

2100, 4100, 6100 Series Top Mount Drive Package for Light Load 50 Hz Gearmotors





Table of Contents



Warnings – General Safety	2	Preventative Maintenance & Adjustment	6
Introduction	2	Required Tools	6
Product Description	3	Timing Belt Tensioning	6
Specifications	3	Timing Belt Replacement	6
Installation	4	Drive or Driven Pulley Replacement	7
Required Tools	4	Gearmotor Replacement	7
Mounting	4	Service Parts	9
		Return Policy	10

Warnings – General Safety

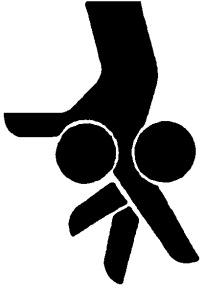

	WARNING	
<p>The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.</p>		



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

		DANGER
<p>DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.</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>Hazardous voltage will cause severe injury or death. LOCK OUT POWER BEFORE WIRING.</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 2100 Series conveyors are covered by the following patent numbers: 5131529, 5174435, and corresponding patents and patent applications in other countries.

Dorner 4100 Series conveyors are covered by patent number 3923148 and corresponding patents and patent applications in other countries.

Dorner 6100 Series conveyors are covered by patent number 5174435 and corresponding patents and patent applications in other countries.

Dorner's Limited Warranty applies.

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

Product Description

Refer to Figure 1 for typical components.

Typical Components	
A	Conveyor
B	Mounting Bracket
C	Gearmotor
D	Belt Tensioner
E	Cover
F	Timing Belt
G	Drive Pulley
H	Driven Pulley

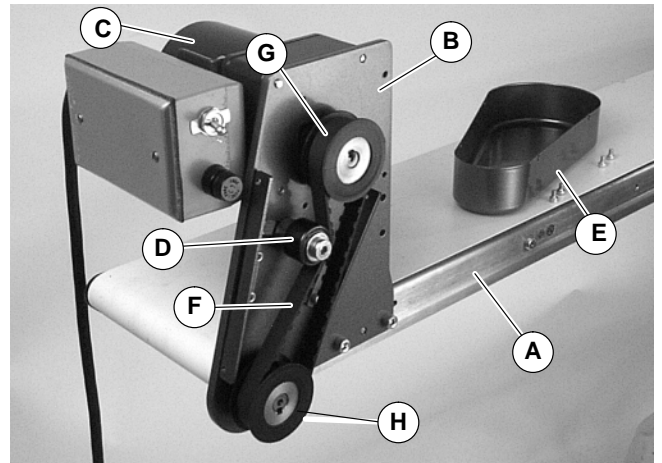
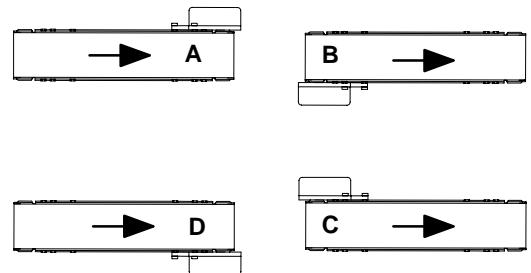
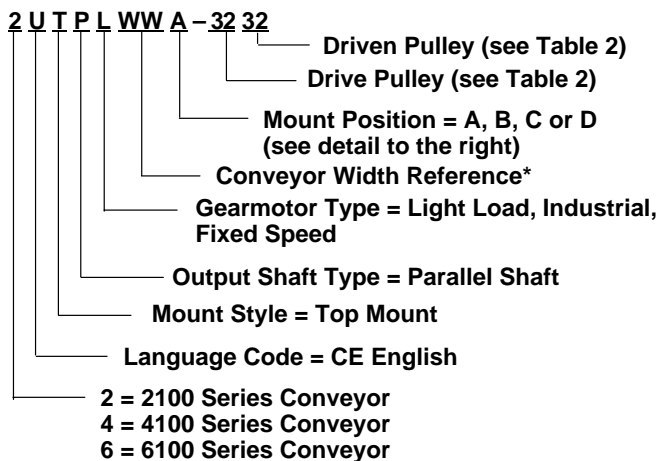


Figure 1

Specifications

Gearmotor Mounting Package Models:

Example:



* See "Ordering and Specifications" Catalog for details.

