

# 2100/2200/4100/6200 & MPB Series Bottom Mount Drive Pack. for Standard Load Parallel Shaft 60 Hz Gearmotors

**Installation, Maintenance & Parts Manual** 







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### 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 2200 and MPB Series conveyors are covered by patent number 5174435 and corresponding patents and patent in other. countries.

Dorner 2200 and MPB Series conveyors are covered by patent number 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 6200 Series conveyors are covered by patent numbers: 6685009, 5174435, 6109427 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

# Warnings – General Safety

### **A WARNING**

The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.

### **A** DANGER



Climbing, sitting, walking or riding on conveyor will cause severe injury.
KEEP OFF CONVEYORS.

### 🕰 DANGER



Do NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.

### **A** WARNING



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

# **A** WARNING



Gearmotors may be HOT.

DO NOT TOUCH Gearmotors.

### **A** WARNING



Exposed moving parts can cause severe injury.

REPLACE ALL GUARDS BEFORE RUNNING CONVEYOR.

### **A** WARNING



Dorner cannot control the physical installation and application of conveyors. Taking protective measures is the responsibility of the user.

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.

### **A** WARNING



MPB Series Conveyors are not reversible. Reversing creates pinch points which can cause severe injury.

DO NOT REVERSE MPB SERIES CONVEYORS.

# **Product Description**

Refer to Figure 1 for typical conveyor components.

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

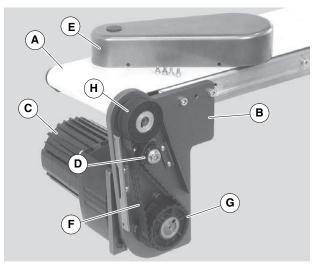
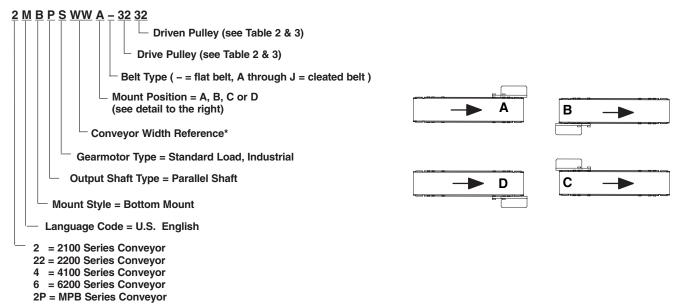


Figure 1

# **Specifications**

# **Gearmotor Mounting Package Models:**

### **Example:**



<sup>\*</sup> See Ordering and Specifications Catalog for details.

### **Table 1: Gearmotor Specifications**

|                  | Single Phase                       | Three Phase    | DC Variable Speed                |  |  |  |
|------------------|------------------------------------|----------------|----------------------------------|--|--|--|
| Output Power     | 0.17 hp (0                         | ).13 kw)       | 0.25 hp (0.19 kw)                |  |  |  |
| Input Voltage    | 115 Volts A.C.                     | 230 Volts A.C. | 130 Volts D.C.                   |  |  |  |
| Input Frequency  | 60 H                               | <del>l</del> z | N/A                              |  |  |  |
| Input Current    | 1.9 Amperes                        | 1.2 Amperes    | 1.8 Amperes                      |  |  |  |
| Motor RPM        | 172                                | 25             | 2500                             |  |  |  |
| Gearmotor Ratios | 5:1, 10:1, 20:1, 30:1, 60:1, 180:1 |                |                                  |  |  |  |
| Motor Type       | Totally enclosed                   | d, Fan-cooled  | Totally enclosed, Non-ventilated |  |  |  |

Table 2: Belt Speeds for Standard Load Fixed Speed Parallel Shaft 60 Hz Gearmotors on 2100, 2200 Gang Drive, 4100 and 6200 Series Conveyors

|                   | Gearmotor | s   |       |      | Belt 9 | Speed | Drive  | Driven |
|-------------------|-----------|-----|-------|------|--------|-------|--------|--------|
| Part Number       | Ratio     | RPM | In-Ib | N-m  | Ft/min | M/min | Pulley | Pulley |
| 62M180PS4(vp)F(n) | 180:1     | 10  | 341   | 38.5 | 2      | 0.6   | 22     | 32     |
| 62M180PS4(vp)F(n) | 180:1     | 10  | 341   | 38.5 | 3      | 0.9   | 32     | 32     |
| 62M180PS4(vp)F(n) | 180:1     | 10  | 341   | 38.5 | 4      | 1.2   | 48     | 32     |
| 62M060PS4(vp)F(n) | 60:1      | 29  | 270   | 30.5 | 6      | 1.7   | 22     | 32     |
| 62M060PS4(vp)F(n) | 60:1      | 29  | 270   | 30.5 | 8      | 2.4   | 32     | 32     |
| 62M060PS4(vp)F(n) | 60:1      | 29  | 270   | 30.5 | 12     | 3.7   | 48     | 32     |
| 62M030PS4(vp)F(n) | 30:1      | 58  | 135   | 15.3 | 16     | 4.9   | 32     | 32     |
| 62M020PS4(vp)F(n) | 20:1      | 86  | 90    | 10.2 | 25     | 7.6   | 32     | 32     |
| 62M020PS4(vp)F(n) | 20:1      | 86  | 90    | 10.2 | 37     | 11.3  | 48     | 32     |
| 62M010PS4(vp)F(n) | 10:1      | 173 | 45    | 5.1  | 49     | 14.9  | 32     | 32     |
| 62M010PS4(vp)F(n) | 10:1      | 173 | 45    | 5.1  | 74     | 22.6  | 48     | 32     |
| 62M005PS4(vp)F(n) | 5:1       | 345 | 25    | 2.8  | 99     | 30.2  | 32     | 32     |
| 62M005PS4(vp)F(n) | 5.1       | 345 | 25    | 2.8  | 148    | 45.1  | 48     | 32     |
| 62M005PS4(vp)F(n) | 5.1       | 345 | 25    | 2.8  | 169    | 51.5  | 48     | 28     |
| 62M005PS4(vp)F(n) | 5.1       | 345 | 25    | 2.8  | 197    | 60.0  | 44     | 22     |
| 62M005PS4(vp)F(n) | 5.1       | 345 | 25    | 2.8  | 215    | 65.5  | 48     | 22     |
| 62M005PS4(vp)F(n) | 5.1       | 345 | 25    | 2.8  | 249    | 75.9  | 48     | 19     |

