

2200 Series Precision Move Conveyors

Installation, Maintenance & Parts Manual



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MOVE

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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 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

Dorner 2200 series conveyors are covered by Patent Numbers 5,174,435, 6,422,382 and corresponding patents and patent applications in other countries.

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

Warnings - General Safety



Product Description

Refer to Figure 1 for typical conveyor components.

- Conveyor 1
- 2 **Guiding & Accessories**
- 3 Mounting Brackets
- Support Stand 4
- 5 Drive End
- 6 Idler/Tension End
- Center Drive Box (Center Drive Units) 7



End Drive Conveyor Figure 1



Specifications

Models:

Flat Belt 2200 Series Conveyor





Cleated Belt 2200 Series Conveyor



Conveyor Supports:

Maximum Distances:

- 1 = 18" (457 mm)**
- 2 = 6 ft (1829 mm)***
- $3 = 18^{\circ} (457 \text{ mm})$

** For Heavy Load Bottom Mount Package, mount support under gear head.

*** For conveyors longer than 10 ft (3048 mm), install support at joint.



Figure 3

Specifications

Conveyor Specifications:

Conveyor Width Reference (WW)	02	03	04	06	08	12	18	24
Conveyor Belt Width	1.75 ["] (44 mm)	2.75 ^{°°} (70 mm)	3.75 [°] (95 mm)	6 ["] (152 mm)	8 (203 mm)	12 ["] (305 mm)	18 ["] (457 mm)	24 (609 mm)
Maximum Conveyor Load* (See NOTE Below)	25 lb (11 kg)	40 lb (18 kg)	55 lb (25 kg)	90 lb (41 kg)	120 lb (54 kg)	180 lb (82 kg)	200 lb (90 kg)	200 lb (90 kg)
Conveyor Startup Torque*	2 in-lb (0.5 Nm)	3 in-lb (0.6 Nm)	4 in-lb (0.7 Nm)	8 in-lb (0.9 Nm)	10 in-lb (1.1 Nm)	14 in-lb (1.5 Nm)	15 in-lb (1.7 Nm)	20 in-lb (2.3 Nm)
Belt Travel			4.724"	(120 mm) p	er revolutior	n of pulley		
Maximum Belt Speed*	264 ft/minute (80.5 m/minute)							
Belt Takeup		0.38" (10 mm) of stroke = 0.75 " (19 mm) of belt take-up						

NOTE

Maximum conveyor loads based on:

- Non-accumulating product
- Conveyor being mounted horizontal
- Not exceeding 15 lb / linear ft.
- Steel cord belt maximum load = 200 lb all widths

* See Ordering and Specifications Catalog for details.

LLLL:

- Minimum = D150 = 1.5 feet (18")
- Maximum = 3000 = 30 feet (360")

NOTE

Conveyor MUST be mounted straight, flat and level within confines of conveyor. Use a level (Figure 4, item 1) for setup.





Installation Component List

Conveyor frame (two sections if longer than 10ft)

Conveyor brackets (4x)

Return rollers (for longer conveyors)

Required Tools

- Hex-key wrenches: 4 mm, 5 mm
- Level
- Torque wrench

Recommended Installation Sequence

- Install support stands (see accessory instructions)
- Assemble conveyor (if required)
- Attach mounting brackets to conveyor
- Attach conveyor to stands
- Install return rollers on conveyor (optional)
- Mount gearmotor mounting package (see accessory instructions)
- Attach guides/accessories (see page 26 through page 43 of "Service Parts" section for details)

Conveyors Up to 10 ft (3048 mm)

No assembly is required. Install mounting brackets and return rollers. Refer to "2200 Series Mounting Brackets" on page 8 and "Return Rollers" on page 9.

Conveyors Longer Than 10 ft (3048 mm)

1. Locate and arrange conveyor sections by section labels (Figure 5, item 1).



Figure 5

2. On tension end of the conveyor, identified with

a label (Figure 6, item 1), push in head plate assembly (Figure 6, item 2): On both sides of conveyor, loosen and move cam tracking assemblies (Figure 6, item 3) (if equipped) away from head plates, then loosen fastening screws (Figure 6, item 4) and push head plate assembly inward.



Figure 6

3. Roll out conveyor belt and place conveyor frame sections (Figure 7, item 1) into belt loop.



Figure 7



SUPPORT CONVEYOR SECTIONS PRIOR TO CONNECTING FRAME SECTIONS.

Join conveyor sections and install frame connector plates (Figure 8, item 1) or connector/mount brackets (Figure 8, item 2) and screws (Figure 8, item 3) on both sides as indicated. Tighten screws to 60 in-lb (7 Nm).



Figure 8

 With a 5 mm hex-key wrench, rotate pinion gear (Figure 9, item 1) to tension the conveyor belt. Tighten fastening screws (Figure 9, item 2) on both sides of conveyor to 80 in-lb (9 Nm). For proper tensioning, refer to "Conveyor Belt Tensioning" on page 17".



Figure 9

- 6. Install mounting brackets and return rollers. Refer to "2200 Series Mounting Brackets" on page 8 and "Return Rollers" on page 9.
- 7. Reposition and adjust belt tracking. Refer to "Conveyor Belt Tracking" on page 18.

2200 Series Mounting Brackets

1. Locate brackets. Exploded view shown in Figure 10.



Figure 10

- Remove screws (Figure 10, item 1 & 2), washers (Figure 10, item 3), connector bars (Figure 10, item 4) and T-bars (Figure 10, item 5) from brackets.
- Insert T-bars (Figure 10, item 5) into conveyor side slots (Figure 11, item 1). Fasten brackets (Figure 11, item 2) to conveyor with mounting screws (Figure 11, item 3).



