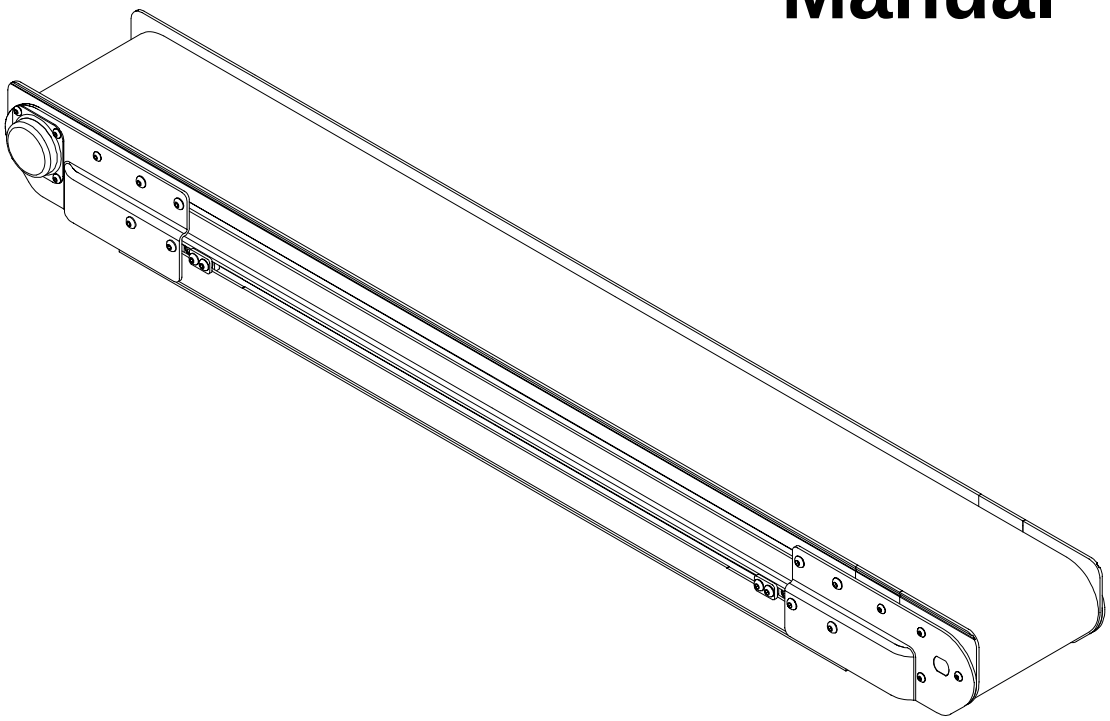
DORNER®

3100 Series
Flat Belt Conveyors

Parts, Assembly & Maintenance Manual



851-157 Rev. G

Table of Contents

WARNING

- **The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.**
- **Standing on a conveyor or transporting people is prohibited.**
- **When conveyors are used in conjunction with other equipment or as part of a multiple conveyor system, check for potential pinch points and other mechanical hazards before system start-up. Because Dorner Mfg. Corp. cannot control the physical installation and applications of multiple conveyor systems, taking protective measures is the responsibility of the user.**
- **Operating Dorner conveyors in an explosive environment is prohibited.**
- **NEVER operate equipment without guards or other protective devices properly secured in place. In addition, to prevent injury, make sure all electrical and pneumatic power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.**
- **Some gearmotors may operate at an elevated temperature which may cause people to be startled if they accidentally touch the motor housing.**
- **Before proceeding to loosen hardware that locks-in the selected stand height, be sure that all related Conveyor sections are securely supported to prevent them from moving suddenly and dropping-down which may pinch or strike you, causing serious personal injury.**

DANGER

Use extreme caution when using the Tail Installation Tools. Refer to the special Danger warning on page 6.

Foreword

By following the maintenance and adjustment instructions in this manual, you will prolong the life of your conveyor and maintain its maximum efficiency.

When ordering replacement parts, always give the model and serial number. These numbers are stamped on a nameplate label (Figure 1), located on conveyor side rail. Record the numbers below for ready reference.

Model Number _____

(Fill In)

Serial Number _____

(Fill In)

For pictorial clarity, some illustrations in this manual may show guards or other protective devices open or removed. Under no circumstances should the conveyor be operated without these devices securely in place.

NOTE:

All technical data in this publication is based on the product information available at time of printing. All assembly part numbers are listed for metric mounting hardware. Instructions for installation, adjustment and maintenance are the same for metric and SAE style conveyors. SAE parts are identified by using the metric part numbers listed and dropping the “M” suffix. Refer to the table on page 73 for SAE equivalent hardware.

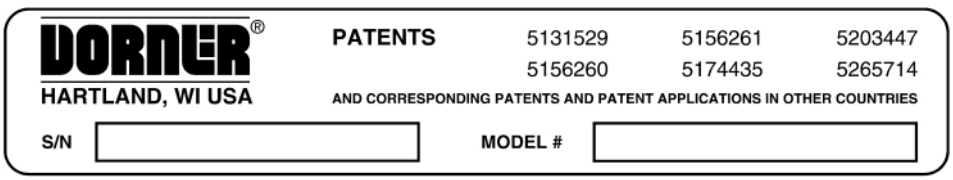


Figure 1: Typical Model & Order Number Nameplate Label PZ01

Installation Instructions

Introduction

Dorner Mfg. Corp. makes every effort to properly package and ship its products. Upon receipt, inspect all packages for any shipping damage. Notify the carrier immediately, when problems are first discovered. Compare the shipment with the packing slip and contact the factory about any discrepancies (see back page for phone number). Check the individual assembly instructions (provided) for drive and accessory component completeness.

NOTE:

Some packages may have been separated by carrier during shipment.

3100 series flat belt conveyors are engineered, designed and manufactured to meet a variety of material handling applications.

All conveyors feature an extruded aluminum alloy frame, T-slots for convenient mounting of pre-engineered accessories and bearings and gearmotor drive packages designed for dependable and low maintenance operation.

To compliment the features and functions of 3100 series flat-belt conveyors, any conveyor can be combined with standard aluminum support stands or steel support stands. Both types of stands are available with fixed or swivel casters.

Use Dorner stands and compatible mounting hardware or other suitable mounting arrangements, provided by the user, to squarely, straightly and securely support the conveyor. Refer to the Metric Support Stands and Conveyor Mountings Parts, Assembly & Maintenance Manual for additional details. When properly set-up, the conveyor must be free of any twist, regardless of overall conveyor length or width.

General Instructions for All Conveyors

1. Using appropriate lifting means, carefully remove the conveyor assembly or section from the wooden shipping box and place it in its correct operating position and direction.
2. Use Dorner stands and compatible mounting hardware or mounting provided by the user to securely mount the conveyor. Refer to Metric Support Stands and Conveyor Mountings Parts, Assembly & Maintenance Manual for appropriate mounting details.
3. The conveyor must be mounted straight, flat and level, within the confines of the conveyor. Always use both a straight edge and a level for initial set up (Figure 2).

IMPORTANT:

Do not bend or twist the conveyor frame when mounting the conveyor.

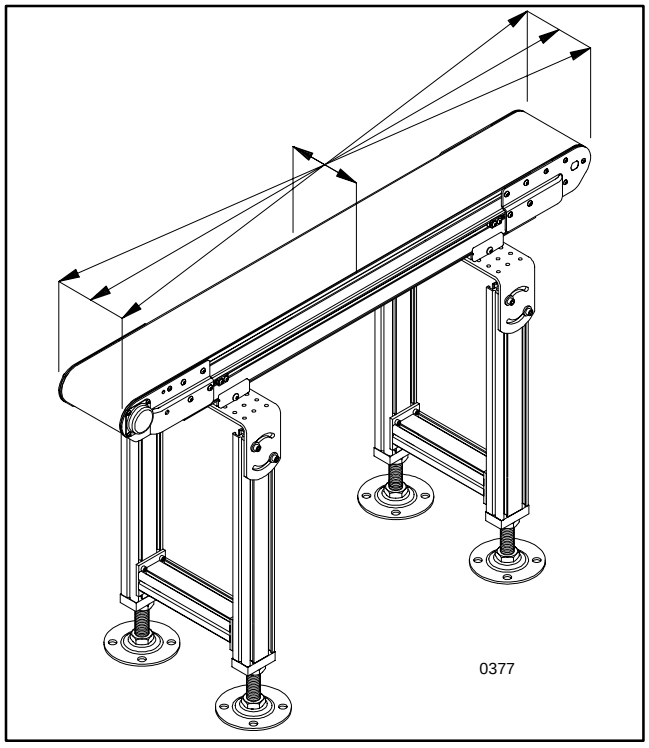


Figure 2: Conveyor Alignment Reference Detail

4. Make sure that intermediate sections and tail assemblies are butted tightly together and securely fastened.
5. For all end-driven conveyors, refer to the "End Drive Packages" topic, starting on page 8, to attach gearmotor. For maximum load carrying, locate the gearmotor so that what is being conveyed moves toward the drive.
6. Some gearmotors will require some customer-provided electrical wiring. Follow all applicable local electrical codes and the wiring diagrams, supplied with the gearmotors. The wiring diagram, for a three-phase gearmotor, is located inside the terminal box which is attached to the gearmotor. The wiring diagram for a variable speed gearmotors is located inside the control box.
7. **All low side conveyors without optional guiding**, have factory installed belt tracking guides, 200524 (A of Figure 3) installed on both ends of conveyor. The guide is a 3.5″ (89 mm) long piece of formed plastic which snaps onto the portion of the conveyor sidewall (B) above the T-slot channel.
    a. ***To remove the guide*** from the conveyor sidewall, apply a slight outward and downward finger-pressure on one of the top corners of the guide and gradually peel it off the portion of the conveyor sidewall (B).
    b. ***To install the guide*** onto the conveyor sidewall, first place the lower lip (C), of the guide, against the upper edge of the conveyor sidewall T-slot channel. Then, apply inward and upward pressure to completely snap it into place.

NOTE:
Be sure to save the belt tracking guides (A of Figure 3) for start-up after belt cleaning or replacement.

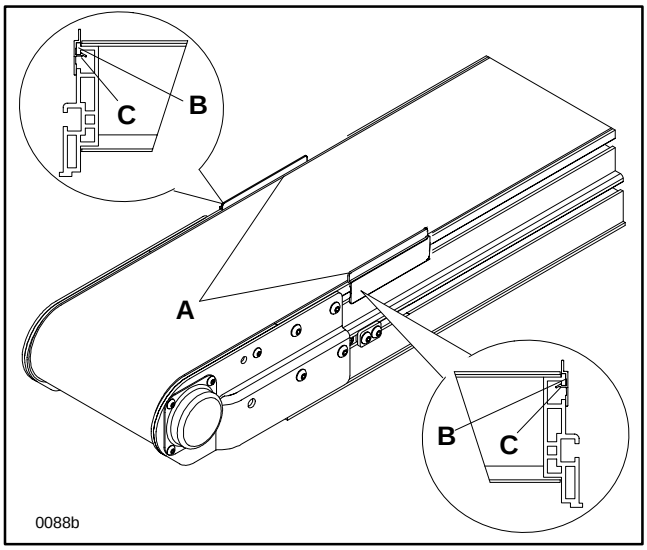


Figure 3: Conveyor Low Side Belt Tracking Guide Installation Detail

Special Instructions for End Driven Conveyors Over 13 ft (3965 mm)

NOTE:
The following special field setup procedures are provided for and apply only to an End Drive Conveyor which is longer than 13 ft (3965 mm).

All end-driven conveyors are manufactured with endless conveyor belts. Conveyors over 13 ft (3965 mm) long are configured and built at the factory, partially disassembled, crated and shipped in sections. The customer must re-assemble the sections and tension the conveyor belt. The following procedure is recommended.

1. Position stands, with the return roller/mounting assemblies attached, in proper locations to support the drive end, frame split and tail end. For additional details, refer your Metric Support Stands and Conveyor Mountings Parts, Assembly & Maintenance Manual.
2. Place belt around the assembled drive/intermediate section. Push the lower return run of the belt up into the conveyor frame, when lowering the section onto the return roller/mounting assembly, to prevent pinching the belt.

NOTE:
On the underside of the conveyor, the belt rides on the return rollers. The rollers MUST be perpendicular to the conveyor belt and rotate freely, at all times.

3. Clamp drive/intermediate section to the stands with return roller/mounting assemblies.
4. Unroll the belt toward the tail end of the conveyor.
5. Install the tension end tail section into the intermediate section end, if not already assembled.
6. Place both sections inside the conveyor belt loop. To prevent pinching the conveyor belt, make sure the return run of the belt is tucked-up into the conveyor frame while the conveyor is being set down and onto the return roller/mounting assembly. Fasten sections together using connecting mounting assemblies.

NOTE:
Match-marked numbers must be re-installed in proper order.

7. Clamp all intermediate/tail sections to the support stands.
8. Set the conveyor belt tension. Refer to “Conveyor Belt Tension Adjustment” topic beginning on page 12.

Special Instructions for Center Driven Conveyors Over 13 ft (3965 mm)

NOTE:
The following special field setup procedures are provided for and apply only to a Center Drive Conveyor which is longer than 13 ft (3965 mm).

All Sections (Except 2nd Tail)

All Center Drive conveyors are manufactured with endless belts. Conveyors over 13 ft (3965 mm) long are configured and built at the factory, partially disassembled, crated and shipped in sections. The customer must reassemble the sections and tension the conveyor belt. The following procedure is recommended.

1. Position stands, with the return roller/mounting assemblies attached, in proper locations.
2. Place the intermediate section with the drive unit into position on the stand mounting brackets with return rollers.
3. Unroll the belt toward the shortest end of the conveyor, using enough belt for that distance.
4. Place all of the sections inside the conveyor belt loop. To prevent pinching the conveyor belt, make sure the return run of the belt is tucked-up into the conveyor frame while the conveyor is being set down and onto the return roller/mounting assembly. Fasten sections together using connecting mounting assemblies.
5. Clamp to the stands.

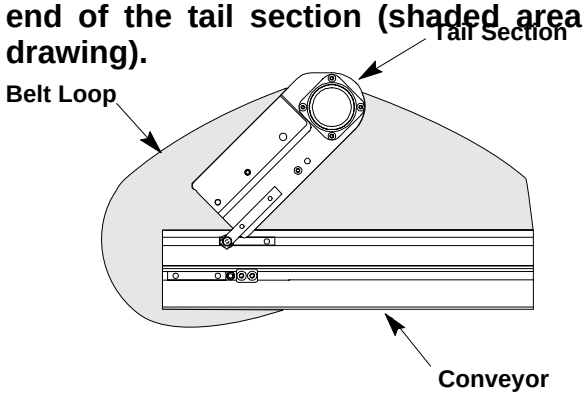
NOTE:
On the underside of the conveyor, the belt rides on the return rollers. The rollers MUST be perpendicular to the conveyor belt and rotate freely, at all times.

6. Continue this process, one section at a time, until the second of the two tail sections is to be installed. Install the 2nd tail section per the following instructions.

2nd Tail Installation

DANGER

The Tail Installation Tools are used during initial conveyor setup or when conveyor belt is being replaced. BE SURE, while you are rotating the tail section into position, to keep your fingers out from inside the belt loop and from the inside end of the tail section (shaded area of drawing).



Two tail installation tools, part numbers 300362M (D of Figure 4), must be used on some center drive conveyors that are 13 ft (3965 mm) and longer, to get the 2nd tail section assembled inside the conveyor belt loop. These tools are provided with all center drive conveyors over 13 ft (3965 mm) long.

1. Begin by removing the screws (E) which are securing the four T-bars (F) to the tail section (G).

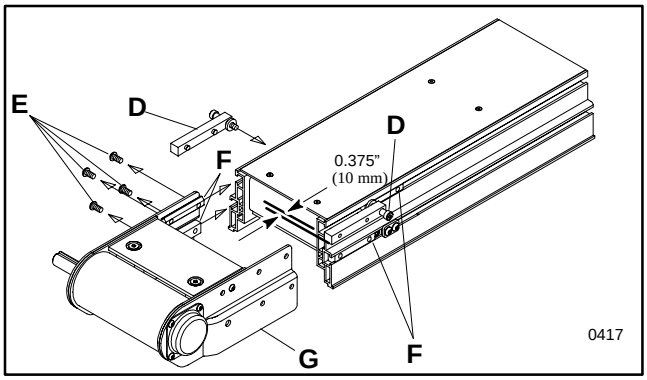


Figure 4: Tail Installation Tool Detail

2. Slide T-bars into the proper T-slots at the end of conveyor frame.
3. Attach the tail installation tools tightly to the upper T-bars on both sides of the conveyor frame. The tools are to extend approximately 0.375″ (10 mm) beyond the end of the conveyor frame.

NOTE:

The hex nuts, on the tail installation tool, are used only to secure the washer during storage.

4. Place the tail section (G of Figure 5) on top of the conveyor and inside the belt loop as shown.

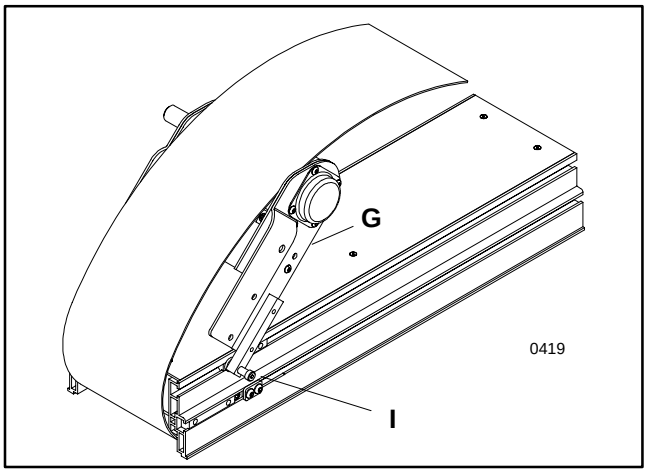


Figure 5: Tail Section Positioning Detail

5. Rotate the tail installation tools around the shoulder screws (I), until the pins on the tools engage the holes in the tail section (used for mounting the upper T-bar).
6. Very carefully rotate the tail section down into position. Install the tail cover plate screws (J of Figure 6) through the tail cover plates into the lower T-bars. Screws are to be snug, but not tight at this time; screws will be tightly secured after proper conveyor belt tracking is adjusted.
7. Remove the tail installation tools. Slide the upper T-bars (K) under the tail cover plates. Install the upper cover plate screws.
8. After conveyor re-assembly is complete, loosen the screws at intermediate and tail/intermediate joints.
9. Align and bring all joints together and tighten all connecting hardware. For additional details, refer your Metric Support Stands and Conveyor Mountings Parts, Assembly & Maintenance Manual.
10. The pneumatic belt take-up system will tighten the belt when air pressure is applied. The pressure gauge is set and locked at the factory for start-up tensioning pressure. Add pressure, as required, to convey the load without stalling. Do not use excessive pressure.
11. Proceed to the “Start-up & Preliminary Adjustments Procedure” section, beginning on page 12.

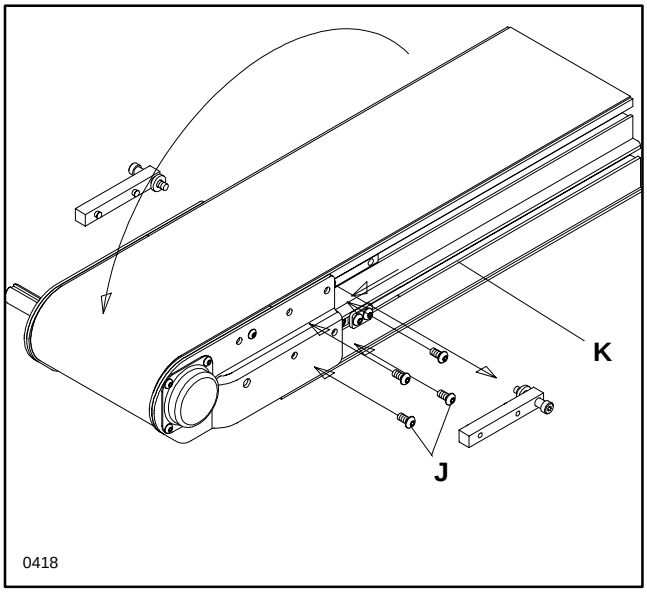


Figure 6

End Drive Packages

NOTE:
For maximum load carrying, locate the gearmotor so that what is being conveyed moves toward the drive.

Bottom Mount Installation & Initial Timing Belt Tension Adjustment

The bottom mount package can be set up in either one of two positions (**A** or **D** of Figure 7).

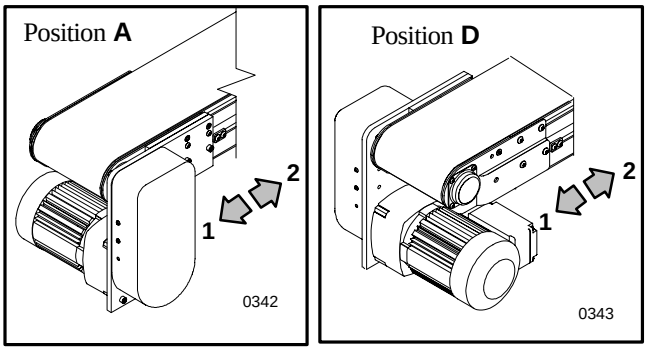


Figure 7: Bottom Drive Mounting Detail

The conveyor belt can be driven in either one of two directions (**1** or **2** of Figure 7). Arrows show belt travel direction.

1. Refer to Figure 9 and attach the gearmotor (**E**) and the motor mounting plate (**H**) to the conveyor (**F**) using one M6 x 30 mm socket head cap screw (**I**) in the top mounting hole of the mounting plate, two M6 x 16 mm socket head cap screws (**J**) in middle holes and three M6-1.0 x 20 mm socket head cap screws (**K**) in bottom holes.
2. Assemble the drive and driven pulleys (**M** and/or **L**) and timing belt (**N**). Place a square key (**O** of Figure 9) into the keyway on the gearmotor and conveyor shafts. Install the pulleys so that the timing belt is centered on the belt tensioning roller assembly (**B** of Figures 8 & 9) and the pulleys are in line with each other. Tighten the pulley set screws (**Q** of Figure 9) or Taper Lock® bushing screws (**P**), which fasten the pulleys to the shafts. Determine which direction the conveyor belt is traveling and position the tensioning roller assembly on slack side of the timing belt (Figure 8).
3. Adjust timing belt tension by loosening the M12 x 25 mm socket head cap screw (**R** of Figure 9) and sliding the belt tensioning roller assembly against the belt. Tension should be measured at mid-point (**C** of Figure 8) on the tension side of the timing belt. As a starting point for the tensioning process, there should be a 1/8″ (3 mm) deflection with 6 lb (3kg or 26 N) of force.

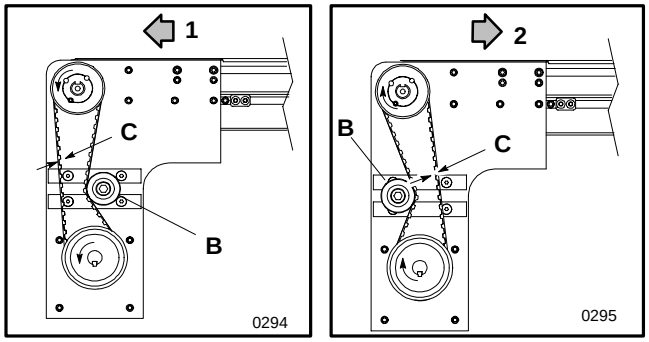


Figure 8: Bottom Drive Timing Belt Adjustment Detail

4. Every timing belt application exhibits its own individual operating characteristics. The optimum timing belt tension should be determined experimentally.

   If necessary, continue to slide the tensioning roller assembly against the timing belt until the belt is tensioned so as to prevent jumping of teeth under the most severe conditions which the drive will encounter. Tighten the M12 x 25 mm socket head cap screw after tension requirements are achieved.

IMPORTANT:
Do not over tension the timing belt. Over tensioning may cause reduced belt life or bearing and drive damage.

5. Attach the bottom drive cover (**S** of Figure 9) using four M4 x 10 mm button head cap screws (**T**).

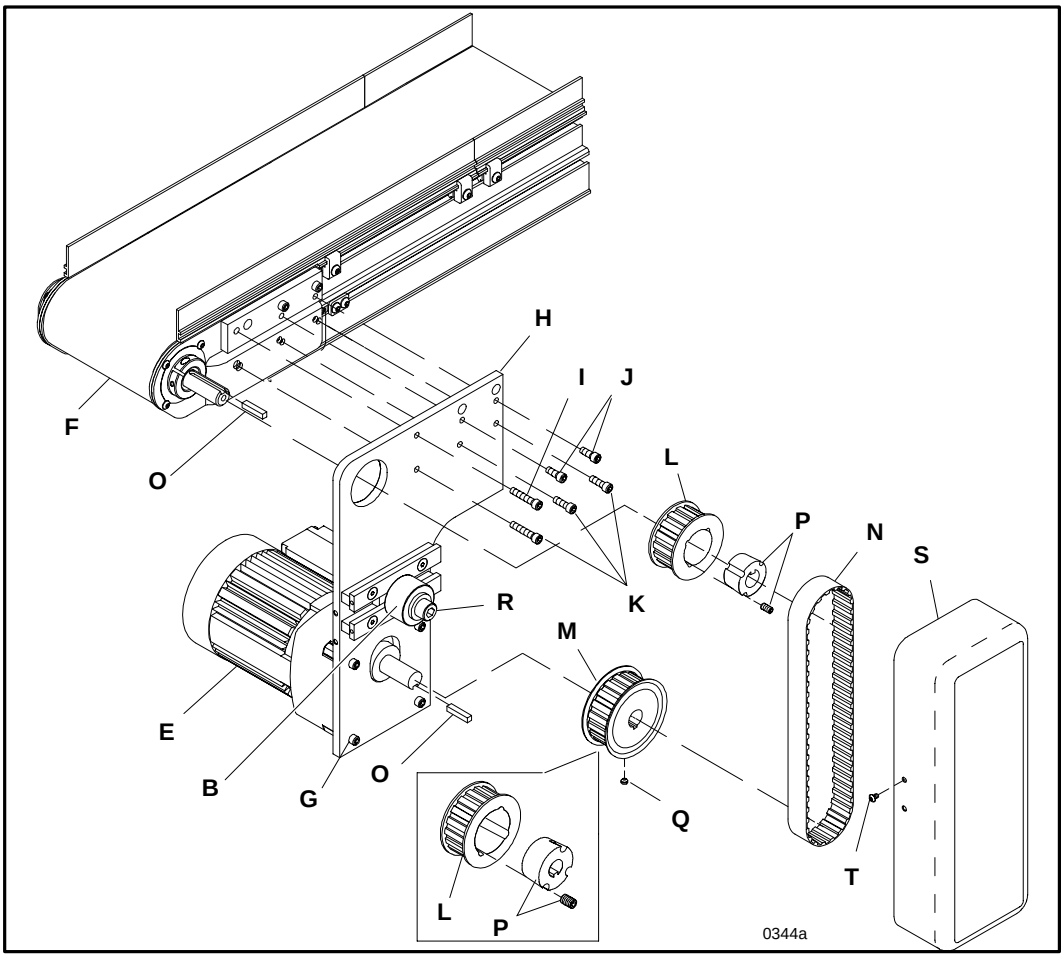


Figure 9: Bottom Drive Component Assembly Detail

Top Mount Installation & Initial Timing Belt Tension Adjustment

The top mount package can be setup in either one of two positions (**A** or **D** of Figure 10).

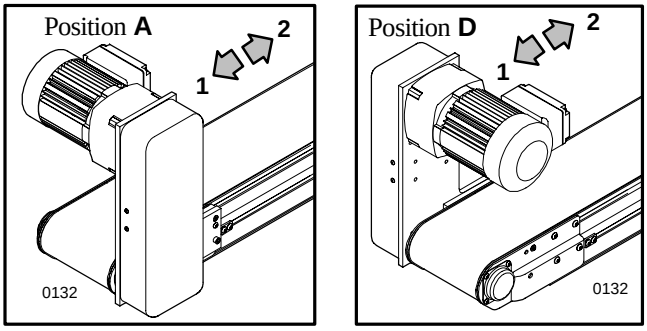


Figure 10: Top Drive Mounting Detail

The conveyor belt can be driven in either one of two directions (**1** or **2** of Figure 10). Arrows show belt travel direction.

1. Refer to Figure 12 and attach the gearmotor (**E**) and the mounting plate to the conveyor (**F**) using one M6 x 30 mm socket head cap screw (**I**) in the top mounting hole of the mounting plate, two M6 x 16 socket head cap screws (**J**) in middle holes and three M6 x 20 mm socket head cap screws (**K**) in bottom holes.

NOTE:

The upper set (of 4) gearmotor mounting plate holes (G of Figure 12) is only used when both gearmotor and conveyor shafts will have 16 tooth pulleys mounted to them. All other pulley combinations, use the lower set of mounting plate holes.

2. Assemble the drive and driven pulleys (**M** and/or **L**) and timing belt (**N**). Place a square key (**O**) into the keyway on the gearmotor and conveyor shafts. Install the pulleys so that the timing belt is centered on the belt tensioning roller assembly (**B** of Figures 11 & 12) and the pulleys are in line with each other. Tighten the pulley set screws (**P** of Figure 12) or Taper Lock® bushing screws (**Q**), which fasten the pulleys to the shafts. Determine which direction the conveyor belt is traveling and position the tensioning roller assembly on the slack side of the timing belt (Figure 11).
3. Adjust timing belt tension by loosening the M12 x 25 mm socket head cap screw (**R** of Figure 12) and sliding

the belt tensioning roller assembly (**B** of Figures 11 & 12) against the belt. Tension should be measured at mid-point (**C** of Figure 11) of on the tension side of the timing belt. As a starting point for the tensioning process, there should be a 1/8″ (3 mm) deflection with 6 lb (3kg or 26 N) of force.

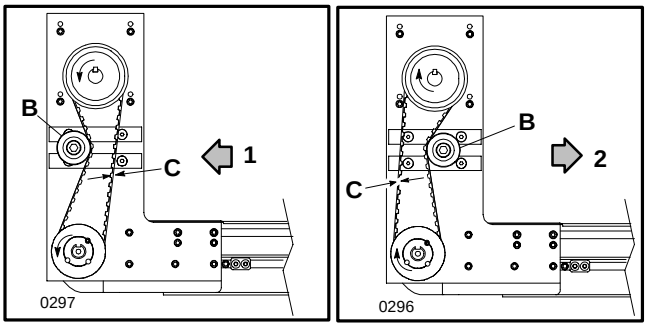


Figure 11: Top Drive Timing Belt Adjustment Detail

4. Every timing belt application exhibits its own individual operating characteristics. The optimum timing belt tension should be determined experimentally.

   If necessary, continue to slide the tensioning roller assembly against the timing belt until the belt is tensioned so as to prevent jumping of teeth under the most severe conditions which the drive will encounter. Tighten the M12 x 25 mm socket head cap screw after tension requirements are achieved.

IMPORTANT:

Do not over tension the timing belt. Over tensioning may cause reduced belt life or bearing and drive damage.

5. Attach the top drive cover (**S** of Figure 12) using four M4 x 10 mm button head cap screws (**T**).

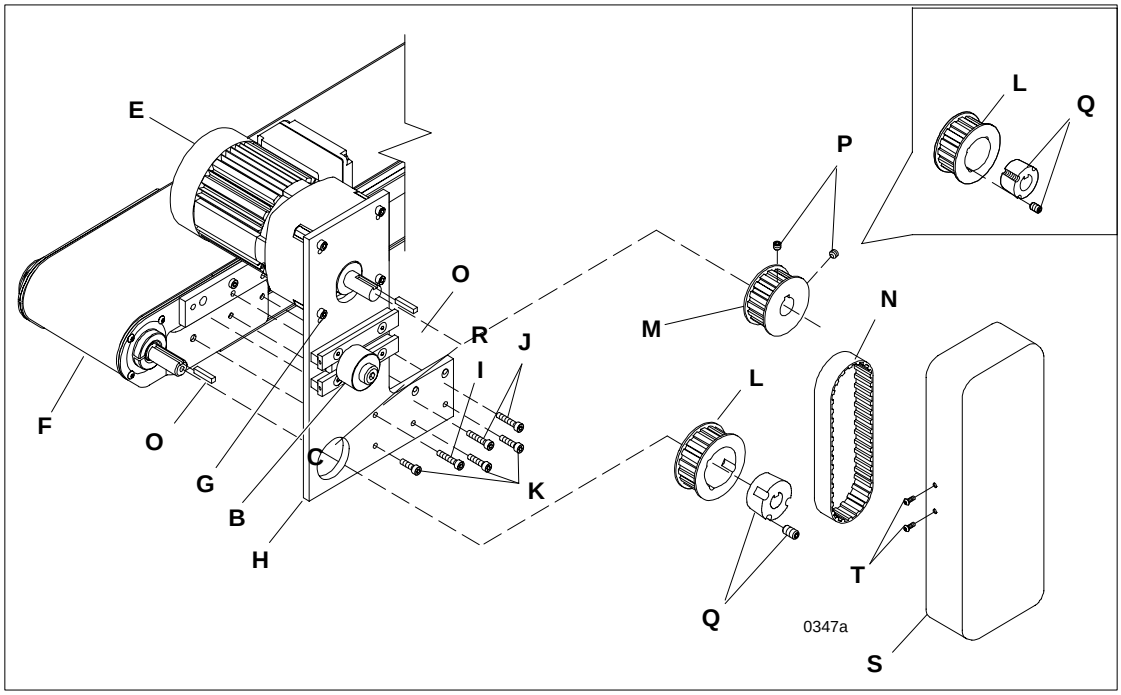


Figure 12: Top Drive Component Assembly Detail

Side Mount Installation

The side mount package can be set up in either one of two positions (**A** or **D** of Figure 13).

