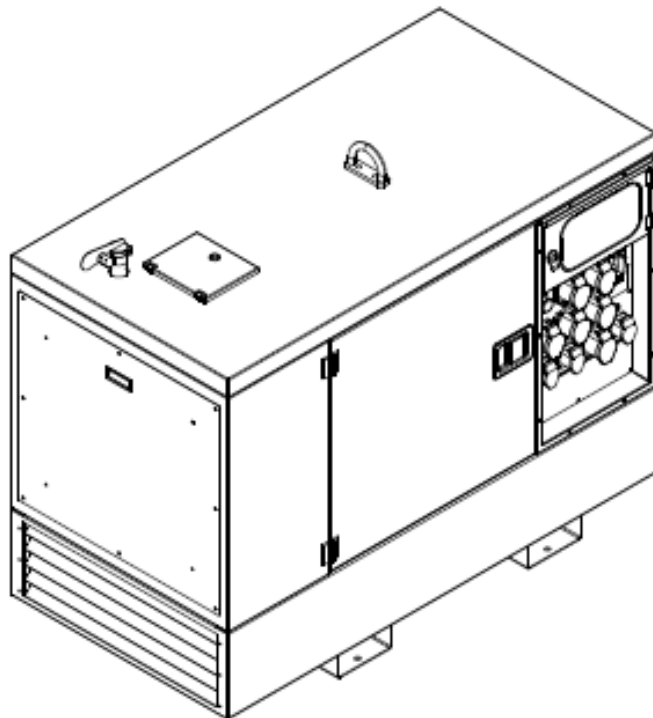




KUBOTA SSDK12-25 **Handbook**



**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

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1 SPECIFICATIONS

	SSDK12	SSDK16	SSDK20	SSDK25
KVA	12	16	19	25
KW	9.6	12.8	15.2	20
Engine	Kubota V1505	Kubota D1703	Kubota V2203	Kubota V2003T
Alternator	ECP28S/4	ECP28 2L/4	ECP28 VL/4	ECP28 VL/4
Wet Weight Skid	610Kg	832Kg	842Kg	862Kg
Length	1800	1800	1800	1800
Width	800	800	800	800
Height	1270	1270	1270	1270
Wet Weight Road Trailer	837Kg	906Kg	916Kg	936Kg
Length	3400	3400	3400	3400
Width	1320	1320	1320	1320
Height	1500	1500	1500	1500
Fuel Tank Litres	120	120	120	120
Hours run 100% load	34.5	26	20	17
Hours run 75% load	55	34	26	23
LWA	85	88	89	89
dBA @ 7M	60	63	64	64

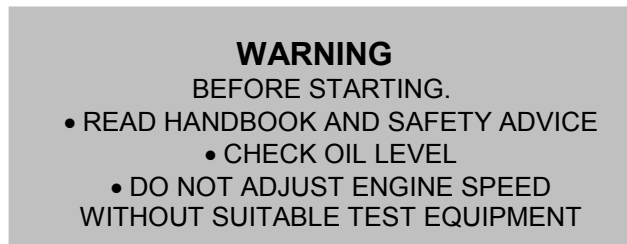
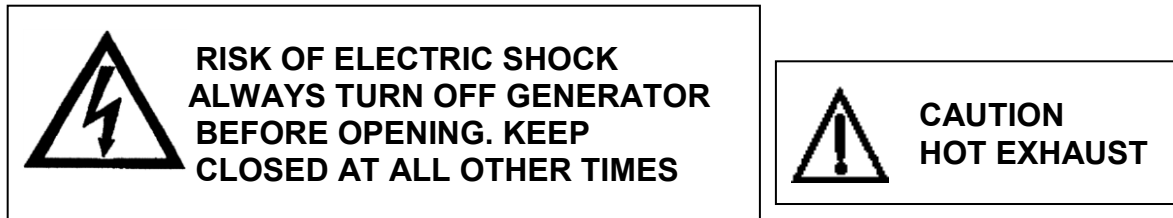
Note

SSDK12-25 Fuel tank working capacity is 120 Litres hours run are based on this figure.
Standard paint 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:



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 CO₂) 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

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 pressure 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)

(Not fitted to all builds)

As standard most units are equipped with a Three Way valve which needs to be set to the correct position for the generator to operate, an instruction label is located next to the fuel filler. 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 400 & 230 Volt supply only. (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.

Turn the voltage selector switch to the required voltage.

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

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.

5.6 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 both 230 & 400 Volt if applicable. 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.

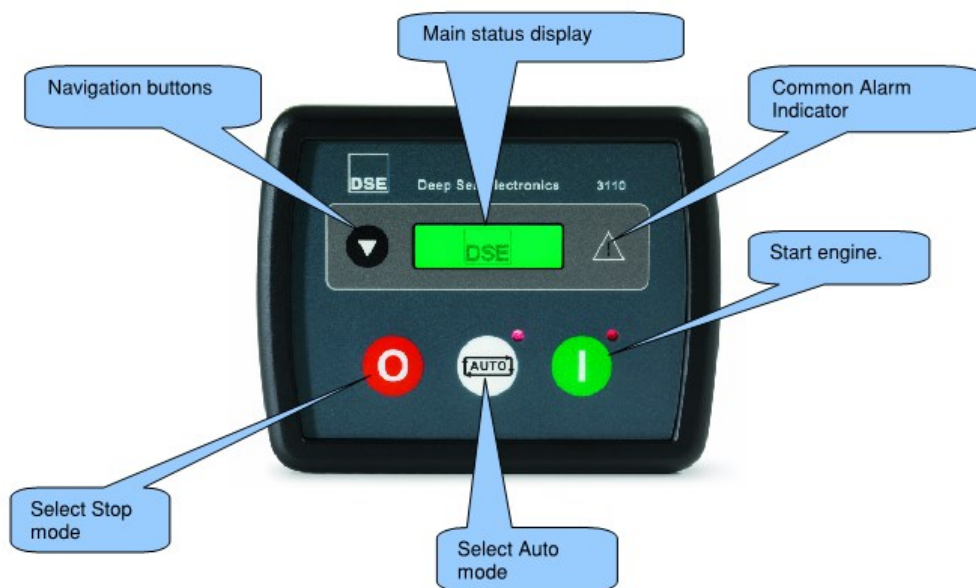
Generator mounts, pipes and hoses should be checked to ensure that they are un-perished following extended periods of storage.

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

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

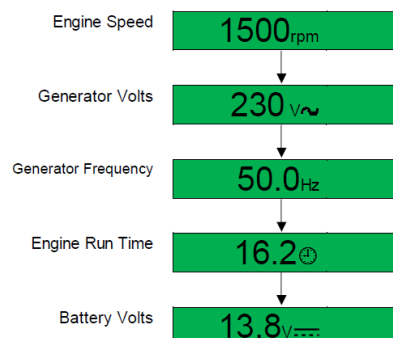
It is possible to scroll to display the different pages of information by repeatedly operating the scroll button .

