

2100, 2200, 4100, 6200, MPB Series Side Mount Drive Package for Light Load 60 Hz Gearmotors

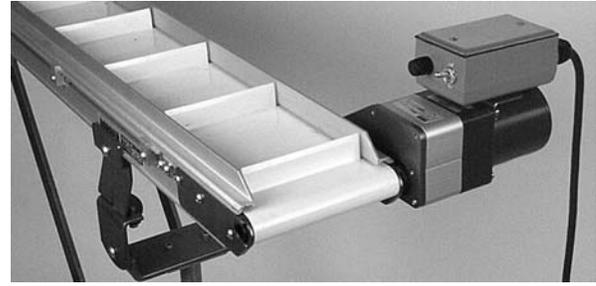
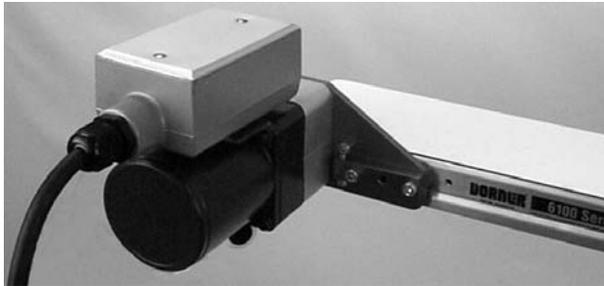


Table of Contents

| | | | |
|---------------------------------|---|---|----|
| 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 | 8 |
| | | 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. LOCKOUT 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 2200 & 6200 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.

Dorner has convenient, pre-configured kits of Key Service Parts for all conveyor products. These time saving kits are easy to order, designed for fast installation, and guarantee you will have what you need when you need it. Key Parts and Kits are marked in the Service Parts section of this manual with the Performance Parts Kits logo

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 |

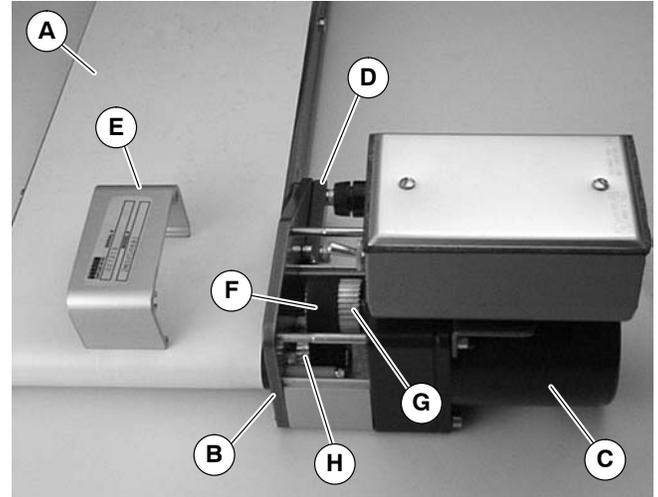
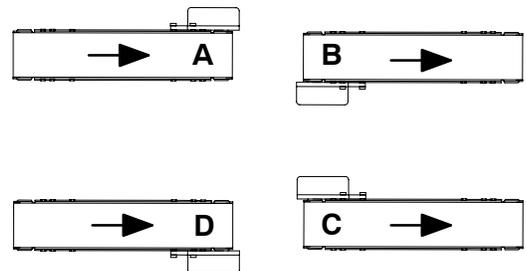
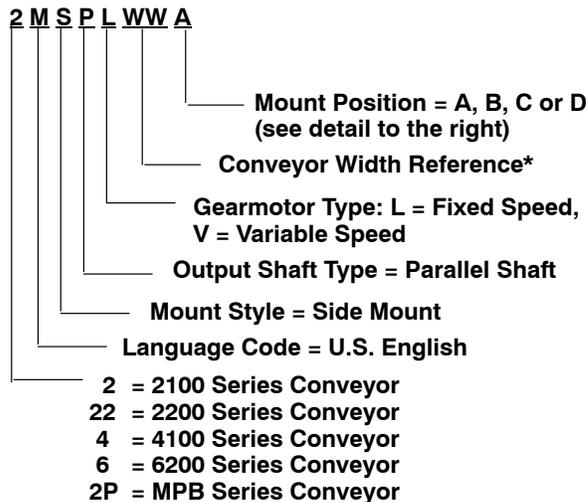


Figure 1

Specifications

Gearmotor Mounting Package Models:

Example:



* See "Ordering and Specifications" Catalog for details.

