

DORNER[®]

*Aqua***Gard**[™]

7350 and 7360 Series Bottom Mount 90° Drive Package

Installation, Maintenance & Parts Manual



DORNER MFG. CORP.
P.O. Box 20 • 975 Cottonwood Ave.
Hartland, WI 53029-0020 USA

INSIDE THE USA
TEL: 1-800-397-8664
FAX: 1-800-369-2440

OUTSIDE THE USA
TEL: 262-367-7600
FAX: 262-367-5827

For other service manuals visit our website at:
www.dorner.com/service_manuals.asp

Table of Contents

Introduction	2	Table 9: Belt Speeds for Fixed Speed	
Warnings - General Safety	3	Industrial 90° VFD Gearmotors	7
Product Description	4	Installation.....	8
Specifications	4	Required Tools	8
Gearmotor Mounting Package Models:.....	4	Bottom Mount 90° Drive Package	8
Table 1: Washdown Gearmotor Specifications	4	Preventive Maintenance and Adjustment	11
Table 2: Belt Speeds for Fixed Speed		Required Tools	11
Washdown 90° Painted Gearmotors	5	Timing Belt Tensioning.....	11
Table 3: Belt Speeds for Variable Speed		Timing Belt Replacement.....	11
Washdown 90° Painted Gearmotors	5	Drive or Driven Pulley Replacement	12
Table 4: Belt Speeds for Fixed Speed		Gear Reducer Replacement -Washdown Drive.....	13
Washdown 90° Stainless Gearmotors.....	5	Gear Reducer Replacement - Industrial Drive	15
Table 5: Belt Speeds for Variable Speed		Motor Replacement	18
Washdown 90° Stainless Gearmotors.....	5	Service Parts.....	20
Table 6: Industrial Gearmotor Specifications	6	Bottom Mount Drive Package for 90°	
Table 7: Belt Speeds for Fixed Speed		Washdown Gearmotors	20
Industrial 90° 60 Hz Gearmotors	6	Bottom Mount Drive Package for 90°	
Table 8: Belt Speeds for Variable Speed		Industrial Gearmotors.....	21
Industrial 90° DC Gearmotors	7	90° Washdown Gearmotors.....	22
		90° Industrial Gearmotors	23
		Return Policy.....	24

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'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 components.

1	M4 Hex Head Screws (4x)
2	Cover
3	Driven Pulley
4	Timing Belt
5	Drive Pulley
6	Timing Belt Tensioner
7	Mounting Bracket

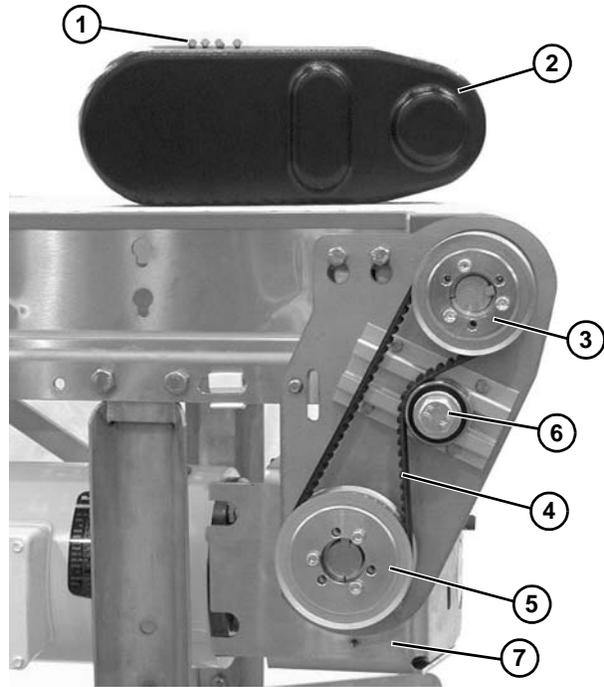


Figure 1

Specifications

Gearmotor Mounting Package Models:

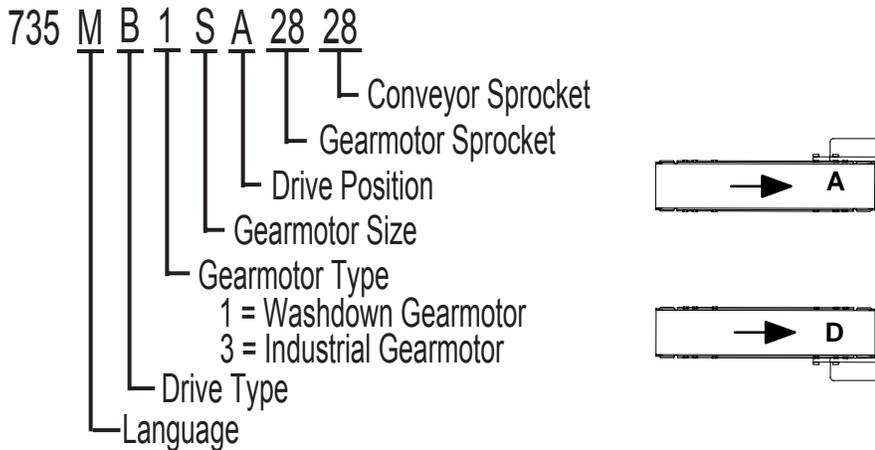


Table 1: Washdown Gearmotor Specifications

Item	Single Phase	Three Phase	
		Fixed Speed	Variable Speed
Output Power	0.50 hp (0.37 kW)	.50 hp (.37 kW) / 1 hp (.74 kW) / 1.5 hp (1.11 kW)	
Input Voltage	115 V.A.C.	208 - 230 / 460 V.A.C.	
Input Frequency	60 Hz	60 Hz	6 - 60 Hz
Gearmotor Ratios	5:1, 7:1, 10:1, 15:1, 20:1, 30:1, 40:1, 60:1, 80:1		
Frame Size	NEMA 56C		
Motor Type	Totally Enclosed, Non-ventilated (Except 1.5 hp Stainless Steel Gearmotor = Totally Enclosed, Fan Cooled)		

Specifications

Table 2: Belt Speeds for Fixed Speed Washdown 90° Painted Gearmotors

Part Number	Belt Speed		RPM	1 Phase			3 Phase			in-lbs	N-m
	Ft/min	M/min		HP	kW	FLA*	HP	kW	FLA		
74M080HS4(vp)FN	22	6.7	22	0.5	0.37	6.8/3.7-3.4	0.5	0.37	1.6/0.8	356	40.2
74M060HS4(vp)FN	29	8.8	29	0.5	0.37	6.8/3.7-3.4	0.5	0.37	1.6/0.8	442	49.9
74M040HS4(vp)FN	44	13.2	44	0.5	0.37	6.8/3.7-3.4	0.5	0.37	1.6/0.8	486	54.9
74M030HS4(vp)FN	58	17.7	58	N/A	N/A	N/A	1	0.74	3.5-3.2/1.6	487	55.0
74M020HS4(vp)FN	87	26.5	87	N/A	N/A	N/A	1	0.74	3.5-3.2/1.6	407	46.0
74M015HS4(vp)FN	117	35.7	117	N/A	N/A	N/A	1	0.74	3.5-3.2/1.6	470	53.1
74M010HS4(vp)FN	175	53.3	175	N/A	N/A	N/A	1.5	1.11	4.6-4.2/2.1	442	49.9
74M007HS4(vp)FN	233	71.0	233	N/A	N/A	N/A	1.5	1.11	4.6-4.2/2.1	360	40.7

(vp) = voltage and phase

23 = 0.5 HP – 230/460 V, 3-phase

11 = 115/208-230, 1-phase

1.0 & 1.5 HP – 208-230/460 V, 3-phase

Table 3: Belt Speeds for Variable Speed Washdown 90° Painted Gearmotors

Part Number	Belt Speed		RPM	3 Phase				in-lbs	N-m
	Ft/min	M/min		HP	kW	Volts	FLA		
74M080HS423EN	2 to 22	0.6 to 6.7	22	0.5	0.37	230/460	1.6/0.8	356	40.2
74M060HS423EN	3 to 29	0.9 to 8.8	29	0.5	0.37	230/460	1.6/0.8	442	49.9
74M040HS423EN	5 to 44	1.3 to 13.4	44	0.5	0.37	230/460	1.6/0.8	486	54.9
74M030HS423EN	6 to 58	2 to 17.7	58	1	0.74	208-230/460	3.5-3.2/1.6	487	55.0
74M020HS423EN	9 to 87	2.6 to 26.5	87	1	0.74	208-230/460	3.5-3.2/1.6	487	55.0
74M015HS423EN	12 to 117	3.6 to 35.7	117	1	0.74	208-230/460	3.5-3.2/1.6	470	53.1
74M010HS423EN	18 to 175	5.3 to 53.3	175	1.5	1.11	208-230/460	4.6-4.2/2.1	442	49.9
74M007HS423EN	23 to 233	7.1 to 71.0	233	1.5	1.11	208-230/460	4.6-4.2/2.1	360	40.7

Table 4: Belt Speeds for Fixed Speed Washdown 90° Stainless Gearmotors

Part Number	Belt Speed		RPM	3 Phase				in-lbs	N-m
	Ft/min	M/min		HP	kW	Volts	FLA		
74M080HHS423FN	22	6.7	22	0.5	0.37	230/460	1.6/0.8	356	40.2
74M060HHS423FN	29	8.8	29	0.5	0.37	230/460	1.6/0.8	442	49.9
74M040HHS423FN	44	13.4	44	0.5	0.37	230/460	1.6/0.8	486	54.9
74M030HHS423FN	58	17.7	58	1	0.74	208-230/460	3.2-3/1.5	487	55.0
74M020HHS423FN	87	26.5	87	1	0.74	208-230/460	3.2-3/1.5	407	46.0
74M015HHS423FN	117	35.7	117	1	0.74	208-230/460	3.2-3/1.5	470	53.1
74M010HHS423FN	175	53.3	175	1.5	1.11	208-230/460	5.8-5.4/2.7	442	49.9
74M007HHS423FN	233	71.0	233	1.5	1.11	208-230/460	5.8-5.4/2.7	360	40.7