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

	AUXILIARY INPUTS	Auxiliary inputs can be user configured and will display the message as written by the user.
	FAIL TO START	The engine has not fired after the preset number of start attempts.
	FAIL TO STOP	The module has detected a condition that indicates that the engine is running when it has been instructed to stop. NOTE:- 'Fail to Stop' could indicate a faulty oil pressure sensor - If engine is at rest check oil sensor wiring and configuration.
	LOW OIL PRESSURE	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.
	ENGINE HIGH TEMPERATURE	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.
	UNDERSPEED	The engine speed has fallen below the underspeed pre alarm setting.
	OVERSPEED	The engine speed has risen above the overspeed pre alarm setting.
	CHARGE FAILURE	The auxiliary charge alternator voltage is low as measured from the W/L terminal.
	LOW FUEL LEVEL	The level detected by the fuel level sensor is below the low fuel level setting. (Optional)
	BATTERY UNDER VOLTAGE / BATTERY OVER VOLTAGE	The DC supply has fallen below or risen above the low/high volts setting level.
	GENERATOR UNDER VOLTAGE	The generator output voltage has fallen below the pre-set pre-alarm setting after the <i>Safety On</i> timer has expired.
	GENERATOR OVER VOLTAGE	The generator output voltage has risen above the pre-set pre-alarm setting.
	GENERATOR UNDER FREQUENCY	The generator output frequency has fallen below the pre-set pre-alarm setting after the <i>Safety On</i> timer has expired.
	GENERATOR OVER FREQUENCY	The generator output frequency has risen above the pre-set pre-alarm setting.
	EMERGENCY STOP	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. NOTE:- The Emergency Stop Positive signal must be present otherwise the unit will shutdown.
	INTERNAL MEMORY ERROR	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 AUTO	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.	Check Start Delay timer has timed out. (Not configured on standard builds) Check signal is on "Remote Start" input. Confirm correct configuration of input is configured to be used as "Remote Start". 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.
Pre-heat inoperative	Check wiring to engine heater plugs. Check battery supply. Check battery supply is present on the Pre-heat output of module.
Starter motor inoperative	Check wiring to starter solenoid. Check battery supply. Check battery supply is present on the Starter output of module. Ensure oil pressure switch or sensor is indicating the "low oil pressure" state to the 6000 series controller.
Engine runs but generator will not take load	Check MCB is switched on. Check change over switch if fitted is switched to correct voltage.
Fail to stop alarm when engine is at rest	Check low oil pressure switch is operating correctly. Check engine is operating correctly.
Module appears to 'revert' to an earlier configuration	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. 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.
Inaccurate generator measurements on controller display	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. Accuracy of the controller is better than 1% of full scale. I.e Gen volts full scale is 333V ph-n so accuracy is $\pm 3.33V$ (1% of 333V).

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

6.11 Fault finding general

High engine temperature	<p>Check Water/Antifreeze level in the radiator. Check for loose wires on the temperature switch & DC loom connector block. Check the continuity of the earth wire. (Refer to wiring diagram) Check radiator surface (both sides) and fins are not obstructed. Check operation of the Temperature switch. Check that the generator air inlets and outlets are not obstructed. Check the fan belt is not damaged, broken or loose. (Refer to handbook) <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 Check for loose wires on the Oil switch & DC loom connector block. Check the continuity of the earth wire. (Refer to wiring diagram) Check operation of Oil switch.</p>
HZ / Frequency shutdown & Voltage shutdown	<p>Check reset button not tripped and reset if required. Check AC Input at module. 115V or 230V (Dependant on type of generator) Check engine speed is set to 52.5Hz at no load. Adjust if required (Speed should be set when engine is cold) Check AC supply from alternator. (If no output refer to alternator handbook) Check fuse on AVR. Check engine has been regularly serviced.</p>
No power to control module	<p>Check reset button not tripped and reset if required. Check 12V DC supply to module. If supply present but not operational try new unit. Check battery voltage/health. Check battery isolator switch is on. Check for loose wires on battery isolator. Check for loose wires on the DC connector plug and socket. Check continuity on +VE and -VE wires to battery.</p>
Battery not charging	<p>Check the fan belt is not damaged, broken or loose. (Refer to handbook) <u>Note</u> you may experience low charge if fan belt is loose. Check for loose wires on charge alternator. Check for loose wires on the DC connector plug and socket. Check continuity of all wires from charge alternator. (Refer to wiring diagram) 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. Check Oil level and fill to correct level if necessary. Check Fuel level and fuel condition. Check 3 way valves are in correct position. (If fitted) Check operation of fuel lift pump. Check fuel filter. 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 & check condition of fuel. Check no air in system. Keep fuel pump running using prime button for 60 seconds. Check all pipe clips and fuel pipe condition.</p>
Glow plugs not operating	<p>Check Emergency stop. Check the fuses. Check battery voltage is above 12.5V. Check for loose wires on the glow plug, relays, fuses, module terminals, plug and socket. Check -VE supply. Check +VE on Glow plug & trace back to battery via relay. Check +VE on Glow plug & trace back to module via relay, plug & socket.</p>

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

7 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.

7.1 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. <http://www.kubota.co.uk/>

7.2 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. <http://www.meccalte.com/>

8.0 SPARES

8.1 KUBOTA CONSUMABLE SPARES

DESCRIPTION	V1505	D1703	V2203	V2003T
OIL FILTER	015-1007	015-0107	015-0107	015-0107
AIR FILTER (INNER)	015-1005	-	-	-
AIR FILTER OUTER	015-1004	015-0110	015-0106	015-0106
FUEL FILTER	015-1006	015-0112	015-0112	015-0112
FUEL FILTER (IN LINE)	015-0030	015-0030	015-0030	015-0030
FAN BELT	015-1008	015-0109	015-0109	015-0114

