stager

Pastrati acest manual pentru referinte viitoare

Traducere a Instructiunilor Originale

GENERATOR DE CURENT PE BENZINA SERIA FD •

GASOLINE GENERATOR SET FD SERIES

MANUAL DE UTILIZARE • USER MANUAL

MODELE: □ Monofazat: **FD3000ER Automatic • FD3600ER Automatic • FD6500ER Automatic • FD10000ER Automatic**

□ Trifazat: **FD10000E3R Automatic**

Atat numarul modelului, cat si seria pot fi gasite pe eticheta principala cu date tehnice.
Ar trebui sa le inregistrati pe amandoua intr-un loc sigur pentru utilizari ulterioare.

PENTRU SIGURANTA DUMNEAVOASTRA

VA RUGAM SA CITITI SI SA INTELEGETI ACEST MANUAL INAINTE DE UTILIZAREA PRODUSULUI. ACEST MANUAL CONTINE INFORMATII IMPORTANTE PENTRU FUNCTIONAREA IN CONDITII DE SIGURANTA A ECHIPAMENTULUI.

PREFATA

Va multumim pentru achizitionarea generatorului de curent pe benzina seria FD Automatic.

Generatoarele din seria FD Automatic sunt prevazute cu conector pentru comanda de pornire/oprire externa. Astfel, prin inchiderea/deschiderea unui circuit se comanda pornire/oprirea generatorului. Acest sistem permite integrarea generatorului in diverse sisteme automate, de exemplu, sistemele automate de anclansare a rezervei (AAR), sisteme fotovoltaice OffGrid sau Hibride prevazute cu sisteme de comanda pentru generator si multe alte aplicatii.

Acest manual contine informatii privind utilizarea si intretinerea generatoarelor pe benzina. Cititi manualul cu atentie inainte de prima utilizare. Pentru orice problema sau informatii suplimentare, contactati distribuitorul autorizat.

Informatiile din acest manual se bazeaza pe cele mai recente date ale produselor disponibile in momentul printarii. Ne rezervam dreptul de a face modificari in orice moment, fara notificarea prealabila si fara nicio obligatie. Aceasta publicatie nu poate fi reprodusa fara o aprobare scrisa.

Acest manual trebuie considerat o parte a generatorului si trebuie sa ramana in permanenta langa acesta.

OBSERVATII IMPORTANTE

Va rugam sa acordati o atentie deosebita instructiunilor insotite de urmatoarele cuvinte:

⚠ **AVERTISMENT**:

Avertismentul este utilizat pentru a atentiona utilizatorul asupra faptului ca procedurile periculoase de utilizare si intretinere vor duce la ranirea grava sau decesul operatorului, daca nu sunt respectate cu strictete.

⚠ **ATENTIE**:

Atentionarea este utilizata pentru a-l face constient pe utilizator de faptul ca procedurile periculoase de utilizare si intretinere pot cauza ranirea grava sau decesul operatorului, daca nu sunt respectate instructiunile.

OBSERVATIE: Ofera informatii utile.

Nu aruncati echipamentele electrice, industriale si partile componente la gunoiul menajer!

In concordanta cu normele in vigoare: Directiva 2008/98/CE privind deseurile, Directiva 2012/19/EU, privind deseurile de echipamente electrice si electronice, echipamentele industriale si partile componente uzate, a caror durata de utilizare a expirat, trebuie colectate separat si predate unui centru specializat de reciclare. Este interzisa aruncarea acestora in natura, deoarece sunt o sursa potentiala de pericol si de poluare a mediului inconjurator.

CUPRINS

1. Specificatii tehnice	3
2. Instructiuni de siguranta	4
3. Descrierea generatorului	6
4. Verificari inainte de utilizare	7
5. Pornirea motorului	8
6. Service	11
7. Oprirea motorului	13
8. Intretinere	14
9. Depozitare	16
10. Probleme tehnice	17
11. Asamblarea pieselor	18
12. Diagrama electrica	19

1. SPECIFICATII TEHNICE

Model	FD3000ER Automatic*	FD3600ER Automatic*	FD6500ER Automatic*	FD10000ER Automatic*	FD10000E3R Automatic*
MOTOR					
Model	YH168FB	YH170F(E)	YH188F(E)	YH192FB(E)	YH192FB(E)
Tip	Motor benzina, 4-timpi, 1 cilindru, OHV, racire cu aer	Motor benzina, 4-timpi, 1 cilindru, OHV, racire cu aer	Motor benzina, 4-timpi, 1 cilindru, OHV, racire cu aer	Motor benzina, 4-timpi, 1 cilindru, OHV, racire cu aer	Motor benzina, 4-timpi, 1 cilindru, OHV, racire cu aer
Putere nominala	6.5 CP	7.5 CP	13 CP	19 CP	19 CP
Turatie nominala	3000 / 3600 rpm	3000 / 3600 rpm	3000 / 3600 rpm	3000 / 3600 rpm	3000 / 3600 rpm
Capacitate cilindrica	196 cm³	208 cm³	389 cm³	459 cm³	459 cm³
Capacitate baie de ulei	0.6 L	0.6 L	1.1 L	1.2 L	1.2 L
Tip ulei	SAE10W-30, 15W-40	SAE10W-30, 15W-40	SAE10W-30, 15W-40	SAE10W-30, 15W-40	SAE10W-30, 15W-40
Combustibil	Benzina fara plumb	Benzina fara plumb	Benzina fara plumb	Benzina fara plumb	Benzina fara plumb
Capacitate rezervor combustibil	10 L	10 L	22 L	22 L	22 L
Mod reglare tensiune	AVR	AVR	AVR	AVR	AVR
Sistem aprindere	CDI	CDI	CDI	CDI	CDI
Bobinaj	100% cupru	100% cupru	100% cupru	100% cupru	100% cupru
GENERATOR					
Tensiune nominala	~ 230 V	~ 230 V	~ 230 V	~ 230 V	~ 230/400 V
Frecventa nominala	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Putere nominala	2.5 kW	2.8 kW	5.0 kW	8.0 kW	8.0 kW
Putere maxima	2.8 kW	3.0 kW	5.5 kW	8.5 kW	8.5 kW
Curent nominal	10.9 A	12.17 A	21.74 A	34.78 A	14.5 A
Factor de putere	1.0	1.0	1.0	1.0	0.8
Dimensiuni	615 x 450 x 485 mm	615 x 450 x 485 mm	720 x 540 x 595 mm	720 x 540 x 595 mm	720 x 540 x 595 mm
Nivel zgomot LwA	93 dB(A)	93 dB(A)	96 dB(A)	96 dB(A)	96 dB(A)
Grad de protectie	IP23M	IP23M	IP23M	IP23M	IP23M
Sistem de pornire	Electric, 12Vcc Demaror cu sfoara				
Autonomie	8 ore	6 ore	8 ore	5 ore	5 ore
Greutate neta/bruta	46/49 kg	49 / 52 kg	86 / 90 kg	98 / 102 kg	98 / 102 kg
Include:	Telecomanda radio Conector comanda externa pentru ATS, invertor OffGrid				
Optional	Automatizare: FDATS230, FDATS380				

***** Generatoarele din seria FD Automatic sunt prevazute cu conector pentru comanda de pornire/oprire externa. Astfel, prin inchiderea/deschiderea unui circuit se comanda pornire/oprirea generatorului. Acest sistem permite integrarea generatorului in diverse sisteme automate, de exemplu, sistemele automate de anclansare a rezervei (AAR), sisteme fotovoltaice OffGrid sau Hibride prevazute cu sisteme de comanda pentru generator si multe alte aplicatii.
Sistemele AAR sau ATS este optionala si se achizitioneaza separat. Pentru informatii suplimentare privind automatizarea, va rugam contactati distribuitorul local sau service-ul autorizat.

ATENTIE:
In cazul integrarii generatorului in alte sisteme automate, asigurati-va ca transferul sarcinii se va face dupa minim 60 de secunde de la pornire, iar oprirea generatorului se face dupa 60 de secunde de la deconectarea sarcinii. Intervalul initial de mers in gol este necesar pentru a preincalzi echipamentul inaintea punerii in sarcina, iar intervalul final de mers in gol este necesar pentru racirea elementelor care au functionat in sarcina. Nerespectarea acestor intervale poate duce, de exemplu, la arderea izolatiei bobinajului dupa oprire.

Informatii privind zgomotul:

Cifrele mentionate in tabelul de mai sus sunt nivelurile emisiilor si nu sunt neaparat nivelurile pentru lucrul in conditii de siguranta. In acelasi timp nivelurile de emisii si cel de expunere, acest lucru nu poate fi folosit in mod eficient pentru a stabili daca sunt sau nu necesare masuri de precautii suplimentare, factorii, care influenteaza nivelul real de expunere a fortei de munca, include caracteristici ale camerei de lucru, alte surse de zgomot, etc., numarul de masini si alte procese adiacente, precum si durata de timp in care un operator este expus la zgomot. De asemenea, nivelul de expunere admis poate varia de la o tara la alta. Aceste informatii, totusi, vor permite utilizatorului masinii sa faca o mai buna evaluare a pericolelor si riscurilor.

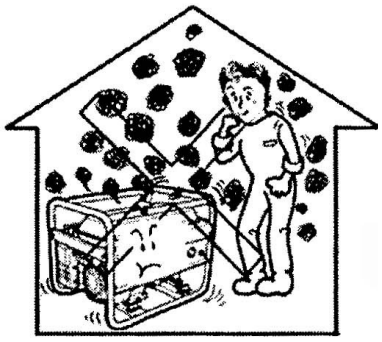
Informatii privind consumul de combustibilul:

Model generator	Putere iesire motor (80% eficienta) (kW)	Consum combustibil (L/h)		
		@100% sarcina	@75% sarcina	@50% sarcina
FD3000ER Automatic	3.125	1.71	1.54	1.18
FD3600ER Automatic	3.5	1.92	1.73	1.32
FD6500ER Automatic	6.25	3.42	3.08	2.35
FD10000ER Automatic	10	5.48	4.93	3.77
FD10000E3R Automatic	10	5.48	4.93	3.77

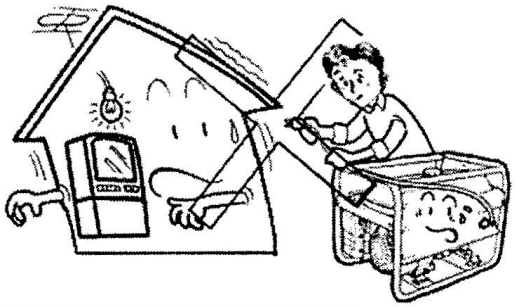
* Puterea de iesire a motorului reprezinta 80% din puterea efectiva, existand o pierdere de 20%. De exemplu, daca generatorul are o putere de 2 kW, puterea de iesire a motorului va fi 2.0/0.8=2.5 kW. Consumul de combustibil este legat de puterea de iesire a motorului.

2. INSTRUCTIUNI DE SIGURANTA

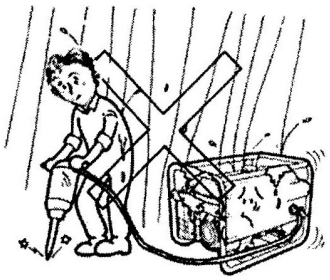
⚠ **AVERTISMENT:** Daca nu folositi corect instructiunile de utilizare de mai jos pot rezulta vatamari corporale sau avarierea serioasa a echipamentului. Va rugam fiti atenti la urmatoarele:



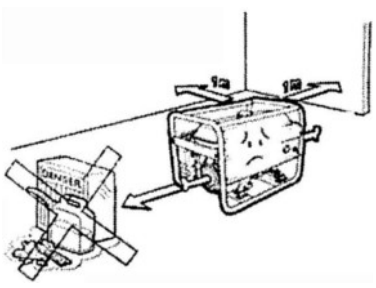
Nu utilizati masina in spatii inchise sau slab ventilate, deoarece gazele de esapament sunt toxice. Pastrati generatorul la o distanta de cel putin 1 metru fata de cladiri sau alte echipamente, in timpul functionarii.



Nu conectati generatorul la o retea electrica de uz casnic.



Nu folositi generatorul in ploaie sau in alte conditii de umiditate.

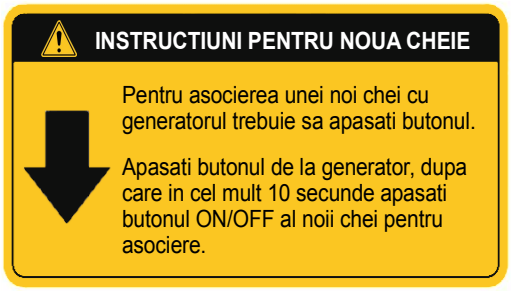


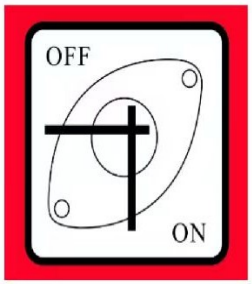
Asezati substantele inflamabile departe de echipament, la cel putin 1 metru distanta.

	
Nu fumati in timpul alimentarii rezervorului	Intotdeauna alimentati cu combustibil dupa oprirea generatorului.
	
Nu varsati combustibil atunci cand alimentati	

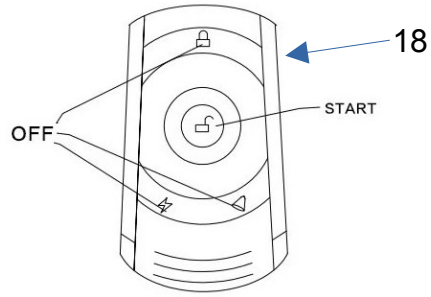
1. Generatorul trebuie asezat pe o suprafata plana si stabila.
2. Sarcina trebuie mentinuta in intervalul declarat pe placuta de identificare a produsului. Suprasarcina va avaria unitatea sau ii va reduce durata de viata a produsului.
3. Folositi piese de schimb originale.
4. Cand folositi prelungitoare, asigurati-va ca acestea sa fie cu impamantare si sa aiba cablul adecvat pentru aplicatie.
5. Nu depozitati combustibilul in spatii inchise, fara a va asigura ca exista o ventilatie corespunzatoare.
6. Nu acoperiti unitatea cand acesta functioneaza.
7. Toba de esapament devine foarte fierbinte in timpul functionarii si ramane astfel putin timp si dupa oprirea unitatii. Aveti grija sa nu atingeti toba de esapament cand aceasta este fierbinte. Lasati motorul sa se raceasca inainte de a depozita unitatea intr-un spatiu inchis.
8. Unitatea trebuie sa atinga turatia nominala inainte de conecta consumatorii electrici. Deconectati consumatorii inainte de a opri generatorul. Opriti toate echipamentele alimentate de generator inainte de a opri generatorul.
9. Pentru a preveni producerea de socuri electrice si incendii, nu utilizati generatorul in ploaie, zapada sau sa conectati generatorul la un circuit sub tensiune.
10. Unitatea nu poate fi conectata la o alta sursa de alimentare.
11. Asigurati-va ca generatorul nu are furtunuri deteriorate, cleme slabite sau lipsa, rezervor sau capacul rezervorului deteriorat, inainte de utilizare. Toate defectele trebuie remediate inainte de utilizare.
12. Pentru a preveni variatia sarcinii, care poate deteriora echipamentul, nu permiteti ca unitatea sa ramana fara combustibil cand sunt conectate echipamentele electrice.
13. Tineti copiii la distanta de generator in orice moment.
14. Instalarea si reparatiile majore ale generatorului trebuie realizate doar de personal calificat.
15. Inainte de a transporta generatorul, scoateti tot combustibilul pentru a evita scurgerile.
16. Depozitati generatorul in zone ventilate corespunzator si cu rezervorul de combustibil gol.
17. Utilizati echipamentul de protectie impotriva zgomotului.