Table 5: Belt Speeds for Variable Speed Washdown 90° Stainless Gearmotors

Part Number	Belt Speed		RPM	3 Phase				in-lbs	N-m
	Ft/min	M/min		HP	kW	Volts	FLA		
74M080HHS423EN	2 to 22	0.6 to 6.7	22	0.5	0.37	230/460	1.6/0.8	356	40.2
74M060HHS423EN	3 to 29	0.9 to 8.8	29	0.5	0.37	230/460	1.6/0.8	442	49.9
74M040HHS423EN	5 to 44	1.3 to 13.4	44	0.5	0.37	230/460	1.6/0.8	486	54.9
74M030HHS423EN	6 to 58	2 to 17.7	58	1	0.74	208-230/460	3.2-3/1.5	487	55.0
74M020HHS423EN	9 to 87	2.6 to 26.5	87	1	0.74	208-230/460	3.2-3/1.5	487	55.0
74M015HHS423EN	12 to 117	3.6 to 35.7	117	1	0.74	208-230/460	3.2-3/1.5	470	53.1
74M010HHS423EN	18 to 175	5.3 to 53.3	175	1.5	1.11	208-230/460	5.3-5.4/2.7	442	49.9
74M007HHS423EN	23 to 233	7.1 to 71.0	233	1.5	1.11	208-230/460	5.3-5.4/2.7	360	40.7

Specifications

Table 6: Industrial Gearmotor Specifications

Item	Standard Load Gearmotor			
	Single Phase	Three Phase	VFD Variable Speed	DC Variable Speed
Output Power	0.5 hp (0.37 kw)			
Input Voltage	115 VAC	208 – 230/460 VAC	230 VAC	90VDC
Input Frequency	60 Hz		10 – 60 Hz	N/A
Input Current (Amperes)	7.4	2.1 – 2/1	1.6	5.0
Gearmotor Ratios	5:1, 10:1, 20:1, 40:1, 60:1			
Frame Size	NEMA 56C			
Motor Type	Totally enclosed, Fan cooled			

Table 7: Belt Speeds for Fixed Speed Industrial 90° 60 Hz Gearmotors

Standard Load Gearmotors				Belt Speed		Drive Pulley	Driven Pulley
Part Number	RPM	In-lb	N-m	Ft/min	M/min		
32M060HS4(vp)FN	29	226	25.5	23	7.0	16	16
32M040HS4(vp)FN	43	247	27.9	34	10.4	16	16
32M040HS4(vp)FN	43	247	27.9	52	15.8	24	16
32M020HS4(vp)FN	86	248	27.9	69	21.0	16	16
32M020HS4(vp)FN	86	248	27.9	103	31.4	24	16
32M010HS4(vp)FN	173	156	17.6	137	41.8	16	16
32M010HS4(vp)FN	173	156	17.6	172	52.4	20	16
32M010HS4(vp)FN	173	156	17.6	206	62.8	24	16
32M005HS4(vp)FN	345	81	9.1	275	83.8	16	16
32M005HS4(vp)FN	345	81	9.1	343	104.5	20	16
32M005HS4(vp)FN	345	81	9.1	412	125.6	24	16

(vp) = voltage and phase

11 = 115 V, 1-phase

23 = 208 – 230/460 V, 3-phase

Specifications

Table 8: Belt Speeds for Variable Speed Industrial 90° DC Gearmotors

Light Load Gearmotors				Standard Load Gearmotors				Belt Speed		Drive Pulley	Driven Pulley
Part Number	RPM	In-lb	N-m	Part Number	RPM	In-lb	N-m	Ft/min	M/min		
32M060HLD3DEN	42	198	22.4	32M060HSD9DEN	42	198	22.4	4.0 – 33	1.2 – 10	16	16
32M040HLD3DEN	63	163	18.4	32M040HSD9DEN	63	215	24.3	6.0 – 50	1.8 – 15	16	16
32M040HLD3DEN	63	163	18.4	32M040HSD9DEN	63	215	24.3	9.0 – 75	2.7 – 23	24	16
32M020HLD3DEN	125	98	11.1	32M020HSD9DEN	125	196	22.1	12 – 100	3.6 – 30	16	16
32M020HLD3DEN	125	98	11.1	32M020HSD9DEN	125	196	22.1	18 – 150	5.5 – 45	24	16
32M010HLD3DEN	250	54	6.1	32M010HSD9DEN	250	108	12.2	24 – 200	7.3 – 61	16	16
32M010HLD3DEN	250	54	6.1	32M010HSD9DEN	250	108	12.2	30 – 250	9.1 – 76	20	16
32M010HLD3DEN	250	54	6.1	32M010HSD9DEN	250	108	12.2	36 – 300	11 – 92	24	16

Table 9: Belt Speeds for Fixed Speed Industrial 90° VFD Gearmotors

Standard Load Gearmotors				Belt Speed		Drive Pulley	Driven Pulley
Part Number	RPM	In-lb	N-m	Ft/min	M/min		
32M060HS423EN	29	226	25.5	2.3 – 22.9	0.7 – 7.0	16	16
32M040HS423EN	43	247	27.9	3.4 – 34.3	1.0 – 10.5	16	16
32M040HS423EN	43	247	27.9	5.1 – 51.5	1.6 – 15.7	24	16
32M020HS423EN	86	248	27.9	6.9 – 68.6	2.1 – 20.9	16	16
32M020HS423EN	86	248	27.9	10.3 – 103.0	3.1 – 31.4	24	16
32M010HS423EN	173	156	17.6	13.7 – 137.3	4.2 – 41.9	16	16
32M010HS423EN	173	156	17.6	17.2 – 171.6	5.2 – 52.3	20	16
32M010HS423EN	173	156	17.6	20.6 – 205.9	6.3 – 62.8	24	16
32M005HS423EN	345	81	9.1	27.5 – 274.6	8.4 – 83.7	16	16
32M005HS423EN	345	81	9.1	34.3 – 343.2	10.5 – 104.6	20	16
32M005HS423EN	345	81	9.1	41.2 – 411.9	12.6 – 125.6	24	16

NOTE

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

Installation

Required Tools

- 5/16" wrench
- 4 mm wrench
- 13 mm wrench
- 14 mm wrench
- Large flat head screwdriver
- Pry Bar
- Torque wrench

Bottom Mount 90° Drive Package

⚠ WARNING



SEVERE HAZARD!

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

Typical Components (Figure 2).

- | | |
|---|---------------------------------|
| 1 | Bottom Mount Assembly |
| 2 | Drive Pulley |
| 3 | Cover |
| 4 | M4 Hex Head Screws (4x) |
| 5 | Driven Pulley |
| 6 | M8 x 35 mm Hex Head Screws (2x) |
| 7 | Timing Belt |
| 8 | Timing Belt Tensioner |

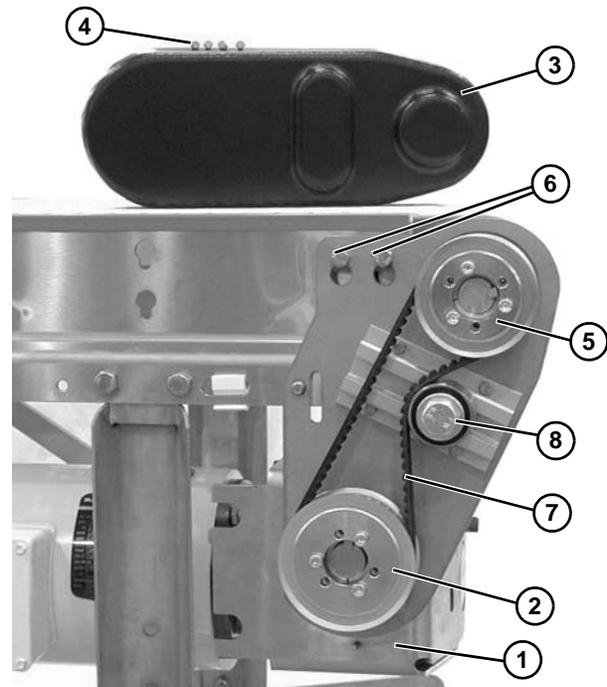


Figure 2

NOTE

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

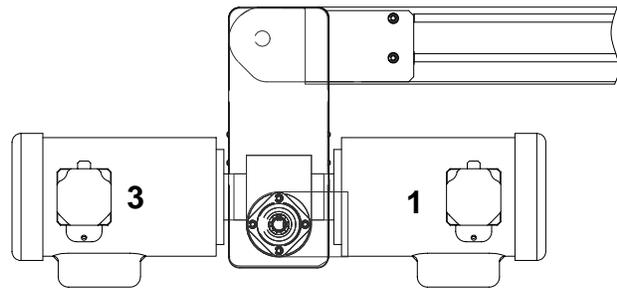


Figure 3

Installation

1. If required, change gearmotor position by removing four bolts (**Figure 4, item 1**). Rotate gearmotor to other position and replace screws (**Figure 4, item 1**).

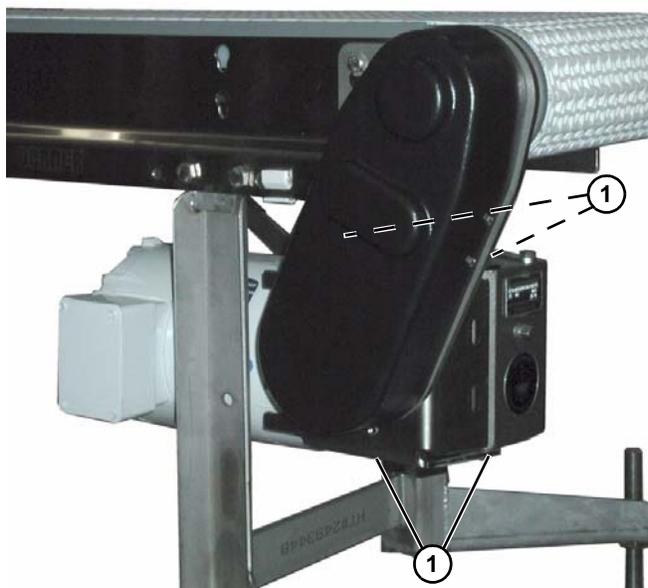


Figure 4

2. Locate drive output shaft (**Figure 5, item 1**). Remove top two existing bolts securing headplate (**Figure 5, item 2**) to conveyor frame.