Figure 11

WARNING



Moving parts can cut or crush. Keep hands clear when raising conveyor frame onto stands.

- 4. Fasten brackets to support stand with mounting screws (Figure 11, item 4), washers (Figure 11, item 5) and nuts (Figure 11, item 6).
- Tighten screws (Figure 11, item 3 & 4) to 60 in-lb (7 Nm).

Return Rollers

Cleated Belt and 2–6["] (51–152 mm) Wide Flat Belt Conveyors

 Locate return rollers. Exploded views shown in Figure 12 & Figure 13.



Figure 12



Figure 13

- Remove screws (Figure 12, item 1) & (Figure 13, item 1) and clips (Figure 12, item 2) and (Figure 13, item 2) from roller assembly.
- 3. Install roller assemblies (Figure 14, item 1) as shown. Tighten screws (Figure 14, item 2) to 60 in-lb (7 Nm).



Figure 14

8–24^{°°} (203–610 mm) Wide Flat Belt Conveyors

1. Locate return rollers. Exploded view shown in Figure 15.



Figure 15

- 2. Remove screws (Figure 15, item 1) and clips (Figure 15, item 2) from roller assembly.
- 3. Install roller assembly as shown (Figure 16, item 1). Tighten screws (Figure 16, item 2) to 60 in-lb (7 Nm).



Figure 16

Slave Drive Installation



1. Install slave drive plate (Figure 17, item 1) onto drive end of driven conveyor.



Figure 17

- Install washer and M6x25 low head capscrew (Figure 17, item 2). Do not tighten.
- 3. Install washer and M6x25 hex head capscrew (**Figure 17**, **item 3**). Do not tighten.
- 4. Install cam knob (Figure 17, item 4) with M6x25 low head capscrew (Figure 17, item 5). Do not tighten.



Figure 18

- 5. Install drive conveyor tension end (**Figure 18, item 1**) onto slave drive plate (**Figure 18, item 2**).
- 6. Install slave drive plate on opposite side, and install screws and washers from steps 2 and 3.

 Install M6x25 low head capscrew (Figure 19, item 1). Adjust conveyor angle and tighten. Repeat on opposite side.



Figure 19

- Install washer and M6x25 hex head capscrew (Figure 19, item 2) from slave drive plate (Figure 19, item 3). Repeat on opposite side.
- 9. Install two keys (Figure 20, item 1).





- 10. Install belt (Figure 20, item 2) and both pulleys (Figure 20, item 3).
- 11. Be certain both pulleys are flush with shaft and tighten set screws (**Figure 21**, **item 1**) onto pulleys.



Figure 21

12. Rotate cam knob (Figure 22, item 1) to obtain 1/8 - 1/4" belt deflection at center of belt (Figure 22, item 2) with approximately 3-5 in-lb of pressure.



Figure 22

13. Tighten low head capscrew (Figure 23, item 1) in cam to lock belt tension.



Figure 23

- 14. Tighten M6x25 low head capscrew (**Figure 23, item 2**) to 60 in-lb (7 Nm) to secure position.
- 15. Tighten remaining M6 hardware to 60 in-lb (7 Nm).
- Install cover (Figure 24, item 1) and two screws (Figure 24, item 2). Tighten screws enough to secure cover.

Common Drive Installation



NOTE

Ensure driven conveyor is not rigidly mounted to allow tie tube to align conveyors.

1. Install tie tube (Figure 25, item 1) between conveyor belts (Figure 25, item 2).



Figure 25



Figure 24

17. Install conveyor belt. See "Conveyor Belt Replacement" section on page 14.

2. Install M6x25 low head capscrew (**Figure 26, item 1**) onto spindle plate (**Figure 26, item 2**).



Figure 26

- 3. Install M6x25 flat head screw (**Figure 26, item 3**) to secure front side of plate. Repeat on opposite side.
- 4. Tighten flat head screws and low head screws to 60 in-lb (7 Nm).
- 5. Separate and install outer portion of 3-jaw coupling (Figure 27, item 1) onto shaft portion of each end of conveyor.

NOTE

When securing inner portion of 3-jaw coupling (Figure 27, item 1) Maintain 0.30 - 0.60 in. clearance from headplates (Figure 27, item 2).



Figure 27

6. Tighten clamp screws (**Figure 27, item 3**) to 17 in-lb (2 Nm) to secure outer portion position of 3-jaw coupler.

- 7. Install 3-jaw spider (**Figure 27**, **item 4**) into each end of outer portion of 3-jaw coupling.
- Install inner portion of portion of 3-jaw coupling (Figure 28, item 1) onto center shaft (Figure 28, item 2).



Figure 28

- 9. Install center shaft assembly into end of each 3-jaw spider (Figure 28, item 3).
- Slide both ends of inner portion of 3-jaw coupling (Figure 29, item 1) onto mating surface of outer 3-jaw coupling (Figure 29, item 2) and secure with clamp screws (Figure 29, item 3). Tighten screws to 17 in-lb (2 Nm).



Figure 29

11. Install guard plate (Figure 30, item 1) pin into hole (Figure 30, item 2) on each side of tie tube (Figure 30, item 3).

IMPORTANT

Install guard plate (Figure 30, item 1) with offset angle (Figure 30, item 4) facing tie tube (Figure 30, item 3).



Figure 30

12. Install top guard and bottom guard (Figure 31, item 1)

13. Secure top and bottom guards with M6 weld nut (Figure 32, item 1) and M5x12 socket head screw (Figure 32, item 2) on each side of assembly. Repeat on bottom side.



