



The Standard of Excellence in Custom Conveyors

# Chip-Out & Part-Out Conveyor

Converon

# PARTS & SERVICE MANUAL

11

Conveyor Serial #: \_

200

## **SAFETY INFORMATION**



**WARNING:** The following information must be communicated by the customer, owner, or end user to any personnel who will operate, maintain, repair, or adjust this machinery, or those who are assigned to work in the vicinity of this machinery.

## **NEVER** operate this machinery without reading and understanding this Manual completely.

## **NEVER** operate this machinery unless fully trained and qualified by the Owner or End User.

 Operation, adjustment, maintenance, cleaning and lubrication should be carried out by personnel properly trained in the operation of all associated conveyors and process equipment. Personnel should be trained in OSHA compliant lock-out / tag-out and electrical procedures. Records of training and of safe operation should be maintained by the owner or end user. Proper safety procedures must always be performed when adjusting, maintaining, cleaning or lubricating this machinery.

**NEVER** operate this machinery (or any portion of this machinery) unless all personnel are clear of any rotating or moving part or parts that could potentially move or rotate.

**NEVER** operate this machinery unless all guards and/or emergency stops are in place and functioning as designed by Transcon Conveyor.

• Casings, guards and other safety devices are not to be removed, bypassed or disengaged during the operation of this equipment.

#### **NEVER** operate this machinery in applications other than the specific application for which it was designed.

- Conveyors should be used to transport only that material for which they were specifically designed.
- No conveyor should exceed its maximum speed and/or capacity.
- Conveyors shall be kept free of any accumulation of materials that could inhibit the safe operation of the conveyor.

#### **NEVER** perform any maintenance, repairs, adjustments or lubrication on this machinery without first locking out all electrical controls.

• When working on the conveyor, be certain to turn off the electrical disconnect and lock-out the power to the conveyor.

**NEVER** clean this machinery or the adjacent areas to or below without first locking out all electrical controls.

## **NEVER** remove any guards or covers without first locking out all electrical controls.

• Guards are to be kept in place at all times unless the electrical power is off and the conveyor is locked out.

#### **NEVER** perform any maintenance, repairs on power lines feeding this machinery without first locking out the power at its source.

- All repairs and services are to be performed by qualified personnel. Before repairs, tests or services are begun, all power controls must be locked out in accordance with OSHA compliant procedures.
- After a conveyor has been repaired, tested and/or serviced, it is not to be operated until all guards and safety devices have been reinstalled, all maintenance equipment has been removed and a visual inspection of the conveyor and immediate area has been completed.

#### **NEVER** remove or cover any warning label.

# **NEVER** operate a conveyor equipped with safety pull switches if the safety pull switches are not operating properly.

• Operators should be instructed to report any impairment of guards, emergency stops or safety switches to their supervisors.

The following items should be checked prior to the *initial Start-Up of the the completed Conveyor*.

Frames checked for alignment laterally and longitudinal

Tracks and guides checked for alignment

All splice bolts and anchor bolts tightened

Bearing Bolts and all setscrews tightened

Conveyor belt installed in the proper direction

All belt cotter pins or locknuts installed properly

Conveyor belt tensioned correctly with the take-up

Conveyor drive chain checked for proper tension

All lubrication points greased

Chain oiler reservoirs filled (optional)

Reducer oil level checked

Shear pin installed correctly

Torque limiter set correctly

All electrical connections checked

Motor rotation correct

All guards installed

All safety & warning labels present

The following items should be checked during and after an *initial 24 hour Run-In Period*.





CROSSING OR STANDING ON CONVEYOR IS FORBIDDEN

KEEP HANDS, FEET AND WEARING APPAREL AWAY FROM CONVEYOR



### **CONVEYOR INSTALLATION**

**PRELIMINARY CAUTION:** If chain or cable slings are used for lifting, lowering or general handling, they should be used with a spreader top and bottom so as to prevent collapsing or otherwise distorting the frame sections, or in the case of the belting, the wings or hinge links.

- In assembling the frame be sure that all splice points, the track and guides of adjacent sections align properly. For best frame fit and proper alignment use match marking numbers.
- 2. After the frame is bolted together it should be checked for alignment:
  - A. The center line (longitudinal) must be a straight line viewed from above. A transit, taut wire or string (such as a chalk line) should be used to check trueness.
  - B. The conveyor frame must be level laterally throughout its length. This can be accomplished by shimming in the case of rigid supports or by adjusting adjustable type supports.
- **3**. Check again at this time for all track and guide alignment. Make any corrections which may be necessary.
- 4. The conveyor should now be anchored to the floor or other supporting surface. At this time, tack-weld any adjustable legs to the side of the frame: this will prevent misalignment should the adjustable leg bolts loosen due to vibration.
- 5. Check to be sure all bolts for bearings and set screws of sprockets are tight.
- 6. The belting, if shipped loose, can now be threaded into the conveyor frame. When joining belt sections take care that the belt is installed in the proper direction and that the wings interlock properly from one section to the next. The leading edge of one wing should be on the outside of the preceding wing's trailing edge. Use match mark numbers on belting to ensure best fit of belting.

