EN - Instruction Manual





Independ-2500

Petrol Generator

<u>EN</u>

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Warning!

Read this entire instruction booklet carefully in its entirety before using the device, and keep it to refer to when necessary.

I - SAFETY INFORMATION

1 - Exhaust fumes are poisonous

 Never run the engine in a closed space; it could result in unconsciousness and death in a very short time. Only use the engine outside or in a well-ventilated space.

2 - Fuel is highly flammable and poisonous

- Always switch the engine off when filling the tank.
- Never fill the tank while smoking or in the vicinity of an open flame.
- Take care not to spill fuel on the engine or exhaust when filling the tank.
- If you swallow fuel, breath in fuel vapour or get fuel in your eyes see a doctor immediately. If you spill fuel in your house or on your clothes immediately clean it with soap and water and change your clothes.
- Ensure that the device is kept upright when in operation and during transport. If it tilts then fuel can leak from the carburettor or the fuel tank.

3 - Engine and exhaust can be hot

- Place the device in a location that cannot be accessed unnoticed by pedestrians or children.
- Ensure that no flammable materials are in the vicinity of the exhaust when operating the device.
- The device must be at least 1 metre from buildings or other obstacles to prevent the engine from overheating.
- Do not operate the device if it is covered in dust.
- Only lift the device by the handle.
- Place the device on a level surface, so that it can dissipate heat freely.

4 - Prevent electrical shock

- Do not use the engine in rain or snow.
- Never touch the device with wet hands as there is danger of an electrical shock.
- Ensure that the generator is earthed.

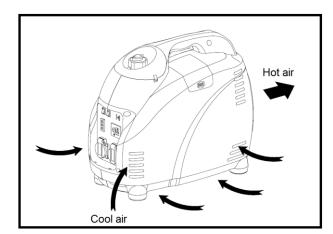
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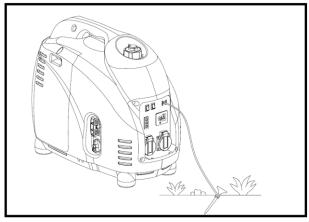
Use a earth lead of sufficient capacity.

Diameter: 0.12mm / ampere. E.g.: 10 Ampere – 1.2mm.

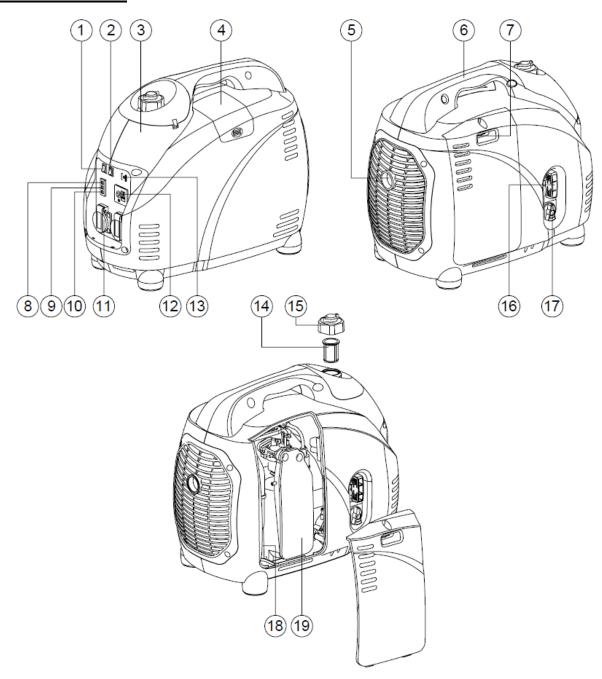
5 - Warning regarding connections

- Do not connect the generator to the mains.
- Do not connect the generator in parallel to another generator.





II - DESCRIPTION



- 1. Economy switch
- 2. Engine switch
- 3. Fuel tank
- 4. Spark plug
- 5. Exhaust
- 6. Carry handle
- 7. Choke lever
- 8. Indicator light AC (alternating current)
- 9. Overload warning light
- 10. Oil warning light

- 11. AC alternating current socket
- 12. DC direct current socket
- 13. Earth point
- 14. Fuel filter
- 15. Tank cap
- 16. Pull cord starter
- 17. Fuel cock
- 18. Oil filter cap
- 19. Air filter cover

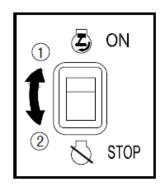
II-1 – Oil warning system

If the oil level drops below the lowest level then the engine will automatically stop. You must top up the oil and restart the engine.

