

## **2100, 2200, 4100, 6100, MPB Series Side Mount Drive Package for Standard Load 50 Hz Gearmotors**





## **Table of Contents**

Warnings – General Safety .....	2	Preventative Maintenance & Adjustment .....	9
Introduction .....	2	Required Tools .....	9
Product Description .....	3	Gear Reducer Replacement .....	9
Specifications .....	3	Motor Replacement .....	10
Gearmotors .....	3	Service Parts .....	12
2200 Belt Speeds .....	4	Side Mount Drive Package for 90°	
2100 4100 & 6100 Belt Speeds .....	4	60Hz Gearmotors .....	12
MPB Belt Speeds .....	5	4100 Mounting Package .....	13
Installation .....	6	Gearmotors .....	13
Required Tools .....	6	Return Policy .....	14
Mounting .....	6		
For 4100 and 2100 Flat Belt Conveyors .....	7		
For 6100, 2200, MPB and 2100 Cleated Belt Conveyors .....	8		

# Warnings – General Safety

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

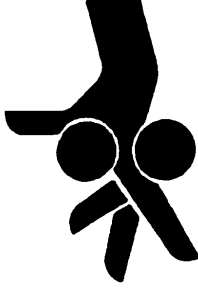

	 <b>DANGER</b>
<p>Climbing, sitting, walking or riding on conveyor will cause severe injury. <b>KEEP OFF CONVEYORS.</b></p>	

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

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

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

	 <b>WARNING</b>
<p>Exposed moving parts can cause severe injury. <b>REPLACE ALL GUARDS BEFORE RUNNING CONVEYOR.</b></p>	

	 <b>WARNING</b>
<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, <b>CHECK FOR POTENTIAL PINCH POINTS</b> and other mechanical hazards before system start-up.</p>	

	 <b>WARNING</b>
<p>MPB Series Conveyors are not reversible. Reversing creates pinch points which can cause severe injury. <b>DO NOT REVERSE MPB SERIES CONVEYORS.</b></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 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, 6100 & MPB 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

- | Typical Components (Refer to Figure 1) |                  |
|--|------------------|
| A                                      | Conveyor         |
| B                                      | Mounting Bracket |
| C                                      | Gearmotor        |
| D                                      | Coupling         |
| E                                      | Inspection Plug  |

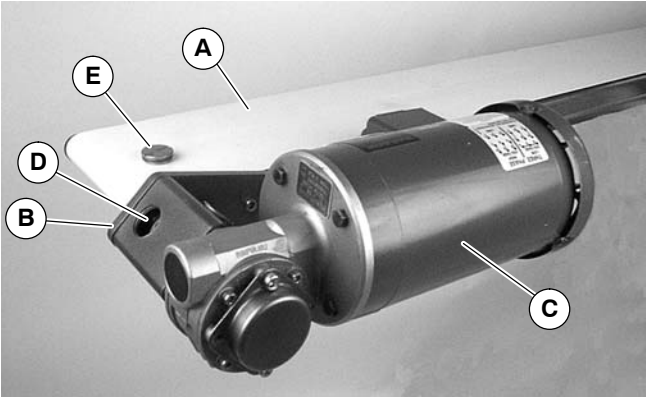
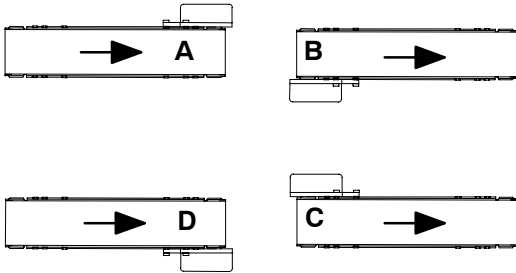
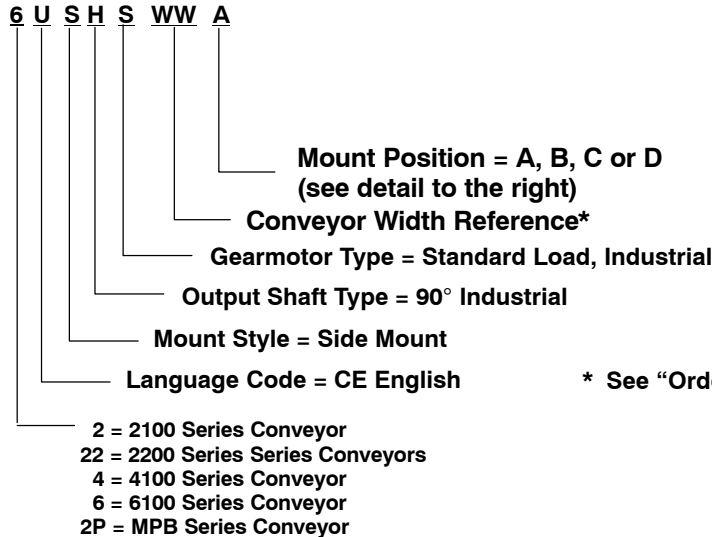


Figure 1

# Specifications

## Gearmotor Mounting Package Models:

### Example:



\* See "Ordering and Specifications" Catalog for details.