Table 1: Gearmotor Specifications

| | Single Phase | DC Variable Speed |
|-------------------|--------------------|-------------------|
| Output Power | 0.03 hp (0.025 kw) | 0.06 hp (0.04 kw) |
| Input Voltage | 115 Volts A.C. | 130 Volts D.C. |
| Input Frequency | 60 Hz | N/A |
| Full Load Amperes | 0.49 Amperes | 0.48 Amperes |
| Gearmotor Ratios | 15:1 and 36:1 | 18:1 and 60:1 |

Specifications

Table 2: Belt Speeds for Light Load Fixed Speed Parallel Shaft 60 Hz Gearmotors on 2100, 2200, 4100 & 6200 Series Conveyors

| Gearmotors | | | | Belt Speed | |
|---------------|-----|-------|-----|------------|-------|
| Part Number | RPM | In-lb | N-m | Ft/min | M/min |
| 62M036PL411FN | 42 | 36 | 4.1 | 11.9 | 3.6 |
| 62M015PL411FN | 100 | 15 | 1.7 | 28.6 | 8.7 |

Table 3: Belt Speeds for Light Load Variable Speed Parallel Shaft DC Gearmotors on 2100, 2200, 4100 & 6200 Series Conveyors

| Gearmotors | | | | Belt Speed | |
|---------------|-----|-------|-----|------------|----------|
| Part Number | RPM | In-lb | N-m | Ft/min | M/min |
| 62M060PLD3DEN | 42 | 65 | 7.4 | 1.4–11.9 | 0.4–3.6 |
| 62M018PLD3DEN | 139 | 21 | 2.4 | 4.8–39.7 | 1.5–12.1 |

NOTE: 8–24 in (203–610 mm) wide conveyors with light load drives should be limited to 96 in (2438 mm) length.

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

Installation

Required Tools

- Hex key wrenches:
2 mm, 3 mm, 5 mm
- Torque wrench

Mounting





WARNING

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

Installation Component List

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

1. Typical components (Figure 2)

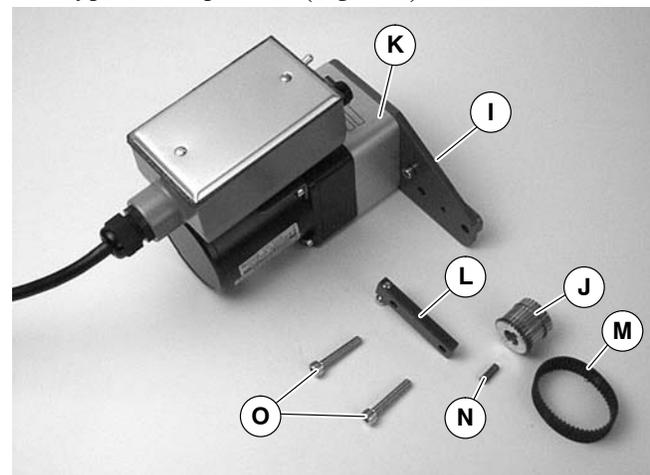


Figure 2

NOTE: 6100 conveyor shown, 2100 & 4100 similar.