18. Telecomanda ce insoteste generatorul a fost conectat la acesta din fabrica. In cazul pierderii telecomenzii si achizitionarii unei noi telecomenzi, utilizatorul trebuie sa respecte instructiunile de pe eticheta pentru a asocia noua telecomanda (cheie) la generator.





3. DESCRIEREA GENERATORULUI



Principalele componente ale generatorului sunt localizate dupa cum urmeaza

1. Capac rezervor combustibil
2. Maner pliabil pentru transport
3. Indicator combustibil
4. Contact cheie pornire
5. Contor tensiune, frecventa, ore functionare
6. Siguranta AC
7. Mufa conectare ATS
8. Priza de curent monofazata
9. Iesire de curent DC
10. Borna de pamant
11. Cadru generator
12. Roti
13. Manerul sforii de pornire
14. Filtru aer
15. Motor
16. Bujie
17. Esapament
18. Telecomanda
19. Cutie ATS *(optional, se achizitioneaza separat)*

*Imaginile sunt cu titlu informativ, acestea putand fi modificate fara o notificare prealabila

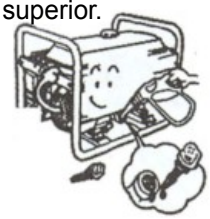
4. VERIFICARI INAINTE DE UTILIZARE

- ***Verificarea uleiului:*** intotdeauna verificati uleiul dupa oprirea generatorului, pe o suprafata plana.

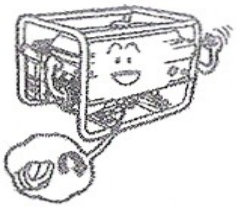
1. Rasuciti si scoateti busonul cu joja pentru ulei; curatati joja cu o panza curata.

2. Introduceti din nou joja fara a o rasuci si verificati nivelul uleiului.

3. Daca nivelul uleiului este sub nivelul inferior indicat pe joja, alimentati pana la nivelul superior.

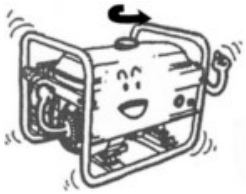


4. Reinstalati busonul.



- ***Verificarea combustibilului:*** intotdeauna verificati nivelul combustibilului, atat inainte de pornire, cat si dupa oprirea generatorului, pe o suprafata plana.

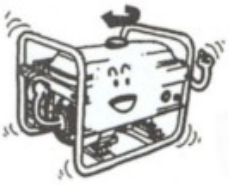
1. Desfaceti capacul rezervorului de combustibil.



2. Alimentati cu combustibil pana la umarul filtrului.

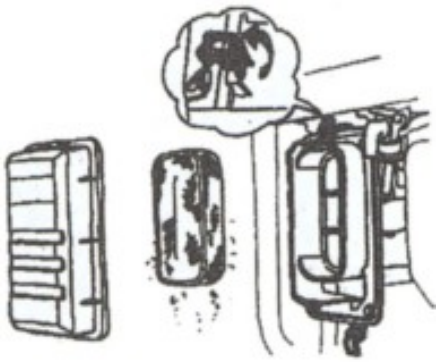
3. Verificati nivelul combustibilului si completati, daca este necesar.

4. Puneti la loc capacul rezervorului.



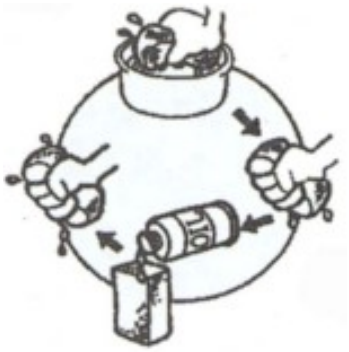
- **Verificarea filtrului de aer.**

1. Desfaceti clemele si scoateti capacul filtrului de aer.
2. Verificati si asigurati-va ca elementul de filtrare este curat si nu prezinta deteriorari. Daca acesta este rupt, inlocuiti-l cu unul nou.

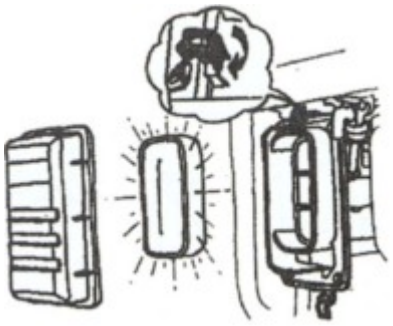


3. Daca filtrul este murdar, curatati-l conform urmatoarelor instructiuni:

a) Spalati filtrul intr-o solutie de curatare (apa si sapun), dupa care clatiti-l.
b) Lasati-l sa se usuce.
c) Inmuiati elementul filtrului in ulei curat de motor.
d) Stoarceti uleiul in exces.



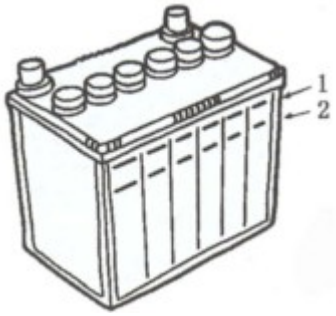
4. Montati filtrul in pozitia originala, dupa care instalati carcasa si fixati-o corespunzator.



- ***Verificarea acumulatorului***

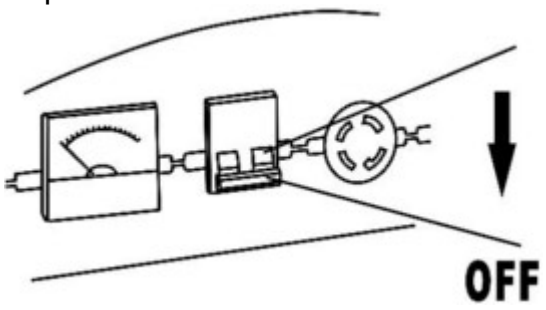
Verificati si asigurati-va ca nivelul electrolitului de la fiecare celula a acumulatorului se afla intre marcajele nivelului superior si inferior.

1. marcajul limitei superioare
2. marcajul limitei inferioare

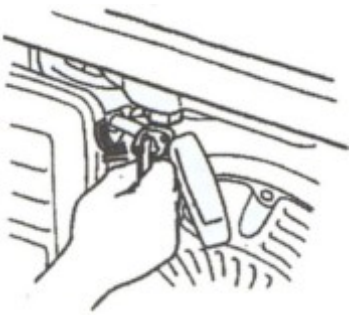


5. PORNIREA GENERATORULUI

1. Deconectati toti consumatorii de la priza de curent AC **[3]**.
2. Setati siguranta c.a. **[4]** in pozitia OFF.



3. Deschideti robinetul rezervorului de combustibil **[10]**.

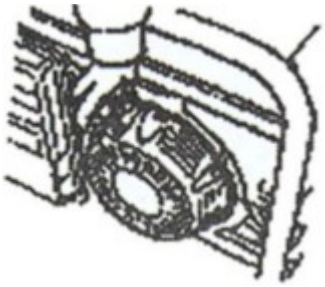


4. Actionati comutatorul de pornire **[7]**.

5. Trageti usor sfoara de pornire **[9]**, pana cand simtiti o rezistenta, apoi trageti repede.

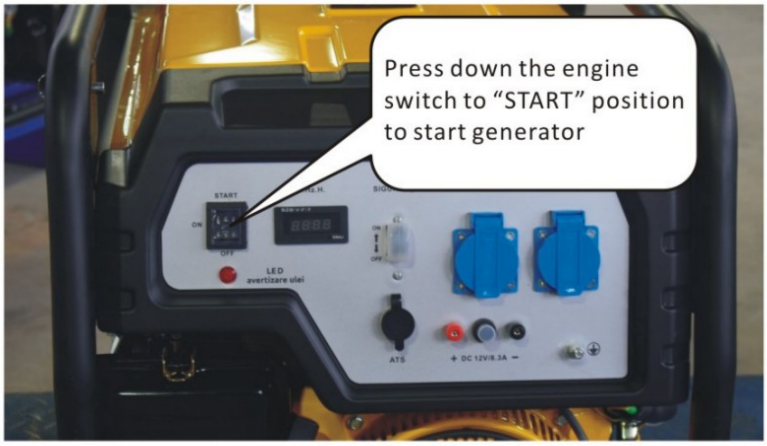
AVERTISMENT

Dupa pornirea motorului, nu lasati sfoara de pornire sa revina singura inapoi. Readuceti-o usor in pozitia initiala, pentru a preveni deteriorarea echipamentului.



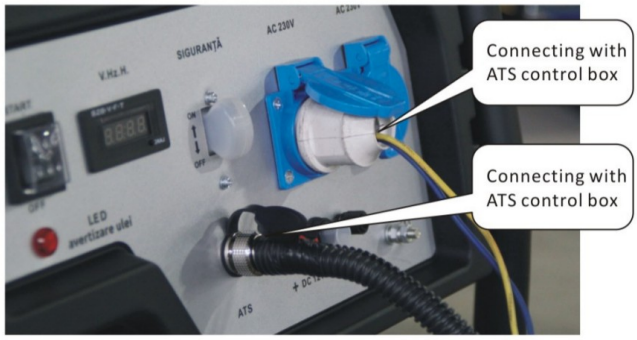
PORNIREA LA GENERATOARELE CU ATS

1. **Pornirea generatorului fara conectarea automatizarii:**

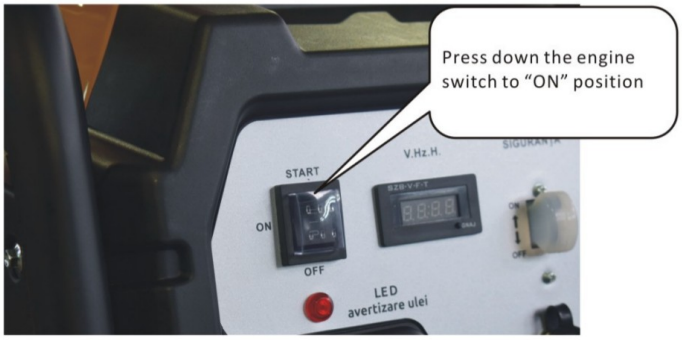


Setati comutatorul motorului in pozitia START pentru a porni generatorul.

2. **Pornirea generatorului cu automatizarea conectata:**

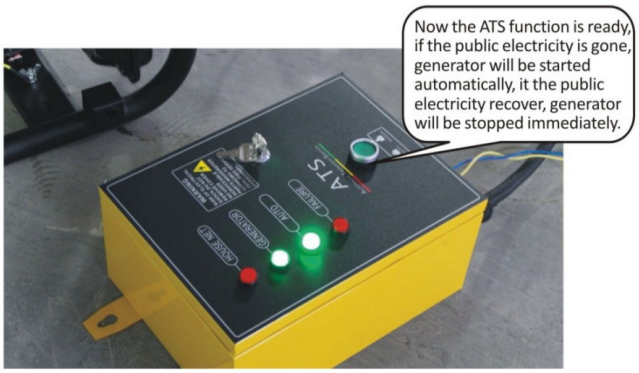


2.1. Conectarea corecta a cablurilor la panoul de control al generatorului.



2.2. Setati comutatorul motorului in pozitia ON.

2.3. Apasati butonul albastru pentru a porni / activa functia ATS.



2.4. Astfel functia ATS este activata, iar daca reteaua publica de electricitate nu are tensiune, generatorul va porni automat. In momentul in care defectiunea la reteaua electrica este remediata, generatorul va fi oprit imediat.

**** Pentru mai multe informatii, cititi manualul de utilizare al automatizarii si contactati service-ul autorizat.***

La modelele trifazate, trebuie acordata o atentie deosebita secventei corecte RST la conectarea conductorilor de la retea, sa respecte pinii din rigleta 1, 2 si 3. In acest fel, detectorul de prezenta tensiune (VP), poate reactiona imediat ce una din faze lipseste, are o frecventa diferita de 50 Hz sau tensiunea are fluctuatii peste limitele stabilite din reglajele acestuia.

Cele 2 led-uri de pe detectorul de retea (VP) sunt aprinse stabil (continuu) cand reteaua e corect montata. Daca ceva nu e in regula, sau secventa nu este RST, Led-ul (led-urile) vor clipi, avertizand neregula.

Daca la prima conectare va aflati in situatia asta (ledurile clipesc la punerea sub tensiunea retelei, deconectati automatizarea de la retea si inversati unul din firele retelei in rigleta (spre ex. RST -> 123 sa le schimbati in RTS -> 132 sau STR -> 231).

⚠ **ATENTIE**: Dupa reglaje de praguri de tensiune (din VP) este necesara resetarea sistemului. Opriti si reporniti tensiunea retelei din siguranta generala de dinainte de automatizare.

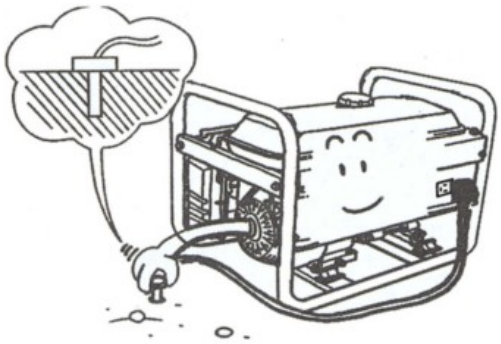
Este obligatoriu ca succesiunea fazelor RST sa fie corecta. Acest lucru este confirmat de aprinderea continua a LED-ului verde. In caz contrar, acesta clipeste.

6. SERVICE

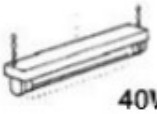
Intotdeauna respectati urmatoarele instructiuni pentru a mentine generatorul in cele mai bune conditii de functionare.

