2200 Precision Move Pallet System Accessories

Installation, Maintenance & Parts Manual

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www.dornerconveyors.com/manuals-literature

Record Conveyor Serial Number Here

851-800 Rev. C

Table of Contents

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

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

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.

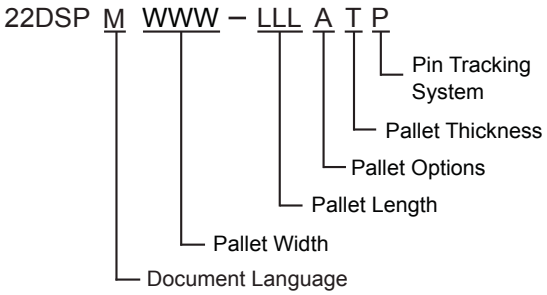
⚠ WARNING

Loosening stand height or angle adjustment screws may cause conveyor sections to drop down, causing severe injury.

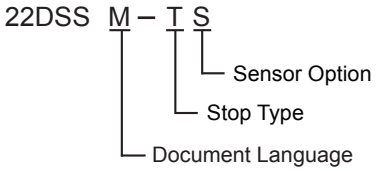
SUPPORT CONVEYOR SECTIONS PRIOR TO LOOSENING STAND HEIGHT OR ANGLE ADJUSTMENT SCREWS.

Accessories:

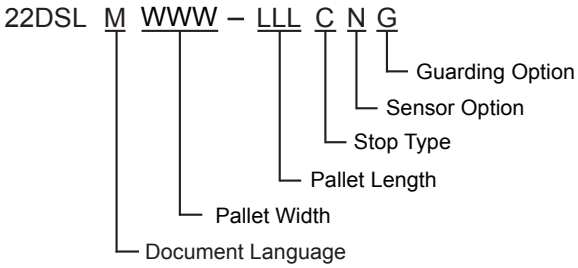
Pallets



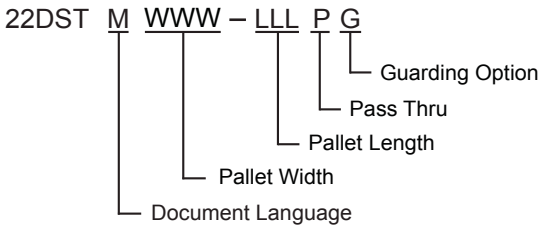
Pallet Stops



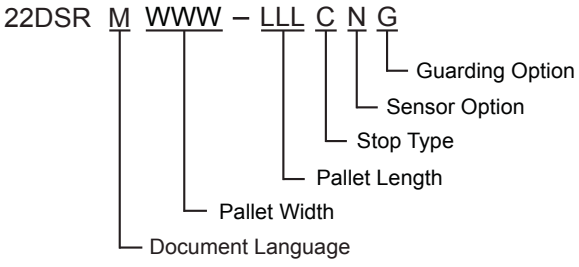
Lift and Locate Station



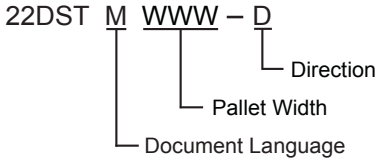
Lift and Transfer Station



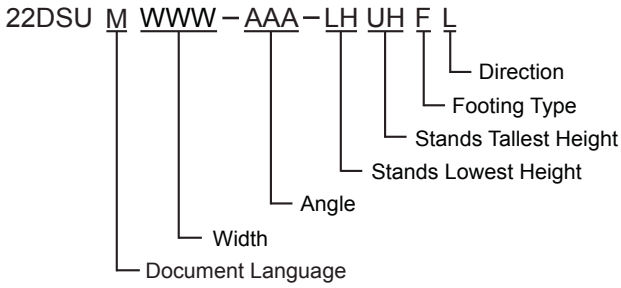
Lift and Rotate Station



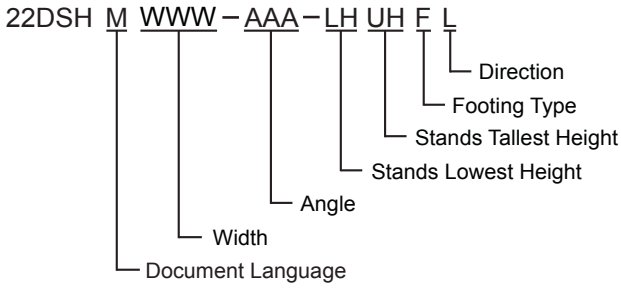
90° Corner



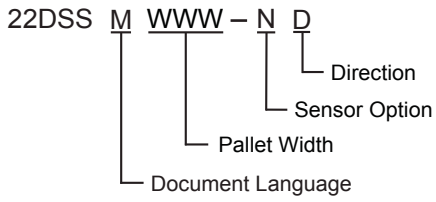
180° Corner



Heavy Load 90° and 180° Corners



90° Corner and Merge



Specifications

Fastener Torque Specifications

	Flat Head		Socket Head		Button/Low Head		Set Screw	
	Size	**Torque**	**Size**	**Torque**	**Size**	**Torque**	**Size**	**Torque**
M4 x 0.7	2.5 mm	3.4 Nm (30 in lbs)	3 mm	5.9 Nm (52 in lbs)	2.5 mm	2.9 Nm (26 in lbs)	2 mm	2.1 Nm (19 in lbs)
M5 x 0.8	3 mm	6.9 Nm (61 in lbs)	4 mm	12.0 Nm (106 in lbs)	3 mm	5.9 Nm (52 in lbs)	2.5 mm	4.7 Nm (42 in lbs)
M6 x 1.0	4 mm	12.0 Nm (106 in lbs)	5 mm	20.3 Nm (180 in lbs)	4 mm	10.0 Nm (89 in lbs)	3 mm	7.7 Nm (68 in lbs)
M8 x 1.25	5 mm	28.0 Nm (248 in lbs)	6 mm	48.8 Nm (432 in lbs)	5 mm	24.0 Nm (212 in lbs)	4 mm	17.8 Nm (158 in lbs)
M10 x 1.5	6 mm	56.0 Nm (496 in lbs)	8 mm	97.5 Nm (863 in lbs)	6 mm	48.0 Nm (425 in lbs)	5 mm	35.0 Nm (310 in lbs)

Required Tools

- .050" hex wrench
- 2 mm hex wrench
- 3 mm hex wrench
- 5 mm hex wrench
- 6 mm hex wrench
- 8 mm wrench
- 12 mm wrench
- 13 mm wrench
- 17 mm wrench
- 19 mm wrench
- T20 torque wrench
- Flat blade screw driver
- Pliers
- Rubber mallet
- Spanner Wrench

Conveyor Tie Brackets

1. Install twist-in studs **(Figure 1, item 1)** into conveyor channels **(Figure 1, item 2)**. Install tie bracket **(Figure 1, item 3)** over studs.

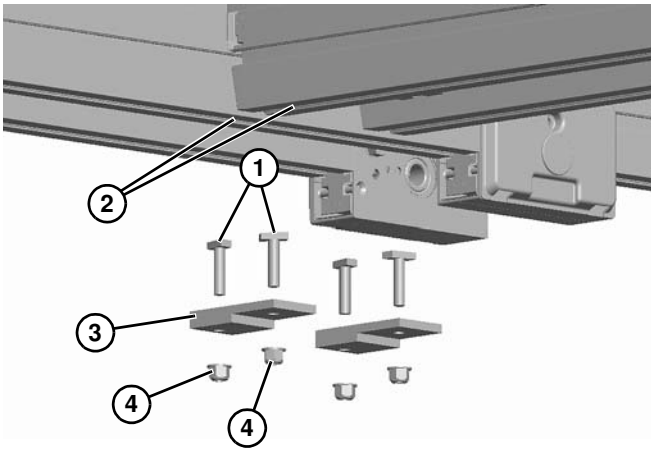


Figure 1

NOTE
Make sure that the stud(s) rotate inside the channel and engage with the conveyor.

2. Thread lock nuts **(Figure 1, item 4)** onto studs and tighten.
3. Repeat for opposite conveyors.

Pallets

1. Place pallet **(Figure 2, item 1)** on conveyor belts **(Figure 2, item 2)**.

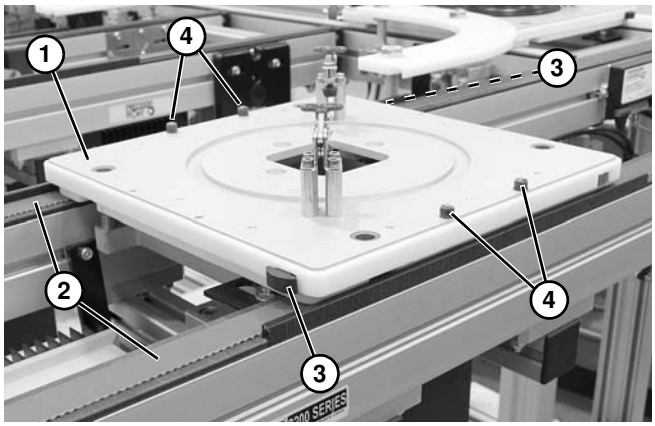


Figure 2

2. Make sure that the bumpers **(Figure 2, item 3)** are facing in the direction of travel over the belts. Make sure that the roller pins **(Figure 2, item 4)** are towards the outside of the conveyor rail.

Pallet Stops

1. Install cam follower nuts **(Figure 3, item 1)** into conveyor channel.

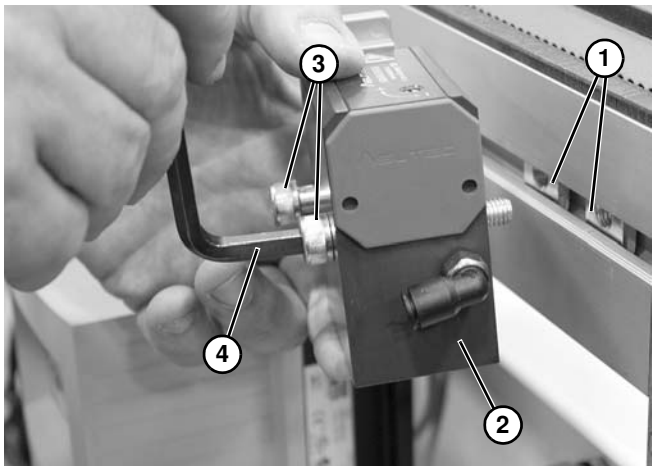


Figure 3

2. Install pallet stop **(Figure 3, item 2)** to conveyor using socket head screws **(Figure 3, item 3)**. Tighten screws with hex wrench **(Figure 3, item 4)**.

Installation

Pneumatic and Control Logic Suggestions

Recommended Pneumatics

Dorner recommends using a 3 port, 2 way solenoid valve **(Figure 4)** to operate Pallet Stops.

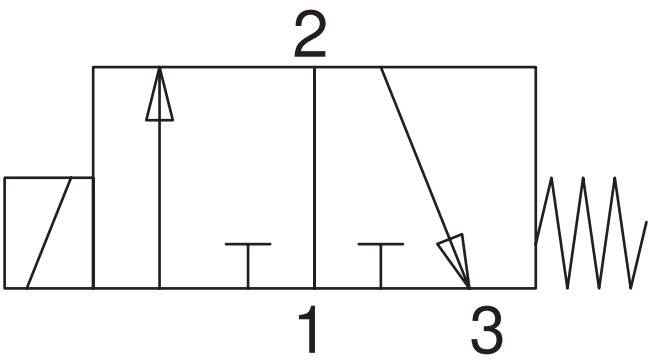


Figure 4

Attaching and Operations of Pneumatics

1. Connect the solenoid to the stop. Dorner fittings **(Figure 5, item 1)** accept 1/4" outside diameter tubing standard **(Figure 5, item 2)**.

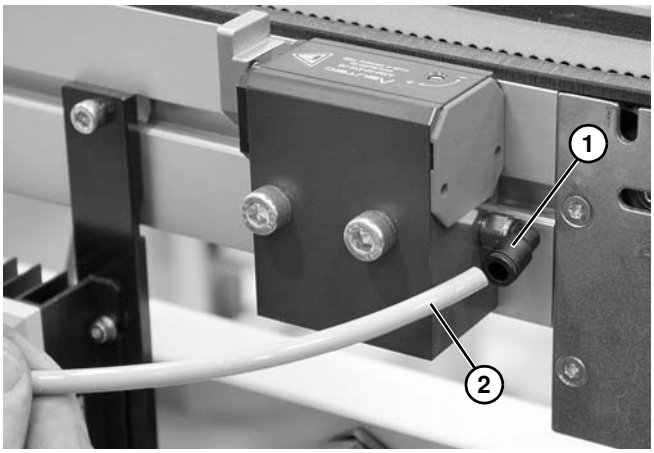


Figure 5

2. Stops release when air is supplied to the stop. The stops only need to be released long enough for the leading pallet skirt to clear the stop.

Sensor Installation and Basic Logic

2 Options:

- Bottom Mount Sensor
- Side Mount Sensor

Optional bottom mount **(Figure 6, item 1)** or side mount **(Figure 6, item 2)** sensor brackets can be used to mount a 12 mm barrel proximity sensor **(Figure 6, item 3)**.

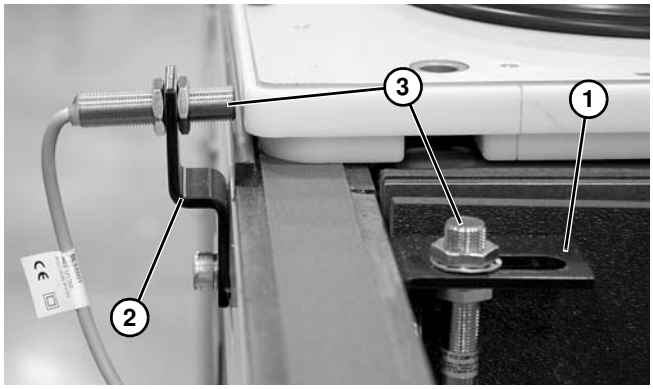


Figure 6

- On an in-frame stop, two bottom **(Figure 7, item 1)** and two side flags **(Figure 7, item 2)** (when bumpers are not installed) can be used for sensing.

Figure 7

- Use proximity sensor to detect pallet located at the stop.
- The stop can reset after a short delay when the proximity sensor signal clears.
- Stop only has to be released long enough to clear pallet skirt that was stopped. Notches **(Figure 7, item 3)** in skirt allow for continued travel either before stop when stop placed on the right conveyor (stop is catching on trailing skirt) or after stop when stop is placed on left conveyor (stop is catching on leading skirt).

Optional Sensors

1. Install cam follower nut **(Figure 8, item 1)** into conveyor channel.

Figure 8

2. Install bottom mount bracket **(Figure 9, item 1)** and/or side mount bracket **(Figure 10, item 1)** with socket head screw **(Figure 9, item 2)** or **(Figure 10, item 2)**.

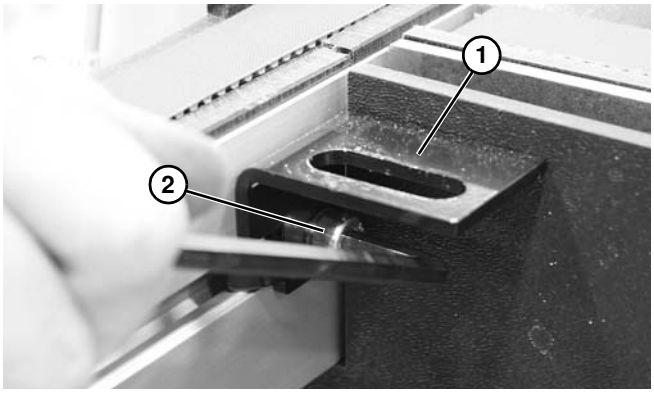


Figure 9

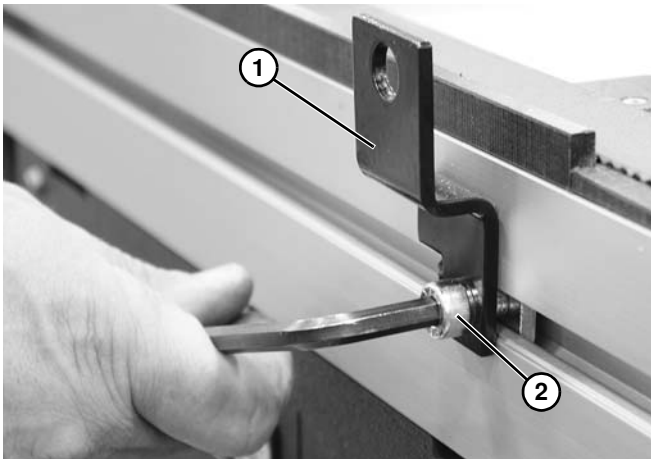


Figure 10

3. Loosen hex nuts **(Figure 11, item 1)** or **(Figure 12, item 1)** securing sensor to bracket.

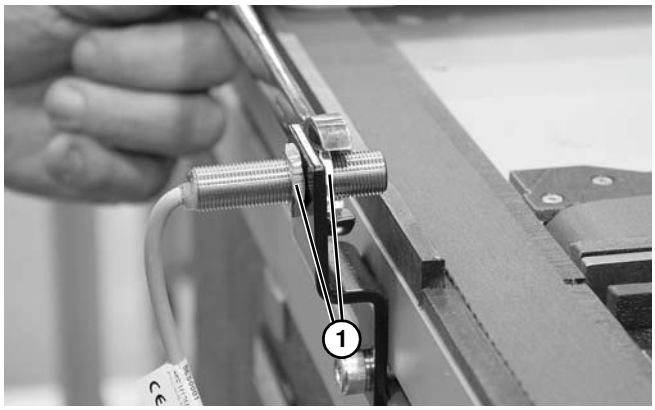


Figure 11

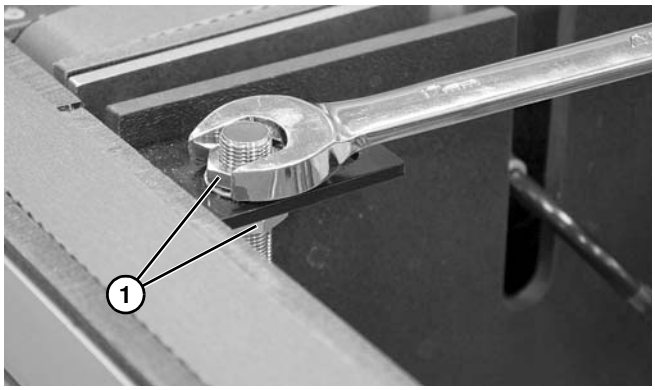


Figure 12

4. Adjust sensors **(Figure 13, item 1)** in/out or up/down to maintain clearance between pallet **(Figure 13, item 2)** and sensor.

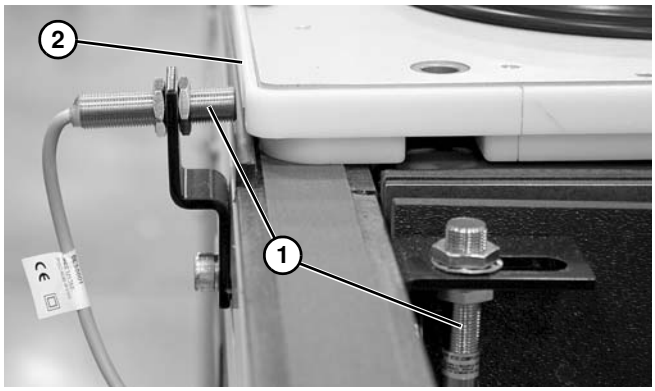


Figure 13

5. Tighten nuts.

Installation

Lift and Locate Station

1. Raise lift and locate station **(Figure 14, item 1)** into postion from under the conveyor, lining up bolts **(Figure 14, item 2)** with follower nuts in conveyor channel.

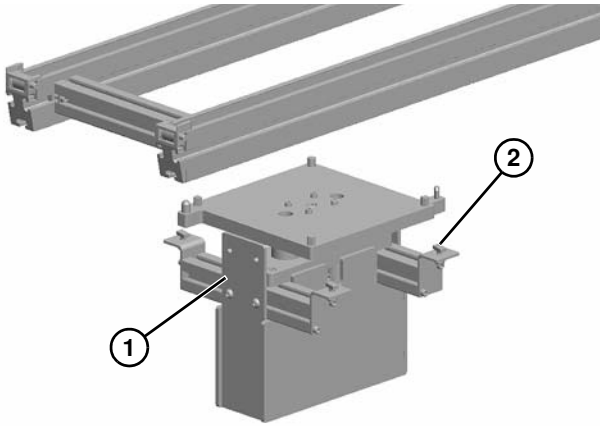


Figure 14

2. Tighten bolts **(Figure 15, item 1)** to follower nuts **(Figure 15, item 2)** inside channel.

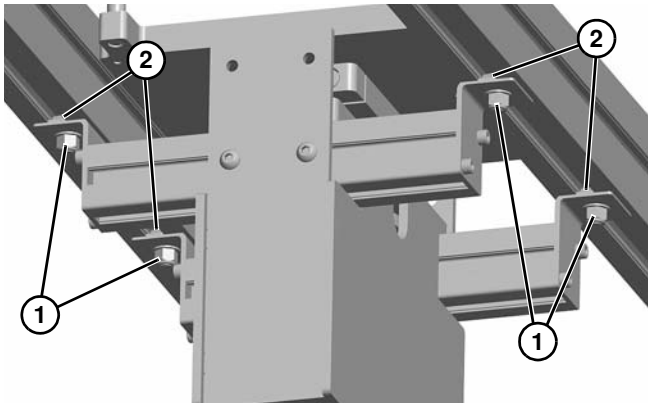


Figure 15

3. Place pallet **(Figure 16, item 1)** on lift and locate top plate **(Figure 16, item 2)**. Raise top plate to underside of pallet.

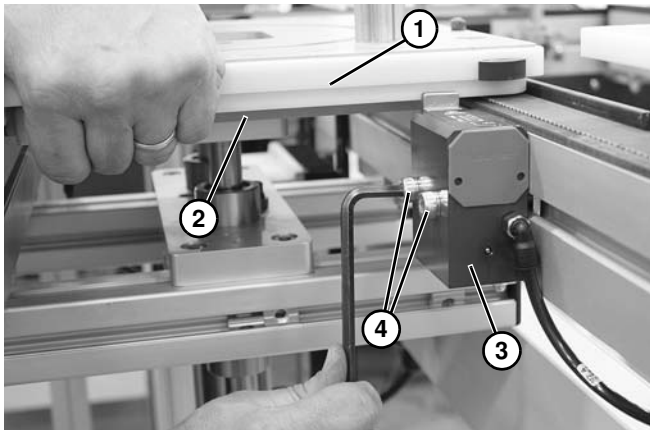


Figure 16

4. Install pallet stop **(Figure 16, item 3)**. See“Pallet Stops” on page 7.
5. Position stop against pallet and tighten socket head screws **(Figure 16, item 4)**.

Stroke Sensing Adjustment

1. To adjust cylinder stroke sensors, loosen set screw **(Figure 17, item 1)** and move sensor **(Figure 17, item 2)** up or down in channel **(Figure 17, item 3)**. Tighten set screw.

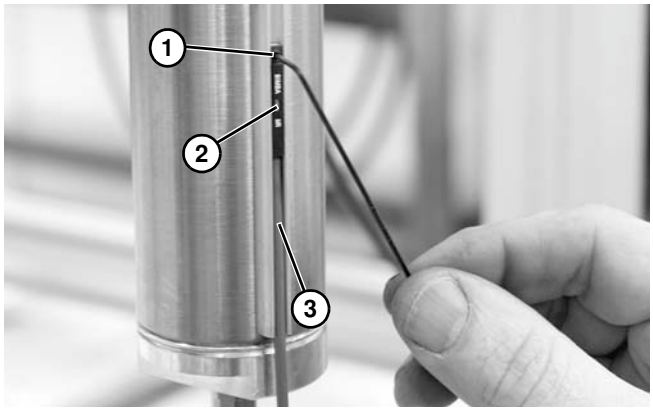


Figure 17

Stroke Adjustment

1. To adjust stroke, loosen screws **(Figure 18, item 1)** on bottom plate **(Figure 18, item 2)**.

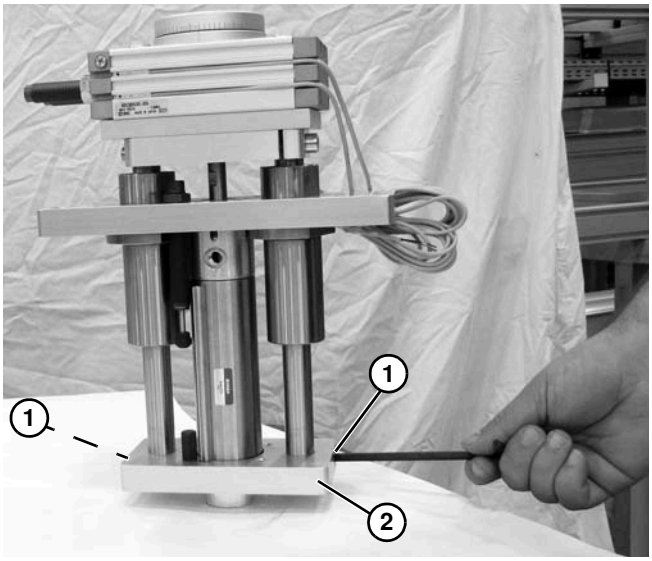


Figure 18

2. Raise or lower bottom plate **(Figure 19, item 1)**.

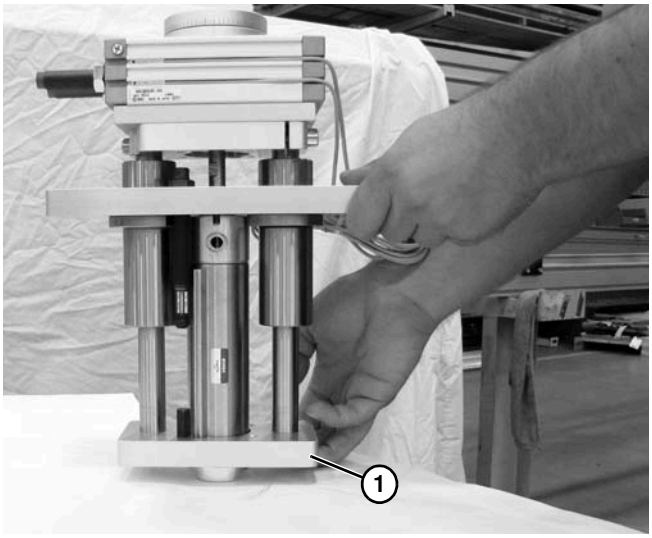


Figure 19

3. Tighten screws.

Optional Guard Kit

4. Install cam follower nuts **(Figure 20, item 1)** into mounting tube **(Figure 20, item 2)**. Repeat for opposite mounting tube.

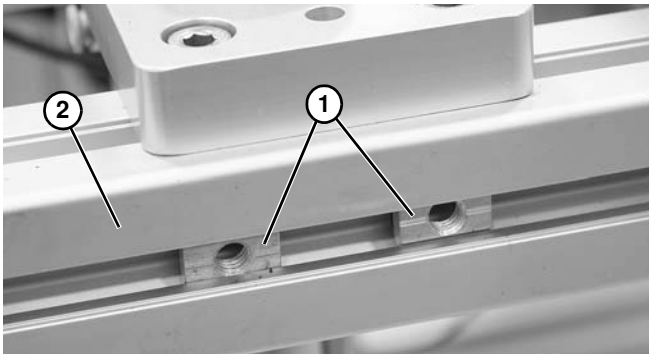


Figure 20

5. Install guard kit **(Figure 21, item 1)** with button head screws **(Figure 21, item 2)** on both sides.

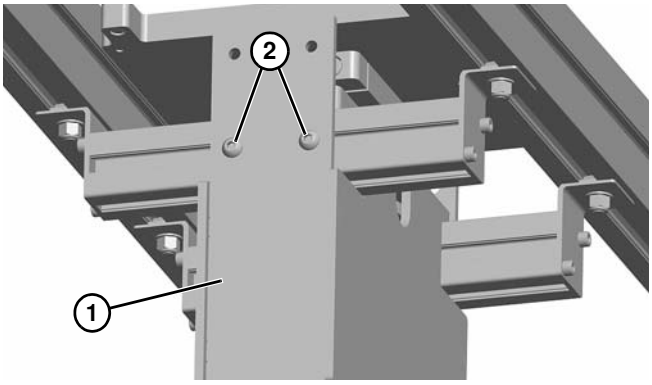


Figure 21

Pneumatic and Control Logic Suggestions

Recommended Pneumatics

Dorner recommends using a 3 port, 2 way solenoid valve **(Figure 22)** to operate the Lift and Locate Stop.

