

STAMFORD®

AVR CONVERSION INSTRUCTIONS

Fitting AS440 AVR in place of SX440 AVR.

- Read all instructions carefully before starting this conversion.
- Check that all the parts listed below are included with this conversion kit.
- Depending upon the type of machine being converted, not all the parts listed will be required.
- No specialised tools are necessary.

Contents:

Item.	Description.	Part No.	Qty.	check
1	Conversion instructions (this sheet)	SP_SX440_AS440_07.07_01_GB	1	
2	AS440 AVR	E000-24400	1	
3	AS440 AVR specification sheet	TD_AS440 AVR_11.06_03_GB	1	
4	Terminal block (6-way)	450-15489	1	
5	Fixing Screw	005-04068	1	
6	Grommet	003-25161	1	
7	AVR adjustment label	E00-14064	1	
8	AVR adjusting tool	E00-10032	1	
9	Cable-tie	052-45003	5	

SAFETY

WARNING

Service and fault-finding procedures present hazards which can result in injury or death. Only personnel qualified to perform electrical and mechanical service who are familiar with the equipment should carry out these procedures.

WARNING

Ensure engine starting circuits are disabled and the generator is electrically isolated before commencing service or maintenance procedures.
Isolate any anti-condensation heater supply.

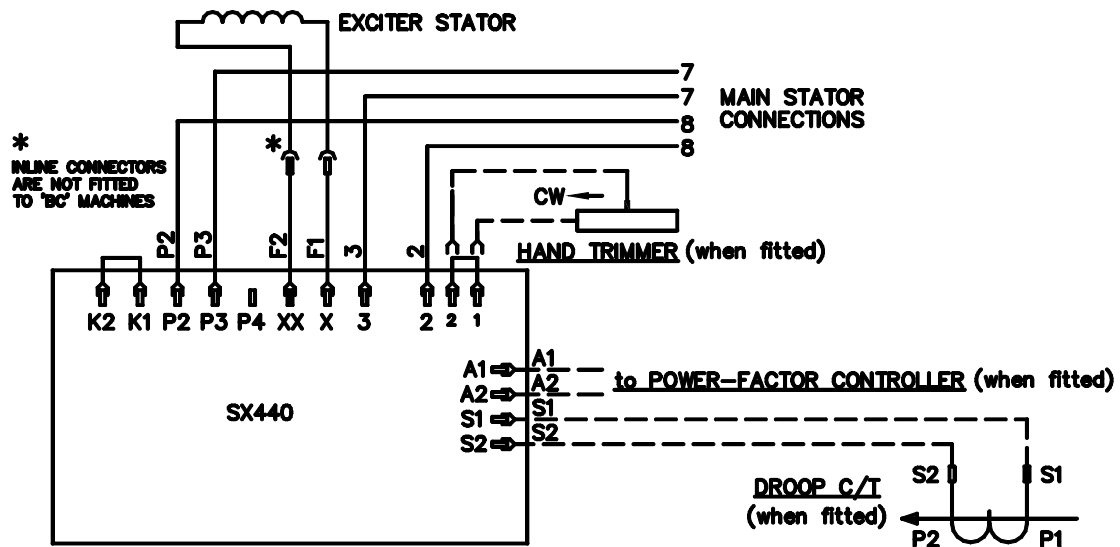
- It is essential that all instruments are regularly checked for safety, and any connection leads, probes or clips checked to ensure that they are suitable for the voltage levels being tested.
- Never attempt to test a generator when the engine is running (LIVE) unless there is another competent person present who can switch off the power supply and shut down the generator in an emergency.
- Never expose electrical components with the power on (LIVE) without creating a safe working area around you. Make sure you have made all other persons, in the immediate area, fully aware of what you are doing.
- These instructions have been written for use with the AVR specification as originally supplied with the generator.

CONVERSION PROCEDURE

STEP 1 Removing the SX440 AVR.

- 1.1 Remove the appropriate covers to gain full access to the AVR and its mounting plate.
- 1.2 Make sure that all the existing AVR connection leads (**Fig 1**) are clearly identified. ✓
- 1.3 Disconnect all the leads from the SX440 AVR.
- 1.4 Unscrew the 4 AVR fixings and remove the AVR. Keep the screws for use with the new AVR.

