DORNER®

Set-up, Operation & Maintenance Manual

3100 & LPZ Series
Side Mount Drive Package
for Light & Standard Load 50 Hz Gearmotors

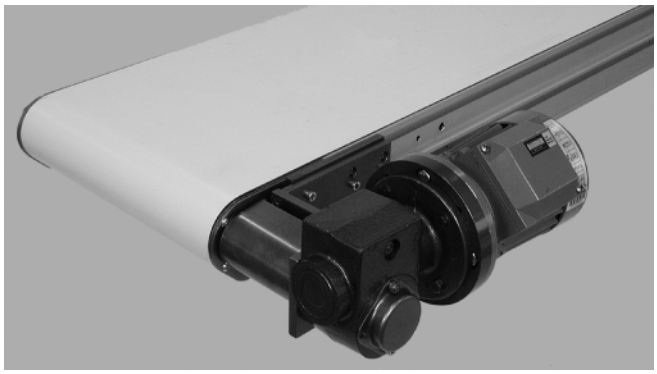


Table of Contents

CE

Warnings – General Safety

WARNING

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

DANGER

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

KEEP OFF CONVEYORS.

DANGER

Do NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.

WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

WARNING

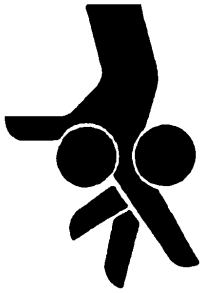
Gearmotors may be HOT.

DO NOT TOUCH Gearmotors.

WARNING

Exposed moving parts can cause severe injury.

REPLACE ALL GUARDS BEFORE RUNNING CONVEYOR.



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.

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 3100 Series conveyors are covered by patent numbers 5156260, 5156261, 5203447, 5265714 and applications in other countries.

Dorner LPZ Series conveyors are covered by patent numbers 5156260, 5156261, 5203447, 5265714, 5875883 and 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	Coupling
E	Coupling Guard

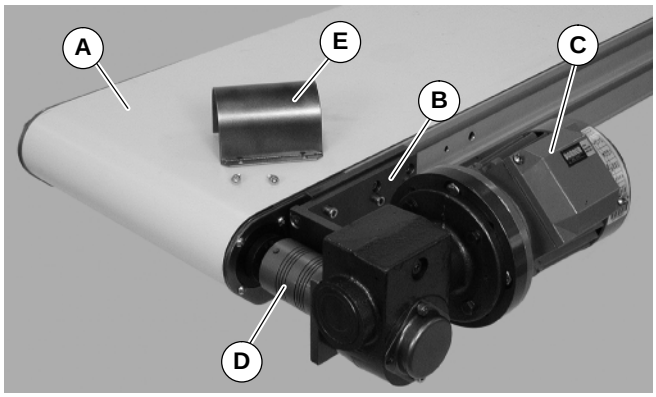


Figure 1

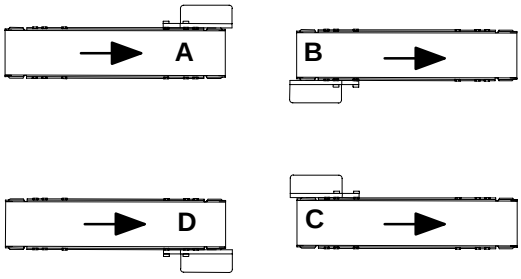
Specifications

Gearmotor Mounting Package Models:

Example:

3 U S H L WW A

- **A** — **Mount Position = A, B, C or D (see detail to the right)**
- **WW** — **Conveyor Width Reference***
- **L** — **Gearmotor Type: L = Light Load, S = Standard Load**
- **H** — **Output Shaft Type = 90° Industrial**
- **S** — **Mount Style = Side Mount**
- **U** — **Language Code = CE English**