⚠ AVERTISMENT

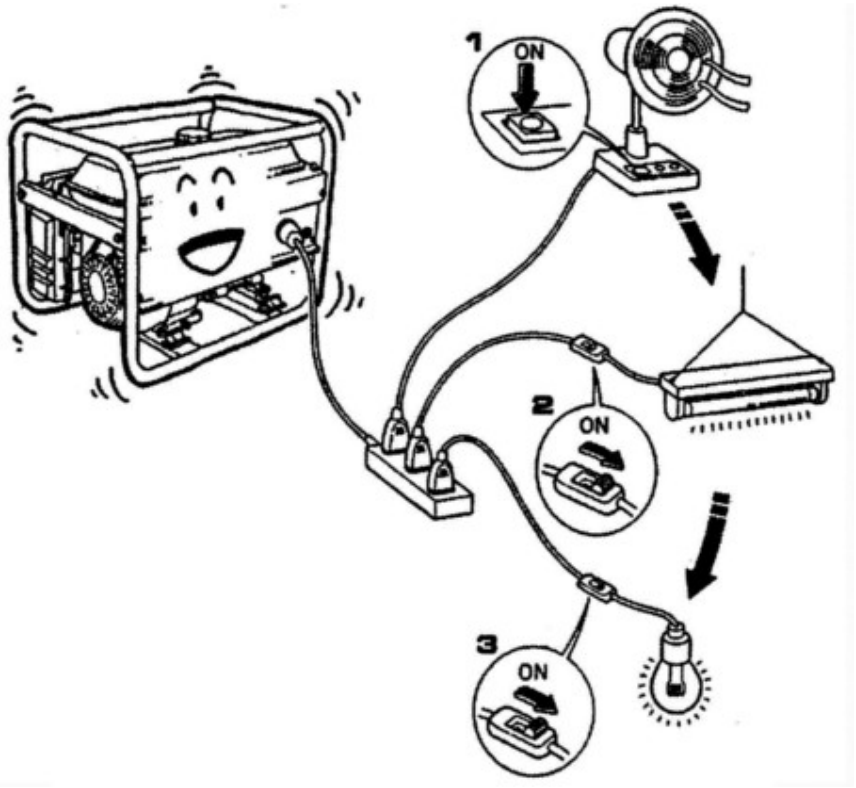
1. **Intotdeauna realizati legarea la pamant (impamantarea) a generatorului pentru a preveni utilizarea necorespunzatoare.**



2. **Urmatorul tabel ofera informatii privind conectarea aparatelor electrice la generator.**

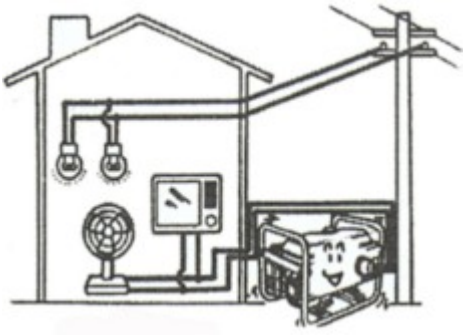
TIP	PUTERE		APARATE CARACTE-RISTICE	EXEMPLU		
	Pornire	Nominală		Aparat	Pornire	Putere absorbită
- Bec - Aparat de încălzire	X1	X1	 Bec  TV	 Bec 100W	100VA (W)	100VA (W)
- Neoane	X2	X1.5	 Neoane	 40W Neoane	80VA (W)	60VA (W)
- Echipa-ment cu motor	X3~5	X2	 Frigider  Ventilator electric	 Frigider 150W	450-750VA (W)	300VA

3. Daca generatorul trebuie sa alimenteze doi sau mai multi consumatori, aveti grija sa ii conectati unul cate unul, incepand cu cel care va avea nevoie de puterea cea mai mare pentru a porni.

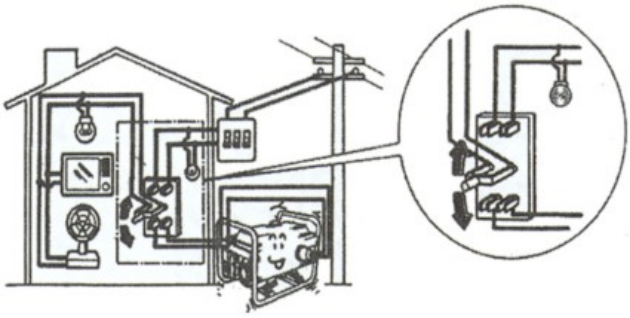


4. Metode de conectare prezentate dupa cum urmeaza:

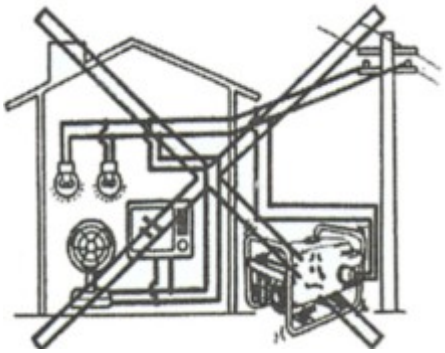
a) Corect



c) Corect



b) Interzis

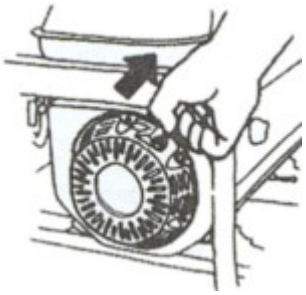


⚠ AVERTISMENT

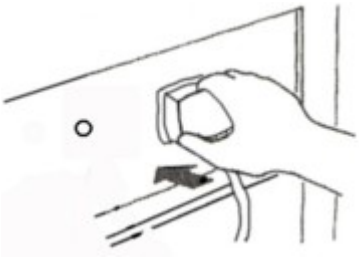
Conectarea generatorului la reteaua electrica a casei trebuie realizata doar de electricieni calificati si autorizati. Conectarea necorespunzatoare a generatorului si a consumatorilor, poate provoca daune generatorului, chiar un incendiu.

5. Instructiuni de utilizare atunci cand adaugati o sursa alternativa de curent electric

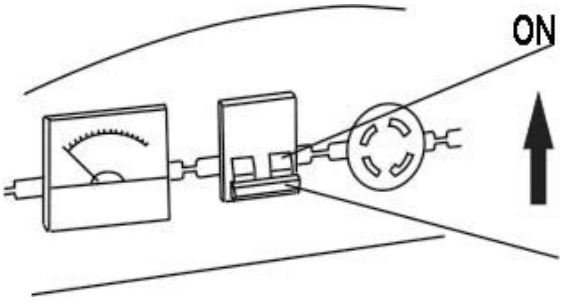
1) Porniti generatorul.



2) Conectati consumatorii.



3) Setati siguranta AC in pozitia ON.

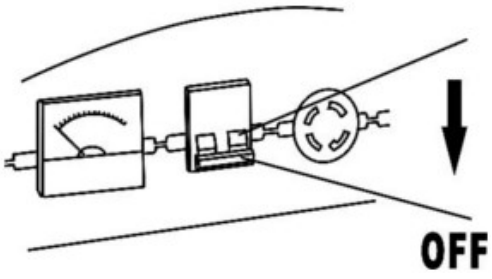


⚠ **ATENTIE:** Daca generatorul va fi conectat la un tablou electric, intrerupatorul principal trebuie sa fie deschis. Altfel revenirea brusca a tensiunii pe circuitul electric comercial ar putea afecta atat generatorul, cat si consumatorii, sau chiar poate prezenta pericol de incendiu.

Conectarea generatorului la un circuit electric care are si alimentare de la rețea se face NUMAI prin sisteme de comutare a sursei tip 1-0-2, care nu permit, nici macar accidental, conectarea simultana a doua sau mai multe surse de energie electrica la acelasi circuit.

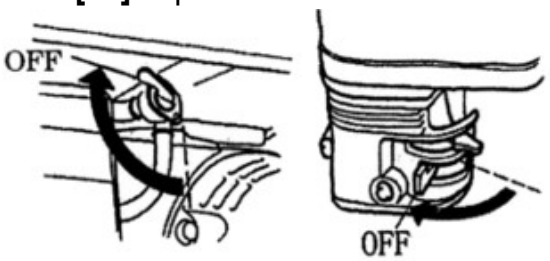
7. OPRIREA MOTORULUI

1. Setati siguranta AC **[4]** in pozitia OFF.



2. Setati comutatorul de pornire **[7]** in pozitia OFF.

3. Setati robinetul rezervorului de combustibil **[10]** in pozitia OFF.



OBSERVATIE: Pentru a opri generatorul in situatii de urgenta, setati comutatorul de pornire [7] in pozitia OFF.

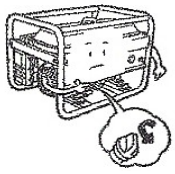
8. INTRETINEREA GENERATORULUI

Verificarile periodice si intretinerea sunt foarte importante pentru a mentine echipamentul in conditii bune. Opriti motorul generatorului inainte de orice verificare. Daca motorul trebuie pornit asigurati-va ca zona este bine ventilata. Gazele de esapament contin monoxid de carbon.

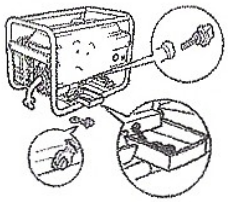
Element	**Verificare zilnica**	**Dupa prima luna**	**La fiecare 3 luni**	**La fiecare 6 luni**	**In fiecare an**
Verificare ulei de motor	verificare				
Schimbarea uleiului de motor		inlocuire		inlocuire	
Verificarea filtrului de aer	verificare				
Curatarea filtrului de aer			curatare		
Decantor ulei				curatare	
Bujie				curatare	
Capac filtru de combustibil				curatare	
Filtru de combustibil				curatare	
Joc al supapei					verificare/reglare
Curatare chiulasa					curatare
Curatare rezervor combustibil	Spalati, daca este necesar; inlocuiti la fiecare 3 ani.				
Verificare nivel electrolit acumulator	Inainte de a folosi generatorul.				

- **Schimbarea uleiului:**

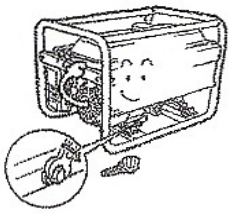
1. Rasuciti si scoateti joja de ulei.



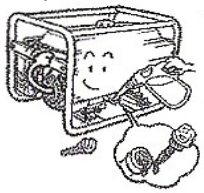
2. Scoateti surubul pentru drenaj ulei si drenati uleiul intr-un recipient special pentru a proteja mediul inconjurator.



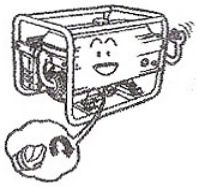
3. Puneti la loc surubul pentru drenaj ulei si strangeti-l bine.



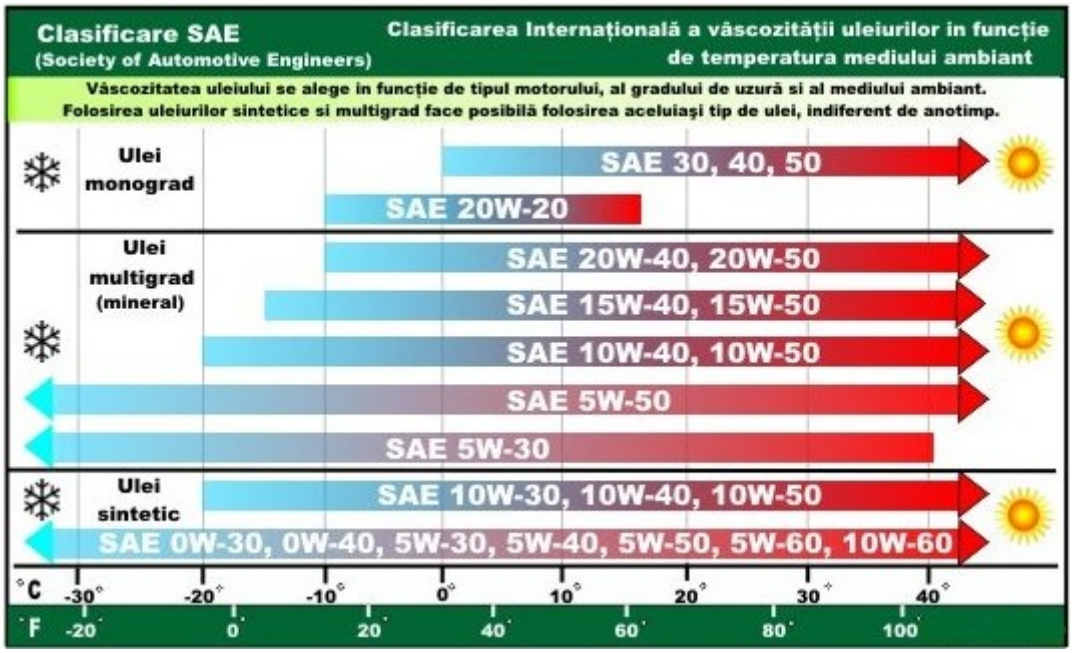
4. Alimentati cu uleiul recomandat si verificati ca nivelul sa nu depaseasca limita superioara.



5. Puneti la loc joja.



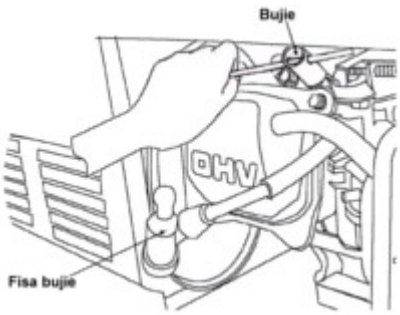
Nivele de vascozitate SAE



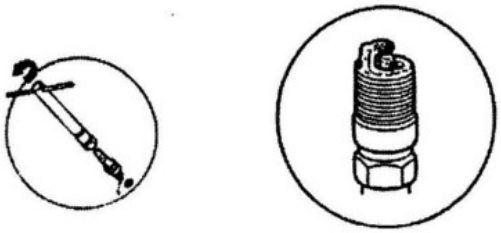
Uleiurile recomandate sunt uleiuri pentru motoare pe benzina in 4-timpi; SAE 10W-40 pentru sezonul rece şi SAE10W-30, SAE15W-40 pentru sezonul cald. Alte vascozitati prezentate in diagrama pot fi utilizate atunci cand temperatura medie din zona dvs. se încadreaza in domeniul indicat.

- **Bujie:**

1. Desfaceti fisa bujiei.

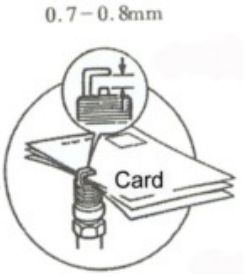


2. Desfaceti bujia cu o cheie speciala.



3. Curatati depunerile de carbon din jurul bujiei.

4. Verificati distanta dintre electrozi si reglati, daca este necesar. Distanta ar trebui sa fie de 0.7~0.8 mm.



5. Reinstalati bujia si fisa acesteia.
Bujie recomandata: F6RTC

- **Filtru de combustibil:**

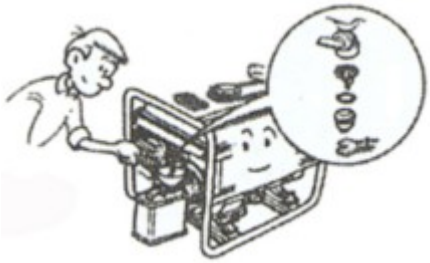
1. Setati robinetul rezervorului de combustibil in pozitia OFF, dupa care demontati paharul decantor al filtrului de combustibil si sita.

2. Dupa curatare, montati ansamblul filtrului de combustibil in pozitia originala

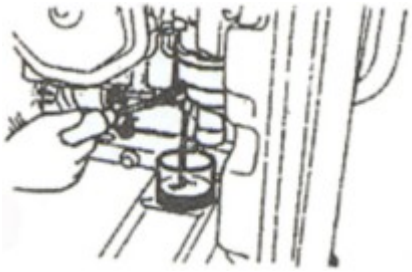
9. DEPOZITAREA GENERATORULUI

Daca generatorul trebuie depozitat pe termen lung, trebuie realizate urmatoarele pregatiri:

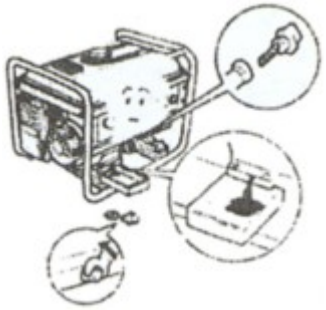
1. Drenati combustibilul din rezervorul de combustibil.
2. Spalati paharul decantor si sita filtrului de combustibil, dupa care instalati-le in pozitia originala.