- 7. After the belt has been connected, the take-up should be adjusted to the proper tension, making sure that the belt is centered in the frame: both top side, and if possible, from the underside.
  - A. The proper tension will take the slack out of the belt but will not put exces sive strain on it. If either take-up screw is too tight, the belt will tend to ride away from that side. Clearance between the side wings of the belt and the wing guide angles should be the same on both sides. Tighten the jam nuts on both take-up screws.
  - B. Belts allowed to operate with too much tension are usually indicated by pulsation or surge and will cause excessive wear on belt pins, side chain and sprockets.
  - C. Belts operating with correct tension are usually indicated by a slight downward flexing of hinged joint while disengaging from tail shaft sprockets and just prior to engaging the headshaft sprockets.
- 8. Check alignment and tension of V-belts and sheaves, sprockets and chain or coupling, if applicable. These are set at the factory, but could become misaligned in transit.
- 9. Sometimes, it is required that the speed reducer be emptied of oil prior to shipment. Check again at this time to be sure the reducer has oil up to the proper level and that the vent plug is in the proper location.
- 10. Some conveyors are shipped with a manual starter or a simple push button and magnetic starter. Wiring instructions are generally placed inside the cover of the starter. Local codes should, of course, be followed in doing the wiring.

### **BELT ASSEMBLY**



### **BELT CONNECTION INSTRUCTIONS**

- 1. Remove cotter pins or lock nuts (50) and D-Hole Side Bars (45), from both sides of belt.
- 2. Remove Roller Block Assemblies (51), from both sides of belt.
- 3. Remove Round Hole Side bars (44), from both sides of belt.
- 4. Mesh together the belt pan loops.
- 5. Insert the connecting belt pin.
- 6. Reinstall Round Hole Side Bars (44).
- 7. Reinstall Roller Block Assemblies (51).
- 8. Reinstall D-Hole Side Bars (45).
- 9. Reinstall Cotter Pins or Lock Nuts (50).



**NOTE:** BOTH sides of the belt must be worked together. **DO NOT** assemble one side and try to assemble the other.



### PARTS

- 40 Hinged Steel Belting Assembly
- 41 Belt Pan Only
- 42 Side Wing, Right Hand
- 43 Side Wing, Left Hand
- 44 Side Bar, Round Hole
- 45 Side Bar, D-Hole
- 46 Side Bar, Bush Hole
- 47 Chain Bushing
- 48 Chain Roller
- 49 Belt Pin
- 50 Cotter Pin or Lock Nut
- 51 Roller Block Assembly



### PARTS

- 1 Gear Motor
- 2 Key, Drive Sprocket
- 3 Drive Sprocket
- 4 Chain Guard Cover
- 5 Chain Guard Screw
- 6 Roller Chain
- 7 Master Link
- 8 Cotter Pin
- 9 Chain Guard Back

- 10 Torque Limiter
- 11 Key, Torque Limiter
- 12 Tension Screw
- 13 Adjusting Nut Screw
- 14 Adjusting Nut Assembly
- 15 Pressure Plate (2)
- 16 Friction Disc (2)
- 17 Bushing Torque Limiter
- 18 Sprocket, Torque Limiter





Shaft Mounted Drive



- 19 Conical Spring
- 20 Hub Assembly
- 21 Hub Screw Set
- 22 Conveyor Head Sprocket (2)
- 23 Set Screw
- 24 Key, Head Sprocket (2)
- 25 Head Shaft
- 26 Conveyor Chain Guard (2)
- 27 Cap Bracket Bolt (4)