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

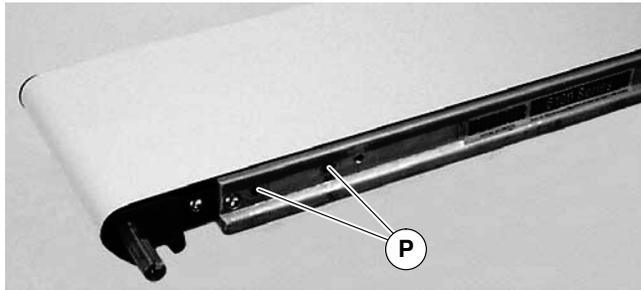


Figure 3

3. Loosen four (4) screws (Q of Figure 4). Detach mounting bracket (R).

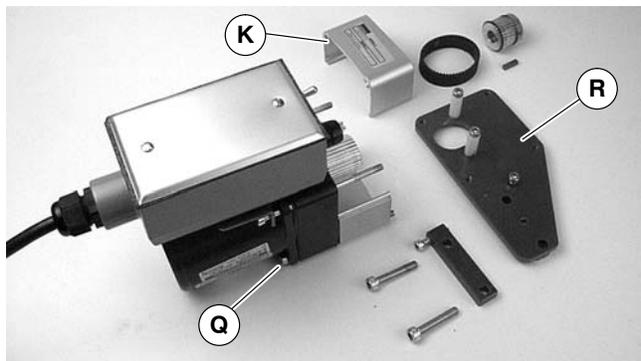


Figure 4

4. Remove two (2) top screws (Q) and remove top cover (K).
5. Attach mounting bracket (R of Figure 5) and tensioner bar (L) with screws (O). Hand-tighten screws (O).

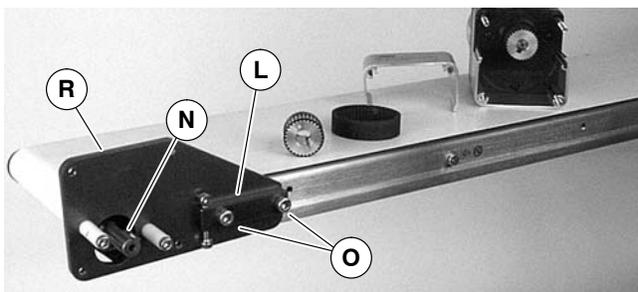


Figure 5



6. Install key (N of Figure 5).
7. Install driven pulley (J of Figure 6). Tighten two (2) set screws to 33 in-lb (3.7 Nm).

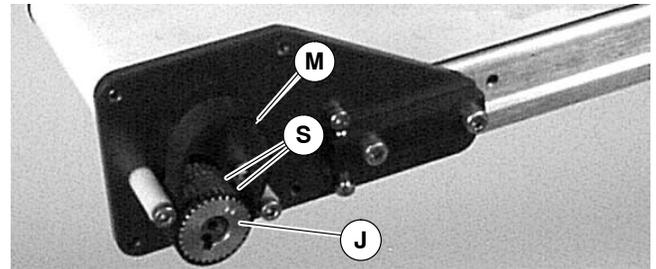


Figure 6

8. Place timing belt (M of Figure 6) over driven pulley (J) and between belt flanges (S).
9. Insert gearmotor drive pulley into timing belt. Mount assembly with two (2) bottom screws (Q of Figure 7). Tighten to 45 in-lb (5 Nm).

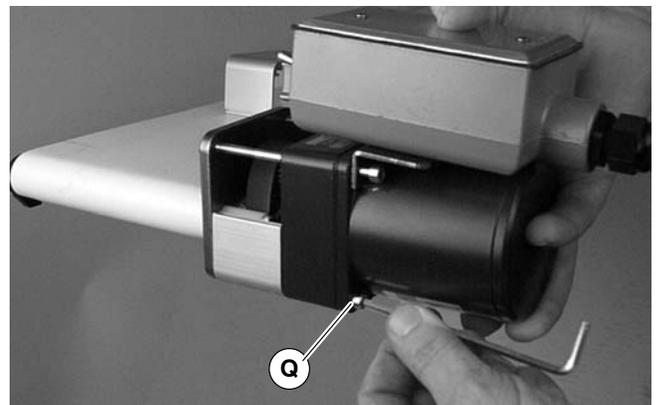


Figure 7

10. Insert top cover (K of Figure 8) into bottom cover. Attach top cover with two (2) top screws (Q). Tighten to 45 in-lb (5 Nm).

