Adhesive control requires a **VANSCO PRO...**

pro series

DIGI-TRACK

Speed Compensating, Distance Based
Electronic Adhesive Control System

Features...

- Two Independently programmable Patterns
- Two separate Outputs
- Selectable Stitch option for each Pattern
- Automatic Latch-on
- 24 VDC Output
- Four Program storage capacity in Non-Volatile Memory
- No battery back-up required
- 20 character by two line LCD Display Window
- On-screen Status Line
- Input and Output test routines simplify Installation and maintenance
- Program Security ("Access Code") to protect Programs
- Single Cycle, Repeat Cycle, and No Pattern Cycle Modes of Operation
- Optional cable assemblies and optional plug-in connector kits for Outputs

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Specifications...

INPUTS	Power: 115 VAC 50 or 60 Hz Sensor: 12 VDC current sinking (open collector)
OUTPUTS	DC Output: 24 VDC, 1.5 amp total Power for Sensor(s): 12 VDC, 0.250 amp total
DIMENSIONS:	Enclosure: 8" wide x 10" high x 4" deep Mounting Holes (4): 7" x 10.625," 0.025 dia Weight: approximately 11 pounds
PRO SERIES DIGI-TRACK RESPONSE TIME:	From TRIGGER SIGNAL to start of PATTERN CYCLE: Less than 1 millisecond
TOTAL RESPONSE TIME	PRO SERIES DIGI-TRACK response time plus INPUT DEVICE response time
OUTPUT RESOLUTION:	+/- 0.1 inch from programmed START and STOP settings
PATTERN RESOLUTION:	0.1 inch
MAXIMUM PATTERN LENGTH:	99.9 inches
MAXIMUM OFFSET:	99.9 inches
STITCH ON/OFF LENGTH:	24.9 inches (maximum)
FLOW:	0-100 scale, no dimensions
LOW SPEED CUT OFF (LSCO):	0-250 ft/min, 1 ft/min resolution
ON-DELAY, OFF-DELAY: ***(speed compensation)***	0-50.00 ms, 0.25 ms resolution

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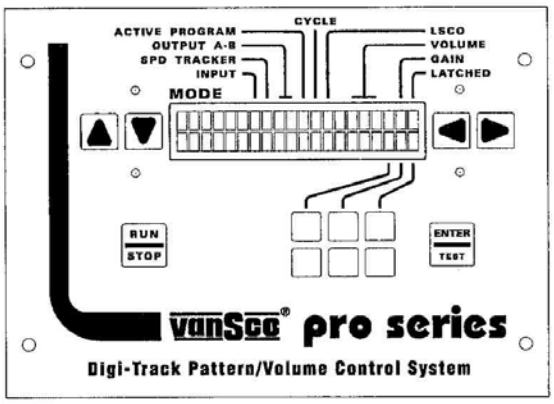
How It Works...

The PRO SERIES DIGI-TRACK requires two inputs in order to function: A trigger signal to start a pattern cycle, and a speed tracker signal to provide product speed and distance information. The triggering device (photo sensor or limit switch) is mounted so that it will detect the edge of a product at a point up stream in the direction of product travel before the application point. The speed tracker is mounted so that its measuring wheel will contact a part of the product or the parent machine (such as a belt or pulley) that will cause it to rotate one complete revolution per foot of product travel.



Digi-Track Control Panel

On power-up, the PRO SERIES DIGI-TRACK performs an internal diagnostic and reset routine, which initializes the hardware and insures that the software is operating properly. On successful completion of this routine, the PRO SERIES DIGI-TRACK is ready to operate. Pressing the run/stop button on the control panel will put the PRO SERIES DIGI-TRACK in run Mode, which allows a trigger signal to begin a pattern cycle.

When a pattern cycle is started, the PRO SERIES DIGI-TRACK begins counting pulses received from the speed tracker. The pulses measure the distance traveled. When the pulse count corresponds to the "start at" distance of a pattern (either or both pattern X and pattern Y), the output selected for the pattern is turned on. When the pulse count corresponds to the "stop at" distance of a pattern, the output is turned off. The pattern cycle is completed when both pattern X and Y have reached their "stop at" distance settings. If the Repeat Cycle operation was selected, the pattern cycle will start again, and continue to repeat as long as the trigger signal is active. If the no pattern cycle mode was selected, patterns are not active; when a trigger signal is received, the outputs will turn on and remain on until the trigger signal is removed.