Figure 32

- 14. Tighten four M5x12 socket head screws (Figure 32, item 2).
- 15. Secure remaining stand mounts on conveyor ensuring alignment is not disturbed.





Figure 31

Required Tools

Standard Tools

- Hex-key wrenches: 2.5 mm, 4 mm, 5 mm
- Arbor press

Special Tools

- 807-1716 Bearing Puller Tool (or equivalent)
- 450293 Bearing Installation Tool (Bearing Pusher)
- 456063 Bearing Removal Tool

Checklist

- Keep service parts on hand (see "Service Parts" section for recommendations)
- Keep supply of belt cleaner (part # 625619)
- Clean entire conveyor while disassembled
- Replace worn or damaged parts

Lubrication

No lubrication is required. Replace bearings if worn.

Maintaining Conveyor Belt

Troubleshooting

Inspect conveyor belt for:

- Surface cuts or wear
- Stalling or slipping

Surface cuts and wear indicate:

- Sharp or heavy parts impacting belt
- Jammed parts
- Foreign material inside the conveyor
- Improperly positioned accessories
- Bolt-on guiding is pinching belt

Stalling or slipping indicates:

- Excessive load on belt
- Conveyor belt or drive timing belt are not properly tensioned
- Impacted dirt on drive pulley
- Intermittent jamming or drive train problems

Cleaning

IMPORTANT

Do not use belt cleaners that contain alcohol, acetone, Methyl Ethyl Ketone (MEK) or other harsh chemicals.

Use Dorner Belt Cleaner (part # 625619). Mild soap and water may also be used. Do not soak the belt.

Conveyor Belt Replacement





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

Conveyor Belt Replacement Sequence

Remove old conveyor belt:

- Conveyor without Stands or Gearmotor Mounting Package
- Conveyor with Stands and Gearmotor Mounting Package
- Install new conveyor belt
- Tension conveyor belt

Belt Removal for Conveyor Without Stands or Gearmotor Mounting Package

- 1. If equipped, remove return rollers and guiding and accessories from one side of conveyor.
- 2. On tension end of the conveyor, identified with a

Label (Figure 33, item 1), push in head plate assembly (Figure 33, item 2): On both sides of conveyor, loosen and move cam tracking assemblies (Figure 33, item 3) (if equipped) away from head plates, then loosen fastening screws (Figure 33, item 4) and push head plate assembly inward.





3. Remove conveyor belt.

Belt Removal for Conveyor With Stands and Gearmotor Mounting Package



1. Place temporary support stands (**Figure 34, item 1**) at both ends of the conveyor. Place an additional support stand under the drive motor (**Figure 34, item 2**), if equipped. See WARNING.



Figure 34

- 2. Remove mounting brackets (Figure 34, item 3) from one side of conveyor. (Reverse steps 3 & 4 of "2200 Series Mounting Brackets" section beginning on page 8.) If equipped with heavy load drive package, remove brackets from side opposite drive cover (Figure 35, item 1).
- 3. If equipped, remove return rollers, guiding and accessories from side opposite drive cover (Figure 35, item 1).



Figure 35

- 4. If equipped with heavy load drive package, remove drive support bracket (Figure 35, item 2): Remove bracket screws (Figure 35, item 3) then remove bracket (Figure 35, item 2).
- 5. On tension end of the conveyor, identified with

a label (Figure 36, item 1), push in head plate assembly (Figure 36, item 2): On both sides of conveyor, loosen and move cam tracking assemblies (Figure 36, item 3) (if equipped) away from head plates, then loosen fastening screws (Figure 36, item 4) and push head plate assembly inward.



Figure 36

6. Remove belt (Figure 37, item 1) from conveyor.



Figure 37

Belt Installation for Conveyor Without Stands or Gearmotor Mounting Package

1. Orient belt so splice leading fingers (**Figure 38, item 1**) point in the direction of belt travel as identified by the conveyor directional label (**Figure 38, item 2**).



Figure 38

- 2. Slide belt onto the conveyor frame assembly.
- Tension belt. Refer to "Conveyor Belt Tensioning" on page 17.
- 4. If equipped, install return rollers and guiding.

Belt Installation for Conveyor With Stands and Gearmotor Mounting Package



- Ensure temporary support stands (Figure 34, item 1) are placed at both ends of the conveyor. Place an additional support stand under the drive motor (Figure 34, item 2), if equipped. See WARNING.
- 2. Orient belt so splice leading fingers (**Figure 38, item 1**) point in the direction of belt travel as identified by the conveyor directional label (**Figure 38, item 2**).

3. Install belt (**Figure 39, item 1**) on conveyor. Lift conveyor slightly to avoid pinching belt on temporary support stands.



Figure 39

- 4. Re-install conveyor mounting brackets. Refer "2200 Series Mounting Brackets" beginning on page 8, steps 3 through 5.
- 5. If equipped with a heavy load drive package, re-install drive support bracket (**Figure 35, item 2**).
- 6. Tension belt. Refer to "Conveyor Belt Tensioning" on page 17
- 7. If equipped, re-install return rollers and guiding.

Mid Drive Belt Replacement



- 1. Remove belt tension. See "Conveyor Belt Tensioning" steps 1 & 2 section on page 17.
- Remove M6x25 socket head screw (Figure 40, item 1) from each side of mid drive assembly (Figure 40, item 2).





Lower and remove mid drive assembly (Figure 41, item 1) from belt (Figure 41, item 2).