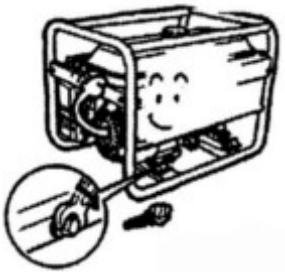
3. Drenati combustibilul din carburator.



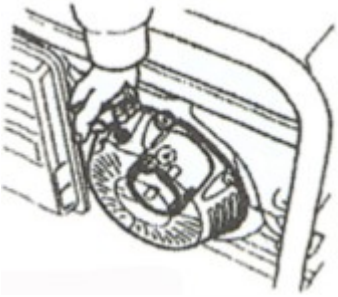
4. Scoateti busonul cu joje si surubul pentru drenaj ulei si drenati uleiul din carter.



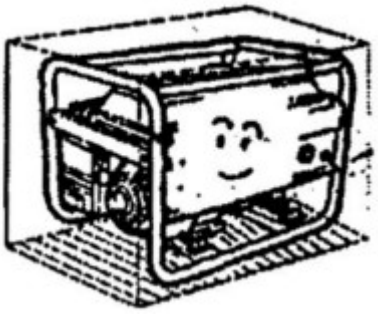
5. Reinstalati surubul pentru drenaj. Alimentati cu ulei pana la limita superioara a jojei, dupa care remontati busonul cu joja in pozitia originala.



6. Trageti sfoara pana se simte rezistenta.

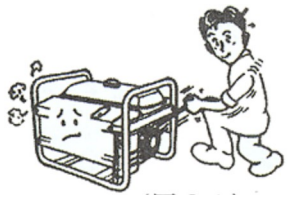


7. Asezati generatorul intr-o incapere curata.

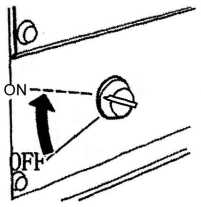


10. PROBLEME TEHNICE

1. **Problema: generatorul nu porneste.**



a) Verificati daca comutatorul de pornire este in pozitia ON.

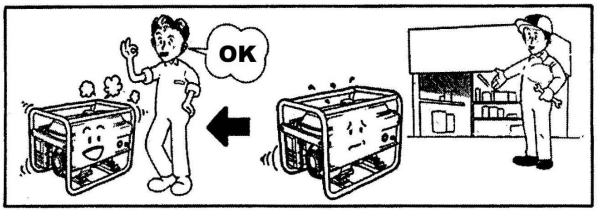


b) Verificati nivelul uleiului de motor.

c) Verificati combustibilul din rezervor.

d) Scoateti bujia si verificati daca functioneaza corespunzator.

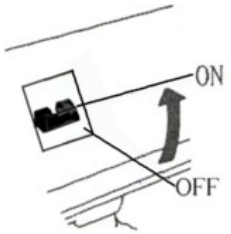
e) Daca generatorul continua sa nu functioneze, contactati service-ul autorizat pentru alte verificari.



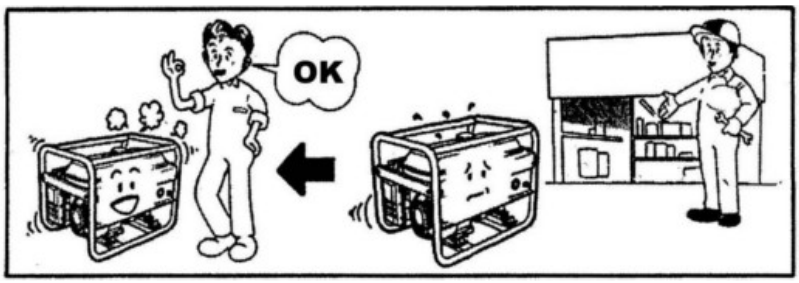
2. **Problema: lipsa tensiune.**

a) Verificati daca fisa face contact

b) Asigurati-va ca siguranta c.a. este in pozitia ON.



c) Contactati service-ul autorizat.



11. ASAMBLAREA PIESELOR

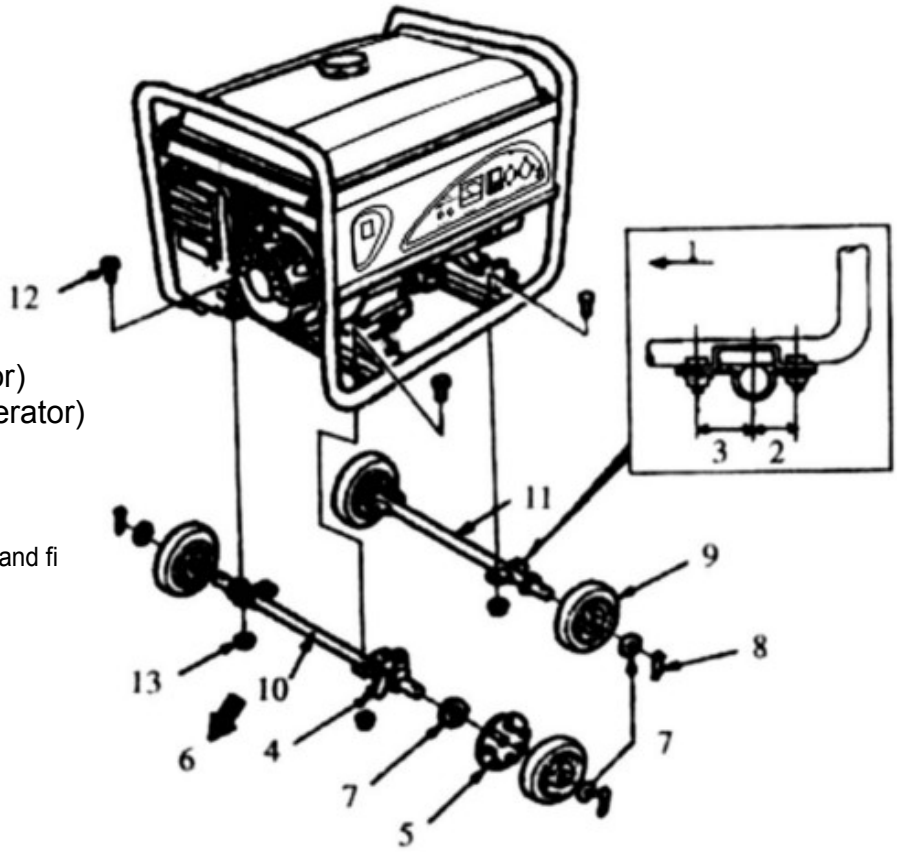
1. ROTI

Asamblarea rotilor se realizeaza dupa cum urmeaza:

a) Montati rotile pe ax, dupa care fixati-le cu saiba si cui spintecat.
b) Montati axul asamblat pe cadru cu ajutorul boltului si piulitei.

1) Partea interioara
2) Partea laterala mai scurta
3) Partea laterala mai lunga
4) Opritor
5) Disc de oprire
6) Locatia motorului
7) Garnitura
8) Cui spintecat
9) Roata
10) Axul drept (aproape de motor)
11) Axul stang (aproape de generator)
12) Piulita
13) Bolt

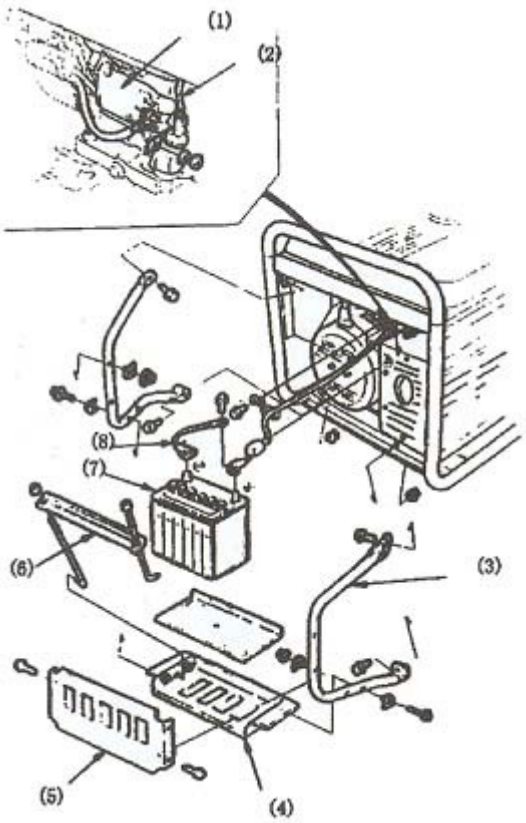
*Imaginile sunt cu titlu informativ, acestea putand fi modificate fara o notificare prealabila



2. ACUMULATOR

Pentru a instala acumulatorul, respectati urmatoarele instructiuni:

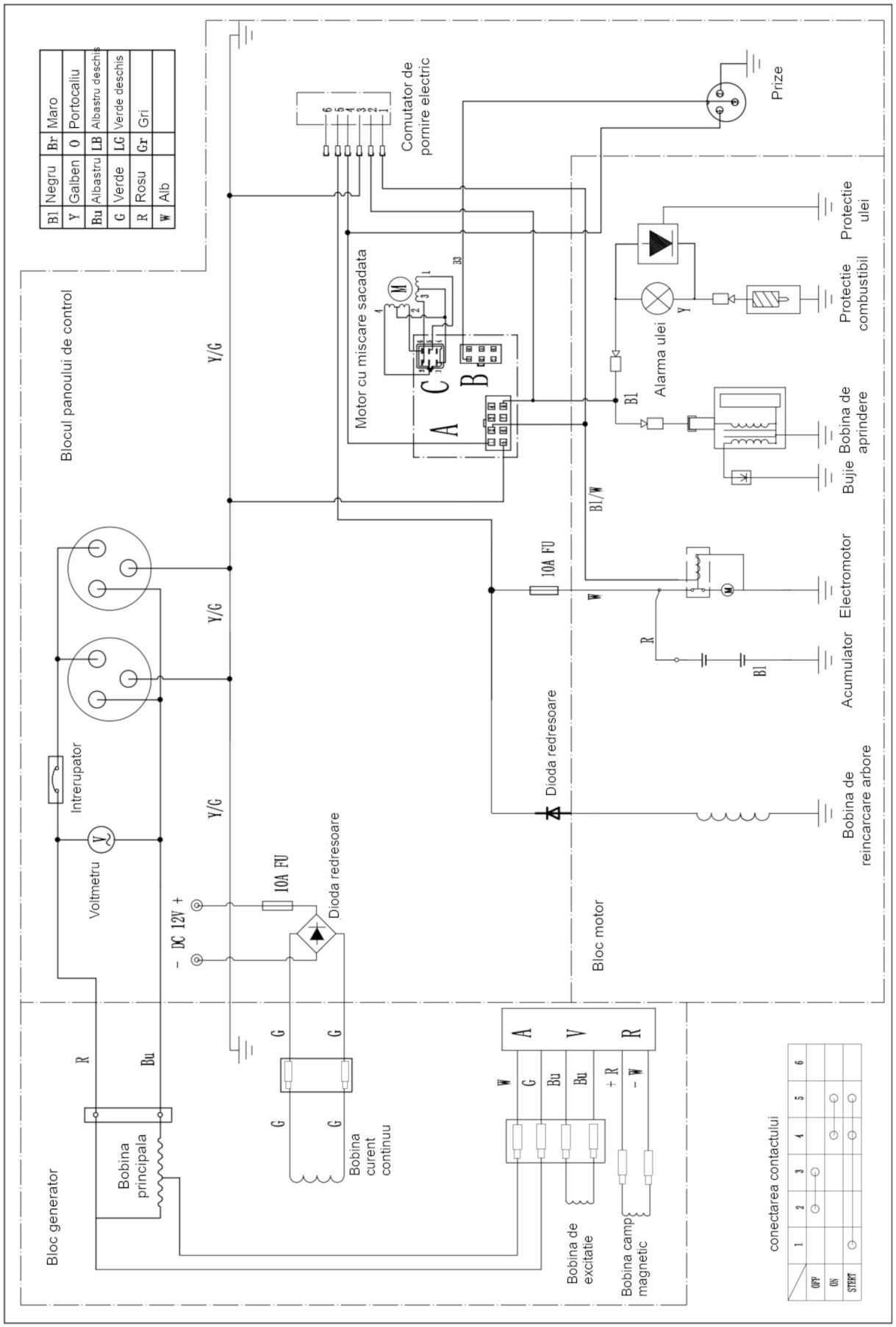
a) Asamblati acumulatorul cu piulite, bolturi si saibe.
b) Conectati cablul de pornire la borna electromotorului din partea inferioara a rezervorului de combustibil.
c) Conectati firul de impamantare cu firul din spatele generatorului.
d) Conectati mai intai cablul de pornire la borna pozitiva a acumulatorului, dupa care conectati la cea negativa. Deconectati in ordine inversa.