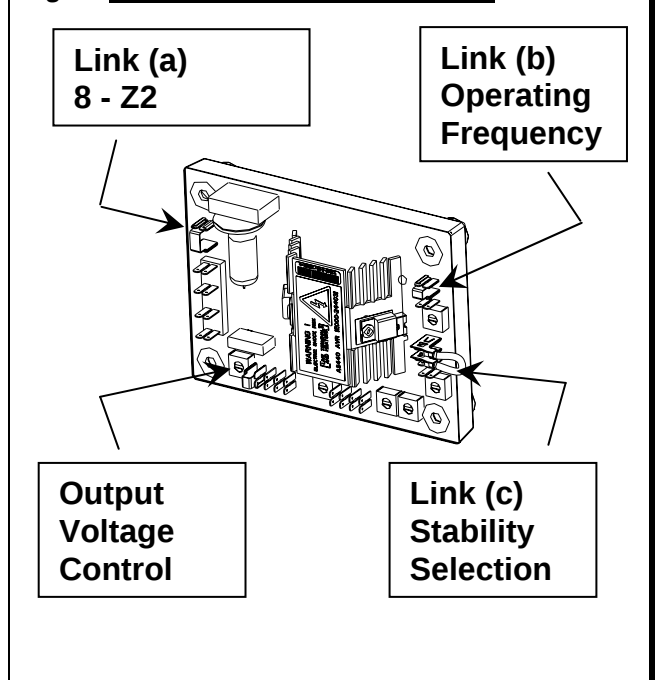
Fig 1 : Existing AVR wiring.



STEP 2 Preparing the new AS440 AVR.

- 2.1 Link terminals on the new AS440 AVR [item 2] as follows and as shown in **Fig 2**. Use the AVR adjustment label [item 7] to identify the correct linking terminals.
 - a. Link terminals 8 - Z2
 - b. Link for the correct frequency of operation (50Hz or 60Hz).
 - c. Link the required stability setting. (select the 'FAST' setting in the correct kW rating range – see AS440 AVR specification sheet for details.)
 - d. Turn the AVR 'Output Voltage Control' to its minimum position (fully anti-clockwise). Note that the output voltage will need to be set to the required level when installation is completed. See 'Step 5.3'

Fig 2 : Preparing the new AS440 AVR.



STEP 3 Fitting the new AS440 AVR.

- 3.1 Insert the grommet [item 6] into the mounting plate as shown in **Fig 3a**.
- 3.2 Mount the new AS440 AVR [item 2] using the four fixing screws as shown in **Fig 3a**.
- 3.3 Fix the 6-way terminal block [item 4] to the rear of the mounting plate using the fixing screw [item 5] as shown in **Fig 3b**.

Fig 3b : Fitting the 6-way terminal block.

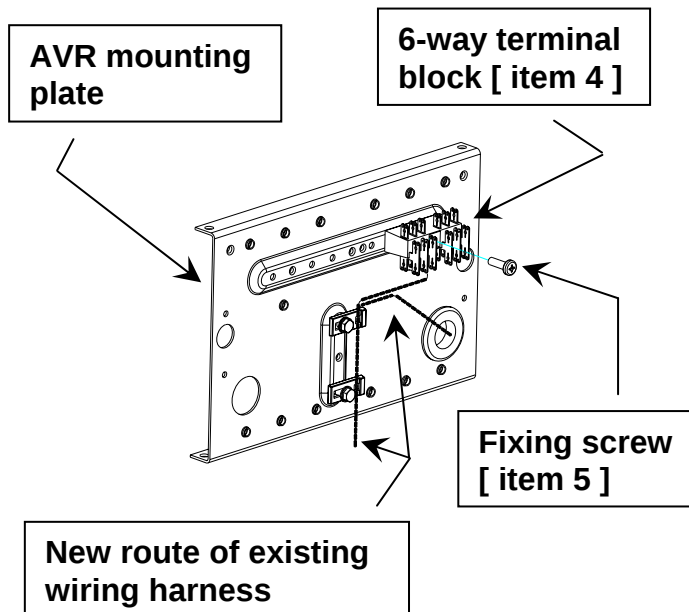
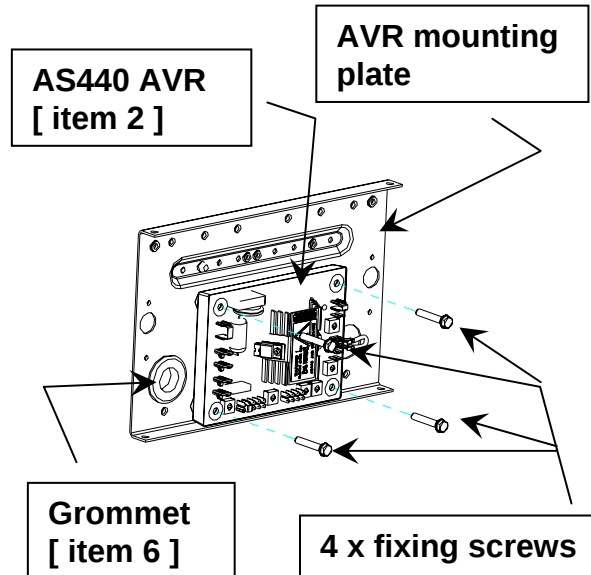


Fig 3a : Fitting the new AVR and grommet.