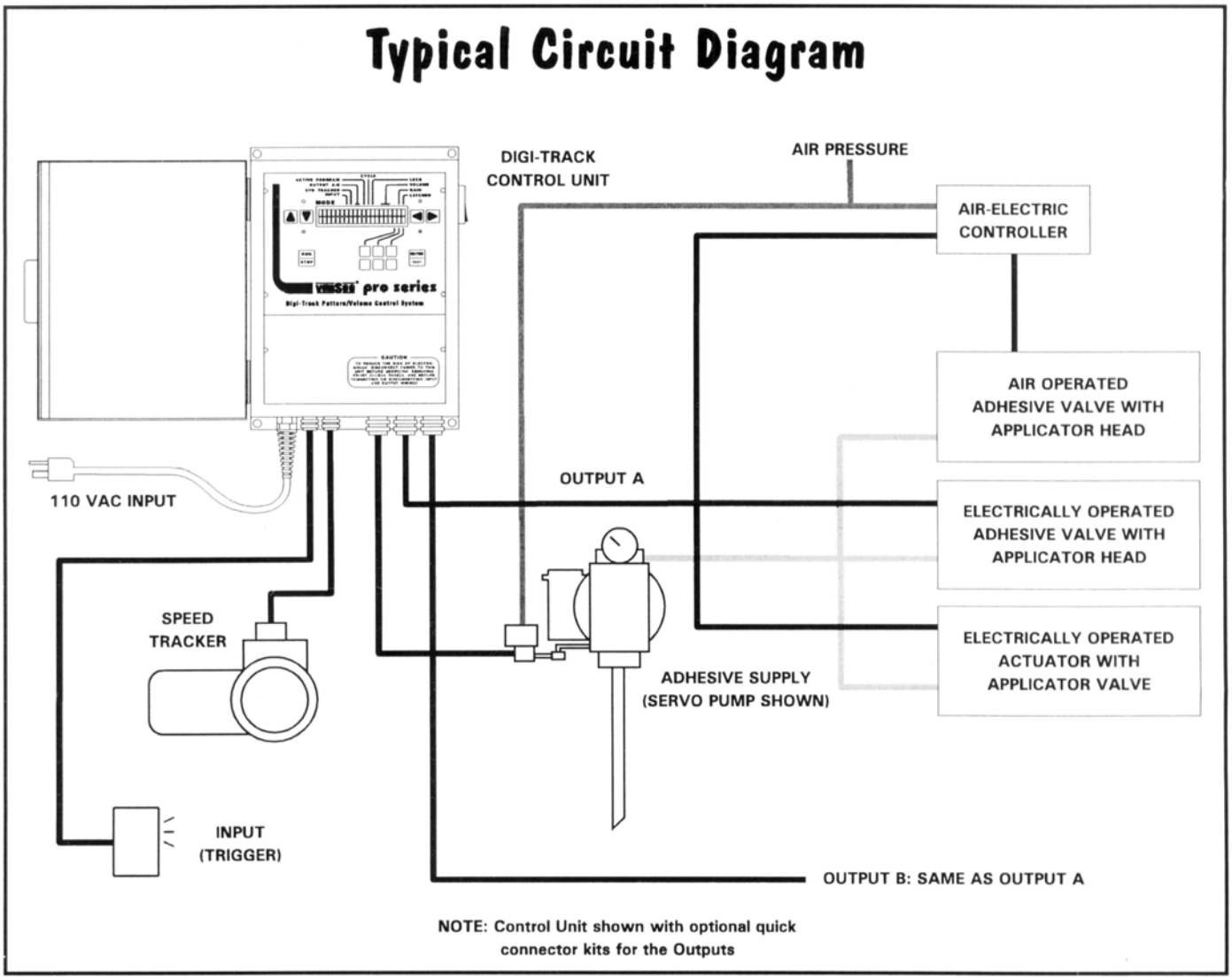
An offset value can be entered for both Pattern X and Pattern Y. If entered, this value is added to both the "start at" and "stop at" distances to determine the pattern turn on and turn of distances. Stitch, if selected, will superimpose repeating on and off cycles determined by stitch on length and stitch off length on Pattern X and Pattern Y. Each pattern has separate stitch enable and length settings. Either pattern can be directed to one, both, or neither output A and B. In addition, either or both outputs A and B can be disabled from the control panel.

