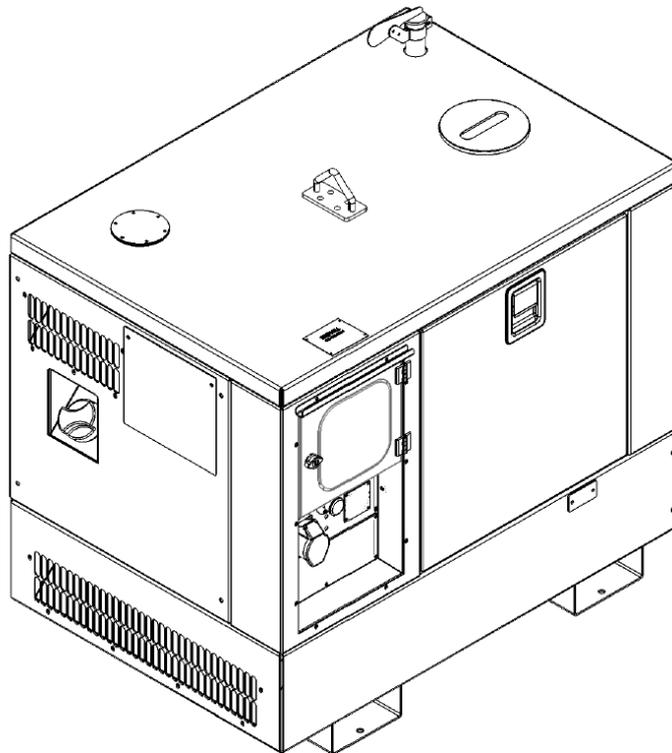




## **SSDK10W – SSDK10W3 – SSDK10WT** **Handbook**



**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.**

**WARNING CONTROL PANEL SHOULD NOT BE PRESSURE WASHED OR STEAM CLEANED**

Stephill Generators Ltd,  
Wallis close,  
Park Farm South,  
Wellingborough,  
Northants,  
NN8 6AG

Tel : +44 (0)1933 677911  
Fax: +44 (0)1933 677916  
E-mail : [info@stephill-generators.co.uk](mailto:info@stephill-generators.co.uk)  
Web : [www.stephill-generators.co.uk](http://www.stephill-generators.co.uk)

	<u>CONTENTS</u>	<u>PAGE</u>
1.0	SPECIFICATIONS	1
2.0	GENERAL SAFETY	1
2.1	WARNING SIGNS	1
2.2	SAFETY HAZARDS	1
3.0	POTENTIAL HAZARDS	2
3.1	AUXILIARY POWER	2
3.2	OPERATING ENVIRONMENT	2
3.3	TEMPERATURE RANGE	2
3.4	REFERENCE RELATIVE HUMIDITY	2
3.5	REFERENCE BAROMETRIC PRESSURE	2
3.6	FLAMMABLE ENVIRONMENT	2
3.7	SALINE ENVIRONMENT	2
4.0	SAFETY CONSIDERATIONS	2
4.1	GENERAL	2
4.2	FUEL	2
4.3	BUNDED TANK	2
4.4	LUBRICATING OIL	3
4.5	SAFE LIFTING	3
4.6	EARTH CONNECTION	3
4.7	FUMES	3
4.8	NOISE	3
4.9	BATTERY ACID	3
4.10	FIRE	3
4.11	HOT PARTS	3
5.0	OPERATING INSTRUCTIONS	4
5.1	PRE START CHECKS	4
5.2	EMERGENCY STOP	4
5.3	THREE WAY VALVE	4
5.4	FUEL LIFT PUMP	4
5.5	CONTROL PANEL	4
5.6	HARD WIRE TERMINALS	4
5.7	LONG TERM STORAGE	4
6.0	DEEP SEA 3110 OPERATING INSTRUCTIONS	5
6.1	DESCRIPTION OF CONTROLS	5
6.2	STARTING THE ENGINE	5
6.3	STARTING SEQUENCE	5
6.4	ENGINE RUNNING	5
6.5	STOPPING THE ENGINE	5
6.6	AUTOMATIC OPERATION	5
6.7	WAITING IN AUTO MODE	6
6.8	VIEWING THE INSTRUMENTS	6
6.9	FAULT ICONS	6-7
6.10	FAULT FINDING DEEPSEA 3110	7-8
7.0	REMOTE START USING A STEPHILL CAPRICORN MODULE	9
7.1	REMOTE START OPERATION	9
8.0	FAULT FINDING GENERAL	10-11
9.0	SERVICE AND MAINTENANCE	11
9.1	ENGINE SERVICE	11
9.2	ALTERNATOR SERVICE	11
10.0	SPARES	11
10.1	KUBOTA D1105 CONSUMABLE SPARES	11
10.2	STANDARD PARTS	12
10.3	SSDK10WT PARTS	13
10.4	SSDK10W/SSDK10W3 CONTROL PANEL PARTS	13
10.5	SSDK10WT CONTROL PANEL PARTS	13-14
10.6	REMOTE START PARTS (STEPHILL CAPRICORN)	14
11.0	WARRANTY	14
	SSDK10W/SSDK10W3 SILENCER	15
	SSDK10WT SILENCER	16
	SSDK10W CANOPY EXPLODED VIEW	17
	SSDK10WT CANOPY EXPLODED VIEW	19
	SSDK10W 230V 2x 32A MCB RCD WIRING	20
	SSDK10W 230V 1x 63A 1x 16A MCB RCD WIRING	21
	SSDK10W DC WIRING KUBOTA	22
	SSDK10W DC REMOTE START WIRING	23

## **1 SPECIFICATION**

	<b>SSDK10W</b>	<b>SSDK10WT</b>	<b>SSDK10W/3</b>
KVA	10	10	10
KW	8.0	8.0	8.0
Engine	Kubota D1105	Kubota D1105	Kubota D1105
Alternator	Sincro SK160CA1	Sincro SK160CA1	Sincro SK160CA1
Wet Weight	469Kg	621Kg	621Kg
Length	1150	950	1150
Width	790	680	790
Height	1000	1760	1391
Fuel tank Litres	55	195	195
Hours run 75% load	26	100	100
LWA	83	n/a	83
dBA @ 7M	58	n/a	58

### **Note**

Fuel tank working capacity is 55 Litres and 195 Litres respectively, hours run are based on this figure.

Paint specification RAL5015 Semi gloss blue

## **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:



### **WARNING**

BEFORE STARTING.

- READ HANDBOOK AND SAFETY ADVICE
  - CHECK OIL LEVEL
- DO NOT ADJUST ENGINE SPEED WITHOUT SUITABLE TEST EQUIPMENT

### **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.

### **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 -15°C and +45°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:

2006/42/EC Machinery Directive

2000/14/EC Noise Emission in the Environment by Equipment for use outdoors

2004/108/EC EMC Directive

2006/95/EC Low Voltage Directive

#### **4.2 Fuel**

Fuels and lubricants are a potential source of fire. 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 an irritant and therefore should also be avoided. If skin contact is made wash with soap and water.

#### **4.3 Bunded tank**

This generator is fitted with a secondary containment system (bunded tank). The bund will need to be inspected on a regular basis and drained accordingly. Any liquid drained from the bund/tank will have to be treated as oil/fuel contaminated waste and disposed of accordingly.

#### **Warning**

Although this generator is fitted with a bunded tank it is the duty of the owner to ensure that it meets with local/national regulations dependant on site location etc.

#### **4.4 Lubricating Oil**

New oil presents no hazard following short term exposure. Lubricants in particular used engine oil, are potentially carcinogenic. Direct contact should always be avoided by wearing suitable rubber gloves when handling them. Used oil should not be allowed to contact the skin. If this does occur, wash off quickly with a proprietary hand cleanser.

#### **4.5 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.

#### **4.6 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.

#### **4.7 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.

#### **4.8 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)

#### **4.9 Battery Acid**

This is corrosive and irritant by all forms of exposure. If skin contact is made wash with clean water.

#### **4.10 Fire**

Ensure that suitable fire extinguishers (AFFF or CO<sub>2</sub>) are kept within close proximity of 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.

#### **4.11 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 mechanical injury.

## **5 OPERATING INSTRUCTIONS**

### **NOTE:**

- The SSDK10W uses a Deepsea 3110 module to start and stop the set in normal operation.
- The SSDK10W3 and SSDK10WT have a Deepsea 3110 fitted but uses a remote Stephill Capricorn module to start and stop. Both of these generators have to have the remote connected to work.

### **5.1 Pre-Start Checks**

- Before starting the generator please read the engine owners manual.
- Check **Fuel, Water & Oil** level before attempting to start.
- The engine is equipped with an oil and temperature switch and will shut-down for low oil pressure and high engine temperature.
- Inspect the generator visually for signs of fault or damage.
- Ensure battery isolator switch is switched on.

