previous one, be sure to drain all the previous oil before adding the new engine oil.

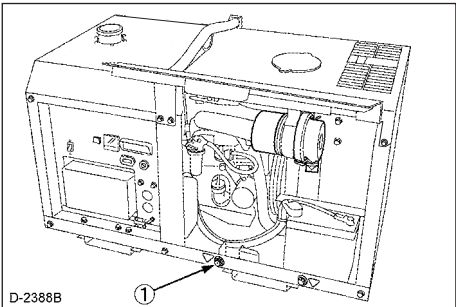
◆ Changing engine oil

! WARNING

To avoid personal injury:

- Be sure to stop the engine before draining engine oil.
- When draining engine oil, place a suitable container underneath the engine and dispose of it according to local regulations.
- DO NOT drain oil from a hot engine. Allow engine to cool down sufficiently to avoid being burned.

1. Change oil after the initial 50 hours of operation and every 100 hours thereafter.
2. Remove the drain plug to drain the engine oil. Drain all the old oil, drains easier and completely when the engine is warm. Inspect drain plug gasket. Replace if damaged.



(1) Engine oil drain plug

3. Install the oil drain plug and gasket.
4. Add new engine oil up to the upper line of the oil level gauge.

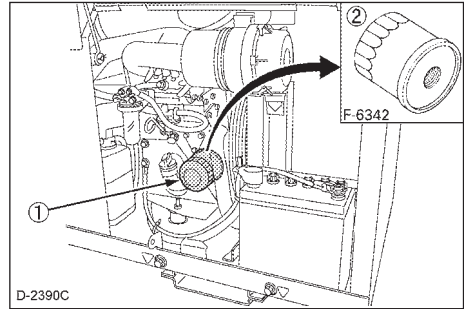
◆ Replacing the oil filter cartridge

! WARNING

To avoid personal injury:

- Be sure to stop the engine before changing the oil filter cartridge.
- Allow engine to cool down sufficiently. Oil can be hot and cause burns.

1. Replace the oil filter cartridge every 200 hours of operation.
2. Remove the old oil filter cartridge with a filter wrench. Dispose of filter properly.
3. Apply a film of oil to the gasket of the new cartridge.
4. Screw in the cartridge by hand. When the gasket contacts the seal surface, tighten the cartridge firmly only by hand. If you tighten the cartridge with a wrench, it will be tightened too much.



- (1) Oil filter cartridge
- (2) Remove with a filter wrench
(Tighten with your hand)

5. After the new cartridge has been replaced, the engine oil level normally decreases a little. Therefore run the engine for a while and check for oil leaks through the seal before checking the engine oil level. Add oil if necessary.

TIP

- Completely wipe off any oil sticking to the machine in the filter area.

■ Air Cleaner

⚠ WARNING

To avoid personal injury:

- Be sure to stop the engine before cleaning air filter element.

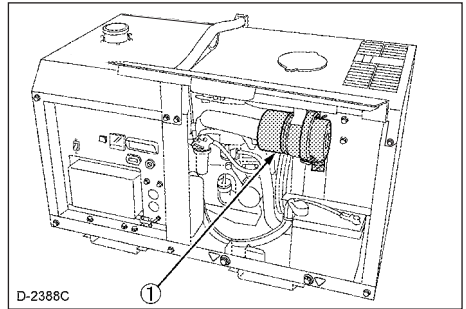
NOTICE

- Make sure hooking clip is tight enough. If it is loose, dust and dirt may be sucked into the engine, causing excessive wear or premature engine failure and need for engine repair.

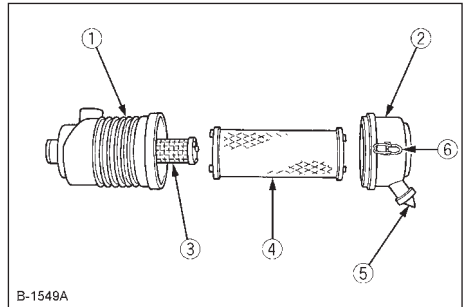
◆ Cleaning secondary air filter element

Since the air cleaner employed on this engine is a dry type, never apply oil to it.

1. Open the evacuator valve once a week under ordinary conditions - or daily when used in severe or dusty conditions. This will get rid of large particles of dust and dirt.
2. Wipe the inside air cleaner clean with cloth if it is dirty or wet.
3. Avoid touching the element except when cleaning.
4. When dry dust adheres to the element, blow compressed air from the inside turning the element. Pressure of compressed air must be under 205 kPa (2.1 kgf/cm², 30 psi).
5. When carbon or oil adheres to the element, soak the element in detergent for 15 minutes, then wash it several times in water, rinse with clean water and dry it naturally.
6. After the element is fully dried, inspect the inside of the element with a light, and check if it is damaged or not. (referring to the instructions on the label attached to the element.)
7. Replace the primary element every year or every 6 cleanings. If the primary element is heavily stained, replace it sooner. At this time, also replace the secondary element.
8. The secondary element should be removed only if it is to be replaced.
9. To protect the engine, do not remove the secondary element in normal servicing of the primary element.



(1) Air cleaner



- B-1549A
- (1) Air cleaner body
 - (2) Cover
 - (3) Secondary element
 - (4) Primary element
 - (5) Evacuator valve
 - (6) Hooking clip

◆ Cleaning primary air filter element

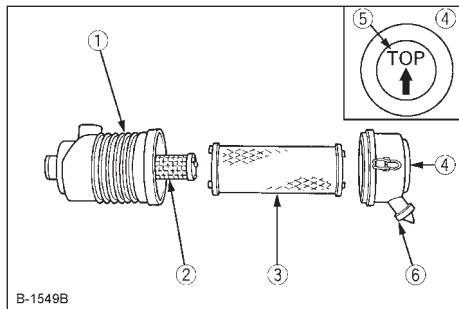
1. To clean the element, use clean dry compressed air on the inside of the element. Air pressure at the nozzle must not exceed 205 kPa (2.1 kgf/cm², 30 psi). Maintain reasonable distance between the nozzle and filter.
2. To wash the elements, use Donaldson ND-1500 Filter Cleaner, or its equivalent, which is especially effective on oily and soot-laden filters. Follow instructions that are supplied with the filter cleaner.