Table 1: Gearmotor Specifications

	Single Phase	Three Phase	VFD Variable Speed
Output Power	0.18 kw		
Input Voltage	230 Volts A.C.	230/400 Volts A.C.	230 Volts A.C.
Input Frequency	50 Hz		25 to 63 Hz
Input Current	1.6 Amperes	1.4/0.8 Amperes	1.4 Amperes
Gearmotor Ratios	5:1, 10:1, 20:1, 40:1, 60:1		
Protection Rating	IP55		
Frame Size	IEC 63 B5		

# Specifications

**Table 2: Belt Speeds for Standard Load Fixed Speed 90° 50 Hz Gearmotors on 2200 Series Conveyors**

Gearmotors			Belt Speed
Part Number	RPM	N-m	M/min
62Z060HS4(vp)FN	23	26.4	2.4
62Z040HS4(vp)FN	35	28.9	3.7
62Z020HS4(vp)FN	70	19.4	7.6
62Z010HS4(vp)FN	140	10.7	14.9
62Z005HS4(vp)FN	280	5.6	29.3

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

**Table 3: Belt Speeds for Standard Load Variable Speed 90° 50 Hz Gearmotors on 2200 Series Conveyors**

Gearmotors			Belt Speed
Part Number	RPM @ 50Hz	N-m	M/min
62Z060HS423EN	23	26.4	1.2 – 3.1
62Z040HS423EN	35	28.9	1.9 – 4.7
62Z020HS423EN	70	19.4	3.7 – 9.4
62Z010HS423EN	140	10.7	7.5 – 19
62Z005HS423EN	280	5.6	15 – 38

**Table 4: Belt Speeds for Standard Load Fixed Speed 90° 50 Hz Gearmotors on 2100 & 6100 Series Conveyors**

Gearmotors			Belt Speed
Part Number	RPM	N-m	M/min
62Z060HS4(vp)FN	23	26.4	2.1
62Z040HS4(vp)FN	35	28.9	3.0
62Z020HS4(vp)FN	70	19.4	6.1
62Z010HS4(vp)FN	140	10.7	12.2
62Z005HS4(vp)FN	280	5.6	24.4

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

**Table 5: Belt Speeds for Standard Load Variable Speed 90° 50 Hz Gearmotors on 2100 & 6100 Series Conveyors**

Gearmotors			Belt Speed M/min
Part Number	RPM @ 50Hz	N-m	
62Z060HS423EN	23	26.4	1.0 – 2.6
62Z040HS423EN	35	28.9	1.5 – 3.8
62Z020HS423EN	70	19.4	3.0 – 7.7
62Z010HS423EN	140	10.7	6.1 – 15.0
62Z005HS423EN	280	5.6	12.2 – 30

**Table 6: Belt Speeds for Standard Load Fixed Speed 90° 50 Hz Gearmotors on MPB Series Conveyors**

Gearmotors			Belt Speed M/min
Part Number	RPM	N-m	
62Z060HS4(vp)FN	23	26.4	4.8
62Z040HS4(vp)FN	35	28.9	7.4
62Z020HS4(vp)FN	70	19.4	14.5

(vp) = voltage and phase

21 = 230 V, 1-phase

23 = 230 V, 3-phase

43 = 400 V, 3-phase

**Table 7: Belt Speeds for Standard Load Variable Speed 90° 50 Hz Gearmotors on MPB Series Conveyors**

Gearmotors			Belt Speed M/min
Part Number	RPM @ 50Hz	N-m	
62Z060HS423EN	23	26.4	2.4–6.1
62Z040HS423EN	35	28.9	3.6–9.1
62Z020HS423EN	70	19.4	7.2–18
62Z010HS423EN	140	10.7	14–36
62Z005HS423EN	280	5.6	29–73*

\* = Cleated and Sidewall Cleated belts operate at a maximum of 45.7 m/min

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

# Installation

## Required Tools

- Hex key wrenches:  
3 mm & 5 mm
- Large flat-blade screwdriver
- Torque wrench

## Mounting



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



**WARNING**  
MPB Series Conveyors are not reversible. Reversing creates pinch points which can cause severe injury.  
**DO NOT REVERSE MPB SERIES CONVEYORS.**

### Installation Component List

F	Drive Assembly
G	M6 Socket Head Screws (2x)
H	Hex Shaft (2100 & 4100 flat belt conveyor only)
I	Socket Head Screws M6 x 90 mm (4x)
J	Screws
K	Inspection Plugs (2x)
L	Set Screws (2x)
M	Access Hole
N	Key (2100 cleated belt or 6100 conveyors only)