### **5.2 Emergency stop**

The generator is equipped with an emergency stop button which should only be used in an emergency and not for general stopping.

### **5.3 Three Way valve (Fuel) (Optional)**

When the option of three way valves is used, the levers have to be set to the correct position for the generator to operate. The engine is fitted with a lift pump for fuel delivery but this is not capable of lifting fuel above a 1M head. If this is not possible a remote fuel pump with a bypass valve fitted will suffice. If in any doubt please consult manufacturer.

### **5.4 Fuel lift pump**

If engine runs out of fuel do not attempt to start until fuel bowl is full of diesel this can be achieved by pressing "FUEL PUMP PRIME" until bowl is full of diesel. The engine should then self bleed and start when you go through the starting instructions.

### **5.5 Control panel**

This generator is equipped with an RCD on the 230 Volt supply (Some builds may differ please check wiring diagram)

Before connecting plugs into generator please ensure the load is turned off.

If this is not possible turn the circuit breaker to the off position.

Connect the plugs into the generator.

Switch on the load / circuit breaker.

This unit is also fitted with individual circuit breakers for each socket.

#### **Warning**

Always switch load off before disconnecting plugs.

To switch power off at generator always use circuit breaker.

### **5.6 Hard wire terminals**

Do not attempt to work on the hard wire terminals while set is running.

The generator is fitted with hard wire terminals which are located under the sockets, the terminals are clearly marked for 230V. The gland plate should be re-fitted prior to running generator.

### **5.7 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.

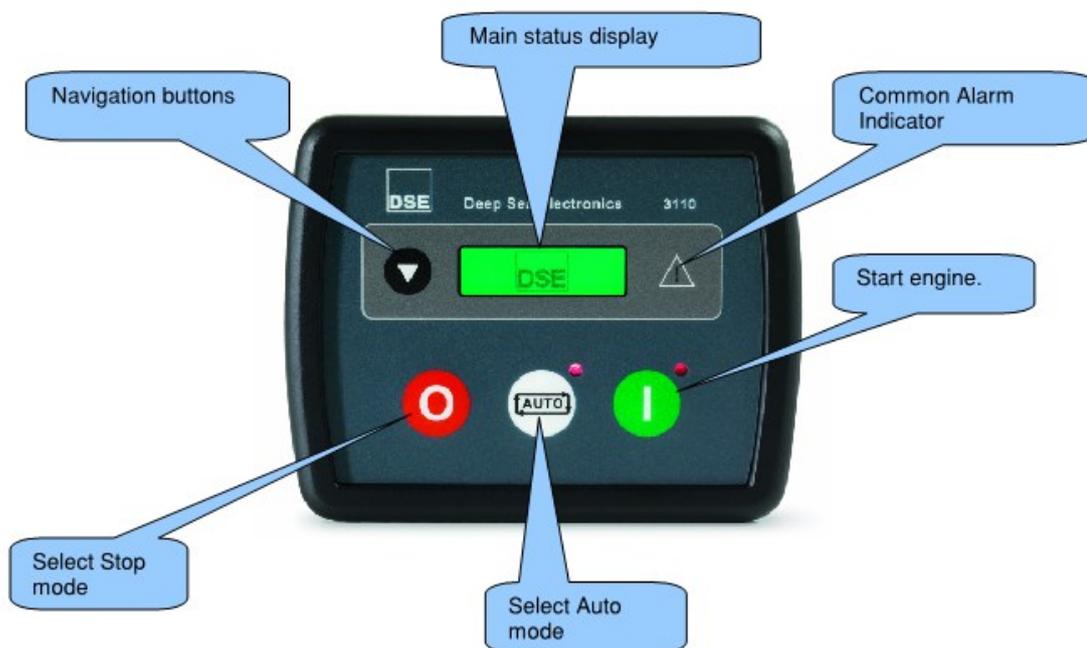
Generator mounts, pipes and hoses should be checked to ensure that they are un-perished following extended periods of storage.

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

The battery isolator switch should be switched off.

## 6 DEEP SEA 3110 OPERATING INSTRUCTIONS

### 6.1 Description of controls



### 6.2 Starting the engine

To begin the starting sequence, press the  button.

The  icon is displayed to indicate Manual mode and the manual LED flashes.

The  button must be pressed once more to begin the start sequence.

### 6.3 Starting sequence

If a start request is present, the fuel relay is energised and the engine will be cranked. If the engine fails to fire during this cranking attempt then the starter motor is disengaged for the *crank rest* duration after which the next start attempt is made. Should this sequence continue beyond 3 attempts, the start sequence will be terminated and the display shows **Fail to Start**.

When the engine fires, the starter motor is disengaged. Speed detection is factory configured to be derived from the main alternator output frequency.

After the starter motor has disengaged, the *Safety On* timer activates (10 Sec), allowing Oil Pressure, High Engine Temperature, Under-speed, Charge Fail and any delayed Auxiliary fault inputs to stabilise without triggering the fault.

### 6.4 Engine running

Once the engine is running and all starting timers have expired, the animated icon is displayed.

If all start requests are removed, the *stopping sequence* will begin.

### 6.5 Stopping the engine

In manual mode the set will continue to run until either :

The *stop button*  is pressed – The set will immediately stop

The *auto button*  is pressed. The set will observe all auto mode start requests and stopping timers before beginning the *Auto mode stopping sequence*.

### 6.6 Automatic operation

Activate auto mode by pressing the  pushbutton. The  icon is displayed to indicate Auto Mode operation if no alarms are present.

Auto mode will allow the generator to operate fully automatically, starting and stopping as required with no user intervention.

### 6.7 Waiting in auto mode

If a starting request is made, the starting sequence will begin.

Starting requests can be from the following sources:

- Activation of an auxiliary input that has been configured to *remote start*.

### 6.8 Viewing the instruments

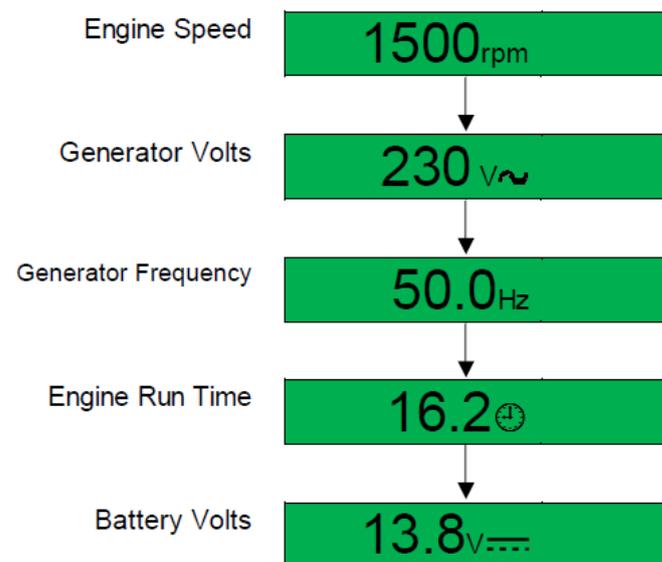
It is possible to scroll to display the different pages of information by repeatedly operating the scroll button 

Once selected the page will remain on the LCD display until the user selects a different page or after an extended period of inactivity, the module will revert to the status display.

When scrolling manually, the display will automatically return to the Status page if no buttons are pressed for the duration of the configurable *LCD Page Timer*.

If an alarm becomes active while viewing the status page, the display shows the Alarms page to draw the operator's attention to the alarm condition.

#### Page order:-



### 6.9 Fault icons

	<b>AUXILIARY INPUTS</b>	Auxiliary inputs can be user configured and will display the message as written by the user.
	<b>FAIL TO START</b>	The engine has not fired after the preset number of start attempts.
	<b>FAIL TO STOP</b>	The module has detected a condition that indicates that the engine is running when it has been instructed to stop. <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>NOTE:-</b> 'Fail to Stop' could indicate a faulty oil pressure sensor - If engine is at rest check oil sensor wiring and configuration.</div>
	<b>LOW OIL PRESSURE</b>	The module detects that the engine oil pressure has fallen below the low oil pressure pre-alarm setting level after the <i>Safety On</i> timer has expired.
	<b>ENGINE HIGH TEMPERATURE</b>	The module detects that the engine coolant temperature has exceeded the high engine temperature pre-alarm setting level after the <i>Safety On</i> timer has expired.
	<b>UNDERSPEED</b>	The engine speed has fallen below the underspeed pre alarm setting.
	<b>OVERSPEED</b>	The engine speed has risen above the overspeed pre alarm setting.
	<b>CHARGE FAILURE</b>	The auxiliary charge alternator voltage is low as measured from the W/L terminal.
	<b>LOW FUEL LEVEL</b>	The level detected by the fuel level sensor is below the low fuel level setting. (Optional)

	<b>BATTERY UNDER VOLTAGE / BATTERY OVER VOLTAGE</b>	The DC supply has fallen below or risen above the low/high volts setting level.
	<b>GENERATOR UNDER VOLTAGE</b>	The generator output voltage has fallen below the pre-set pre-alarm setting after the <i>Safety On</i> timer has expired.
	<b>GENERATOR OVER VOLTAGE</b>	The generator output voltage has risen above the pre-set pre-alarm setting.
	<b>GENERATOR UNDER FREQUENCY</b>	The generator output frequency has fallen below the pre-set pre-alarm setting after the <i>Safety On</i> timer has expired.
	<b>GENERATOR OVER FREQUENCY</b>	The generator output frequency has risen above the pre-set pre-alarm setting.
	<b>EMERGENCY STOP</b>	The emergency stop button has been depressed. This is a failsafe (normally closed to battery positive) input and will immediately stop the set should the signal be removed. Removal of the battery positive supply from the emergency stop input will also remove DC supply from the Fuel and Start outputs of the controller. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <b>NOTE:-</b> The Emergency Stop Positive signal must be present otherwise the unit will shutdown.</div>
	<b>INTERNAL MEMORY ERROR</b>	The configuration file is corrupted. Contact your supplier for assistance.

