

701049 and 701549 6100 Series Quad Pack Conveyor Assembly

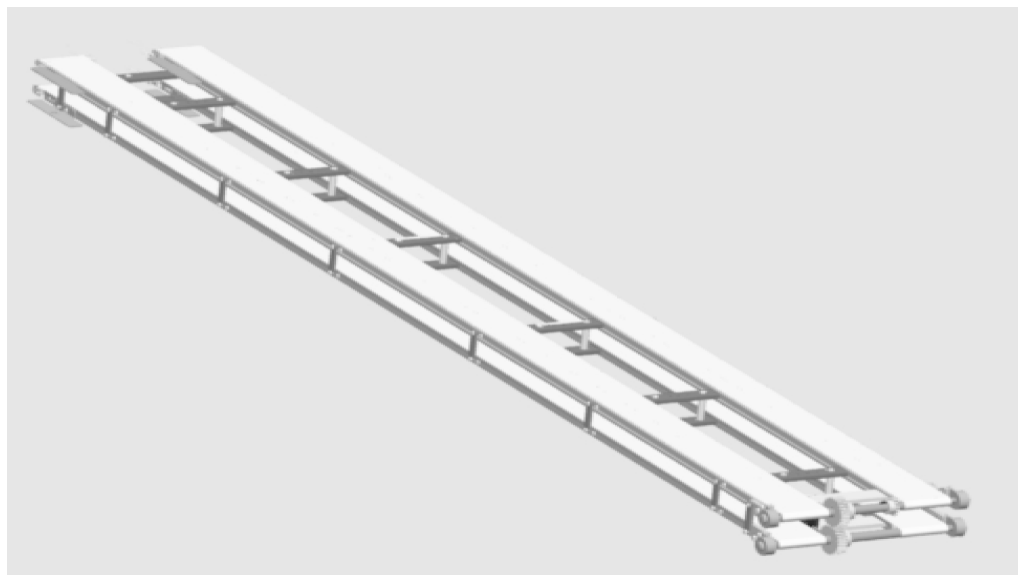




Table of Contents



Warnings – General Safety	2	B – Drive Pulley Removal	7
Introduction	2	Drive Bearing Replacement	9
Product Description	3	Drive Bearing Removal	9
Preventative Maintenance & Adjustment	3	Drive Bearing Installation	9
Required Tools	3	Idler Bearing Replacement	9
Standard Tools	3	Idler Bearing Removal	9
Special Tools	3	Idler Bearing Installation	9
Checklist	3	Pulley Replacement	10
Lubrication	3	Idler Pulley	10
Maintaining Conveyor Belt	3	Drive Pulley	10
Troubleshooting	3	Service Parts	11
Conveyor Belt Replacement	4	Overall Assembly	11
Conveyor Belt Replacement Sequence	4	Support Ladder Assembly	11
Belt Removal	4	Kickplate Assembly	12
Belt Installation	5	Idler Assembly	13
Conveyor Belt Tensioning	6	Drive End Assembly	14
Pulley Removal	6	Notes	15
A – Idler Pulley Removal	6	Return Policy	16

Warnings – General Safety



	WARNING	
<p>The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.</p>		

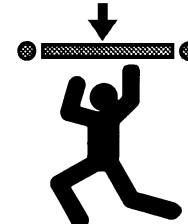

		WARNING
<p>Gearmotors may be HOT. DO NOT TOUCH Gearmotors.</p>		

		DANGER
<p>Climbing, sitting, walking or riding on conveyor will cause severe injury. KEEP OFF CONVEYORS.</p>		

		WARNING
<p>Dorner cannot control the physical installation and application of conveyors. Taking protective measures is the responsibility of the user.</p> <p>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.</p>		

		DANGER
<p>DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.</p>		

		WARNING
<p>Exposed moving parts can cause severe injury. LOCK OUT POWER before removing guards or performing maintenance.</p>		

		WARNING
<p>Loosening stand height or angle adjustment screws may cause conveyor sections to drop down, causing severe injury. SUPPORT CONVEYOR SECTIONS PRIOR TO LOOSENING STAND HEIGHT OR ANGLE ADJUSTMENT SCREWS.</p>		

Introduction

IMPORTANT: Some illustrations may show guards removed. Do NOT operate equipment without guards.

Upon receipt of shipment:

- Compare shipment with packing slip. Contact factory regarding discrepancies.
- Inspect packages for shipping damage. Contact carrier regarding damage.
- Accessories may be shipped loose. See accessory instructions for installation.

Dorner's Limited Warranty applies.

Dorner 6100 Series conveyors are covered by Patent Nos. 5174435, 6109472 and corresponding patents and patent applications in other countries.

Dorner reserves the right to make changes at any time without notice or obligation.

Product Description

Refer to Figure 1 for typical conveyor components.

Typical Components	
A	Conveyor
B	Tie Bar
C	Outer Support Bar
D	Kick Plate
E	Motion Sensor
F	Spur Gear
G	Conveyor Sprocket
H	Drive Sprocket
I	Idler End
J	Drive End

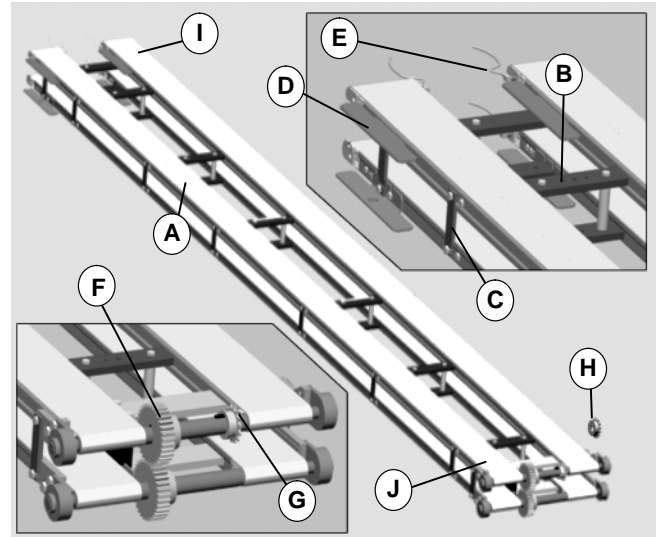


Figure 1

Preventative Maintenance & Adjustment

Required Tools

Standard Tools

- Box wrenches
 - 8 mm
 - 10 mm
 - 13 mm
 - 16 mm
 - 1/2 in
- Hex key wrenches
 - 3 mm
 - 5 mm
- Narrow blade screwdriver
- Small, 2 jaw bearing puller
- Arbor press
- Torque Wrench (to 30 in-lb)

Special Tools

- 450281 Sealed Bearing Removal Tool
- 450282 Sealed Bearing Installation Tool

Checklist

- Keep service parts on hand (see “Service Parts” section for recommendations)
- Clean entire conveyor and knurled pulley while disassembled
- Replace worn or damaged parts

Lubrication

No lubrication is required. Replace bearings if worn.