◆ Evacuator valve

Open the evacuator valve once a week under ordinary conditions - or daily when used in dusty condition - to get rid of large particles of dust and dirt.

NOTICE

- If the dust cup is mounted incorrectly, dust or dirt will not collect in the cup and allow the dust to come into direct contact with the element and thus require the element be replaced prematurely.



- B-1549B
- (1) Air cleaner body
 - (2) Secondary element
 - (3) Primary element
 - (4) Dust cup
 - (5) "TOP" mark
 - (6) Evacuator valve

◆ **Air cleaner with dust cup**

Remove and clean out the dust cup once a week under normal conditions or daily in extreme conditions. Do not allow the dust cup to fill above half way regardless of conditions.

Install the air cleaner dust cup with "TOP" indicated on the rear of the cup in the upward position with horizontally mounted air cleaner bodies or vertically mounted air cleaner bodies, the cup may be mounted in any direction.

■ **Radiator**

Make it a rule to check the coolant level before every operation.

⚠ WARNING

To avoid personal injury:

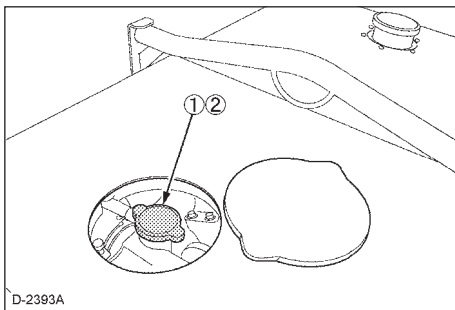
- **DO NOT** stop the engine suddenly, stop it after about 5 minutes of unloaded idling.
- Work only after letting the engine and radiator cool off completely (more than 30 minutes after it has been stopped).
- **DO NOT** remove the radiator cap while coolant is hot. When cool, rotate cap slowly to the first stop to allow excess pressure to escape.

Then remove cap completely.

If overheating should occur, steam gushes out from the radiator or reserve tank; Allow the engine to cool before attempting to open the cap. Severe burns could result.

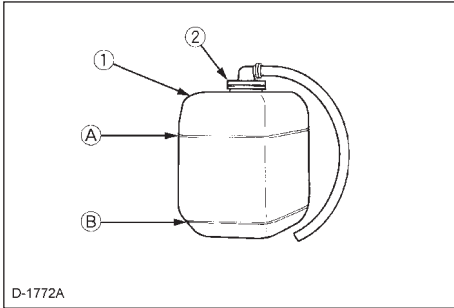
◆ **Checking coolant level, adding coolant**

1. Remove the radiator cap after the engine has completely cooled, and check to see that coolant reaches the supply port.



- D-2393A
- (1) Radiator cap
 - (2) Coolant filling port

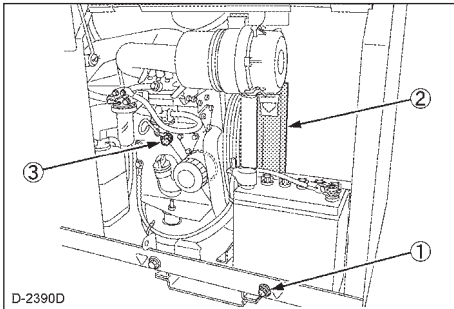
2. If the radiator is provided with a reserve tank, check the coolant level of the reserve tank. When it is between the "FULL" and "LOW" marks, the coolant will usually last for one day's work.



D-1772A

- (1) Reserve tank
(2) Cap
(A) "FULL"
Upper line 0.6 L
(0.63 U.S.qts.)
(B) "LOW"

3. When the coolant level drops due to evaporation, add only 50/50 coolant up to the full level.
4. Check to see the two drain plug; one is at the crankcase side and the other is at the lower part of the radiator as shown below.



D-2390D

- (1) Coolant drain plug (Radiator)
(2) Radiator
(3) Coolant drain plug (Engine)

NOTICE

- If the radiator cap has to be removed, proceed with caution and securely retighten the cap.
- If coolant is leaking, consult a Yamaha dealer.
- Make sure that muddy or sea water is not used in the radiator.
- Use clean, fresh water and 50% anti-freeze to fill the recovery tank.
- Do not refill reserve tank with

coolant over the "FULL" level mark.

- Be sure to close the radiator cap securely. If the cap is loose or improperly closed, coolant may leak out and decrease the level quickly.
- When coolant is added, coolant level may drop the first time the engine is started. Stop the engine, and add coolant if necessary.

◆ Changing coolant

1. To drain coolant, always remove both drain plugs and simultaneously open the radiator cap as well. With the radiator cap kept closed, the coolant will not drain completely. Dispose of used coolant properly.
2. Remove the overflow pipe of the radiator pressure cap to drain the reserve tank.
3. Prescribed coolant volume

L (U.S.qts.)

Model	Capacity
EDL7000SE/EDL7000SDE [Engine model : Z482]	3.7 (3.9)
EDL11000SE/EDL11000SDE [Engine model : D722]	4.1 (4.3)

include reserve tank 0.6 L (0.63 U.S.qts.)

4. An improperly tightened radiator cap or a gap between the cap and the seat increases loss of coolant.
5. Coolant (Water and anti-freeze)
All seasons: Pure water and anti-freeze (See "Anti-freeze" in "Radiator" section.)