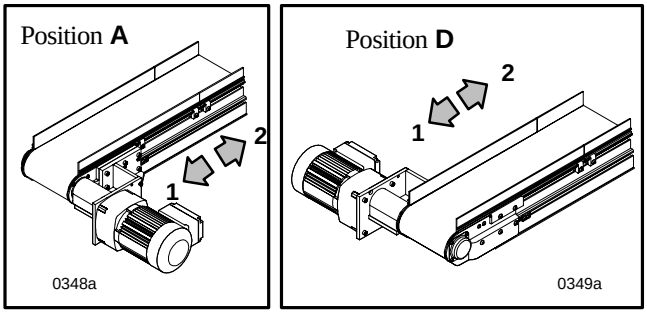


Figure 13: Side Drive Mounting Detail

In addition, the conveyor belt can be driven in either one of two directions (**1** or **2** of Figure 13). Arrows show belt travel direction.

Loose components shipped with the mounting kit include the square key (**K** of Figure 14), M6 x 20 mm, M6 x 25 mm and M6 x 35 mm socket head cap screws (**L**, **M** & **N**), side drive guard (**O**) and M5 x 10 mm button head cap screws (**P**).

1. Secure the gearmotor (**J**) and the mounting plate assembly to the conveyor (**I**) using one M6 x 35 mm socket head cap screw (**N**) in top mounting hole, two M6 x 20 mm socket head cap screws (**L**) in middle holes and three M6 x 25 mm socket head cap screws (**M**) in the bottom holes.
2. The flex coupling (**R**) is shipped attached to the gearmotor shaft (**F**). Make sure the set screw (**H**) on the end farthest from the gearmotor is loosened far enough to allow the coupling to slide onto the outboard shaft (**E**) on the conveyor.
3. Mount the assembly to the conveyor by placing the square key (**K**) into the keyway on the outboard shaft and sliding the flex coupling onto the shaft as far as the key will allow.
4. While holding the gearmotor and flex coupling assembly in alignment, secure the gearmotor to the mounting plate using the four M6 x 20 mm head cap screws.

NOTE:

Flex coupling is provided to compensate for maximum shaft misalignments (G) of up to 1/16″ (1.5 mm).

5. Tighten the set screws on the flex coupling and re-assemble the side drive guard (**O**) to the mounting plate using the M5 x 10 mm button head cap screws (**P**).

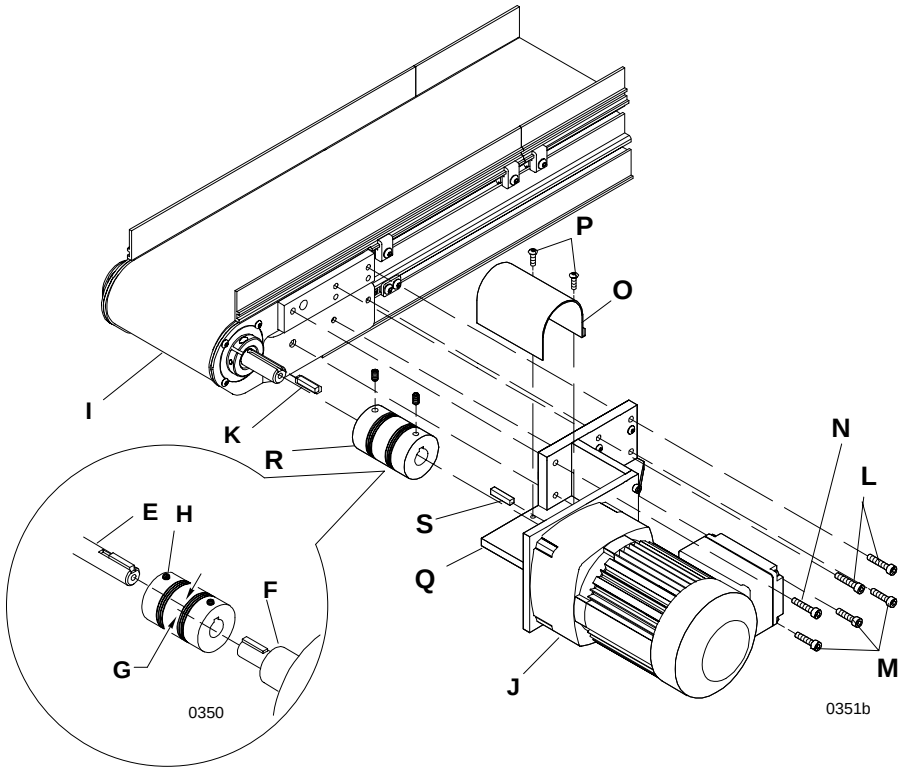


Figure 14: Side Drive Component Assembly Detail

Conveyor Belt Tension Adjustment

IMPORTANT:

The conveyor belt is the single most important component of a 3100 Series conveyor. Therefore, Dorner recommends that both correct conveyor belt tension and proper belt tracking be correctly established before the conveyor is put into operation.

End-driven Conveyors

The following procedure is used to tension the conveyor belt for end driven conveyors. An end-driven conveyor uses a rack and pinion assembly (G of Figure 15) to take up conveyor belt slack and achieve proper conveyor belt operating tension. To adjust the belt tension:

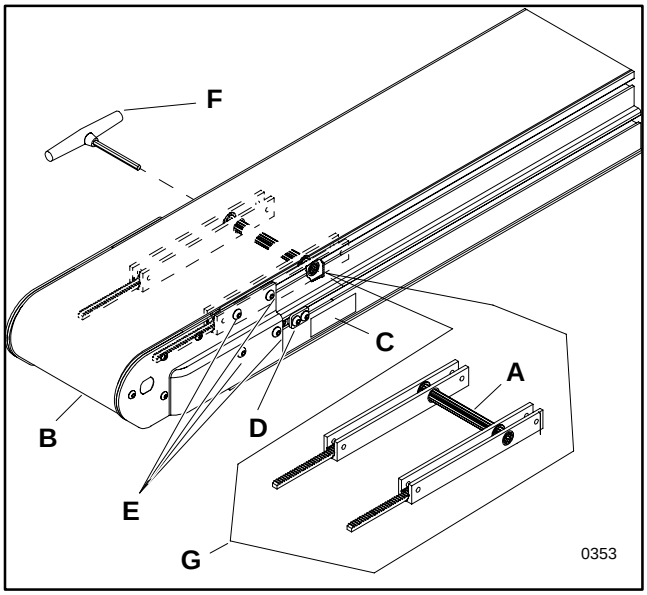


Figure 15

1. Locate the tension end (B) of the conveyor, identified with a label (C).
2. Make sure that the belt tracking cam assemblies (D), on each side of the conveyor, are secure. Refer to callout D of Figure 18 on page 14, for more details.
3. Then, loosen tail cover plate clamping screws (E) on both sides of the tension end.
4. Insert a 5 mm hex key wrench (F) into either end of the pinion (A).
5. Rotate the pinion to extend the tensioning end and apply a sufficient tension to eliminate drive pulley slippage.

NOTE:

Over-tensioning conveyor belt adds unnecessary loading to the pulley bearings.

6. While holding the pinion in the tensioned position, tighten cover plate screws on both sides of the conveyor. Torque the mounting screws to approximately 18 in-lb (2 Nm).

Center-driven Conveyors

The belt tension for all center drive conveyor belts is established and maintained by the regulator adjusted (H of Figure 16 or Figure 17) air pressure to the take-up cylinder. Air pressure should initially be set to 55 PSIG (385 kPa) and re-adjusted so that the belt under maximum load does not slip. Conveyor belt tension should be adequate to prevent slippage which could result in the drive pulley wearing/burning-through the conveyor belt. Conversely, belt tension should not be too great which could stretch the belt and cause undue bearing stress and early failure.

NOTE:

Dorner recommends that the system supply be at least 55 PSIG (385 kPa) of 10 micron filtered air pressure.

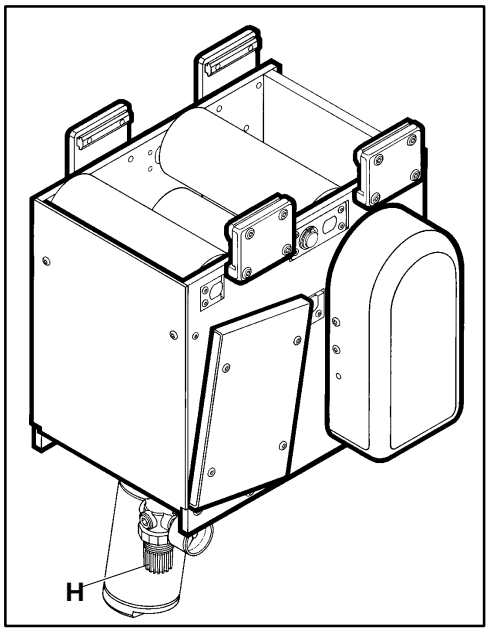


Figure 16: Vertical Center Drive

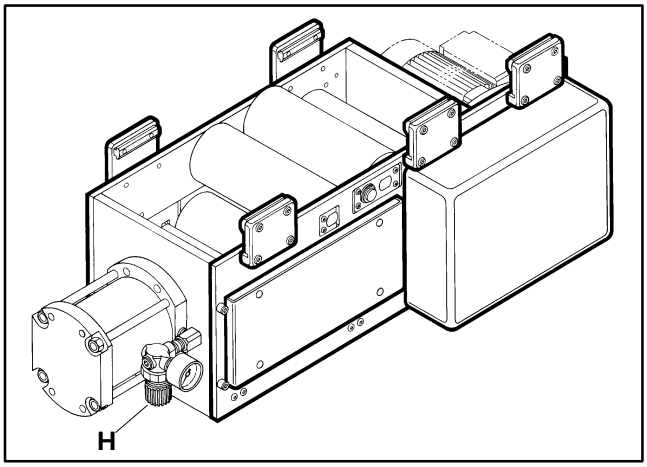


Figure 17: Horizontal Center Drive

Preliminary Belt Tracking Check

IMPORTANT:

Stop the conveyor immediately if the belt does not track properly. Refer to the "Conveyor Belt Tracking Adjustment procedure" topic beginning on the next page.

1. Make sure the conveyor belt tension is set properly. Refer to "Conveyor Belt Tension Adjustment" topic beginning on the preceding page.
2. Make sure the belt tracking guides are installed on the discharge end of low side conveyors, as applicable (see page 5).
3. Energize the power to the conveyor drive motor and, on center-driven conveyors only, turn on the supply air to the take-up cylinder. Then, proceed as follows:
   a. ***On fixed speed conveyors,*** jog the conveyor on and off in very short cycles, a maximum of 6 starts per minute. Observe the belt tracking on both ends. Gradually increase the run cycle.
   b. ***On variable speed conveyors***, set the control at its lowest speed. Run the conveyor and observe the belt tracking at both ends.
4. Make additional tracking adjustments, as needed, per the following topic.

Conveyor Belt Tracking Adjustment Procedure

Make sure the belt is properly tensioned and that the conveyor is straight and level in all directions within the confines of the conveyor.

This conveyor is equipped with an articular linkage which allows the pulley to be positioned at a slight angle to facilitate belt tracking.

If you are working on a low side conveyor, re-install the belt tracking guides following the details on page 5.

Check both ends of the conveyor for proper belt tracking. The belt should track centered between the tail plates on both ends of the conveyor. Conveyor belt tracking should always be adjusted on the discharge end of conveyor first. Then, check the tracking on the opposite (infeed) end of the conveyor and readjust, if necessary.

To adjust belt tracking:

1. Loosen (but do not remove) the two cam clamping plate screws (I) on both sides of the conveyor discharge.
2. Slide both belt tracking cam assemblies (D of Figure 18) as far as they can be moved toward the end of the conveyor.
3. The belt tracking cam (J) must be set to the low point at the point of contact as illustrated. The slot (K), in the belt tracking cam, should be horizontal and pointing towards the end of the conveyor.

4. Tighten the two (2) belt tracking cam retaining plate screws (I), on both sides of the conveyor.
5. **Only loosen the four tail cover plate screws (E of Figure 18) on the side of the conveyor that the belt is tracking toward.**
6. Use the 5 mm key wrench (F of Figure 15) to slowly rotate the belt tracking cam (J of Figure 18) in small increments in either direction to cause the belt to track away from the conveyor side, until the belt tracks in the center of the conveyor. Always allow the conveyor belt to make several revolutions between adjustments.

IMPORTANT:

Rotate belt tracking cam very slowly and in small increments, to prevent the belt from moving beyond the desired centered position.

7. While holding the belt tracking cam (J of Figure 18) in position, tighten the tail cover plate clamp screws (E) and re-check the belt tracking.
8. Recheck belt tracking, on opposite end of the conveyor, and adjust if needed.

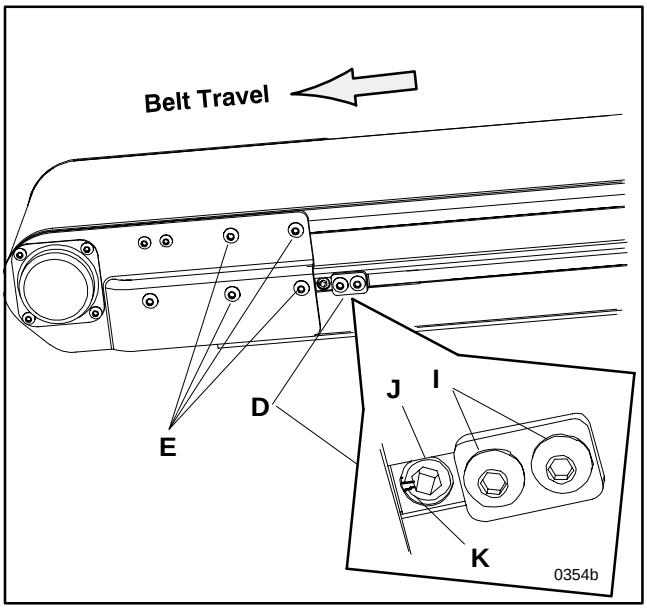


Figure 18

Center Drive Unit Conveyor Belt Tracking Cam

Vertical and horizontal center drive module assemblies have a cam adjustment mechanism (L of Figure 19) on each end of the conveyor belt idler roller to control belt tracking through the drive. This adjustment is factory set and should not require readjustment except maybe after a replacement conveyor belt is installed. To make an adjustment, first loosen (but do not remove) the four (4) cam plate screws (N). Then, using a 5 mm key wrench, slowly rotate the belt tracking cam (M) in small increments in either direction to cause the belt to track away from the side, until the belt tracks in the center of the drive. Always allow conveyor belt to make several revolutions between re-adjustments. After the proper tracking is obtained, tightly secure the cam plate screws.

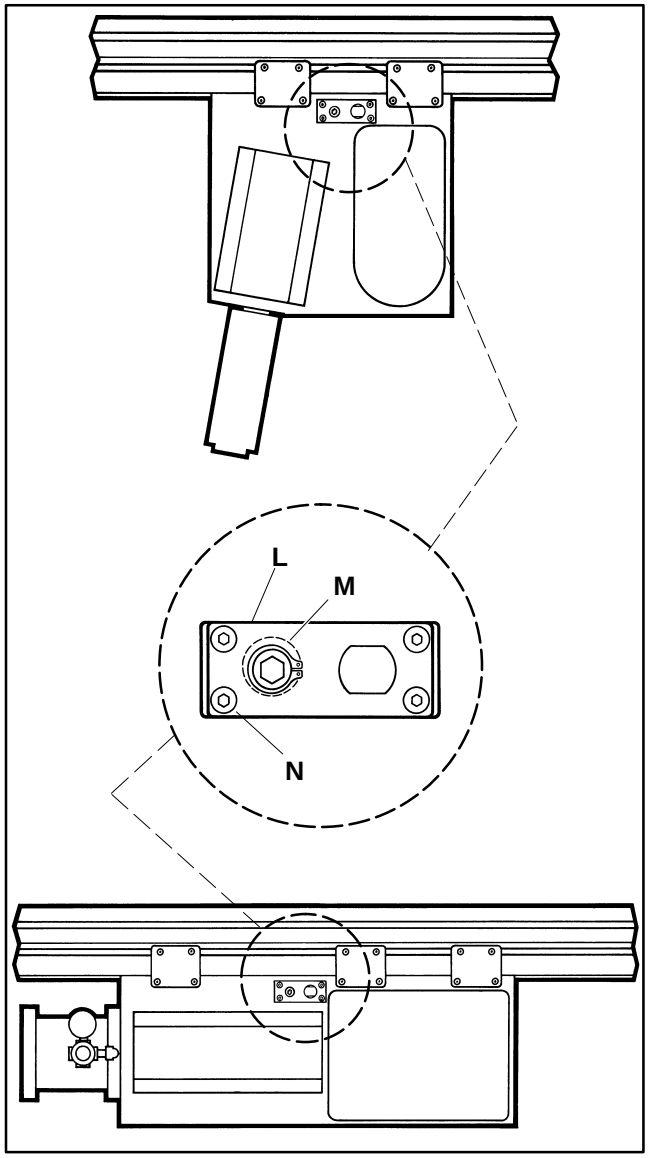


Figure 19: Belt Tracking Cam Locations for Center Drive Assemblies

Dorner 3100 series flat belt conveyors are designed and manufactured for long life and low maintenance. Maintenance consists of identifying a problem and taking corrective action, as identified below.

WARNING

To prevent injury, make sure all electrical and pneumatic power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.

Lubrication

3″ (76 mm) Pulley Bearings (Not Re-greasable)

NOTE:
All 3″ (76 mm) Pulley Bearings are sealed and are not re-greasable.

Twin 1″ (25 mm) Pulley Bearings

Lubricate the twin 1″ (25 mm) pulley bearings, on each side of the conveyor, every 750 hours of operation or more frequently, when conditions warrant. Use a conventional hand-operated grease gun, with a maximum of one pump per application, unless otherwise specified. To prevent damage to the bearing, do not use a power grease gun which creates undue pressure that may unseat the bearing. Use Dorner Red Grease 14 oz. cartridge, part number 829-002, or 14 oz. can, part number 829-003.

NOTE:
Do not over-lubricate the twin pulley bearings.

Maintenance

Conveyor Belt

Inspect the conveyor belt for:

- Stalling or slipping; refer to “Conveyor Belt Tension” beginning topic on page 12.
- Tracking problems; refer to “Conveyor Belt Tracking Adjustment Procedure” beginning on page 13.
- Worn edges
- Surface cuts or wear
- Stretching or breaking
- Belt that walks to one side
- Non-uniform movement of the conveyor belt
- Lines or rough edges on belt
- Accumulated dirt
- Jammed parts
- Foreign material inside conveyor
- Interference with mounted accessories

Conveyor Hot Spots

Inspect the conveyor frame and drive unit surfaces for hot spots which indicate the need for tracking the conveyor belt, replacing worn-out bearings and/or lubricating 1″ (25 mm) bearings (where applicable).

Drive Components

Check drive timing or Poly-V® belt for wear. Replace worn belt, if necessary. Check the drive pulleys for proper alignment and re-align, if necessary.

Cleaning Conveyor and Conveyor Belt

During maintenance procedures involving conveyor belt or worn part replacement, be sure to thoroughly clean all conveyor surfaces, inside and out. Remove any compacted material from the outer surfaces of all pulleys. Check all bearings and rollers for smooth operation.

IMPORTANT:
Do not use belt cleaners that contain alcohol, acetone, Methyl Ethyl Ketone (MEK) or other harsh chemicals.

Use Dorner Belt Cleaner, part number 625619, or equivalent. Mild soap and water may also be used. Do not soak the belt. Due to the texture of woven polyester and black anti-static belts, use a small, semi-stiff bristled brush (similar to a vegetable brush), to improve cleaning.

Twin 1″ (25 mm) Pulley Removal & Bearings Replacement

Pulley Removal

1. Remove conveyor belt for access to the pulleys. Refer to the appropriate topic in the "Conveyor Belt Replacement & Adjustment" section of this manual beginning on page 20.
2. Remove the tail cover plate screws (A of Figure 20) and tail cover plates (B) on both sides of the conveyor.

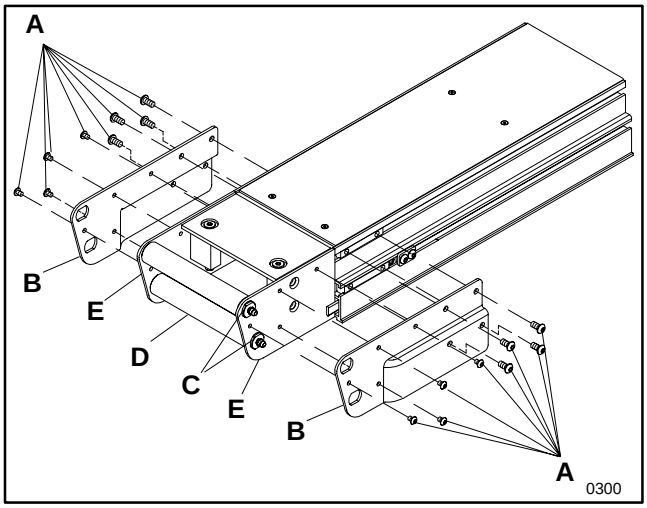


Figure 20

3. Remove the retaining sleeves (C) and pulley (D). If retaining sleeves are stuck or wedged tight, proceed to the next step.
4. To remove a wedged sleeve, refer to Figure 21 and remove the grease fitting. Then, working through the grease fitting hole (F of Figure 21) in the sleeve (C), form a puller arrangement as shown. Use the bearing anvil/sleeve removal tool 25-09 (G), washer 605279 (H) and M6 x 35 mm socket head cap screw 920635M (I). All these parts are in Tool Kit on page 29.
5. Remove the pulley shaft (J) from the pulley (D) and replace the pulley bearing. See "Bearing Removal" subtopic on this page.

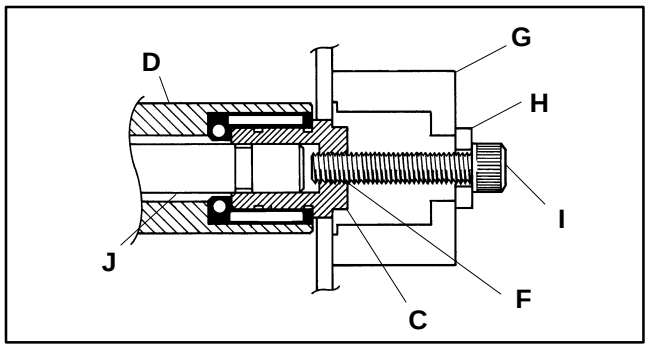


Figure 21

Bearing Replacement

Bearing Removal

Use the following procedure to remove pulley bearings:

1. Make sure that the shoulder (M) on the bearing removal tool is completely closed. If it is slightly open it may not fit into the bearing (P of Figure 23). Use the hex key wrench extension tool (N of Figure 23), (part number 25-08, item 23 of Tool Kit 2500M on page 29) and loosen the tapered screw (L of Figure 22) while compressing the flair (M) inward to make sure that the tool is completely closed.

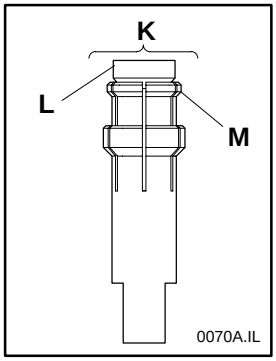


Figure 22: Bearing Removal Tool

2. Insert bearing removal tool (O of Figure 23) into the pulley (Q) through bearing (P).

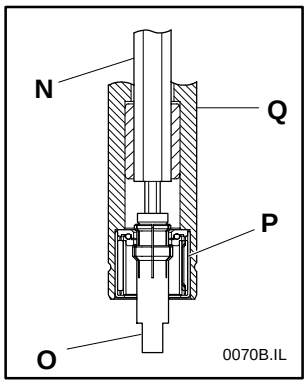


Figure 23

3. While holding the hex key wrench extension tool (N of Figure 24), rotate bearing removal tool using flats (O) to tighten the bearing removal tool's tapered screw (R) until the flair (S) of the tool is completely spread open behind the bearing (P).

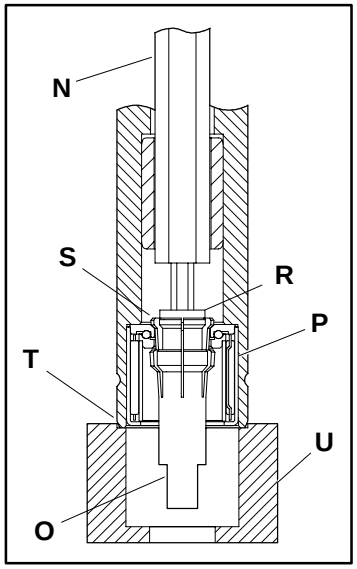


Figure 24

4. Support pulley end (T) with bearing anvil/sleeve removal tool (U), (part number 25-09, item 18 of Tool Kit 2500M on page 29). Using an arbor press or drill press, press against the extension tool (N) until bearing drops into anvil/sleeve removal tool (U).

IMPORTANT:

Heavy tapping or hammering will damage the bearing and/or hex key wrench extension tool.

Bearing Replacement

Use the following procedure to install new pulley bearings:

1. Hold the pulley (D of Figure 25) in an upright position with "V" block or other means. Support the bottom end of pulley (D) using anvil/sleeve removal tool (U).

NOTE:

Always keep the bearings (F) and pulleys (D) aligned during installing. Misalignment will tilt the bearing and damage it.

2. With an arbor press or drill press, align the bearing insertion tool (V), (part number 25-10, item 22 of Tool Kit 2500M on page 29) with the pulley bore (W).
3. Slide the bearings (F) onto the bearing insertion tool (V).
4. Press bearing (F) firmly and slowly into pulley (D) until it bottoms out on pulley shoulder (X). If bearing fits too loosely in the pulley bore (W) or if the bore is out of round, the entire pulley assembly must be replaced.

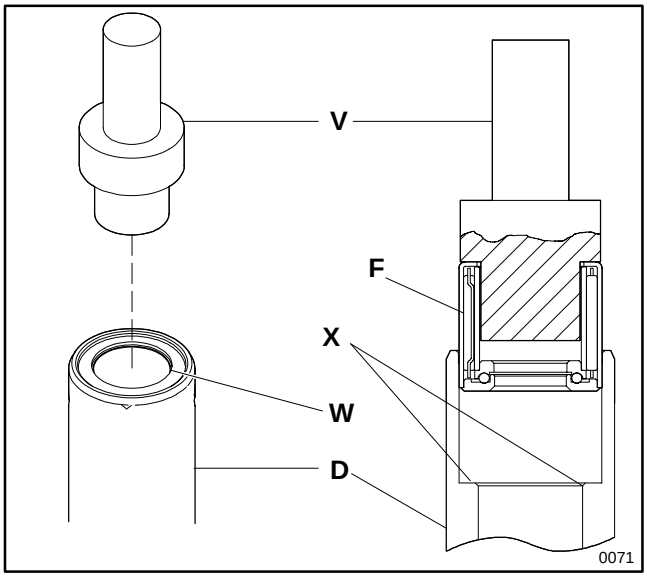


Figure 25

Pulley Replacement

Replace a repaired pulley or install a new pulley as follows:

1. Insert pulley shaft (J of Figure 21) into the pulley (D).
2. Insert pulley (D of Figure 20) between the tail pulley plates (E).
3. Slide the retaining sleeves (C) through openings in the tail pulley plates (E) and into both sides of the pulleys (D).
4. Replace and re-secure the tail cover plates (B) by installing and securing the tail cover plate screws (A) and on both sides of the conveyor.
5. Re-install the conveyor belt. Refer to the "Conveyor Belt Replacement & Adjustments" section starting on page 20.

Top or Bottom Mount End Drive Timing Belt Replacement & Operating Tension Adjustment

Proceed as follows:

1. Before proceeding, disconnect and lockout electrical power to the drive motor. Then, remove the drive cover.
2. Check the condition of the existing timing belt and replace if worn. As necessary, loosen the belt tensioning roller assembly (A of Figure 26) to remove worn belt.
3. Install the new timing belt around the drive and driven pulleys and check so that it is centered on the pulleys and that the pulleys are in line with each other. Reposition pulleys, if necessary and then, tighten the pulley set screws or Taper Lock® bushing screws which fasten the pulleys to the shafts. Determine which direction the conveyor belt is traveling and position the tensioning roller assembly on slack side of the timing belt. Refer to "End Drive Packages" topic, beginning on page 8, for alternate belt travel direction information.
4. Adjust timing belt tension by loosening the M12 x 25 mm socket head cap screw and sliding the belt tensioning roller assembly (A) against the belt. Tension should be measured at mid-point (B) on the tension side of the timing belt. As a starting point for the tensioning process, there should be a 1/8″ (3 mm) deflection with 6 lb (3kg or 26 N) of force.

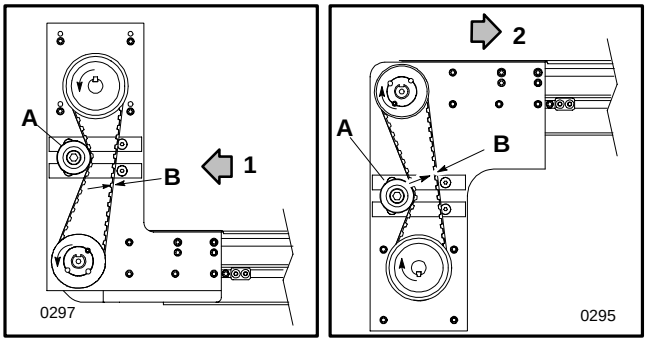


Figure 26: Top (left) and Bottom (right) Drive Timing Belt Adjustment Detail

5. Every timing belt application exhibits its own individual operating characteristics. The optimum timing belt tension should be determined experimentally.

   If necessary, continue to slide the tensioning roller assembly against the timing belt until the belt is tensioned so as to prevent jumping of teeth under the most severe conditions which the drive will encounter. Tighten the M12 x 25 mm socket head cap screw after tension requirements are achieved.

IMPORTANT:

Do not over tension the timing belt. Over tensioning may cause reduced belt life or bearing and drive damage.

6. Re-attach the drive cover using the four original M4 x 10 mm button head cap screws.

Center Drive Timing Belt Replacement & Operating Tension Adjustment

Center drive packages are available in three (3) configurations: vertical mount, horizontal mount standard load and, horizontal mount heavy load.

Vertical Mount Center Drive

Proceed as follows:

NOTE:

The standard vertical mount center-driven conveyor belt usually travels in the direction indicated by the arrow (C of Figure 27).

1. Before proceeding, disconnect and lockout electrical power to the drive motor.
2. Remove any air pressure to the pneumatic take-up cylinder (D). Then, remove the drive cover.
3. Loosen and move the tensioning roller (E) away from the timing belt.
4. Install the new timing belt.
5. With the tensioning roller (E), apply tension to the timing belt so that there is a 3/32″ (2 mm) deflection (G) for approximately 8-1/2 pounds (36.5 N) of force at the mid-point of the timing belt. After the required tension is obtained, tightly secure tension roller attaching hardware.
6. Re-attach the drive cover.

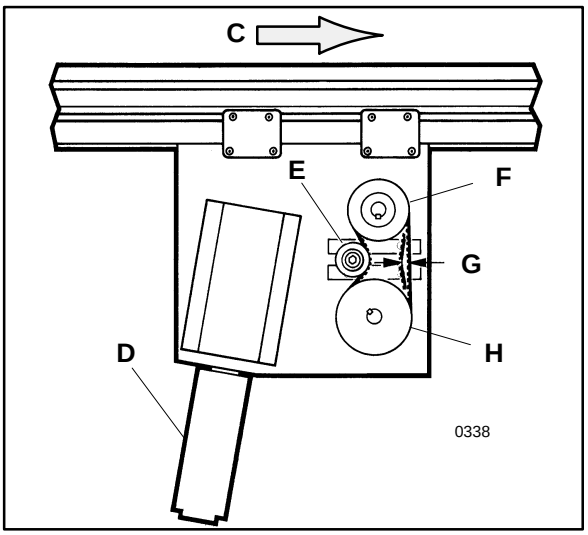


Figure 27: Vertical Center Drive Timing Belt Adjustment Detail

Horizontal Mount Center Drive (Heavy Load or Standard Load)

To install a new Poly-V® drive belt and apply correct operating tension, proceed as follows:

NOTE:

The heavy load or standard load horizontal mount center-driven conveyor belt always travels in the direction indicated by the arrow (C of Figure 28).

