

2100, 4100, 6100 Series Side Mount Drive Package for Standard Load 90° Industrial 60 Hz Gearmotors

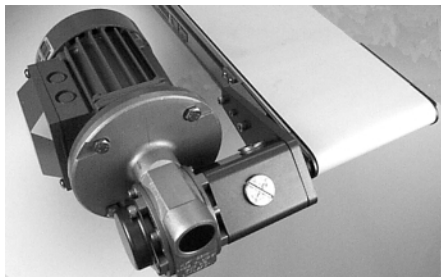
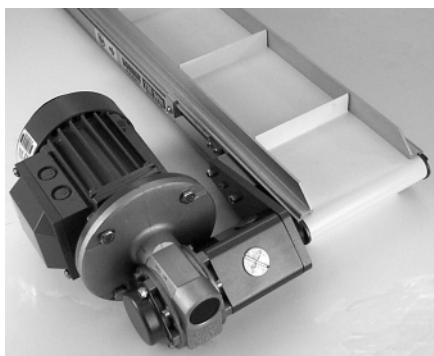


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Warnings – General Safety

	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. REPLACE ALL GUARDS BEFORE RUNNING CONVEYOR.</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. 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>		

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

Introduction

IMPORTANT: Some illustrations may show guards removed. Do NOT operate equipment without guards.

Upon receipt of shipment:

- Compare shipment with packing slip. Contact factory regarding discrepancies.
- Inspect packages for shipping damage. Contact carrier regarding damage.
- Accessories may be shipped loose. See accessory instructions for installation.

Dorner 2100 Series conveyors are covered by the following patent numbers: 5131529, 5174435, and corresponding patents and patent applications in other countries.

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

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

Dorner's Limited Warranty applies.

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

Product Description

Refer to Figure 1 for typical components.

Typical Components	
A	Conveyor
B	Mounting Bracket
C	Gearmotor
D	Coupling
E	Inspection Plug

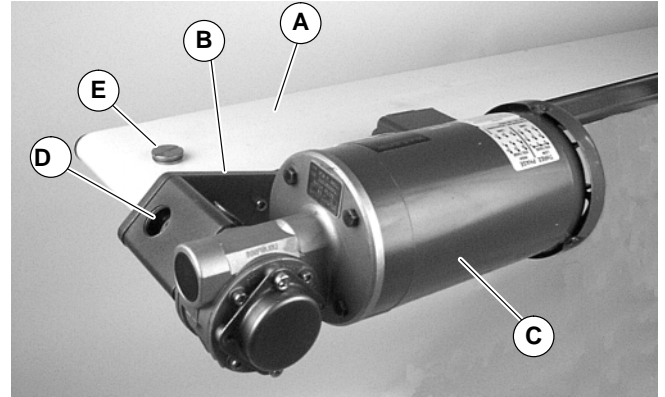
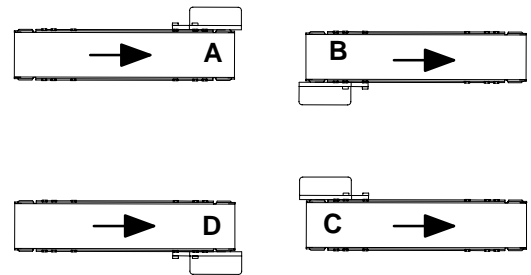
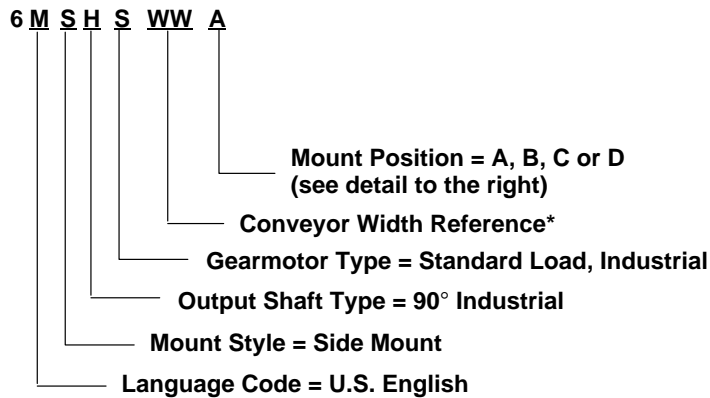


Figure 1

Specifications

Gearmotor Mounting Package Models:

Example:



* See "Ordering and Specifications" Catalog for details.

