RAPID – VEYOR

Portable Modular Conveyor System

Operation manual

•Safety Warning!!!

It is the customer's responsibility to ensure that all personnel having access to this equipment have their attention drawn to the various warnings and cautions given in the manual.

Serial Number of Drive Section(s):

Serial Number of None Motor Sections(s):

Design details are subject to progressive improvement and modifications, which may be incorporated without notice.

Safety Recommendations

To avoid unnecessary injury to the operator, or damage to the unit, please review the following recommendations.

1. USE THE CORRECT ELECTRICAL CURRENT: Conveyors run on standard U.S. and Canadian currents of 110 to 120 volts, 60 HZ, alternating current. Other countries may use different currents. If in doubt check the electrical rating label affixed to the motor. The wrong kind of current could cause an electrical short circuit and possible overheating or shocks.

2. GUARD AGAINST SHOCK HAZARDS: do not, for any reason, cut or remove grounding prong from the power cord. Be sure it is plugged into a properly installed grounding type receptacle. ***AC LINE MUST BE CONNECTED TO CIRCUIT WITH 20 AMP FUSING PROTECTION***

3. AVOID ELECTRICAL SHOCK: Never insert metal objects such as screwdrivers inside the electrical unit.

4. NEVER REACH UNDER BELT OR PLACE HANDS NEAR ROLLERS WHILE IN OPERATION: Injury to hands and equipment could occur. Always turn the power off and unplug the power cord before servicing.

5. ALWAYS HAVE THE UNIT SERVICED BY A QUALIFIED SERVICE TECHNICIAN.

For Parts And Technical Support

CONTACT

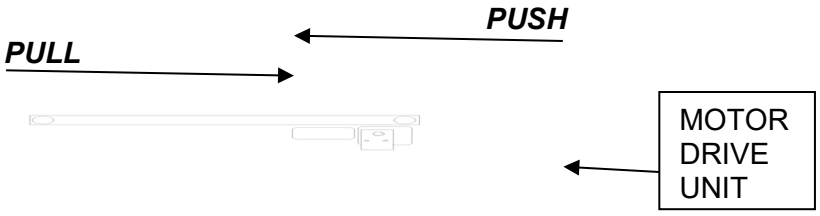
Rapid-Veyor
3825 Central Pkwy Ste A
Hudsonville, MI 49426
616-662-0954
E-mail: sales@rapid-veyor.com

SET-UP OF CONVEYOR SYSTEM:

Before installing a conveyor system, first plan out the layout of units. Take into consideration the area around the conveyor, and loading and unloading points. The conveyor may be placed directly on the ground, on blocks, or on optional portable adjustable stands. Keep in mind that the drive sections will be higher than non motor sections at floor level.

PUSHING VS. PULLING:

The conveyor will work significantly better if the load is being pulled rather than pushed (see illus. Below). Keep this in mind when positioning drive sections. Heavier items should always be pulled to avoid belt slipping. Also avoid long inclined sections being pushed.



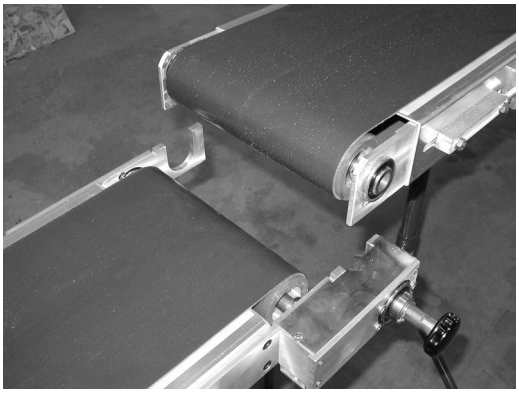
WARNING:

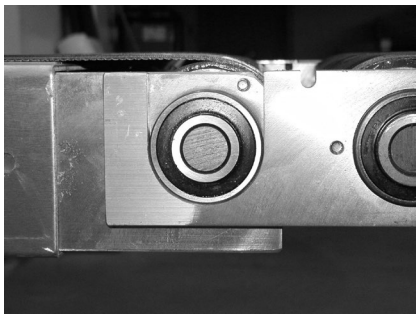
Never connect more than one drive section to any amount of non motor sections. Up to seven non motor sections can be connected to a drive section; the non motor sections can be placed in any location ahead or behind the drive section. Two drive sections should never be powering any common non motor sections. This could cause the two drive sections to work against each other, resulting in increased belt wear, and possible overheating and damage to the motor. If only lightweight material is being moved, it is possible to connect more than seven non motor units to one drive section. Please call Rapid Automated Systems (616-662-0954) before attempting this.