8.2 SSDK12-25 PARTS

DESCRIPTION	Part No	Qty
ALTERNATOR ECP28-2L/4 25/16KVA SSDK16	018-0020	1
ALTERNATOR ECP28/S4 16KVA/10.5KVA SSDK12	018-0024	1
ALTERNATOR ECP28/VL4 30/19.8KVA SSDK20 /SSDK25	018-0057	1
CONNECTOR ELOBAU SENDER RECEPTACLE HOUSING	118-1003	1
CONNECTOR ELOBAU SENDER WIRE SEAL	118-1004	3
CONNECTOR ELOBAU SENDER CRIMP	118-1005	3
DEEP SEA 3110	045-0061	1
EMERGENCY STOP NORMALY CLOSED	045-0018	1
CONTACT BLOCK (TO FIT THE ABOVE)	045-0032	1
EXHAUST LAGGING TCM050 (FIBREGLASS)	023-1047	3
FILLER CAP LOCKABLE FT105 KEY	048-0008	1
FUSE 40 AMP	036-0057	1
FUSE 60 AMP	036-0059	1
FUEL SENDER 210MM 10 SWITCHING POINTS	023-1082	1
FUEL TANK HOSE 3"	023-1044	0.1M
FUEL TANK	023-0121	1
GAUGE OIL PRESSURE	055-0009	1
GAUGE FUEL	055-0010	1
GAUGE TEMPERATURE	055-0011	1
GLAND PLATE GASKET SSDX12/Y26	023-0263	1
HANDLE FLUSH P2/43 (RADIATOR COVER)	014-1004	2
HINGE M8 X 14.5 CANOPY DOORS	023-1000	4
HINGE M5 CONTROL PANEL DOOR	014-1000	2
HINGE RADIATOR FLAP	023-1029	2
ISOLATOR SWITCH BATTERY	045-0020	1
KEY FT105 (DOOR / FUEL CAP)	045-0004	1
LIFTING EYE	023-0115	1
LIFTING BEAM	023-0137	1
LOCK TURNBUTTON (CONTROL PANEL DOOR)	023-1079	1
MALE/FEMALE HOSE ELBOW 1/4 BSP	023-1012	2
MOUNT TRANSIT (ENGINE & ALTERNATOR)	027-0051	4
OIL DRAIN HOSE KIT (3CD1/ISUZU & KUBOTA/V1505)	023-1035	1
OIL DRAIN HOSE KIT (KUBOTA/D1703/V2203/V2003T)	023-1039	1
OIL PRESSURE SENDER	016-1015	1
POLYCARBONATE DOOR SSDX12-25	023-0178	1
POLYCARBONATE DOOR WELFARE	023-0222	1
RADIATOR PLATE KUBOTA V1505	023-0147	1
RADIATOR TOP BRACKET KUBOTA V1505	023-0141	1
RADIATOR PLATE KUBOTA D1703 & V2203	023-0155	1
RADIATOR TOP BRACKET KUBOTA D1703 & V2203	023-0148	1
RADIATOR PLATE KUBOTA V2003T	023-0307	1
RADIATOR TOP BRACKET KUBOTA V2003T	023-0308	1
RAD LOCK CAM 28MM 1000/28	023-1019	1
RAD LOCK HOUSING RAD/LOCK 1000/U223	023-1021	1
RAD LOCK INSERT SLOT 2X4 1000/U142	023-1020	1
RAIN CAP 9000700 37MM/39MM (1 ½") SSD/X12	023-1015	1
RAIN CAP 9000703 44MM/46MM SSDK16/26	023-1016	1
RAIN GUARD CONTROL PANEL SSDK12/K26	023-0262	1
REDUCING PIPE 5/16 X 3/16 (-8-5)PN19	023-1076	1
RESET BUTTON 1 AMP TR11	036-0043	1
RESET BUTTON 2 AMP TR11	036-0055	2

DESCRIPTION	Part No	Qty
RELAY 30AMP 4 PIN	056-0002	2
TERMINAL HARD WIRE M6 (MBA6)	038-0102	5
TERMINAL HARD WIRE M8 (MBA8)	038-0103	3
RELAY 70AMP 4 PIN	056-0003	1
RUBBER WINDOW SEAL 1030-01	023-1002	0.9M
RUBBER WINDOW LOCKING STRIP 1030-04	023-1003	0.9M
SEAL DOOR RUBBER EDGING 1011/06	023-1023	7M
SEAL RADIATOR FLAP 1011/10	023-1025	0.5M
SKID BASE CHANNEL	023-0160	2
SLAM LOCK CANOPY DOOR	023-1014	2
STRIKE CANOPY DOOR	023-0257	2
TEMPERATURE SENDER K12 Only	023-1052	1
TEMPERATURE SENDER K16-K25	016-1052	1

8.3 SSDK12-25 MULTIPHASE PANEL PARTS

DESCRIPTION	Part No	Qty
MCB 25 AMP 3 POLE	036-0013	1
MCB 40 AMP 2 POLE	036-0019	1
MCB 63 AMP 2 POLE	036-0025	1
MCB 80 AMP 2 POLE	036-0026	1
MCB 100 AMP 2 POLE	036-0027	1
RCD 100 AMP 2 POLE	036-0030	1
RCD 63 AMP 2 POLE	036-0029	1
RCD 40 AMP 4 POLE	036-0036	1
RESET 16 AMP	036-0049	3
RESET 30 AMP	036-0052	5
SOCKET 115V 16A	044-0001	1
SOCKET 230V 16A	044-0002	2
SOCKET 115V 32A	044-0003	3
SOCKET 230V 32A	044-0004	2
SOCKET 400V 32A	044-0014	1
SWITCH 12 POLE 115-230-400 V	043-0009	1

8.4 SSDK16-20 WELFARE PANEL PARTS

DESCRIPTION	Part No	Qty
MCB 50 AMP 2 POLE	036-0021	1
MCB 63 AMP 1 POLE	036-0024	2
MCB 63 AMP 2 POLE	036-0025	1
MCB 80 AMP 2 POLE	036-0026	1
POLYCARBONATE DOOR WELFARE	023-0222	1
RCD 100 AMP 2 POLE	036-0030	1
RCD 63 AMP 2 POLE	036-0029	1
SOCKET 230V 63A	044-0006	2

9 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 GENERATORS LTD or its sub-contractors, we undertake to rectify the fault by replacement or repair at our option.

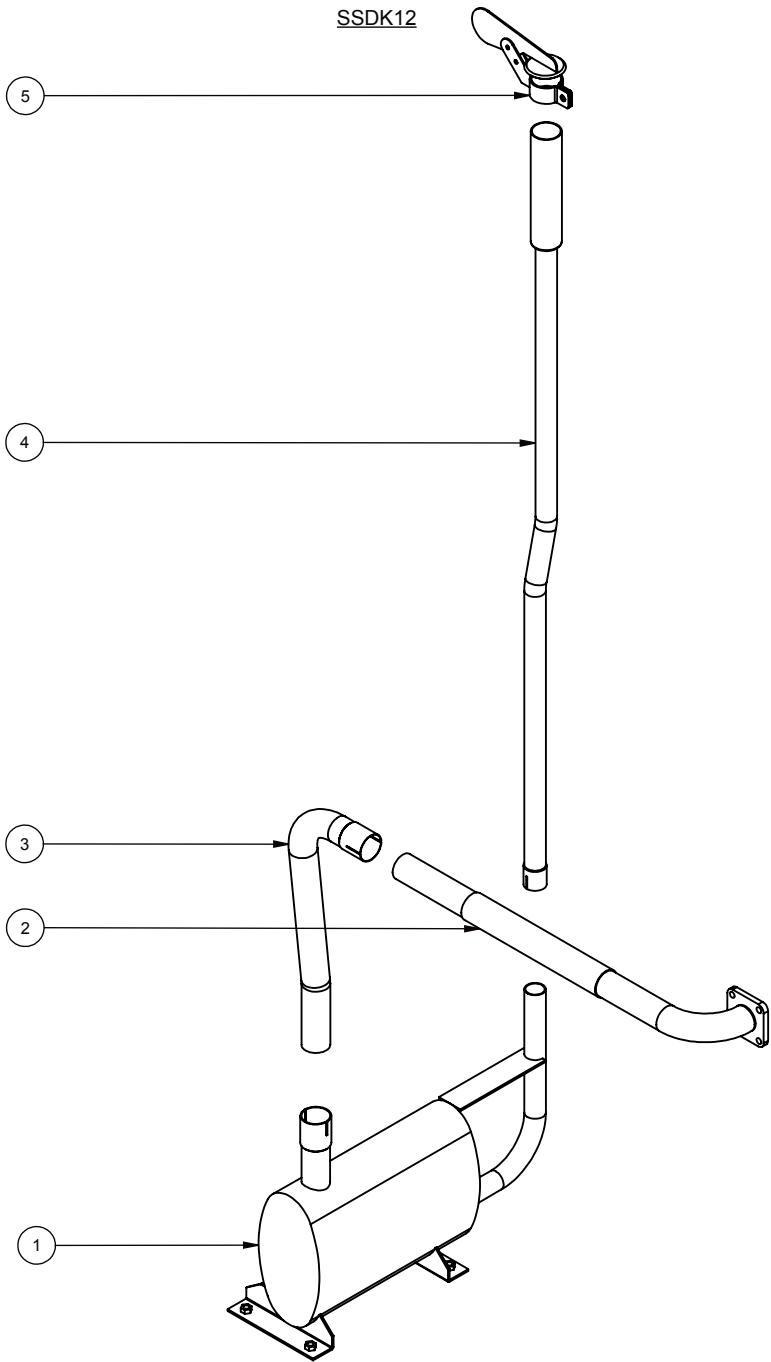
STEPHILL GENERATORS LTD will accept no responsibility whatsoever for equipment that has failed due to;