### 6.10 Fault finding 3110

Unit is inoperative Read/Write configuration does not operate	Check the battery and wiring to the unit. Check the DC supply. Check the DC fuse.
Unit shuts down	Check DC supply voltage is not above 16 Volts or below 9 Volts Check the operating temperature is not above 70°C. Check the DC fuse.
Unit locks out on Emergency Stop	Check emergency stop switch is functioning correctly. Check wiring is not open circuit.
Low oil Pressure fault operates after engine has fired	Check engine oil pressure. Check oil pressure switch/sensor and wiring, switch is Normally closed and opens with pressure.
High engine temperature fault operates after engine has fired.	Check engine temperature. Check switch/sensor and wiring. Check switch polarity is correct. Normally open or Normally closed.
Shutdown fault operates	Check relevant switch and wiring of fault indicated on LCD display. Check configuration of input.
Warning fault operates	Check relevant switch and wiring of fault indicated on LCD display. Check configuration of input.
Fail to Start is activated after preset number of attempts to start	Check wiring of fuel solenoid. Check fuel lift pump operational & fuel supply to engine. Check battery supply. Check battery supply is present on the Fuel output of the module.
Continuous starting of generator when in <b>AUTO</b>	Check that there is no signal present on the "Remote Start" input. Check configured polarity is correct.

Generator fails to start on receipt of Remote Start signal.	<p>Check Start Delay timer has timed out. (Not configured on standard builds)</p> <p>Check signal is on "Remote Start" input.</p> <p>Confirm correct configuration of input is configured to be used as "Remote Start".</p> <p>Check that the oil pressure switch or sensor is indicating low oil pressure to the controller. The set will not start if oil pressure is not low.</p>
Pre-heat inoperative	<p>Check wiring to engine heater plugs. Check battery supply.</p> <p>Check battery supply is present on the Pre-heat output of module.</p>
Starter motor inoperative	<p>Check wiring to starter solenoid.</p> <p>Check battery supply.</p> <p>Check battery supply is present on the Starter output of module.</p> <p>Ensure oil pressure switch or sensor is indicating the "low oil pressure" state to the 6000 series controller.</p>
Engine runs but generator will not take load	<p>Check MCB is switched on.</p> <p>Check change over switch if fitted is switched to correct voltage.</p>
Fail to stop alarm when engine is at rest	<p>Check low oil pressure switch is operating correctly.</p> <p>Check engine is operating correctly.</p>
Module appears to 'revert' to an earlier configuration	<p>When editing a configuration using the PC software it is vital that the configuration is first 'read' from the controller before editing it. This edited configuration must then be "written" back to the controller for the changes to take effect.</p> <p>When editing a configuration using the Front Panel Editor, be sure to press the  Save button to save the change before moving to another item or exiting the Front Panel Editor.</p>
Inaccurate generator measurements on controller display	<p>The 3110 controller is true RMS measuring so gives more accurate display when compared with an 'average' meter such as an analogue panel meter or some lower specified digital multimeters.</p> <p>Accuracy of the controller is better than 1% of full scale. I.e Gen volts full scale is 333V ph-n so accuracy is <math>\pm 3.33V</math> (1% of 333V).</p>

**▲ NOTE:- The above fault finding is provided as a guide check-list only.** For further information <http://www.deepseapl.com/>

## **7.0 REMOTE STARTING USING A STEPHILL CAPRICORN MODULE**

As standard the SSDK10WT and SSDK10W3 come with a Stephill Capricorn remote start module complete with start/stop buttons and warning lamps.

**Note:** Although the generator is fitted with a Deepsea 3110 control module, it can only be started and stopped with and by the Stephill Capricorn module connected via the multi-pin plug on the control panel. This is to eliminate any battery drain while the generator is not in use.

- Unit Powered (Green)
- Engine Running (Green)
- Low Oil Pressure (Red)
- High Engine Temperature (Red)
- Emergency Stop/Fault (Red)
- Low Fuel (Red)



## **7.1 REMOTE START OPERATION**

### **Starting**

Press the green button for approximately 1 second to power the module, lighting the top LED Unit Power and also the Low Oil Pressure. Once the preheating period has finished (approximately 10 seconds) the starter motor will crank and start the engine. The Low Oil Pressure LED will then extinguish. After approximately 10-15 seconds the Engine Running LED will be illuminated.

### **Stopping**

Press the Red button for 1 second to unlatch the circuit. The module will power-down and the generator will stop, all LED's have now been extinguished.

### **Faults**

All faults shown on the Capricorn Remote Module have a signal sourced from the generators own control module (Deepsea 3110). You will not be able to start the generator until the either the module has been reset or the fault has been checked and rectified. The explanation mark Emergency Stop/Fault and Low Oil will illuminate alongside any other fault which may occur. To reset the module after a fault press the Red button.

**Note:** Not all the possible faults are shown on the Capricorn Module. When a shutdown has occurred it is best advised to look at the generator's own control module (Deepsea 3110) which will indicate all possible shutdowns.

## 8.0 FAULT FINDING GENERAL

High engine temperature	<p>Check Water/Antifreeze level in the radiator.</p> <p>Check for loose wires on the temperature switch &amp; DC loom connector block.</p> <p>Check 25 Amp fuse for electronic fan. (SSDK10WT only)</p> <p>Check operation of the electronic fan using the "Fuel Pump Prime" button.</p> <p>Check the continuity of the earth wire. (Refer to wiring diagram)</p> <p>Check radiator surface (both sides) and fins are not obstructed.</p> <p>Check operation of the Temperature switch.</p> <p>Check that the generator air inlets and outlets are not obstructed.</p> <p>Check the fan belt is not damaged, broken or loose. (Refer to handbook)</p> <p><u>Note</u> you may experience low charge if fan belt is loose.</p>
Low oil pressure	<p>Check oil level and fill to correct level if necessary</p> <p>Check for loose wires on the oil switch &amp; DC loom connector block.</p> <p>Check the continuity of the earth wire. (Refer to wiring diagram)</p> <p>Check operation of oil switch.</p>
HZ / Frequency shutdown & Voltage shutdown	<p>Check reset button not tripped and reset if required.</p> <p>Check AC Input at module. 230V</p> <p>Check engine has been regularly serviced. (fuel filters especially)</p> <p>Check condition of the fuel.</p> <p>Check engine speed is set between 52.0 &amp; 52.5 Hz at no load.</p> <p>Check AC supply from alternator. (If no output refer to alternator handbook)</p> <p>Check fuse on AVR.</p>
No power to control module	<p>Check reset button not tripped and reset if required.</p> <p>Check 12V DC supply to module. If supply present but not operational try new unit.</p> <p>Check battery voltage/health.</p> <p>Check battery isolator switch is on.</p> <p>Check for loose wires on battery isolator.</p> <p>Check for loose wires on the DC connector plug and socket.</p> <p>Check continuity on +VE and -VE wires to battery.</p> <p>Check the connection of the remote start plug on the generator. (if fitted)</p> <p>Check condition of both remote start plug and socket. (if fitted)</p> <p>Check 12V DC supply at the remote start module. (if fitted)</p>
Battery not charging	<p>Check the fan belt is not damaged, broken or loose. (Refer to handbook)</p> <p><u>Note</u> you may experience low charge if fan belt is loose.</p> <p>Check for loose wires on charge alternator.</p> <p>Check for loose wires on the DC connector plug and socket.</p> <p>Check continuity of all wires from charge alternator. (Refer to wiring diagram)</p> <p>Check voltage at the battery while generator is running, voltage should be 13.4V - 14.4V.</p>
Engine not starting	<p>Check battery voltage is above 12.5V.</p> <p>Check oil level and fill to correct level if necessary.</p> <p>Check fuel level and fuel condition.</p> <p>Check 3 way valves are in correct position. (If fitted)</p> <p>Check operation of fuel lift pump.</p> <p>Check fuel filter.</p> <p>Check fuel is reaching the injectors. When running correctly fuel should be running freely from the injector return pipe. If no fuel running from return check the fuel filters &amp; check condition of fuel.</p> <p>Check no air in system. Keep fuel pump running using prime button for 60 seconds.</p> <p>Check all pipe clips and fuel pipe condition.</p>
Glow plugs not operating	<p>Check Emergency stop.</p> <p>Check the fuses.</p> <p>Check battery voltage is above 12.5V.</p> <p>Check for loose wires on the glow plug, relays, fuses, module terminals, plug and socket.</p> <p>Check -VE supply.</p> <p>Check +VE on Glow plug &amp; trace back to battery via relay.</p> <p>Check +VE on Glow plug &amp; trace back to module via relay, plug &amp; socket.</p>

