



# TRANSCON CONVEYOR

*The Standard of Excellence in Custom Conveyors*



## Steel Belt Conveyor

## PARTS & SERVICE MANUAL

Customer: \_\_\_\_\_

Conveyor Serial #: \_\_\_\_\_

# 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.*

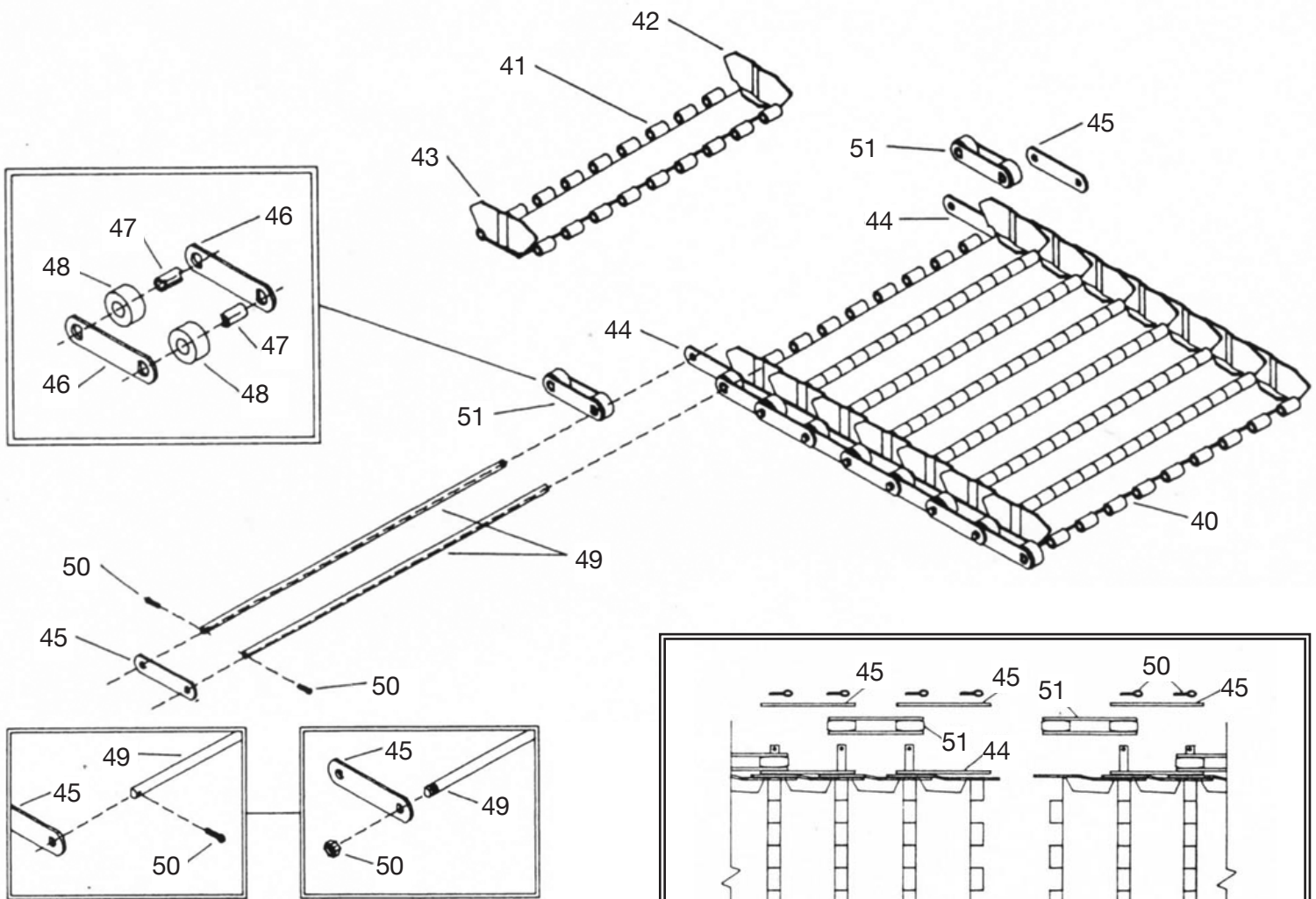
- ☐ Conveyor sprocket alignment checked
- ☐ Side wing clearance checked
- ☐ Speed sensors operating (optional)
- ☐ Motor amperage draw checked
- ☐ Drive chain tension checked





**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.

1. 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 excessive 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 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).