Figure 41

4. Remove belt.

Conveyor Belt Tensioning



1. On tension end of the conveyor, identified with a

label (Figure 42, item 1), adjust head plate assembly (Figure 42, item 2): On both sides of conveyor, loosen fastening screws (Figure 42, item 3) and rotate pinion gear (Figure 42, item 4) to adjust head plate assembly.



Figure 42

 Adjust head plate assembly so end of conveyor frame aligns with or between the head plate tensioning marks (Figure 43, item 1 & 2). Replace belt if proper tensioning can not be obtained while aligning the end of the conveyor frame with or between the tensioning marks. See NOTE.



Figure 43

NOTE

On pinion gear, do not exceed a torque of 25 in-lb (2.8 Nm) for 2 – 12" (44 – 305 mm) wide conveyors and 50 in-lb (4.5 Nm) for an 18 – 24" (457 – 610 mm) wide conveyor. Over tensioning the conveyor belt could cause excessive pulley bearing load and early failure.

- 3. After adjusting proper tensioning, tighten fastening screws (**Figure 42, item 3**) on both sides of conveyor to 60 in-lb (7 Nm).
- If equipped with cam tracking assemblies (Figure 42, item 5), position against head plates and adjust belt tracking. Refer to "Conveyor Belt Tracking" on page 18.

Conveyor Belt Tracking



Conveyors are equipped with belt tracking cam assemblies (Figure 44, item 1) for belt tracking adjustment.



Figure 44

When adjusting belt tracking, always adjust the discharge end of the conveyor first. To adjust belt tracking:

- 5. Ensure head plate fastening screws (**Figure 44, item 2**) on both sides of conveyor are tightened to 60 in-lb (7 Nm).
- On both sides of conveyor, loosen two (2) cam fastening screws (Figure 44, item 3). Adjust cams (Figure 44, item 5) are horizontal and facing end of conveyor. Then slide cam assemblies against head plates (Figure 44, item 6) and re-tighten cam fastening screws (Figure 44, item 3) to 60 in-lb (7 Nm).
- 7. On the side toward which the belt is tracking, loosen head plate fastening screws (**Figure 44, item 2**).
- With the conveyor running, use a 5 mm hex-key wrench to rotate the tracking cam (Figure 44, item 4) in small increments until the belt tracks in the center of the conveyor. Then while holding the cam in position, retighten the head plate fastening screws (Figure 44, item 2) with a 4 mm hex-key wrench to 80 in-lb (9 Nm).

Pulley Removal



Leaving the conveyor belt in place, remove the desired pulley following the corresponding instructions below:

- A Idler Pulley Removal
- B Drive Pulley Removal

A - Idler Pulley Removal

1. On one side of the conveyor, loosen two (2) head plate fastening screws (**Figure 45, item 1**) and remove them.

NOTE

To prevent damage to the head plates and pulley, be sure to remove them slowly because they are not attached to pulley.



Figure 45

2. Remove the head plate (**Figure 46, item 1**) from the conveyor frame.



Figure 46

3. Pulley will slide out of opposite head plate and drop into slack of belt (Figure 47).



Figure 47

4. Slide spindle out of the belt loop.

B - Drive Pulley Removal



1. On one side of the conveyor, loosen two (2) head plate fastening screws (**Figure 48, item 1**) and remove.

NOTE

To prevent damage to the head plates, be sure to remove them slowly because they are not attached to pulley.



Figure 48

2. Remove the head plate (**Figure 49, item 1**) from the conveyor frame.



Figure 49

- 3. Drive pulley will slide out of opposite head and drop into slack of belt.
- 4. Slide the drive pulley out of the belt loop.

Bearing Removal & Replacement

Removal

IMPORTANT

Do not use any removed bearings. Replace them.

Place bearing removal tool part #456063 (Figure 50, item 1) below bearing (Figure 50, item 2) with lip (Figure 50, item 3) located in gap (Figure 50, item 4) between bearing and spindle hub (Figure 50, item 5) as shown.





Figure 50

2. Using puller part #807-1716 (**Figure 51, item 1**), remove and discard bearing.





Replacement

Inspect the head plates bearing seating surface (Figure 52, item 1). If they are worn or damaged, replace. See "Service Parts" on page 26.



Figure 52

- 2. Inspect spindle (Figure 53, item 1). Replace if worn.
- 3. Slide bearing (Figure 53, item 2) onto spindle.



Figure 53

4. Using an arbor press or similar device, press bearing onto pulley shaft (Figure 54).

WARNING

Be certain that bearing and shaft is set onto press completely flush with press cylinder plate. If not, damage to bearing or shaft could result.

Keep hands and fingers away from press and components during procedure.



Figure 54

5. Repeat steps 1 through 4 for each bearing.

Drive Pulley and Idler Pulley Installation

Drive Pulley Installation

- 1. With opposite head plate installed, position the drive pulley through the loop of the belt, into the opposite head plate.
- 2. Add spring washer (Figure 55, item 1) to head plate spindle bore (Figure 55, item 2) opposite motor drive side with fingers (Figure 55, item 3) toward head plate spindle bore.



Figure 55

3. Place the head plate (**Figure 56, item 1**) and attach the head plate to the conveyor frame with the two (2) screws removed. Tighten screws 60 in-lb (7 Nm).



Figure 56

Idler Pulley Installation

- 1. With opposite head plate installed, position the idler pulley through the loop of the belt, into the opposite head plate.
- 2. Place the head plate (**Figure 57, item 1**) and attach the head plate to the conveyor frame with the two (2) screws removed and hand tighten.



Figure 57

Upper Wear Strip Replacement

A WARNING

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

- 1. Remove conveyor belt. See "Conveyor Belt Replacement" section on page 14.
- 2. With a putty knife (Figure 58, item 1), start by raising edge of wear strip (Figure 58, item 2).