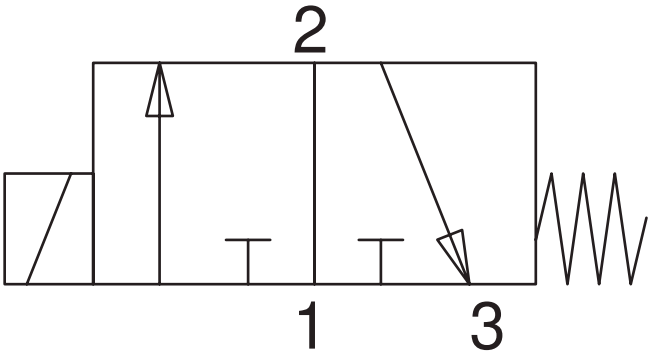


Figure 22

Dorner recommends using a 5 port, 2 way solenoid valve **(Figure 23)** to operate the Lift and Locate Pallet Unit.

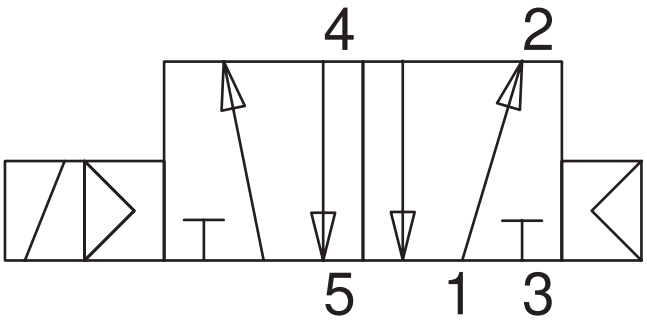


Figure 23

Attaching and Operations of Pneumatics

1. Connect the 3 port, 2 way solenoid valve to the stop. Dorner fittings **(Figure 24, item 1)** accept 1/4" outside diameter tubing standard **(Figure 24, item 2)**.

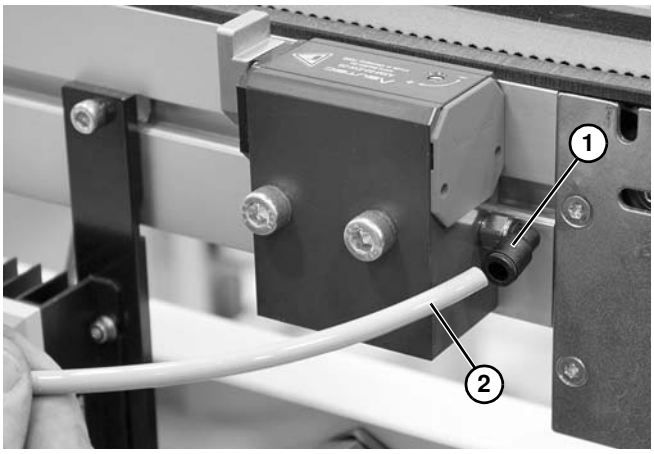


Figure 24

2. Stops release when air is supplied to the stop and only needs to be released long enough for the leading pallet skirt to clear the stop.
3. Connect Port 4 **(Figure 23)** of the 5 port, 2 way solenoid to the lowest port **(Figure 25, item 1)** on the lift. Dorner fittings accept 1/4" outside diameter tubing standard.

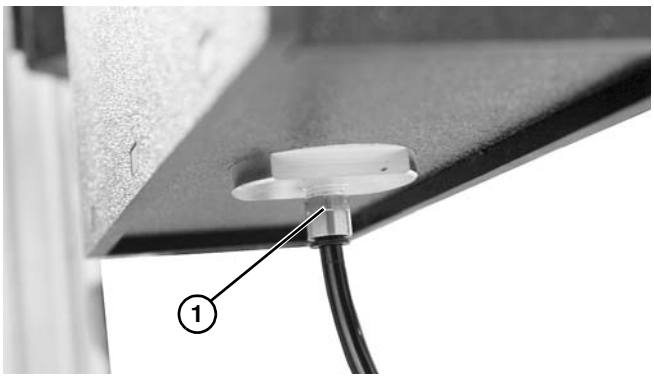


Figure 25

4. Connect Port 2 **(Figure 23)** of the 5 port, 2 way solenoid to the upper port **(Figure 26, item 1)** on the lift. Dorner fittings accept 1/4" outside diameter tubing standard.

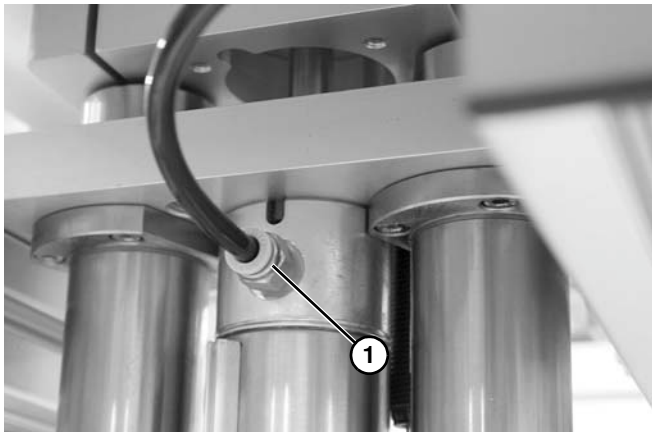


Figure 26

- The lift raises when air is supplied to the lowest port of the lift and the upper port is allowed to exhaust.
- The lift lowers when air is supplied to the upper port of the lift and the lower port is allowed to exhaust.

Sensor Installation and Basic Logic

Optional bottom mount **(Figure 27, item 1)** or side mount **(Figure 27, item 2)** sensor brackets can be used to mount a 12 mm barrel proximity sensor **(Figure 27, item 3)**. See“Optional Sensors” on page 9.

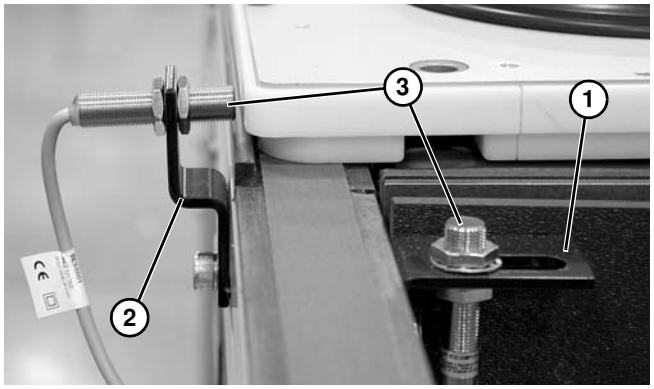


Figure 27

- One bottom **(Figure 28, item 1)** and two side flags **(Figure 28, item 2)** (when bumpers are not installed) can be used for sensing.

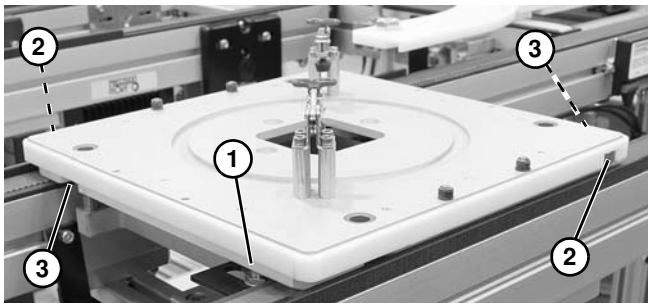


Figure 28

- Use proximity sensor to detect pallet located at the stop.
- The stop can reset after a short delay when the proximity sensor signal clears.
- Stop only has to be released long enough to clear pallet skirt that was stopped. Notches **(Figure 28, item 3)** in skirt allow stop to be reset before pallet clears stop area.

Lift and Transfer Station

1. Raise lift and transfer station **(Figure 29, item 1)** into postion from under the conveyor, lining up T-nuts with conveyor channel.

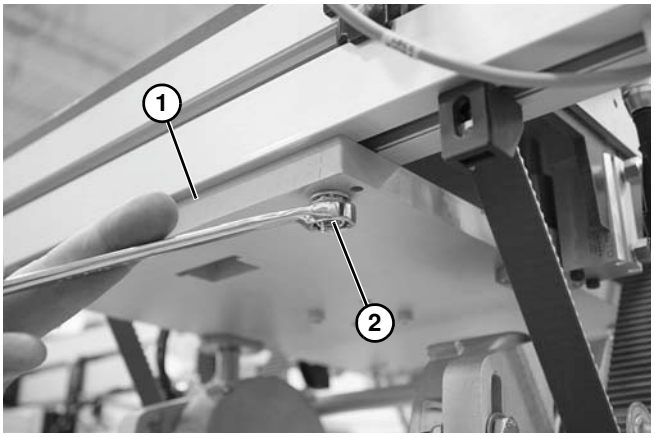


Figure 29

2. Tighten bolts **(Figure 29, item 2)** to secure lift and transfer station to conveyor.

Optional Guard Kit

1. Insert mounting block **(Figure 30, item 1)** into conveyor channel **(Figure 30, item 2)** on both sides of lift and transfer station. Repeat for opposite conveyor.

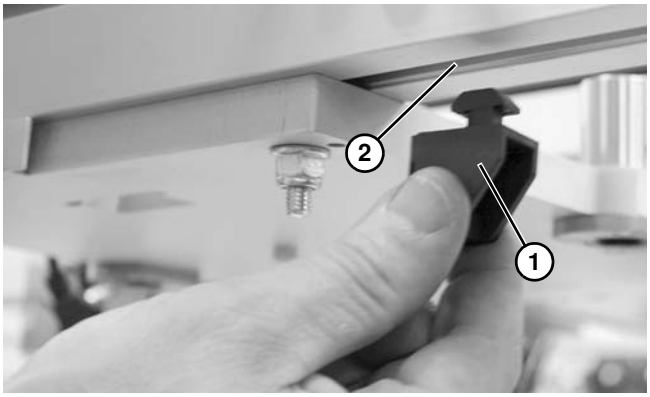


Figure 30

2. Rotate mounting blocks so that slot with nut **(Figure 31, item 1)** faces out.

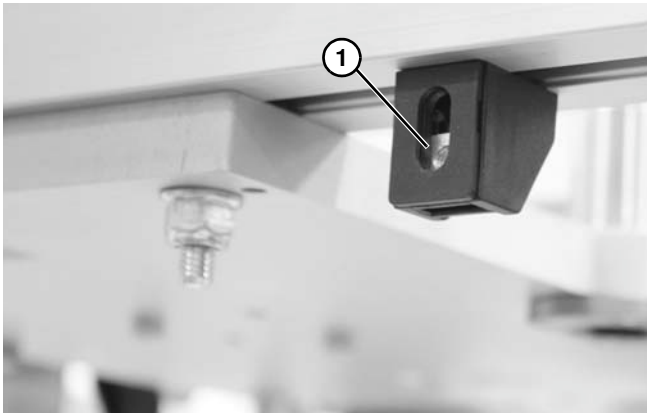


Figure 31

3. Install guard kit **(Figure 32, item 1)** with button head screws **(Figure 32, item 2)** on both sides. Tighten screws with hex wrench **(Figure 32, item 3)**.

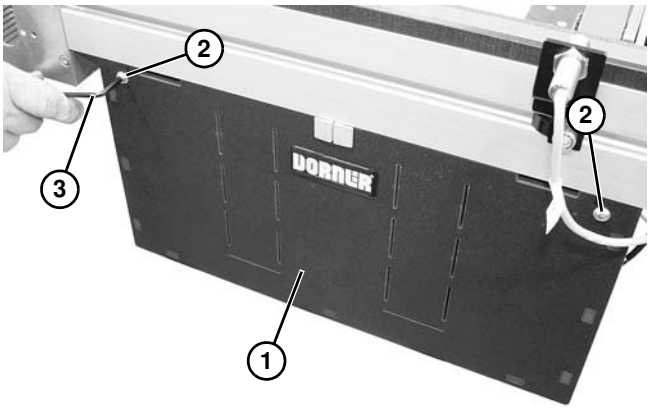


Figure 32

Lift and Transfer

Recommended Pneumatics

Sending Lift and Transfer with Non-Cushion Stop

Dorner recommends using a 5 port, 3 way, exhaust center solenoid valve **(Figure 33)** to operate unit.

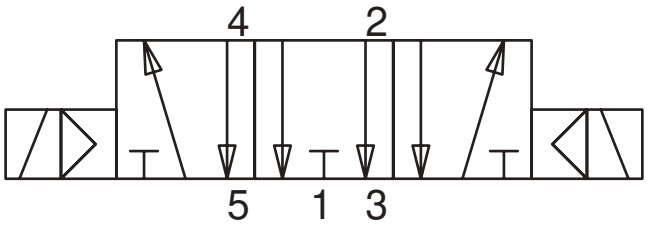


Figure 33

1. Connect port 4 **(Figure 33)** of the 5 port, 3 way valve to the lower port **(Figure 34, item 1)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.

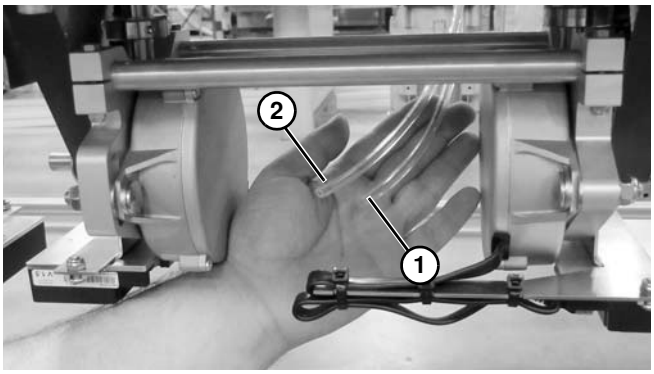


Figure 34

2. Connect port 2 **(Figure 33)** of the 5 port, 3 way valve to the top port **(Figure 34, item 2)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.

Operating of pneumatics

1. Allowing both ports of the lift to exhaust will place the lift in the neutral position. Pallet entering the lift will be stopped by the stop plate.
2. Supplying air to the low port on the cylinder while allowing the top port to exhaust will raise the lift to the transfer level.
3. Supplying air to the top port on the cylinder while allowing the low port to exhaust will lower the lift so a pallet can bypass it.

Sending Lift and Transfer with Cushion Stop

Dorner recommends using a 5 port, 3 way, exhaust center solenoid valve **(Figure 35)** to operate unit.

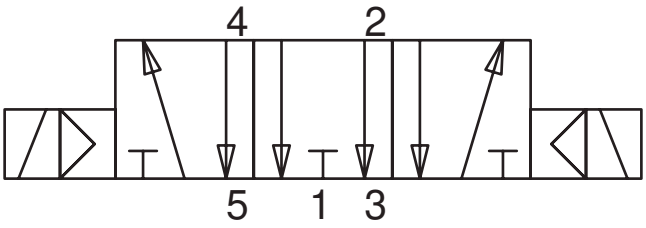


Figure 35

Dorner recommends using a 3 port, 2 way solenoid valve **(Figure 36)** to operate cushion reset.

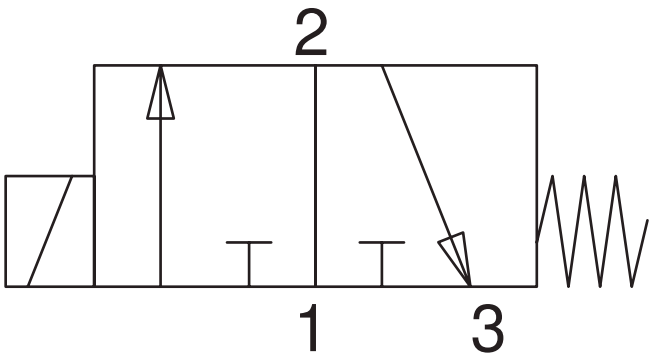


Figure 36

1. Connect port 4 **(Figure 35)** of the 5 port, 3 way valve to the lower port **(Figure 37, item 1)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.

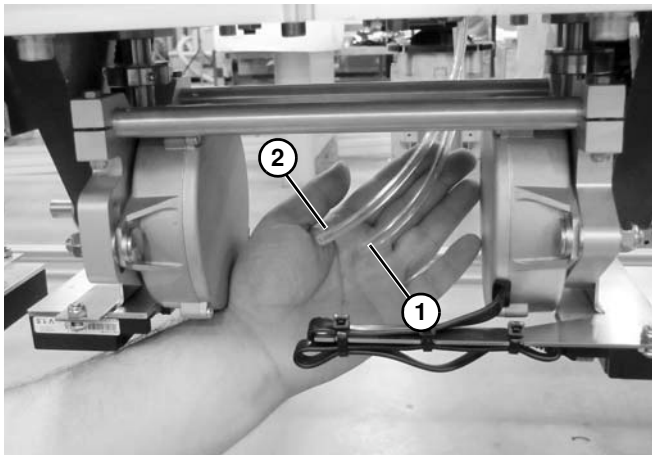


Figure 37

2. Connect port 2 **(Figure 35)** of the 5 port, 3 way valve to the top port **(Figure 37, item 2)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.

3. Connect port 2 **(Figure 36)** of the 3 port, 2 way valve to the cushion reset port **(Figure 38, item 1)**.

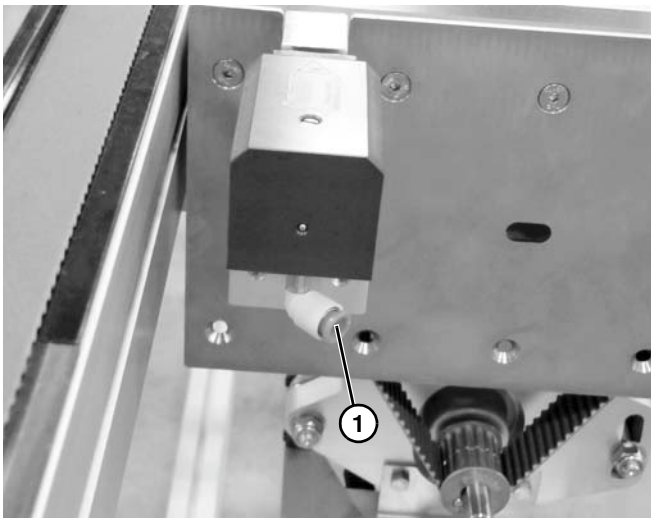


Figure 38

Operating of pneumatics

1. Allowing both ports of the lift to exhaust will place the lift in the neutral position. Pallet entering the lift will be stopped by the stop plate.
2. Supplying air to the low port on the cylinder while allowing the top port to exhaust will raise the lift to the transfer level.
3. Supplying air to the top port on the cylinder while allowing the low port to exhaust will lower the lift so a pallet can bypass it.
4. Supplying air to the cushion will extend the cushion arm. Allowing the port to exhaust will allow the cushion arm to depress when external forces are applied to it.

Receiving Lift and Transfer

Dorner recommends using a 5 port, 2 way, solenoid valve **(Figure 39)** to operate unit.

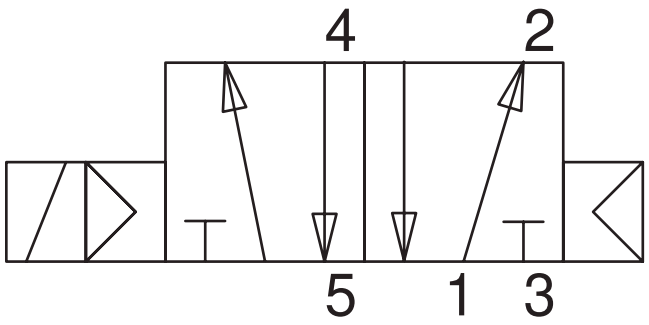


Figure 39

1. Connect port 4 **(Figure 39)** of the 5 port, 2 way valve to the lower port **(Figure 40, item 1)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.

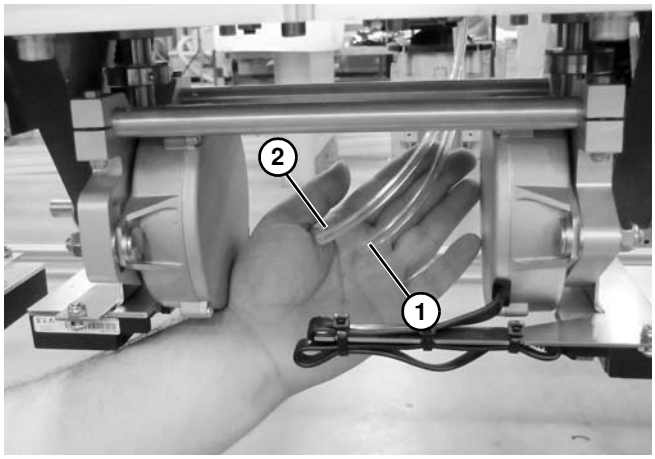


Figure 40

2. Connect port 2 **(Figure 39)** of the 5 port, 2 way valve to the top port **(Figure 40, item 2)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.

Operating of pneumatics

1. Supplying air to the low port on the cylinder while allowing the top port to exhaust will raise the lift to the transfer level.
2. Supplying air to the top port on the cylinder while allowing the low port to exhaust will lower the lift.

Installation

Motor/Driver Wiring

Wire +24 DC **(Figure 41, item 1)** and DC ground **(Figure 41, item 2)** to the driver's power plug.

To run both motors with the belts traveling in the same direction wire an PNP input to Smart input 1 **(Figure 41, item 3)** on one drive and Smart input 2 **(Figure 41, item 4)** on the other drive.

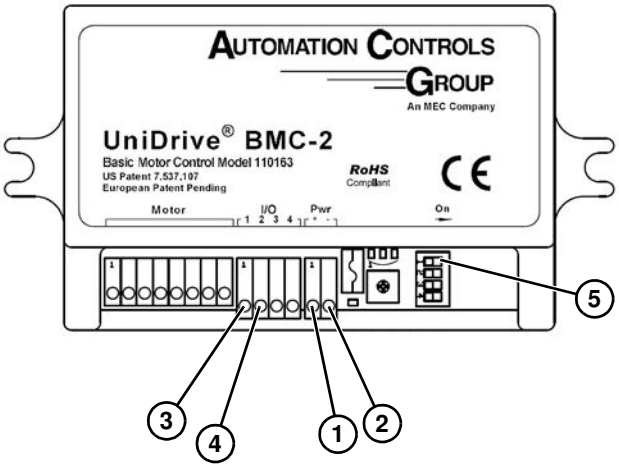


Figure 41

To reverse direction:

- Dynamically, wire a 2nd PNP input to the open smart inputs. Only one Smart input per drive can be active at a time.
- One time, switch state of dip switch 1 **(Figure 41, item 5)** on the driver board. Dip Switches are only read at start up. After a change is made, cycle power to the unit.

Speed control is fixed using dip switches 2-4 per the table below (speed in RPM.) Dip Switches are only read at start up. After a change is made, cycle power to the unit.

SW2	SW3	SW4	Speed (RPM of Motor)	Belt Speed
Off	Off	Off	350	126
Off	Off	On	315	114
Off	On	Off	280	101
Off	On	On	245	88
On	Off	Off	210	76
On	Off	On	175	63
On	On	Off	140	51
On	On	On	105	38

Please reference **UniDrive® Basic Motor Control – Generation II "BMC-2" Guide to Installation and Use** for any drive troubleshooting.

Sensor Installation and Basic Logic

The Lift and Transfer unit only allows for sensing at the sides of the pallet. Sensing can be done from under the pallet before unit, though a delay will need to be programed in before allowing the lift to operate. Dorners side mount sensor brackets **(Figure 42, item 1)** can be used to mount a 12 mm barrel proximity sensor **(Figure 42, item 2)**. See"Optional Sensors" on page 9.

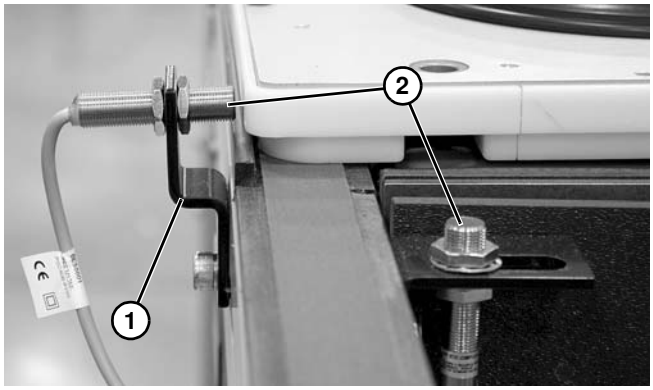


Figure 42

- The layout of the overall system will ultimately determine which side sensor flag **(Figure 43, item 1)** to use.

Figure 43

- Use proximity sensor to detect pallet located at the stop.
- It is recommend that the BLDC motors be signaled to run before the lift action occurs.
- Raise the lift and use a downstream bottom or side mount proximity sensor to signal that the pallet is off the lift.
- When passing over the transfer, the optional blade stop cannot raise up until the pallet has completely cleared.

Receiving Lift and Transfer Cushion Stop

Recommended Pneumatics

Dorner recommends using a 3 port, 2 way solenoid valve **(Figure 44)** to operate cushion reset.

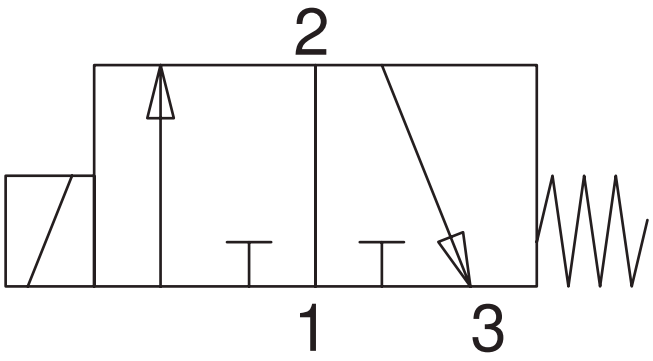


Figure 44

1. Connect port 2 **(Figure 44)** of the 3 port, 2 way valve to the cushion reset port **(Figure 45, item 1)**.

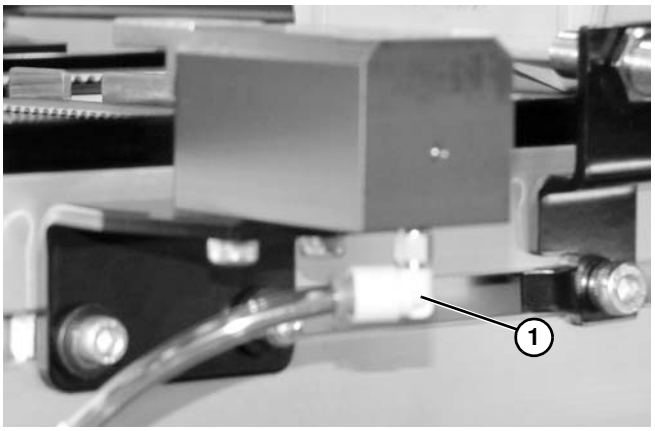


Figure 45

Operating of pneumatics

1. Supplying air to the cushion will extend the cushion arm. Allowing the port to exhaust will allow the cushion arm to depress when external forces are applied to it.

Receiving Lift and Transfer Cushion Flow-through Stop

Recommended Pneumatics

Dorner recommends using a 5 port, 2 way solenoid valve **(Figure 46)** to operate stop height.

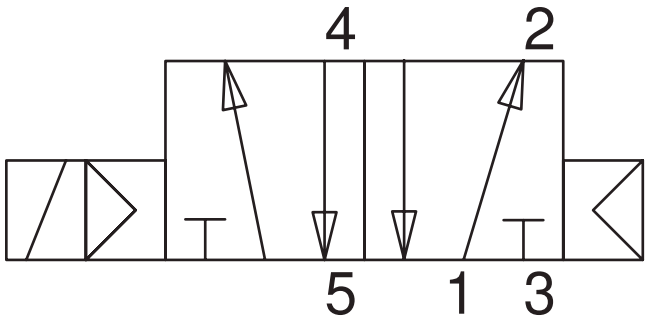


Figure 46

Dorner recommends using a 3 port, 2 way solenoid valve **(Figure 47)** to operate cushion reset.

