



Dec. 18, 2000

**Service Bulletin #2000-137**

**Applicability:** All operators of Riblet and other chairlifts and tramways equipped with Riblet PLC-based Low Voltage Control and ABB DCS-500 DC-SCR Drives or ACS-600 AC-Variable Frequency Drives.

**Subject:** Software Security per ANSI B77.1-1999 sect. 4.2.1.10.

**Compliance:** Preventive maintenance. (Place copy in O & M manual)

Installations to which this service bulletin procedure applies are equipped with three software programmable devices; the DC or AC drive, the PLC, and the Touch Screen. Prior to and/or during the Acceptance Test, Riblet representatives program these devices for proper operation of the tramway. Following the Acceptance Test, a hard copy of the PLC program as well as a list of the drive parameters will be furnished.

The programming of the drive, the PLC, and the Touch Screen is a part of the design of the tramway. None of these programs or parameters may be changed without the express, written consent of the Riblet Tramway Company.

The Riblet Tramway Company may issue software updates, either for installation by the operator of the tramway, or by Riblet personnel. If and when such updates are issued, documentation will be supplied, and this documentation shall be kept with the lift records in the Operation and Maintenance manual or in a suitable place determined by the Owner.

Details specific to each of the programmable devices follows:

**DC-SCR and AC Drives:**

The ABB drives are programmed by use of a small keypad attached to the front of the drive panel. Parameters which can be set include minimum and maximum speeds, acceleration and deceleration rates, current and torque limits, and configuration of the drive's digital and analog inputs and outputs. All programming and parameters are stored within the drive, not in the keypad. The drive will operate without the keypad; the keypad is used only for programming and to display certain operating parameters and drive safety faults.

The parameters programmed into the drive are "locked" by Riblet personnel, and cannot be changed without using a password to "unlock" the system. If for some reason it is necessary to change a parameter, please have a

qualified person contact Riblet's engineering department for instructions. If, in the event that service by ABB or another service organization is required, and parameters need to be changed or re-entered, please have that service organization contact the Riblet engineering department.

### PLC Programming:

The PLC which controls your Riblet tramway system is programmed by Riblet to properly control the tramway and to meet all safety requirements. Programming is accomplished by means of a personal computer connected to the PLC with a special cable, using software furnished by the PLC manufacturer and a program written by Riblet. Without this equipment, the program cannot be changed. The PLC program is stored in the PLC's memory and is maintained by a small battery, good for some 5 years. See your Riblet Operator's manual for battery replacement.

Should Riblet issue a software update for the PLC, it will be in the form of a new, pre-programmed CPU module to be swapped for the existing one, or re-programming will be done on site by Riblet personnel.

The following parameters are field adjustable:

#### Speed Presets:

Fast and Slow speed presets can be changed at any time by using the Menu screen to get to the Presets screen, touching the speed preset (percentage) to be changed, and using the numeric keypad which appears. The operating organization is responsible for allowing or disallowing access to these two parameters. The Slow preset can be adjusted only within the range of 10% to 50% of full speed, and the Fast preset can be adjusted only from 50% to 100%. Speed preset parameters are retained by the PLC's memory until they are intentionally changed.

#### Tension Limit Presets:

The PLC monitors the rope tension transducer and shuts the lift down in the event that tension is outside the allowable envelope. Upper and lower tension pressure limits are set by Riblet personnel at plus and minus 5 percent of nominal. These tension pressure limit parameters can be re-set from the Presets screen in the same manner as the Fast and Slow parameters, because adjustment of them can be crucial to evacuating a lift. The operating organization is responsible for allowing or disallowing access to these two parameters, which should not be changed except in an emergency.

#### Overspeed Limits:

Overspeed limits of 110% and 115% of full speed are set using the Load Test screen, which is password protected. There should never be a

reason to change these settings except to test the overspeed detection. Touch “buttons” are provided on the Load Test screen to bypass either of the Overspeed limits in an emergency, and shall only be used by qualified personnel. These bypasses are temporary, and revert to the “normal” state any time the PLC is powered down. Qualified personnel may obtain the password for the Load Test screen from Riblet.

#### Speed Feedback Override:

Rope speed feedback to the PLC is provided by an encoder driven by a guide sheave on the rope. In addition to displaying actual rope speed on the Meters Screen, this speed signal is constantly compared to the drive’s motor speed output, and if a variance is detected, the lift is shut down. Should the encoder fail, a touch button is furnished on the Load Test screen to bypass speed feedback. This feature shall only be used by qualified personnel. This bypass is temporary, and reverts to the “normal” state any time the PLC is powered down. Qualified personnel may obtain the password for the Load Test screen from Riblet.

#### Touch Screen:

The Touch Screen is a data entry and display device which, like the PLC, is programmed using a special cable, software furnished by the Touch Screen manufacturer, and a program written by Riblet. Without this equipment, the program cannot be changed. The Touch Screen’s program is stored in non-volatile memory.

Should Riblet issue a software update for the Touch Screen, it will be in the form of a new, pre-programmed Touch Screen unit to be swapped for the existing one, or re-programming will be done on site by Riblet personnel.

Please place this service bulletin, along with a copy of the PLC program and the drive parameters, in your Operation and Maintenance manual.

Thank you,

Riblet Tramway Co.