



5200 Series Side Mount 90° Drive Package for Heavy Load 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 5200 Series conveyors have patents pending.

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

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.

Product Description

Refer to **Figure 1** for typical conveyor components.

- | | |
|---|--------------------------------|
| 1 | Conveyor |
| 2 | Gearmotor Mounting Package |
| 3 | Gearmotor Assembly |
| 4 | Spider Web Bushing |
| 5 | Shaft Coupling Half, Three Jaw |
| 6 | Coupling Half, Three Jaw |
| 7 | Key, Coupling |
| 8 | Shaft |
| 9 | Key, Shaft |

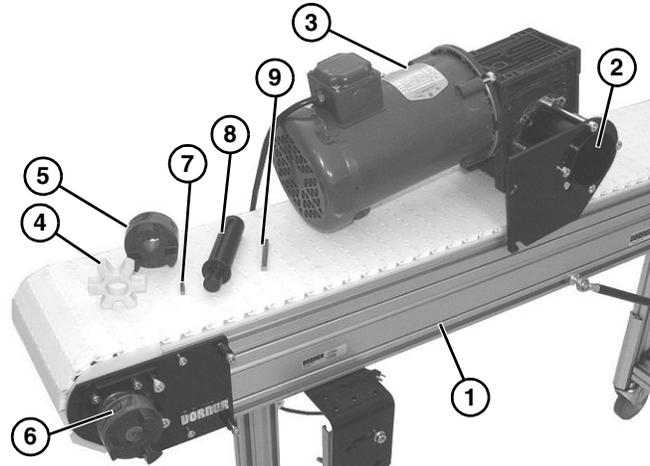


Figure 1

Specifications

Gearmotor Mounting Package Models:

Example:

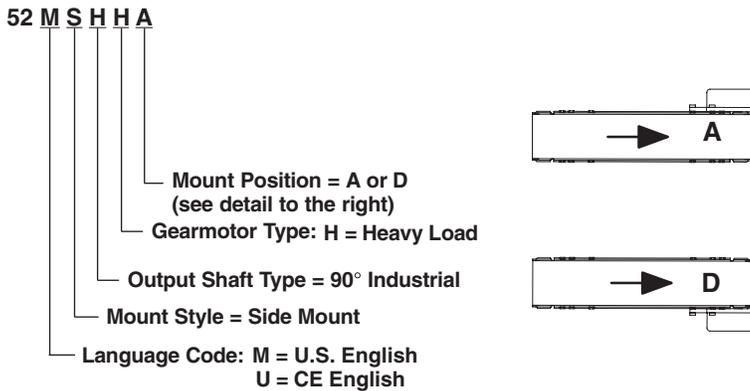


Table 1: 60 Hz Gearmotor Specifications

Item	Heavy Load Gearmotor			
	Single- Phase	Three Phase	VFD Variable Speed	DC Variable Speed
Output Power	0.5 hp (0.37 kw)	0.5 hp (0.37 kw) - 2.0 hp (1.5 Kw)		0.5 hp (0.37 kw) - 0.75 hp (0.56 Kw)
Input Voltage	115VAC	208 - 230/460 VAC	230/460 VAC	90VDC
Input Frequency	60Hz		6 - 60Hz	N/A
Input Current (Amperes)	8	2 - 6.2 for 230V & 1 - 3.1 for 460V	1.6 - 5 for 230V & 0.8 - 2.5 for 460V	5 - 7.5
Gearmotor Ratios	7.5:1, 10:1, 15:1, 20:1, 25:1, 30:1, 40:1, 50:1, 60:1, 80:1, 100:1			
Frame Size	56C	56C for 0.5 hp - 1 hp & 145TC for 1.5 hp - 2 hp		56C
Motor Type	Totally enclosed, Fan cooled			

Table 2: Belt Speeds for Fixed Speed 90° 60 Hz Gearmotors

Part Number	Heavy Load Gearmotors			Belt Speed	
	RPM	In-lb	N-m	Ft/min	M/min
32M100HH4(vp)FN	17	913	103	17	5.2
32M080HH4(vp)FN	22	833	94	22	6.7
32M060HH4(vp)FN	29	679	76	29	8.8
32M050HH423FN	38	1205	136	38	11.6
32M040HH423FN	43	1023	115	43	13.1
32M030HH423FN	58	1216	137	58	17.7
32M025HH423FN	70	1068	121	70	21.3
32M020HH423FN	86	1183	134	86	26.2
32M015HH423FN	115	909	103	115	35.1
32M010HH423FN	173	636	72	173	52.7
32M008HH423FN	230	482	54	230	70.1

