



# 1100 Series Mid Drive Mounting Package

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's Limited Warranty applies.

Dorner 1100 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.

# 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.

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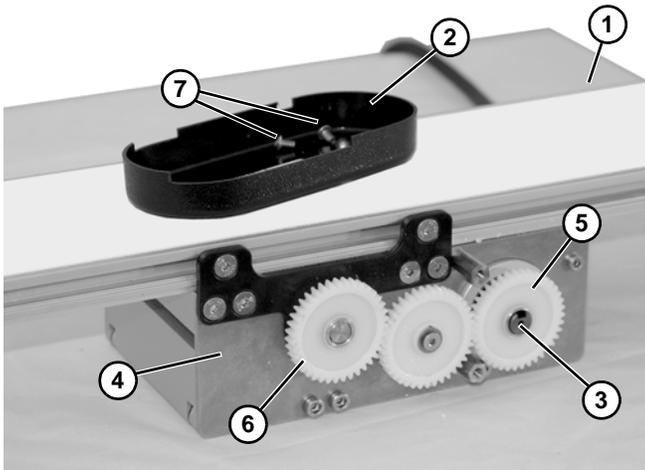
# Product Description

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## Side Mount Mid Drive

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

1	Conveyor
2	Cover
3	Gearmotor Assembly
4	Mounting Bracket
5	Drive Pulley Gear
6	Driven Pulley Gear
7	Screws, Cover

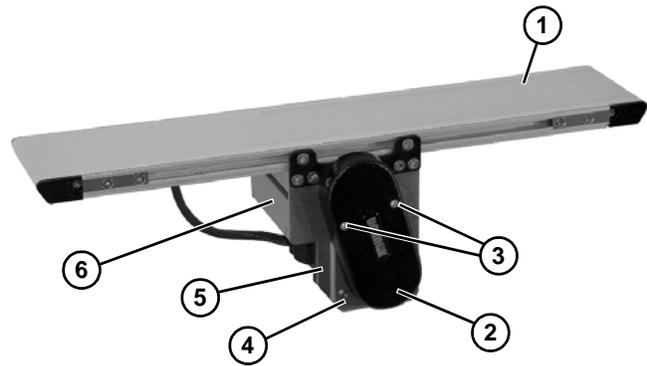


**Figure 1**

## Bottom Mount Mid Drive

Refer to **Figure 2** for typical conveyor components.

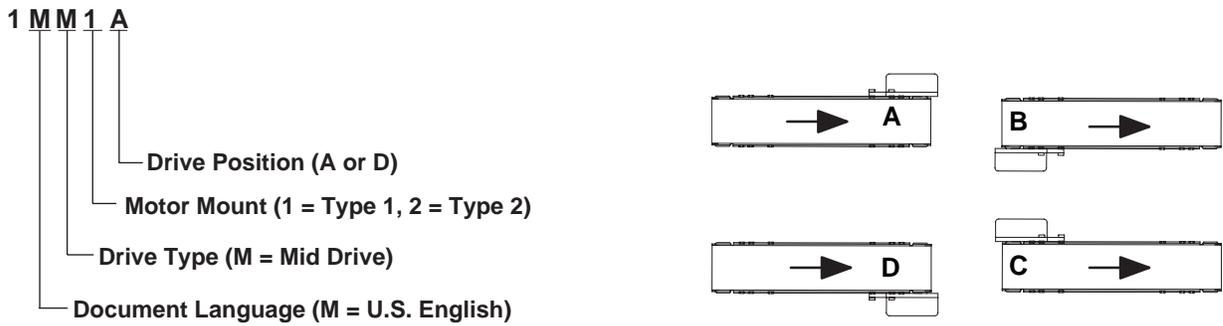
1	Conveyor
2	Cover
3	Screws, Cover
4	Mounting Bracket
5	Adapter Block
6	Gearmotor Assembly



**Figure 2**

## Gearmotor Mounting Package Models:

Example:



**Table 1: Gearmotor Specifications**

Item	Single- Phase	Brushless DC
Output Power	0.008 Hp (0.006 kW)	0.04 Hp (0.03 kW)
Input Voltage	115VAC	24 VDC
Input Frequency	60Hz	NA
Input Current (Amperes)	.194 AMP	2.1 AMP
Motor Type	Totally enclosed, Non-ventilated	

**Table 2: Fixed Speed Parallel Shaft Gearmotors**

Part Number	RPM	In-lb	N-m
11M075PL411FN	19	17	1.92
11M036PL411FN	40	9	1.02

**Table 3: Variable Speed Parallel Shaft Gearmotors**

Part Number	RPM	In-lb	N-m
11M020PLBDDEN	5-125	19.4	2.2
11M015PLBDDEN	7-167	14.1	1.6
11M010PLBDDEN	10-250	9.7	1.1

# Installation

## Installation

### NOTE

Conveyor comes assembled with mount package and gearmotor attached. If maintenance is needed see the appropriate section of the manual.

# 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

## Lubrication

Gearmotor gear lubrication is required. Dorner recommends using an H-1 food grade grease.

## Type 1 Mount

### ⚠ 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.

## Gear Replacement

1. Remove two (2) screws (**Figure 3, item 1**) and remove cover (**Figure 3, item 2**).

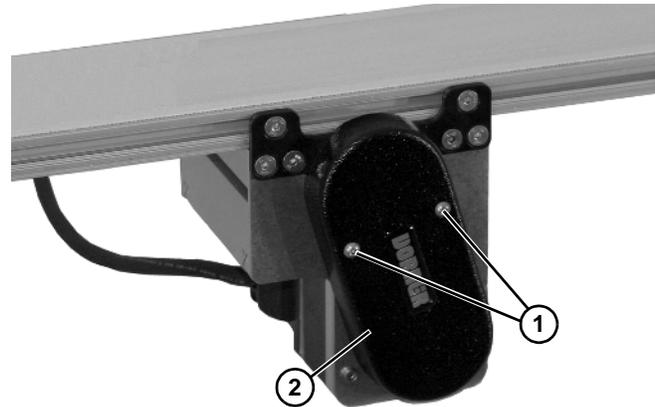


Figure 3

2. Remove screw (**Figure 4, item 1**) and washer from gear (**Figure 4, item 2**).

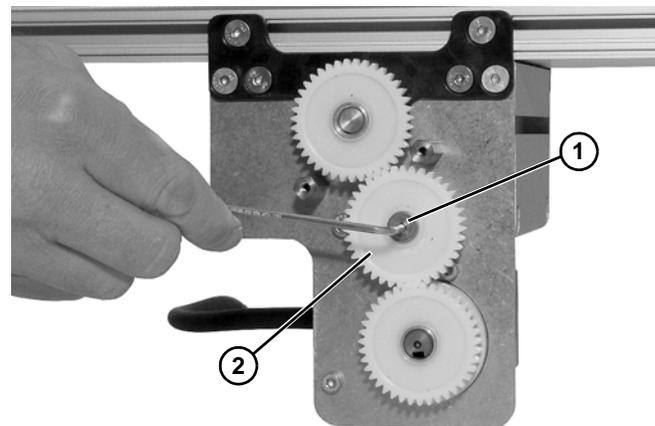
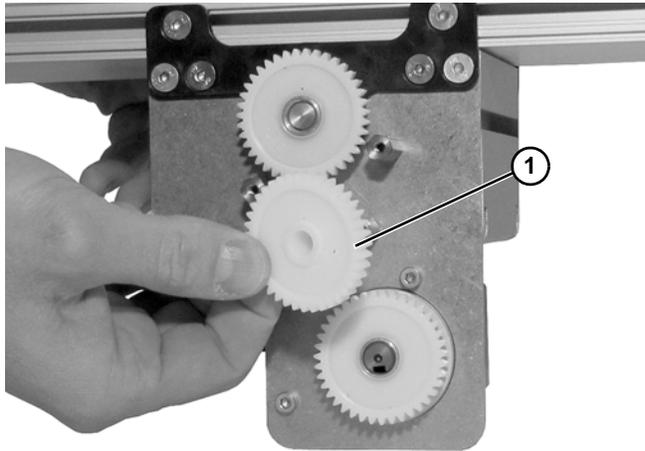