(vp) = voltage and phase

(n) = reversing capability

11 = 115V, 1-phase

N = no reversing switch

23 = 230V, 3-phase

R = with reversing switch (115V, 1 phase only)

Table 3: Belt Speeds for Standard Load Fixed Speed Parallel Shaft 60 Hz Gearmotors on 2200 Series Conveyors (Excluding Gang Drive)

|                   | Gearmotors | *   |       |      | Belt S | Speed | Drive  | Driven |
|-------------------|------------|-----|-------|------|--------|-------|--------|--------|
| Part Number       | Ratio      | RPM | In-Ib | N-m  | Ft/min | M/min | Pulley | Pulley |
| 62M180PS4(vp)F(n) | 180:1      | 10  | 341   | 38.5 | 3      | 0.9   | 28     | 28     |
| 62M180PS4(vp)F(n) | 180:1      | 10  | 341   | 38.5 | 5      | 1.5   | 44     | 22     |
| 62M060PS4(vp)F(n) | 60:1       | 29  | 270   | 30.5 | 6      | 1.7   | 19     | 32     |
| 62M060PS4(vp)F(n) | 60:1       | 29  | 270   | 30.5 | 10     | 3.0   | 28     | 28     |
| 62M060PS4(vp)F(n) | 60:1       | 29  | 270   | 30.5 | 16     | 4.9   | 44     | 28     |
| 62M020PS4(vp)F(n) | 20:1       | 86  | 90    | 10.2 | 30     | 9.1   | 28     | 28     |
| 62M020PS4(vp)F(n) | 20:1       | 86  | 90    | 10.2 | 48     | 14.6  | 44     | 28     |
| 62M010PS4(vp)F(n) | 10:1       | 173 | 45    | 5.1  | 61     | 18.6  | 28     | 28     |
| 62M010PS4(vp)F(n) | 10:1       | 173 | 45    | 5.1  | 95     | 29.0  | 44     | 28     |
| 62M010PS4(vp)F(n) | 10:1       | 173 | 45    | 5.1  | 104    | 31.7  | 48     | 28     |
| 62M005PS4(vp)F(n) | 5:1        | 345 | 25    | 2.8  | 121    | 36.9  | 28     | 28     |
| 62M005PS4(vp)F(n) | 5:1        | 345 | 25    | 2.8  | 138    | 42.1  | 32     | 28     |
| 62M005PS4(vp)F(n) | 5:1        | 345 | 25    | 2.8  | 176    | 53.6  | 32     | 22     |
| 62M005PS4(vp)F(n) | 5:1        | 345 | 25    | 2.8  | 208    | 63.4  | 48     | 28     |
| 62M005PS4(vp)F(n) | 5:1        | 345 | 25    | 2.8  | 242    | 73.8  | 44     | 22     |
| 62M005PS4(vp)F(n) | 5:1        | 345 | 25    | 2.8  | 264    | 80.5  | 48     | 22     |

(vp) = voltage and phase

(n) = reversing capability

11 = 115 V, 1-phase

N = no reversing switch

23 = 230V, 3-phase

R =with reversing switch (115V, 1 phase only)

# Table 4: Belt Speeds for Standard Load Fixed Speed Parallel Shaft 60 Hz Gearmotors on MPD Series Conveyors

|                   | Gearmotors |     | Belt S | Speed | Drive  | Driven |        |        |
|-------------------|------------|-----|--------|-------|--------|--------|--------|--------|
| Part Number       | Gear Ratio | RPM | In-lb  | N-m   | Ft/min | M/min  | Pulley | Pulley |
| 62M180PS4(vp)F(n) | 180:1      | 10  | 341    | 38.5  | 4.5    | 1.4    | 22     | 32     |
| 62M060PS4(vp)F(n) | 60:1       | 29  | 270    | 30.5  | 6      | 1.7    | 19     | 32     |
| 62M180PS4(vp)F(n) | 180:1      | 10  | 341    | 38.5  | 6.5    | 2      | 28     | 28     |
| 62M060PS4(vp)F(n) | 60:1       | 29  | 270    | 30.5  | 13     | 4.0    | 22     | 32     |
| 62M060PS4(vp)F(n) | 60:1       | 29  | 270    | 30.5  | 20     | 6.0    | 28     | 28     |
| 62M030PS4(vp)F(n) | 30:1       | 58  | 135    | 15.3  | 39     | 11.9   | 28     | 28     |
| 62M020PS4(vp)F(n) | 20:1       | 86  | 90     | 10.2  | 59     | 17.9   | 28     | 28     |

(vp) = voltage and phase

(n) = reversing capability

11 = 115V, 1-phase

N = no reversing switch

23 = 230V, 3-phase

R =with reversing switch (115V, 1 phase only)