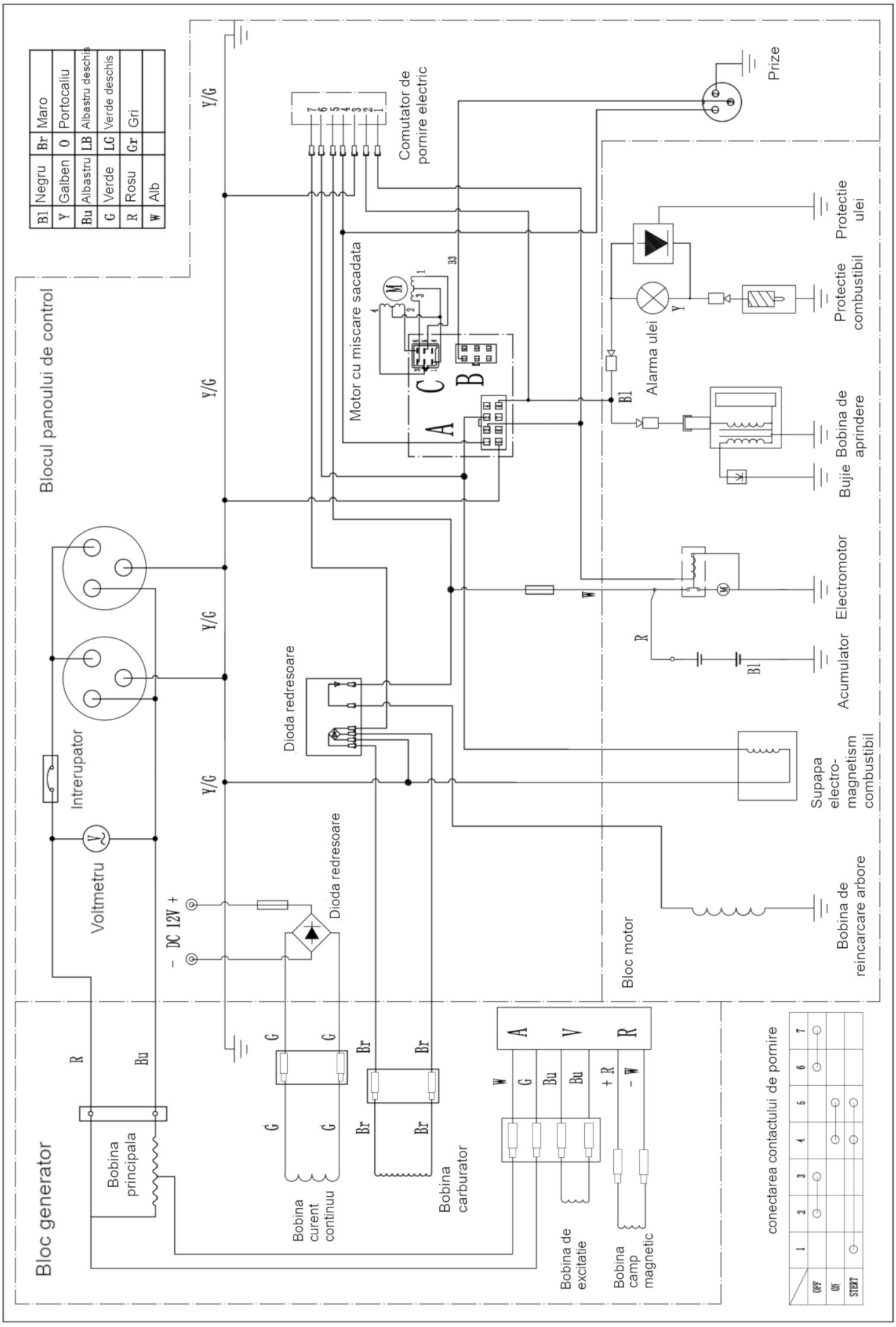
1) Electromotor
2) Cablu de pornire
3) Cadru de protectie
4) Suport acumulator
5) Aparatoare acumulator
6) Cadru de retinere
7) Acumulator (12 V – 35 Ah)
8) Fir negativ

12. DIAGRAMA ELECTRICA

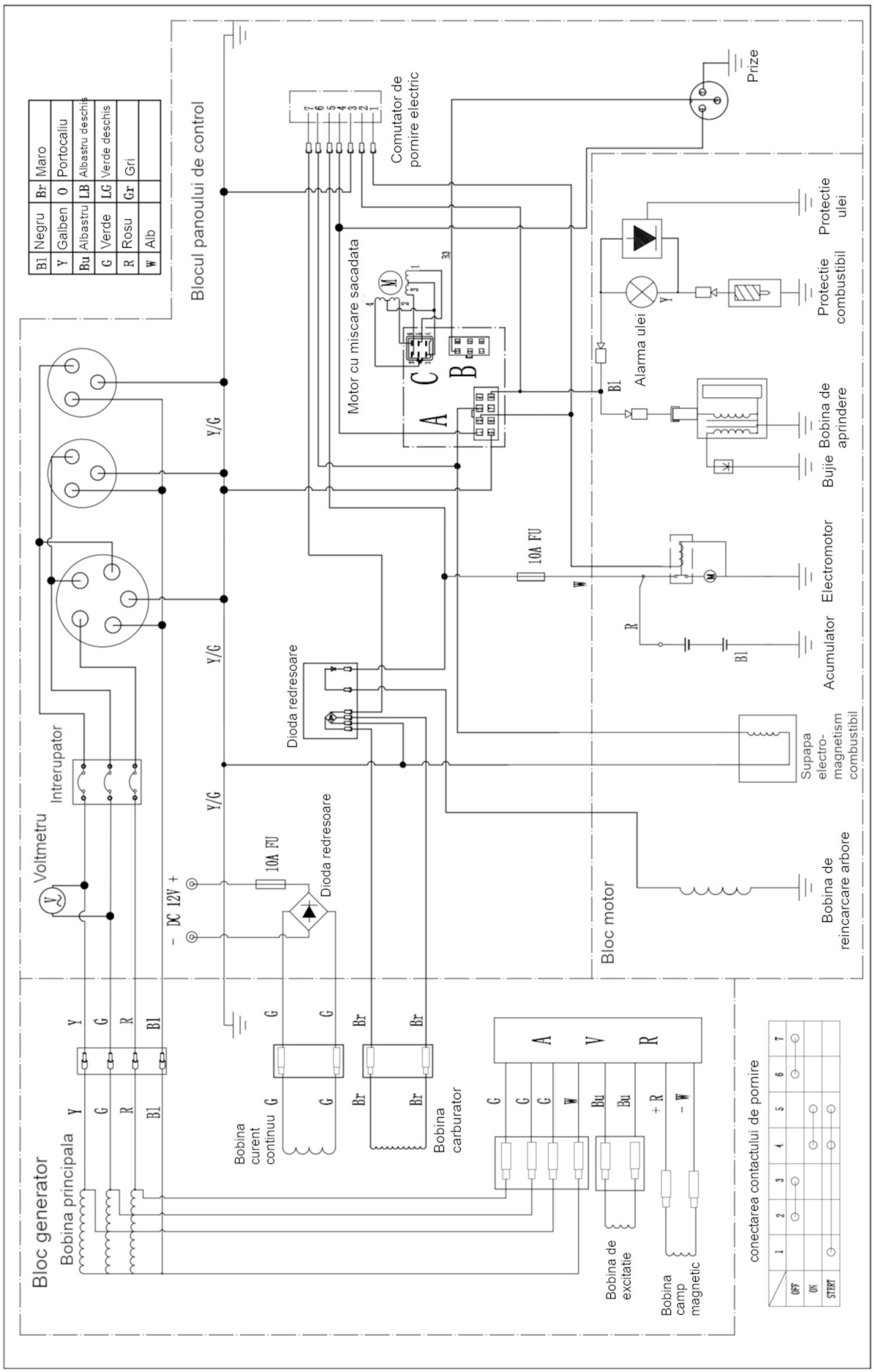
1. FD3000ER, FD3600ER



2. FD6500ER, FD10000ER



3. FD10000E3R



PREFACE

Thank you for choosing the FD Automatic gasoline generator set of our company.

The FD Automatic series generators are provided with a connector for the external start/stop command. Thus, by closing/opening a circuit, the generator is ordered to start/stop. This feature allows the integration of the generator in various automatic systems, for example, the system for automatic release of the reserve (AAR), OffGrid or Hybrid photovoltaic systems provided with generator control systems and many other applications.

Based on the latest technology at home and abroad, our Company has successfully developed the gasoline generator set. The unit is characterized by advanced design, compact structure, reliable performance, convenient service, low fuel consumption and noise as well as fashionable shape. With general gasoline engine as power, it is widely used in many fields such as daily life, fishing, open working, power generation for bank , shop or restaurant, and so on.

This manual contains information on the operation and maintenance of the gasoline generator. Please read it carefully first before operating. For any troubleshooting or additional information, contact your local dealer or the authorized service.

The information in this manual is based on the latest product data available at the time of printing. Due to revision and other changes, the information descried in this manual may be a little different from the actual status. We reserve the right to make changes at any time, without prior notice and without any obligation.

IMPORTANT NOTICES

Please pay special attention to statements preceded by the following words:

⚠ **WARNING: A warning is used to alert the user to fact that hazardous operating and maintenance procedures may result in injury to or death of personnel if not strictly observed.**

⚠ **CAUTION: A caution is used to alert the user to fact that hazardous operation and maintenance procedures may result in injury to or death of personnel if not strictly observed.**

⚠ **NOTE: Give helpful information.**

This manual should be considered as a permanent part of the unit and should remain with the unit when resold.

CONTENTS

1. Specifications	23
2. Generator Safety	24
3. Introduction to Parts and Components	26
4. Pre-operation Inspection	27
5. Starting the Engine	28
6. Service	30
7. Stopping the Engine	32
8. Maintenance	33
9. Storage	35
10. Troubleshooting	36
11. Assembly of parts	37
12. Wiring Diagram	38

1. SPECIFICATION

Model	FD3000ER Automatic*	FD3600ER Automatic*	FD6500ER Automatic*	FD10000ER Automatic*	FD10000E3R Automatic*
ENGINE					
Model	YH168FB	YH170F(E)	YH188F(E)	YH192FB(E)	YH192FB(E)
Type	Gasoline engine, 4-stroke, single cylinder, OHV, forced air-cooled	Gasoline engine, 4-stroke, single cylinder, OHV, forced air-cooled	Gasoline engine, 4-stroke, single cylinder, OHV, forced air-cooled	Gasoline engine, 4-stroke, single cylinder, OHV, forced air-cooled	Gasoline engine, 4-stroke, single cylinder, OHV, forced air-cooled
Rated power	6.5 HP	7.5 HP	13 HP	19 HP	19 HP
Rated speed	3000 / 3600 rpm	3000 / 3600 rpm	3000 / 3600 rpm	3000 / 3600 rpm	3000 / 3600 rpm
Displacement	196 cm³	208 cm³	389 cm³	459 cm³	459 cm³
Engine oil capacity	0.6 L	0.6 L	1.1 L	1.2 L	1.2 L
Engine oil type	SAE10W-30, 15W-40	SAE10W-40, 15W-40	SAE10W-40, 15W-40	SAE10W-30, 15W-40	SAE10W-30, 15W-40
Fuel type	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline
Fuel tank capacity	10 L	10 L	22 L	22 L	22 L
Voltage adjust type	AVR	AVR	AVR	AVR	AVR
Ignition system	CDI	CDI	CDI	CDI	CDI
GENERATOR					
Rated voltage	~ 230 V	~ 230 V	~ 230 V	~ 230 V	~ 230/400 V
Rated frequency	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Rated power	2.5 kW	2.8 kW	5.0 kW	8.0 kW	8.0 kW
Maximum power	2.8 kW	3.0 kW	5.5 kW	8.5 kW	8.5 kW
Rated current	10.9 A	12.17 A	21.74 A	34.78 A	14.5 A
Power factor	1.0	1.0	1.0	1.0	0.8
Dimensions	615 x 450 x 485 mm	615 x 450 x 485 mm	720 x 540 x 595 mm	720 x 540 x 595 mm	720 x 540 x 595 mm
Noiese level LwA	93 dB(A)	93 dB(A)	96 dB(A)	96 dB(A)	96 dB(A)
Protection grade	IP23M	IP23M	IP23M	IP23M	IP23M
Starting system	Electric, DC 12V Recoil	Electric, DC 12V Recoil	Electric, DC 12V Recoil	Electric, DC 12V Recoil	Electric, DC 12V Recoil
Autonomy	8 hours	6 hours	8 hours	5 hours	5 hours
Net / gross weight	46/49 kg	49 / 52 kg	86 / 90 kg	98 / 102 kg	98 / 102 kg
Includes	Radio remote control Conector for external command for ATS, Off Grid invertor				
Optional	ATS: FDATS230 and FDATS380				

***** The FD Automatic series generators are provided with a connector for the external start/stop command. Thus, by closing/opening a circuit, the generator is ordered to start/stop. This feature allows the integration of the generator in various automatic systems, for example, the system for automatic release of the reserve (AAR), OffGrid or Hybrid photovoltaic systems provided with generator control systems and many other applications.

The AAR systems or ATS are optional and can be purchased separately. For additional information regarding the ATS, please contact you local distributor or authorized service.

CAUTION: When integrating the generator into other automatic systems, make sure that the load is transferred after at least 45 seconds after the start, and shutdown the generator 45 seconds after disconnecting the load.
The initial idle time is necessary to preheat the equipment before connecting the load, and at the end of operation, allow the engine to run without load to cool the parts that have worked under load. Failure to comply with these instructions may cause, for example, the burning of the winding insulation after shutdown.

Noise information:
The noise values mentioned in the table above are the emission levels, not necessarily the levels for working in safe conditions. At the same time emission and exposure levels cannot be used effectively to determine whether or not

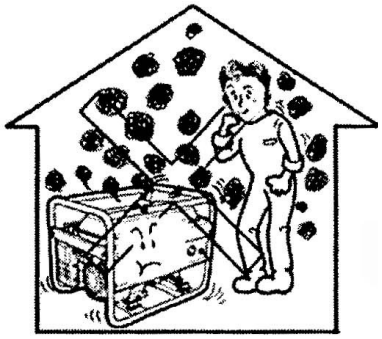
addional precautions are necessary, factors influencing the actual level of exposure of the users include the work room characteristics, other sources of noise, the number of machines, the time an operator is exposed to noise. Also, the level of exposure allowed may vary from one country to another. However, this information will allow the generator user to make a better assessment of the dangers and risks.

Information about fuel consumption:

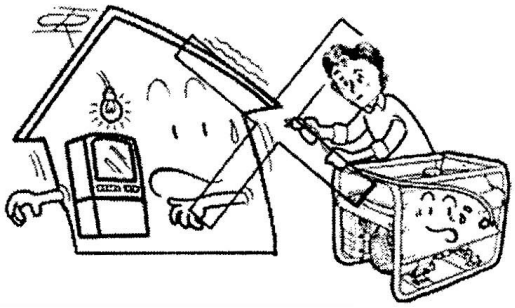
Generator model	Engine output power (80% efficiency) (kW)	Fuel consumption (L/h)		
		@100% load	@75% load	@50% load
FD3000ER Automatic	3.125	1.71	1.54	1.18
FD3600ER Automatic	3.5	1.92	1.73	1.32
FD6500ER Automatic	6.25	3.42	3.08	2.35
FD10000ER Automatic	10	5.48	4.93	3.77
FD10000E3R Automatic	10	5.48	4.93	3.77

* The output power of the engine represents 80% of the effective power with a 20% loss. For example, if the generator has a 2kW power, the output power of the engine will be 2.0/0.8=2.5 kW. Fuel consumption is related to engine power output.

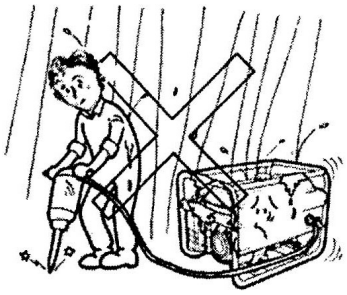
2. GENERATOR SAFETY



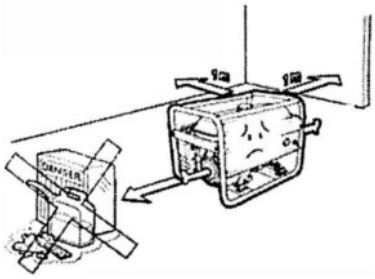
1.1 Never operate it in an enclosed room.



1.2 Never connect to home circuit.



1.3 Do not operate it under wet circumstances.



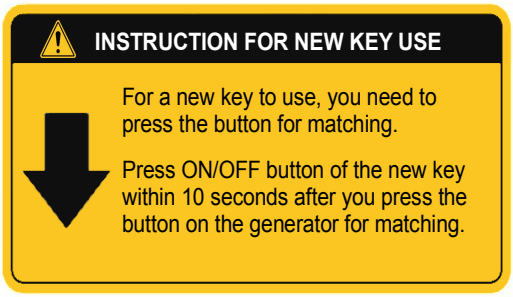
1.4 Place inflammable away from the unit at least one meter.