Maintaining Conveyor Belt

Troubleshooting

Inspect conveyor belt for:

- Surface cuts or wear
- Stalling or slipping
- Damage to V-guide

Surface cuts and wear indicate:

- Sharp or heavy parts impacting belt
- Jammed parts
- Foreign material inside the conveyor
- Improperly positioned accessories
- Bolt-on guiding is pinching belt

Stalling or slipping indicates:

- Excessive load on belt
- Conveyor belt is not properly tensioned
- Worn knurl or impacted dirt on drive pulley
- Intermittent jamming or drive train problems

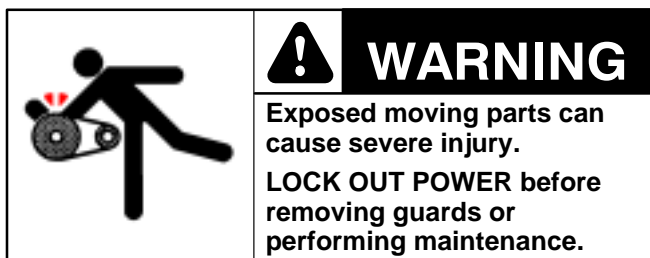
Damage to V-guide indicates:

- Twisted or damaged conveyor frame
- Dirt impacted on pulleys
- Excessive or improper side loading

NOTE: Visit www.dorner.com for complete list of troubleshooting solutions.

Preventive Maintenance and Adjustment

Conveyor Belt Replacement



Conveyor Belt Replacement Sequence (see Table of Contents for page number)

- Remove old conveyor belt
- Install new conveyor belt
- Tension conveyor belt

Belt Removal

1. On idler end of the conveyor, insert a 5 mm hex key wrench to engage pinion gear (K of Figure 2).

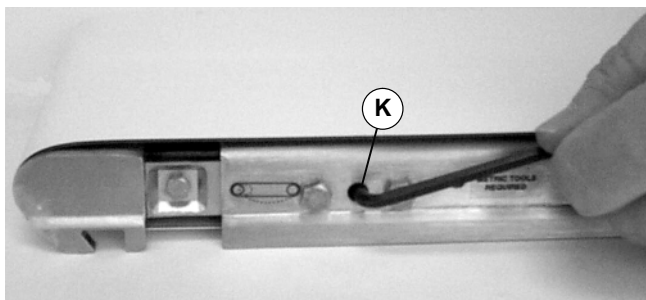


Figure 2

2. With pinion gear engaged, place a 10 mm wrench on lock screw (L of Figure 3).

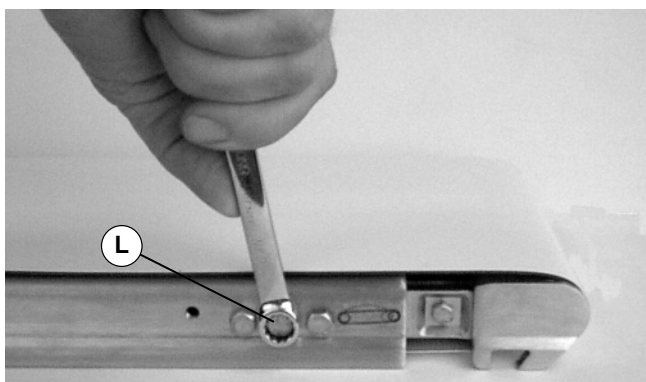


Figure 3

3. While maintaining tension on pinion gear (K of Figure 4) loosen lock screw (L). Rotate pinion gear (K) clockwise to release conveyor belt tension.

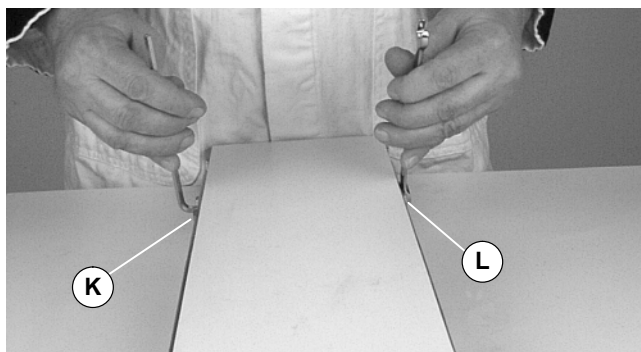


Figure 4

4. On the eight (8) outer support bars (M of figure 5), use a 13mm wrench to loosen pivot screws (N). Loosen slot screws (O).

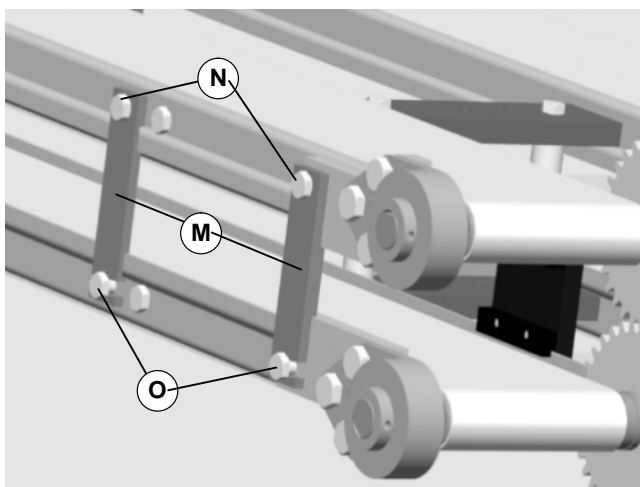


Figure 5

5. Pivot outer support bars (M of figure 6) along conveyor frame. Hand tighten screws (N).

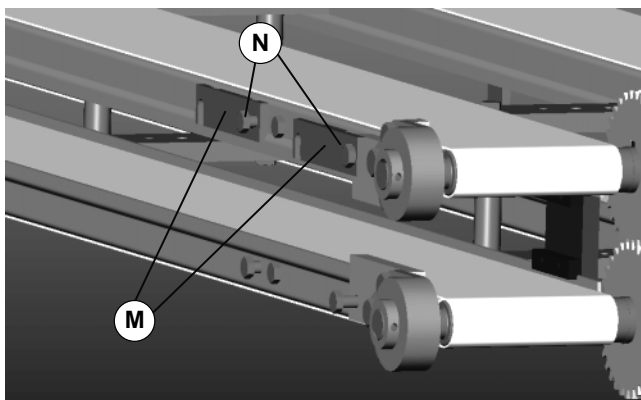


Figure 6

6. Remove conveyor belt, starting from idler end.

Belt Installation

1. Orient the conveyor belt so that the splice leading fingers (P of Figure 7) point in the direction of belt travel (Q of Figures 7 and 8).