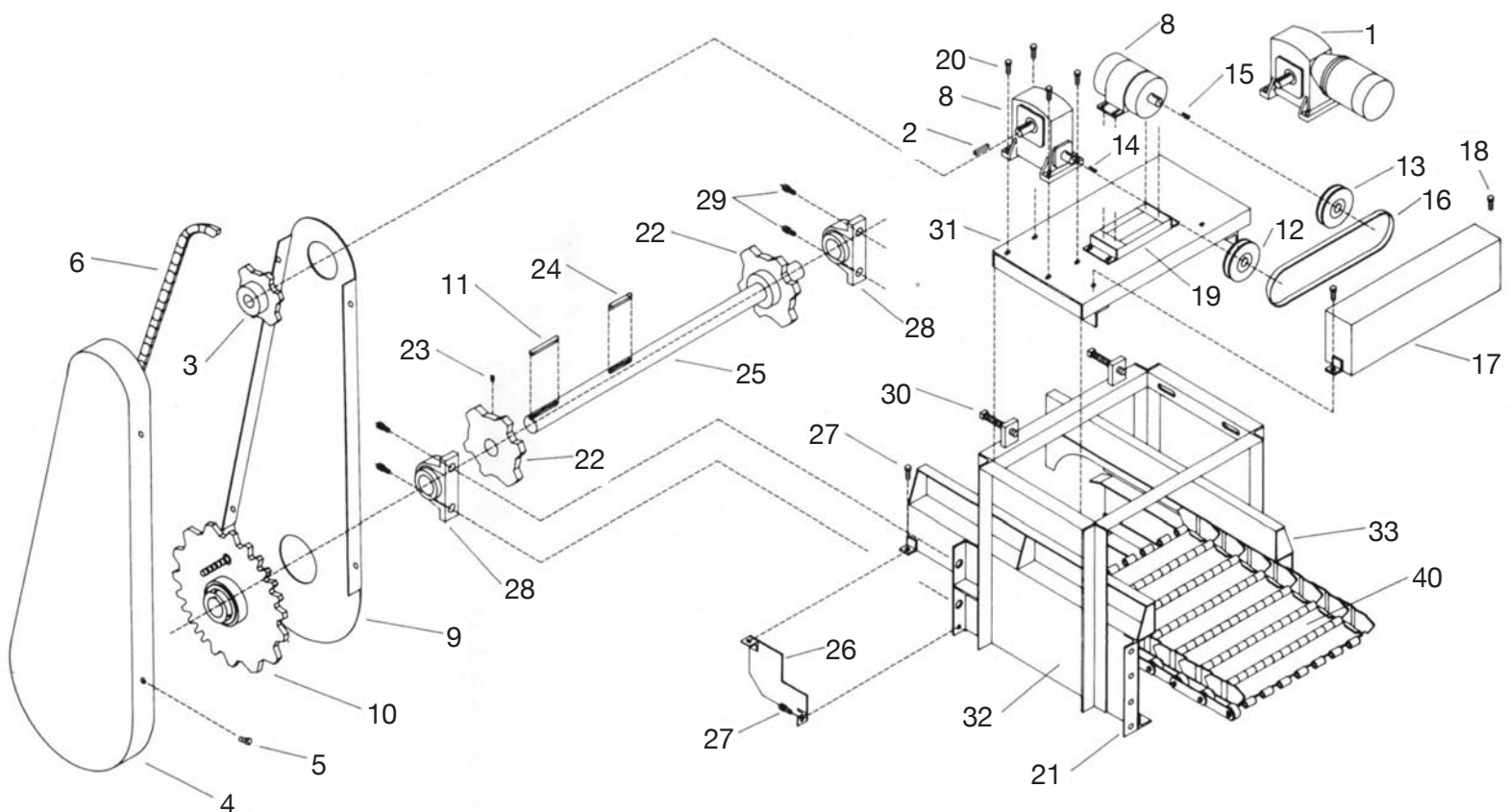


**NOTE:** BOTH sides of the belt must be worked together. **DO NOT** assemble one side and try to assemble the other.

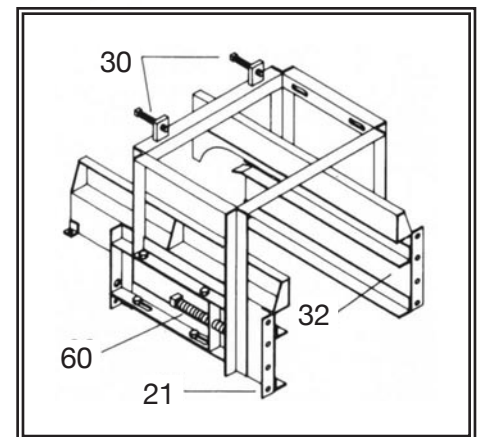
## PARTS

- 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

# HEAD ASSEMBLY



Optional Head End Take-Up

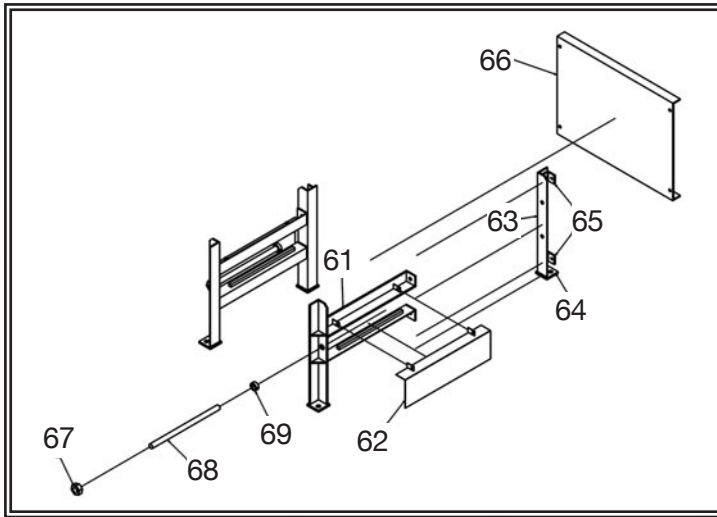


## PARTS

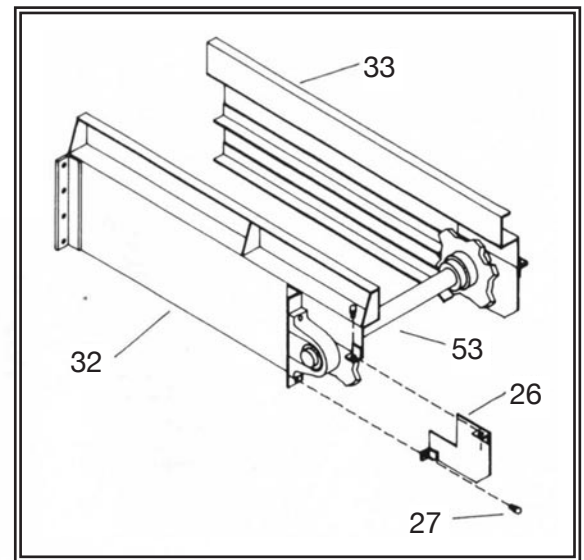
- |   |   |
|---|---|
| 1 – Gear Motor                            | 14 – Key, Driven Sheave                   |
| 2 – Key, Drive Sprocket                   | 15 – Key, Drive Sheave                    |
| 3 – Drive Sprocket                        | 16 – V-Belt                               |
| 4 – Chain Guard Cover                     | 17 – Sheave Guard                         |
| 5 – Chain Guard Screw                     | 18 – Bolt, Nut & Lockwasher, Sheave Guard |
| 6 – Roller Chain                          | 19 – Adjustable Motor Base                |
| 7 – Motor                                 | 20 – Bolt, Nut & Lockwasher, Gear Reducer |
| 8 – Gear Reducer                          | 21 – Frame Splice Angle                   |
| 9 – Chain Guard Back                      | 22 – Conveyor Head Sprocket               |
| 10 – Shear Hub Assembly or Torque Limiter | 23 – Set Screw                            |
| 11 – Key, Shear Hub or Torque Limiter     | 24 – Key, Head Sprocket                   |
| 12 – Driven Sheave                        | 25 – Head Shaft                           |
| 13 – Drive Sheave                         | 26 – Conveyor Chain Covert                |