### 1. Typical components (Figure 2)

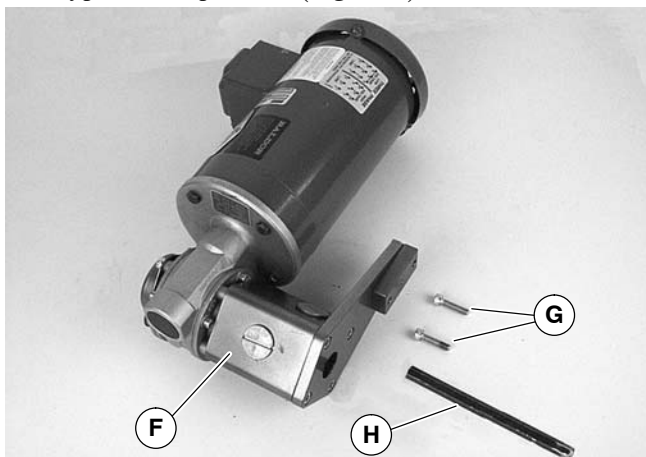


Figure 2

**NOTE:** Gearmotor may be operated in positions 1, 2, 3 or 4 (Figure 3).

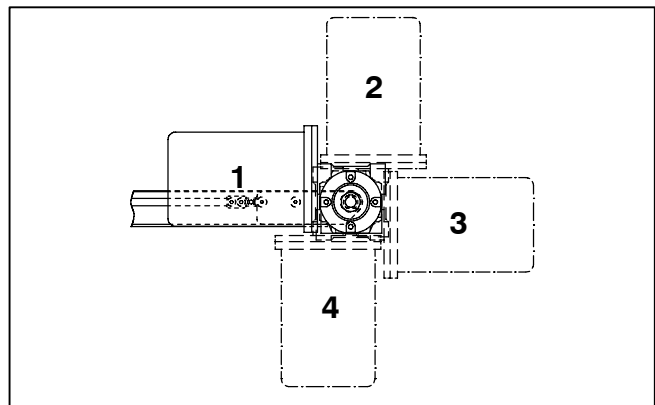


Figure 3

2. If required, change gearmotor position by removing four (4) screws (I of Figure 4). Rotate gearmotor to other position (Figure 3) and replace screws (I). Tighten to 12 Nm.



Figure 4

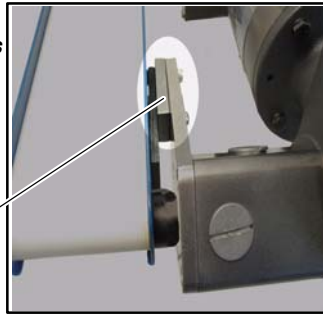
## For 4100 and 2100 Flat Belt Conveyors

**IMPORTANT:** On 95 mm and wider conveyors, the hex broach is offset from center towards the drive side for hex shaft engagement.

**3a.** The figures below show gearmotor mounting for 4100 and 2100 series conveyors.

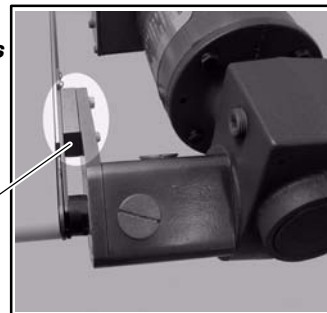
**Figure 5 – 4100 Series**

Gearmotor and Drive Plate are mounted to Spacer Plate

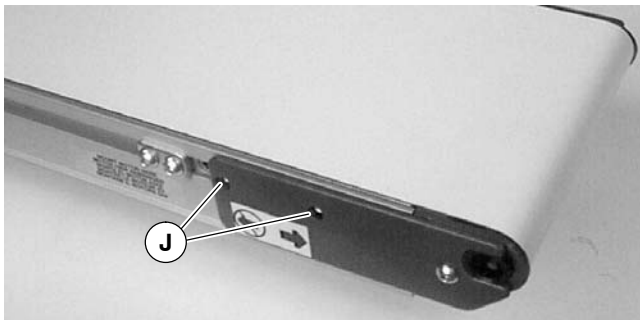


**Figure 6 – 2100 Series**

Gearmotor and Drive Plate are mounted to Spacer Plate

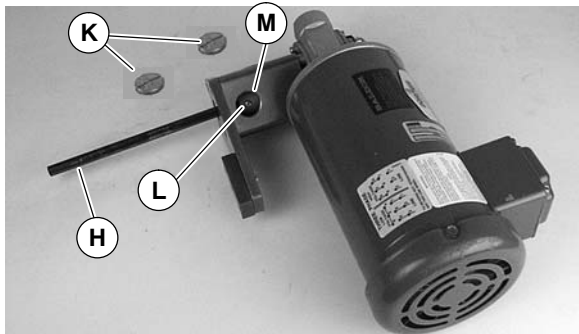


**4a.** Locate drive mounting position and remove two (2) screws (J of Figure 7).



**Figure 7**

**5a.** Remove inspection plugs (K of Figure 8).

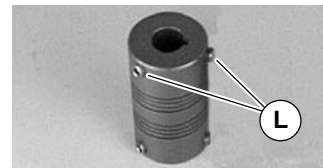


**Figure 8**

**6a.** Insert hex shaft (H) into coupling.

		<h2>WARNING</h2>
	<p>Exposed moving parts can cause severe injury.</p> <p><b>KEEP HANDS CLEAR OF DRIVE WHILE JOGGING MOTOR.</b></p>	

**NOTE:** Coupling has two (2) set screws (L of Figure 9).

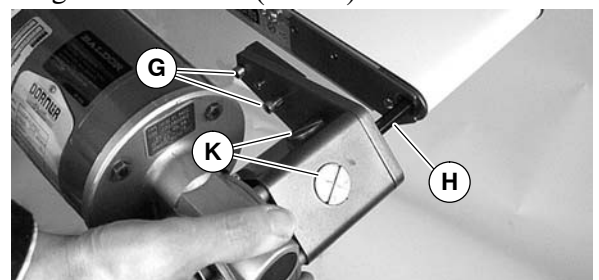


**Figure 9**

**7a.** Jog motor and rotate coupling to align set screw (L of Figure 8) with access hole (M). Tighten to 3.7 N-m. Repeat for second set screw.