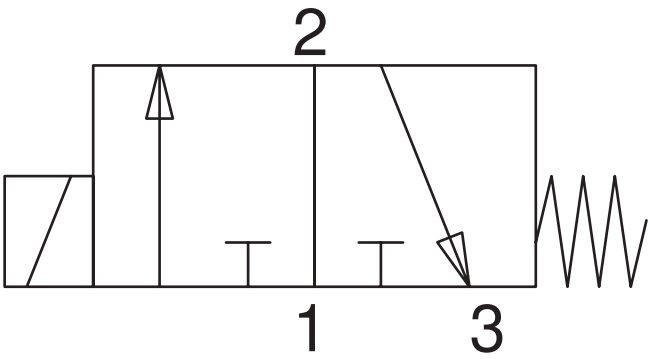


Figure 47

1. Connect port 4 **(Figure 46)** of the 5 port, 2 way valve to the lower port **(Figure 48, item 1)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard

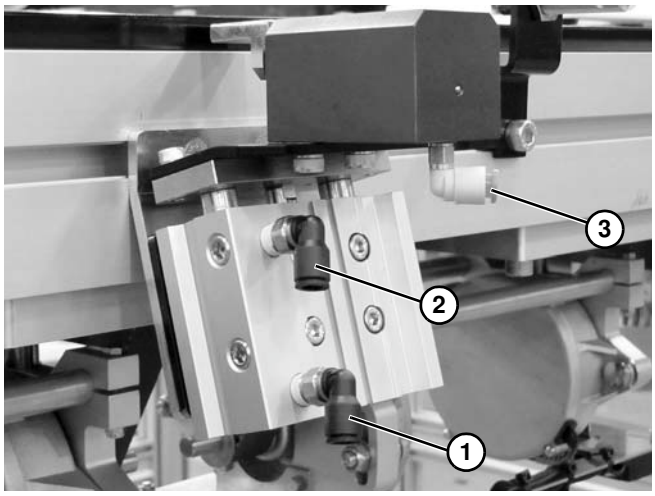


Figure 48

2. Connect port 2 **(Figure 46)** of the 5 port, 2 way valve to the top port **(Figure 48, item 2)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.
3. Connect port 2 **(Figure 47)** of the 3 port, 2 way valve to the cushion reset port **(Figure 48, item 3)**.

Operating of pneumatics

1. Supplying air to the low port on the lift cylinder while allowing the top port to exhaust will raise the stop to the transfer level.
2. Supplying air to the top port on the cylinder while allowing the low port to exhaust will lower the stop below the conveyor frame allowing a pallet with a bumper to flow through the lift and transfer zone.

⚠ CAUTION

Be sure the cushion is fully depressed before allowing lift to lower the stop.

3. Supplying air to the cushion will extend the cushion arm. Allowing the port to exhaust will allow the cushion arm to depress when external forces are applied to it.

Receiving Lift and Transfer Non-Cushion Flow-Through Stop

Recommended Pneumatics

Dorner recommends using a 5 port, 2 way solenoid valve **(Figure 49)** to operate stop height.

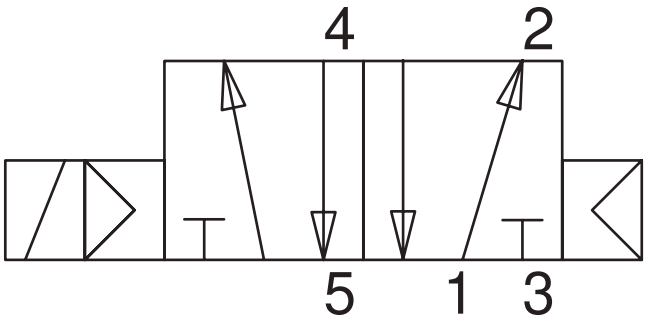


Figure 49

1. Connect port 4 **(Figure 49)** of the 5 port, 2 way valve to the lower port **(Figure 50, item 1)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.

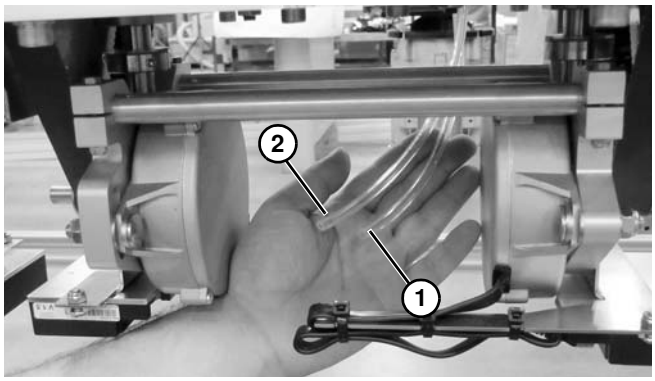


Figure 50

2. Connect port 2 **(Figure 49)** of the 5 port, 2 way valve to the top port **(Figure 50, item 2)** on the lift. Dorner fittings accept ¼" outside diameter tubing standard.

Operating of pneumatics

1. Supplying air to the low port on the lift cylinder while allowing the top port to exhaust will raise the stop to the transfer level.
2. Supplying air to the top port on the cylinder while allowing the low port to exhaust will lower the stop below the conveyor frame allowing a pallet with a bumper to flow through the lift and transfer zone.

Lift and Rotate Station

1. Remove lift and rotate plate **(Figure 51, item 1)**.

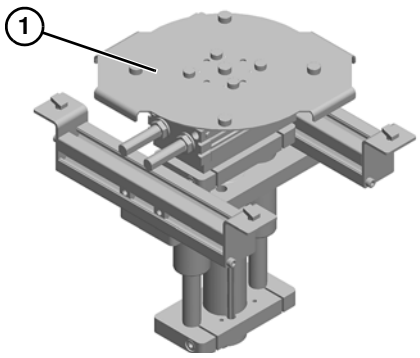


Figure 51

2. Raise lift and rotate station **(Figure 52, item 1)** into postion from under the conveyor, lining up bolts **(Figure 52, item 2)** with follower nuts in conveyor channel.

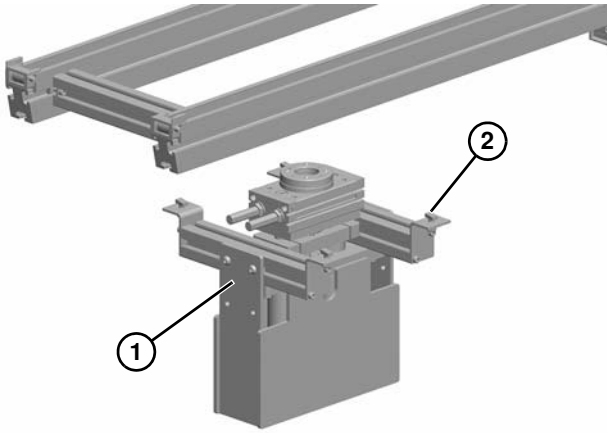


Figure 52

3. Tighten bolts **(Figure 53, item 1)** to follower nuts **(Figure 53, item 2)** inside channel.

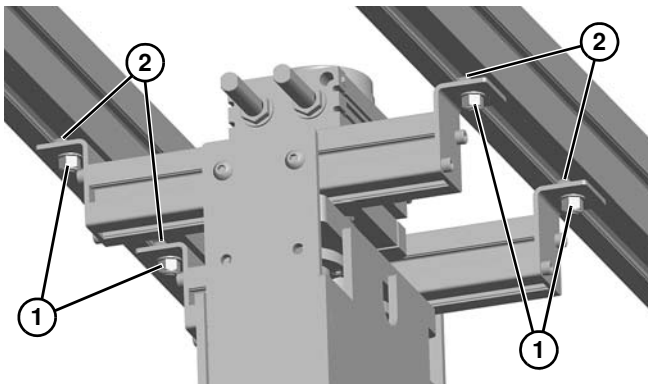


Figure 53

4. Place lift and rotate plate **(Figure 54, item 1)** back onto lift assembly.

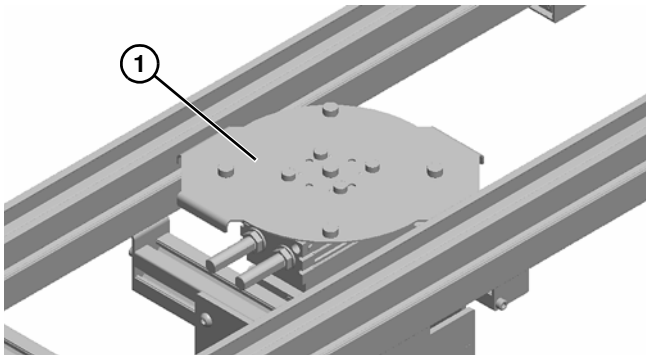


Figure 54

5. Place pallet **(Figure 55, item 1)** on lift and rotate plate **(Figure 55, item 2)**. Raise top plate to underside of pallet.

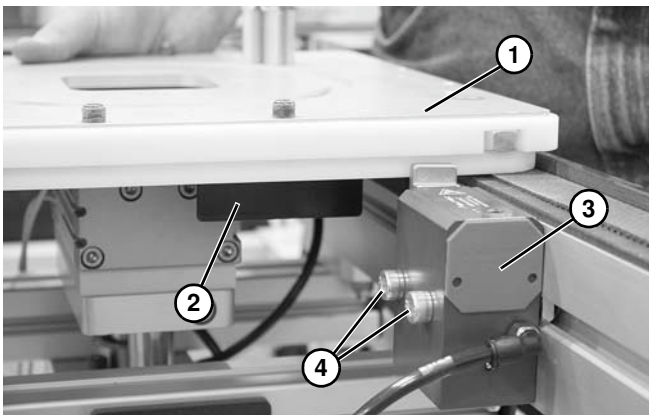


Figure 55

6. Install pallet stop **(Figure 55, item 3)**. See“Pallet Stops” on page 7.
7. Position stop against pallet and tighten socket head screws **(Figure 55, item 4)**.
8. Install optional sensors **(Figure 56, item 1)** to detect counter-clockwise and clockwise movement. Tighten set screws.

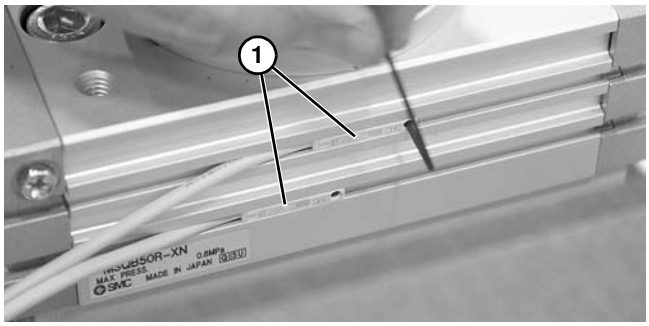


Figure 56

Installation

Stroke Sensing Adjustment

1. To adjust cylinder stroke sensors, loosen set screw **(Figure 57, item 1)** and move sensor **(Figure 57, item 2)** up or down in channel **(Figure 57, item 3)**. Tighten set screw.

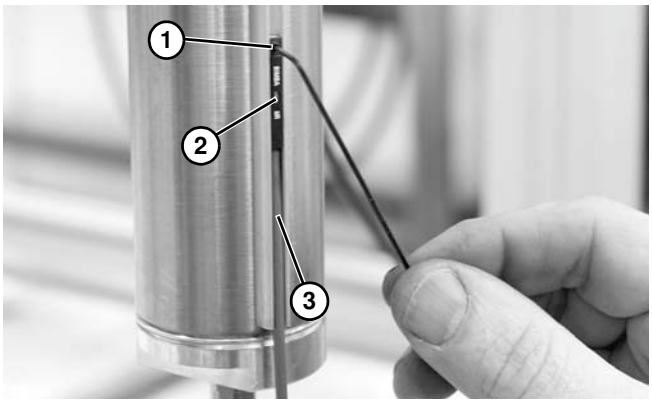


Figure 57

Rotation Adjustment

1. Loosen nuts **(Figure 58, item 1)** with an open-end wrench.

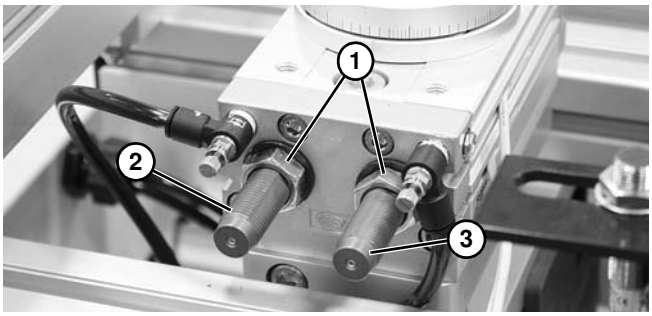


Figure 58

2. Adjust counter-clockwise stroke by rotating screw **(Figure 58, item 2)** left or right with an open-end wrench. Adjust clockwise movement by rotating screw **(Figure 58, item 3)** left or right with an open-end wrench. Tighten nuts.

Stroke Adjustment

1. Loosen lock nut **(Figure 59, item 1)** on shock absorber **(Figure 59, item 2)** next to cylinder.

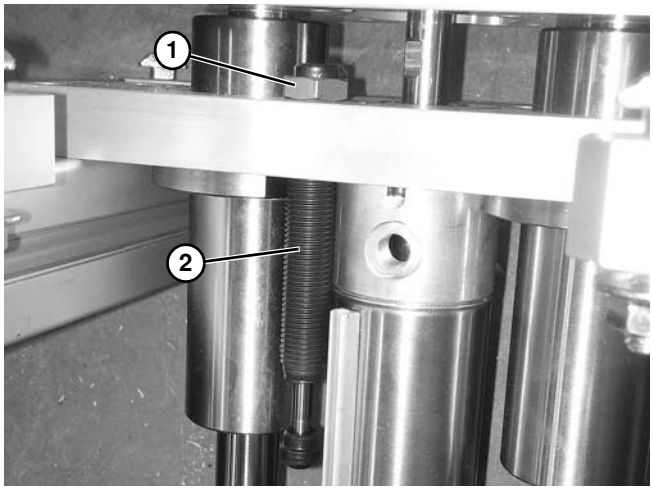


Figure 59

2. Adjust shock up or down by rotating to adjust stroke. Tighten lock nut.

Optional Guard Kit

3. Install cam follower nuts **(Figure 60, item 1)** into mounting tube **(Figure 60, item 2)**. Repeat for opposite mounting tube.

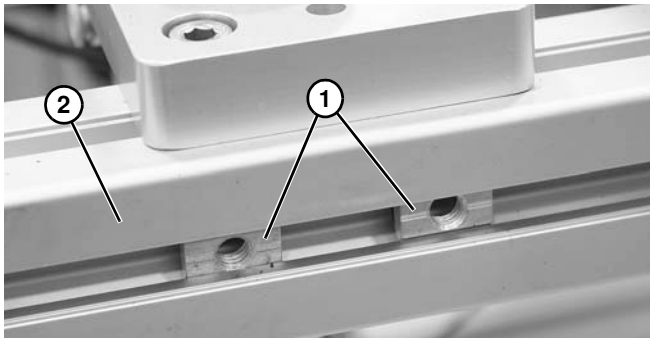


Figure 60

4. Install guard kit **(Figure 61, item 1)** with button head screws **(Figure 61, item 2)** on both sides.

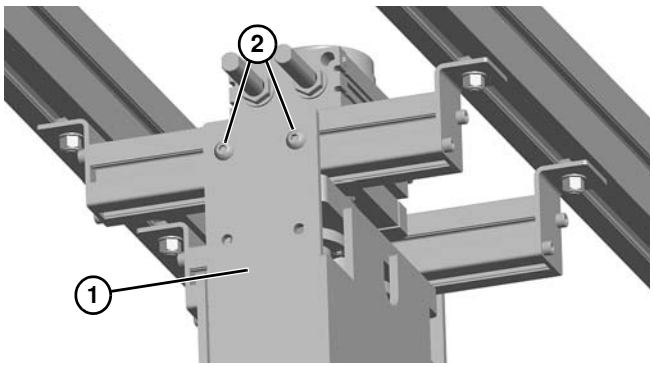


Figure 61

Pneumatic and Control Logic Suggestions

Recommended Pneumatics

Dorner recommends using a 3 port, 2 way solenoid valve **(Figure 62)** to operate the Lift and Rotate Stop.

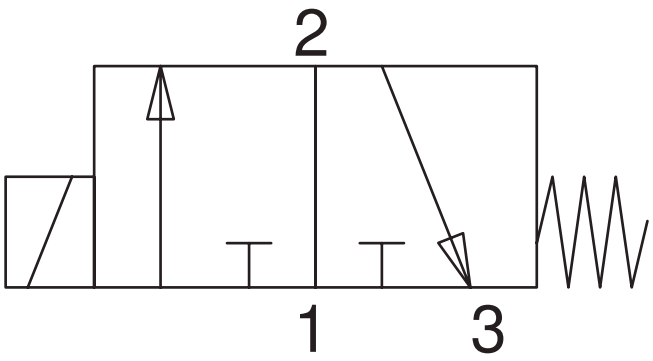


Figure 62

Dorner recommends using a 5 port, 2 way solenoid valve **(Figure 63)** to operate the Lift and Rotate Pallet Unit.

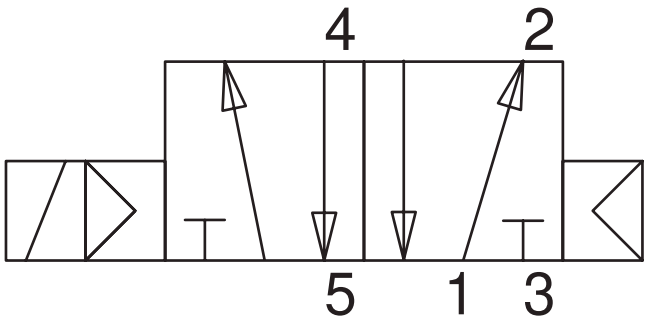


Figure 63

Dorner recommends using a 5 port, 2 way solenoid valve **(Figure 64)** to operate the Rotating Actuator.

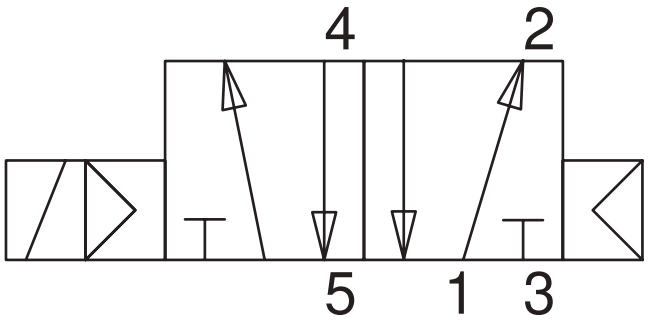


Figure 64

Attaching and Operations of Pneumatics

Stop:

1. Connect the 3 port, 2 way solenoid valve to the stop. Dorner fittings **(Figure 65, item 1)** accept 1/4" outside diameter tubing standard **(Figure 65, item 2)**.

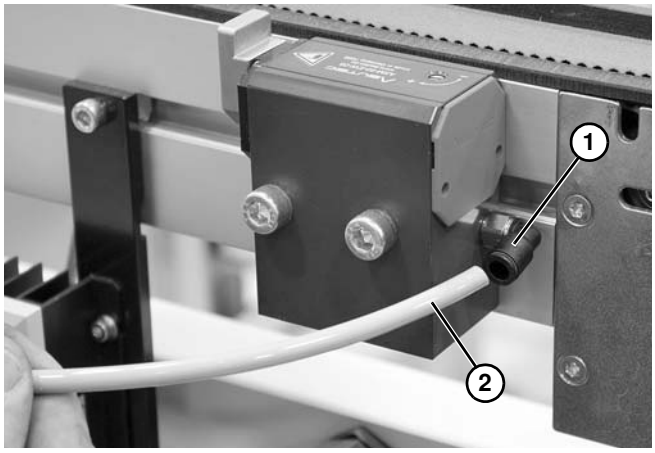


Figure 65

2. Stops release when air is supplied to the stop and only needs to be released long enough for the leading pallet skirt to clear the stop.

Lift:

1. Connect Port 4 **(Figure 63)** of the 5 port, 2 way solenoid to the lowest port **(Figure 66, item 1)** on the lift. Dorner fittings accept 1/4" outside diameter tubing standard.

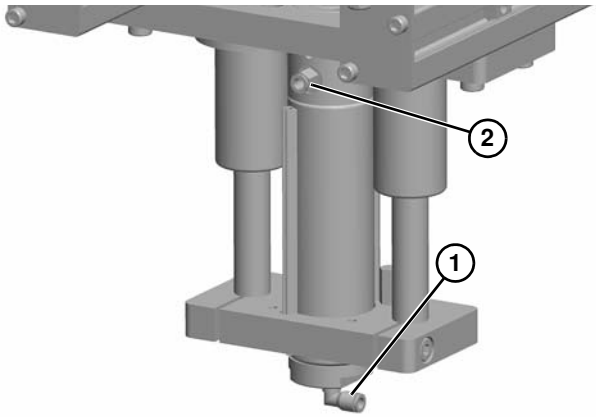


Figure 66

2. Connect Port 2 **(Figure 63)** of the 5 port, 2 way solenoid to the upper port **(Figure 66, item 2)** on the lift. Dorner fittings accept 1/4" outside diameter tubing standard.

- The lift raises when air is supplied to the lowest port of the lift and the upper port is allowed to exhaust.
- The lift lowers when air is supplied to the upper port of the lift and the lower port is allowed to exhaust.

Rotate:

1. Connect Port 4 **(Figure 64)** of the 5 port, 2 way solenoid to the left port **(Figure 67, item 1)** of the rotator. Dorner fittings accept 1/4" outside diameter tubing standard.

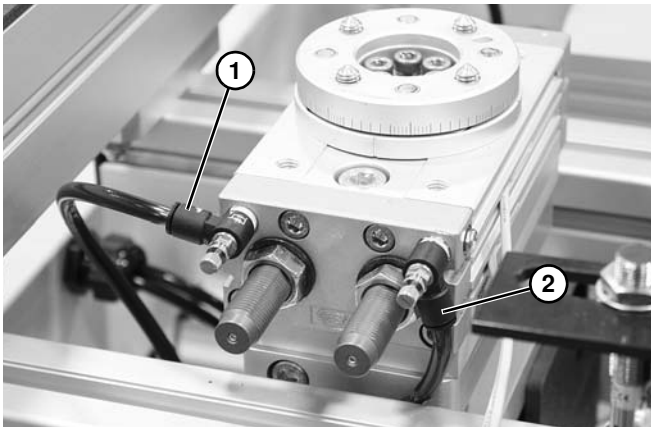


Figure 67

2. Connect Port 2 **(Figure 64)** of the 5 port, 2 way solenoid to the right port **(Figure 67, item 2)** of the rotator. Dorner fittings accept 1/4" outside diameter tubing standard.

- Rotate unit rotates clockwise when air is supplied to the left port and the right port is allowed to exhaust.
- Rotate unit rotates counterclockwise when air is supplied to the right port and the left port is allowed to exhaust.

Sensor Installation and Basic Logic

Optional bottom mount **(Figure 68, item 1)** or side mount **(Figure 68, item 2)** sensor brackets can be used to mount a 12 mm barrel proximity sensor **(Figure 68, item 3)**. See“Optional Sensors” on page 9.

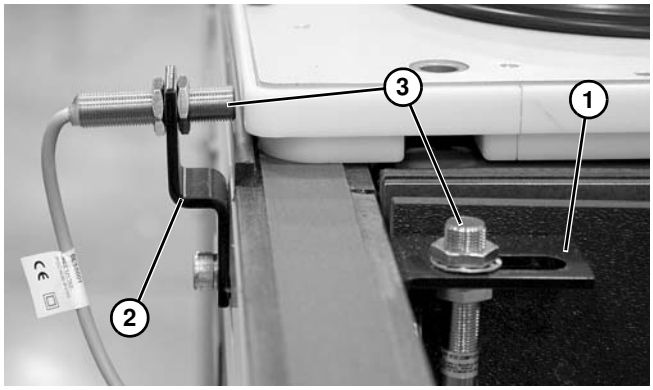


Figure 68

- One bottom **(Figure 69, item 1)** and two side flags **(Figure 69, item 2)** (when bumpers are not installed) can be used for sensing.

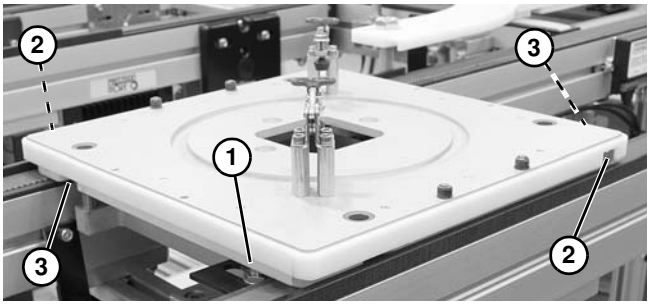


Figure 69

- Use proximity sensor to detect pallet located at the stop.
- The stop can reset after a short delay when the proximity sensor signal clears.
- Stop only has to be released long enough to clear pallet skirt that was stopped. Notches **(Figure 69, item 3)** in skirt allow stop to be reset before pallet clears stop area.

90° Corner

For 160 mm width, no corner belt required. Skip to guiding.

1. Install cam follower nut **(Figure 70, item 1)** in conveyor rail channel. Repeat for opposite conveyor rail.

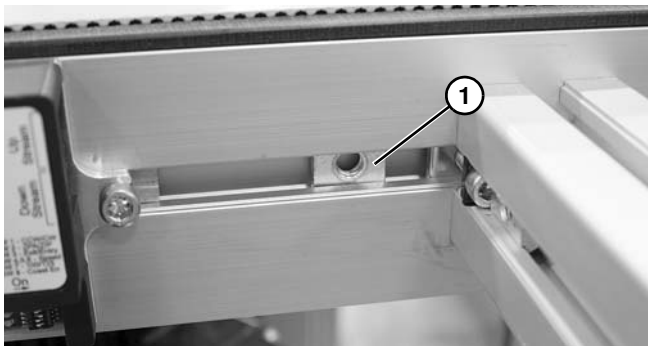


Figure 70

2. Install drive motor unit **(Figure 71, item 1)** to conveyor section with socket head screws **(Figure 71, item 2)**. Do not tighten screws.

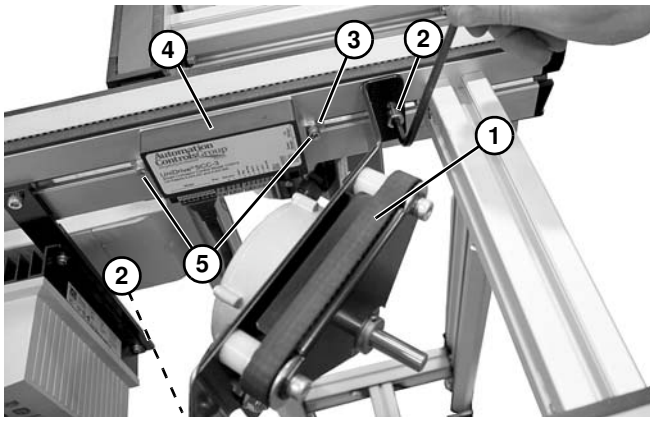


Figure 71

3. Install drop-in tee bar **(Figure 71, item 3)** in conveyor rail channel. Install drive control **(Figure 71, item 4)** with socket head screws **(Figure 71, item 5)**.
4. Install motor connector **(Figure 72, item 1)** to drive control.

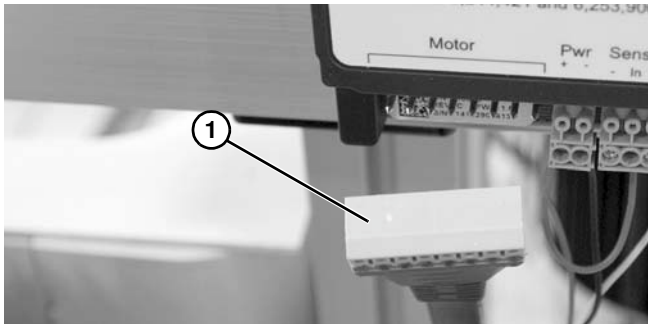


Figure 72

5. Place pallet **(Figure 73, item 1)** on corner assembly. Position corner assembly so that belt **(Figure 73, item 2)** and pallet skirt **(Figure 73, item 3)** line up as shown.