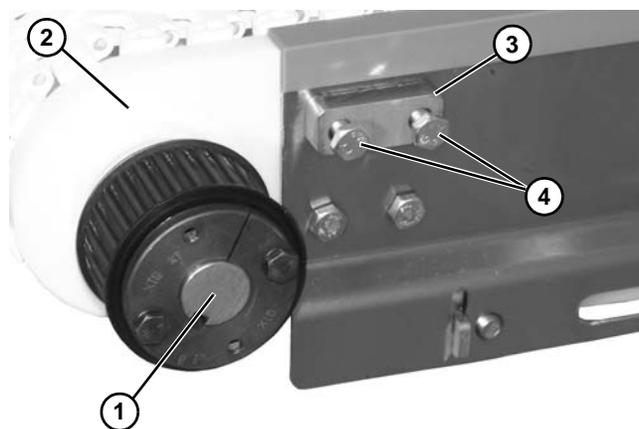


Figure 5

3. Install spacer (**Figure 5, item 3**) and two longer bolts provided (**Figure 5, item 4**) into conveyor frame and headplate. Leave bolts loose with enough space to slide on mounting assembly.

4. Attach mount assembly (**Figure 6, item 1**) with the two bolts (**Figure 6, item 2**).

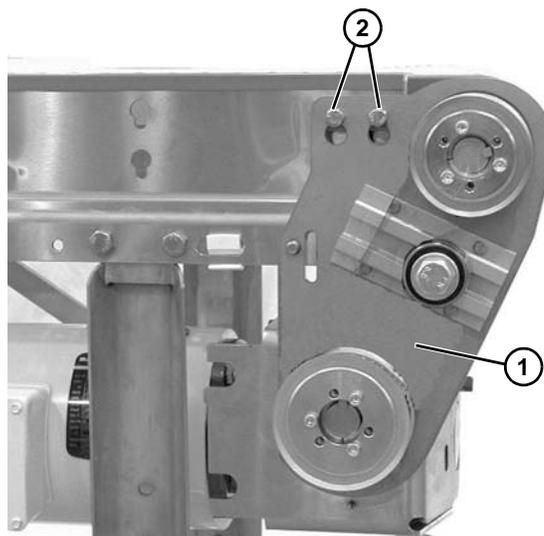


Figure 6

5. Insert bolt (**Figure 7, item 1**) through backside of conveyor into threaded hole in mounting bracket (**Figure 7, item 2**).

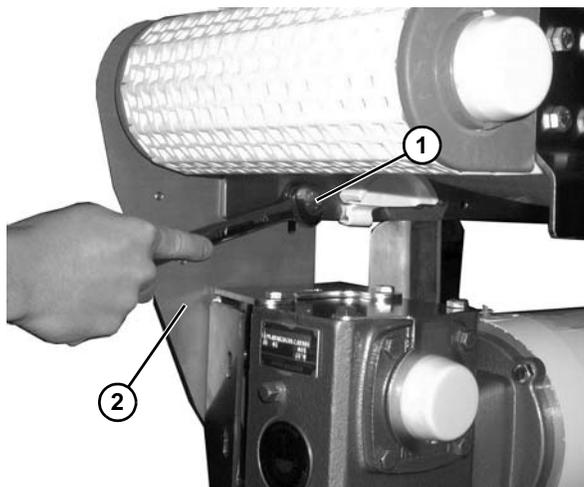


Figure 7

Installation

⚠ WARNING



Drive shaft keyway may be sharp.
HANDLE WITH CARE.

6. Install key (Figure 8, item 1).

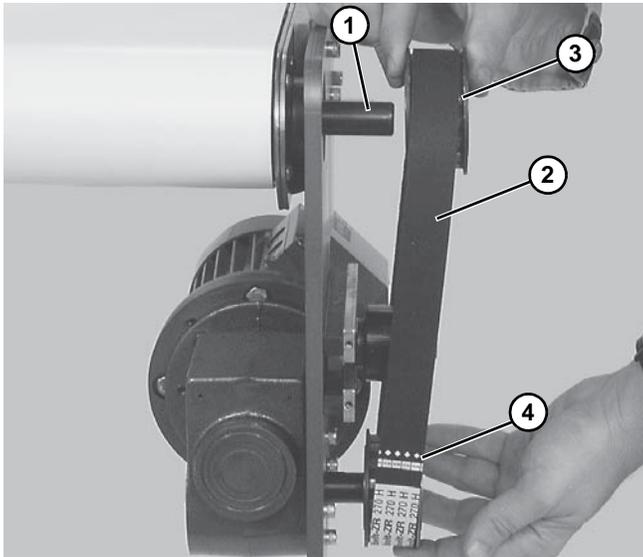


Figure 8

7. Wrap timing belt (Figure 8, item 2) around driven pulley (Figure 8, item 3) and drive pulley (Figure 8, item 4). Install driven pulley onto conveyor shaft.
8. Using a straight edge (Figure 9, item 1), align driven pulley (Figure 9, item 2) with drive pulley (Figure 9, item 3).

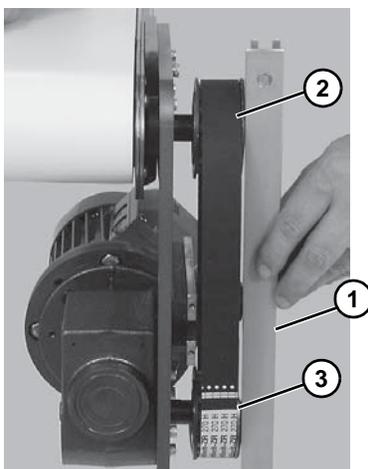


Figure 9

9. Tighten driven pulley taper-lock screws (Figure 10, item 1).

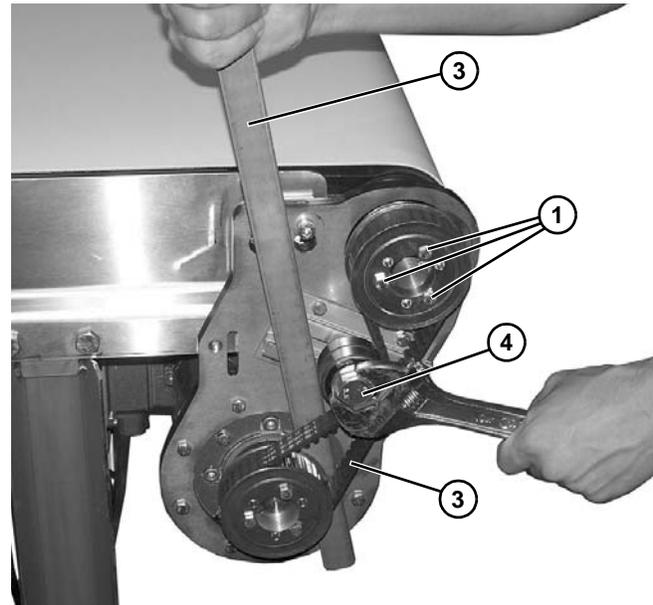


Figure 10

10. Tension timing belt (Figure 10, item 2) sufficiently to prevent belt skipping. A pry bar (Figure 10, item 3), may be used, as shown, to assist in belt tensioning.
11. Tighten tensioner screw (Figure 10, item 4) to secure position.

⚠ CAUTION

Over tightening of timing belt will result in reduced gearmotor and timing belt life.

12. Install cover (Figure 11, item 1) with four (4) screws (Figure 11, item 2).



Figure 11

Preventive Maintenance and Adjustment

Required Tools

- 5/16" wrench
- 4 mm wrench
- 13 mm wrench
- 14 mm wrench
- Large flat head screwdriver
- Pry Bar
- Torque wrench

Timing Belt Tensioning

⚠ WARNING

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

1. Remove four bolts (**Figure 12, item 1**) and remove cover (**Figure 12, item 2**).



Figure 12

2. Loosen tensioner screw (**Figure 13, item 1**).

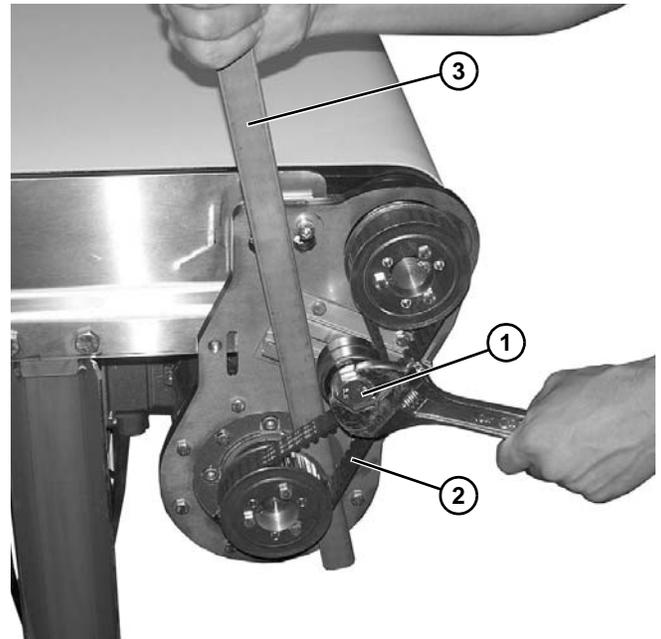


Figure 13

3. Tension timing belt (**Figure 13, item 2**) sufficiently to prevent belt skipping. A pry bar (**Figure 13, item 3**), may be used, as shown, to assist in belt tensioning.
4. Tighten tensioner screw (**Figure 13, item 1**) to secure position.