Figure 4

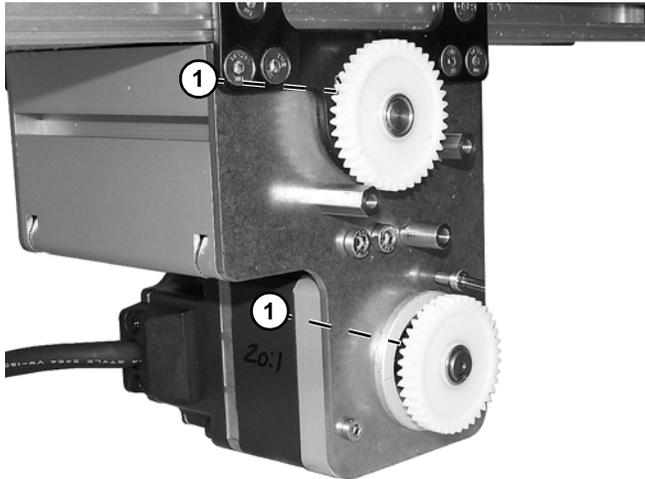
# Preventive Maintenance and Adjustment

3. Remove gear (**Figure 5, item 1**).



**Figure 5**

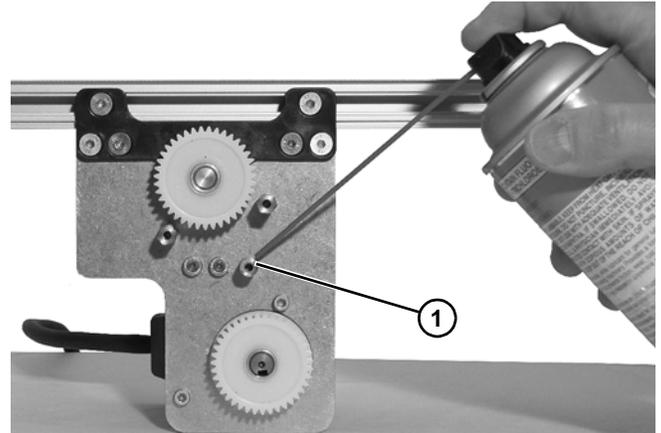
4. Loosen set screws (**Figure 6, item 1**) to remove drive and driven gears.



**Figure 6**

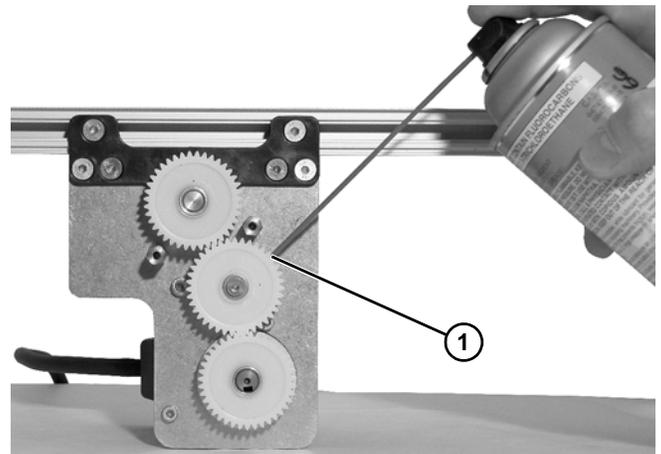
5. Install new gears by reversing steps 1-4.

6. Apply a small amount of food grade grease to the shaft (**Figure 7, item 1**) of the middle gear.



**Figure 7**

7. Apply a small amount of food grade grease to the teeth of the middle gear (**Figure 8, item 1**).



**Figure 8**

8. Replace cover.

# Preventive Maintenance and Adjustment

## ⚠ 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.

## ⚠ DANGER



Hazardous voltage will cause severe injury or death.  
**LOCK OUT POWER BEFORE WIRING.**

## Gearmotor Replacement

For 1-Phase motors unplug motor. For Brushless DC motors follow these steps to unwire motor.

1. Remove controller from conveyor.
2. Remove four screws and cover (Figure 9, item 1) from controller (Figure 9, item 2).

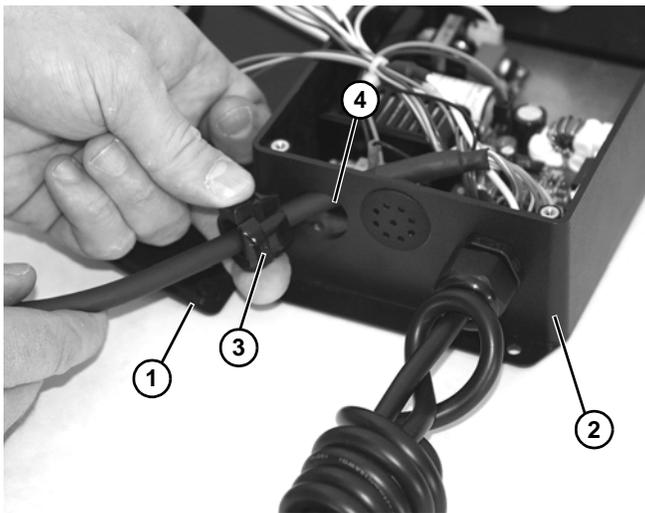


Figure 9

3. Pull out cord retainer (Figure 9, item 3) from controller opening (Figure 9, item 4).

4. Remove cord retainer (Figure 10, item 1) from cord (Figure 10, item 2).

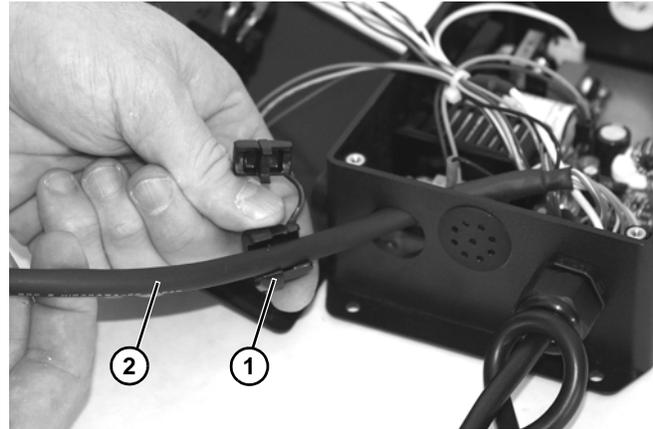


Figure 10

5. Remove wiring connector (Figure 11, item 1) from main board.

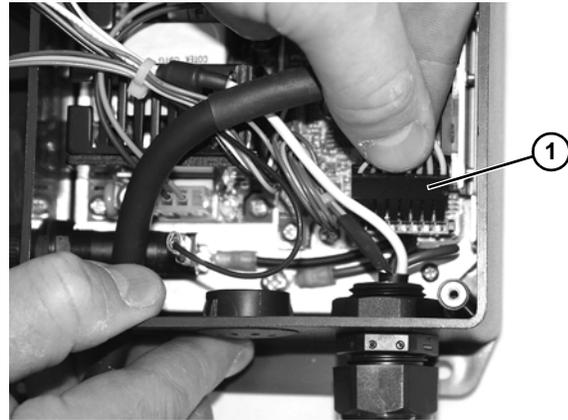


Figure 11

6. Turn connector (Figure 12, item 1), as shown, and remove wiring and connector through controller opening (Figure 12, item 2).

