STEPHILL®
GENERATORS

SE6000D HANDBOOK

DO NOT OPERATE THE GENERATOR BEFORE READING THIS MANUAL AND ENGINE MANUFACTURER'S OWNER'S MANUAL AND WARNINGS.

THIS STEPHILL GENERATOR HAS BEEN DESIGNED TO PROVIDE SAFE AND EFFICIENT SERVICE IF OPERATED AND MAINTAINED CORRECTLY.

MANY ACCIDENTS OCCUR THROUGH FAILURE TO ADHERE TO FUNDAMENTAL SAFETY PROCEDURES.

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Specification

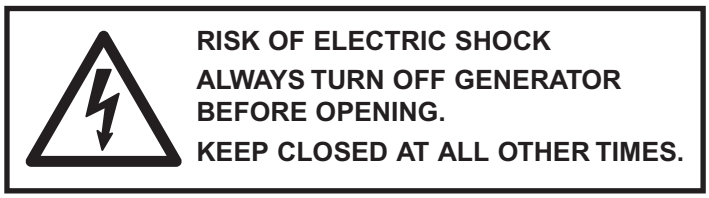
1

	SE6000D
kVA	5.9
kW	4.7
LWA	96
dBA@7M	71
Engine	Yanmar L100
Alternator	NAC 5500
Voltage	230v Neutral bonded to earth & 115v CTE
Weight	160Kg
Length	1220mm
Width	710mm
Height	910mm
Fuel	24L
Hours run 100% load	13
Hours run 75% load	16

2 General Safety

2.1 Warning Signs

Warnings shown on the machine should be observed at all times. The warning signs should be checked for legibility and any that have become damaged should be replaced. The following are shown on the generator:



2.2 Safety Hazards

Do not climb on the generator, as dents may cause overheating of the acoustic lining. It is important to keep the generator clean and well serviced, in particular keep all air vents/louvers clear of debris to prevent poor performance or possible overheating and permanent damage to the generator.
Keep well clear of moving parts on the generator at all times.
Children and pets must be kept clear of the operating area.

3 Potential Hazards

3.1 Auxiliary Power

The electricity produced by an engine driven Generator is very similar to mains electricity and should be treated accordingly.

Do not remove covers and attempt to work on the Generator while the engine is running.

Check the rating and electrical safety of the load before connecting the Generator.

Equipment should never be connected that in total exceeds the specified rating of the Generator.

Installation of the generator as a standby or secondary power source should only be undertaken by a fully qualified electrician using the appropriate means of isolation from the mains supply. Installation must comply with all applicable laws and electrical codes.

3.2 Operating Environment

The Generator should always be operated on level ground.

3.3 Temperature Range

A temperature range between -10°C and +40°C are the normal limits of operation.
Operating outside the range will require additional modifications.

3.4 Reference Relative Humidity

The standard reference condition for relative humidity is 30%. Above this value the rated power must be reduced.

3.5 Reference Barometric Pressure

The standard reference condition for total barometric pressure is 1 bar.

This corresponds to an altitude of approximately 100m. Above 100m the rated power must be reduced.

3.6 Flammable Environment

Stephill Generators must not be used in a flammable environment.

3.7 Saline Environment

Operation of the machine in a saline environment will require additional corrosion protection.

4 Safety Considerations

4.1 General

All Stephill Generators comply with all the current EEC directives including, the the noise emission in the environment by equipment for use outdoors regulation 2001 (SI 2001/1701).

4.2 Fuel

Fuels and lubricants are a potential source of fire. Lubricants in particular used engine oil, are potentially carcinogenic. Direct contact should always be avoided by wearing suitable rubber gloves when handling them. Be careful not to spill fuel, clean up any spillages. Inhalation or swallowing of Diesel should be avoided. If in doubt seek medical advice. All other forms of contact are irritant and therefore should also be avoided. If skin contact is made wash with soap and water.

4.3 Lubricating Oil

New oil presents no hazard following short term exposure.

Used oil should not be allowed to contact the skin. If this does occur, wash off quickly with a proprietary hand cleanser.