⚠ CAUTION
Over tightening of timing belt will result in reduced gearmotor and timing belt life.

5. Install cover (**Figure 12, item 2**) with four screws (**Figure 12, item 1**).

Timing Belt Replacement

⚠ WARNING

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

1. Remove four bolts (**Figure 12, item 1**) and remove cover (**Figure 12, item 2**).
2. Loosen tensioner screw (**Figure 13, item 1**).

Preventive Maintenance and Adjustment

3. Remove timing belt (Figure 14, item 1).

NOTE

If timing belt does not slide over pulley flange, loosen driven pulley taper-lock screws (Figure 14, item 2) and remove pulley with belt (Figure 14, item 1). For re-installation, see steps 7 thru 9 beginning on page 10.

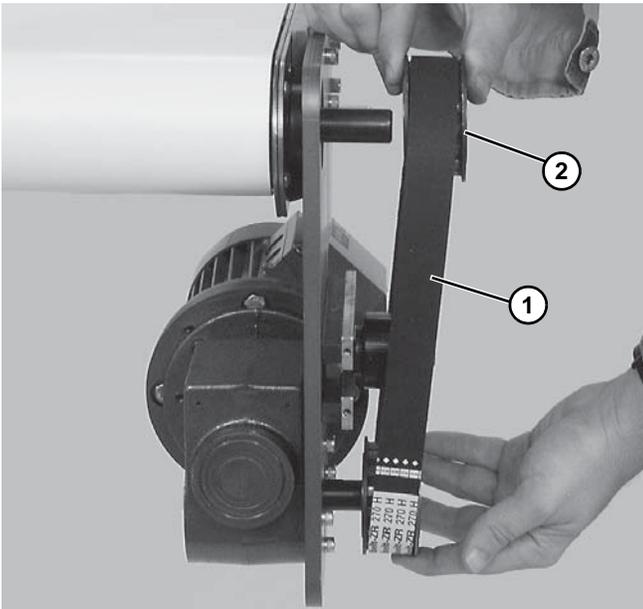


Figure 14

4. Install new timing belt.
5. Tension timing belt (Figure 15, item 1) sufficiently to prevent belt skipping. A pry bar (Figure 15, item 2), may be used, as shown, to assist in belt tensioning.

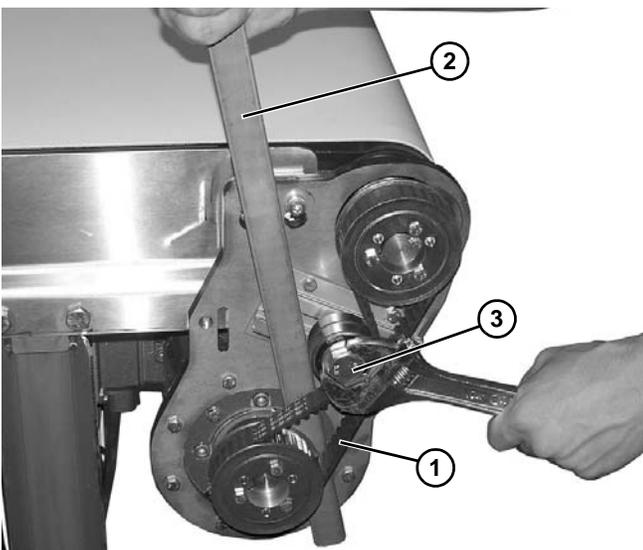


Figure 15

6. Tighten tensioner screw (Figure 15, item 3) to secure position.

CAUTION

Over tightening of timing belt will result in reduced gearmotor and timing belt life.

7. Install cover (Figure 16, item 1) with four bolts (Figure 16, item 2).



Figure 16

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 11.

Preventive Maintenance and Adjustment

- Remove taper-lock screws (**Figure 17, item 1**). Insert one of taper lock screws in remaining hole (**Figure 17, item 2**). Tighten screw until pulley is loose. Remove pulley and taper hub assembly.

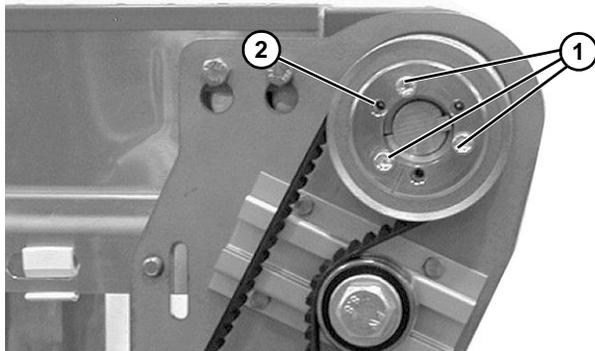


Figure 17

NOTE

If drive pulley (**Figure 19, item 2**) is replaced, wrap timing belt around drive pulley and complete step 3.

- Complete steps 6 through 12 of “Installation” section beginning on page 10.

Gear Reducer Replacement - Washdown Drive

⚠ WARNING



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

- Remove four bolts (**Figure 18, item 1**) and remove cover (**Figure 18, item 2**).



Figure 18

- Loosen tensioner screw (**Figure 19, item 1**).

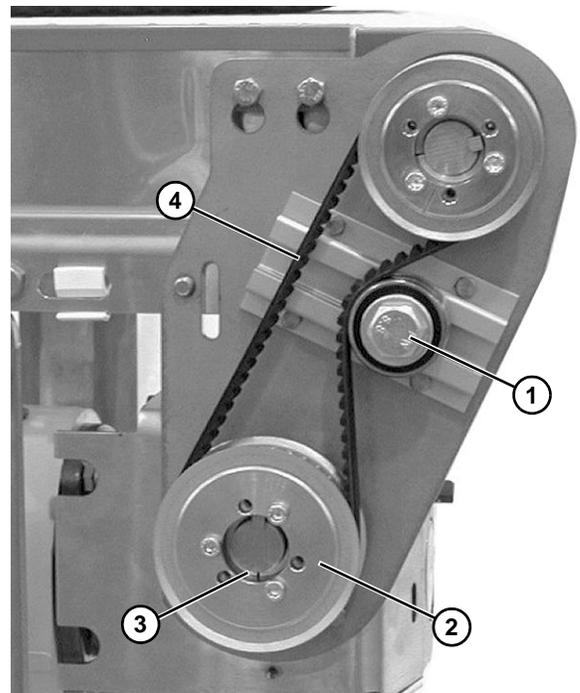


Figure 19

- Remove pulley (**Figure 19, item 2**), taper hub assembly (**Figure 19, item 3**), and timing belt (**Figure 19, item 4**).

⚠ WARNING



BURN HAZARD!

DO NOT TOUCH the motor while operating, or shortly after being turned off. Motors may be **HOT** and can cause serious burn injuries.

Preventive Maintenance and Adjustment

⚠ WARNING



CRUSH HAZARD!

- **SUPPORT MOTOR PRIOR TO LOOSENING THE BOLTS**
- **Loosening motor bolts may cause it to drop down, causing serious injury.**

4. Remove four bolts (**Figure 20, item 1**) securing motor (**Figure 20, item 2**) to gear reducer (**Figure 20, item 3**).

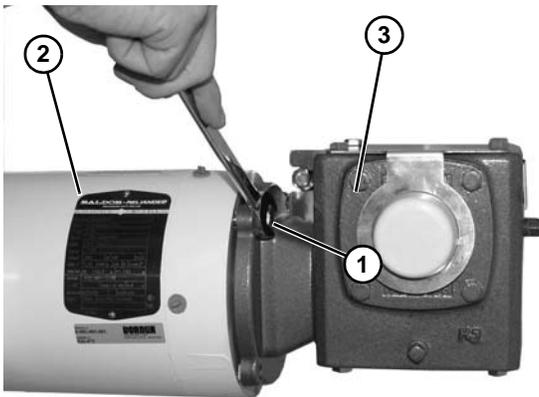


Figure 20

NOTE

Be sure to retain the motor output shaft key.

5. Remove four gear reducer mounting bolts (**Figure 21, item 1**). Remove gear reducer.

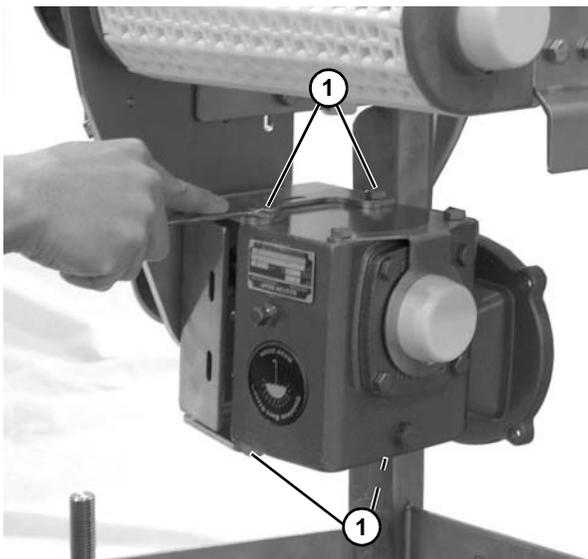


Figure 21

6. Remove two bolts (**Figure 22, item 1**) and gear reducer output shaft cover and bracket (**Figure 22, item 2**).

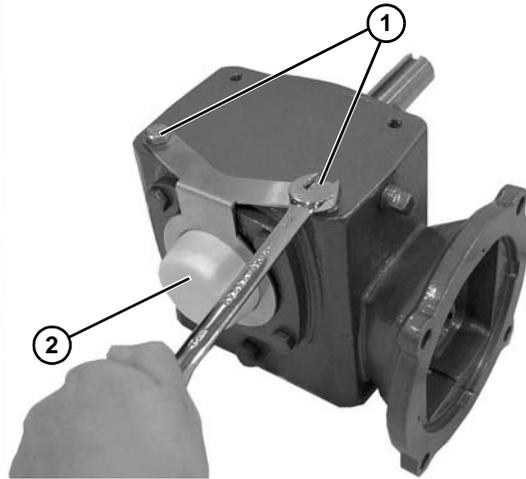


Figure 22

7. Use a hex key wrench to remove set screws on both bearings (**Figure 23, item 1**).

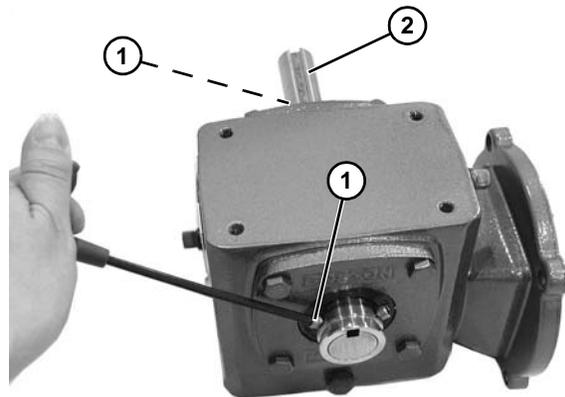


Figure 23

8. Remove gear reducer output shaft (**Figure 23, item 2**) and key.
9. Insert the new shaft (**Figure 23, item 2**) with key into new gear reducer.
10. Use a hex key wrench to tighten set screws on both bearings (**Figure 23, item 1**).