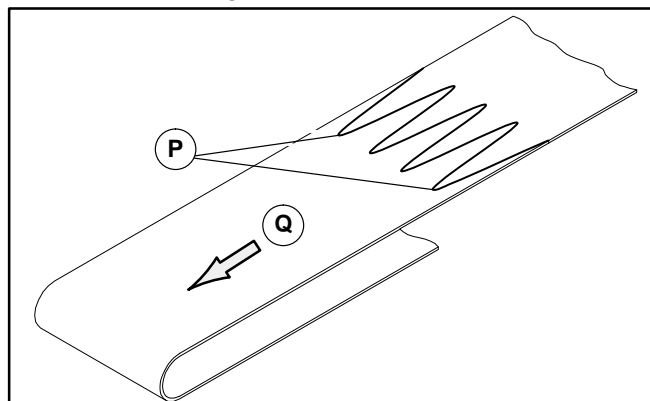


Figure 7

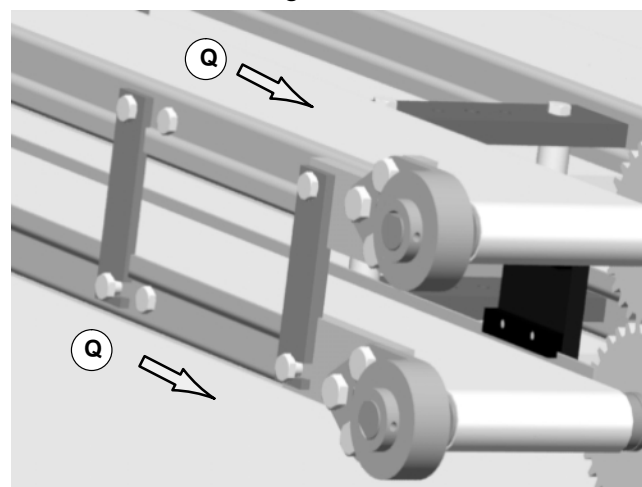


Figure 8

2. Loop belt (R of Figure 9) over drive pulley (S).

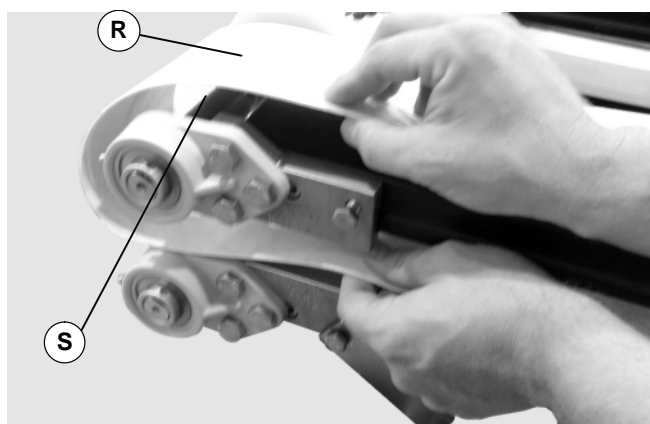


Figure 9

3. Loop belt (R of Figure 10) on idler end pulley(T).

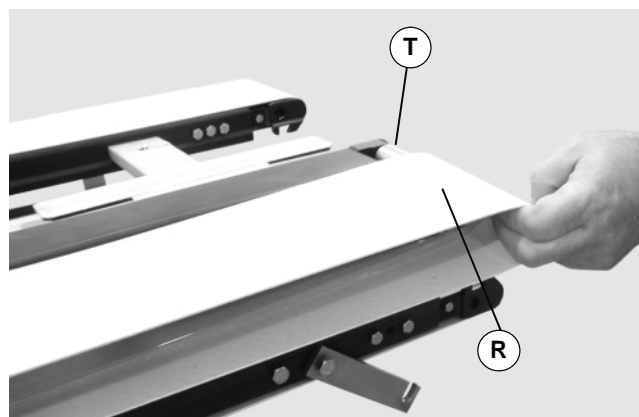


Figure 10

4. Tension belt. Refer to “Conveyor Belt Tensioning” on page 6.
5. On the eight (8) outer support bars. Loosen pivot screw (N of figure 6).
6. Rotate outer support bar (M of figure 5).
7. Ensure frames are located against the steps of the support bars (U of figure 11). Tighten screws (N) and (O) to 140 in-lbs (9.6 N-m).

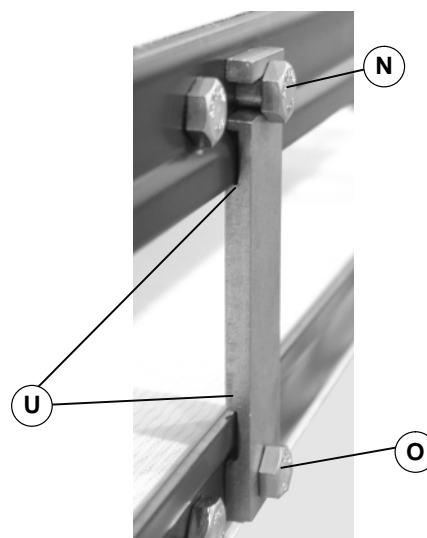
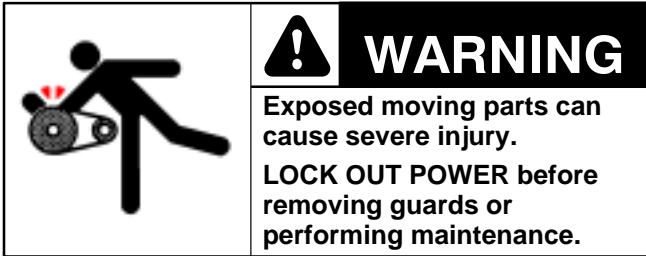


Figure 11

Preventive Maintenance and Adjustment

Conveyor Belt Tensioning



1. On tension end of the conveyor insert a 5 mm hex key wrench to engage pinion gear (K of Figure 12).

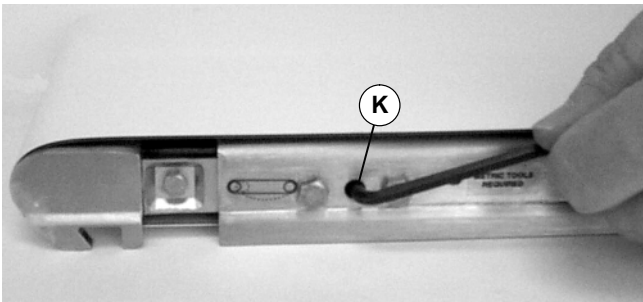


Figure 12

2. With pinion gear engaged, place a 10 mm wrench on lock screw (L of Figure 13).

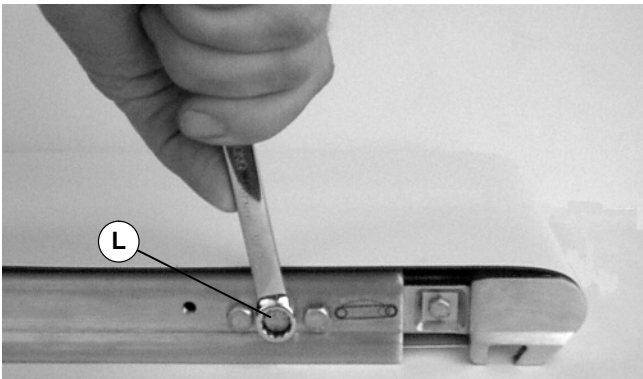


Figure 13

3. Loosen lock screw (L of Figure 14).

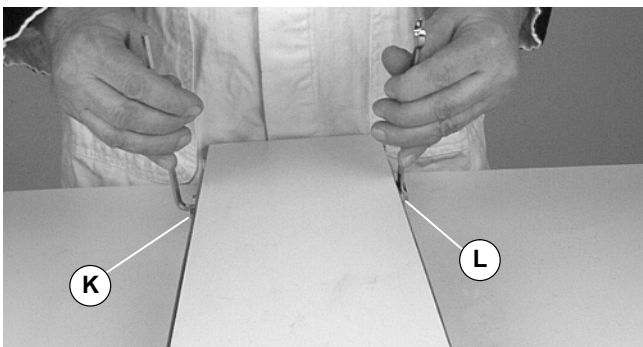


Figure 14

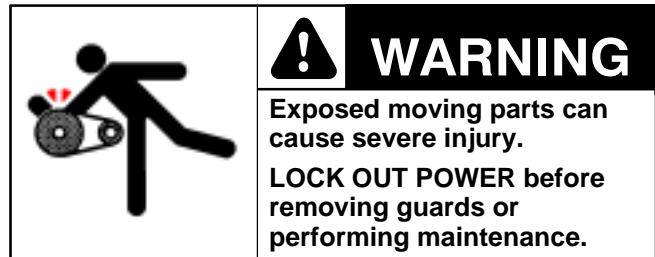
NOTE: On pinion gear (K of Figure 12), do not exceed of 25 in-lb (2.8 Nm). Over-tensioning the conveyor belt could cause excessive pulley bearing load and early failure.

