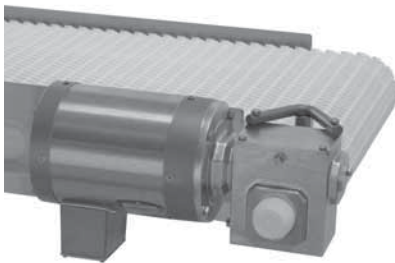




7400 Series Drive Packages

Installation, Maintenance and Parts Manual



Horizontal Mount



Vertical Mount



Nose Bar Mount

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www.dorner.com/service_manuals.asp

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Introduction

CAUTION

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.

The Dorner Limited Warranty applies.

Dorner 7400 Series conveyors have patents pending.

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 .

Intralox is a registered trademark of Laitram L.L.C. in the United States and / or other countries.


Warnings – General Safety

⚠ DANGER



SEVERE HAZARD!
KEEP OFF CONVEYORS. Climbing, sitting, walking or riding on conveyor will result in death or serious injury.


⚠ DANGER



EXPLOSION HAZARD!

- DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT. The electric gearmotor generates heat and could ignite combustible vapors.
- Failure to comply will result in death or serious injury.


⚠ WARNING



CRUSH HAZARD!

- DO NOT place hands or fingers inside the conveyor while it is running.
- DO NOT wear loose garments while operating the conveyor. Loose garments can become caught up in the conveyor.
- Failure to comply could result in serious injury.


⚠ WARNING



CRUSH HAZARD!

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

⚠ 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.

⚠ WARNING



PUNCTURE HAZARD!
Handle drive shaft keyway with care. It may be sharp and could puncture the skin, causing serious injury.

⚠ WARNING



SEVERE HAZARD!

- 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.
- Failure to comply could result in serious injury.

Product Description

Refer to **(Figure 1)** for typical gearmotor assembly components.

Typical Components	
1	Conveyor
2	Mounting bar
3	Motor
4	Gear reducer
5	Gear reducer mounting bracket

NOTE

the vertical drive package is shown above, but the horizontal and nose bar drive packages contain similar components.

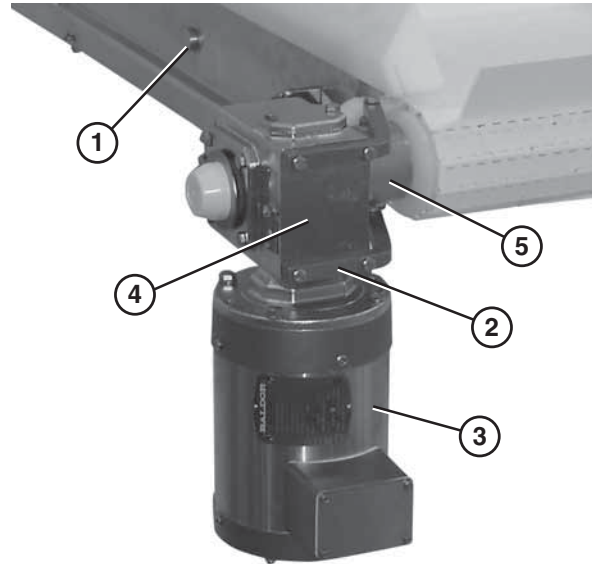
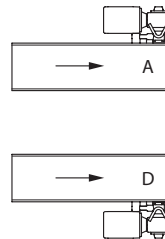
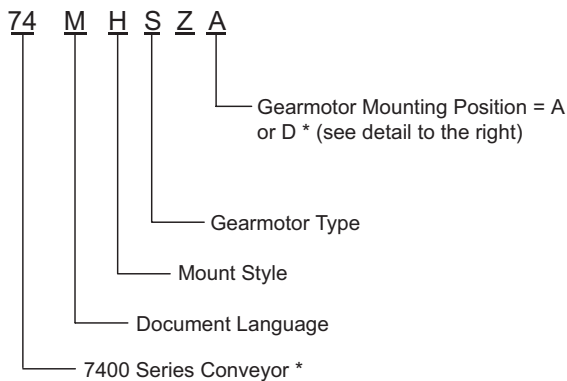


Figure 1

Specifications

7400 Series Gearmotor Mounting Package Models

Example:



* Refer to “Ordering and Specifications” Catalog for details.

Specifications

7400 Series Gearmotor Specifications

	Singe Phase	Three Phase
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	6 – 60 Hz
Motor RPM	22 - 44	22 - 233
Gearmotor Ratios	5:1, 7:1, 10:1, 15:1, 20:1, 30:1, 40:1, 60:1, 80:1	
Frame Size	NEMA 56 C	
Motor Type	Totally Enclosed, Non-ventilated (Except 1.5 hp Stainless Steel Gearmotor = Totally Enclosed, Fan Cooled)	

* Refer to "Ordering and Specifications" Catalog for details.

Fixed Speed Gearmotor

Part Number	ft / min	m / min	RPM	in • lb	N • m
74M080HS4(vp)FN	22	6.7	22	356	40.2
74M060HS4(vp)FN	29	8.8	29	442	49.9
74M040HS4(vp)FN	44	13.4	44	486	54.9
74M030HS4(vp)FN	58	17.7	58	487	55.0
74M020HS4(vp)FN	87	26.5	87	407	46.0
74M015HS4(vp)FN	117	35.7	117	470	53.1
74M010HS4(vp)FN	175	53.3	175	442	49.9
74M007HS4(vp)FN	233	71.0	233	360	40.7

Three Phase Gearmotor

Part Number	ft / min	m / min	RPM	in • lb	N • m
74M080HS4(vp)EN	2 – 22	0.6 - 6.7	22	356	40.2
74M060HS4(vp)EN	3 – 29	0.9 – 8.8	29	442	49.9
74M040HS4(vp)EN	5 – 44	1.3 – 13.4	44	486	54.9
74M030HS4(vp)EN	6 – 58	2 – 17.7	58	487	55.0
74M020HS4(vp)EN	9 – 87	2.6 – 26.5	87	487	55.0
74M015HS4(vp)EN	12 – 117	3.6 – 35.7	117	470	53.1
74M010HS4(vp)EN	18 – 175	5.3 – 53.3	175	442	49.9
74M007HS4(vp)EN	23 - 233	7.1 – 71	233	360	40.7

NOTE

Contact the factory for details about belt speeds other than those listed.

Installation

Required Tools

- 5 / 16 wrench
- 16 mm wrench (nose bar drive mount only)
- 4 mm hex wrench
- Large flat-head screwdriver
- Torque wrench

Drive Package Installation

Horizontal Drive Package

⚠ WARNING



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

⚠ WARNING



PUNCTURE HAZARD!
 Handle drive shaft keyway with care. It may be sharp and could puncture the skin, causing serious injury.

