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AMR

**LS-3000, LS-3010 & LS-3020
BELT SLIP/SEQUENCE CONTROL
INSTALLATION AND SETUP
INSTRUCTIONS**

12/2/98

INSTALLATION

STEP 1

Select a suitable mounting location for the module. This should be as close to the belt starter control box as possible to reduce the possibility of cable damage.

STEP 2

Weld or otherwise attach a piece of ½” keystock or large nut to the roller edge as shown in figure 1.

STEP 3

Using the clamp and bracket provided, position the module so that the pickup face is as close to the keystock as possible without touching to prevent wear. This distance should not exceed ½” or nuisance tripping may result. Optimum distance is ¼”. An indicating light is built into the rear of the module to check proper positioning and operation.

STEP 4

Route the cable back to the belt starter control box.

STEP 5

Make electrical connections as follows:

*Input Power (120 VAC): these two connections require constant 120 VAC (+15%, -30%) at 5VA to run the LS-3000 circuitry. These connections are made to the BLACK and WHITE wires. *An in-line fuse holder, with a 250mA, 3AG fuse (AMR part number 270-0043) is provided, to be wired in series with the Black wire. This fuse is used to protect the internal circuitry of the module.*

*Control Contacts: These connections are wired in series with the control line just as any other belt switch. In order to protect the wire, *a 15-amp in-line fuse should be installed in series with the GREEN wire.* The switching is done by a relay with either normally open (RED) or normally closed (BROWN) contacts. Most control lines will need to be opened to shut down the belt drive. In this case, connect the GREEN (common) and the RED (normally open) wires in series with the control line. When the belt is running above the preset point the GREEN and RED wires will be shorted. A belt slip condition will cause these wires to open.

SETUP INSTRUCTIONS

STEP 1 – SPEED

Refer to Figure 2. Temporarily take a jumper wire and short out the control wires (GREEN or RED) so that the belt will run. Start the belt. Turn the speed adjustment fully counterclockwise. The red calibration light should come on. Now start turning it clockwise until the light goes out. At this point, you should back it counterclockwise about 1/8 turn to the point where the light just comes on. If the belt slows from its present speed, the light will go out, and the relay will drop out. Turning the speed adjustment clockwise raises the cutoff point (faster). Turning it counterclockwise lowers the cutoff point (slower).

STEP 2 – DELAY

Refer to Figure 2. The delay adjustment was set fully counterclockwise (no delay) at the factory. A maximum of ten seconds' delay can be set. Turning the delay adjustment clockwise increases delay, while turning it counterclockwise decreases delay. Delay starts when the calibration light goes out. It is instantly reset when the light turns on. On LS-3020 with delay, adjustment is the same except that the delay starts when the light turns on. After the delay period, the relay then pulls in.

STEP 3

Remove the shorting jumper from the control wires (GREEN to RED). Start the belt and observe the calibration light. It should be on solid (not flickering). If not, you may need to re-adjust the speed adjustment or the positioning of the module.

STEP 4

At the end of the module is a test switch that can be used to check that the unit is functioning properly. This switch will short out the pick-up coil thereby checking the entire circuitry. When you push the switch, the control contacts should drop out and the belt should stop. ** Note that whatever delay you have set will be present in this test.

STEP 5

On units with optional ANALOG OUTPUT (LS-3010), there will be another cable coming out of the top of the module. This cable contains a BLACK (positive) and a WHITE (negative) wire. This output can be used in conjunction with a computer monitoring system to indicate belt speed in FPM. The output is a standard 0-3 VDC analog output: OFFSET = 0, GAIN is dependent on roller size and the number of targets. Contact factory for further assistance in using this feature.

**LS-3000, LS-3010, LS-3020
BELT SLIP/SEQUENCE CONTROL**



FIGURE 1

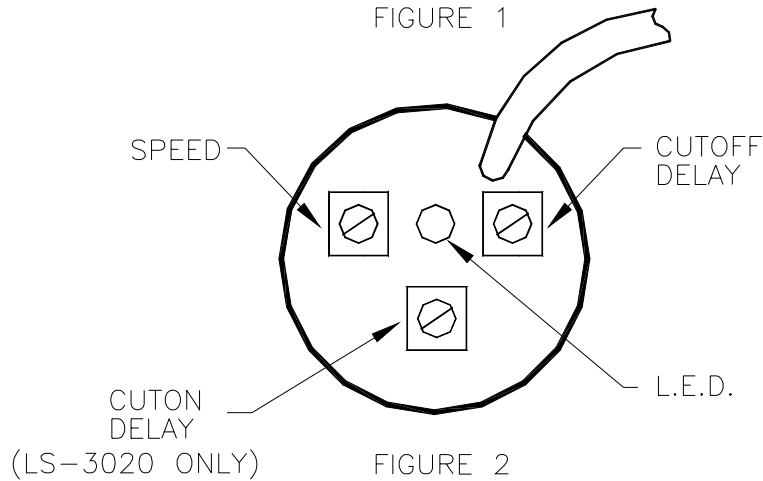


FIGURE 2

WIRING IDENTIFICATION

- *BLACK & WHITE – 120VAC INPUT**
- *GREEN ----- RELAY COMMON**
- *RED----- RELAY NO**
- *BROWN-----RELAY NC**

LS-3020

- *BLUE-----RELAY COMMON**
- *ORANGE-----RELAY NC**
- *YELLOW-----RELAY NO**