Figure 58

3. Remove old wear strip with a pliers (Figure 59, item 1).



Figure 59

- 4. Clean conveyor surface with isopropyl alcohol and allow to fully dry.
- Install new wear strip (Figure 60, item 1). 5.





Figure 60

Using a utility knife (Figure 60, item 2), cut out notch 6. in each corner (Figure 60, item 3).

Slave Drive Belt Replacement



Remove two screws (Figure 61, item 1) and cover 1. (Figure 61, item 2).



2. Loosen set screws (Figure 62, item 1) on pulleys.



Figure 62

3. Loosen screws (Figure 63, item 1, 2, and 3) from both sides of conveyor. Turn cam knob (Figure 63, item 4) to remove belt tension.



Figure 63

4. Remove both pulleys (Figure 64, item 1) and belt (Figure 64, item 2).



Figure 64

- 5. Be certain two keys (Figure 64, item 3) are installed onto each shaft.
- 6. Install new belt (Figure 64, item 2) and both pulleys (Figure 64, item 1).
- 7. Be certain both pulleys are flush with shaft and tighten set screws (**Figure 65**, item 1) onto pulleys.



Figure 65

 Rotate cam knob (Figure 66, item 1) to obtain 1/8 - 1/ 4" belt deflection at center of belt (Figure 66, item 2) with approximately 3-5 in-lb of pressure.



Figure 66

9. Tighten low head capscrew (Figure 67, item 1) in cam to lock belt tension.



Figure 67

- 10. Tighten M6x25 low head capscrew (**Figure 67, item 2**) to 60 in-lb (7 Nm) to secure position.
- 11. Tighten remaining M6 hardware to 60 in-lb (7 Nm).
- 12. Install cover (Figure 68, item 1) and two screws (Figure 68, item 2). Tighten screws enough to secure cover.



Mid Drive Spindle Replacement

- 1. Remove belt. See "Conveyor Belt Replacement" on page 14.
- Remove two M6x25 socket head screws (Figure 69, item 1) from each side of mounting block (Figure 69, item 2).



Figure 69

3. Lower center spindle assembly (Figure 70, item 1) clamp block (Figure 70, item 2) from conveyor channel (Figure 70, item 3) on each side of conveyor frame.



Figure 70

4. Separate mounting blocks (Figure 71, item 1) from spindle (Figure 71, item 2).



Figure 71

- 5. Replace spindle.
- 6. Install mounting block (Figure 72, item 1) onto spindle (Figure 72, item 2).



Figure 72

7. Raise center spindle assembly (**Figure 73, item 1**) tracking clamp block (**Figure 73, item 2**) onto conveyor channel (**Figure 73, item 3**) on each side of conveyor frame.



Figure 73

Secure center spindle assembly (Figure 74, item 1) with two M6x25 socket head screws (Figure 74, item 2) on each side of mounting block. Do not tighten.

9. Raise mid drive assembly (Figure 75, item 1) onto belt (Figure 75, item 2).



Figure 75

 Secure mid drive assembly (Figure 76, item 1) with M6x25 socket head screw (Figure 76, item 2) on each side of assembly. Tighten M6x25 screw to 60 in-lb (7 Nm).



Figure 74



- 11. Tighten socket head screws (**Figure 74, item 2**) to 60 in-lb (7 Nm).
- 12. Tension conveyor belt. See "Conveyor Belt Tensioning" on page 17.

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.

Drive End and Auxiliary Output Idler End



Item	Part Number	Description		
1	807-2108	Spring Disc		
2	203025	Left Hand Head Plate		
	203027	Left Hand Head Plate with Shaft Hole		
3	203026	Right Hand Head Plate		
	203028	Right Hand Head Plate with Shaft Hole		
4	202514- <u>WW</u>	Spindle Assembly		
	202517- <u>WW</u>	Spindle Assembly - Dual Shaft		
	202516- <u>WW</u>	Spindle Assembly (Common Drive Only - Drive Conveyor, 1 Stub Shaft)		
	202515- <u>WW</u>	Spindle Assembly (Common Drive Only - End Conveyor, 1 Stub Shaft)		
	202518- <u>WW</u>	Spindle Assembly (Common Drive Only - Mid Conveyor, 2 Stub Shafts)		
5	240329	Tension Slide Bar		
6	920692M	Low Head Cap Screw, M6-1.00 x 12 mm		
7	980428M	Square Key 4 mm x 28 mm		
8	22PMDS-WW	Spindle Tail Kit (Includes items 1 & 4)		
0	22PMDDS- <u>WW</u>	Dual Shaft Spindle Tail Kit (Includes items 1 & 4)		
	22PMDSC- <u>WW</u>	Common Drive - Drive Conveyor Spindle Tail Kit (Includes items 1 & 4)		
	22PMDC- <u>WW</u>	Common Drive - End Conveyor Spindle Tail Kit (Includes items 1 & 4)		
	22PMDDC- <u>WW</u>	Common Drive - Mid Conveyor Spindle Tail Kit (Includes items 1 & 4)		
9	22BK2	Bearing Kit (2 pack)		
	22BK4	Bearing Kit (4 pack)		
<u>WW</u> =	<u>WW</u> = Conveyor Width Reference: 02, 03, 04, 06, 08, 12, 18 & 24			

Standard Idler End



Item	Part Number	Description
1	240425	Head Plate, Left Hand
2	201273- <u>WW</u>	Spindle Kit with Bearings
3	808-020	Magnet, 0.25" diameter x 0.25" long
4	450226SSP	Sleeve
5	240426	Head Plate, Right Hand
6	920692M	Socket Head Screw, M6 x 12 mm
7	920691M	Socket Head Screw, M6 x 10 mm