Table 5: Belt Speeds for Standard Load Variable Speed Parallel Shaft VFD Gearmotors on 2100, 4100 and 6200 Series Conveyors

|               | Gearmotors |      |        |      | Belt S | Speed  | Drive  | Driven |
|---------------|------------|------|--------|------|--------|--------|--------|--------|
| Part Number   | Gear Ratio | RPM* | In-lb* | N-m* | Ft/min | M/min  | Pulley | Pulley |
| 62M060PS423EN | 60:1       | 29   | 270    | 30.5 | .6–5.6 | .2–1.7 | 22     | 32     |
| 62M060PS423EN | 60:1       | 29   | 270    | 30.5 | .8–8.2 | .3–2.5 | 32     | 32     |
| 62M020PS423EN | 20:1       | 86   | 167    | 18.9 | 2.5–25 | .8–7.5 | 32     | 32     |
| 62M010PS423EN | 10:1       | 173  | 115    | 13   | 4.9–49 | 1.5–15 | 32     | 32     |
| 62M005PS423EN | 5:1        | 345  | 58     | 6.5  | 9.9–99 | 3–30   | 32     | 32     |
| 62M005PS423EN | 5:1        | 345  | 58     | 6.5  | 14–148 | 4.5–45 | 48     | 32     |
| 62M005PS423EN | 5:1        | 345  | 58     | 6.5  | 19–197 | 6–60   | 44     | 22     |
| 62M005PS423EN | 5:1        | 345  | 58     | 6.5  | 24–249 | 7.6–76 | 48     | 19     |

<sup>\*</sup> At 60 Hz

Table 6: Belt Speeds for Standard Load Variable Speed Parallel Shaft VFD Gearmotors on 2200 Series Conveyors (Excluding Gang Drive)

|               | Gearmotors' | •    |        |      | Belt S | Speed  | Drive  | Driven |
|---------------|-------------|------|--------|------|--------|--------|--------|--------|
| Part Number   | Gear Ratio  | RPM* | In-lb* | N-m* | Ft/min | M/min  | Pulley | Pulley |
| 62M060PS423EN | 60:1        | 29   | 270    | 30.5 | .6–6   | .2–1.8 | 19     | 32     |
| 62M060PS423EN | 60:1        | 29   | 270    | 30.5 | 1–10   | .3–3.1 | 28     | 28     |
| 62M020PS423EN | 20:1        | 86   | 167    | 18.9 | 3–30   | .9–9.2 | 28     | 28     |
| 62M010PS423EN | 10:1        | 173  | 115    | 13   | 6–60   | 1.8–18 | 28     | 28     |
| 62M010PS423EN | 10:1        | 173  | 115    | 13   | 10–104 | 3.2–32 | 48     | 28     |
| 62M005PS423EN | 5:1         | 345  | 58     | 6.5  | 12–121 | 3.7–37 | 28     | 28     |
| 62M005PS423EN | 5:1         | 345  | 58     | 6.5  | 26–264 | 8.1–81 | 48     | 22     |

<sup>\*</sup> At 60 Hz

Table 7: Belt Speeds for Standard Load Variable Speed Parallel Shaft VFD Gearmotors on MPD Series Conveyors

|               | Gearmo     | otors | Belt 9 | Speed | Drive   | Driven |        |        |
|---------------|------------|-------|--------|-------|---------|--------|--------|--------|
| Part Number   | Gear Ratio | RPM*  | In-lb* | N-m*  | Ft/min  | M/min  | Pulley | Pulley |
| 62M060PS423EN | 60:1       | 29    | 270    | 30.5  | 1.3–13. | .4–4.1 | 22     | 32     |
| 62M060PS423EN | 60:1       | 29    | 270    | 30.5  | 4 2–19  | .9–5.9 | 28     | 28     |
| 62M020PS423EN | 20:1       | 86    | 167    | 18.9  | 5.9–59  | 1.8–18 | 28     | 28     |
| 62M010PS423EN | 10:1       | 173   | 115    | 13    | 11–117  | 3.6–36 | 28     | 28     |
| 62M010PS423EN | 10:1       | 173   | 115    | 13    | 17–175  | 5.4–54 | 48     | 32     |
| 62M005PS423EN | 5:1        | 345   | 58     | 6.5   | 23-234  | 7.1–71 | 28     | 28     |

<sup>\*</sup> At 60 Hz

Table 8: Belt Speeds for Standard Load Variable Speed Parallel Shaft DC Gearmotors on 2100, 4100 and 6200 Series Conveyors

|               | Gearmo     | otors |       |      | Belt 9  | Speed  | Drive  | Driven |
|---------------|------------|-------|-------|------|---------|--------|--------|--------|
| Part Number   | Gear Ratio | RPM   | In-lb | N-m  | Ft/min  | M/min  | Pulley | Pulley |
| 62M180PSD3DEN | 180:1      | 14    | 341   | 38.5 | .3–2.7  | .1–.8  | 22     | 32     |
| 62M180PSD3DEN | 180:1      | 14    | 341   | 38.5 | .5–4    | .1–1.2 | 32     | 32     |
| 62M060PSD3DEN | 60:1       | 42    | 270   | 30.5 | 1.0-8.2 | .3–2.5 | 22     | 32     |
| 62M060PSD3DEN | 60:1       | 42    | 270   | 30.5 | 1.4–12  | .4–3.6 | 32     | 32     |
| 62M030PSD3DEN | 30:1       | 83    | 135   | 15.3 | 2.9–24  | .9–7.3 | 32     | 32     |
| 62M020PSD3DEN | 20:1       | 125   | 90    | 10.2 | 4.3–36  | 1.3–11 | 32     | 32     |
| 62M010PSD3DEN | 10:1       | 250   | 72    | 8.1  | 9–71    | 2.6–22 | 32     | 32     |
| 62M005PSD3DEN | 5:1        | 500   | 25    | 2.8  | 17–143  | 5.2-43 | 32     | 32     |
| 62M005PSD3DEN | 5:1        | 500   | 25    | 2.8  | 26–214  | 7.8–65 | 48     | 32     |
| 62M005PSD3DEN | 5:1        | 500   | 25    | 2.8  | 29–245  | 9.0–75 | 48     | 28     |