		<h2>WARNING</h2>
	<p>Exposed moving parts can cause severe injury.</p> <p><b>LOCK OUT POWER AFTER JOGGING MOTOR.</b></p>	

**8a.** Replace inspection plugs (K of Figure 10). Insert hex shaft (H) into drive pulley hex bushing and slide drive against conveyor. Install two (2) screws (G). Tighten to 80 in-lb (9 N-m).



**Figure 10**

# Installation

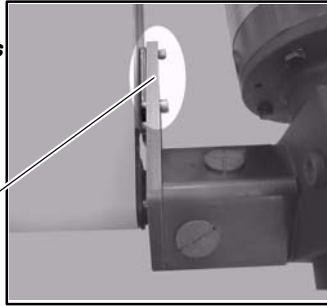
For 6100, 2200, MPB and 2100 Cleated Belt Conveyors

		<h2>WARNING</h2>
	<p>Drive shaft keyway may be sharp. <b>HANDLE WITH CARE.</b></p>	

**3b.** The figures below show gearmotor mounting for 6100, 2200 and MPB series conveyors.

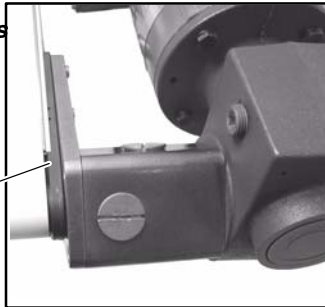
**Figure 11 – 6100 Series**

Gearmotor and Drive Plate are mounted to Spacer Plate



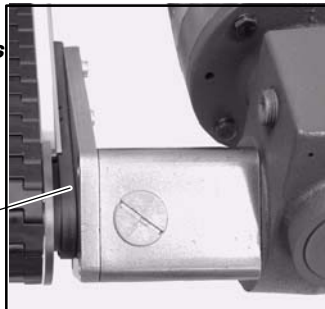
**Figure 12 – 2200 Series**

Gearmotor and Drive Plate are mounted to Head Plate



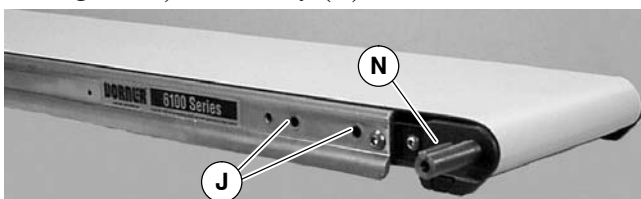
**Figure 13 – MPB Series**

Gearmotor and Drive Plate are mounted to Head Plate



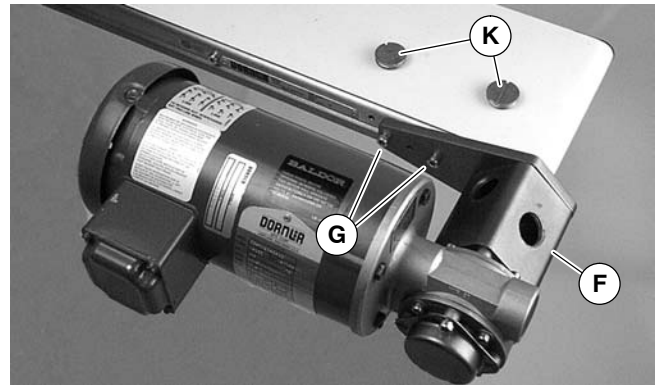
**NOTE:** 6100 conveyor shown, 2200 and MPB cleated belt conveyors similar.

**4b.** Locate drive output shaft. Remove two screws (J of Figure 14). Install key (N).





**Figure 14**

**5b.** Remove inspection plugs (K of Figure 15).



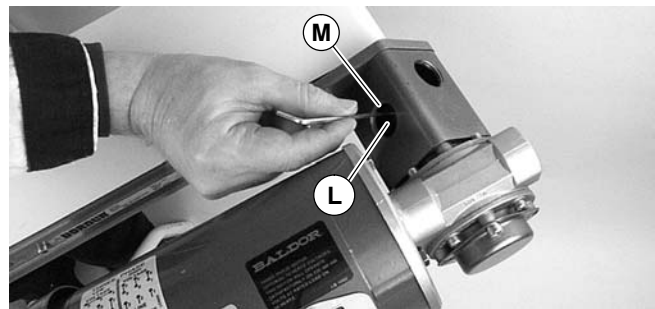
**Figure 15**

**6b.** Slide coupling over drive output shaft and install drive assembly (F).


		<h2>WARNING</h2>
	<p>Exposed moving parts can cause severe injury. <b>KEEP HANDS CLEAR OF DRIVE WHILE JOGGING MOTOR.</b></p>	

**NOTE:** Coupling has two (2) set screws (L of Figure 9).

**7b.** Jog motor and rotate coupling to align set screw (L of Figure 16) with access hole (M). Tighten to 3.7 N-m. Repeat for second set screw.