Horizontal Drive Mounting Positions

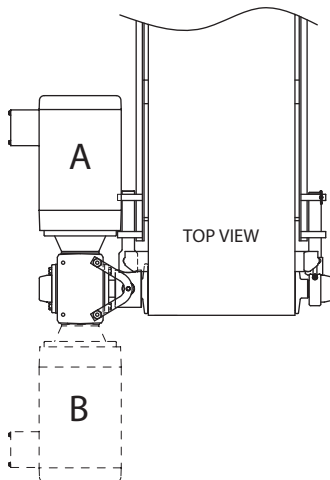


Figure 2

Typical Horizontal Drive Package Components (Figure 3)

1	Cover
2	Cover bracket
3	Hex head cap screw 5 / 16 - 18 x .50 (x2)
4	Gear reducer bent mounting bar (x2)
5	Horizon drive spacer
6	Horizontal gear reducer mounting bracket
7	Gearmotor assembly
8	Hex head cap screw 5 / 16 - 18 x 2
9	Hex head cap screw 5 / 16 - 18 x 1.25 (x4)
10	Hex head cap screw 5 / 16 - 18 x 2

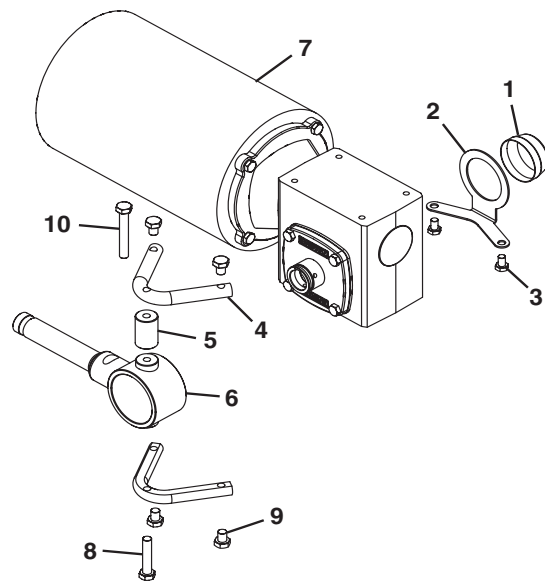


Figure 3

1. Insert the drive spindle key (Figure 4, item 1) into the drive spindle keyway (Figure 4, item 2).

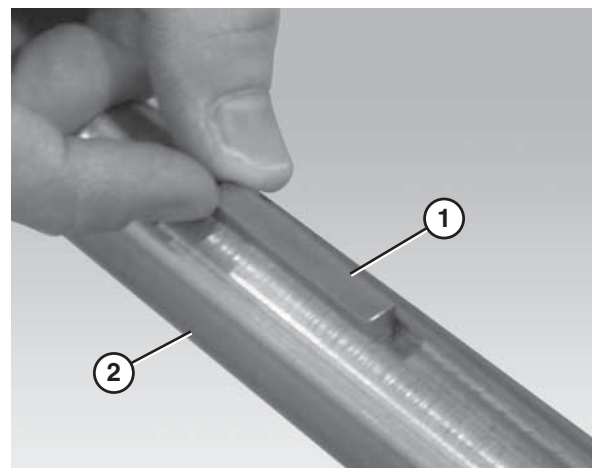


Figure 4

2. Slide the gearmotor assembly (Figure 5, item 1) onto the drive spindle (Figure 5, item 2).

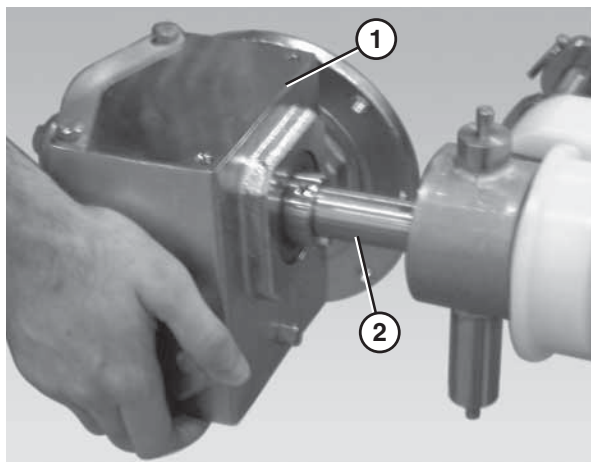


Figure 5

3. Attach the upper gear reducer mounting bar (**Figure 6, item 1**) to the gearmotor assembly (**Figure 6, item 2**).

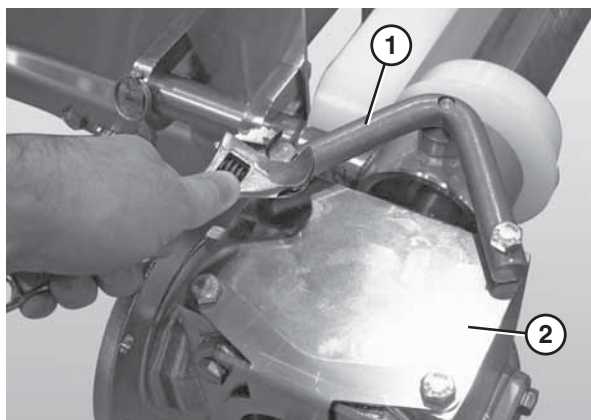


Figure 6

4. Attach the lower gear reducer mounting bar to the gearmotor assembly.
5. Tighten the drive spindle fasteners (**Figure 7, item 1**) located on the inside and outside of the gearmotor using a hex wrench (**Figure 7, item 2**).

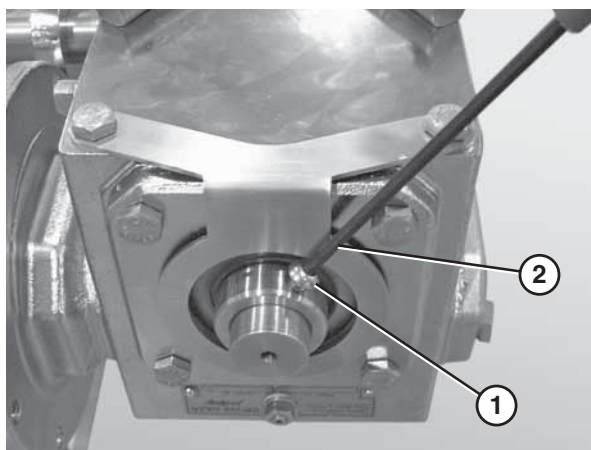


Figure 7

6. Attach the gearmotor cover (**Figure 8, item 1**).

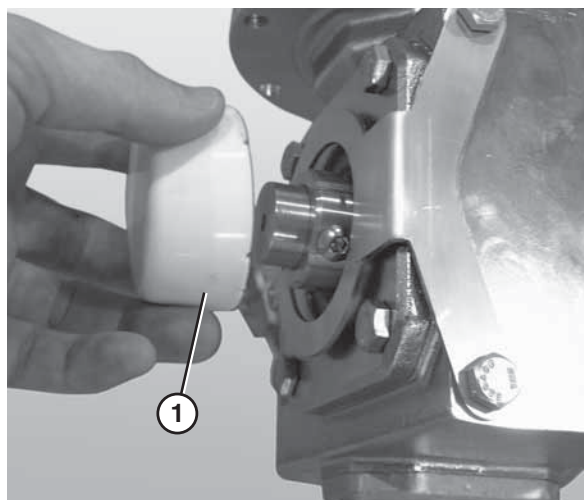


Figure 8

7. Remove the drainage plugs (**Figure 9, item 1**) on the bottom side of the motor.



Figure 9

Installation


Vertical Drive Package

⚠ WARNING



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

⚠ WARNING



PUNCTURE HAZARD!
 Handle drive shaft keyway with care. It may be sharp and could puncture the skin, causing serious injury.