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

Table 1: Gearmotor Specifications

Item	Light Load Gearmotor			Standard Load Gearmotor		
	Single Phase	Three Phase	VFD Variable Speed	Single Phase	Three Phase	VFD Variable Speed
Output Power	0.18 kw			0.37 kw		
Input Voltage	230 VAC	230/400 VAC	230 VAC	230 VAC	230/400 VAC	230 VAC
Input Frequency	50 Hz		25 to 63 Hz	50 Hz		25 to 63 Hz
Input Current	1.6 Amperes	1.4/0.8 Amperes	1.4 Amperes	2.6 Amperes	2.1/1.2 Amperes	2.1 Amperes
Gearmotor Ratios	5:1, 10:1, 20:1, 40:1, 60:1			5:1, 10:1, 20:1, 40:1, 60:1		
Protection Rating	IP55			IP55		
Frame Size	IEC 63 B5			IEC 71 B5		

Specifications

Table 2: Belt Speeds for Fixed Speed 90° 50 Hz Gearmotors

Light Load Gearmotors			Standard Load Gearmotors			Belt Speed M/min
Part Number	RPM	N-m	Part Number	RPM	N-m	
62Z060HS4(vp)FN	23	26.4	32Z060HS4(vp)FN	23	26.8	5.8
62Z040HS4(vp)FN	35	28.9	32Z040HS4(vp)FN	35	29.4	8.5
62Z020HS4(vp)FN	70	19.4	32Z020HS4(vp)FN	70	29.9	17.1
62Z010HS4(vp)FN	140	10.7	32Z010HS4(vp)FN	140	21.5	33.8
62Z005HS4(vp)FN	280	5.6	32Z005HS4(vp)FN	280	11.2	68.0

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

Table 3: Belt Speeds for Variable Speed 90° 50 Hz Gearmotors

Light Load Gearmotors			Standard Load Gearmotors			Belt Speed M/min
Part Number	RPM	N-m	Part Number	RPM	N-m	
62Z060HS423EN	23	26.4	32Z060HS423EN	23	26.8	2.8–7.1
62Z040HS423EN	35	28.9	32Z040HS423EN	35	29.4	4.2–11
62Z020HS423EN	70	19.4	32Z020HS423EN	70	29.9	8.5–21
62Z010HS423EN	140	10.7	32Z010HS423EN	140	21.5	17–43
62Z005HS423EN	280	5.6	32Z005HS423EN	280	11.2	34–86

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

Required Tools

- Hex key wrenches:
  2.5 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	
F	Drive Assembly
G	Mounting Screws (6x)
H	Key

1. Typical components (Figure 2)

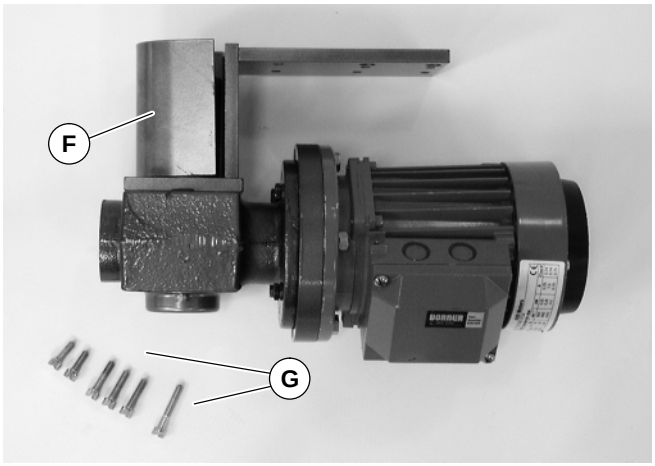


Figure 2

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

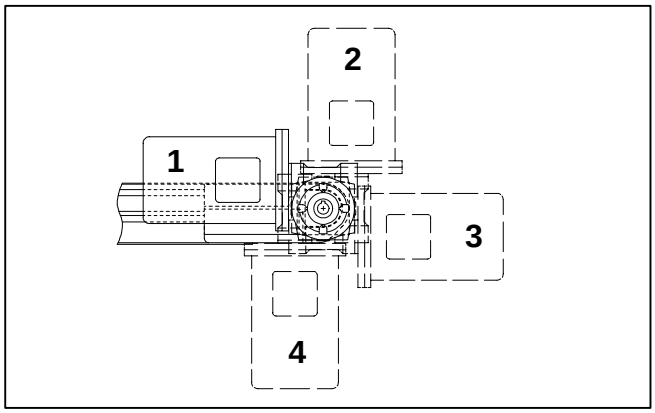
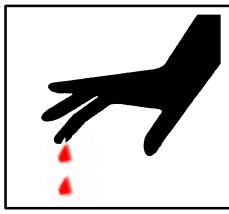