Starter Motor not operating	<p>Check Emergency stop.</p> <p>Check the fuses.</p> <p>Check battery voltage is above 12.5V.</p> <p>Check for loose wires on the solenoid, relays, fuses, module terminals, plug and socket.</p> <p>Check +VE supply from battery to starter motor via isolator switch.</p> <p>Check -VE supply.</p> <p>Check start terminal on Starter motor &amp; trace back to battery via relay.</p> <p>Check start terminal on Starter motor &amp; trace back to module via relay, plug &amp; socket.</p>
Fuel solenoid not operating	<p>Does the Fuel solenoid energise when the starter motor turns over.</p> <p>Check Emergency stop.</p> <p>Check the fuses.</p> <p>Check battery voltage is above 12.5V.</p> <p>Check for loose wires on the solenoid, relays, fuses, module terminals, plug and socket.</p> <p>Check -VE supply.</p> <p>Check +VE on Fuel solenoid &amp; trace back to battery via relay.</p> <p>Check +VE on Fuel solenoid &amp; trace back to module via relay, plug &amp; socket.</p>
Fuel gauge faults (SSDK10WT/3)	<p>Check 3amp fuse</p>

## **9.0 SERVICE AND MAINTAINENCE**

### **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. Ensure battery isolator switch is in the off position when working on generator, this will prevent generator from starting.

### **9.1 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. For further information please consult engine manufacturer's website. [www.kubota.co.uk](http://www.kubota.co.uk)

### **9.2 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. For further information please consult alternator manufacturer's website. [www.sogagroup.com](http://www.sogagroup.com)

## **10.0 SPARES**

### **10.1 KUBOTA D1105 CONSUMABLE SPARES**

<b>DESCRIPTION</b>	<b>D1105</b>
OIL FILTER	015-1028
AIR FILTER	015-0027
FUEL FILTER	015-0029
FUEL FILTER (IN LINE)	015-0030
FAN BELT	015-0031

## 10.2 STANDARD PARTS

DESCRIPTION	Part No	Qty
ENGINE KUBOTA D1105	015-0025	1
ACCESS HATCH (RADIATOR FILLER COVER)	118-1001	1
ALTERNATOR Sincro 12KVA SK160CA1 C/W AVR SAE5/6.5	032-0005	1
BATTERY 063	054-0004	1
DOOR SEAL 1011/06 RUBBER EDGING	023-1023	7M
DOOR SEAL FOAM	118-0171	4
EMERGENCY STOP NORMALLY CLOSED	045-0018	1
ENGINE WIRING LOOM KUBOTA D1105	039-0013	1
EXHAUST LAGGING TCM050 (FIBREGLASS)	023-1047	3M
FILLER CAP 600281/13 LOCKABLE FT105 KEY	048-0008	1
FUEL FILLER HOSE	118-0136	1
FUEL SENDER 210mm	118-1002	1
FUEL TANK SSDX10W	118-0130	1
HANDLE FLUSH P2/43 (ENGINE END PANEL PLATE)	014-1004	1
HINGE M5 CONTROL PANEL DOOR	014-1000	2
ISOLATOR SWITCH BATTERY 0/605/00	045-0020	1
KEY FT105 (DOOR / FUEL CAP)	045-0004	1
LOCK TURNBUTTON (CONTROL PANEL DOOR)	023-1079	1
MOUNT TRANSIT	027-0051	4
MOUNT RADIATOR BOTTOM M10	027-0017	2
MOUNT RADIATOR TOP M6	027-0040	2
OIL DRAIN HOSE	118-1104	1
POLYCARBONATE DOOR (CONTROL PANEL)	118-0126	1
PRESSURE SENDER 360 081 039-002	023-1053	1
RADIATOR KUBOTA D1105	015-0026	1
RADIATOR BOTTOM HOSE	118-0152	1
RADIATOR TOP HOSE	118-0153	1
RAIN CAP 9000700 37mm/39mm	023-1015	1
SILENCER SSDK10W	118-0127	1
SILENCER MANIFOLD PIPE KUBOTA D1105	118-0154	1
SILENCER TAIL PIPE SSDK10W	118-0129	1
MANIFOLD GASKET	015-0036	1
SLAM LOCK 9/00462B/13	023-1014	2
DOOR STRIKE 9/00406	023-0257	2
TEMPERATURE SENDER WATER	023-1052	1
CONNECTOR ELOBAU SENDER RECEPTACLE HOUSING	118-1003	1
CONNECTOR ELOBAU SENDER WIRE SEAL	118-1004	3
CONNECTOR ELOBAU SENDER CRIMP	118-1005	3
OIL PRESSURE SENDER 10 BAR	016-1007	1
REDUCING PIPE 5/16 X 3/16 (-8-5)PN19	023-1076	1
TERMINAL HARD WIRE M8 (MBA8)	038-0103	3
RUBBER WINDOW SEAL 1030-01	023-1002	0.9M
RUBBER WINDOW LOCKING STRIP 1030-04	023-1003	0.9M
TAILPIPE EXTENSION FLEX	118-0211	1
FUEL SENDER 285mm (SSDK10W3 ONLY)	118-1009	1
AIR HOSE (SSDK10W3 & SSDK10WT ONLY)	118-0208	1
RADIATOR MOUNT	027-0017	2

**10.3 SSDK10WT PARTS**

DESCRIPTION	Part No	Qty
FUEL SENDER	118-1015	1
RADIATOR C/W ELECTRONIC FAN BEC 797	015-0080	1
DOOR WING HANDLE	026-0208	4
EMKA CAM (TO FIT THE ABOVE)	024-2060	4
AIR HOSE	118-0208	1
AIR INTAKE HOSE 50mm FLEX	022-1021	450mm
OIL DRAIN AND ENGINE BREATHER KIT	118-1111	1
FUEL LEVEL SENDER 447mm	118-1015	1
RADIATOR TOP HOSE (SHORT)	118-0238	1
RADIATOR BOTTOM HOSE (LONG)	118-0239	1
SILENCER (SSDK10WT)	118-0236	1
MANIFOLD (SSDK10WT)	118-0237	1
TAILPIPE (SSDK10WT)	118-0235	1
FUEL TANK GASKET	118-0234	1

**10.4 SSDK10W/SSDK10W3 CONTROL PANEL PARTS**

DESCRIPTION	Part No	Qty
CONTROL PANEL AC WIRED SSDK10W	118-1100	1
CONTROL PANEL AC WIRED SSDK10W3	118-2004	1
DEEP SEA 3110	045-0061	1
DEEP SEA 3110 GASKET	045-0062	1
FUSE 40 AMP	036-0057	1
FUSE 60 AMP	036-0059	1
GAUGE FUEL V260931	055-0010	1
GAUGE OIL PRESSURE V120923	055-0009	1
GAUGE TEMPERATURE V270961	055-0011	1
MCB 32 AMP 1 POLE	036-0014	2
MCB 40 AMP 2 POLE B TYPE	036-0018	1
RCD 40 AMP 2 POLE	036-0028	1
RELAY 30AMP 4 PIN	056-0002	3
RELAY 70AMP 4 PIN	056-0003	1
RESET BUTTON 2 AMP TR11	036-0055	2
SOCKET 230V 32A	044-0004	2
STARTER BUTTON (FUEL PUMP PRIME)	045-0006	1
TERMINAL HARD WIRE M8 (MBA8)	038-0103	3
EMERGENCY STOP NORMALY CLOSED	045-0018	1
CONTACT BLOCK (TO FIT THE ABOVE)	045-0032	1
SOCKET 230V 63A ANGLED (SSDK10W3 ONLY)	044-0072	1
SOCKET 230V 16A (SSDK10W3 ONLY)	044-0002	1
10 WAY PANEL MOUNT SOCKET (SSDK10W3 ONLY)	044-0065	1
FUEL PRIME BUTTON	045-0006	1