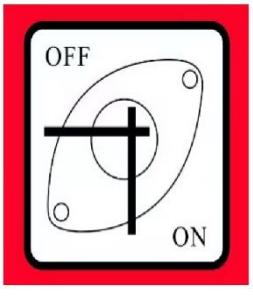
1.5 No smoking when filling fuel.

1.6 Always fill fuel after stopping it.

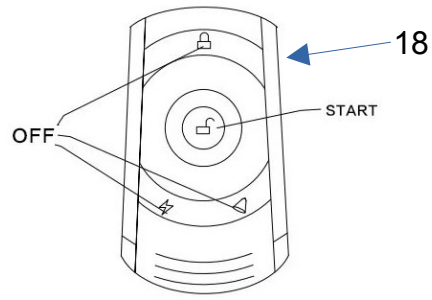
1.7 Do not spill out when filling fuel.

1. The generator must be placed on a flat and stable surface.
2. The load must be maintained within the range written on the identification plate. Overload can damage the generator or reduce the life of the product.
3. Only use original spare parts.
4. When using extension cords, make sure they are grounded and the cable appropriate for the application.
5. Do not store fuel in closed spaces, without adequate ventilation.
6. Do not cover the unit when is operating.
7. The muffler becomes very hot during operation and remains so for a short time even after the unit is turned off. Be careful not to touch the muffler when it is hot. Allow the engine to cool before storing the unit indoors.
8. The generator must reach rated speed before connecting the load. Disconnect the load first before turning off the generator.
9. To avoid electric shocks and fire, do not use the generator in rain, snow or connect the generator to a live circuit.
10. The unit cannot be connected to another power source.
11. Make sure before operation that there are no damaged hoses, loose or missing clamps or damaged fuel tank. All technical problems must be repaired before use.
12. To prevent load variation, which can damage the equipment, do not allow the unit to run out of fuel when electrical equipment is connected.
13. Keep children away from the generator at all times.
14. Installation and repairs must be carried out only by qualified personnel from the authorized service center.
15. Before transporting the generator, remove all fuel to avoid spillage.
16. Store the generator in areas with proper ventilation and with the fuel tank empty.
17. Use noise protection equipment.
18. The key found in the packaging was connected to the generator from factory. In case of losing the remote control (key) and replace it with a new one, the user must follow the instructions on the label to match the new key with the generator.





3. INTRODUCTION TO PARTS AND COMPONENTS



Main components of the unit are located as follows:

1. Fuel filler cap
2. Foldable handle for transport
3. Fuel sensor
4. Starting key contact
5. Display (voltage, frequency, running hours)
6. AC breaker
7. ATS connecting plug
8. Single phase AC plug socket
9. DC current output
10. Ground terminal
11. Generator frame
12. Wheels
13. Starting handle
14. Air cleaner
15. Engine
16. Spark plug
17. Muffler
18. Remote control
19. *ATS (optional. Purchased separately)*

**The images are for information purposes, they can be changed without prior notice*

4. PRE-OPERATION INSPECTION

4.1 ENGINE-OIL LEVEL

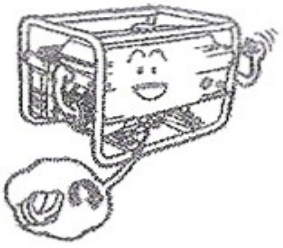
NOTE: always check the generator in the case of stopping the generator on a level ground.

1. Turn out the oil filler cap and clean the dipstick with a clear cloth.

2. Insert the dipstick back into the oil filler hole without turning it in.

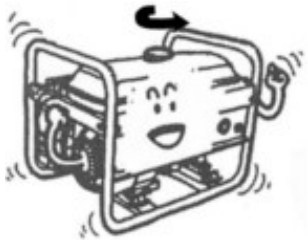
3. In the case that the oil ever is below the lower level mark of the dipstick, fill oil to the upper level mark of the dipstick.

4. Reinstall the oil filler cap well.



4.2 FUEL LEVEL

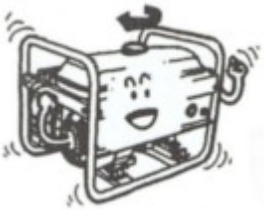
1. Open the fuel filler cap.



2. Fill fuel to the shoulder of the filter.

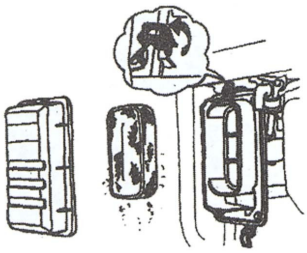
3. Check the fuel level, and fill fuel if necessary.

4. Reinstall the fuel filler cap well.

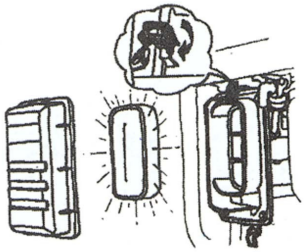


4.3 AIR CLEANER

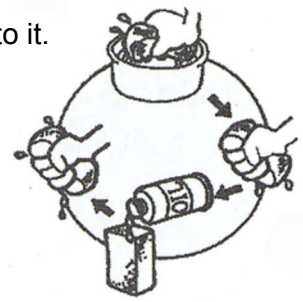
1. Remove the clip and dismantle the air housing
2. Check and make sure the air cleaner core is intact and clean. If it is broke, replace it with a new one.



4. Put the filter element in to the original position, install the cover and secure it well.

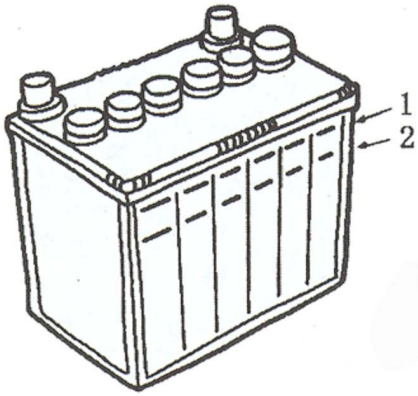


3. If the core is filthy, clean it in the following sequence.
a) Clean the core in the cleansing solvent.
b) Dry it up
c) Dip a few drops of engine oil into it.
d) Squeeze excess oil



4.4 BATTERY

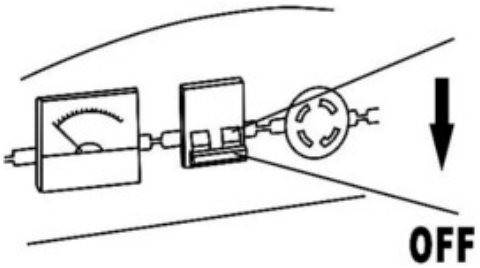
Check and make sure that the electrolyte level of each battery cell is between is upper and lower level marks.



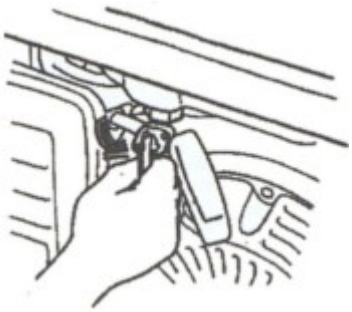
1. upper level mark
2. lower lever mark

5. STARTING THE GENERATOR

5.1 Remove all loads from AC socket [3].
5.2 Switch off AC breaker [4].



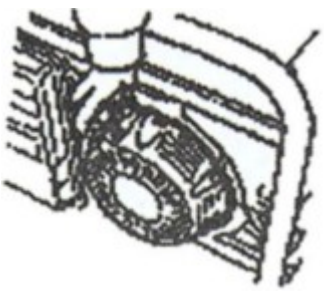
5.3 Turn on the fuel cock [10].



5.4 Turn on the ignition switch .

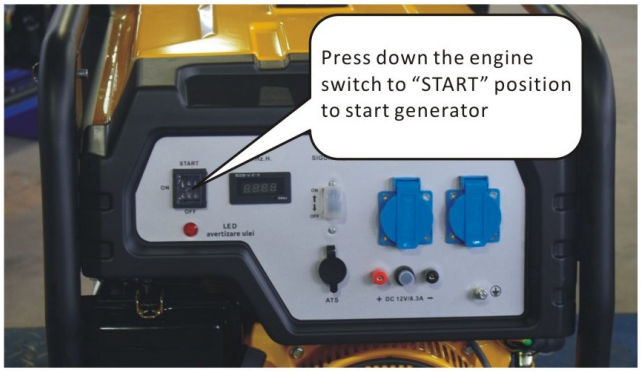
5.5 Pull the start handle gently until feeling an anti-action, and then pull it up strongly.

⚠ WARNING
After starting up, release the starting lever slightly so avoid injuring personnel or damaging equipment due to its bouncing back.



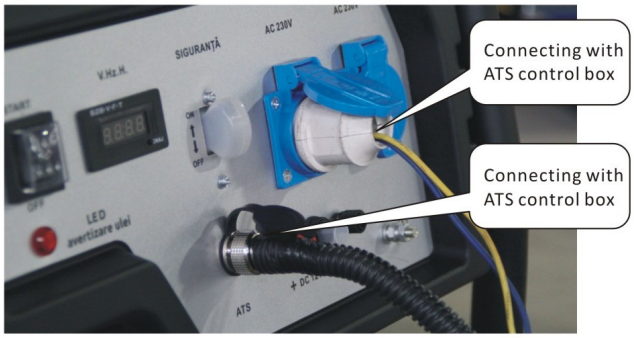
Starting steps for ATS models

1、Working without connecting with ATS control box：

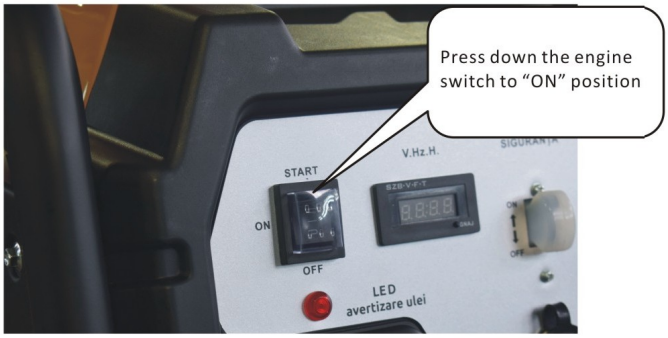


Press down the engine switch to “start” position to start generator.

2、Working with connecting with ATS control box：

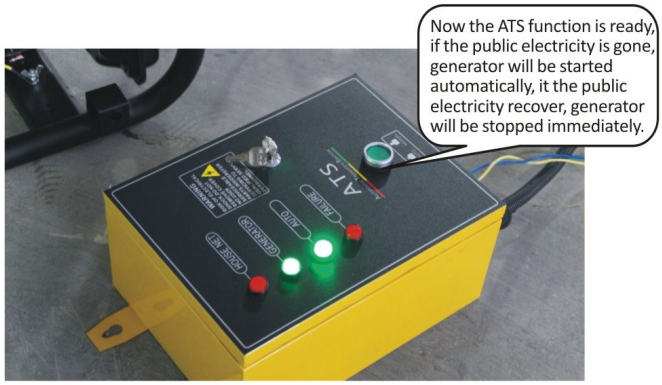


2.1 connecting the wires with generator panels correctly.



2.2 Press down the engine switch to “ON” position.

2.3 Press down the blue button to turn on the ATS function



2.4 Now the ATS function is ready, if the public electricity is gone, generator will be started automatically, it the public electricity recover, generator will be stopped immediately.

For the three-phase generators, pay special attention to the correct RST sequence when connecting the mains conductors, it needs to follow the pins from the terminal 1, 2 and 3. This way, the voltage detector (VP) can react as soon as one of the phases is missing, the frequency is different from 50Hz or the voltage fluctuations are above the established limits in its settings.

If the mains is connected correctly, the 2 LED on the network detector (VP) are lighted. If something is wrong, or the sequence is not RST, the LED will begin to flash.

If at the first connection the LEDs flash when the mains voltage is applied, disconnect the ATS from the mains and reverse one of the mains wires in the terminal (for example: RST → 123 to change them to RTS → 132 or STR → 231).

CAUTION: After adjusting the voltage limits (from VP), it is necessary to reset the system. Turn off and restart the mains voltage from the circuit breaker before the ATS.

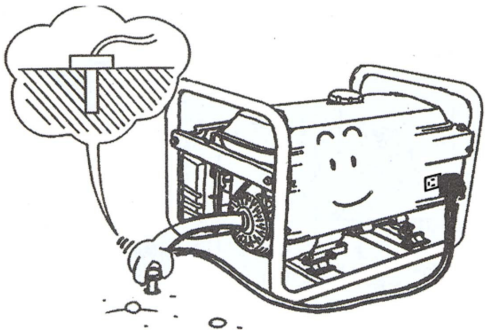
It is mandatory that the sequence of RST phases is correct. This is confirmed when the green LED is lighted. Otherwise, it flashes.

6. SERVICE

Always do as the following so as to keep the generator in a sound condition.

⚠ WARNING

6.1 Always connect the generator to the earth to prevent misusing.

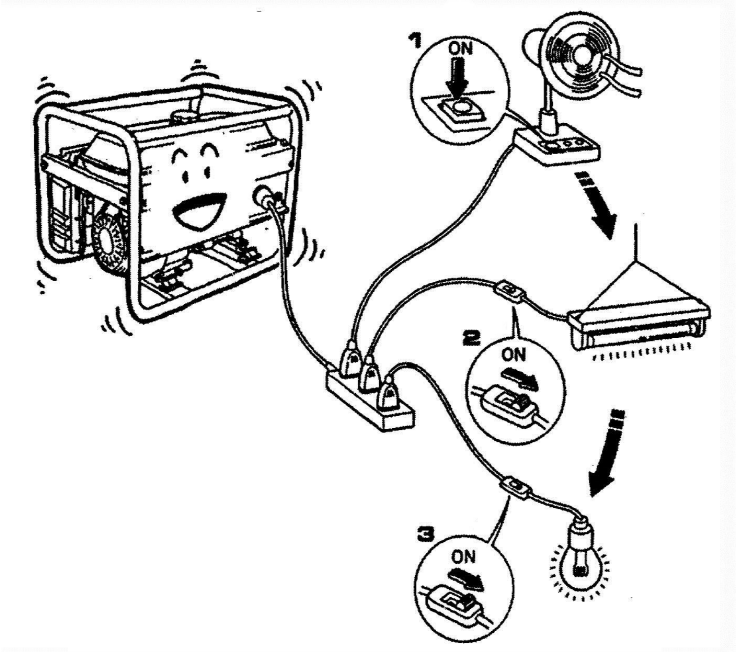


6.2. The following table gives reference information for connection the electric appliances to generator.

Description	Wattage		Typified	Example		
	Start	Rating		Electric device	Start	Rating
- Incandescent lamp - Heating device	×1	×1	Incandescent lamp TV	Incandescent lamp 100W	100VA (W)	100VA (W)
- Fluorescent lamp	×2	×1.5	Fluorescent lamp	Fluorescent lamp 40W	80VA (W)	60VA (W)

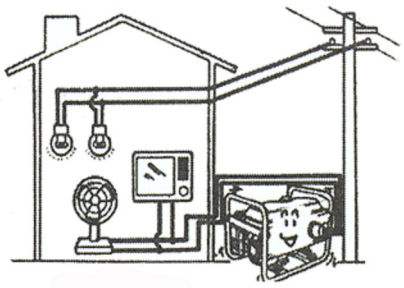
- Motor drive device	×3~ 5	×2	Refrigerator  Electric fan 	Refrigerator  150W	450~750VA (W)	300VA (W)

6.3. If the generator is to supply two or above loads with power supply, be sure to connect them one by one with higher start current first.