4. With V-guide seated in pulley, rotate the pinion gear (K) counter-clockwise to tension the belt to 25 in-lb (2.8 N-m).

NOTE: If the maximum take-up stroke is achieved, replace the conveyor belt.

5. Secure lock screw (L of Figure 14) to 40 in-lb (4.5 N-m)

Pulley Removal



Remove conveyor belt to access pulley(s). See "Conveyor Belt Replacement" on page 4. Remove the desired pulley following instructions:

- A – Idler Pulley
- B – Drive Pulley

A – Idler Pulley Removal

1. Loosen connector nut (Y of Figure 15). Remove wire disconnect (X).

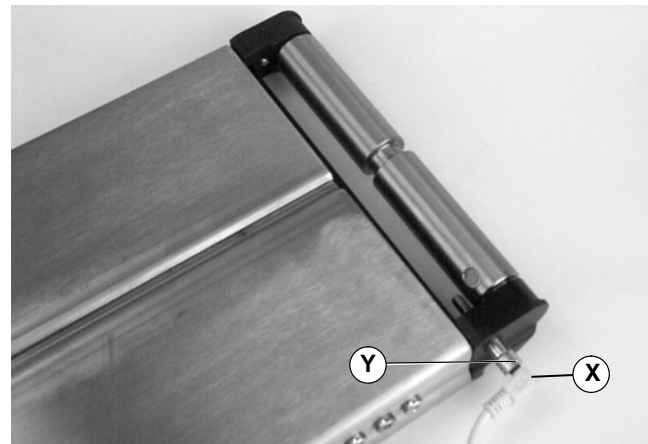


Figure 15

2. Remove reed switch (W of Figure 16).

Preventive Maintenance and Adjustment

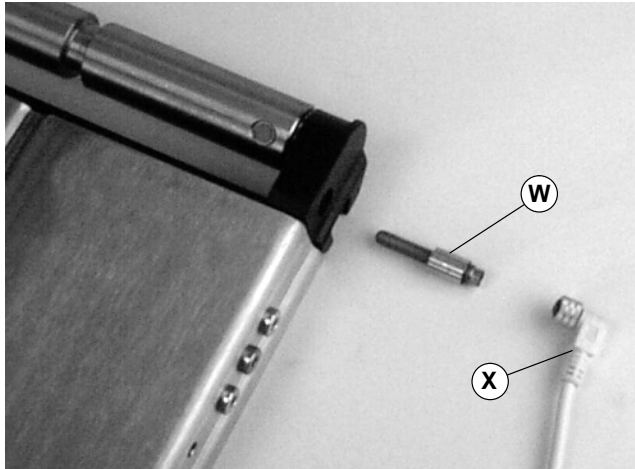


Figure 16

3. Remove pinion lock screw (L of Figure 17).
4. Remove four (4) tail plate mounting screws (Z of Figures 17 & 18).

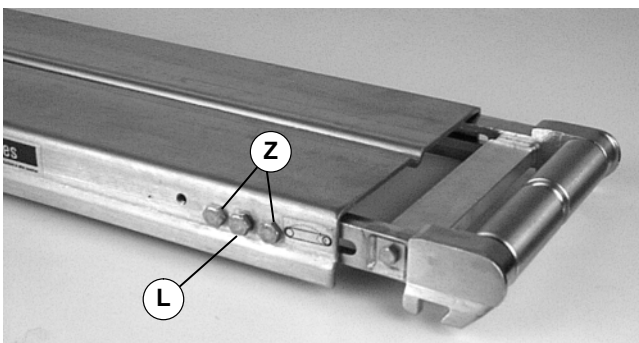


Figure 17

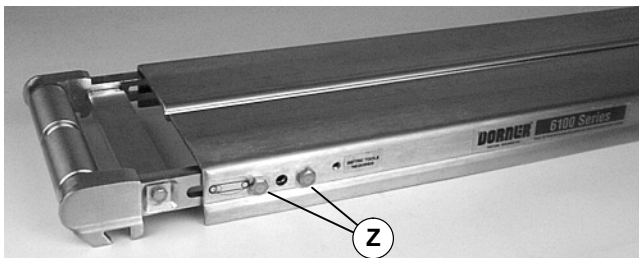


Figure 18

5. Remove tail assembly.
6. Remove fixed tension support screw (AA of Figure 19).

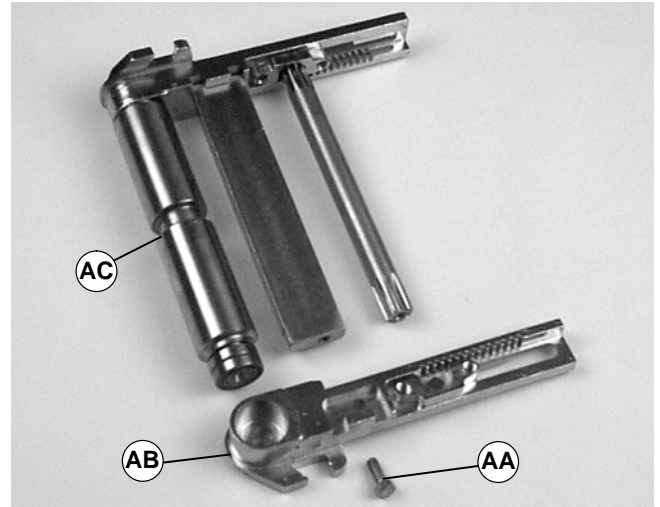


Figure 19

7. Remove headplate (AB).
8. Remove pulley (AC).

B – Drive Pulley Removal

1. Remove belt from both conveyors attached to the drive pulley. See “Conveyor Belt Replacement” section on page 4.
2. Remove chain on drive sprocket (AG of Figure 20).
3. Loosen bearing set screws (AD of Figure 20).
4. Remove the three (3) bolts from bearing flanges (AE of Figure 20). Remove bearing (AF). Repeat steps 3 and 4 on opposite side.

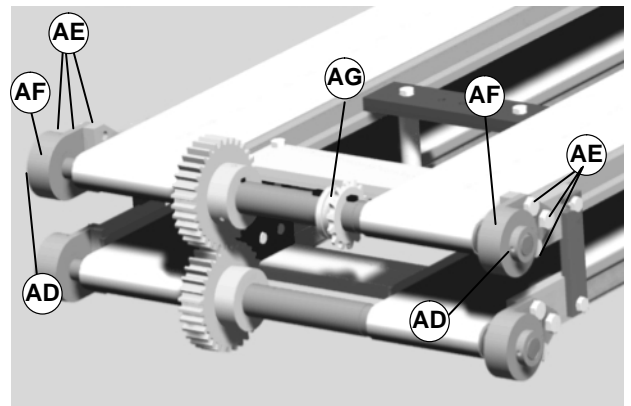
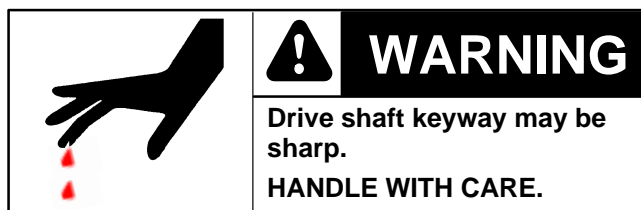


Figure 20

Preventive Maintenance and Adjustment



5. Remove drive spindle (AH of Figure 21) with spur gear (AI) and sprocket (AJ) from conveyor.

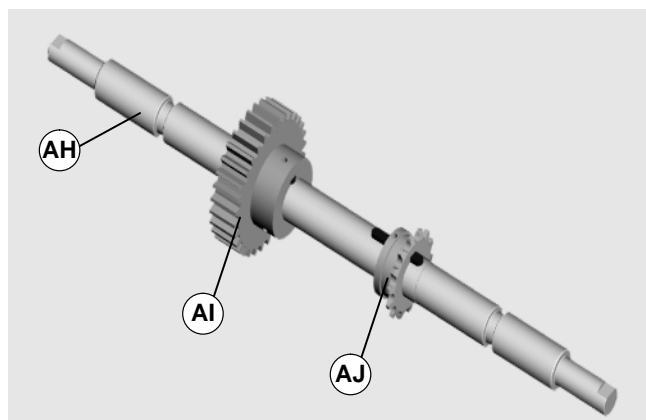


Figure 21

6. Remove upper set screws (AK of Figure 22) from spur gear (AI). Loosen lower set screws (AL). Remove spur gear (AI) from drive shaft.