**10.5 SSDK10WT CONTROL PANEL PARTS**

DESCRIPTION	Part No	Qty
CONTROL PANEL AC WIRED SSDK10WT	118-3000	1
SOCKET 230V 63A	044-0006	1
GAUGE FUEL V260931	055-0010	1
GAUGE OIL PRESSURE V120923	055-0009	1
GAUGE TEMPERATURE V270961	055-0011	1
10 WAY PANEL MOUNT SOCKET	044-0065	1

### 10.5 SSDK10WT CONTROL PANEL PARTS Continued

DESCRIPTION	Part No	Qty
CONTACT BLOCK NORMALLY CLOSED	045-0032	1
RELAY 30AMP 4 PIN	056-0002	3
RELAY 70AMP 4 PIN	056-0003	1
DEEP SEA 3110	045-0061	1
DEEP SEA 3110 GASKET	045-0062	1
FUSE 40 AMP	036-0057	1
FUSE 60 AMP	036-0059	1
RESET BUTTON 2 AMP TR11	036-0055	2
EMERGENCY STOP NORMALLY CLOSED	045-0018	1
FUEL PRIME BUTTON	045-0006	1
MCB 40 AMP 2 POLE B TYPE	036-0018	1
RCD 100A 2 POLE (100Ma)	036-0090	1
HINGE CONTROL PANEL M5	016-1016	2

### 10.6 REMOTE START PARTS (STEPHILL CAPRICORN)

DESCRIPTION	Part No	Qty
REMOTE START BOX (COMPLETE)	118-2005	1
START MODULE (ACM722P)	045-0055	1
WALL MOUNTED BOX	023-0278	1
WALL MOUNTED BOX LID	023-0279	1
10 WAY CABLE END PLUG	044-0064	1
CABLE 12 CORE 0.75mm	046-0030	1
RELAY 4-PIN 12V	056-0002	2

### 11.0 WARRANTY

All equipment supplied by STEPHILL GENERATORS LTD carries a warranty of 12 months from date of despatch.

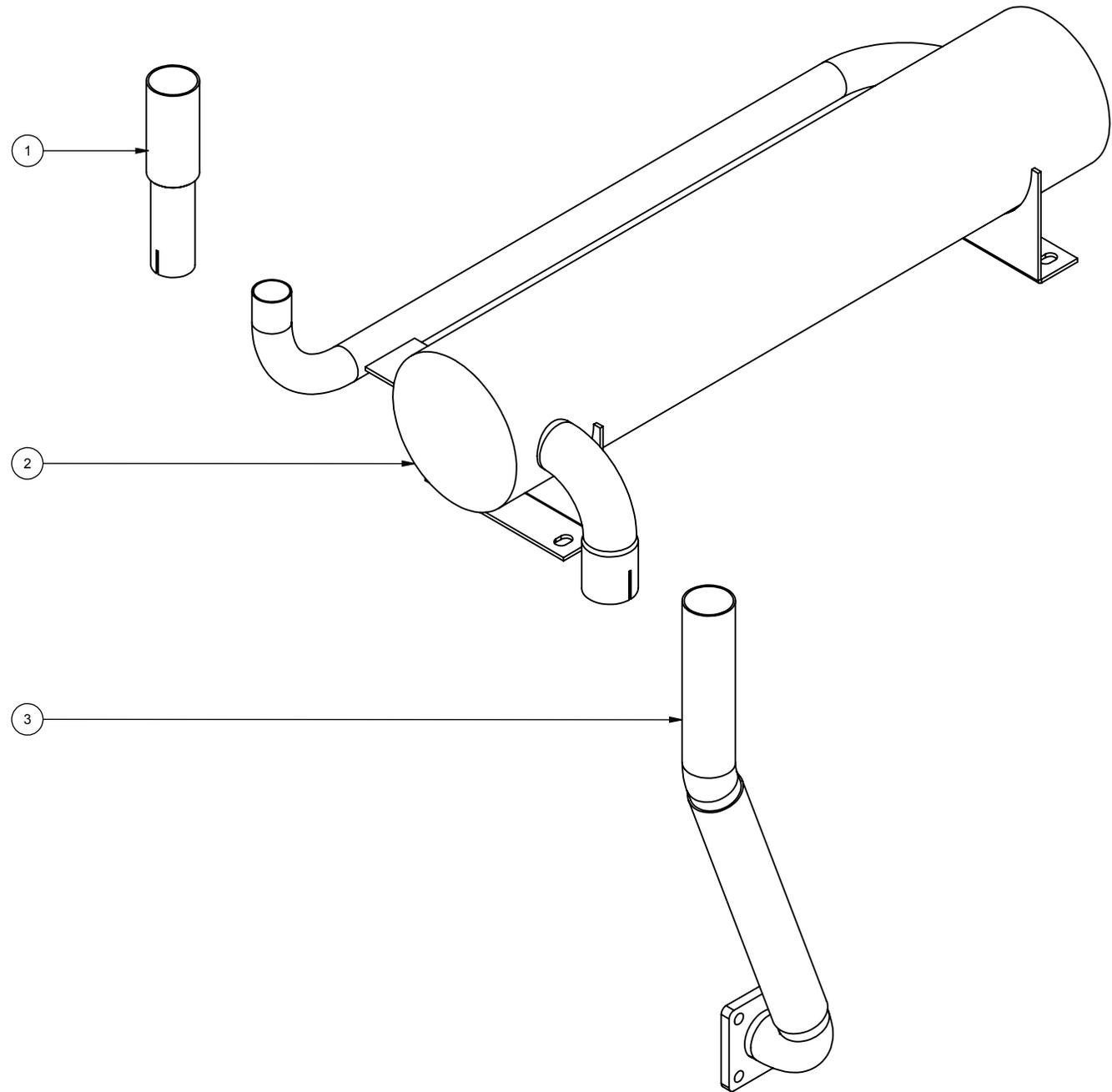
During the warranty period, should the plant fail due to faulty design, materials or workmanship by STEPHILL or its sub-contractors, we undertake to rectify the fault by replacement or repair at our option.

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

- Operation with incorrect fuel, lubricating oil or coolant.
- 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 and 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.



Item	Part number	Description
1	118-0235	SSDK10WT Tail pipe
2	118-0236	SSDK10WT Silencer
3	118-0237	SSDK10WT Manifold pipe