Table 9: Belt Speeds for Standard Load Variable Speed Parallel Shaft DC Gearmotors on 2200 Series Conveyors (Excluding Gang Drive)

|               | Gearmo     | otors |       |      | Belt 9 | Speed  | Drive  | Driven |
|---------------|------------|-------|-------|------|--------|--------|--------|--------|
| Part Number   | Gear Ratio | RPM   | In-lb | N-m  | Ft/min | M/min  | Pulley | Pulley |
| 62M180PSD3DEN | 180:1      | 14    | 341   | 38.5 | .4–3.4 | .1–1.0 | 22     | 32     |
| 62M180PSD3DEN | 180:1      | 14    | 341   | 38.5 | .6–5   | .2–1.5 | 28     | 28     |
| 62M060PSD3DEN | 60:1       | 42    | 270   | 30.5 | 1.8–14 | .5–4.5 | 28     | 28     |
| 62M060PSD3DEN | 60:1       | 42    | 270   | 30.5 | 2.8–23 | .8–7   | 44     | 28     |
| 62M030PSD3DEN | 30:1       | 83    | 135   | 15.3 | 3.5–29 | 1.1–9  | 28     | 28     |
| 62M020PSD3DEN | 20:1       | 125   | 90    | 10.2 | 5.3–44 | 1.6–13 | 28     | 28     |
| 62M010PSD3DEN | 10:1       | 250   | 72    | 8.1  | 10–88  | 3.2–27 | 28     | 28     |
| 62M005PSD3DEN | 5:1        | 500   | 25    | 2.8  | 17–138 | 5–42   | 44     | 28     |
| 62M005PSD3DEN | 5:1        | 500   | 25    | 2.8  | 21–176 | 6.4–54 | 28     | 28     |
| 62M005PSD3DEN | 5:1        | 500   | 25    | 2.8  | 33–276 | 10–84  | 44     | 28     |

# Table 10: Belt Speeds for Standard Load Variable Speed Parallel Shaft DC Gearmotors on MPB Series Conveyors

|               | Gearmo     | otors |       |      | Belt 9 | Speed  | Drive  | Driven |
|---------------|------------|-------|-------|------|--------|--------|--------|--------|
| Part Number   | Gear Ratio | RPM   | In-lb | N-m  | Ft/min | M/min  | Pulley | Pulley |
| 62M180PSD3DEN | 180:1      | 14    | 341   | 38.5 | 1.1–9  | .3–2.9 | 28     | 28     |
| 62M060PSD3DEN | 60:1       | 42    | 270   | 30.5 | 2.3–19 | .7–5.9 | 22     | 32     |
| 62M060PSD3DEN | 60:1       | 42    | 270   | 30.5 | 3.4–28 | 1–8.6  | 28     | 28     |
| 62M060PSD3DEN | 60:1       | 42    | 270   | 30.5 | 5.3–44 | 1.6–13 | 44     | 28     |
| 62M030PSD3DEN | 30:1       | 83    | 135   | 15.3 | 6.8–57 | 2.1–17 | 28     | 28     |
| 62M020PSD3DEN | 20:1       | 125   | 90    | 10.2 | 10–85  | 3–26   | 28     | 28     |
| 62M020PSD3DEN | 20:1       | 125   | 90    | 10.2 | 15–127 | 4.7–39 | 48     | 32     |
| 62M010PSD3DEN | 10:1       | 250   | 72    | 8.1  | 20–170 | 6–52   | 28     | 28     |
| 62M010PSD3DEN | 10:1       | 250   | 72    | 8.1  | 31–255 | 9–77   | 48     | 32     |

<sup>\* =</sup> Cleated and Sidewall Cleated belts operate at a maximum of 150 Ft/min (45.7 m/min)

### NOTE

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

### **Required Tools**

- Hex key wrenches: 2 mm, 2.5 mm, 3 mm, 5 mm
- Torque wrench

### **Mounting**

### **A WARNING**



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

### **A** WARNING



MPB Series Conveyors are not reversible. Reversing creates pinch points which can cause severe injury.

DO NOT REVERSE MPB SERIES CONVEYORS.

### **WARNING**



For MPB Series and Cleated Belt Conveyors Gearmotors must be mounted as shown in Figure 2.

Failure to do so creates pinch points which can cause severe injury.

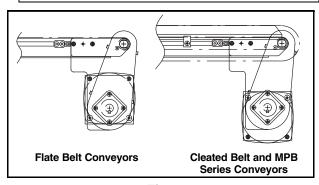


Figure 2

### NOTE

Gearmotor position on Flat Belt conveyor shown at left (Figure 2). Gearmotor position on Cleated Belt or MPB Series conveyor shown at right (Figure 2).

1. Typical components (Figure 3)

### **Installation Component List:**

I Bottom Mount Assembly

J Drive Pulley

K Cover

M4 Socket Head Screws (4x)

M Driven Pulley

N Key

O M6 Socket Head Screws (2x)

P Timing Belt

### NOTE

Flat belt mounting package shown below (Figure 3), cleated belt mounting package similar.

