

When using hoists it is very important to understand the quality of voltage that is necessary to run efficiently. There are three different types of voltage to understand: line voltage, start voltage and run voltage.

Line voltage is the voltage that is measured at the source. If you measure the voltage at the wall outlet or at the end of the power cord on the platform, without any equipment running, this is your line voltage.

Start voltage is best measured with an in-line meter. This voltage only registers on the meter for a split second as the machines are started. It will be lower than line voltage, and can differ as much as 30 volts in some conditions.

Run voltage is best measured with an in-line meter. Just after the hoists start, they should reach full speed and the voltage will come up to what is called the run voltage. Run voltage is somewhere between the line voltage and the start voltage. For all Power Climber hoists the lowest run voltage should not drop below +/- 10% of the motor nameplate rating.

Low Voltage

Low voltage is the most common electrical problem that must be overcome. Service calls that result from low voltage are more common in some parts of the country. The customer will report these service calls to you as "the hoist will only go in the down direction", "will not pick up a load", "will not run".

When the mechanic arrives he will find blown start capacitors and burnt centrifugal switches. These two items are the first to go under low voltage. Hoists that are continually subjected to low voltage may need to have electric motors replaced. They may need other electrical parts replaced more frequently than those hoists that are used under better voltage conditions.

Electrical problems can be the most difficult problems to diagnose and repair. This means that not only are they costly due to parts replacements, but also costly because of the time it takes to troubleshoot.

Preventing Low Voltage

Low voltage can be overcome in many instances simply by supplying a buck booster transformer. This type of transformer usually increases the line voltage by 10-15%.

If your line voltage is 208 Volts and you need to string out 500 feet of power cord, you will probably need a buck booster. 10/3 SO power cord will lose voltage over its length by about 2 volts for every 100 feet of length. Voltage drop will be double when running two hoists from one yoke. Therefore in this situation, using only one hoist, you will lose about 10 volts over the length of this 500-foot power cord. This leaves you with a line voltage of 198 volts at the platform. This may be too low for optimal performance of the hoists, especially when they struggle to start at possibly thirty volts lower.

Did You Know?

- In-line meters can be purchased from J.P. Nolan by calling 1-800-34-NOLAN and asking for a "Duo-Meter"
- Hot dry summer weather is the time of year that most low voltage conditions occur. This is related to heavy use of air conditioners and general power consumption in the other areas of the city. Some areas may experience brown outs.
- Voltage conditions could be fine in the morning and bad in the afternoon.

For questions or comments, contact Customer Service at 1-800-560-CLIMB (2546) or customerservice@safeworks.com.