STEPHILL GENERATORS

Phone : +44 (0)1933 677911

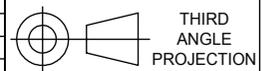
Fax : +44 (0)1933 677916

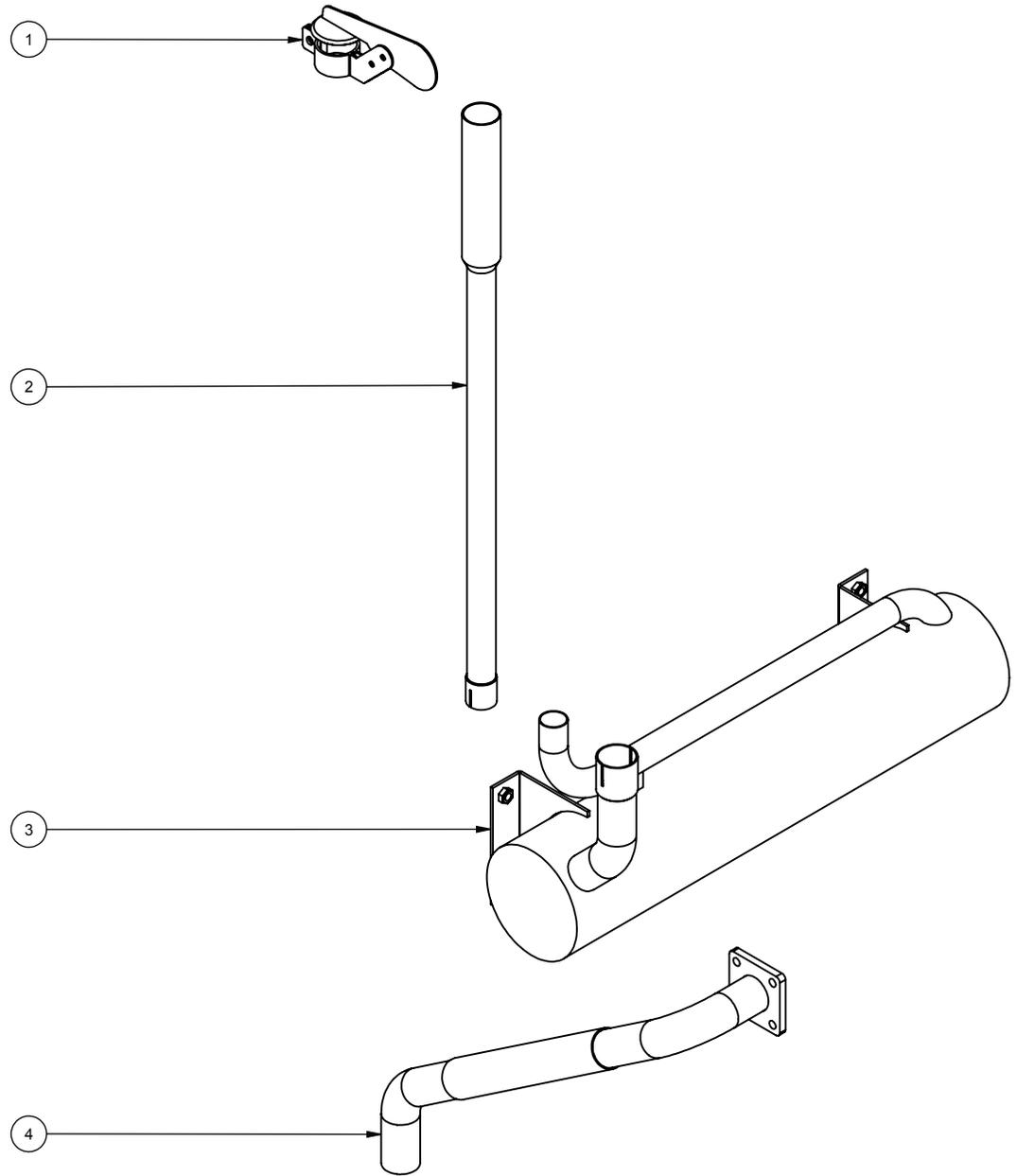
Drawing Number  
18-280

Drawn  
R Golding

Description  
SSDK10WT Silencer exploded view

Issue	Date	Revision
A	07/09/15	New drawing





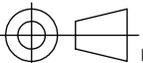
Item	Part Number	Description
1	023-1015	Rain Cap
2	118-0129	SSDK10W Tail pipe
3	118-0127	SSDK10W Silencer
4	118-0154	SSDK10W Kubota D1105 Manifold pipe

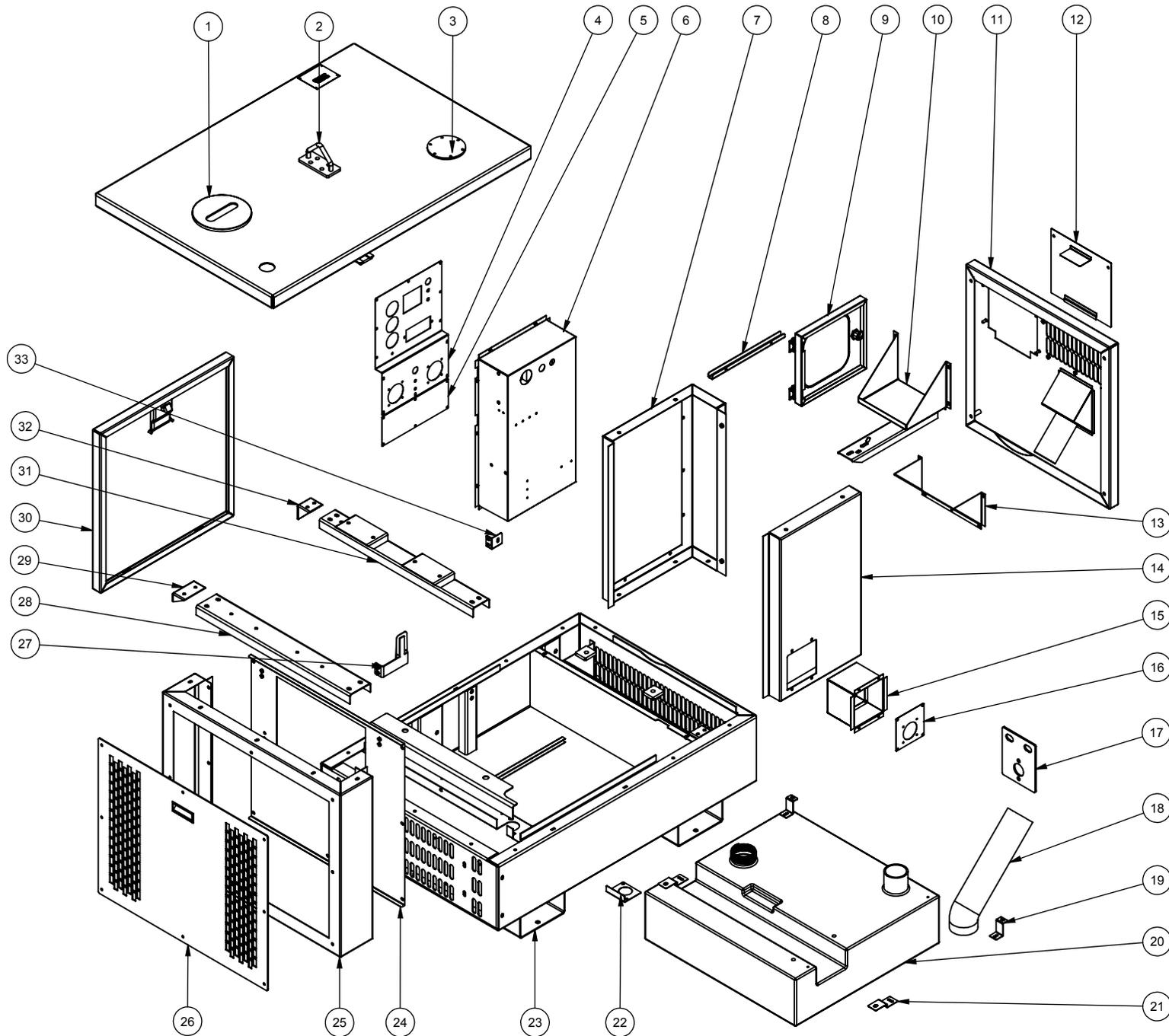

**STEPHILL GENERATORS**  
 Phone : +44 (0)1933 677911  
 Fax : +44 (0)1933 677916

Drawing Number  
 18-281  
 Drawn  
 R Golding

Description  
 SSDK10W Silencer exploded view

Issue	Date	Revision
A	08/09/15	New drawing


 THIRD  
 ANGLE  
 PROJECTION



Item	Part No	Description	Qty
1	118-1001	Access hatch	1
2	118-0124	SSDK10W Lifting eye	1
3	118-0102	SSDK10W Roof (1100mm)	1
3	118-0181	SSDK10W Roof Mark 2 (1150mm)	1
4	118-0001	SSDK10W Control panel	1
5	118-0117	SSDK10W Hardwire terminal plate	1
6	118-0115	SSDK10W Control panel housing	1
7	118-0131	SSDK10W Alternator control panel side	1
8	118-0172	SSDK10W Control panel rain guard	1
9	118-0107	SSDK10W Control panel door	1
10	118-0106	SSDK10W Battery tray	1
11	118-0105	SSDK10W Alternator end panel	1
12	118-0112	SSDK10W Battery door	1
13	118-0168	SSDK10W Top air inlet duct	1
14	118-0123	SSDK10W Alternator side panel	1
15	118-0121	SSDK10W Socket housing	1
16	118-0122	SSDK10W Socket plate 32Amp	1
17	023-0224	SSDK12-25 Battery isolator switch plate	1
18	118-0136	SSDK10W Fuel filler hose	1
19	118-0109	SSDK10W Fuel tank bracket alternator end	2
20	118-0130	SSDK10W Fuel tank (590mm)	1
20	118-0183	SSDK10W Fuel tank (640mm)	1
21	118-0108	SSDK10W Fuel tank bracket engine end	2
22	118-0118	SSDK10W Silencer plate	1
23	118-0180	SSDK10W Base Mark 2 (1150mm)	1
24	118-0161	SSDK10W Kubota D1105 radiator plate	1
25	118-0104	SSDK10W Engine end panel	1
26	118-0113	SSDK10W Engine end panel plate	1
27	118-0169	SSDK10W Kubota expansion bracket	1
28	118-0110	SSDK10W Engine channel	1
29	118-0146	SSDK10W Engine channel bracket	2
30	118-0103	SSDK10W Door (545mm)	2
30	118-0182	SSDK10W Door Mark 2 (595mm)	2
31	118-0111	SSDK10W Alternator channel	1
32	118-0134	SSDK10W Alternator channel bracket	2
33	118-0179	SSDK10W Radiator plate bracket top	2