4.4 Safe Lifting

Where mechanical assistance is used in lifting machines, ensure the lifting eye is used, and that all components used to lift the machine are within their Safe Working Load (SWL).

The integral lifting beam and associated lifting eye on the generator should be regularly checked for signs of damage or gross corrosion.

All Nuts and Bolts associated with the lifting beam should be regularly checked for tightness and corrosion.

Lifting equipment should not be attached directly to the Engine/Alternator except for lifting of Engine/Alternator only.

4.5 Earth Connection

All Stephill products are fitted with an earth stud on the control panel this must be connected to an earthing system or spike. Any earth spike required is dependant on the local conditions of use. The size is determined by reference to current IEE regulations or to a competent electrician.

4.6 Fumes

Make sure that the Generator is at least 2 metres away from any building during operation.Operate in a well ventilated unconfined area, so that fumes can be properly dispersed.

Silencer outlet should be facing an open area to prevent fumes being recirculated. There is the danger of asphyxiation due to exhaust gases. Inhalation of poisonous exhaust fumes can lead to serious injury or death. The generator must not be used in a poorly ventilated or enclosed area.

4.7 Noise

Ear protection may be required depending on the combined noise level of the Generator, auxiliary load and the operator's distance from it and the length of exposure. (Noise at Work Regulations 1989)

4.8 Battery Acid

This is corrosive and irritant by all forms of exposure. Direct contact should always be avoided by wearing suitable rubber gloves, some form of eye protection should also be used. If skin contact is made wash with clean water.

4.9 Fire

Ensure that suitable fire extinguishers (AFFF or CO2) are kept within proximity to the generator. Do not cover, enclose, or obstruct the airflow to the generator during or shortly after use, due to fire hazard or damage to the generator from overheating. Allow the generator to cool after use before storing away. Keep all inflammable objects clear of the Generator.

4.10 Hot Parts

There is the danger of burns as parts of the generator will become very hot during use. No part of the engine, alternator or exhaust must be touched during or shortly after operation.

Do not operate the generator unless all guards are in place. There is a risk of burns or serious personal injury.

5 Operating Instructions

5.1 Pre-Start Checks

Before starting the generator please read the Yanmar engine owners manual.

Check Fuel & Oil level before attempting to start.

The generator is equipped with a low fuel level switch which will shutdown the engine and prevent it from starting if the fuel level is low.

The engine is equipped with an oil and temperature switch and will shutdown for low oil pressure and high engine temperature.

5.2 Warning

Do not operate the changeover switch with load connected.

Always switch load off before disconnecting plugs.

To switch power off at Generator always use circuit breaker.

5.3 Starting Instructions

Turn key to the run position Oil & Battery lamps should be lit.

Turn key to crank position until engine fires, Oil & Battery lamps should extinguish.

Return key to run position on firing.

To stop turn key to stop position.

5.4 Fuel System Bleeding Procedure

Before attempting to bleed the fuel system on the SE6000D, ensure the key switch is in the off position, the tank has a minimum of 10 litres of fuel and the lid is open.

1. Loosen the fuel filter bleed screw (1) until diesel is flowing freely without bubbles, repeat for fuel filter bleed screw (2).

2. Loosen the Brass injector pipe fitting (17mm nut) on the fuel pump, move to one side, leaving the delivery valve holder (black male fitting) on the fuel pump exposed.