CONNECTION OF SECTIONS

Once the layout is planned, begin placing sections together as shown in fig. A. Place sections in a manner that the receiver end can be dropped directly in the connection

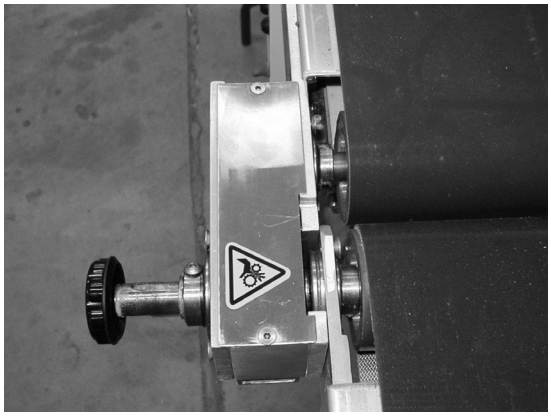
cradle of the first section. Ensure conveyors are pulling or pushing as desired. Be sure bearings of the receiving end are fully seated in the cradle (see fig. B).

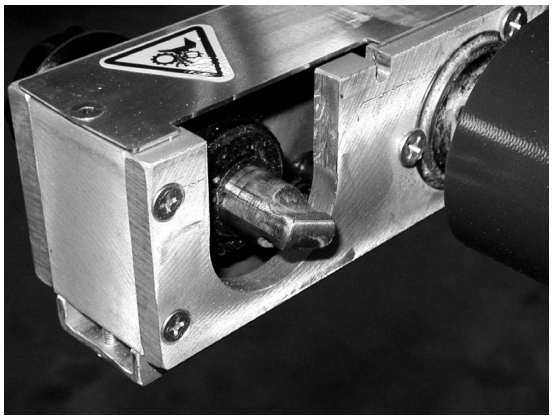




Connecting sections

Push in the knob of the transmission shaft into the roller assembly. It may be necessary to push or pull the belt by hand until the shaft fully seats into the roller. Reverse steps to dissemble. Note: It may be necessary to reverse motor drive direction a few inches to disengage transmission (see below).





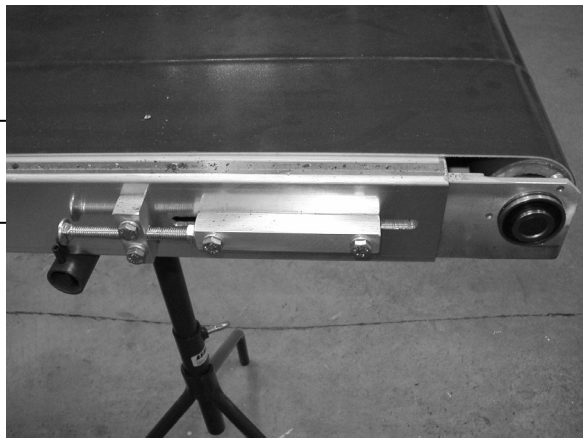
DRIVE SECTION CONTROLS

Each drive section has its own basic conveyor controls. Power on and off, forward and reverse, and a speed control. Turning the knob in the desired direction changes the speed control. Turning the knob clockwise increases speed. To avoid belt slippage under heavier load, turn on drive and slowly increase to desired speed. Heavier loads may work better at a slower speed. Also avoid switching from forward to reverse before the belt has come to a complete stop.