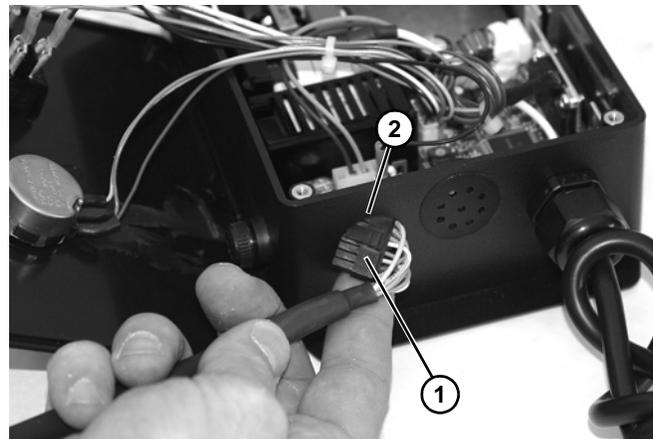
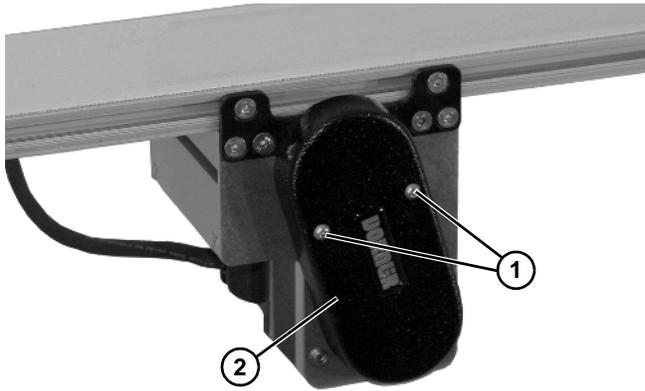


Figure 12

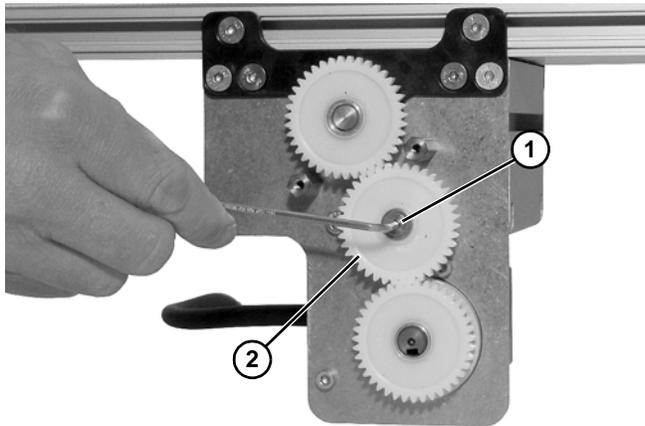
# Preventive Maintenance and Adjustment

7. Remove two (2) screws (Figure 13, item 1) and remove cover (Figure 13, item 2).



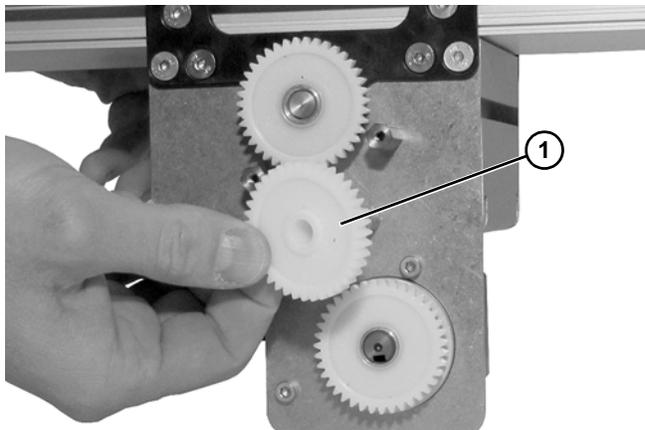
**Figure 13**

8. Remove screw (Figure 14, item 1) and washer from center gear (Figure 14, item 2).



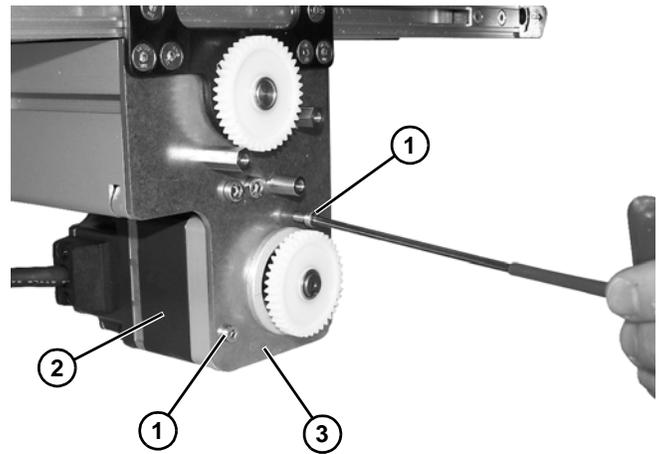
**Figure 14**

9. Remove center gear (Figure 15, item 1).



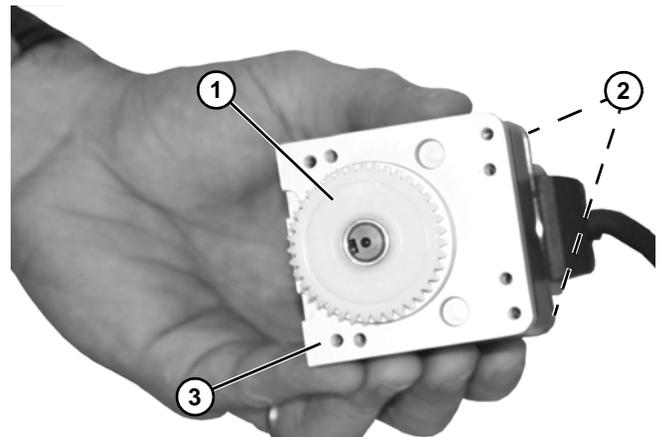
**Figure 15**

10. Remove two screws (Figure 16, item 1) from gearmotor.



**Figure 16**

11. Remove gearmotor (Figure 16, item 2) from mounting plate (Figure 16, item 3).
12. Loosen set screw and remove drive gear (Figure 17, item 1).