1. Before proceeding, disconnect and lockout electrical power to the drive motor.
2. Remove any air pressure to the pneumatic take-up cylinder (D). Then, remove the drive cover.
3. Completely release compression spring tension (I) by backing-out the adjustment screw (K).
4. With spring tension relieved, loosen the block anchor screws (L) to allow the idler pulley assembly (M) to move away from the Poly-V® belt (N).
5. Be sure that the driven pulleys (O) are correctly aligned with the drive pulley (P). After proper alignment is achieved, be sure to tightly secure all related pulley mounting hardware.
6. Install the new Poly-V® belt (N).
7. With the new belt installed, apply correct operation tensioning by performing the following steps:
   a. With the block anchor screws (L) loosely attached and the adjustment screw (K) backed-out completely, slide the block and idler assembly in the direction of the Poly-V® belt until the belt is fairly taut. At this point, tighten the block anchor screws (L).
   b. Completely tighten the adjustment screw (K) to apply correct compression spring tension to the Poly-V® belt.
8. Re-attach the drive cover.

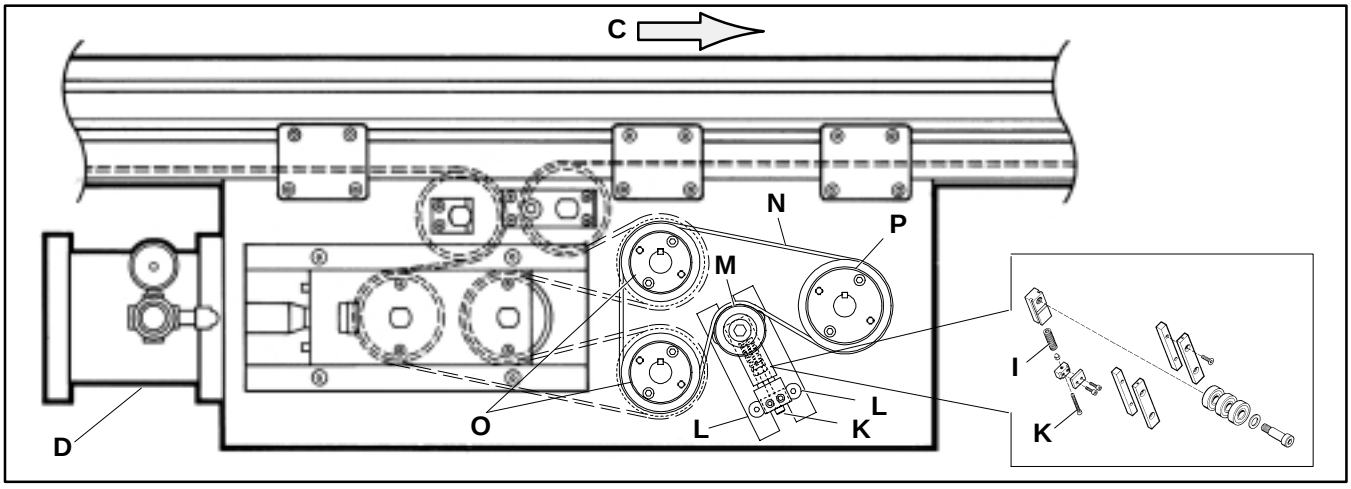


Figure 28

Conveyor Belt Replacement & Adjustments

Conveyor Belt Replacement

General Information

1. Disconnect all electrical power sources.
2. To facilitate re-assembly, mark any critical locations for accessory attachments along the entire side of the conveyor frame from which the belt is going to be removed.
3. Always position and install the new conveyor belt so the belt splice leading finger (B of Figure 29) points in the direction of travel (A), on either side, is as shown.

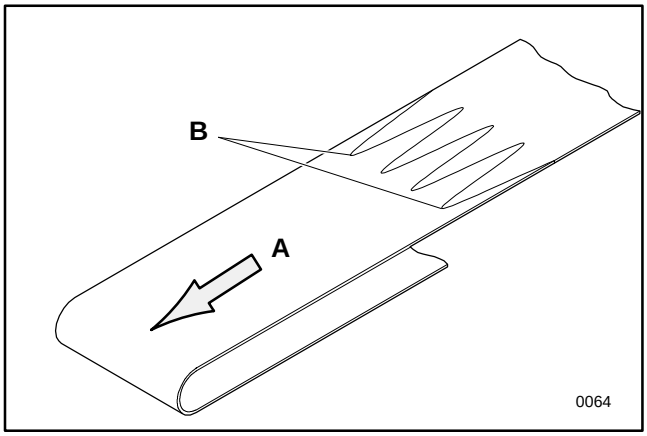


Figure 29: Replacement Belt Orientation Detail

Low-sided Conveyor Guiding

Low-sided flat belt conveyor may be equipped with guiding (C of Figure 30) on both sides of the conveyor. When the conveyor belt is going to be replaced, the guiding must be temporarily removed, from the side opposite the gearmotor mounting package, so that the existing conveyor belt can be removed from that section and the new belt installed.

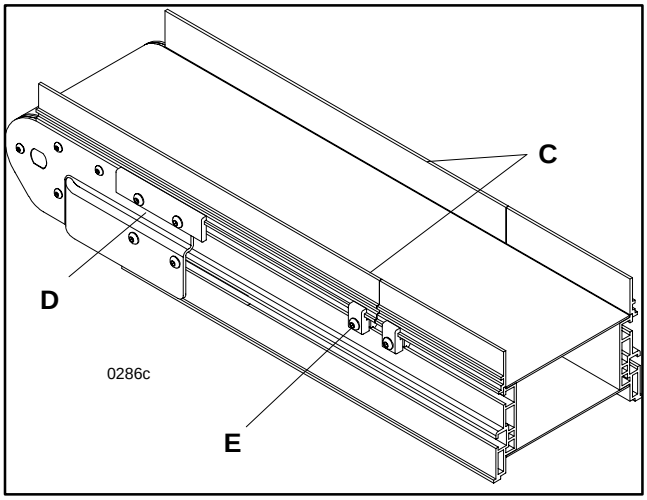


Figure 30: Low-sided Conveyor Guiding Removal Detail

The guiding on the ends of the conveyor may be secured with end guide mounting clamps (D) which are secured to the tail plate covers with two (2) M6 x 18 mm button head cap screws. Guiding, in all other places is secured with appropriate quantities of guide retaining clips (E), M6 x 18 mm button head cap screws and single drop-in T-bars.

Be sure to mark (or make appropriate notations) of the clip (E) positions and guide section (C) locations. Then, remove guiding from the side of the conveyor opposite the gearmotor.

To remove the guiding, refer to Figure 30 and loosen, remove and retain the guide clamps. Guide replacement is in reverse sequence of removal.

High-sided Conveyor Side Wipers

Standard high-sided flat belt conveyor may be equipped with side wipers (F of Figure 31). These side wipers must be temporarily removed from both sides of the conveyor so that the existing conveyor belt can be removed and the new belt installed.

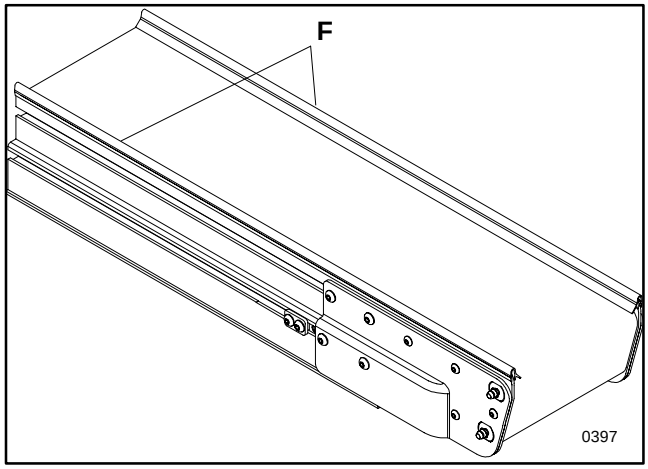


Figure 31: Optional Side Wipers Installation Detail

End-driven Conveyors

WARNING

To prevent injury, make sure all electrical power has been disconnected before you perform any maintenance, make any adjustments or replace any components. In addition, the weight of the gearmotor is all on one end of the conveyor. This could cause the conveyor and stand to tip over when the anchor components are removed. There should be some form of extra support (L of Figure 33) for the gearmotor while the conveyor belt is being changed.

Releasing Conveyor Belt Tension

The following procedure should be used to release the conveyor belt tension, before proceeding to remove the old belt.

1. Locate the belt tension end (K of Figure 32) of the conveyor.

2. **On a standard high-sided conveyor only**, remove each filler plate screw (H) and each filler plate (G) from both sides of the conveyor.

3. If engaged, loosen the belt tracking cam assemblies (I), on both sides of the tensioning end (J). Slide the cam assemblies toward the middle of the conveyor.

4. Loosen the tail cover plate screws (L), on both sides of the tensioning end.

5. Collapse the tensioning end (J) of the conveyor by pushing it back into the conveyor frame, using the heel of your hand. This will sufficiently loosen the belt for removal.

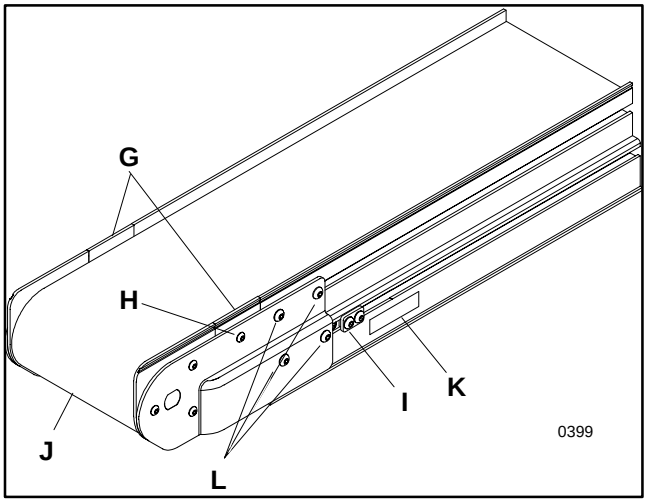


Figure 32

Belt Removal

1. Wherever possible, conveyor belt should always be removed from the side opposite the gearmotor, In addition, remove any controls, stops or other attached accessories, from that side, which could interfere with belt removal.

2. Referring to Figure 33, safely and temporarily support the conveyor section with a sturdy support mechanism (L) (such as wooden blocks or a sawhorse).

NOTE:

For additional details, refer your Metric Support Stands and Conveyor Mountings Parts, Assembly & Maintenance Manual.

3. Remove and retain the mounting clamp plate screw (N of Figure 33) and clamp plate (M) from the both sides of the conveyor.
4. With the clamp plates (M) removed from both sides of the conveyor, carefully raise-up the side opposite the gearmotor and slide the old belt sideways and away from conveyor.
5. As necessary, remove the old conveyor belt, section by section, until it is completely off.

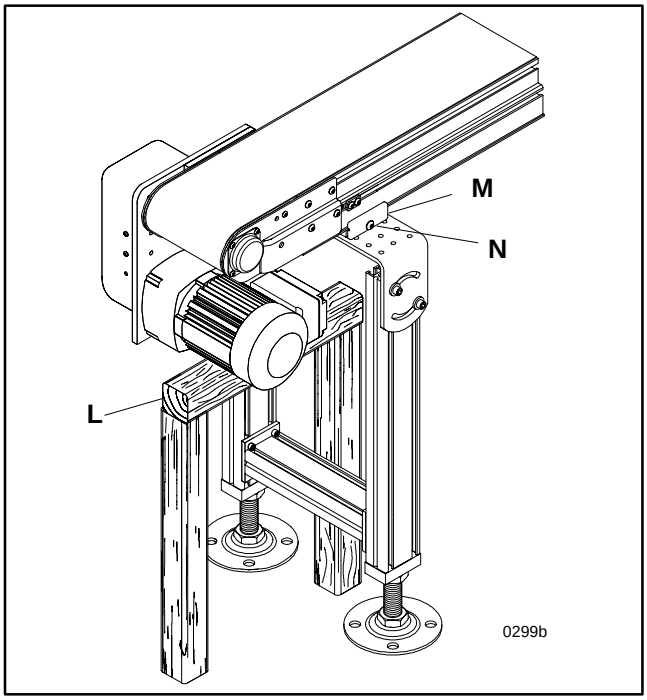


Figure 33

Belt Replacement

1. Install the new conveyor belt by raising the side opposite the gearmotor and sliding belt sideways between the bottom of conveyor and the top of the mounting bracket return belt roller.
2. As necessary, install the new conveyor belt, section by section, until it is completely in position around conveyor.
3. Then, replace and re-secure the clamp plates (M) and mounting clamp plate screws (N).

NOTE:

On low-side conveyors, do not replace the guiding, at this time. Replace the guiding after proper conveyor belt tension has been achieved.

4. Make sure all hardware, that was either removed or loosened, is replaced and properly tightened. Do not, tightly secure the tail cover plate screws, at this time.
5. Refer to procedures under the "End Driven Conveyors" subtopic in the "Start-up & Preliminary Adjustments" section on page 12 for conveyor belt tension adjustment procedures.

6. Refer to the "Conveyor Belt Tracking" information in the Start-up & Preliminary Adjustments section on page 13 for belt tracking procedures.
7. **On low-side conveyors**, replace the guiding.
8. After the proper belt tension and tracking is established, replace the controls, stops and other attached accessories referring to the positions previously marked.

Center-driven Conveyors

Preferred Method of Conveyor Belt Removal & Replacement

NOTE:

The preferred method for conveyor belt replacement is to order a replacement belt already cut to length with splicing fingers pre-cut on each end. The new belt can then be fused on location with a Belt Splicer either purchased or rented from an authorized Dorner Service Center or the factory.

The following belt replacement procedure is preferred for long conveyors and/or those used in systems with complex mounted controls, guides and accessories.

WARNING

To prevent injury, make sure all electrical and pneumatic power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.

1. Disconnect all pneumatic and electrical power sources.
2. Remove air pressure from the take-up air cylinder (A of Figures 34 & 35).
3. To facilitate re-assembly, mark critical locations on conveyor frame and remove guiding, controls, stops and other attached accessories which will interfere with belt removal.
4. Open the horizontal Poly-V® belt drive cover (B of Figure 34) or the vertical timing belt drive cover (B of Figure 35) and release drive belt tension. Then, remove the drive belt so the drive pulleys rotate freely.
5. Cut the old belt perpendicularly to the conveyor centerline.
6. Tape (D) one end of the new belt (C) to one end of the old belt (E).

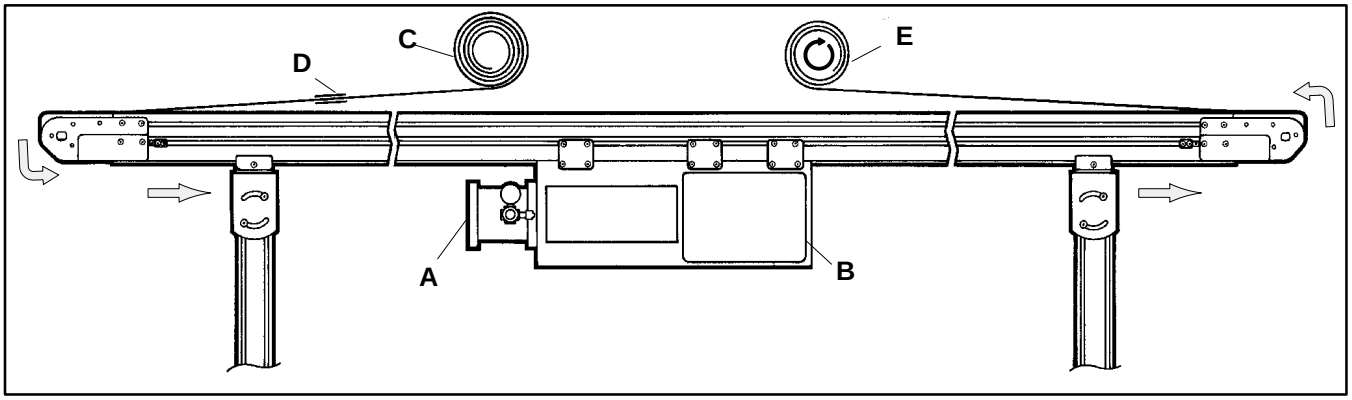


Figure 34

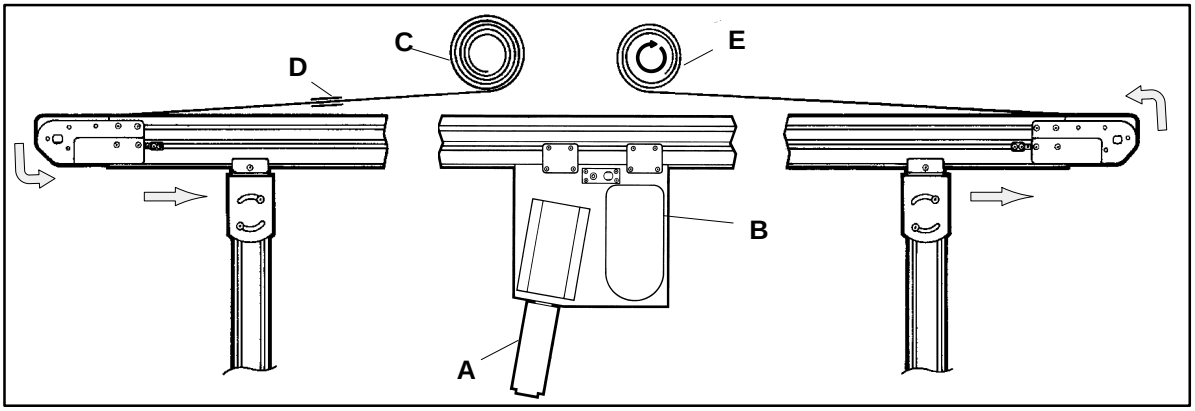


Figure 35

7. Rotate the old belt in the direction shown to pull the new belt into the conveyor while pulling the old belt out.
8. New belts without splice fingers are to be cut using a Dorner belt cutting tool following instructions provided with the cutting tool.
9. Fuse the new belt in place with a Dorner 7000 Series auto belt splicer following instructions provided with the belt splicer.

NOTE:
It may be necessary to remove a tail section to allow enough belt slack for splicing. Appropriate operating instructions are contained in the 7000 Series Finger Splice Cutter publication (Dorner 851-103) or in the 7000 Series Auto Cycle Belt Splicer publication (Dorner 851-102).

NOTE:
A Metal hook/Clipper® splice may be used in place of a fused splice. For this type of conveyor belt, it is only necessary to remove the lacing pin to uncouple the two ends of the belt. Then, after the belt is pulled into and through the center drive and around the conveyor (using the old belt), the ends can be brought together and linked by the lacing pin.

10. Replace and re-secure tail section (if removed) and tightly secure the tail cover plate screws.
11. Replace and re-tension the drive belt. Then, replace the drive cover.
12. Install the belt tracking guide assemblies on the discharge end of low side conveyors longer than 14 ft (4.5 m). Refer to Figure 3 on page 5.
13. Make sure the conveyor belt tension is set properly. Refer to "Center-drive Conveyors" subtopic under the "Conveyor Belt Tension Adjustment" topic on page 13.
14. Replace any other items that were removed for the belt replacement.
15. Make tracking adjustments as needed. Refer to "Conveyor Belt Tracking" topic on page 13.

Alternate Method for Re-threading Conveyor Belt Through Center Drive Module

The following belt replacement procedure should be used for installing a replacement conveyor belt, with splice fingers, through the center drive module, without dropping the module.

All Center Drive Conveyors

WARNING

To prevent injury, make sure all electrical and pneumatic power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.

1. Disconnect all pneumatic and electrical power sources.
2. Remove air pressure from the take-up air cylinder (F of Figures 36 & 37).
3. To facilitate re-assembly, mark critical locations on conveyor frame and remove guiding, controls, stops and other attached accessories which will interfere with belt removal.
4. On one end of the conveyor, remove a tail section by loosening the tail cover plate screws and sliding the tail out from the conveyor.

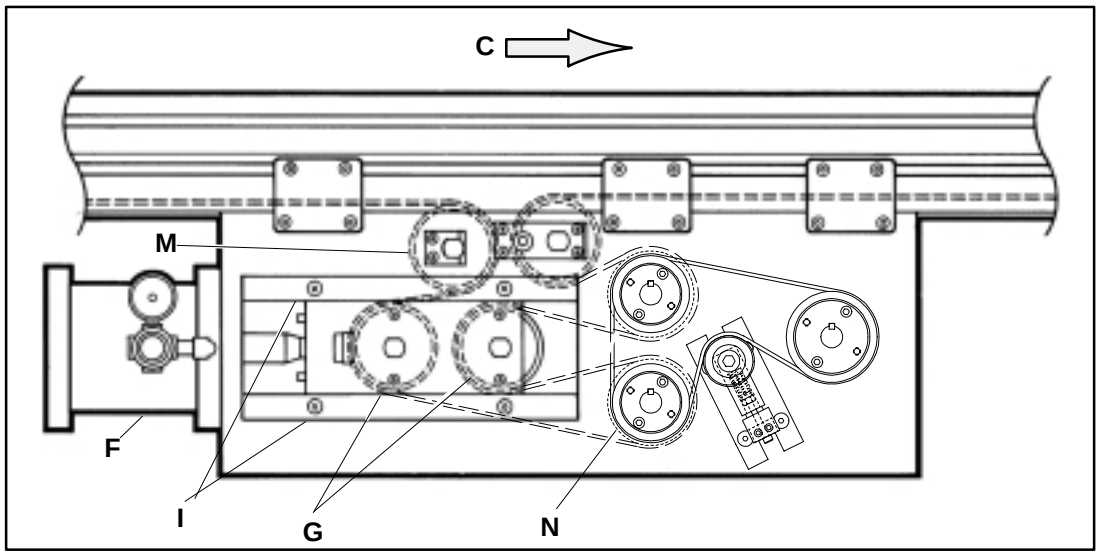


Figure 36

Belt Installation on Horizontal Center Drive Conveyors Only (Alternate Method)

5. Open the horizontal Poly-V® belt drive cover (B of Figure 34) and release drive belt tension. Then, remove the drive belt so the drive pulleys rotate freely.
6. Refer to Figure 36 and remove both take-up pulleys (G of Figure 36).
7. Remove the two take-up guides (I) from one side. Remove the inner and outer take-up plate assemblies and slide out both pulleys and shafts.
8. Remove the fixed position idler pulley (M). Remove the shaft retaining clip from one side and push out the shaft. Then, remove the pulley.
9. Remove the lower drive pulley (N) from the drive pulley shaft. Remove the drive bearing assembly, from one side. Then, pull the drive pulley out of the center drive unit.
10. With the pulleys and shafts (G, M and N) removed, the splice fingers of the correctly oriented replacement conveyor belt can be brought into the center drive module and routed around the two remaining pulleys as shown in Figure 36.

NOTE:

Make sure that the replacement belt is proper oriented with respect to the direction of travel. Refer to Figure 29 on page 20. All horizontal center-driven conveyor belts travel in the direction indicated by the arrow (C of Figure 36).

11. Form a large loop with the conveyor belt inside the module and re-install the lower drive pulley (N), drive pulley shaft and the drive bearing assembly. Make sure all three elements are correctly positioned before tightly securing the bearing hardware.
12. On the appropriate side of the belt loop, replace the fixed position idler pulley (M) and pulley shaft. Re-secure the shaft by re-attaching the shaft retaining clip.
13. Replace both take-up pulleys (G) and the inner and outer take-up plate assemblies. Then, replace the two take-up guides (I). Again, make sure all elements are correctly aligned before tightly securing the take-up bar attaching hardware.
14. After the conveyor belt has been properly replaced and re-routed through the center drive module, replace the horizontal Poly-V® belt drive, restore drive belt tension and replace the drive belt cover (B of Figure 34).
15. Complete the splicing process by skipping to step 1, on the next page.

Belt Installation on Vertical Center Drive Conveyors Only (Alternate Method)

1. Open the vertical timing belt drive cover (B of Figure 35) and release timing belt tension (L of Figure 37). Then, remove the timing belt so the drive pulleys rotate freely.
2. Remove the take-up covers.

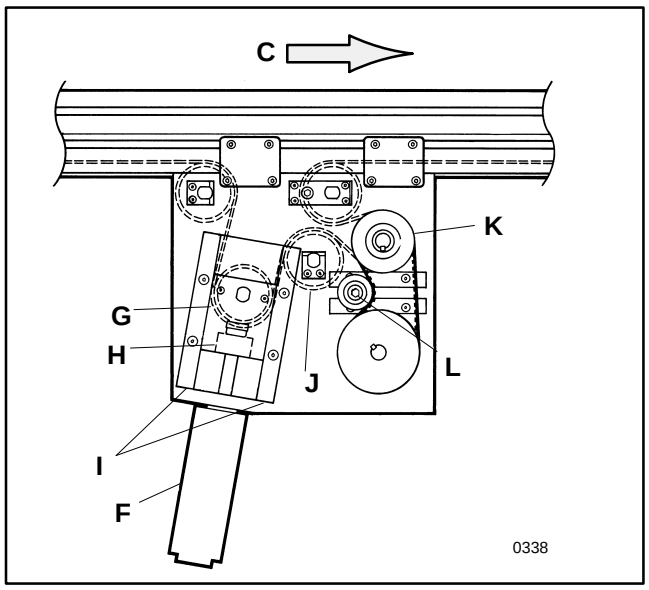


Figure 37

3. Remove the take-up pulley (G).
4. Loosen (but do not remove) the take-up bearing locking collars, on both ends of the take-up pulley.
5. Loosen the take-up bar (H) from the bearing on one side and remove the take-up guides (I) from that same side.
6. Pull the take-up bearings and pulley out of the drive.
7. Next, remove the center idler pulley (J) by removing the end plate from both ends of the pulley shaft and push the shaft out from the drive. Then, remove the idler pulley.
8. With the pulleys and shafts (G and J) removed, the splice fingers of the correctly oriented replacement conveyor belt can be brought into the center drive module and routed around the three remaining pulleys as shown in Figure 37.

NOTE:

Make sure that the replacement belt is proper oriented with respect to the direction of travel. Refer to Figure 29 on page 20. All horizontal center-driven conveyor belts travel in the direction indicated by the arrow (C of Figure 36).

9. Form a large loop, with the conveyor belt, inside the module and re-install the center idler pulley (J) on the appropriate side of the belt loop. In conjunction with the pulley, re-assemble the end plates and the pulley shaft. Make sure all three elements are correctly positioned before tightly securing the shaft retaining clip hardware.

10. Replace the take-up guides (I). Then, replace, align and secure the take-up bar (H).
11. On the appropriate side of the belt loop, replace the take-up pulley (G) and the take-up bearing locking collars, on both ends of the take-up pulley. Again, make sure all elements are correctly aligned before tightly securing the bearing locking collars.
12. After the conveyor belt has been properly replaced and re-routed through the center drive module, replace the timing belt, restore timing belt tension and replace the drive belt cover (B of Figure 35).

Belt Fusing and System Restoration

1. Fuse the new belt in place with a Dorner 7000 Series auto belt splicer following instructions provided with the belt splicer.

NOTE:

It may be necessary to remove a tail section to allow enough belt slack for splicing. Appropriate operating instructions are contained in the 7000 Series Finger Splice Cutter publication (Dorner 851-103) or in the 7000 Series Auto Cycle Belt Splicer publication (Dorner 851-102).

2. Install the belt tracking guide assemblies on the discharge end of low side conveyors longer than 14 ft (4.5 m). Refer to Figure 3 on page 5.
3. Make sure the conveyor belt tension is set properly. Refer to "Center-drive Conveyors" subtopic under the "Conveyor Belt Tension Adjustment" topic on page 13.
4. Replace any other items that were removed for the belt replacement.
5. Make tracking adjustments as needed. Refer to "Conveyor Belt Tracking" topic on page 13.

Troubleshooting Guide

Bearings

Problem	Possible Cause	Solution
Bearing failing or seizing [tail section with 1″ (25 mm) Pulleys Only] **Note:** All other bearings have been lubricated for life and sealed.	Grit getting into bearing. Bearing not being properly lubricated.	Maintain regular lubrication routine. Side wipers may be needed along with increased frequency of lubrication.
	Solvent getting into bearings.	Same as above. Keep grease fittings in retaining sleeves. Install guards and tilt conveyor to reduce amount of solvent on conveyor.
	Excessive heat in application.	Increase frequency of lubrication.
	Damage due to improper re-assembly.	Use tool kit for proper re-assembly.

Gearmotor

WARNING

Remove power before attempting to re-wire motor or system electrical control.

Problem	Possible Cause	Solution
Motor cuts out intermittently.	Overloading.	Check conveyor load. Use torque wrench to determine input torque. Check for guides or accessories rubbing on belt. Check belt tracking.
	Improper cooling.	Check motor operation and ambient temperature.
Motor running hot. [above 170°F (77°C)]. **Note:** 1/3 hp Baldor normally runs at 170°F (77°C).	Overloading.	Check ampere draw, replace motor, reduce conveyor load.
	Jammed part.	Remove jam.
	Incorrect voltage/wiring.	Check wiring diagram. Replace motor or change wiring.
	Improper cooling.	Reduce excessive ambient temperature.
Conveyor runs in wrong direction.	Improper wiring.	Check wiring diagram.
Oil leaking from gearbox.	Broken seal.	Contact manufacturer for replacement parts or Dorner for further information. Contact Dorner for new gearbox.
	Oil vent plug installed below oil level.	Reinstall vent plug well above oil level.
	Oil level too high.	See instructions for gearbox oil capacity.
	Failure to install vent plug.	Contact Dorner to locate a manufacturer's service representative or to order a new gear reducer.

Gear Reducer

Problem	Possible Cause	Solution
Oil/grease leaking from gearbox.	Broken seal.	Contact manufacturer for replacement parts or Dorner for ordering new gear reducer.
	Oil vent plug installed below oil level.	Re-locate plug above oil level.

Problem	Possible Cause	Solution
	Oil level too high.	See manufacturer's oil amount recommendation.
	Vent plug not installed.	Contact manufacturer for replacement parts or Dorner for ordering new gear reducer.

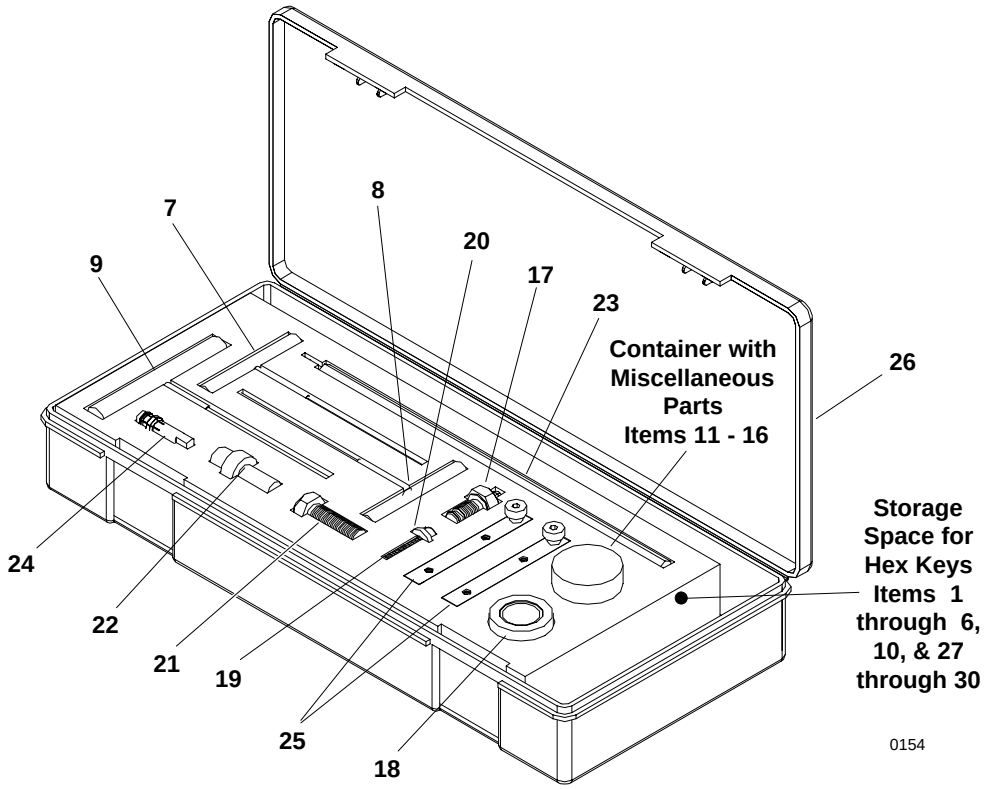
Vertical Center Drive Timing Belt

Problem	Possible Cause	Solution
Intermittent conveyor belt travel.	Timing belt is too loose.	Adjust belt tension. Refer to "Timing Belt Tension Adjustment" beginning on page 8.
	Worn or damaged timing (drive) belt.	Replace defective timing belt.

