OWNER'S MANUAL

Assembly & Operating Instructions

BBT 3.5KW Electric Start Sine Wave Inverter Generator

MODEL NO. BBT-GEN-3.5KWINV

N23701

To the Owner

Thank you for purchasing our Generator. It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the Generator. It instructs you how to safely and easily set up, operate and maintain your Generator. Please be sure that you and any other persons who will operate the Generator carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

All information in this manual is relative to the most recent product information available at the time of printing. Review this manual frequently to familiarise yourself with the machine, its features and operation. Please be aware that this Owner's Manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable to all models. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

All the power testing information used to establish the power rating of the engine equipped on this Generator can be found in the engine manufacturer's manual or website. If you have any problems or questions concerning the machine, please contact our Customer Support Department.

Throughout this manual, all references to right and left side of the Generator are observed from the operating position. The engine manufacturer is responsible for all engine-related issues with regards to performance, power-rating, specifications, warranty and service. Please refer to the engine manufacturer's Owner's Manual packed separately with your Generator for more information.

Customer Support

Please do NOT return the Generator without first contacting the Customer Support Department at bbt@bbta.com.au.

If you have difficulty assembling this product or have any questions regarding the controls, operation, or maintenance of this Generator, please contact our Customer Support Department.

SAVE THESE INSTRUCTIONS

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IMPORTANT SAFETY INFORMATION

<u>WARNING:</u> Read and thoroughly understand all instructions in this manual and on the safety decals before assembling or operating this Generator. Failure to do so may cause serious injury or death. Do not allow anyone to operate this Generator who has not read this manual. As with all power equipment, a Generator can be dangerous if assembled or used improperly. Do not operate this Generator if you have any questions concerning its safe operation. To get answers to any questions, call our Customer Support Department.

This SAFETY ALERT SYMBOL identifies important safety messages in this manual. Failure to follow this important safety information may result in serious injury or death.

DANGER! This Generator was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. Failure to observe the following safety instructions could result in serious injury or death.

The following signals, words and meanings are intended to explain the levels of risk associated with this product.

DANGER indicates a hazardous situation which, if not avoided, will result in serious injury or death.

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

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE is important information about the proper use of your Generator. Failure to follow this instruction could result in damage to your Generator or property.

Additional Information and Potential Changes

We reserve the right to discontinue, change, and improve our products at any time without notice or obligation to the purchaser. The descriptions and sections contained in this manual were in effect at the time of printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your machine.

WARNING! Your Responsibility—Restrict the use of this power machine to persons who have read, understood and will follow the warnings and instructions in this manual and on the machine.

SAVE THESE INSTRUCTIONS!

IMPORTANT SAFETY INFORMATION

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

Safety Information

Exhaust Fumes are Poisonous

- **NEVER** operate the engine in a closed area or it may cause unconsciousness and death within a short time. Operate the engine in a well ventilated area.

Fuel is Highly Flammable and Poisonous

- Always turn off the engine when refuelling
- **NEVER** refuel while smoking or in the vicinity of an open flame.
- Take care not to spill any fuel on the engine or muffler when refuelling.
- If you swallow any fuel, inhale fuel vapour, or allow any to get in your eyes, see your doctor immediately. If any fuel spills on your skin or clothing, immediately wash with soap and water and change your clothes.
- When operating or transporting the machine, be sure it is kept upright. If it tilts, fuel may leak from the carburettor or fuel tank.

Engine and Muffler may be Hot

- Place the machine in a place where pedestrians or children are not likely to touch the machine.
- Avoid placing any flammable materials near the exhaust outlet during operation.
- Keep the machine at least 1 m (3 ft) from buildings or other equipment, or the engine may overheat.
- Avoid operating the engine with a dust cover.
- Be sure to carry the generator only by its carrying handle.
- Put the machine on the flat ground, for the machine to eliminate heat freely.

Electric Shock Prevention

- **NEVER** operate the engine in rain or snow.
- **NEVER** touch the machine with wet hands or electrical shock will occur.
- Be sure to ground (earth) the generator.

Note: Use ground (earth) lead of sufficient current capacity.

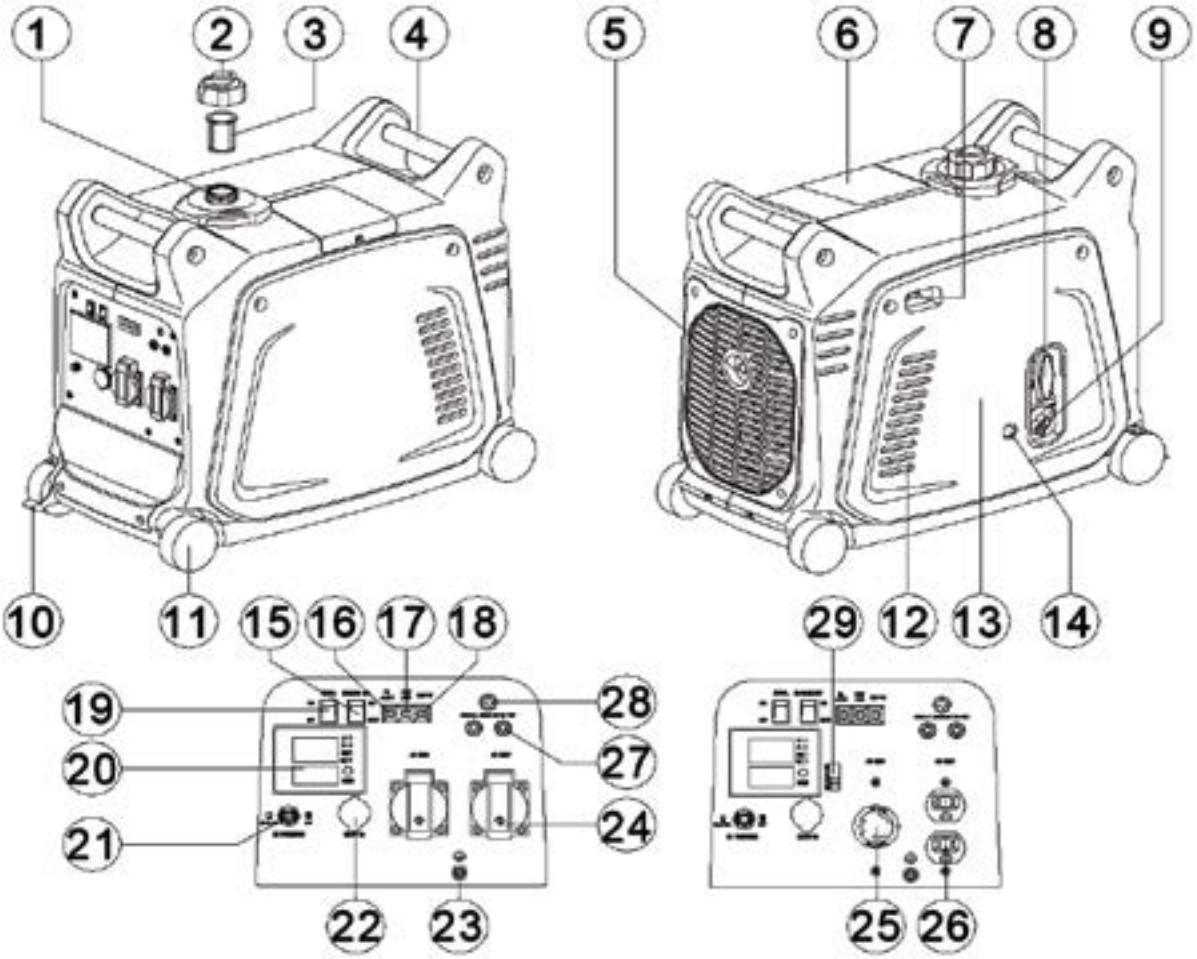
Diameter: 0.12mm (0.005 in)/ampere, EX: 10 Ampere – 1.2mm (0.055 in)

Connection Notes

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

PARTS LOCATION

1. Fuel tank
2. Fuel tank cap
3. Fuel filter
4. Carrying handle
5. Muffler
6. Spark plug
7. Choke lever
8. Recoil starter
9. Fuel cock
10. Brake lever
11. Wheel
12. Oil filler cap
13. Air filter
14. Fuel pump
15. Engine switch
16. AC pilot light
17. Overload indicator light
18. Oil warning light
19. Economy control switch
20. Voltmeter
21. DC protector
22. DC receptacle
23. Ground (earth) terminal
24. AC receptacle
25. AC receptacle L5-30R
26. AC receptacle 5-20R
27. Parallel connection control socket
28. Parallel connection socket
29. Frequency Transfer Switch



PARTS LOCATION

1. Fuel tank
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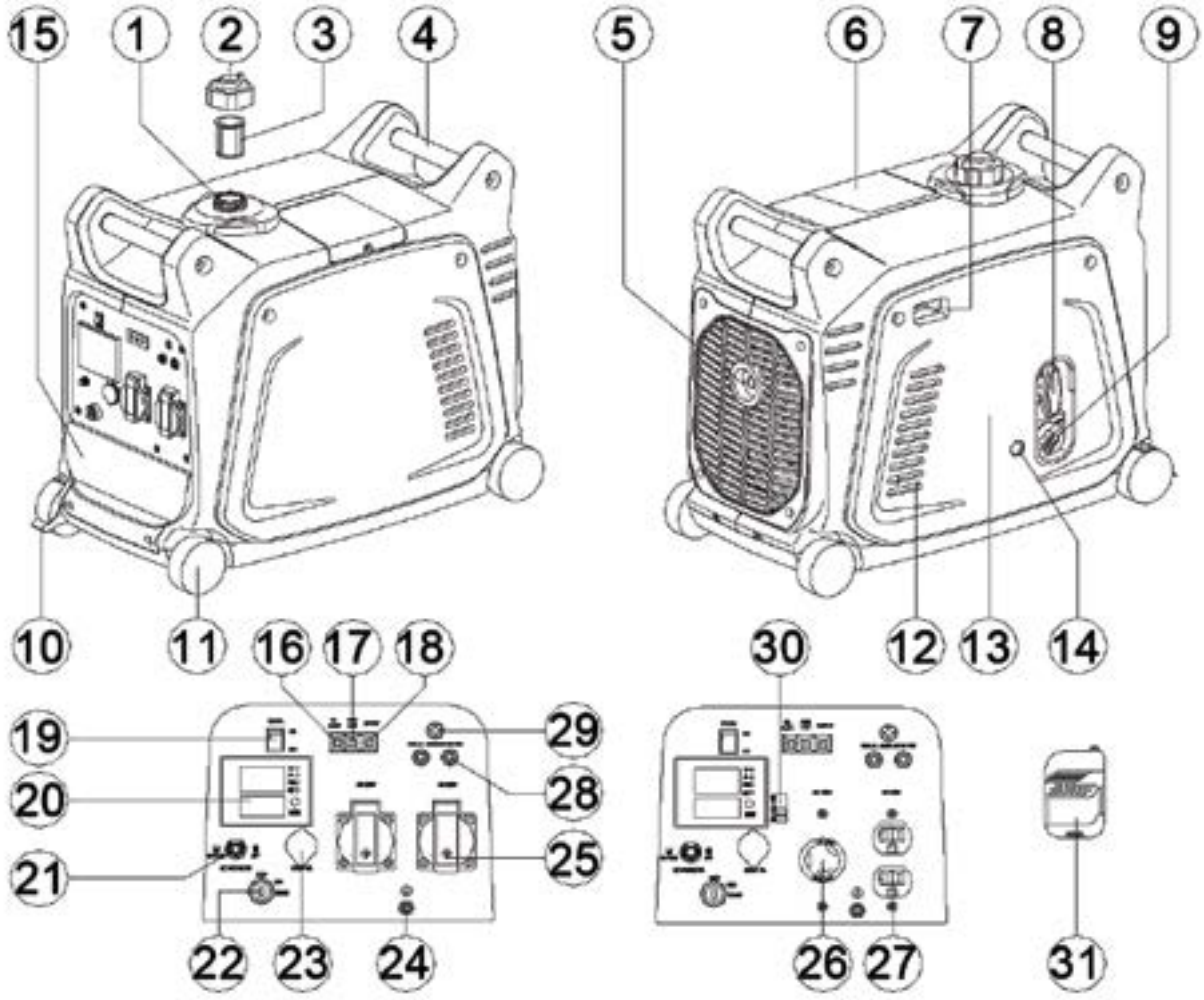
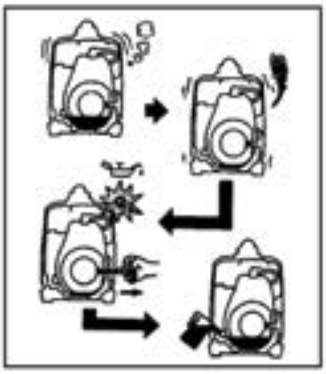
10. Brake lever
11. Wheel
12. Oil filler cap
13. Air filter
14. Fuel pump
15. Battery
16. Engine switch
17. AC pilot light
18. Overload indicator light
19. Oil warning light
20. Voltmeter
21. Economy control switch
22. DC protector
23. DC receptacle
24. Ground (earth) terminal
25. AC receptacle
26. AC receptacle L5-30R
27. AC receptacle 5-20R
28. Parallel connection control socket
29. Parallel connection socket
30. Frequency Transfer Switch
31. Remote control