**Figure 17**

13. Remove (4) four screws (Figure 17, item 2) securing adapter plate (Figure 17, item 3) to gearmotor.

# Preventive Maintenance and Adjustment

14. Install new gearmotor assembly and tighten two screws (Figure 18, item 1) 15 in-lb (1.7 Nm).

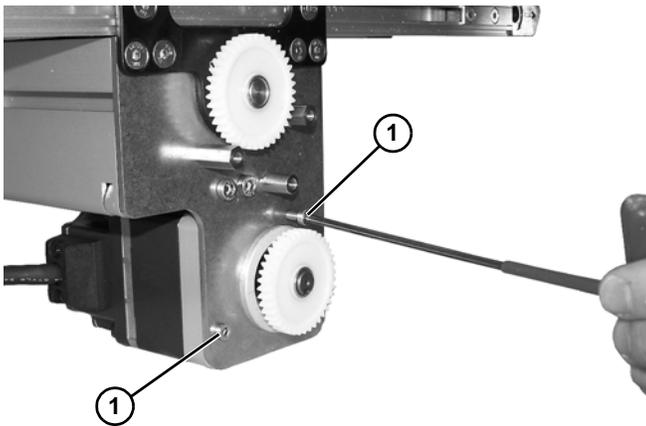


Figure 18

15. Install center gear (Figure 19, item 2) with washer and screw (Figure 19, item 1).

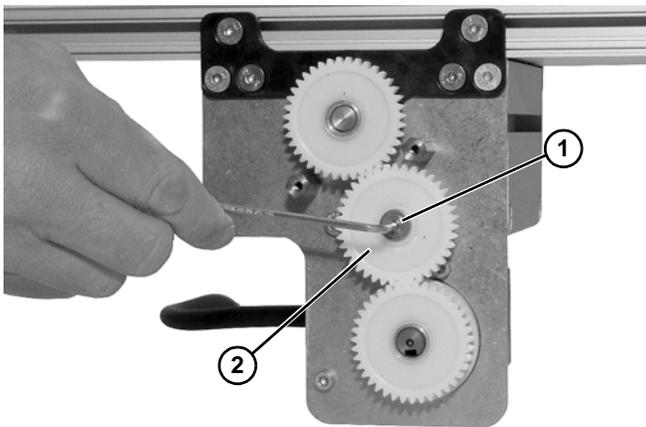


Figure 19

16. Install cover (Figure 20, item 2) with two screws (Figure 20, item 1).

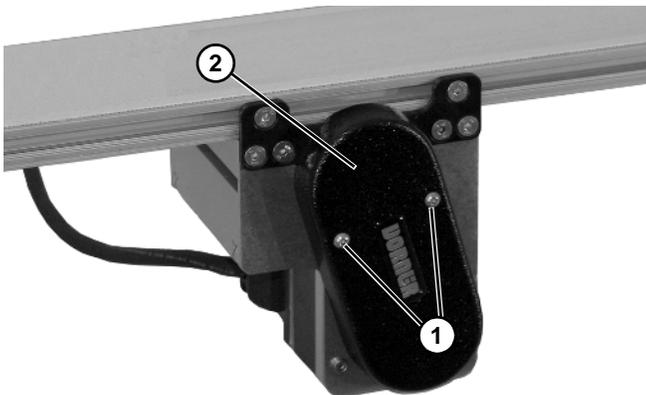


Figure 20

## Type 2 Mount

### ⚠ 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.

## Gear Replacement

1. Remove two screws (Figure 21, item 1) and cover (Figure 21, item 2) from conveyor.

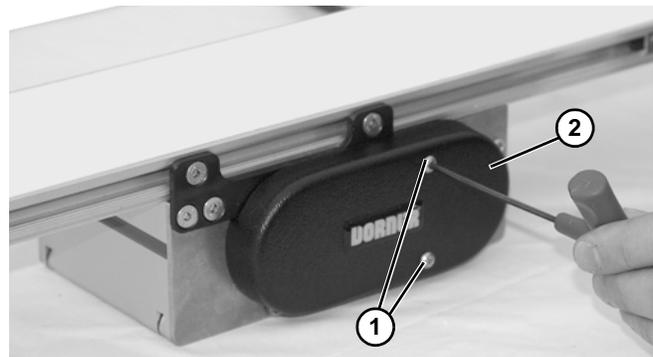


Figure 21

2. Remove screw (Figure 22, item 1) and washer from center gear (Figure 22, item 2).

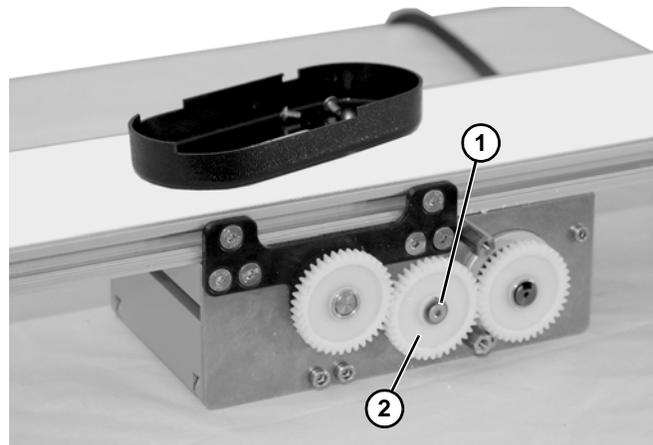


Figure 22

# Preventive Maintenance and Adjustment

3. Repeat for remaining gears, as needed.
4. Apply a small amount of food grade grease to the shaft (Figure 23, item 1) of the middle gear.

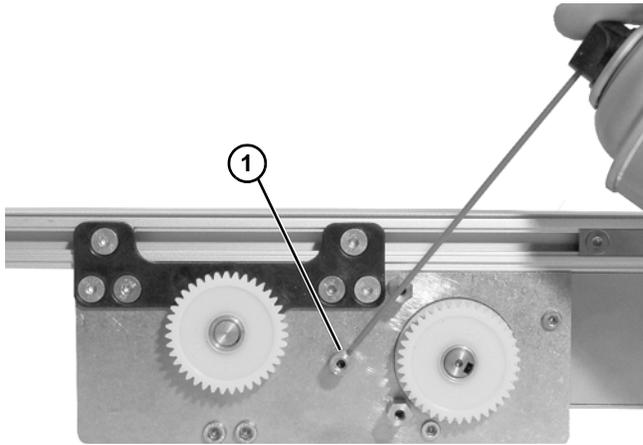


Figure 23

5. Apply a small amount of food grade grease to the teeth of the middle gear (Figure 24, item 1).

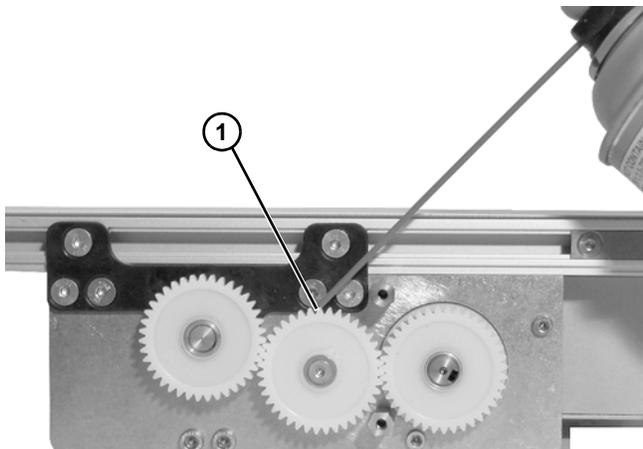


Figure 24

6. Replace cover.

**⚠ 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.

**⚠ DANGER**



Hazardous voltage will cause severe injury or death.  
**LOCK OUT POWER BEFORE WIRING.**

## Gearmotor Replacement

For 1-Phase motors unplug motor. For Brushless DC motors follow these steps to unwire motor.

1. Remove controller from conveyor.
2. Remove four screws and cover (Figure 25, item 1) from controller (Figure 25, item 2).