Figure 3



WARNING

Drive shaft keyway may be sharp.

HANDLE WITH CARE.

2. Locate drive output shaft. Remove screws (I of Figure 4). Install key (H).

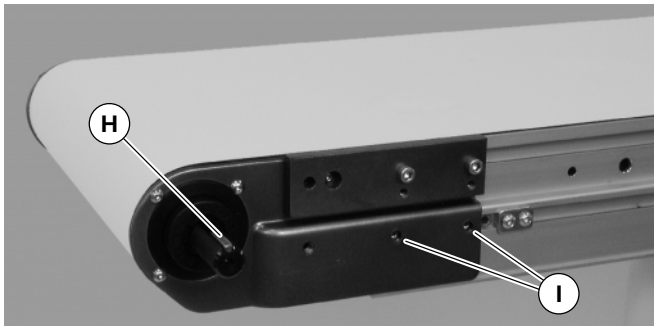


Figure 4

3. Remove screws (J of Figure 5) and coupling guard (E).

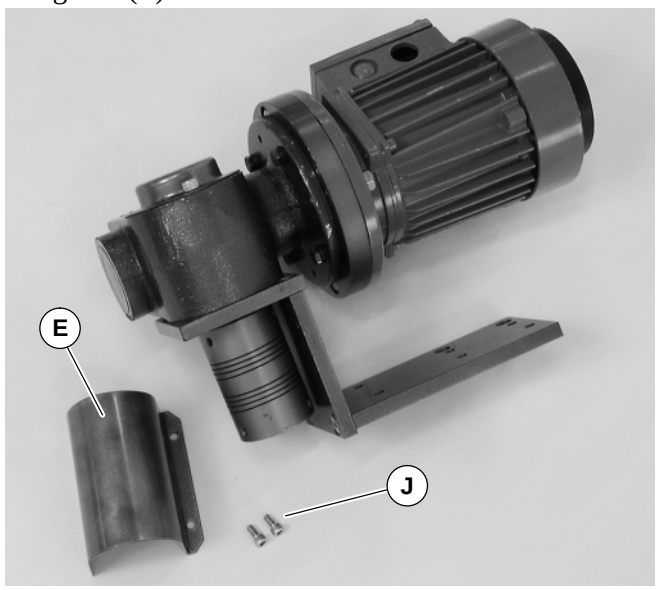


Figure 5

4. If required, change gearmotor position by removing screws (K of Figure 6). Rotate gearmotor to other position (Figure 3) and replace screws (K). Tighten to 12 Nm.

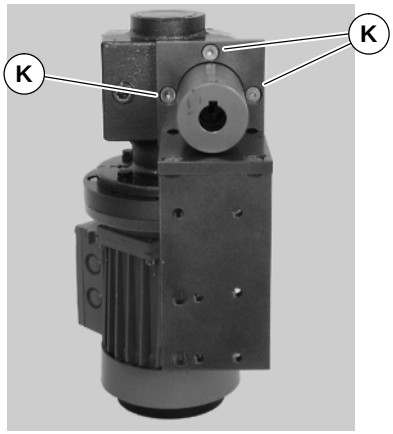


Figure 6

5. Install coupling (D of Figure 7) onto drive output shaft. Attach drive assembly to conveyor with mounting screws (G). Install medium length screws on bottom, long screw upper left, short screws upper right. Tighten screws to 9 Nm.