CONTROL FUNCTION

Control Function



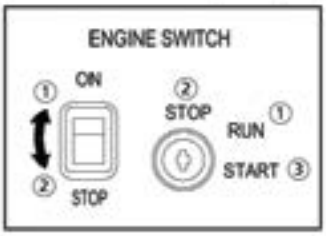
Oil Warning System

When the oil level falls below the lower level, the engine stops automatically. Unless you refill with oil, the engine will not start again.

Engine Switch

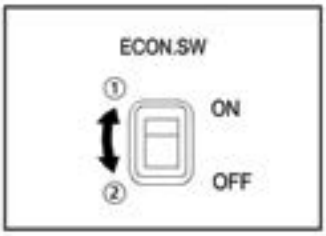
The engine switch controls the ignition system.

- **'ON'**(run) - Ignition circuit is switched on. The engine can be started.
- **'STOP'** - Ignition circuit is switched off. The engine will not run.
- **'START'** - Starting circuit is switched on. The starter motor starts.



Economy Control Switch

When the economy control switch is turned 'ON', the economy control unit control the engine speed according to the connected load. The results are better fuel connection and less noise.

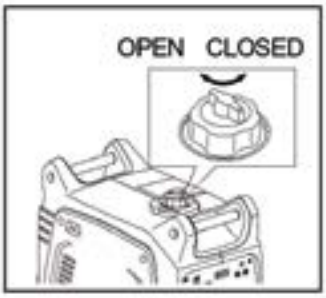


DC Circuit Protector

The DC circuit protector turns off automatically when the load exceeds the generator rated output.

⚠ CAUTION

Reduce the load to within specified generator rated output if the DC circuit protector turn off.



Fuel Tank Cap Air Ventknob

The fuel tank cap is provided with an air vent knob to stop fuel flow. The air vent knob must be turned once clockwise from the closed position. This will allow fuel to flow to the carburettor and the engine to run.

When the engine is not in use, tighten the air vent knob counter-clockwise until it is finger-tight to stop fuel flow.

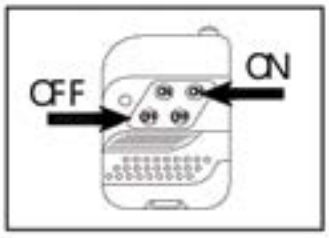
Fuel Cock

The fuel cock is used to supply fuel from the tank to the carburettor.

Remote Control Switch

The remote control switch controls the ignition system

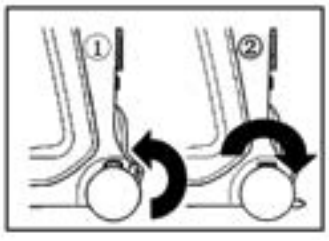
- **'ON'** - The starter motor starts.
- **'OFF'** - The engine will not run.



Brake Lever

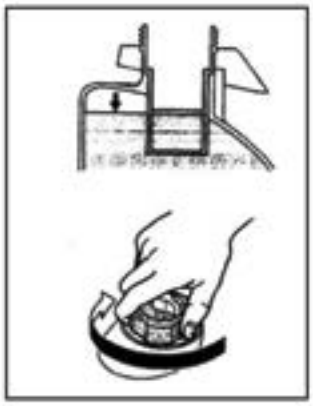
The function of brake lever is preventing generator moving.

- Brake lever is not working, generator can move.
- Brake lever is working, generator can't move.



BEFORE OPERATION

Pre-operation Check



Note:

- Add more than 5 litres of fuel for the first time to use this machine.
- Pre-operation checks should be made each time the generator is used.

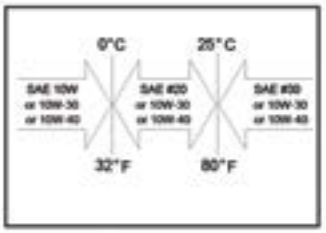
Check Engine Fuel

1. Make sure there is sufficient fuel in the tank.
2. If fuel is low, refill with unleaded automotive petrol.
3. Be sure to use the fuel filter screen on the fuel filter neck.
4. Recommended fuel: 95-98 premium octane fuel
5. Fuel tank capacity: (see page 17)

⚠ WARNING

- **DO NOT** refill tank while engine is running or hot.
- Close fuel cock before refuelling with fuel.
- Be careful not to admit dust, dirt, water or other foreign objects into fuel.
- **DO NOT** fill above the top of the fuel filter or it may overflow when the fuel heats up later and expands.
- Wipe off spilt fuel thoroughly before starting engine.
- Keep open flames away.

Check Engine Oil



Make sure the engine oil is at the upper level of the oil filler hole. Add oil as necessary.

1. Remove oil filler cap and check the engine oil level.
2. If oil level is below the lower level line, refill with suitable oil to upper level line. **DO NOT** screw in the oil filler cap when checking oil level.
3. Change oil if contaminated. Oil capacity: (see page 17)
4. Recommended engine oil: SAE 30 Engine Oil

Ground (Earth)

Make sure to ground (earth) the generator.

Connect Battery (For Electric Starting System)

1. Loosen the screw and remove the battery cover.
2. Clamp the red wire to the positive (+) terminal and the black wire to the negative (-) terminal of the battery. Do not reverse these positions.
3. Be sure the battery is installed on the battery mount tray securely.
4. Install the cover and tighten the screw.

NOTE: Recommended battery: 12V6AH

OPERATION

NOTE:
- The generator has been shipped without engine oil. Fill with oil or it will not start.
- **DO NOT** tilt the generator when adding engine oil. This could result in overfilling and damage to the engine

Starting the Engine

NOTE: Before starting the engine, **DO NOT** connect the electric apparatus.

A. Recoil start

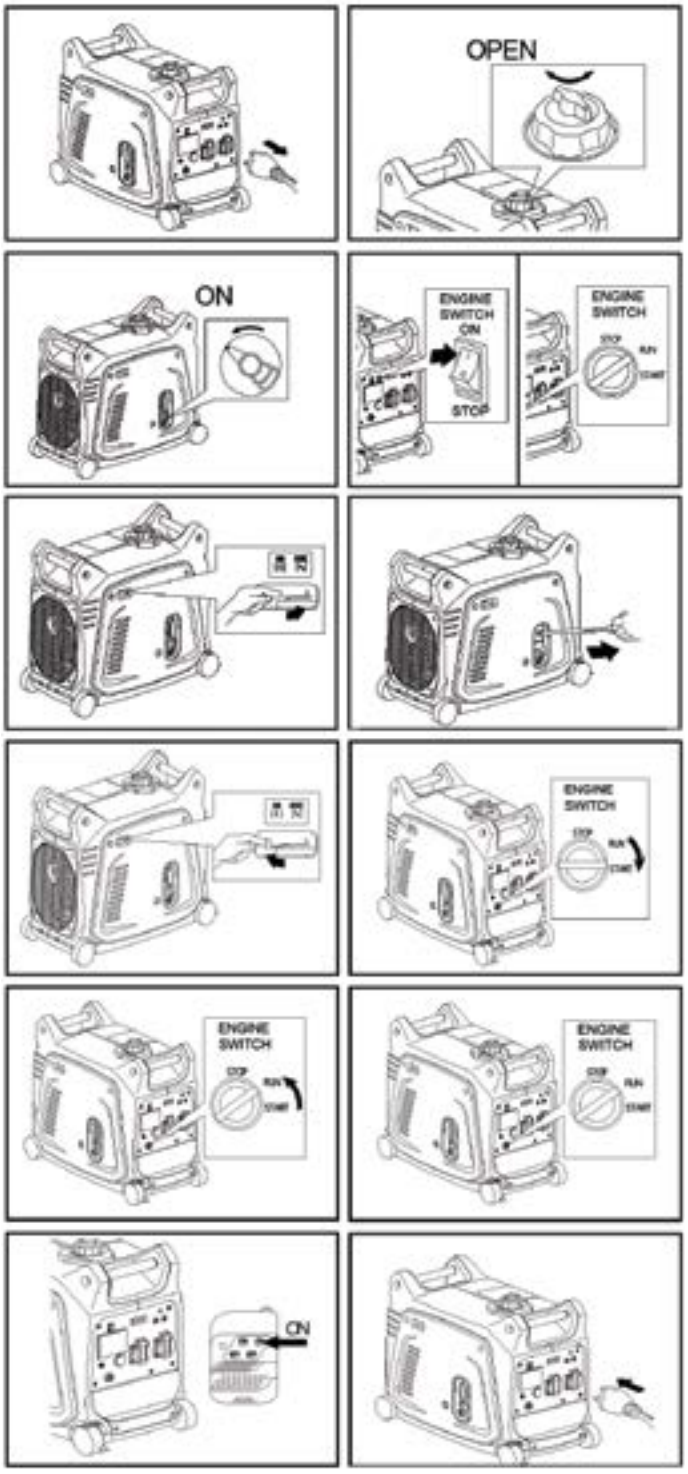
1. Open the fuel tank air vent to the **'OPEN'** position.
2. Turn the fuel cock lever to the **'ON'** position.
3. Turn the engine switch to the **'ON'** or **'RUN'** position.
4. Turn the choke lever to the '' position. Not necessary if the engine is electric type.
5. Pull the starter handle slowly until resistance is felt. This is the 'Compression' point. Return the handle to its original position and pull swiftly. Do not fully pull out the rope. After starting, allow the starter handle to return to its original position while still holding the handle. Grasp the carrying handle firmly to prevent the generator from falling over when pulling the recoil starter.
6. Warm up the engine.
7. Turn the choke lever back to the operating position. Not necessary if the engine is electric type.
8. Warm up the engine without a load for a few minutes.