**Figure 16**

		<h2>WARNING</h2>
	<p>Exposed moving parts can cause severe injury. <b>LOCK OUT POWER AFTER JOGGING MOTOR.</b></p>	

**8b.** Replace inspection plugs. (K of Figure 15)



# Preventive Maintenance and Adjustment



## Required Tools

- Hex key wrenches:  
2.5 mm, 3 mm, 5 mm
- Large flatblade screwdriver
- Adjustable wrench (for hexagon head screws)
- Torque wrench

## Gear Reducer Replacement

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

1. Remove inspection plug(s) (K of Figure 15).

	 <b>WARNING</b>
	<p>Exposed moving parts can cause severe injury.</p> <p><b>KEEP HANDS CLEAR OF DRIVE WHILE JOGGING MOTOR.</b></p>

**NOTE:** Coupling has two (2) set screws (L of Figure 9).

2. Jog motor and rotate coupling to align set screw (L of Figure 16) with access hole (M). Loosen set screw. Repeat for second set screw.
3. Remove two (2) screws (G of Figure 15). Remove drive assembly (F).
4. Remove four (4) screws (I of Figure 17) and remove mounting bracket & guard (O).



Figure 17

5. Loosen two (2) set screws (L of Figure 18) and detach coupling (P).

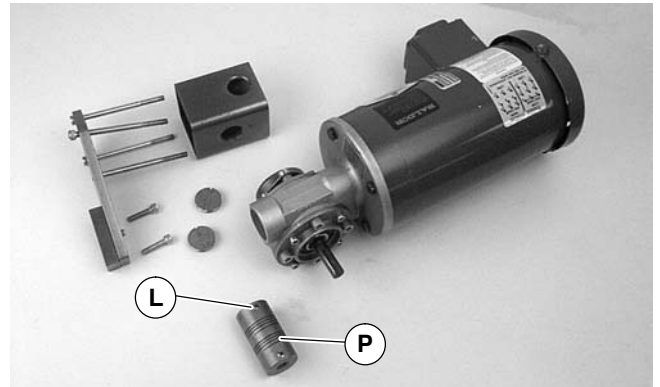


Figure 18

6. Remove four screws (Q of Figure 19). Detach motor with adapter flange (R) from gear reducer (S). Retain motor output shaft key (T).

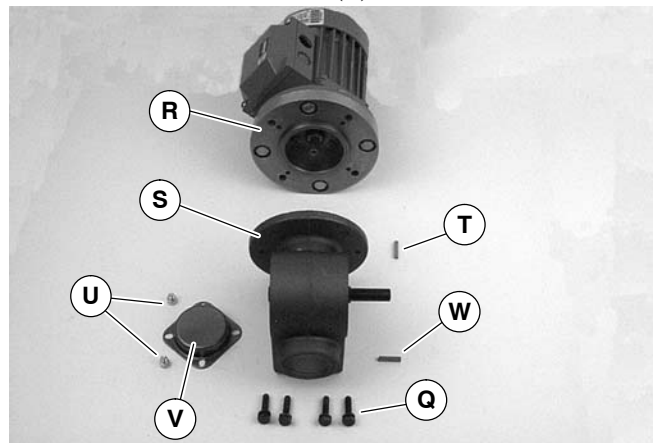


Figure 19

7. Remove two (2) screws (U) and detach output shaft cover (V).
8. Remove gear reducer output shaft key (W).

# Preventive Maintenance and Adjustment

9. Loosen six (6) set screws (X of Figure 20). Remove drive shaft (Y) and key (Z).

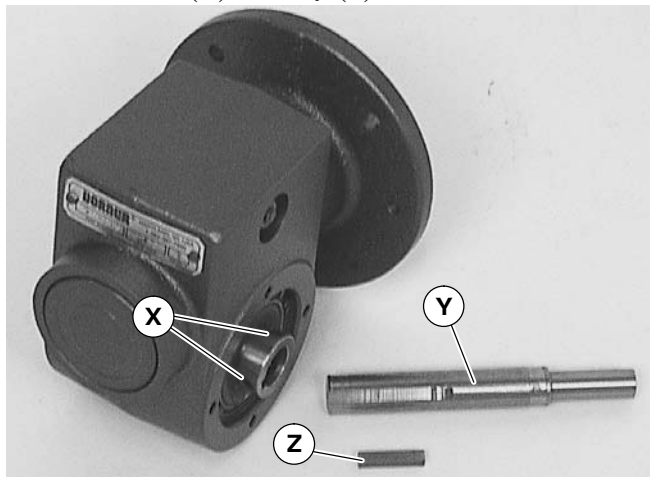


Figure 20

10. Apply grease (AA of Figure 21) to shaft.

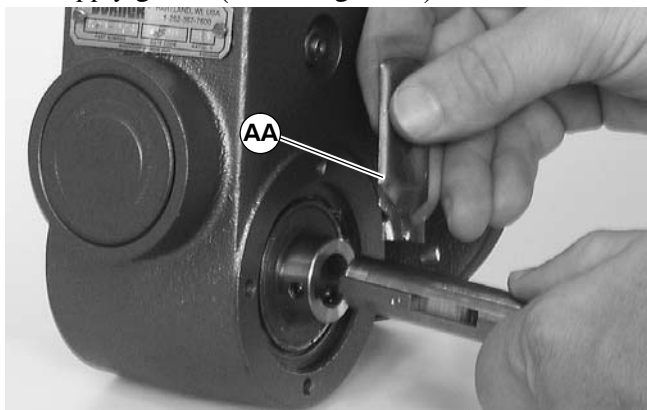


Figure 21

11. Replace the original shaft (Y Figure 20) and key (Z) into new gear reducer. Tighten set screws to 3 N-m.

**IMPORTANT: Be extremely careful when coupling motor to gear reducer. Avoid misalignment and forcing the connection causing possible permanent gear reducer seal damage.**

12. With key (T of Figure 19) in keyway, slide motor with adapter flange (R) and gear reducer (S) together. Install screws (Q) and tighten.
13. Attach coupling (P of Figure 18) to gear reducer shaft. Tighten two (2) set screws (L) to 3.7 N-m.
14. Attach mounting bracket & tube (O of Figure 17) to gearmotor. Tighten screws (I) to 12 N-m.
15. Complete installation steps:
- See “4100 & 2100 Flat Belt Conveyors” section on page 7.