- Operation with incorrect fuel, lubricating oil or coolant.
- Improper repair or use of parts not supplied by STEPHILL GENERATORS LTD.
- Lack of or incorrect maintenance.
- Fair wear and tear, misuse, negligence, accidental damage, improper storage, incorrect starting / warm-up / run-in or shutdown.

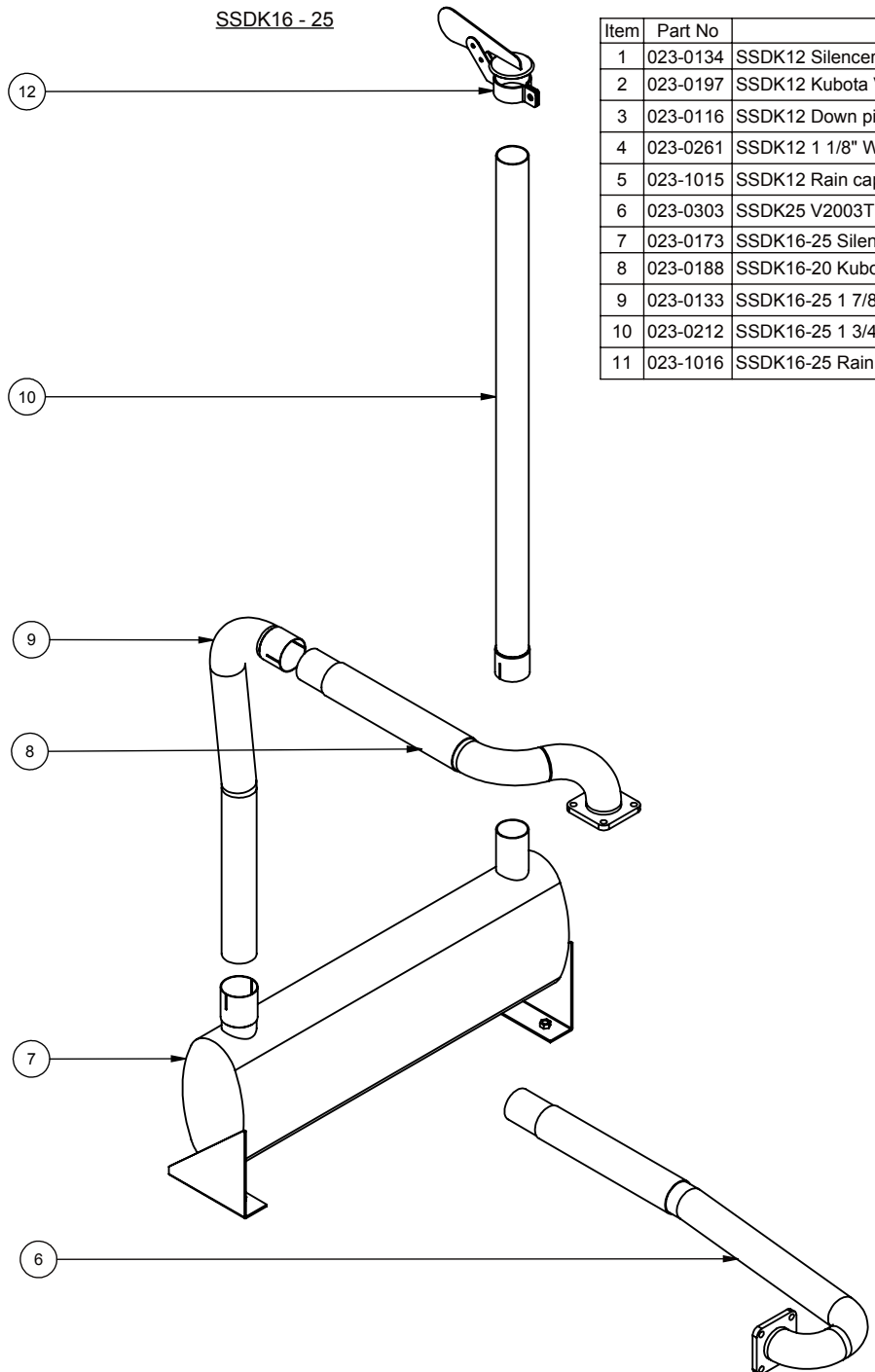
No warranty claim will be considered by STEPHILL GENERATORS LTD unless any defective parts are available for inspection by us, or our nominees, to determine the reason or cause of failure, and STEPHILL GENERATORS LTD is given the option of repair or replacement.

STEPHILL GENERATORS LTD 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 GENERATORS LTD.

