

TB 145

TECHNICAL BULLETIN

INFORMATION ONLY

For the Attention of : Service Engineers, Installers, Trade Customers, Testers,
Training Dept.

Date : 07/11/13

Product : Maxilift Traction

Subject : Auto Tune procedure

Pages : 2

Originator : Stannah Lifts Ltd, Anton Mill, Andover, Hants SP10 2NX 01264 339090

1. Introduction to auto tune

Before the traction machine can be run, the motor and inverter must be tuned to work together correctly. This auto tune process is required to establish the exact, site specific relationship between the motor, inverter and encoder position.

Once the auto tune is complete, a phase angle is set and recorded within the inverter parameters and ensures accurate speed and direction control of the traction machine.

It is essential that **the wiring between inverter and motor and the encoder position is not altered following acquisition of phase angle**. Failure to adhere to this procedure can result in unpredictable acceleration and direction movement of the machine.

For the complete auto tune procedure, refer to section 9 within the Traction Electrical Wiring Manual.

2. When is it necessary to swap the motor phase connections?

Motor phase connections **should only be swapped prior to completing an auto tune**. It will be necessary to carry out this modification if the auto tune attempt fails and the following alarm code is displayed on the inverter pendant control -

'Position feedback direction error. TuneE2.'

Once the phase connections have been swapped, an auto tune should complete successfully with phase angle being set.

3. Auto Tune is complete, phase angle set and recorded but motor rotation is incorrect

If direction of rotation is incorrect then inverter parameters values **18.24** and **18.25** will need to be swapped. This will reverse direction of machine without compromising phase angle value previously set. **Motor phase connections must not be swapped at this stage.**

4. Following component failure, when is another auto tune required?

COMPONENT TO BE REPLACED	IS ANOTHER AUTO TUNE REQUIRED?	
Traction Motor	YES	Auto tune is required to establish new phase angle.
Encoder		
Inverter	NO	The phase angle previously acquired can be transferred from old inverter to new providing inverter replacement is wired identical to predecessor (i.e. phase U, V and W connections)*

**If previous phase angle is unknown and cannot be extracted from faulty inverter, then another auto tune must be completed.*

5. Summary

Before the traction machine can be run the inverter and motor must be tuned to work together correctly. During the auto tune process, it maybe necessary to swap the motor phase connections to prevent direction rotation alarms being registered.

Motor phase connections should only be swapped prior to acquiring phase angle value.

If the motor direction is incorrect following successful completion of an auto tune then inverter parameter values **18.24** and **18.25** should be swapped - **motor phase wiring must not be altered.**

Full auto tune procedure is detailed in section 9 of the Traction Electrical Wiring Manual.