(vp) = voltage and phase

11 = 115 V, 1-phase

23 = 208 – 230/460 V, 3-phase

Table 3: Belt Speeds for Variable Speed 90° 60 Hz Gearmotors

Part Number	Standard Load Gearmotors			Belt Speed	
	RPM	In-lb	N-m	Ft/min	M/min
32M100HHD9DEN	25	630	71	2.5 - 25.0	0.8 - 7.7
32M080HHD9DEN	31	574	64	3.1 - 31.0	0.9 - 9.4
32M060HHD9DEN	42	468	53	4.2 - 42.0	1.3 - 12.8
32M050HHD9DEN	50	624	70	5.0 - 50.0	1.5 - 15.2
32M040HHD9DEN	63	529	60	6.3 - 63.0	1.9 - 19.2

Table 4: Belt Speeds for Fixed Speed 90° 60 Hz VFD Gearmotors

Part Number	Heavy Load Gearmotors			Belt Speed	
	RPM	In-lb	N-m	Ft/min	M/min
32M100HH423EN	17	913	103	1.7 - 17.0	0.5 - 5.2
32M080HH423EN	22	833	94	2.2 - 22.0	0.7 - 6.7
32M060HH423EN	29	679	76	2.9 - 29.0	0.9 - 8.8
32M050HH423EN	38	1205	136	3.8 - 38.0	1.2 - 11.6
32M040HH423EN	43	1023	115	4.3 - 43.0	1.3 - 13.1
32M030HH423EN	58	1216	137	5.8 - 58.0	1.8 - 17.7
32M025HH423EN	70	1068	121	7.0 - 70.0	2.1 - 21.3
32M020HH423EN	86	1183	134	8.6 - 86.0	2.6 - 26.2
32M015HH423EN	115	909	103	11.5 - 115.0	3.5 - 35.1
32M010HH423EN	176	636	72	17.3 - 173.0	5.3 - 52.7
32M008HH423EN	330	482	54	33.0 - 330.0	10.5 - 100.6

Specifications

Table 5: 50 Hz Gearmotor Specifications

Item	Heavy Load Gearmotor	
	Three Phase	VFD Variable Speed
Output Power	0.37 to 1.5 kw	0.37 to 1.5 kw
Input Voltage	230 / 400 V	230 / 400 V
Input Frequency	50 Hz	25 to 63 Hz
Input Current (Amps)	see tables 6 & 7	
Gearmotor Ratios	7.5:1, 10:1, 15:1, 20:1, 30:1, 40:1, 50:1, 80:1, 100:1	
Frame Size	90B5, 90B5, 90B5, 90B5, 90B5, 80B5, 80B5, 71B5, 71B5	
Motor Type	Totally enclosed, Fan cooled	

Table 6: Belt Speeds for Fixed Speed 90° 50 Hz Gearmotors

Part Number	Ratio	RPM	M/min	Kw	Amps	N-m
52Z100HH423FN	100	14	4.3	0.37	2.1/1.2	129
52Z080HH423FN	80	17.5	5.3	0.37	2.1/1.2	115
52Z050HH423FN	50	28	8.5	0.55	2.6/1.5	124
52Z040HH423FN	40	35	10.7	0.55	2.6/1.5	105
52Z030HH423FN	30	47	14.2	1.1	4.7/2.7	167
52Z020HH423FN	20	70	21.3	1.1	4.7/2.7	122
52Z015HH423FN	15	93	28.4	1.5	6.1/3.5	127
52Z010HH423FN	10	140	42.7	1.5	6.1/3.5	89
52Z008HH423FN	7.5	187	56.9	1.5	6.1/3.5	68

Table 7: Belt Speeds for VFD Variable Speed 90° 50 Hz Gearmotors

Part Number	Ratio	RPM	M/min	Kw	Amps	N-m
52Z100HH423EN	100	7 to 18	2 to 5	0.37	2.1/1.2	129
52Z080HH423EN	80	9 to 22	3 to 7	0.37	2.1/1.2	115
52Z050HH423EN	50	14 to 35	4 to 11	0.55	2.6/1.5	124
52Z040HH423EN	40	18 to 44	5 to 13	0.55	2.6/1.5	105
52Z030HH423EN	30	23 to 59	7 to 18	1.1	4.7/2.7	167
52Z020HH423EN	20	35 to 88	11 to 27	1.1	4.7/2.7	122
52Z015HH423EN	15	47 to 118	14 to 36	1.5	6.1/3.5	127
52Z010HH423EN	10	70 to 176	21 to 54	1.5	6.1/3.5	89
52Z008HH423EN	7.5	93 to 235	28 to 72	1.5	6.1/3.5	68