SSDK12



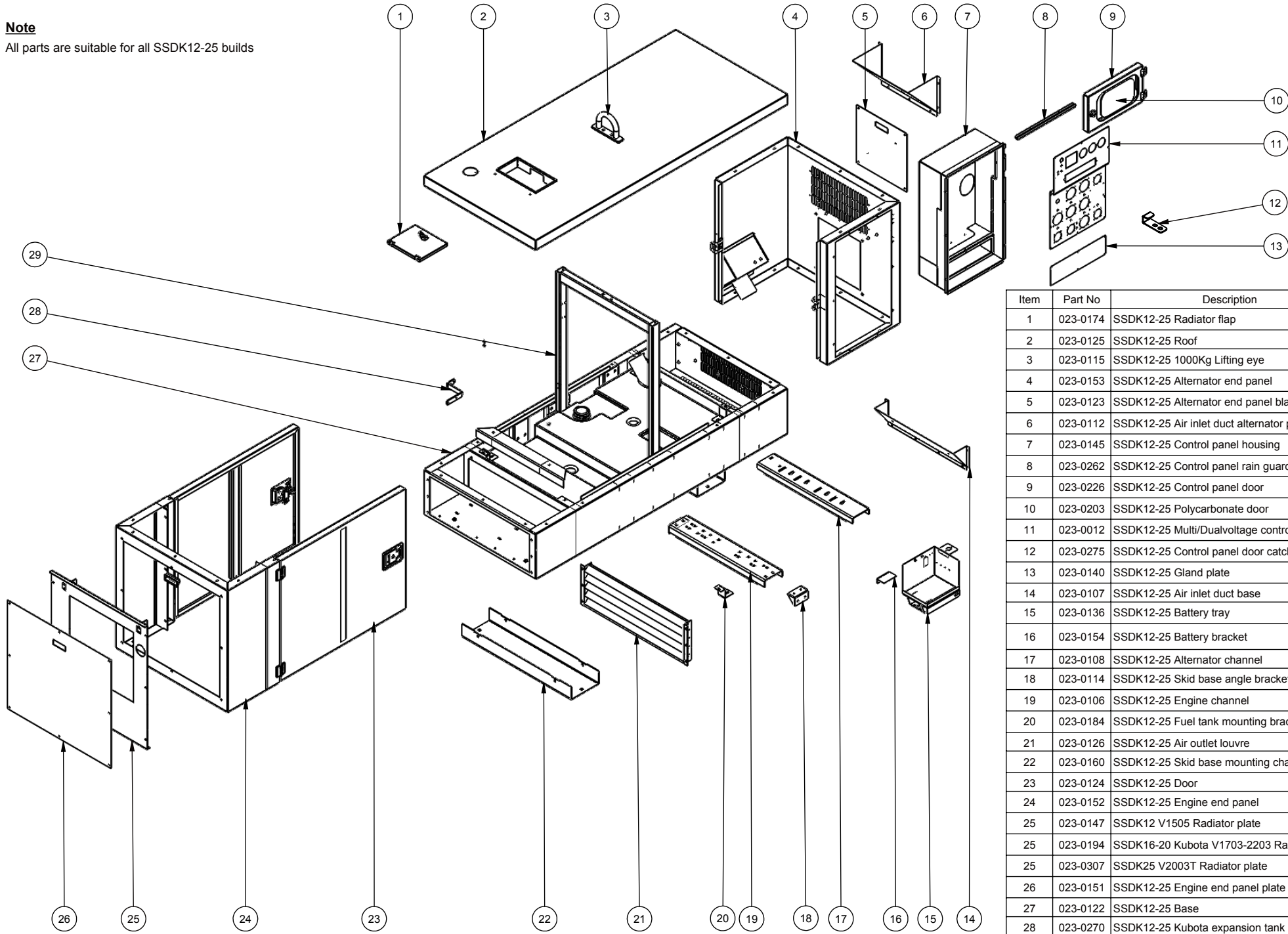
SSDK16 - 25




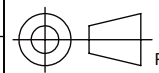
Item	Part No	Description
1	023-0134	SSDK12 Silencer
2	023-0197	SSDK12 Kubota V1505 Manifold pipe
3	023-0116	SSDK12 Down pipe
4	023-0261	SSDK12 1 1/8" Welfare tail pipe
5	023-1015	SSDK12 Rain cap 37-39mm
6	023-0303	SSDK25 V2003T Manifold pipe
7	023-0173	SSDK16-25 Silencer
8	023-0188	SSDK16-20 Kubota D1703 / V2203 Manifold pipe
9	023-0133	SSDK16-25 1 7/8" Down pipe
10	023-0212	SSDK16-25 1 3/4" Straight tail pipe
11	023-1016	SSDK16-25 Rain cap 44-46mm