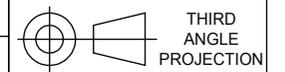

**STEPHILL GENERATORS**  
 Phone : +44 (0)1933 677911  
 Fax : +44 (0)1933 677916

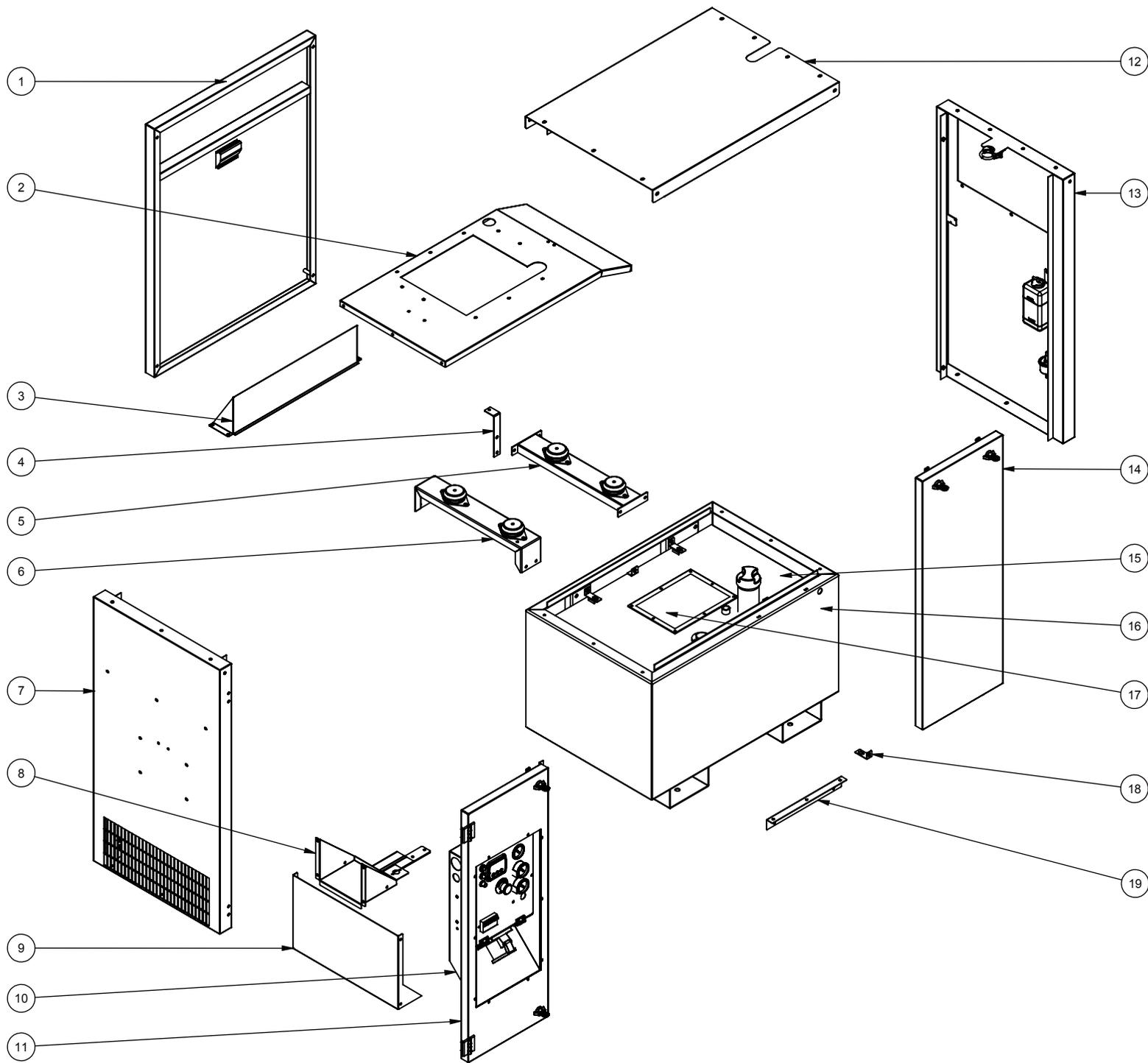
Drawing Number  
 18-149  
 Drawn  
 R Golding

Description  
 SSDK10W Canopy exploded view

Issue	Date	Revision
A	16/01/07	New drawing
B	26/04/10	Parts added for 1150mm build.
C	07/09/15	Part numbers updated.

Colour  
 N/A  
 Material  
 Mild steel





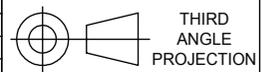
Item	Part Number	Description
1	118-0226	SSDK10WT Engine door non service
2	118-0224	SSDK10WT Radiator plate
3	118-0222	SSDK10WT Silencer guard
4	118-0241	SSDK10WT Radiator pipe bracket
5	118-0218	SSDK10WT Engine channel
6	118-0219	SSDK10WT Alternator channel
7	118-0229	SSDK10WT Alternator end panel
8	118-0230	SSDK10WT Battery tray
9	118-0220	SSDK10WT Air inlet duct
10	118-0232	SSDK10WT Control panel housing
11	118-0231	SSDK10WT Control panel side
12	118-0225	SSDK10WT Roof
13	118-0228	SSDK10WT Engine end panel
14	118-0227	SSDK10WT Engine door service
15	118-0216	SSDK10WT Fuel tank
16	118-0215	SSDK10WT Base
17	118-0206	SSDK10WT Fuel tank inspection plate
18	118-0217	SSDK10WT Fuel tank bracket
19	118-0223	SSDK10WT Radiator bracket