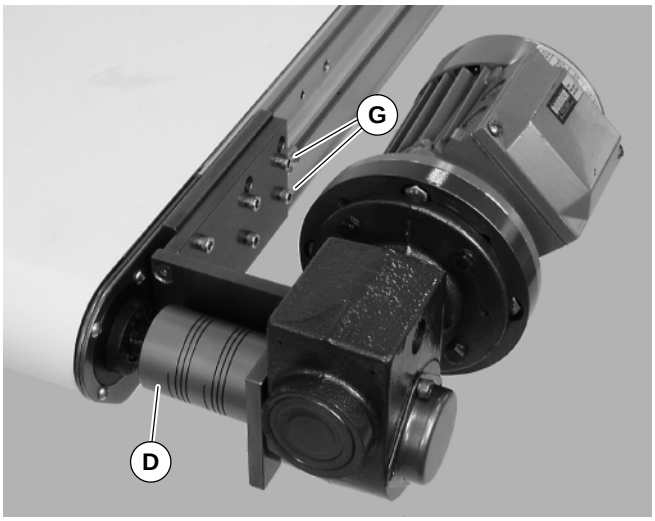
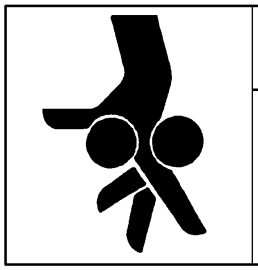


Figure 7



WARNING

Exposed moving parts can cause severe injury.

KEEP HANDS CLEAR OF DRIVE WHILE JOGGING MOTOR.

6. Jog motor and rotate coupling to gain access to set screw (L of Figure 8). Tighten to 3.7 Nm. Repeat for second set screw.

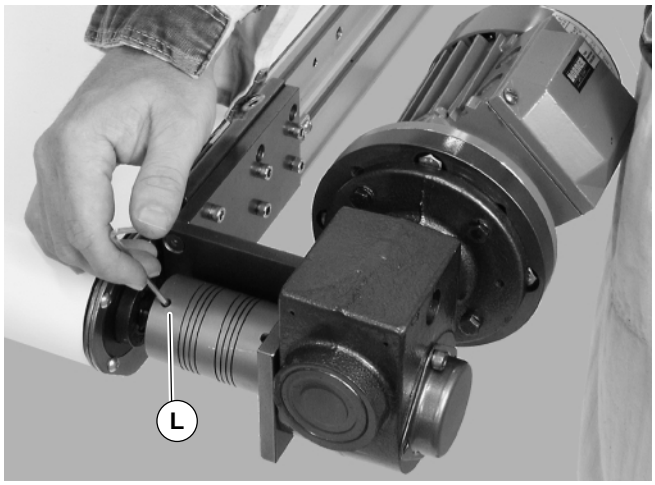


Figure 8

7. Reinstall coupling guard (E of Figure 9) with screws (J).

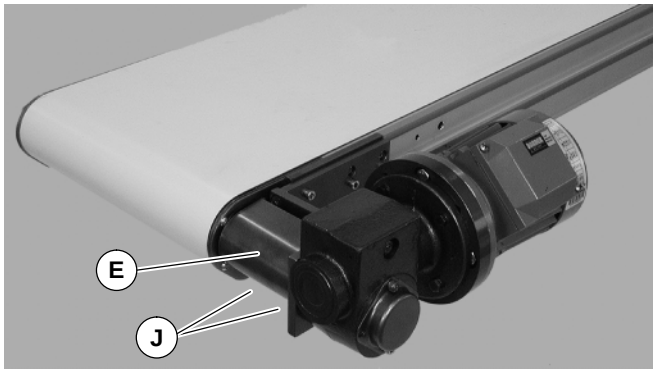


Figure 9

Required Tools

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

Gear Reducer Replacement

WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

NOTE: The gear reducer and output shaft are permanently fixed with Loctite® Adhesive. Both components must be replaced. See "Service Parts" Section for part numbers.

1. Remove screws (J of Figure 9) and coupling guard (E).

WARNING

Exposed moving parts can cause severe injury.