Vertical Drive Mounting Positions

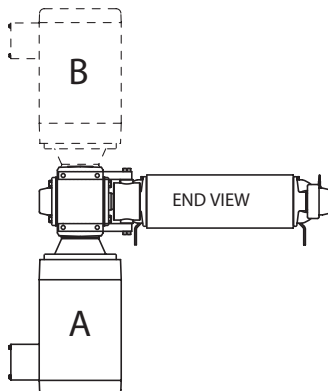


Figure 10

Typical Vertical Drive Package Components (Figure 11)

1	Cover
2	Cover bracket
3	Hex head cap screw 5 / 16 - 18 x .50 (x2)
4	Gear reducer horizontal mounting bar (x2)
5	Vertical gear reducer mounting bracket
6	Hex head cap screw 5 / 16 - 18 x 1.25 (x6)
7	Gearmotor assembly

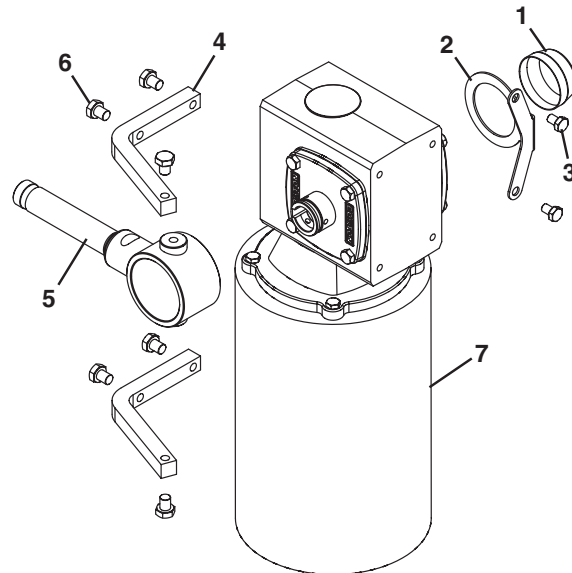


Figure 11

1. Insert the drive spindle key (Figure 12, item 1) into the drive spindle keyway (Figure 12, item 2).

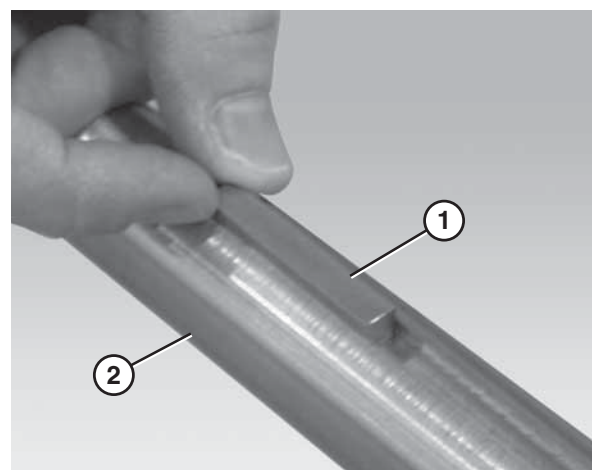


Figure 12

2. Slide the gearmotor assembly (Figure 13, item 1) onto the drive spindle (Figure 13, item 2).

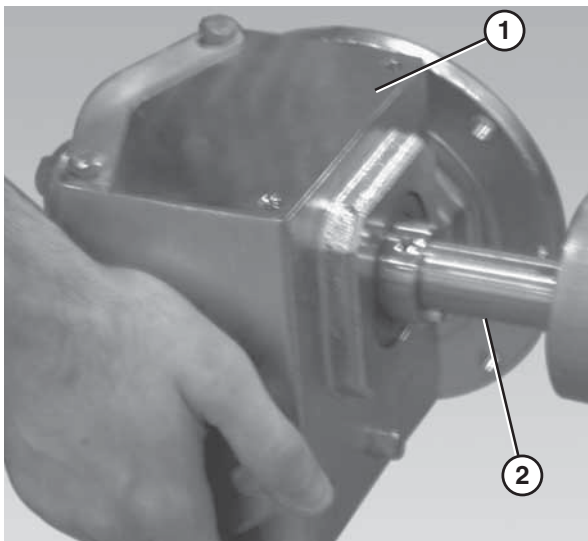


Figure 13

3. Attach the gear reducer mounting bars (**Figure 14, item 1**) to the gear reducer mounting bracket (**Figure 14, item 2**).

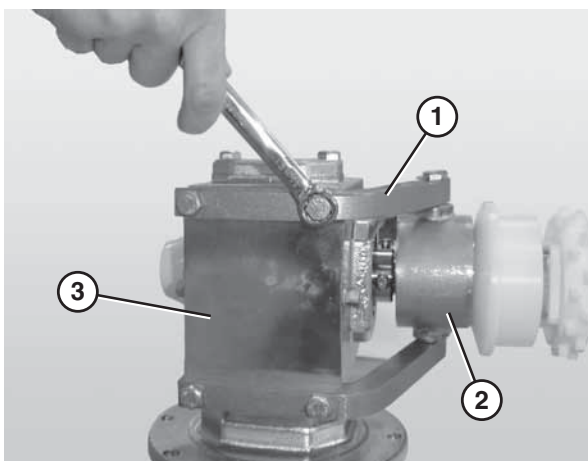


Figure 14

4. Attach the gearmotor assembly (**Figure 14, item 3**) to the gear reducer mounting bars (**Figure 14, item 1**).
5. Tighten the drive spindle fasteners (**Figure 15, item 1**) located on the inside and outside of the gearmotor using a hex wrench (**Figure 15, item 2**).

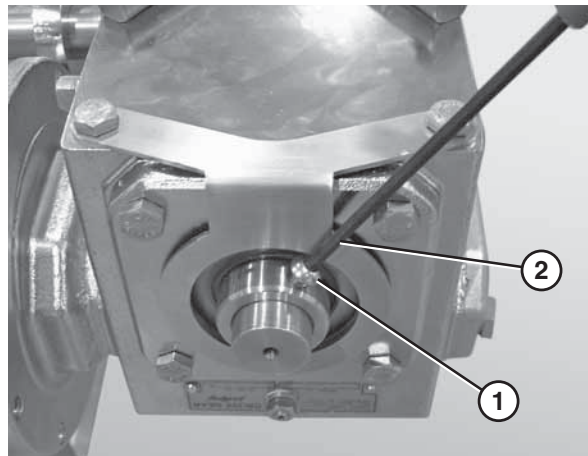


Figure 15

6. Attach the gearmotor cover (**Figure 16, item 1**).

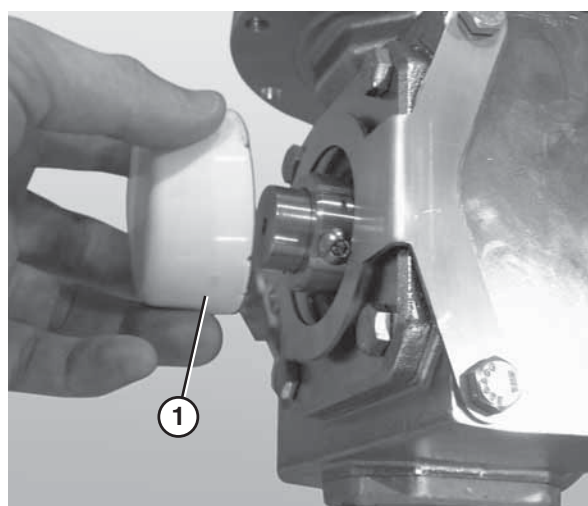


Figure 16

7. Remove the drainage plugs (**Figure 17, item 1**) on the bottom side of the motor.



Figure 17

Installation

Nose Bar Drive Package

WARNING



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

WARNING



PUNCTURE HAZARD!
 Handle drive shaft keyway with care. It may be sharp and could puncture the skin, causing serious injury.