Table 1: Gearmotor Specifications

	Single Phase	Three Phase	DC Variable Speed
Output Power	0.25 hp (0.19 kw)		
Input Voltage	115 Volts A.C.	208 to 230/460 Volts A.C.	130 Volts D.C.
Input Frequency	60 Hz		N/A
Input Current	5.0 Amperes	1.2 /0.6 Amperes	2.2 Amperes
Motor RPM	1725		2500
Gearmotor Ratios	5:1, 10:1, 20:1, 40:1, 60:1		
Frame Size	NEMA 42 CZ		
Motor Type	Totally Enclosed, Fan-cooled		

Table 2: Standard Load Fixed Speed 90° 60 Hz Gearmotors

Gearmotors				Belt Speed	
Part Number	RPM	In-lb	N-m	Ft/min	M/min
32M060HL4(vp)FN	29	226	25.5	8	2.4
32M040HL4(vp)FN	43	237	26.8	12	3.7
32M020HL4(vp)FN	86	142	16	25	7.6
32M010HL4(vp)FN	173	78	8.8	49	14.9
32M005HL4(vp)FN	345	41	4.6	99	30.2

(vp) = voltage and phase
11 = 115 V, 1-phase
23 = 208 – 230/460 V, 3-phase

Table 3: Belt Speeds for Standard Load Variable Speed 90° DC Gearmotors

Gearmotors				Belt Speed	
Part Number	Max RPM	In-lb	N-m	Ft/min	M/min
32M060HLD3DEN	42	198	22.4	1.4 – 12	0.4 – 3.6
32M040HLD3DEN	63	163	18.4	2.1 – 18	0.7 – 5.4
32M020HLD3DEN	125	98	11.1	4.3 – 36	1.3 – 11
32M010HLD3DEN	250	54	6.1	9.0 – 71	2.6 – 22
32M005HLD3DEN	500	28	3.2	17 – 143	5.2 – 43

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

Required Tools

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

Mounting



Installation Component List	
F	Drive Assembly
G	M6 Socket Head Screws (2x)
H	Hex Shaft (2100 & 4100 Flat Belt Conveyor Only)

1. Typical components (Figure 2)

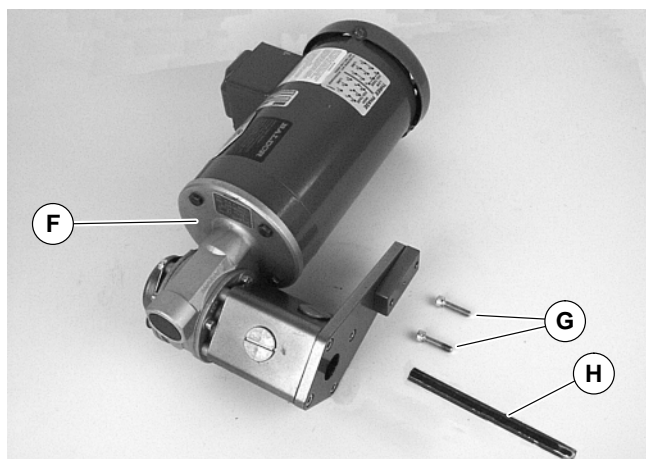


Figure 2

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

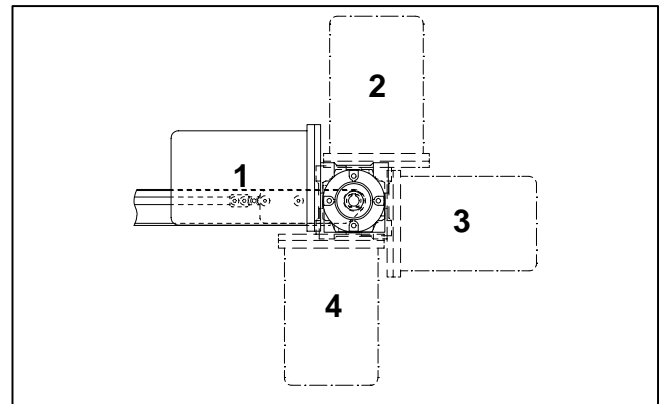


Figure 3

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 100 in-lb (12 Nm).