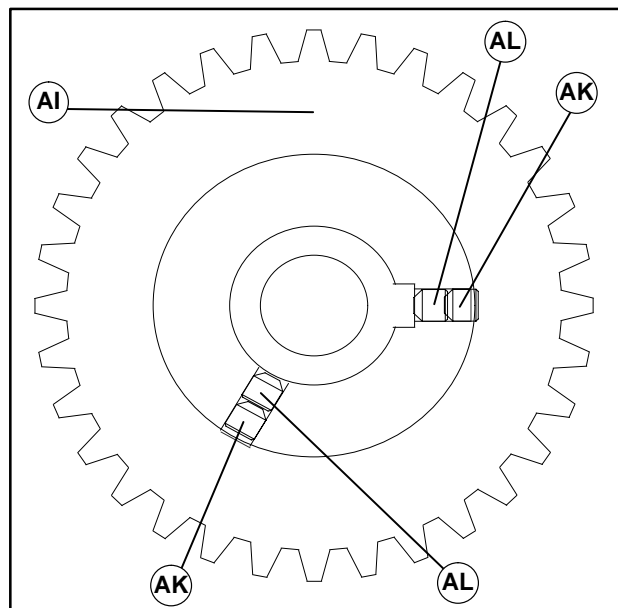


Figure 22

7. If equipped, loosen set screw (AM of Figure 23) on sprocket (AJ). Remove sprocket from drive shaft.

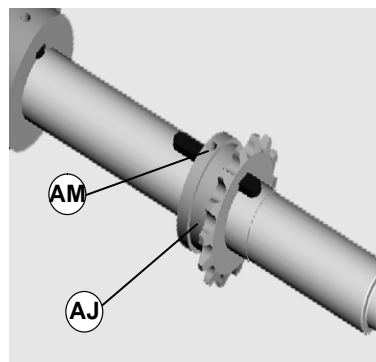
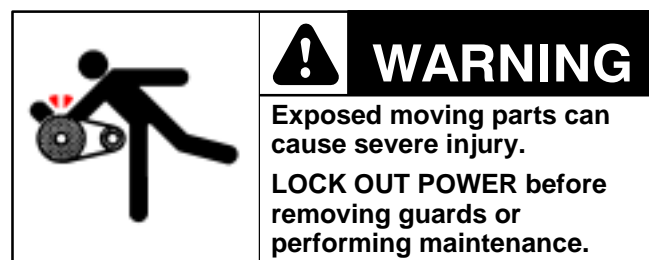


Figure 23

Drive Bearing Replacement



Drive Bearing Removal

1. Loosen conveyor belt tension. See steps 1 through 3 of "Conveyor Belt Removal" section on page 4.
2. Loosen bearing set screw (AD of Figure 24).

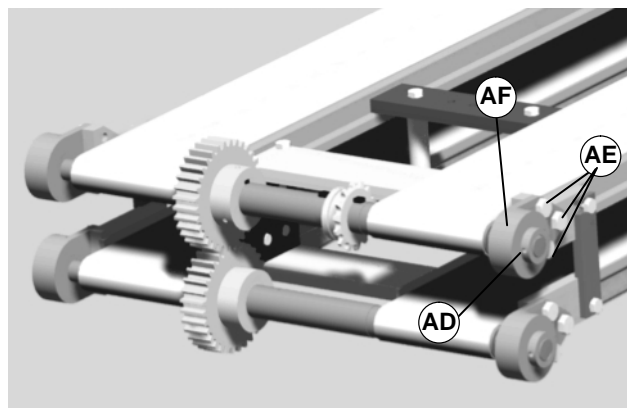


Figure 24

3. Remove the three (3) bolts from bearing flanges (AE of Figure 24). Remove bearing (AF).

Preventive Maintenance and Adjustment

Drive Bearing Installation

1. Reverse the removal procedure. See steps 2 through 4 above.
2. Tension conveyor belt. See “Conveyor Belt Tensioning” on page 6.

Idler Bearing Replacement



IMPORTANT: Once removed, do not re-use bearings.

Idler Bearing Removal

1. Place bearing removal tool (part # 450281) over bearing(s) with lip (AN of Figure 25) located in Bearing gap (AO) as shown.

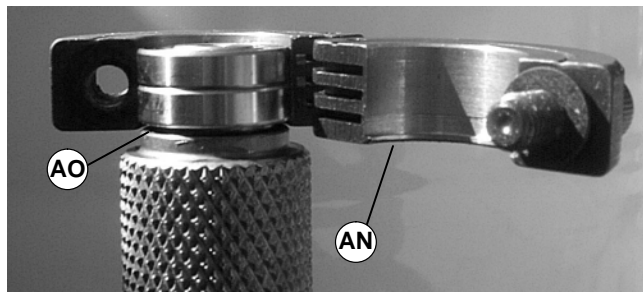


Figure 25

2. Using 3/16" hex key wrench (AP of Figure 26), tighten tool.

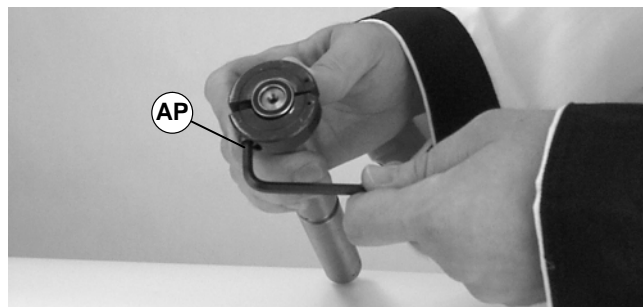


Figure 26

3. Using a puller (AQ of Figure 27), remove and discard bearing(s).

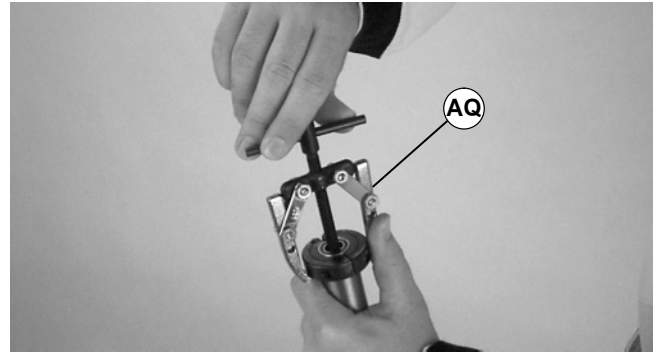


Figure 27

Idler Bearing Installation

IMPORTANT: Install bearings one at a time.

1. Inspect seating surface(s) for damage. Replace if damaged.
2. Slide bearing (part # 802-120) (AR of Figure 28) onto pulley shaft.