The PRO SERIES DIGI-TRACK constantly monitors its speed and compares it to the operator selected low speed cut off (lsco) setting. If machine speed drops below lsco, both outputs A and B are disabled until the speed increases to above the lsco speed. Turn-on speed and turn-off speed correction factors are continuously generated during DIGI-TRACK operation, based on the product speed as sensed by the Speed Tracker, and the values selected for on-delay and off-delay selected by an operator. These corrections are

applied to Pattern X and Pattern Y at the start of each Pattern Cycle in order to maintain the correct pattern length and position even if the product speed varies.

During each pattern cycle, a servo signal is calculated based on product speed as sensed by the speed tracker and the volume gain selected by the operator. This signal is sent to a servo controlled pump or servo controlled fluid pressure regulator which raises and lowers fluid pressure in direct proportion to the signal. Increases and decreases in pressure increase and decrease the flow (volume) of fluid. This results in a constant deposit of adhesive even if machine speed varies.

Auto and manual operation may be selected for the servo signal. Auto functions as just described. In manual, the servo signal is fixed at a setting corresponding to the programmed volume gain value, and will not vary as machine speed varies.



The Vansco PRO SERIES Digi-Track....

…is a microprocessor driven, speed-compensating, distance based, electronic control system. It can be used in any process, which requires precise, accurate pattern placement at varying product speeds, but it was specifically developed to control the output from valves used in adhesive application systems. Examples of applications where the PRO SERIES DIGI-TRACK could be used include business forms, collating, labeling, cartooning, and bag making. There are many other applications.

The PRO SERIES DIGI-TRACK incorporates two independently programmable patterns, X and Y, which can be directed singly or in combination to two outputs, A and B. Thus, single line, multiple line, and the familiar "Pattern-Skip-Pattern" applications can easily be accomplished. In addition to single cycle operation, a repeat cycle operating mode is provided which continues pattern cycle output as long as the trigger signal is active, and a no pattern cycle operating mode for continuos applications is available.

The PRO SERIES DIGI-TRACK includes routines to store and retrieve four different programs. A variable low speed cut off (lsco) to prevent flooding on the machine shut-down, adjustable speed modulated fluid volume, and variable start and stop compensation for a wide range of electric valves are all standard features. Routines for testing the inputs and outputs, configuring for installation and setup, and an access code security system are also provided.

An operator selectable stitch may be superimposed on both pattern X and Y which rapidly cycles the output signal on and off. The result is dots or short lines rather than a continuous long line.

All controls and displays, except the power switch, are mounted inside a rugged enclosure with a protective cover which also prevents unauthorized adjustment and tampering. The operator interface includes a sealed membrane switch control panel and a twenty character, two line display window.

Data entry is "thumb-wheel switch" simple. Using direction buttons on the control panel, the display window is moved to view program variables such as pattern lengths. When the desired information is displayed, new data can easily be entered using data keys if required.

Engineered to "hook up and run", no confusing hidden set up routines or procedures are required to get the PRO SERIES DIGI-TRACK on the job fast! Prewired electrical quick connects for the TRIGGER INPUT DEVICE, SPEED TRACKER, and SERVO (and optionally available for the OUTPUTS) mean trouble free installation and reliable operation.