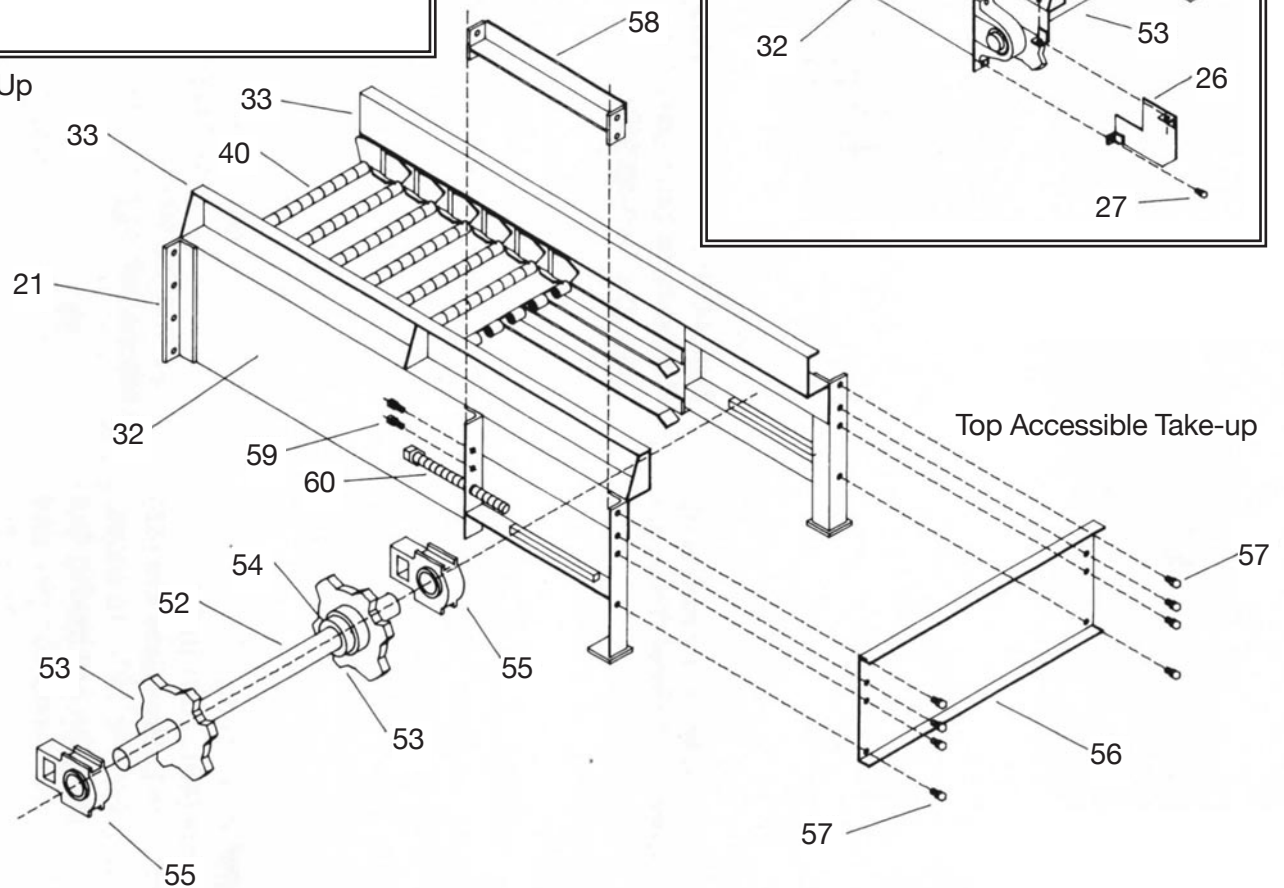
# TAIL ASSEMBLY



Rear Accessible Take-Up



Fixed Tail End



Top Accessible Take-up

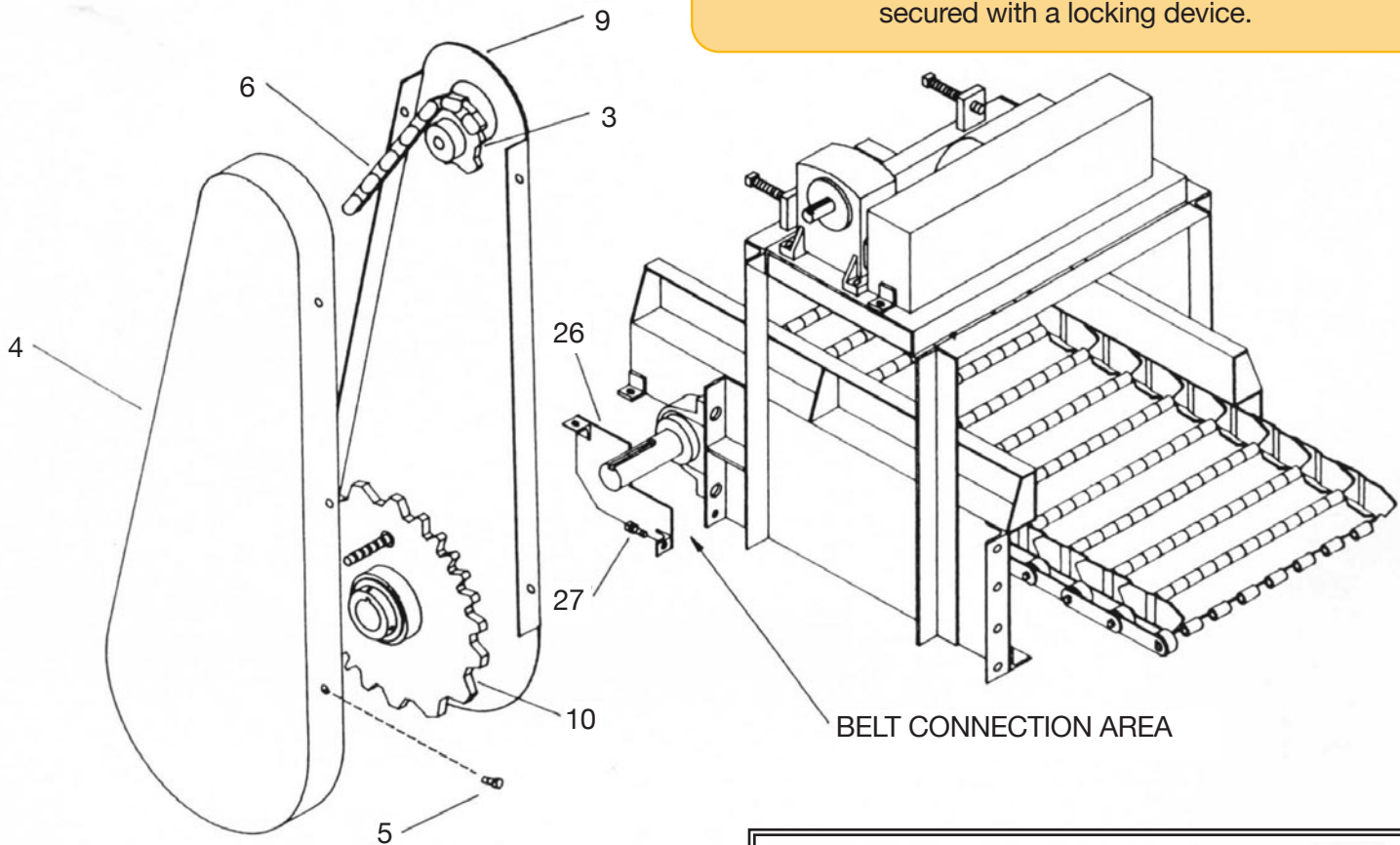
- 27 – Bolt, Nut & Lockwasher, Chain Cover
- 28 – Pillow Block Bearings (2), Head Shaft
- 29 – Bolt, Nut, Lockwasher, Flatwasher for Pillow Blocks
- 30 – Adjusting Screw, Drive Base
- 31 – Drive Base
- 32 – Welded Frame Assembly
- 33 – Skirt Extensions (Optional)
- 52 – Tail Shaft
- 53 – Conveyor Tail Sprocket (2)
- 54 – Sprocket Shaft Collar (2)
- 55 – Bearing Units (2), Tail Shaft
- 56 – End Cover