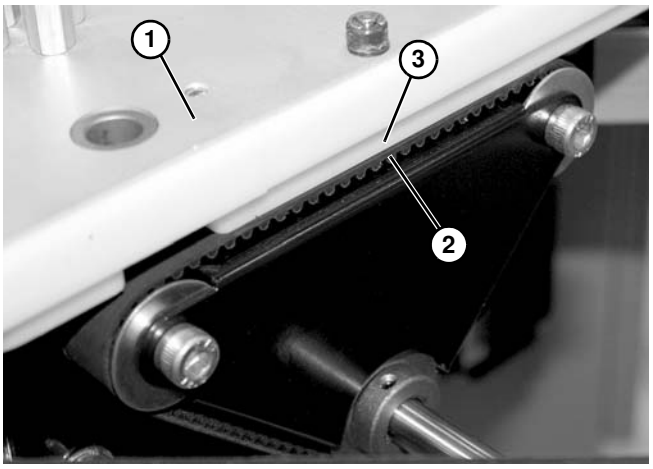


Figure 73

6. Remove pallet and tighten all mounting screws.

Guiding

1. Install stud **(Figure 74, item 1)** to support tube **(Figure 74, item 2)** using two jam nuts **(Figure 74, item 3)**.

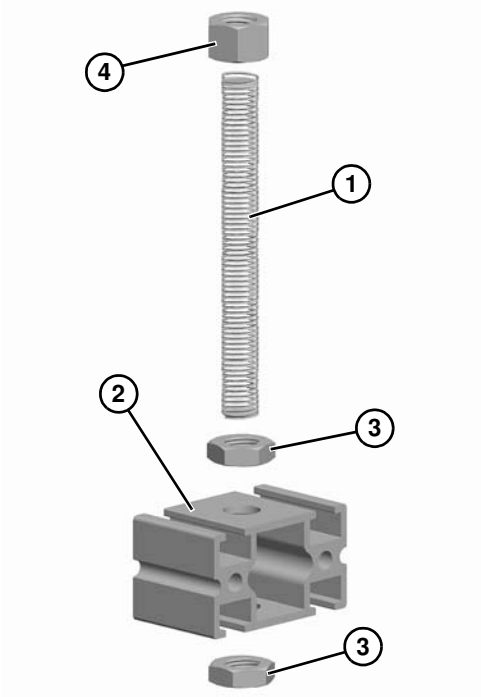


Figure 74

2. Tighten jam nuts **(Figure 74, item 3)** leaving some thread protruding from bottom nut. Thread hex nut **(Figure 74, item 4)** onto stud.
3. Repeat for two remaining support tubes.

4. Install drop-in tee bars **(Figure 75, item 1)** in conveyor rail channel.

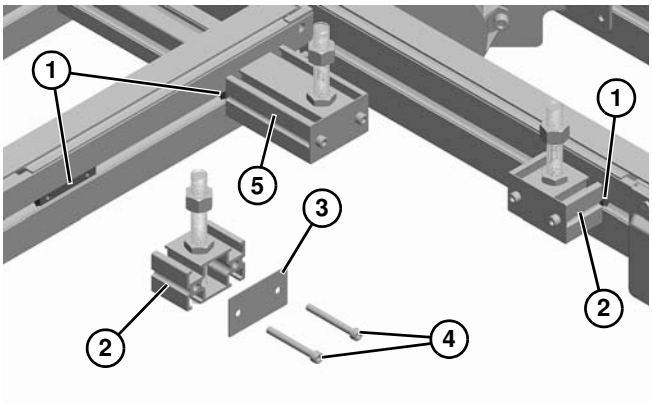


Figure 75

5. Loosely fasten 1.5" support tube assemblies **(Figure 75, item 2)** to conveyor rail with cover **(Figure 75, item 3)** and socket head screws **(Figure 75, item 4)** as shown.
6. Repeat for 4.5" support tube assembly **(Figure 75, item 5)**.
7. Install corner guide **(Figure 76, item 1)** onto studs. Position support assemblies so that the hex nuts **(Figure 76, item 2)** are in the circular openings in the bottom of the guide.

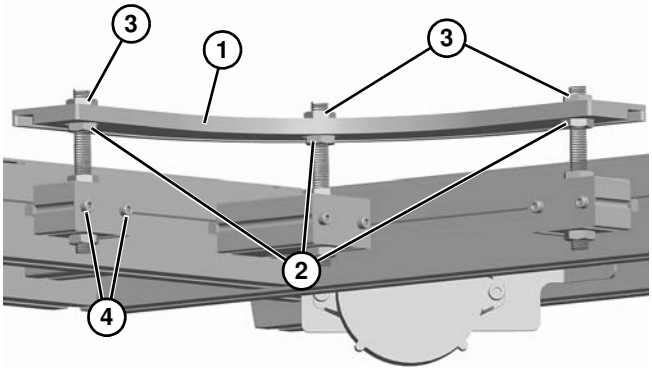


Figure 76

8. Thread jam nuts **(Figure 76, item 3)** onto studs, but do not tighten.
9. Finger tighten screws **(Figure 76, item 4)** on support assemblies.

Adjust Guiding

1. Slide pallet **(Figure 77, item 1)** through entire length of corner guide **(Figure 77, item 2)** to make sure the pallet does not bind.

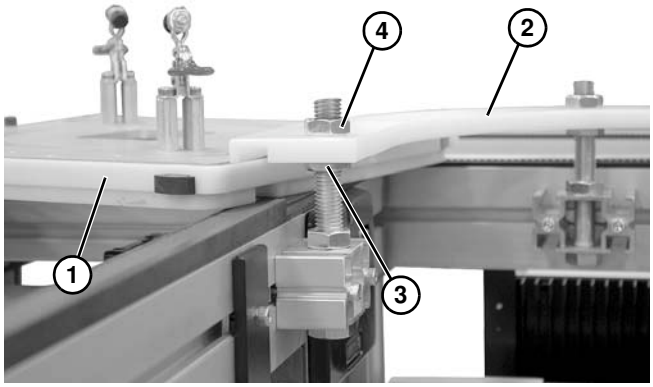


Figure 77

2. If the pallet binds, adjust hex nuts **(Figure 77, item 3)** up or down to raise or lower corner guide. If needed, loosen the screws **(Figure 76, item 4)** on the support assemblies, and move them left or right.
3. Tighten screws **(Figure 76, item 4)** on support assemblies and upper jam nuts **(Figure 77, item 4)**.

Motor/Driver Wiring

Wire +24 DC **(Figure 78, item 1)** and DC ground **(Figure 78, item 2)** to the driver's power plug.

Supply an PNP input to Smart input 1 **(Figure 78, item 3)** to run motor.

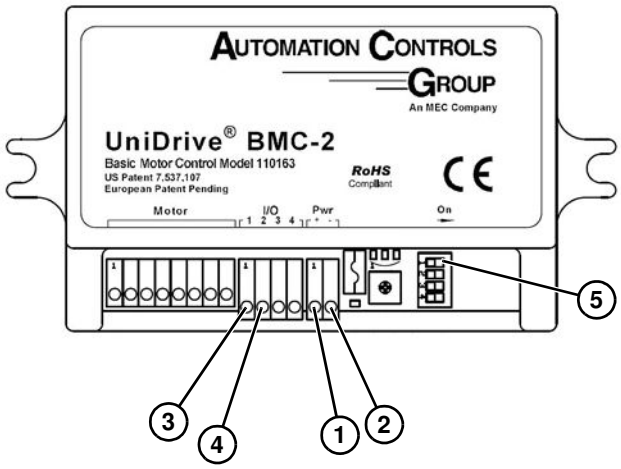


Figure 78

To reverse direction:

- Dynamically, wire a 2nd PNP input to Smart input 2 **(Figure 78, item 4)**. Only one Smart input can be active at a time.
- One time, switch state of dip switch 1 **(Figure 78, item 5)** on the driver board. Dip Switches are only read at start up. After a change is made, cycle power to the unit.

Speed control is fixed using dip switches 2-4 per the table below (speed in RPM.) Dip Switches are only read at start up. After a change is made, cycle power to the unit.

SW2	SW3	SW4	Speed (RPM of Motor)	Belt Speed
Off	Off	Off	350	126
Off	Off	On	315	114
Off	On	Off	280	101
Off	On	On	245	88
On	Off	Off	210	76
On	Off	On	175	63
On	On	Off	140	51
On	On	On	105	38

Please reference **UniDrive® Basic Motor Control – Generation II "BMC-2" Guide to Installation and Use** for any drive troubleshooting.

90° Corner and Merge

For 160 mm width, no corner belt required. Skip to guiding.

Procedure shown is for 320 width. Procedure for 160 and 240 widths is similar.

1. Install drop-in tee bar **(Figure 79, item 1)** in conveyor rail channel. Repeat for opposite conveyor rail.

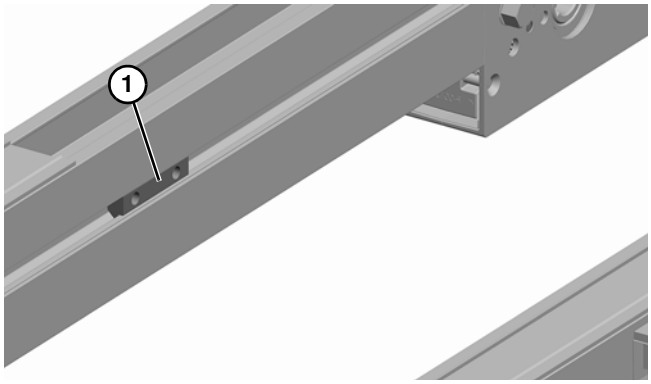


Figure 79

2. Assemble rail extension **(Figure 80, item 1)** to drive assembly with socket head screws **(Figure 80, item 2)**. Repeat on opposite side. Tighten screws.

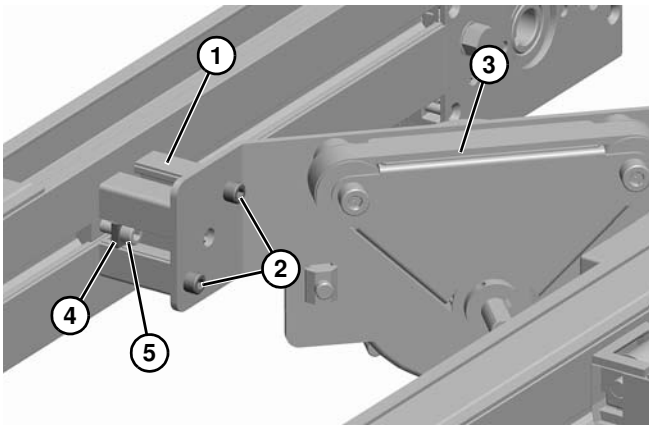


Figure 80

3. Install drive assembly **(Figure 80, item 3)** to conveyor with key bar **(Figure 80, item 4)** and socket head screws **(Figure 80, item 5)**. Repeat on opposite conveyor. Do not tighten screws.

4. Install drop-in tee bar **(Figure 81, item 1)** in conveyor rail channel. Install drive control **(Figure 81, item 2)** with socket head screws **(Figure 81, item 3)**. Do not tighten screws.

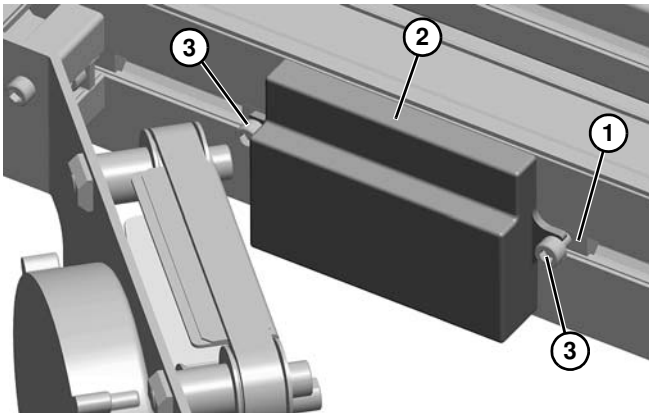


Figure 81

5. Install motor connector **(Figure 82, item 1)** to drive control.

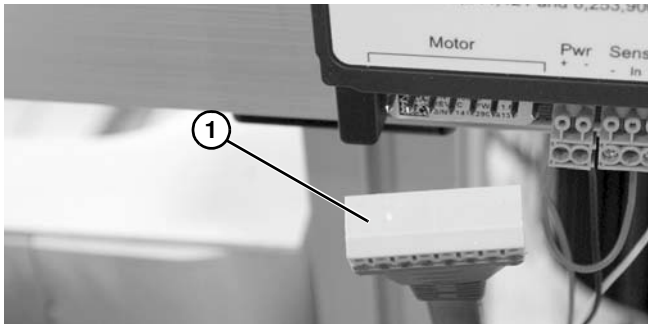


Figure 82

6. Install stops. See “Pallet Stops” on page 7
7. Place pallet **(Figure 83, item 1)** on corner assembly. Position corner assembly so that belt **(Figure 83, item 2)** and pallet skirt **(Figure 83, item 3)** line up as shown.

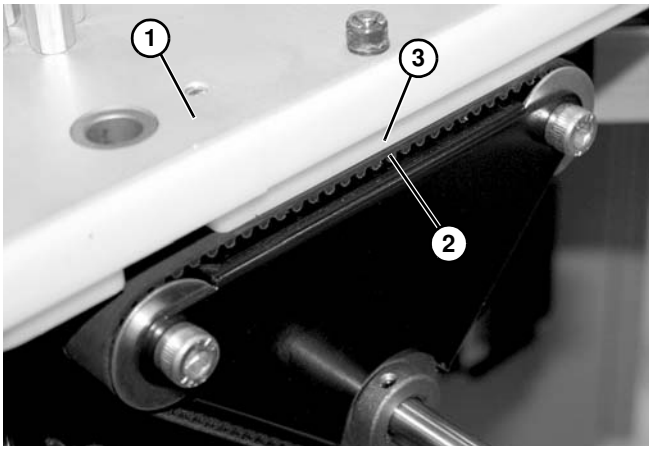


Figure 83

8. Remove pallet and tighten all mounting screws.

Guiding

On each of six cylinders:

1. Install mounting plate **(Figure 84, item 1)** to cylinder **(Figure 84, item 2)** with flat head cap screws **(Figure 84, item 3)**.

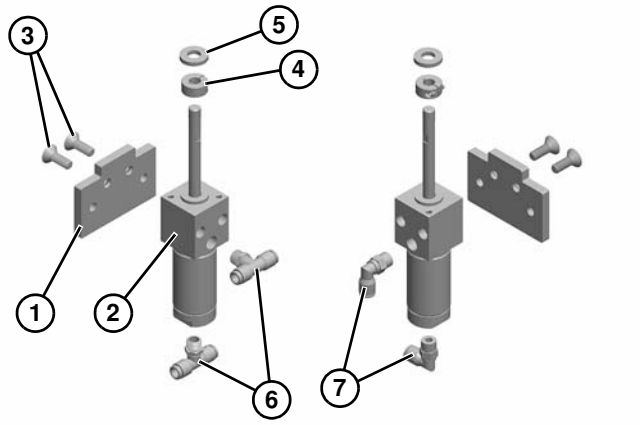


Figure 84

2. Install clamp collar **(Figure 84, item 4)** and washer **(Figure 84, item 5)** onto shaft.
3. On five cylinders, install two male tee branches **(Figure 84, item 6)** each. On one cylinder, install two male elbows **(Figure 84, item 7)** each.

Corner Guide

1. Install drop-in tee bars **(Figure 85, item 1)** in conveyor rail channel.

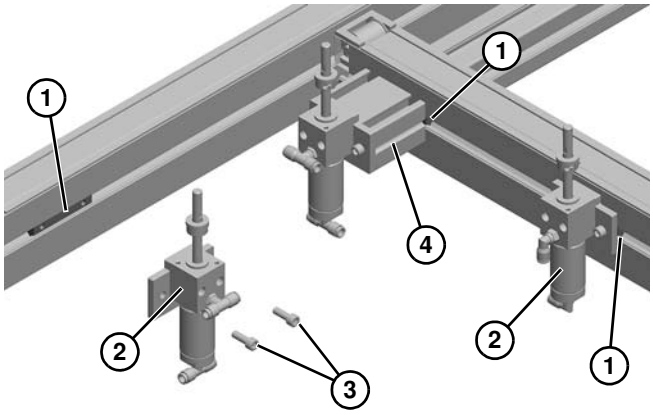


Figure 85

2. Loosely fasten two cylinder assemblies **(Figure 85, item 2)** to conveyor rail with socket head screws **(Figure 85, item 3)** as shown (notice fittings).
3. Repeat for cylinder assembly with spacer **(Figure 85, item 4)**.

4. Insert grommets **(Figure 86, item 1)** into holes of corner guide. Install corner guide **(Figure 86, item 2)**. Position cylinder assemblies so that the washers and clamp collars **(Figure 86, item 3)** are in the circular openings in the bottom of the guide.

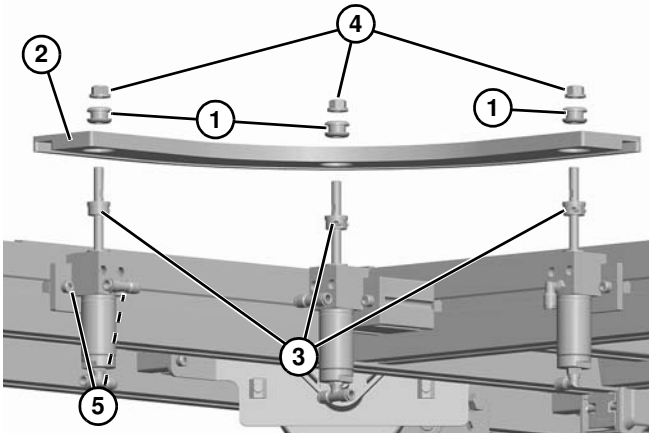


Figure 86

5. Thread flange lock nuts **(Figure 86, item 4)** onto cylinder shafts, but do not tighten.
6. Finger tighten screws **(Figure 86, item 5)** on cylinder assemblies.

Straight Guide

1. Install drop-in tee bars **(Figure 87, item 1)** in conveyor rail channel.

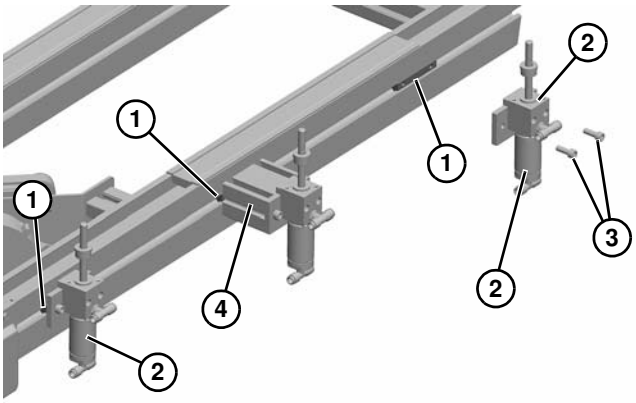


Figure 87

2. Loosely fasten cylinder assemblies **(Figure 87, item 2)** to conveyor rail with socket head screws **(Figure 87, item 3)** as shown.
3. Repeat for cylinder assembly with spacer **(Figure 87, item 4)**.

4. Insert grommets **(Figure 88, item 1)** into holes of straight guide. Install straight guide **(Figure 88, item 2)**. Position cylinder assemblies so that the washers and clamp collars **(Figure 88, item 3)** are in the circular openings in the bottom of the guide.

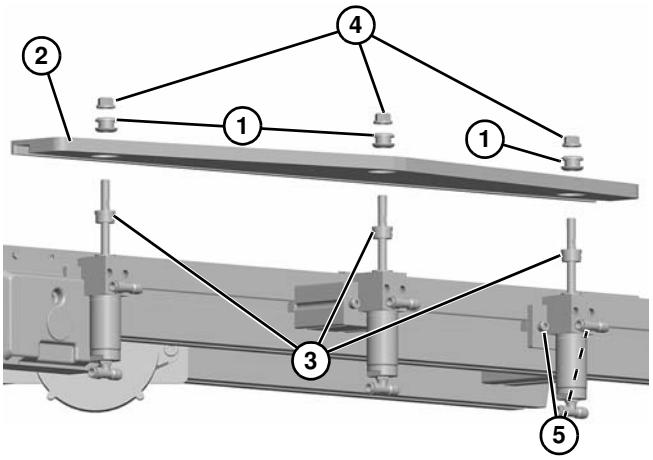


Figure 88

5. Thread flange lock nuts **(Figure 88, item 4)** onto cylinder shafts, but do not tighten.
6. Finger tighten screws **(Figure 88, item 5)** on cylinder assemblies.

Adjust Guiding

Procedure shown is for Corner Guide, Straight Guide is similar.

1. Slide pallet through entire length of corner guide to make sure the pallet does not bind.
2. If the pallet binds, loosen clamp collars **(Figure 89, item 1)** and adjust up or down to raise or lower corner guide **(Figure 89, item 2)**. If needed, loosen the screws **(Figure 88, item 5)** on the cylinder assemblies, and move them left or right.

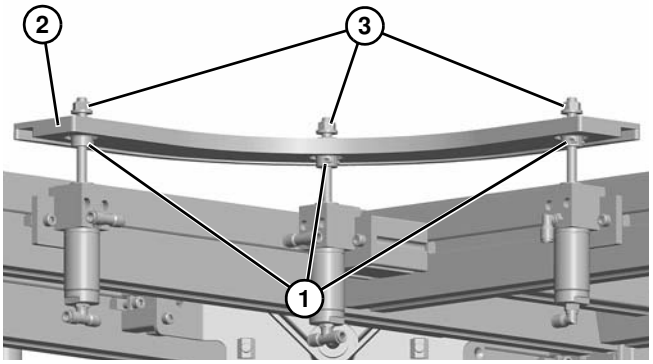


Figure 89

3. Tighten screws **(Figure 88, item 5)** on cylinder assemblies. Tighten clamp collars and lock nuts **(Figure 89, item 3)**.

Pneumatic and Control Logic Suggestions

Recommended Pneumatics

Dorner recommends using a 5 port, 2 way solenoid valve **(Figure 90)** to operate the pair of pin tracking guides.

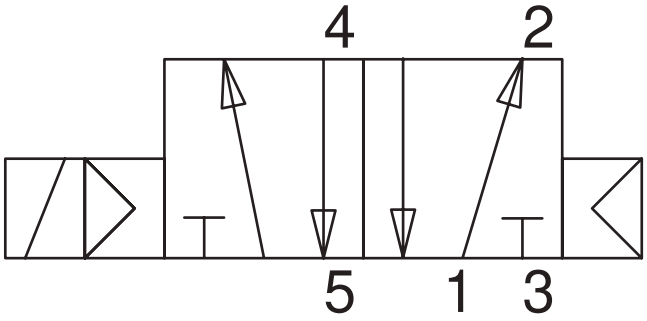


Figure 90

Attaching and Operations of Pneumatics

1. Plum in series the top ports **(Figure 91, item 1)** of the straight section cylinders with the bottom ports **(Figure 92, item 1)** of the corner section cylinders. Connect Port 4 **(Figure 90)** of the 5 port, 2 way solenoid to this section. Dorner fittings accept 1/4" outside diameter tubing standard.
2. Plum in series the bottom ports **(Figure 91, item 2)** of the straight section cylinders with the top ports **(Figure 92, item 2)** of the corner section cylinders. Connect Port 2 **(Figure 90)** of the 5 port, 2 way solenoid to this section. Dorner fittings accept 1/4" outside diameter tubing standard.

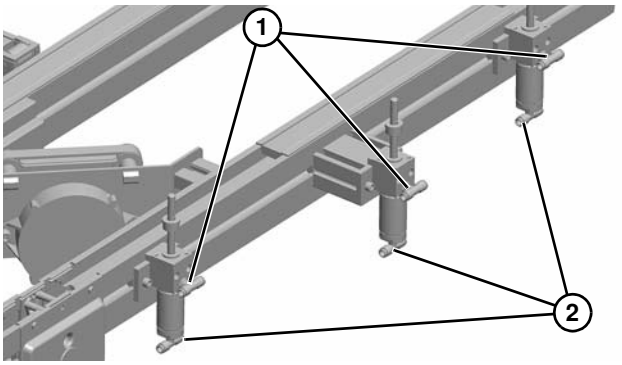


Figure 91

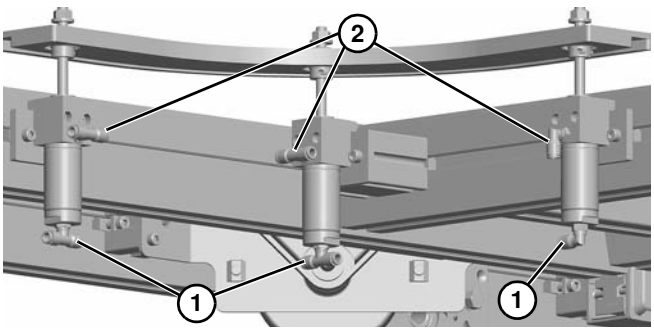


Figure 92

Motor/Driver Wiring

Wire +24 DC **(Figure 93, item 1)** and DC ground **(Figure 93, item 2)** to the driver's power plug.

Supply an PNP input to Smart input 1 **(Figure 93, item 3)** to run motor.

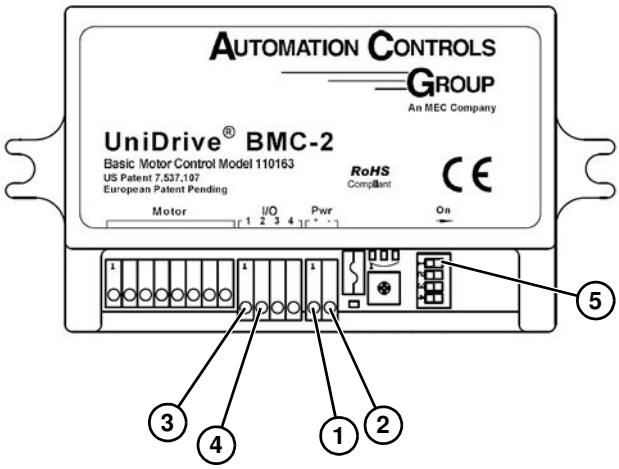


Figure 93

To reverse direction:

- Dynamically, wire a 2nd PNP input to Smart input 2 **(Figure 93, item 4)**. Only one Smart input can be active at a time.
- One time, switch state of dip switch 1 **(Figure 93, item 5)** on the driver board. Dip Switches are only read at start up. After a change is made, cycle power to the unit.

Speed control is fixed using dip switches 2-4 per the table below (speed in RPM.) Dip Switches are only read at start up. After a change is made, cycle power to the unit.

SW2	SW3	SW4	Speed (RPM of Motor)	Belt Speed
Off	Off	Off	350	126
Off	Off	On	315	114
Off	On	Off	280	101
Off	On	On	245	88
On	Off	Off	210	76
On	Off	On	175	63
On	On	Off	140	51
On	On	On	105	38

Please reference **UniDrive® Basic Motor Control – Generation II "BMC-2" Guide to Installation and Use** for any drive troubleshooting.

Sensor Installation and Basic Logic

The default state is to have the pallet run through the straight section.

Activating the solenoid valve raises the straight section and lowers the curve section.

Corner motors can be signaled to run only when the curve is active. There is no harm in leaving the corner motors always running.

It is recommended to use an optional bottom mount **(Figure 94, item 1)** or side mount **(Figure 94, item 2)** sensor bracket to mount a 12 mm barrel proximity sensor **(Figure 94, item 3)** downstream to signal the station is clear. See "Optional Sensors" on page 9

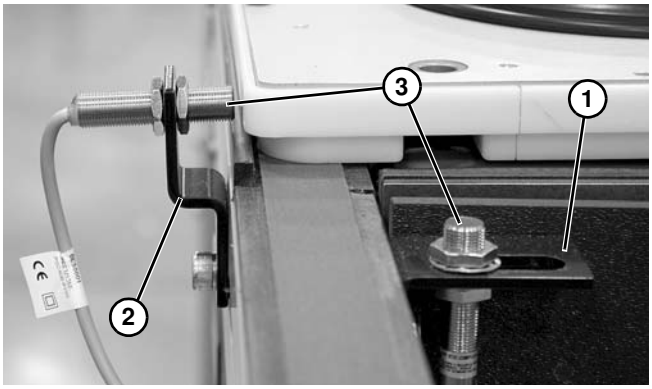


Figure 94

- Two bottom **(Figure 95, item 1)** and two side flags **(Figure 95, item 2)** (when bumpers are not installed) can be used for sensing.

Figure 95

180° Corner

1. Place 180° corner stand **(Figure 96, item 1)** under conveyors **(Figure 96, item 2)**.

NOTE
Conveyors must be inline with each other.