Nose Bar Drive Mounting Positions

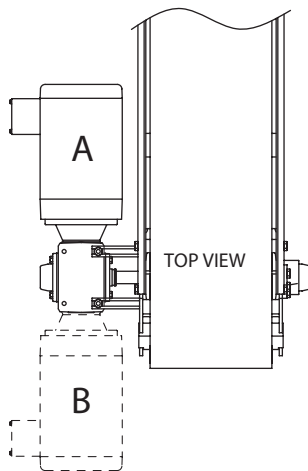


Figure 18

Typical Nose Bar Drive Package Components (Figure 19)

1	Cover
2	Cover bracket
3	Hex head cap screw 5 / 16 - 18 x .50 (x2)
4	Nose bar gear reducer mounting post (x2)
5	Hex head cap screw 5 / 16 - 18 x 1.25 (x4)
6	Hex head cap screw M10 - 1.5 x 16 mm (x2)
7	Gearmotor assembly

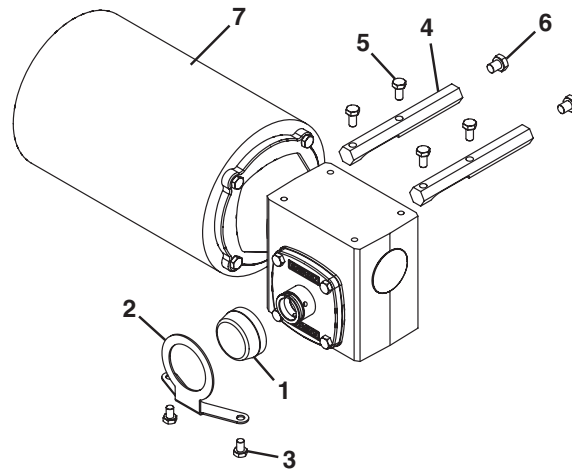


Figure 19

1. Attach the gear reducer mounting posts (Figure 20, item 1) to the nose bar side plate (Figure 20, item 2).

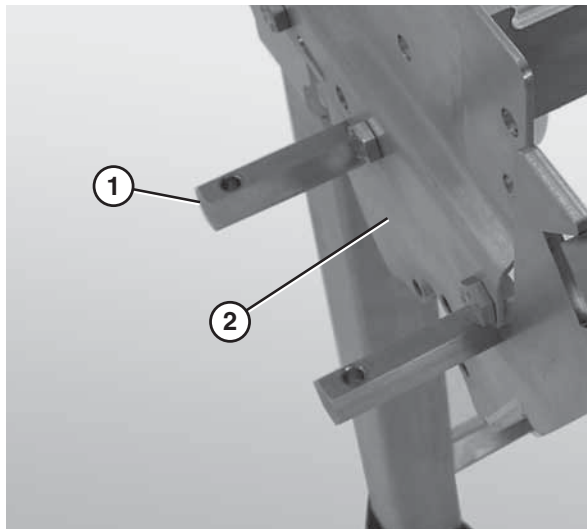


Figure 20

2. Insert the drive spindle key (Figure 21, item 1) into the drive spindle keyway (Figure 21, item 2).

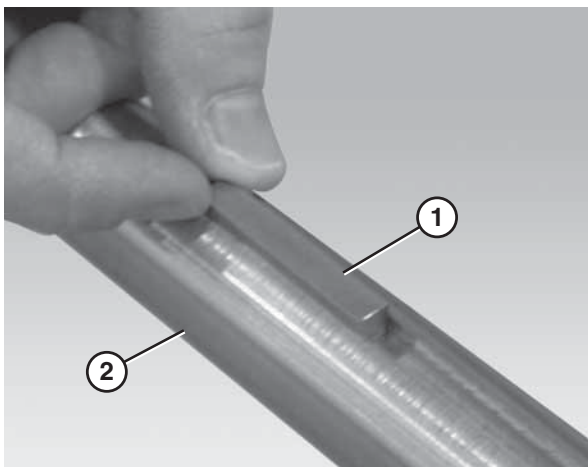


Figure 21

3. Slide the gearmotor assembly (**Figure 22, item 1**) onto the drive spindle (**Figure 22, item 2**).

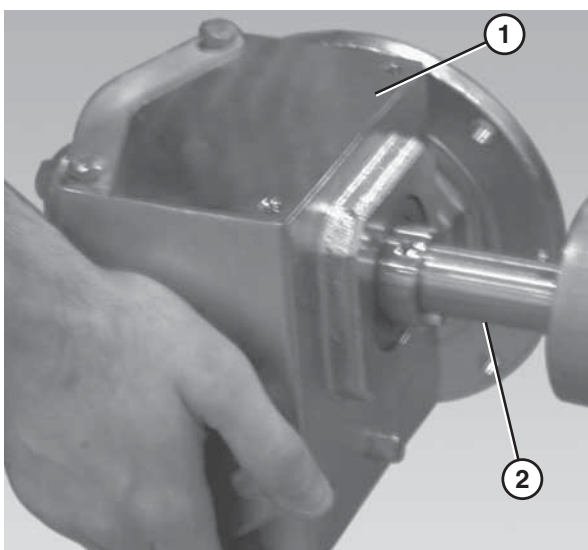


Figure 22

4. Attach the gearmotor assembly (**Figure 23, item 1**) to the gear reducer mounting posts (**Figure 23, item 2**).

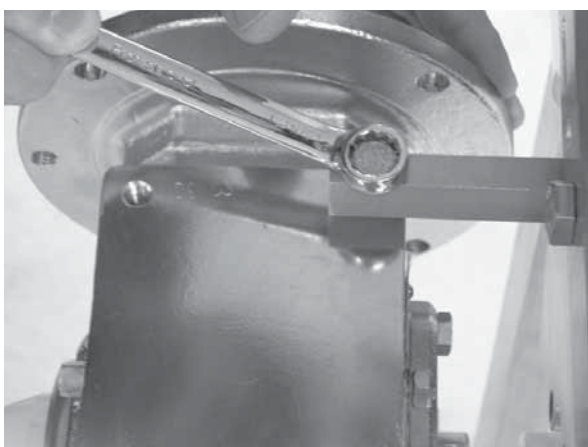


Figure 23

5. Tighten the drive spindle fasteners (**Figure 24, item 1**) located on the inside and outside of the gearmotor using a hex wrench (**Figure 24, item 2**).

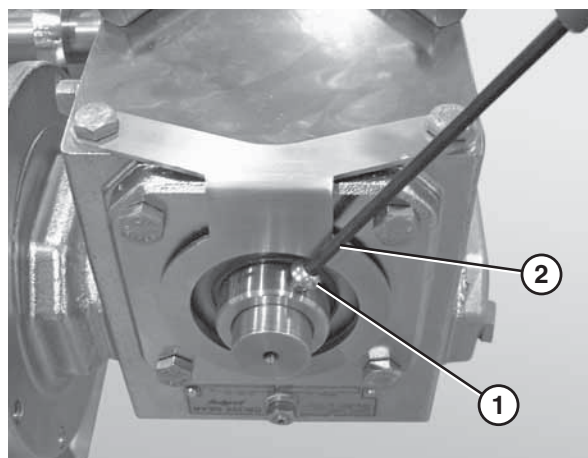


Figure 24

6. Attach the gearmotor cover (**Figure 25, item 1**).

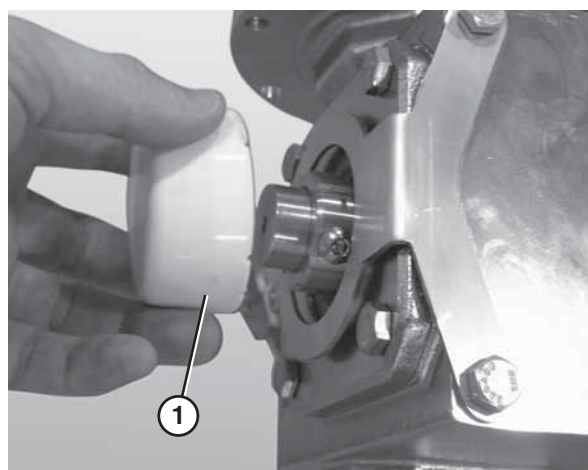


Figure 25

7. Remove the drainage plugs (**Figure 26, item 1**) on the bottom side of the motor.



Figure 26

Preventive Maintenance and Adjustment

Required Tools

- 5 / 16 wrench
- 4 mm hex wrench
- Large flat-head screwdriver


Checklist

- Keep service parts on hand. Refer to the "Service Parts" section starting on page 16 for recommendations.
- Replace any worn or damaged parts.

Gear Reducer 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.

