Trendsetter VLF AL
External Alarm Kit Assembly Procedure

1. SCOPE

This document describes the installation of all upgrade components for the Trendsetter VLF Autoloader external alarm feature.

2. TOOLS

Use standard tools for assembly.

3. INSTALLATION OF COMPONENTS

CAUTION: An antistatic strap should be worn at all times.

1. Turn OFF all power and unplug the TS from the AC power source.

   The upgrade kit includes three cables, two relays, and the mounting brackets and hardware required to attach everything to the TS.

2. Open the right front cover and right side cover on the TS. At the right-front of the TS, you will now have access to the power box and Safety Interlock Override (SIO) keyswitch panel. At the right side of the TS, the Engine Satellite Electronics (ESE) board should be visible behind the large table counterweight.

3. Locate connectors J29 and J30 at the bottom-right corner of the ESE board. There should be a cable attached to both of these connectors: 10-4905A-A. This cable also connects to cable 10-4906A, to a relay on the back side of the SIO keyswitch panel, and to a contact block on the SIO keyswitch itself. Remove this cable from the machine, or unplug it and leave it disconnected inside the TS.

4. Replace 10-4905A-A with cable 10-4905A-B, provided in the upgrade kit. Cable 10-4905A-B has one extra connector marked “Ext Alarm”.

5. Check the connector bulkhead on the TS below the ESE board. You may need to remove the gray painted cover first. There will be a large round hole, about 66mm in diameter. If there is a cable mounted in this hole, the external alarm assembly will be mounted in the bulkhead on the opposite side (left side) of the TS. If there is no cable mounted in this hole, the external alarm assembly will be mounted here.

6. If not already done, attach the two relays to the relay mounting plate 57-8641A on the side that does not have double-sided tape applied. Do not remove the paper backing on the double-sided tape yet.

7. Attach all 12 terminals on the External Alarm cable 10-4983A-A to the two relays. The terminals labeled with an “A” all connect to one relay, and the terminals labeled with a

"B" all connect to the other relay. The terminal numbers are marked on the relay body. Ensure that the terminals are pushed all the way onto the relays or they may come off.

8. Mount the d-sub (9-pin) connector onto the bracket 57-7614A using the spacers/screwlocks 52-3101 and nuts 52-4449. **Use Loctite 222 to secure the nuts.**

9. If the external alarm will be mounted on the ESE board side, External Alarm Extension cable 10-4984A-A is not used. If the external alarm will be mounted on the opposite side, attach cable 10-4984A-A to the connector labeled "Ext Alarm" on cable 10-4905A-B and run it along the rear cable tray of the TS to the left-side bulkhead. The rear panels of the TS will have to be removed to do this.

10. Mount the d-sub connector bracket inside the large round hole in the TS bulkhead, using the screws 52-3263.

11. Connect cable 10-4983A-A to the connector labeled "Ext Alarm" on cable 10-4905A-B or to the External Alarm Extension cable.

12. Remove the paper backing from the double-sided tape on the relay mounting plate and secure the relays in place on the floor of the TS frame, out of the way of the counterweight and other obstructions.

13. Reattach all panels.

4. SPECIFICATIONS FOR CUSTOMER CONNECTIONS

The external alarm connector in the TS bulkhead provides relay contacts for customer use. The customer provides the alarm circuitry and power source.

4.1.1 Connector

Standard 9-pin D-subminiature receptacle (F) connector, tin-plated shell, with #4-40 threaded screwlocks.

Connector Pin	Signal	Relay	Pole	Relay term.
1	contacts closed for 5s when suspend condition occurs, then open	A	1	2
2		A	1	3
3	No connection			
4	contacts closed for 5s when suspend condition occurs, then open	A	2	4
5		A	2	5
6	contacts closed when suspend condition occurs	B	1	2
7		B	1	3
8	contacts closed when suspend condition occurs	B	2	4
9		B	2	5

4.1.2 Relays

Two relays (A and B): Aromat/NAiS JC2A-TM-DC24V-VDE.

4.1.3 Electrical Specifications

Maximum Current: 0.5 Amps (not fused)
Maximum Voltage: 30 Volts

The external alarm connection is meant for low voltage and low current devices that have their own power supply. Most alarms have a logic-level or open-collector compatible input. This type of input would be ideal for the external alarm since the current is extremely low. Any device connected to the interface should be non-inductive.