Figure 28

3. Slide the sleeve of tool (part # 450282) (AS of Figure 29) over bearing.

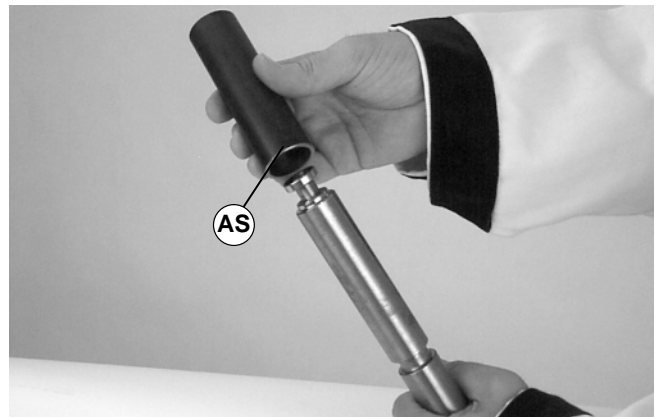


Figure 29

4. Place open end of shaft (AT of Figure 30) into sleeve.

Preventive Maintenance and Adjustment

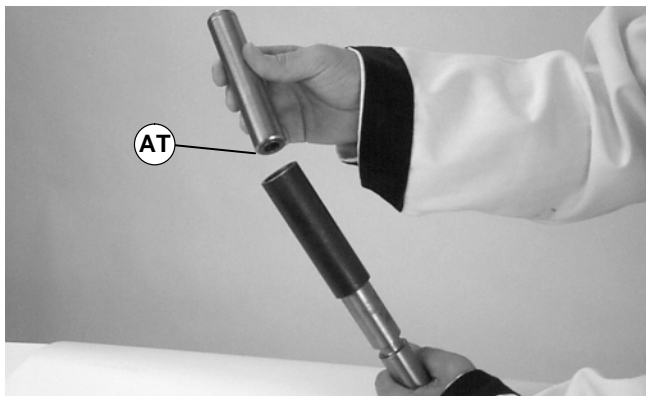


Figure 30

5. Using arbor press or similar device, press bearing onto pulley shaft (see Figure 31).

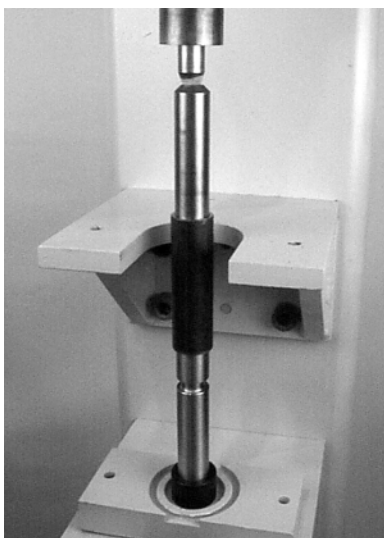


Figure 31

6. Repeat steps 1 through 5 for each bearing.

Pulley Replacement

Idler Pulley

IMPORTANT: On tension tail, be sure to correctly orient components to match the factory orientation.

1. Orient threaded hole side of pinion (AW of Figure 32) so it is toward detached tail plate as shown.
2. Be sure both pinion housings (AX) engage the same tooth positions of racks as shown.
3. Orient sensor magnet (AY) as required for motion sensor.

1. Reverse the removal procedure “A” (see page 6).

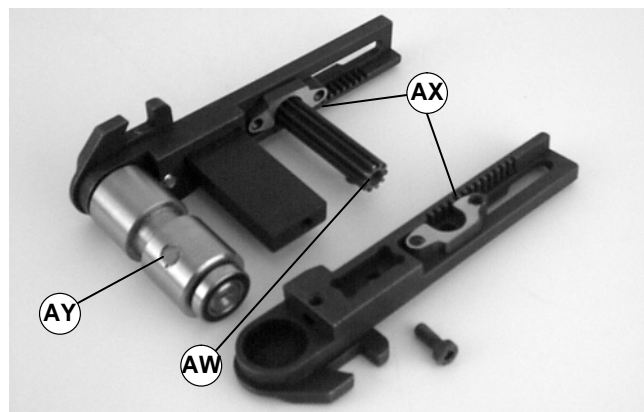


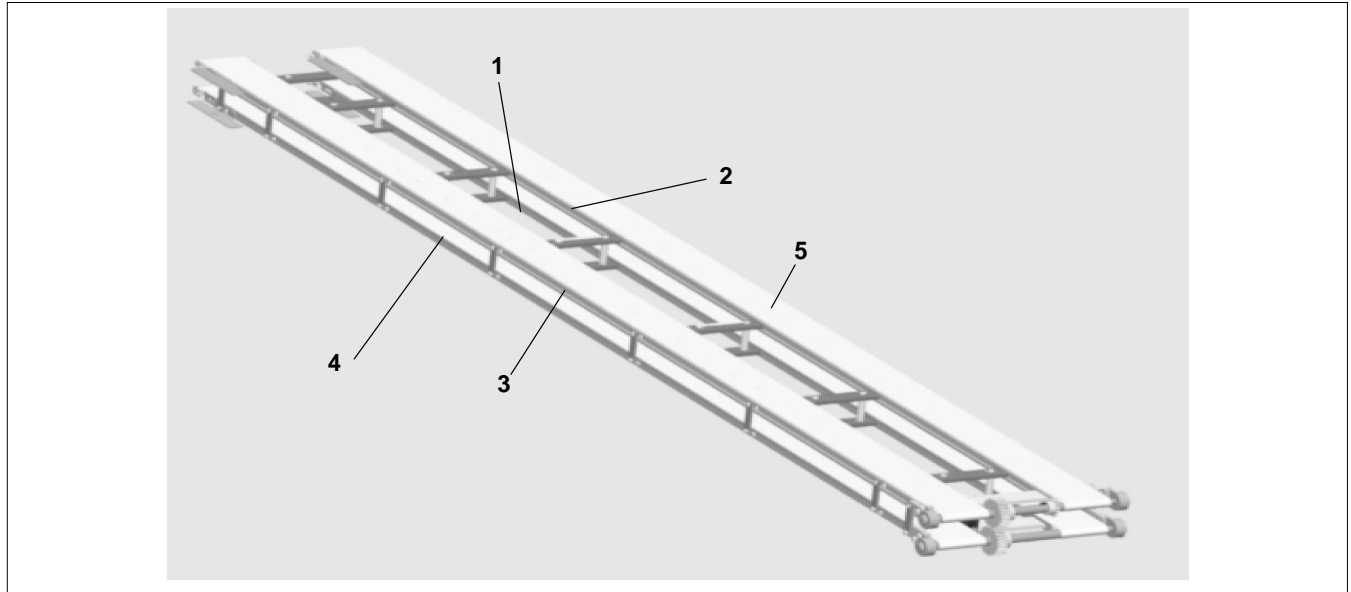
Figure 32

Drive Pulley

1. Reverse the removal procedure “B” (see page 7).

NOTE: For replacement parts other than those shown in this section, contact an authorized Dorner Service Center or the factory.