- 28 Cap Bracket
- 29 Head End Cap (2)
- 30 Bolt (4), Washer (4), Lockwasher (4), Nut (4)
- 31 Pillow Block (2)
- 32 Adjusting Screw, Drive Base
- 33 Drive Base
- 34 Bracket Drive Support (2)
- 35 Bolt (4), Washer (4), Lockwasher (4), Nut (4)
- 36 Bolt (4), Washer (4), Lockwasher (4), Nut (4)
- 37 Take-up Bolt (2), Jam Nut (2)
- 38 Leg Assembly
- 39 Frame Assembly, Welded
- 40 Skirt Extension (Optional)
- 41 Top Cover (Optional)
- 42 Screw (As Required)
- 43 Cartridge Bearing (2)
- 44 Tail Sprocket, Conveyor (2)
- 45 Tail Shaft
- 46 Bolt (2), Lockwasher (2), Nut (2)
- 47 Tail End Cover Screws (8)
- 48 Cotter Pin (As Required)
- 49 Side Bar, D-Hole (As Required)
- 50 Side Bar, Brush-Hole (As Required)
- 51 Side Bar, Round-Hole (As Required)
- 52 Roller (As Required)
- 53 Chain Bushing (As Required)
- 54 Belt Pin (As Required)
- 55 Side Wing, Left Hand (As Required)
- 56 Side Wing, Right Hand (As Required)
- 57 Roller Block Assembly (As Required)
- 58 Tail End Cover
- 59 Belt Pan Only
- 60 2½" Pitch Hinged Steel Belting
- 61 Frame Assembly
- 62 Left & Right Hand Sliding Cover
- 63 Bearing Plate
- 64 Reducer Plate
- 65 Take-up Block Assembly
- 66 Hex Nut
- 67 End Take-up Plate
- 68 Take-up Rod
- 69 Slot Cover
- 70 Jam Nut

### **BELT REMOVAL**

- Take off Chain Guard Cover (4) by removing Screws (5). Jog Belting (60) until Pin (54) is lined up with Take-Up Slot at the head end of conveyor.
- 2. Disassemble Drive Chain (6) and remove Torque Limiter (10). Next, unbolt Chain Guard Back (9) and remove.
- 3. Unbolt and remove Head End Caps (29) and Conveyor Chain Guards (26). Next, remove Cotter Pins (48) on both ends of Belt Pin. Rotate Belting (60) until the DHole Side Bar (49) and corresponding Pin (54) are accessible through the Take-Up Slot. Now remove Cotter Pins (48) on both ends of this mating belt pin, and remove both D-Hole Side Bars (49) from the belting. Loosen both Take-Up Bolts (37) to relieve some of the belt tension before proceeding.
- 4. Drive out the Belt Pin (54) being careful to remove the Roller Block Assemblies (57) and D-Hole Side Bars (49) as you proceed. Once the Belting (60) is separated, carefully drag the BOTTOM strand of belting out of the conveyor frame. While performing this step, take special care to hold onto the top strand as it feeds through the frame to prevent any injury from "Runaway Belting."

To install, reverse procedure above. Before restarting conveyor, recheck belt tension adjustment and make the necessary corrections with Take-Up Bolt (37).

#### **BELT ADJUSTMENT PROCEDURE**

Back off Jam Nuts on Take-Up Bolt (37). Turn Take-Up Bolt (37) EQUALLY on both sides until belt moves smoothly without binding, sagging, or moving from side to side. Then retighten Jam Nut on Take-Up Bolt.

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## We must stress that good housekeeping and a good maintenance program will greatly extend the service of the high quality piece of equipment you have purchased.

The conveyor should provide a continuous movement of the material charged onto it. Load material onto the conveyor at a constant rate which matches its speed and size. Overloading or surge loading in excess of the volume for which the conveyor was designed will in many cases cause jams which can result in damaged belt and/or frame components. If the conveyor is stopped for any reason, the flow of material onto it must immediately be halted. The material handled should not be allowed to build up at the discharge end nor at any point or area under the conveyor on the return side of the belt, to the extent that it can interfere with belt travel.



**BEFORE** proceeding with maintenance or repair work, all sources of power to the conveyor must be tagged-out and secured with a locking device.



#### **OVERLOAD PROTECTION – TORQUE LIMITER**

This unit is designed so if a severe overload occurs, the roller chain sprocket (18) slips between the spring (19) loaded friction discs (16) until the overload or jamming is cleared. Should excessive slipping be encountered:

- 1. Clear the conveyor of any jamming or overloads.
- 2. Load the conveyor with a normal maximum load.
- **3**. Tighten the torque limiter adjusting nut (14) until the conveyor runs continuously without slipping, taking caution not to flatten the pressure plate (15).

Periodically, or if constant adjustment is required, inspect torque limiter for any oil, grease, moisture or corrosion on either the friction discs or chain sprocket. Clean or replace as required.

Please refer to the manufacturer's instruction manual, for the torque limiter supplied on your conveyor, included with this manual.



#### SHOCK OVERLOAD RELAY

This unit is designed so if a severe overload or jam occurs, the overload relay will trip thus protecting your machinery and equipment from costly downtime.

Design features include:

- Electronic Shear Pin Function
- Independent setting of Start and Trip Delay
- Overload and Phase Loss Protection
- Visual Setting and Trip Indicator
- Fail Safe Protection
- Easy Wiring and Maintenance Free
- No Mechanical Connection Required

If your equipment is furnished with the Shock Current Relay, please refer to the included instructional information. **START-UP:** Visual inspection of conveyor for damage during transit. Check conveyor for alignment and level. Check oil in reducer. Take motor amperage readings.