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A functional PRO SERIES DIGI-TRACK Installation should include at least one each of the following items:

PRO SERIES CONTROLLER	45-20-21 Pro Series Digi-Track
DRIVER BOARD(S) (One 95-06-38 DC Driver Board is included with the controller)	95-06-38 Driver Board, DC 95-02-19 Driver Board, H/S Actuator
SPEED TRACKER	95-03-02 Speed Tracker, 1200 ppr
TRIGGER INPUT DEVICE	Photo Sensors and other electronic sensing devices, current sinking (open collector) Mechanical Limit Switches 95-01-93 Reflective Photo Sensor Assembly 95-01-94 Photo Sensor Receiver and Transmitter Assembly 95-01-91 Reflective Photo Sensor Assembly, H/S 95-01-92 Fiber Optic Photo Sensor Assembly, H/S
ONE OR MORE SOLENOIDS OR VALVES (appropriate Driver Boards required)	40-40-00 Applicator Valve Actuator (Requires 95-02-19 Driver Board) 40-40-10 Applicator Valve Actuator (Requires 95-06-38 Driver Board) 41-0X-XX Air Electric Control Assemblies (DC) (Requires 95-06-38 Driver Board)
ADHESIVE SUPPLY	20-02-05 VanSco Adhesive Pump, Basic SERVO Control 20-01-XX Fluid Pressure SERVO Regulator Assembly
CONNECTORS AND CONNECTING CABLES AS REQUIRED (optional)	78-XX-XX Output Kits 95-XX-XX Cable Assemblies 95-02-40 9-wire Quick Connect Kit 95-02-43 9-wire Plug Kit 95-02-41 3-wire Quick Connect Kit 95-02-42 3-wire Plug Kit

For more information contact your local VanSco distributor, or PHONE, FAX, or WRITE:

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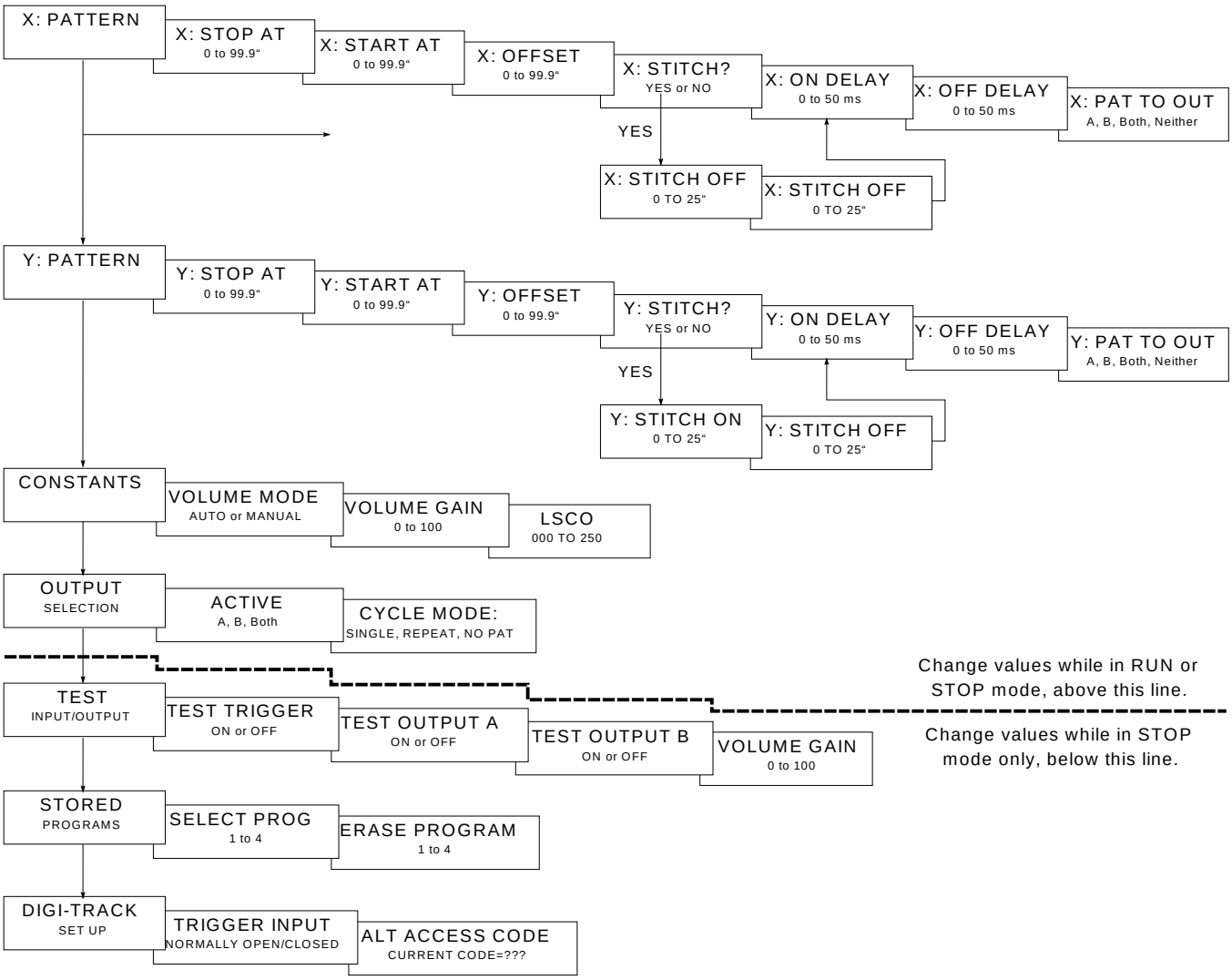
(818) 448-7611 FAX (818) 448-0221