Figure 4

For 2100 & 4100 Flat Belt Conveyors

IMPORTANT: On 4 inch (95 mm) and wider conveyors, the hex broach is offset from center towards the drive side for hex shaft engagement.

- 3a. Locate drive mounting position and remove two (2) screws (J of Figure 5).

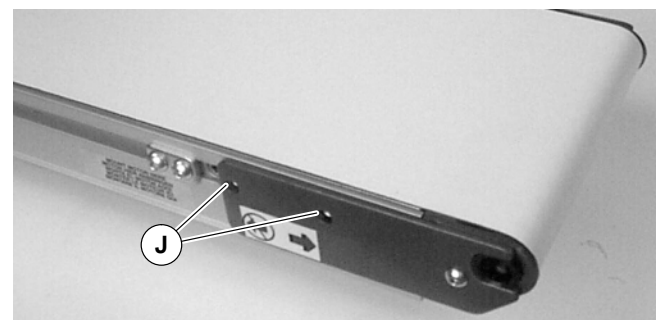


Figure 5

Installation

4a. Remove inspection plugs (K of Figure 6).

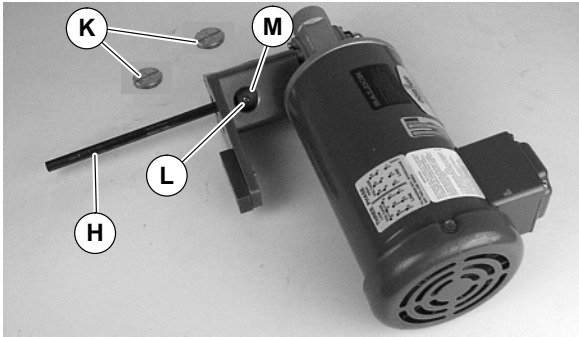


Figure 6

5a. Insert hex shaft (H) into coupling.



NOTE: Coupling has two (2) set screws (L of Figure 7).

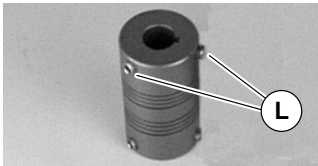
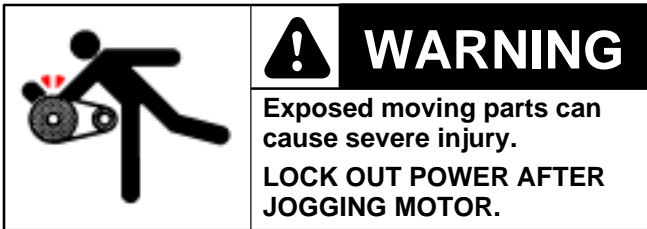


Figure 7

6a. Jog motor and rotate coupling to align set screw (L of Figure 6) with access hole (M). Tighten to 32 in-lb (3.7 Nm). Repeat for second set screw.



7a. Replace inspection plugs (K of Figure 8). 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 Nm).

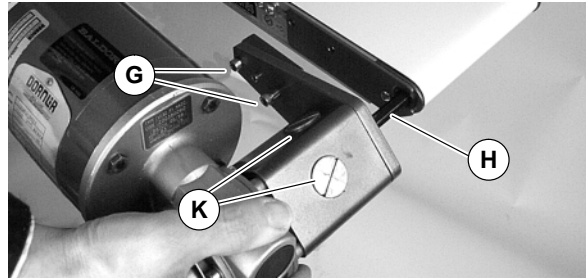


Figure 8

For 6100 and 2100 Cleated Belt Conveyors



NOTE: 6100 conveyor shown, 2100 cleated belt conveyor similar.