NOTE

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

Installation

Required Tools

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

Mounting

⚠ WARNING

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

Installation Component List:

1	Conveyor
2	Gearmotor Mounting Package
3	Gearmotor Assembly
4	Spider Web Bushing
5	Shaft Coupling Half, Three Jaw
6	Coupling Half, Three Jaw
7	Key, Coupling
8	Shaft
9	Key, Shaft

1. Typical components (**Figure 2**).

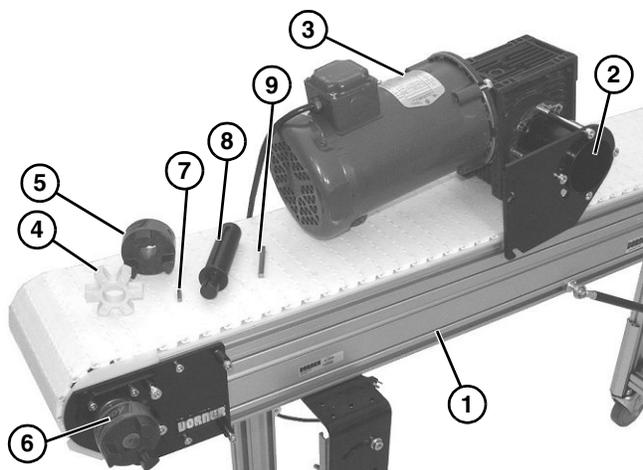


Figure 2

NOTE

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

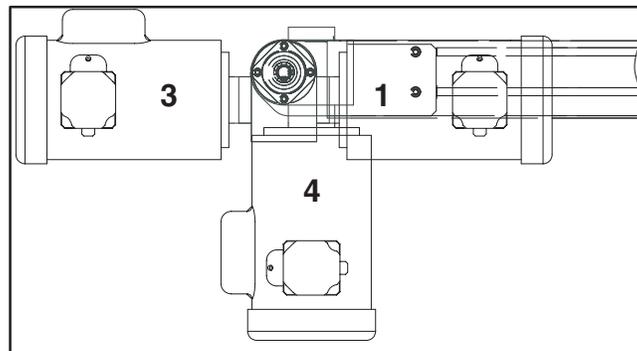


Figure 3

2. Install spider bushing (**Figure 4, item 1**) in three jaw coupling (**Figure 4, item 2**).

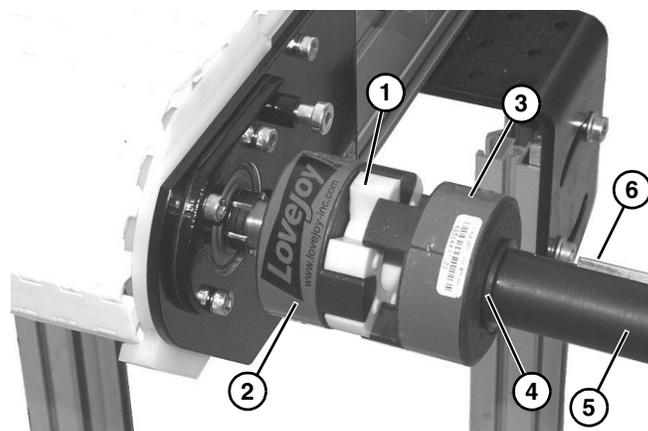


Figure 4

3. Verify that three jaw coupling half (**Figure 4, item 3**) is flush with and against flange (**Figure 4, item 4**) of shaft (**Figure 4, item 5**). Loosen set screw on coupling half and push onto shaft until flush, if necessary.
4. Making sure key (**Figure 4, item 6**) is installed in slot in gear reducer output shaft assembly (**Figure 4, item 5**), install output shaft into gearmotor assembly. Raise gearmotor assembly and install three jaw coupling end of output shaft onto three jaw coupling (**Figure 4, item 2**).

Installation

NOTE

Be sure four spacers on mounting screws (Figure 5, item 2) are in place next to conveyor before installing gearmotor.

5. Slide and pivot gearmotor and gearmotor mounting bracket (Figure 5, item 1) onto four mounting screws (Figure 5, item 2) (through slots in gearmotor bracket).