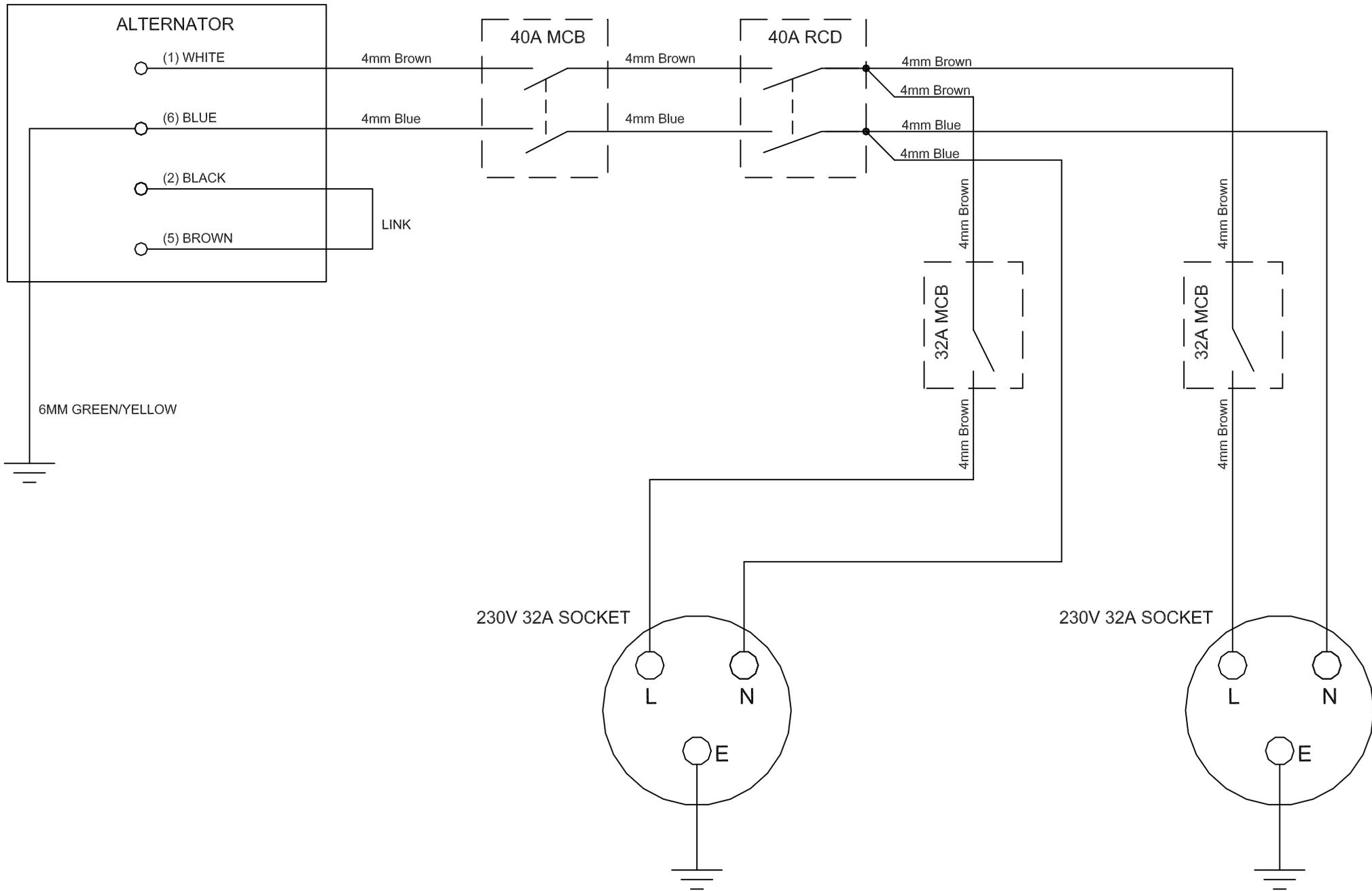

**STEPHILL GENERATORS**  
 Phone : +44 (0)1933 677911  
 Fax : +44 (0)1933 677916

Drawing Number  
 18-279  
 Drawn  
 R Golding

Description  
 SSDK10W Canopy exploded view

Issue	Date	Revision
A	10/06/14	New drawing





**STEPHILL GENERATORS**

Phone 01933 677911  
Fax 01933 677916

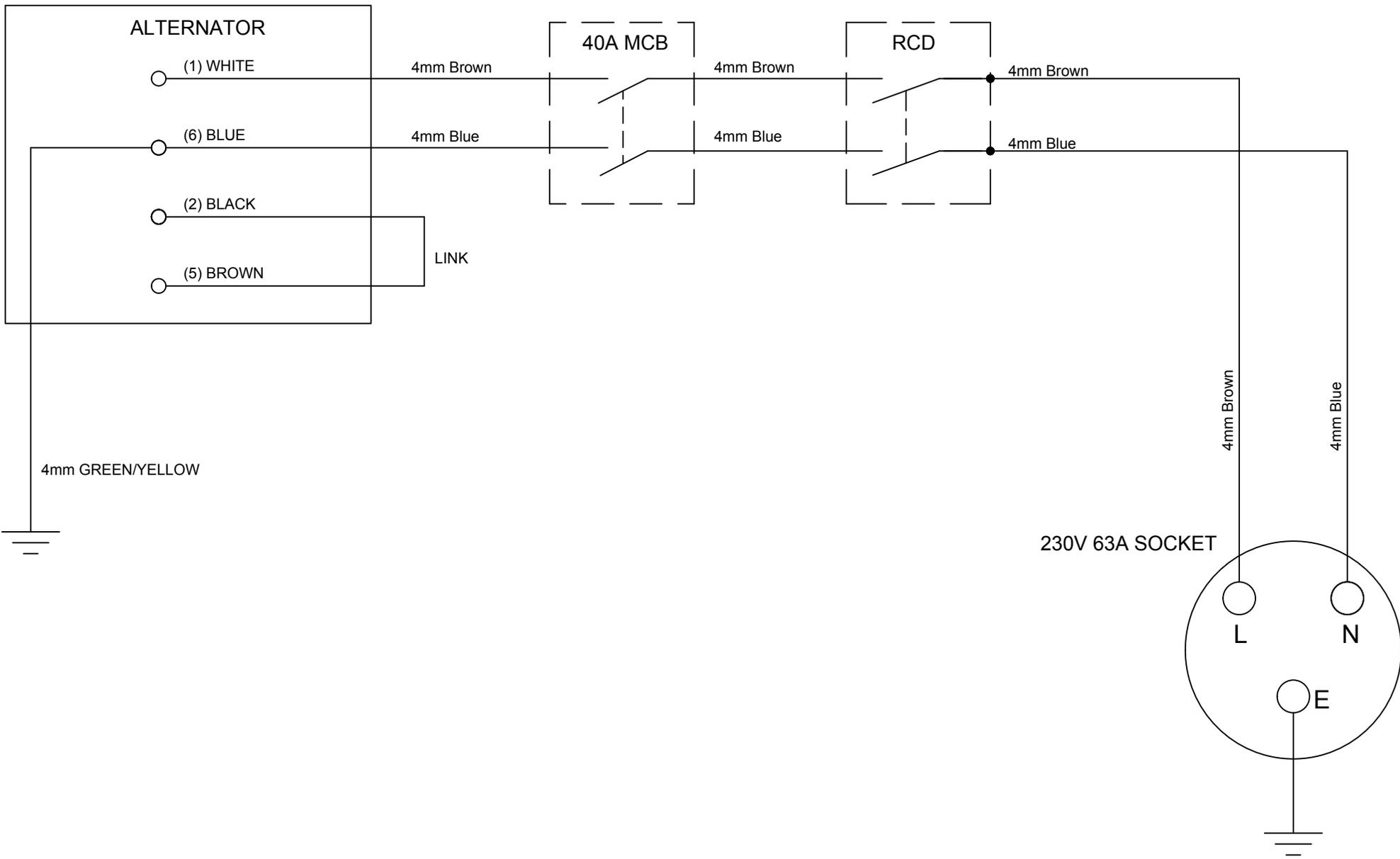
Drawing Number  
SW12044

Drawn  
R GOLDING

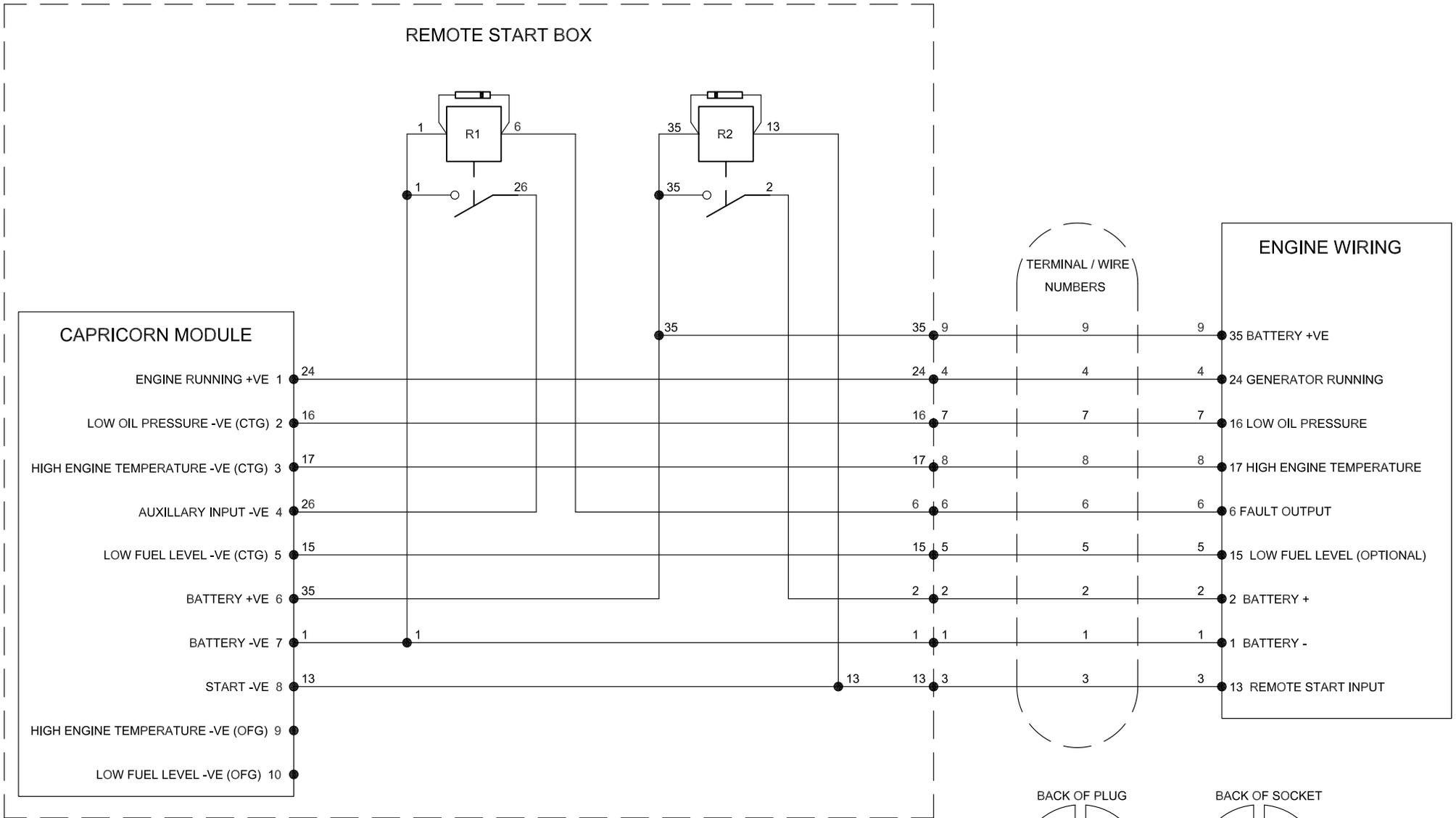
Description  
SSDK10W 230V 2 X 32A Sockets  
MCB RCD

Last Number Used  
6

Issue	Date	Revision
A	22/01/07	New drawing





R1 / R2 = 30A RELAY  
 (CTG) = CLOSED TO GROUND ON FAULT  
 (OFG) = OPEN FROM GROUND ON FAULT

TO USE TERM 9 HIGH ENGINE TEMPERATURE -VE IP (OFG) SW 4 MUST BE ON  
 TO USE TERM 10 LOW FUEL -VE IP (OFG) SW 3 MUST BE ON