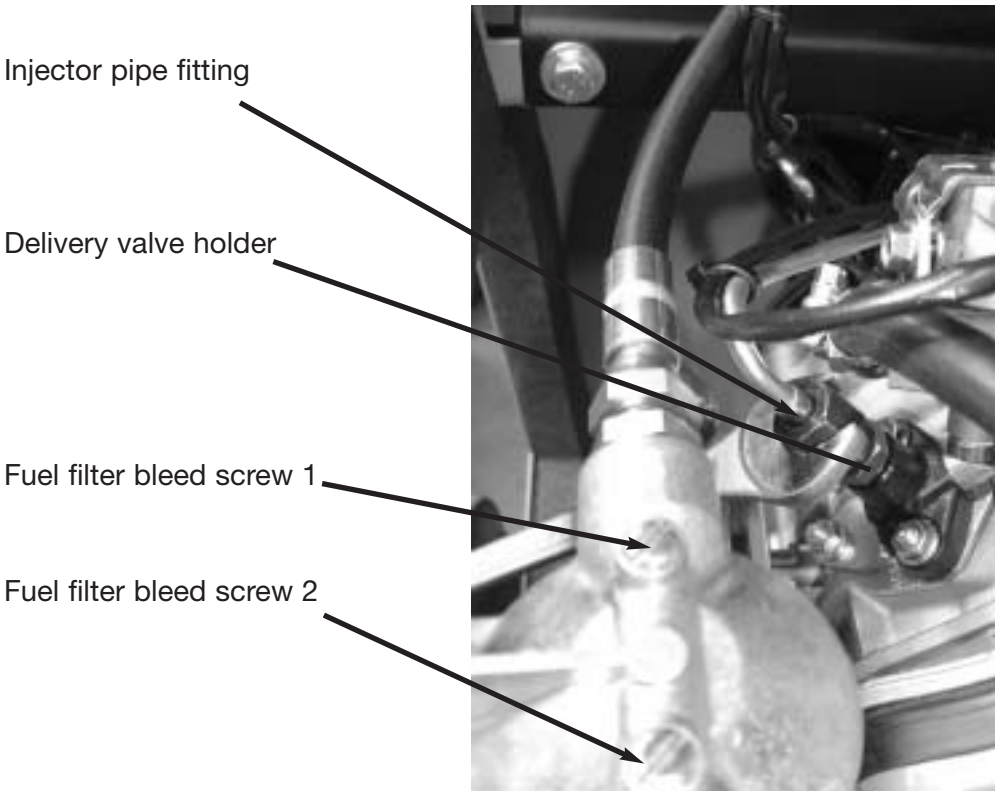
3. Loosen the Delivery valve holder (17mm) but only by 2 complete turns.

4. Turn the starter key to the on position, (do not start the generator). The battery and low oil pressure warning lamps should be illuminated.

5. Then slowly turn the starter key to the spring position until the battery warning lamp goes out. You should also hear the fuel solenoid click to indicate it is open. Hold the key in this position until all the air has escaped from the delivery valve holder fitting on the fuel pump and diesel starts to trickle out, then turn the starter key back to the off position.

6. Then tighten the Delivery valve holder and the Brass injector pipe. Now the fuel system has been bled and the generator should start.

7. If Engine still will not start repeat steps 1-5 but turn key to start position and diesel should squirt out of delivery valve holder. Once this has been achieved go to step 6.



5.5 Control Panel

Before connecting plugs into generator ensure the load is turned off. If this is not possible turn the circuit breaker to the off position.

The 230v Supply is Neutral bonded to earth.

The 115v Supply is CTE. (Centre Tapped to Earth)

Turn the voltage selector switch to the required voltage.

Connect the plug/plugs into the generator.

Switch on the load / Circuit breaker.

Always turn load off before stopping generator.

5.6 Long Term Storage

For storage or long periods of inactivity, Stephill Generators recommend the following:

Generators should be stored with oil filled to the correct capacity; Storage periods of 18 months and over may require special lubricants and treatments. If so please seek further advice from the engine manufacturer.

Before the generator is used after long term storage, all fuels and oils should be replaced.

Generator mounts, pipes and hoses should be checked to ensure that they are un-perished following extended periods of storage.

The generator should be stored in a clean dry area, ideally having a reasonable constant ambient temperature, and ideally not below freezing.

6 Service and Maintenance

IMPORTANT WARNING:

After any service on the generator, ensure that all piping and electrical cables are correctly routed and secured away from hot parts. Failure to observe this warning may result in damage to the piping and cables which could result in a fire.

Do not service or work on generator whilst the engine is running, and ensure the ignition key is removed.

6.1 Engine Service

Service the engine strictly in accordance with the instructions given in the relevant operator manual / handbook. An approved specialist must carry out any maintenance. Any spare parts required should be of genuine manufacturer's origin. Note: failure to adhere to manufacturer's recommended service schedules may invalidate the warranty. Please consult engine operator's manual for full service intervals.