3b. Locate drive output shaft. Remove two screws (J of Figure 9). Install key (N).

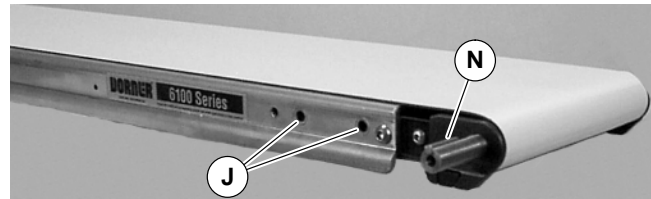


Figure 9

4b. Remove inspection plugs (K of Figure 10).

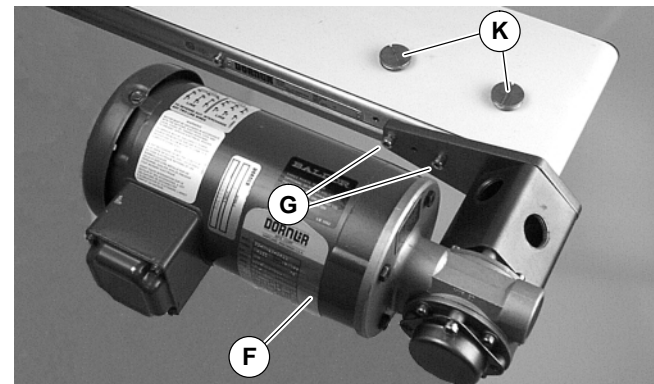


Figure 10

5b. Slide coupling over drive output shaft and install drive assembly (F of Figure 10) with screws (G). Tighten to 80 in-lb (9 Nm).

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

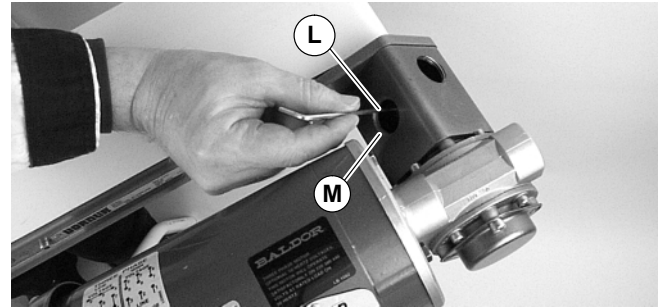




Figure 11

NOTE: Coupling has two (2) set screws (L of Figure 7).

6b. Jog motor and rotate coupling to align set screw (L of Figure 11) with access hole (M). Tighten to 32 in-lb (3.7 Nm). Repeat for second set screw.

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



7b. Replace inspection plugs. (K of Figure 10).

Preventive Maintenance and Adjustment



Required Tools

- Hex key wrenches:
 - 2.5 mm, 3 mm, 5 mm
- Large flat-blade screwdriver
- Adjustable wrench (for hexagon head screws)
- External snap ring pliers
- Torque wrench

Gear Reducer Replacement

		<h2>WARNING</h2>
	<p>Exposed moving parts can cause severe injury.</p> <p>LOCK OUT POWER before removing guards or performing maintenance.</p>	

1. Remove inspection plugs (K of Figure 10).

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

NOTE: Coupling has two (2) set screws (L of Figure 7).

- 2.** Jog motor and rotate coupling to align set screw (L of Figure 11) with access hole (M). Loosen set screw. Repeat for second set screw.
- 3.** Remove two (2) screws (G of Figure 10). Remove drive assembly (F).
- 4.** Remove four (4) screws (I of Figure 12) and remove mounting bracket & tube (O).