B. Electric start

1. Open the fuel tank air vent to the **'OPEN'** position.
2. Turn the fuel cock lever to the **'ON'** position.
3. Turn the engine switch to the **'START'** position.
4. Turn the engine switch to the **'RUN'** position
5. Warm up the engine without a load for a few minutes.

C. Remote start

1. Open the fuel tank air vent to the **'OPEN'** position.
2. Turn the fuel cock lever to the **'ON'** position.
3. Turn the engine switch to the **'RUN'** position.
4. Click remote switch to the **'ON'** position.
5. Warm up the engine without a load for a few minutes.



OPERATION

Using Electric Power

AC Application

1. Check the AC pilot lamp for proper voltage.
2. Turn off the switch(es) of the electrical appliance(s) before connecting to the generator.
3. Insert the plug(s) of the electrical appliance(s) into the receptacle.

⚠CAUTION

- Be sure the electric apparatus is turned off before plugging in.
- Be sure the total load is within generator rated output.
- Be sure the socket load current is within socket rated current.
- The economy control switch must be turned to **'OFF'** when using electric devices that require a large starting current, such as a compressor or a submersible pump.

Overload Indicator Light

The overload indicator light comes on when an overload of a connected electrical device is detected, the inverter unit overheats, or the AC output voltage rises. The electronic breaker will then activate, stopping power to the generation in order to protect the generator and any connected electric devices. The output pilot light (green) will flicker and the overload indicator light (red) will turn on, then the engine will stop running. If so please follow the following steps:

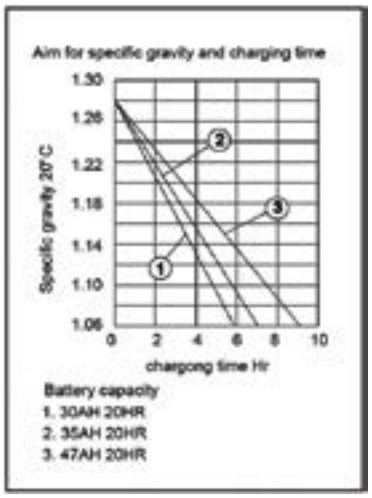
1. Turn off any connected electric devices and stop the engine
2. Reduce the total wattage of connected electric devices within the application range.
3. Check for blockages in the cooling air inlet and around the control unit. If any blockages are found, remove.
4. After checking, restart the engine.

⚠CAUTION

- The generator AC output automatically resets when the engine is stopped and then restarted.
- The overload indicator light may come on for a few seconds at first when using electric devices that require a large starting current, such as a compressor or a submersible pump. However, this is not a malfunction.

DC Application (option)

This usage is applicable to 12V battery charging only.



A. Charging instructions for battery
   1. Disconnect the leads for the battery.
   2. Make the battery fluid filler cap loose fully.
   3. Fill distilled water to the upper limit, if the battery fluid is low level.
   4. Measure the specific gravity for the battery fluid by using the hydrometer, and calculate the charging time in according with the table shown on right side.
   5. The specific gravity for the fully charged battery shall be within 1.26 to 1.28. It is recommended to confirm every hour.

B. Connect between the DC output socket and the battery terminals using the charging leads. The leads shall be connected making sure of the **(+)** and **(-)** polarity.

C. The DC circuit protector is to be set to **'ON'** after confirming the connection, if the protector is in **'OFF'** position.

⚠CAUTION

- Be sure the economy control switch is turned off while charging the battery.

OPERATION

Stopping the Engine

1. Turn off the power switch of the electric apparatus or disconnect any electric devices.
2. Turn the engine switch to **'STOP'** position. Click remote switch to the **'OFF'** position.
3. Turn the fuel cock lever to **'OFF'**.
4. Turn the fuel tank cap air vent knob counter-clockwise to the **'CLOSED'** position.

MAINTENANCE

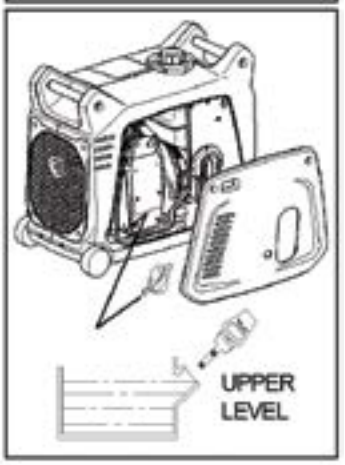
Regular maintenance is most important for the best performance and safe operation.

Item	Remarks	Pre-operation Check (Daily)	Initial 1 months or 20 Hr	Every 3 months or 50Hr	Every 6 months or100Hr	Every 12 months or 300Hr
Spark Plug	Check condition adjust gap and clean / Replace if necessary			✓		
Engine Oil	Check oil level	✓				
	Replace		✓		✓	
Oil Filter	Clean oil filter				✓	
Air Filter	Clean / Replace if necessary			✓		
Fuel Filter	Clean fuel cock filter. Replace if necessary				✓	
Choke	Check choke operation	✓				
Valve Clearance	Check and adjust when engine is cold.					✓
Fuel Line	Check fuel hose for crack or damage. Replace if necessary	✓				
Exhaust System	Check for leakage. Retighten or replace gasket if necessary	✓				
	Check muffler screen. Clean / replace if necessary					✓
Carburettor	Check choke operation	✓				
Cooling System	Check fan damage					✓
Starting System	Check recoil starter operation	✓				
Idle Speed	Check and adjust engine idle speed					✓
Fittings / Fasteners	Check all fittings and fasteners correct if necessary.				✓	
Crankcase Breather	Check breather hose for cracks or damage. Replace if necessary					✓
Generator	Check the pilot light comes on	✓				

MAINTENANCE

Engine Oil Replacement

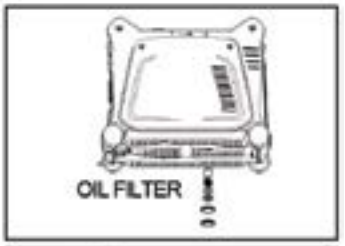
1. Place the machine on a level surface and warm up the engine for several minutes. Then stop the engine and turn the fuel cock knob to '**OFF**'. Turn the fuel tank cap air vent knob clockwise.
2. Loosen the screw and remove the cover.
3. Remove the oil filler cap
4. Place an oil pan under the engine. Tilt the generator to drain the oil completely
5. Replace the generator on a level surface.
6. Add engine oil to the upper level.
7. Install the oil filler cap
8. Install the cover and tighten the screw



Recommended engine oil: (see page 17) SAE 30 engine oil

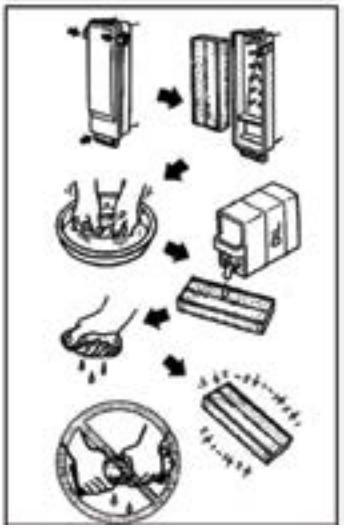
⚠CAUTION

- Be sure no foreign material enters the crankcase.
- **DO NOT** tilt the generator when adding engine oil. This could result in overfilling and damage to the engine
- Clean the oil filter every other 100hr.



Air Filter

Maintaining an air cleaner in proper condition is very important. Dirt induced through improperly installed, improperly serviced, or inadequate elements damages and wears out engines. Keep the element always clean.

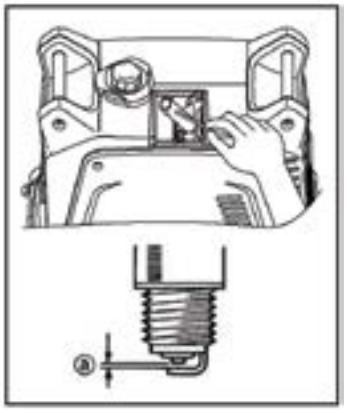


1. Remove the cover.
2. Remove the air filter cover and element.
3. Wash the element in solvent and dry.
4. Oil the element and squeeze out excess oil. The element should be wet but not dripping.
5. Insert the element into the air filter.
6. Install the cover

⚠CAUTION

The engine should never run without the element; excessive piston and/or cylinder wear may result.

Cleaning and Adjusting Spark Plug



1. Remove the cover.
2. Check for discolouration and remove the carbon.
3. Check the spark plug type and gap.
4. Install the spark plug.
5. Install the cover

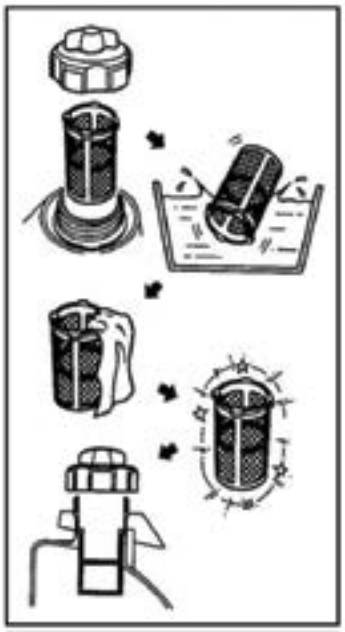
Standard electrode colour: Tan Colour

Standard Spark Plug: CR4HSB (NGK)

Spark Plug Gap: 0.6-0.7 mm (0.024-0.028 in)

MAINTENANCE

Fuel Tank Filter



1. Remove the fuel tank cap and filter.
2. Clean the filter with solvent. If damaged, replace.
3. Wipe the filter and insert it.

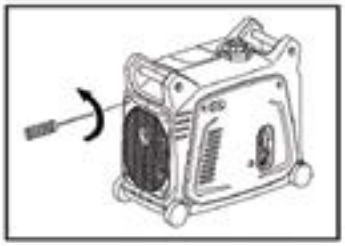
⚠ WARNING

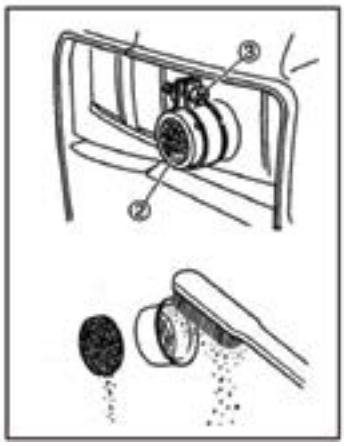
Be sure the tank cap is tightened securely.

Muffler Screen

⚠ WARNING

- The engine and muffler will be very hot after the engine has been running.
- Avoid touching the engine and muffler while they are still hot with any part of your body or clothing during inspection or repair.





