

LIFTTECH

LIFT-TECH INTERNATIONAL, INC.
CRANE AND HOIST OPERATIONS

414 WEST BROADWAY AVENUE / P.O. BOX 769
MUSKEGON, MICHIGAN 49443-0769

ADJUSTMENT INSTRUCTIONS

Electronic Acceleration Control

for **SHAW-BOX**® Motor Driven Trolleys
BUDGIT® Motor Driven Trolleys & Motorized Bridge Kits

GENERAL

There are two adjustments on the **LIFT-TECH** EAC. The top adjustment is the "Torque Adjustment" and the lower adjustment is the "Time Adjustment". The unit is initially adjusted by turning both adjustments fully **clockwise**. The EAC is effectively "turned off" in this position.

Traverse Speed Points	Catalog Number	Control Voltage	Power Supply Voltage 3 Phase 60 Hz Only	Maximum Total Horsepower	Maximum Full Load Amps
1	904595	24	208-230 460	3/4 2	3.3
	904596	115	208-230 460	3/4 2	3.3
2	904597	24	208-230 460	3/4 2	3.3
	904598	115	208-230 460	3/4 2	3.3
1 & 2	913186	115	208-230 460	2 5	7.5
	913187	24	208-230 460	2 5	7.5

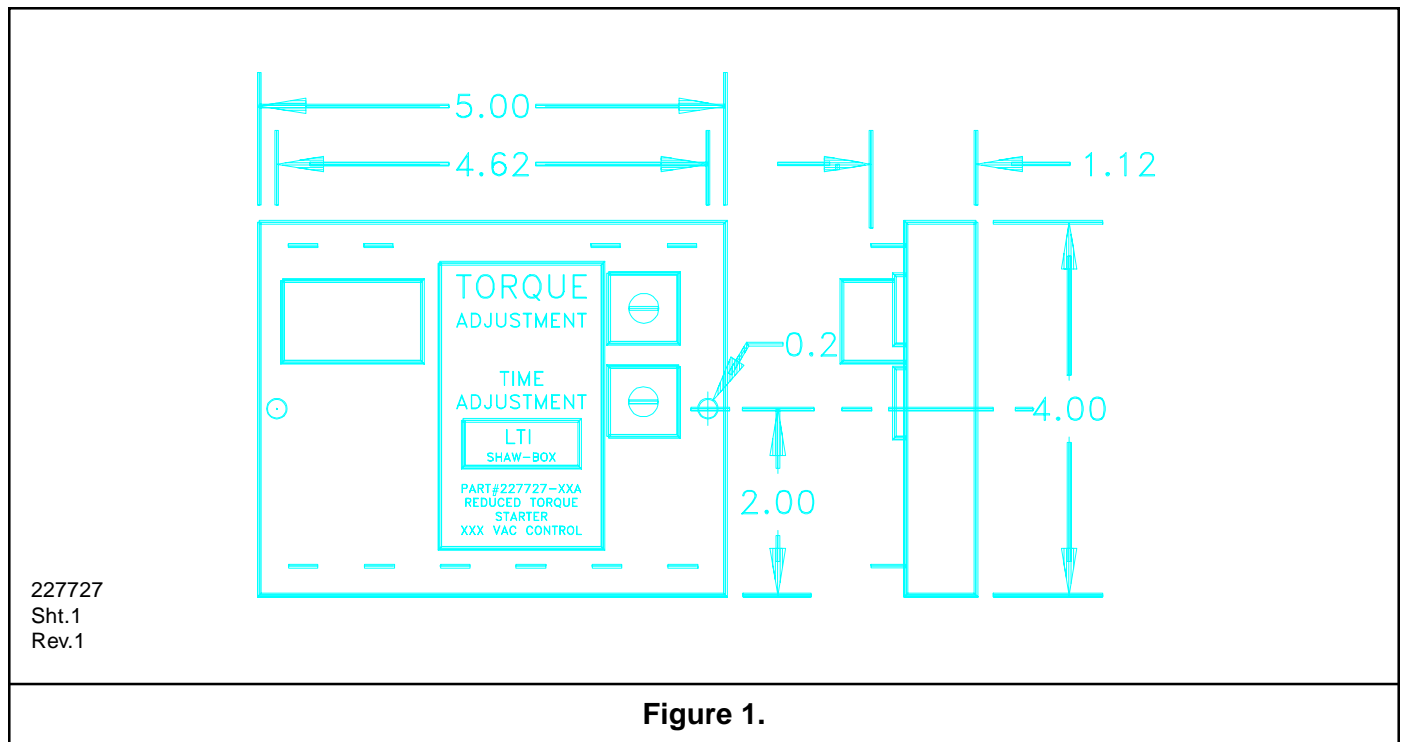
*Includes enclosure and mounting hardware.