Preventive Maintenance and Adjustment

11. Install gear reducer to mounting bracket and tighten bolts (Figure 24, item 1).

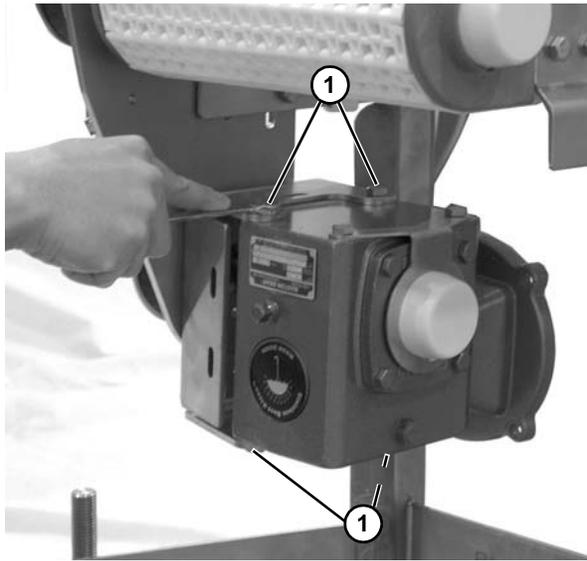


Figure 24

12. With key (Figure 25, item 1) in keyway, slide motor (Figure 25, item 2) and gear reducer (Figure 25, item 3) together.

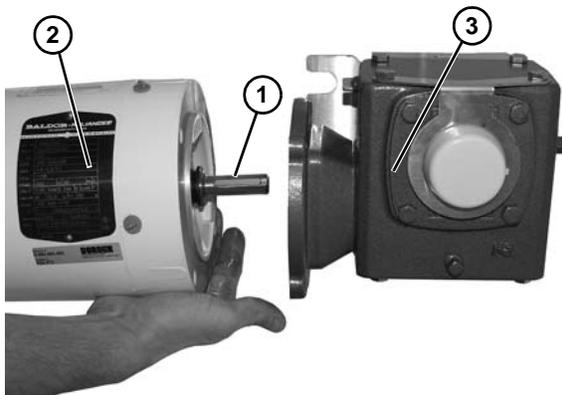


Figure 25

IMPORTANT

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

13. Install four bolts (Figure 26, item 1) securing motor (Figure 26, item 2) to gear reducer (Figure 26, item 3).

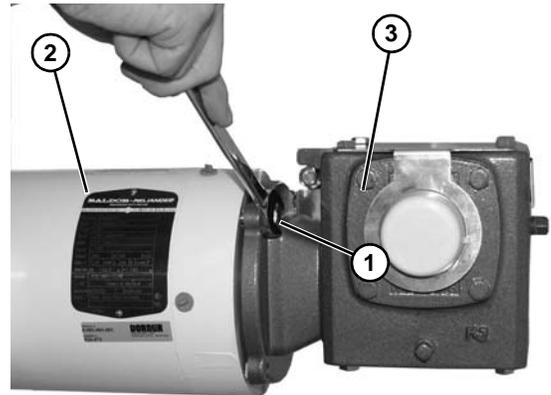


Figure 26

14. Complete steps 6 through 11 of “Installation” section beginning on page 10.

Gear Reducer Replacement - Industrial Drive

⚠ WARNING



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

1. Remove four screws (Figure 27, item 1) and remove cover (Figure 27, item 2).



Figure 27

Preventive Maintenance and Adjustment

- Loosen tensioner screw (Figure 28, item 1).

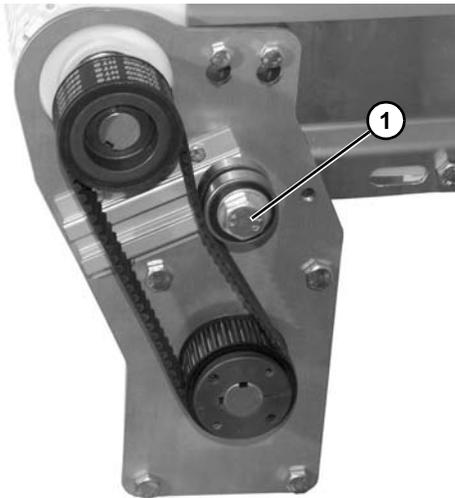


Figure 28

- Remove pulley (Figure 29, item 1), taper hub assembly (Figure 29, item 2), and timing belt (Figure 29, item 3).

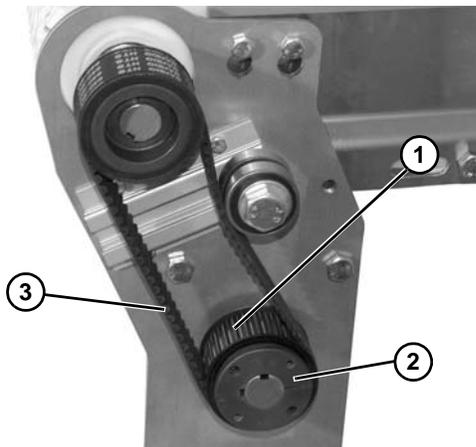


Figure 29

⚠ WARNING
<p style="text-align: center;">CRUSH HAZARD!</p> <ul style="list-style-type: none"> • SUPPORT MOTOR PRIOR TO LOOSENING THE BOLTS • Loosening motor bolts may cause it to drop down, causing serious injury.

- Remove four bolts (Figure 30, item 1). Detach motor (Figure 30, item 2) from gear reducer (Figure 30, item 3). Retain motor output shaft key (Figure 30, item 4).

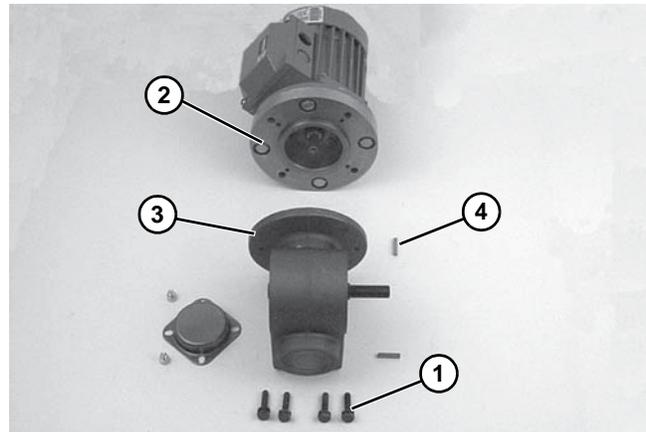


Figure 30

- Remove four gear reducer mounting bolts (Figure 31, item 1). Remove gear reducer.

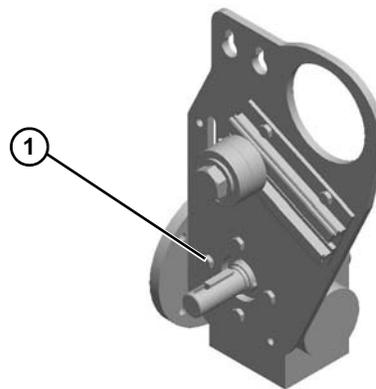


Figure 31

⚠ WARNING
<p style="text-align: center;">BURN HAZARD!</p> <p>DO NOT TOUCH the motor while operating, or shortly after being turned off. Motors may be HOT and can cause serious burn injuries.</p>

Preventive Maintenance and Adjustment

- Remove two screws (**Figure 32, item 1**) and detach output shaft cover (**Figure 32, item 2**).

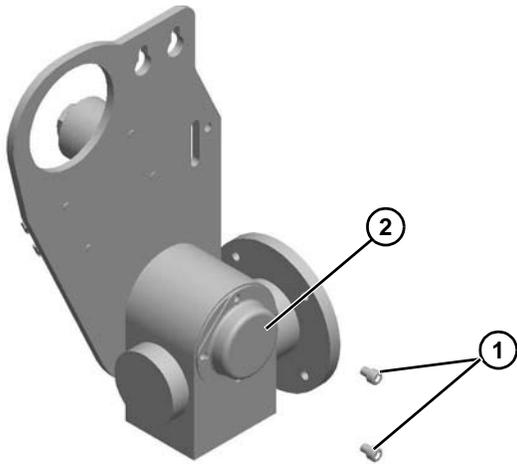


Figure 32

- Attach output shaft cover (**Figure 34, item 2**) with two screws (**Figure 34, item 1**).