◆ Remedies for rapid coolant loss

1. Check for dust and dirt between the radiator fins and cooling tube. Clean the fins and the tubes as if necessary.
2. Check the tension of the fan belt. If loose, tighten it securely.
3. Check the internal blockage in the radiator cooling tubes. If scale forms in the tubes, clean with the scale inhibitor or its equivalent.

◆ Checking radiator hoses and clamps

⚠ WARNING

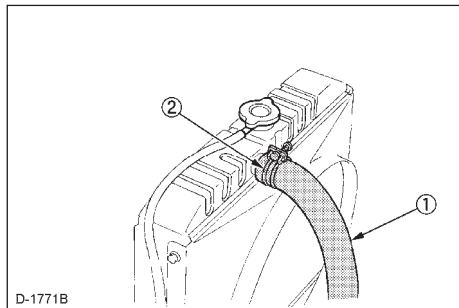
To avoid personal injury:

- Be sure to check radiator hoses and hose clamps periodically. If radiator hoses are damaged or coolant leaks out, overheating can occur.

Check to see if radiator hoses are properly fixed every 200 hours of operation or 6 months, whichever comes first.

1. If hose clamps are loose or water leaks, tighten hose clamps securely.
2. Replace hoses and hose clamps if radiator hoses are swollen, hardened or cracked.

Replace hoses and hose clamps every 2 years, or earlier as required, if hoses are found to be swollen, hardened or cracked.



- (1) Radiator hose
(2) Hose clamp

◆ Precaution at overheating

The event that the coolant temperature is nearly or more than the boiling point is called “**OVERHEATING**”. While running, make the following checks to see that all parts are working correctly. **If anything is unusual, inspect it, referring to the relevant description in “SERVICE INTERVALS” and “PERIODIC SERVICE” section.**

● Coolant

If the coolant temperature warning lamp lights up or if steam or coolant does not stop squirting from the radiator overflow pipe, turn off the load and **keep the engine idling (COOLING-DOWN) for at least 5 minutes** to let it cool down gradually. Then stop the engine and take the following inspection and servicing.

1. Check to see if the coolant runs short or if there is any coolant leak;
2. Check to see if there is any obstacle around the cooling air inlet or outlet;
3. Check to see if there is any dirt or dust between radiator fins and tube;
4. Check to see if the fan belt is too loose; and
5. Check to see if radiator water pipe is clogged.

◆ Cleaning radiator core (outside)

If dust is between the fin and tube, wash it away with running water.

NOTICE

- Do not clean radiator with firm tools such as spatulas or screwdrivers. They may damage the delicate fins or tubes. It can cause coolant leaks or decrease cooling performance.
- Be careful to keep water off of electrical parts.

◆ Cleaning the radiator

Clean the cooling system of the engine every 500 hours.

In addition, clean it before adding anti-freeze and before stopping use of anti-freeze.

◆ Anti-freeze

⚠ WARNING

To avoid personal injury:

- When using anti-freeze, put on some protection such as rubber gloves.
- When anti-freeze comes in contact with the skin or clothing, wash it off immediately.
- DO NOT mix different types of anti-freeze.
- Keep fire and children away from anti-freeze.
- Be mindful of the environment and ecology. Before draining any fluids, find out the correct way of disposing by checking with local codes.
- Also, observe the relevant environmental protection regulations when disposing of oil, fuel, coolant, filters and batteries.

If coolant freezes it can damage the cylinders and radiator. It is necessary, if the ambient temperature falls below 0°C (32°F), to either drain coolant after operating or to add anti-freeze to it.

1. There are two types of anti-freeze available; use the permanent type (PT) for this engine.
2. Before adding anti-freeze for the first time, clean the radiator and engine interior by pouring fresh water, and draining it a few times.

3. The procedure for the mixing of water and anti-freeze differs according to the make of the anti-freeze and the ambient temperature. Follow the instructions on the container.
4. Mix the anti-freeze with water, and then pour into the radiator.

NOTICE

- **When the anti-freeze is mixed with water, the anti-freeze mixing ratio must be less than 50%.**

Vol % Anti-freeze	Freezing Point		Boiling Point *	
	°C	°F	°C	°F
40	-24	-12	106	222
50	-37	-34	108	226

* At 1.013×10^5 Pa (760 mmHg) pressure (atmospheric).
A higher boiling point is obtained by using a radiator pressure cap which permits the development of pressure within the cooling system.

TIP

- The above data represents industry standards that necessitate a minimum glycol content in the concentrated anti-freeze.
- When the coolant level drops due to evaporation, add water only to keep the anti-freeze mixing ratio less than 50%. In case of leakage, add anti-freeze and water in the specified mixing ratio before pouring into the radiator.
- Anti-freeze absorbs moisture. Keep unused anti-freeze in a tightly sealed container.
- Do not use radiator cleaning agents when anti-freeze has been added to the coolant. (Anti-freeze contains an anti-corrosive agent, which will react with the radiator cleaning agent forming sludge which will affect the engine parts.)

Battery**⚠ WARNING**

To avoid personal injury:

- Be careful not to let the battery electrolyte contact your body or clothing.
- Wear eye protection and rubber gloves, since the diluted sulfuric acid solution burns skin and eyes, and eats holes in clothing. Should this occur, immediately wash it off with running water and get medical attention.

Mishandling of the battery shortens the service life and adds to maintenance costs. Obtain the maximum performance and the longest life of the battery by handling properly and with care.

Engine starting will be difficult, if the battery charge is low. Be sure to keep the battery in a fully charged state for best performance and battery life.