1. Remove the cover.
2. Remove the muffler screen.
3. Use the flat-head screw driver to pry the spark arrester out from the muffler
4. Remove the carbon deposits on the muffler screen and spark arrester using a wire brush.
5. Install the muffler screen.
6. Install the cover

TROUBLESHOOTING

Engine won't start

Fuel systems - No fuel supplied to combustion chamber	
No fuel in tank	Supply fuel
Fuel in tank	Fuel tank cap air vent knob to '**ON**', fuel cock knob to '**ON**'
Clogged fuel line	Clean fuel line
Clogged carburettor	Clean carburettor
Engine oil system - Insufficient	
Oil level is low	Add engine oil
Electrical systems - Poor spark	
Spark plug dirty with carbon or wet	Remove carbon or wipe spark plug dry
Faulty ignition system	Consult dealer
Compression insufficient	
Worn out piston and cylinder	Consult dealer

Generator won't produce power

Safety device (AC) to '**OFF**'	Stop the engine, then restart
Safety device (DC) to '**OFF**'	Press to reset the DC protector

STORAGE

Long term storage of your machine will require some preventive procedures to guard against deterioration.

Drain the Fuel

1. Remove the fuel tank cap, drain the fuel from the fuel tank
2. Remove the cover, drain fuel from the carburettor by loosening the drain screw.

Engine

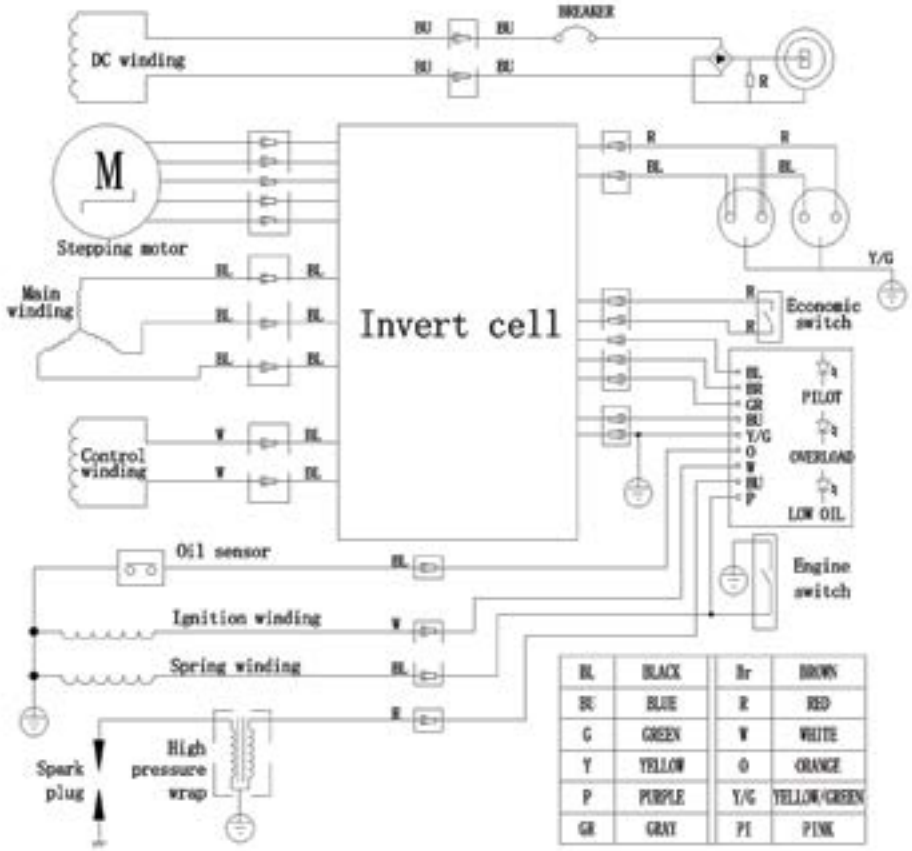
1. Remove the spark plug, pour in about one tablespoon of SAE 30 motor oil into the spark plug hole and reinstall the spark plug.
2. Use the recoil starter to turn the engine over several times (with ignition off).
3. Pull the recoil starter until you feel compression.
4. Stop pulling.
5. Clean exterior of the generator and apply a rust inhibitor.
6. Store the generator in a dry, well-ventilated place, with the cover placed over it.
7. The generator must remain in a vertical position.

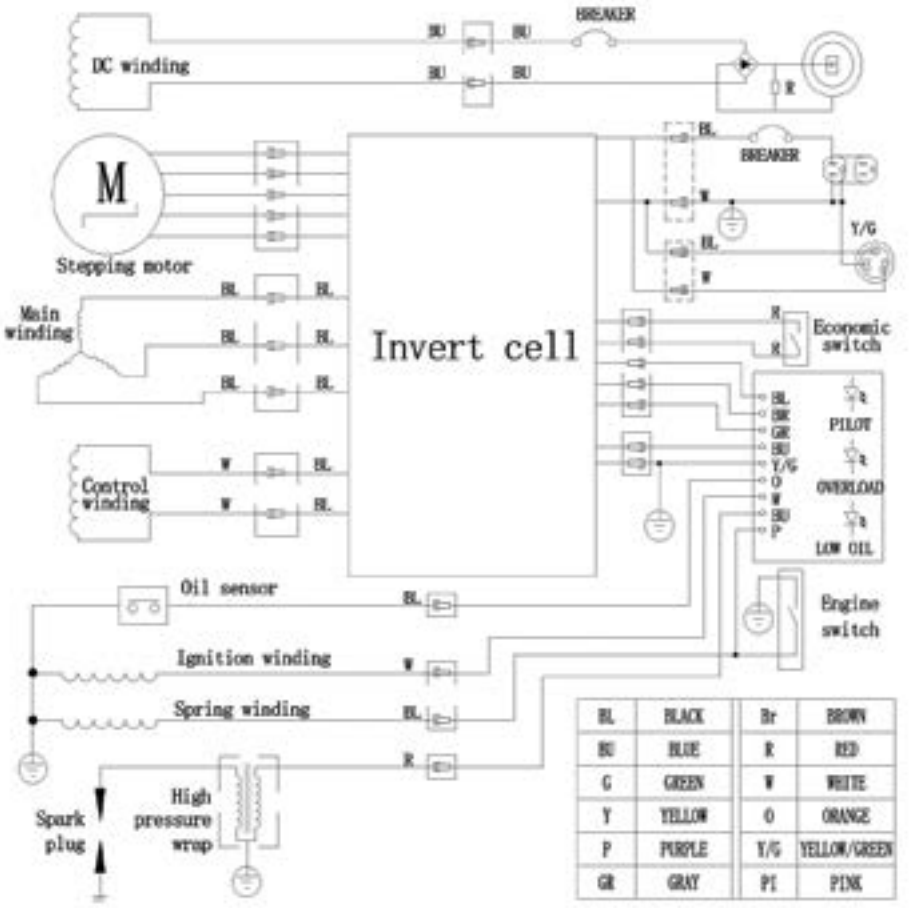
SPECIFICATIONS

Model		BBT-GEN-3.5KWINV
Length x Width x Height		565 × 320 × 470 mm (Net), 595 × 355 × 510 (Overall)
Weight		29g (Net), 32kg (Dry)
ENGINE	Engine Type	Air-cooled, 4 cycle, OHC, Fuel Engine
	Bore x Stroke	57.4 × 57.8 mm
	Displacement	149.5 cc
	Max. Output	4.0 KW / 5500 rpm
	Fuel	Regular 98 grade unleaded petrol
	Fuel Tank Capacity	7.5 litres
	Rated Continuous Operation	3h5min (100% Load), 4h10min (50% Load)
	Lubricating Oil	SAE 10W30
	Lubricating Oil Capacity	0.9 litre
	Starting System	Recoil Starter
	Ignition system	C.D.I.
	Spark Plug: Type	A7RTC
GENERATOR	AC Voltage	230V 50Hz
	Max. Output	3.5 kW
	Rated Output	3.0 kW
	Power Factor	1.0
	DC Output	12V / 5.0A

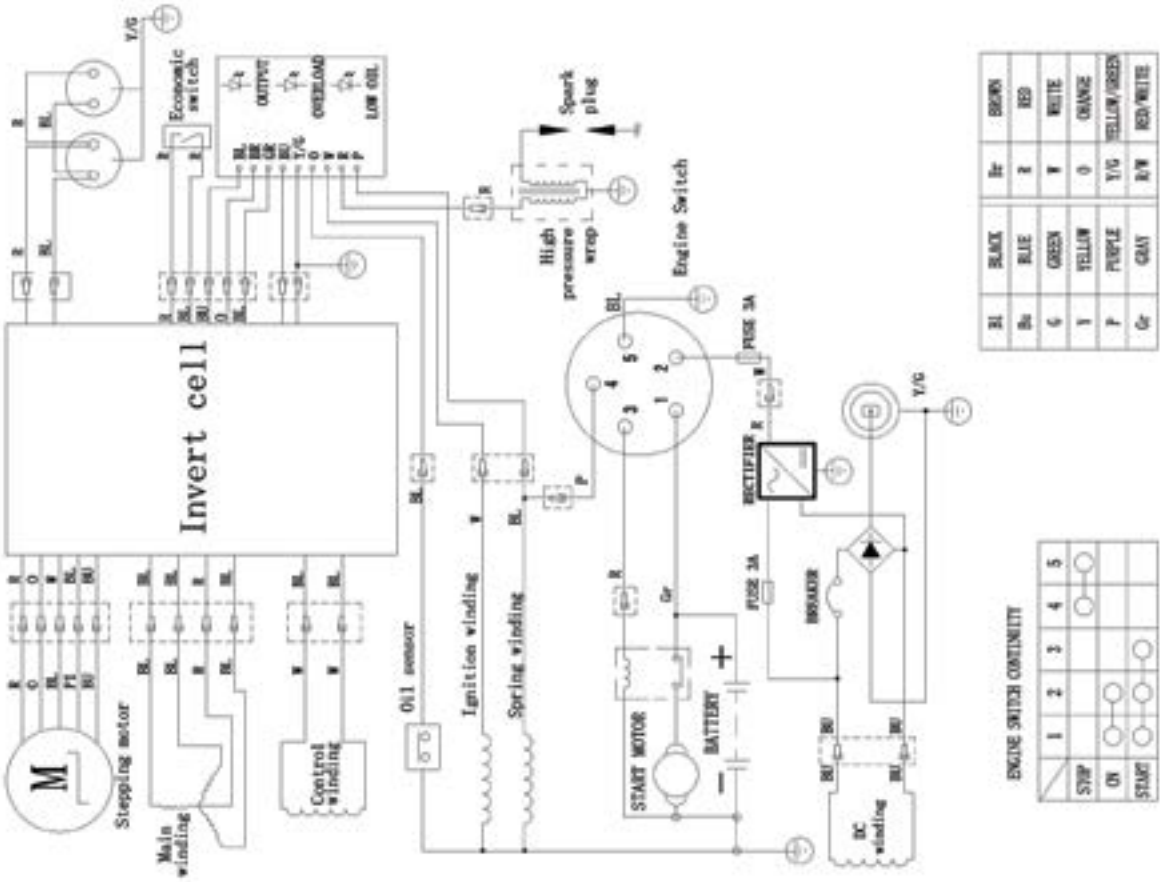
Technical Data subject to change without notice.