Item	Part Number	Description			
8	240329	Tension Slide Bar			
9	22T- <u>WW</u>	Idler Spindle Kit, (Includes Items 1 through 7)			
10	22BK2	Bearing Kit (2 pack)			
	22BK4	Bearing Kit (4 pack)			
11	11 240025 Cam Mount Assembly				
<u>WW</u> =	<u>WW</u> = Conveyor width reference: 02, 03, 04, 06, 08, 12, 18 & 24				

Mid Drive Module



Item	Part Number	Description
1	463040	Idler Roller Assembly
		for 2" wide Conveyor
	463041	Idler Roller Assembly
		for 3" wide Conveyor
	463042	Idler Roller Assembly
		for 4" wide Conveyor
	807-1010	Idler Roller for 6" wide Conveyor
	807-1011	Idler Roller for 8" wide Conveyor
	807-1013	Idler Roller for 12" wide Conveyor
	807-1088	Idler Roller for 18" wide Conveyor
	807-1090	Idler Roller for 24" wide Conveyor
2	202447- <u>WW</u>	Spindle Assembly
	202335- <u>WW</u>	Drive Pulley for 2"-6" wide Gang
		Drive Conveyors
	202332- <u>WW</u>	Drive Pulley for 8"-24" wide Gang
		Drive Conveyors

Item	Part Number	Description		
3	202353	Clamp Block		
4	202354	Mounting Block		
5	202455- <u>WW</u>	Bottom Guard		
6	202355	Side Plate		
7	7801180P	Socket Head Screw,		
		M6-1.00 x 14 mm		
8	920625M	Socket Head Screw,		
		M6-1.00 x 25 mm		
9	9804258M	Square Key 4 mm x 28 mm		
10	22PMMD- <u>WW</u>	Spindle Kit (Includes items 1 & 2)		
	22PMGMD- <u>WW</u>	Gang Drive Spindle Kit		
		(Includes items 1 & 2)		
<u>WW</u> =	<u>WW</u> = Conveyor Width Reference: 02, 03, 04, 06, 08, 12, 18 & 24			

2200 Series Frame Assembly



Item	Part Number	Description		Item	Part Number	Description	
1	807-1105	Flat Head Screw, M4 - 0.70 x 10 mm		4	202309- <u>WW</u> - <u>LLLLL</u>	Bottom Bed Plate	
				5	240401- <u>LLLLL</u>	Frame Rail for 2" Wide Conveyors	
2	807-2052	UHMW Tape 1.625" for 4" Wide			240407- <u>LLLLL</u>	Frame Rail for 3" Wide Conveyors	
		Conveyors			240408- <u>LLLLL</u>	Frame Rail for 4" Wide Conveyors	
	807-2053				240410- <u>LLLLL</u>	Frame Rail for 6" Wide Conveyors	
	Conveyors 807-2054 UHMW Tape 5.75" for 12" & 24"			240411- <u>LLLLL</u>	Frame Rail for 8", 12", 18" & 24"		
						Wide Conveyors	
		,	Wide Conveyors		240414- <u>LLLLL</u>	Center Rail for 8", 12", 18" & 24"	
3					Wide Conveyors		
		for Single Piece Frames		7	240414- <u>LLLLL</u>	End Rail for 8", 12", 18" & 24"	
	202308-WW-LLLLL End Bed Plate					Wide Conveyors	
	for Multi Piece Frames			WW = Conveyor Width Reference: 02, 03, 04, 06, 08, 12, 18 & 2			
	202309- <u>WW</u> -LLLLL	Mid Bed Plate		LLLLL	= Part length in inches	with 2 decimal places.	
		for Multi Piece Frames	Example: Length = 35.25" LLLLL = 03525			LLL = 03525	

Slave Drive



Item	Part Number	Description
1	801-144	Bearing
2	202361	Cam Knob
3	202362	Slave Drive Plate
4	202482	Guard Box
5	814-421	Timing Belt, 215 mm Long
	814-080	Timing Belt, 200 mm Long
6	202497	Pulley 16 Tooth
	452366MP	Pulley 22 Tooth
	450367MP	Pulley 28 Tooth
	450368MP	Pulley 32 Tooth

Item	Part Number	Description
7	605279P	Washer
8	920460M	Socket Head Screw, M470 x 60 mm
9	920695M	Low Head Cap Screw, M6-1.00 x 25 mm
10	960625MSS	Hex Head Cap Screw, M6-1.00 x 25 mm

Slave Drive Belt and Pulley Chart

Ratio	Belt	Drive Pulley	Driven Pulley	Pulley Kit
0.50	814-421	202497	450368MP	16:32
0.57	814-080	202497	450367MP	16:28
0.79	814-421	452366MP	450367MP	22:28
1.00	814-080	452366MP	450366MP	22:22
1.27	814-421	452367MP	450366MP	28:22
1.75	814-080	452367MP	202497	28:16
2.00	814-421	452368MP	202497	32:16

Common Drive



Item	Part Number	Description
1	807-2005	Weld Nut M6-1.00
2	807-2095	3 Jaw Coupling
3	202438- <u>LLLLL</u>	Shaft
4	202494	Alignment Block
5	202501	Guard Plate Assembly
6	202498- <u>LLLLL</u>	Tie Tube
7	242526- <u>LLLLL</u>	Guard
8	920512M	Socket Head Screw, M580 x 12 mm
9	920695M	Low Head Cap Screw,
		M6-1.00 x 25 mm