VANSCO PRO SERIES
DIGI-TRACK Speed Compensating Control System
FLOW CHART



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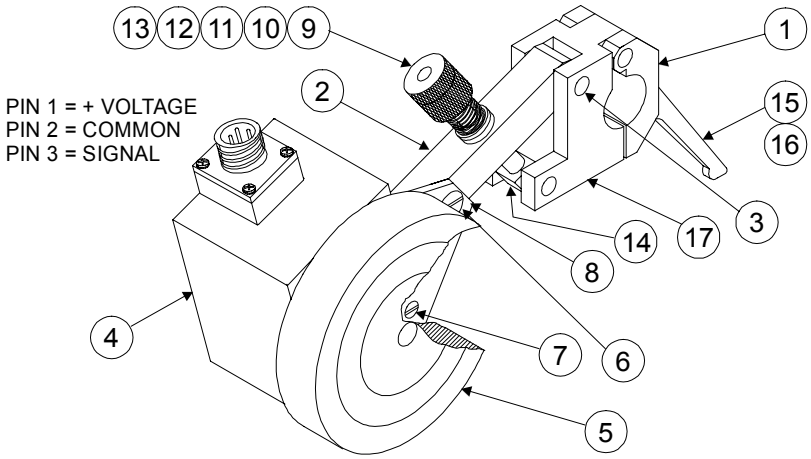
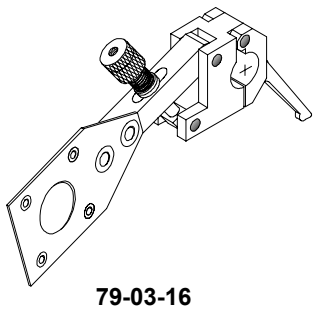
95-03-04 SPEED TRACKER COMPONENT PARTS



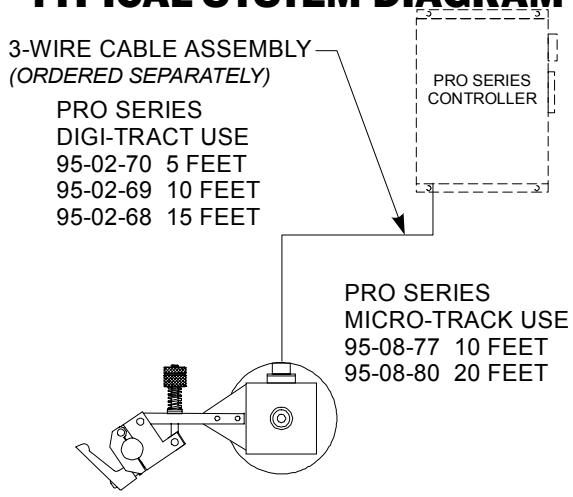


79-03-16
(BRACKET ONLY)

ITEM	PART NO.	QTY	DESCRIPTION
1	92-79-08	1	Top Clamp Half
2	92-79-10	1	Swing Arm
3	92-79-06	3	1/4" Dia. X 1" Pin
4	95-06-39	1	Encoder Assembly 1200 PPR
5	95-06-60	1	Measuring Wheel
6	90-06-12	2	1/4-20 X 1/4 Flat Head Screw
7	90-06-78	4	6-32 X 3/8 Flat Head Screw
8	95-06-62	1	Side Plate