Table 1: Gearmotor Specifications

	Single Phase	Three Phase
Output Power	0.022 kw	0.02 kw
Input Voltage	230 Volts A.C.	230/400 Volts A.C.
Input Frequency	50 Hz	
Full Load Amperes	0.31 Amperes	0.22/0.13 Amperes
Gearmotor Ratios	8:1 and 28.1:1	
Protection Ratings	IP44	

Specifications

Table 2: Belt Speeds for Light Load Fixed Speed Parallel Shaft 50 Hz Gearmotors

Gearmotors			Belt Speed M/min	Drive Pulley	Driven Pulley
Part Number	RPM	N-m			
62Z028PL4(vp)FN	41	2.6	2.1	19	32
62Z028PL4(vp)FN	41	2.6	3.7	32	32
62Z028PL4(vp)FN	41	2.6	6.1	32	19
62Z008PL4(vp)FN	144	0.9	8.5	22	32
62Z008PL4(vp)FN	144	0.9	12.5	32	32

NOTE: 203 through 610 mm wide conveyors with light load drives should be limited to 2438 mm length.

NOTE: For belt speed other than those listed, contact factory for details.

(vp) = voltage and phase
 21 = 230 V, 1-phase
 23 = 230 V, 3-phase
 43 = 400 V, 3-phase

Installation


Required Tools

- Hex key wrenches:
2.5 mm, 3 mm, 5 mm
- Straight edge
- Torque wrench

Installation Component List

- | | |
|---|----------------------------|
| I | Top Mount Assembly |
| J | Driven Pulley |
| K | Cover |
| L | M4 Socket Head Screws (4x) |
| M | Timing Belt |
| N | Key |
| O | M6 Socket Head Screws (2x) |

Mounting



WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

1. Typical components (Figure 2)

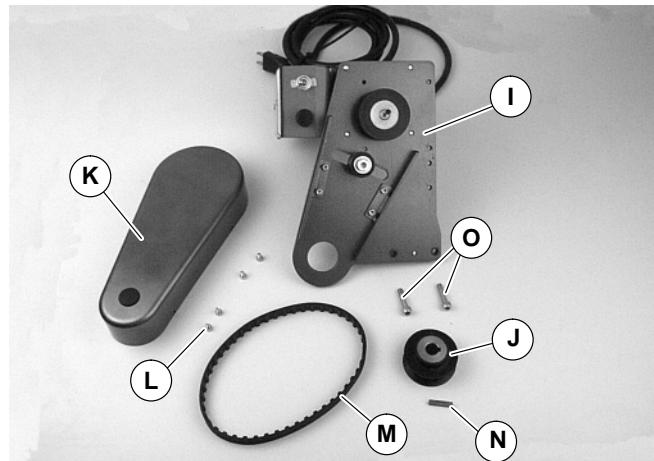


Figure 2

NOTE: 6100 conveyor shown, 2100 & 4100 similar.