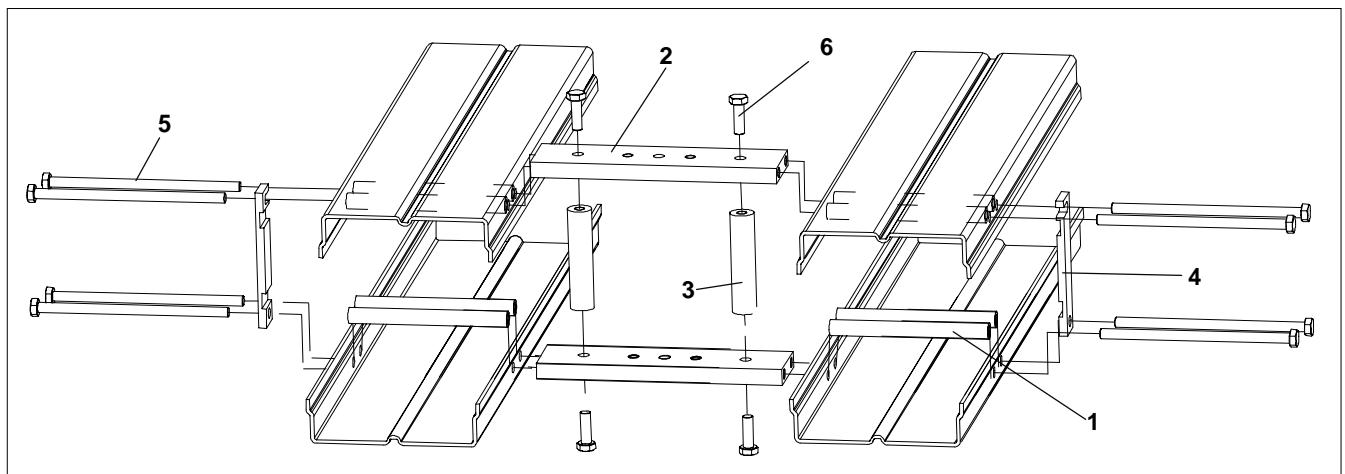
Overall Assembly



Item	Part Number	Description
1	701627	Frame, Ind, 157.8413" SPCL RH
2	701628	Frame, Ind, 157.8413" SPCL LH

3	701627	Frame, Ind, 157.8413" SPCL RH
4	701628	Frame, Ind, 157.8413" SPCL LH
5	701644	Belt, 4.955" x 22.6745'

Support Ladder Assembly

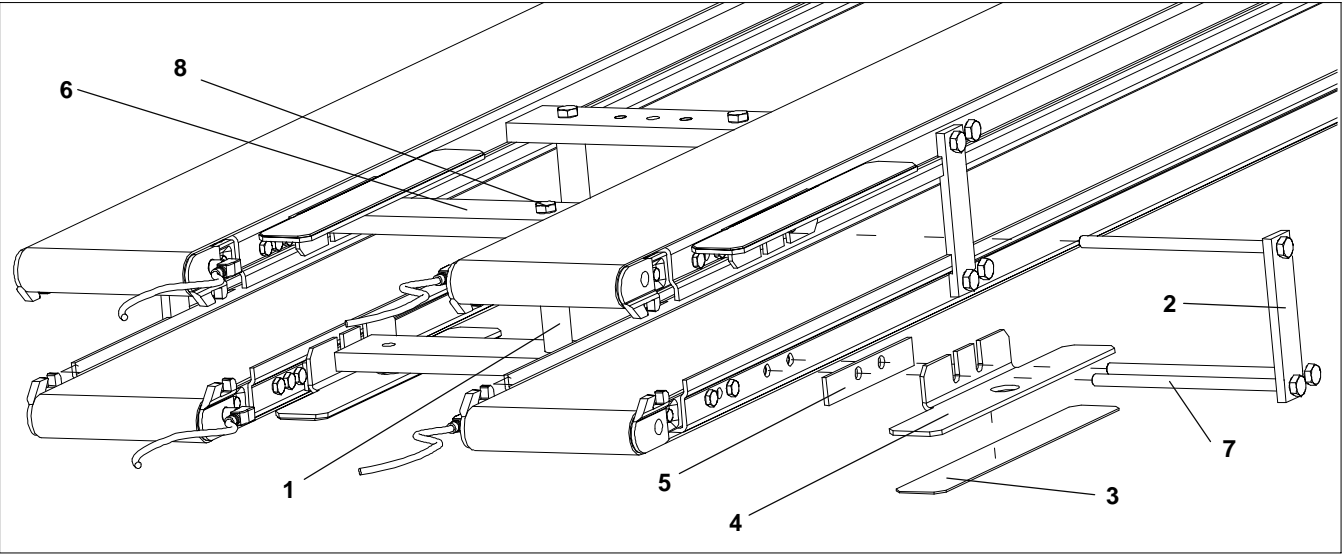


Item	Part Number	Description
1	701629	Tube, Support/Spacer, 5" – M8
2	701633	Plate, Spacer/Tie, Quad Drive
3	701634	Spacer, Ladder, 0.75Dx3.20

4	701636	Plate, Spacer, 3.70" C–C
5	906–074SS	Scr, Cap, Hd–Hex 5/16–18x6.00
6	960825MSS	Scr, Cap, Hd–Hex M8–1.25x25MM