ITEM	PART NO.	QTY	DESCRIPTION
9	92-79-00	1	Adjustment Lock
10	92-79-01	1	Adjustment Nut
11	90-03-06	1	Spring
12	92-79-03	1	Spring Retainer
13	92-79-04	1	Teflon Washer
14	92-79-05	1	Swing Bolt
15	92-79-09	1	1/4"-20 X 20mm Adj. Lever
16	90-07-59	1	1/4" S.S. Flat Washer
17	92-79-07	1	Bottom Clamp Half

TYPICAL SYSTEM DIAGRAM



Distributed By:

TECHNICAL DATA

INPUT:
12VDC, 0.1A

PULSES PER SHAFT ROTATION:
1200

SHAFT DIAMETER:
.375 Inches

SHAFT ROTATION:
Bi-directional

MEASURING WHEEL CIRCUMFERENCE:
12 Inches

OPERATING LIFE:
89,000 Hours (average)

GCC1000

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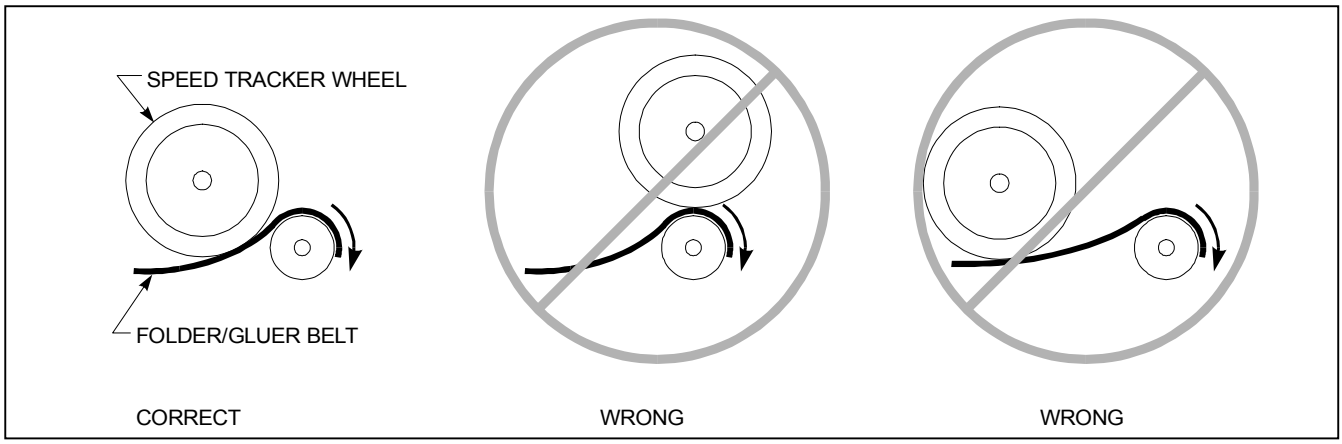
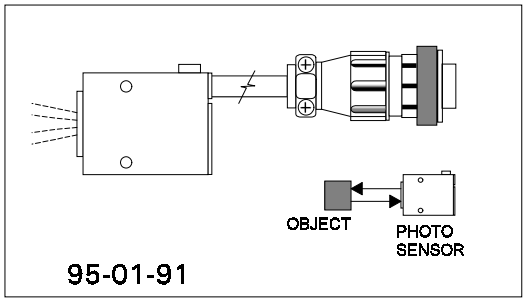


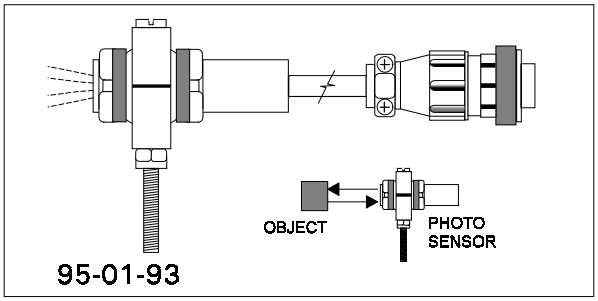
Figure 1
Installing the Speed Tracker on the Belt of a Folder/Gluer