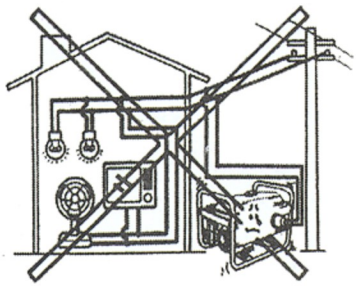


6.4 Connecting methods illustrated as follows.

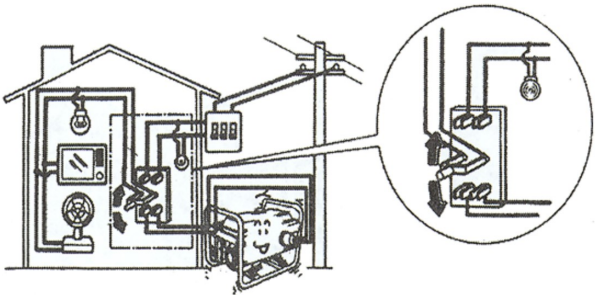
a) Correct



b) Forbidden



c) Correct

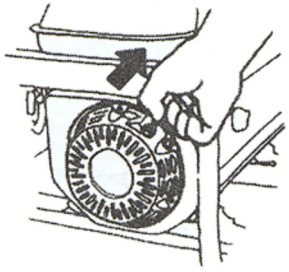


! WARNING !

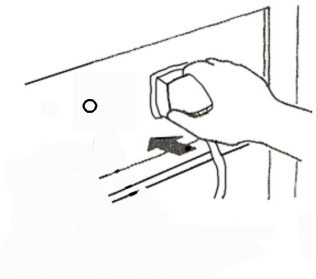
When connect the generator to home power supply, be sure that a skilled electrician does this job. Improper connecting between the generator and loads may cause damage to the generator, even a fire.

6.5 Use instruction when providing alternative current supply

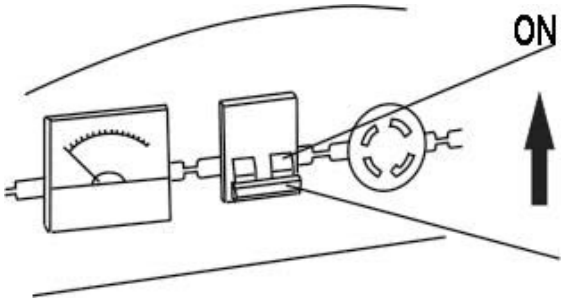
1 Start the generator



2 Connect devices.



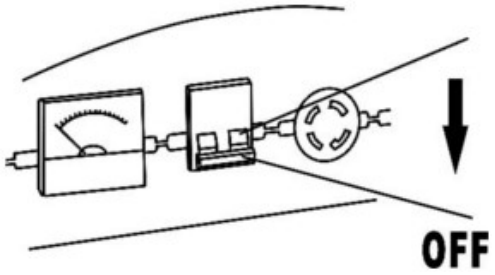
3 Switch on the AC breaker.



! CAUTION !
If the generator will be connected to an electrical panel, the circuit breaker must be set in ON position. Otherwise, the sudden return of electricity in the mains could affect both the generator and the load, or could cause a fire hazard.
Connecting the generator to an electrical circuit that is, also, connected to the mains, must be made only through a selector switch 1-0-2 modular, which will not allow, not even accidentally, the simultaneous connection of two or more electrical energy sources to the same circuit.

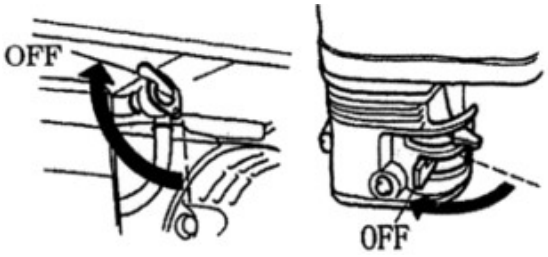
7. STOPPING THE ENGINE

7.1 Switch off AC breaker.



7.2 Turn the ignition switch to OFF.

7.3 Set the fuel cock to off.



NOTE:
To stop the generator in an emergency, turn the ignition switch to OFF.

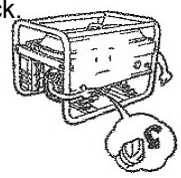
8. MAINTENANCE

Periodic checks and maintenance are very important to keep the equipment in good conditions. Stop the generator engine before any checks. If the engine must be started, make sure that the area is well ventilated. Exhaust gases contain carbon monoxide.
User should service the unit according to the Maintenance Schedule as follows:

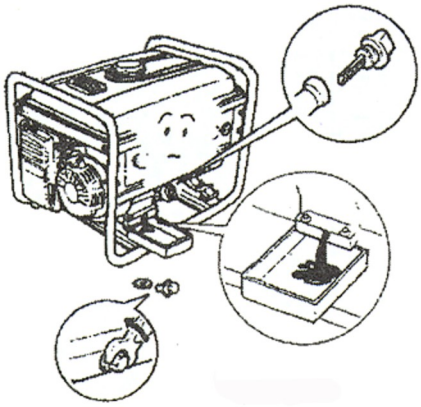
Element	Daily checks	After first month	Every 3 months	Every 6 months	Annual
Check engine oil	check				
Replace engine oil		replace		replace	
Air filter	check				
Air filter			clean		
Oil drain cup				clean	
Spark plug				clean	
Fuel filter cup				clean	
Fuel filter				clean	
Valve clearance					Check / adjust
Clean cylinder cover					curatare
Clean fuel tank	Wash it, if necessary; replace every 3 years				
Check battery	Before starting the generator				

8.1 Replacement of engine oil

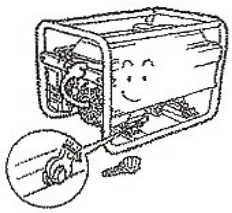
1. Turn and then take out the dipstick.



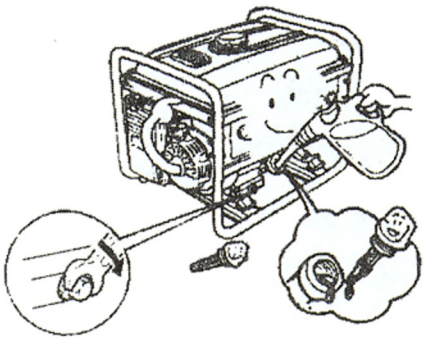
2. Unscrew the drain plug, and empty the engine oil from the crankcase.



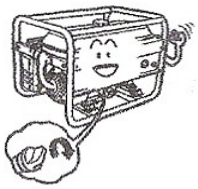
3. Screw on the drain plug.



4. Fill engine oil to the upper level mark of the dipstick

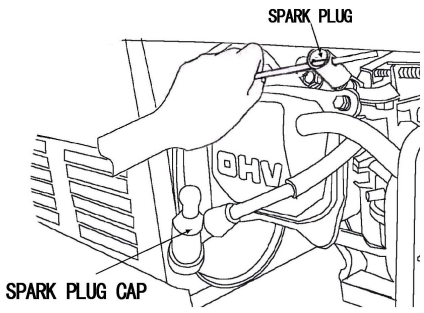


5. Fit the dipstick to the original position.

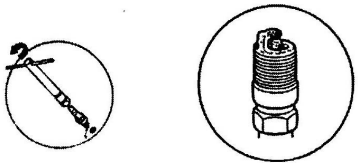


8.2 Spark plug

1. Withdraw the spark plug cap from the spark plug.

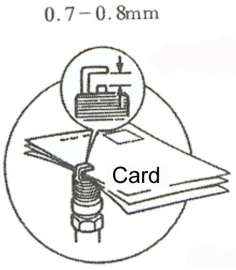


2. Dismantle the spark plug by means of a special tool.



3. Clear away carbon fouling around the spark plug.

4. Check the spark plug gap and adjust it if necessary. The gap should be 0.7~0.8mm.

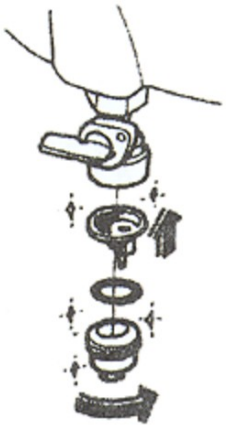


5. Reinstall the spark plug and cap well.
Spark plug recommended: F6RTC.

8.3 Maintenance of fuel filter cup

1. Set the fuel cock to OFF, and dismantle the fuel filter cup and gauze.
2. Fit the fuel filter cup gauze to the original position.

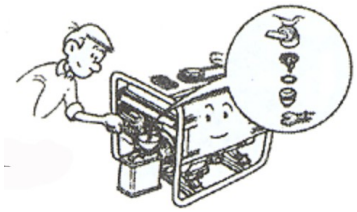
3. Fit the fuel filter cup and gauze to the original position.



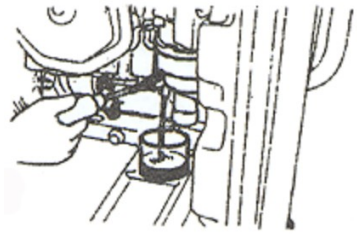
9. STORAGE

Before long – term storage of the generator which are not kept in use, carry out procedures as follows.

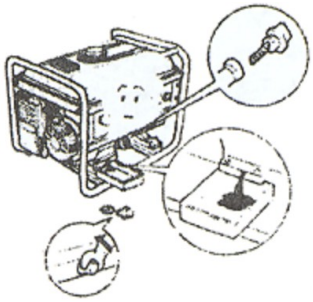
9.1 Empty the fuel the fuel tank.
9.2 Wash the fuel filter cup and gauze, install them to the original position.



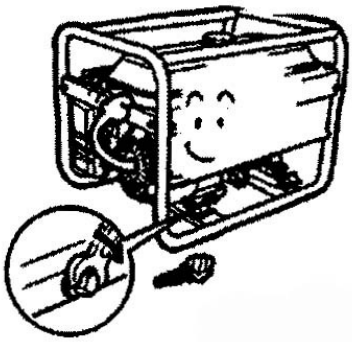
9.3 Discharge the fuel from the carburetor.



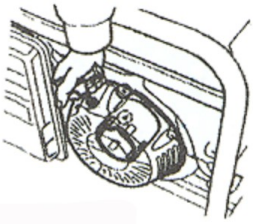
9.4 Turn off the oil filter cap and oil drain plug, and empty the engine oil from the crankcase.



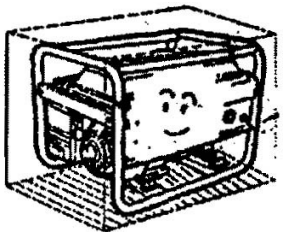
9.5 Reinstall the oil drain plug, fill engine oil to the upper level mark of the dipstick, followed by fitter cap to the original position.



9.6 Pull up the handle gently until feeling an anti-action.

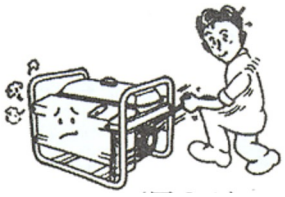


9.7 Place the generator set in the clean place.

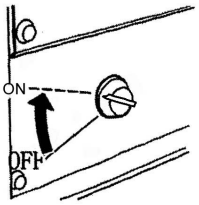


10. TROUBLESHOOTING

10.1 TROUBLE: the generator fails to start.



1. Check to see if the ignition switch is at ON.

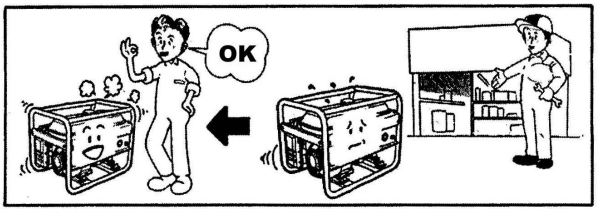


2. Check engine oil level.

3. Check the fuel inside tank.

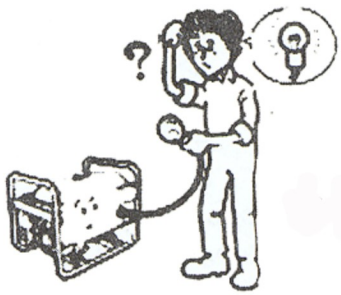
4. Remove the spark plug, and check it for proper sparks.

5. If the generator set is still out of work, see your dealer for help.

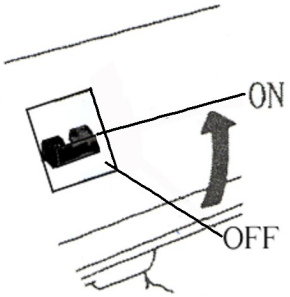


10.2 TROUBLE: the unit fails to generate electricity.

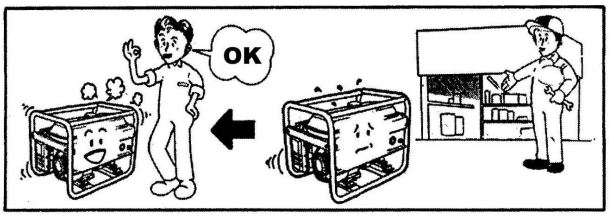
1. Check the light bulb.



2. Check AC breaker is at ON.



3. If such check is still unsatisfactory, contact the authorized service.

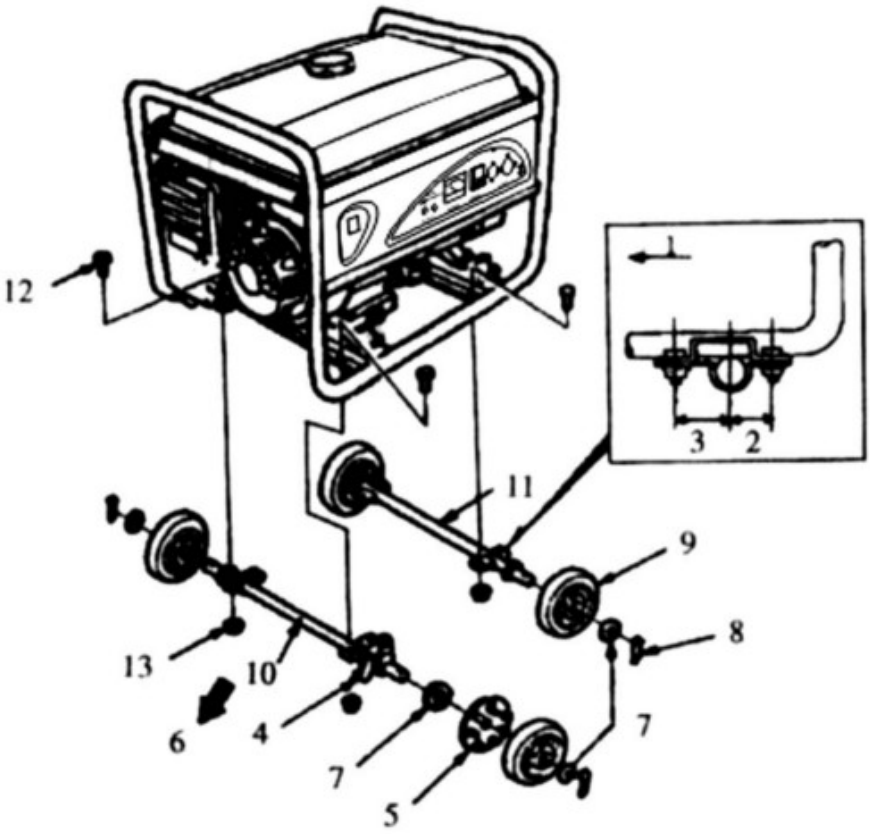


11. ASSEMBLY OF PARTS

11.1 WHEEL

Assemble the wheel, to this end:

1. Fit the wheel onto the axle, then secure them with washer and split pin.
2. Mount the assembled axle on the frame with bolt and nut.



