

INSTRUCTIONS

KILLING AND EVISCERATING LINE CONVEYORS



⚠ WARNING ⚠

Your conveyor must be installed and maintained by a qualified electrician. Your conveyor must be grounded according to all applicable codes and a ground fault interrupter must be installed. All line sizes and specifications must meet or exceed local codes.

Be sure Power Cord Assembly is not connected when installing or cleaning. Do not defeat electrical ground afforded by 3-prong Cord Assembly. All electrical components should only be repaired by a qualified electrician.

Controls and motor are not guaranteed against damage from water or mishandling. Do not turn water or steam hose directly against the control box or motor. Keep the control box door closed and do not handle the controls with wet hands.

Failure to follow these safety precautions could result in electrical shock causing serious injury or death!

READ ALL DIRECTIONS CAREFULLY BEFORE BEGINNING INSTALLATION

Parts Included in Standard Conveyors. Conveyors with length other than 16 or 22 feet (4.9 or 6.7 meters) will have varying quantities.

Description	16 Foot (4.9 Meter) Quantity	22 Foot (6.7 Meter) Quantity
Drive End/180° Turn	1	1
25-1/4" Diameter Sprocket w/Torque Limiter	1	1
120 Volt 3/4HP D.C. Variable Speed Motor	1	1
Variable Speed Motor Control	1	1
CS300 Bright Zinc Calibrated Chain (case hardened)	37 Feet (11.3 meters)	49 Feet (14.9 meters)
Hardware Bag with Chain Connectors, Small Pulley, and Take-up Hardware	1	1
Package of Bolts, Lock Nuts, Washers, and Retainers for Trolleys	1	1
T355R Zinc Plated Two Piece Y Shaped Trolley with SS Ball Bearing Wheels	39	54
CS90D Track Section 5' Lengths (plated)	4	6
CS90D Track Section 3' Lengths (plated)	2	2
Large Diameter V-belt Pulley	1	1
CS-6 Track Insert (connector)	8	10
TU-210F Single Flat Wheel 24" Diameter Screw Type Take-up Unit	1	1
4L550 V-belt	1	1
Q523 Cross Channels	3	4
Evisceration or Killing Shackles	33	44
Hardware Bag for Mounting Flanges	1	1
Hardware bag includes:		
1/4-20 Bolts, Nuts and Lockwashers	24	32
3/4" NPT Cast Pipe Flanges	6	8



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ASSEMBLY AND INSTALLATION INSTRUCTIONS

STEP 1: Remove equipment from containers and check equipment parts with list on page one.

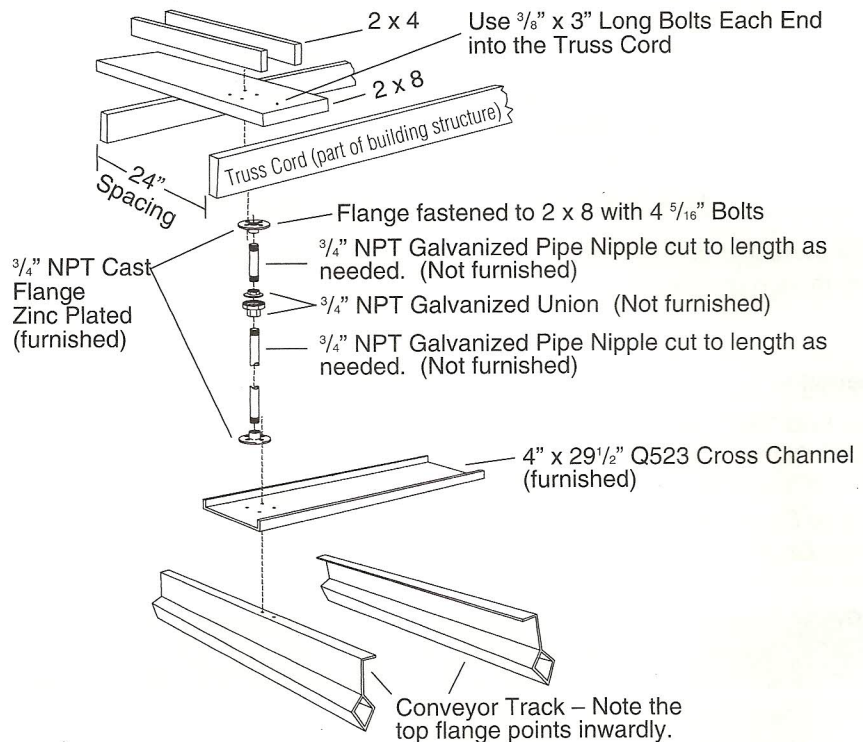
STEP 2: Decide how you are going to suspend the conveyor and note the following. (However, assemble your conveyor before you actually build the means of suspension). Our conveyor does not come with material for suspending the conveyor. We recommend ceiling suspension. You can also build a floor support frame. Ceiling suspension results in better sanitation. Cast pipe flanges are supplied which mount to our Q523 cross channels. Exhibit A shows a suggested mounting. Generally, we have found the design of Exhibit A to provide sufficient strength. There are something less than 100 pounds (45 kilograms) of bird loaded weight on each cast pipe flange mounting point (6 points on a 16 foot conveyor and 8 points on a 22 foot conveyor).