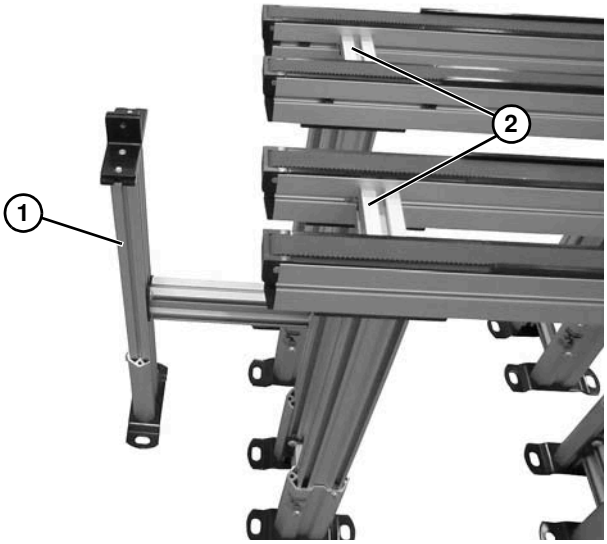


Figure 96

2. Assemble washer **(Figure 97, item 1)** onto socket head screw **(Figure 97, item 2)**. Thread bolt into slide-in nut **(Figure 97, item 3)**. Repeat for a second bolt, washer, and nut.

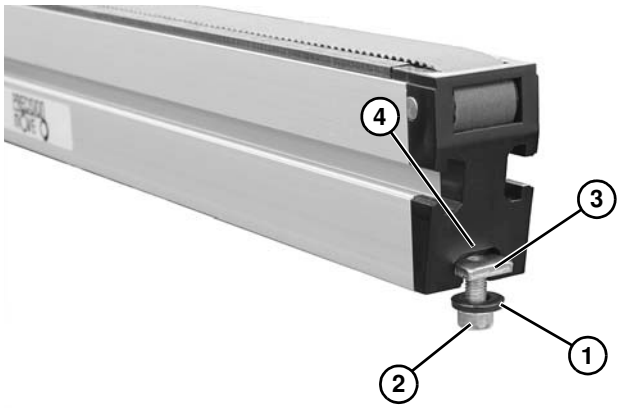


Figure 97

3. Insert bolt and nut assemblies through end cap **(Figure 97, item 4)** and into conveyor channel. Slide one down the channel, keeping the second close to the end of the conveyor.

4. Make sure top plate mounting screws **(Figure 98, item 1)** align into channel.

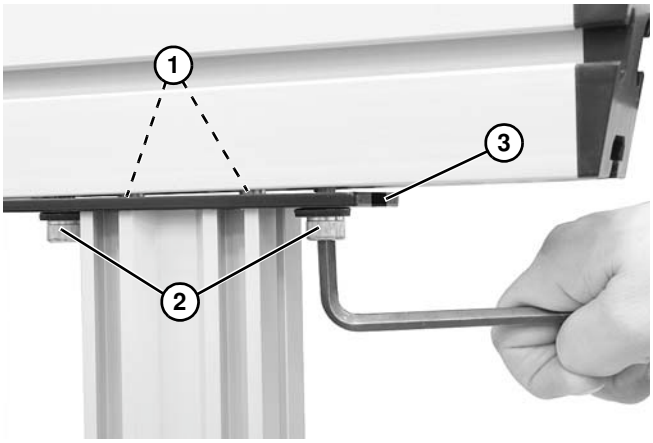


Figure 98

5. Slide mounting hardware **(Figure 98, item 2)** into slot **(Figure 98, item 3)** on both sides of top plate and tighten.
6. Repeat for other legs of stand.
7. Slide two drop-in tee bars **(Figure 99, item 1)** into the inner t-slot of the outer conveyor rail **(Figure 99, item 2)** on each conveyor.

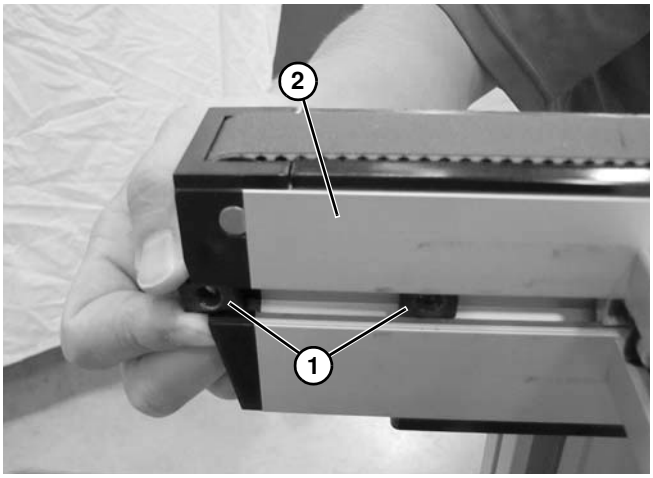


Figure 99

8. Attach corner motor modules **(Figure 100, item 1)** to third leg of stand **(Figure 100, item 2)** with fastener **(Figure 100, item 3)**.

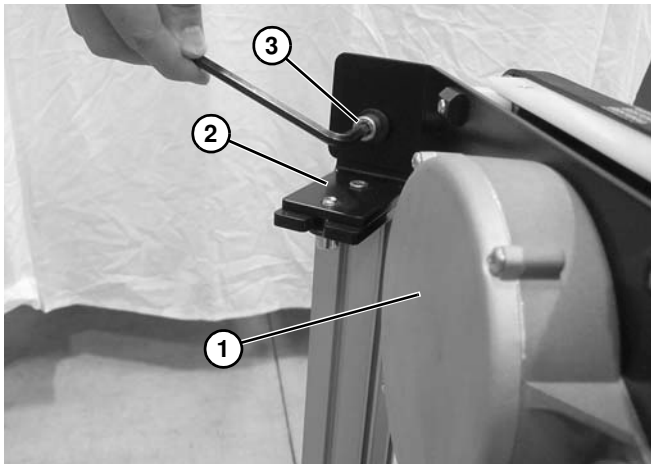


Figure 100

9. Attach corner motor module **(Figure 101, item 1)** to the inside of the outer conveyor rail **(Figure 101, item 2)** with two socket head screws **(Figure 101, item 3)**.

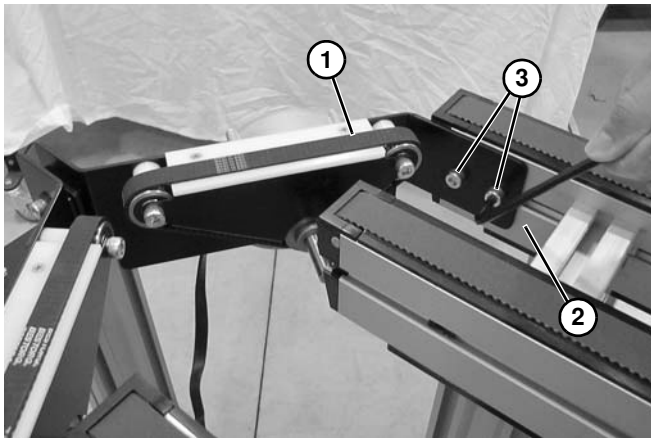


Figure 101

10. Repeat for the other conveyor. Tighten fasteners for the corner motor modules.

11. Slide two drop-in tee bars **(Figure 102, item 1)** into the outer t-slot of the inner conveyor rail **(Figure 102, item 2)** on each conveyor.

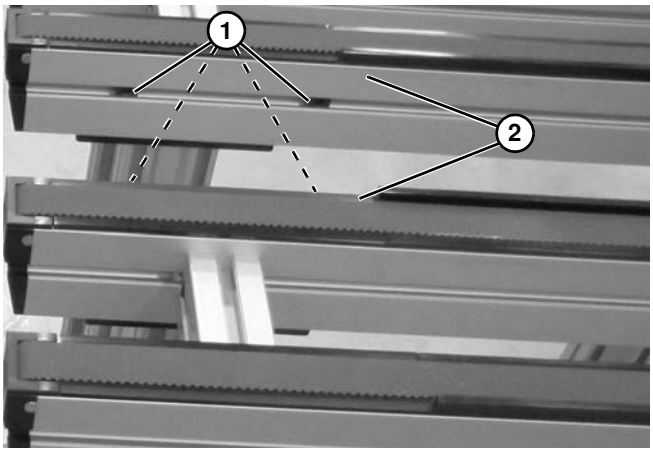


Figure 102

12. Install center corner module **(Figure 103, item 1)** onto conveyors with four socket head screws **(Figure 103, item 2)**. Tighten screws.

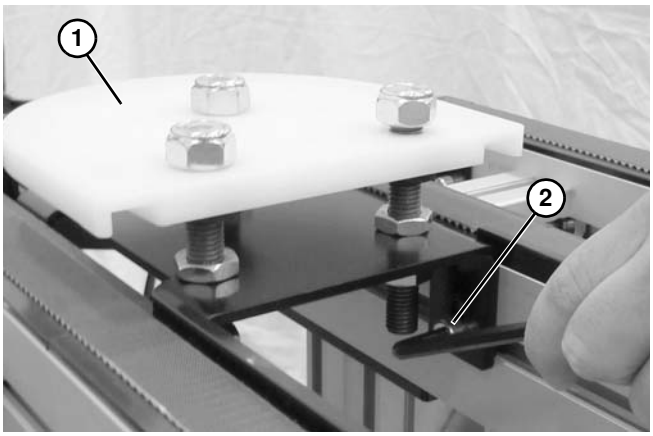


Figure 103

13. Place pallet **(Figure 104, item 1)** on conveyor and slide pallet through entire length of corner guide **(Figure 104, item 2)** to make sure the pallet does not bind.

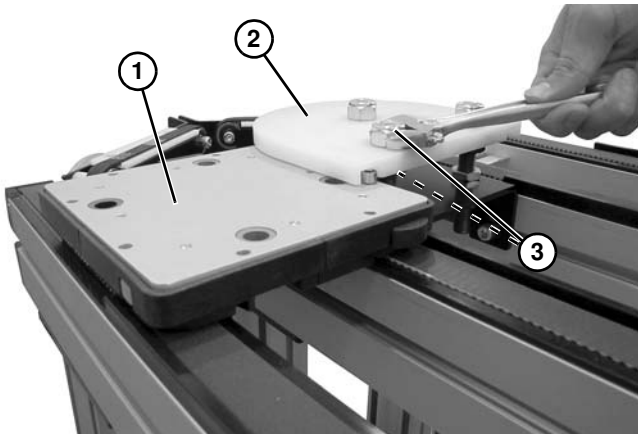


Figure 104

14. If pallet binds, adjust hex nuts **(Figure 104, item 3)** on both the top and bottom of the guiding up or down to raise or lower the corner guide.

Heavy Load 90° and 180° Corners

1. Assemble washer **(Figure 105, item 1)** onto socket head screw **(Figure 105, item 2)**. Thread bolt into slide-in nut **(Figure 105, item 3)**. Repeat for a second bolt, washer, and nut.

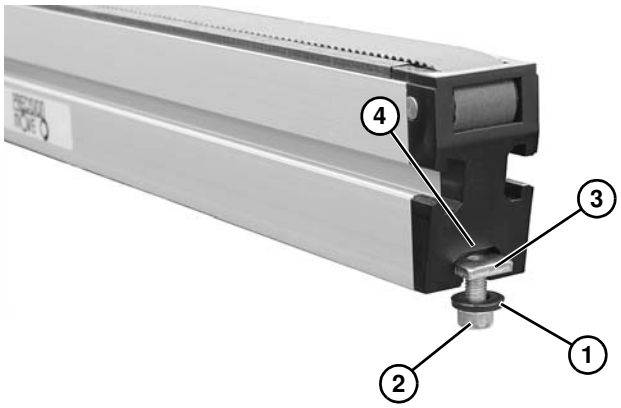


Figure 105

2. Insert bolt and nut assembly through end cap **(Figure 105, item 4)** into conveyor channel and slide down the channel.
3. Repeat for the conveyor channel on the other side.

4. Slide curve module **(Figure 106, item 1)** between dual strand conveyors.

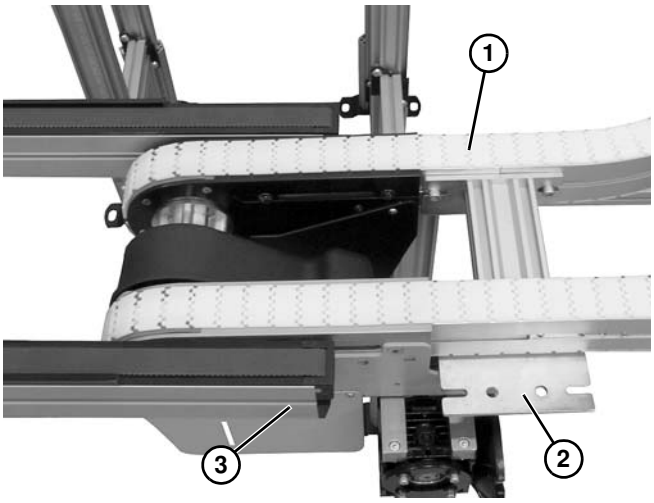


Figure 106

5. Position mounting bracket **(Figure 106, item 2)** under frame rail **(Figure 106, item 3)**. Make sure bracket is flush with the end of the frame rail on both sides of conveyor.
6. Assemble washer **(Figure 107, item 1)** onto socket head screw **(Figure 107, item 2)**. Thread bolt into slide-in nut **(Figure 107, item 3)**. Repeat for a second bolt, washer, and nut.

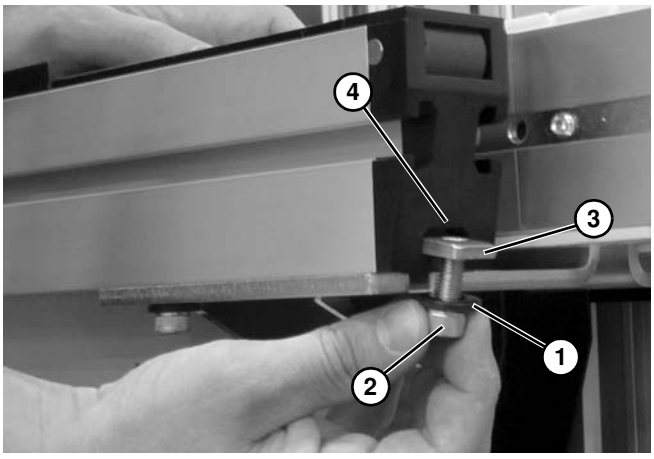


Figure 107

7. Insert bolt and nut assembly through end cap **(Figure 107, item 4)** into conveyor channel.
8. Slide mounting hardware **(Figure 108, item 1)** into slot **(Figure 108, item 2)** on both sides of bracket and tighten.

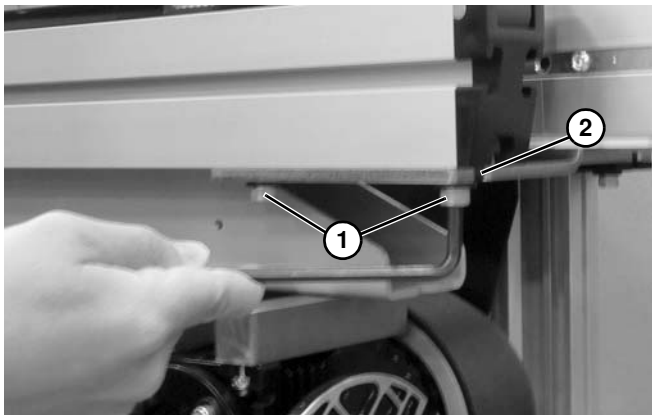


Figure 108

9. Repeat for the conveyor channel on the other side.
10. Slide drop-in tee bar **(Figure 109, item 1)** into the outer t-slot of the inner conveyor rail **(Figure 109, item 2)** on both dual strand conveyors.

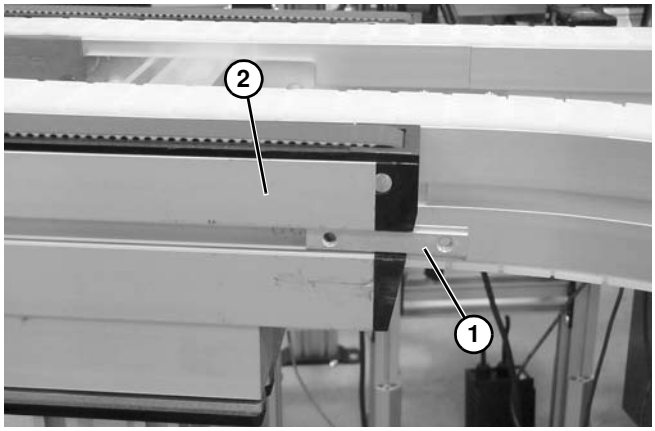


Figure 109

11. Insert twist nuts **(Figure 110, item 1)** on corner guiding **(Figure 110, item 2)** into the t-slot **(Figure 110, item 3)** of the corner conveyor.

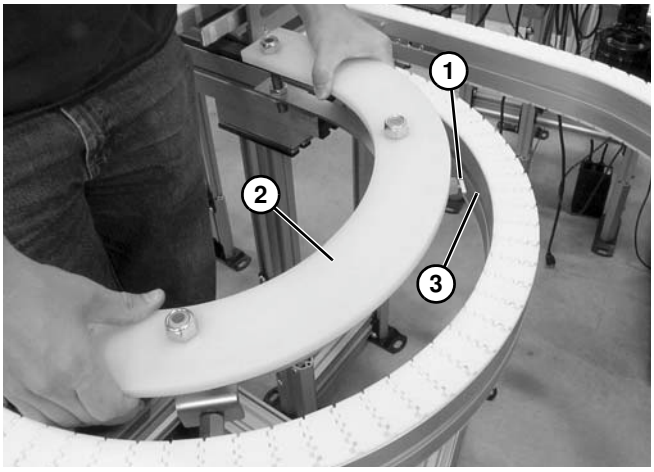


Figure 110

12. Tighten hex posts **(Figure 111, item 1)**.

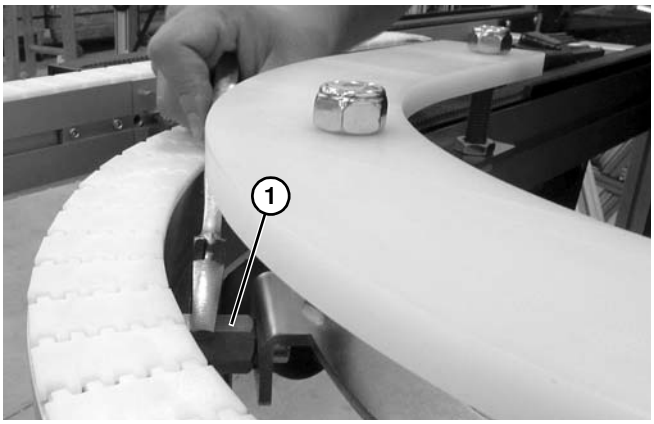


Figure 111

13. Attach corner guiding to drop-in tee bar with two socket head screws **(Figure 112, item 1)**.

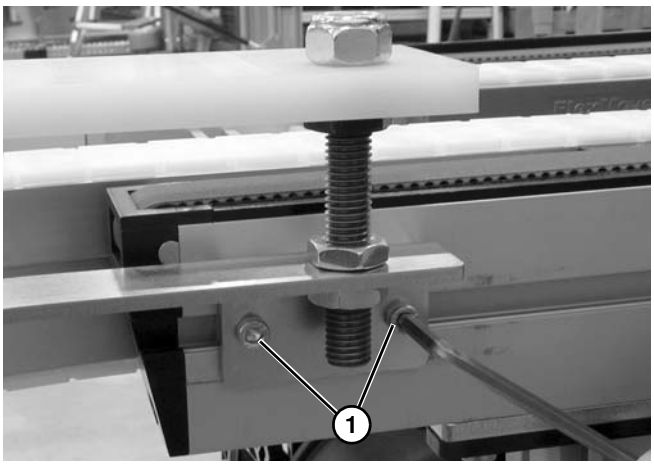


Figure 112

14. Repeat for the other side. Tighten screws.

15. Place pallet **(Figure 113, item 1)** on conveyor and slide pallet through entire length of corner guide **(Figure 113, item 2)** to make sure the pallet does not bind.

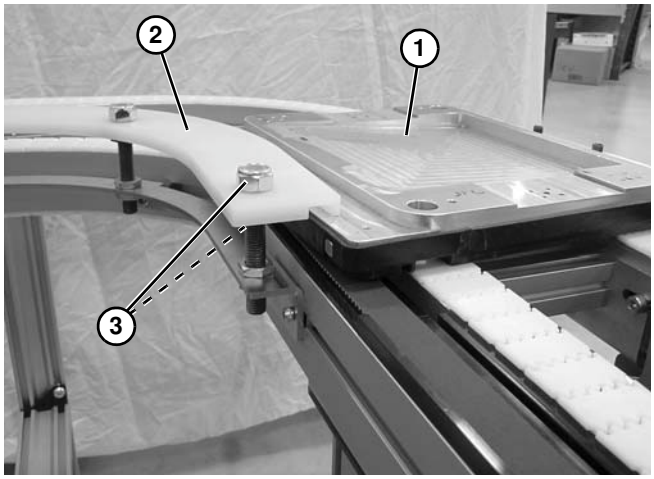


Figure 113

16. If pallet binds, adjust hex nuts **(Figure 113, item 3)** on both the top and bottom of the guiding up or down to raise or lower the corner guide.
17. Install motor **(Figure 114, item 1)** to gear reducer with four bolts and washers **(Figure 114, item 2)**. Tighten bolts.

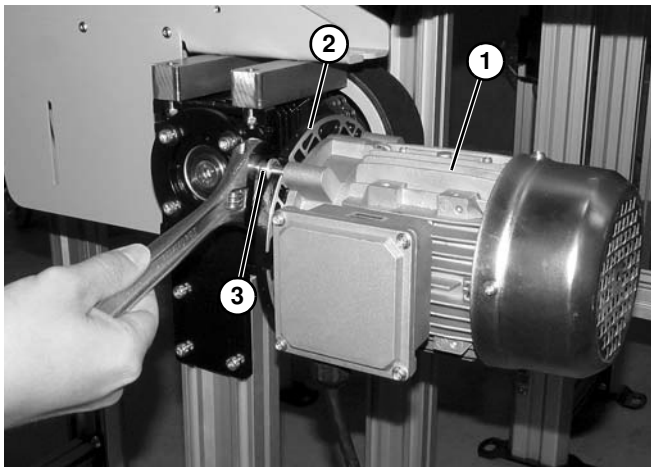


Figure 114

Required Tools

- .050" hex wrench
- 2 mm hex wrench
- 3 mm hex wrench
- 5 mm hex wrench
- 6 mm hex wrench
- 8 mm wrench
- 12 mm wrench
- 13 mm wrench
- 17 mm wrench
- 19 mm wrench
- T20 torque wrench
- Flat blade screw driver
- Pliers
- Rubber mallet

Checklist

- Keep service parts on hand. Refer to the "Service Parts" section starting on page 56 for recommendations.
- Replace any worn or damaged parts.

Pallets

1. Remove pallet from conveyor.
2. Remove retaining ring **(Figure 115, item 1)** and bearing **(Figure 115, item 2)**.

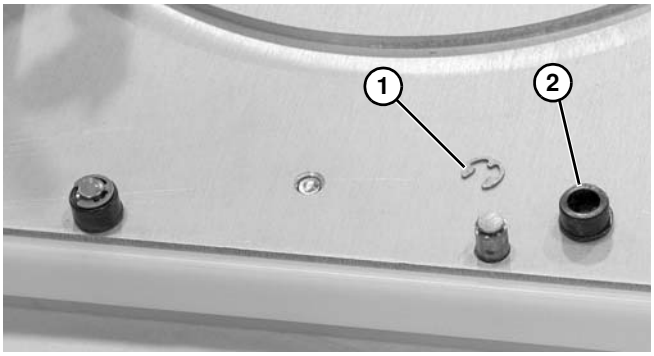


Figure 115

3. Remove socket head screws **(Figure 116, item 1)** with hex wrench **(Figure 116, item 2)**.

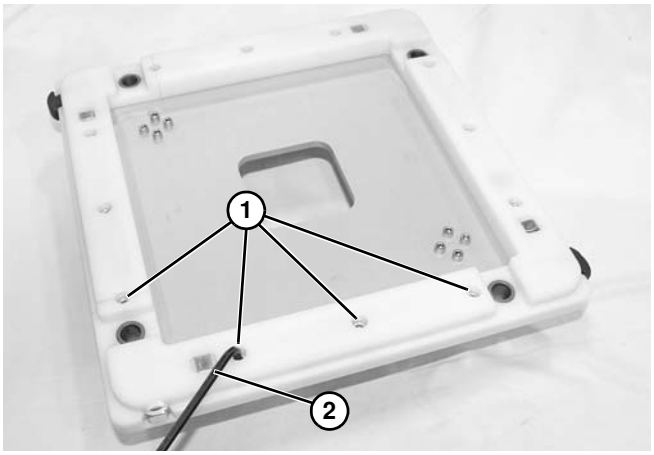


Figure 116

4. Using a flat blade screw driver **(Figure 117, item 1)**, pry corner skirt **(Figure 117, item 2)** off bushing **(Figure 117, item 3)**.

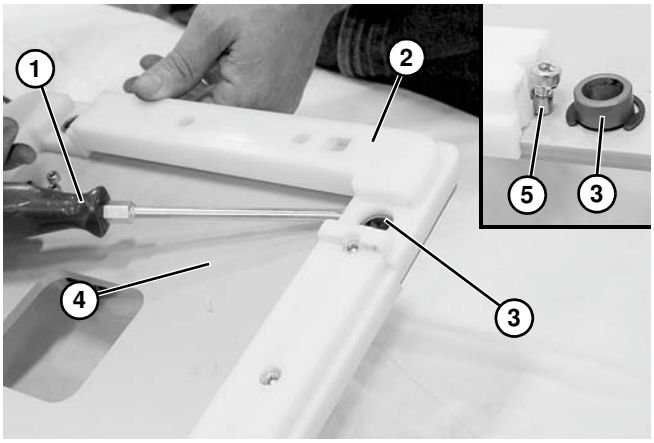


Figure 117

5. Remove corner skirt from top plate **(Figure 117, item 4)**. Make sure not to lose sleeve **(Figure 117, item 5)** at the point where two corner skirts meet.

6. Lift bumper **(Figure 118, item 1)** up and off roll pin **(Figure 118, item 2)** and remove from corner skirt.

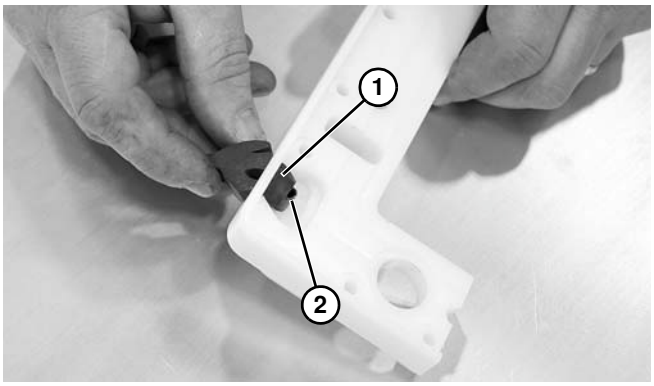


Figure 118

7. Remove roll pin **(Figure 119, item 1)** with needle nose pliers **(Figure 119, item 2)**.

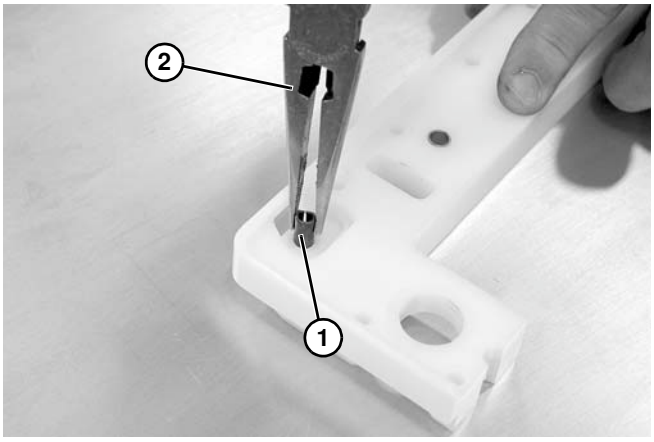


Figure 119

8. Replace worn or damaged parts.
9. Installation is the reverse of removal (except install bumper before guide pin).

Pallet Stops

Removal

For removal of Pallet Stops, reverse the installation procedure. See “Pallet Stops” on page 7.