6.2 Alternator Service

Brushless alternators employed on Stephill Generators are maintenance free. Service must be carried out by competent qualified personnel strictly in accordance with the instructions given in the handbook. Any spare parts required should be of genuine manufacturer's origin.

7 NAC Alternator Spares

Part No	Description
013-0090	Markon NAC Alternator
013-0074	PC Diode card
037-0015	Capacitor - 22µf

8 Yanmar Consumable Spares

Part No	Description
029-0007	Air filter
022-1013	Fuel filter
029-0032	Oil filter

9 Spares SE6000D

Part Number	Description	Qty
027-0013	Engine mount	2
027-0014	Alternator mount	2
027-0022	Wheel	2
027-0023	Wheel cap	2
022-1024	Fuel tank kit	1
022-1003	50mm Fuel tank gasket	1
022-1016	Fuel filter assembly	1
022-1013	Fuel filter	1
022-1005	Cooling fan 6” 8mm bore	1
022-1004	Temperature switch	1
020-0128	Temperature switch plate	1
022-1015	Low fuel sensor	1
022-1001	Neoprene door seal	1
022-1023	Panel fixing set	1
022-1017	Toggle latch strike	1
022-1018	Toggle latch	1
014-1004	Pocket pull flush	1
022-0555	SE6000D4 Silencer kit	1
022-0563	SE6000D4 Silencer	1
022-0501	SE6000D4 Tail pipe	1
055-0006	Hours run meter	1
036-0039	MCB Cover	1
036-0009	Circuit breaker 20Amp 2pole	1
036-0050	Re-set button 20Amp	1
044-0001	SOCKET 115V 16Amp	2
044-0002	SOCKET 230V 16Amp	2
044-0003	SOCKET 115V 32Amp	1
043-0006	Voltage selector switch	1
045-0012	Battery warning lamp	1
045-0013	Low fuel warning lamp	1
045-0016	Low oil warning lamp	1
045-0014	High engine temperature warning light	1
045-0001	Key switch	1
045-0017	Bulb	4
056-0001	Relay-5pin 12V DC	3

10 WARRANTY

This generator supplied by STEPHILL GENERATORS LTD carries a warranty of 12 months from date of despatch or 2000 Hours.During the warranty period, should the plant fail due to faulty design, materials or workmanship by STEPHILL or it’s sub-contractors, we undertake to rectify the fault.

STEPHILL will accept no responsibility whatsoever for equipment that has failed due to;

– Operation with incorrect fuel, lubricating oil or no water.

– Improper repair or use of parts not supplied by STEPHILL.