CAUTION: You need a professional opinion as to the appropriate strength of the ceiling members used for attachment.

On our 16 foot (4.9 meter) conveyor, there are 3 4" x 29 1/2" (9.8cm x 74.9cm) cross channels. Our 22 foot (6.7 meter) conveyor has 4 cross channels. These need to be spaced equi-distantly. Place one channel on the Drive End, one on the Take-up End and place either one or two channels in the center of the conveyor.

EXHIBIT A

2 x 4's and 2 x 8's can be glued and nailed every 6". Use 16# sinkers



When deciding on a ceiling suspension design, you also need to determine height. First of all, review the height of the personnel who will be working on the line. You need to assess an average height of the work force. Place a deceased bird (or a representative rubber chicken) on a shackle. Hold up the shackle and position the bird so that an average-height operator does not need to pull the bird toward or push the bird away from the operator. Allow the bird to hang down as naturally as possible. When you have made this assessment, measure the height of the "S" hook at the top of the shackle to the ceiling. You will then need to cut your 3/4 inch (1.9cm) galvanized suspension pipes accordingly -- taking into account what your suspension design will do to the final position of the shackles.

STEP 3: The main track comes in 5 foot (1.52 meter) sections. If you want to install a system with length other than what you achieve using standard length sections, it is possible to cut the rail section to achieve the desired length. Make this determination now.

STEP 4: There are 2 ways to assemble the track. Either way must be done carefully to assure a smooth running conveyor. Of the 2 below desired means of assembling the track, we prefer the second but either one will work.

The floor where you assemble the conveyor must be level. If it is not level, level up sawhorses allowing you to place the sections such that they can be welded in a flat plane. Don't guess. Use at least a 24 inch carpenter's level. Determine which end will have the Motor and which end will have the Take-up. Place these two 180 degree sections accordingly. Mechanically speaking, it does not matter which end has the motor and which end has the Take-up.

Track Assemblage Method One: Review Exhibit B. Lay the track in between the Drive End and the Take-up End. The "L" flange on top of the track needs to be pointing inwardly. Connect the tracks using the 7/8" (2.2cm) square tube stock connectors (3-1/2" (8.9cm) long). Leave a gap of not more than 1/8 inch. Tack weld on the bottom side of the square