Conveyor Belt

Problem	Possible Cause	Solution
Belt slipping.	Belt is too loose.	Adjust belt tension. If belt is still loose, replace belt. **Note: Belt may have stretched. See "Belt Stretching"** problem**.**
	Dirt impacted in knurl on end of driven pulley.	Clean pulley.
	Knurl worn on driven pulley.	Replace pulley.
	Excessive weight on conveyor. **Note: May be a combination of drive "pushing" belt or magnets too strong for application.**	Reduce weight on conveyor by reducing production rate, or increasing belt speed.
	Drive is "pushing" belt. **Note: May be a combination of this and excessive weight on conveyor.**	Move end drive to discharge end of conveyor. Turn center drive 180° so gearmotor and driven pulley are towards discharge end.
	Magnets, where provided, are too strong for application.	Increase belt speed or replace magnetic bedplate.
	Debris wedged in belt path or in conveyor.	Clean conveyor and install chute and/or wipers.
Belt stretching.	Solvent or chemical reaction with belt.	Remove solvent or try a different belt material. Test solvent with belt sample. **Note: Belt type conveyor may not be applicable.**
	Belt repeatedly stalled, causing pulley to wear or "burn" in to backside of belt.	Replace belt and identify reason for stalling.
Cuts on belt surface.	Side wipers damaged or missing, allowing material to get under belt.	Replace or add wipers as needed.
	Sharp parts penetrating belt surface.	Install baffle to reduce energy of falling part.
	Guides or accessories rubbing on belt.	Adjust as necessary.
Worn belt edges.	Debris impacted on pulleys can cause belt tracking problems.	Clean pulleys. Correct source of contamination. See Belt Tracking Incorrectly below.
	Belt tracking incorrectly.	Refer to "Belt Tracking Adjustment", page 13.
Belt breaking at splice.	Solvent or chemical reaction with belt.	Remove solvent or try a different belt material. Test solvent with belt sample. **Note: Belt type conveyor may not be applicable.**
Belt tracking incorrect-ly.	Drives not perpendicular to conveyor center line.	Reposition drive(s), if necessary.
	Frame misalignment. **Note: Frame mounting surface maybe misaligned.**	Frame mounting must be straight and in the same plane. Check with a straight edge and level.
	Frame distortion due to damage.	Repair or replace frame components and/or bed plate. Check with a straight edge.
	Side force being applied to belt.	Check for jammed part or mechanical pusher force on belt.
	Belt tracking cam incorrectly adjusted.	Refer to "Belt Tracking Adjustment", page 13.
	Hot spots on frame or drive side plates from belt edge rubbing.	Adjust belt tracking. Refer to "Belt Tracking Adjustment", page 13.

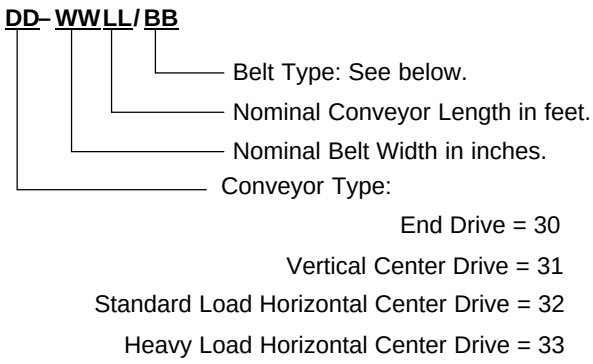
Tool Kit - Part Number 2500M-ENG



Item	Part No.	Description	Qty.
1	807-562	Hex Key, 2.5 mm Long Arm	2
2	807-563	Hex Key, 3 mm Long Arm	2
3	807-564	Hex Key, 4 mm Long Arm	2
4	807-565	Hex Key, 5 mm Long Arm	2
5	807-566	Hex Key, 6 mm Long Arm	1
6	807-568	Hex Key, 8 mm Long Arm	1
7	807-610	Hex Key, 3 mm T-Handle	1
8	807-609	Hex Key, 4 mm T-Handle	1
9	807-569	Hex Key, 5 mm T-Handle	1
10	807-577	Torx® Key T-25 Short Arm	1
11	200039M	Belt Tracking Cam	2
12	300353MP	Special Flat Head Cap Screw, M4-0.70 x 10 mm	8
13	910506M	Button Head Cap Screw, M5-0.80 x 6 mm	4
14	910510M	Button Head Cap Screw, M5-0.80 x 10 mm	4
15	910612M	Button Head Cap Screw, M6-.1.0 x 12 mm	4

Item	Part No.	Description	Qty.
16	920406M	Socket Head Cap Screw, M4-0.70 x 6 mm	6
17	200046M	Greasing Adapter	1
18	25-09	Retaining Sleeve/Bearing Removal Tool	1
19	920635M	Socket Head Cap Screw, M6-1.0 x 35 mm	1
20	605279	Washer, Special	1
21	906-278	Bolt, Special Threaded	1
22	25-10	Bearing Insertion Tool	1
23	25-08	Hex Key Extension Tool 2″ (44 mm) to 12″ (610 mm)	1
24	25-05	Bearing Removal Tool	1
25	300362M	Tail Installation Tool	2
26	661451	Tool Box 2500M-ENG	1
27	807-518	Hex Key, 1/8″ Long Arm	1
28	807-520	Hex Key, 3/16″ Long Arm	1
29	807-528	Hex Key, 7/32″ Long Arm	1
30	807-521	Hex Key, 1/4″ Long Arm	1

Conveyor Belt Part Number



Belt Type - BB

/01 Accumulator Top FDA Approved 80-90 Durometer surface hardness. Products may be accumulated on the low friction surface of this belt. Maximum part temperature is 176 °F (80 °C). Smooth, thermally welded zig-zag splice*. Belt thickness about 0.063″ (1.6 mm).

/02 Standard Urethane 75-85 Durometer surface hardness. This is our standard belting, very durable and works well in most applications. Maximum part temperature is 212 °F (100 °C). Smooth, thermally welded zig-zag splice*. Belt thickness about 0.071″ (1.8 mm).

/03 Soft Urethane FDA Approved 70-80 Durometer surface hardness. This belt provides more surface friction and is more resistant to chemicals than /01 or /02. Maximum part temperature is 176 °F (80 °C). Smooth, thermally welded zig-zag splice*. Belt thickness about 0.063″ (1.6 mm).

/04 Gray Friction Belt This belt provides a high degree of surface traction when clean and dry. It can be used to convey parts up inclines or in other applications where parts must not slide on the belt surface. This belt should not be used with very small or sharp parts. Maximum part temperature is 158 °F (70 °C). Smooth, thermally welded zig-zag splice*. Belt thickness about 0.083″ (2.1 mm).

NOTE:
04 Gray Friction Belt cannot be used with 03 and/or 06 Side Profiles.

EXAMPLE: #2 Standard Urethane replacement belt for an end drive conveyor measuring 5″ (127 mm) wide x 8' (2438 mm) long would be Part Number 30-0508/02.

NOTE:
All belts include a thermally welded finger splice*. If Clipper® spliced belt is required, add a "-C" suffix.

EXAMPLE: Part No 30-0508/02-C

NOTE:
For replacement belting on vacuum and specially modified conveyors, contact factory with model & order numbers for replacement information.

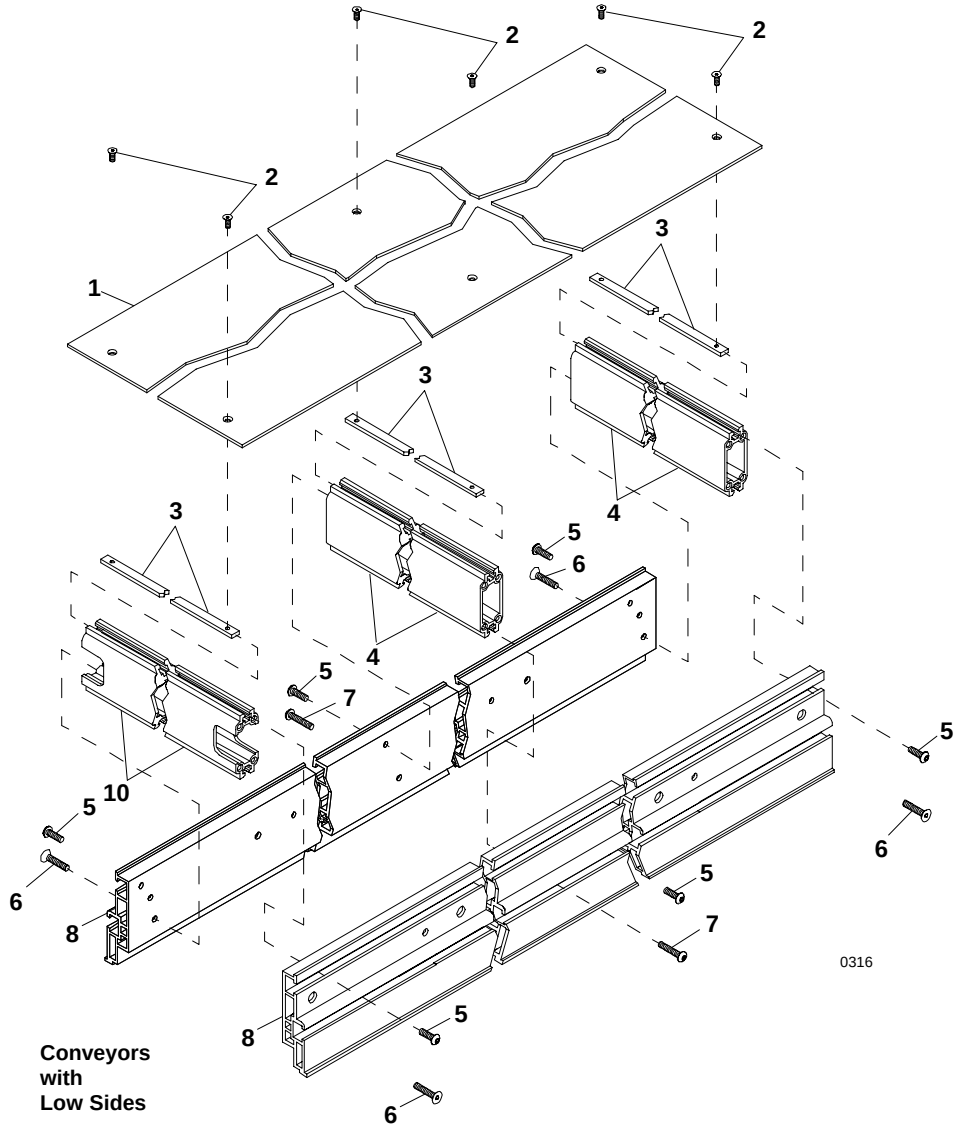
/05 Woven Polyester Belt Offers advantages in low friction product accumulation. Maximum part temperature is 212 °F (100 °C). Smooth, thermally welded zig-zag splice*. Belt thickness about 0.047″ (1.2 mm).

/06 Black Anti-Static Belt Is a carbon impregnated polyester belt used where an anti-static/conductive belt is required. Belt should be tested per application for resistance to ground. Maximum part temperature is 230 °F (110 °C). Smooth, thermally welded zig-zag splice*. Belt thickness about 0.063″ (1.6 mm).

/07 Heat Resistant Belt This belt resists product temperatures up to 358 °F (180 °C). Smooth, thermally bonded zig-zag splice*. Belt thickness about 0.051″ (1.3 mm).

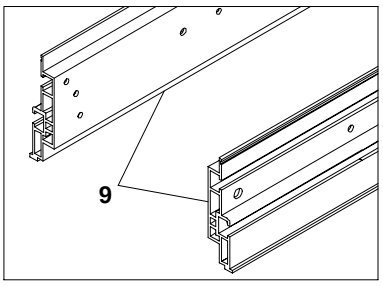
* Thermal splice is standard. Clipper® splice is available upon request.

Intermediate Sections



Conveyors with Low Sides

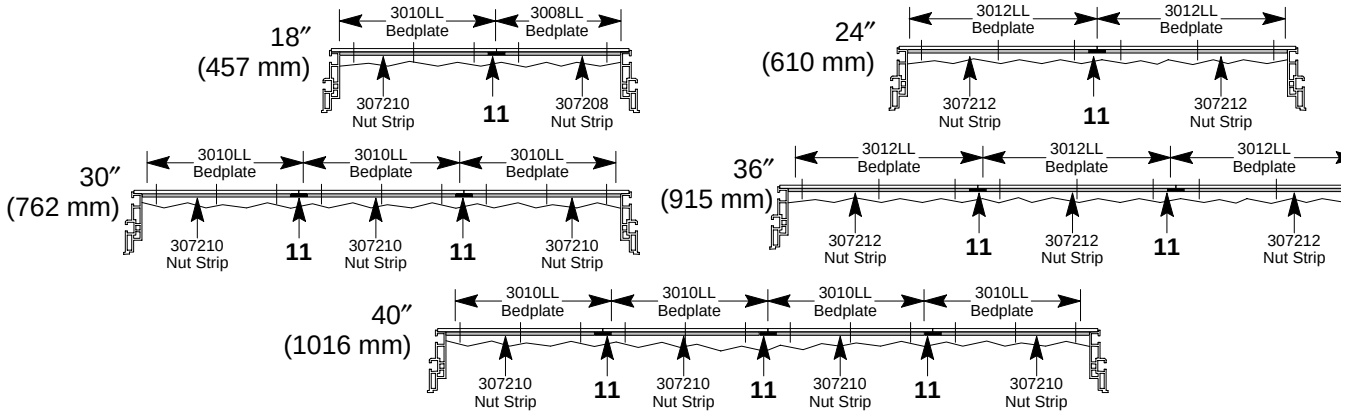
Item	Part No.	Part Description
1	See Chart	Bedplate
2	300353MP	Bedplate Screw, M4-0.70 x 10 mm
3	See Chart	Rail Nut Strip
4	See Chart	Center Rail
5	910516M	Button Head Cap Screw, M5-0.80 x 16 mm
6	930525M	Flat Head Cap Screw, M5-0.80 x 25 mm
7	910525M	Button Head Cap Screw, M5-0.80 x 25 mm
8	See Chart	Side Rail, Non-tension End, Low Side
9	See Chart	Side Rail, Non-tension End, High Side
10	See Chart	Center Rail, Tension End
11	307201	Spacer, Nut Strip (see page 32)



Conveyors with High Sides

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the “M” suffix. SAE equivalent fasteners are identified in the table on page 73.

NOTE: Intermediate sections are available in standard nominal lengths and widths as shown below. The 18″ (457 mm) bedplate uses a combination of a 10″ (254 mm) and an 8″ (203 mm) bedplate (laid side by side), the 24″ (610 mm) bedplate uses a combination of two 12″ (305 mm) bedplates (laid side by side), the 30″ (762 mm) bedplate uses a combination of three 10″ (254 mm) bedplates (laid side by side), the 36″ (915 mm) bedplate uses a combination of three 12″ (305 mm) bedplates (laid side by side) and, the 40″ (1016 mm) bedplate uses a combination of four 10″ (254 mm) bedplates (laid side by side). Each pair of nut strips, used to secure the bedplates, are separated by a nut strip spacer (11).



Bedplate Item 1

Width in ″ (mm)	Length in ft (mm)										
	2 (610)	3 (915)	4 (1220)	5 (1525)	6 (1830)	7 (2135)	8 (2440)	9 (2745)	10 (2050)	11 (3355)	12 (3660)
4 (95)	300402P	300403P	300404P	300405P	300406P	300407P	300408P	300409P	300410P	300411P	300412P
5 (127)	300502P	300503P	300504P	300505P	300506P	300507P	300508P	300509P	300510P	300511P	300512P
6 (152)	300602P	300603P	300604P	300605P	300606P	300607P	300608P	300609P	300610P	300611P	300612P
8 (203)	300802P	300803P	300804P	300805P	300806P	300807P	300808P	300809P	300810P	300811P	300812P
10 (254)	301002P	301003P	301004P	301005P	301006P	301007P	301008P	301009P	301010P	301011P	301012P
12 (305)	301202P	301203P	301204P	301205P	301206P	301207P	301208P	301209P	301210P	301211P	301212P
18 (457)	300802P & 301002P	300803P &301003P	300804P & 301004P	300805P & 301005P	300806P & 301006P	300807P & 301007P	300808P & 301008P	300809P & 301009P	300810P & 301010P	300811P &301011P	300812P &301012P
24 (610)	301202P & 301202P	301203P &301203P	301204P & 301204P	301205P & 301205P	301206P & 301206P	301207P & 301207P	301208P & 301208P	301209P &301209P	301210P &301210P	301211P & 301211P	301212P &301212P
36 (915)	301202P (Qty. 3)	301203P (Qty. 3)	301204P (Qty. 3)	301205P (Qty. 3)	301206P (Qty. 3)	301207P (Qty. 3)	301208P (Qty. 3)	301209P (Qty. 3)	301210P (Qty. 3)	301211P (Qty. 3)	301212P (Qty. 3)
40 (1016)	301002P (Qty. 4)	301003P (Qty. 4)	301004P (Qty. 4)	301005P (Qty. 4)	301006P (Qty. 4)	301007P (Qty. 4)	301008P (Qty. 4)	301009P (Qty. 4)	301010P (Qty. 4)	301011P (Qty. 4)	301012P (Qty. 4)

Rail Nut Strip
Item 3

Width	Part No.
4″ (95 mm)	307204M
5″ (127 mm)	307205M
6″ (152 mm)	307206M
8″ (203 mm)	307208M
10″ (203 mm)	307210M
12″ (305 mm)	307212M
18″ (457 mm)	307208 M & 307210M
24″ (610 mm)	307212M (2x)
30″ (762 mm)	307210M (3x)
36″ (915 mm)	307212M (3x)
40″ (1016 mm)	307210M (4x)

Center Rail
Item 4

Width	Part No.
4″ (95 mm)	300204M
5″ (127 mm)	300205M
6″ (152 mm)	300206M
8″ (203 mm)	300208M
10″ (254 mm)	300210M
12″ (305 mm)	300212M
18″ (457 mm)	300218M
24″ (610 mm)	300224M
30″ (762 mm)	300230M
36″ (915 mm)	300236M
40″ (1016 mm)	300240M

Side Rail
Items 8 and 9

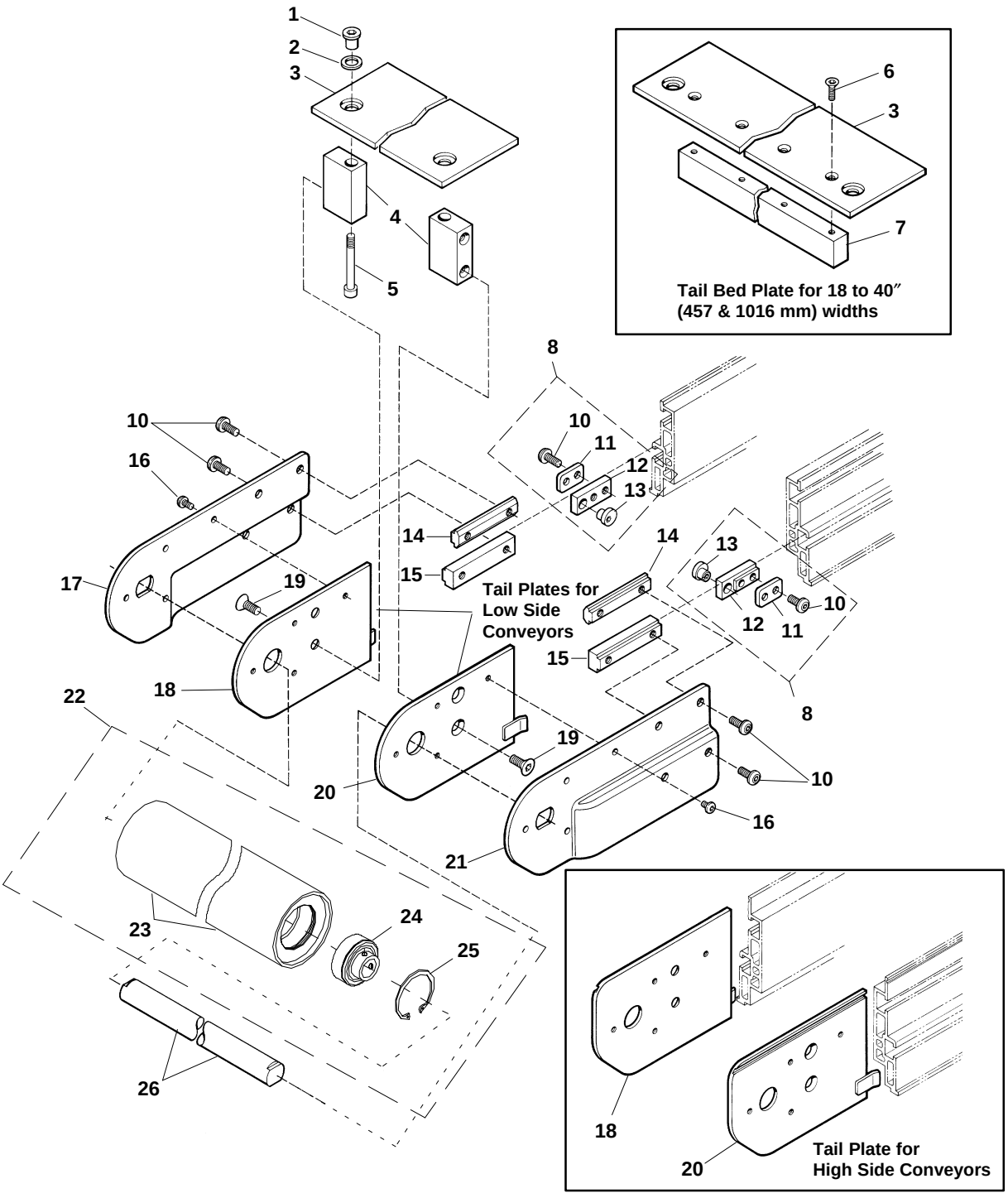
Length in ft (mm)	Low Side	High Side
2 (610)	303502	303602
3 (915)	303503	303603
4 (1220)	303504	303604
5 (1525)	303505	303605
6 (1830)	303506	303606
7 (2135)	303507	303607
8 (2440)	303508	303608
9 (2745)	303509	303609
10 (2050)	303510	303610
11 (3355)	303511	303611
12 (3660)	303512	303612

Center Rail, Tension End Item 10

Width	Part No.
4″ (95 mm)	303304M
5″ (127 mm)	303305M
6″ (152 mm)	303306M
8″ (203 mm)	303308M
10″ (254 mm)	303310M
12″ (305 mm)	303312M
18″ (457 mm)	303318M
24″ (610 mm)	303324M
30″ (762 mm)	303330M
36″ (915 mm)	303336M
40″ (1016 mm)	303340M

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the “M” suffix. SAE equivalent fasteners are identified in the table on page 73.

Fixed End Tail Assembly – 3″ (76 mm) Pulley

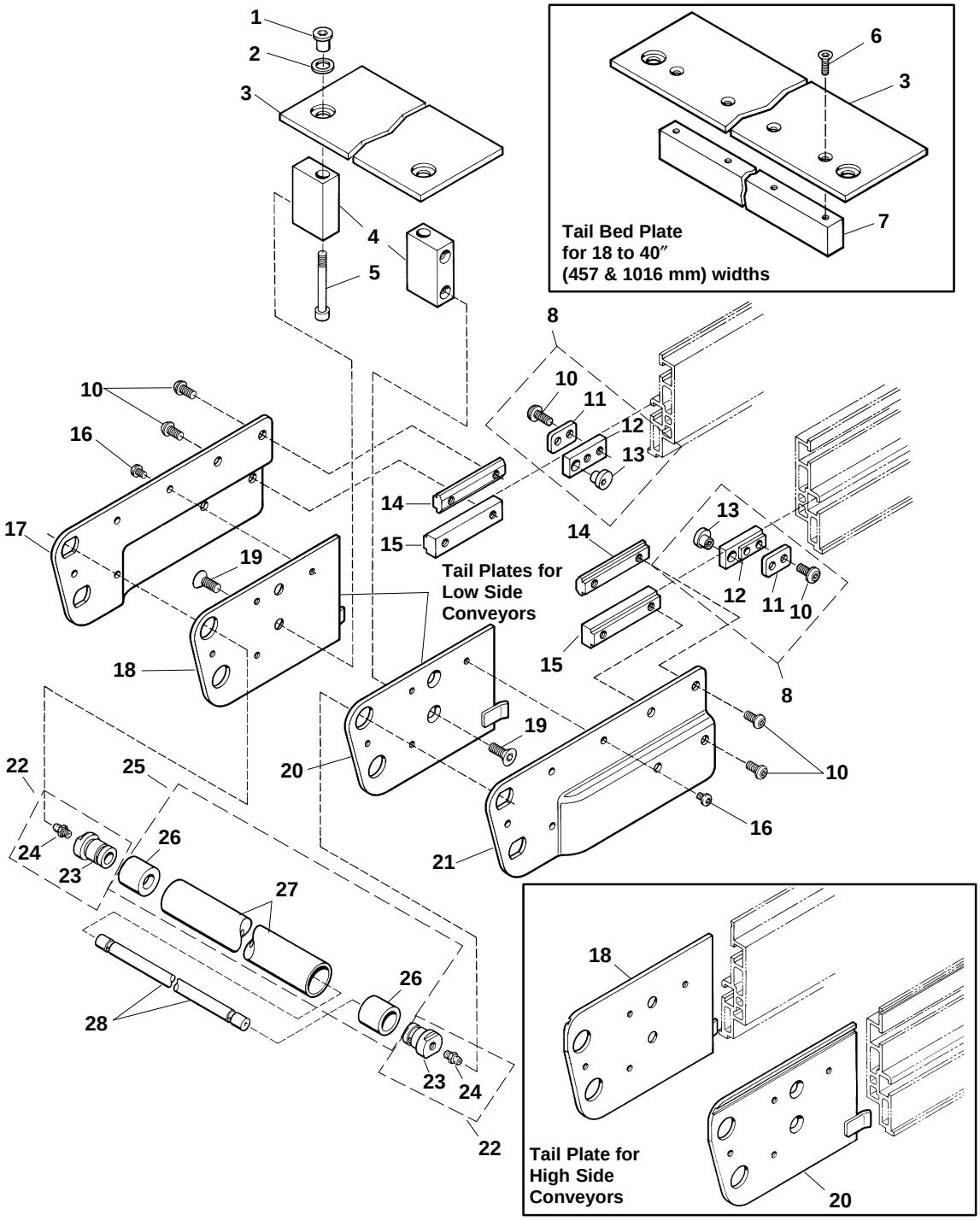


Item	Part No.	Part Description
1	300158M	Threaded Bushing
2	807-384	Spring Washer
3	301304	Tail Bedplate, Non-tension End, 4″ (95 mm)
	301305	Tail Bedplate, Non-tension End, 5″ (127 mm)
	301306	Tail Bedplate, Non-tension End, 6″ (152 mm)
	301308	Tail Bedplate, Non-tension End, 8″ (203 mm)
	301310	Tail Bedplate, Non-tension End, 10″ (254 mm)
	301312	Tail Bedplate, Non-tension End, 12″ (305 mm)
	301318M	Tail Bedplate, Non-tension End, 18″ (457 mm)
	301324M	Tail Bedplate, Non-tension End, 24″ (610 mm)
	301330M	Tail Bedplate, Non-tension End, 30″ (762 mm)
	301336M	Tail Bedplate, Non-tension End, 36″ (915 mm)
	301340M	Tail Bedplate, Non-tension End, 40″ (1016 mm)
4	300155M	Bed-Link Mounting Block
5	920650M	Socket Head Cap Screw, M6-1.0 x 50 mm
6	930512M	Flat Head Cap Screw, M5-0.80 x 12 mm
7	303018M	Bedplate Tail Bar, 18″ (457 mm)
	303024M	Bedplate Tail Bar, 24″ (610 mm)
	303030M	Bedplate Tail Bar, 30″ (762 mm)
	303036M	Bedplate Tail Bar, Tension End, 36″ (915 mm)
	303040M	Bedplate Tail Bar, Tension End, 40″ (1016 mm)
8	200331M	Cam Mounting Ass'y
10	910612M	Button Head Cap Screw, M6-1.0 x 12 mm
11	200038M	Cam Clamping Plate
12	200341M	Cam Retaining Block
13	200039M	Belt Tracking Cam
14	300150M	Drop-In T-bar
15	300152M	T-bar
16	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
17	300028M	Tail Cover Plate, Right Hand, 3″ (76 mm)
18	300052M	Tail Plate, Right Hand (Low Side), 3″ (76 mm)
	300050M	Tail Plate, Right Hand (High Side), 3″ (76 mm)
19	930612M	Flat Head Cap Screw, M6-1.0 x 12 mm
20	300053M	Tail Plate, Left Hand (Low Side), 3″ (76 mm)
	300051M	Tail Plate, Left Hand (High Side), 3″ (76 mm)
21	300029M	Tail Cover Plate, Left Hand, 3″ (76 mm)

Item	Part No.	Part Description
22	326704	Idler Pulley Ass'y 4″ (95 mm)
	326705	Idler Pulley Ass'y 5″ (127 mm)
	326706	Idler Pulley Ass'y 6″ (152 mm)
	326708	Idler Pulley Ass'y 8″ (203 mm)
	326710	Idler Pulley Ass'y 10″ (254 mm)
	326712	Idler Pulley Ass'y 12″ (305 mm)
	326718	Idler Pulley Ass'y 18″ (457 mm)
	326724	Idler Pulley Ass'y 24″ (610 mm)
	326730	Idler Pulley Ass'y 30″ (762 mm)
	326736	Idler Pulley Ass'y 36″ (915 mm)
	326740	Idler Pulley Ass'y 40″ (1016 mm)
23	326604	Aluminum Pulley Tube, 4″ (95 mm)
	326605	Aluminum Pulley Tube, 5″ (127 mm)
	326606	Aluminum Pulley Tube, 6″ (152 mm)
	326608	Aluminum Pulley Tube, 8″ (203 mm)
	326610	Aluminum Pulley Tube, 10″ (254 mm)
	326612	Aluminum Pulley Tube, 12″ (305 mm)
	326618	Aluminum Pulley Tube, 18″ (457 mm)
	326624	Aluminum Pulley Tube, 24″ (610 mm)
	326630	Aluminum Pulley Tube, 30″ (762 mm)
	326636	Aluminum Pulley Tube, 36″ (915 mm)
	326640	Aluminum Pulley Tube, 40″ (1016 mm)
24	802-110	Ball Bearing (Set Screws Removed)
25	915-051	Retaining Ring
26	301904	Idler Shaft 4″ (95 mm) Wide
	301905	Idler Shaft 5″ (127 mm) Wide
	301906	Idler Shaft 6″ (152 mm) Wide
	301908	Idler Shaft 8″ (203 mm) Wide
	301910	Idler Shaft 10″ (254 mm) Wide
	301912	Idler Shaft 12″ (305 mm) Wide
	301918	Idler Shaft 18″ (457 mm) Wide
	301924	Idler Shaft 24″ (610 mm) Wide
	301930	Idler Shaft 30″ (762 mm) Wide
	301936	Idler Shaft 36″ (915 mm) Wide
	301940	Idler Shaft 40″ (1016 mm) Wide

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Fixed End Tail Assembly 1″ (25 mm) Pulleys

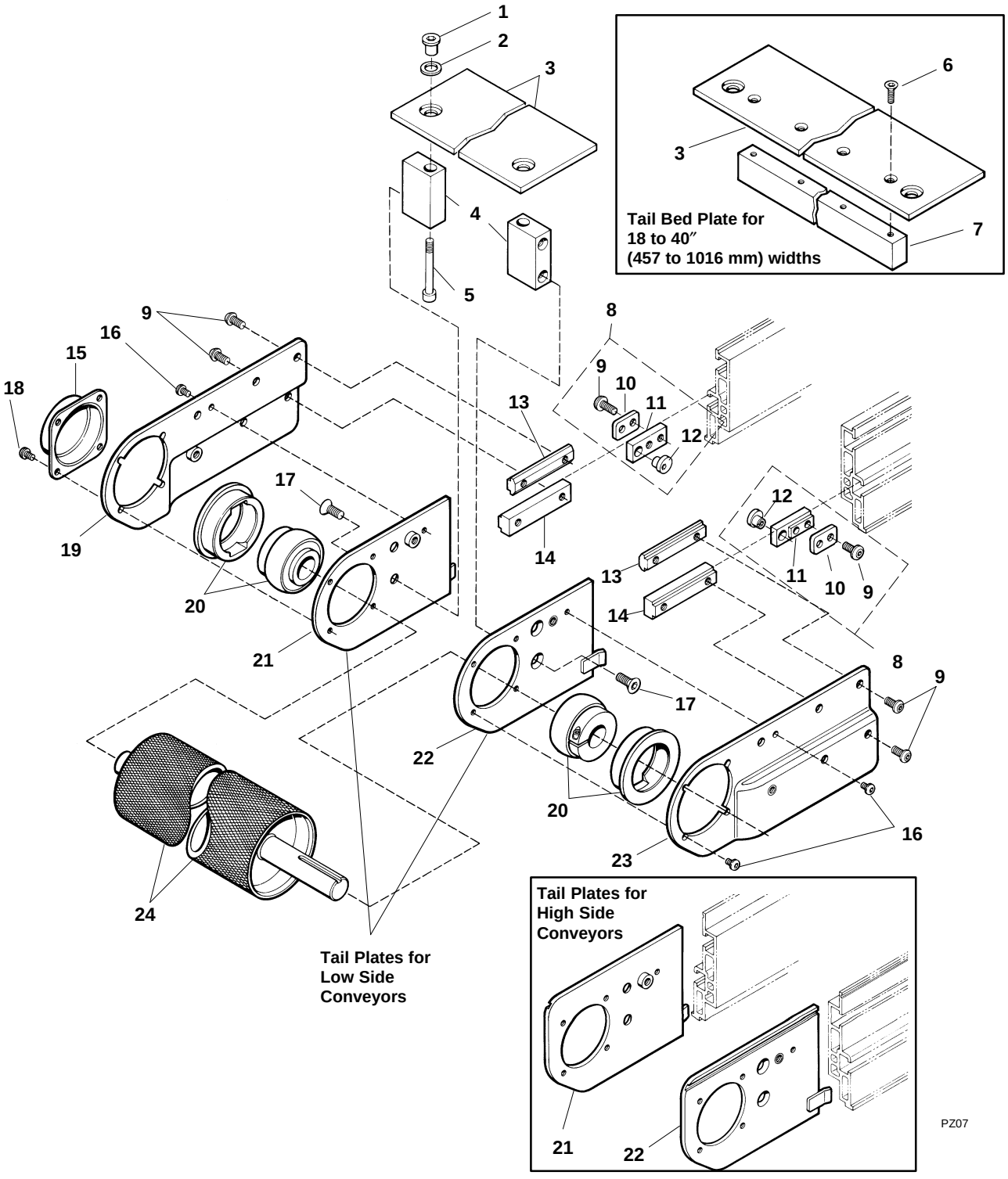


Item	Part No.	Part Description
1	300158M	Threaded Bushing
2	807-384	Spring Washer
3	301304	Tail Bedplate, Non-tension End, 4″ (95 mm)
	301305	Tail Bedplate, Non-tension End, 5″ (127 mm)
	301306	Tail Bedplate, Non-tension End, 6″ (152 mm)
	301308	Tail Bedplate, Non-tension End, 8″ (203 mm)
	301310	Tail Bedplate, Non-tension End, 10″ (254 mm)
	301312	Tail Bedplate, Non-tension End, 12″ (305 mm)
	301318M	Tail Bedplate, Non-tension End, 18″ (457 mm)
	301324M	Tail Bedplate, Non-tension End, 24″ (610 mm)
4	300155M	Bed-Link Mounting Block
5	920650M	Socket Head Cap Screw, M6-1.0 x 50 mm
6	930512M	Flat Head Cap Screw, M5-0.80 x 12 mm
7	303018M	Bedplate Tail Bar, 18″ (457 mm)
	303024M	Bedplate Tail Bar, 24″ (610 mm)
8	200331M	Cam Mounting Ass'y
10	910612M	Button Head Cap Screw, M6-1.0 x 12 mm
11	200038M	Cam Clamping Plate
12	200341M	Cam Retaining Block
13	200039M	Belt Tracking Cam
14	300150M	Drop-In T-bar
15	300152M	T-bar
16	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
17	300030M	Tail Cover Plate, Right Hand
18	300056M	Tail Plate, Right Hand (Low Side)
	300054M	Tail Plate, Right Hand (High Side)
19	930612M	Flat Head Cap Screw, M6-1.0 x 12 mm
20	300057M	Tail Plate, Left Hand (Low Side)
	300055M	Tail Plate, Left Hand (High Side)
21	300031M	Tail Cover Plate, Left Hand