KEEP HANDS CLEAR OF DRIVE WHILE JOGGING MOTOR.

2. Jog motor and rotate coupling to gain acess to set screw (L of Figure 8). Loosen set screw. Repeat for second set screw.
3. Remove mounting screws (G of Figure 7) and remove drive assembly.
4. Remove two (2) set screws (L of Figure 10) and remove coupling (D).

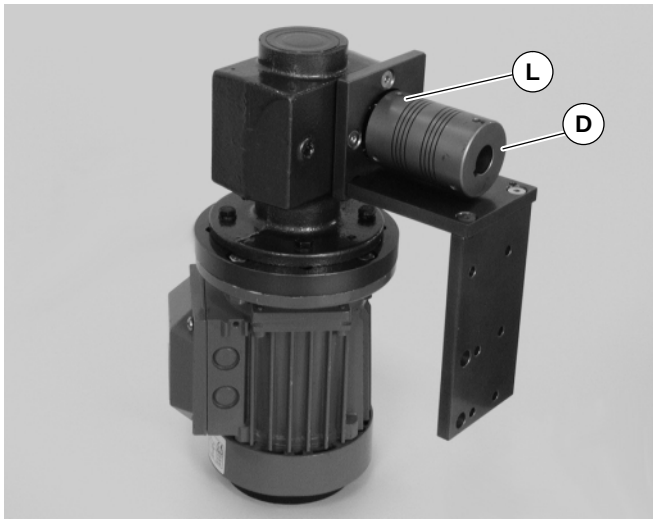


Figure 10

5. Remove three (3) screws (K of Figure 11) and remove mounting bracket (B).

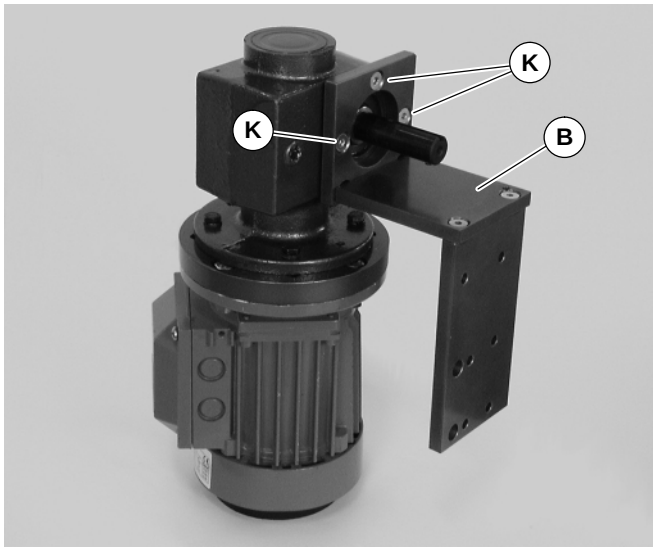


Figure 11

6. Remove four screws (M of Figure 12). Detach motor with adapter flange (N) from gear reducer (O). Retain motor output shaft key (P).

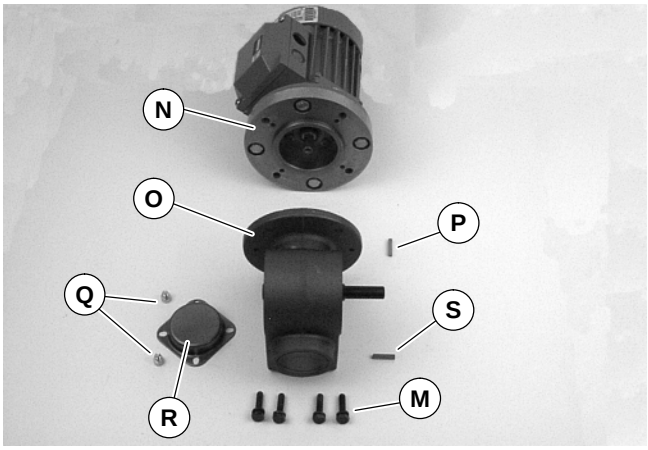


Figure 12

7. Remove two (2) screws (Q) and detach output shaft cover (R).
8. Remove gear reducer output shaft key (S).
9. Apply Loctite® 680 Adhesive (W of Figure 13) to new shaft.