II-2 – Engine switch

The engine switch controls the ignition system

- ON the ignition system is switched on, the engine can be started.
- 2 STOP the ignition system is switched off, the engine will not run.



II-3 - Economy switch

If the Economy switch is switched ON then the motor speed is adjusted to the connected load. The result is better combustion and less noise.

II-4 - The Direct Current overload protection

The DC direct current overload protection (the red light at the direct current socket) automatically switches off the engine if the load exceeds the maximum capacity. **Attention!** Reduce the load to below the indicated maximum capacity if the overload protection causes the engine to cut out.

II-5 - Tank cap ventilation knob

The tank cap is fitted with a ventilation knob.

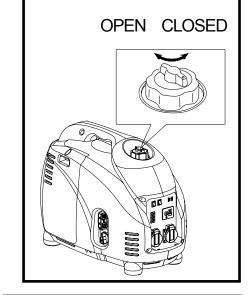
Prior to starting the engine the ventilation knob must be rotated once anti-clockwise from the closed position.

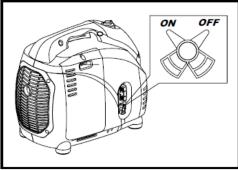
This prevents the fuel causing a vacuum in the tank and not flowing properly. Tighten the ventilation knob again when switching off the engine by turning it clockwise.

The ventilation knob must always be closed during transport and storage.

II-6 - Fuel cock

When the fuel cock is opened (ON) then the fuel supply to the carburettor is opened. By closing the fuel cock (OFF) the fuel supply is cut off.





III - INSPECTION BEFORE USE

N.B.!

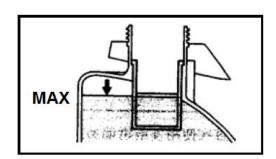
- If using the generator for the first time the tank must have at least 2 litres of fuel.
- The generator must always be inspected prior to being used

III-1 - Check the fuel level

- Ensure that there is enough fuel in the tank
- If there is too little fuel then fill it with lead free petrol; ensure that the filter is always in the tank opening when filling, see fig.
- The content of the fuel tank is 5.1 litres.

Warning!

- Never fill the tank when the engine is running or still hot.
- Close the fuel cock before filling the tank.
- Keep the fuel free of dust, dirt, water or other materials/objects.
- Do not fill the tank past the filter; when the fuel heats up it expands.
- Close the tank cap properly after filling.
- Wipe up any spilled fuel before starting the engine.
- Keep the generator and fuel away from open flames.



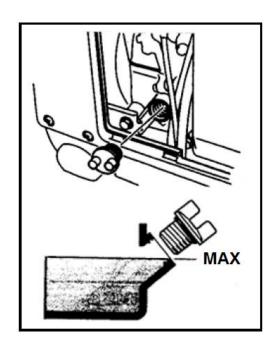
III-1 - Check the oil level

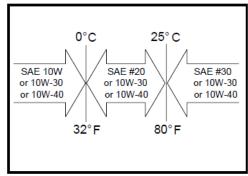
Check that the oil level is filled to maximum in the oil reservoir. Top up oil if necessary.

- Remove the cap with the dip stick and check the oil level
- If the oil level is below the minimum level, top it up to the maximum level. Do not screw the cap on when checking the oil level.
- Change the oil if it is dirty.
- Contents oil reservoir: 0.9 litres
- Recommended oil: API Service "SJ" or above, see table.

III-3 - Earthing

Equip the generator with a properly connected, properly functioning earth wire.





IV - OPERATION

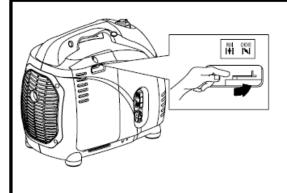
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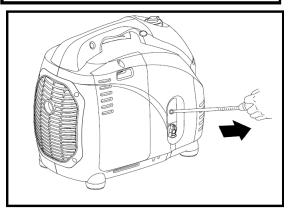
- the generator is transported without oil. If you fail to fill the oil reservoir the generator will not start.
- Ensure that the generator is completely level when filling up with oil. Tilting could result in overfilling and damage the engine.