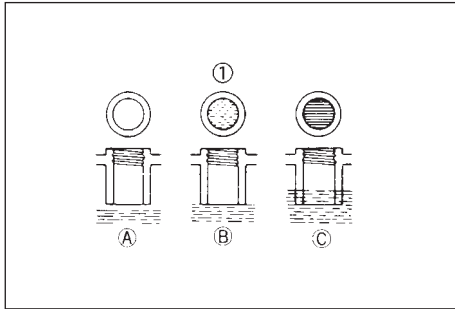
◆ Battery charging**DANGER**

To avoid the possibility of battery explosion:

The batteries come in two types: refillable and non-refillable. For using the refillable type battery, follow the instructions below.

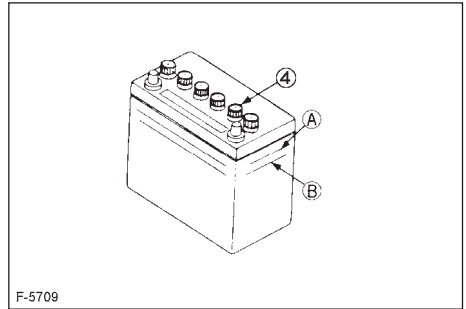
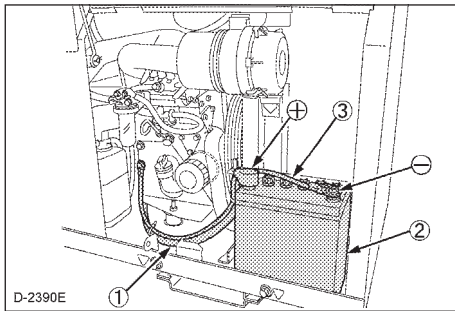
- **DO NOT use or charge the battery if the fluid level is below the LOWER (lower limit level) mark.** Otherwise, the battery component parts may deteriorate prematurely, which will shorten the battery's service life or may cause an explosion. Immediately, add distilled water until the battery's fluid level comes somewhere between the UPPER and LOWER levels.
- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.
- When charging the battery, ensure the vent caps are securely in place (if equipped).
- When disconnecting the cable from the battery, start with the negative terminal, and when connecting them, start with the positive terminal first.
- **DO NOT check the battery charge by placing a metal object across the terminals.** Use a voltmeter or hydrometer.

1. Make sure that each electrolyte level is to the bottom of vent wells, if necessary, add only distilled water in a well-ventilated place.



- (1) Battery electrolyte level (A) "TOO LOW"
(B) "PROPER"
(C) "TOO HIGH"

2. To slow charge the battery, connect the charger positive terminal to the battery positive terminal, and the negative to the negative, then recharge in the normal manner.
3. Quick recharging charges the battery at a high rate in a short time. This is only for emergencies.
4. Recharge the battery as early as possible, or battery life will be extremely shortened.
5. When exchanging an old battery for a new one, use a battery of equal specifications shown in page 14 to 15.



- (1) Thick cable red \oplus (A) "HIGHEST LEVEL"
(2) Battery case (B) "LOWEST LEVEL"
(3) Negative / ground cable black \ominus
(4) Plug

NOTICE

- Connect the charger positive terminal to the battery positive terminal, and negative to the negative.
- When disconnecting the cable from the battery, start with the negative terminal first. When connecting the cable to the battery, start with the positive terminal first. If reversed, the contact of tools on the battery may cause a shortage.
- DO NOT remove or disconnect the battery during operation, otherwise the engine cannot be stopped with the starter switch (key).

◆ Instructions for long term storage

1. When storing the generator for long periods of time, remove the battery, adjust the electrolyte to the proper level, and store in a dry and dark place.
2. The battery naturally discharges while it is stored. Recharge it 1 month in summer, and every 2 months in winter.

◆ Battery boost starting

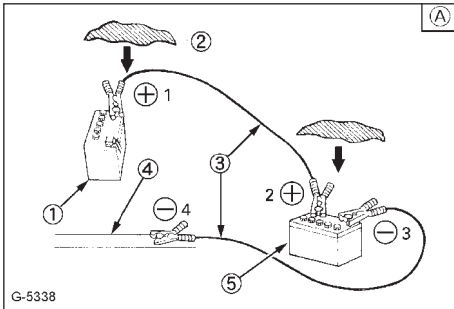
**DANGER**

To avoid serious personal injury:

- Battery gases can explode. Keep cigarettes, sparks, and flames away from battery.
- If generator battery is frozen, do not battery boost start engine.
- **DO NOT** connect other end of negative \ominus jumper cable to negative \ominus terminal of generator battery.
- Connect to chassis or engine.

When battery boost starting engine, follow the instructions below to safely start the engine.

1. Bring helper battery of the same voltage as disabled generator within easy cable reach.
2. Put on safety goggles and rubber gloves.
3. Ensure the vent caps are securely in place. (if equipped)
4. Cover vent caps with damp rags. Do not allow the rag to touch the battery terminals.
5. Attach the red clamp to the positive (red, \oplus or pos.) terminal of the dead battery and clamp the other end of the same cable to the positive (red, \oplus or pos.) terminal of the helper battery.



- (1) Dead battery
 - (2) Lay a damp rag over vent caps.
 - (3) Jumper cables
 - (4) Engine block or frame
 - (5) Helper battery
- (A) Connect cables in numerical order. Disconnect in reverse order after use.

6. Clamp the other cable to the negative (black, \ominus or neg.) terminal of the helper battery.
7. Clamp the other end to the engine block or frame of the generator as far from the dead battery as possible.
8. Start the disabled generator.
9. Disconnect the jumper cables in the exact reverse order of attachment. (Steps 7, 6 and 5).
10. Remove and discard the damp rags.