ADJUSTMENT INSTRUCTIONS

See Figure 1.

With the crane/trolley and hoist unloaded, decrease the initial torque to the motor incrementally by turning the "Torque Adjustment" counter-clockwise. The crane/trolley will have a progressively slower response rate as the torque is continually decreased. The torque adjustment should **not** be turned counter-clockwise to such a degree that the crane/trolley is stalled momentarily. The final torque adjustment should start to move the crane/trolley as soon as the push button is depressed.

The "Time Adjustment" is used to increase/decrease the ramp time, that is the time it takes for the crane/trolley to reach final torque and rated speed once the unit has begun to move. This adjustment is used to "fine tune" the unit, as it has a lesser affect than does the Torque Adjustment. The time to reach full torque is decreased as the time adjustment is turned counter-clockwise.



SHAW-BOX® & BUDGIT®

ELECTRONIC ACCELERATION CONTROL (EAC)

BENEFITS OF EAC

Less load swing

The EAC reduces the swinging of the load on the hoist by providing controlled acceleration of the trolley or bridge.

Prolonged component life

Due to the soft-start feature of the EAC, impact is minimized extending the life of the drive components.

COMPARISON OF EAC AND BALLAST RESISTORS

EAC is less load sensitive

The EAC provides controlled acceleration under varying load conditions, whereas ballast resistors are more load sensitive.

EAC is more energy efficient

The EAC produces less than 15 watts, versus ballast resistors which produce an average of 150 watts. This results in less heat given off by the EAC allowing the unit to be mounted inside the control enclosure.

DESIGN AND CONSTRUCTION

Rugged construction for Crane and Hoist application

The EAC is a totally enclosed circuit, made of a high impact plastic body sealed in an epoxy compound.

Small size for simple mounting

The EAC unit is mounted inside a Nema 1 enclosure when supplied on standard units as shipped from the factory. This enclosure shown below to the left is mounted to the side of the trolley or bridge control enclosure with interconnecting wires between. The EAC unit itself, shown below to the right is only four inches wide by five inches long allowing the EAC to be mounted inside the enclosure on special applications such as Nema 4, 12, 4X, 7 and 9.

Easy to adjust.

The EAC has two adjustments, one for time and one for starting torque. The torque adjustment feature allows adjustment of the starting torque of the traverse motor based on a percentage of the motor full load torque. The time adjustment feature is used to “fine tune” the acceleration time to reach full speed. Both adjustments are accomplished by turning the adjustment potentiometers with a small screwdriver (provided). The procedure for adjusting the unit is found on the opposite side of this page.

Available for two speed application.

The two speed version EAC provides smooth acceleration from a stand still to the slow speed. The EAC uses the same ramp cycle from the first speed for acceleration to the second speed. The two speed unit is designed to be used in conjunction with a two speed control.

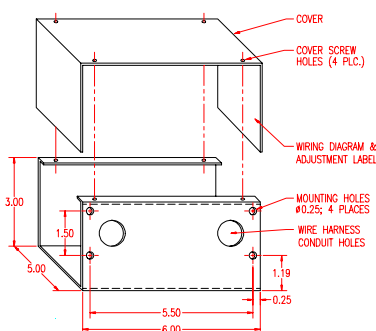
APPLICATION CHART

The following chart is used in the correct selection of the EAC.

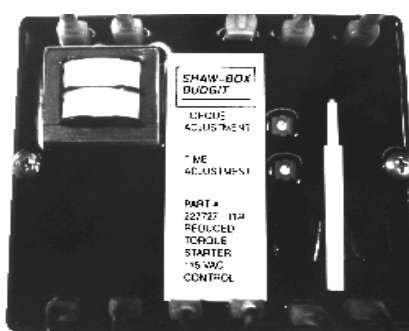
TRAVERSE SPEED POINTS	CATALOG NUMBER	CONTROL VOLTAGE	POWER SUPPLY 3 PHASE 60 Hz ONLY	MAXIMUM TOTAL HORSEPOWER	MAXIMUM FULL LOAD AMPS
1	904595	24	200-230 460	3/4 2	3.3
	904596	115	200-230 460	3/4 2	3.3
2	904597	24	200-230 460	3/4 2	3.3
	904598	115	200-230 460	3/4 2	3.3
1 & 2	913186	115	200-230 460	2 5	7.5
	913187	24	200-230 460	2 5	7.5

The EAC should not be jogged excessively (usually more than 300 starts per hour) as this exceeds the capacity of heat dissipation for both the motor and the EAC unit.