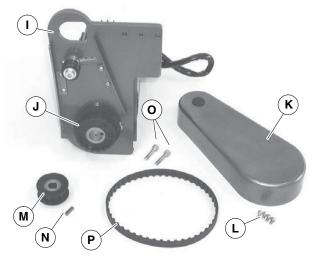
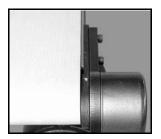


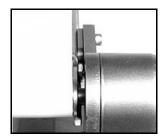
Figure 3

# Installation

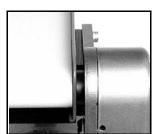
For your reference, the following figures show the attachment area of complete mounting packages for the various conveyor series.



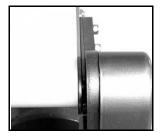
2200 Series Figure 4



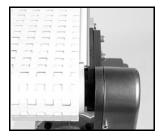
6200 Series Figure 5



4100 Series Figure 6



2100 Series Figure 7



MPB Series Figure 8

### NOTE

6200 conveyor shown, other Series similar.

3. Locate drive output shaft (Figure 9, item R) and remove two screws (S).

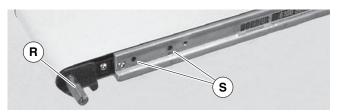


Figure 9

4. Attach mounting assembly (Figure 10, item I) with screws (O). Tighten to 80 in-lb (9 Nm).

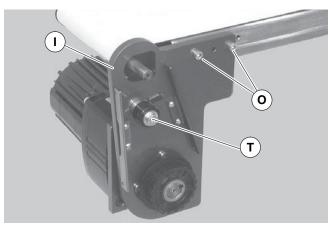


Figure 10



5. Install key (Figure 11, item N).

# Installation

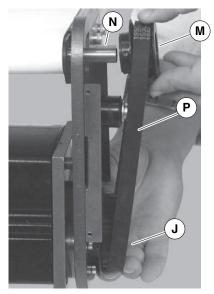


Figure 11

- 6. Wrap timing belt (P) around driven pulley (M) and drive pulley (J). Install driven pulley (M) onto conveyor shaft.
- 7. Remove cam bearing and spacer (Figure 10, item T). Place the cam bearing and spacer (Figure 12, item T) next to the driven pulley (M). Ensure the flanges of the driven pulley are aligned with the cam bearing. Tighten driven pulley set screws (U). This will allow for proper belt alignment while conveyor is in use. Replace cam bearing and spacer (T).

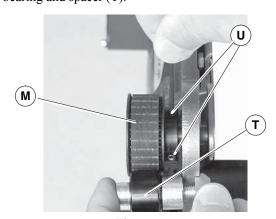


Figure 12

8. Depending on direction of conveyor belt travel (1 or 2 of Figure 13), position belt tensioner (V) as shown. Tension belt to obtain 0.125" (3 mm) deflection for 1.0 lb (456 grams) of force at belt mid-point (W). Tighten tensioner screw to 103 in-lb (12 Nm).

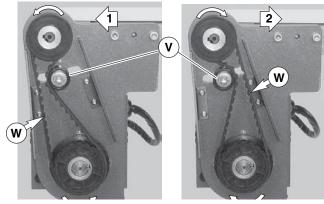


Figure 13

9. Install cover (Figure 14, item K) with four (4) screws (L). Tighten to 35 in-lb (4 Nm).

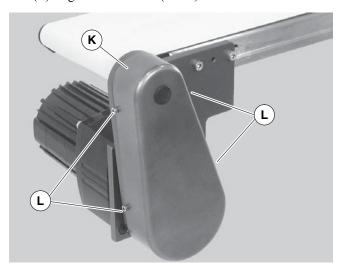


Figure 14

# **Preventive Maintenance and Adjustment**

### **Required Tools**

- Hex key wrenches: 2 mm, 2.5 mm, 3 mm, 5 mm
- Adjustable wrench (for hexagon head screws)
- · Straight edge
- · Torque wrench

### **Timing Belt Tensioning**

### **A** WARNING



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

- 1. Remove four (4) screws (Figure 14, item L) and remove cover (K).
- 2. Loosen tensioner (Figure 15, item V).

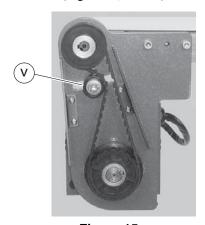


Figure 15

- 3. Depending on direction of conveyor belt travel (1 or 2 of Figure 13), position belt tensioner (V) as shown. Tension belt to obtain 0.125" (3 mm) deflection for 1.0 lb (456 grams) of force at belt mid-point (W). Tighten tensioner screw to 103 in-lb (12 Nm).
- 4. Install cover (Figure 14, item K) with four (4) screws (L). Tighten to 35 in-lb (4 Nm).

### **Timing Belt Replacement**

### WARNING



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

- 1. Remove four (4) screws (Figure 14, item L) and remove cover (K).
- 2. Loosen tensioner (Figure 15, item V).
- 3. Remove timing belt (Figure 16, item P).

### NOTE

If timing belt does not slide over pulley flange, loosen driven pulley set screws (Figure 16, item U) and remove pulley with belt (P). For re-installation, see steps 6 and Figure 11 on page 11.