Lift and Locate Station

Cylinder Replacement

1. Remove tubing **(Figure 120, item 1)** from the lower port **(Figure 120, item 2)** on the lift cylinder.

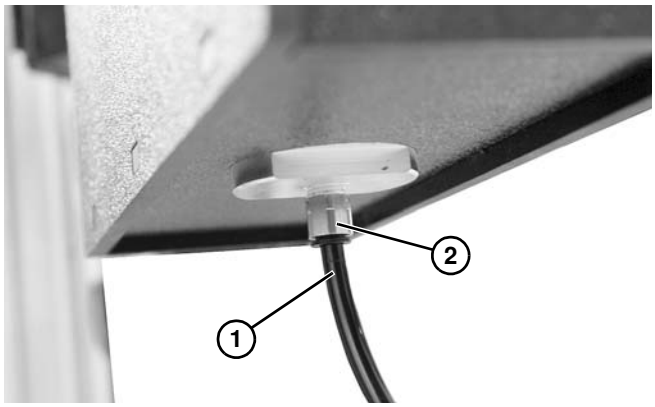


Figure 120

2. If installed, remove button head screws **(Figure 121, item 1)** and optional guard kit **(Figure 121, item 2)**.

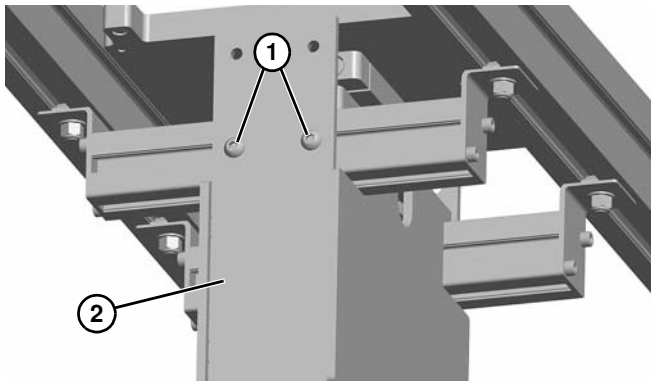


Figure 121

3. Remove tubing **(Figure 122, item 1)** from the upper port **(Figure 122, item 2)** on the lift cylinder.

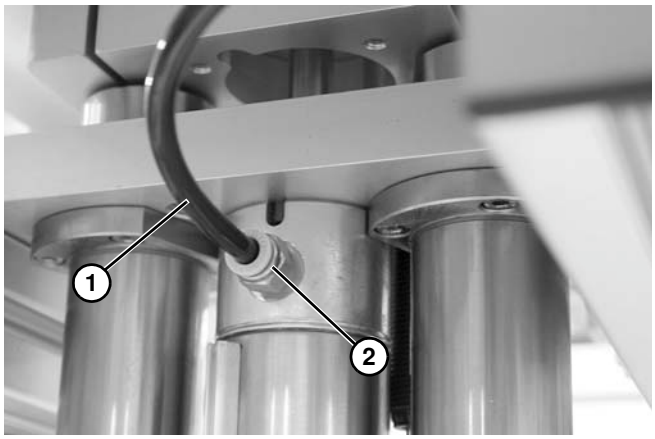


Figure 122

4. Remove socket head screws **(Figure 123, item 1)**. Remove socket head screw **(Figure 123, item 2)** securing top plate **(Figure 123, item 3)** to cylinder shaft. Remove top plate.

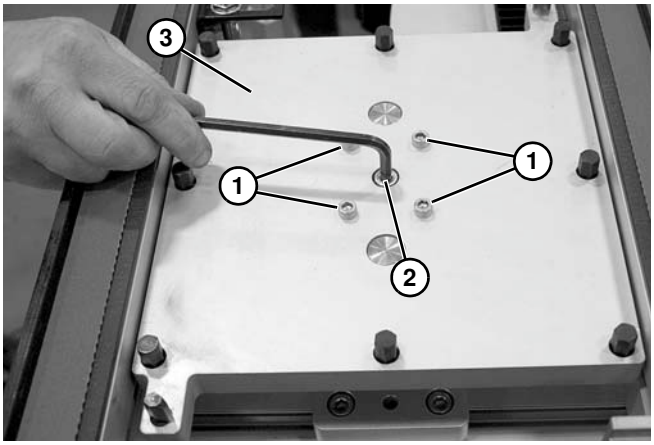


Figure 123

5. Loosen socket head screws **(Figure 124, item 1)** and remove bottom plate **(Figure 124, item 2)**.

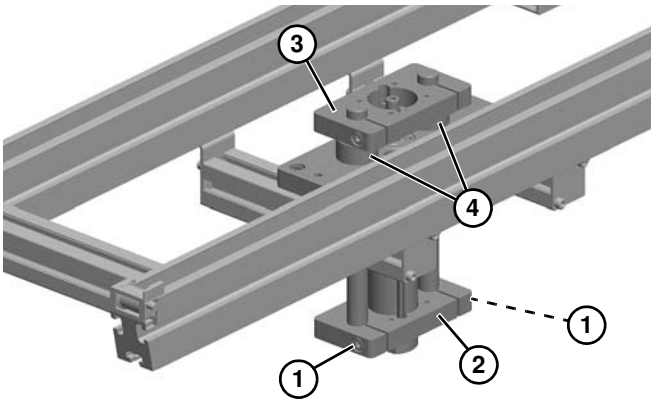


Figure 124

6. Remove top plate with shafts **(Figure 124, item 3)** from bearings **(Figure 124, item 4)**.

7. Remove socket head screws **(Figure 125, item 1)** and one bearing **(Figure 125, item 2)** as shown.

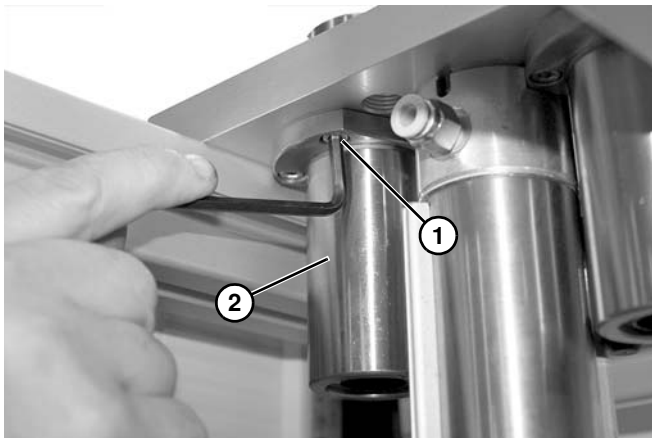


Figure 125

8. Using a spanner wrench **(Figure 126, item 1)**, loosen and remove nut **(Figure 126, item 2)**.

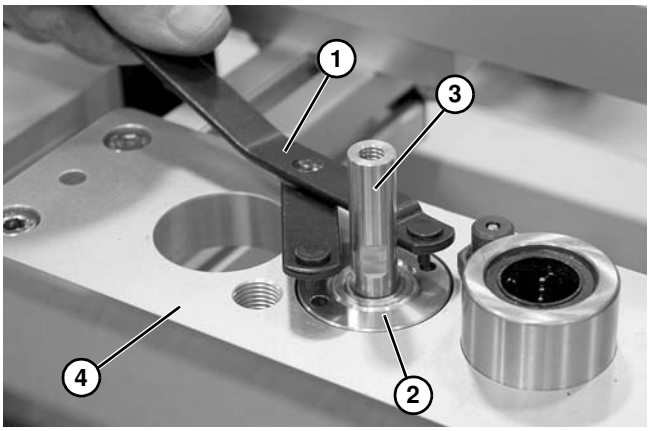


Figure 126

9. Remove cylinder **(Figure 126, item 3)** from mounting plate **(Figure 126, item 4)**.
10. Replace worn or damaged parts.
11. Installation is the reverse of removal.

Bearing Replacement

1. Remove lift cylinder, See “Cylinder Replacement” on page 35.
2. Remove socket head screws **(Figure 127, item 1)** and bearing **(Figure 127, item 2)**. Repeat for other bearing.

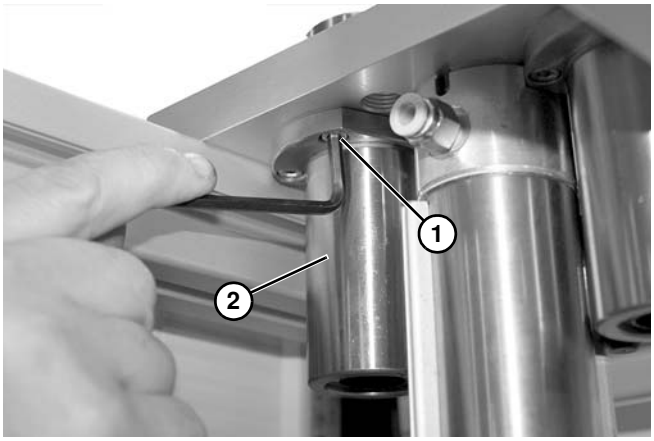


Figure 127

3. Replace worn or damaged parts.
4. Installation is the reverse of removal.

Lift and Transfer Station

Cylinder Replacement

1. If installed, remove button head screws **(Figure 128, item 1)** and guard kit **(Figure 128, item 2)**.

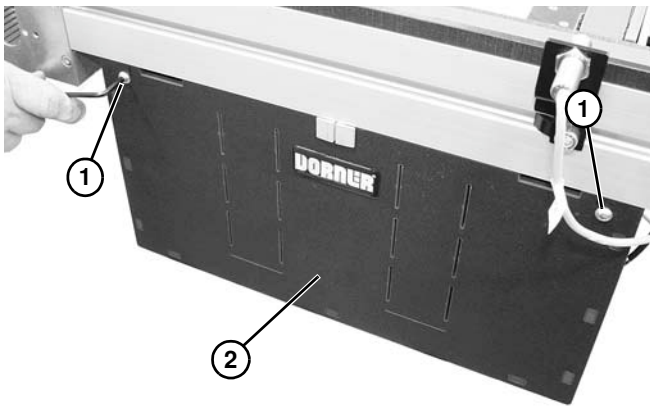


Figure 128

2. Remove belts, See “Belt Replacement” on page 38.
3. Remove wearsrtrips, See “Wearstrip Replacement” on page 39.
4. While supporting drive assembly in place, remove socket head screws **(Figure 129, item 1)** and top plate **(Figure 129, item 2)**.

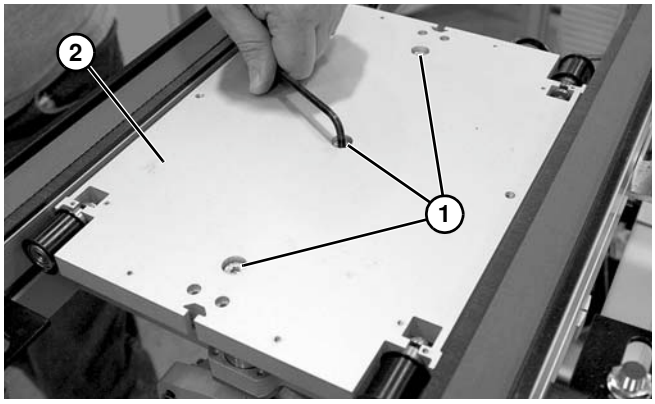


Figure 129

5. Lower drive assembly and shafts **(Figure 130, item 1)** from bearings **(Figure 130, item 2)**.

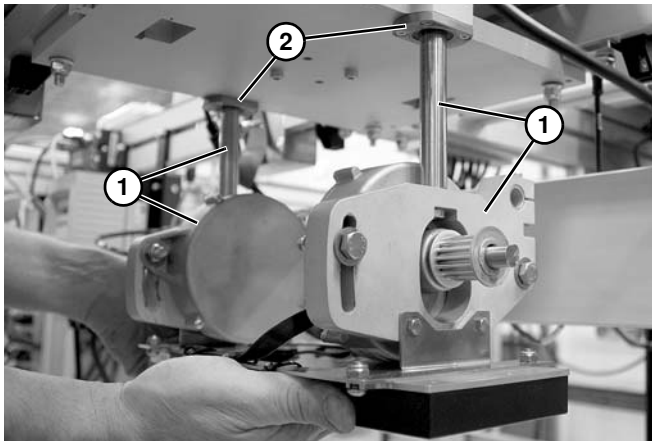


Figure 130

6. Remove tubing **(Figure 131, item 1)** from fittings **(Figure 131, item 2)**.

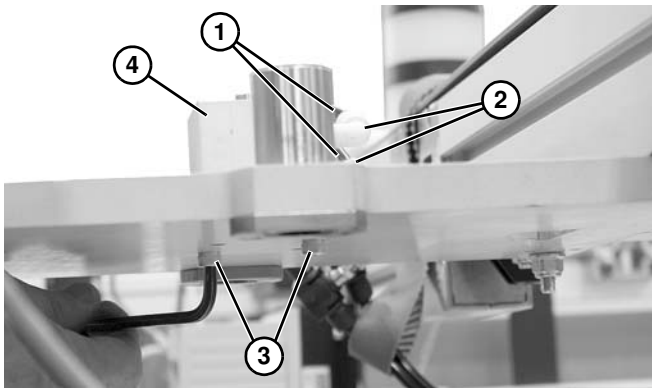


Figure 131

7. Remove socket head screws **(Figure 131, item 3)** and lift cylinder **(Figure 131, item 4)**.
8. Replace worn or damaged parts.
9. Installation is the reverse of removal.

Bearing Replacement

1. Remove lift cylinder, See “Cylinder Replacement” on page 37.
2. Remove socket head screws **(Figure 132, item 1)** and bearing **(Figure 132, item 2)**. Repeat for other bearing.

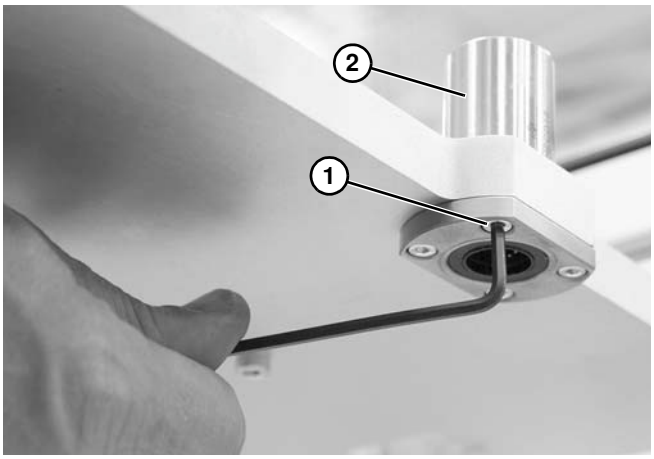


Figure 132

3. Replace worn or damaged parts.
4. Installation is the reverse of removal.

Belt Replacement

1. Remove button head screws **(Figure 133, item 1)** and guard kit **(Figure 133, item 2)**.

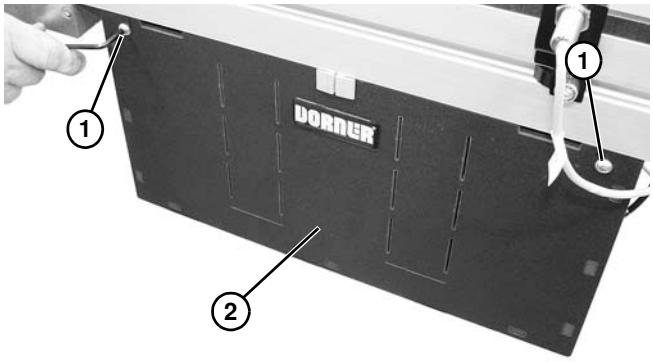


Figure 133

2. Remove tubing **(Figure 134, item 1)** from fittings **(Figure 134, item 2)**.

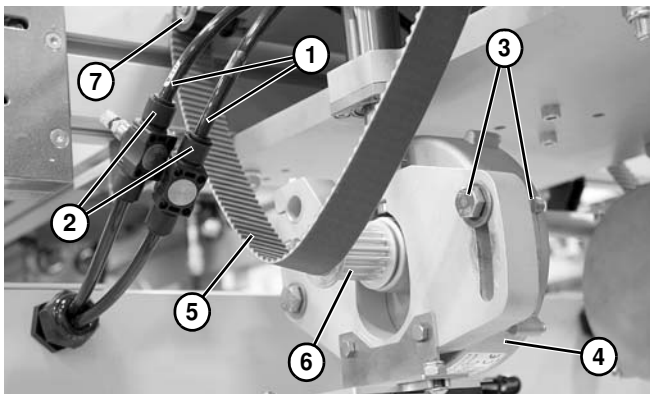


Figure 134

3. Loosen bolt and nut **(Figure 134, item 3)** and push motor **(Figure 134, item 4)** up. Slide belt **(Figure 134, item 5)** off sprocket **(Figure 134, item 6)** and upper rollers **(Figure 134, item 7)**.
4. Install new belt in reverse order of removal.

Motor Replacement

1. Remove belt. See “Belt Replacement” on page 38.
2. Remove motor plug **(Figure 135, item 1)** from drive control **(Figure 135, item 2)**.

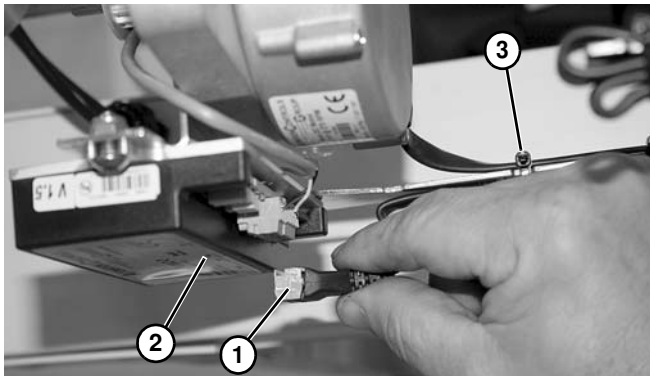


Figure 135

3. Remove tie straps **(Figure 135, item 3)** securing motor harness to bracket.
4. Remove hardware **(Figure 136, item 1)** securing motor **(Figure 136, item 2)** to bracket **(Figure 136, item 3)**.

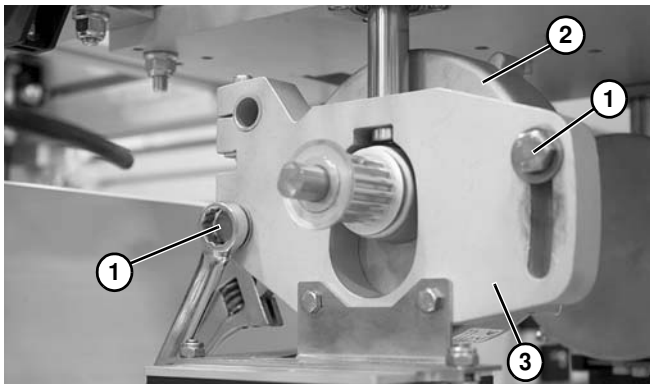


Figure 136

5. Installation is the reverse order of removal.

Wearstrip Replacement

1. Remove belts, See “Belt Replacement” on page 38.
2. Remove flat head screws **(Figure 137, item 1)** and wearstrip **(Figure 137, item 2)**.

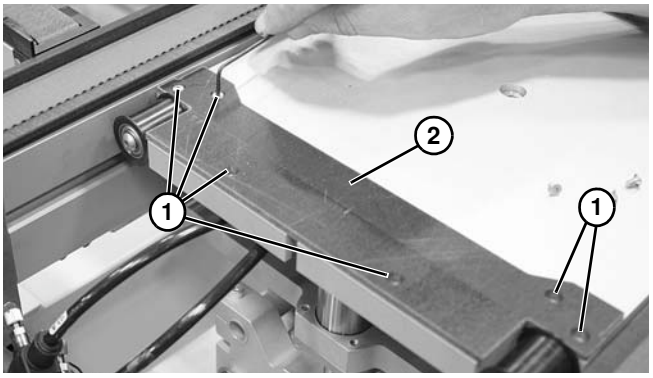


Figure 137

3. Repeat for opposite side.
4. Replace worn or damaged parts.
5. Installation is the reverse order of removal.

Roller Replacement

1. Remove belts, See “Belt Replacement” on page 38.
2. Remove button head screw **(Figure 138, item 1)** and roller **(Figure 138, item 2)** with hex wrench.

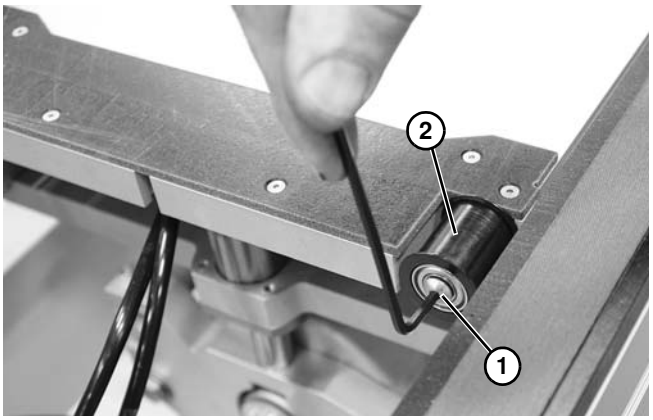


Figure 138

3. Repeat for other rollers.
4. Replace worn or damaged parts.

Lift and Rotate Station

Cylinder Replacement

1. Remove lift and rotate plate **(Figure 139, item 1)** from lift assembly.

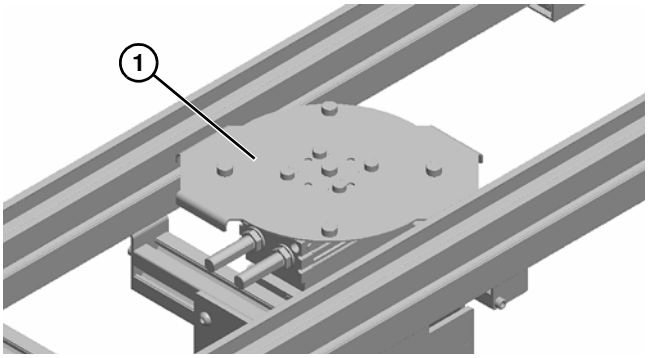


Figure 139

2. Remove tubing **(Figure 140, item 1)** from the lower port **(Figure 140, item 2)** on the lift cylinder.

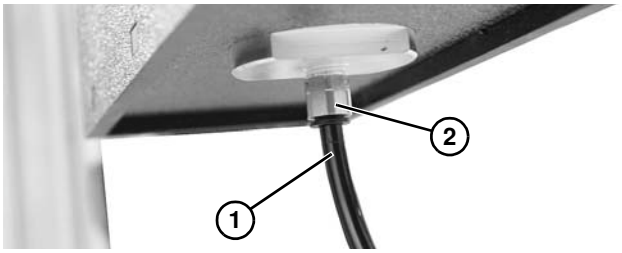


Figure 140

3. If installed, remove button head screws **(Figure 141, item 1)** and optional guard kit **(Figure 141, item 2)**.

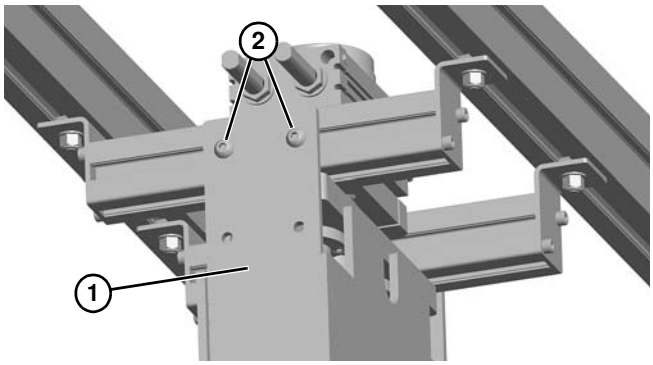


Figure 141

4. Remove tubing **(Figure 142, item 1)** from the upper port **(Figure 142, item 2)** on the lift cylinder.

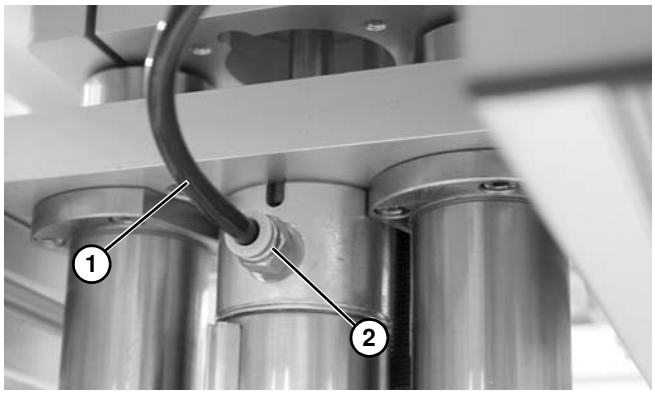


Figure 142

5. Remove tubing **(Figure 143, item 1)** from the fittings **(Figure 143, item 2)** on the rotating actuator.

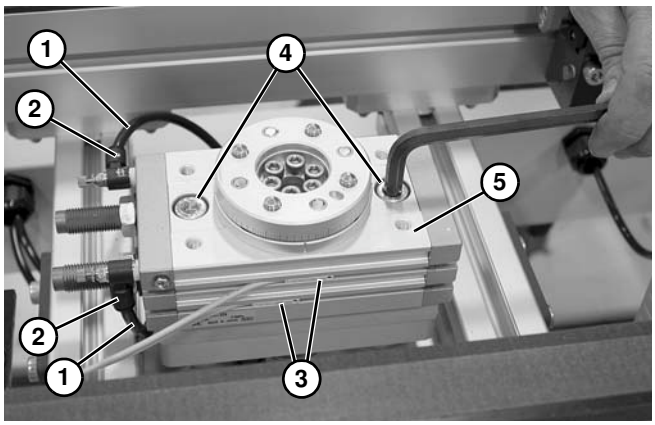


Figure 143

6. Remove optional sensors **(Figure 143, item 3)**, if installed. Remove socket head screws **(Figure 143, item 4)** and rotating actuator **(Figure 143, item 5)**.
7. Remove socket head screws **(Figure 144, item 1)**. Remove socket head screw **(Figure 144, item 2)** securing adapter plate **(Figure 144, item 3)** to cylinder shaft. Remove adapter plate.

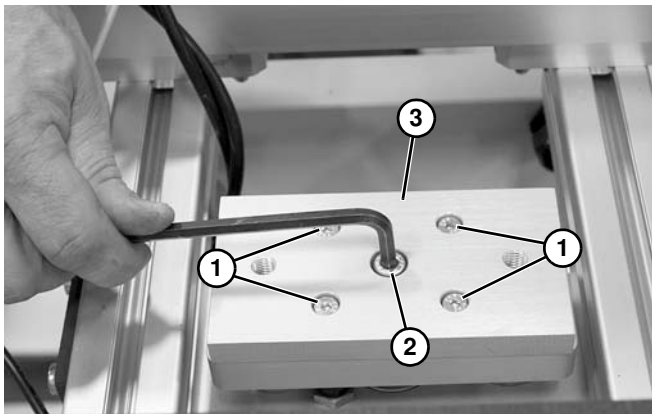


Figure 144

8. Loosen socket head screws **(Figure 145, item 1)** and remove bottom plate **(Figure 145, item 2)**.

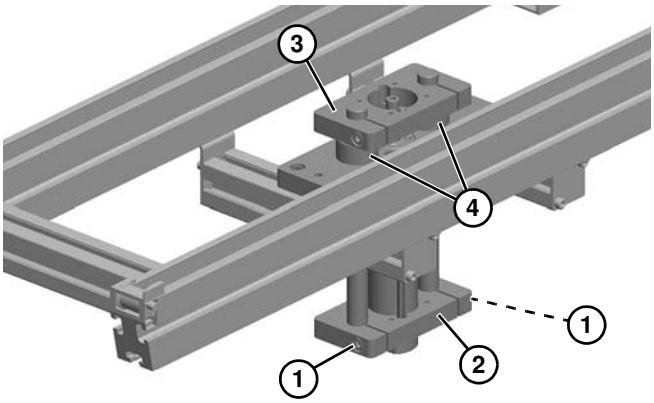


Figure 145

9. Remove top plate with shafts **(Figure 145, item 3)** from bearings **(Figure 145, item 4)**.
10. Remove socket head screws **(Figure 146, item 1)** and one bearing **(Figure 146, item 2)** as shown.