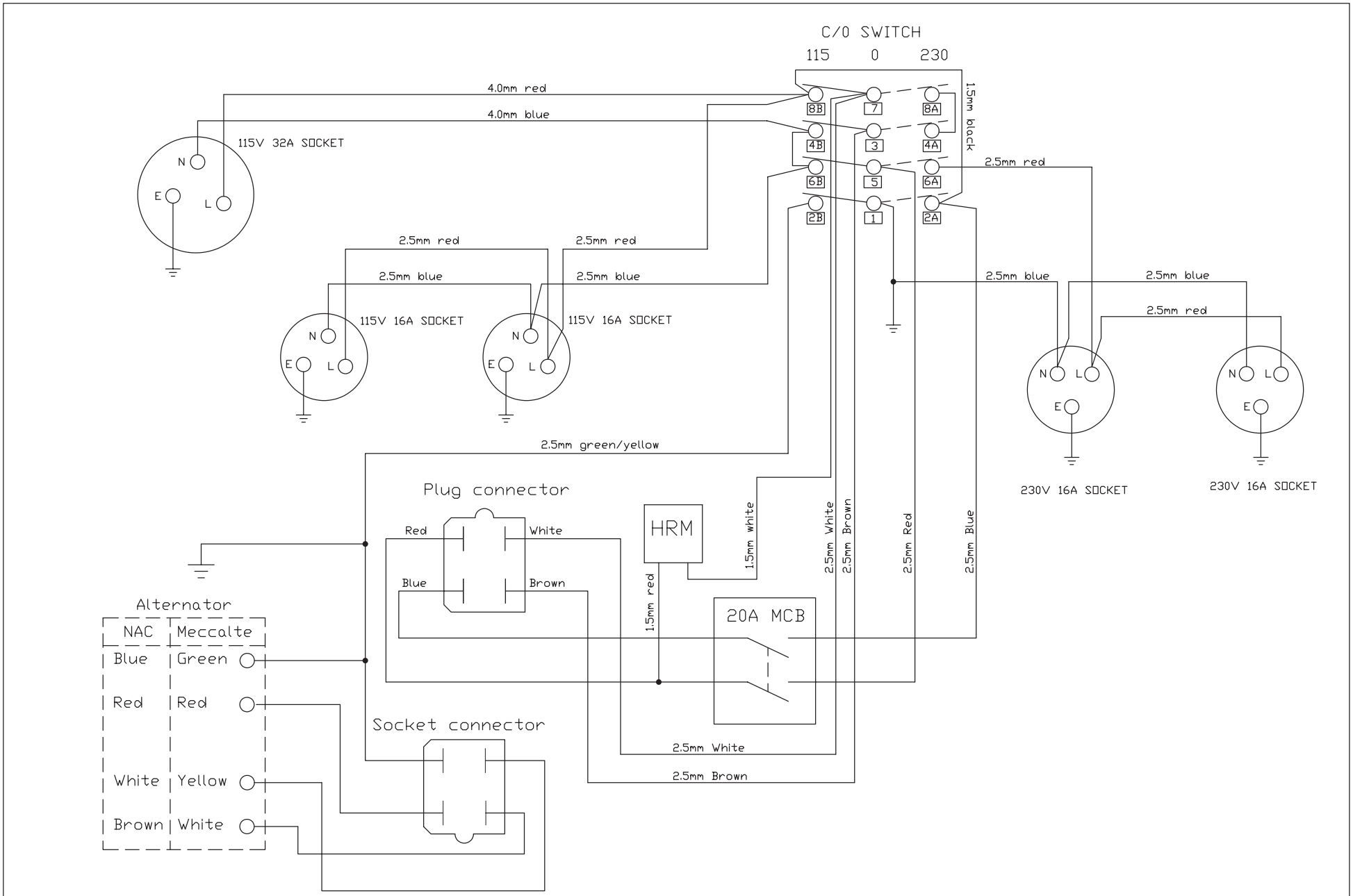
– Lack of, or incorrect maintenance.