Item	Part No.	Part Description
22	300035M	Retaining Sleeve Ass'y
23	300036M	Retaining Sleeve
24	810-292	Grease Fitting
25	303104	Pulley Ass'y, 4″ (95 mm)
	303105	Pulley Ass'y, 5″ (127 mm)
	303106	Pulley Ass'y, 6″ (152 mm)
	303108	Pulley Ass'y, 8″ (203 mm)
	303110	Pulley Ass'y, 10″ (254 mm)
	303112	Pulley Ass'y, 12″ (305 mm)
	303118	Pulley Ass'y, 18″ (457 mm)
	303124	Pulley Ass'y, 24″ (610 mm)
26	21-33	Bearing
27	302204	Pulley, 4″ (95 mm)
	302205	Pulley, 5″ (127 mm)
	302206	Pulley, 6″ (152 mm)
	302208	Pulley, 8″ (203 mm)
	302210	Pulley, 10″ (254 mm)
	302212	Pulley, 12″ (305 mm)
	302218	Pulley, 18″ (457 mm)
	302224	Pulley, 24″ (610 mm)
28	302104	Pulley Shaft, 4″ (95 mm)
	302105	Pulley Shaft, 5″ (127 mm)
	302106	Pulley Shaft, 6″ (152 mm)
	302108	Pulley Shaft, 8″ (203 mm)
	302110	Pulley Shaft, 10″ (254 mm)
	302112	Pulley Shaft, 12″ (305 mm)
	302118	Pulley Shaft, 18″ (457 mm)
	302124	Pulley Shaft, 24″ (610 mm)

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Drive End Tail Assembly

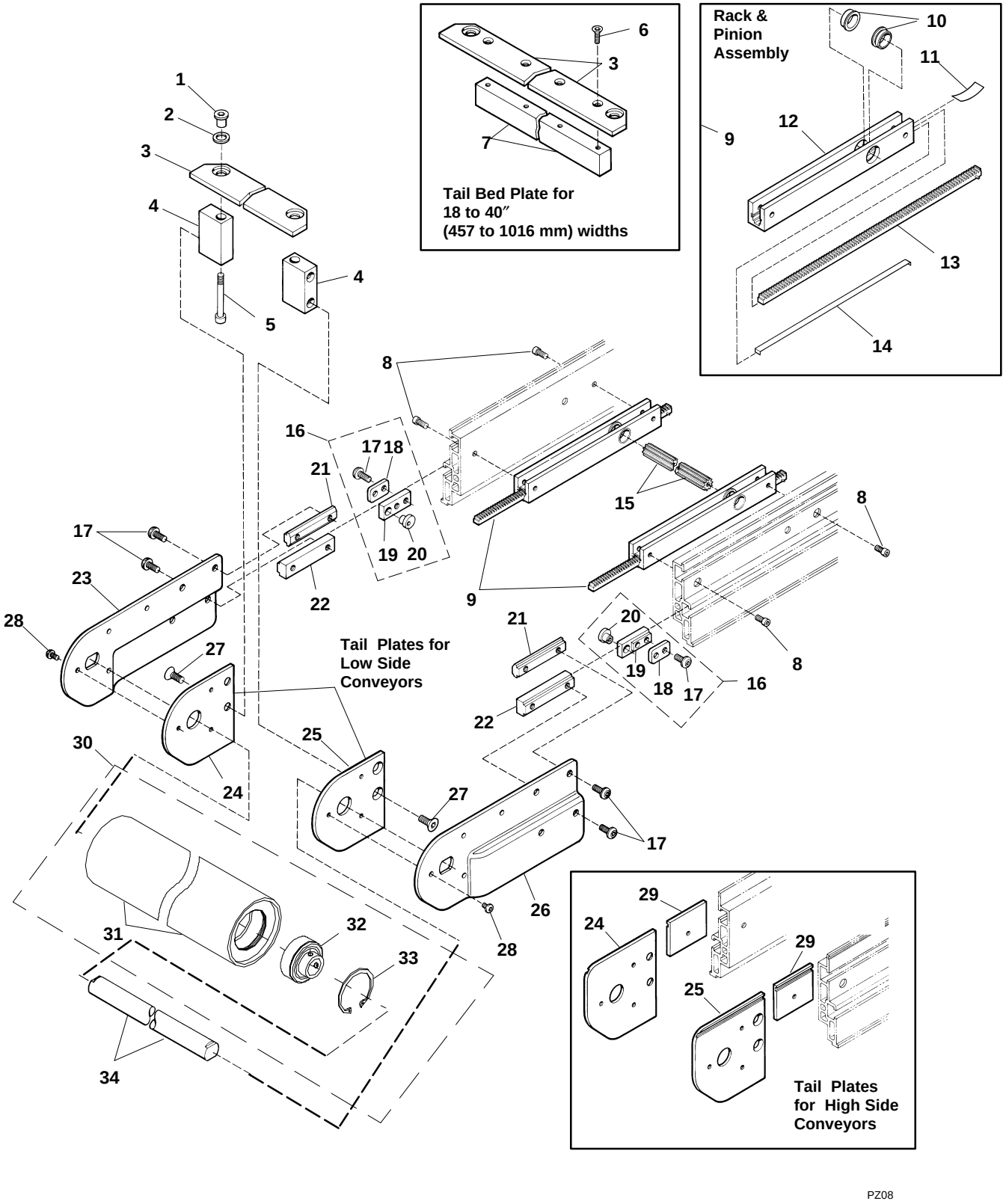


Item	Part No.	Part Description
1	300158M	Threaded Bushing
2	807-384	Spring Washer
3	301304	Tail Bedplate, Non-tension End, 4″ (95 mm)
	301305	Tail Bedplate, Non-tension End, 5″ (127 mm)
	301306	Tail Bedplate, Non-tension End, 6″ (152 mm)
	301308	Tail Bedplate, Non-tension End, 8″ (203 mm)
	301310	Tail Bedplate, Non-tension End, 10″ (254 mm)
	301312	Tail Bedplate, Non-tension End, 12″ (305 mm)
	301318M	Tail Bedplate, Non-tension End, 18″ (457 mm)
	301324M	Tail Bedplate, Non-tension End, 24″ (610 mm)
	301330M	Tail Bedplate, Non-tension End, 30″ (762 mm)
	301336M	Tail Bedplate, Non-tension End, 36″ (915 mm)
	301340M	Tail Bedplate, Non-tension End, 40″ (1016 mm)
4	300155M	Bed-Link Mounting Block
5	920650M	Socket Head Cap Screw, M6-1.0 x 50 mm
6	930512M	Flat Head Cap Screw, M5-0.80 x 12 mm
7	303018M	Bedplate Tail Bar 18″ (457 mm)
	303024M	Bedplate Tail Bar 24″ (610 mm)
	303030M	Bedplate Tail Bar 30″ (762 mm)
	303036M	Bedplate Tail Bar 36″ (915 mm)
	303040M	Bedplate Tail Bar 40″ (1016 mm)
8	200331M	Cam Mounting Ass'y

Item	Part No.	Part Description
9	910612M	Button Head Cap Screw, M6-1.0 x 12 mm
10	200038M	Cam Clamping Plate
11	200341M	Cam Retaining Block
12	200039M	Belt Tracking Cam
13	300150M	Drop-In T-bar
14	300152M	T-bar
15	300139M	Drive Bearing Shaft Cover
16	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
17	930612M	Flat Head Cap Screw, M6-1.0 x 12 mm
18	910508M	Button Head Cap Screw, M5-0.80 x 8 mm
19	300032M	Tail Cover Plate, Right Hand, Drive End
20	300146	Bearing Ass'y
21	300068M	Tail Plate, Right Hand (Low Side), Drive End
	300066M	Tail Plate, Right Hand (High Side), Drive End
22	300069M	Tail Plate, Left Hand (Low Side), Drive End
	300067M	Tail Plate, Left Hand (High Side), Drive End
23	300033M	Tail Cover Plate, Left Hand, Drive End
24	303204M	Pulley 4″ (95 mm) (19 mm Shaft)
	303205M	Pulley 5″ (127 mm) (19 mm Shaft)
	303206M	Pulley 6″ (152 mm) (19 mm Shaft)
	303208M	Pulley 8″ (203 mm) (19 mm Shaft)
	303210M	Pulley 10″ (254 mm) (19 mm Shaft)
	303212M	Pulley 12″ (305 mm) (19 mm Shaft)
	303218M	Pulley 18″ (457 mm) (19 mm Shaft)
	303224M	Pulley 24″ (610 mm) (19 mm Shaft)
	303230M	Pulley 30″ (762 mm) (19 mm Shaft)
	303236M	Pulley 36″ (915 mm) (19 mm Shaft)
	303240M	Pulley 40″ (1016 mm) (19 mm Shaft)

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Tension End Tail Assembly - 3″ (76 mm) Pulley

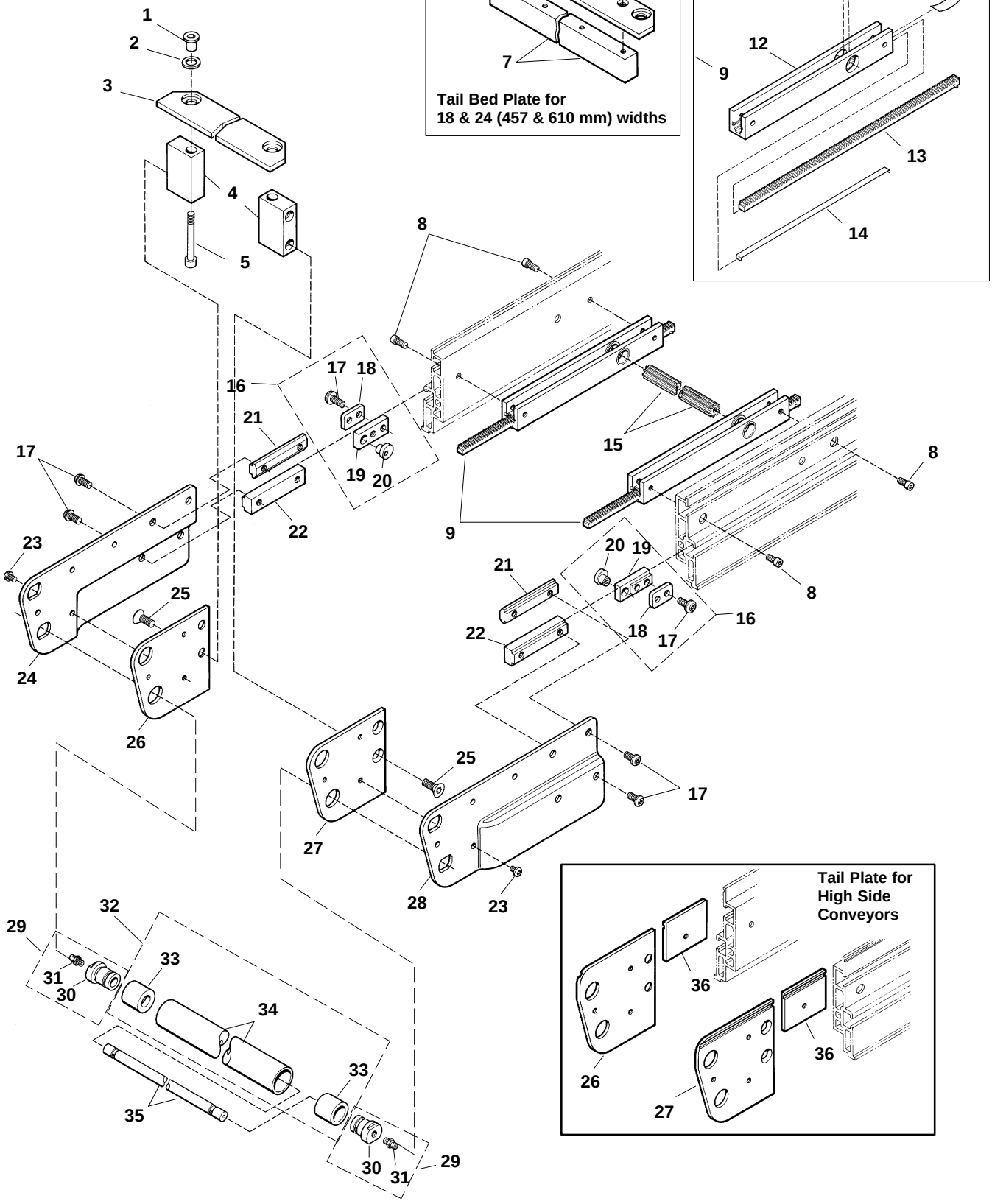


PZ08

Item	Part No.	Part Description
1	300158M	Threaded Bushing
2	807-384	Spring Washer
3	301704	Tail Bedplate, Tension End, 4″ (95 mm)
	301705	Tail Bedplate, Tension End, 5″ (127 mm)
	301706	Tail Bedplate, Tension End, 6″ (152 mm)
	301708	Tail Bedplate, Tension End, 8″ (203 mm)
	301710	Tail Bedplate, Tension End, 10″ (254 mm)
	301712	Tail Bedplate, Tension End, 12″ (305 mm)
	301718M	Tail Bedplate, Tension End, 18″ (457 mm)
	301724M	Tail Bedplate, Tension End, 24″ (610 mm)
	301730M	Tail Bedplate, Tension End, 30″ (762 mm)
	301736M	Tail Bedplate, Tension End, 36″ (915 mm)
	301740M	Tail Bedplate, Tension End, 40″ (1016 mm)
4	300155M	Bed-Link Mounting Block
5	920650M	Socket Head Cap Screw, M6-1.0 x 50 mm
6	930512M	Flat Head Cap Screw, M5-0.80 x 12 mm
7	303018M	Bedplate Tail Bar, 18″ (457 mm)
	303024M	Bedplate Tail Bar, 24″ (610 mm)
	303030M	Bedplate Tail Bar, 30″ (762 mm)
	303036M	Bedplate Tail Bar, 36″ (915 mm)
	303040M	Bedplate Tail Bar, 40″ (1016 mm)
8	920508M	Socket Head Cap Screw, M5-0.80 x 8 mm
9	300169M	Rack and Pinion Housing Ass'y
10	200034	Pinion Wear Ring
11	200151	Back Bowed Spring
12	300166M	Take-up Rack Housing
13	300167	Rack Gear
14	300168	Wear Rack Strip
15	203004M	Pinion Gear 4″ (95 mm)
	203005M	Pinion Gear 5″ (127 mm)
	203006M	Pinion Gear 6″ (152 mm)
	203008M	Pinion Gear 8″ (203 mm)
	203010M	Pinion Gear 10″ (254 mm)
	203012M	Pinion Gear 12″ (305 mm)
	203018M	Pinion Gear 18″ (457 mm)
	203024M	Pinion Gear 24″ (610 mm)
	307030M	Pinion Gear 30″ (762 mm)
	307036M	Pinion Gear 36″ (915 mm)
	307040M	Pinion Gear 40″ (1016 mm)
16	200331M	Cam Mounting Ass'y
17	910612M	Button Head Cap Screw, M6-1.0 x 12 mm
18	200038M	Cam Clamping Plate
19	200341M	Cam Retaining Block
20	200039M	Belt Tracking Cam
21	300150M	Drop-In T-bar
22	300152M	T-bar
23	300028M	Tail Cover Plate, Right Hand, 3″ (76 mm)
24	300060M	Tail Plate, Right Hand (Low Side), 3″ (76 mm)
	300058M	Tail Plate, Right Hand (High Side), 3″ (76 mm)
25	300061M	Tail Plate, Left Hand (Low Side), 3″ (76 mm)
	300059M	Tail Plate, Left Hand (High Side), 3″ (76 mm)
26	300029M	Tail Cover Plate, Left Hand, 3″ (76 mm)
27	930612M	Flat Head Cap Screw, M6-1.0 x 12 mm
28	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
29	300164M	Filler Plate (High Side)
30	326704	Idler Pulley Ass'y 4″ (95 mm)
	326705	Idler Pulley Ass'y 5″ (127 mm)
	326706	Idler Pulley Ass'y 6″ (152 mm)
	326708	Idler Pulley Ass'y 8″ (203 mm)
	326710	Idler Pulley Ass'y 10″ (254 mm)
	326712	Idler Pulley Ass'y 12″ (305 mm)
	326718	Idler Pulley Ass'y 18″ (457 mm)
	326724	Idler Pulley Ass'y 24″ (610 mm)
	326730	Idler Pulley Ass'y 30″ (762 mm)
	326736	Idler Pulley Ass'y 36″ (915 mm)
	326740	Idler Pulley Ass'y 40″ (1016 mm)
31	326604	Aluminum Pulley Tube, 4″ (95 mm)
	326605	Aluminum Pulley Tube, 5″ (127 mm)
	326606	Aluminum Pulley Tube, 6″ (152 mm)
	326608	Aluminum Pulley Tube, 8″ (203 mm)
	326610	Aluminum Pulley Tube, 10″ (254 mm)
	326612	Aluminum Pulley Tube, 12″ (305 mm)
	326618	Aluminum Pulley Tube, 18″ (457 mm)
	326624	Aluminum Pulley Tube, 24″ (610 mm)
	326630	Aluminum Pulley Tube, 30″ (762 mm)
	326636	Aluminum Pulley Tube, 36″ (915 mm)
	326640	Aluminum Pulley Tube, 40″ (1016 mm)
32	802-110	Ball Bearing (Set Screws Removed)
33	915-051	Retaining Ring
34	301904	Idler Shaft 4″ (95 mm) Wide
	301905	Idler Shaft 5″ (127 mm) Wide
	301906	Idler Shaft 6″ (152 mm) Wide
	301908	Idler Shaft 8″ (203 mm) Wide
	301910	Idler Shaft 10″ (254 mm) Wide
	301912	Idler Shaft 12″ (305 mm) Wide
	301918	Idler Shaft 18″ (457 mm) Wide
	301924	Idler Shaft 24″ (610 mm) Wide
	301930	Idler Shaft 30″ (762 mm) Wide
	301936	Idler Shaft 36″ (915 mm) Wide
	301940	Idler Shaft 40″ (1016 mm) Wide

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Tension End Tail Assembly - 1″ (25 mm) Pulleys

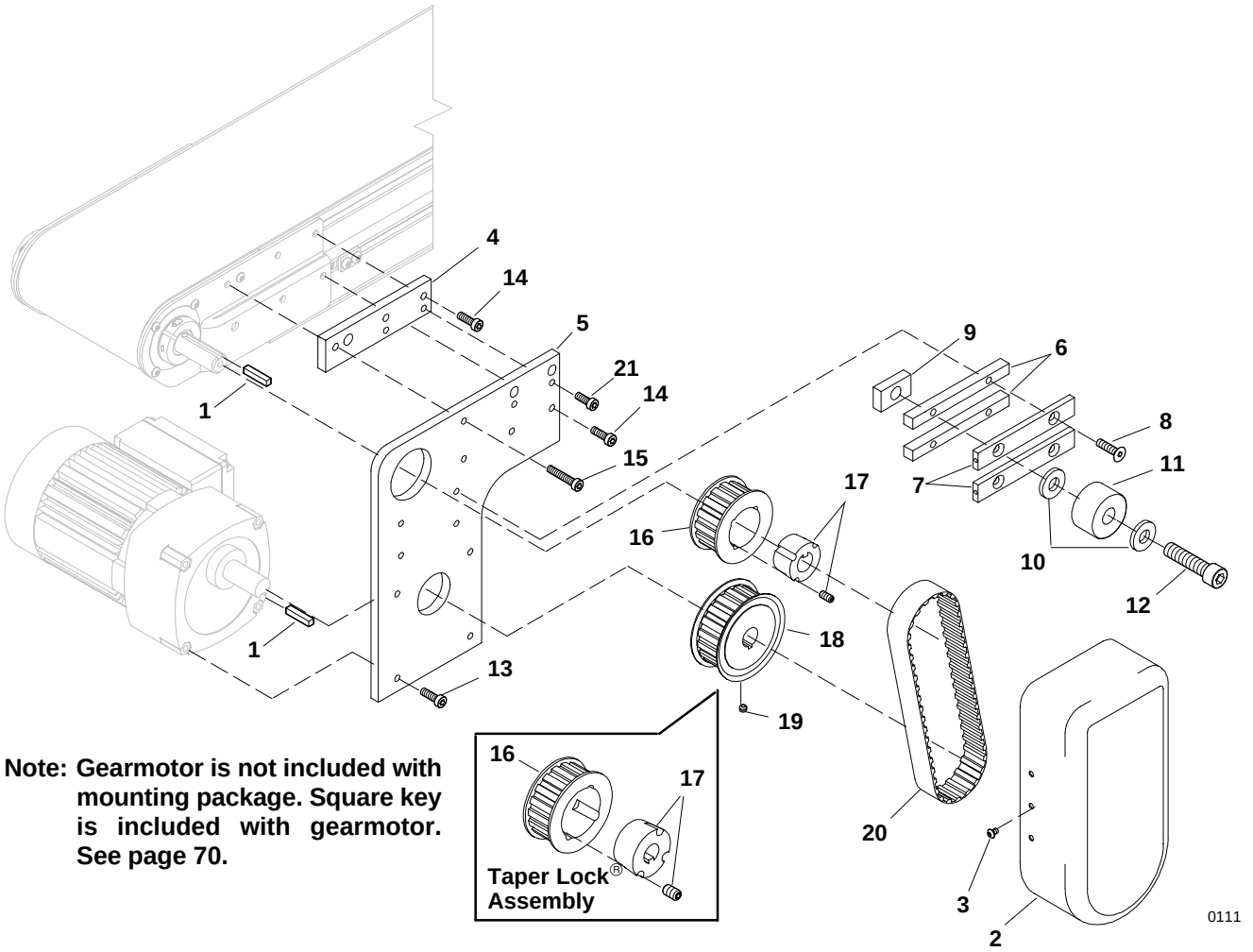


Item	Part No.	Part Description
1	300158M	Threaded Bushing
2	807-384	Spring Washer
3	301704	Tail Bedplate, Tension End, 4″ (95 mm)
	301705	Tail Bedplate, Tension End, 5″ (127 mm)
	301706	Tail Bedplate, Tension End, 6″ (152 mm)
	301708	Tail Bedplate, Tension End, 8″ (203 mm)
	301710	Tail Bedplate, Tension End, 10″ (254 mm)
	301712	Tail Bedplate, Tension End, 12″ (305 mm)
	301718M	Tail Bedplate, Tension End, 18″ (457 mm)
	301724M	Tail Bedplate, Tension End, 24″ (610 mm)
4	300155M	Bed-Link Mounting Block
5	920650M	Socket Head Cap Screw, M6-1.0 x 50 mm
6	930512M	Flat Head Cap Screw, M5-0.80 x 12 mm
7	303018M	Bedplate Tail Bar, 18″ (457 mm)
	303024M	Bedplate Tail Bar, 24″ (610 mm)
8	920508M	Socket Head Cap Screw, M5-0.80 x 8 mm
9	300169M	Rack and Pinion Housing Ass'y
10	200034	Pinion Wear Ring
11	200151	Back Bowed Spring
12	300166M	Take-up Rack Housing
13	300167	Rack Gear
14	300168	Wear Rack Strip
15	203004M	Pinion Gear 4″ (95 mm)
	203005M	Pinion Gear 5″ (127 mm)
	203006M	Pinion Gear 6″ (152 mm)
	203008M	Pinion Gear 8″ (203 mm)
	203010M	Pinion Gear 10″ (254 mm)
	203012M	Pinion Gear 12″ (305 mm)
	203018M	Pinion Gear 18″ (457 mm)
	203024M	Pinion Gear 24″ (610 mm)
16	200331M	Cam Mounting Ass'y
17	910612M	Button Head Cap Screw, M6-1.0 x 12 mm
18	200038M	Cam Clamping Plate
19	200341M	Cam Retaining Block
20	200039M	Belt Tracking Cam
21	300150M	Drop-In T-bar
22	300152M	T-bar

Item	Part No.	Part Description
23	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
24	300030M	Tail Cover Plate, Right Hand
25	930612M	Flat Head Cap Screw, M6-1.0 x 12 mm
26	300064M	Tail Plate, Right Hand (Low Side)
	300062M	Tail Plate, Right Hand (High Side)
27	300065M	Tail Plate, Left Hand (Low Side)
	300063M	Tail Plate, Left Hand (High Side)
28	300031M	Tail Cover Plate, Left Hand
29	300035M	Retaining Sleeve Ass'y
30	300036M	Retaining Sleeve
31	810-292	Grease Fitting
32	303104	Pulley Ass'y, 4″ (95 mm)
	303105	Pulley Ass'y, 5″ (127 mm)
	303106	Pulley Ass'y, 6″ (152 mm)
	303108	Pulley Ass'y, 8″ (203 mm)
	303110	Pulley Ass'y, 10″ (254 mm)
	303112	Pulley Ass'y, 12″ (305 mm)
	303118	Pulley Ass'y, 18″ (457 mm)
	303124	Pulley Ass'y, 24″ (610 mm)
33	21-33	Bearing
34	302204	Pulley, 4″ (95 mm)
	302205	Pulley, 5″ (127 mm)
	302206	Pulley, 6″ (152 mm)
	302208	Pulley, 8″ (203 mm)
	302210	Pulley, 10″ (254 mm)
	302212	Pulley, 12″ (305 mm)
	302218	Pulley, 18″ (457 mm)
	302224	Pulley, 24″ (610 mm)
35	302104	Pulley Shaft, 4″ (95 mm)
	302105	Pulley Shaft, 5″ (127 mm)
	302106	Pulley Shaft, 6″ (152 mm)
	302108	Pulley Shaft, 8″ (203 mm)
	302110	Pulley Shaft, 10″ (254 mm)
	302112	Pulley Shaft, 12″ (305 mm)
	302118	Pulley Shaft, 18″ (457 mm)
	302124	Pulley Shaft, 24″ (610 mm)
36	300164M	Filler Plate (High Side)

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Bottom Drive Mounting



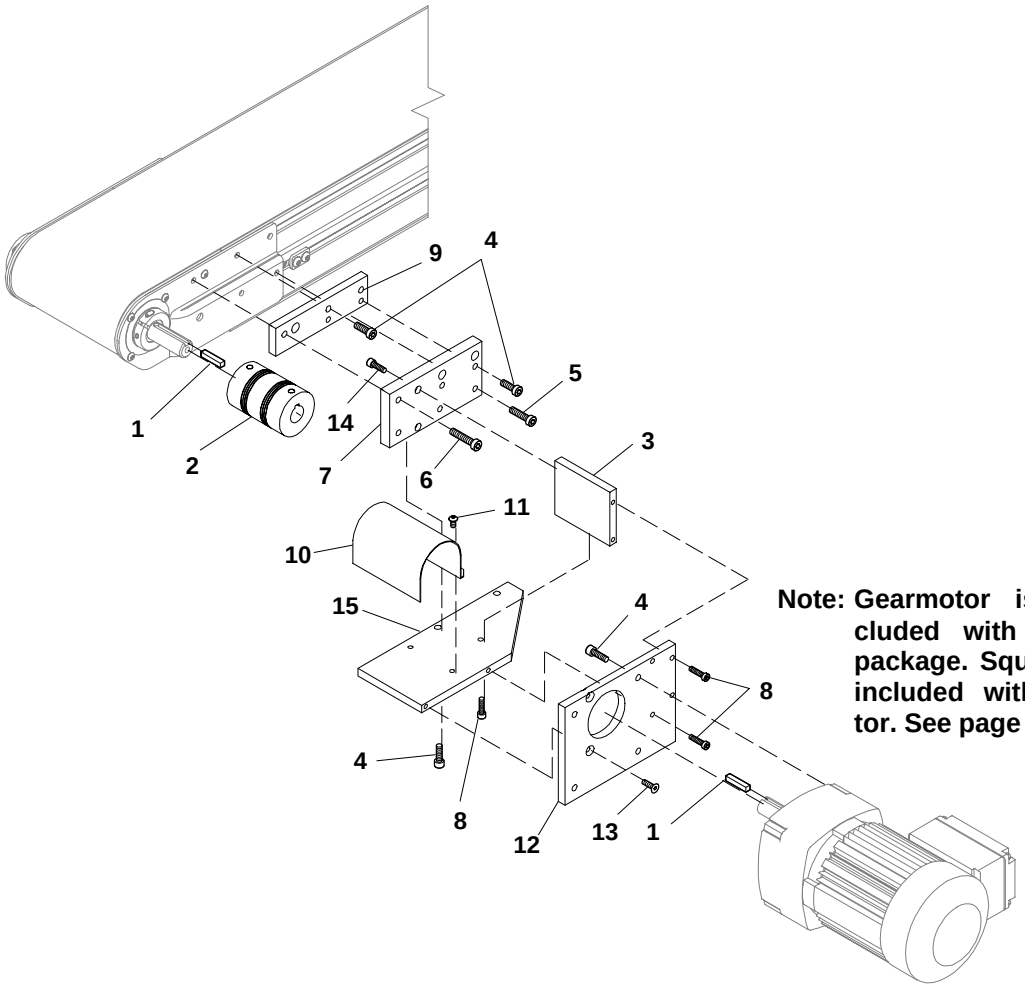
Note: Gearmotor is not included with mounting package. Square key is included with gearmotor. See page 70.

Item	Part No.	Part Description
1	980018M	Square Key (Undersized), 6 mm x 18 mm
2	300349M	Bottom Drive Cover
3	910406M	Button Head Cap Screw, M4-0.70 x 6 mm
4	300038M	Spacer, 3/8 Thick
5	310037M	Drive Bottom Mounting Plate
6	300187	Idler Spacer Bar
7	300186M	Idler Guide Bar
8	930625M	Flat Head Cap Screw, M6-1.0 x 25 mm
9	628144M	Cam Follower Nut
10	605284	Hard Washer, Black Oxide
11	802-059	Cam Follower Bearing
12	921250M	Socket Head Cap Screw, M12-1.75 x 50 mm
13	920625M	Socket Head Cap Screw, M6-1.0 x 25 mm
14	920620M	Socket Head Cap Screw, M6-1.0 x 20 mm
15	920630M	Socket Head Cap Screw, M6-1.0 x 30 mm

Item	Part No.	Part Description
16	811-126	Pulley, 16 Tooth, Taper Lock®, TL-1108
	811-127	Pulley, 18 Tooth, Taper Lock®, TL-1210
	811-133	Pulley, 14 Tooth, Taper Lock®, TL-1108
	811-135	Pulley, 20 Tooth, Taper Lock®, TL-1210
	811-136	Pulley, 22 Tooth, Taper Lock®, TL-1610
	811-137	Pulley, 24 Tooth, Taper Lock®, TL-1610
17	811-206	Taper Lock® Bushing, TL-1610, 19 mm Bore
	811-205	Taper Lock® Bushing, TL-1210, 19 mm Bore
	811-204	Taper Lock® Bushing, TL-1108, 19 mm Bore
18	300049M	Drive Pulley, 19 Tooth, 19 mm Bore
19	970608M	Socket Head Set Screw, M6-1.0 x 8 mm
20	814-047	Timing Belt, 21″ (533.4 mm) Long
	814-048	Timing Belt, 22″ (558.8 mm) Long
	814-057	Timing Belt, 23″ (584.2 mm) Long
21	920616M	Socket Head Cap Screw, M6-1.0 x 16 mm

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the “M” suffix. SAE equivalent fasteners are identified in the table on page 73.