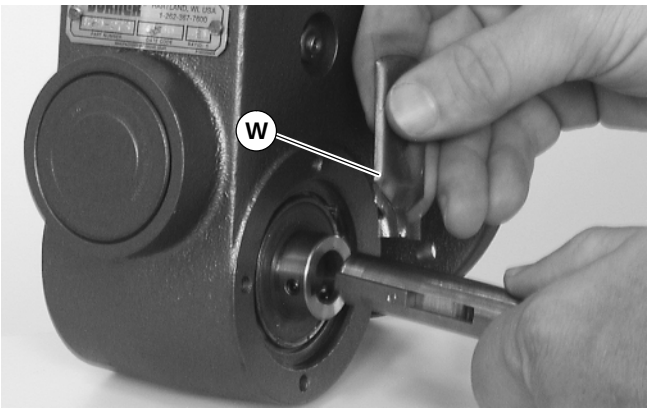


Figure 13

10. Insert the new shaft with adhesive (U Figure 14) and key (V) into new gear reducer. Tighten set screws to 3 Nm.

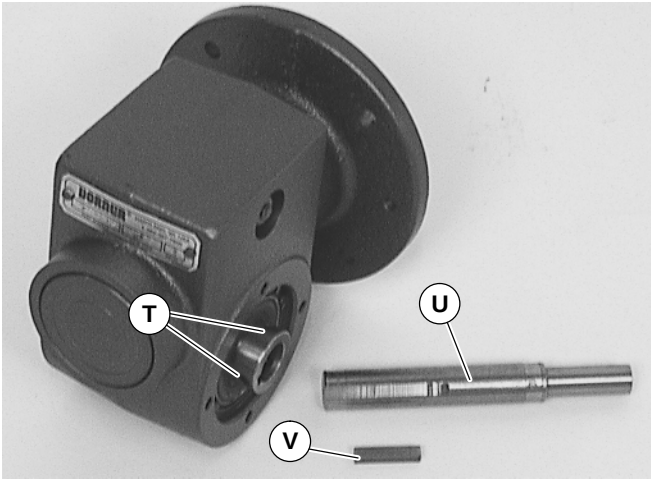


Figure 14

NOTE: Allow Loctite® Adhesive to cure for one (1) hour prior to starting conveyor.

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

11. With key (P of Figure 12) in keyway, slide motor with adapter flange (N) and gear reducer (O) together. Install screws (M) and tighten.
12. Attach mounting bracket (B of Figure 11) to gearmotor with screws (K). Tighten screws to 12 Nm.
13. Attach coupling (D of Figure 10) to gear reducer shaft. Tighten two (2) set screws (L) to 3.7 Nm.
14. Complete steps 2 through 7 of "Installation" section beginning on page 5.

Motor Replacement

WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

DANGER

Hazardous voltage will cause severe injury or death.

LOCK OUT POWER BEFORE WIRING.

1. For single phase motor:
   a. Loosen terminal box screws (X of Figure 15) and remove cover (Y).

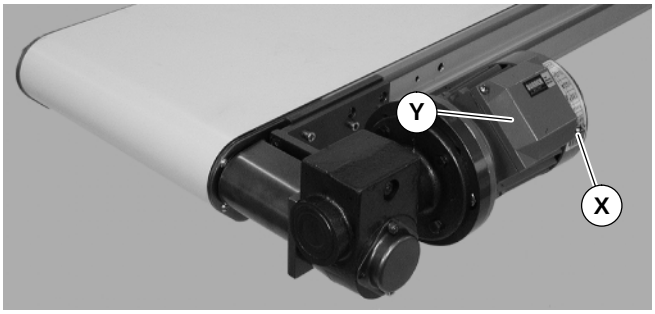


Figure 15

   b. Record wire colors on terminals 2, 6 and ground (⏚) (Figure 16). Loosen terminals 2, 6 and ground and remove wires.