Installation

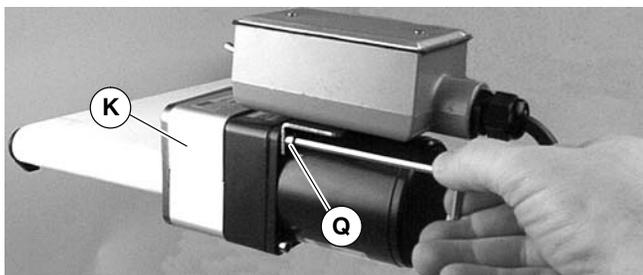


Figure 8

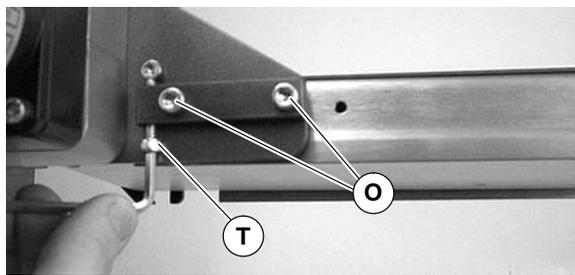


Figure 9

11. Tighten timing belt tensioner screw (T of Figure 9) to 15 in-lb (1.7 Nm).

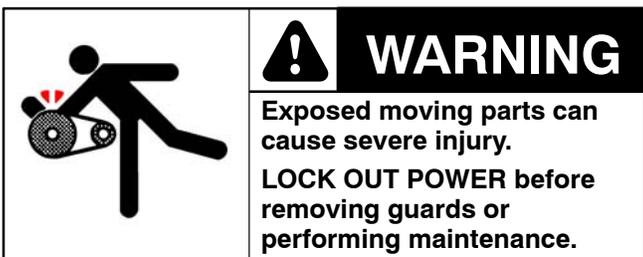
12. Tighten screws (O) to 80 in-lb (9 Nm).

Preventive Maintenance and Adjustment

Required Tools

- Hex key wrenches:
2 mm, 3 mm, 5 mm
- Torque wrench

Timing Belt Tensioning



1. Loosen two (2) screws (O of Figure 10). Tighten timing belt tensioner screw (T) to 15 in-lb (1.7 Nm).

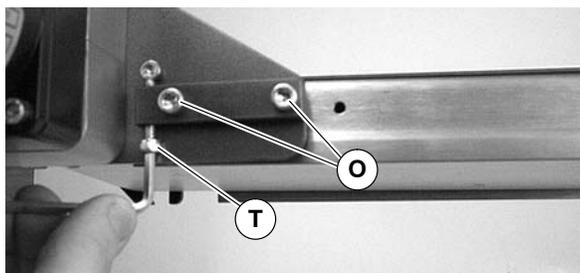


Figure 10

2. Tighten screws (O) to 80 in-lb (9 Nm).

Timing Belt Replacement



1. Loosen two (2) screws (O of Figure 10).
2. Loosen timing belt tensioner screw (T).
3. Remove four (4) screws (Q of Figure 11). Remove gearmotor (U) and top cover (K).

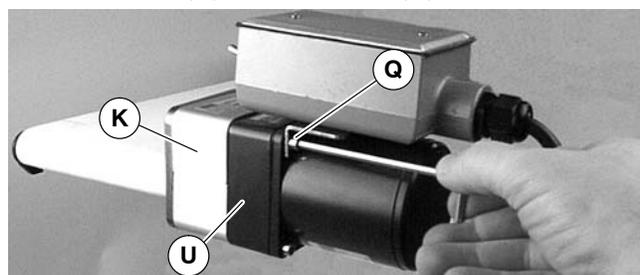


Figure 11

4. Remove old timing belt (M of Figure 12).

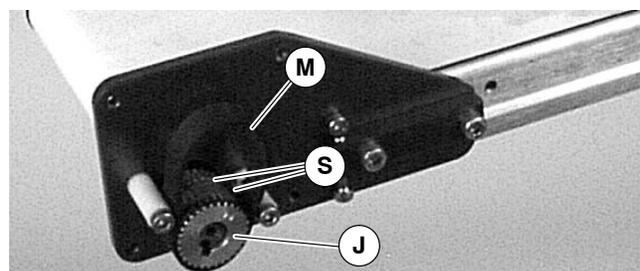


Figure 12

5. Place new timing belt (M) over driven pulley (J) and between belt flanges (S).

Preventive Maintenance and Adjustment

6. Insert gearmotor drive pulley into timing belt. Mount assembly with two (2) bottom screws (Q of Figure 13). Tighten to 45 in-lb (5 Nm).