Side Mounting Package



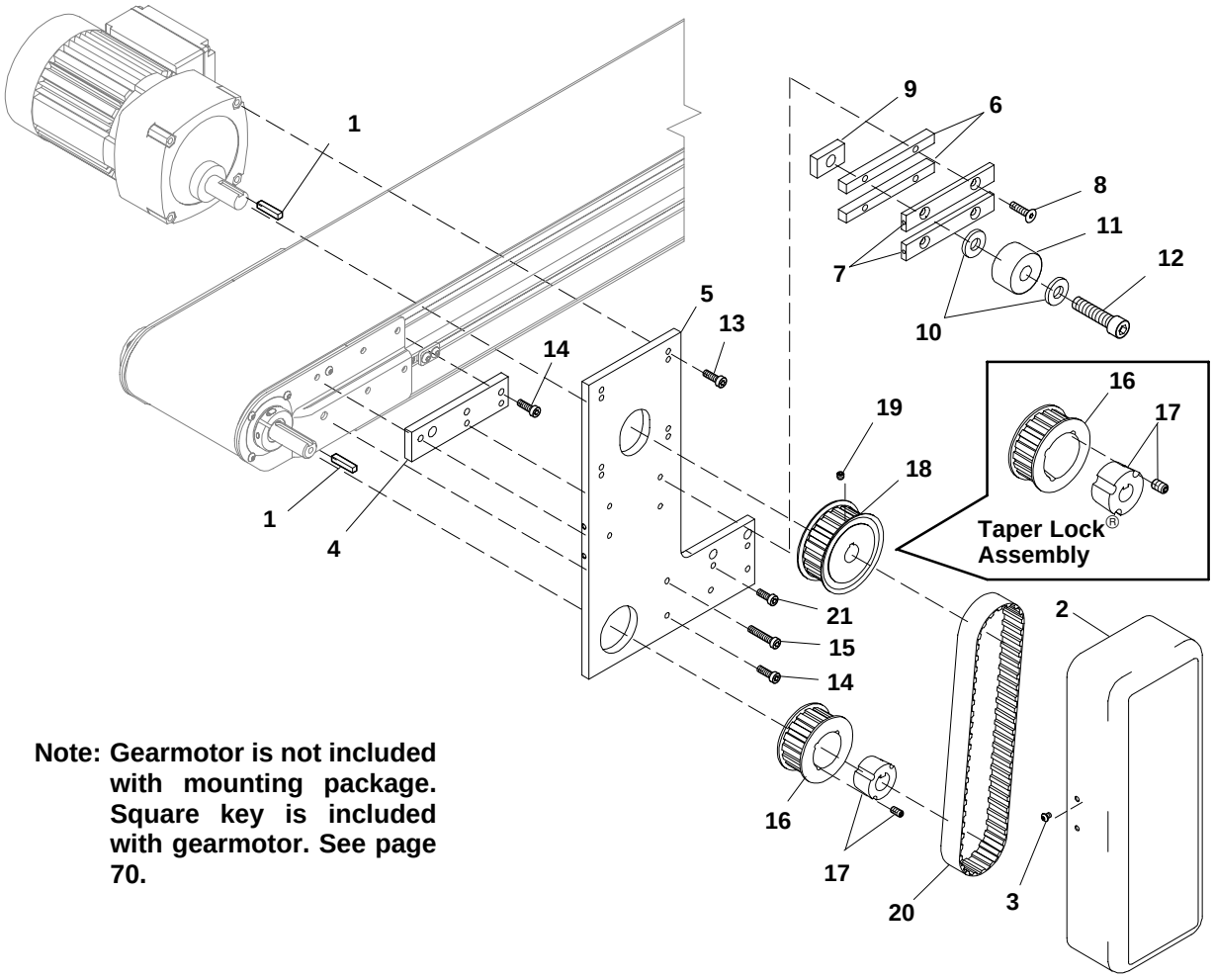
Note: Gearmotor is not included with mounting package. Square key is included with gearmotor. See page 70.

Item	Part No.	Part Description
1	980018M	Square Key (Undersized), 6 mm x 18 mm
2	807-1026	Flexible Coupling, 19 mm
3	310047M	Side Drive Gusset
4	920620M	Socket Head Cap Screw, M6-1.0 x 20 mm
5	920625M	Socket Head Cap Screw, M6-1.0 x 25 mm
6	920635M	Socket Head Cap Screw, M6-1.0 x 35 mm
7	310039M	Side Drive Mounting Plate
8	920520M	Socket Head Cap Screw, M5-0.80 x 20 mm

Item	Part No.	Part Description
9	300038M	Spacer, 3/8, Thick
10	310048M	Side Drive Guard
11	910510M	Button Head Cap Screw, M5-0.80 x 10 mm
12	310041M	Gearmotor Mounting Plate
13	930518M	Flat Head Cap Screw, M5-0.80 x 18 mm
14	920518M	Socket Head Cap Screw, M5-0.80 x 18 mm
15	310042M	Side Drive Plate

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the “M” suffix. SAE equivalent fasteners are identified in the table on page 73.

Top Drive Mounting Package



Note: Gearmotor is not included with mounting package. Square key is included with gearmotor. See page 70.

Item	Part No.	Part Description
1	980018M	Square Key (Undersized), 6 mm x 18 mm
2	310046M	Top Drive Cover
3	910406M	Button Head Cap Screw, M4-0.70 x 10 mm
4	300038M	Spacer, 3/8 Thick
5	310045M	Drive Top Mounting Plate
6	300187	Idler Spacer Bar
7	300186M	Idler Guide Bar
8	930625M	Flat Head Cap Screw, M5-1.0 x 25 mm
9	628144M	Cam Follower Nut
10	605284	Hard Washer, Black Oxide
11	802-059	Cam Follower Bearing
12	921250M	Socket Head Cap Screw, M12-1.75 x 50 mm
13	920625M	Socket Head Cap Screw, M6-1.0 x 25 mm
14	920620M	Socket Head Cap Screw, M6-1.0 x 20 mm
15	920630M	Socket Head Cap Screw, M6-1.0 x 30 mm

Item	Part No.	Part Description
16	811-126	Pulley, 16 Tooth, Taper Lock®, TL-1108
	811-127	Pulley, 18 Tooth, Taper Lock®, TL-1210
	811-133	Pulley, 14 Tooth, Taper Lock®, TL-1108
	811-135	Pulley, 20 Tooth, Taper Lock®, TL-1210
	811-136	Pulley, 22 Tooth, Taper Lock®, TL-1610
	811-137	Pulley, 24 Tooth, Taper Lock®, TL-1610
17	811-206	Taper Lock® Bushing, TL-1610, 19 mm Bore
	811-205	Taper Lock® Bushing, TL-1210, 19 mm Bore
	811-204	Taper Lock® Bushing, TL-1108, 19 mm Bore
18	300049M	Drive Pulley, 19 Tooth, 19 mm Bore
19	970608M	Socket Head Set Screw, M6-1.0 x 8 mm
20	814-059	Timing Belt, 27″ (685 mm) Long
	814-060	Timing Belt, 28″ (711 mm) Long
21	920616M	Socket Head Cap Screw, M6-1.0 x 16 mm

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the “M” suffix. SAE equivalent fasteners are identified in the table on page 73.

Vertical Center Drive – Visual Index

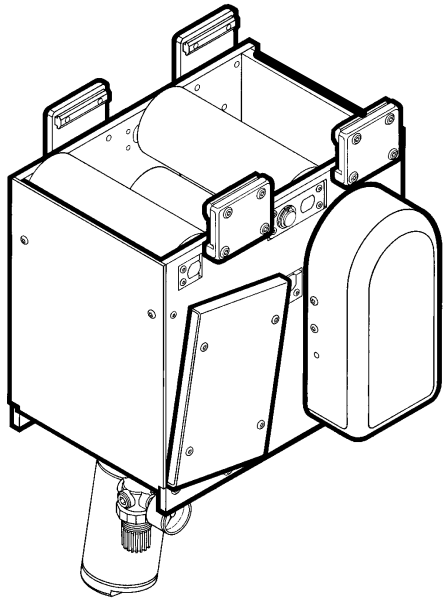
Standard Vertical Center Drive for 8″ (203 mm) wide conveyor shown. Parts Lists on following pages identify parts for 4″ (95 mm), 5″ (127 mm), 6″ (152 mm), 8″ (203 mm), 10″ (254 mm), 12″ (305 mm), 18″ (457 mm), 24″ (610 mm), 30″ (762 mm), 36 (915 mm), and 40″ (1016 mm) wide conveyors. For any other sizes, please consult factory.

NOTE:

Visual Index is provided to simplify location of parts and their relationships with each other. The drawings are not intended to be used for dissassembly or re-assembly references.

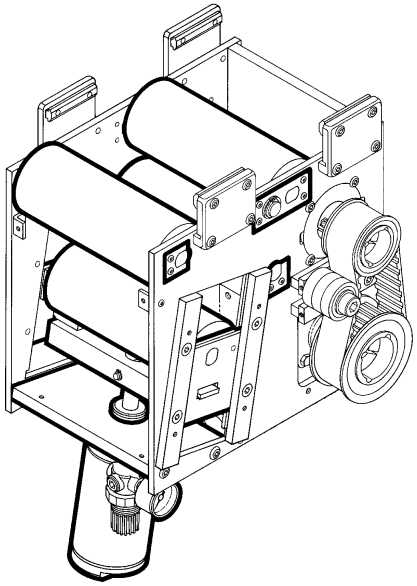
Side Plates, Covers and Guards

Exploded View and Parts List starts on page 48



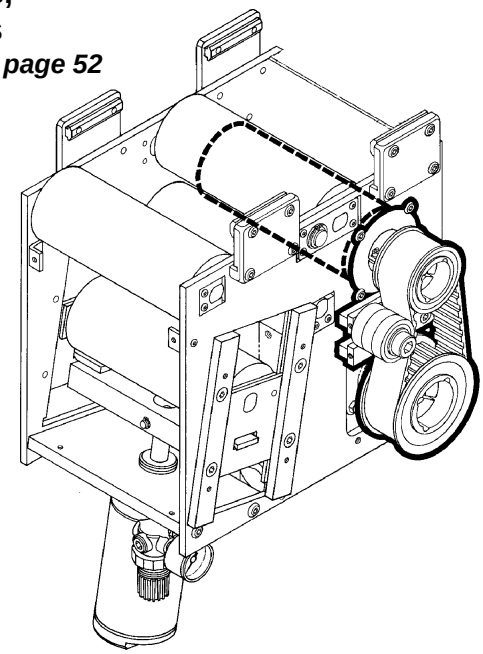
Belt Tensioning and Idler Pulleys

Exploded View and Parts List starts on page 50

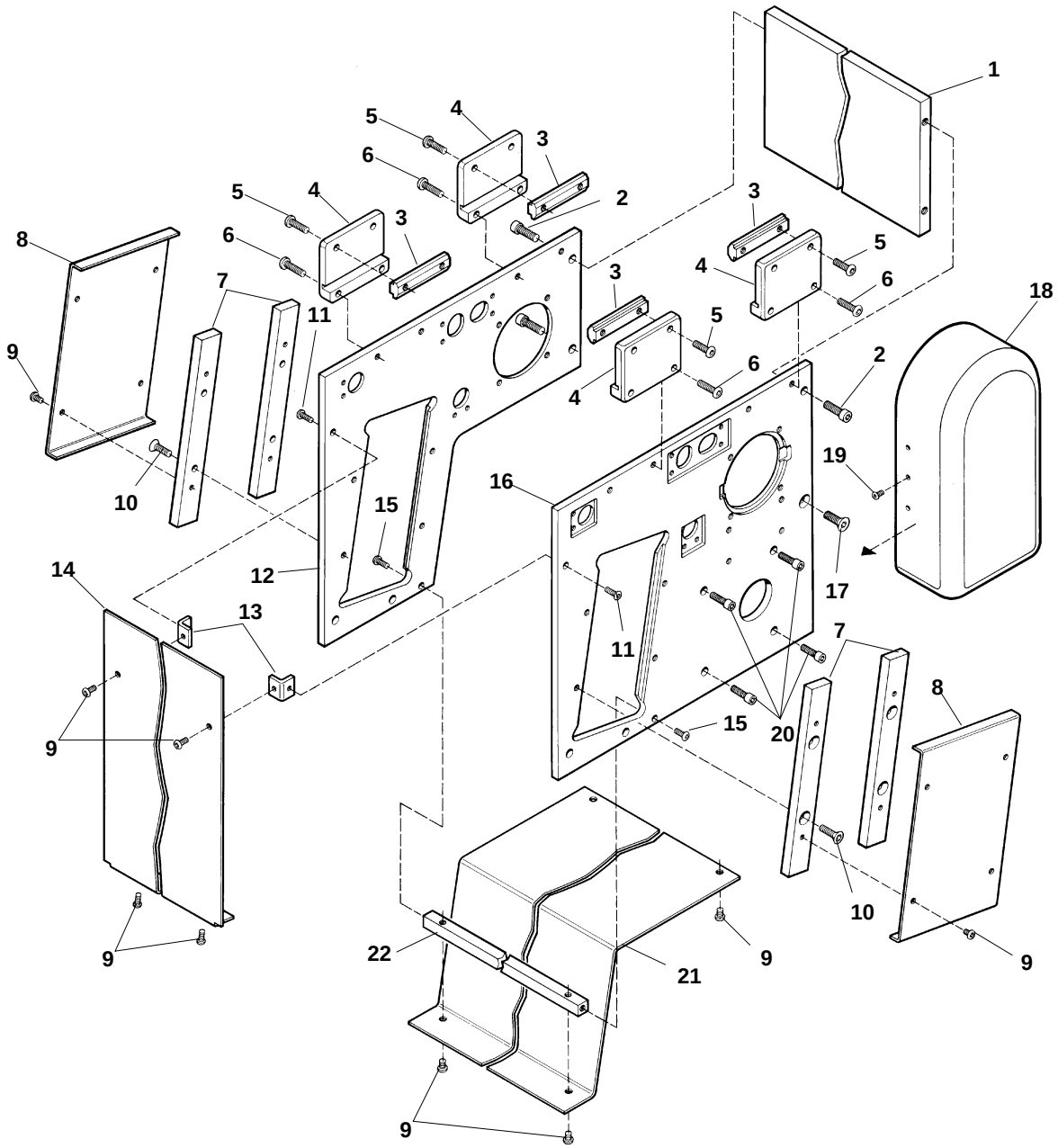


Drive Pulley, Timing Belt Pulleys, Timing Belt and Mounting Plates

Exploded View and Parts List starts on page 52



Vertical Center Drive – Side Plates, Covers & Guards

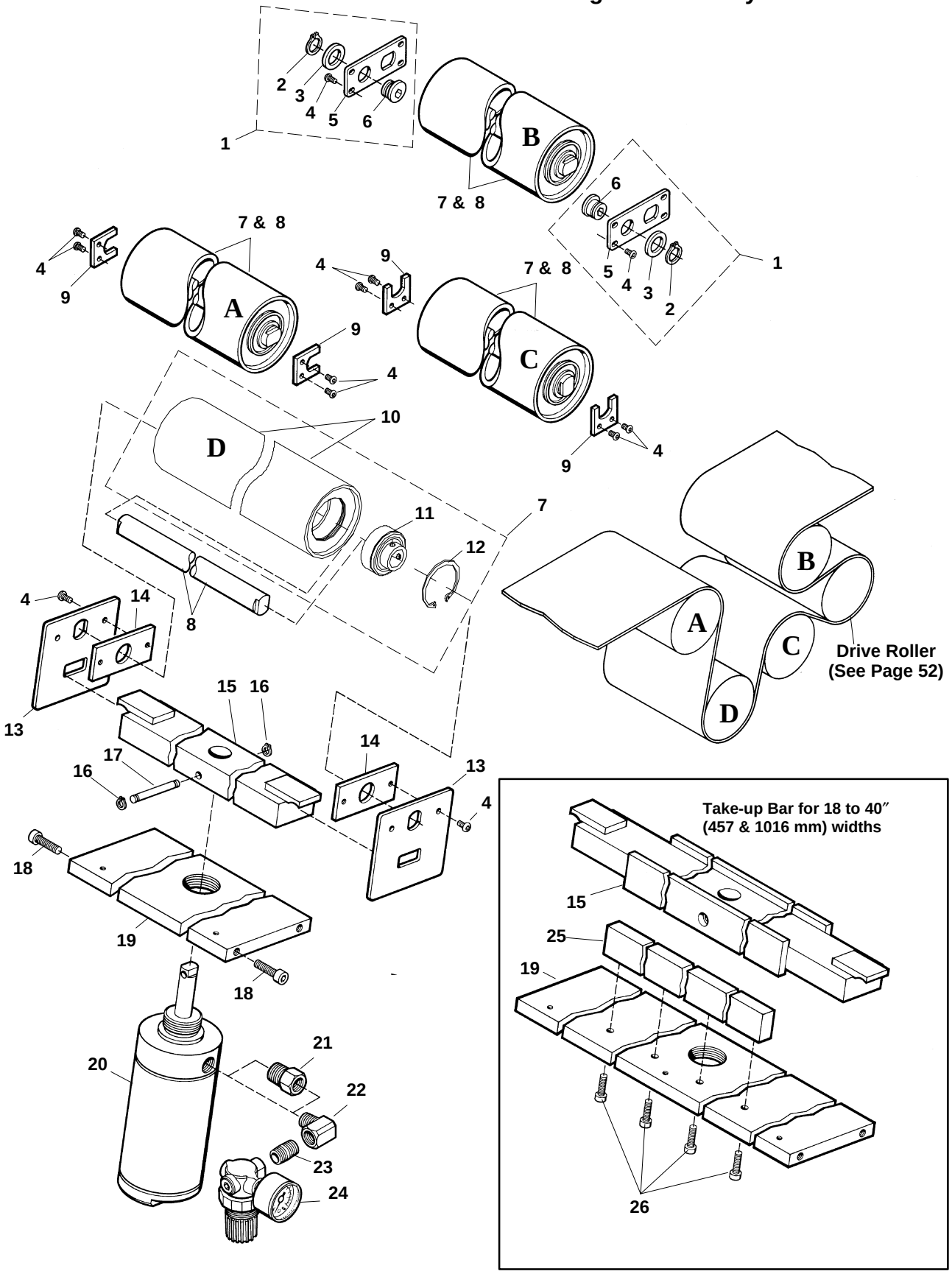


Item	Part No.	Part Description
1	313804M	End Plate 4″ (95 mm)
	313805M	End Plate 5″ (127 mm)
	313806M	End Plate 6″ (152 mm)
	313808M	End Plate 8″ (203 mm)
	313810M	End Plate 10″ (254 mm)
	313812M	End Plate 12″ (305 mm)
	313818M	End Plate 18″ (457 mm)
	313824M	End Plate 24″ (610 mm)
	313830M	End Plate 30″ (762 mm)
	313836M	End Plate 36″ (915 mm)
	313840M	End Plate 40″ (1016 mm)
2	920818M	Socket Head Cap Screw, M8-1.25 x 18 mm
3	300150M	Drop-In T-bar
4	300154M	Center Drive Clamp Plate
5	910620M	Button Head Cap Screw, M6-1.0 x 20 mm
6	910622M	Button Head Cap Screw, M6-1.0 x 22 mm
7	300331M	Take-up Guide Bar
8	300332M	Center Drive Take-up Guard
9	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
10	930616M	Flat Head Cap Screw, M6-1.0 x 16 mm
11	910510M	Button Head Cap Screw, M5-0.80 x 10 mm
12	310172M	Drive Cutout Right Side Plate
13	300149M	Guard Mounting Angle Bracket
14	304104M	End Guard Plate 4″ (95 mm)
	304105M	End Guard Plate 5″ (127 mm)
	304106M	End Guard Plate 6″ (152 mm)
	304108M	End Guard Plate 8″ (203 mm)
	304110M	End Guard Plate 10″ (254 mm)
	304112M	End Guard Plate 12″ (305 mm)
	304118M	End Guard Plate 18″ (457 mm)
	304124M	End Guard Plate 24″ (610 mm)
	304130M	End Guard Plate 30″ (762 mm)
	304136M	End Guard Plate 36″ (915 mm)
	304140M	End Guard Plate 40″ (1016 mm)

Item	Part No.	Part Description
15	910512M	Button Head Cap Screw, M5-0.80 x 12 mm
16	310130M	Drive Right Side Plate
17	930820M	Flat Head Cap Screw, M8-1.25 x 20 mm
18	300349M	Drive Cover
19	910410M	Button Head Cap Screw, M4-0.70 x 10 mm
20	920620M	Socket Head Cap Screw, M6-1.0 x 18 mm
21	313904M	Bottom Guard 4″ (95 mm)
	313905M	Bottom Guard 5″ (127 mm)
	313906M	Bottom Guard 6″ (152 mm)
	313908M	Bottom Guard 8″ (203 mm)
	313910M	Bottom Guard 10″ (254 mm)
	313912M	Bottom Guard 12″ (305 mm)
	313918M	Bottom Guard 18″ (457 mm)
	313924M	Bottom Guard 24″ (610 mm)
	313930M	Bottom Guard 30″ (762 mm)
	313936M	Bottom Guard 36″ (915 mm)
	313940M	Bottom Guard 40″ (1016 mm)
22	304204M	Bottom Guard Bar 4″ (95 mm)
	304205M	Bottom Guard Bar 5″ (127 mm)
	304206M	Bottom Guard Bar 6″ (152 mm)
	304208M	Bottom Guard Bar 8″ (203 mm)
	304210M	Bottom Guard Bar 10″ (254 mm)
	304212M	Bottom Guard Bar 12″ (305 mm)
	304218M	Bottom Guard Bar 18″ (457 mm)
	304224M	Bottom Guard Bar 24″ (610 mm)
	304230M	Bottom Guard Bar 30″ (762 mm)
	304236M	Bottom Guard Bar 36″ (915 mm)
	304240M	Bottom Guard Bar 40″ (1016 mm)

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the “M” suffix. SAE equivalent fasteners are identified in the table on page 73.

Vertical Center Drive – Belt Tensioning & Idler Pulleys

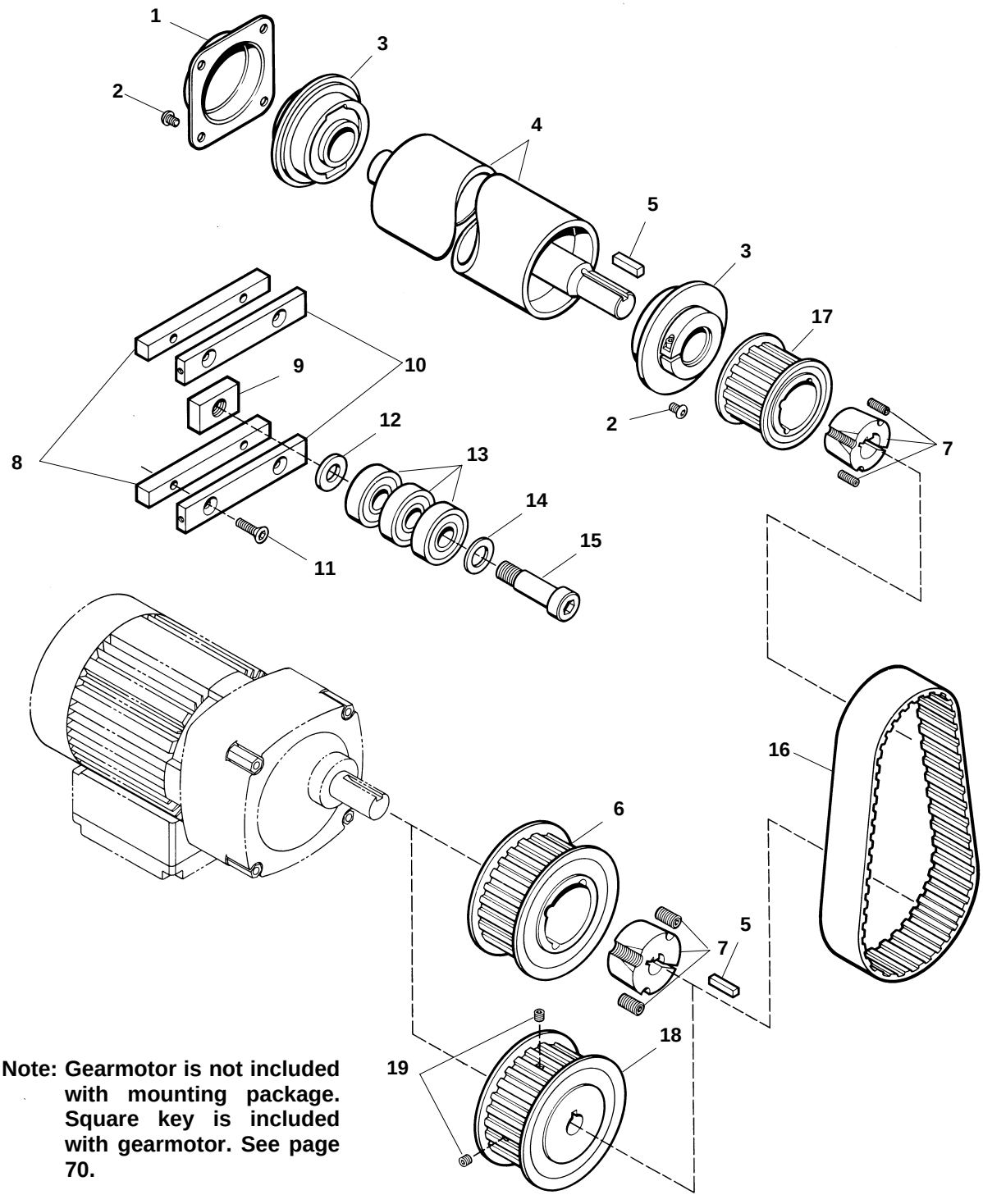


Item	Part No.	Part Description
1	300244M	Tracking Cam Ass'y
2	915-999	External Retaining Ring, Truarc® 5101-56
3	300191	Hardened Washer
4	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
5	300199	Cam Mounting Plate
6	623777M	Tail Align Cam
7	326704	Idler Pulley Ass'y 4″ (95 mm)
	326706	Idler Pulley Ass'y 6″ (152 mm)
	326708	Idler Pulley Ass'y 8″ (203 mm)
	326710	Idler Pulley Ass'y 10″ (254 mm)
	326712	Idler Pulley Ass'y 12″ (305 mm)
	326718	Idler Pulley Ass'y 18″ (457 mm)
	326724	Idler Pulley Ass'y 24″ (610 mm)
	326730	Idler Pulley Ass'y 30″ (762 mm)
	326736	Idler Pulley Ass'y 36″ (915 mm)
	326740	Idler Pulley Ass'y 40″ (1016 mm)
8	301904	Idler Shaft 4″ (95 mm) Wide
	301905	Idler Shaft 5″ (127 mm) Wide
	301906	Idler Shaft 6″ (152 mm) Wide
	301907	Idler Shaft 7″ (178 mm) Wide
	301908	Idler Shaft 8″ (203 mm) Wide
	301910	Idler Shaft 10″ (254 mm) Wide
	301912	Idler Shaft 12″ (305 mm) Wide
	301918	Idler Shaft 18″ (457 mm) Wide
	301924	Idler Shaft 24″ (610 mm) Wide
	301930	Idler Shaft 30″ (762 mm) Wide
	301936	Idler Shaft 36″ (915 mm) Wide
	301940	Idler Shaft 40″ (1016 mm) Wide
9	200825	Shaft Retaining Clip
10	326604	Aluminum Pulley Tube, 4″ (95 mm)
	326605	Aluminum Pulley Tube, 5″ (127 mm)
	326606	Aluminum Pulley Tube, 6″ (152 mm)
	326608	Aluminum Pulley Tube, 8″ (203 mm)
	326610	Aluminum Pulley Tube, 10″ (254 mm)
	326612	Aluminum Pulley Tube, 12″ (305 mm)
	326618	Aluminum Pulley Tube, 18″ (457 mm)
	326624	Aluminum Pulley Tube, 24″ (610 mm)
	326630	Aluminum Pulley Tube, 30″ (762 mm)
	326636	Aluminum Pulley Tube, 36″ (915 mm)
	326640	Aluminum Pulley Tube, 40″ (1016 mm)

Item	Part No.	Part Description
11	802-110	Ball Bearing (Set Screws Removed)
12	915-051	Retaining Ring
13	300330	Take-up Outer Plate
14	300329M	Take-up Inner Plate
15	304904	Take-up Bar 4″ (95 mm)
	304905	Take-up Bar 5″ (127 mm)
	304906	Take-up Bar 6″ (152 mm)
	304908	Take-up Bar 8″ (203 mm)
	304910	Take-up Bar 10″ (254 mm)
	304912	Take-up Bar 12″ (305 mm)
	304918	Take-up Bar 18″ (457 mm)
	304924	Take-up Bar 24″ (610 mm)
	304930	Take-up Bar 30″ (762 mm)
	304936	Take-up Bar 36″ (915 mm)
	304940	Take-up Bar 40″ (1016 mm)
16	915-002	Retaining Ring, Truarc® 5101-15
17	300457	Pneumatic/Spring Tension Clevis Pin
18	920818M	Socket Head Cap Screw, M8-1.25 x 18 mm
19	303704M	Cylinder Mounting Plate 4″ (95 mm)
	303705M	Cylinder Mounting Plate 5″ (127 mm)
	303706M	Cylinder Mounting Plate 6″ (152 mm)
	303708M	Cylinder Mounting Plate 8″ (203 mm)
	303710M	Cylinder Mounting Plate 10″ (254 mm)
	303712M	Cylinder Mounting Plate 12″ (305 mm)
	303718M	Cylinder Mounting Plate 18″ (457 mm)
	303724M	Cylinder Mounting Plate 24″ (610 mm)
	303730M	Cylinder Mounting Plate 30″ (762 mm)
	303736M	Cylinder Mounting Plate 36″ (915 mm)
	303740M	Cylinder Mounting Plate 40″ (1016 mm)
20	51-19-08	Take-up Cylinder 2-1/2″ Bore, 4″ Stroke [4 to 10″ (95 to 254 mm) Wide Conveyors Only]
	300121P	Take-up Cylinder 3″ Bore, 4″ Stroke [12 to 40″ (305 to 1016 mm) Wide Conveyors Only]
21	825-084	Reducing Bushing 3/8 to 1/4 NPT [12 to 40″ (305 to 1016 mm) Wide Conveyors Only]
22	825-081	Street Elbow, 1/4″ NPT
23	825-017	Nipple, 1/4″ NPT x 0.88″
24	810-073	Pneumatic Regulator
25	300122M	Stiffener Bar 24 to 40″ (610 to 1016 mm)
26	920618M	Socket Head Cap Screw, M6-1.0 x 18 mm

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Vertical Center Drive – Drive Pulleys, Timing Belt Pulleys & Mounting Plates



Note: Gearmotor is not included with mounting package. Square key is included with gearmotor. See page 70.

Item	Part No.	Part Description
1	300124M	Drawn Bearing Cover
2	910606M	Button Head Cap Screw, M6-1.0 x 6 mm
3	310181	Bearing Ass'y
4	309604M	Pulley Ass'y 4″ (95 mm)
	309605M	Pulley Ass'y 5″ (127 mm)
	309606M	Pulley Ass'y 6″ (152 mm)
	309608M	Pulley Ass'y 8″ (203 mm)
	309610M	Pulley Ass'y 10″ (254 mm)
	309612M	Pulley Ass'y 12″ (305 mm)
	309618M	Pulley Ass'y 18″ (457 mm)
	309624M	Pulley Ass'y 24″ (610 mm)
	309630M	Pulley Ass'y 30″ (762 mm)
	309636M	Pulley Ass'y 36″ (915 mm)
	309640M	Pulley Ass'y 40″ (1016 mm)
5	980018M	Square Key (Undersized), 6 mm x 18 mm
6	811-201	14T Pulley, Taper Lock®, TL-1108
	811-139	16T Pulley, Taper Lock®, TL-1108

Item	Part No.	Part Description
7	811-207	Taper Lock® Bushing, TL-2012, 19 mm Bore
	811-206	Taper Lock® Bushing, TL-1610, 19 mm Bore
	811-205	Taper Lock® Bushing, TL-1210, 19 mm Bore
	811-204	Taper Lock® Bushing, TL-1108, 19 mm Bore
8	300187	Idler Spacer Bar
9	628144	Cam Follower Nut
10	300186M	Idler Guide Bar
11	930625M	Flat Head Cap Screw, M6-1.0 x 25 mm
12	605284	Hard Washer, Black Oxide
13	802-070	Solid Ball Bearing, Nice® 1633DC
14	911-516	Hardened Flat Washer, Steel
15	904-213	Socket Head Shoulder Screw, 0.63 dia. x 1.5″
16	814-049	Timing Belt, 21″ (533 mm) Long
	814-050	Timing Belt, 22″ (559 mm) Long
17	811-151	18T Pulley, Taper Lock®, TL-1210
	811-142	20T Pulley, Taper Lock®, TL-1210
	811-143	22T Pulley, Taper Lock®, TL-1610
	811-164	24T Pulley, Taper Lock®, TL-2012
18	300047M	Pulley, 19 Tooth
	300048M	Pulley, 21 Tooth
19	970608M	Cup Set Screw, M6-1.0 x 8 mm

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Intentionally Blank

Horizontal Heavy Load Center Drive – Visual Index

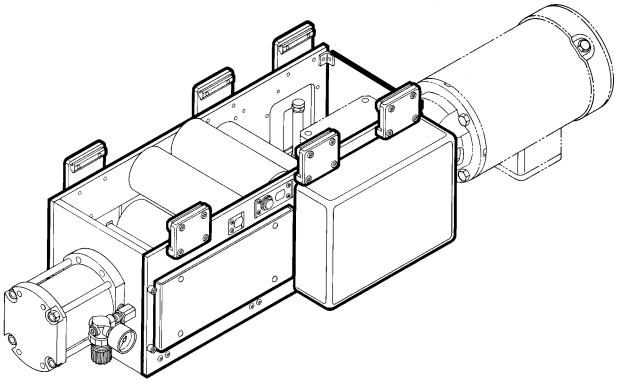
Horizontal Heavy Load Center Drive for 8″ (203 mm) wide conveyor shown. Parts Lists on following pages identify parts for 6″ (152 mm), 8″ (203 mm), 10″ (254 mm), 12″ (305 mm), 18″ (457 mm), 24″ (610 mm), 30″ (762 mm), 36 (915 mm), and 40″ (1016 mm) wide conveyors. For any other sizes, please consult factory.