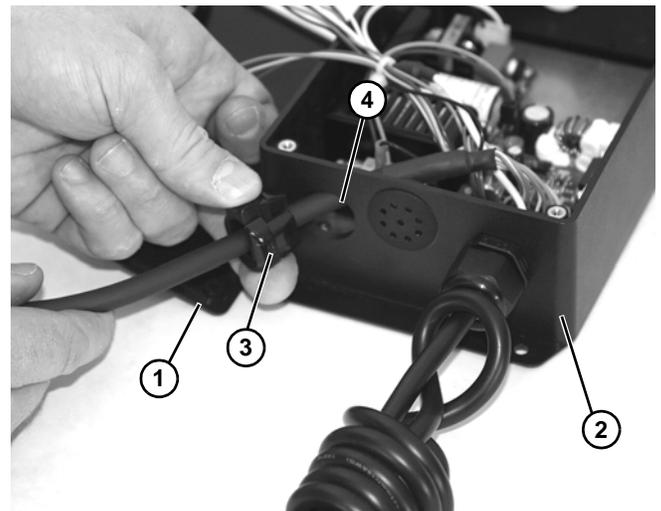


Figure 25

3. Pull out cord retainer (Figure 25, item 3) from controller opening (Figure 25, item 4).

# Preventive Maintenance and Adjustment

4. Remove cord retainer (Figure 26, item 1) from cord (Figure 26, item 2).

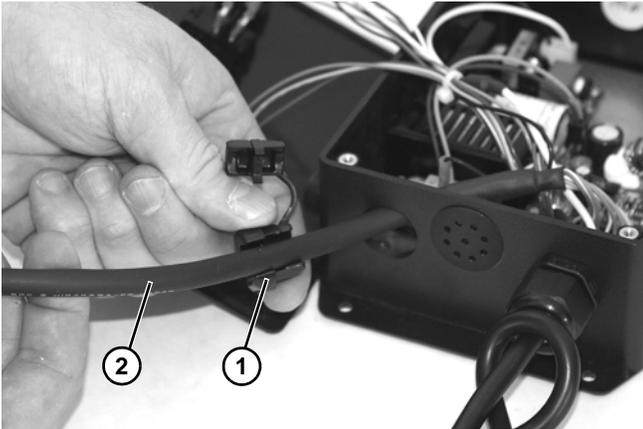


Figure 26

5. Remove wiring connector (Figure 27, item 1) from main board.



Figure 27

6. Turn connector (Figure 28, item 1), as shown, and remove wiring and connector through controller opening (Figure 28, item 2).

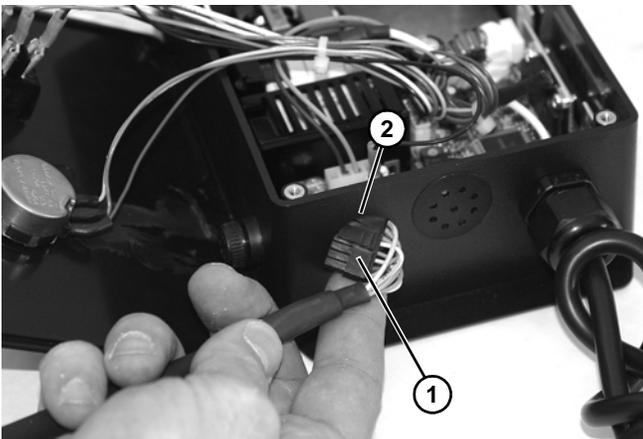


Figure 28

7. Remove two screws (Figure 29, item 1) and cover (Figure 29, item 2) from conveyor.

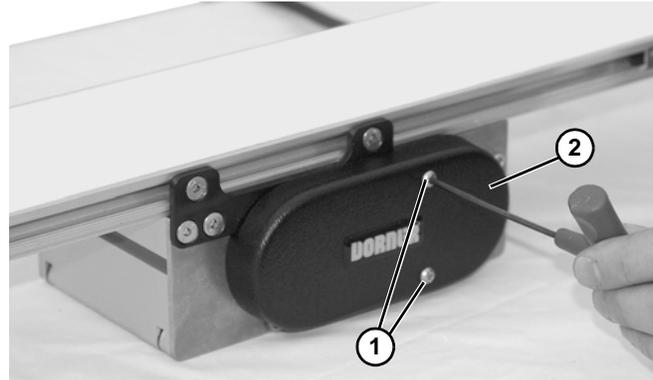


Figure 29

8. Remove screw (Figure 30, item 1) and washer from center gear (Figure 30, item 2).

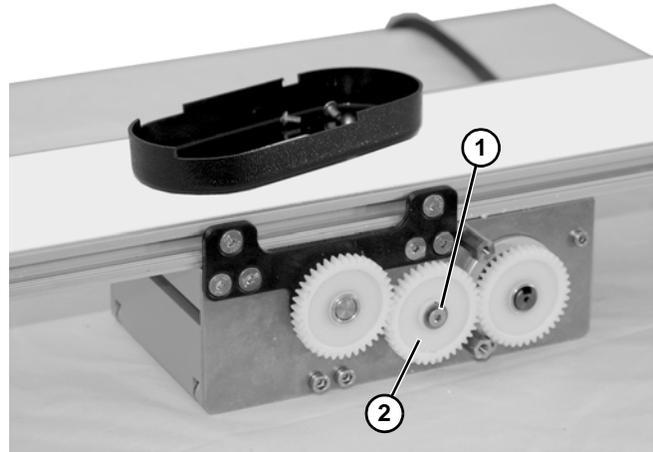


Figure 30

9. Remove two screws (Figure 31, item 1) from gearmotor.

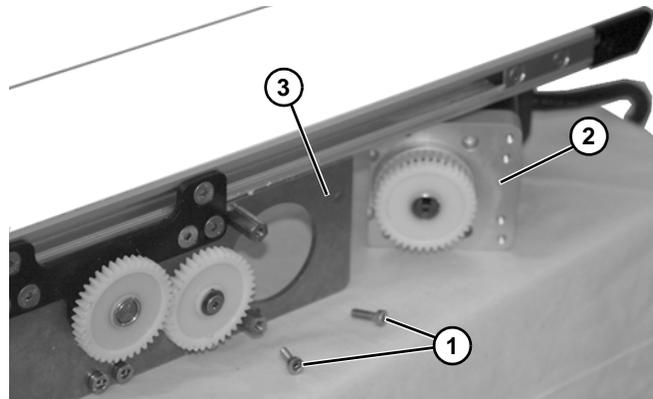


Figure 31

10. Remove gearmotor (Figure 31, item 2) from mounting plate (Figure 31, item 3).

# Preventive Maintenance and Adjustment

11. Loosen set screw and remove drive gear (Figure 32, item 1).

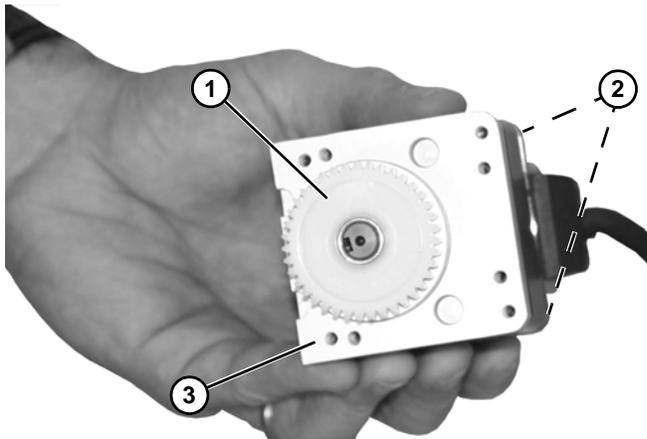


Figure 32

12. Remove (4) four screws (Figure 32, item 2) securing adapter plate (Figure 32, item 3) to gearmotor.
13. Install new gearmotor assembly (Figure 33, item 2) and tighten two screws (Figure 33, item 1) 15 in-lb (1.7 Nm).