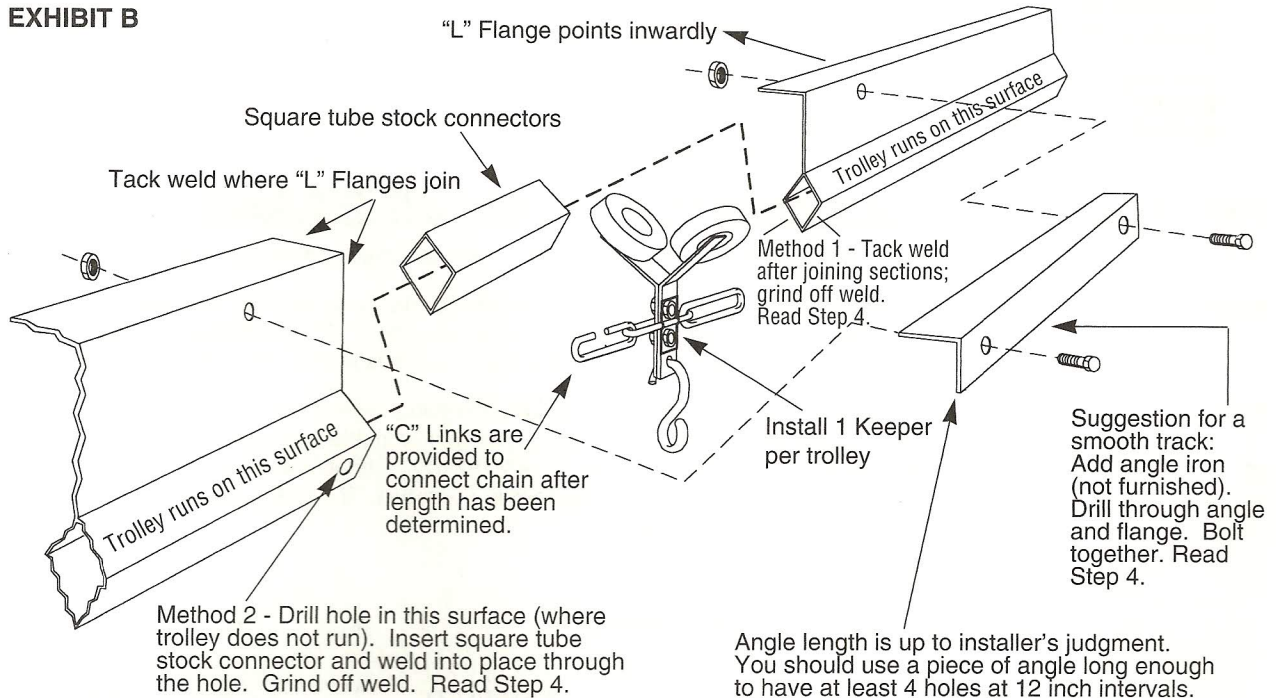
tube and also on the "L" flange of the conveyor track. Grind off any excess weld. An excellent weld is needed to make the top of the track as smooth as possible. With poor welds, the conveyor will run with "bumpy" connections and you will hear a lot of clicks. Make sure the entire unit is aligned.

Without a flat surface, you will have "roller coaster" up and down movement of the trolleys and the trolleys may hang up.

Once the track is welded, set the welded assembly on sawhorses or barrels.

Track Assemblage Method Two: Lay the track sections in between the Drive End and the Take-up End. The "L" flange on top of the track sections need to be pointing inwardly. Review Exhibit B. Drill one hole in the end of one section only - $3/4$ " (1.9cm) from the end of section. This can be a $1/2$ " (1.27cm) hole. Note in Exhibit B that the hole is drilled on a

EXHIBIT B



side of the track where a trolley wheel does NOT run. Insert a connector through the hole you drilled. Do this on all track sections (one hole only and one tack weld only per connection). Assemble all the sections. Grind off the tack weld at the holes.

Measure the total length of all such assembled sections. Using angle iron (not furnished), overlap the "L" flange of each section, making sure angle iron covers each connection point. Drill the track section and angle iron together, using a $5/16$ " diameter hole (to accommodate a $1/4$ " fastener). Drill holes every 12" or so (30.5cm). Assemble using $1/4$ -20 fasteners and lockwashers. MAKE SURE ALL TRACK JOINTS ARE TIGHT AND LEVEL. (Do not tack weld other than through the one hole that you drilled.) This Method Two requires you to purchase more material than in Method One. You also need to drill more holes. However, the advantages are: (1). less welding required; (2). less grinding; (3). better odds of a level connection; (4). a stronger connection and (5). easier expansion in the future (if you decide to lengthen your conveyor).

STEP 5: Mount motor at motor drive end but do not tighten fasteners. The pulley on the end of the motor points up. Mount 2 pulleys -- small one on the end of the motor and large pulley on the drive unit. Install V-belt and tighten V-belt by tightening the four fasteners which mount the motor to the bracket on the drive unit. Pulley alignment can be done at this time.

STEP 6: The adjustable speed control can be mounted away from the conveyor as desired. It does not need to be mounted on the conveyor. ALSO NOTE: it can be very useful to install 3 way or 4 way switches at either end of the conveyor, in between, or as needed. This makes it easier for operators to stop the line when needed. There can be numerous reasons for delays during processing and you want to make it as easy as possible for any operator to stop the line.

CAUTION: These switches and any other installation must be done by a qualified electrician.

STEP 7: Complete your means of suspension. Assemble cross channels to the track section as discussed in STEP 2 above (i.e. one channel on each end and either one or two in the middle -- all spaced equi-distantly). You will need to drill 2 holes in the "L" flange of the track section for mounting each side of the cross channels. Note that the cast pipe flanges need to be assembled as well. See Exhibit A.

STEP 8: Mount your assembled track section to your devised suspension.