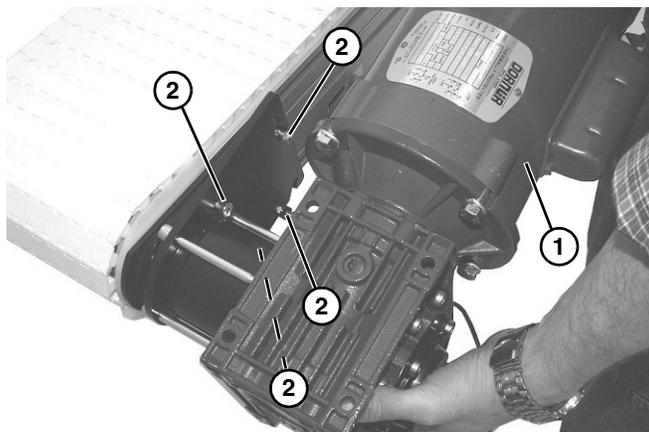


Figure 5

6. Tighten four mounting screws (Figure 5, item 2).

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

Gear Reducer Replacement

⚠ WARNING

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

⚠ WARNING
Gearmotor can rotate and fall off, causing injury. Support the gearmotor prior to removal.

1. Loosen the four (4) mounting screws (**Figure 6, item 1**).

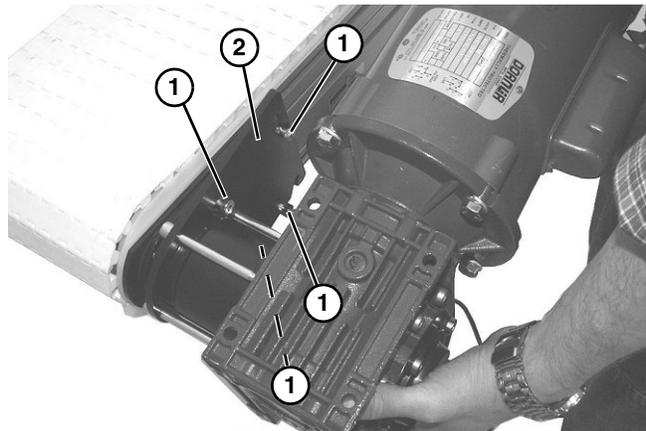


Figure 6

2. Rotate gearmotor assembly and remove gearmotor mounting bracket (**Figure 6, item 2**) and entire gearmotor assembly from conveyor.

3. Remove gear reducer output shaft assembly (**Figure 7, item 1**), and key (**Figure 7, item 2**) from coupler housing (**Figure 7, item 3**).

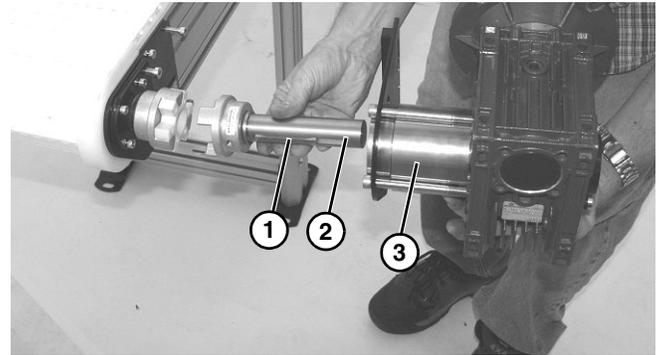


Figure 7

4. Remove the four (4) coupler housing screws (**Figure 8, item 1**) and remove the mounting bracket and coupler housing (**Figure 8, item 2**) as an assembly.

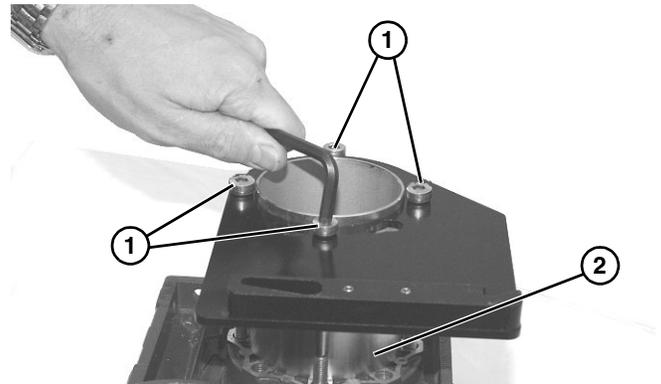


Figure 8

5. Remove four screws (**Figure 9, item 1**). Detach motor (**Figure 9, item 2**) from gear reducer (**Figure 9, item 3**), making note of position of switch (**Figure 9, item 4**) for reassembly. Retain motor output shaft key (**Figure 9, item 5**).