1. Inner side
2. Shorter side
3. Longer side
4. Latch
5. Stopping disc
6. Engine location
7. Retainer
8. Split pin
9. Wheel
10. Right axle close to engine)
11. Left axle (close to generator)
12. Nut
13. Bolt

11.2 BATTERY

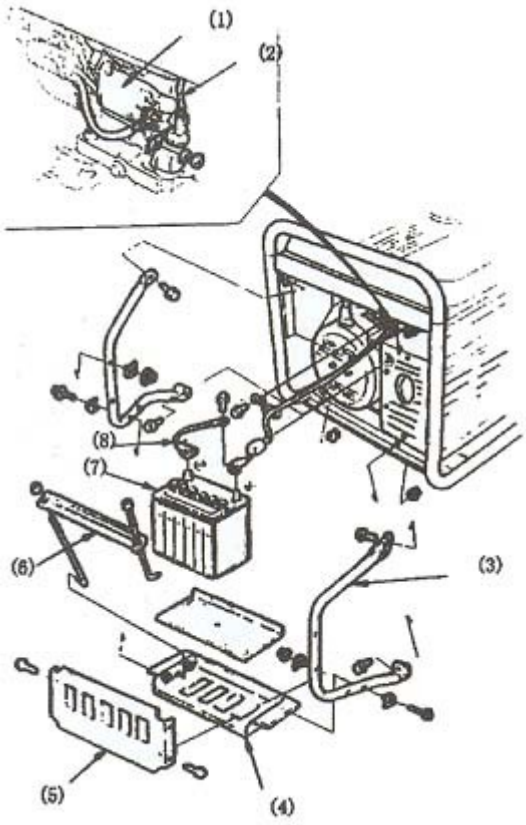
To install the battery, proceed as follows;

11.2.1 Assemble the battery with nuts, bolts and washers.

11.2.2 Connect the starting cable to the starting motor terminal alone the bottom of the fuel tank.

11.2.3 Connect the earth line with line with the rear end of the generator.

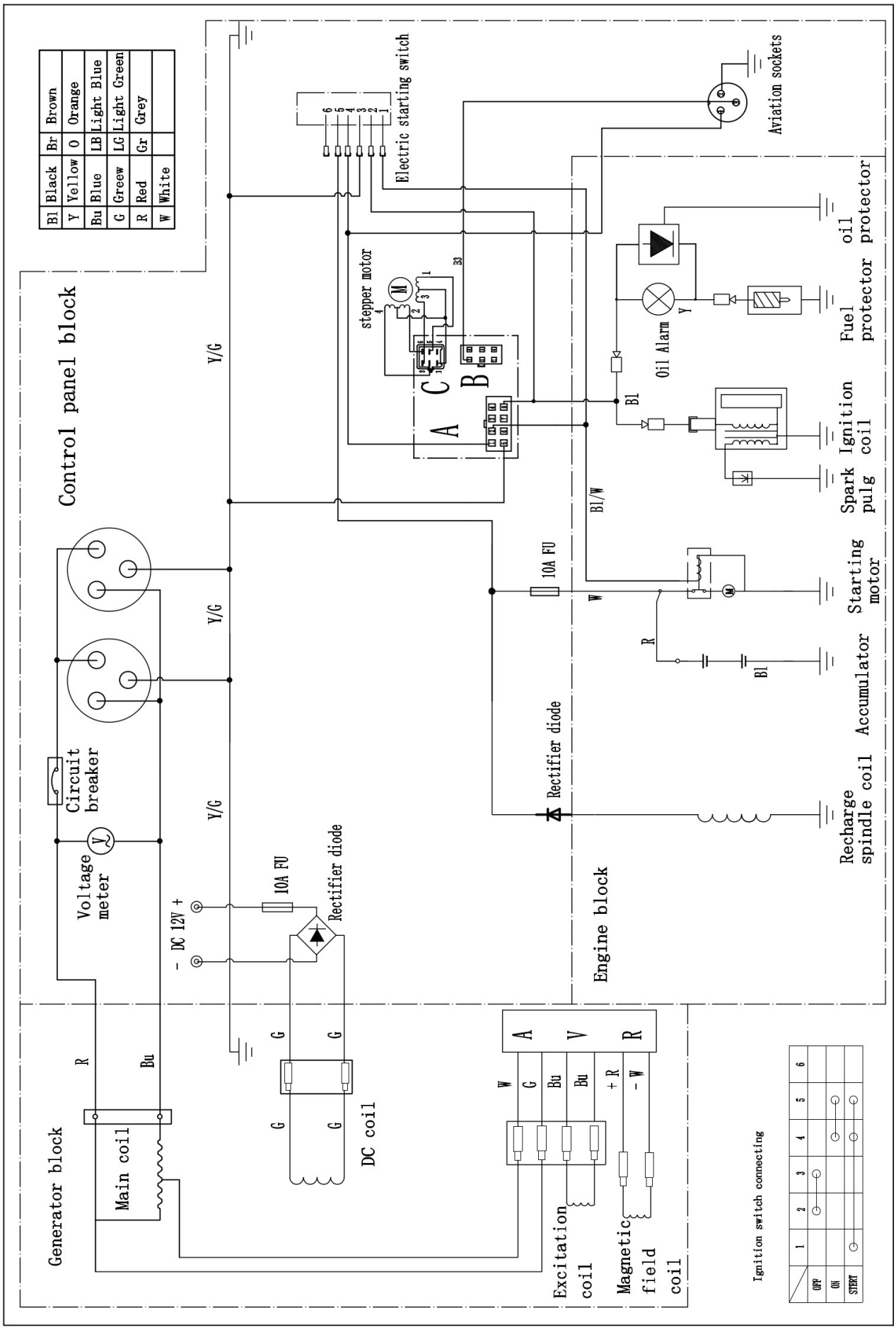
11.2.4 Connect the starting cable to the positive lead of the battery first, and then to the negative one. Disconnect in the reverse order.



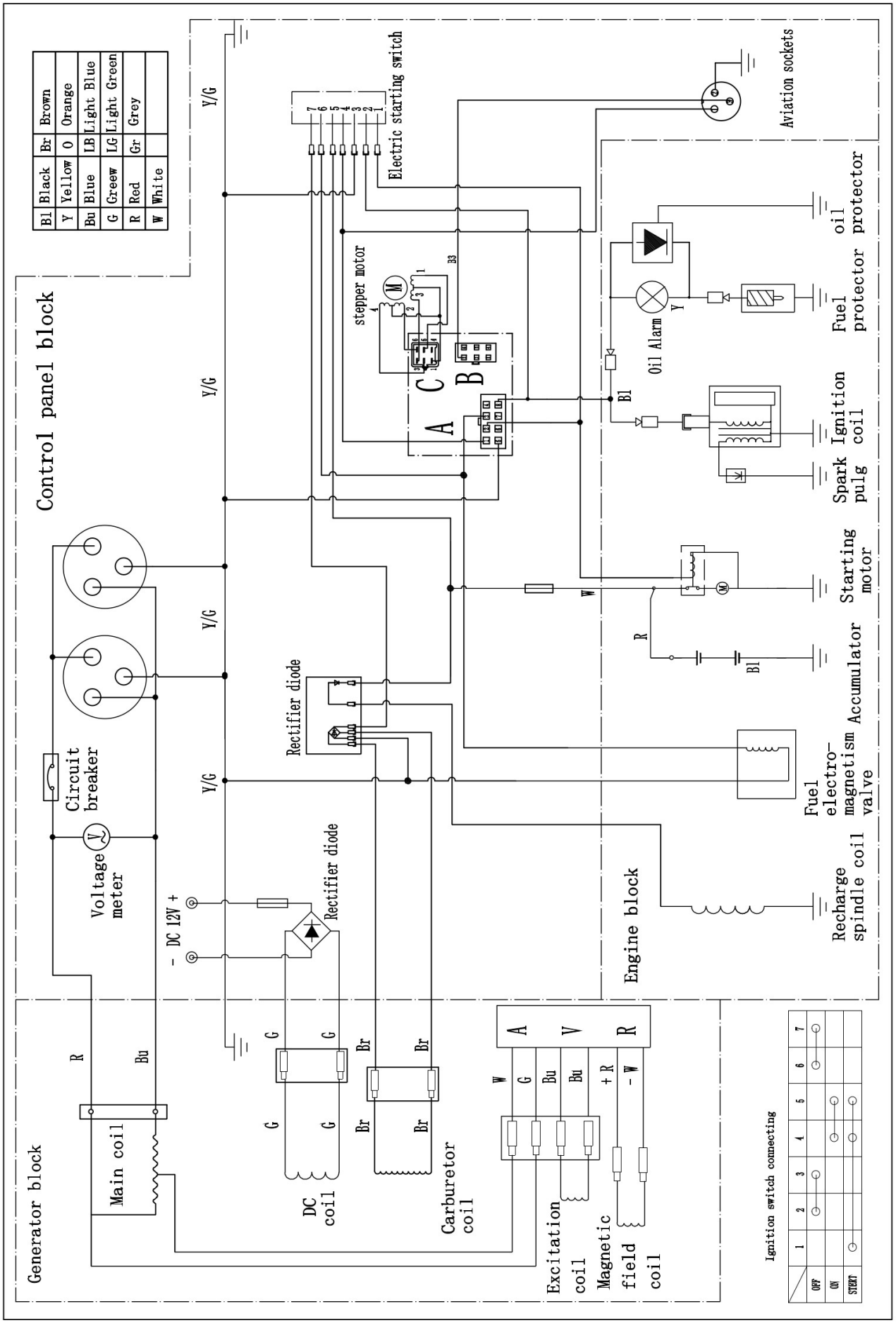
1. Starting motor
2. Starting cable
3. Protective frame
4. Battery bracket
5. Battery guard
6. Retaining frame
7. Battery (with a rating of 12V-35Ah)
8. Negative wire

12. WIRING DIAGRAM

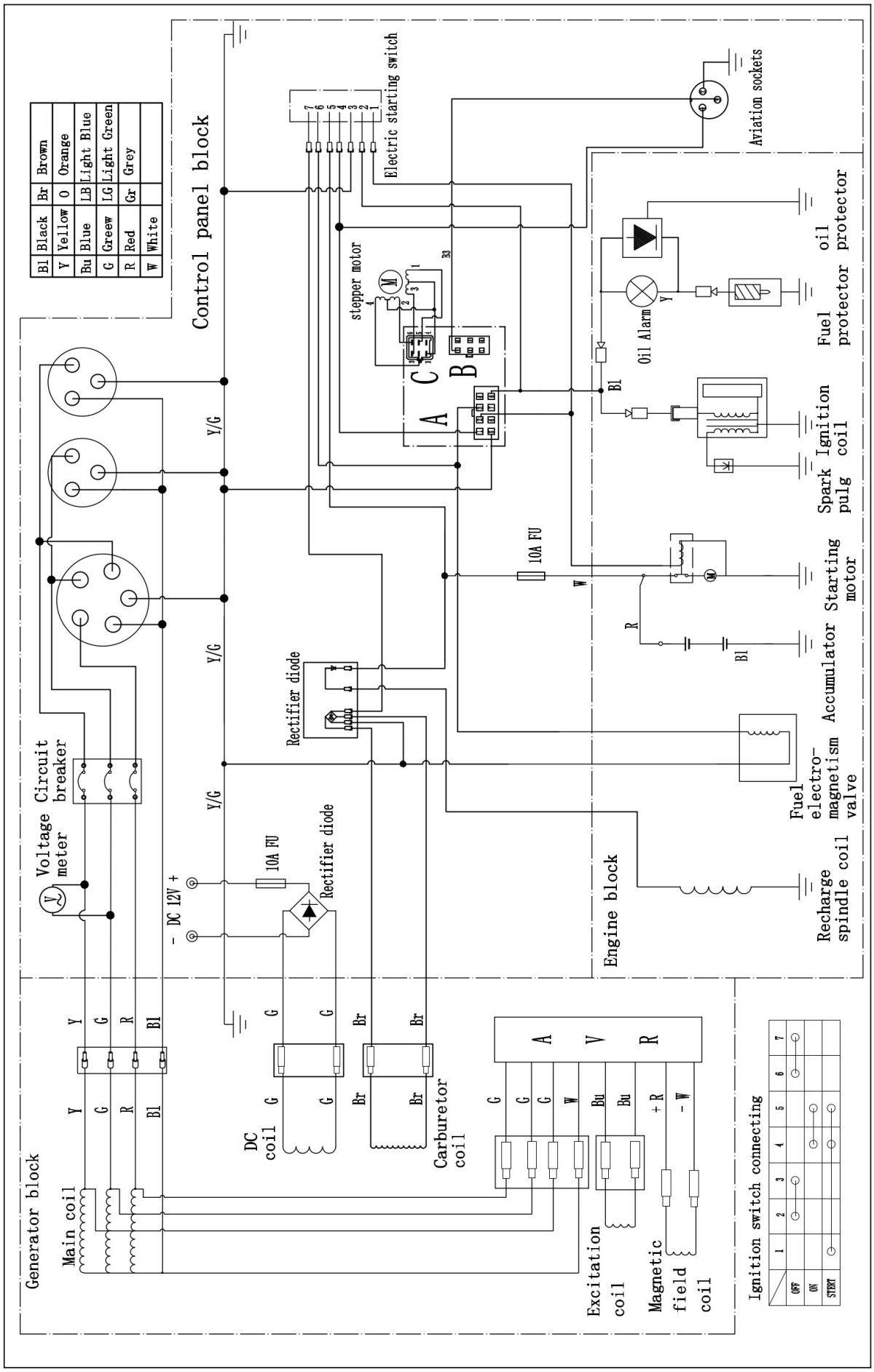
1. FD3000ER, FD3600ER



2. FD6500ER, FD10000ER



3. FD10000E3R



stager

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IMPORTANT! - SIGURANTA INAINTE DE TOATE!

Inainte de a utiliza acest produs va rugam sa cititi masurile de siguranta prezentate in acest manual pentru a reduce riscurile de incendiu, socuri electrice si vatamari personale.

Imaginile si datele tehnice din acest manual sunt numai pentru referinta. Acestea se pot schimba fara o notificare prealabila.