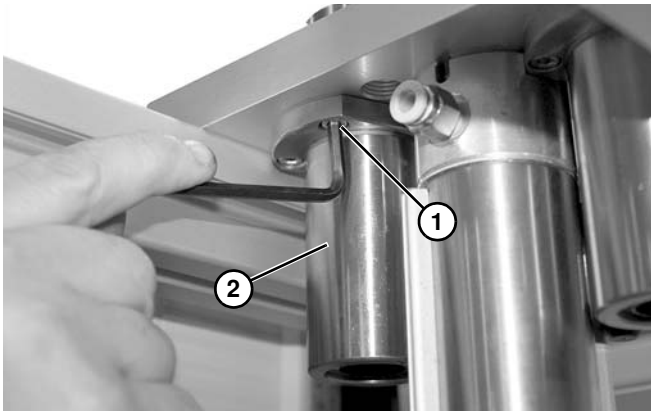


Figure 146

11. Using a spanner wrench **(Figure 147, item 1)**, loosen and remove nut **(Figure 147, item 2)**.

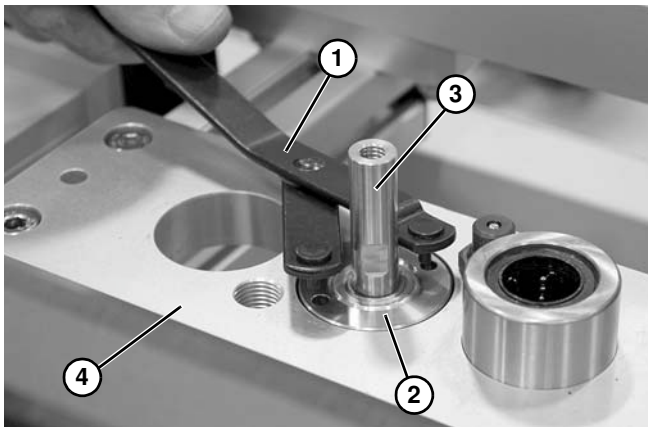


Figure 147

12. Remove cylinder **(Figure 147, item 3)** from mounting plate **(Figure 147, item 4)**.
13. Replace worn or damaged parts.
14. Installation is the reverse of removal.

Bearing Replacement

1. Remove lift cylinder, See “Cylinder Replacement” on page 40.
2. Remove socket head screws **(Figure 148, item 1)** and bearing **(Figure 148, item 2)**. Repeat for other bearing.

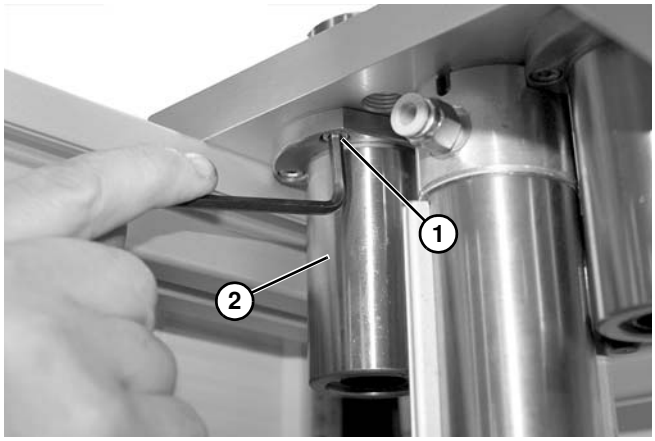


Figure 148

3. Replace worn or damaged parts.
4. Installation is the reverse of removal.

90° Corner

Removal

For removal of 90° Corner, reverse the installation procedure. See “90° Corner” on page 23.

Guide Track Replacement

1. Loosen and remove socket head screws **(Figure 149, item 1)** from cam follower nuts **(Figure 149, item 2)**.

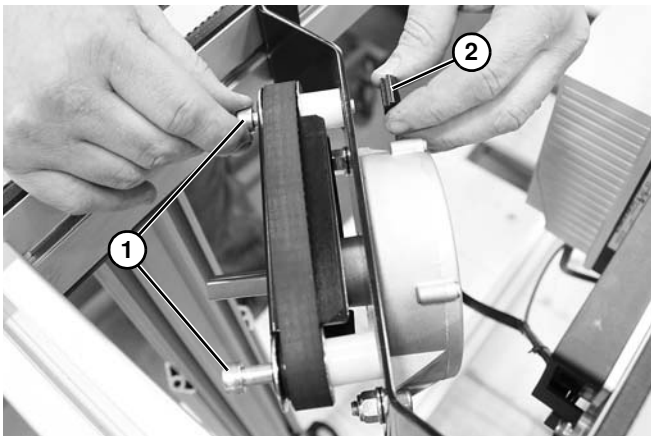


Figure 149

2. Remove guide track assembly **(Figure 150, item 1)**.

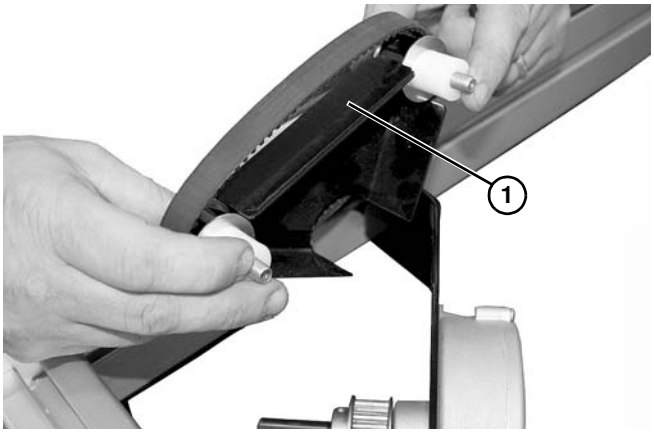


Figure 150

3. Make note of position of individual components, and disassemble guide track assembly.
4. Replace worn or damaged parts.
5. Installation is the reverse of removal.

90° Corner and Merge

Removal

For removal of 90° Corner and Merge, reverse the installation procedure. See “90° Corner and Merge” on page 25.

Cylinder Replacement

Procedure shown is for the Corner Guide. Procedure for the Straight Guide is similar.

1. Remove tubing from fittings on cylinder.
2. Remove lock nuts **(Figure 151, item 1)**, grommets **(Figure 151, item 2)**, and corner guide **(Figure 151, item 3)**.

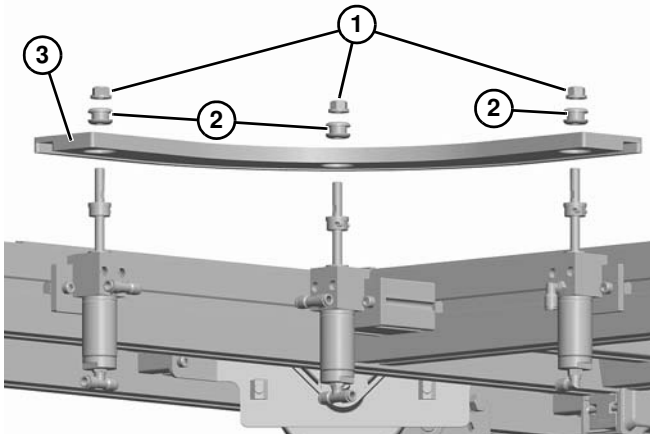


Figure 151

3. Remove socket head screws **(Figure 152, item 1)** securing cylinder assembly **(Figure 152, item 1)** to conveyor.

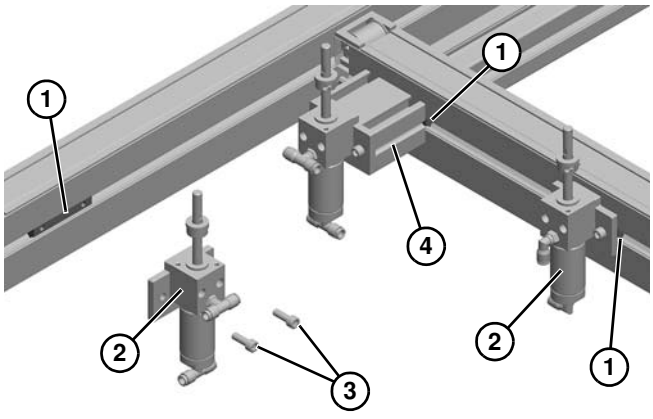


Figure 152

4. Installation is the reverse order of removal.
5. Adjust guiding. See “Adjust Guiding” on page 27

Guide Track Replacement

1. Loosen and remove socket head screws **(Figure 153, item 1)** from cam follower nuts **(Figure 153, item 2)**.

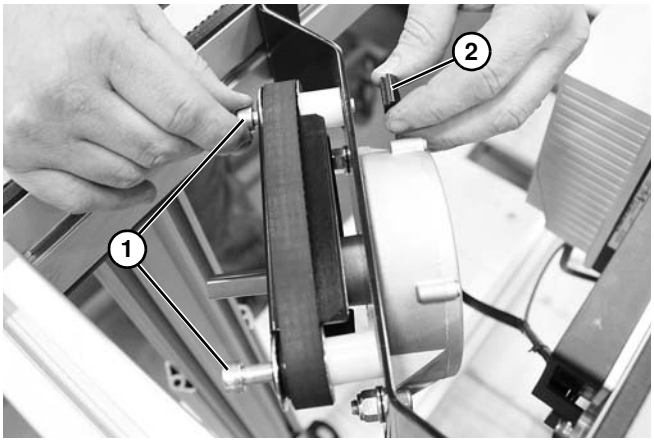


Figure 153

2. Remove guide track assembly **(Figure 154, item 1)**.

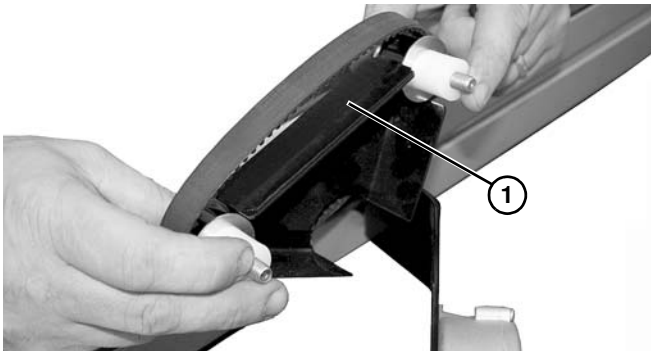


Figure 154

3. Make note of position of individual components, and disassemble guide track assembly.
4. Replace worn or damaged parts.
5. Installation is the reverse of removal.

Wearstrip Replacement

1. Loosen screws **(Figure 155, item 1)**.

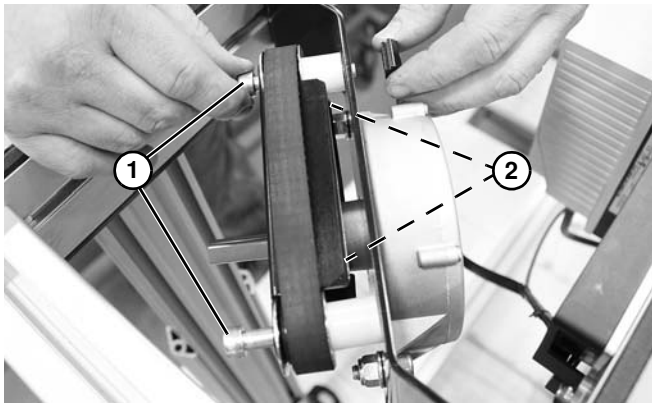


Figure 155

2. Remove flathead screws **(Figure 155, item 2)** holding wearstrip.
3. Remove wearstrip.
4. Reverse steps for installation.

180° Corner

Motor Replacement

1. Remove motor plug from drive control.
2. Remove two socket head screws **(Figure 156, item 1)** attaching corner motor module **(Figure 156, item 2)** to the outer conveyor rail **(Figure 156, item 3)**.

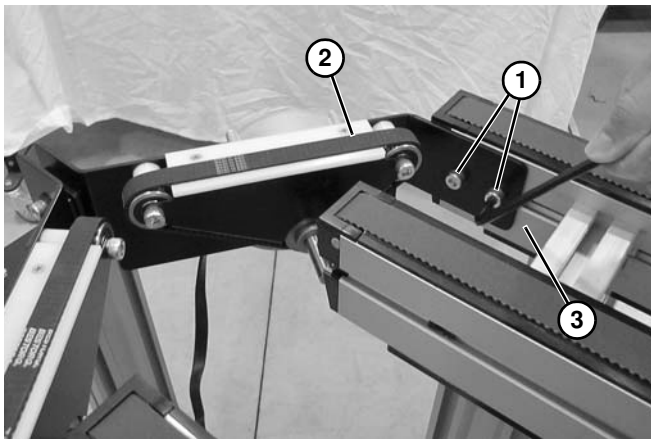


Figure 156

3. Remove fastener **(Figure 157, item 1)** attaching corner motor modules **(Figure 157, item 2)** to third leg of stand **(Figure 157, item 3)**.

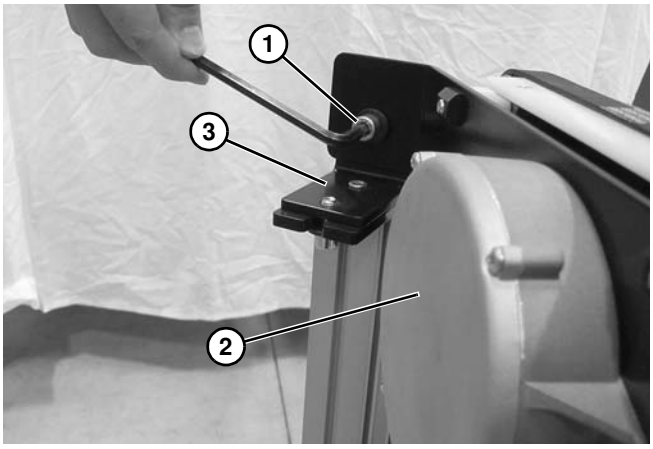


Figure 157

4. Loosen and remove socket head screws **(Figure 158, item 1)** from cam follower nuts and remove motor **(Figure 158, item 2)**.

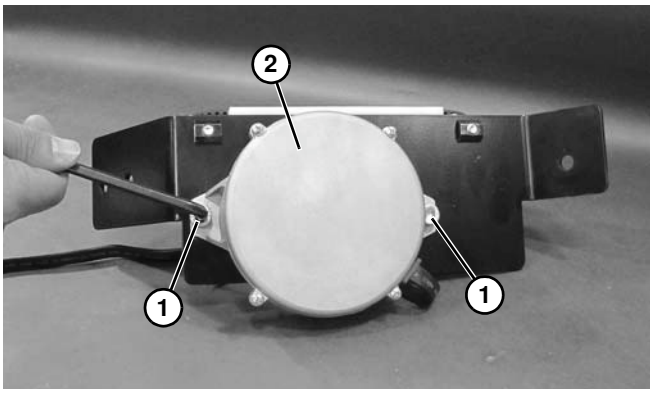


Figure 158

5. Loosen set screws **(Figure 159, item 1)** and remove pulley **(Figure 159, item 2)**.

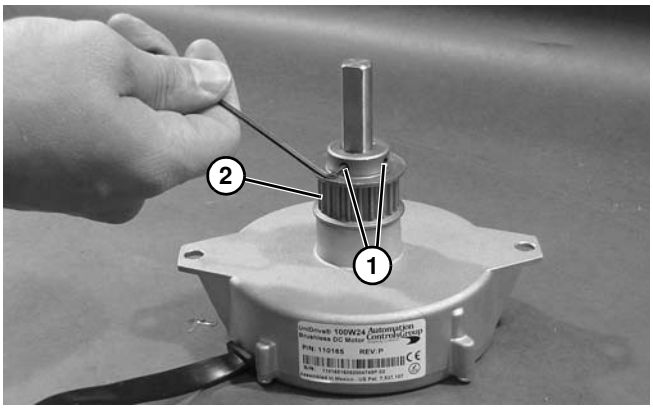


Figure 159

6. Installation is the reverse of removal.

Belt, Bearing and Wear Strip Replacement

1. Remove motor, See “Motor Replacement” on page 43.
2. Loosen and remove socket head screws **(Figure 160, item 1)** from cam follower nuts.

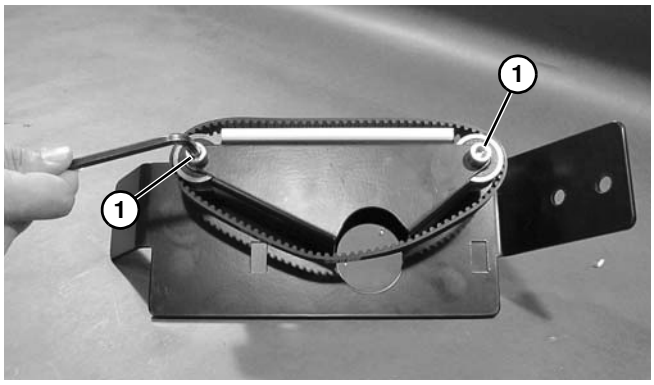


Figure 160

3. Remove belt **(Figure 161, item 1)** and guide track assembly **(Figure 161, item 2)** from plate.

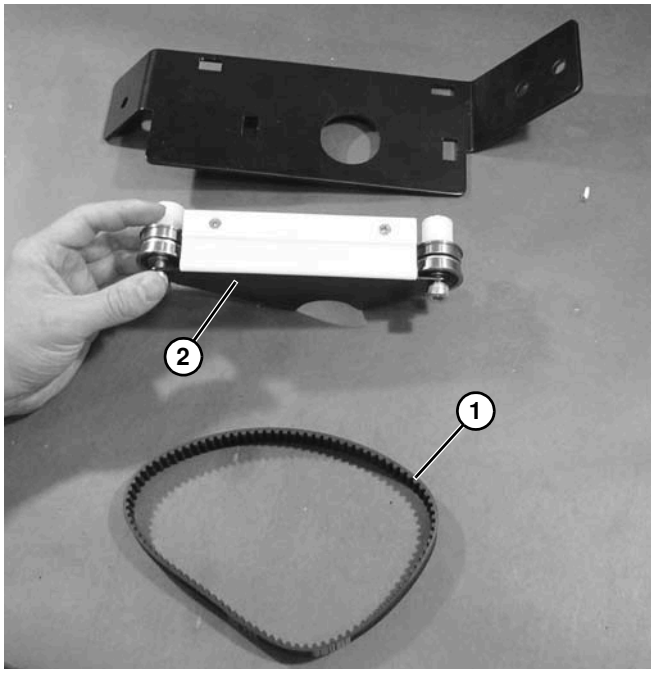


Figure 161

4. Slide off spacer **(Figure 162, item 1)** and bearing **(Figure 162, item 2)**.

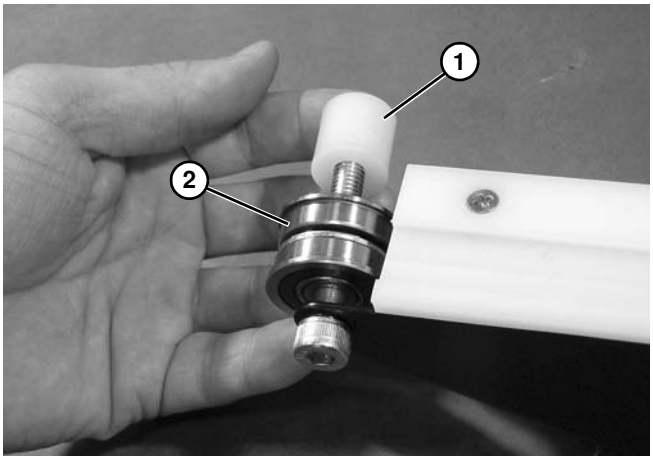


Figure 162

5. Remove screws **(Figure 163, item 1)** and wear strip **(Figure 163, item 2)**.

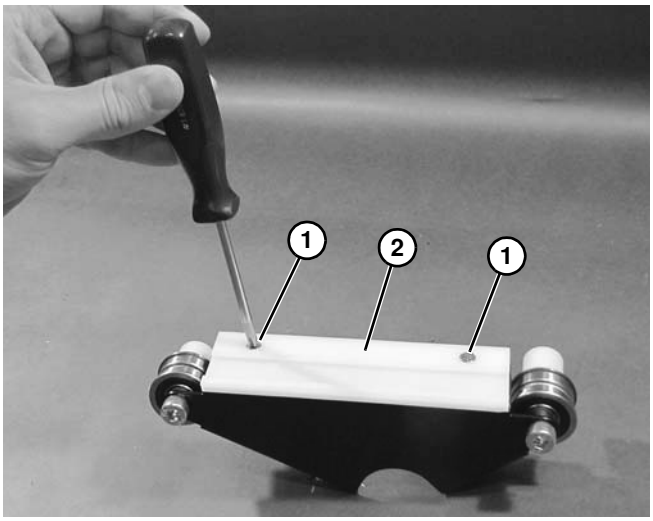


Figure 163

6. Replace worn or damaged parts.
7. Installation is the reverse of removal.

Heavy Load 90° and 180° Corners

Corner Conveyor Belt Replacement

⚠ WARNING

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

Replacing a Section of Belt

1. Use a punch and hammer or belt removal tool #203480 to push the belt rod **(Figure 164, item 1)** out by striking the rod end.

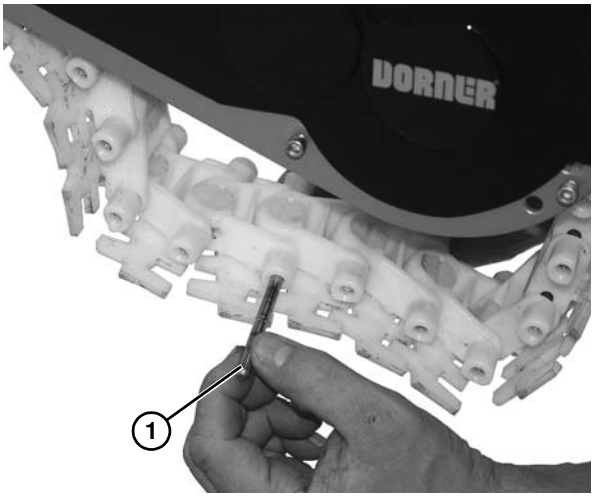


Figure 164

⚠ WARNING

SEVERE HAZARD!
If conveyor belt is damaged or worn, replace belt section.

2. Remove the belt rods on both sides of the section of belt being replaced.
3. Replace old section of belt.

⚠ CAUTION

DO NOT reuse belt rods that are damaged or show signs of wear.

NOTE

*Before inserting belt rod to connect belt ends, be certain that the slack on belt is showing in slotted area **(Figure 165, item 1)** on convey or drive end.*

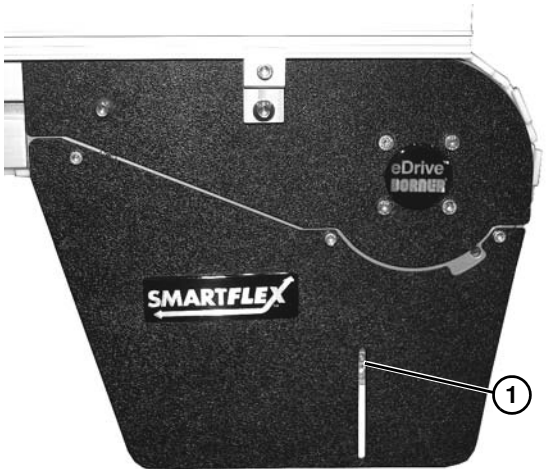


Figure 165

Replacing the Entire Belt

1. Use a punch and hammer or belt removal tool #203480 to push the belt rod **(Figure 166, item 1)** out by striking the rod end.

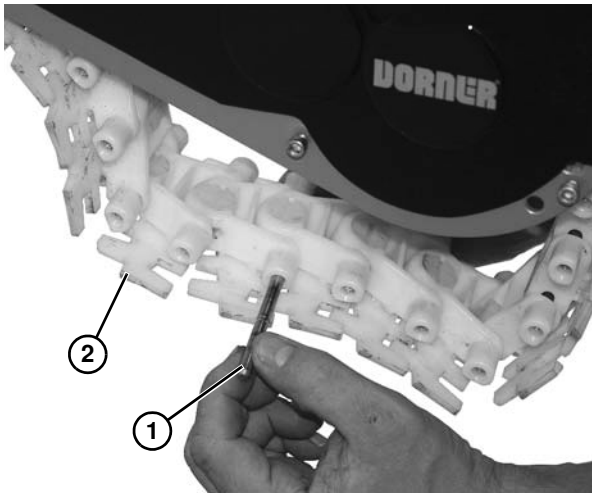


Figure 166

2. Slide the old belt **(Figure 166, item 2)** off the conveyor frame.

NOTE

Drive spindle shaft assembly replacement is recommended with belt replacement (see "Drive Tail Removal" on page 51).

⚠ CAUTION

DO NOT reuse belt rods that are damaged or show signs of wear.

Conveyor Belt Tensioning

⚠ WARNING

SEVERE HAZARD!

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

NOTE

Belt should not be stretched during installation. A proper length of belt can be installed by interlocking the ends by hand without excess links.

1. Remove one or more belt links to take up tension. Refer to "Replacing a Section of Belt" on page 45.

NOTE

*Before inserting belt rod to connect belt ends, be certain that the slack on belt is showing in slotted area **(Figure 167, item 1)** on convey or drive end.*

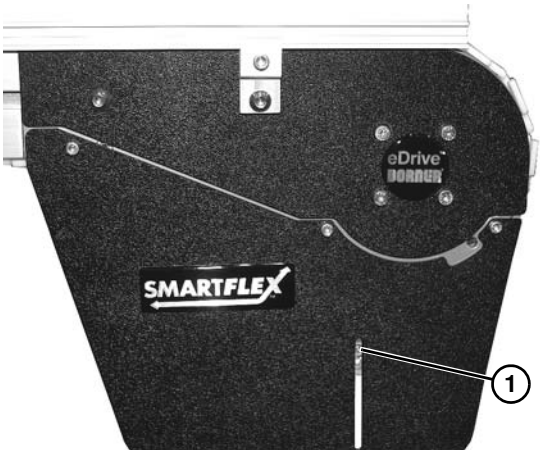


Figure 167

Wear Strip Removal

Replace the wear strips if they become worn.

NOTE

Top and bottom wear strips are shipped pinned/attached at various places on conveyor.

1. Remove belt. See "Corner Conveyor Belt Replacement" on page 45.
2. Remove wear strip **(Figure 168, item 1)** from top of frame assembly up to pinned end **(Figure 168, item 2)**.

Figure 168

3. Cut and remove worn wear strip section and replace with new wear strip. See "Wear Strip Installation" on page 47.
4. Remove lower wear strips, as needed, repeat procedure used for upper wear strips.

Wear Strip Installation

1. Remove wear strips. See "Wear Strip Removal" on page 47.

Attaching Wear Strip on Straight Frame

1. Start the wear strips **(Figure 169, item 1)** at an idler end **(Figure 169, item 2)** of conveyor. Separate the top and bottom flange of the wear strip at the end of rail and press into place.

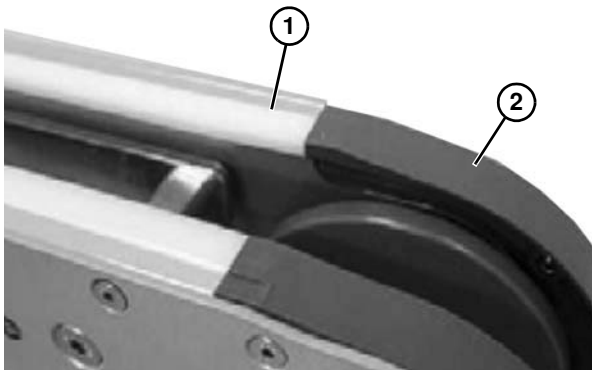


Figure 169

2. Make sure the wear strip **(Figure 170, item 1)** is properly mounted and snaps onto the frame **(Figure 170, item 2)**. Please identify the longer flange of the wear strip must always face the inside of the conveyor.