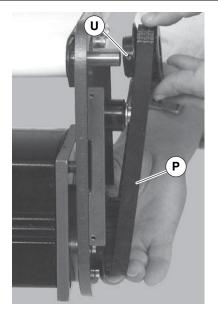


Figure 16

- 4. Install new timing belt.
- 5. Depending on direction of conveyor belt travel (1 or 2 of Figure 11), position belt tensioner (V) as shown. Tension belt to obtain 0.125" (3 mm) deflection for 1.0 lb (456 grams) of force at belt mid-point (W). Tighten tensioner screw to 103 in-lb (12 Nm).
- 6. Install cover (Figure 14, item K) with four (4) screws (L). Tighten to 35 in-lb (4 Nm).

# **Preventive Maintenance and Adjustment**

### **Drive or Driven Pulley Replacement**

### **WARNING**



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

- 1. Complete steps 1 through 3 of "Timing Belt Replacement" section on page 12.
- 2. Loosen set screws and remove drive or driven pulley.

### NOTE

If drive pulley (Figure 19, item J) is replaced, wrap timing belt around drive pulley and complete step 3.

3. Complete steps 6 through 9 of "Installation" section on page 11.

### **Gear Motor Replacement**

### WARNING



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

### **A** DANGER



Hazardous voltage will cause severe injury or death.

LOCKOUT POWER BEFORE before wiring.

- 1. For single phase motor, unplug power cord from outlet.
- 2. For three phase motor:
  - a. Loosen terminal box screws (Figure 17, item AF) and remove cover (AG).

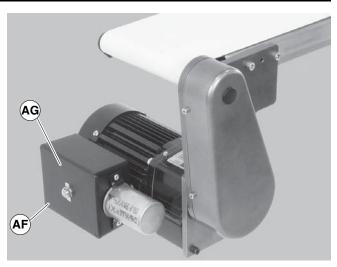


Figure 17

- Record incoming wire colors on red, black and blue leads. Loosen wire nuts and remove incoming wires.
- c. Loosen cord grip and remove cord.
- 3. For DC variable speed motor, unplug motor cord at disconnect (Figure 18, item AH).

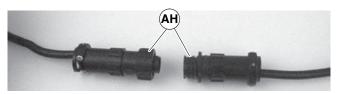


Figure 18

- 4. Remove four (4) screws (Figure 14, item L) and remove cover (K).
- 5. Loosen tensioner (Figure 15, item V).
- 6. Loosen drive pulley set screws (Figure 19, item X). Remove drive pulley (J) and timing belt (P).

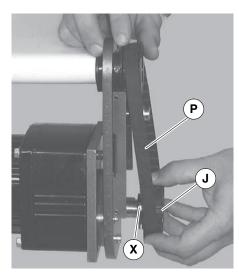


Figure 19

# **Preventive Maintenance and Adjustment**

7. Remove four (4) gearmotor mounting screws (Figure 20, item Q). Remove gearmotor with adapter plate.

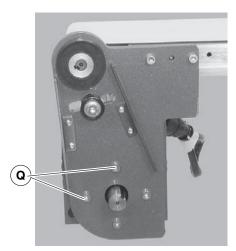


Figure 20

8. Remove four (4) adapter plate screws (Figure 21, item AI). Remove adapter plate.

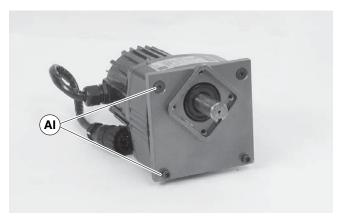


Figure 21

### **NOTE**

Gearmotor position on Flat Belt conveyor shown at left (Figure 22). Gearmotor position on Cleated Belt or MPB Series conveyor shown at right (Figure 22).

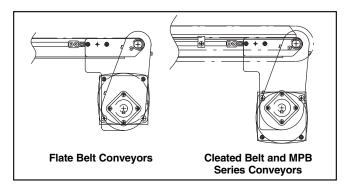


Figure 22

9. Install new gearmotor to adapter plate and mounting bracket. Tighten screws (Figure 20, item Q) to 103 in-lb (12 Nm).

### NOTE

Drive pulley (Figure 19, item J) is removed. Wrap timing belt around drive pulley and complete step 10.

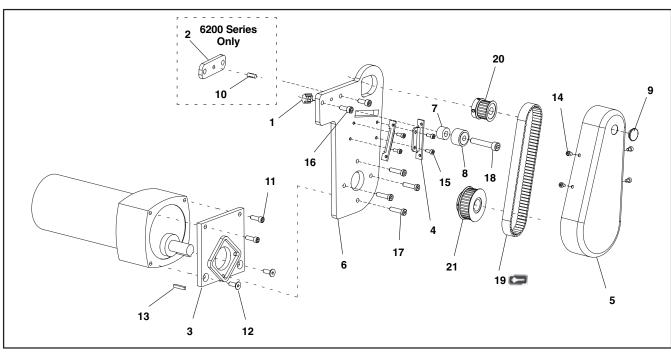
- 10. Complete steps 6 through 9 of "Installation" section on page 11.
- 11. Replace wiring:
- For a single phase motor, reverse step 1 on page 13.
- For a three phase motor, reverse step 2, on page 13.
- For a DC variable speed motor, reverse step 3 on page 13.