– Fair wear and tear, misuse, negligence, accidental damage, improper

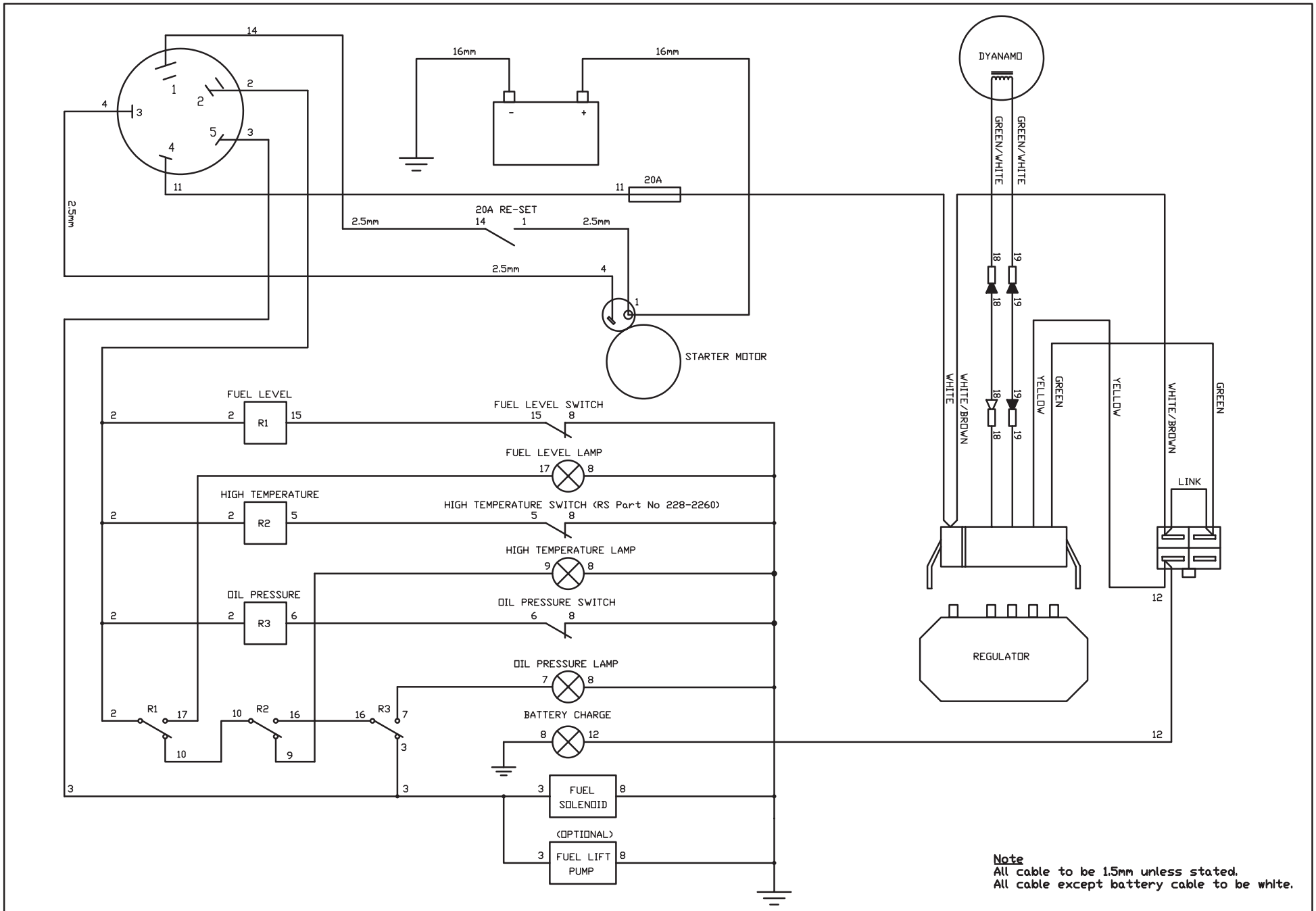
– storage, incorrect starting / warm-up / run-in or shutdown.

No warranty claim will be considered by STEPHILL unless any defective parts are available for inspection by us, or our nominees, to determine the reason or cause of failure, and STEPHILL is given the option of repair or replacement.

STEPHILL are not responsible for incidental or consequential damages, downtime, or other costs due to warrantable failure, and unauthorised alterations made to any product supplied by STEPHILL.