1. Remove the bolts that connect the motor (Figure 27, item 1) to the gear reducer (Figure 27, item 2).

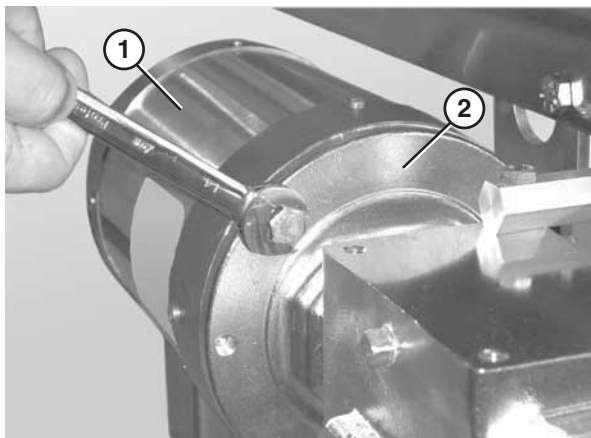



Figure 27

⚠ WARNING

CRUSH HAZARD! <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.

2. Detach the motor (Figure 28, item 1) from the gear reducer (Figure 28, item 2) and set the motor aside.

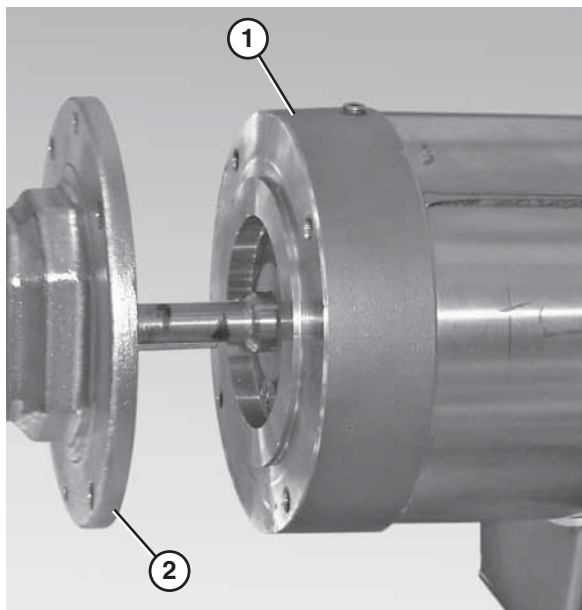


Figure 28

NOTE
<i>Be sure to retain the motor output shaft key.</i>

3. Remove the gearmotor cover (Figure 29, item 1). Use a screwdriver to pry it loose, if necessary.

Preventive Maintenance and Adjustment

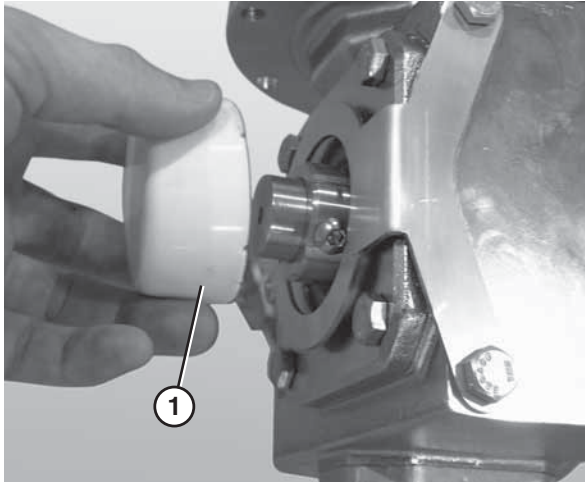


Figure 29

4. Loosen the drive spindle fasteners (Figure 30, item 1) located on the inside and outside of the gearmotor assembly using a hex wrench (Figure 30, item 2).

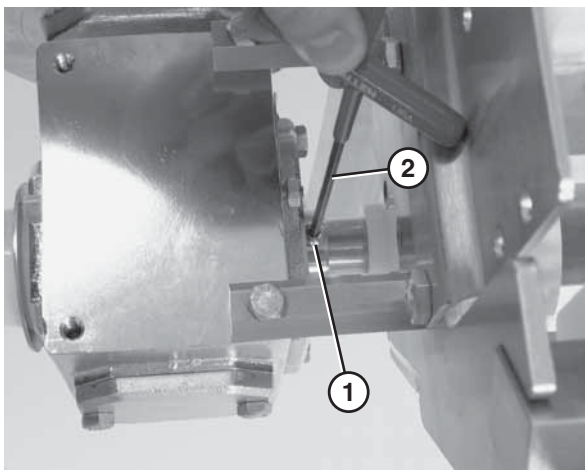


Figure 30

5. Unbolt the gear reducer mounting bars / posts (Figure 31, item 1) from the gear reducer (Figure 31, item 2) (horizontal drive shown in figure).

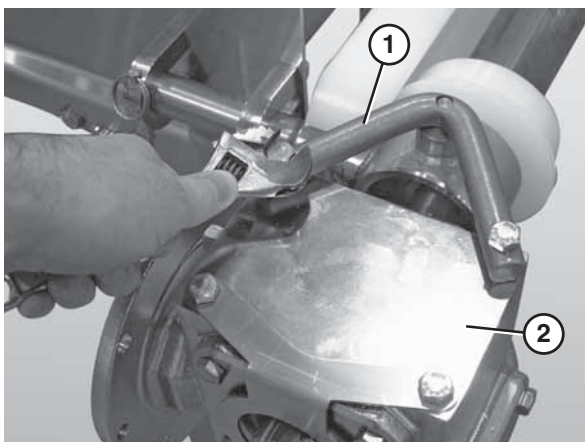


Figure 31

⚠ WARNING

PUNCTURE HAZARD! Handle drive shaft keyway with care. It may be sharp and could puncture the skin, causing serious injury.

6. Slide the gearmotor assembly (Figure 32, item 1) off the drive spindle (Figure 32, item 2).

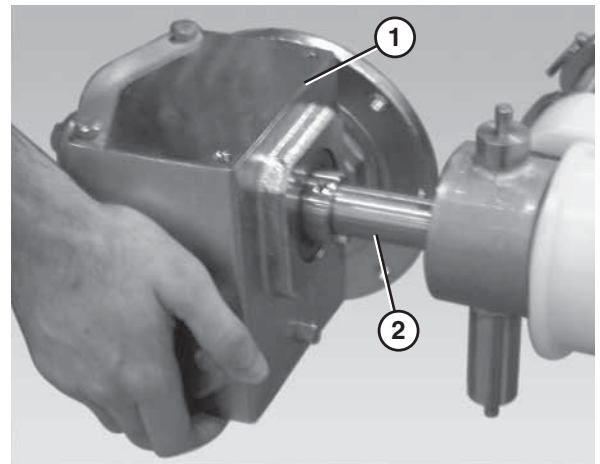


Figure 32

NOTE
<i>Be sure to retain the drive spindle key.</i>

7. Replace the gear reducer.
8. Insert the gearmotor output shaft key (Figure 33, item 1) into the gearmotor output shaft keyway (Figure 33, item 2).

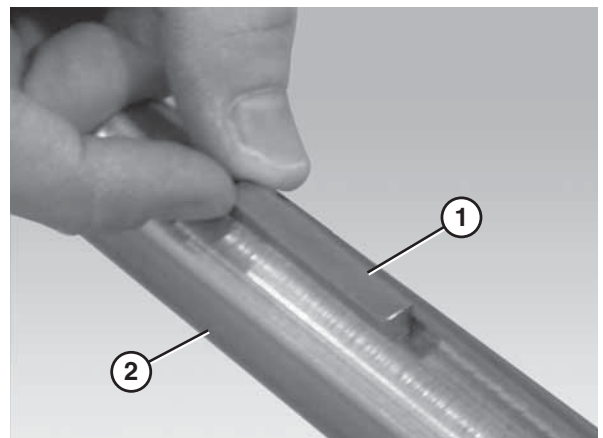


Figure 33

9. Connect the new gear reducer to the motor.

Preventive Maintenance and Adjustment

CAUTION

Ensure the O-ring (Figure 34, item 1) and gearmotor output shaft key (Figure 33, item 1) are situated properly before attaching the motor to the gear reducer.