# **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.

# 2100, 2200, 4100, 6200 Series and MPB Series Flat Belt Bottom Mount Drive Package

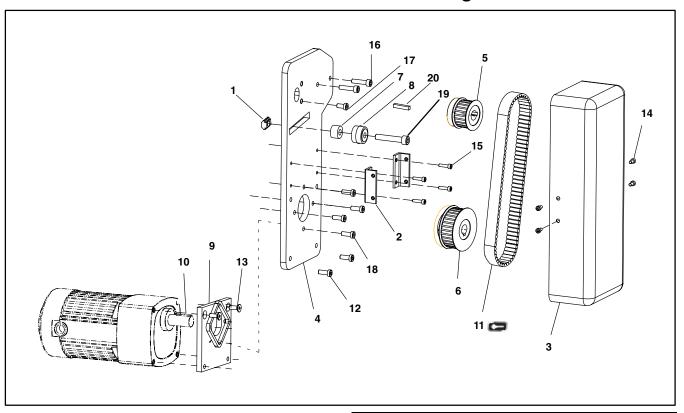


| Item | Part Number | Description                                  |
|------|-------------|--|
| 1    | 202390M     | Nut, Cam Follower                            |
| 2    | 450027M     | Adaptor Plate Assembly (6200 Only)           |
| 3    | 450029M     | Adaptor Plate Assembly                       |
| 4    | 450375M     | Cover Mounting Bracket                       |
| 5    | 450376M     | Drive Guard                                  |
| 6    | 450443M     | Grove Mounting Plate                         |
| 7    | 450445      | Spacer, Cam Follower                         |
| 8    | 802-046     | Bearing                                      |
| 9    | 807–226     | Snap-out Plastic Plug                        |
| 10   | 807–952     | Groove Pin (6200 Only)                       |
| 11   | 902–157     | Socket Head Screw 1/4–28 x .75"              |
| 12   | 903–161     | Flat Head Screw 1/4-28 x .75"                |
| 13   | 912-084     | Square Key .188 x 1.5"                       |
| 14   | 920406M     | Socket Head Screw M4 x 6mm                   |
| 15   | 920410M     | Socket Head Screw M4 x 10mm                  |
| 16   | 920625M     | Socket Head Screw M6 x 25mm                  |
|      | 920616M     | Socket Head Screw M6 x 16mm (4100 Conveyors) |

| Item | Part Number | Description                       |  |
|------|-------------|-----------------------------------|--|
| 17   | 920695M     | Socket Low Head Screw M6 x 20mm   |  |
| 18   | 920845M     | Socket Head Screw M8 x 45mm       |  |
| 19   | 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     |  |
|      | 814-108     | Timing Belt, 15mm W x 520mm L     |  |
|      | 814-064     | Timing Belt, 15mm W x 535mm L     |  |
|      | 814-099     | Timing Belt, 15mm W x 565mm L     |  |
| 20   | 450365MP    | Driven Pulley, 19Tooth, 12mm bore |  |
|      | 450366MP    | Driven Pulley, 22Tooth, 12mm bore |  |
|      | 450367MP    | Driven Pulley, 28Tooth, 12mm bore |  |
|      | 450368MP    | Driven Pulley, 32Tooth, 12mm bore |  |
| 21   | 450434      | Drive Pulley, 22Tooth, 0.75" bore |  |
|      | 450435      | Drive Pulley, 28Tooth, 0.75" bore |  |
|      | 450436      | Drive Pulley, 32Tooth, 0.75" bore |  |
|      | 450437      | Drive Pulley, 44Tooth, 0.75" bore |  |
|      | 450438      | Drive Pulley, 48Tooth, 0.75" bore |  |

# **Service Parts**

# MPB Series Cleated Belt Bottom Mount Drive Package

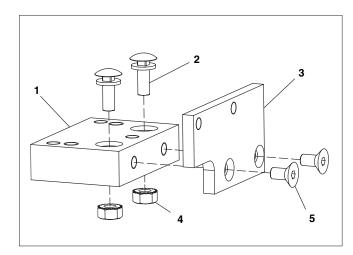


| Item | Part Number | Description                       |
|------|-------------|-----------------------------------|
| 1    | 202390M     | Nut Cam Follower                  |
| 2    | 243402      | Mounting Cover Bracket            |
| 3    | 300871M     | Drive Guard                       |
| 4    | 243401      | Mounting Plate                    |
| 5    | 450367MP    | Driven Pulley, 28Tooth            |
|      | 450368MP    | Driven Pulley, 32Tooth            |
| 6    | 450434      | Drive Pulley, 22Tooth, 0.75" bore |
|      | 450435      | Drive Pulley, 28Tooth, 0.75" bore |
|      | 450436      | Drive Pulley, 32Tooth, 0.75" bore |
|      | 450437      | Drive Pulley, 44Tooth, 0.75" bore |
|      | 450438      | Drive Pulley, 48Tooth, 0.75" bore |
| 7    | 450445      | Spacer                            |
| 8    | 802–046     | Bearing                           |
| 9    | 450029M     | Adaptor Plate Assembly            |
| 10   | 912–084     | Square Key .188 x 1.5"            |

| Item | Part Number | Description                          |
|------|-------------|--------------------------------------|
| 11   | 814-101     | Timing Belt, 15mm W x 500mm L        |
|      | 814-108     | Timing Belt, 15mm W x 520mm L        |
|      | 814-064     | Timing Belt, 15mm W x 535mm L        |
|      | 814-099     | Timing Belt, 15mm W x 565mm L        |
|      | 814-109     | Timing Belt, 15mm W x 580mm L        |
|      | 814-115     | Timing Belt, 15mm W x 600mm L        |
|      | 814-110     | Timing Belt, 15mm W x 615mm L        |
| 12   | 902–157     | Socket Head Screw 1/4-28 x .75"      |
| 13   | 903–161     | Flat Head Screw 1/4-28 x .75"        |
| 14   | 920408M     | Socket Head Screw M4 x 8mm           |
| 15   | 920416M     | Socket Head Screw M4 x 16mm          |
| 16   | 920625M     | Socket Head Screw M6 x 25mm          |
| 17   | 920692M     | Stabilization Screw M6 x 12mm Low Hd |
| 18   | 920693M     | Socket Low Head Screw M6 x 16mm      |
| 19   | 920845M     | Socket Head Screw M8 x 45mm          |
| 20   | 980422M     | Square Key 4mm x 22mm                |