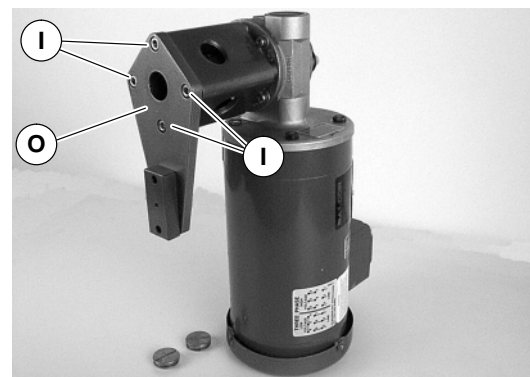


Figure 12

Preventive Maintenance and Adjustment

5. Loosen two (2) set screws (L) and detach coupling (P of Figure 13) from gear reducer.

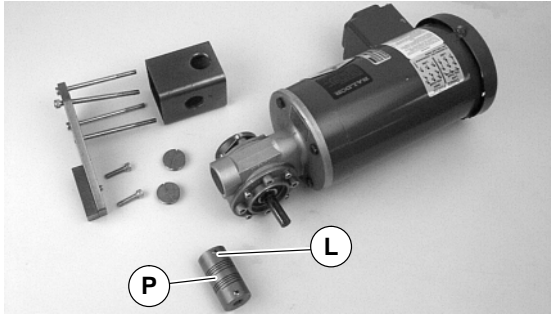


Figure 13

6. Remove four screws (Q of Figure 14). Detach motor (R) from gear reducer (S). Retain shaft key (T).

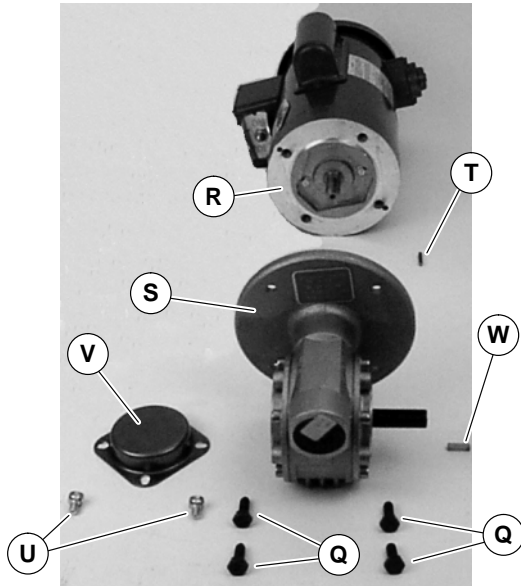


Figure 14

7. Remove two (2) screws (U) and detach output shaft cover (V).
 8. Remove gear reducer output shaft key (W).
 9. Loosen six (6) set screws (X of Figure 15). Remove drive shaft (Y) and key (Z).