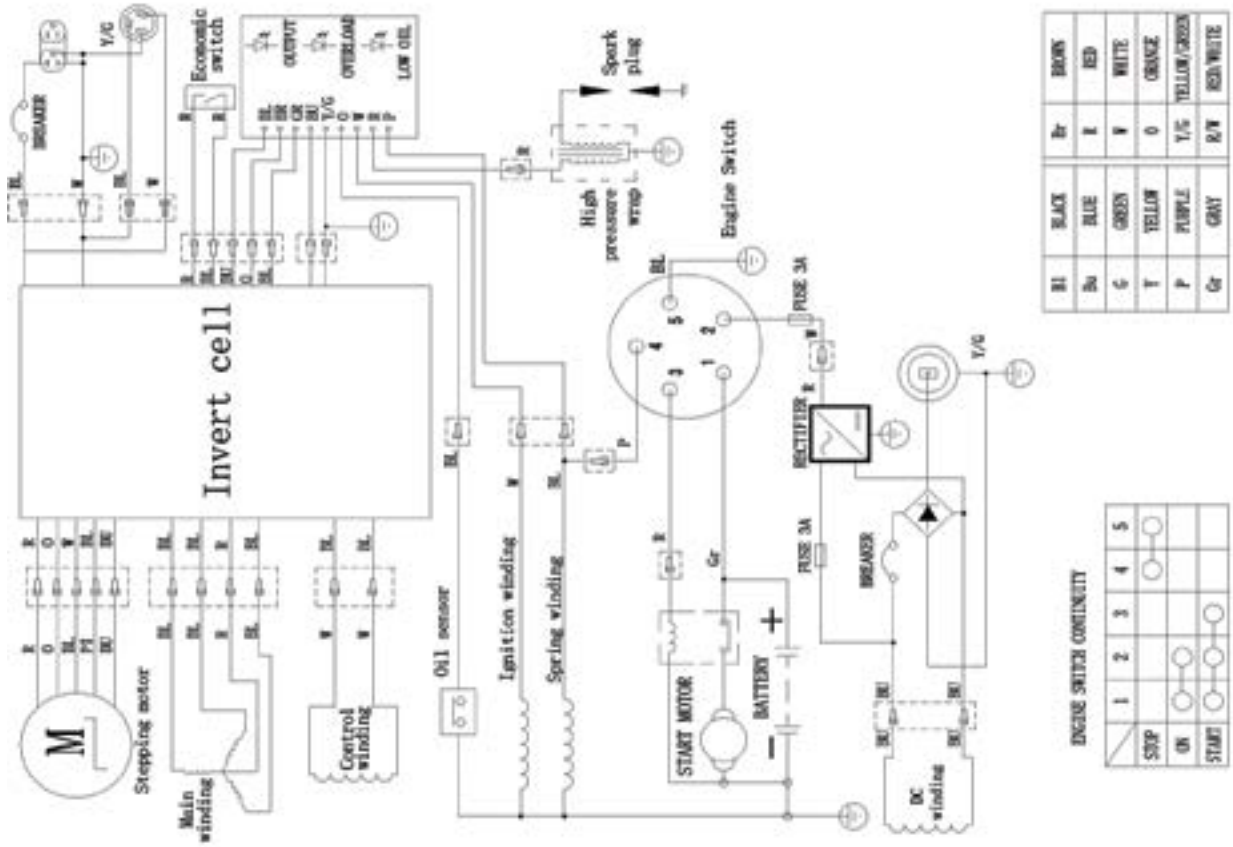
WIRING DIAGRAM





WIRING DIAGRAM





EXPLODED DIAGRAM & PARTS LIST

FIG A: Crankcase Assembly

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001	Left Crankcase	1
2	SP-GEN-3.5KVINV-002	Pipe Joint	1
3	SP-GEN-3.5KVINV-003	Oil Plug Assembly	1
4	SP-GEN-3.5KVINV-004	O ring 19*3.55	1
5	SP-GEN-3.5KVINV-005	Oil Lever Sensor	1
6	SP-GEN-3.5KVINV-006	Tapped Screw ST4.8×10	1
7	SP-GEN-3.5KVINV-007	Crankcase Gasket	1
8	SP-GEN-3.5KVINV-008	Dowel Pin 10x16	2
9	SP-GEN-3.5KVINV-009	Long Stud 8x195	2
10	SP-GEN-3.5KVINV-010	Dowel Pin 8x14	4
11	SP-GEN-3.5KVINV-011	Bolt M6x18	2
12	SP-GEN-3.5KVINV-012	Right Crankcase Component	1
13	SP-GEN-3.5KVINV-013	Oil Filter	1
14	SP-GEN-3.5KVINV-014	Oil Filter Spring	1
15	SP-GEN-3.5KVINV-015	Oil Filter Cover	1
16	SP-GEN-3.5KVINV-016	O-Ring 30.5x3	1
17	SP-GEN-3.5KVINV-017	Long Stud 8x185.5	2
18	SP-GEN-3.5KVINV-018	Right Cover	1
19	SP-GEN-3.5KVINV-019	Right Cover Gasket	1
20	SP-GEN-3.5KVINV-020	Bearing	1
21	SP-GEN-3.5KVINV-021	Oil Seal 19.8×30×5	1
22	SP-GEN-3.5KVINV-022	Hexagon Flange Bolts M6×80	5
23	SP-GEN-3.5KVINV-023	Hexagon Flange Bolts M6×90	2
24	SP-GEN-3.5KVINV-024	Hexagon Flange Bolts M6×28	1
25	SP-GEN-3.5KVINV-025	Hexagon Flange Bolts M6×70	1
26	SP-GEN-3.5KVINV-026	Hexagon Flange Bolts M6×100	1
27	SP-GEN-3.5KVINV-027	Hexagon Flange Bolts M6×50	2

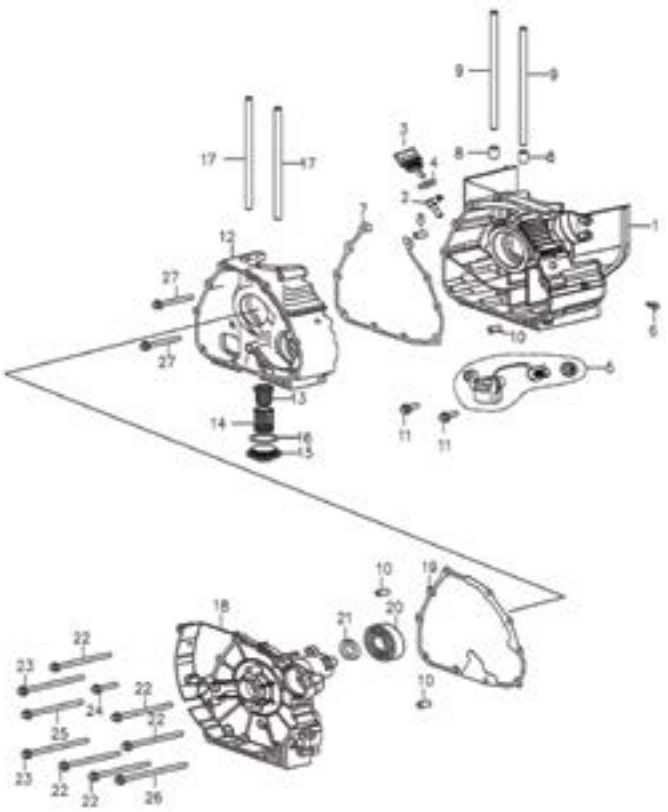
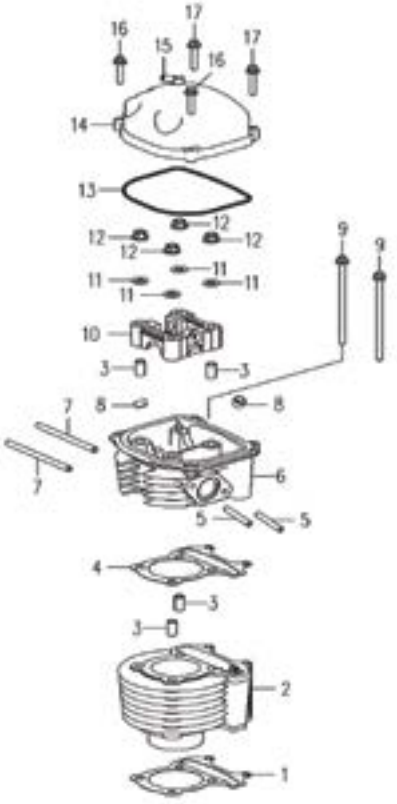


FIG B: Cylinder Head 1

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.1	Cylinder Gasket	1
2	SP-GEN-3.5KVINV-002.1	Cylinder Component	1
3	SP-GEN-3.5KVINV-003.1	Dowel Pin 10x116	4
4	SP-GEN-3.5KVINV-004.1	Cylinder Head Gasket	1
5	SP-GEN-3.5KVINV-005.1	Stud Bolt M6x32	2
6	SP-GEN-3.5KVINV-006.1	Cylinder Head Component	1
7	SP-GEN-3.5KVINV-007.1	Stud Bolt M6x118	2
8	SP-GEN-3.5KVINV-008.1	Valve Oil Seal Component	2
9	SP-GEN-3.5KVINV-009.1	Hexagon Flange Bolts M6×100	2
10	SP-GEN-3.5KVINV-010.1	Camshaft Holder Seat	1
11	SP-GEN-3.5KVINV-011.1	Copper Washer 8	4
12	SP-GEN-3.5KVINV-012.1	Hexagon Flange Nuts M8	4
13	SP-GEN-3.5KVINV-013.1	Cylinder Head Cover Seal	1
14	SP-GEN-3.5KVINV-014.1	Cylinder Head Cover	1
15	SP-GEN-3.5KVINV-015.1	Pipe Joint	1
16	SP-GEN-3.5KVINV-016.1	Hexagon Flange Bolts M6×25	2
17	SP-GEN-3.5KVINV-017.1	Hexagon Flange Bolts M6×35	2



EXPLODED DIAGRAM & PARTS LIST

FIG C: Crankshaft Piston 2

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.2	Crankshaft Connecting Rod Assy	1
2	SP-GEN-3.5KVINV-002.2	Piston Pin Clip	2
3	SP-GEN-3.5KVINV-003.2	Piston Pin	1
4	SP-GEN-3.5KVINV-004.2	Piston	1
5	SP-GEN-3.5KVINV-005.2	Oil Ring	1
6	SP-GEN-3.5KVINV-006.2	Woodruff Key	1

FIG D: Camshaft 3

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.3	Tension Rod Bolt	1
2	SP-GEN-3.5KVINV-002.3	O-Ring 15.2x1.5	1
3	SP-GEN-3.5KVINV-003.3	Camshaft Chain Guide Parts	1
4	SP-GEN-3.5KVINV-004.3	Camshaft Chain 6.35×90	1
5	SP-GEN-3.5KVINV-005.3	Tension Rod Assy	1
6	SP-GEN-3.5KVINV-006.3	Regulator Gasket	1
7	SP-GEN-3.5KVINV-007.3	Camshaft Chain Regulator	1
8	SP-GEN-3.5KVINV-008.3	Hexagon Flange Bolts M6×22	2
9	SP-GEN-3.5KVINV-009.3	O-Ring 9x1.5	1
10	SP-GEN-3.5KVINV-010.3	Pan Head Screw	1
11	SP-GEN-3.5KVINV-011.3	Exhaust Valve	1
12	SP-GEN-3.5KVINV-012.3	Intake Valve	1
13	SP-GEN-3.5KVINV-013.3	Valve Spring Ring	2
14	SP-GEN-3.5KVINV-014.3	Valve Spring	2
15	SP-GEN-3.5KVINV-015.3	Valve Spring Seat	2
16	SP-GEN-3.5KVINV-016.3	Valve Lock Clip	2
17	SP-GEN-3.5KVINV-017.3	Camshaft Assy	1
18	SP-GEN-3.5KVINV-018.3	Rocker Shaft Washer	1
19	SP-GEN-3.5KVINV-019.3	Valve Rocker Arm	2
20	SP-GEN-3.5KVINV-020.3	Exhaust Valve Rocker Arm Shaft	1
21	SP-GEN-3.5KVINV-021.3	Intake Valve Rocker Arm Shaft	1