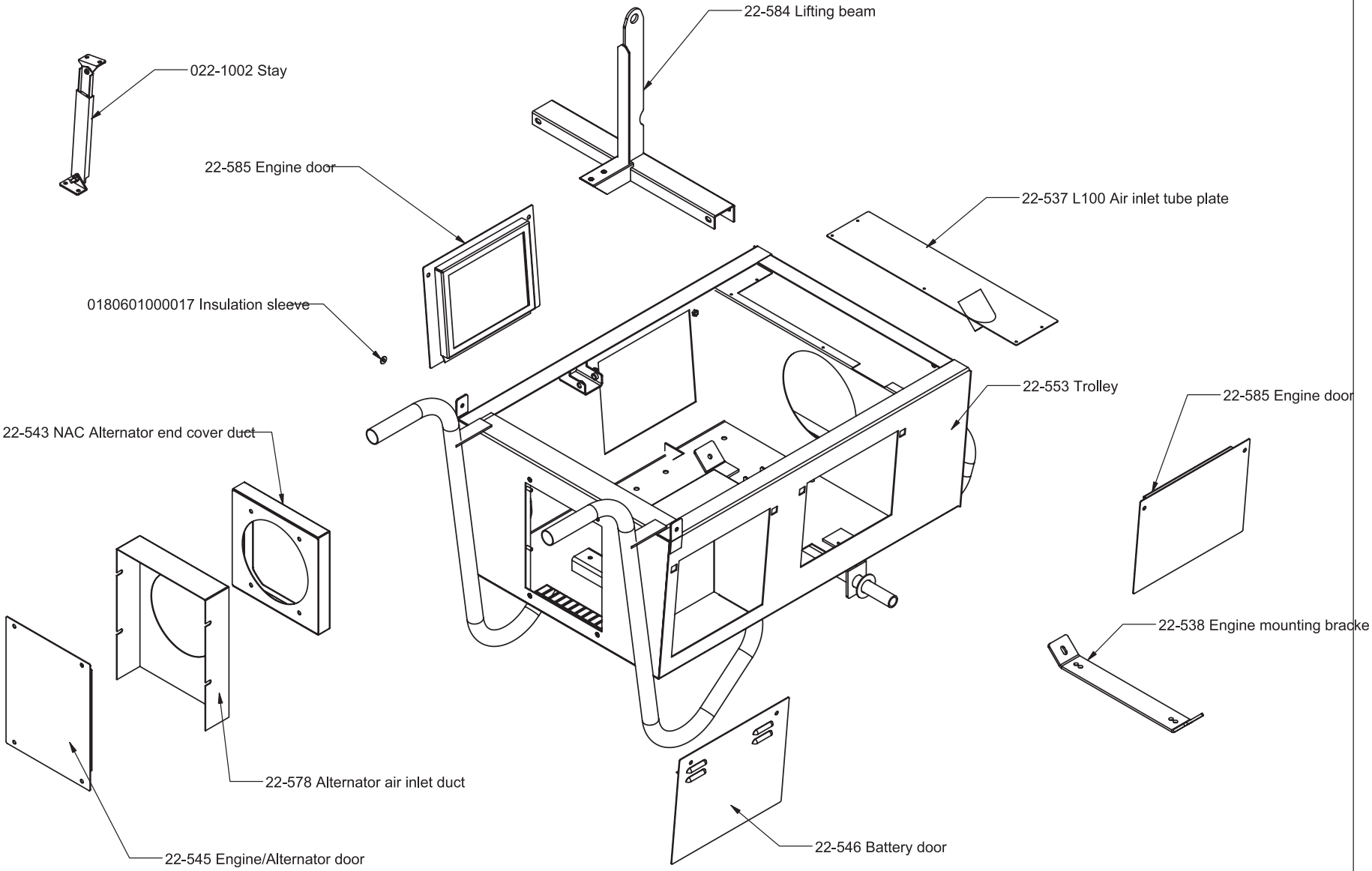


STEPHILL GENERATORS Phone 01933 677911 Fax 01933 677916	Drawing Number SW 12026	Description SE6000D Dual voltage wiring diagram 115V CTE / 230V Neutral bonded	Last Number Used N/A	Issue	Date	Revision
	Drawn R GOLDING			A	21/04/04	New drawing.