NOTE:

Visual Index is provided to simplify location of parts and their relationships with each other. The drawings are not intended to be used for dissassembly or re-assembly references.

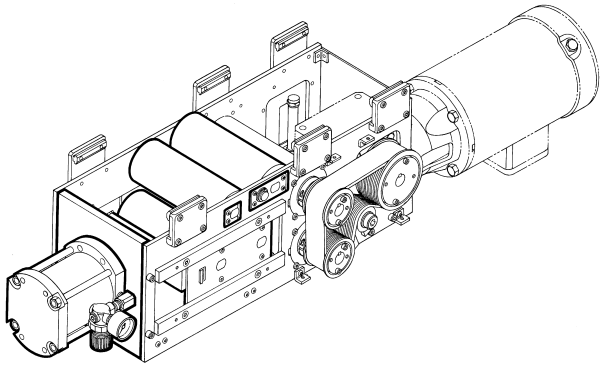
Side Plates, Covers and Guards

Exploded View and Parts List starts on page 56



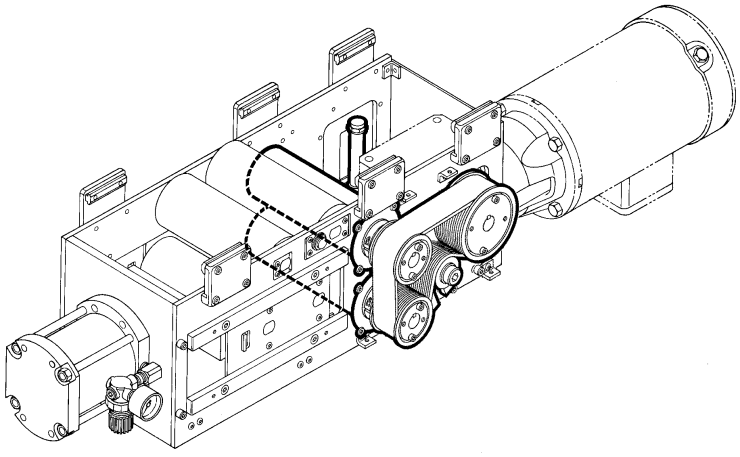
Belt Tensioning and Idler Pulleys

Exploded View and Parts List starts on page 58

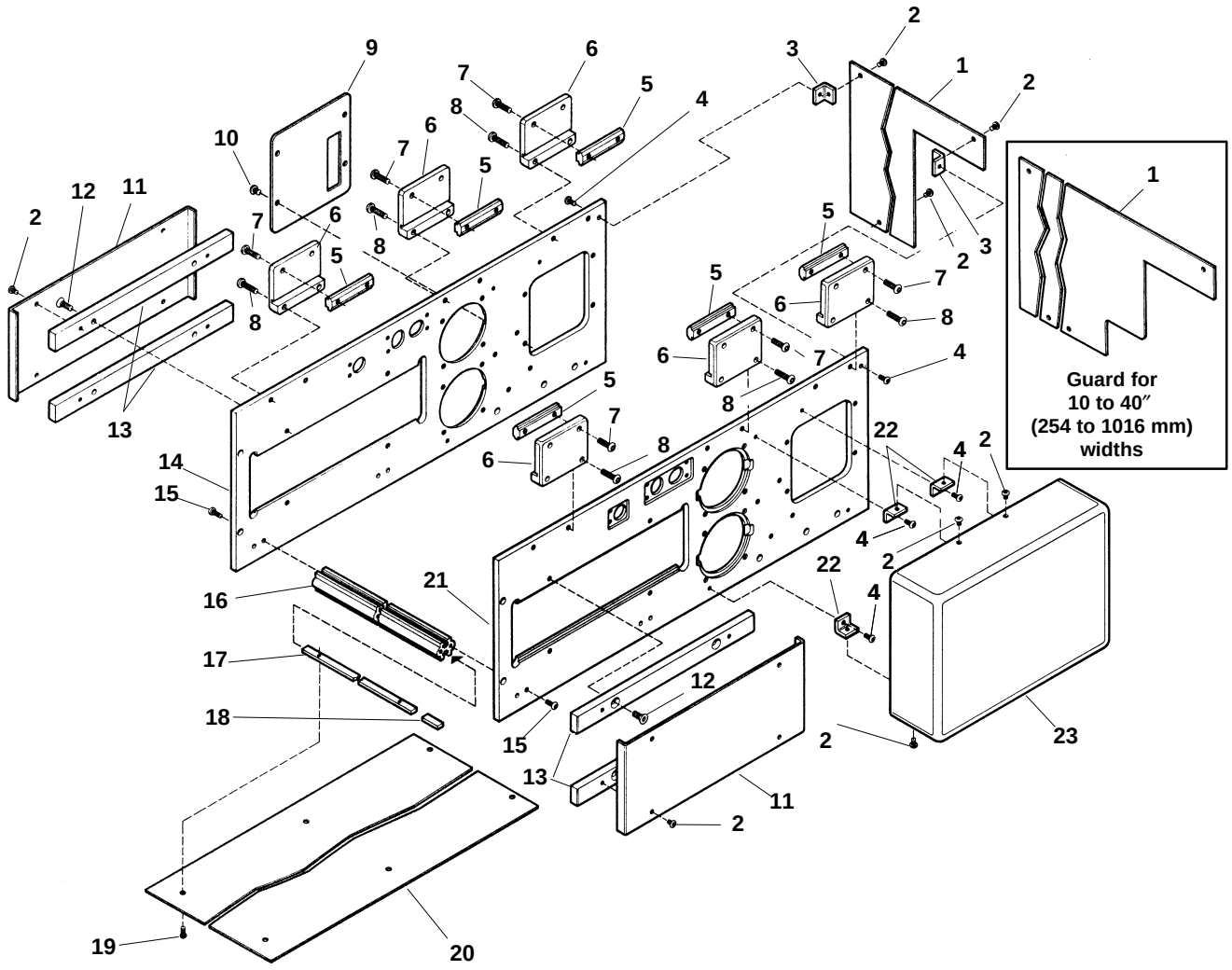


Drive Pulley, Timing Belt Pulleys, Timing Belt and Mounting Plates

Exploded View and Parts List starts on page 60



Heavy Load Horizontal Center Drive – Side Plates, Covers & Guards

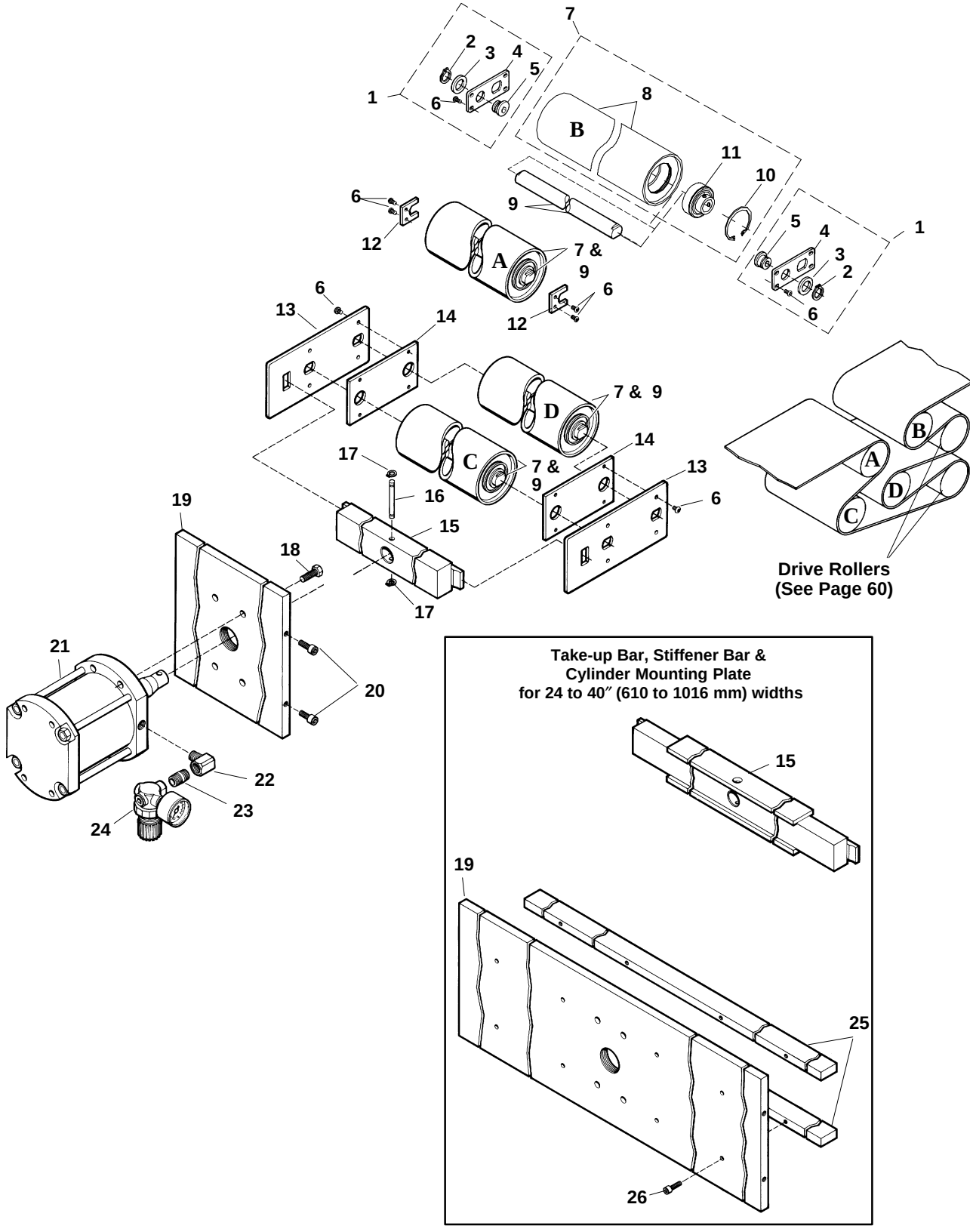


Item	Part No.	Part Description
1	305008M	Center Drive End Guard 8″ (203 mm)
	305010M	Center Drive End Guard 10″ (254 mm)
	305012M	Center Drive End Guard 12″ (305 mm)
	305018M	Center Drive End Guard 18″ (457 mm)
	305024M	Center Drive End Guard 24″ (610 mm)
	305030M	Center Drive End Guard 30″ (762 mm)
	305036M	Center Drive End Guard 36″ (915 mm)
	305040M	Center Drive End Guard 40″ (1016 mm)
2	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
3	300149M	Guard Mounting Angle Bracket
4	910510M	Button Head Cap Screw, M5-0.80 x 10 mm
5	300150M	Drop-In T-bar
6	300154M	Center Drive Clamp Plate
7	910620M	Button Head Cap Screw, M6-1.0 x 20 mm
8	910622M	Button Head Cap Screw, M6-1.0 x 22 mm
9	300194M	Sight Gauge Cover Plate
10	910606M	Button Head Cap Screw, M6-1.0 x 6 mm
11	300185M	Take-up Guard
12	930614M	Flat Head Cap Screw, M6-1.0 x 14 mm
13	300184M	Take-up Guide Bar
14	300198M	Back Side Plate
15	910516M	Button Head Cap Screw, M5-0.80 x 16 mm
16	305206M	Bottom Guard Center Rail 6″ (152 mm)
	305208M	Bottom Guard Center Rail 8″ (203 mm)
	305210M	Bottom Guard Center Rail 10″ (254 mm)
	305212M	Bottom Guard Center Rail 12″ (305 mm)
	305218M	Bottom Guard Center Rail 18″ (457 mm)
	305224M	Bottom Guard Center Rail 24″ (610 mm)
	305230M	Bottom Guard Center Rail 30″ (762 mm)
	305236M	Bottom Guard Center Rail 36″ (915 mm)
	305240M	Bottom Guard Center Rail 40″ (1016 mm)

Item	Part No.	Part Description
17	307206M	Rail Nut Strip 6″ (152 mm) Wide
	307208M	Rail Nut Strip 8″ (203 mm) Wide
	307210M	Rail Nut Strip 10″ (254 mm) Wide
	307212M	Rail Nut Strip 12″ (305 mm) Wide
	307208M 307210M	Rail Nut Strips Combined for 18″ (457 mm) Wide
	307212M 307212M	Rail Nut Strips Combined for 24″ (610 mm) Wide
	307210M 307210M 307210M	Rail Nut Strips Combined for 30″ (762 mm) Wide
	307212M 307212M 307212M	Rail Nut Strips Combined for 36″ (915 mm) Wide
	307210M 307210M 307210M 307210M	Rail Nut Strips Combined for 40″ (1016 mm) Wide
18	307201	Spacer, Nut Strip for 18 to 40″ (457 to 1016 mm) Widths Only
19	910410M	Button Head Cap Screw, M4-0.70 x 10 mm
20	305106M	Bottom Guard 6″ (152 mm)
	305108M	Bottom Guard 8″ (203 mm)
	305110M	Bottom Guard 10″ (254 mm)
	305112M	Bottom Guard 12″ (305 mm)
	305108M 305110M	Bottom Guards Combined for 18″ (457 mm)
	305112M 305112M	Bottom Guards Combined for 24″ (610 mm)
	305110M 305110M 305110M	Bottom Guards Combined for 30″ (762 mm)
	305112M 305112M 305112M	Bottom Guards Combined for 36″ (915 mm)
	305110M 305110M 305110M 305110M	Bottom Guards Combined for 40″ (1016 mm)
21	300197M	Front Side Plate
22	300148M	Cover Mounting Angle Bracket
23	300340M	Double Drive Cover

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the “M” suffix. SAE equivalent fasteners are identified in the table on page 73.

Heavy Load Horizontal Center Drive – Belt Tensioning & Idler Pulleys

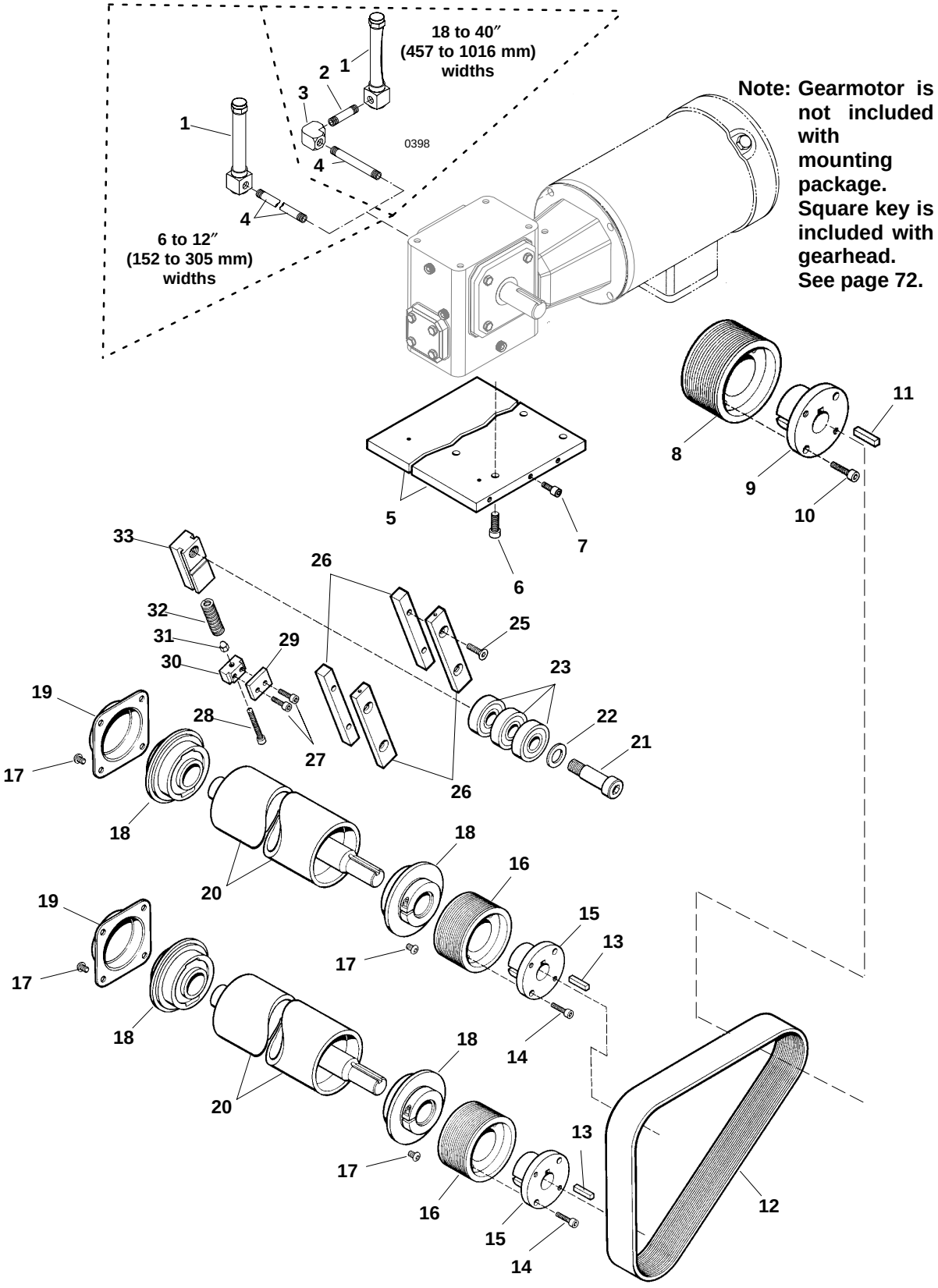


Item	Part No.	Part Description
1	300244M	Tracking Cam Ass'y
2	915-999	External Retaining Ring, Truarc® 5101-56
3	300191	Hardened Washer
4	300199	Cam Mounting Plate
5	623777M	Tail Align Cam
6	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
7	306706	Idler Pulley Ass'y 6″ (152 mm)
	306708	Idler Pulley Ass'y 8″ (203 mm)
	306710	Idler Pulley Ass'y 10″ (254 mm)
	306712	Idler Pulley Ass'y 12″ (305 mm)
	306718	Idler Pulley Ass'y 18″ (457 mm)
	306724	Idler Pulley Ass'y 24″ (610 mm)
	306730	Idler Pulley Ass'y 30″ (762 mm)
	306736	Idler Pulley Ass'y 36″ (915 mm)
	306740	Idler Pulley Ass'y 40″ (1016 mm)
8	326604	Aluminum Pulley Tube, 4″ (95 mm)
	326605	Aluminum Pulley Tube, 5″ (127 mm)
	326606	Aluminum Pulley Tube, 6″ (152 mm)
	326608	Aluminum Pulley Tube, 8″ (203 mm)
	326610	Aluminum Pulley Tube, 10″ (254 mm)
	326612	Aluminum Pulley Tube, 12″ (305 mm)
	326618	Aluminum Pulley Tube, 18″ (457 mm)
	326624	Aluminum Pulley Tube, 24″ (610 mm)
	326630	Aluminum Pulley Tube, 30″ (762 mm)
	326636	Aluminum Pulley Tube, 36″ (915 mm)
	326640	Aluminum Pulley Tube, 40″ (1016 mm)
9	301906	Idler Shaft 6″ (152 mm) Wide
	301908	Idler Shaft 8″ (203 mm) Wide
	301910	Idler Shaft 10″ (254 mm) Wide
	301912	Idler Shaft 12″ (305 mm) Wide
	301918	Idler Shaft 18″ (457 mm) Wide
	301924	Idler Shaft 24″ (610 mm) Wide
	301930	Idler Shaft 30″ (762 mm) Wide
	301936	Idler Shaft 36″ (915 mm) Wide
	301940	Idler Shaft 40″ (1016 mm) Wide

Item	Part No.	Part Description
10	915-051	Retaining Ring
11	802-110	Ball Bearing (Set Screws Removed)
12	200825	Shaft Retaining Clip
13	300182	Outer Take-up Plate
14	300183M	Inner Take-up Plate
15	304906	Take-up Bar 6″ (152 mm)
	304908	Take-up Bar 8″ (203 mm)
	304910	Take-up Bar 10″ (254 mm)
	304912	Take-up Bar 12″ (305 mm)
	304918	Take-up Bar 18″ (457 mm)
	304924	Take-up Bar 24″ (610 mm)
	304930	Take-up Bar 30″ (762 mm)
	304936	Take-up Bar 36″ (915 mm)
	304940	Take-up Bar 40″ (1016 mm)
16	300457	Pneumatic/Spring Tension Clevis Pin
17	915-007	Retaining Ring, Truarc® 5100-25
18	906-155	Hex. Hd. Cap Screw, 3/8-24 x 1.0″ Long
19	304306M	Cylinder Mounting Plate 6″ (152 mm)
	304308M	Cylinder Mounting Plate 8″ (203 mm)
	304310M	Cylinder Mounting Plate 10″ (254 mm)
	304312M	Cylinder Mounting Plate 12″ (305 mm)
	304318M	Cylinder Mounting Plate 18″ (457 mm)
	304324M	Cylinder Mounting Plate 24″ (610 mm)
	304330M	Cylinder Mounting Plate 30″ (762 mm)
	304336M	Cylinder Mounting Plate 36″ (915 mm)
	304340M	Cylinder Mounting Plate 40″ (1016 mm)
20	920818M	Socket Head Cap Screw, M8-1.25 x 18 mm
21	300251P	Take-up Cylinder 4″ Diameter, 4″ Stroke
22	825-081	Street Elbow, 1/4″ NPT
23	825-017	Nipple, 1/4″ NPT x 0.88″
24	810-073	Pneumatic Regulator w/Gauge
25	300122M	Stiffener Bar 24 to 40″ (610 to 1016 mm)
26	920625M	Socket Head Cap Screw, M6-1.0 x 25 mm

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Heavy Load Horizontal
Center Drive – Drive Pulleys, Poly-V® Belt Pulleys & Mounting Plates



Item	Part No.	Part Description
1	807-036	Oil Sight Gauge
2	825-022	Nipple, 1/4″ NPT x 3.0″ (70 mm) for 24 to 40″ (610 to 1016 mm) Widths Only
3	825-094	90° Female Elbow, 1/4″ to 1/4″ NPT for 24 to 40″ (610 to 1016 mm) Widths Only
4	825-110	Nipple, 1/4″ NPT x 1.38″ for 6″ (152 mm) Width Only
	825-022	Nipple, 1/4″ NPT x 3″ (76 mm) for 8″ (203 mm) Width Only
	825-026	Nipple, 1/4″ NPT x 5″ for 10″ (254 mm) Width Only
	825-029	Nipple, 1/4″ NPT x 7″ for 12″ (305 mm) Width Only
	825-019	Nipple, 1/4″ NPT x 1.5″ (35 mm) for 18 to 40″ (610 to 1016 mm) Widths Only
5	316706M	Gearhead Support Plate 6″ (152 mm)
	316708M	Gearhead Support Plate 8″ (203 mm)
	316710M	Gearhead Support Plate 10″ (254 mm)
	316712M	Gearhead Support Plate 12″ (305 mm)
	316718M	Gearhead Support Plate 18″ (457 mm)
	316724M	Gearhead Support Plate 24″ (610 mm)
	316730M	Gearhead Support Plate 30″ (762 mm)
	316736M	Gearhead Support Plate 36″ (915 mm)
	316740M	Gearhead Support Plate 40″ (1016 mm)
6	902-181	Socket Hd. Cap Screw, 5/16-18 x 1.0″
7	920818M	Socket Head Cap Screw, M8-1.25 x 18 mm
8	811-225	3.15″ (80 mm) Dia. Poly-V® Pulley
	811-226	4.5″ (114 mm) Dia. Poly-V® Pulley
9	811-011	Split Bushing, Type H, 1″ Dia. Bore
	811-219	Split Bushing, Type P1, 1″ Dia. Bore
10	902-181	Socket Head Cap Screw, 5/16-18 x 1.0″
11	912-103	Square Key, 1/4″ Sq. x 0.75″
12	814-076	Poly-V® Belt, 32″ (813 mm) long, Gates® 320J16
	814-077	Poly-V® Belt, 30″ (762 mm) long, Gates® 300J16
	814-078	Poly-V® Belt, 28″ (711 mm) long, Gates® 280J16

Item	Part No.	Part Description
13	980625M	Square Key, 6 mm x 25 mm
14	902-134	Socket Head Cap Screw, 1/4-20 x 0.88″
15	811-227	Split Bushing, Type G, 19 mm Dia. Bore
	811-228	Split Bushing, Type H, 19 mm Dia. Bore
16	811-221	2.5″ (63.5 mm) Dia. Poly-V® Pulley
	811-222	2.65″ (67 mm) Dia. Poly-V® Pulley
	811-223	2.8″ (71 mm) Dia. Poly-V® Pulley
	811-224	3″ (76 mm) Dia. Poly-V® Pulley
	811-225	3.15″ (80 mm) Dia. Poly-V® Pulley
17	910606M	Button Head Cap Screw, M6-1.0 x 6 mm
18	310181	Bearing Ass'y
19	300124M	Drawn Bearing Cover
20	309606M	Pulley, 6″ (152 mm)
	309608M	Pulley, 8″ (203 mm)
	309610M	Pulley, 10″ (254 mm)
	309612M	Pulley, 12″ (305 mm)
	309618M	Pulley, 18″ (457 mm)
	309624M	Pulley, 24″ (610 mm)
	309630M	Pulley, 30″ (762 mm)
	309636M	Pulley, 36″ (915 mm)
	309640M	Pulley, 40″ (1016 mm)
21	904-213	Socket Head Shoulder Screw, 0.63″ dia. x 1.50″
22	911-516	Hardened Flat Washer, Steel
23	802-070	Solid Ball Bearing, Nice® 1633DC
24	300186M	Idler Guide Bar
25	930625M	Flat Head Cap Screw, M6-1.0 x 25 mm
26	300187	Idler Spacer Bar
27	920520M	Socket Head Cap Screw, M5-0.80 x 20 mm
28	920540M	Socket Head Cap Screw, M5-0.80 x 40 mm
29	300481M	Stop Clamp Plate
30	300480M	Spring Tensioner Clamp Block
31	990508M	Nut, M5-0.80
32	807-806	Die Spring
33	300479	Tensioner Slide Bar

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Intentionally Blank

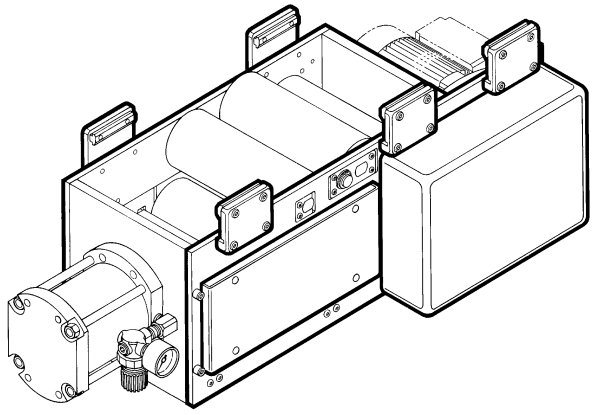
Horizontal Standard Load Center Drive – Visual Index

Horizontal Standard Load Center Drive for 8″ (203 mm) wide conveyor shown. Parts Lists on following pages identify parts for 4″ (95 mm), 5″ (127 mm), 6″ (152 mm), 8″ (203 mm), 10″ (254 mm), 12″ (305 mm), 18″ (457 mm), 24″ (610 mm), 30″ (762 mm), 36 (915 mm), and 40″ (1016 mm) wide conveyors. For any other sizes, please consult factory.

NOTE:
Visual Index is provided to simplify location of parts and their relationships with each other. The drawings are not intended to be used for dissassembly or re-assembly references.