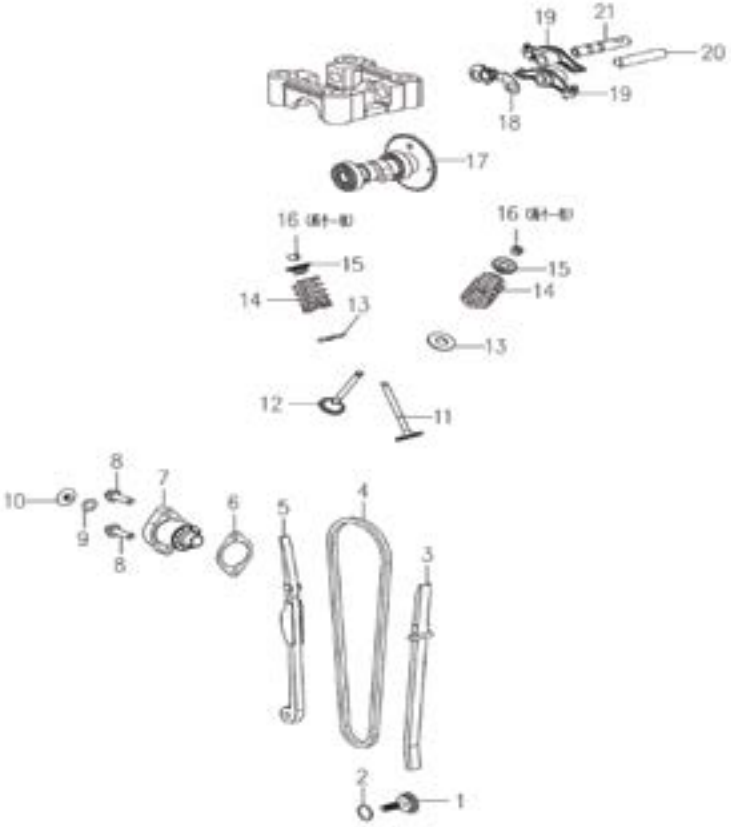


FIG E. Oil Pump 4

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.4	Bolt M6x12	2
2	SP-GEN-3.5KVINV-002.4	Oil Pump Sprocket Cover	1
3	SP-GEN-3.5KVINV-003.4	Hexagon Flange Nuts M6	1
4	SP-GEN-3.5KVINV-004.4	Oil Pump Chain 6.35x44	1
5	SP-GEN-3.5KVINV-005.4	Oil Pump Sprocket	1
6	SP-GEN-3.5KVINV-006.4	Hexagon Flange Bolts M6×25	2
7	SP-GEN-3.5KVINV-007.4	Oil Pump Assy	1

EXPLODED DIAGRAM & PARTS LIST

FIG F: Air Cleaner 5

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.5	Insulation Board Gasket	1
2	SP-GEN-3.5KVINV-002.5	Insulation Board Components	1
3	SP-GEN-3.5KVINV-003.5	Carburettor Gasket	1
4	SP-GEN-3.5KVINV-004.5	Air Cleaner Gasket	2
5	SP-GEN-3.5KVINV-005.5	Air Cleaner Assy	1
		Cover of Air Cleaner Assy.	1
		Cover of Foam/sponge	1
		Foam/sponge	1
6	SP-GEN-3.5KVINV-006.5	Fan Volute Bush	1
7	SP-GEN-3.5KVINV-007.5	Hexagon Flange Bolts M5×20	1
8	SP-GEN-3.5KVINV-008.5	Air Cleaner Bush	2
9	SP-GEN-3.5KVINV-009.5	Hexagon Flange Nuts M6	2
10	SP-GEN-3.5KVINV-010.5	Clamp 11.5	2
11	SP-GEN-3.5KVINV-011.5	Clamp 10	4
12	SP-GEN-3.5KVINV-012.5	Rubber Tube I	1
13	SP-GEN-3.5KVINV-013.5	Rubber Tube II	1
14	SP-GEN-3.5KVINV-014.5	Rubber Tube III	1
15	SP-GEN-3.5KVINV-015.5	Oil and Gas Separation Device	1
16	SP-GEN-3.5KVINV-016.5	Insulation Gasket	4
17	SP-GEN-3.5KVINV-017.5	Pin	1
18	SP-GEN-3.5KVINV-018.5	Electromagnet	1
19	SP-GEN-3.5KVINV-019.5	Screw GB/T9074.4 M3×8	6
20	SP-GEN-3.5KVINV-020.5	Toggle Board	1
21	SP-GEN-3.5KVINV-021.5	Holder	1
22	SP-GEN-3.5KVINV-022.5	Slide Block	1
23	SP-GEN-3.5KVINV-023.5	Limiting Board	1
24	SP-GEN-3.5KVINV-024.5	Choke Handle	1
25	SP-GEN-3.5KVINV-025.5	Auto-Choke Handle	1

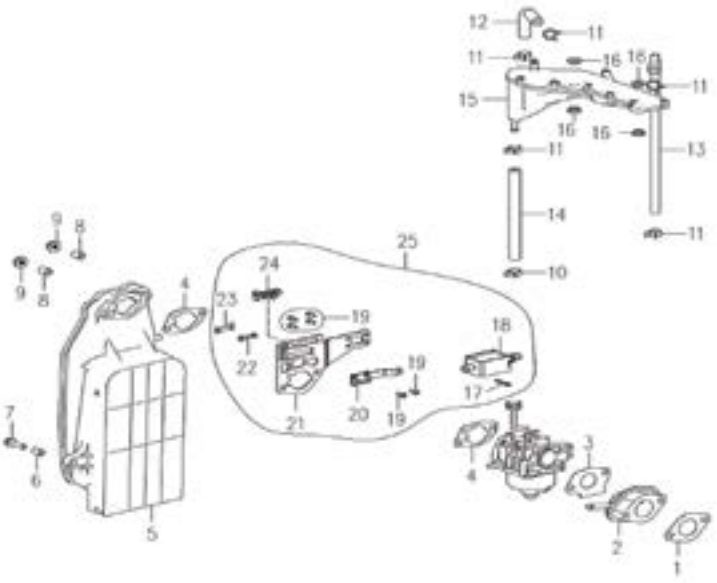


FIG G: Carburettor 6

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.6	Carburettor Assy (automatic choke)	1
2	SP-GEN-3.5KVINV-002.6	Carburettor Assy	1

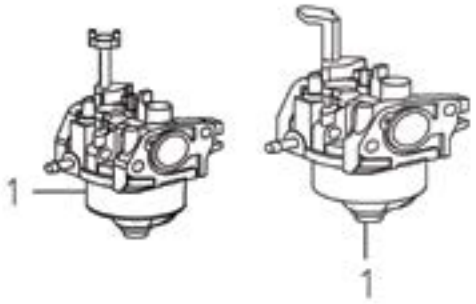
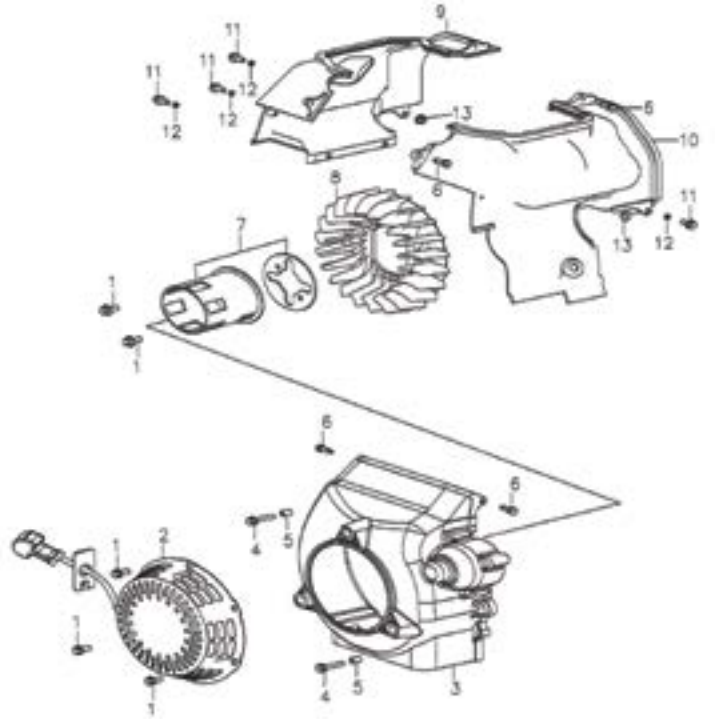


FIG H: Recoil Starter 7

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.7	Hexagon Flange Bolts M6×12	5
2	SP-GEN-3.5KVINV-002.7	Recoil Starter Parts	1
		Handle	1
		Fender	1
3	SP-GEN-3.5KVINV-003.7	Fan Volute	1
4	SP-GEN-3.5KVINV-004.7	Bolts M5×20	4
5	SP-GEN-3.5KVINV-005.7	Fan Volute Bush	4
6	SP-GEN-3.5KVINV-006.7	Tapping Screw ST4.8×16-F.H	4
7	SP-GEN-3.5KVINV-007.7	Starting Hub	1
8	SP-GEN-3.5KVINV-008.7	Cooling Fan	1
9	SP-GEN-3.5KVINV-009.7	Air Guide B	1
10	SP-GEN-3.5KVINV-010.7	Air Guide A	1
11	SP-GEN-3.5KVINV-011.7	Hexagon Flange Bolts M5×12	4
12	SP-GEN-3.5KVINV-012.7	Air Guide Bush	4
13	SP-GEN-3.5KVINV-013.7	Hexagon Flange Nuts M5	2



EXPLODED DIAGRAM & PARTS LIST

FIG I: Muffler 8

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.8	Muffler Pipe Gasket	1
2	SP-GEN-3.5KVINV-002.8	Muffler Pipe	1
3	SP-GEN-3.5KVINV-003.8	Metal Hexagon Flange Nuts M6	2
4	SP-GEN-3.5KVINV-004.8	Muffler Gasket	1
5	SP-GEN-3.5KVINV-005.8	Muffler Assy	1
6	SP-GEN-3.5KVINV-006.8	Bolt M6×80	1
7	SP-GEN-3.5KVINV-007.8	Bolt M6×50	2