NOTICE

- This machine has a 12 volt negative \ominus ground starting system.
- Use only same voltage for jump starting.
- Use of a higher voltage source on generators electrical system could result in severe damage to generators electrical system.

■ Electric Wiring

WARNING

To avoid personal injury:

Shorting of electric cable or wiring may cause a fire.

- Check to see if electric cables and wiring are swollen, hardened or cracked.
- Keep dust and water away from all power connections. Loose wiring and terminal parts make bad connections, be sure to repair them before starting the engine.

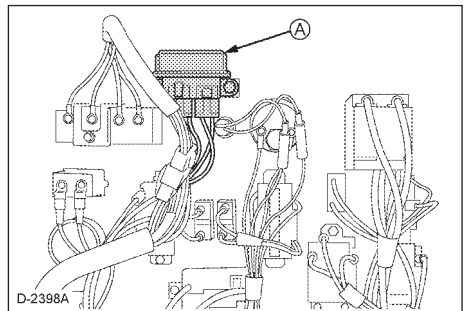
Damaged wiring reduces the capacity of electrical parts. Change or repair damaged wiring immediately.

■ Fuse

The electrical system is protected from potential damage by fuses.

A blown fuse indicates that there is an overload or a short circuit somewhere in the electrical system.

If any of the fuses should blow, replace with a new one of the same capacity.

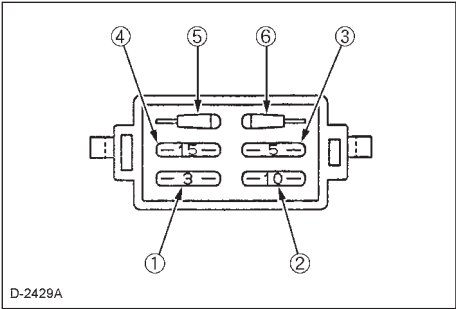


(A) Fuse box

NOTICE

- Before replacing a blown fuse, determine why the fuse blew and make any necessary repairs. Failure to follow this procedure may result in serious damage to the generator electrical system. Refer to the troubleshooting section of this manual or a Yamaha dealer for specific information.

[Engine model ... Z482, D722]



- D-2429A
- (1) Fuse 3 A : External connection terminal block
 - (2) Fuse 10 A : AC (Accessory Line)
 - (3) Fuse 5 A : Glow
 - (4) Fuse 15 A : Solenoid
 - (5) Fuse 15 A : (spare)
 - (6) Fuse 10 A : (spare)

■ Fan Belt

◆ Adjusting fan belt tension

WARNING

To avoid personal injury:

- Be sure to stop the engine and remove the key before checking the belt tension.
- Be sure to reinstall the detached safety shield after maintenance or checking.

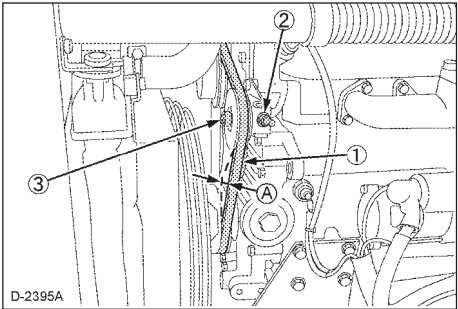
Proper fan belt tension	A deflection of between 12 to 14 mm (0.47 to 0.55 in.) when the belt is pressed in the middle of the span.
-------------------------	--

1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to belt between pulleys.
3. If the belt tension is not as specified, loosen the lock nut and turn the adjust nut to get the belt tension within the specified range.

4. Tighten up the lock nut.
5. Replace fan belt if it is damaged.

NOTICE

- If belt is loosen or damaged and the fan is damaged, it could result in overheating or insufficient charging. Adjust correctly or replace the belt.




- D-2395A
- (1) Fan belt
 - (2) Bolt and adjust nut
 - (3) Lock nut
- (A) 12 to 14 mm (0.47 to 0.55 in.)
(under load of 98 N (22.1 lbs.))

TRANSPORTING / STORAGE

■ Transporting

WARNING

To avoid personal injury:

- Secure the generator to prevent movement during operation.
- DO NOT stand near or under the generator while it is suspended.
- The generator is heavy. Utilize suitable equipment to lift and transport. Keep hands and feet away from under the suspended generator.
- When transporting the generator, remove the  battery cable, close the fuel filter cock, and keep the generator level to prevent fuel spillage.
- Use hangers and wire ropes which are strong enough to withstand the weight of the machine.

1. When transporting the generator, use only suitable transporting equipment, such as crane, fork lift or etc.
2. The generator is equipped with the 2 inlets in the machine bed for forklift forks. Transportability is increased by 2 ways; special forklift openings and 1- point lifting hook.
Use lifting equipment of sufficient capacity.

Model	Approx. gross wt. kg (lbs.)
EDL7000SE/EDL7000SDE [Engine model: Z482]	262 (577)
EDL11000SE/EDL11000SDE [Engine model: D722]	318 (700)

■ Storage

WARNING

To avoid personal injury:

- DO NOT clean the machine with engine running.
- To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- When storing the generator just after running, let the engine cool off.

Before storing the generator for more than a few months, remove any dirt on the machine, and:

1. Remove dirty engine coolant, fill with new coolant and run the engine for about 5 minutes.
When coolant is added, coolant level drops the first time the engine is started, stop the engine and add more coolant.
2. Remove dirty engine oil, fill with new oil and run the engine for about 5 minutes to let the oil penetrate to all the parts.
3. Check all the bolts and nuts, and tighten if necessary.
4. Remove the battery from the generator, adjust the electrolyte level, and recharge it. Store the battery in a dry and dark place.
5. When the engine is not used for a long period of time, run it for about 5 minutes under no load every 2 to 3 months to keep it free from rust. If the engine is stored without any running, moisture in the air may condense into dew over the sliding parts of the engine, resulting in rust.
6. If you forget to run the engine for longer than 5 to 6 months, apply enough engine oil to the valve guide and valve stem seal and make sure the valves work smoothly before starting the engine.
7. Store the generator in a flat place and remove the key.
8. Do not store the generator in a place where flammable materials such as dry grass or straw are present.
9. When covering the generator for storage, let engine and muffler cool off completely.
10. Operate the engine after checking and repairing damaged wiring or pipes, and clearing flammable materials carried by rodents, insects or birds.