2. Locate drive output shaft (P of Figure 3) and remove two (2) screws (Q).

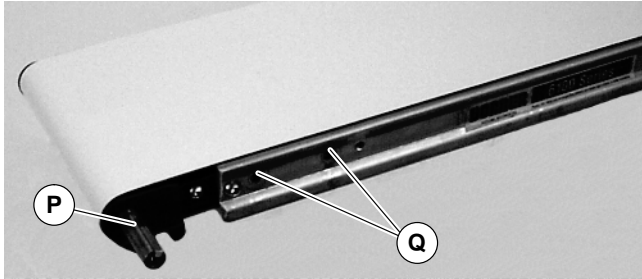


Figure 3

3. Attach mount assembly (I of Figure 4) with screws (O). Tighten screws to 9 Nm.

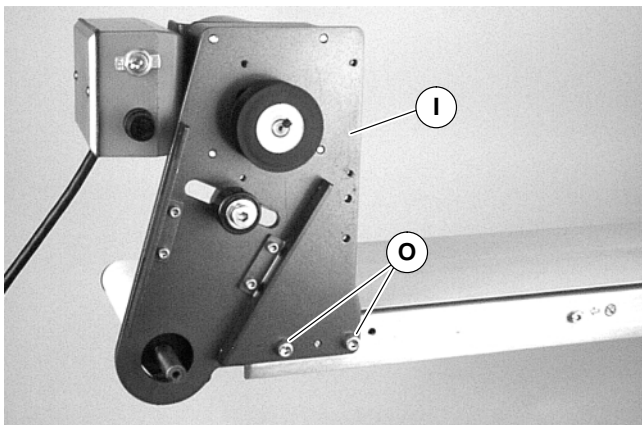


Figure 4



4. Install key (N of Figure 5).

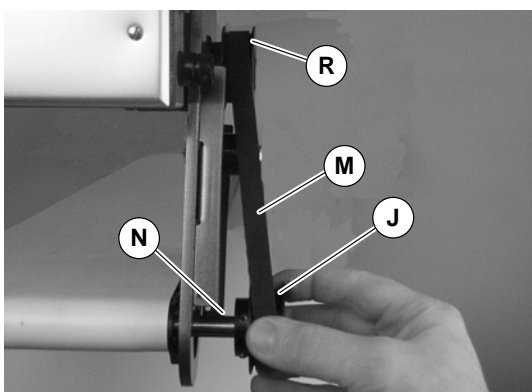


Figure 5

5. Wrap timing belt (M) around driven pulley (J) and drive pulley (R). Install driven pulley (J) onto conveyor shaft.

6. Using a straight edge (S of Figure 6), align driven pulley (J) with drive pulley (R). Tighten driven pulley set screws (T).

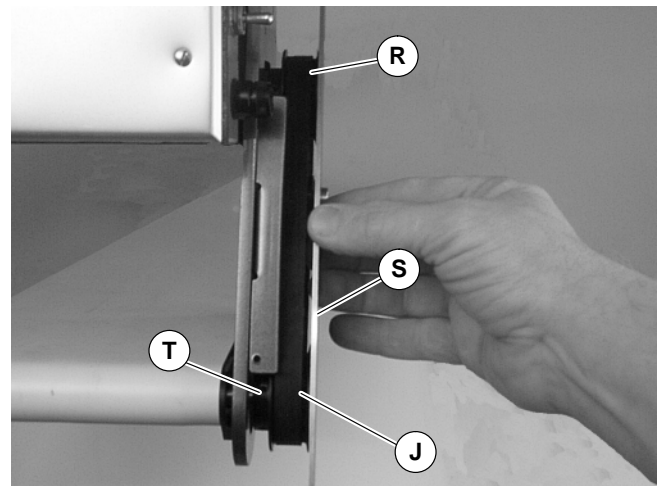


Figure 6

7. Depending on conveyor belt travel (direction 1 or 2), locate timing belt tensioner (U of Figure 7) as shown. Tension timing belt to obtain 3 mm deflection for 456 grams of force at timing belt mid-point (V). Tighten tensioner screw to 12 Nm.