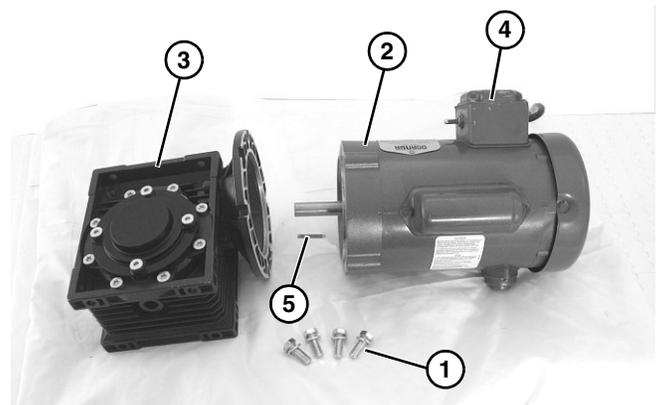


Figure 9

Preventive Maintenance and Adjustment

- Inspect gear reducer output shaft assembly for wear or damage. If necessary, loosen set screw (**Figure 10, item 1**) and remove 3 jaw coupling (**Figure 10, item 2**) from gear reducer output shaft (**Figure 10, item 3**).

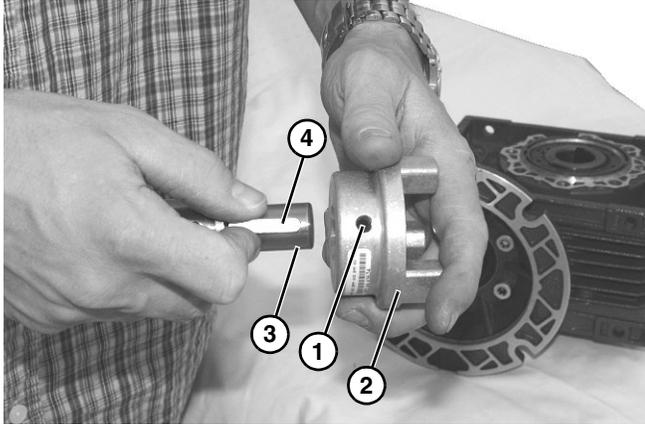


Figure 10

- Remove and retain key (**Figure 10, item 4**) from shaft. Install new components for shaft reverse of removal. Tighten set screw (**Figure 10, item 1**) to 35 in-lb (4 N-m).

NOTE

*If replacing the 3 jaw coupling on conveyor or output shaft, the coupling hub surface (**Figure 10, item 1**) should be flush to both output shaft (**Figure 10, item 2**).*

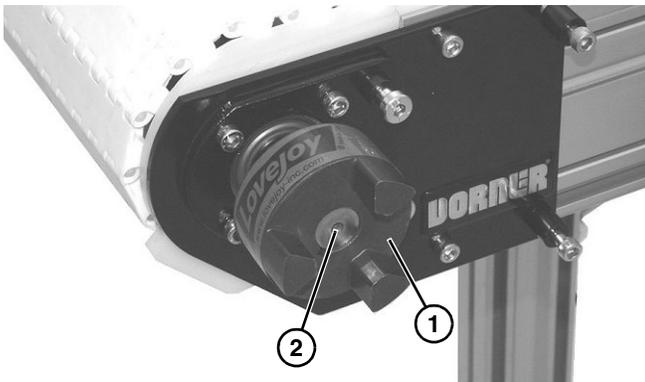


Figure 11

IMPORTANT

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

- With key (**Figure 12, item 1**) in keyway, slide motor (**Figure 12, item 2**) and gear reducer (**Figure 12, item 3**) together, noting where position of switch (**Figure 12, item 4**) will be during installation on conveyor.

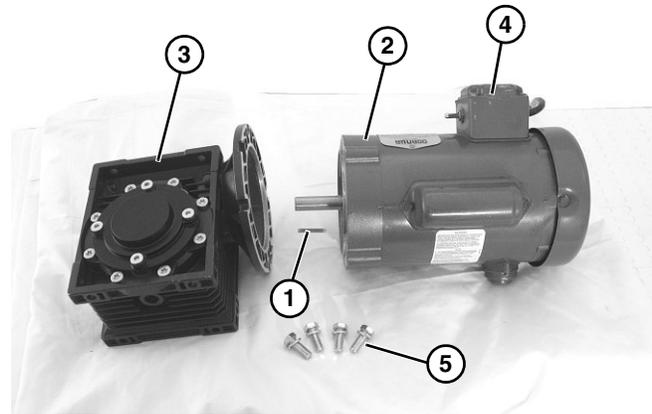


Figure 12

- Install screws (**Figure 12, item 5**) and tighten to 65 in-lbs (7.3 N-m).
- Install coupler housing (**Figure 13, item 1**) to gear reducer (**Figure 13, item 2**) and tighten screws (**Figure 13, item 3**).