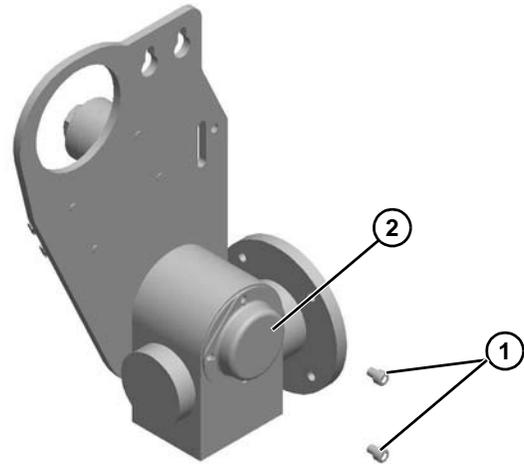


Figure 34

- Remove shaft locking screw (**Figure 33, item 1**), remove gear reducer output shaft (**Figure 33, item 2**) and key (**Figure 33, item 3**).

NOTE
<i>Output shaft (Figure 33, item 2) is held in Gear Reducer with a tapered press fit. Removal may require use of an arbor press.</i>

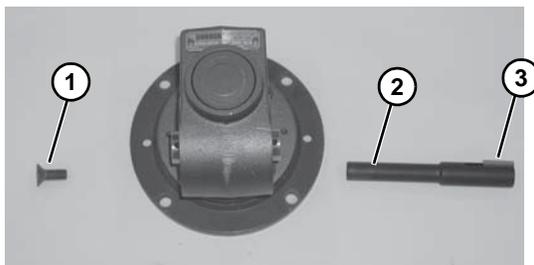


Figure 33

- Insert the new shaft with key (**Figure 33, item 3**) into new gear reducer.

- Install gear reducer to mounting bracket and tighten bolts (**Figure 35, item 1**) to 110 in-lb (12 Nm).

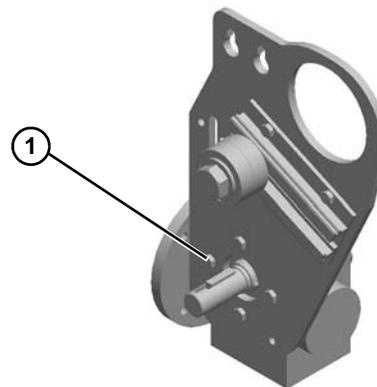


Figure 35

- With key (**Figure 36, item 4**) in keyway, slide motor (**Figure 36, item 2**) and gear reducer (**Figure 36, item 3**) together. Install bolts (**Figure 36, item 1**) and tighten.

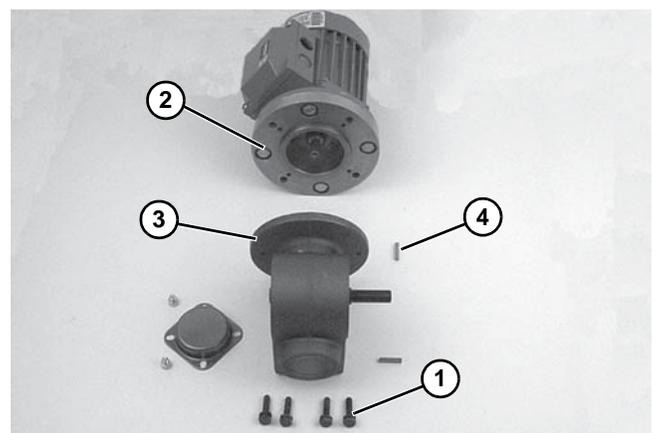


Figure 36

Preventive Maintenance and Adjustment

IMPORTANT

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

- Complete steps 6 through 11 of “Installation” section beginning on page 10.

Motor Replacement

⚠ WARNING



SEVERE HAZARD!

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

⚠ WARNING



BURN HAZARD!

DO NOT TOUCH the motor while operating, or shortly after being turned off. Motors may be **HOT** and can cause serious burn injuries.

⚠ DANGER



ELECTRICAL HAZARD!

LOCK OUT POWER BEFORE WIRING. Exposure to high voltage current can cause death or serious injury.

- Loosen terminal box screws (**Figure 37, item 1**) and remove cover (**Figure 37, item 2**).

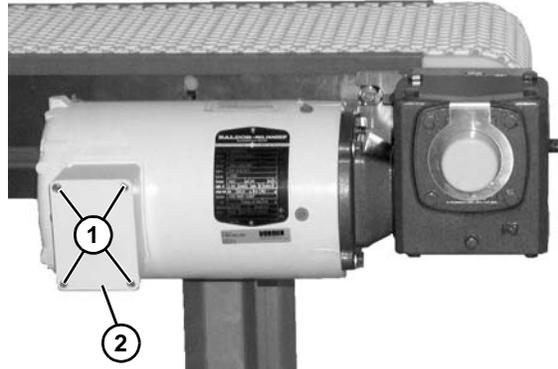


Figure 37

- Refer to the wiring diagram (**Figure 38, item 1**) on the inside of the junction box cover.



Figure 38

- Loosen the wire nuts and disconnect the wires.
- Loosen the cord grip and remove the cord.

⚠ WARNING



CRUSH HAZARD!

- SUPPORT MOTOR PRIOR TO LOOSENING THE BOLTS**
- Loosening motor bolts may cause it to drop down, causing serious injury.**

Preventive Maintenance and Adjustment

- Remove four bolts (**Figure 39, item 1**) securing motor (**Figure 39, item 2**) to gear reducer (**Figure 39, item 3**).

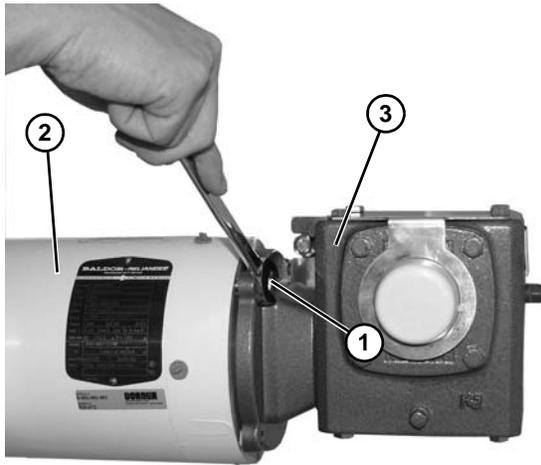


Figure 39

- Slide motor (**Figure 40, item 1**) off of gear reducer (**Figure 40, item 2**), and remove shaft key (**Figure 40, item 3**) from motor shaft (**Figure 40, item 4**).

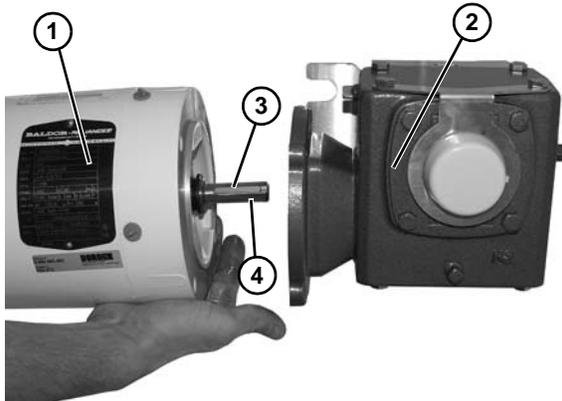


Figure 40

- With key (**Figure 40, item 3**) in keyway on motor shaft (**Figure 40, item 4**), slide new motor (**Figure 40, item 1**) and gear reducer (**Figure 40, item 2**) together.
- Secure motor (**Figure 41, item 1**) to gear reducer (**Figure 41, item 2**), with four bolts (**Figure 41, item 3**).

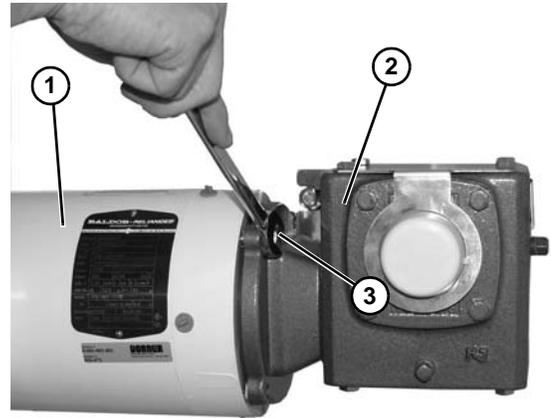


Figure 41

- Tighten four bolts (**Figure 41, item 3**) to 65 in-lbs (7.3 N-m).
- Rewire the motor and attach the box cover.

NOTE

Be sure to retain the motor output shaft key.