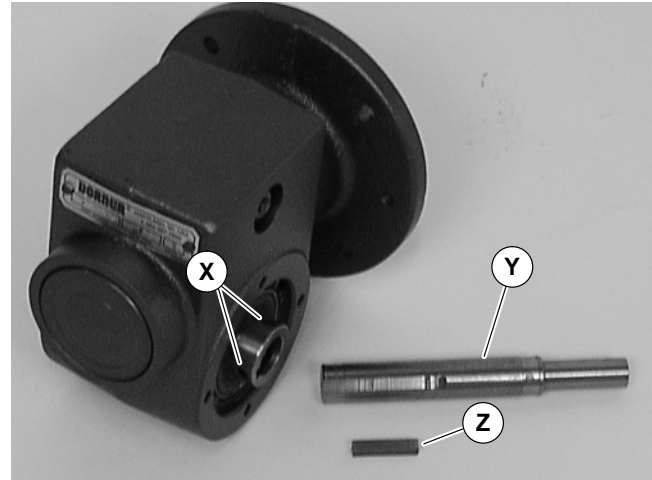


Figure 15

10. Apply grease (AA of Figure 16) to shaft.

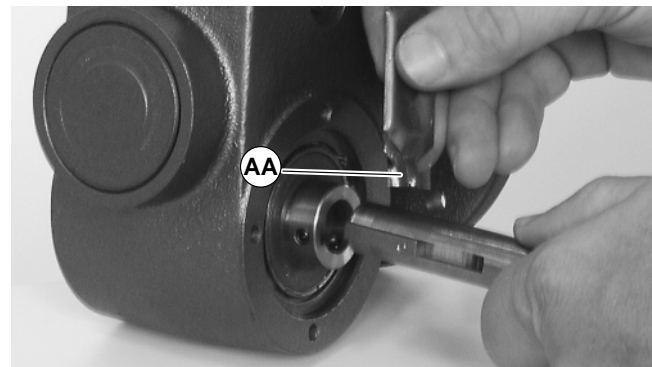


Figure 16

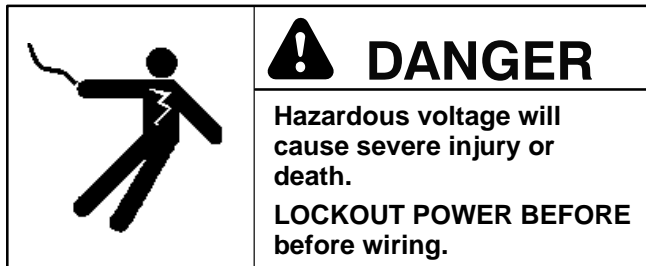
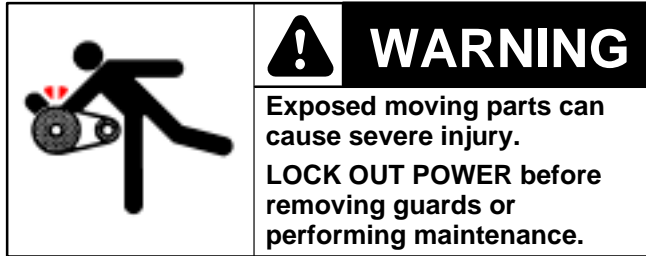
11. Replace the original shaft components into new gear reducer (see Figure 15).

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 14) in keyway, slide motor (R) and gear reducer (S) together. Install screws (Q) and tighten.
 13. Attach coupling (P of Figure 13) to gear reducer shaft. Tighten two set screws (L) to 32 in-lb (4.7 Nm).
 14. Attach mounting bracket & tube (O of Figure 12) to gearmotor. Tighten screws (I) to 103 in-lb (12 Nm).
 15. Complete installation steps:
 - See “2100 & 4100 Flat Belt Conveyors” section on page 5.
 - See “6100 and 2100 Cleated Belt Conveyors” section on page 6.

Preventive Maintenance and Adjustment

Motor Replacement



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

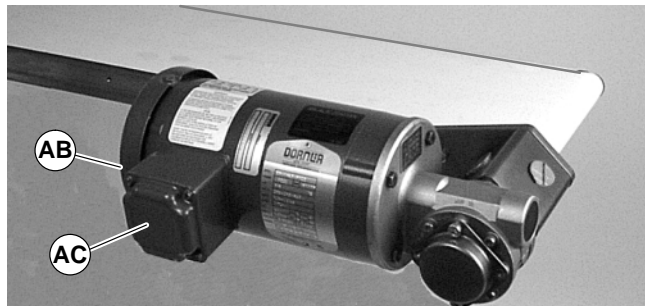


Figure 17

- b. Record wire colors connecting to wires 1, 2 and 3. Loosen wire nuts and remove wires 1, 2 and 3.
 - c. Loosen cord grip and remove cord.
3. For DC variable speed motor, unplug motor cord at disconnect (AD of Figure 18).