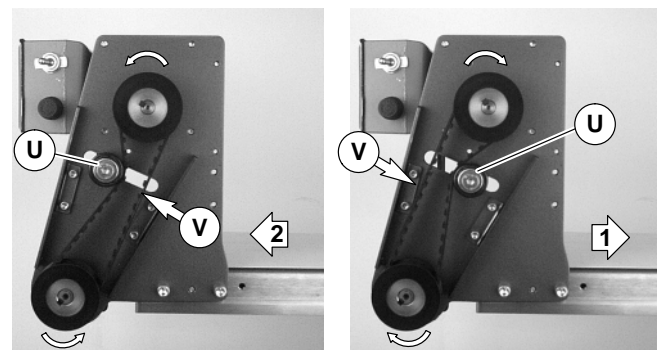


Figure 7

8. Install cover (K of Figure 8) with four (4) screws (L). Tighten to 4 Nm.

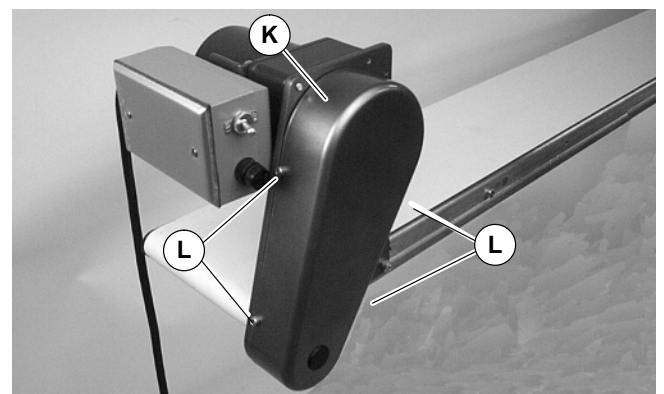


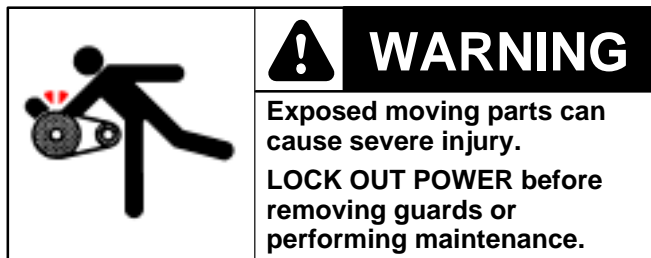
Figure 8

Preventive Maintenance and Adjustment

Required Tools

- Hex key wrenches
2.5 mm, 3 mm, 5 mm
- Straight edge
- Screwdriver (for terminal box screws)
- Torque wrench

Timing Belt Tensioning



1. Remove four (4) screws (L of Figure 9) and remove cover (K).

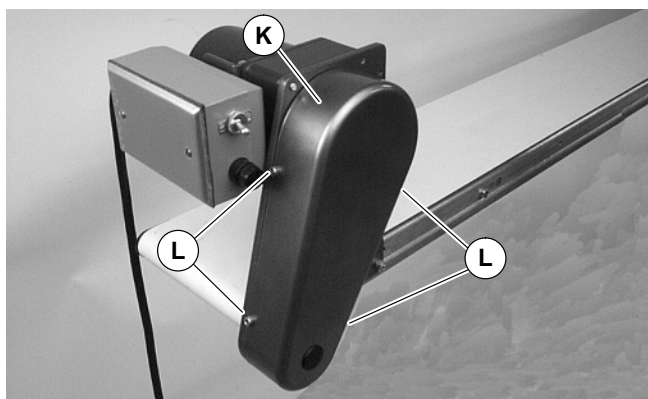


Figure 9

2. Loosen tensioner (U of Figure 10).

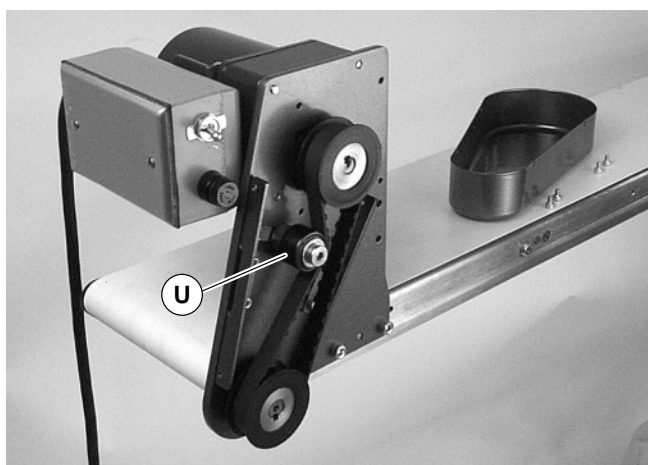


Figure 10

3. Depending on conveyor belt travel (direction 1 or 2), locate timing belt tensioner (U of Figure 11) as shown. Tension timing belt to obtain 3 mm deflection for 456 grams of force at timing belt mid-point (V). Tighten tensioner screw to 12 Nm.

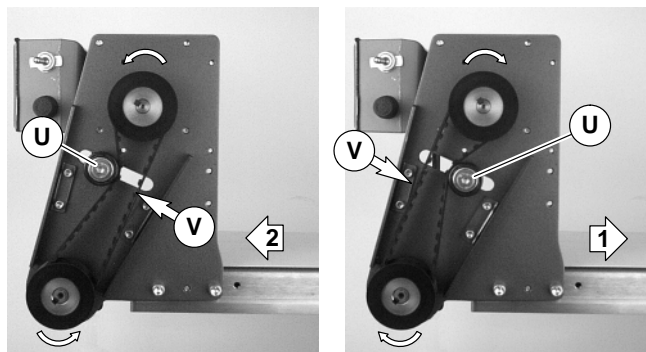
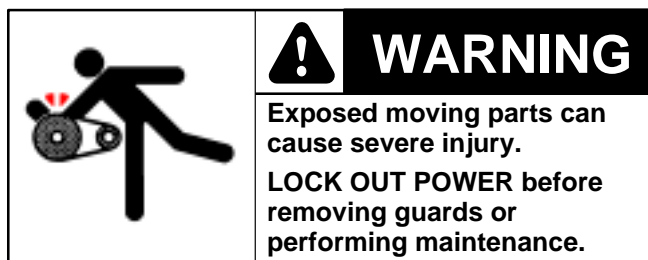