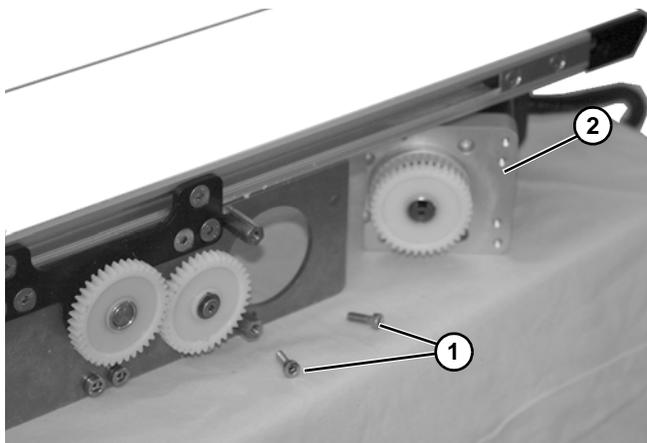


Figure 33

14. Install center gear (Figure 34, item 2) with washer and screw (Figure 34, item 1).

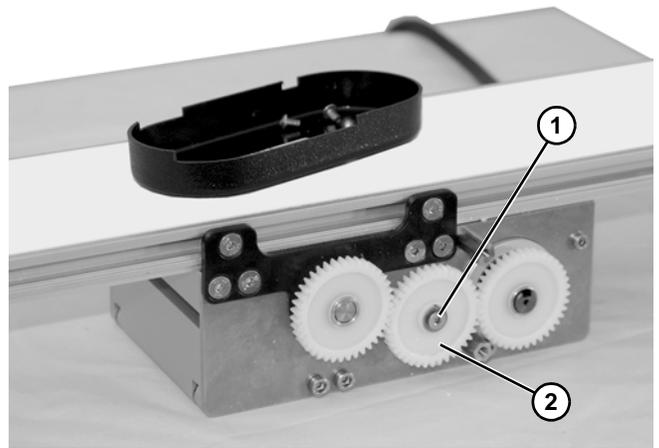


Figure 34

15. Install cover (Figure 35, item 2) with two screws (Figure 35, item 1).

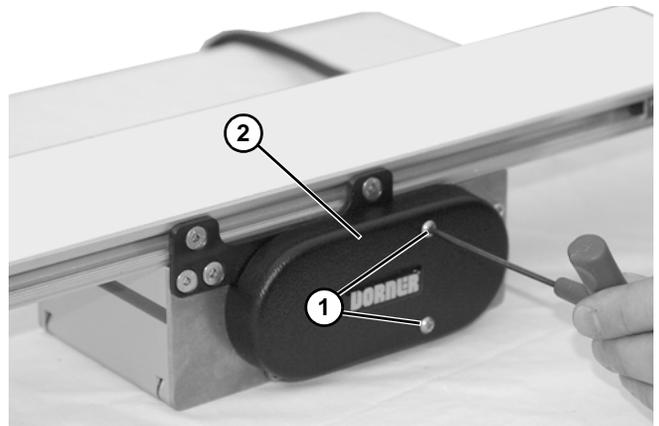


Figure 35

# Preventive Maintenance and Adjustment

## Controller Replacement

<b>⚠ WARNING</b>

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

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

1. Remove controller from conveyor.
2. Remove four screws and cover (Figure 36, item 1) from controller (Figure 36, item 2).

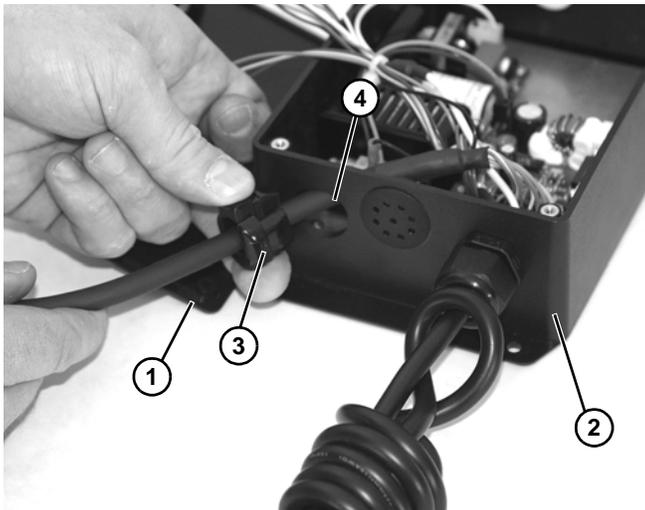


Figure 36

3. Pull out cord retainer (Figure 36, item 3) from controller opening (Figure 36, item 4).

4. Remove cord retainer (Figure 37, item 1) from cord (Figure 37, item 2).

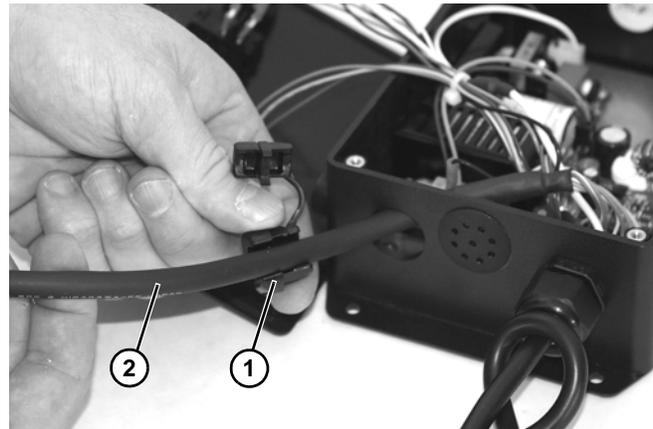


Figure 37

5. Remove wiring connector (Figure 38, item 1) from main board.

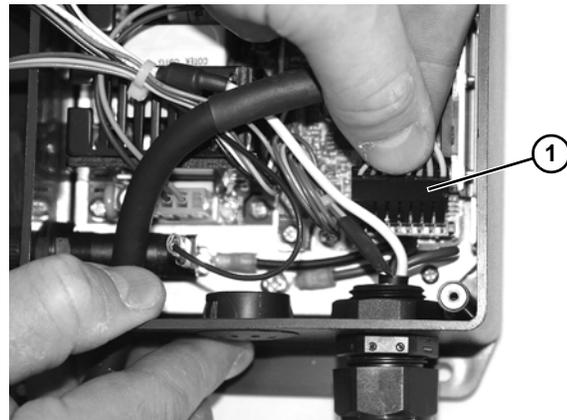


Figure 38

6. Turn connector (Figure 39, item 1), as shown, and remove wiring and connector through controller opening (Figure 39, item 2).