- 57 – Bolt, Nut & Lockwasher, End Cover
- 58 – Bearing Shaft Retainer
- 59 – Bolt, Nut & Lockwasher, Hold-Down
- 60 – Hinged Belt Take-Up Screw
- 61 – Take-up Weldment
- 62 – Take-up Cover
- 63 – Leg
- 64 – Foot Pad
- 65 – Cover Clip
- 66 – Back Plate
- 67 – Hex Nut
- 68 – Hinged Belt Take-Up Screw
- 69 – Set Collar

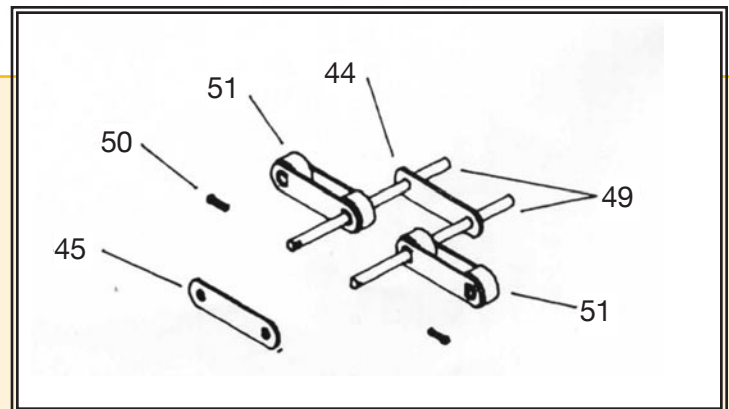
# BELT REMOVAL



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



1. Remove Chain Guard Cover (4) by removing Screws (5) and Remove Safety Conveyor Chain Cover (26). Jog Belting (40) until Belt Pin (49) is visible and totally accessible at the head end of conveyor.
2. Disengage Roller Chain (6) and remove either one or two set screws, depending on model, which secure the Shear Hub Assembly (10) to the head shaft and remove shear hub, releasing Key (11). Next, remove Drive Sprocket (3) from Gear Reducer (8), releasing Key (2). Finally, unbolt Chain Guard Back (9) and remove.
3. Remove Cotter Pin or Locking Nut (50) on both ends of Belt Pin (49). Turn Belting (40) until the other end of the D-Hole Side Bar (45) and its corresponding Belt Pin (49) are accessible. Now remove Cotter Pin or Locking Nut (50) on both ends of this mating belt pin, and remove both D-Hole Side Bars (45) from the belting. Loosen both Take-Up Screws (60) [the take-up may be at either the head or tail end of the conveyor] about 1/2" to relieve some of the belt tension before proceeding.