Power Indicator

Power Switch

Direction Control



Speed Control

TABLE 5 – CONTROL MODE AND STATUS LED INDICATION

Control Mode	Status LED Information		
	Flash Rate	Color Sequence	Illumination Duration Seconds
Run	Slow Flash	Green	1 Sec On - 1 Sec Off
Stop	Steady	Yellow	Constant
Stand-By[1]	Slow Flash	Yellow	1 Sec On - 1 Sec Off
Short Circuit	Slow Flash	Red	1 Sec On - 1 Sec Off
I^2t Fault	Quick Flash	Red	0.25 Sec On - 0.25 Sec Off
Overload	Steady	Red	Constant
Undervoltage	Quick Flash	Red - Yellow	0.25 Sec Red - 0.25 Sec Yellow
Overvoltage	Slow Flash	Red - Yellow	1 Sec Red - 1 Sec Yellow
Recovered Undervoltage[2]	Quick Flash	Red - Yellow - Off - Green - Off	0.25 Sec Red - 0.25 Sec Yellow - 0.5 Sec Off - 1 Sec Green - 0.5 Sec Off
Recovered Overvoltage[2]	Slow Flash	Red - Yellow - Off - Green - Off	1 Sec Red - 1 Sec Yellow - 0.5 Sec Off - 1 Sec Green - 0.5 Sec Off

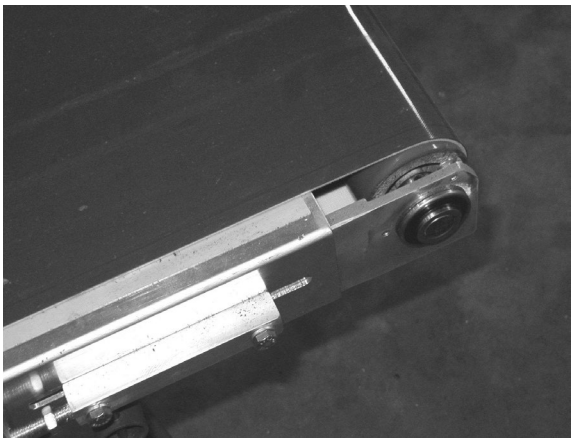
Notes: 1. Only if the Forward-Stop-Reverse Switch is installed
2. Only if the control is in Manual Reset Mode (Jumper J4 set to the "MAN" position).

TROUBLESHOOTING

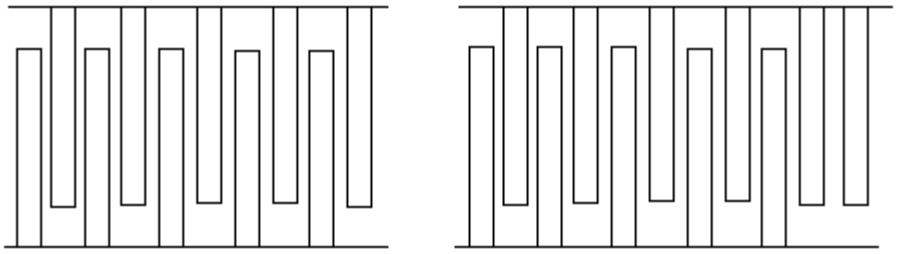
MAINTENANCE

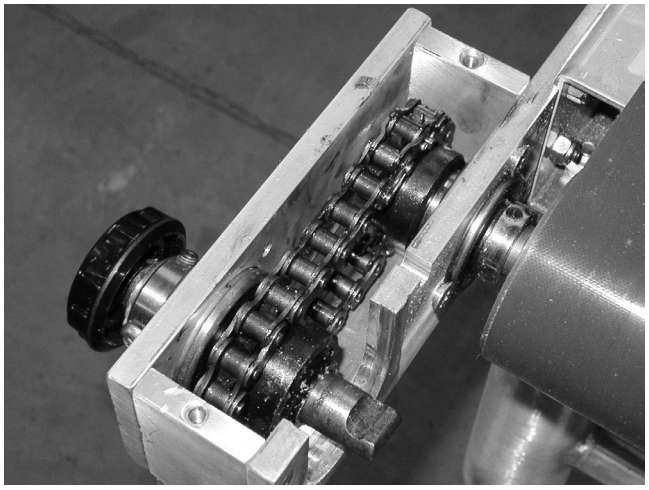
Belt tension and Tracking: the belt tension can be changed by turning in the tensioning screw on each side of the conveyor (see fig. C). The belts have a set tension from the factory, but they will stretch over time. If any visually noticeable belt slipping is occurring the belts may be in need of tensioning. It is necessary to ensure both sides are even to achieve proper tracking. If the belt is significantly bulging in the middle, it may require adjusting one side out further than the other. This will put more tension on one side of the belt, changing its position in the roller groove.

FIG. C



Removing the belt: loosen tensioner and allow roller to fully retract into conveyor bed. Pull the pin out of the belt lacing, and remove the belt. Reverse steps to re-install. Take note of intertwining of lacing and position of belt with snub roller underneath conveyor section. The lacing should be centered with each other (equal on each side).