Item	Part Number	Description
10	930620M	Flat head Screw,
		M6-1.00 x 20 mm
11	22PMCD	Coupling Kit
LLLLL	= Part length in in	ches with 2 decimal places.
Length	Example: Length	= 35.25" LLLLL = 03525

Tracking Guides Used With 01, 13, 14 and Cleated Profiles



Item	Part Number	Description
1	202345	Tracking Guide Left hand
	202346	Tracking Guide Right Hand
2	202352	Tracking Guide Clip
3	200039P	Belt Tracking Cam
4	200341M	Retaining Block
5	920694M	Low Head Cap Screw,
		M6-1.00 x 20 mm

-04 3" (76 mm) Aluminum Side



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	280403- <u>LLLLL</u>	3" (76 mm) High Side Guides
3	639971MK10	Single Drop-in Tee Bar (x10)
4	920694M	Socket Head Screw, M6 x 20 mm
LLLLL	= Part length in inch	es with 2 decimal places.
Examp	le: Part Length = 35	.25" <u>LLLLL</u> = 03525





Item	Part Number	Description
1	200121	Guide Retaining Clip
2	280503- <u>LLLLL</u>	1.5" (38 mm) High Side Guides
3	639971MK10	Single Drop-in Tee Bar (x10)
4	920694M	Socket Head Screw, M6 x 20 mm
LLLLL	= Part length in inches	s with 2 decimal places.
Examp	le: Part Length = 35.2	5" <u>LLLLL</u> = 03525

-09 Low to High Side



Item	Part Number	Description	
1	200121	Guide Retaining Clip	
2	280903- <u>LLLLL</u>	0.5" (13 mm) High Side Guides	
3	639971MK10	Single Drop-in Tee Bar (x10)	
4	920694M	Socket Head Screw, M6 x 20 mm	
LLLLL	= Part length in inche	es with 2 decimal places.	
Examp	le: Part Length = 35.	25" <u>LLLLL</u> = 03525	

-13 Adjustable Guiding



Item	Part Number	Description
1	460063- <u>LLLLL</u>	Aluminum Profile Guide
2	200830M	Drop-In Tee Bar
3	202004	Mounting Bracket
4	202027M	Guide Mounting Shaft Vertical
5	202028M	Guide Mounting Shaft Horizontal
6	674175MP	Square Nut
7	807-652	Cross Block
8	807-948	Vinyl Shaft Cap
9	614068P	Flat Extruded Guide (per foot)
10	920612M	Socket Head Screw, M6 x 12 mm
11	920616M	Socket Head Screw, M6 x 16 mm
12	202345	Tracking Guide Left hand
	202346	Tracking Guide Right Hand
13	202352	Tracking Guide Clip
14	200039P	Belt Tracking Cam
15	200341M	Retaining Block
16	920694M	Low Head Cap Screw,
		M6-1.00 x 20 mm
LLLLL	= Part length in in	ches with 2 decimal places.
Examp	ole: Part Length = 3	35.25" <u>LLLLL</u> = 03525

-14 Tool-Less Adjustable Guiding



Item	Part Number	Description
1	807-948	Shaft Cap
2	807-1470	Cross Block
3	200830M	Drop-In Tee Bar
4	202004M	Mounting Bracket
5	202027M	Vertical Mounting Guide Shaft
6	202028M	Horizontal Mounting Guide Shaft
7	674175MP	Square Nut, M6-1.00
8	920612M	Socket Head Screw, M6-1.00 x 12 mm
9	920616M	Socket Head Screw, M6-1.00 x 16 mm
10	460063- <u>LLLLL</u>	Aluminum Profile Guide
11	614068P- <u>LLLLL</u>	Extruded Guide

Item	Part Number	Description
12	202345	Tracking Guide Left hand
	202346	Tracking Guide Right Hand
13	202352	Tracking Guide Clip
14	200039P	Belt Tracking Cam
15	200341M	Retaining Block
16	920694M	Low Head Cap Screw, M6-1.00 x 20 mm
LLLLL = Part length in inches with 2 decimal places.		ches with 2 decimal places.
Exam	ole: Part Length = 9	95.25" <u>LLLLL</u> = 09525

1" (25 mm) Cleated Guiding



Item	Part Number	Description
1	807-2121	Set Screw
2	350177	Guide Clamping Block
3	639971MK10	Single Drop-in Tee Bar (x10)
4	920696M	Low Head Cap Screw, M6-1.00 x 30 mm
5	350181- <u>LLLLL</u>	1" Cleated Guide for Multi Piece Guiding for 2" - 8" wide Conveyors
	204601- <u>LLLLL</u>	1" Cleated Guide for Multi Piece Guiding for 12" - 24" wide Conveyors
6	350182- <u>LLLLL</u>	1" Cleated Guide for A Side for 2" - 8" wide Conveyors
	204602- <u>LLLLL</u>	1" Cleated Guide for A Side for 12" -24" wide Conveyors
7	350183- <u>LLLLL</u>	1" Cleated Guide for D Side for 2" - 8" wide Conveyors
	204603- <u>LLLLL</u>	1" Cleated Guide for D Side for 12" - 24" wide Conveyors
LLLLL	= Length in inches	s with 2 decimal places.
Length	n Example: Length	= 35.25" <u>LLLLL</u> = 03525