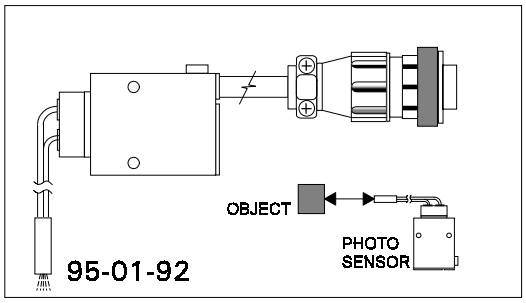
Speed Tracker Installation

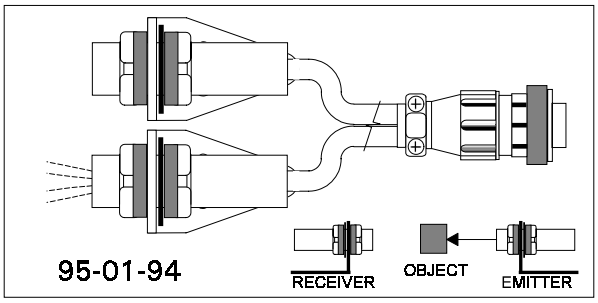
Install the Vansco Speed Tracker to a Folder/Gluer as shown in the example (Figure 1) above. Mount the Speed Tracker so that the wheel is on the center of the belt and positioned close to but not pressed against the opposing wheel for best traction.

95-01-91 95-01-92 95-01-93 95-01-94
PHOTO SENSORS









SPECIFICATIONS

SUPPLY VOLTAGE: +10VDC to +30VDC (10% maximum ripple), at less than 25mA.

OUTPUT CONFIGURATION: current sinking (NPN) open-collector transistor.

OUTPUT RATING: 150mA maximum each output at 25°C, derated to 100mA at 70°C. Output leakage less than 1 microamp (off-state).

OUTPUT PROTECTION: protected against false pulse on power-up, inductive load transients, power supply polarity reversal, and continuous overload or short-circuit of outputs.

OPERATING TEMPERATURE RANGE: -20° to +70°C (-4° to +158°F).

ADJUSTMENTS: LIGHT/DARK OPERATE select switch, and 15-turn slotted brass screw GAIN (sensitivity) adjustment potentiometer (clutched at both ends of travel). Both controls located on rear panel of sensor and protected by a gasketed, clear acrylic cover on the 95-01-91 and 95-01-92 models only.

INDICATOR LED: an alignment indicating device system lights a rear-panel mounted red LED indicator whenever the sensor sees a "light" condition, with a superimposed pulse rate proportional to the light signal strength (the stronger the signal, the faster the pulse rate).

CABLE: PVC-jacketed 3-conductor cable (6' length) standard.

How To Order

PART No.	DESCRIPTION	RESPONSE TIME
95-01-91	**Reflective Photo Sensor H/S**	**1 millisecond**
95-01-92	**Reflective Photo Sensor, Fiber Optic, H/S**	**1 millisecond**
95-01-93	**Reflective Photo Sensor**	**2.5 milliseconds "on"; 1.25 milliseconds "off"**
95-01-94	**Emitter/Receiver Photo Sensor**	**3 milliseconds**