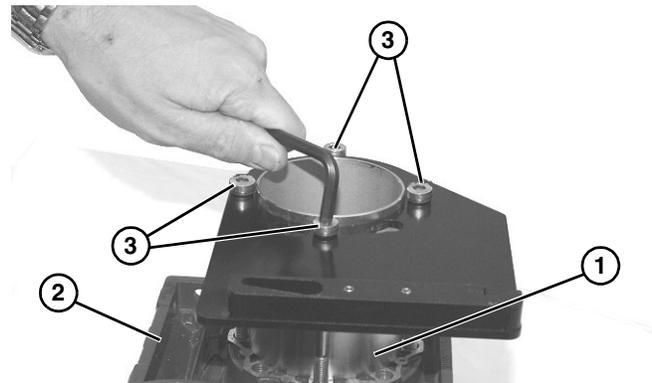


Figure 13

- Complete steps 2 through 6 of “Mounting” section beginning on page 7.

Preventive Maintenance and Adjustment

Motor Replacement

⚠ WARNING

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

⚠ DANGER

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

1. For single phase motor, unplug power cord from outlet.
2. For three phase and VFD variable speed motor:
 - a. Loosen terminal box screws (Figure 14, item 1) and remove cover (Figure 14, item 2).

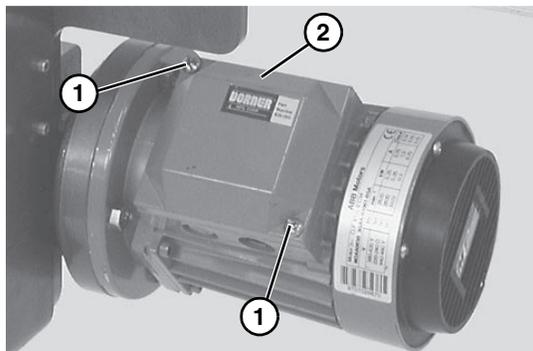


Figure 14

- b. Record wire colors on terminals 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 (Figure 15, item 1).

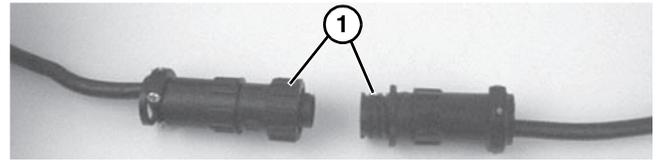


Figure 15

4. Remove four (4) screws (Figure 16, item 1). Detach motor (Figure 16, item 2) from gear reducer (Figure 16, item 3). Retain motor output shaft key (Figure 16, item 4).