IV-1 – Starting the engine

N.B.!

- Do not connect any electrical equipment before starting the engine
- Switch the Economy switch to the OFF position
- a) Open the ventilator knob on the tank cap (See II-5)
- b) Open the fuel cock (See II-6)
- c) Switch the engine switch to the ON position
- d) Set the choke lever to the \int position (CHOKE). The latter is not necessary if the engine is still hot.
- e) Pull the starter cord out slowly until you feel resistance. That is the 'point of compression'. Let the cord run back in to the starting position and now pull hard. At the same time hold the generator firmly in position by the handle to prevent it falling over when pulling. Do not pull the cord out all the way. After starting let the starter cord run back to its starting position without releasing the handle. Repeat if necessary, if the engine doesn't start the first time.





- f) Let the engine run warm
- g) Push the choke lever back to its operating position RUN.
- h) Allow the generator a few minutes to run warm without a load.

IV-2 - Connecting up electrical equipment

A - AC Alternating current use

- i) Check whether the AC indicator light shows that the voltage level is correct
- j) Set the Economy switch to the ON position
- k) Ensure that all equipment to be connected is switched off prior to connecting
- I) Plug the plug(s) from the equipment into the sockets on the generator.

Warning!

- Be sure that the equipment being connected is switched off
- Ensure that the total connected capacity does not exceed the maximum
- Be sure that the required and supplied voltage is the same.
- The Economy switch must be switched off if you use electrical equipment that requires high peak current, like a compressor or a submersible pump.

B - Overload warning light

The overload warning light will light up if, an overload caused by the attached equipment is detected, the inverter control overheats, or the AC voltage rises. The circuit breaker will then kick in and stop the process of electricity generation in order to protect the generator and connected equipment. The green AC alternating current warning light will go off and the red overload warning light will light up. After a few seconds the engine will stop. If the overload warning light lights up (and the engine has possibly already stopped) you must do the following:

- a) Switch all connected equipment off
- b) Switch the engine off if it has not automatically been switched off
- c) Reduce the total wattage of connected equipment to the maximum allowed load
- d) Check that no ventilation openings are blocked and where necessary unblock them.
- e) Once everything has been checked you can restart the engine

Warning!

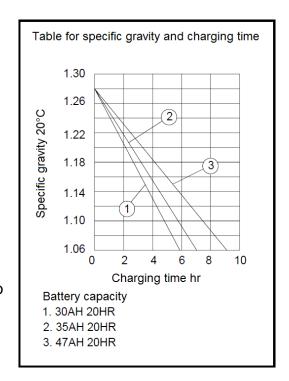
- The AC direct current supply is automatically reset when the engine is switched off and restarted.
- The overload warning light can light up for a few seconds if an electrical device is being
 used that requires a high peak current when staring up, like a compressor or a
 submersible pump. This is not a malfunction.

C - DC Direct current application

N.B. Only for charging 12V batteries.

Instructions for charging a battery:

- i) Set the Economy switch to the OFF position
- j) Set the DC direct current overload protection (red button) to OFF.
- k) Prepare the battery for charging:
 - Uncouple the battery leads.
 - Remove the filler caps completely.
 - Fill with distilled water to the maximum level (if necessary).
 - Measure the specific gravity of the battery fluid with an acidimeter and calculate the charge time according to the table on the right.
 - The specific gravity of the fully charged bttey must be 1.26 to 1.28. It is recommended that you carry out the above every hour.
- I) Using battery leads connect the battery terminals to the corresponding terminals in the DC direct current socket on the generator: + on +, - on -!
- m) Check that all leads are correctly connected and switch the DC direct current overload protection to ON.



IV-3 – Stopping the engine

- w) Switch all connected equipment off and disconnect all connections to the generator.
- x) Switch the engine switch to the STOP position.
- y) Close the fuel cock (OFF).
- z) Close the ventilator knob on the tank cap (clockwise).

V PERIODIC MAINTENANCE

V-1 - Maintenance card

Regular maintenance is the most important condition for correct and safe operation.