TROUBLESHOOTING


WARNING

To avoid personal injury:

- Always perform any check at “STOP” condition except for special check in which operation is required.
- Do not touch the charging section during operation.
- Keep your hands and body away from the rotating parts during operation.

If the machine does not function properly, use the following chart to identify and correct the cause.

Generator

Trouble	Cause	Countermeasure
After electrical equipment connected, generator does not operate.	Circuit breaker is off.	• Turn breaker “ON”.
	Contact of output terminal and socket is bad.	• Reinstall.
	Malfunction of electrical equipment	• Request repair.
Not generating	Bad contact of brush	• Check, cleaning and maintenance of contact face and contact force of brush and slip ring. ( Danger: All works should be performed when stopped)
Circuit breaker can not be operated.	Overload	• Reduce load.
	Short circuit of load circuitry connected to output section	• Repair load.
Output cannot be obtained. • Rotation goes slow. • Voltage drops. • Breaker turns off.	Initial current is too much. (e.g. motor load)	• Reduce load.
	Overload	• Reduce load.
Engine indicates loaded condition.	Short circuit of generator wiring	• Stop immediately. Request for repair.

Easy Checker

Trouble	Cause	Countermeasure
When the key is turned, the lamp doesn't light on.	Bulb is defective.	• Replace
	Component or wiring defect of charging circuit	• Check, repair
The water temperature lamp lights on when operating.	Engine overheating.	• See “Precaution at overheating” in “Radiator” section. (See page 41)
	Water temperature sensor faulty.	• Replace the water temperature sensor.
	Water temperature sensor wiring faulty.	• Repair the wiring.
The oil pressure lamp lights on when operating.	Insufficient engine oil.	• Add engine oil.
	Lubricating system in trouble.	• Check the system.
	Oil pressure sensor faulty.	• Replace the sensor.
	Oil pressure sensor wiring faulty.	• Repair the wiring.
The battery charge lamp lights on when operating.	Poor contact of sub winding.	• Connect tightly.
	Sub winding problem.	• Check the sub winding.

■ Engine

Trouble		Cause	Countermeasure	
Not started.	Not turned or slow turning.	Battery trouble.	• Replacement of battery.	
		Insufficient battery charge.	• Recharge battery.	
		Slow turning at cold circumstance due to high viscosity of engine oil. Fuse blown out (Slow blow fuse)	• Replace engine oil to D5W40 or D10W30 for cold. • Replace fuse.	
		Terminal cover open.	• Close terminal cover. Fix terminal cover with panel lock bolts.	
	Normal turning, but not started.	Fuel shortage.	• Refuel.	
		Fuel does not flow.	• Check fuel filter. If filter is dirty, replace. • Check fuel tank. Remove the settled impurities or moisture.	
		Air and water are contained in fuel supply line.	• Check pipe and fastening clamp. If any damage exists, replace or repair. • Relieve air. • Remove water inside of fuel tank and filter.	
		Injection pipe is loosened.	• Re-tighten.	
Engine starts but stops immediately.		Engine oil shortage.	• Add engine oil to upper limit of gauge.	
Rotation is irregular.		Fuel shortage.	• Refuel.	
		Fuel does not flow.	• Check fuel filter. If filter is dirty, replace. • Check fuel tank. Remove the settled impurities or moisture.	
		Air and water are contained in the fuel supply line.	• Check pipe and fastening clamp. If any damage exists, replace it, or repair. • Relieve air. • Remove water inside of fuel tank and filter.	
			Injection pipe is loosened.	• Re-tighten.
			Engine suddenly stops.	
Insufficient engine oil.	• Fill oil.			
Water temperature is too high. • Insufficient cooling water. • Loosened water pump belt. • Blockage of radiator.	• Fill cooling water. • Adjust belt tension. • Clean.			
Terminal cover open.	• Close terminal cover. Fix terminal cover with panel lock bolts.			
Insufficient output. When loaded, rotation goes slow.		Choke of air cleaner element.		
		Choke of fuel system.	• Check.	
		Choke of fuel filter.	• Element cleaning.	
		Oil deterioration.	• Replace engine oil.	
		Overload.	• Refer to generator.	
Coolant leaks out.		Insufficient cooling water.	• Fill cooling water.	
		Loosened fan belt.	• Adjust belt tension.	
		Blockage of radiator.	• Clean.	
Exhaust gas is bad.		Choke of air cleaner element.	• Clean air cleaner element.	
		Engine oil is over filled.	• Remove oil to upper limit of gauge.	
		Fuel quality is bad.	• Replace fuel with good quality fuel.	
Abnormal sound Large vibration.		Crack of vibration-proof rubber.	• Replace.	
		Others.	• Check, repair.	

If you have any questions, contact a Yamaha dealer.

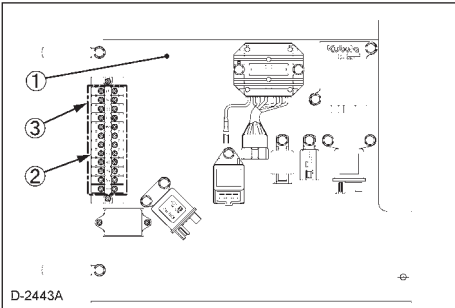
AUTOMATIC START/STOP UNIT (A S/S UNIT)

To connect the machine to the A S/S UNIT the generator is equipped with the ectt on the left side panel of the control panel.