Figure 11

4. Install cover (K of Figure 9) with four (4) screws (L). Tighten screws to 4 Nm.

Timing Belt Replacement



1. Remove four (4) screws (L of Figure 9) and remove cover (K).
2. Loosen tensioner (U of Figure 10).
3. Remove timing belt (M of Figure 12).

NOTE: If timing belt does not slide over pulley flange, loosen driven pulley set screws (T of Figure 12) and remove pulley with belt. For re-installation, see steps 5 through 8 on page 5.

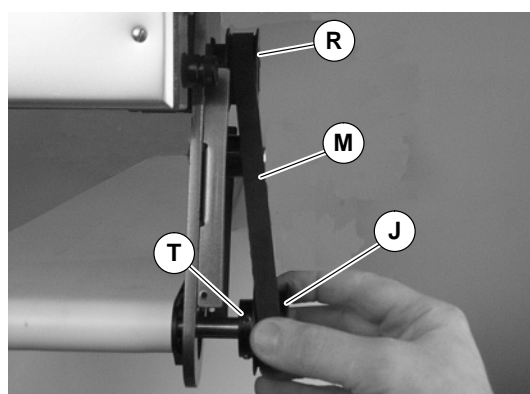




Figure 12

4. Install new timing belt.
5. Depending on conveyor belt travel (direction 1 or 2), locate timing belt tensioner (U of Figure 11) as shown. Tension timing belt to obtain 3 mm deflection for 456 grams of force at timing belt mid-point (V). Tighten tensioner screw to 12 Nm.
6. Install cover (K of Figure 9) with four (4) screws (L). Tighten screws to 4 Nm.

Preventive Maintenance and Adjustment

Drive or Driven Pulley Replacement

		<h3>WARNING</h3>
	<p>Exposed moving parts can cause severe injury. LOCK OUT POWER before removing guards or performing maintenance.</p>	

1. Complete steps 1 through 3 of “Timing Belt Replacement” section on page 6.
2. Loosen set screws and remove drive or driven pulley.

NOTE: If drive pulley (R of Figure 13) is replaced, wrap timing belt around drive pulley and complete step 3.

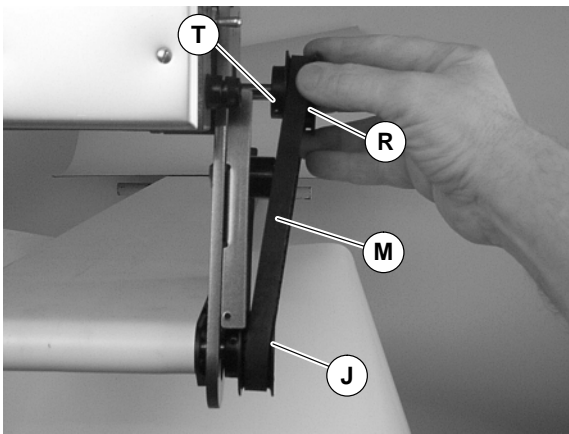






Figure 13

3. Complete steps 5 through 8 of “Installation” section on page 5.

Gearmotor Replacement

		<h3>WARNING</h3>
	<p>Exposed moving parts can cause severe injury. LOCK OUT POWER before removing guards or performing maintenance.</p>	

		<h3>DANGER</h3>
	<p>Hazardous voltage will cause severe injury or death. LOCK OUT POWER BEFORE WIRING.</p>	

NOTE: Single phase gearmotor shown, three phase similar.