Section:	Activity	After each use	Every month or 20 hrs	Every 3 months or 50 hrs	Every 6 months or 100 hrs	Every 12 months or 300 hrs
	Check condition, adjust gap					
Spark plug	if necessary, replace if			•		
	necessary					
Engine oil	Check the oil level	•				
Engine oil	Change the oil		•			
Oil filter	Clean the oil filter				•	
Air filter	Clean the air filter and replace if necessary			•		
Fuel filter	Clean the fuel filter and replace if necessary				•	
Choke	Check that it's working	•				
Valve clearance	Check and adjust if necessary when the engine is cold					•
Fuel line	Check for kinks or damage and replace if necessary.	•				
Exhaust system	Check for leaks Seal properly or replace gasket. Check exhaust cover and	•				•
Carburettor	clean or replace Check that the choke is working	•				
Cooling system	Check the ventilator for damage					•
Starter system	Check that the pull-cord starter is working	•				
Stationary revs	Check and adjust if necessary.					•
Couplings and	Check and attach correctly				•	
connections	if necessary					
Sump bleeding	Check vent hose for kinks or damage and replace if necessary					•
Generator	Check that the indicator lights are working	•				

V-2 - Changing engine oil

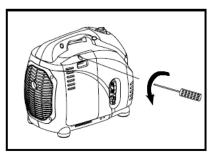
- a) Place the device on a flat, level surface and start and warm up the engine for a few minutes. Stop the engine and turn off the fuel cock (OFF). Close the ventilator knob on the tank cap (clockwise).
- b) Loosen the screw and remove the side panel, see fig.
- c) Remove the cap from the oil filter.
- d) Place a collector tray under the generator and tilt it so that all oil runs out
- e) Place the generator back on the flat, level surface
- f) Pour the new engine oil into the reservoir until the maximum level is reached
- g) Put the oil filter cap back on
- h) Replace the cover and screw it tight
- Recommended engine oil: API Service "SJ" or above Warning!
- Ensure that no foreign materials get into the carter.
- Do not top up oil in a generator that is not horizontal; that could result in overfilling and damage to the engine.
- Clean the oil filter every 100 operating hours.

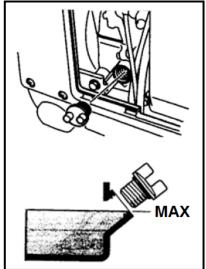


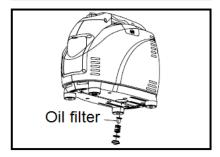
It is very important that the air filter is kept in good condition. Pollution due to badly installed, incorrectly maintained or wrong air filter will cause premature damage and wear to the engine. Therefore always keep the filter clean.

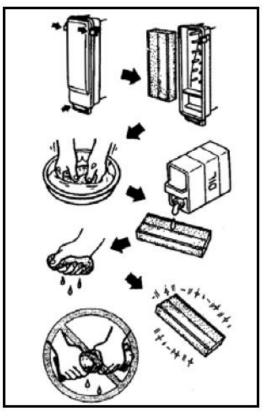
- a) Loosen the screw and remove the side panel.
- b) Remove the cover from the air filter and the filter.
- c) Wash the filter in a mild soapy solution and allow it to dry properly.
- d) Drop a little oil on the filter and squeeze it so that the oil spreads and excess oil runs off (squeeze don't wring!). The filter must be moist but not dripping.
- e) Reinstall the filter.
- Replace the cover and attach the side panel again.

Warning! Never run the generator without air filter! This will cause extreme wear of the piston and/or filter.



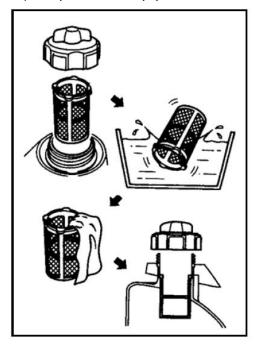


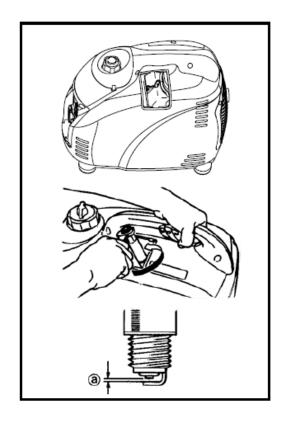




V-4 - Cleaning and adjusting the spark plug

- a) Loosen the screw and remove the top panel.
- b) Remove the spark plug cap and remove the spark plug.
- c) Clean off any deposits, check for discolouration (standard colour is brown) and check the distance between the poles. This should be between 0.6 en 0.7 mm. Adjust if necessary. If the spark plug appears worn then replace it with the same type of spark plug: CR7HS(NGK).
- d) Reinstall the spark plug.
- e) Replace the top panel.