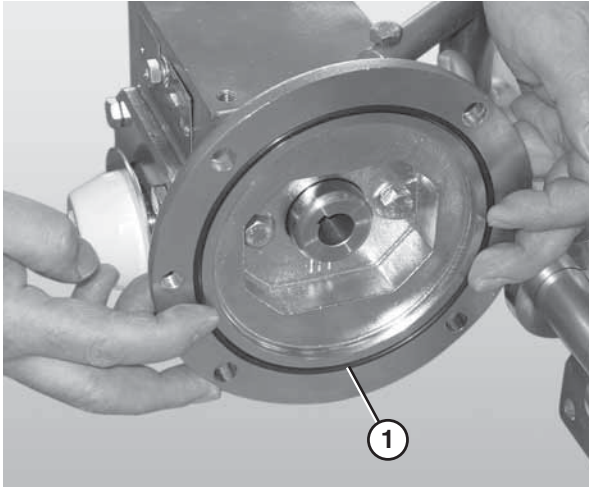


Figure 34

10. Reinstall the gearmotor assembly. Refer to "Drive Package Installation" starting on page 6.

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.

1. Loosen the screws and remove the cover (Figure 35, item 1) from the junction box located on the side of the motor (Figure 35, item 2).

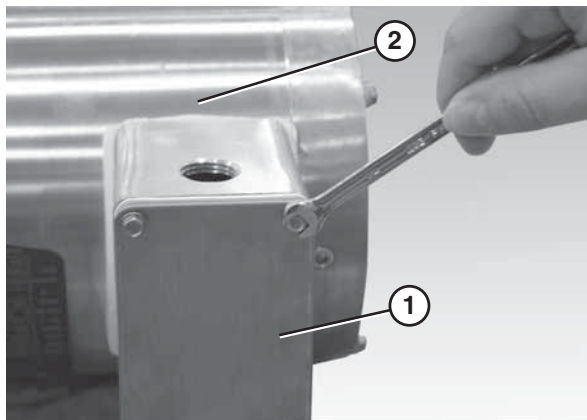


Figure 35

2. Refer to the wiring diagram (Figure 36, item 1) on the inside of the junction box cover.

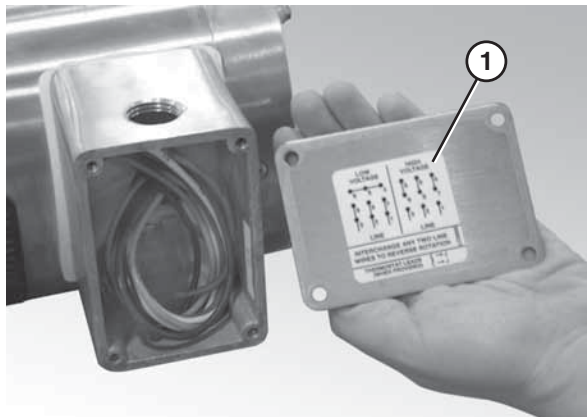


Figure 36

3. Loosen the wire nuts and disconnect the wires.
4. Loosen the cord grip and remove the cord.

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.

5. Remove the bolts that connect the motor (Figure 37, item 1) to the gear reducer (Figure 37, item 2).

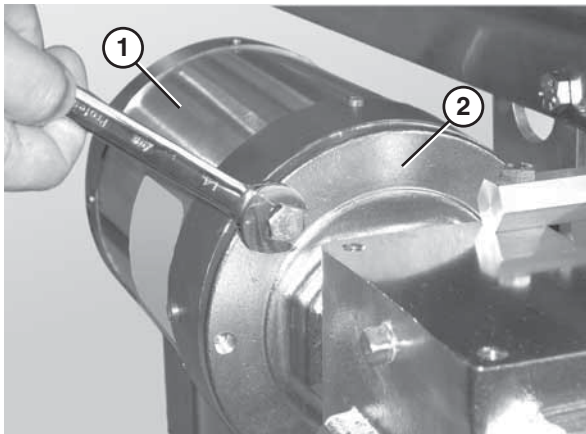


Figure 37

6. Detach the motor (Figure 38, item 1) from the gear reducer (Figure 38, item 2).

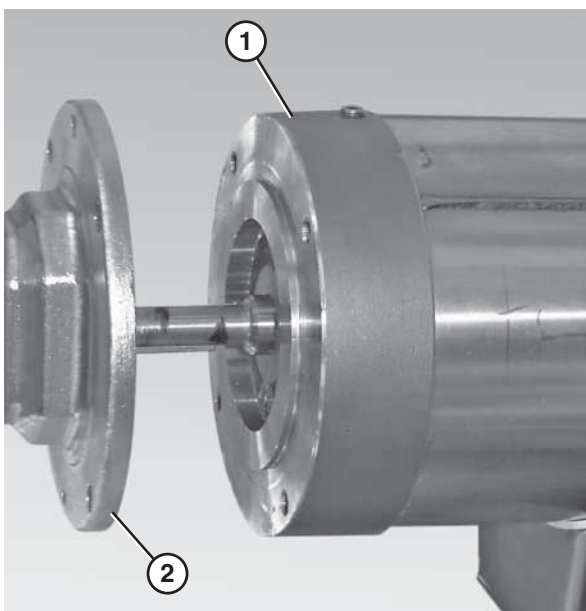


Figure 38

NOTE

Be sure to retain the motor output shaft key.

7. Insert the motor output shaft key (Figure 39, item 1) into the motor output shaft keyway (Figure 39, item 2).

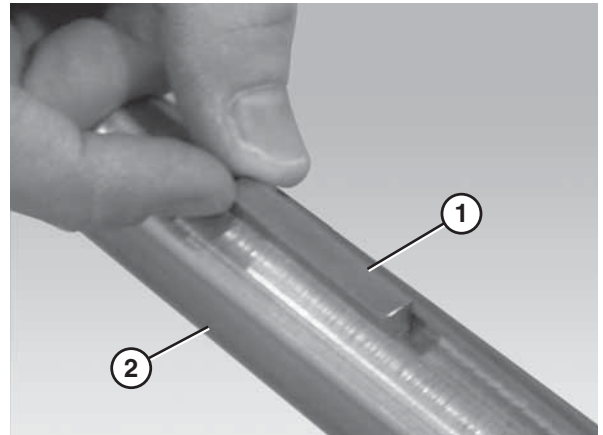


Figure 39

8. Align the motor output shaft key with the access hole in the gear reducer and connect the new motor to the gear reducer.

CAUTION

Ensure the O-ring (Figure 40, item 1) and motor output shaft key (Figure 40, item 1) are situated properly before attaching the motor to the gear reducer.