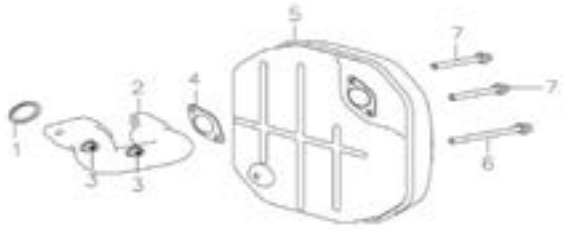


FIG J: Generator 9

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.9	Hexagon Flange Nuts M12x1.25	1
2	SP-GEN-3.5KVINV-002.9	Gasket Φ12.2*25*2	1
3	SP-GEN-3.5KVINV-003.9	Rotor 3.0KW	1
4	SP-GEN-3.5KVINV-004.9	Stator 3.0KW 420V	1
5	SP-GEN-3.5KVINV-005.9	Bolts M5×50	2
6	SP-GEN-3.5KVINV-006.9	Hexagon Flange Bolts M5×12	2
7	SP-GEN-3.5KVINV-007.9	Trigger	1
8	SP-GEN-3.5KVINV-008.9	Rubber Block	1
9	SP-GEN-3.5KVINV-009.9	Insulative Gasket	1
10	SP-GEN-3.5KVINV-010.9	Tapped Screw ST6.3×25-F.H	1
11	SP-GEN-3.5KVINV-011.9	Spark Plug A7RTC	1
12	SP-GEN-3.5KVINV-012.9	Ignition Coil	1

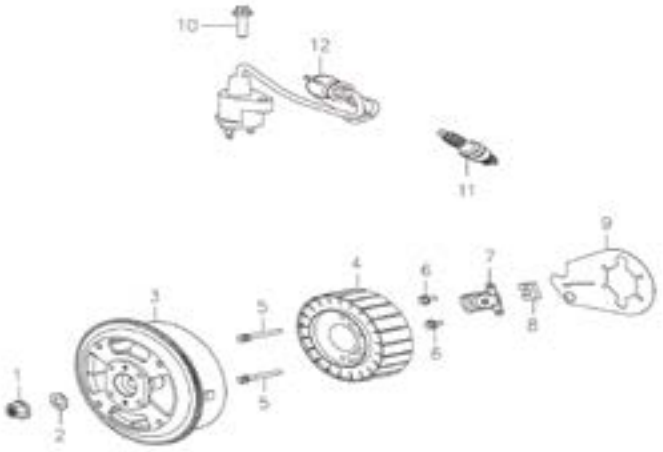
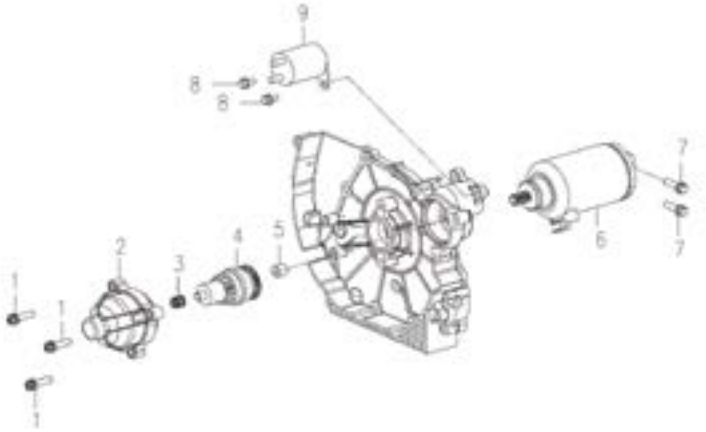


FIG K. Starter 10

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.10	Bolt GB/T9074.17 M6×25	3
2	SP-GEN-3.5KVINV-002.10	Starter Gear Cover	1
3	SP-GEN-3.5KVINV-003.10	Bearing HK1210	1
4	SP-GEN-3.5KVINV-004.10	Starter Gear	1
5	SP-GEN-3.5KVINV-005.10	Starter Gear Bush	1
6	SP-GEN-3.5KVINV-006.10	Starter Motor	1
7	SP-GEN-3.5KVINV-007.10	Hexagon Flange Bolt M6×22	2
8	SP-GEN-3.5KVINV-008.10	Hexagon Flange Bolt M5×12	2
9	SP-GEN-3.5KVINV-009.10	Starter Relay	1



EXPLODED DIAGRAM & PARTS LIST

FIG L. Fuel Tank 11

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.11	Fuel Tank Cap Assy	1
2	SP-GEN-3.5KVINV-002.11	Fuel Tank Port Rubber Part	1
3	SP-GEN-3.5KVINV-003.11	Fuel Filter	1
4	SP-GEN-3.5KVINV-004.11	Fuel Tank	1
5	SP-GEN-3.5KVINV-005.11	Fuel Outlet Filter	1
6	SP-GEN-3.5KVINV-006.11	Clamp ¢11	1
7	SP-GEN-3.5KVINV-007.11	Single-head Expansion Fuel Hose	1
8	SP-GEN-3.5KVINV-008.11	Clamp ¢9	9
9	SP-GEN-3.5KVINV-009.11	Fuel cock	1
10	SP-GEN-3.5KVINV-010.11	Fuel Cock Handle	1
11	SP-GEN-3.5KVINV-011.11	Screw GB/T9074.4 M4×16	1
12	SP-GEN-3.5KVINV-012.11	Fuel Lubricator	1
13	SP-GEN-3.5KVINV-013.11	Fuel Pump	1
14	SP-GEN-3.5KVINV-014.11	Fuel Horse	1
15	SP-GEN-3.5KVINV-015.11	Gasket GB/T96 Φ4	3
16	SP-GEN-3.5KVINV-016.11	Tapped Screw GB/T845 ST4.2×19	3
17	SP-GEN-3.5KVINV-017.11	Fuel Hose (4-8) -110	1
18	SP-GEN-3.5KVINV-018.11	Clamp ¢8	4
19	SP-GEN-3.5KVINV-019.11	Fuel Hose (5-10) -350	1
20	SP-GEN-3.5KVINV-020.11	Fuel Hose (5-10) -90	2
21	SP-GEN-3.5KVINV-021.11	Fuel Filter	1

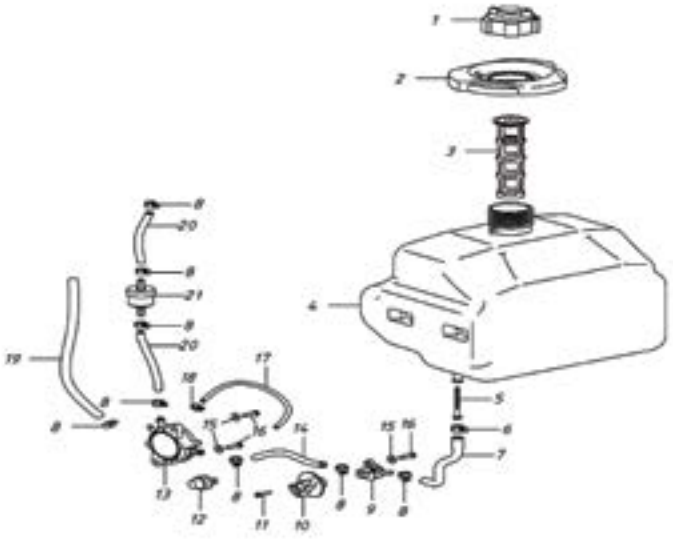
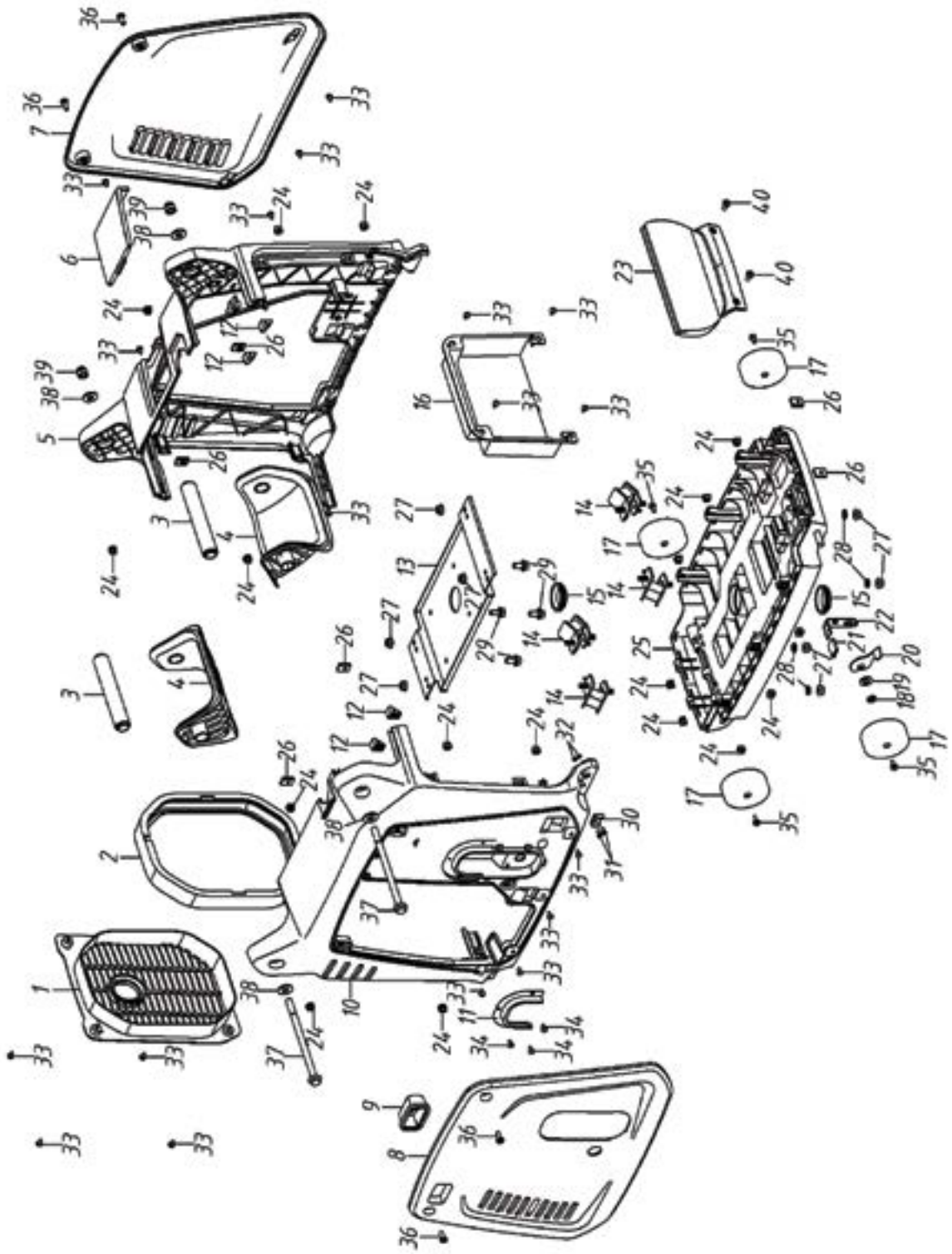