2" (51 mm) Cleated Guiding



Item	Part Number	Description
1	807-2121	Set Screw
2	350177	Guide Clamping Block
3	639971MK10	Single Drop-in Tee Bar (x10)
4	920696M	Low Head Cap Screw, M6-1.00 x 30 mm
5	205001- <u>LLLLL</u>	2" Cleated Guide for Multi Piece Guiding for 2" - 8" wide Conveyors
	208101- <u>LLLLL</u>	2" Cleated Guide for Multi Piece Guiding for 2" - 8" wide Conveyors
6	205002- <u>LLLLL</u>	2" Cleated Guide for A Side for 2" - 8" wide Conveyors
	208102- <u>LLLLL</u>	2" Cleated Guide for A Side for 12" - 248 wide Conveyors
7	205003- <u>LLLLL</u>	2" Cleated Guide for D Side for 2" - 8" wide Conveyors
	208103- <u>LLLLL</u>	2" Cleated Guide for D Side for 12" - 24" wide Conveyors
LLLLL	= Length in inches	s with 2 decimal places.
Length	n Example: Length	= 35.25" <u>LLLLL</u> = 03525

Mounting Brackets

	×		
Item Part Number Description Iter	Item	Part Number 920620M	Description

Item	Part Number	Description
1	202303	Connector Bar
2	202394	Stand Mount
3	300150M	Drop-in Tee Bar
4	605279P	Washer

Item	Part Number	Description
5	920620M	Socket Head Screw, M6 - 1.00 x 20 mm
6	960692M	Low Head Cap Screw, M6 - 1.00 x 12 mm

Mounting Brackets for 1.5 - 2' (457 - 610 mm) End Drive Conveyors & 2 - 2.5' (610 - 762 mm) Mid Drive Conveyors

			5		5
Item	Part Number	Description	Item	Part Number	Description
1	202303	Connector Bar	5	605279P	Washer
			6	000600M	Cashat Lland Caravy MC 100 yr 00 mm
2	202304	2' Stand Mount Left Hand	0	920620M	Socket Head Screw, M6 - 1.00 x 20 mm

2200 Series Precision	Move Conveyors
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7

960692M

202305

639971M

2' Stand Mount Right Hand

Drop-in Tee Bar

3

4

Low Head Cap Screw,

M6 - 1.00 x 12 mm

Cleated Belt Connecting Assembly with Stand Mount



Item	Part Number	Description	Item	Part Number	Description
1	240836	Cleated Stand Bracket	5	920620M	Socket Head Screw M6 x 20mm
2	807-920	Square Nut M6 5mm x 10mm	6	920693M	Socket Low Head Screw M6 x 16mm
3	605279P	Washer	7	240863	Cleated Belt Connecting Assembly
4	240858	Frame Connector Bar			with Stand Mounts

2" (51mm) to 6" (152mm) Flat Belt Return Roller



Item	Part Number	Description	Item	Part Number	Description
1	240825	Return Roller Guard - Short	5	920693M	Socket Low Head Screw M6 x 16mm
2	240827	Return Roller Clip	6	240840	Roller Assembly (Includes Items 1, 3
3	802-027	Bearing			and 4)
4	913-100	Dowel Pin	7	240830	2" (51mm) to 6" (152mm) Flat Belt Return Roller Assembly
	•				Return Roller Assembly

8" (203mm) to 24" (610mm) Flat Belt Return Roller



Item	Part Number	Description	Item
1	240826	Return Roller	5
D			6
2	240827	Return Roller Clip	
3	2409 <u>WW</u>	Return Roller Guard	<u>WW</u> .=
4	2410 <u>WW</u>	Return Roller Rod	

Item	Part Number	Description		
5	920693M	Socket Low Head Screw M6 x 16mm		
6	2408 <u>WW</u> 8" (203mm) to 24" (610mm) Flat Belt			
	Return Roller Assembly			
<u>WW</u> .=	Conveyor width ref	Conveyor width ref.: 02, 03, 04, 05, 08, 12, 18, 24		

Cleated Belt Return Roller



Item	Part Number	Description
1	240825	Return Roller Guard, for 2" - 8" Wide Conveyors
	240855	Return Roller Guard, for 12" - 24" Wide Conveyors
2	240828	Cleated Return Roller Clip
3	802-027	Bearing
4	913-100	Dowel Pin, for 2" - 8" Wide Conveyors
	913-108	Dowel Pin, for 12" - 24" Wide Conveyors

Item	Part Number	Description	
5	920693M	Socket Low Head Screw M6 x 16mm	
6 D	240840	Roller Assembly, for 2" - 8" Wide Conveyors (Includes Items 1, 3 and 4)	
	240857	Roller Assembly, for 12" - 24" Wide Conveyors (Includes Items 1, 3 and 4)	
7	240832	Cleated Belt Return Roller Assembly for 2" - 8" Wide Conveyors	
	240856	Cleated Belt Return Roller Assembly for 12" - 24" Wide Conveyors	

Conveyor Belt Part Number Configuration



Figure 77

Flat Belt Part Number Configuration

Refer to Dorner patent plate (Figure 77). From the model number, determine conveyor width ("WW"), length ("LLLL") and belt type ("BB"). Use data to configure belt part number as indicated below.

22T - WW LLLL / BB



Cleated Belt Part Number Configuration

Refer to Dorner patent plate (Figure 77). From the model number, width ("WW"), length ("LLLL"), cleat type ("C") and cleat spacing ("SSSS"). Use data to configure belt part number as indicated below.

24T - WW LLLL C SSSS

24T – /
(Fill In)

Notes

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.

Conveyors and conveyor accessories

Standard catalog conveyors	30%
MPB, 7200, 7300 Series, cleated and specialty belt	50%
AquaGard & AquaPruf Series conveyors	non-returnable items
Engineered to order products	case by case
Drives and accessories	30%
Sanitary stand supports	non-returnable items

Parts Standard stock parts Plastic chain, 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.

30%

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.



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