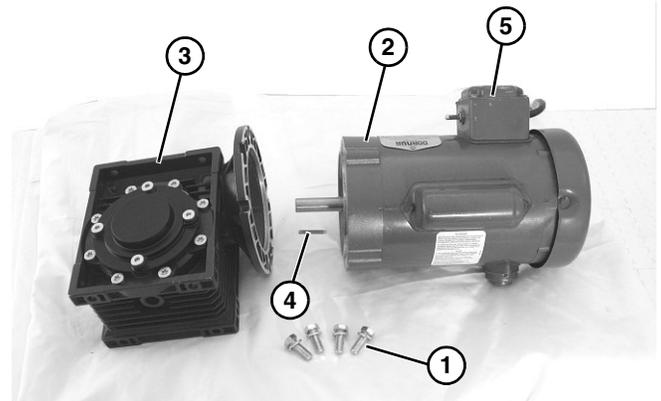


Figure 16

IMPORTANT

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

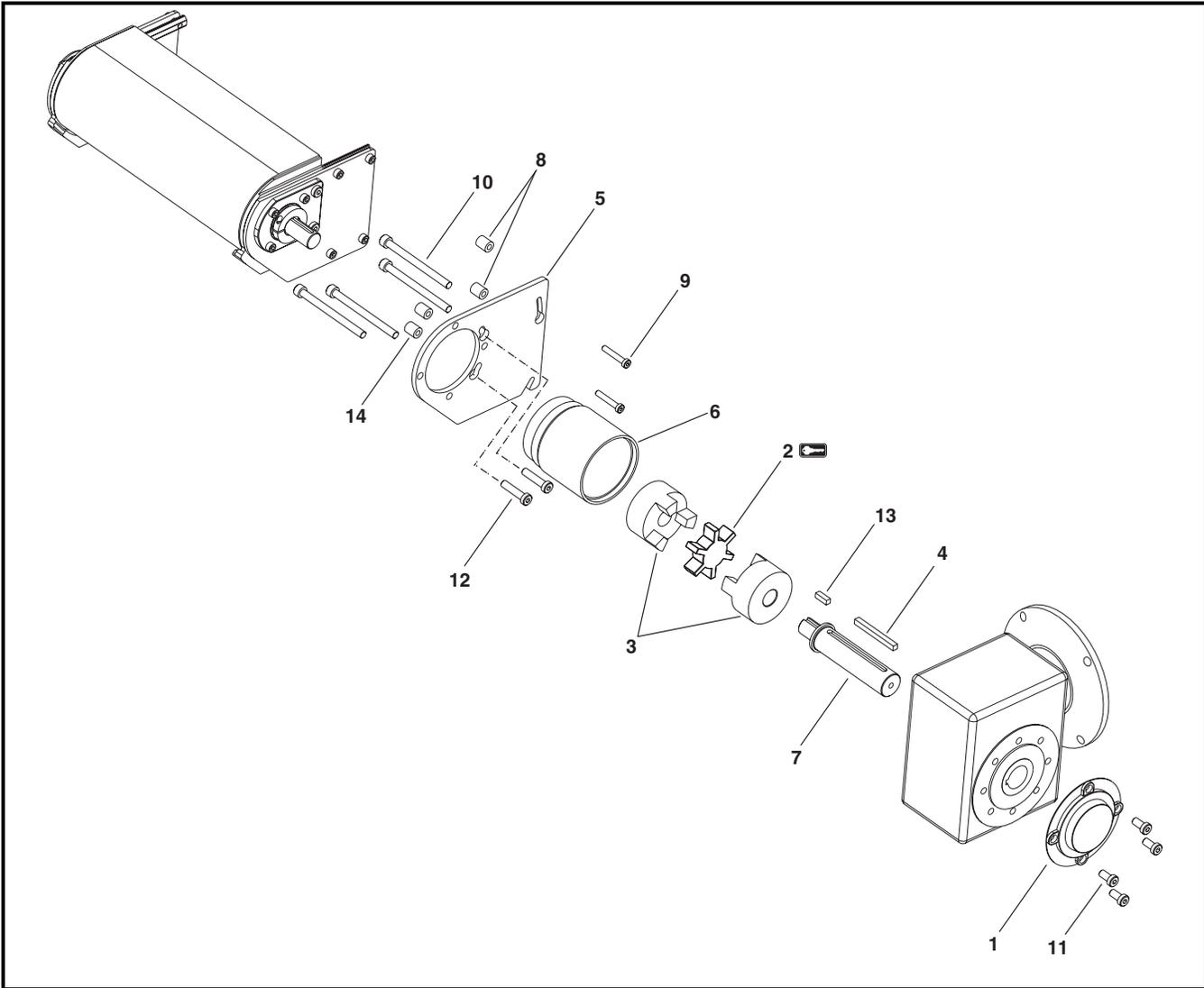
5. With key (Figure 16, item 4) in keyway, slide motor (Figure 16, item 2) and gear reducer (Figure 16, item 3) together, noting where position of switch (Figure 16, item 5) will be during installation on conveyor.
 6. Install screws (Figure 16, item 1) and tighten to 65 in-lbs (7.3 N-m).
 7. Replace wiring:
 - For a single phase motor, reverse step 1.
 - For a three phase or VFD variable speed motor, reverse step 2.
 - For a DC variable speed motor, reverse step 3.

Service Parts

5200 Series Side Mount Drive Package for Heavy Load 90° Gearmotors

NOTE

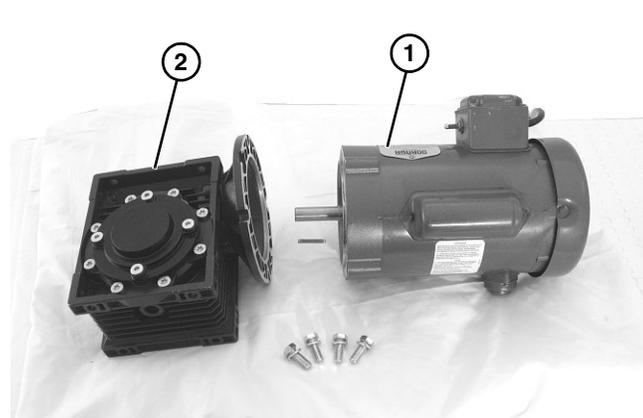
For replacement parts other than those shown in this section, contact an authorized Dornier Service Center or the factory. Key Service Parts and Kits are identified by the Performance Parts Kits logo . Dornier recommends keeping these parts on hand.