FIG M: Shell 12

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.13	Muffler Cover	1
2	SP-GEN-3.5KVINV-002.13	Muffler Cover Seal	1
3	SP-GEN-3.5KVINV-003.13	Handle	2
4	SP-GEN-3.5KVINV-004.13	Handle board	2
5	SP-GEN-3.5KVINV-005.13	Left Cover of Shell	1
6	SP-GEN-3.5KVINV-006.13	Upper Cover	1
7	SP-GEN-3.5KVINV-007.13	Left Side Cover	1
8	SP-GEN-3.5KVINV-008.13	Right Side Cover	1
9	SP-GEN-3.5KVINV-009.13	Rubber of Choke	1
10	SP-GEN-3.5KVINV-010.13	Right Cover of Shell	1
11	SP-GEN-3.5KVINV-011.13	Edge Protection	1
12	SP-GEN-3.5KVINV-012.13	Fuel Tank Vibration Absorber	4
13	SP-GEN-3.5KVINV-013.13	Chassis	1
14	SP-GEN-3.5KVINV-014.13	Shock Pad 1525-2	4
15	SP-GEN-3.5KVINV-015.13	Chassis Rubber Cover	2
16	SP-GEN-3.5KVINV-016.13	Panel Box	1
17	SP-GEN-3.5KVINV-017.13	Wheels 3"	4
18	SP-GEN-3.5KVINV-018.13	Flat Washer GB/T97 Φ8	1
19	SP-GEN-3.5KVINV-019.13	Rubber Flat Washer Φ10×Φ20×1.5	1
20	SP-GEN-3.5KVINV-020.13	Brake Part 1	1

NO	SKU	DESCRIPTION	QTY
21	SP-GEN-3.5KVINV-021.13	Brake Rubber	1
22	SP-GEN-3.5KVINV-022.13	Brake Part 2	1
23	SP-GEN-3.5KVINV-023.13	Battery Cover	1
24	SP-GEN-3.5KVINV-024.13	Fastener	18
25	SP-GEN-3.5KVINV-025.13	Chassis	1
26	SP-GEN-3.5KVINV-026.13	Fastening Nut	6
27	SP-GEN-3.5KVINV-027.13	Flange Nut GB/T6177 M8	8
28	SP-GEN-3.5KVINV-028.13	Flat Washer GB/T97 Φ8	4
29	SP-GEN-3.5KVINV-029.13	Flange Bolt GB/T5789 M8×16	4
30	SP-GEN-3.5KVINV-030.13	Brake Part 3	1
31	SP-GEN-3.5KVINV-031.13	Countersunk Head Screw M4x12	2
32	SP-GEN-3.5KVINV-032.13	Flange Nut GB/T6177 M4	2
33	SP-GEN-3.5KVINV-033.13	Tapped Screw GB/T845 ST4.8×13	19
34	SP-GEN-3.5KVINV-034.13	Tapped Screw GB/T845 ST4.8×9.5	3
35	SP-GEN-3.5KVINV-035.13	Flange Bolt GB/T5789 M5×10	4
36	SP-GEN-3.5KVINV-036.13	Pan Head Screw M6×16	4
37	SP-GEN-3.5KVINV-037.13	Flange Bolt GB/T5789 M10×230	2
38	SP-GEN-3.5KVINV-038.13	Flat Washer GB/T97 Φ12	4
39	SP-GEN-3.5KVINV-039.13	Nut GB/T923 M10	2
40	SP-GEN-3.5KVINV-040.13	Pan Head Screw M6×12	2

EXPLODED DIAGRAM & PARTS LIST



EXPLODED DIAGRAM & PARTS LIST

FIG N. Governor 14

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.14	Drive Arm	1
2	SP-GEN-3.5KVINV-002.14	Stepper Motor Holder	1
3	SP-GEN-3.5KVINV-003.14	Screw M4×16	2
4	SP-GEN-3.5KVINV-004.14	Screw M3×8	1
5	SP-GEN-3.5KVINV-005.14	Screw M3×5	1
6	SP-GEN-3.5KVINV-006.14	Stepper Motor Assy	1
7	SP-GEN-3.5KVINV-007.14	Drive Arm Spring	1

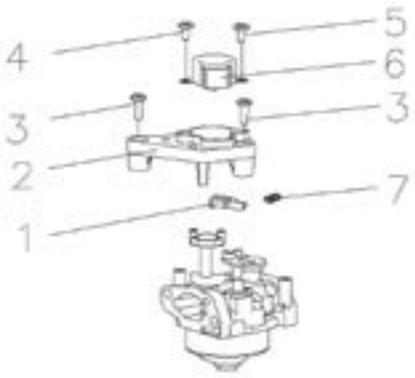


FIG O: Inverter 15

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.15	Pan Head Screw M6×12	2
2	SP-GEN-3.5KVINV-002.15	Screw M5×12	2
3	SP-GEN-3.5KVINV-003.15	Inverter Holder	1
4	SP-GEN-3.5KVINV-004.15	Inverter Assembly 2.3KW 230V 50Hz	1
5	SP-GEN-3.5KVINV-005.15	Inverter Gasket	2

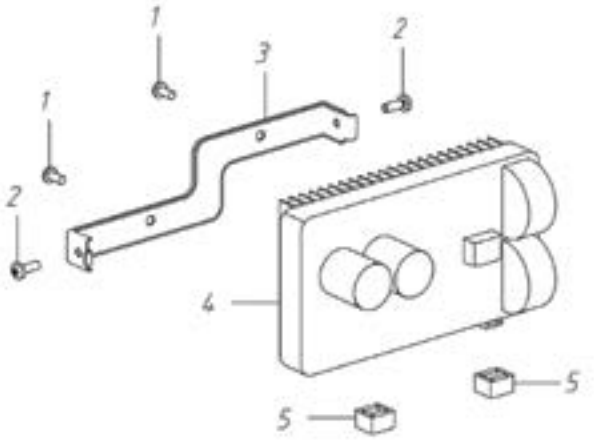
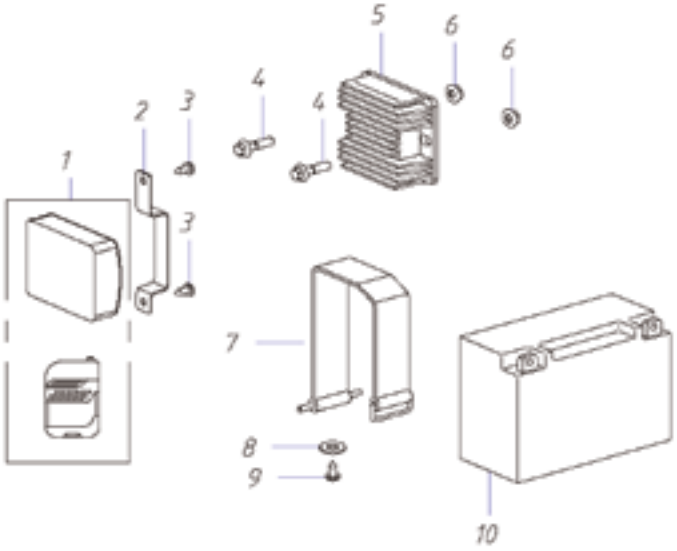


FIG P: Electric Starter.16

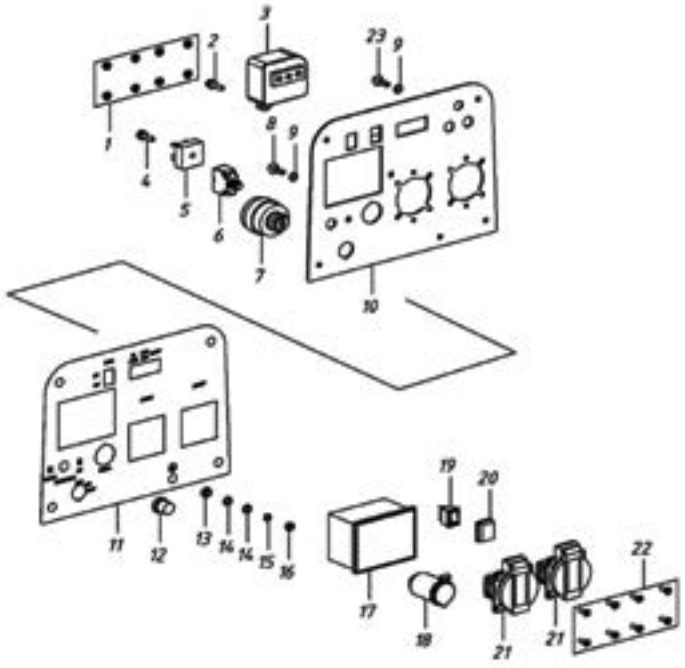
NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.16	Remote Controller Assy.	1
2	SP-GEN-3.5KVINV-002.16	Remote Controller Layer	1
3	SP-GEN-3.5KVINV-003.16	Tapped Screw GB/T845 ST4.8×9.5	2
4	SP-GEN-3.5KVINV-004.16	Flange Bolt GB/T5789 M6×16	2
5	SP-GEN-3.5KVINV-005.16	Regulator WYQ14-1.2	1
6	SP-GEN-3.5KVINV-006.16	Flange Nut M6	2
7	SP-GEN-3.5KVINV-007.16	Battery Layer	1
8	SP-GEN-3.5KVINV-008.16	Gasket GB/T5287 Φ5	1
9	SP-GEN-3.5KVINV-009.16	Tapped Screw GB/T845 ST4.8×13	1
10	SP-GEN-3.5KVINV-010.16	Maintenance-free Battery 12V6.5AH	1



EXPLODED DIAGRAM & PARTS LIST

FIG Q. Control Panel 17 (FOR EU)

NO	SKU	DESCRIPTION	QTY
1	SP-GEN-3.5KVINV-001.17	Flange Nut GB/T6177 M4	4
2	SP-GEN-3.5KVINV-002.17	Screw M5×16	1
3	SP-GEN-3.5KVINV-003.17	Ignition Controller IC-2500	1
4	SP-GEN-3.5KVINV-004.17	Screw M5×16	1
5	SP-GEN-3.5KVINV-005.17	Rectifier KBPC3502	1
6	SP-GEN-3.5KVINV-006.17	Overload Protector 6A	1
7	SP-GEN-3.5KVINV-007.17	Electric Starter	1
8	SP-GEN-3.5KVINV-008.17	Flange Bolt GB/16674 M5×16	1
9	SP-GEN-3.5KVINV-009.17	Lock Gasket GB862.2 Φ5	4
10	SP-GEN-3.5KVINV-010.17	Panel Components	1
11	SP-GEN-3.5KVINV-011.17	Panel Sticker	1
12	SP-GEN-3.5KVINV-012.17	Water-Proof Cap of Overload Protector	1
13	SP-GEN-3.5KVINV-013.17	Hexagon Flange Nut M5	1
14	SP-GEN-3.5KVINV-014.17	Flat Washer GB/T97 Φ5	2
15	SP-GEN-3.5KVINV-015.17	Spring Washer GB/T93 Φ5	1
16	SP-GEN-3.5KVINV-016.17	Hexagon Nut GB/T6170 M5	1
17	SP-GEN-3.5KVINV-017.17	Digital Display	1
18	SP-GEN-3.5KVINV-018.17	Cigar Lighter Socket	1
19	SP-GEN-3.5KVINV-019.17	Boat Switch	1
20	SP-GEN-3.5KVINV-020.17	Water-Proof Cap of Boat Switch	1
21	SP-GEN-3.5KVINV-021.17	European Socket	2
22	SP-GEN-3.5KVINV-022.17	Countersunk Head Screw M4x12	8
23	SP-GEN-3.5KVINV-023.17	Screw M5×8	4



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