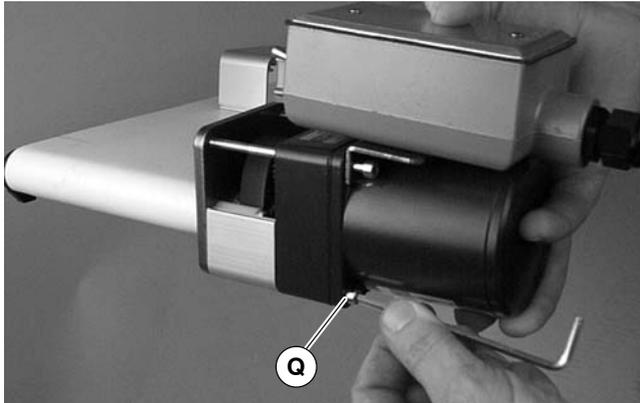


Figure 13

7. Insert top cover (K of Figure 11) into bottom cover. Mount assembly with two (2) top screws (Q). Tighten to 45 in-lb (5 Nm).
8. Tighten timing belt tensioner screw (T of Figure 10) to 15 in-lb (1.7 Nm).
9. Tighten screws (O) to 80 in-lb (9 Nm).

Drive or Driven Pulley Replacement



1. Complete steps 1 through 4 of “Timing Belt Replacement” section on page 6.
2. Loosen set screws (V of Figure 14) and remove driven pulley (J) or drive pulley (W).

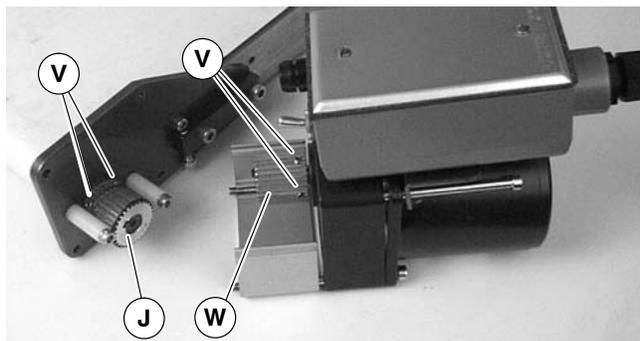
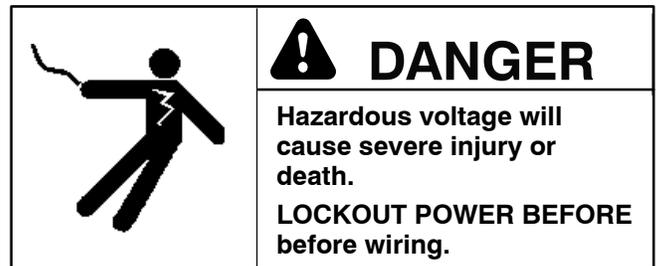


Figure 14

3. Replace drive or driven pulley. Tighten set screws to 33 in-lb (3.7 Nm).
4. Complete steps 5 through 9 of “Timing Belt Replacement” section beginning on page 6.

Gearmotor Replacement



1. For single phase motor, unplug power cord from outlet.
2. For DC variable speed motor, unplug cord at disconnect (X of Figure 15):

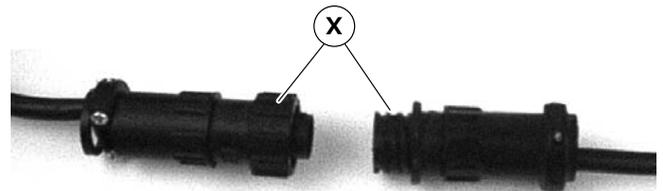
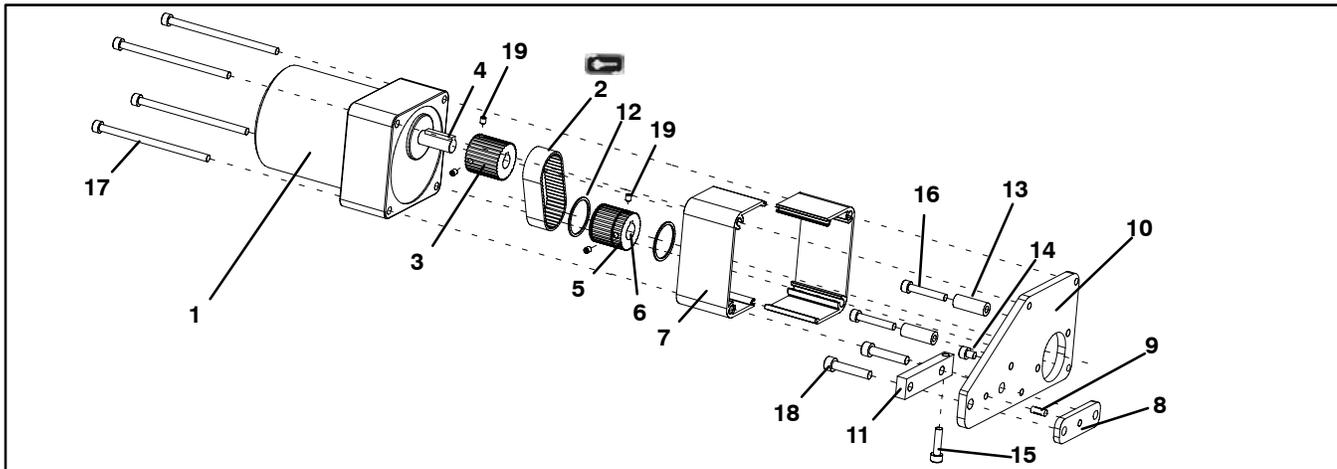