To connect the exterior apparatus with the machine, perform the following instructions;

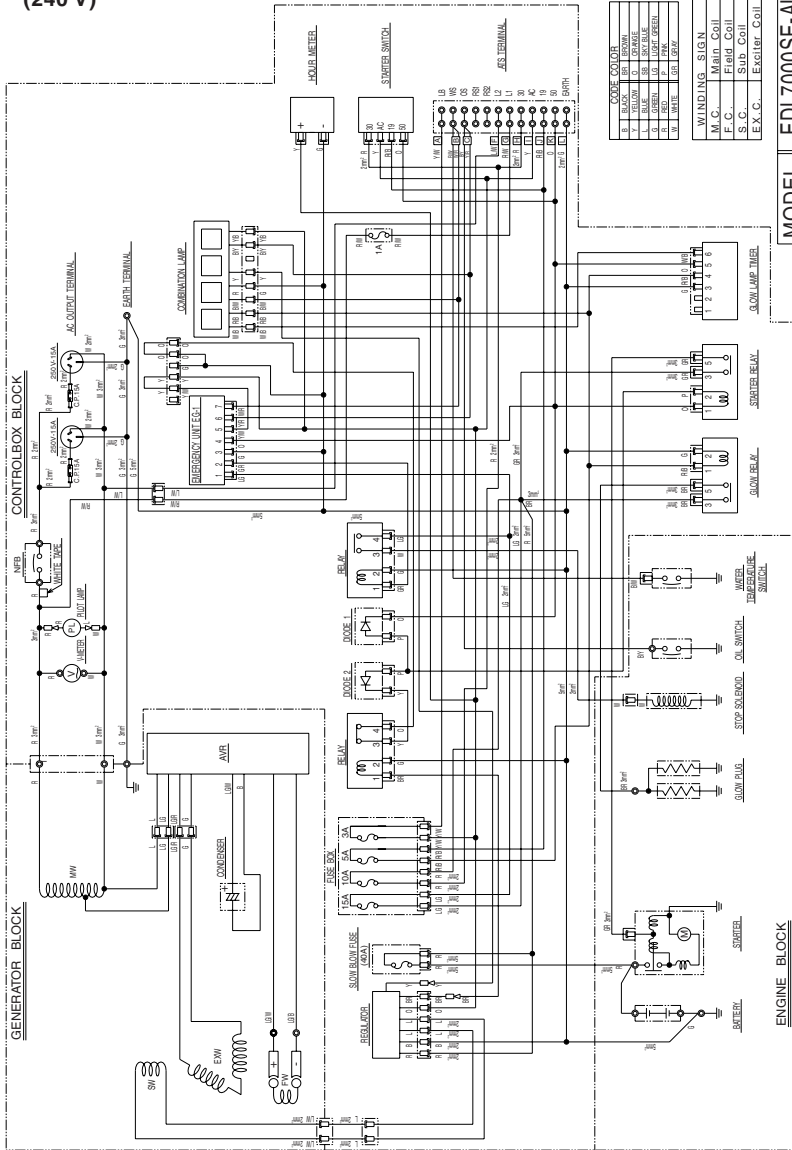
1. Remove the terminal taps cover.
2. Connect the unit to the ectt with the wiring harnesses, following the operator's manual of the A S/S unit.
3. To assemble the ttc, set the ttc.

For nomenclature and connection of terminal taps are referred to the "WIRING DIAGRAMS" section. (See page 50–55)



- (1) Plate
- (2) Exterior connection terminal taps (ectt)
- (3) Terminal taps cover (ttc)

■ EDL7000SE-AUS
(240 V)