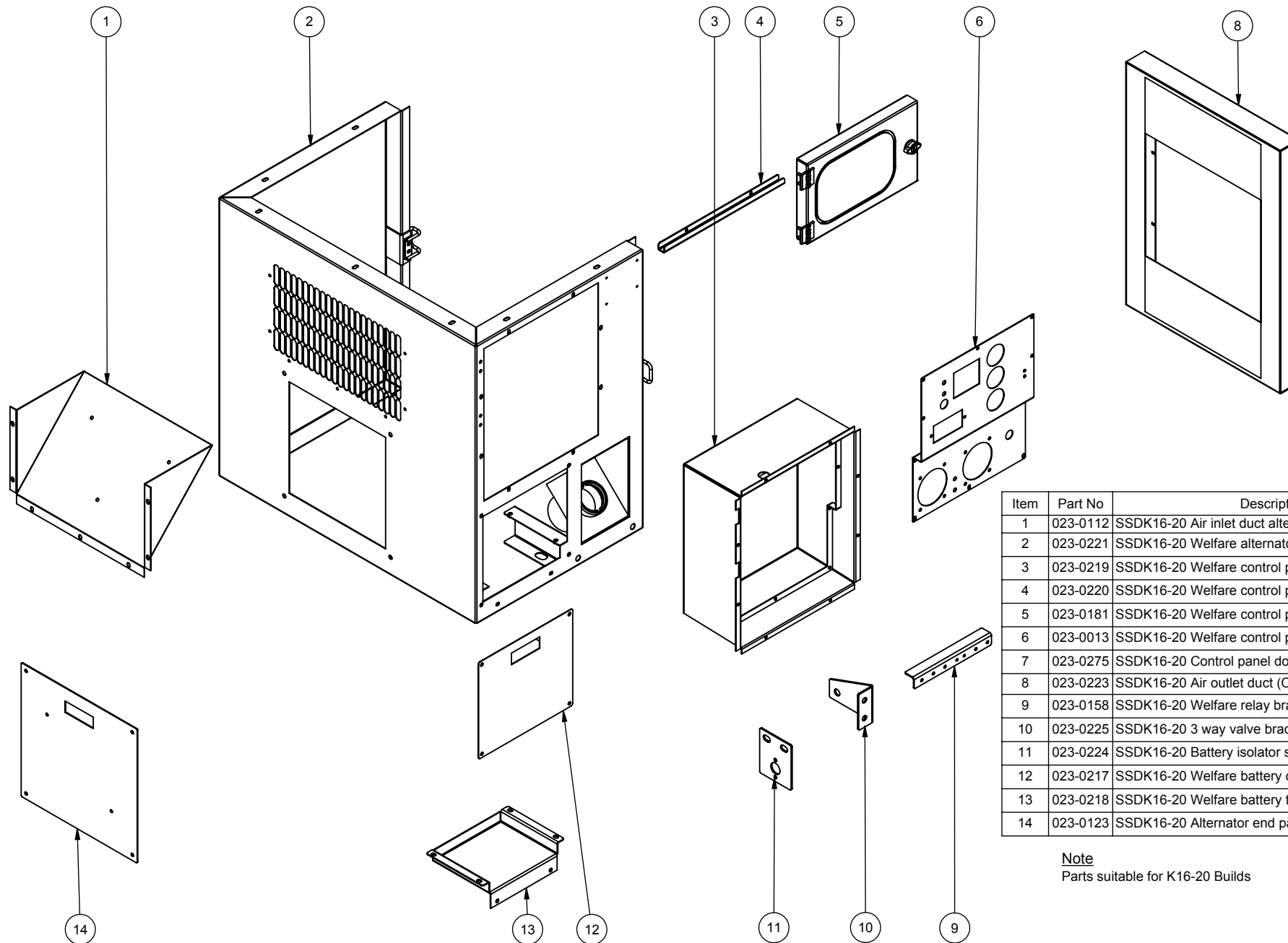
Note

All parts are suitable for all SSDK12-25 builds



Item	Part No	Description	Qty
1	023-0174	SSDK12-25 Radiator flap	1
2	023-0125	SSDK12-25 Roof	1
3	023-0115	SSDK12-25 1000Kg Lifting eye	1
4	023-0153	SSDK12-25 Alternator end panel	1
5	023-0123	SSDK12-25 Alternator end panel blanking plate	1
6	023-0112	SSDK12-25 Air inlet duct alternator panel	1
7	023-0145	SSDK12-25 Control panel housing	1
8	023-0262	SSDK12-25 Control panel rain guard	1
9	023-0226	SSDK12-25 Control panel door	1
10	023-0203	SSDK12-25 Polycarbonate door	1
11	023-0012	SSDK12-25 Multi/Dualvoltage control panel	1
12	023-0275	SSDK12-25 Control panel door catch	1
13	023-0140	SSDK12-25 Gland plate	1
14	023-0107	SSDK12-25 Air inlet duct base	1
15	023-0136	SSDK12-25 Battery tray	1
16	023-0154	SSDK12-25 Battery bracket	1
17	023-0108	SSDK12-25 Alternator channel	1
18	023-0114	SSDK12-25 Skid base angle bracket	4
19	023-0106	SSDK12-25 Engine channel	1
20	023-0184	SSDK12-25 Fuel tank mounting bracket	4
21	023-0126	SSDK12-25 Air outlet louvre	1
22	023-0160	SSDK12-25 Skid base mounting channel	2
23	023-0124	SSDK12-25 Door	2
24	023-0152	SSDK12-25 Engine end panel	1
25	023-0147	SSDK12 V1505 Radiator plate	1
25	023-0194	SSDK16-20 Kubota V1703-2203 Radiator plate	1
25	023-0307	SSDK25 V2003T Radiator plate	1
26	023-0151	SSDK12-25 Engine end panel plate	1
27	023-0122	SSDK12-25 Base	1
28	023-0270	SSDK12-25 Kubota expansion tank bracket	1
29	023-0137	SSDK12-25 1000Kg lifting beam	1

 STEPHILL GENERATORS Phone : +44 (0)1933 677911 Fax : +44 (0)1933 677916	Drawing Number 23-264	Description SSDK12-25 Canopy exploded view	Issue A	Date 09/01/09	Revision New drawing	Colour N/A Material Mild steel	 THIRD ANGLE PROJECTION
	Drawn R Golding		Issue B	Date 19/06/15	Revision Description changed and part numbers updated.		



Item	Part No	Description	Qty
1	023-0112	SSDK16-20 Air inlet duct alternator panel	1
2	023-0221	SSDK16-20 Welfare alternator end panel	1
3	023-0219	SSDK16-20 Welfare control panel housing	1
4	023-0220	SSDK16-20 Welfare control panel door	1
5	023-0181	SSDK16-20 Welfare control panel rain guard	1
6	023-0013	SSDK16-20 Welfare control panel 2 x 63A sockets	1
7	023-0275	SSDK16-20 Control panel door catch	1
8	023-0223	SSDK16-20 Air outlet duct (Optional)	1
9	023-0158	SSDK16-20 Welfare relay bracket	1
10	023-0225	SSDK16-20 3 way valve bracket	1
11	023-0224	SSDK16-20 Battery isolator switch plate	1
12	023-0217	SSDK16-20 Welfare battery door	1
13	023-0218	SSDK16-20 Welfare battery tray	1
14	023-0123	SSDK16-20 Alternator end panel blanking plate	1

Note
Parts suitable for K16-20 Builds

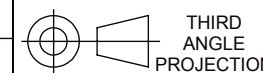
STEPHILL GENERATORS
Phone : +44 (0)1933 677911
Fax : +44 (0)1933 677916

Drawing Number
23-265
Drawn
R Golding

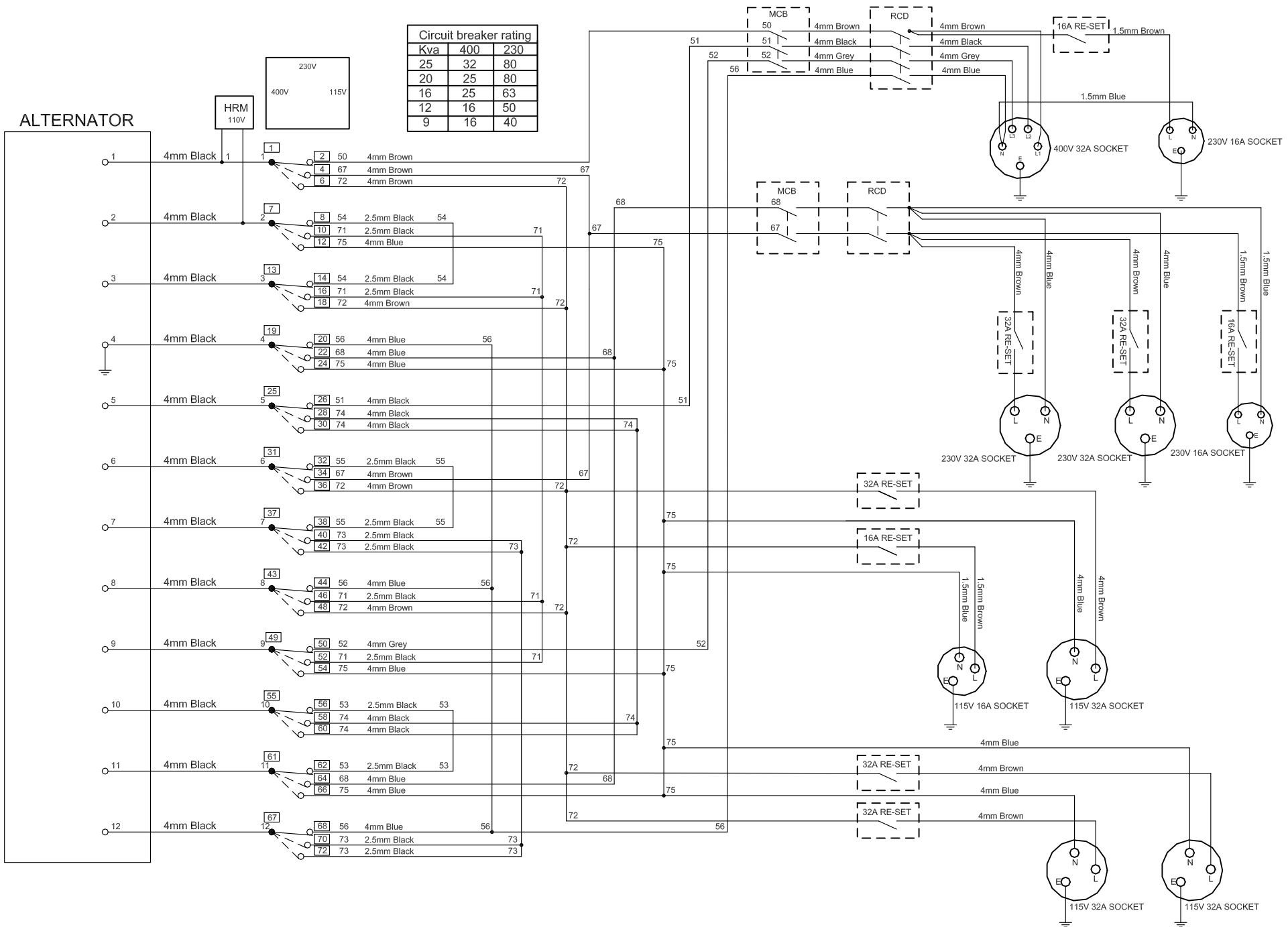
Description
SSDK16-20 Welfare alternator end panel
exploded view