- See “6100, 2200 and MPB Cleated Belt Conveyors” section on page 8.

## Motor Replacement

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

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

1. For single phase motor:

- a. Loosen terminal box screws (AB of Figure 22) and remove cover (AC).



Figure 22

- b. Record wire colors on terminals 2, 6 and ground ( $\perp$ ) (Figure 23). Loosen terminals 2, 6 and ground and remove wires.

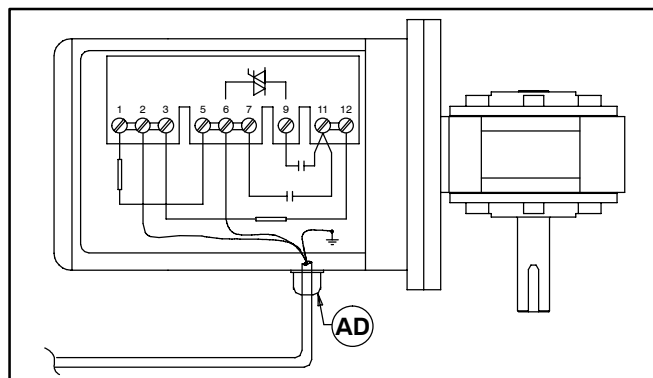


Figure 23

- c. Loosen cord grip (AD of Figure 23) and remove cord.

# Preventive Maintenance and Adjustment

2. For three phase and VFD variable speed motor:
  - a. Loosen terminal box screws (AB of Figure 22) and remove cover (AC).
  - b. Record wire colors on terminals U1, V1, W1 & PE (Figure 24). Loosen terminals U1, V1, W1 & PE and remove wires.

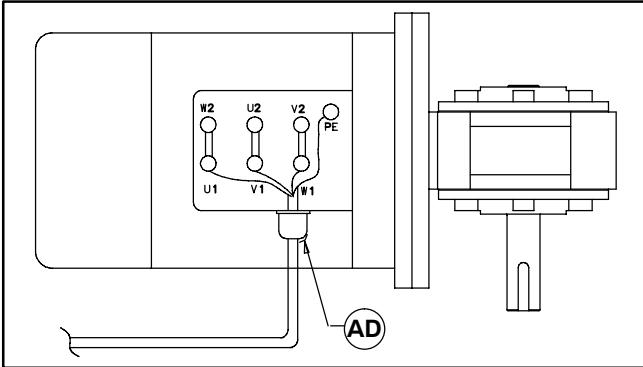


Figure 24

- c. Loosen cord grip (AD of Figure 24) and remove cord.
3. Remove four (4) screws (P of Figure 25). Detach motor with adapter flange (R) from gear reducer (S). Retain motor output shaft key (T).

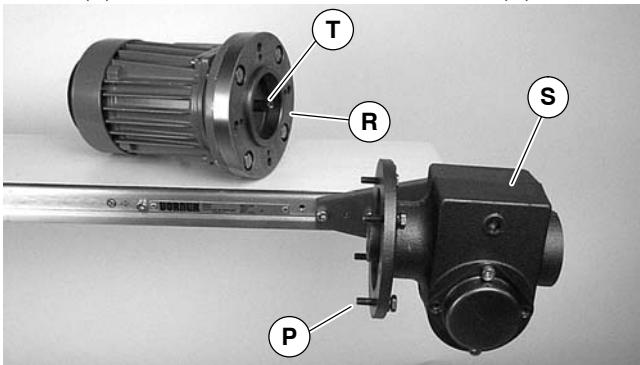


Figure 25

4. Remove four (4) screws and nuts (AE of Figure 26). Remove adapter flange (AF).

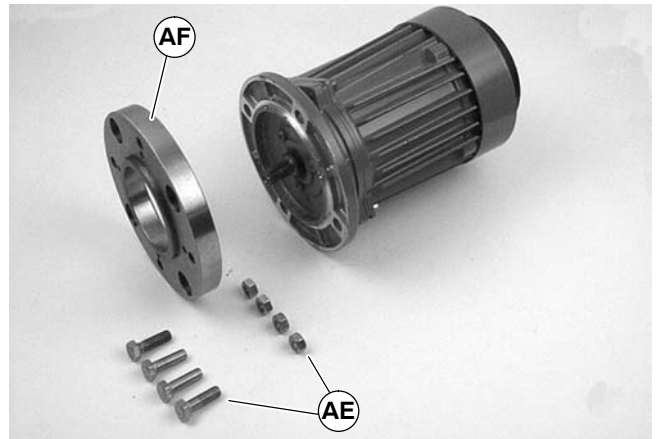


Figure 26

5. Install adapter flange (AF) on new motor. Install screws and nuts (AE) and tighten.

**IMPORTANT: Be extremely careful when coupling motor to gear reducer. Avoid misalignment and forcing the connection causing possible permanent gear reducer seal damage.**

6. With key (T of Figure 27) in keyway, slide motor with adapter flange (R) and gear reducer together. Install screws (P) and tighten.