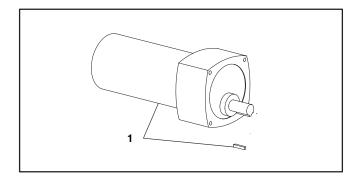
# **Service Parts**

# 4100 Series Adapter Package



| Item | Part No. | Part Description            |
|------|----------|-----------------------------|
| 1    | 609486   | Mounting Block 1" (25mm)    |
|      | 609487   | Mounting Block 2" (51mm)    |
|      | 609488   | Mounting Block 3" (76mm)    |
|      | 609479   | Mounting Block 4" (102mm)   |
|      | 609480   | Mounting Block 5" (127mm)   |
|      | 609481   | Mounting Block 6" (152mm)   |
|      | 609482   | Mounting Block 7" (178mm)   |
|      | 609483   | Mounting Block 8" (203mm)   |
|      | 609484   | Mounting Block 10" (254mm)  |
|      | 609485   | Mounting Block 12" (305mm)  |
| 2    | 613602P  | Bolt & Flat Washer Assembly |
| 3    | 450374   | Drive Adapter Plate         |
| 4    | 910–126  | Hex Nut with Lock Washer    |
| 5    | 930612M  | Flat Head Screw M6 x 12mm   |

### **Gear Motor**



| Item | Part No.      | Part Description   |
|------|---------------|--|
| 0    | 62M180PS411FN | Motor, 0.08hp (0.06Kw), 10 RPM, 115VAC, 60Hz, 1-Phase                            |
|      | 62M180PS411FR | Motor, 0.08hp (0.06Kw), 10 RPM,<br>115VAC, 60Hz, 1-Phase w/<br>reversing switch  |
|      | 62M060PS411FN | Motor, 0.17hp (0.13Kw), 29 RPM, 115VAC, 60Hz, 1-Phase                            |
|      | 62M060PS411FR | Motor, 0.17hp (0.13Kw), 29 RPM,<br>115VAC, 60Hz, 1-Phase w/<br>reversing switch  |
|      | 62M060PS423FN | Motor, 0.25hp (0.19Kw), 29 RPM, 230VAC, 60Hz, 3-Phase                            |
|      | 62M030PS411FN | Motor, 0.17hp (0.13Kw), 58 RPM, 115VAC, 60Hz, 1-Phase                            |
|      | 62M030PS411FR | Motor, 0.17hp (0.13Kw), 58 RPM,<br>115VAC, 60Hz, 1-Phase w/<br>reversing switch  |
|      | 62M030PS423FN | Motor, 0.25hp (0.19Kw), 58 RPM, 230VAC, 60Hz, 3-Phase                            |
|      | 62M020PS411FN | Motor, 0.17hp (0.13Kw), 86 RPM, 230VAC, 60Hz, 1-Phase                            |
|      | 62M020PS411FR | Motor, 0.17hp (0.13Kw), 86 RPM,<br>115VAC, 60Hz, 1-Phase w/<br>reversing switch  |
|      | 62M010PS411FN | Motor, 0.17hp (0.13Kw), 173 RPM, 115VAC, 60Hz, 1-Phase                           |
|      | 62M010PS411FR | Motor, 0.17hp (0.13Kw), 173 RPM,<br>115VAC, 60Hz, 1-Phase w/<br>reversing switch |
|      | 62M010PS423FN | Motor, 0.25hp (0.19Kw), 173 RPM, 230VAC, 60Hz, 3-Phase                           |
|      | 62M005PS411FN | Motor, 0.17hp (0.13Kw), 345 RPM, 230VAC, 60Hz, 1-Phase                           |
|      | 62M005PS411FR | Motor, 0.17hp (0.13Kw), 345 RPM,<br>115VAC, 60Hz, 1-Phase w/<br>reversing switch |
|      | 62M180PSD3DEN | Motor, 0.12hp (0.09Kw), 14 RPM, 130VDC   |
|      | 62M060PSD3DEN | Motor, 0.25hp (0.19Kw), 42 RPM, 130VDC   |
|      | 62M030PSD3DEN | Motor, 0.25hp (0.19Kw), 83 RPM, 130VDC   |
|      | 62M020PSD3DEN | Motor, 0.25hp (0.19Kw), 125 RPM, 130VDC  |
|      | 62M010PSD3DEN | Motor, 0.25hp (0.19Kw), 250 RPM, 130VDC  |
|      | 62M005PSD3DEN | Motor, 0.25hp (0.19Kw), 500 RPM, 130VDC  |

# **Return Policy**

Returns must have prior written factory authorization or they will not be accepted. Items that are returned to Dorner without authorization will not be credited nor returned to the original sender. 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. Dorner part number(s) of 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 for reference.

There will be a return charge on all new undamaged items returned for credit where Dorner was not at fault. Dorner is not responsible for return freight on such items.

Conveyors and conveyor accessories

**Parts** 

Standard stock parts 30% MPB, cleated and specialty belts non-returnable items

Returns will not be accepted after 60 days from original invoice date.

The return charge covers inspection, cleaning, disassembly, disposal and reissuing of components 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. Contact Dorner for the name of your local representative. Our Technical Sales, Catalog Sales and Service Teams will gladly help with your questions on Dorner products.

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

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



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. 2006

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