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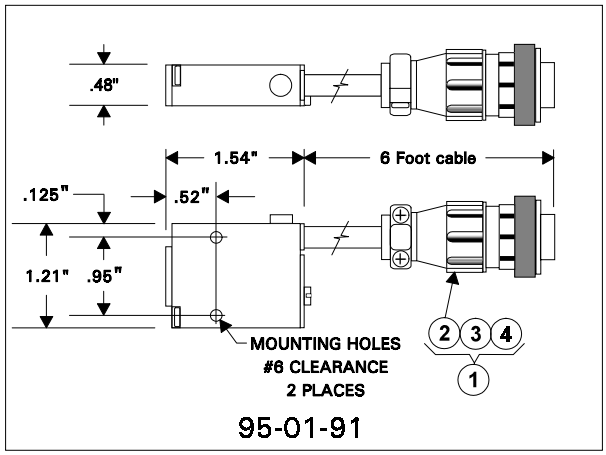
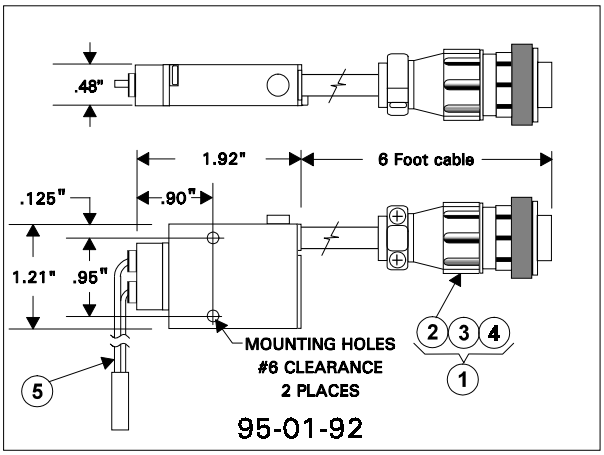
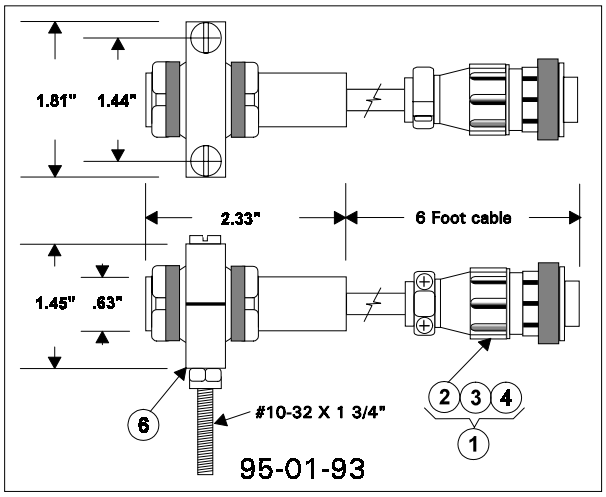
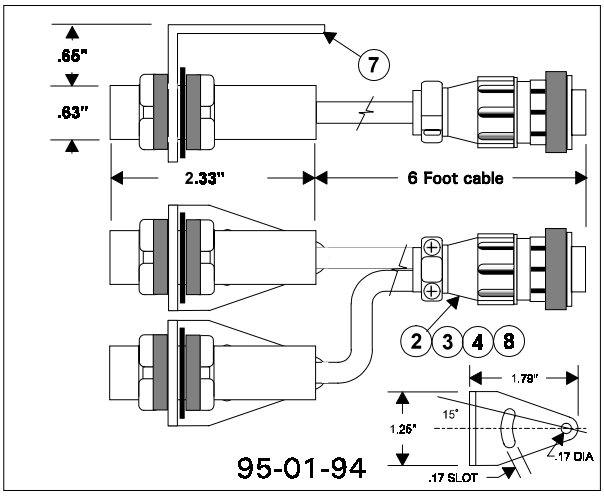
95-01-91 95-01-92 95-01-93 95-01-94
DIMENSIONS & COMPONENT PARTS









ITEM No.	PART No.	DESCRIPTION
1	95-02-42	3-Wire Plug Kit
2	95-06-16	Circular Plug, 4-Pin
3	95-06-22	Barrel Socket, 20-24 Ga.
4	95-06-18	Strain Relief

ITEM No.	PART No.	DESCRIPTION
5	95-08-42	Fiber Optic
6	95-07-35	Swivel Mount
7	95-07-34	Bracket
8	95-06-24	Barrel Socket, 14 Ga.

WIRING NOTES:

1. *Pin 4 in Circular Plug is not used.*
2. *Wiring for 95-01-91, 95-01-92 and 95-01-93:*
   Pin 1-Brown ... +10 to +30VDC
   Pin 2-Blue ... Common
   *Pin 3-*White ... Signal*
   **(Black 95-01-93 only)*
3. *Wiring for 95-01-94:*
   Pin 1-Brown from Emitter and Receiver ... +10 to +30VDC
   Pin 2-Blue from Emitter and Receiver ... Common
   Pin 3-White from Receiver ... Signal
4. *Barrel Socket used in 95-01-94: Pin 1 & 2 uses 95-06-24; Pin 3 uses Barrel Socket 95-06-22.*

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