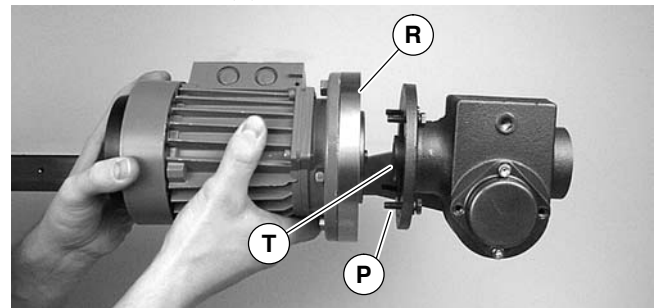


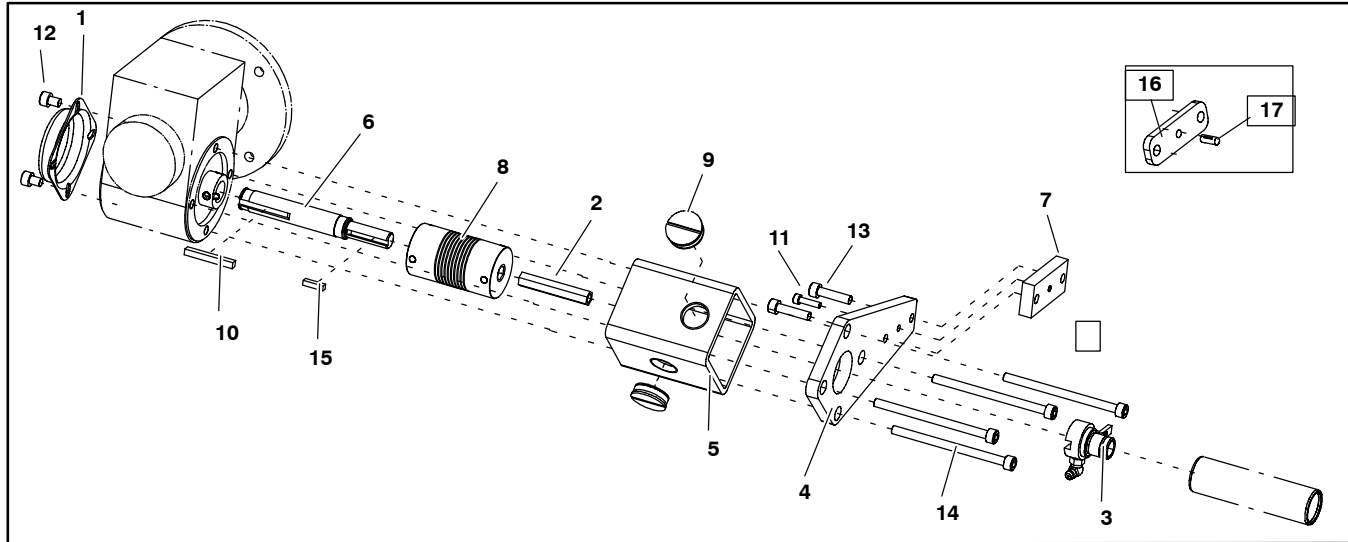
Figure 27

7. Replace wiring:
  - For a single phase motor, reverse step 1 on page 10.
  - For a three phase or VFD variable speed motor, reverse step 2 on this page.

# Service Parts

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

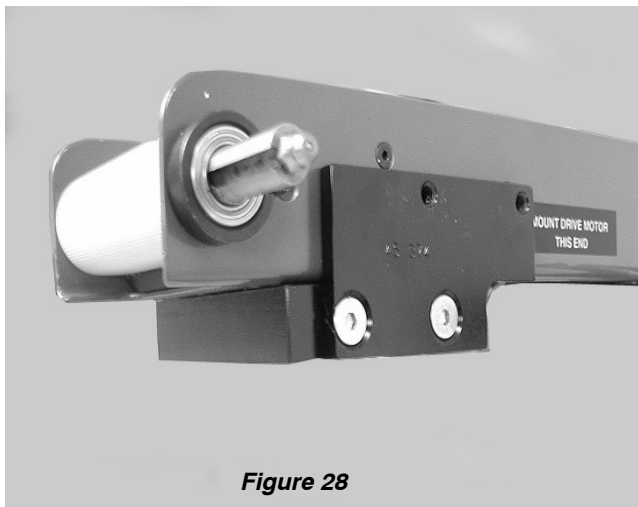
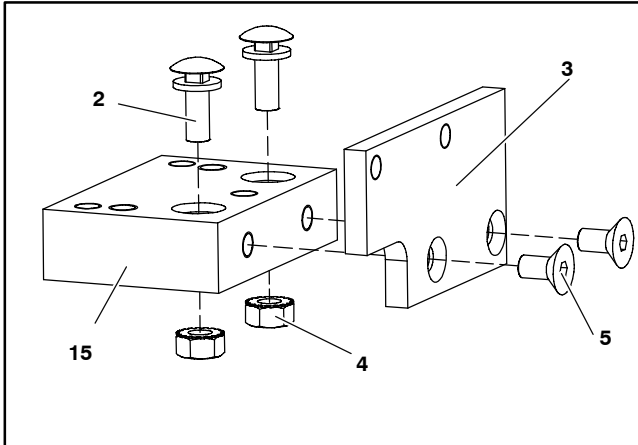
## Side Mount Drive Package for 90° 60Hz Gearmotors