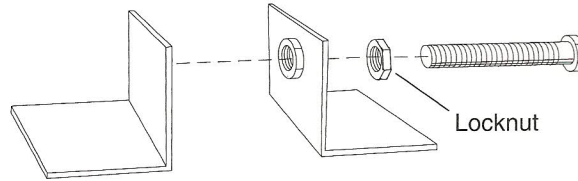
STEP 9: Suspend chain under track using wire as needed to temporarily wire the chain to the track as you suspend the chain. Do not allow the chain to twist. Wire ends of chain together loosely.

STEP 10: Assemble and install trolleys. Trolleys are normally spaced about 12" (30.5cm) apart. If closer spacing is required, you will need to acquire more trolleys. Start about 5 links from one end of the chain at the drive unit end. Continue placing trolleys at desired spacing. The first trolley may need to be wired to the track or cross channel to make it easier to install the rest of the trolleys.

STEP 11: Adjust the chain. Move the belt on the drive unit to take the slack out of the chain. Remove excess links. Connect the ends of the chain together using the "C" links provided. Additional adjustment may be made by adjusting the Take-up Adjustments on both sides of the string. You should be able to flex the chain with your finger tips. The tighter the chain to begin with, the more stretch you will experience later on. See Exhibit C. Spread or collapse the Take-up Adjustments. Tighten the lock nuts.

EXHIBIT C
(see Step 11)

Two Adjustments are found on the Take-up end of the conveyor.



STEP 12: **NOTE!! BEFORE OPERATING POWER DRIVE, PLACE ONE (1) PINT OF SAE90 OIL IN GEAR BOX (.47 liter).**

Should leakage occur, check to see that not more than one pint of oil was added to the gear box.

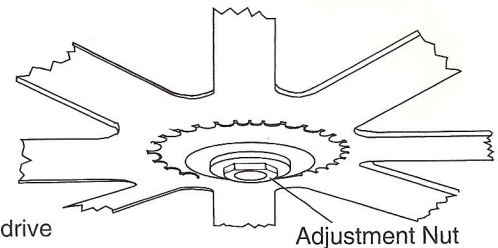
STEP 13: You are now ready for a trial run of the conveyor. If the drive unit seems to labor with no load, the chain is too tight. It will be necessary to add an even number of links until this is corrected. Chain tension is adjusted using the Take-up Adjustments. Loosen the locknuts, spread or collapse the Take-up Adjustments. Re-tighten the locknuts. See Exhibit C.

STEP 14: The torque limiter attached to the drive sprocket should be tightened just enough to move the load. To adjust the torque limiter, loosen the allen screws, adjust the torque limiter nut and re-tighten the allen screws. Turn the torque limiter clockwise to tighten and counter-clockwise to loosen. See Exhibit D. Should the torque limiter slip, the cause should be ascertained and corrected before again putting the system in operation. If an unusual amount of pulsation or loosening and tightening is experienced, check the following:

- A. Make sure you have a level plane.
- B. Check all turns for alignment and free movement.

EXHIBIT D
(see Step 14)

Torque limiter (found on the drive end in the center of the hub)



MAINTENANCE OF CONVEYOR SYSTEM

Your conveyor will require little maintenance if properly installed. Periodically inspect the working parts. We suggest the following maintenance.

DRIVE UNIT: Check the belt for wear, alignment and tension each month. Check the oil level by removing the vent plug on top of the gear box. Change oil in the gear box every 2-3 weeks of strong usage. Use SAE90 gear oil. Re-fill with 1 pint of oil (.47 liter). **DO NOT OVERFILL. THE GEAR BOX WILL OVERFLOW IF OVERFILLED. OIL AND BIRDS DO NOT MIX.** Occasionally check the motor for overheating.

IDLER CORNER: Inspect oilite bearing occasionally.

CHAIN: Chain will develop slack on a new system much faster than after it has been used for a while. Therefore, we suggest close observation for the first six weeks. By observing the chain after it leaves the drive sprocket, you can ascertain when the chain is loose as it will begin to sag. Chain that is operated too tightly will cause excessive wear.

When chain becomes loose, links will have to be removed. When removing links, you must remove in multiples of 2. If an odd number of links are removed (1, 3, etc.), the chain will twist off the sprockets.

To remove links, loosen the locknuts on the Take-up Adjustments (see Exhibit C). Collapse each Take-up, remove links, re-spread the Take-up and re-tighten the locknuts.

Remember, **DO NOT ALLOW THE CHAIN TO JERK OR SWAY.** Side thrusting or twisting will cause the trolleys to spread apart and cause excessive wear.

Inspect wheel bearings occasionally. Apply a few drops of oil or graphite on each wheel hub occasionally. Trolleys passing through processing equipment using heat, steam or caustic solutions will need to be lubricated more often than trolleys used for storage and transportation.