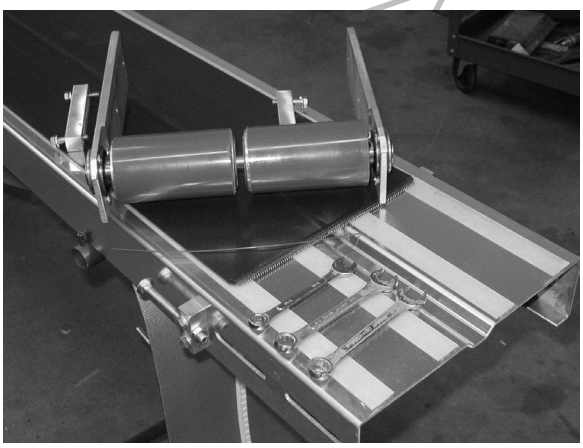


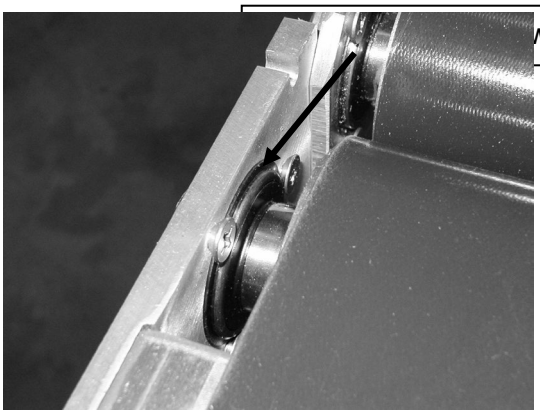


Roller disassembly:: Rollers connected to transmission, must have the chain and sprocket removed first. Remove the belt. Loosen set screws (see fig. D) on roller shaft. Remove hex head bolts (1/2”) from tensioner assembly (refer back to fig. C). Slide assembly out of the conveyor bed. Disassemble shaft from mounting slides (fig. G). Remove tension screws from around bearing snap rings (fig. E). The bearings can be replaced by gently and squarely tapping on the outside portion.

Fig. D Set screws

Fig. F Mounting slides





Cleaning and lubricating: All sections can be cleaned with mild soap and water. The motor and electrical control box are water-resistant (NEMA 4 protection rating). The motor/drive unit may be washed with a low-pressure hose. However, avoid direct spraying of the motor. Lubricate transmission chains monthly (fig. D), and drive chain (fig. G), with a heavy weight oil. Spray roller bearings and transmission shaft with white lithium spray lubricant (fig D and E).

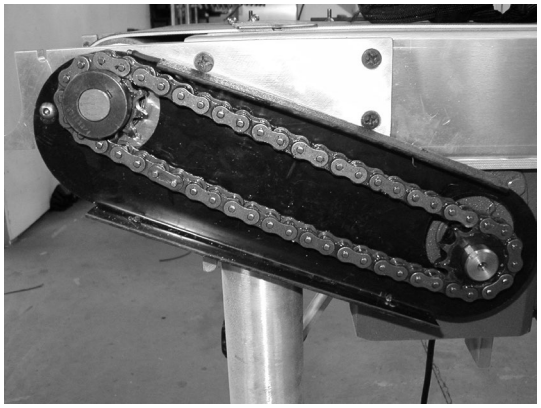


Fig. G

Optional Equipment:

Cart: Use caution when loading and unloading carts. Never attempt loading and unloading of conveyor sections with one individual. When loading sections onto a cart never exceed the height of the handle as this could become unstable. It is recommended to strap them to the cart when moving.

Drop-N-Drives: We offer two different models .

A-Drive or Above the belt gives you the option to set your conveyor on the ground and run, as well as any other desired height. It could get in the way of larger trays and pots.

Drop-N-Drive B or below the belt is for larger trays and pots with bushy plants. It works well for adding corners or small runs.

Bridge Roller: this fits in the gap between the connected belts or the drop-n-drive and the belt. It helps smaller pots and trays make the transition smoother.

Cornering sections: When a turn is needed one section must T into the next. The junction should be placed near the middle of the next section (see below). The long curved section is to be placed on the outside of turn using the two rotating head mounting rods. While the wheel is placed on the inside of the turn using the fixed head rod. The mounting brackets are secured to the return form on the bottom of the conveyor. They slide in and are secured with the knobs on the bottom plate.