1. For single phase motor:
 - a. Loosen terminal box screws (W of Figure 14) and remove cover (X).

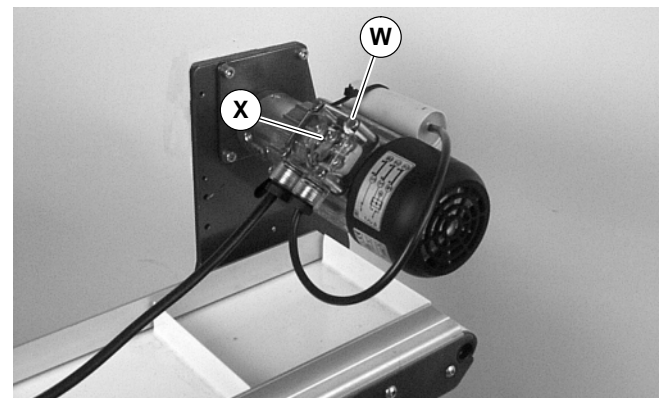


Figure 14

- b. Record wire colors on terminals U1, W1 and ground (\perp) (Figure 15). Loosen terminals U1, W1 and ground and remove wires.

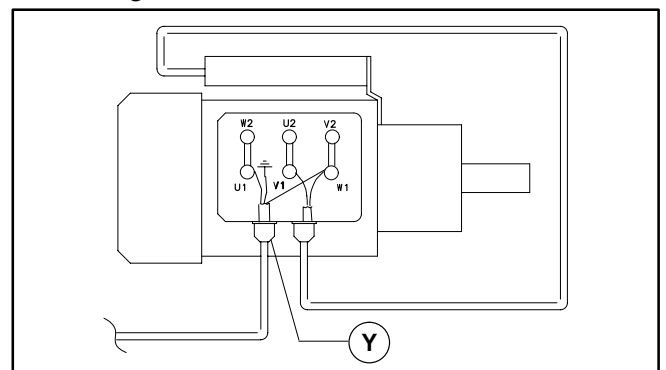


Figure 15

- c. Loosen cord grip (Y of Figure 15) and remove cord.

Preventive Maintenance and Adjustment

1. For three phase motor:
 - a. Loosen terminal box screws (W of Figure 14) and remove cover (X).
 - b. Record wire colors on terminals U1, V1, W1 and ground (\perp) (Figure 16). Loosen terminals U1, V1, W1 and ground and remove wires.

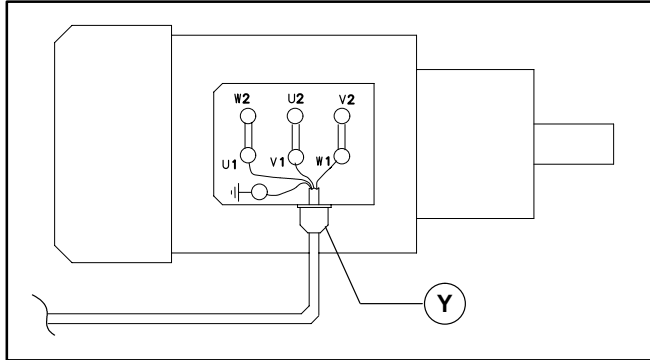


Figure 16

- c. Loosen cord grip (Y of Figure 16) and remove cord.
2. Remove four (4) screws (L of Figure 9) and remove cover (K).
 3. Loosen tensioner (U of Figure 10).
 4. Remove timing belt (M of Figure 17).

NOTE: If timing belt does not slide over pulley flange, loosen driven pulley set screws (T of Figure 17) and remove pulley with belt (M). For re-installation, see steps 5 through 8 on page 5.