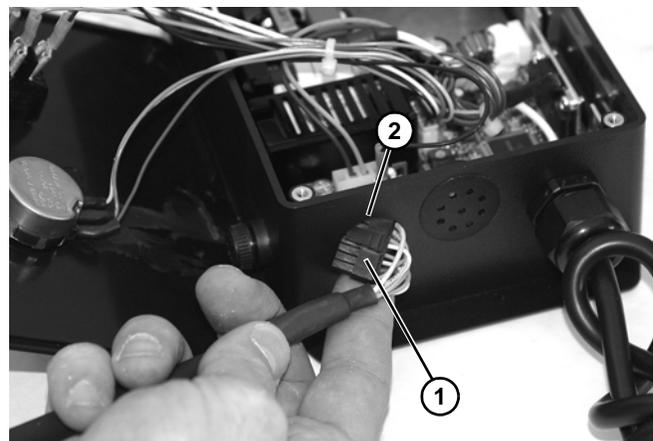
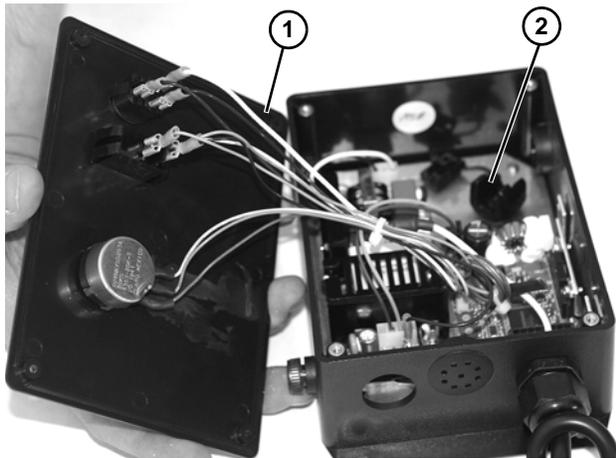


Figure 39

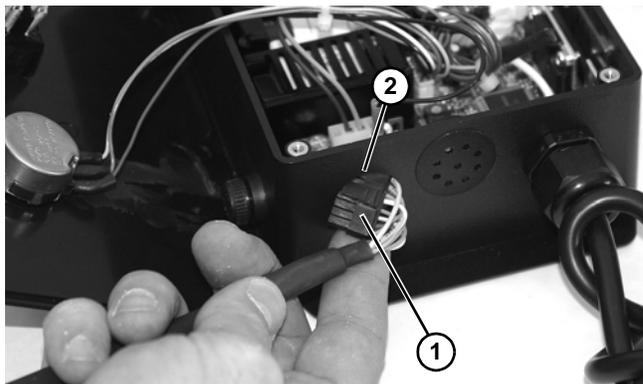
# Preventive Maintenance and Adjustment

7. Remove four screws and cover (**Figure 40, item 1**) from new controller.



**Figure 40**

8. Locate new cord retainer (**Figure 40, item 2**) located inside new controller.
9. Turn connector (**Figure 41, item 1**), as shown, and install wiring and connector through new controller opening (**Figure 41, item 2**).



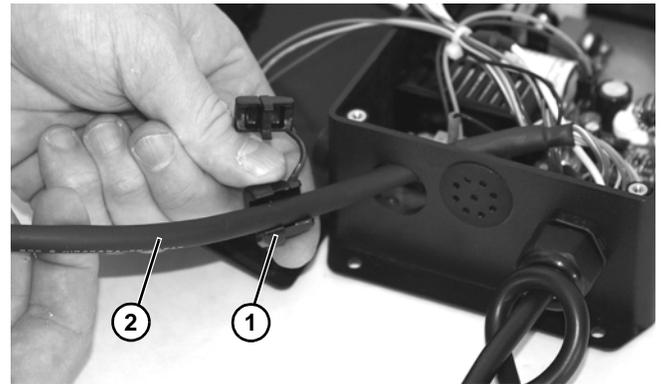
**Figure 41**

10. Install wiring connector (**Figure 42, item 1**) onto main board.



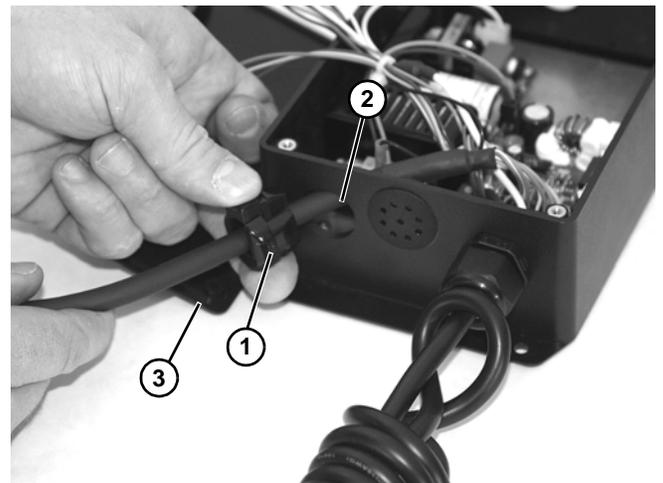
**Figure 42**

11. Install new cord retainer (**Figure 43, item 1**) onto cord (**Figure 43, item 2**).



**Figure 43**

12. Install cord retainer (**Figure 44, item 1**) into controller opening (**Figure 44, item 2**).



**Figure 44**

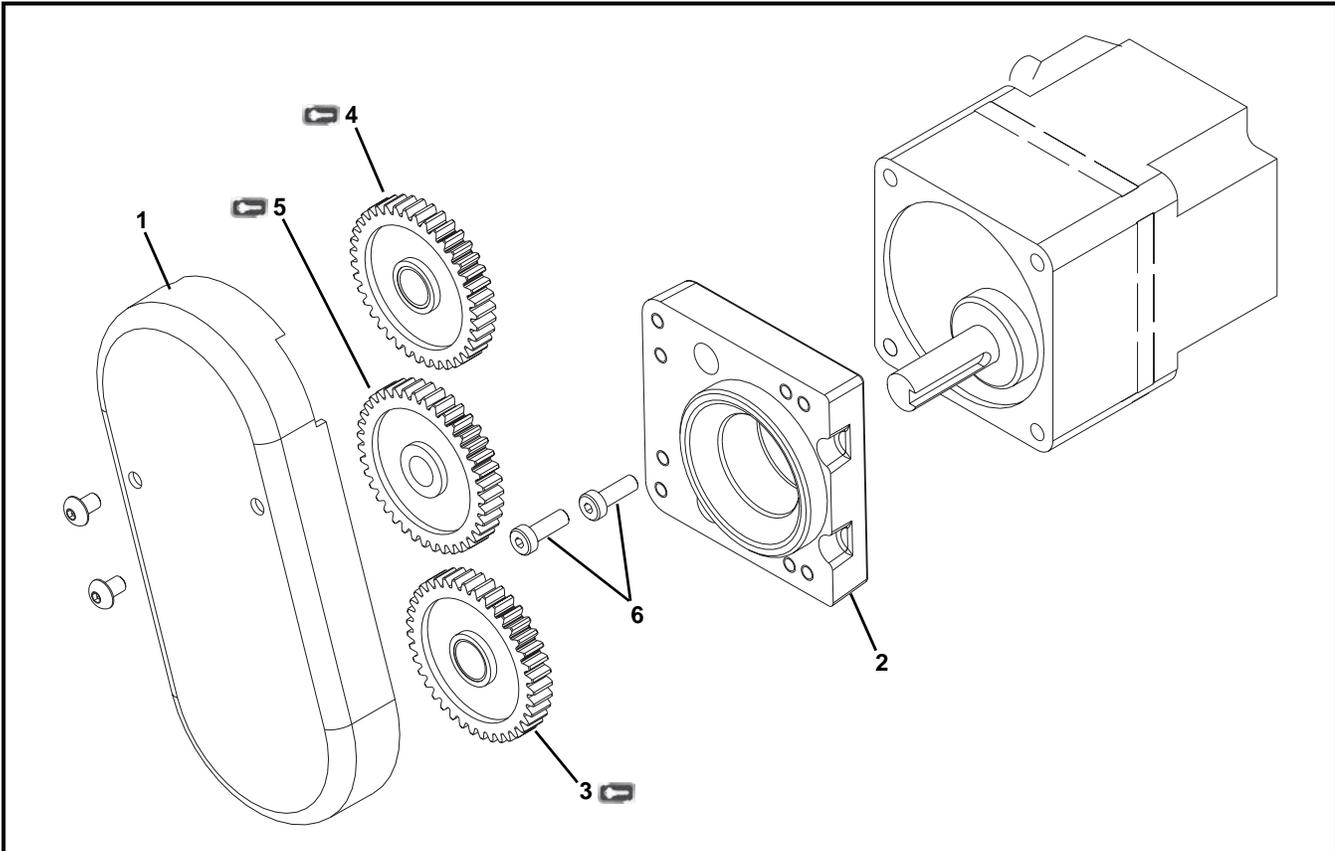
13. Install cover (**Figure 44, item 3**) with four screws and cover from controller.
14. Install controller onto conveyor.