The Conveyor receiving pots or trays should be a touch lower and faster than the other. Height adjustment of the cornering parts is crucial. Please try different settings to get your pots or trays to corner properly. Adding a piece of UHMW tape to the exposed Aluminum bed on the side of the belt of the receiving conveyor belt can help smaller pots transition better .

RAPID-VEYOR

rapid-veyor.com

Limited Warranty

Rapid-Veyor warrants the Rapid-Veyor System for two (2) years from the date of purchase. Rapid-Veyor obligation under this warranty is limited to repairing or replacement, at Rapid-Veyor option, F.O.B. manufacturing plant, any part of goods found to be defective within the warranty period. This obligation is conditioned upon receipt by Rapid-Veyor of prompt notification via, phone, e-mail, or written letter of the claimed defect, including a description of the defect and its discovery, and the opportunity for Rapid-Veyor to inspect the goods in the buyer's facility. This obligation does not include costs of labor or other charges incurred in removing or reinstalling parts, and does not apply to goods damaged by misuse, neglect or accident. Or to goods which have been improperly applied, installed, adjusted, operated, maintained, repaired or altered by persons other than Rapid-Veyor.

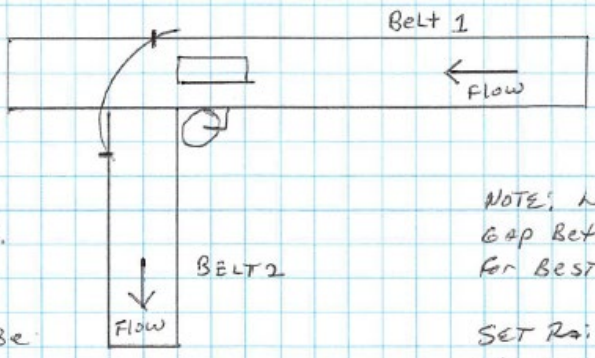
Rapid-Veyor makes no additional warranties, expressed or implied, as to any goods. In particular, Rapid-Veyor makes no warranties of merchantability or fitness for any particular purpose. In no event shall Rapid-Veyor be liable for failure of the goods to comply with federal, state or local laws or for incidental or consequential damages (including loss of profits).

Please note: Purchased components such as the motor, drive, or reducer are subject to the manufactures warranty period, and during that warranty period, Rapid-Veyor will on your behalf contact them and assist you the buyer in settling the claim.

For any questions regarding this warranty please e-mail us at sales@rapid-veyor.com or phone at 616-662-0954 during regular business hours.
9:00AM – 4:00PM EST Monday – Friday.

TIPS for Setting up Corners + TRAYS

INTERSECTION
OPTION A



NOTE: Belt speed is critical for good cornering. Both Belt speeds should be AT LEAST 50% of full speed.

When using option A Belt 1 speed should be Slower than Belt 2

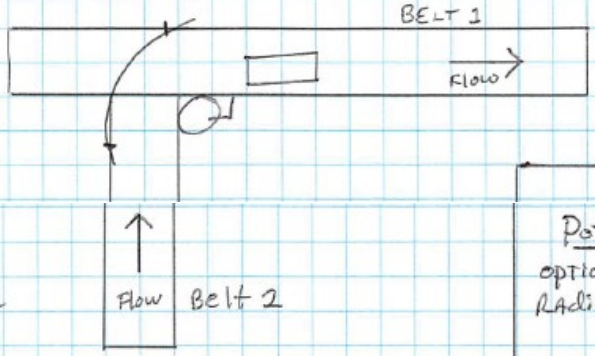
Belt 1 should be lower than Belt 2, it will then help pull tray around corner

NOTE: Leave Good Gap Between trays for Best Results

SET Rails Higher on the trays

Always have the Belt speed FASTER on the Belt the tray is transitioning on to.

INTERSECTION
OPTION B



Note: Belt speed is critical for Good cornering. Both Belt speeds should be AT LEAST 50% of full speed.

Belt 1 should be FASTER than Belt 2

Belt 1 should be lower than Belt 2

TRAY is normally cocked unless you use Additional Bump Rail on other side

Pots only
option A only outer RADius needed

option B only Inner Radius needed