Issue	Date	Revision
A	19/01/07	New drawing
B	19/06/15	Description and part numbers changed.

Colour
Black
Material
Mild steel



ALTERNATOR



STEPHILL GENERATORS

Phone 01933 677911
Fax 01933 677916

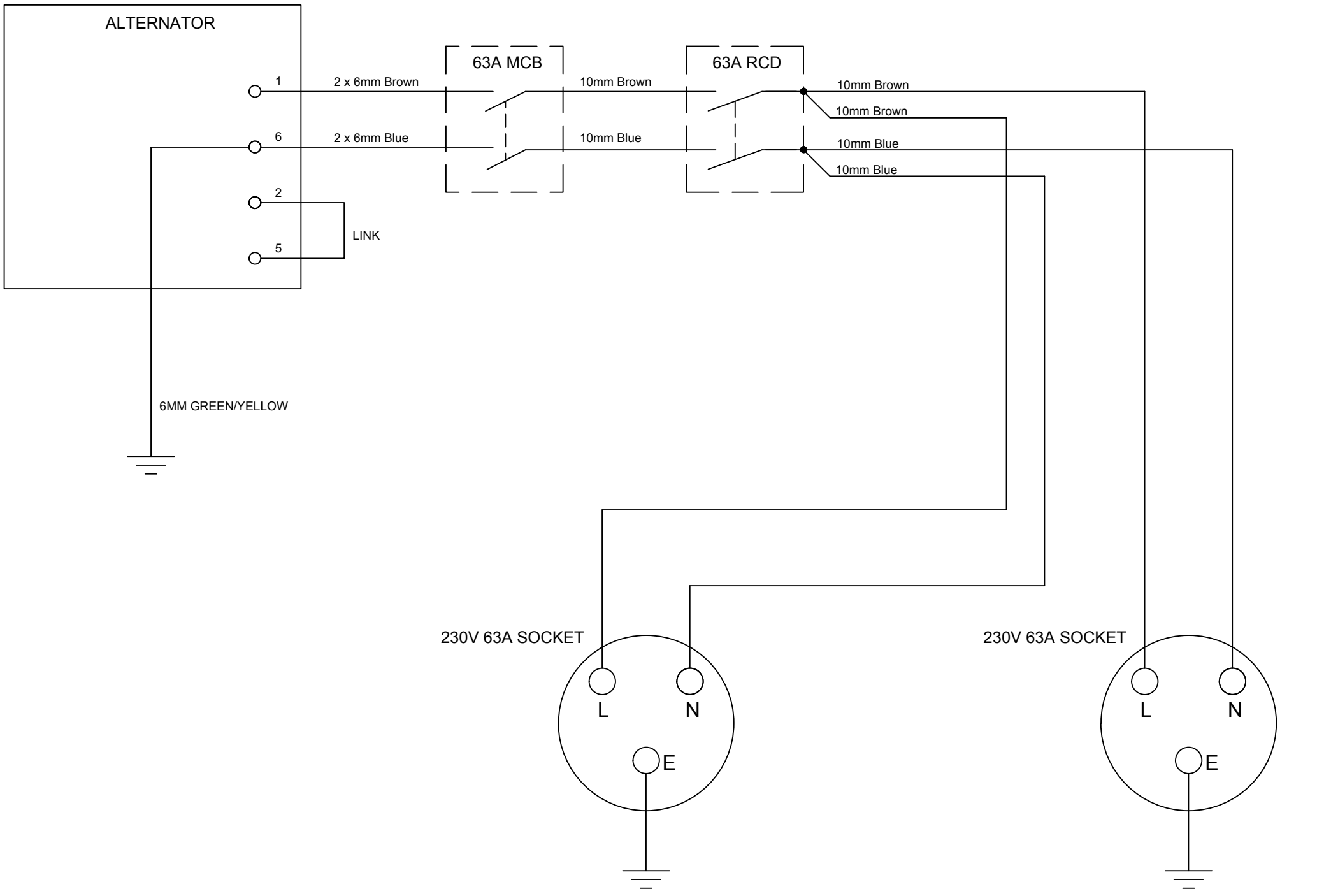
Drawing Number
SW12036


Drawn
R GOLDING

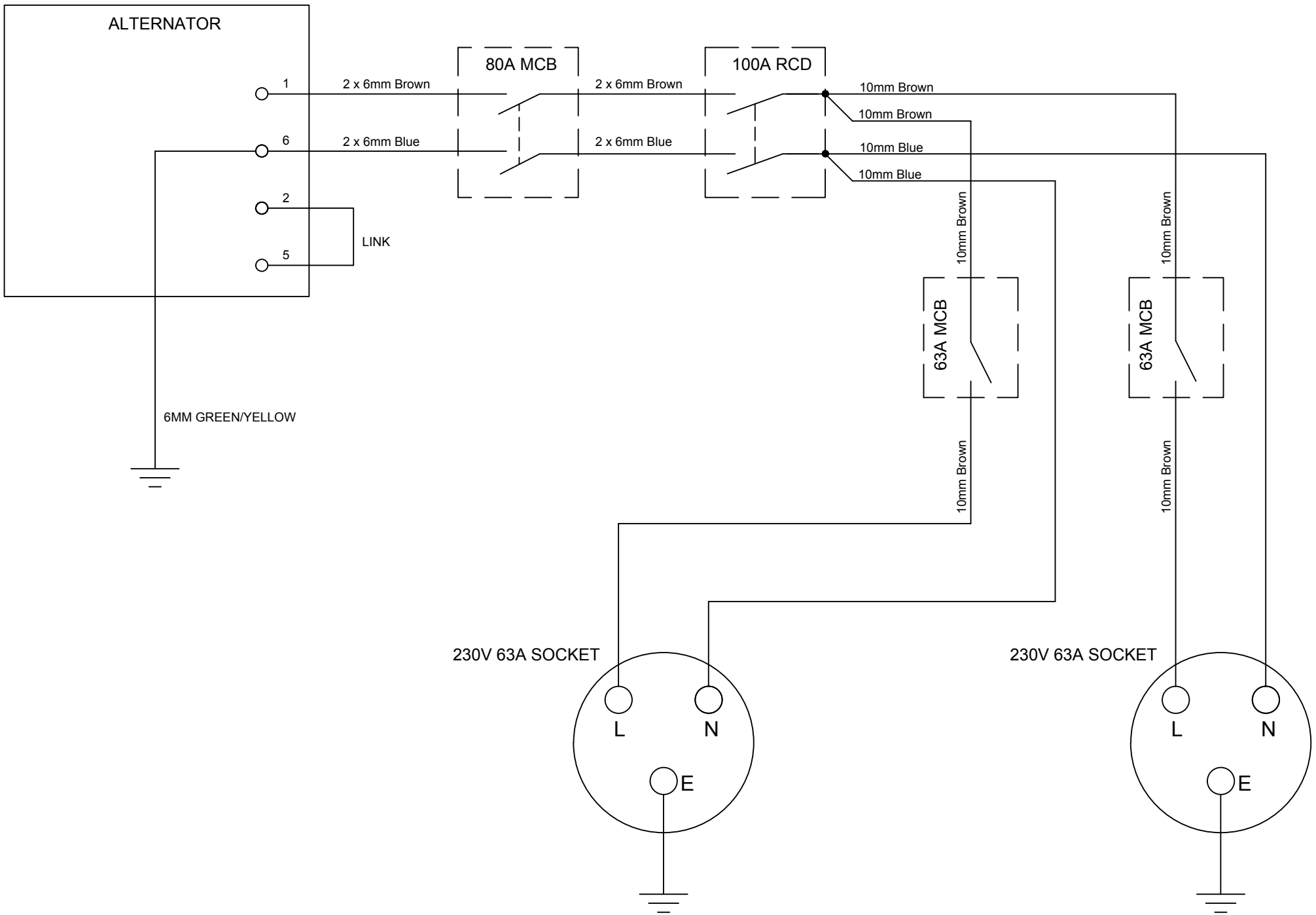
Description
SSD MULTIVOLTAGE WIRING
400/230/115
2006 Wiring colours


Last Number Used
75

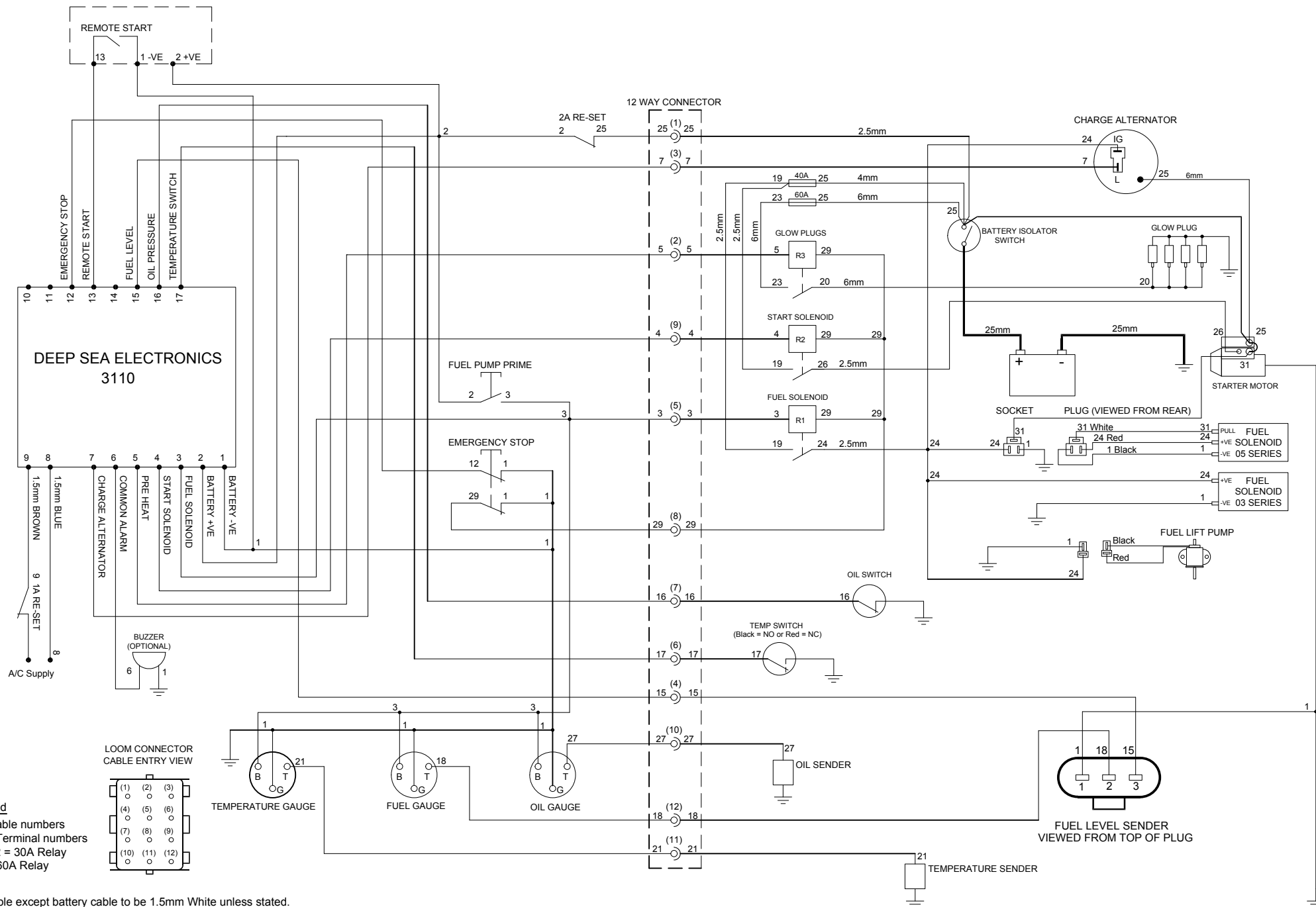
Issue	Date	Revision
D	27/11/07	RCD Added for 3 phase. MCBs changed to Re-Sets.
C	29/10/07	Wire no 74 changed to 4mm black.
B	06/04/06	Circuit breaker detail added for 12kVA.



 STEPHILL GENERATORS Phone 01933 677911 Fax 01933 677916	Drawing Number SW12050	Description 16kVA 230V 2 x 63A Sockets MCB RCD	Last Number Used 6	Issue A	Date 26/04/07	Revision New drawing
	Drawn R GOLDING					



 STEPHILL GENERATORS Phone 01933 677911 Fax 01933 677916	Drawing Number SW12051	Description 20kVA 230V 2 x 63A Sockets MCB RCD	Last Number Used 6	Issue A	Date 24/08/07	Revision New drawing
	Drawn R GOLDING					



Legend
 1 = Cable numbers
 (1) = Terminal numbers
 R1/R2 = 30A Relay
 R3 = 60A Relay

Note
 All cable except battery cable to be 1.5mm White unless stated.
 Low fuel level switch optional