# Service Parts

## Bottom Mount Drive Package

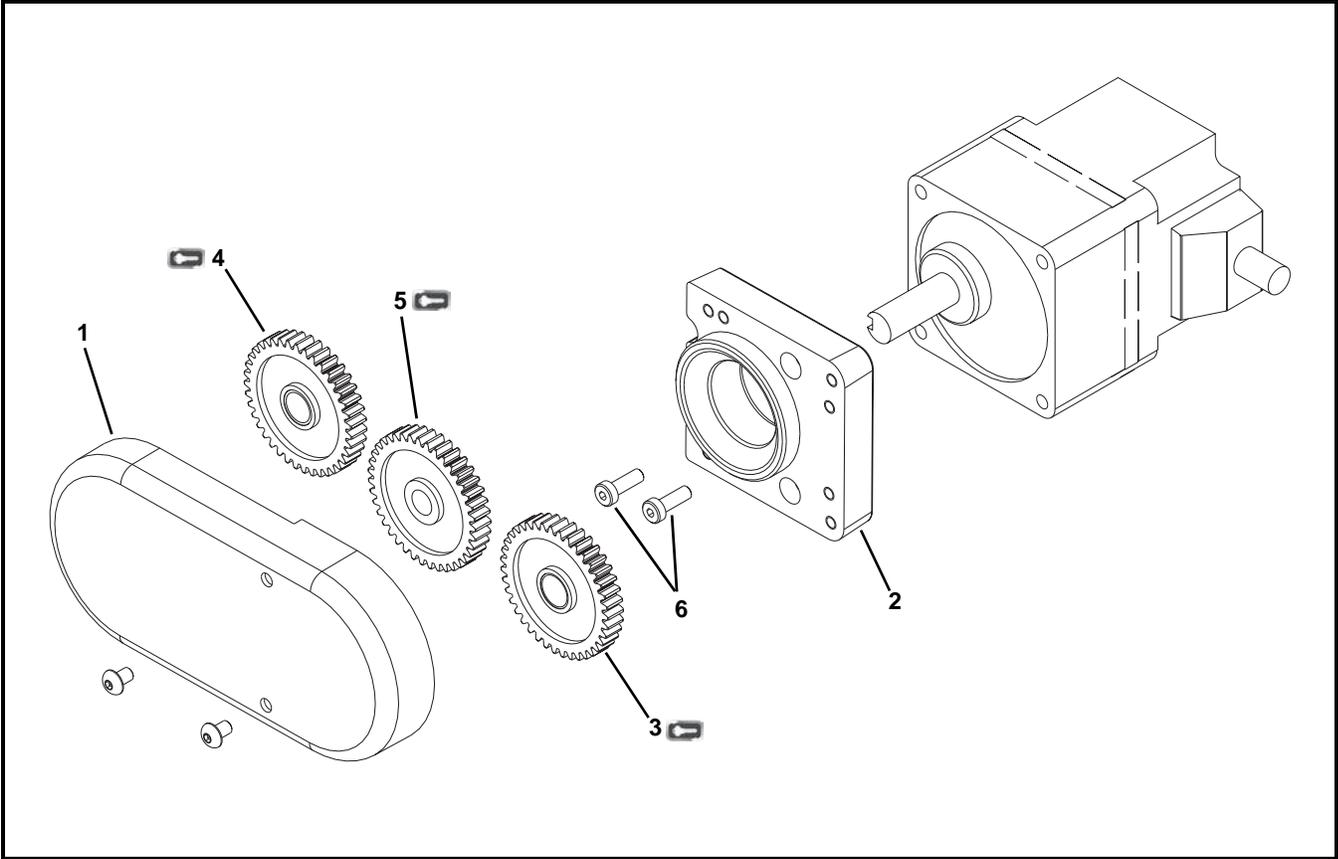
### NOTE

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.



Item	Part Number	Description
1	204047	Guard Cover
2	210116	Adapter Block
3	210118	Gear, 24 Pitch, 39 Tooth, 10 mm Bore
4	210122	Gear, 24 Pitch, 39 Tooth, 0.375" Bore
5	806-031	Gear, 24 Pitch, 39 Tooth
6	920412M	Low Head Cap Screw, M4-0.70 x 12 mm

Side Mount Drive Package



Item	Part Number	Description
1	204046	Guard Cover
2	210116	Adapter Block
3	210118	Gear, 24 Pitch, 39 Tooth, 10 mm Bore
4	210122	Gear, 24 Pitch, 39 Tooth, 0.375" Bore
5	806-031	Gear, 24 Pitch, 39 Tooth
6	920412M	Low Head Cap Screw, M4-0.70 x 12 mm

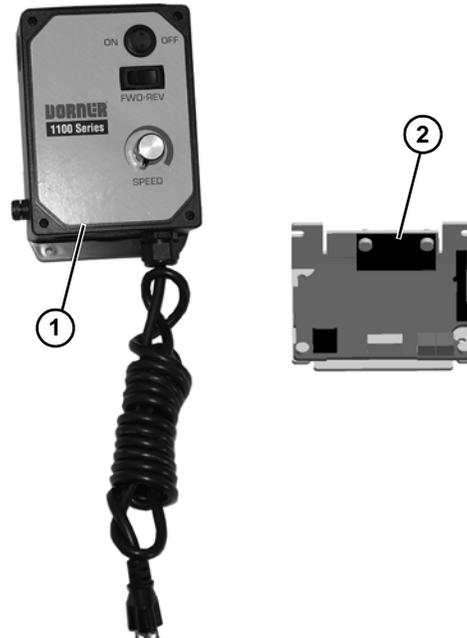
# Service Parts

## Gearmotor



Item	Part Number	Description
1	11M075PL411FN	Gearmotor, 0.008 hp, 115 Volts, 19 RPM, 60 Hz, 1-Phase
	11M036PL411FN	Gearmotor, 0.008 hp, 115 Volts, 40 RPM, 60 Hz, 1-Phase
	11M020PLBDDEN	Gearmotor, 0.04 hp, 125 PRM, Brushless DC
	11M015PLBDDEN	Gearmotor, 0.04 hp, 167 PRM, Brushless DC
	11M010PLBDDEN	Gearmotor, 0.04 hp, 250 PRM, Brushless DC

## Brushless DC Controller



Item	Part Number	Description
1	11M11BD-F	Variable Speed Controller, Full Featured
	11M11BD-R	Variable Speed Controller, Remote Signal
2	11M11BD-B	Variable Speed Controller, Board Level



# 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](http://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. 2013</p>	<p><b>DORNER MFG. CORP.</b>            975 Cottonwood Ave., PO Box 20            Hartland, WI 53029-0020 USA            TEL 1-800-397-8664 (USA)            FAX 1-800-369-2440 (USA)            Internet: <a href="http://www.dorner.com">www.dorner.com</a></p>	<p>Outside the USA:            TEL 1-262-367-7600            FAX 1-262-367-58277</p>
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