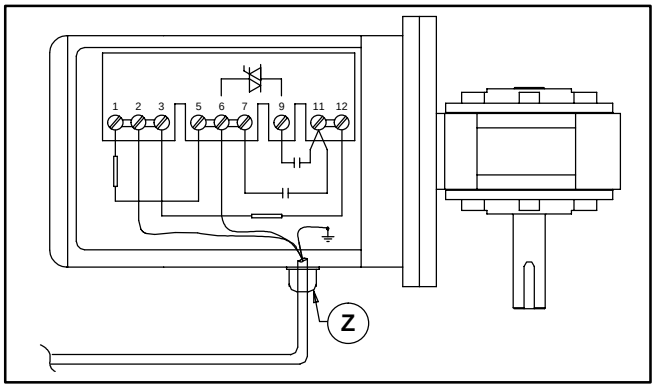


Figure 16

c. Loosen cord grip (Z of Figure 16) and remove cord.

2. For three phase and VFD variable speed motor:

a. Loosen terminal box screws (X of Figure 15) and remove cover (Y).

b. Record wire colors on terminals U1, V1, W1 & PE (Figure 17). Loosen terminals U1, V1, W1 & PE and remove wires.

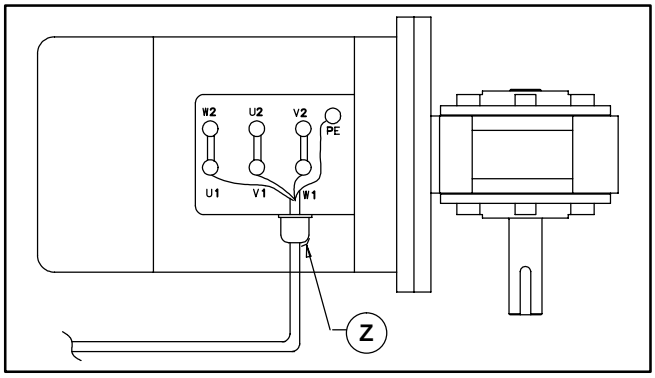


Figure 17

c. Loosen cord grip (Z of Figure 17) and remove cord.

3. Remove four (4) screws (AA of Figure 18). Detach motor with adapter flange (AB) from gear reducer (AC). Retain motor output shaft key (AD).