FIRST WEEK: Check belt tension and adjust if necessary.

**FIRST 30 DAYS:** Check belt tension and adjust if necessary. Visual inspection of entire convey or for any signs of wear. A slight mount of wear or shinning of wings and skirts is normal because of close tolerances maintained in frame construction.

**MONTHLY:** Check oil level in reducer. Check drive chain and v-belts, also belt tension and adjust if necessary. Check for any loose bolts. Inspect belting and conveyor chain for ample lubrication. Check conveyor for rubbing or grinding noises.

**SEMI-ANNUALLY:** Check motor amperage readings. Grease pillow blocks/bearings.

**ANNUALLY:** Remove belt and inspect conveyor frame and belting for any damage or wear. Replace worn and damaged parts and readjust unit.

The preventative maintenanve schedule is just a guide, if the unit is operating in a severe environment or for multiple shifts additional maintenance may be required.

**LUBRICATION:** If the gear unit is filled with mineral oil, the lubricant should be replaced at least after every 10,000 operating hours or after every two years. If the gear unit is filled with synthetic oil, the lubricant should be replaced at least after every 20,000 operating hours or after every four years.

Often gear reducers are exposed to extreme ambient conditions, hostile environments, wet conditions, or dirty and dusty operating areas. Especially in these situations, it is important to change the reducer lubricant more often than what is suggested as a typical guideline.

If Nord Flexbloc unit is installed it is factory filled and maintenance free for life of unit.

ΤΡΟΠΡΙ ΓΟΠΟΟΤΙΝΟ

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PROBLEM	SOLUTION	Call us: 440-255-7600
Conveyor (equipped with slip clutch) stalls under normal conditions.	Torque limiter may require adjustment.	
Unloaded conveyor jams, stalls or flutters.	Belt tension may be too loose. Ad bolts and tighten adjusting screws	just take-up by loosening lock s. Re-tighten bolts.
Belt hinge loops broken or bent.	Check for sticking or rusting. Replace damaged pans and be sure belt is oiled.	
Side wings worn on outside.	Look for sideward belt motion cau take-up or loose conveyor belt spi	ised by improperly adjusted rockets.
Shock current relay trips. Shear pin breaks.	Conveyor is loaded beyond its dea be an obstruction not allowing the	signed capabilities or there may belt to travel forward.
Bent or missing side wing.	Obstruction or jam-up due to over straighten side wing or replace.	load or entry of foreign object,
Loose side bar.	Replace cotter pin or lock nut and	possible belt pin.
Neither the conveyor or motor is running.	Check for faulty wiring or a bad m Sensor, clean and adjust the unit.	otor. If equipped with a Speed
Motor is running but conveyor belt is not moving.	Check for a broken shear pin or cl broken drive chain.	utch is slipping. Check for a



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### The Standard of Excellence in Custom Conveyors.



For over six decades, Transcon has met material handling challenges with expertly engineered, heavy-duty conveyor systems designed and manufactured to last longer, work harder and contribute to our customers' ROI. (In fact, some of our first installations are still running today.)

Our focus is on customized solutions for the metalworking and related industries; the ideal configuration to solve specific operational issues, built to precise application specifications. That includes the design and fabrication of some of the largest, highly automated conveyor systems in the country.

Transcon offers rebuilds of our conveyors and most other manufacturers. Our state-of-the-art proprietary process involves a thorough inspection, cleaning and replacement of worn parts. Each unit is rebuilt and tested to operate as efficiently as a new conveyor.

As metalworking processes become increasingly complex, our goal is nothing less than conveyor systems that actually contribute to process improvement. Transcon innovations include our proprietary welded-hinge belt designs that permit heavier wear plates, impact plates and flush tops, continuous radius belt designs that help eliminate parts jamming; piggyback conveyor systems and more. All are engineered to increase durability, reduce downtime, improve productivity and add value.

For hot or cold parts, at fast or slow speeds, Transcon has conveyor designs—steel belted, power roller, multi-lane belt, metal mesh and reinforced belt – to keep your process running efficiently, protect parts and maintain worker safety.

Designed, manufactured and assembled in Mentor, Ohio with ISO 9001:2015 Certification, the quality of our products is equaled only by the quality of partnership we provide. From Sales and Engineering Support to Manufacturing and Service, Transcon's team brings pride in customer satisfaction and full attention to every order, every project and every inquiry.

Get to know the true value of reliability. Discover why so many have chosen or switched to Transcon for all their conveyors, replacement belts and parts. Take advantage of our six-decade tradition of trust!

#### www.TransconConveyor.com | 440.255.7600



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