Item	Part Number	Description
1	807-1167	Gearhead Cover
2 	807-1328	3 Jaw Rubber Spider
3	807-1683	3 Jaw Coupling
4	912-111	Square Key
5	352111	Mount Plate
6	352312	Mount Tube
7	352313	Output Shaft

Item	Part Number	Description
8	352314	Spacer Tube
9	920635M	Socket Head Cap Screw, M6 x 35 mm
10	9208100M	Socket Head Screw, M8 x 100 mm
11	920893M	Low Head Cap Screw, M8 x 16 mm
12	920897M	Low Head Cap Screw, M8 x 35 mm
13	980618M	Square Key
14	352317	Spacer Tube

Heavy Load 90° Gearmotors



60 Hz Gearmotors

Item	Part No.	Description
1	62MH411FN	Motor, 0.5hp (0.37Kw), 115 Volts, 60 Hz, 1-Phase
	62MH411FR	Motor, 0.5hp (0.37Kw), 115 Volts, 60 Hz, 1-Phase with Reversing
	62MH423	Motor, 0.5hp (0.37Kw), 208-230/460 Volts, 60 Hz, 3-Phase
	32MS423EN	Motor, 0.5hp (0.37Kw), 230/460 Volts, 3-Phase VFD
	62MHD9DEN	Motor, 0.5hp (0.37Kw), 90 Volts DC
	32MHD9DEN	Motor, 0.75hp (0.56Kw), 90 Volts DC
	32MHH423FN10	Motor, 1.0hp (0.75Kw), 208-230/460 Volts, 60 Hz, 3-Phase
	32MHH423EN10	Motor, 1.0hp (0.75Kw), 230/460 Volts, 60 Hz, 3-Phase VFD
	32MHH423FN15	Motor, 1.5hp (1.1Kw), 208-230/460 Volts, 60 Hz, 3-Phase
	32MHH423EN15	Motor, 1.5hp (1.1Kw), 230/460 Volts, 60 Hz, 3-Phase VFD
	32MHH423FN20	Motor, 2.0hp (1.5Kw), 208-230/460 Volts, 60 Hz, 3-Phase
	32MHH423EN20	Motor, 2.0hp (1.5Kw), 230/460 Volts, 60 Hz, 3-Phase VFD
	2	32M008HH
32M010HH		Gear Reducer 10:1 NEMA 140TC
32M015HH		Gear Reducer 15:1 NEMA 140TC
32M020HH		Gear Reducer 20:1 NEMA 140TC
32M025HH		Gear Reducer 25:1 NEMA 140TC
32M030HH		Gear Reducer 30:1 NEMA 140TC
32M040HH		Gear Reducer 40:1 NEMA 56C
32M050HH		Gear Reducer 50:1 NEMA 56C
32M060HH		Gear Reducer 60:1 NEMA 56C
32M080HH		Gear Reducer 80:1 NEMA 56C
32M100HH		Gear Reducer 100:1 NEMA 56C

50 Hz Gearmotors

Item	Part No.	Description
1	826-285	MTR, .37KW, 1400R 230/400V 50 3P
	826-286	MTR, .55KW, 1400R 230/400V 50 3P
	826-287	MTR, 1.1KW, 1400R 230/400V 50 3P
	826-556	MTR, 1.5KW, 1450R 230/400V 50 3P
2	52Z100HH	Gear Reducer, 100:1, 71B5
	52Z080HH	Gear Reducer, 80:1, 71B5
	52Z050HH	Gear Reducer, 50:1, 80B5
	52Z040HH	Gear Reducer, 40:1, 80B5
	52Z030HH	Gear Reducer, 30:1, 90B5
	52Z020HH	Gear Reducer, 20:1, 90B5
	52Z015HH	Gear Reducer, 15:1, 90B5
	52Z010HH	Gear Reducer, 10:1, 90B5
	52Z008HH	Gear Reducer, 7.5:1, 90B5

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	
Standard catalog conveyors	30%
MPB Series, cleated and specialty belt conveyors	50%
7400 & 7600 Series conveyors	non-returnable items
Engineered special products	case by case
Drives and accessories	30%
Sanitary stand supports	non-returnable items

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. 2008

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