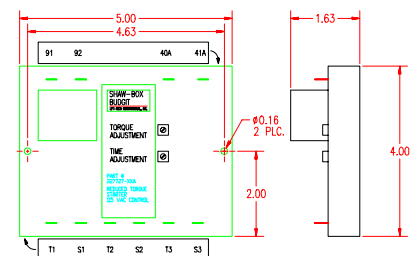
EAC Nema 1 Enclosure Dimensions



**EAC Unit
(2-speed)**



EAC Unit Dimensions



ELECTRONIC ACCELERATION CONTROL

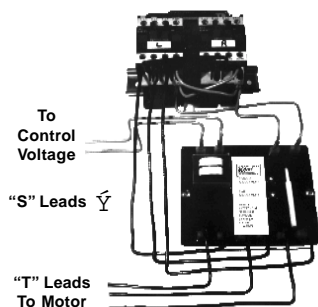
INSTALLATION

⚠ WARNING Disconnect power before installation or servicing.

The following steps used in conjunction with the wiring diagram label below should be followed for proper installation.

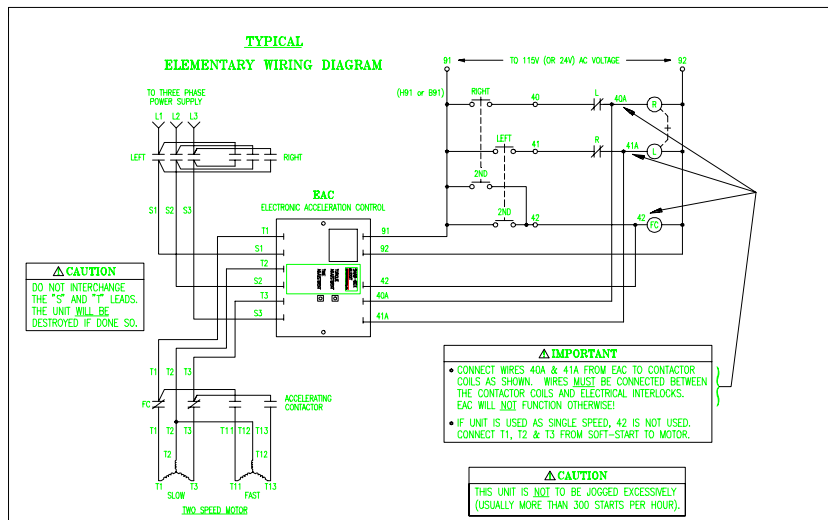
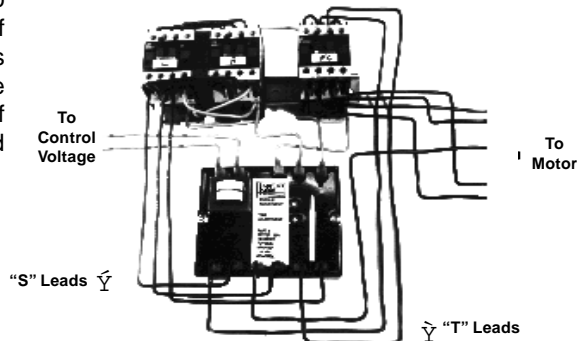
1. Connect 91 to 115V or 24V AC power supply and connect wire 92 to a proper ground.
2. Connect 40A and 41A to the interlock side of the contactor coil as shown in wiring diagram label. This step is very important due to the fact that improper connection will not allow the EAC to function.
- 2a. Connect 42 to load side of the second speed contactor (if provided).
3. Connect the "S" (S1, S2, S3) leads to the reversing contactor. Connect the "T" leads to either the motor or the second speed contactor (if provided). **⚠ CAUTION** Improper connection of the "S" and "T" leads will destroy the EAC.

1 - Speed



These two photographs are shown to provide a pictorial representation of proper wiring. Note placement of wires 40A and 41A to electrical interlock side of contactors with characteristic "X" of wires between electrical interlocks and contactor coil.

2 - Speed



This Wiring Diagram is located on the bottom side of the Nema 1 enclosure cover. The steps listed above and notes located on the label must be followed for correct EAC installation.

ADJUSTMENT PROCEDURE

There are two adjustments on the LIFT TECH EAC. The top adjustment is the *Torque Adjustment*, and the lower is the *Time Adjustment*. The unit is initially adjusted by turning both adjustments fully clockwise. The EAC is effectively "turned off" in this position.

Torque

With the crane/trolley and hoist unloaded, decrease the initial torque to the motor by incrementally turning the *Torque Adjustment* counterclockwise. The crane/trolley will have a progressively slower response rate as the torque is continually decreased. The torque adjustment should not be turned counterclockwise to such a degree that the crane/trolley is stalled momentarily. The final torque adjustment should start to move the crane/trolley as soon as the push-button is depressed.

Time

The *Time Adjustment* is used to increase/decrease the ramp time, or the time that it takes for the crane/trolley to reach final torque and rated speed once the unit has begun to move. This adjustment is used to "fine tune" the unit, as it has a lesser affect than does the Torque Adjustment. The time to reach full torque is decreased as the time adjustment is turned counterclockwise.