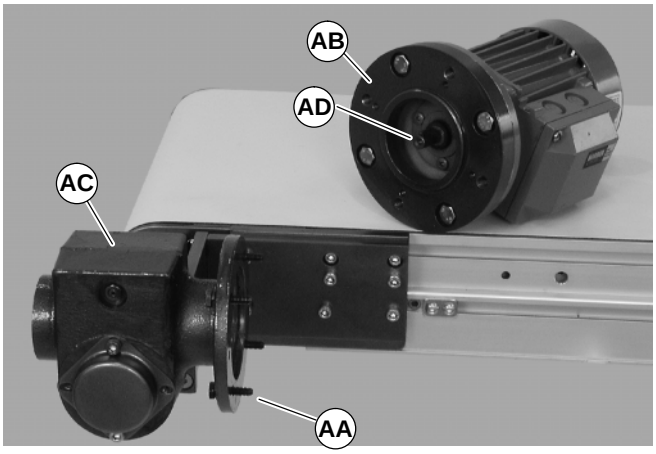


Figure 18

4. Remove four (4) screws and nuts (AE of Figure 19). Remove adapter flange (AF).

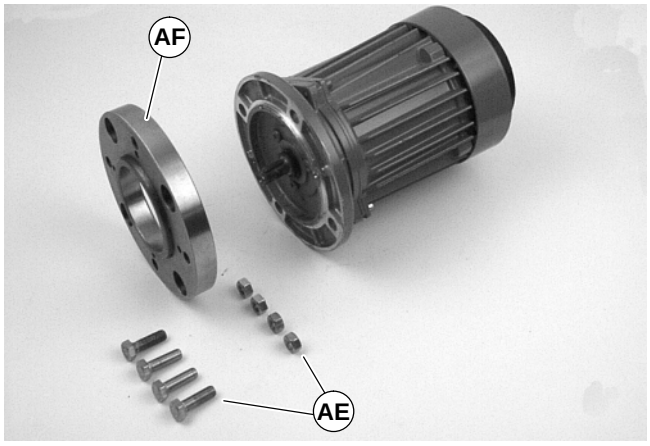


Figure 19

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 (AD of Figure 20) in keyway, slide motor with adapter flange (AB) and gear reducer together. Install screws (AA) and tighten.

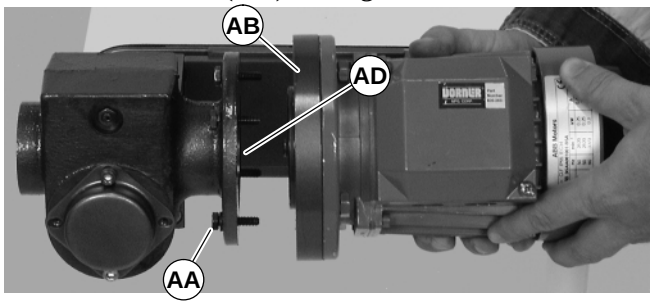


Figure 20

7. Replace wiring:

- For a single phase motor, reverse step 1 on page 8.
- 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.

Item	Part No.	Part Description
1	826-281	Motor, 0.19 Kw 230 Volts, 1400 RPM 50 Hz, 1-Phase
	826-282	Motor, 0.37 Kw 230 Volts, 1400 RPM 50 Hz, 1-Phase
	826-284	Motor, 0.19 Kw 230/400 Volts, 1400 RPM 50 Hz, 3-Phase
	826-285	Motor, 0.37 Kw 230/400 Volts, 1400 RPM 50 Hz, 3-Phase
2	62Z005HS	Gear Reducer, 5:1, 63B5
	62Z010HS	Gear Reducer, 10:1, 63B5
	62Z020HS	Gear Reducer, 20:1, 63B5
	62Z040HS	Gear Reducer, 40:1, 63B5
	62Z060HS	Gear Reducer, 60:1, 63B5
	32Z005HS	Gear Reducer, 5:1, 71 B5
	32Z010HS	Gear Reducer, 10:1, 71 B5
	32Z020HS	Gear Reducer, 20:1, 71 B5
	32Z040HS	Gear Reducer, 40:1, 71 B5
	32Z060HS	Gear Reducer, 60:1, 71 B5
3	807-584	Coupling
4	300988	Gear Reducer Shaft
5	912–084	Key, Square, 0.188” x 1.5” L
6	980018M	Key, Square, 6mm x 18mm L (2x)

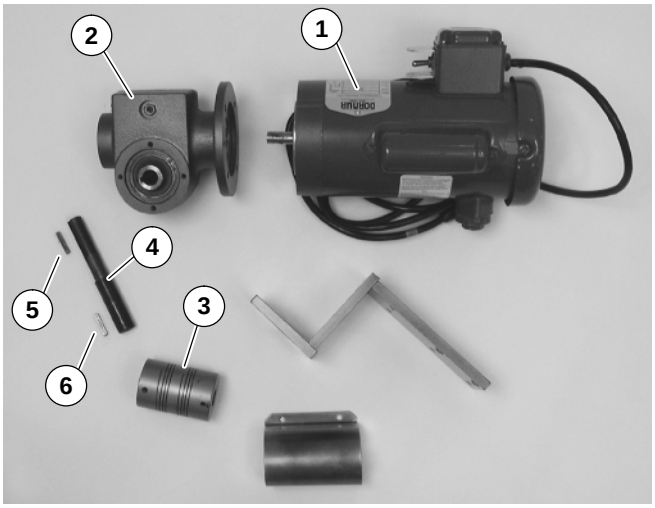


Figure 21

Notes

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 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