V-5 - Fuel tank filter

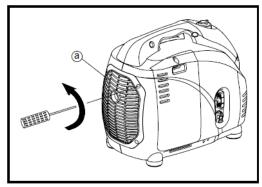
- a) Remove the tank cap and the filter.
- b) Wash the filter in mild soapy water, if it is damaged then it must be replaced.
- c) Rub the filter dry and replace it.

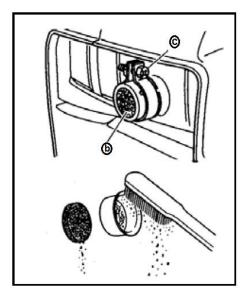
Warning! Close the tank cap again properly.

V-6 – Exhaust cover

Warning!

- Engine and exhaust are extremely hot after running! Do not touch them with bare hands or clothes. Allow the device to cool down before inspection or repairs!
- a) Remove the back panel.
- b) Remove the exhaust cover.
- c) Use the flat edge of a screwdriver to pry the spark suppressor out of the exhaust.
- d) Remove carbon deposits from the exhaust cover and spark suppressor.
- e) Reinstall the spark suppressor and exhaust cover correctly.





VI – SOLVING PROBLEMS

VI-1 - The engine will not start

- Fuel is not being transported to the carburettor
 - The fuel tank is empty put in fuel
 - There is fuel in the tank turn the fuel cock and the ventilation knob to ON
 - The fuel line is blocked clean it
 - The carburettor is blocked clean it
- The engine has insufficient oil
 - Add oil
- Problems with the ignition system, insufficient spark
 - The spark plug is dirty or damp clean and/or dry it
 - Problems with the ignition system consult your dealer

VI-2 – The generator is not generating electricity

- · The safety facility AC is set to OFF
 - Stop the engine and re-start it
- The safety facility AC is set to OFF
 - Press it to reset it.

VII - Storage.

If being stored for a longer period your generator requires a number of preventative measures to protect it.

VII-1 - Drain off the fuel

- a) Remove the tank cap and allow the fuel to drain from the tank
- b) Remove the side panel and allow the fuel to also drain from the carburettor

VII-2 - Engine

- a) Remove the spark plug and pour a teaspoon of motor oil (SAE 10W30 or 20W40) into the opening. Reinstall the spark plug.
- b) Allow the engine to turn over a few times by pulling gently on the recoil starter (without ignition).
- c) Pull the starter cord out slowly until you feel resistance.
- d) Then stop pulling
- e) Clean the outside of the generator and use a rust retarder
- f) Store the generator in a dry, well-ventilated area and cover it.
- g) The generator must stay upright.

VIII – TECHNICAL SPECIFICATIONS

	MODEL	Independ 2500				
	Туре	Inverter				
	Voltage AC	230V / 50Hz				
Generator	Capacity max.	2.5 kVA				
ene	Capacity continuous	2.2 kVA				
0	Power factor	1.0				
	Capacity DC	12V / 8.3A				
	Model	XY152F-3				
	Туре	Air cooled, 4 stroke, OHV, petrol engine				
	Bore x stroke	52.4 x 57.8				
	Cubic capacity	124.6 cc				
	Max. power	3.4kW – 5500 r.p.m.				
	Fuel	Lead free petrol				
Motor	Contents fuel tank	5.7 litres				
Ĕ	Continuous operation	4 hours 10 min (100% load)				
		5 hours 30 min (50% load)				
	Engine oil	SAE 10W30				
	Capacity oil tank	0.9 litres				
	Starter system	Recoil starter				
	Ignition system	C.D.I.				
	Spark plug type	A7RTC or CR7HS (NGK)				
ns	Net dimensions	565 x 320 x 470 mm				
ısio	Gross dimensions	595 x 355 x 510 mm				
Dimensions	Net weight	28 kg				
۵	Dry weight	31 kg				