Item	Part Number	Description
1	300139	Drive-Bearing Shaft Cover
2	616301	Outboard Drive Shaft 1" (25mm) Wide
	616302	Outboard Drive Shaft 2" (51mm) Wide
	616303	Outboard Drive Shaft 3" (76mm) Wide
	616304	Outboard Drive Shaft 4" (102mm) Wide
	616305	Outboard Drive Shaft 5" (127mm) Wide
	616306	Outboard Drive Shaft 6" (152mm) Wide
	616308	Outboard Drive Shaft 8" (203mm) Wide
	616310	Outboard Drive Shaft 10" (254mm) Wide
	616312	Outboard Drive Shaft 12" (305mm) Wide
	203968	Outboard Drive Shaft 18" (457mm) Wide (2100 Conveyors)
	203971	Outboard Drive Shaft 21" (533mm) Wide (2100 Conveyors)
	203974	Outboard Drive Shaft 24" (610mm) Wide (2100 Conveyors)
3	200399M	Retaining Sleeve (2100 Conveyors)
	200223M	Retaining Sleeve (2100 Cleated Conveyors)
4	450266M	Side Drive Plate

	242525M	Side Drive Plate (2200 Conveyors)
5	450267M	Side Drive Spacer Tube
6	450444M	Output Shaft
7	697863M	Spacer Plate (4100)
	203975M	Spacer Plate (2100)
8	807-996	Flex Coupling
	807-995	Flex Coupling (6100 & 2100 Cleated)
9	824-322	Plug
10	912-084	Square Key .188 x 1.50
11	920416M	Socket Head Screw M4 x 16mm
12	920608M	Socket Head Screw M6 x 8mm
13	920630M	Socket Head Screw for 6100 Conveyors M6 x 30mm
	920635M	Socket Head Screw for 2100 Conveyors M6 x 35mm
14	920690M	Socket Head Screw M6 x 90mm
15	980416M	Square Key 4mm x 16mm
16	450027M	Spacer Plate (6100)
17	807-952	Groove Pin (6100)

## 4100 Mounting Package

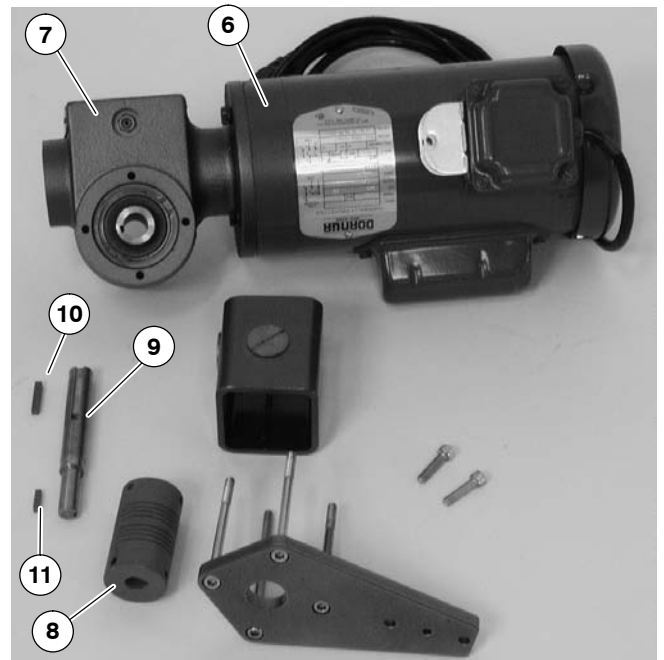


**Figure 28**

Adapter package attached to a 4100 series conveyor.

Item	Part Number	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	

## Gearmotors



Item	Part No.	Part Description
6	826 - 281	Motor, 0.19 Kw 230 Volts, 1400 RPM 50 Hz, 1-Phase
	826 - 284	Motor, 0.19 Kw 230/400 Volts, 1400 RPM 50 Hz, 3-Phase
7	62Z005HS	Gear Reducer, 5:1, 63 B5
	62Z010HS	Gear Reducer, 10:1, 63 B5
	62Z020HS	Gear Reducer, 20:1, 63 B5
	62Z040HS	Gear Reducer, 40:1, 63 B5
	62Z060HS	Gear Reducer, 60:1, 63 B5
8	807-996	Coupling for 2100 & 2200 Flat Belt Conveyor
	807-995	Coupling for 2100 & 2200 Cleated Belt Conveyor
	807-995	Coupling for 6100 Conveyor
9	450444M	Gear Reducer Shaft
10	912-084	Key, Square, 0.188" x 1.5" L
11	980416M	Key, Square, 4mm x 16mm L

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## Return Policy

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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](http://www.dorner.com)

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

**DORNER<sup>®</sup>**

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