Service Parts

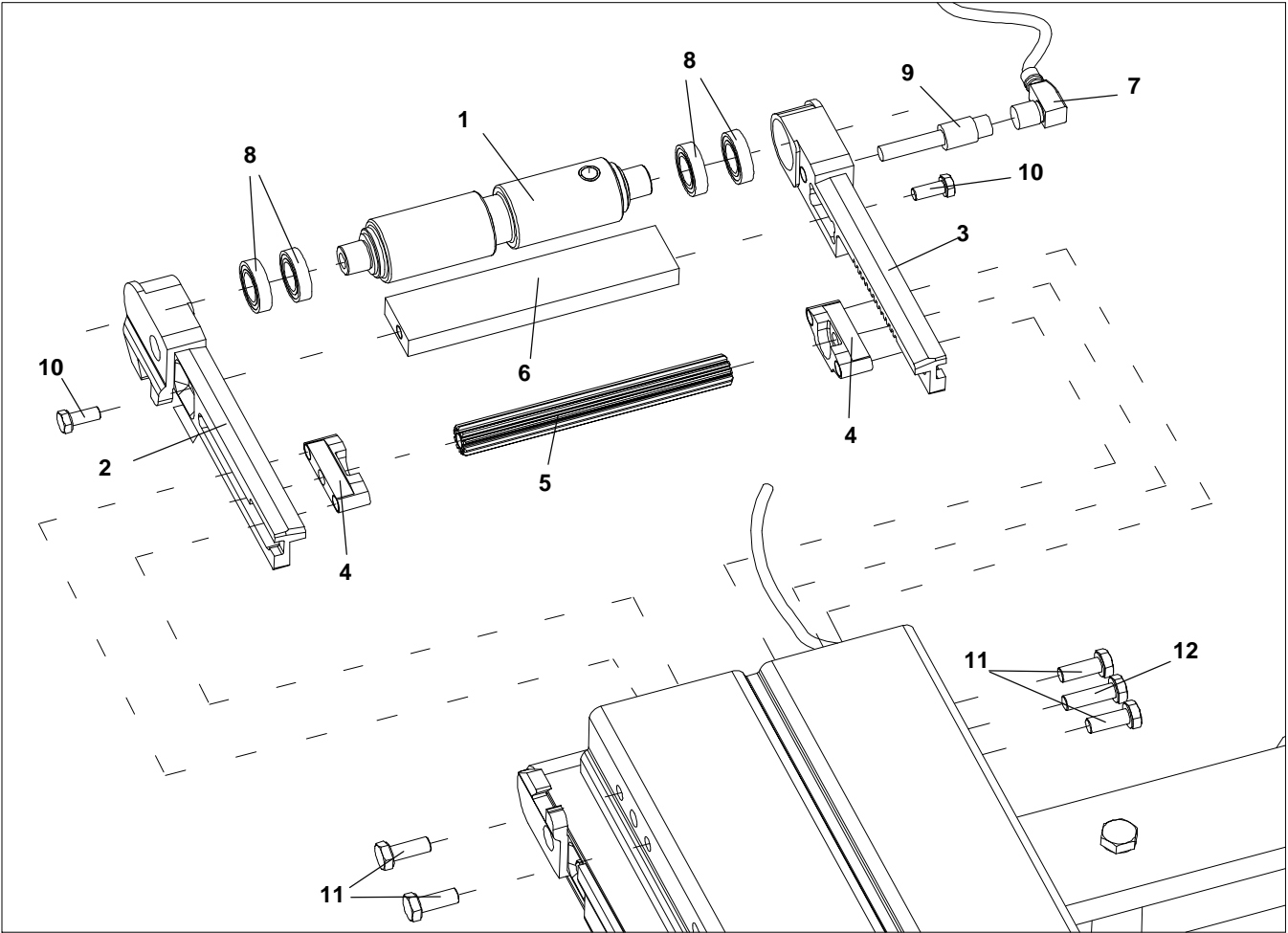
Kickplate Assembly



Item	Part Number	Description
1	701634	Spacer, Ladder, 0.75Dx3.20
2	701636	Plate, Spacer, 3.70" C-C
3	701639	Plate, Top, Kick/Guide
4	701640	Kick Plate, Bent Guiding

5	701641	Spacer, Kick Plate, 61 Frame
6	701643	Plate, Spacer/Tie, Non-Symmetric
7	906-074SS	Scr, Cap, Hd-Hex 5/16-18x6.00
8	960825MSS	Scr, Cap, Hd-Hex M8-1.25x25MM

Idler Assembly

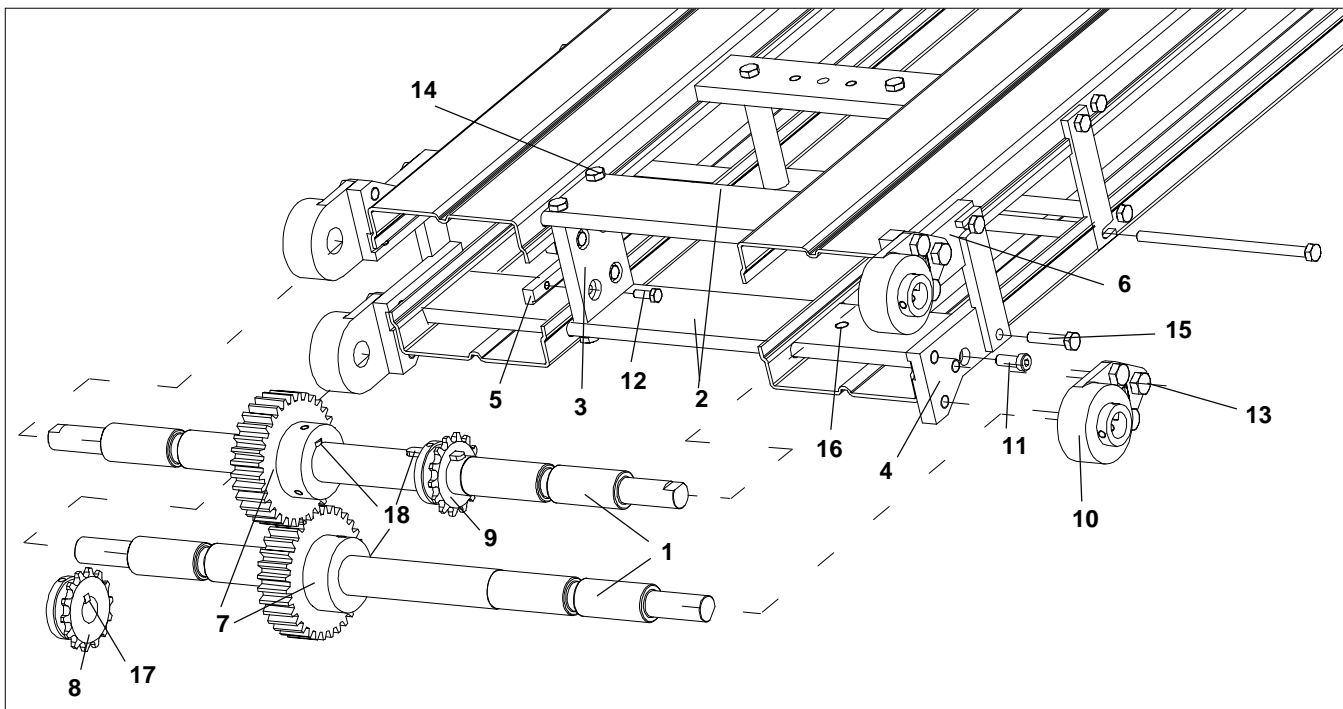


Item	Part Number	Description
1	453005	Spindle Assy, Idler 5"
2	450031M	Plate, Tension, RH
3	450032M	Plate, Tension, LH
4	450039M	Block, Retainer, Pinion
5	452605M	Pinion, 5"
6	453605M	Support, Tension, Fixed 5"

7	450334	Motion Monitor
8	802-121	Bearing, Ball 12MM Bore X 21MM OD
9	809-251	Motion Sensor
10	960512MSS	Scr, Sock, Metric Low M8-1.25 x 20MM
11	960616MSS	Scr, Cap, Hd-Hex M6-1.00 x 16MM
12	960620MSS	Scr, Cap, Hd-Hex M6-1.00 x 20MM

Service Parts

Drive End Assembly



Item	Part Number	Description
1	701626	Spindle, Drive, 61 Double 5"
2	701631	Plate, Drive, Double 6100
3	701631	Plate, Side, Drive Box Frame
4	701632	Plate, Mtg, 3-Bolt Dr Flange Brg
5	701635	Brkt, Mtg, 6100 Quad Drive
6	701637	Plate, Mtg, 3-Bolt Dr Flange Brg
7	701638	Gear, Spur, 10DP 38T 30MM Bore
8	701646	Sprocket, 14T, 20MM B 6x6 Key
9	701648	Sprocket, 14T, 30MM B 8x7 Key

10	802-131	Bearing, 3Bolt Flange, 20MM Bore
11	920894MSS	Scr, Sock, Metric Low M8-1.25x20MM
12	960616MSS	Scr, Cap, Hd-Hex, M6-1.00x15MM
13	961016MSS	Scr, Cap, Hd-Hex, M10-1.25x16MM
14	960825MSS	Scr, Cap, Hd-Hex, M8-1.25x25MM
15	960835MSS	Scr, Cap, Hd-Hex, M8-1.25x35MM
16	971016MSS	Scr, Set, Cup M10-1.50x16MM
17	980625MSS	Key, Square 6MM x 25MM
18	980850MSS	Key, 8MM x 7MM x 50MM, Rounded End

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 a copy of Dorner's Limited Warranty, contact factory, distributor, service center or visit our website @ www.dorner.com

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

DORNER®

Dorner Mfg. Corp. reserves the right to change or discontinue products without notice. All products and services are covered in accordance with our standard warranty. All rights reserved. ©Dorner Mfg. Corp. 2000

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 1-262-367-7600, FAX 1-262-367-5827

DORNER

Arnold-Sommerfeld-Ring 2
D-52499 Baesweiler

Germany

TEL (02401) 80 52 90

FAX (02401) 80 52 93

Internet: www.dorner.com