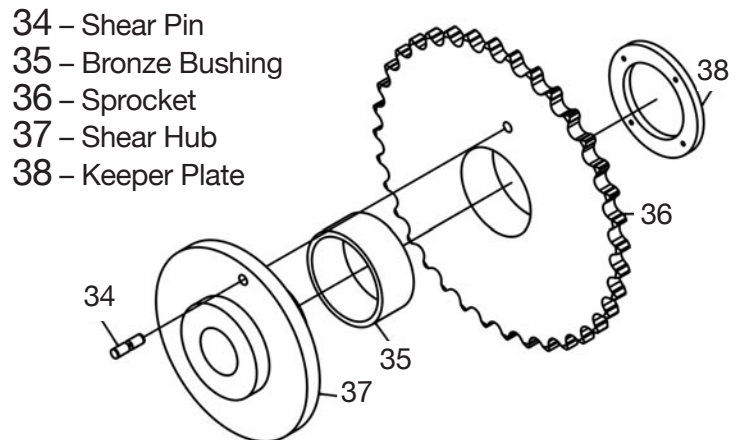
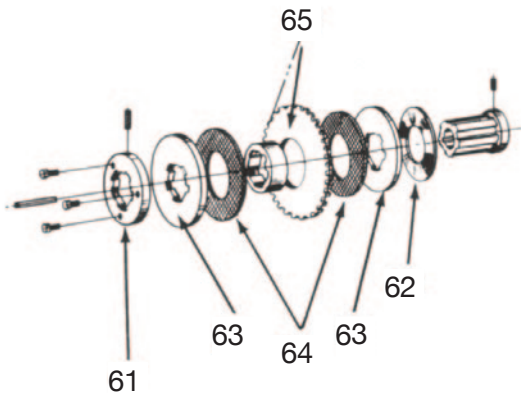
4. Drive out the Belt Pin (49) being careful to remove the Roller Block Assemblies (51) and Round-Hole Side Bars (44) as you proceed. Once the Belting (40) is separated, carefully drag the BOTTOM strand of belting out of the conveyor frame. While performing this step, take special care to hold onto the 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 Screws (60).



***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.



## OVERLOAD PROTECTION – TORQUE LIMITER

This unit is designed so if a severe overload occurs, the roller chain sprocket (65) slips between the spring (62) loaded friction discs (64) 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 (61) until the conveyor runs continuously without slip ping, taking caution not to flatten the pressure plate (63).

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 you conveyor, included with this manual.

## OVERLOAD PROTECTION – SHEAR PIN

This unit is designed so if a severe overload or jam occurs the pin (34) shears, allowing the driven sprocket (36) to rotate freely on the shear hub (37). Should the pin shear:

1. Clear the conveyor of any jamming or overloads, and inspect for any damage.
2. Inspect the shear bushings (35) for damage, replace if necessary, line up the bushings and drive the shear pin (34) to its next position. Taking care that its neck is seated between the bushings (35) in its proper shear position.



Use only OEM shear pins. They are designed to shear at the proper maximum load. **NEVER SUBSTITUTE A BOLT OR OTHER FOREIGN OBJECT** as serious injury to the conveyor and/or people may occur.

# PREVENTATIVE MAINTENANCE

**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 conveyer for any signs of wear. A slight amount 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 maintenance 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.

## TROUBLESHOOTING

Call us: 440-255-7600

PROBLEM	SOLUTION
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. Adjust take-up by loosening lock bolts and tighten adjusting screws. 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 caused by improperly adjusted take-up or loose conveyor belt sprockets .
Shock current relay trips. Shear pin breaks.	Conveyor is loaded beyond its designed capabilities or there may be an obstruction not allowing the belt to travel forward.
Bent or missing side wing.	Obstruction or jam-up due to overload or entry of foreign object, straighten side wing or replace.
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 motor. If equipped with a Speed Sensor, clean and adjust the unit.
Motor is running but conveyor belt is not moving.	Check for a broken shear pin or clutch is slipping. Check for a broken drive chain.

This parts and service manual is intended to be a general guide to Transcon Conveyor's products and equipment. Since we provide our customers with highly customized conveyors, you may have a product feature not shown in this manual. If so, please call us or visit our website for more information.

**440-255-7600**

**[www.transconconveyor.com](http://www.transconconveyor.com)**



**The Standard  
of Excellence in  
Custom Conveyors.**



**Call us today!**

**440-255-7600**



# THE TRANSCON ADVANTAGE

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](http://www.TransconConveyor.com) | 440.255.7600**



**ISO certified 9001:2015**



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CONVEYOR

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