IMPORTANT

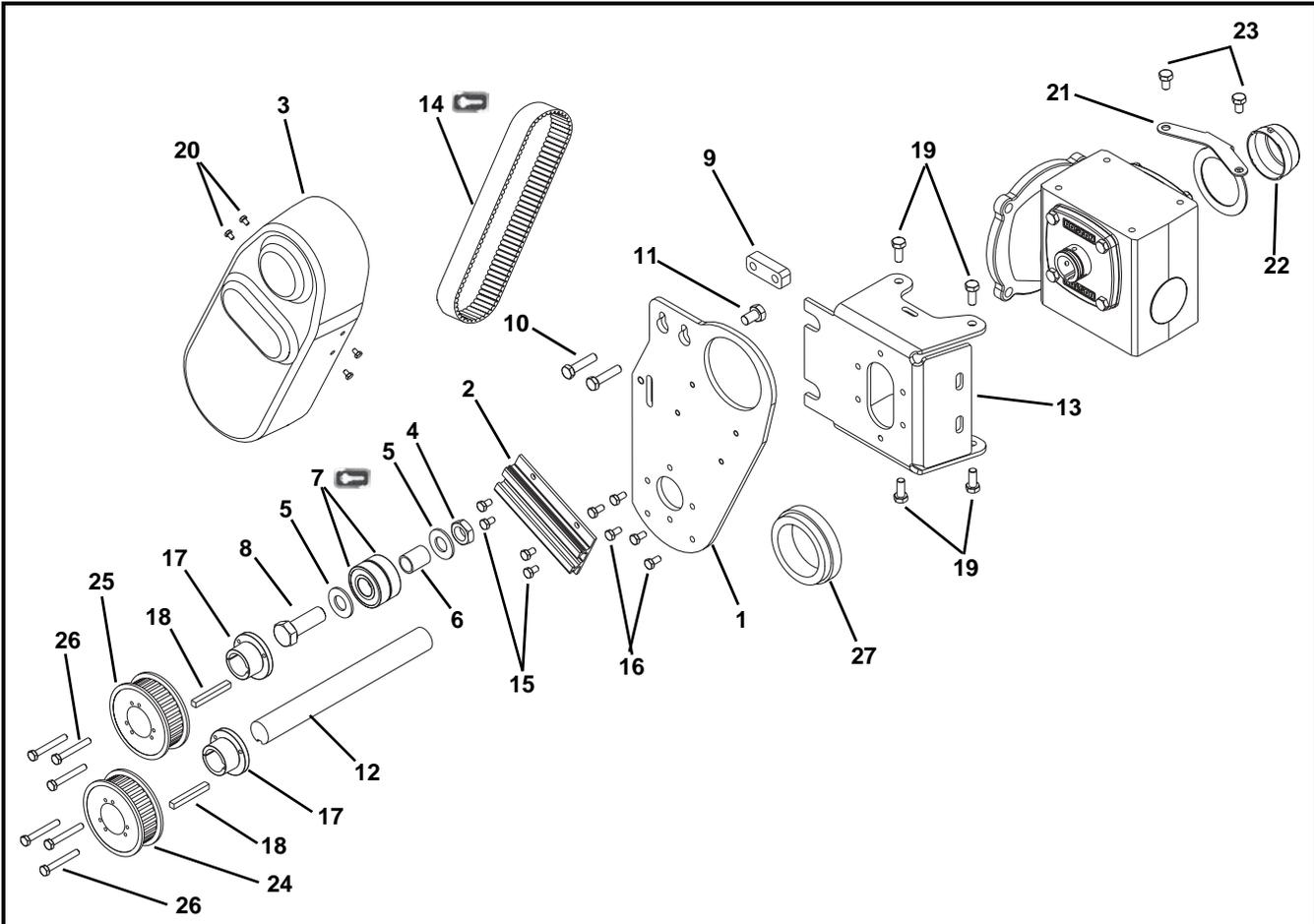
Be extremely careful when coupling motor to gear reducer. Avoid misalignment and forcing the connection causing possible permanent gear reducer seal damage.

Service Parts

NOTE

For replacement parts other than those shown on this page, 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.

Bottom Mount Drive Package for 90° Washdown Gearmotors

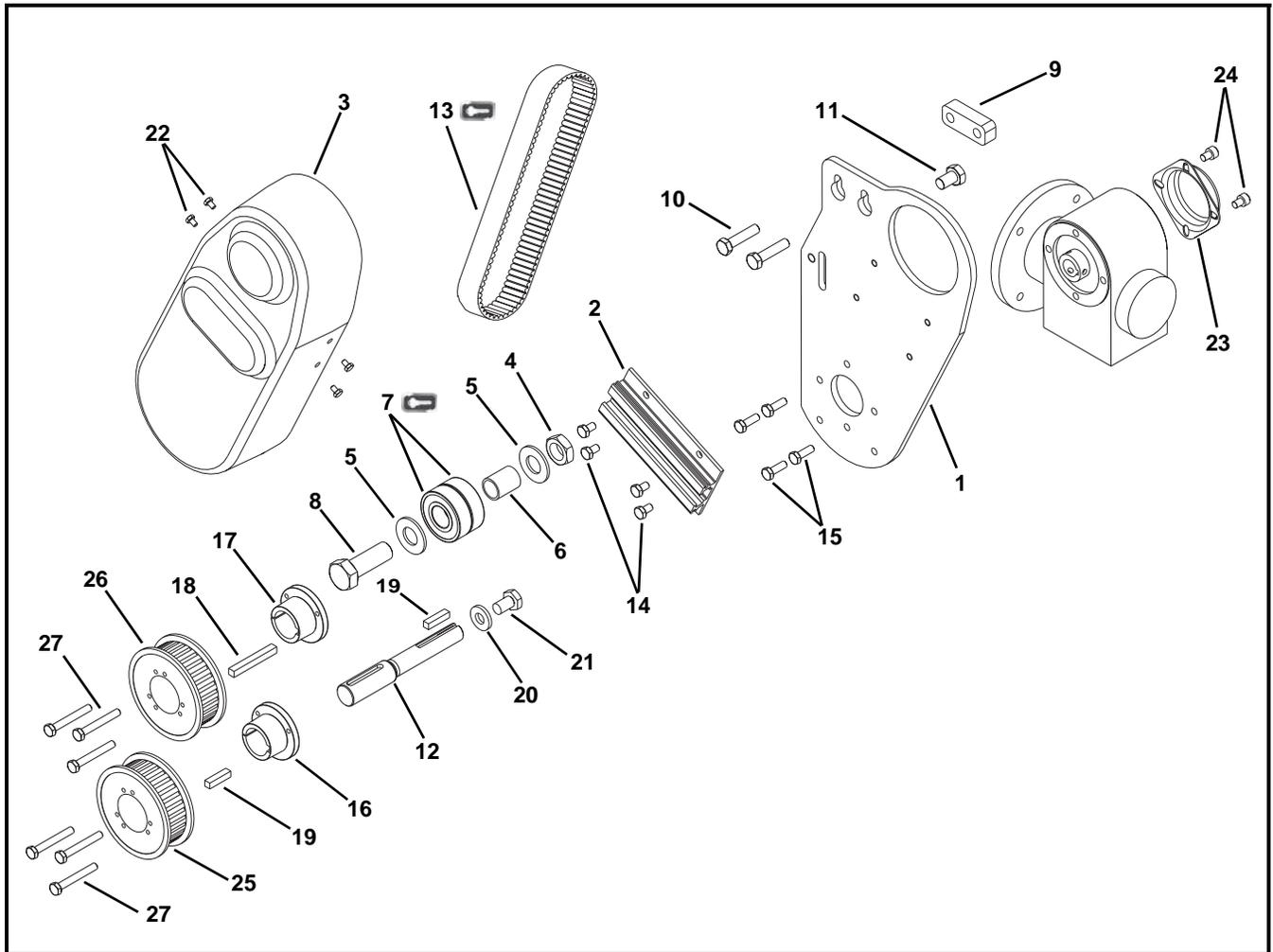


Item	Part Number	Description
1	532228	Mounting Plate
2	301076	Slide Tensioner
3	532227	Drive Cover
4	991610MSS	Hex Nut
5	911-013	Washer
6	801-124	Bearing
7	802-126	Ball Bearing (Qty: 2)
8	961645M	Hex Head Cap Screw M16-2.00 x 45mm
9	532231	Spacer
10	960835MSS	Hex Head Cap Screw M8-1.25 x 35mm
11	961016MSS	Hex Head Cap Screw M10-1.50 x 16mm
12	532232-LLLLL	Shaft
13	532148	Mounting Bracket
14	814-144	Timing Belt for 30:30 Pulley Ratio
	814-143	Timing Belt for 36:30 Pulley Ratio

Item	Part Number	Description
15	960610MSS	Hex Head Cap Screw M6-1.00 x 10 mm
16	960612MSS	Hex Head Cap Screw M6-1.00 x 12 mm
17	532235	Bushing
18	912-110SS	Square Key
19	906-061SS	Hex Head Cap Screw 5/16-18 x .75"
20	960406MSS	Hex Head Cap Screw M4-0.70 x 6 mm
21	500492	Cover Bracket
22	807-1454	Cover
23	906-067SS	Hex Head Cap Screw 5/16-18 x .50"
24	532234-30	Drive Pulley 30T
	532234-36	Drive Pulley 36T
25	532234-30	Driven Pulley 30T
26	960645MSS	Hex Head Cap Screw, M6-1.00 x 45 mm
27	514317	Guard

LLLLL = Part length in inches with 2 decimal places.
Example: Part Length = 95.25" LLLLL = 09525