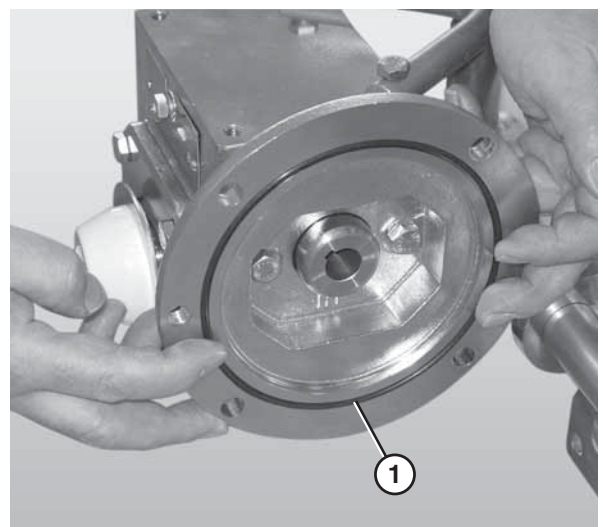



Figure 40

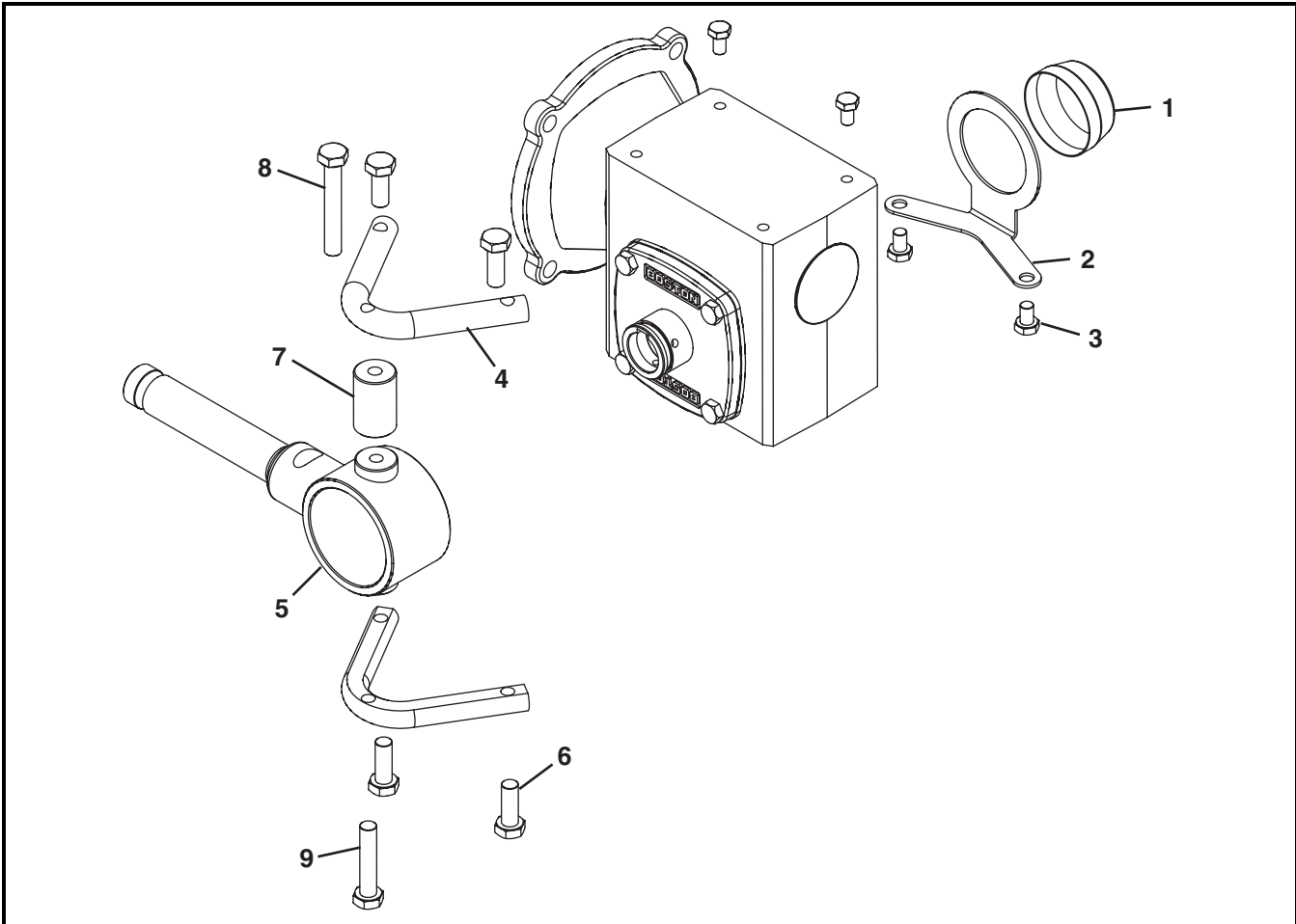
9. Rewire the motor and attach the junction box cover.

Service Parts

NOTE

For replacement parts other than those shown in this section, 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.

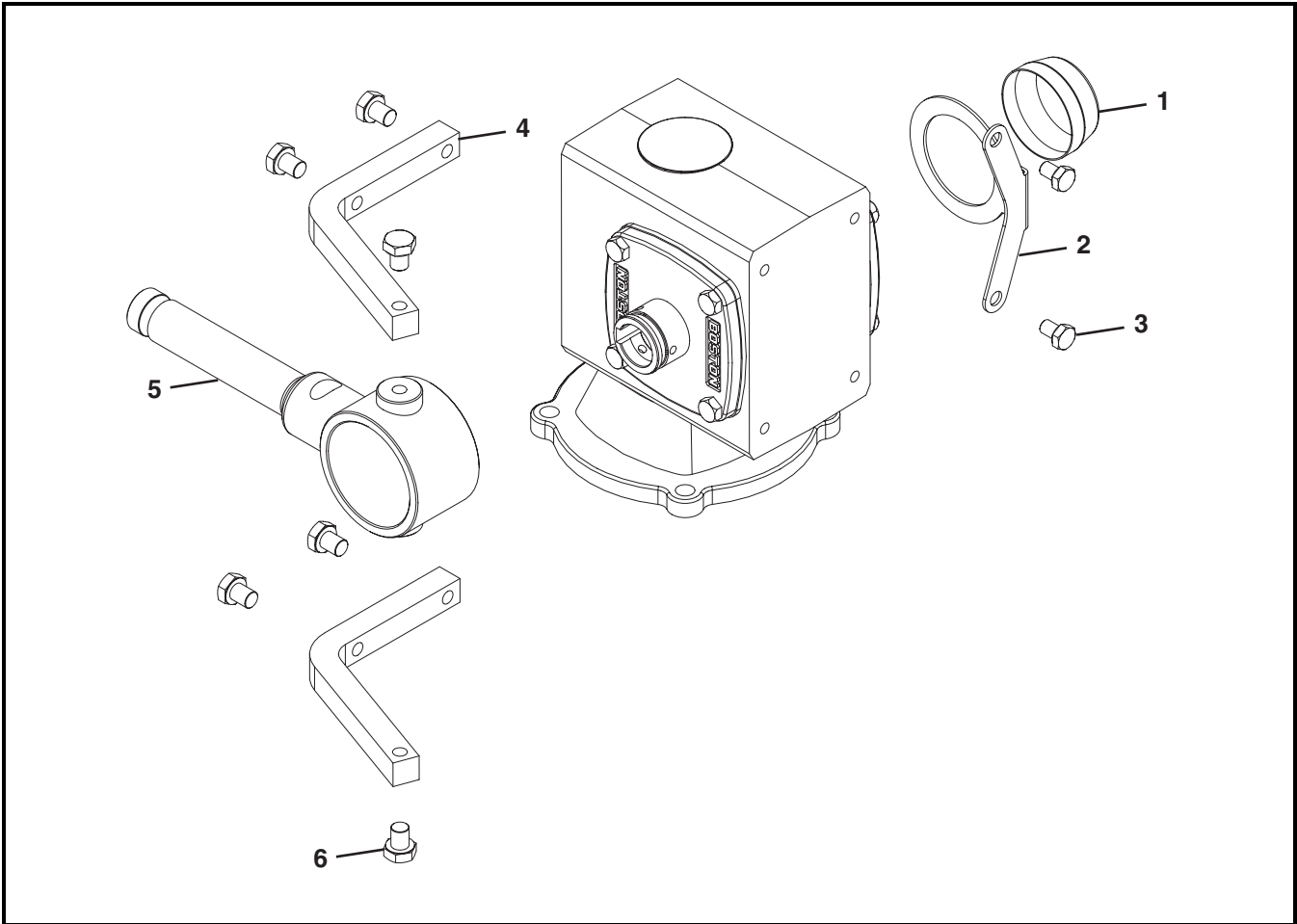
Horizontal Drive



Item	Part Number	Description
1	807-1454	Cover
2	500492	Cover Bracket
3	906-067SS	Hex Head Cap Screw 5/16-18 x .50
4	500380	Gear Reducer Mounting Bent Bar
5	500379	Motor Mounting Bracket