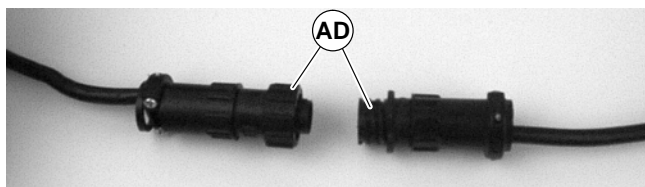


Figure 18

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

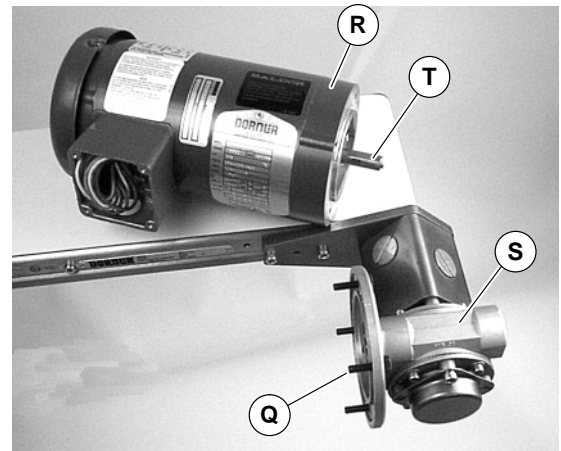


Figure 19

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

5. With key (T of Figure 20) in keyway, slide motor and gear reducer together. Install screws (Q) and tighten.

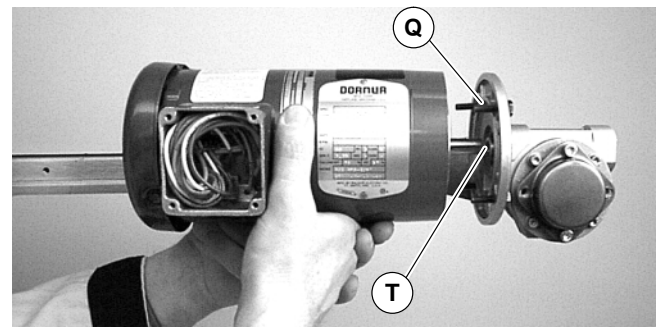


Figure 20

6. Replace wiring:

- For a single phase motor, reverse step 1 on this page.
- For a three phase motor, reverse step 2, on this page.
- For a DC variable speed motor, reverse step 3 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	826-328	Motor, 0.25 Hp (0.19 Kw) 115/230 Volts, 60 Hz, 1-Phase
	826-337	Motor, 0.25 Hp (0.19 Kw) 115/230 Volts, 60 Hz, 1-Phase with Reversing
	826-330	Motor, 0.25 Hp (0.19 Kw) 208-230/460 Volts, 60 Hz, 3-Phase
	826-332	Motor, 0.25 Hp (0.19 Kw) 130 Volts DC
2	32M005HS	Gear Reducer, 5:1, 42CZ
	32M010HS	Gear Reducer, 10:1, 42CZ
	32M020HS	Gear Reducer, 20:1, 42CZ
	32M040HS	Gear Reducer, 40:1, 42CZ
	32M060HS	Gear Reducer, 60:1, 42CZ
3	807-996	Coupling for 2100 & 4100 Flat Belt Conveyor
	807-995	Coupling for 2100 Cleated Belt Conveyor
	807-995	Coupling for 6100 Conveyor
4	450444M	Gear Reducer Shaft
5	912-084	Key, Square, 0.188" x 1.5" L
6	980416M	Key, Square, 4mm x 16mm L

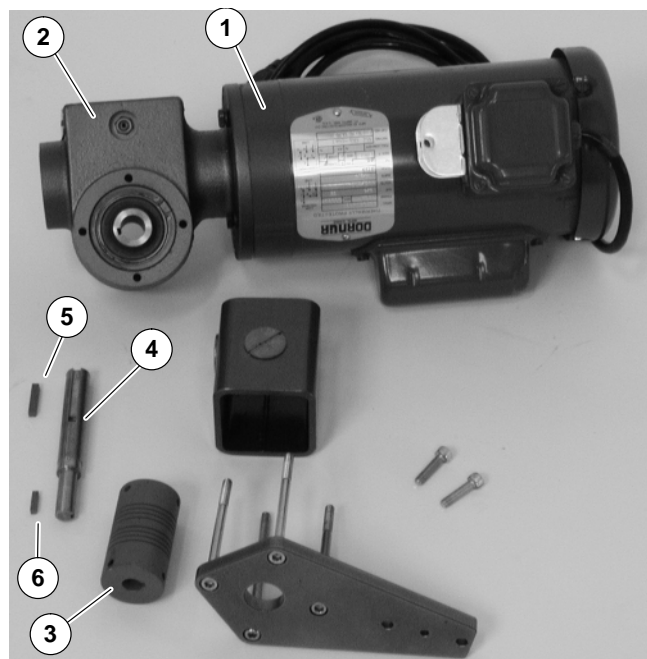


Figure 21

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

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

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