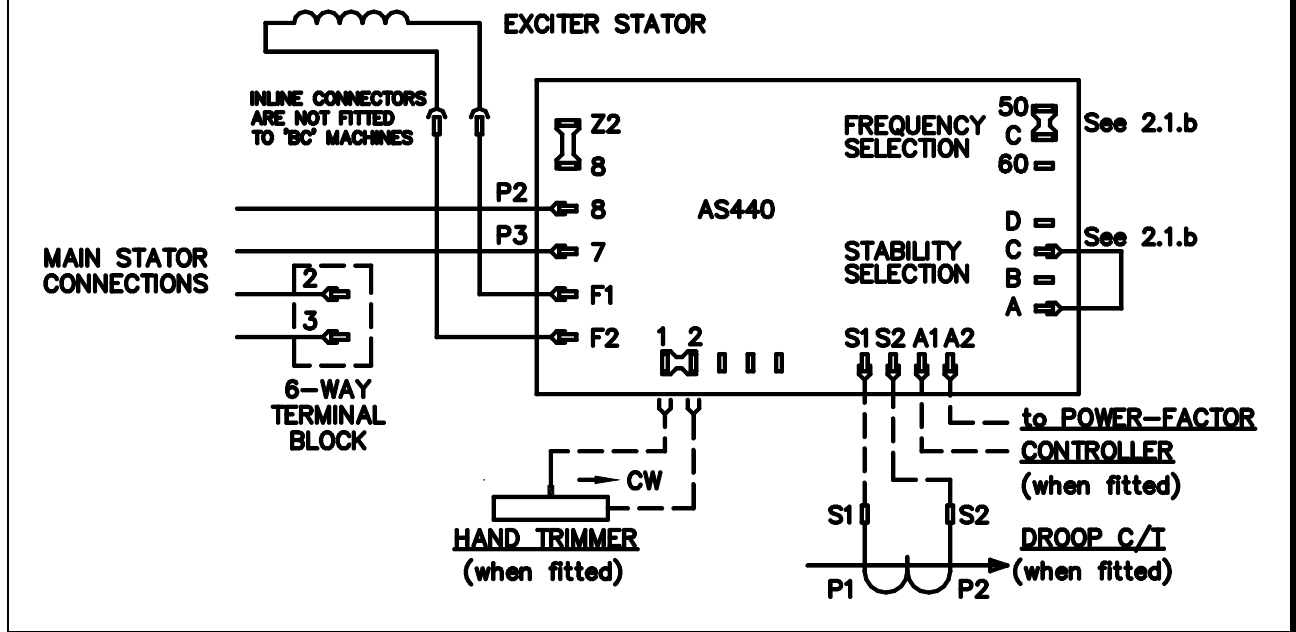


- 3.4 Remove one cable-tie and route existing harness as shown in **Fig 3b**.
- 3.5 Pass leads marked P2, P3, F1 (or X or X+) and F2 (or XX or XX-) through the grommet ready to connect to the AVR.
- 3.6 Pass any accessory leads through the grommet ready to connect to the AVR.

STEP 4 Reconnecting.

- 4.1 Connect leads to the new AS440 AVR [item 2] as shown in **Fig 4**. Pass all these leads through the grommet [item 6]
 - a. Lead P3 to AVR terminal 7.
 - b. Lead P2 to AVR terminal 8.
 - c. Lead F1 (or X or X+) to AVR terminal F1
 - d. Lead F2 (or XX or XX-) to AVR terminal F2
 - e. Reconnect the Hand-Trimmer leads (if used) to AVR terminals 1 and 2.
 - f. Reconnect the Droop input leads (if used) to AVR terminals S1 and S2.
 - g. Reconnect the Accessory input leads (if used) to AVR terminals A1 and A2.
- 4.2 Connect leads 2 and 3 to the 6-way terminal block [item 4] as shown in **Fig 4**.
(These leads are not used by the new AVR and should not be connected to any equipment.)
- 4.3 Secure all wiring with cable-tie(s) provided [item 9].

Fig 4 : New wiring for the AS440 AVR.



STEP 5 Final check & adjustments.

- 5.1 Check all wiring connections.
- 5.2 The AVR has been factory set and might not be adjusted to suit your particular requirements. **Before adjusting the AVR** read the AS440 AVR Specification Sheet [item 3].
- 5.3 **Before starting the generator set** it is recommended that you turn the generator output voltage control to its minimum position (i.e. fully counter-clockwise). Adjustment of the generator voltage (and other settings if necessary) should be made using the AVR adjustment tool [item 8] provided.
- 5.4 Start the generator set and check correct operation of the new AVR. Make any adjustments while observing any local or national safety regulations and procedures.
- 5.5 Refit all covers and make safe.

CAUTION

Before you start the generator:

Make sure you have made all other persons in the immediate area fully aware of what you are doing.

Make sure you have read and understand the AVR Specification Sheet.

Make sure you fully understand all the other operating and safety instructions concerning the generator set and its installation.

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