Item	Part Number	Description
6	906-061SS	Hex Head Cap Screw 5/16-18 x .75
7	500375	Horizontal Drive Spacer
8	906-072SS	Hex Head Cap Screw 5/16-18 x 2.50
9	906-070SS	Hex Head Cap Screw 5/16-18 x 1.12

Vertical Drive

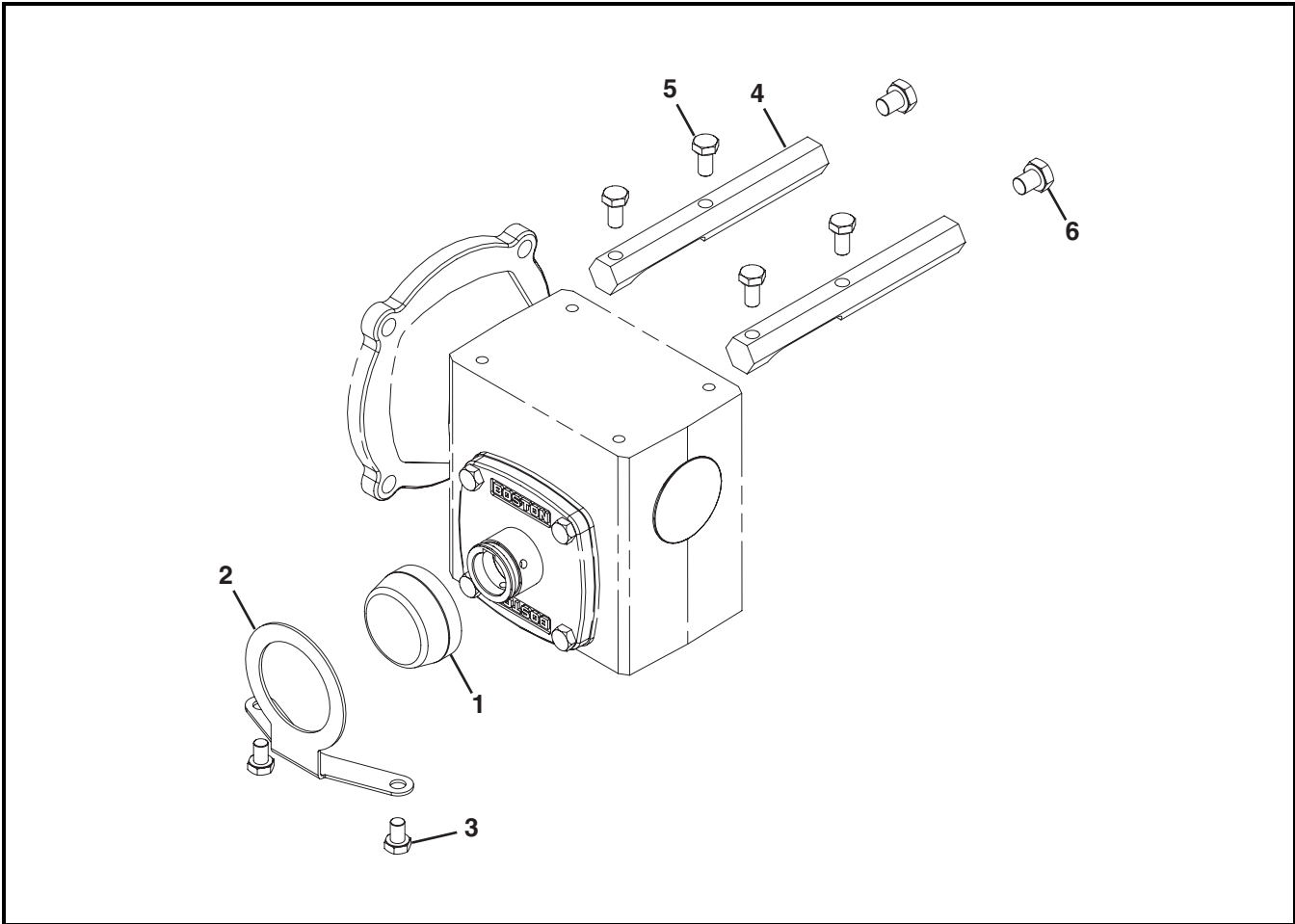


Item	Part Number	Description
1	807-1454	Cover
2	500492	Cover Bracket
3	906-067SS	Hex Head Cap Screw 5/16-18 x .50
4	500381	Vertical Drive Bent Bar

Item	Part Number	Description
5	500379	Motor Mounting Bracket
6	906-070SS	Hex Head Cap Screw 5/16-18 x 1.12

Service Parts

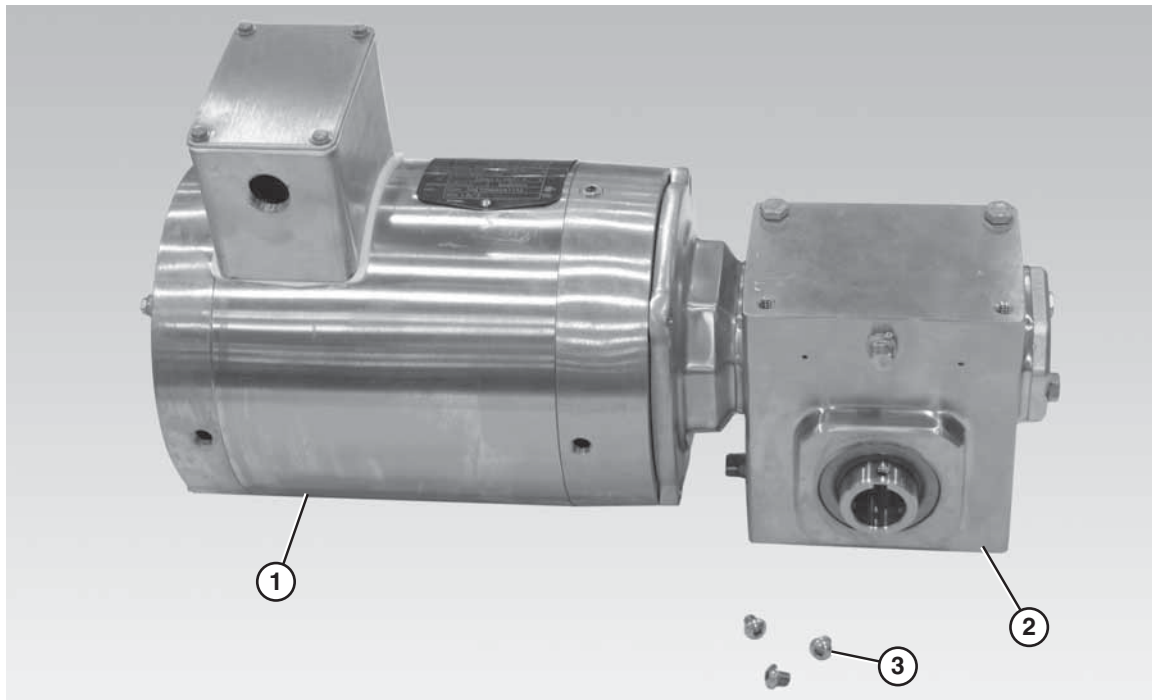
Nose Bar Drive



Item	Part Number	Description
1	807-1454	Cover
2	500492	Cover Bracket
3	906-067SS	Hex Head Cap Screw 5/16-18 x .50
4	500485	Nose Bar Gear Reducer Mounting Posts

Item	Part Number	Description
5	906-070SS	Hex Head Cap Screw 5/16-18 x 1.12
6	961016MSS	Hex Head Cap Screw M10-1.5x16mm

Gearmotor Assembly



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	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
	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

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. 2005

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