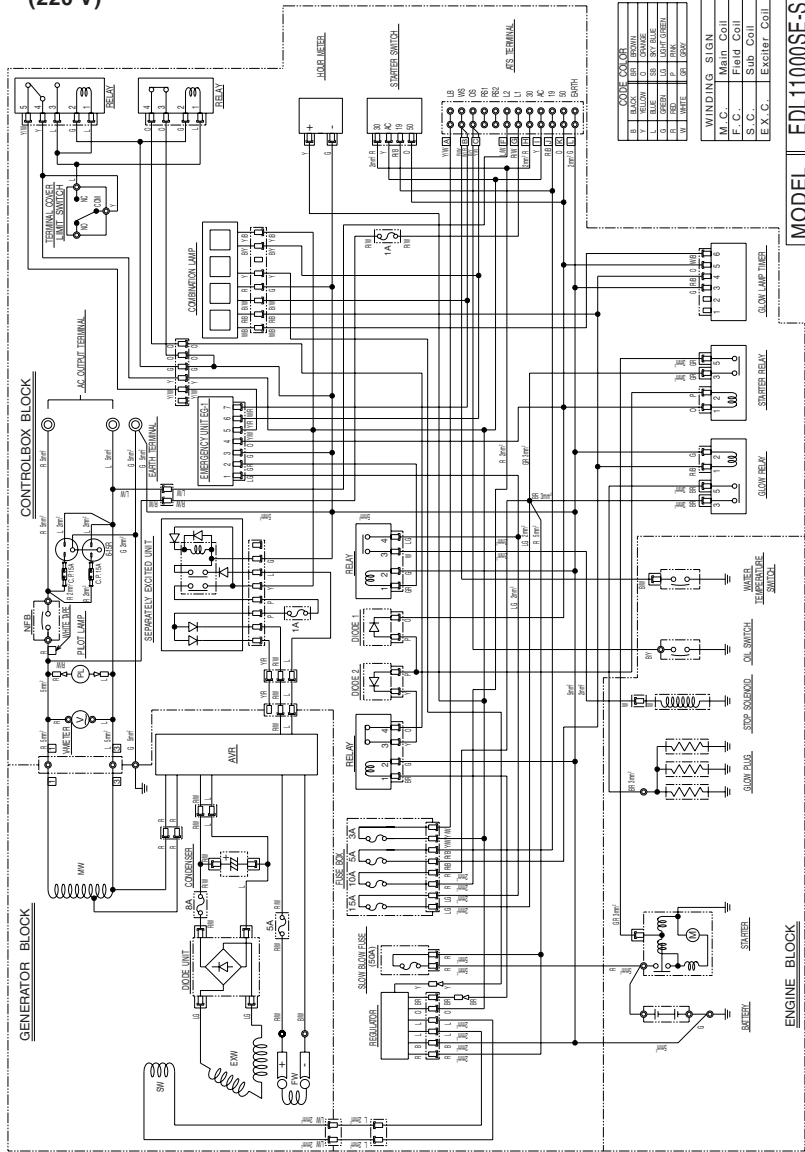


CODE COLOR	
B	BLACK
Y	YELLOW
L	BLUE
G	GREEN
R	RED
W	WHITE
BR	BROWN
O	ORANGE
SB	SKY BLUE
LG	LIGHT GREEN
P	PINK
GR	GRAY

WINDING SIGN	
M.C.	Main Coil
F.C.	Field Coil
S.C.	Sub Coil
EX.C.	Exciter Coil

MODEL	EDL700SE-AUS
NAME	CONNECTION DIAGRAM

■ EDL11000SE-STD
(220 V)

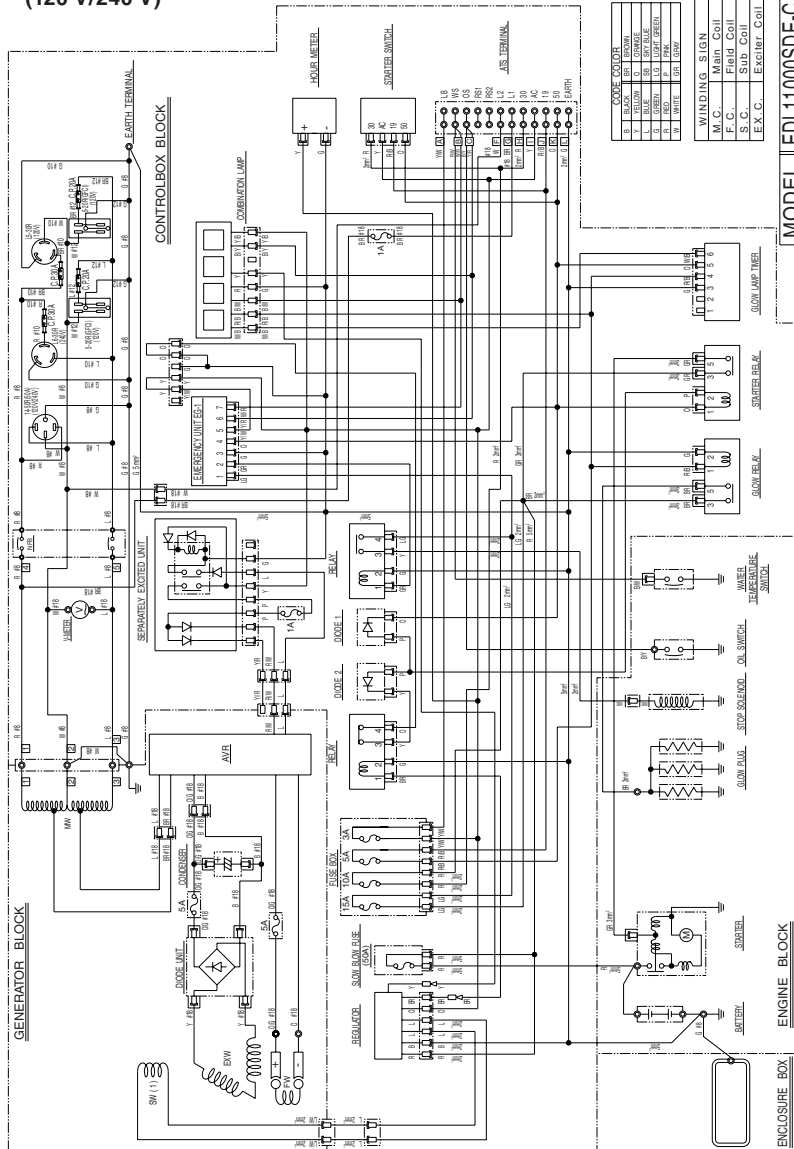


CODE COLOR	
1	RED
2	BLUE
3	GREEN
4	YELLOW
5	BLACK
6	WHITE
7	BROWN
8	PINK
9	GRAY
10	ORANGE

WINDING SIGN	
M.C.	Main Coil
F.C.	Field Coil
S.C.	Sub Coil
E.X.C.	Exciter Coil

EDL11000SE-SEA	
MODEL NAME	CONNECTION DIAGRAM

■ **EDL11000SDE-CAN**
(120 V/240 V)



CODE COLOR	
B	BLACK
BR	BROWN
Y	YELLOW
O	ORANGE
L	BLUE
SB	SKY BLUE
G	GREEN
LG	LIGHT GREEN
R	RED
P	PINK
W	WHITE
GD	GRAY

WINDING SIGN	
M.C.	Main Coil
F.C.	Field Coil
S.C.	Sub Coil
EX.C.	Exciter Coil

MODEL	EDL1100SDE-CAN
NAME	CONNECTION DIAGRAM