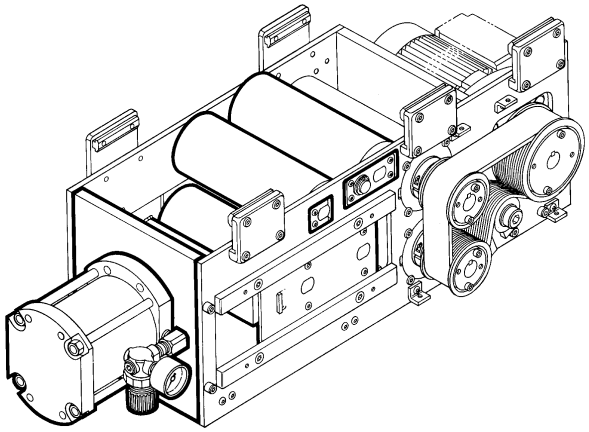
Side Plates, Covers and Guards

Exploded View and Parts List starts on page 64



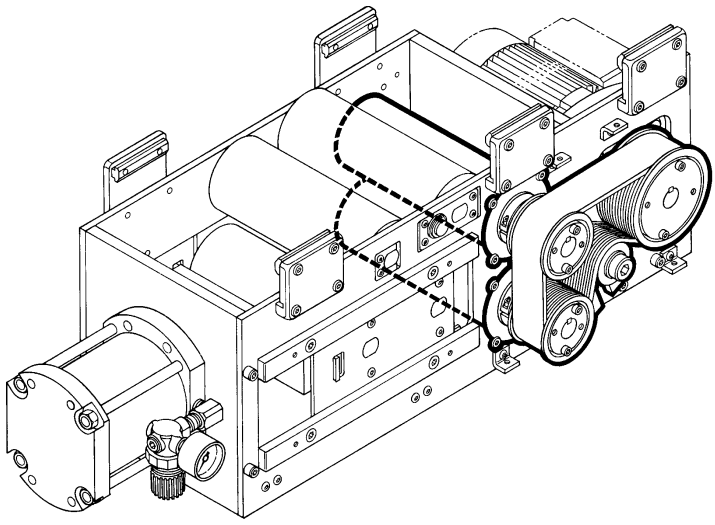
Belt Tensioning and Idler Pulleys

Exploded View and Parts List starts on page 66

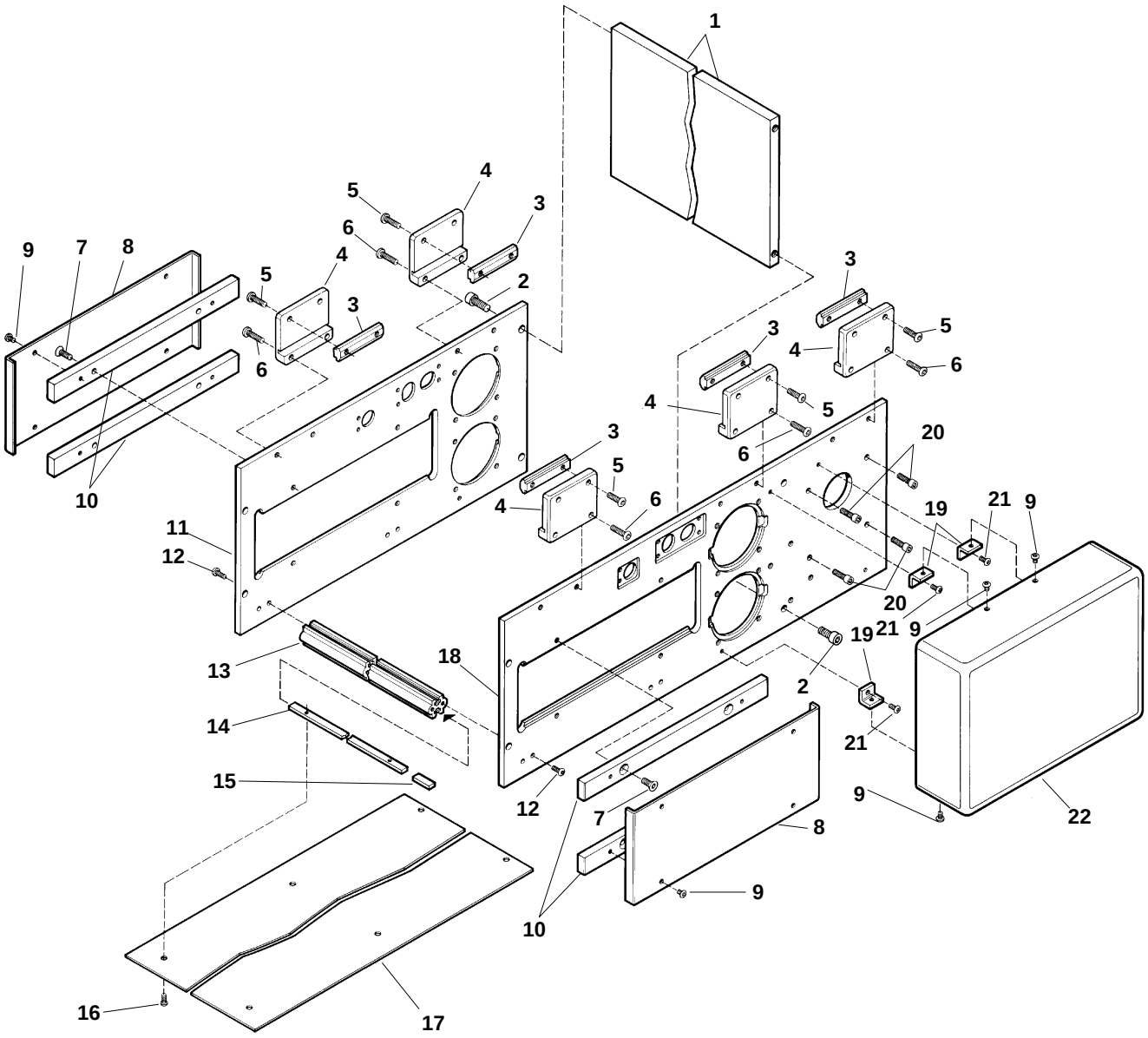


Drive Pulley, Timing Belt Pulleys, Timing Belt and Mounting Plates

Exploded View and Parts List starts on page 68



Standard Load Horizontal Center Drive – Side Plates, Covers & Guards

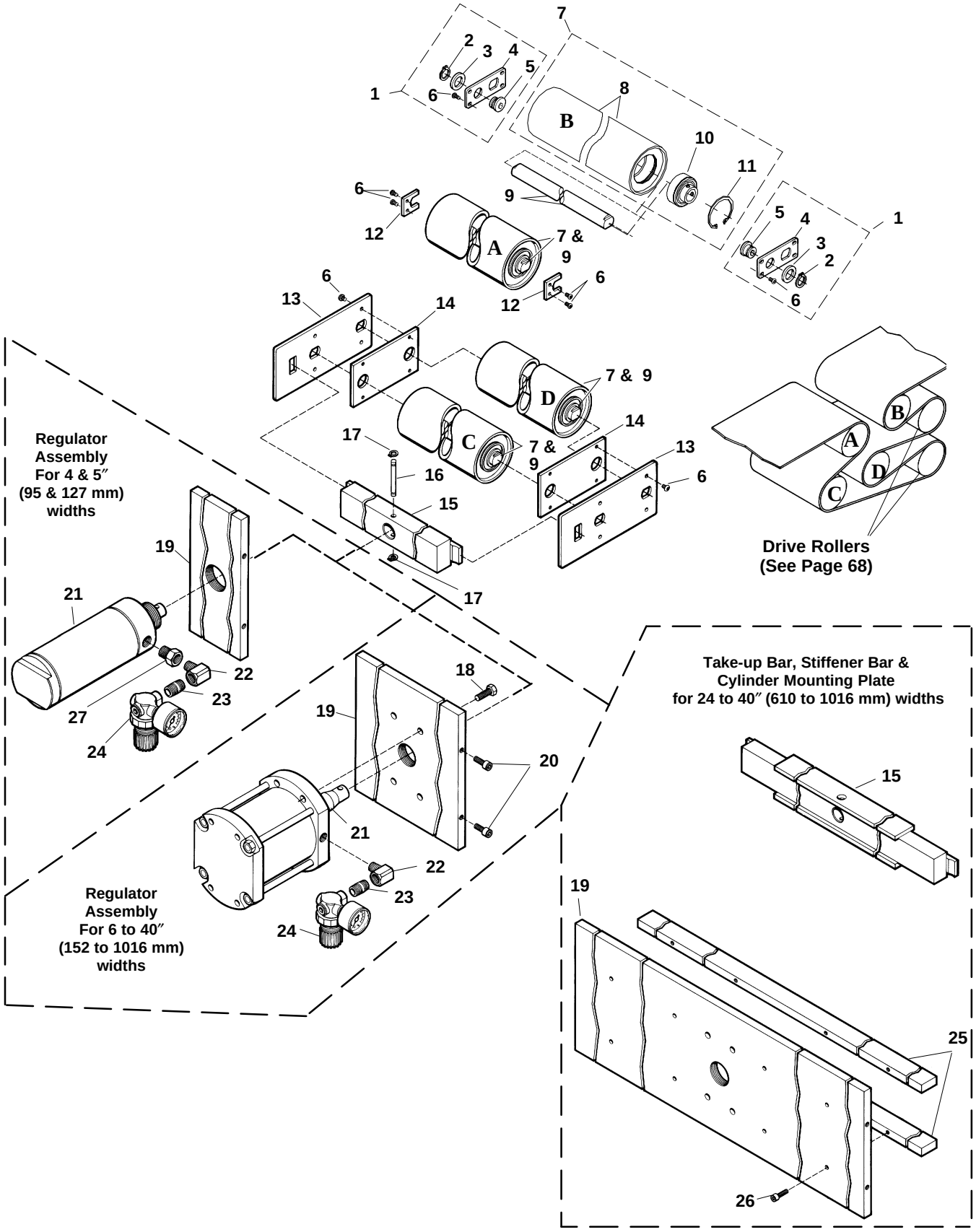


Item	Part No.	Part Description
1	316404M	End Plate 4″ (95 mm)
	316405M	End Plate 5″ (127 mm)
	316406M	End Plate 6″ (152 mm)
	316408M	End Plate 8″ (203 mm)
	316410M	End Plate 10″ (254 mm)
	316412M	End Plate 12″ (305 mm)
	316418M	End Plate 18″ (457 mm)
	316424M	End Plate 24″ (610 mm)
	316430M	End Plate 30″ (762 mm)
	316436M	End Plate 36″ (915 mm)
	316440M	End Plate 40″ (1016 mm)
2	920818M	Socket Head Cap Screw, M8-1.25 x 18 mm
3	300150M	Drop-In T-bar
4	300154M	Center Drive Clamp Plate
5	910620M	Button Head Cap Screw, M6-1.0 x 20 mm
6	910622M	Button Head Cap Screw, M6-1.0 x 22 mm
7	930614M	Flat Head Cap Screw, M6-1.0 x 14 mm
8	300185M	Take-up Guard
9	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
10	300184M	Take-up Guide Bar
11	310243M	Back Side Plate
12	910516M	Button Head Cap Screw, M5-0.80 x 16 mm
13	305204M	Bottom Guard Center Rail 4″ (95 mm)
	202807M	Center Rail 5″ (127 mm)
	202808M	Center Rail 6″ (152 mm)
	202810M	Center Rail 8″ (203 mm)
	202812M	Center Rail 10″ (254 mm)
	305212M	Bottom Guard Center Rail 12″ (305 mm)
	305218M	Bottom Guard Center Rail 18″ (457 mm)
	305224M	Bottom Guard Center Rail 24″ (610 mm)
	305230M	Bottom Guard Center Rail 30″ (762 mm)
	305236M	Bottom Guard Center Rail 36″ (915 mm)
	305240M	Bottom Guard Center Rail 40″ (1016 mm)

Item	Part No.	Part Description
14	307204M	Rail Nut Strip 4″ (95 mm) Wide
	307205M	Rail Nut Strip 5″ (127 mm) Wide
	307206M	Rail Nut Strip 6″ (152 mm) Wide
	307208M	Rail Nut Strip 8″ (203 mm) Wide
	307210M	Rail Nut Strip 10″ (254 mm) Wide
	307212M	Rail Nut Strip 12″ (305 mm) Wide
	307208M 307210M	Rail Nut Strips Combined for 18″ (457 mm) Wide
	307212M 307212M	Rail Nut Strips Combined for 24″ (610 mm) Wide
	307210M 307210M 307210M	Rail Nut Strips Combined for 30″ (762 mm) Wide
	307212M 307212M 307212M	Rail Nut Strips Combined for 36″ (915 mm) Wide
	307210M 307210M 307210M 307210M	Rail Nut Strips Combined for 40″ (1016 mm) Wide
15	307201	Spacer, Nut Strip
16	910410M	Button Head Cap Screw, M4-0.70 x 10 mm
17	305104M	Bottom Guard 4″ (95 mm)
	305105M	Bottom Guard 5″ (127 mm)
	305106M	Bottom Guard 6″ (152 mm)
	305108M	Bottom Guard 8″ (203 mm)
	305110M	Bottom Guard 10″ (254 mm)
	305112M	Bottom Guard 12″ (305 mm)
	305108M 305110M	Bottom Guards Combined for 18″ (457 mm)
	305112M 305112M	Bottom Guards Combined for 24″ (610 mm)
	305110M 305110M 305110M	Bottom Guards Combined for 30″ (762 mm)
	305112M 305112M 305112M	Bottom Guards Combined for 36″ (915 mm)
	305110M 305110M 305110M 305110M	Bottom Guards Combined for 40″ (1016 mm)
18	310197M	Front Side Plate
19	300148M	Guard Mounting Angle Bracket
20	920618M	Socket Head Cap Screw, M6-1.0 x 18 mm
21	910508M	Button Head Cap Screw, M5-0.80 x 8 mm
22	300340M	Double Drive Cover

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the “M” suffix. SAE equivalent fasteners are identified in the table on page 73.

Standard Load Horizontal Center Drive – Belt Tensioning & Idler Pulleys



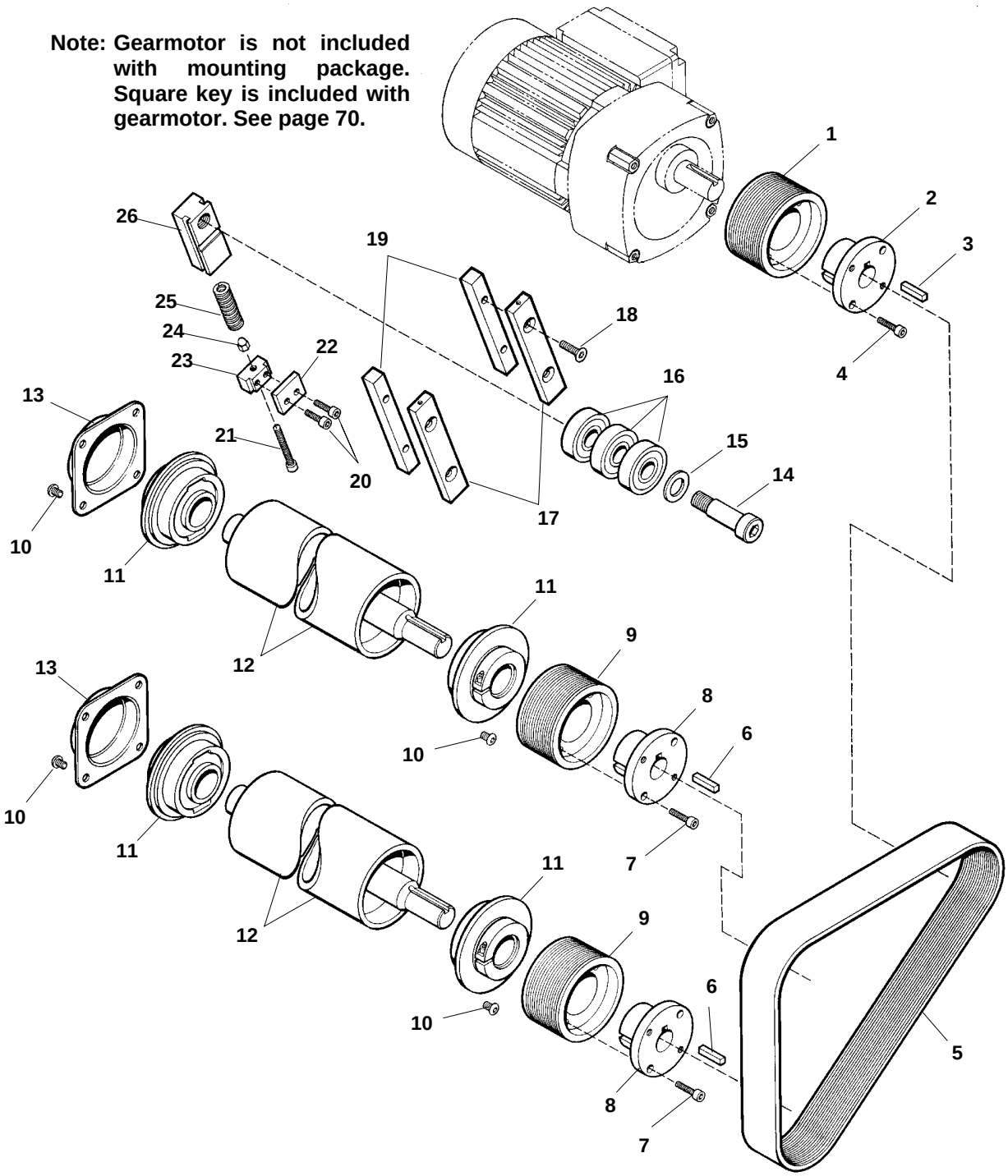
Item	Part No.	Part Description
1	300244M	Tracking Cam Ass'y
2	915-999	External Retaining Ring, Truarc® 5101-56
3	300191	Hardened Washer
4	300199	Cam Mounting Plate
5	623777M	Tail Align Cam
6	910506M	Button Head Cap Screw, M5-0.80 x 6 mm
7	306706	Idler Pulley Ass'y 6″ (152 mm)
	306708	Idler Pulley Ass'y 8″ (203 mm)
	306710	Idler Pulley Ass'y 10″ (254 mm)
	306712	Idler Pulley Ass'y 12″ (305 mm)
	306718	Idler Pulley Ass'y 18″ (457 mm)
	306724	Idler Pulley Ass'y 24″ (610 mm)
	306730	Idler Pulley Ass'y 30″ (762 mm)
	306736	Idler Pulley Ass'y 36″ (915 mm)
	306740	Idler Pulley Ass'y 40″ (1016 mm)
8	326604	Aluminum Pulley Tube, 4″ (95 mm)
	326605	Aluminum Pulley Tube, 5″ (127 mm)
	326606	Aluminum Pulley Tube, 6″ (152 mm)
	326608	Aluminum Pulley Tube, 8″ (203 mm)
	326610	Aluminum Pulley Tube, 10″ (254 mm)
	326612	Aluminum Pulley Tube, 12″ (305 mm)
	326618	Aluminum Pulley Tube, 18″ (457 mm)
	326624	Aluminum Pulley Tube, 24″ (610 mm)
	326630	Aluminum Pulley Tube, 30″ (762 mm)
	326636	Aluminum Pulley Tube, 36″ (915 mm)
	326640	Aluminum Pulley Tube, 40″ (1016 mm)
9	301904	Idler Shaft 4″ (95 mm) Wide
	301905	Idler Shaft 5″ (127 mm) Wide
	301906	Idler Shaft 6″ (152 mm) Wide
	301907	Idler Shaft 7″ (178 mm) Wide
	301908	Idler Shaft 8″ (203 mm) Wide
	301910	Idler Shaft 10″ (254 mm) Wide
	301912	Idler Shaft 12″ (305 mm) Wide
	301918	Idler Shaft 18″ (457 mm) Wide
	301924	Idler Shaft 24″ (610 mm) Wide
	301930	Idler Shaft 30″ (762 mm) Wide
	301936	Idler Shaft 36″ (915 mm) Wide
	301940	Idler Shaft 40″ (1016 mm) Wide
10	802-110	Ball Bearing (Set Screws Removed)
11	915-051	Retaining Ring

Item	Part No.	Part Description
12	200825	Shaft Retaining Clip
13	300182	Outer Take-up Plate
14	300183M	Inner Take-up Plate
15	304904	Take-up Bar 4″ (95 mm)
	304905	Take-up Bar 5″ (127 mm)
	304906	Take-up Bar 6″ (152 mm)
	304908	Take-up Bar 8″ (203 mm)
	304910	Take-up Bar 10″ (254 mm)
	304912	Take-up Bar 12″ (305 mm)
	304918	Take-up Bar 18″ (457 mm)
	304924	Take-up Bar 24″ (610 mm)
	304930	Take-up Bar 30″ (762 mm)
	304936	Take-up Bar 36″ (915 mm)
	304940	Take-up Bar 40″ (1016 mm)
16	300457	Pneumatic/Spring Tension Clevis Pin
17	915-002	Retaining Ring, Truarc® 5100-15
18	906-155	Hex. Hd. Cap Screw, 3/8-24 x 1.0″ Long
19	304304M	Cylinder Mounting Plate 4″ (95 mm)
	304305M	Cylinder Mounting Plate 5″ (127 mm)
	304306M	Cylinder Mounting Plate 6″ (152 mm)
	304308M	Cylinder Mounting Plate 8″ (203 mm)
	304310M	Cylinder Mounting Plate 10″ (254 mm)
	304312M	Cylinder Mounting Plate 12″ (305 mm)
	304318M	Cylinder Mounting Plate 18″ (457 mm)
	304324M	Cylinder Mounting Plate 24″ (610 mm)
	304330M	Cylinder Mounting Plate 30″ (762 mm)
	304336M	Cylinder Mounting Plate 36″ (915 mm)
	304340M	Cylinder Mounting Plate 40″ (1016 mm)
20	920818M	Socket Head Cap Screw, M8-1.25 x 18 mm
21	300121P	Take-up Cylinder 3″ Bore, 4″ Stroke for 4 & 5″ (95 & 127 mm) Widths
	300251P	Take-up Cylinder 4″ Diameter, 4″ Stroke for 24 to 40″ (610 to 1016 mm) Widths
22	825-081	Street Elbow, 1/4″ NPT
23	825-017	Nipple, 1/4″ NPT x 0.88″
24	810-073	Pneumatic Regulator w/Gauge
25	300122M	Stiffener Bar 24 to 40″ (610 to 1016 mm)
26	920625M	Socket Head Cap Screw, M6-1.0 x 25 mm
27	825-084	Reducing Bushing 3/8 to 1/4 NPT

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Standard Load Horizontal
Center Drive – Drive Pulleys, Poly-V® Belt Pulleys & Mounting Plates

Note: Gearmotor is not included with mounting package. Square key is included with gearmotor. See page 70.



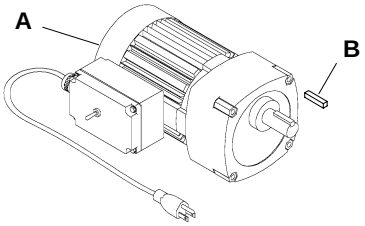
Item	Part No.	Part Description
1	811-225	3.15″ (80 mm) Dia. Poly-V® Pulley
	811-226	4.5″ (114 mm) Dia. Poly-V® Pulley
2	811-229	Split Bushing, Type P1, 19 mm Dia. Bore
	811-228	Split Bushing, Type H, 19 mm Dia. Bore
3	980018M	Square Key (Undersized), 6 mm x 18 mm
4	902-181	Socket Head Cap Screw, 5/16-18 x 1.0″
5	814-076	Poly-V® Belt, 32″ (813 mm) long, Gates® 320J16
	814-077	Poly-V® Belt, 30″ (762 mm) long, Gates® 300J16
	814-078	Poly-V® Belt, 28″ (711 mm) long, Gates® 280J16
6	980625M	Square Key, 6 mm x 25 mm
7	902-134	Socket Head Cap Screw, 1/4-20 x 0.88″
8	811-227	Split Bushing, Type G, 19 mm Dia. Bore
	811-228	Split Bushing, Type H, 19 mm Dia. Bore
9	811-221	2.5″ (63.5 mm) Dia. Poly-V® Pulley
	811-222	2.65″ (67 mm) Dia. Poly-V® Pulley
	811-223	2.8″ (71 mm) Dia. Poly-V® Pulley
	811-224	3″ (76 mm) Dia. Poly-V® Pulley
	811-225	3.15″ (80 mm) Dia. Poly-V® Pulley
10	910606M	Button Head Cap Screw, M6-1.0 x 6 mm
11	310181	Bearing Ass'y
Item	**Part No.**	**Part Description**

12	309606M	Pulley, 6″ (152 mm)
	309608M	Pulley, 8″ (203 mm)
	309610M	Pulley, 10″ (254 mm)
	309612M	Pulley, 12″ (305 mm)
	309618M	Pulley, 18″ (457 mm)
	309624M	Pulley, 24″ (610 mm)
	309630M	Pulley, 30″ (762 mm)
	309636M	Pulley, 36″ (915 mm)
	309640M	Pulley, 40″ (1016 mm)
13	300124M	Drawn Bearing Cover
14	904-213	Socket Head Shoulder Screw, 0.63″ dia. x 1.50″
15	911-516	Hardened Flat Washer, Steel
16	802-070	Solid Ball Bearing, Nice® 1633DC
17	300186M	Idler Guide Bar
18	930625M	Flat Head Cap Screw, M6-1.0 x 25 mm
19	300187	Idler Spacer Bar
20	920520M	Socket Head Cap Screw, M5-0.80 x 20 mm
21	920540M	Socket Head Cap Screw, M5-0.80 x 40 mm
22	300481M	Stop Clamp Plate
23	300480M	Spring Tensioner Clamp Block
24	990508M	Nut, M5-0.80
25	807-806	Die Spring
26	300479	Tensioner Slide Bar

NOTE: Metric parts listed. For SAE parts, other than fasteners, drop the "M" suffix. SAE equivalent fasteners are identified in the table on page 73.

Standard Load Gearmotors

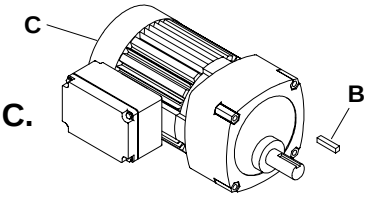
Fixed Speed Single-phase 115 Volt A.C. 60 Hz Motor



Item	Motor Part No.	hp	Gear Ratio	Output RPM	Torque In-Lb
A	62M180PS411F(n)	0.08	180:1	9.4	341
	62M060PS411F(n)	0.17	60:1	28	270
	32M030PS411F(n)	0.33	30:1	57	250
	32M020PS411F(n)	0.33	20:1	85	167
	32M010PS411F(n)	0.33	10:1	170	108
	32M005PS411F(n)	0.33	5:1	340	56
B	912-080	3/16″ x 1″ Square Key			

(n) = Reversing Capacity
N = Non-Reversing
R = Reversing

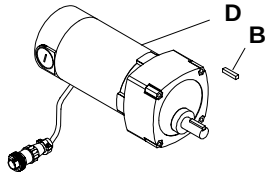
Fixed Speed Three-phase 230/460 Volts A.C. 60 HZ Motor

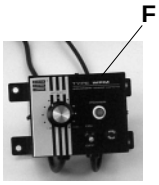


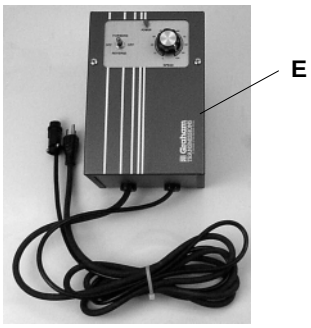
Item	Motor Part No.	hp	Gear Ratio	Output RPM	Torque In-Lb
B	912-080	3/16″ x 1″ Square Key			
C	62M060PS423FN*	0.25	60:1	28	270
	32M030PS423FN	0.5	30:1	57	250
	32M020PS423FN	0.5	20:1	85	167
	32M010PS423FN	0.5	10:1	170	108

* Not available in 460 voltage.

Standard Load 130 volt D.C. Variable Speed Motors & 115 volt A.C., 60 Hz. Controllers



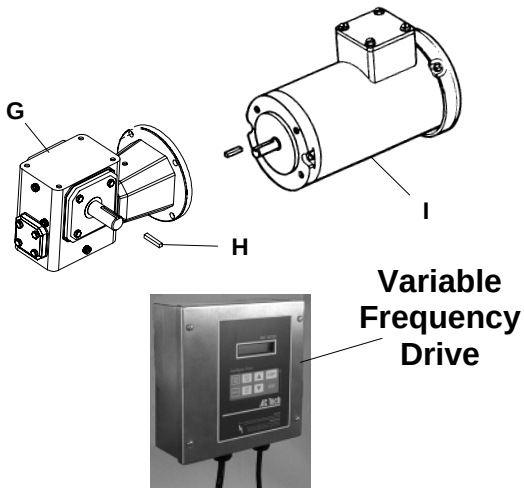




Item	Motor Part No.	hp	Gear Ratio	Output RPM	Torque In-Lb
B	912-080	3/16″ x 1″ Square Key			
D	62M180PSD3DEN	0.12	180:1	14	341
	62M060PSD3DEN	0.25	60:1	42	270
	62M030PSD3DEN	0.25	30:1	83	135
	62M020PSD3DEN	0.25	20:1	125	90
	62M010PSD3DEN	0.33	10:1	250	72

Item	Controller Part No.	Reversing	Amperes	Input
F	62MD1134	no	3	115 Volts, 60 Hz Single Phase
E	62MD1134R	yes	5	

Heavy Load Gearheads



Replacement Gearheads include four (4) 3/8-16 x 1″ hexagon head cap screws and four (4) 3/8 lockwashers.

Item	Part No.	Part Description
G	32M060L	Gear Reducer with 60 to 1 Ratio
	32M040L	Gear Reducer with 40 to 1 Ratio
	32M025L	Gear Reducer with 25 to 1 Ratio
	32M020L	Gear Reducer with 20 to 1 Ratio
	32M010L	Gear Reducer with 10 to 1 Ratio
	32M005L	Gear Reducer with 5 to 1 Ratio
H	912-103	Square Key, 1/4″ Sq. x 0.75″
I	**Fixed Speed Single Phase 115 volts A.C.**	
	32M2118	0.5 hp Motor
	32M4118	1.0 hp Motor
	Fixed Speed Single Phase 230 volts A.C.	
	32M2218	0.5 hp Motor
	32M4218	1.0 hp Motor
	32M7218	1.5 hp Motor
	Fixed Speed Three- Phase 208-230 volts A.C.	
	32M2238	0.5 hp Motor
	32M4238	1.0 hp Motor
	32M7238	1.5 hp Motor
	Fixed Speed Three-Phase 460 volts A.C.	
	32M2438	0.5 hp Motor
	32M4438	1.0 hp Motor
	32M7438	1.5 hp Motor
	Variable Frequency 230 volts	
	32M2238-7	0.5 hp Motor
	32M4238-7	1.0 hp Motor
	32M7238-7	1.5 hp Motor
	Variable Frequency 460 volts	
	32M2438-7	0.5 hp Motor
	32M4438-7	1.0 hp Motor
	32M7438-7	1.5 hp Motor

Metric to SAE Hardware Conversion Table

Metric Part No.	Hardware Name	Metric Size	Pages Appearing On	Equiv. SAE Part No.	Equiv. SAE Size
910406M	Button Head Cap Screw	M4-0.70 x 6 mm	44, 46	901-056	#8-32 x 1/4″
910410M	Button Head Cap Screw	M4-0.70 x 10 mm	65	901-056	#8-32 x 1/4″
910506M	Button Head Cap Screw	M5-0.80 x 6 mm	35, 37, 39, 41, 43, 49, 51, 57, 65, 75	901-104	#10-32 x 1/4″
910508M	Button Head Cap Screw	M5-0.80 x 8 mm	39, 65	901-105	#10-32 x 5/16″
910510M	Button Head Cap Screw	M5-0.80 x 10 mm	45, 49, 57	901-106	#10-32 x 3/8″
910512M	Button Head Cap Screw	M5-0.80 x 12 mm	49	901-108	#10-32 x 1/2″
910516M	Button Head Cap Screw	M5-0.80 x 16 mm	30, 32, 57, 65	901-110	#10-32 x 5/8″
910525M	Button Head Cap Screw	M5-0.80 x 25 mm	30, 32	901-116	#10-32 x 1″
910606M	Button Head Cap Screw	M6-1.0 x 6 mm	53, 57, 61, 69	910-125	1/4-20 x 1/4″
910612M	Button Head Cap Screw	M6-1.0 x 12 mm	35, 37, 39, 41, 43, 75	901-129	1/4-20 x 1/2″
910620M	Button Head Cap Screw	M6-1.0 x 20 mm	49, 57, 65	901-133	1/4-20 x 3/4″
910622M	Button Head Cap Screw	M6-1.0 x 22 mm	49, 57, 65	901-135	1/4-20 x 7/8″
920508M	Socket Head Cap Screw	M5-0.80 x 8 mm	41, 43	902-106	#10-32 x 3/8″
920518M	Socket Head Cap Screw	M5-0.80 x 18 mm	45	902-112	#10-32 x 3/4″
920520M	Socket Head Cap Screw	M5-0.80 x 20 mm	45, 61, 69	902-112	#10-32 x 3/4″
920540M	Socket Head Cap Screw	M5-0.80 x 40 mm	61, 69	902-121	#10-32 x 1-1/2″
920616M	Socket Head Cap Screw	M6-1.0 x 16 mm	44, 46	901-110	1/4-20 x 5/8″
920618M	Socket Head Cap Screw	M6-1.0 x 18 mm	49	902-134	1/4-20 x 3/4″
920620M	Socket Head Cap Screw	M6-1.0 x 20 mm	44, 45, 46, 51, 65	902-134	1/4-20 x 3/4″
920625M	Socket Head Cap Screw	M6-1.0 x 25 mm	44, 45, 46, 59, 67	902-134	1/4-20 x 1″
920630M	Socket Head Cap Screw	M6-1.0 x 30 mm	44, 46	902-138	1/4-20 x 1-1/4″
920635M	Socket Head Cap Screw	M6-1.0 x 35 mm	18, 45, 75	902-138	1/4-20 x 1-1/4″
920650M	Socket Head Cap Screw	M6-1.0 x 50 mm	35, 37, 39, 41, 43	902-142	1/4-20 x 2″
920818M	Socket Head Cap Screw	M8-1.25 x 18 mm	49, 51, 59, 65, 67	902-180	5/16-18 x 3/4″
921250M	Socket Head Cap Screw	M12-1.75 x 50 mm	44, 46	902-281	1/2-13 x 2″
930512M	Flat Head Cap Screw	M5-0.80 x 12 mm	35, 37, 39, 41, 43	903-108	#10-32 x 1/2″
930518M	Flat Head Cap Screw	M5-0.80 x 18 mm	45	903-112	#10-32 x 3/4″
930525M	Flat Head Cap Screw	M5-0.80 x 25 mm	30, 32	903-116	#10-32 x 1″
930612M	Flat Head Cap Screw	M6-1.0 x 12 mm	35, 37, 39, 41, 43	903-131	1/4-20 x 1/2″
930614M	Flat Head Cap Screw	M6-1.0 x 14 mm	57, 65	903-134	1/4-20 x 5/8″
930616M	Flat Head Cap Screw	M6-1.0 x 16 mm	49	903-134	1/4-20 x 5/8″
930625M	Flat Head Cap Screw	M6-1.0 x 25 mm	44, 46, 53, 61, 69	903-140	1/4-20 x 1″
930820M	Flat Head Cap Screw	M8-1.25 x 20 mm	49	902-179	5/16-18 x 3/4″
970608M	Socket Head Set Screw	M6-1.0 x 8 mm	44, 46, 53	907-240	1/4-28 x 3/16″
980018M	Square Key (Undersized)	6 mm x 18 mm	44, 45, 46, 53, 69, 70	912-079	3/16″ x 7/8″
990508M	Nut	M5-0.80	61, 69	910-450	#10-32

RETURN POLICY

No returns will be accepted without prior written factory authorization. When calling for authorization, please have the following information ready for the Dorner Factory representative or your local distributor:

1. Name and address of customer.
2. Item(s) being returned.
3. Reason for return.
4. Customer's original order number used when ordering the item(s).
5. Dorner or distributor invoice number.

A representative will discuss action to be taken on the Returned items and provide a Returned Goods Authorization Number to reference.

There will be a 15% restocking charge on all new items returned for credit where Dorner was not at fault. These will not be accepted after 60 days from original invoice date. The restocking charge covers inspection, cleaning, disassembly, and reissuing to inventory.

If a replacement is needed prior to evaluation of returned item, a purchase order must be issued. Credit (if any) is issued only after return and evaluation is complete.

- Dorner has representatives throughout the world. Feel free to contact Dorner for the name of your local representative. Our technical sales and service staff will gladly help with your questions on Dorner products.

For replacement parts, contact an authorized Dorner Service Center or the factory.

DORNER MFG. CORP.
975 Cottonwood Ave., PO Box 20
Hartland, WI 53029-0020 USA
USA
TEL 1-800-397-8664 (USA)
FAX 1-800-369-2440 (USA)
Outside the USA:
TEL 1-414-367-7600, FAX 1-414-367-5827

DORNER
Arnold-Sommerfeld-Ring 2
D-52499 Baesweiler
Germany
TEL (02401) 80 52 90
FAX (02401) 80 52 93

Internet: www.dorner.com