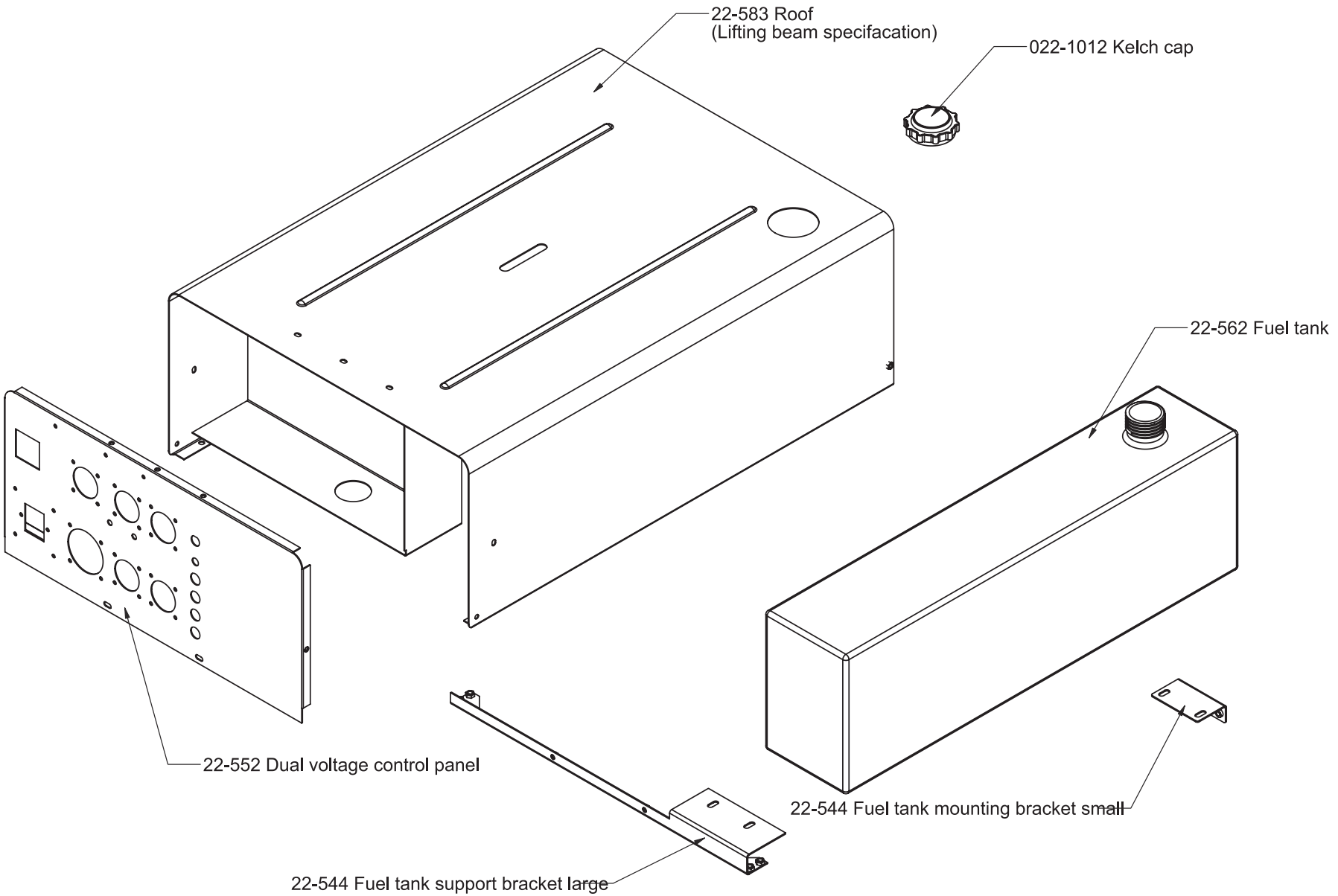


Note
All cable to be 1.5mm unless stated.
All cable except battery cable to be white.

STEPHILL GENERATORS Phone 01933 677911 Fax 01933 677916	Drawing Number SW11016 Drawn R GOLDING	Description L100 WIRING ELECTRIC START LOP/HET/CHARGE FAIL 15A FLYWHEEL CHARGER	Last Number Used 17	Issue	Date	Revision
				A	25/02/02	New drawing
				B	20/01/06	Wire numbers added to regulator.



STEPHILL GENERATORS Phone 01933 677911 Fax 01933 677916	Drawing Number 22-589	Description SE6000D4 Base exploded view	Issue	Date	Revision	Colour N/A	THIRD ANGLE PROJECTION
	Drawn *R Golding*		A	08/11/04	New drawing	Material Mild steel	
			B	26/05/06	New part numbers added.		



STEPHILL GENERATORS Phone 01933 677911 Fax 01933 677916	Drawing Number 22-590	Description SE6000D4 Roof exploded view	Issue	Date	Revision
	Drawn *R Golding*		A	08/11/04	New drawing
			B	26/05/06	New part numbers added.

THIRD ANGLE PROJECTION

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