Bottom Mount Drive Package for 90° Industrial Gearmotors

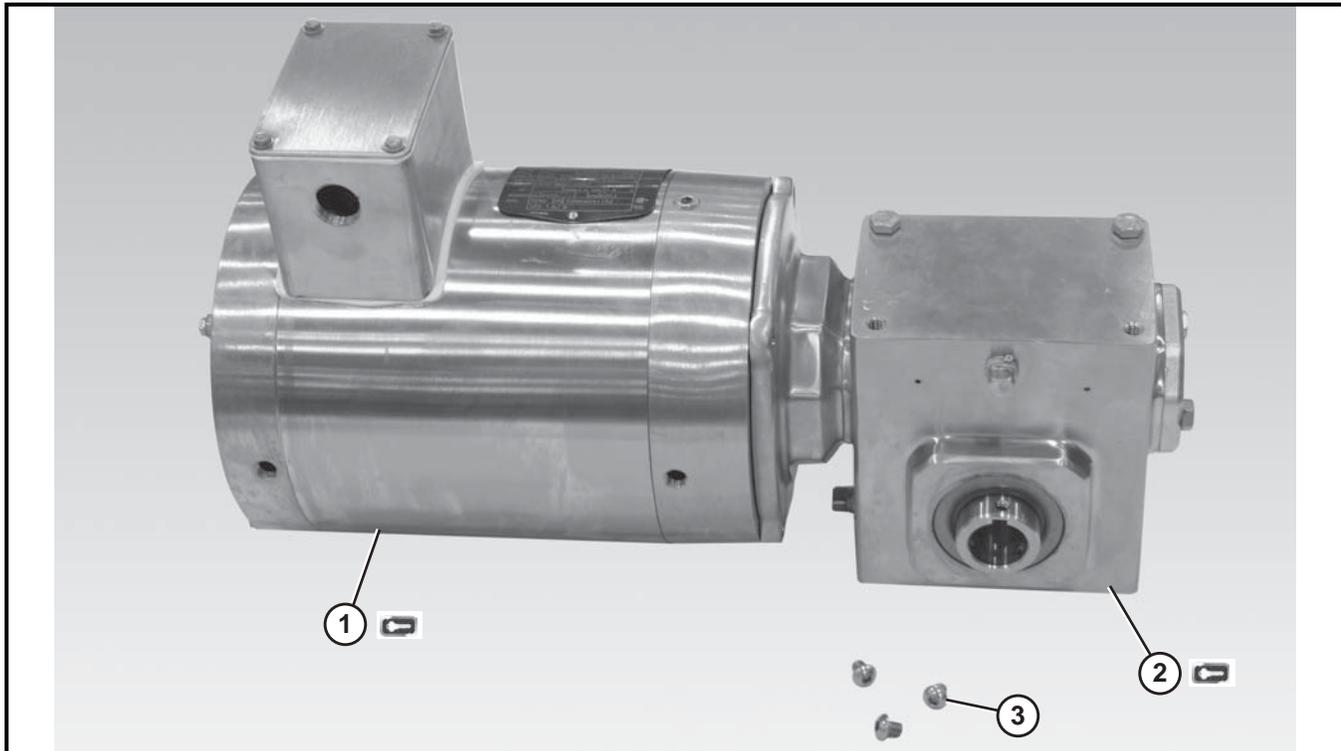


Item	Part Number	Description
1	532228	Mounting Plate
2	301076	Slide Tensioner
3	532227	Drive Cover
4	991610MSS	Hex Nut
5	911-013	Washer
6	801-124	Bearing
7	802-126	Ball Bearing (Qty: 2)
8	961645M	Hex Head Cap Screw M16-2.00 x 45 mm
9	532231	Spacer
10	960835MSS	Hex Head Cap Screw M8-1.25 x 35 mm
11	961016MSS	Hex Head Cap Screw M10-1.50 x 16 mm
12	301146	Shaft
13	814-144	Timing Belt for 30:30 Pulley Ratio
	814-143	Timing Belt for 36:30 Pulley Ratio

Item	Part Number	Description
14	960610MSS	Hex Head Cap Screw M6-1.00 x 10 mm
15	960618MSS	Hex Head Cap Screw M6-1.00 x 18 mm
16	532237	Bushing
17	532235	Bushing
18	912-110SS	Square Key
19	980625MSS	Square Key
20	807-1821	Washer
21	961020MSS	Hex Head Cap Screw M10-1.50 x 20mm
22	960406MSS	Hex Head Cap Screw, M4-0.70 x 6 mm
23	300139	Cover
24	920608M	Socket Head Screw, M6-1.00 x 8 mm
25	532234-30	Drive Pulley 30T
	532234-36	Drive Pulley 36T
26	532234-30	Driven Pulley 30T
27	960645MSS	Hex Head Cap Screw, M6-1.00 x 45 mm

Service Parts

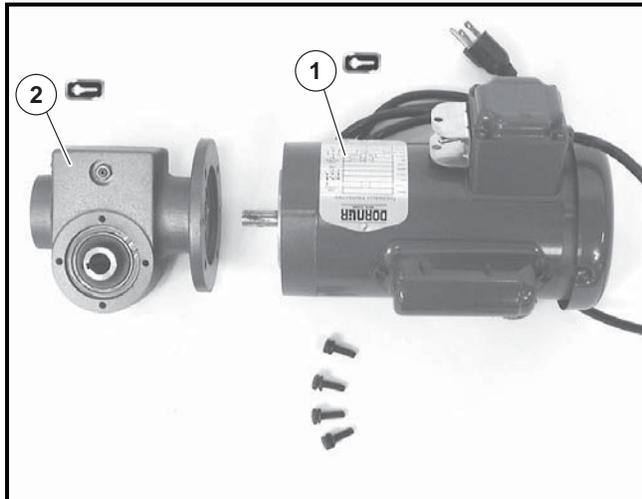
90° Washdown Gearmotors



Item	Part Number	Description
1	62MZ411	Painted Motor, 0.50 Hp (0.37Kw) 115 Volts, 60Hz, 1 Phase
	62MZ423	Painted Motor, 0.50 Hp (0.37Kw) 208-230/460 Volts, 6 to 60Hz, 3 Phase
	74MHS423-10	Painted Motor, 1.00 Hp (0.74Kw) 208-230/460 Volts, 6 to 60Hz, 3 Phase
	74MHS423-15	Painted Motor, 1.50 Hp (1.11Kw) 208-230/460 Volts, 6 to 60Hz, 3 Phase
	62MZS423	Stainless Steel Motor, 0.50 Hp (0.37Kw) 208-230/460 Volts, 6 to 60Hz, 3 Phase
	74MZS423-10	Stainless Steel Motor, 1.00 Hp (0.74Kw) 208-230/460 Volts, 6 to 60Hz, 3 Phase
	74MZS423-15	Stainless Steel Motor, 1.50 Hp (1.11Kw) 208-230/460 Volts, 6 to 60Hz, 3 Phase

Item	Part Number	Description
2	74M005HS	Painted Gear Reducer, 5:1, 56C
	74M007HS	Painted Gear Reducer, 7:1, 56C
	74M010HS	Painted Gear Reducer, 10:1, 56C
	74M015HS	Painted Gear Reducer, 15:1, 56C
	74M020HS	Painted Gear Reducer, 20:1, 56C
	74M030HS	Painted Gear Reducer, 30:1, 56C
	74M040HS	Painted Gear Reducer, 40:1, 56C
	74M060HS	Painted Gear Reducer, 60:1, 56C
	74M080HS	Painted Gear Reducer, 80:1, 56C
	74M005HZ	Stainless Steel Gear Reducer, 5:1, 56C
	74M007HZ	Stainless Steel Gear Reducer, 7:1, 56C
	74M010HZ	Stainless Steel Gear Reducer, 10:1, 56C
	74M015HZ	Stainless Steel Gear Reducer, 15:1, 56C
	74M020HZ	Stainless Steel Gear Reducer, 20:1, 56C
	74M030HZ	Stainless Steel Gear Reducer, 30:1, 56C
	74M040HZ	Stainless Steel Gear Reducer, 40:1, 56C
74M060HZ	Stainless Steel Gear Reducer, 60:1, 56C	
74M080HZ	Stainless Steel Gear Reducer, 80:1, 56C	
3	917-104	Stainless Steel Socket Head Cap Screw 10-32 x .25 for Painted Gearmotor
	916-126	Stainless Steel Button Head Cap Screw 1/4-20 x .31 for Stainless Steel Gearmotor

90° Industrial Gearmotors



Item	Part No.	Description
1	62MS411FN	Motor, 0.25hp (0.19Kw), 115/230 Volts, 60 Hz, 1-Phase
	62MS411FR	Motor, 0.25hp (0.19Kw), 115/230 Volts, 60 Hz, 1-Phase with Reversing
	62MS423	Motor, 0.25hp (0.19Kw), 208-230/460 Volts, 60 Hz, 3-Phase
	22MSD3DEN	Motor, 0.25hp (0.19Kw), 130 VDC
	62MH411FN	Motor, 0.5hp (0.37Kw), 115/230 Volts, 60Hz, 1-Phase
	62MH423	Motor, 0.5hp (0.37Kw) 208-230/460 Volts, 60Hz, 3 Phase
	62MHD9DEN	Motor, 0.5hp (0.37Kw), 90 VDC
	32MS423EN	Motor, 0.5hp (0.37Kw), 230 Volts, 3 Phase Inverter Duty
	32MHD9DEN	Motor, 0.75 hp, (0.56Kw), 90 VDC
2	32M005HL	Gear Reducer, 5:1, NEMA 42CZ
	32M010HL	Gear Reducer, 10:1, NEMA 42CZ
	32M020HL	Gear Reducer, 20:1, NEMA 42CZ
	32M040HL	Gear Reducer, 40:1, NEMA 42CZ
	32M060HL	Gear Reducer, 60:1, NEMA 42CZ
	32M005HS	Gear Reducer, 5:1, NEMA 56C
	32M010HS	Gear Reducer, 10:1, NEMA 56C
	32M020HS	Gear Reducer, 20:1, NEMA 56C
	32M040HS	Gear Reducer, 40:1, NEMA 56C
	32M060HS	Gear Reducer, 60:1, NEMA 56C
	32M010HH	Gear Reducer, 10:1, 140 TC

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 (if available, part serial number).

A representative will discuss action to be taken on the returned items and provide a Returned Goods Authorization (RMA) number for reference. RMA will automatically close 30 days after being issued. To get credit, items must be new and undamaged. There will be a return charge on all items returned for credit, where Dorner was not at fault. It is the customer's responsibility to prevent damage during return shipping. Damaged or modified items will not be accepted. The customer is responsible for return freight.

Product Type									
Standard Products									Engineered to order parts
Product Line	Conveyors	Gearmotors & Mounting Packages	Support Stands	Accessories	Spare Parts (non-belt)	Spare Belts - Standard Flat Fabric	Spare Belts - Cleated & Specialty Fabric	Spare Belts - Plastic Chain	All equipment and parts
1100	30% return fee for all products except: 50% return fee for conveyors with modular belt, cleated belt or specialty belts						non-returnable		case-by-case
2200									
2200 Modular Belt									
2200 Precision Move									
2300									
2300 Modular Belt									
3200									
3200 LPZ									
3200 Precision Move									
4100									
5200									
5300									
6200									
Controls									
7200 / 7300	50% return fee for all products								
7350	non-returnable								
7360									
7400									
7600									

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 Customer Service Team 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.

 <p>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. 2009</p>	<p>DORNER MFG. CORP. 975 Cottonwood Ave., PO Box 20 Hartland, WI 53029-0020 USA TEL 1-800-397-8664 (USA) FAX 1-800-369-2440 (USA) Internet: www.dorner.com</p>	<p>Outside the USA: TEL 1-262-367-7600 FAX 1-262-367-5827</p>
---	--	---