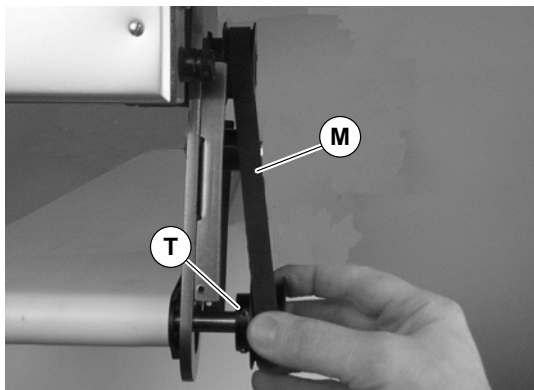


Figure 17

5. Loosen two (2) set screws (T of Figure 18). Remove drive pulley (R).

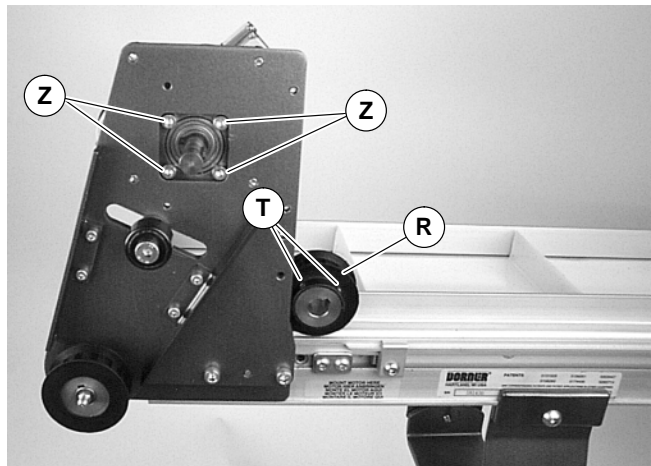


Figure 18

6. Remove four (4) screws (Z) and detach gearmotor.
7. Mount new gearmotor with four (4) screws (Z). Tighten to 5 Nm.
8. Replace drive pulley (R of Figure 18) and tighten set screws (T).
9. Complete steps 5 through 8 of "Installation" section on page 5.
10. Replace wiring:
 - For a single phase motor, reverse step 1 on page 7.
 - For a three phase motor, reverse step 1 on this page.

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

Item	Part No.	Part Description
1	62Z008PL421	Gearmotor, 22 W, 230 Volts, 144 RPM, 50 Hz, 1-Phase, 8:1
	62Z028PL423	Gearmotor, 20 W, 230Volts, 41 RPM, 50 Hz, 3-Phase, 28:1
	62Z028PL421	Gearmotor, 22 W, 230 Volts, 41 RPM, 50 Hz, 1-Phase, 28:1
	62Z008PL423	Gearmotor, 20 W, 230 Volts, 144 RPM, 50 Hz, 3-Phase, 8:1
	62Z028PL443	Gearmotor, 20 W, 400 Volts, 41 RPM, 50 Hz, 3-Phase, 28:1
	62Z008PL443	Gearmotor, 20 W, 400 Volts, 144 RPM, 50 Hz, 3-Phase, 8:1
2	814-104	Timing Belt, 15mm W x 450mm L
	814-105	Timing Belt, 15mm W x 460mm L
	814-065	Timing Belt, 15mm W x 475mm L
	814-112	Timing Belt, 15mm W x 495mm L
	814-101	Timing Belt, 15mm W x 500mm L
	814-064	Timing Belt, 15mm W x 535mm L
3	450365MP	Drive Pulley, 19 Tooth
	450366MP	Drive Pulley, 22 Tooth
	450367MP	Drive Pulley, 28 Tooth
	450368MP	Drive Pulley, 32 Tooth
	450369MP	Drive Pulley, 44 Tooth
4	807-1070	Drive Pulley Woodruff Key
5	450365MP	Driven Pulley, 19 Tooth
	450366MP	Driven Pulley, 22 Tooth
	450367MP	Driven Pulley, 28 Tooth
	450368MP	Driven Pulley, 32 Tooth
6	980422M	Driven Pulley Key, 4mm x 22mm

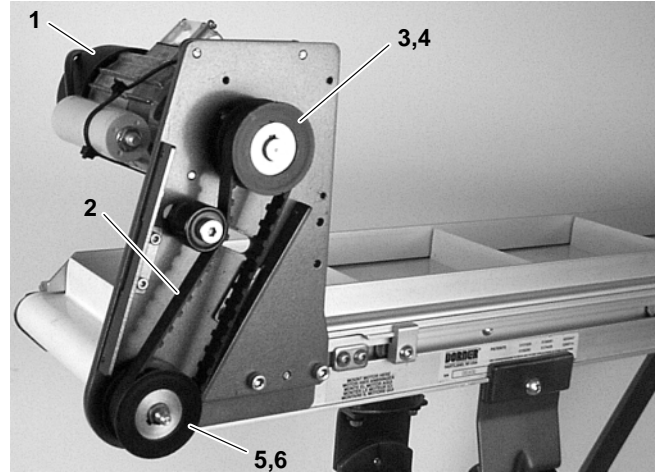


Figure 19

Return Policy

No returns will be accepted without prior written factory authorization. When calling for authorization, please have the following information ready for the Dornier 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. Dornier 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 Dornier 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.

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

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

DORNER[®]

Dornier 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. ©Dornier 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