Figure 15

3. Remove four (4) screws (Q of Figure 11). Remove gearmotor (U) and top cover (K).
4. Loosen set screws (V of Figure 14) and remove drive pulley (W).
5. Replace drive pulley (W) on new gearmotor and tighten set screws (V) to 33 in-lb (3.7 Nm).
6. Complete steps 5 through 9 of “Timing Belt Replacement” section beginning on page 6.
7. Replace wiring:
 - For a single phase motor, reverse step 1.
 - For DC variable speed motor, reverse step 2.

Service Parts

NOTE: For replacement parts other than those shown in this section, contact an authorized Dorner Service Center or the factory. Key Service Parts and Kits are identified by the Performance Parts Kits logo . Dorner recommends keeping these parts on hand.



| Item | Part No. | Part Description |
|---|---------------|--|
| 1 | 62M036PL411FN | Gearmotor, 0.03 hp, 115 Volts, 42 RPM, 60 Hz, 1-Phase, 36:1 |
| | 62M015PL411FN | Gearmotor, 0.03 hp, 115 Volts, 100 RPM, 60 Hz, 1-Phase, 15:1 |
| | 62M060PLD3DEN | Gearmotor, 0.06 hp, 130 Volts, 42 RPM, DC, 60:1 |
| | 62M018PLD3DEN | Gearmotor, 0.06 hp, 130 Volts, 139 RPM, DC, 18:1 |
| 2  | 814-088 | Timing Belt, 3mm x 15 mm |
| 3 | 450078M | Drive Pulley, 1/2" Bore |
| | 450076M | Drive Pulley, 10mm Bore |
| 4 | 912-052 | Key, 1/8" x 5/8", 1/2" Bore |
| | 980422M | Key, 4mm x 22mm, 10mm Bore |
| 5 | 450077M | Driven Pulley, 12 mm Bore |
| 6 | 980422M | Driven Pulley Key, 4 mm x 22 mm |

| | | |
|----|---------|------------------------------------|
| 7 | 450087 | Guard, Half, Light Duty Side Drive |
| 8 | 450027M | Drive Spacer, Metric (6100 Only) |
| 9 | 807-952 | Groove Pin (6200 Only) |
| | 450084M | Plate, Side Drive LD |
| 10 | 450046M | Plate, Side Drive LD (2200 Only) |
| | 450088M | Tensioning Bar, Side Drive |
| 11 | 807-954 | Spiral Retaining Ring |
| 12 | 807-973 | Nylon Spacer |
| 13 | 920506M | Socket Head Screw M5x6mm |
| 14 | 920520M | Socket Head Screw M5x20mm |
| 15 | 920530M | Socket Head Screw M5x30mm |
| 16 | 920500M | Socket Head Screw M5x100mm |
| | 920590M | Socket Head Screw M5x90mm |
| 17 | 920630M | Socket Head Screw M6x30mm |
| | 970405M | Cup Set Screw M4x5mm |

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 at www.dorner.com

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)

Internet: www.dorner.com

Outside the USA:

TEL 1-262-367-7600

FAX 1-262-367-5827