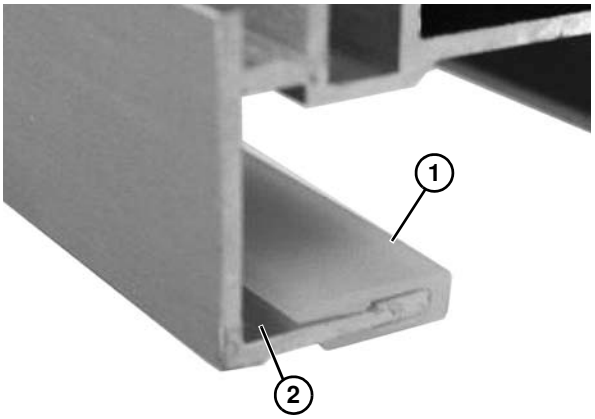
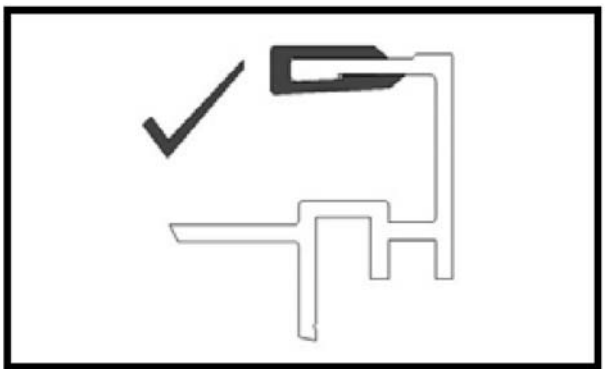
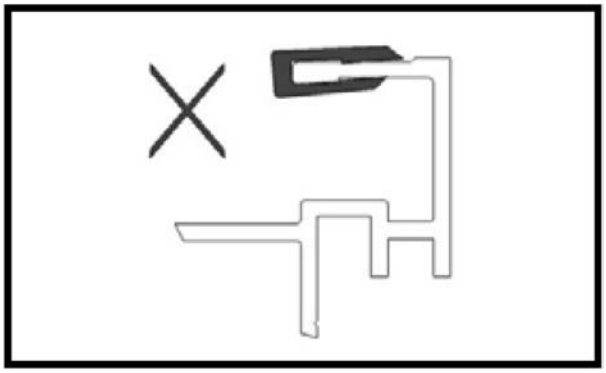


Figure 170



Correct Installation



Wrong Installation

Attaching Wear Strip on Conveyor Frame

1. Cut both wear strip **(Figure 171, item 1)** ends in a 45° angle. The beginning of a new wear strip (in the direction of travel) must cut back a small angle.

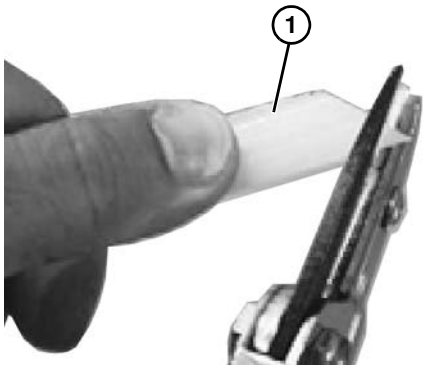


Figure 171

2. Allow a space of approximately 1/16" to 1/8" **(Figure 172, item 1)** between two wear strip ends. The travel direction is indicated by arrow.

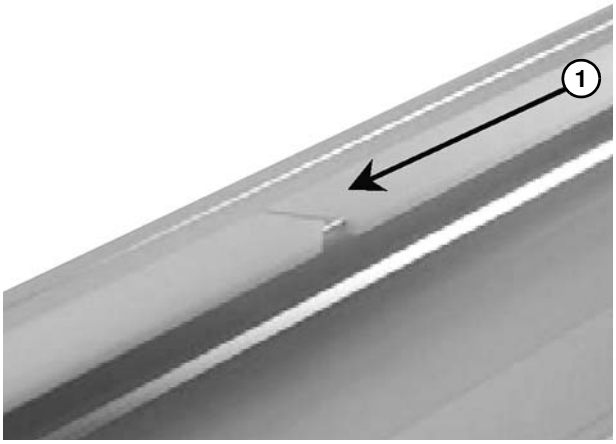


Figure 172

3. Do not place two wear strip joints opposite each other. Make sure there is a distance of at least 4" **(Figure 173, item 1)** between them to make the chain run smoother. This does not apply to a wear strip that begins by an idler unit or after a drive tail, where joints are always parallel.

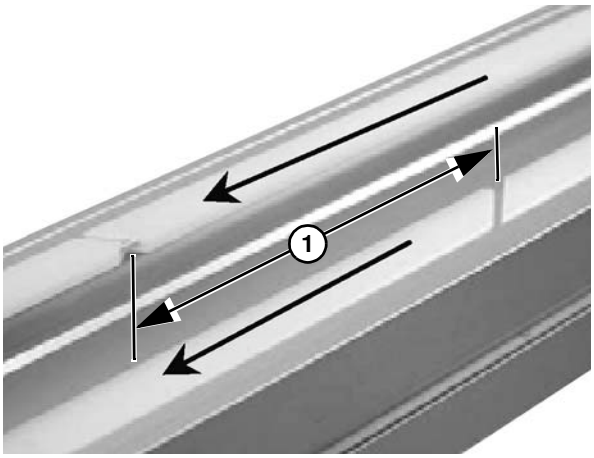


Figure 173

NOTE

Try to let the wear strip run in as continuous lengths as possible by reducing number of breaks, except in circumstances stated below:

- *It is recommended to use short wear strips (75"- 100") where chemicals may have an effect on the wear strip composition.*
- *It is important to cut the wear strip and allow for elongation in high load areas. Cutting is required in wheel bends (see following page), at idler tails and where the conveyor will be heavily loaded, especially at drive unit. This prevents the wear strip from stretching out and entering into the drive tail, which may block the chain movement.*
- *Never join wear strip in horizontal or vertical bends, since forces are higher on the wear strip side in these sections. Instead, place the joint before the bend.*
- *Avoid joining wear strips on top of the conveyor frame joints.*

Attaching Wear Strip

1. Attach wear strip replacement tool **(Figure 174, item 1)** over wear strip **(Figure 174, item 2)** and frame near the beginning of each wear strip section. Tightly secure in place.

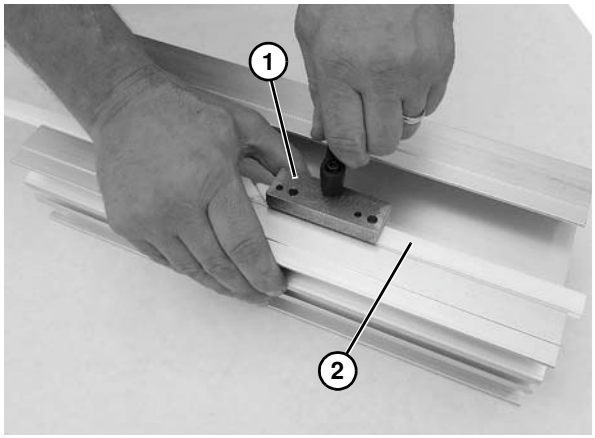


Figure 174

2. Using the wear strip replacement tool **(Figure 175, item 1)** drill two holes through the two small location holes **(Figure 175, item 2)** through the wear strip and frame using the #18 drill bit from the wear strip replacement kit.

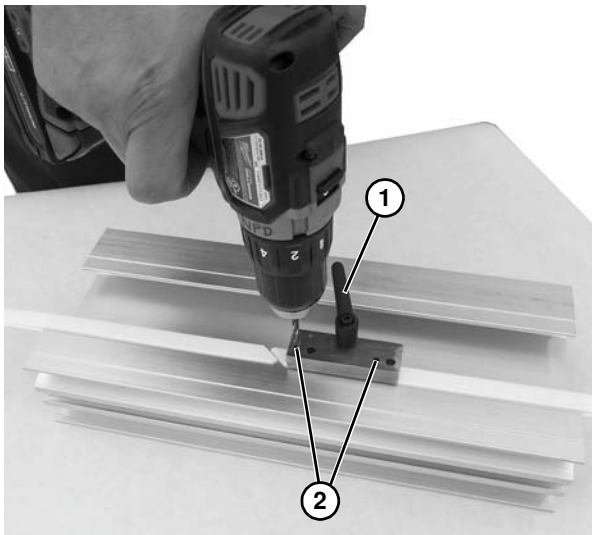


Figure 175

3. Remove debris from conveyor frame.
4. Relocate wear strip replacement tool to align the two larger guide holes with the holes drilled in the frame.
5. Pressing down firmly, install nylon set screws **(Figure 176, item 1)** through larger guide holes **(Figure 176, item 2)** into conveyor frame.

NOTE
Nylon set screw should be almost flush with the wear strip top when installed correctly.

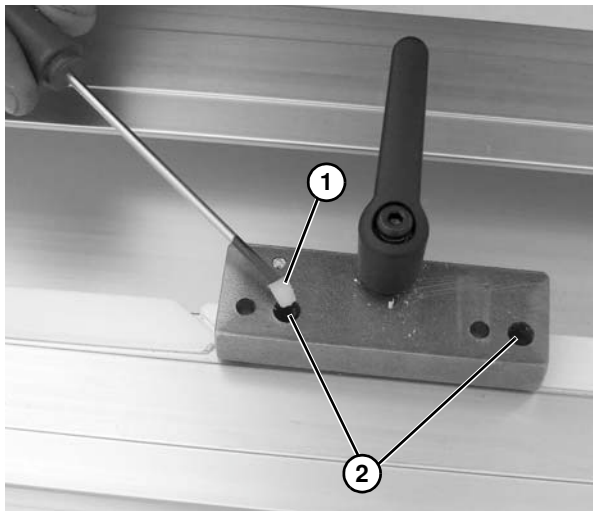


Figure 176

6. Using a file, scrape off the top of the nylon set screw above the wear strip **(Figure 177, item 1)** to assure a smooth surface for the belt.

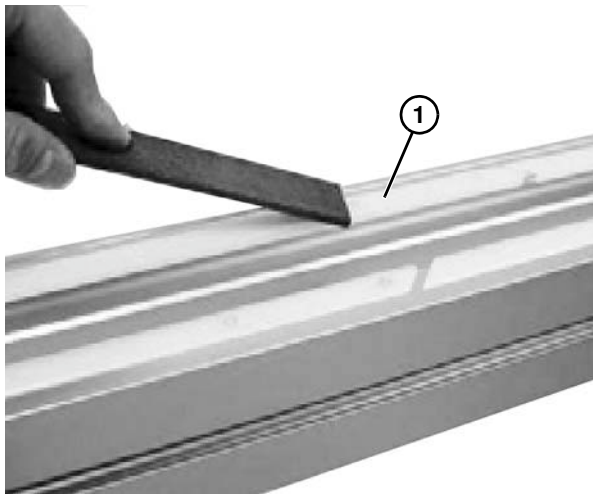


Figure 177

Idler Pulley Removal

⚠ WARNING

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

1. Remove the gearmotor.
2. Remove two socket head screws **(Figure 178, item 1)** on both sides of the crossmember **(Figure 178, item 2)**.

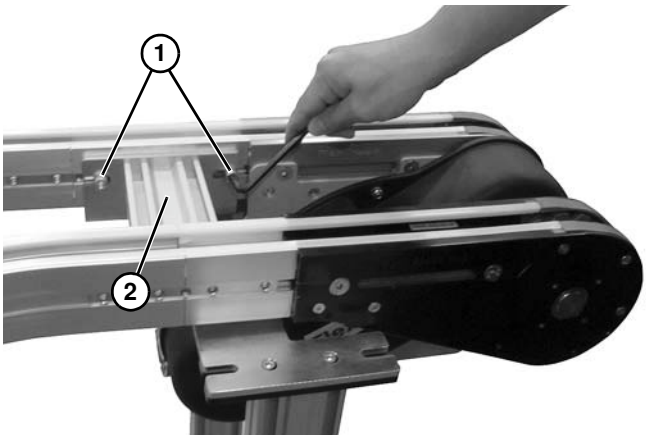


Figure 178

3. Tilt the crossmember **(Figure 179, item 1)** down and back. Remove the crossmember from the conveyor.

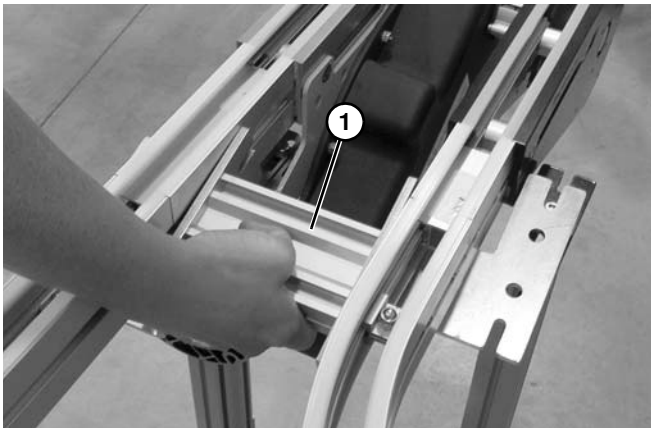


Figure 179

4. Remove wear strips **(Figure 180, item 1)** from the tails.

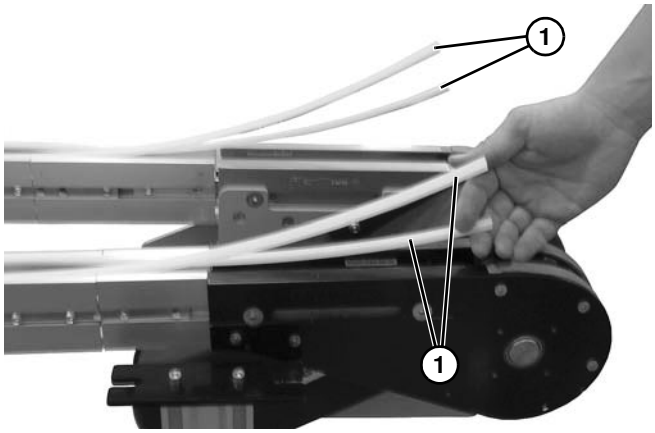


Figure 180

5. Remove set screws **(Figure 181, item 1)** on both sides of the conveyor **(Figure 181, item 2)**.

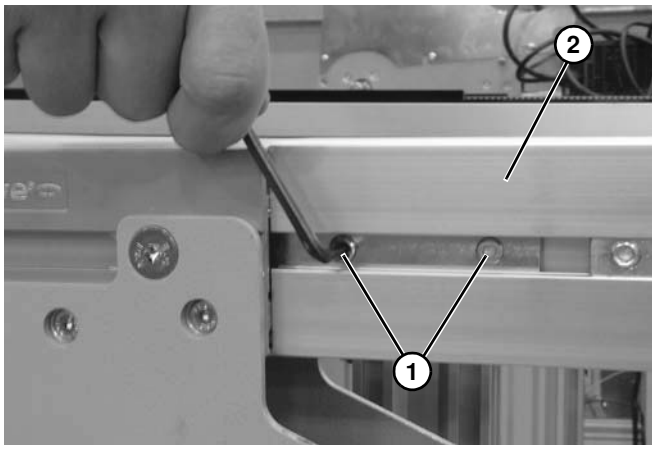


Figure 181

6. Remove the tails **(Figure 182, item 1)** from the conveyor **(Figure 182, item 2)**.

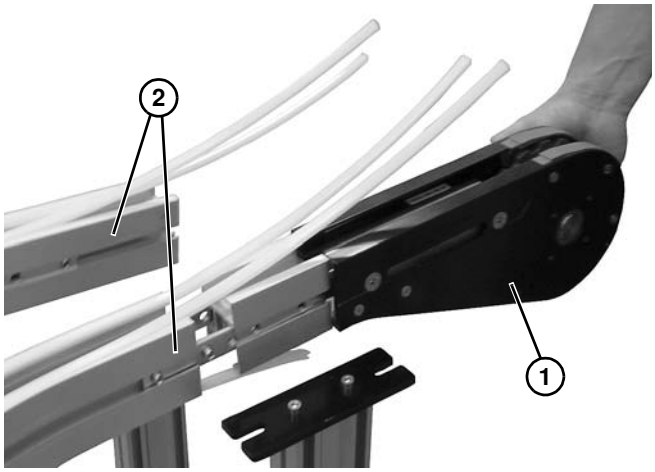


Figure 182

7. Remove three flat head screws **(Figure 183, item 1)**.

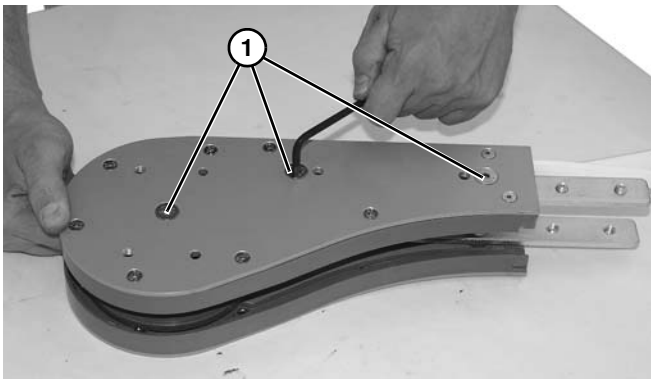


Figure 183

8. Remove the head plate **(Figure 184, item 1)** from the idler end.

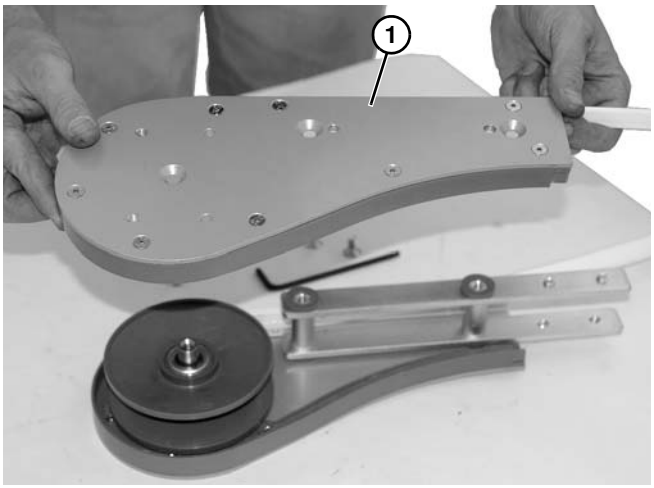


Figure 184

9. Remove flat head screw **(Figure 185, item 1)** and remove idler pulley **(Figure 185, item 2)** from idler head plate assembly.

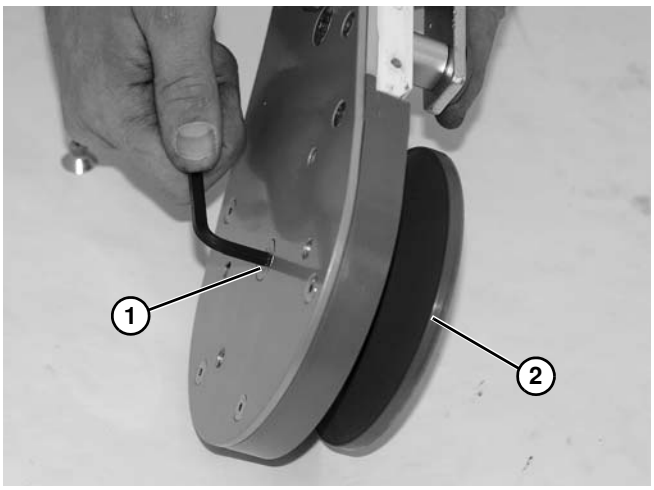


Figure 185

10. Install components reverse of removal.

Drive Tail Removal

⚠ WARNING

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

1. Remove the gearmotor.
2. Remove two socket head screws **(Figure 186, item 1)** on both sides of the crossmember **(Figure 186, item 2)**.

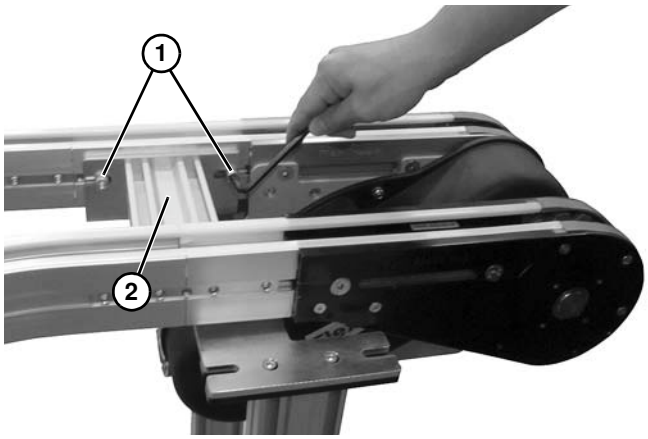


Figure 186

3. Tilt the crossmember **(Figure 187, item 1)** down and back. Remove the crossmember from the conveyor.

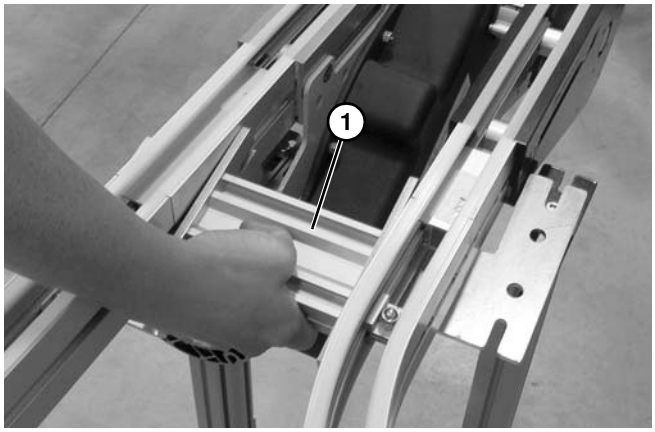


Figure 187

4. Remove wear strips **(Figure 188, item 1)** from the tails.

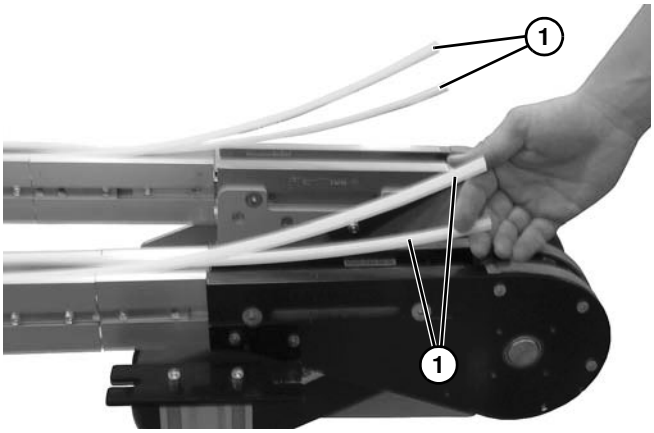


Figure 188

5. Remove set screws **(Figure 189, item 1)** on both sides of the conveyor **(Figure 189, item 2)**.

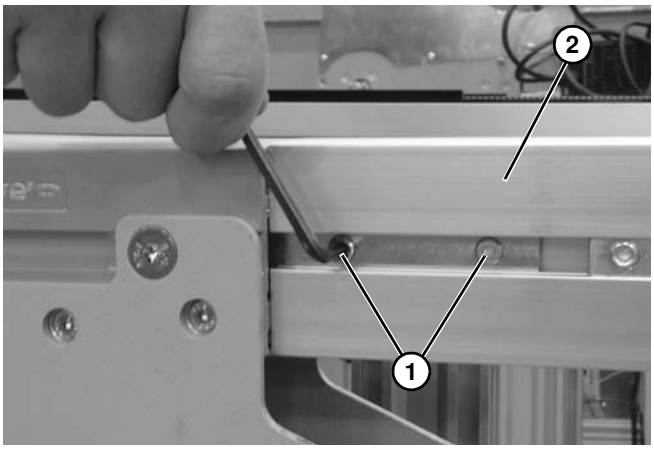


Figure 189

6. Remove four socket head screws **(Figure 190, item 1)** and remove the stand **(Figure 190, item 2)** from the gear reducer.

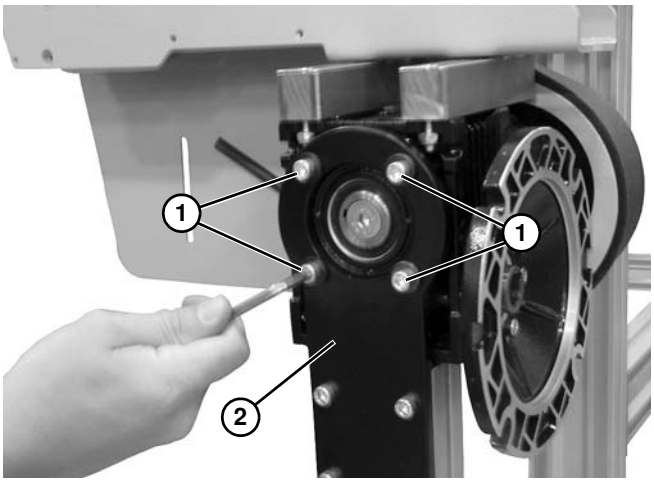


Figure 190

7. Remove the tails **(Figure 191, item 1)** from the conveyor **(Figure 191, item 2)**.

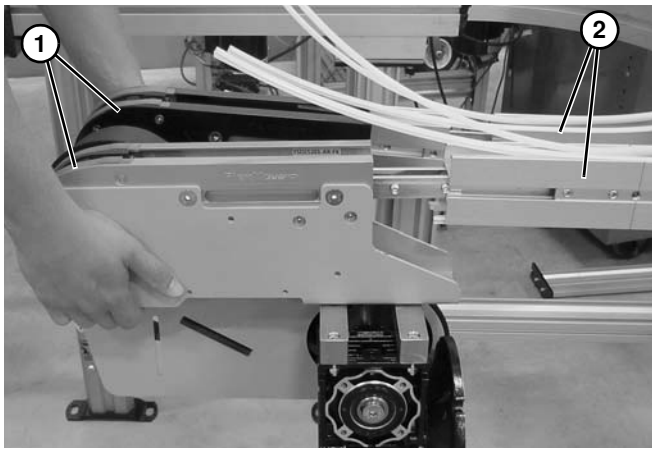


Figure 191

Driven Spindle Shaft Removal

1. Remove four socket head screws **(Figure 192, item 1)** and standoffs **(Figure 192, item 2)**.

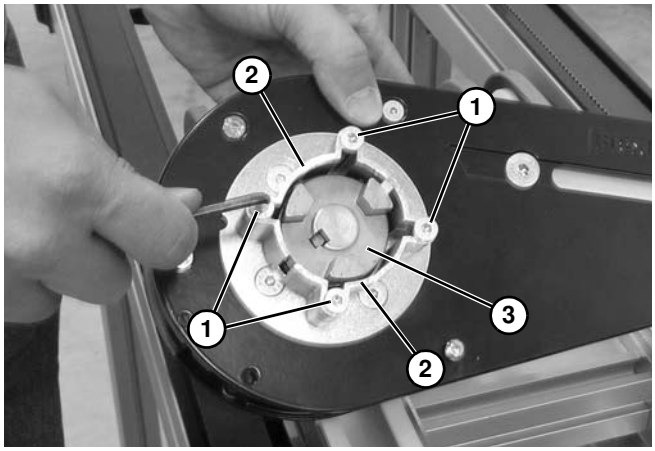


Figure 192

2. Loosen set screw and remove 3 jaw coupler **(Figure 192, item 3)**.
3. Remove four socket head screws **(Figure 193, item 1)** on side of drive spindle.

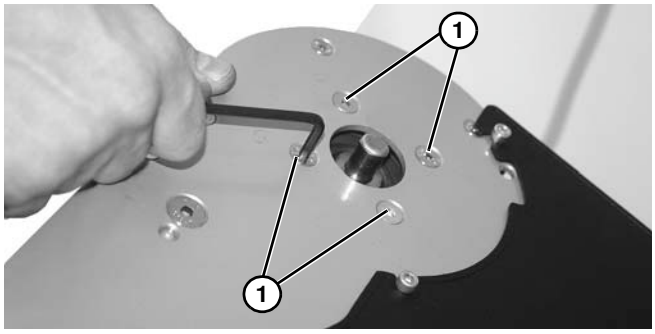


Figure 193

4. Remove two socket head screws **(Figure 194, item 1)** on side of drive spindle.

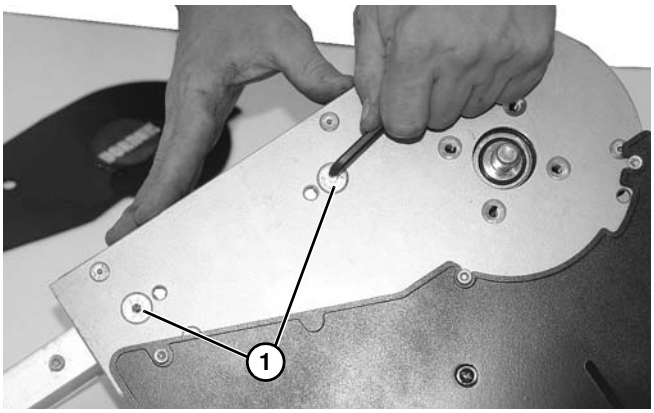


Figure 194

5. Remove the head plate **(Figure 195, item 1)** from the drive end.

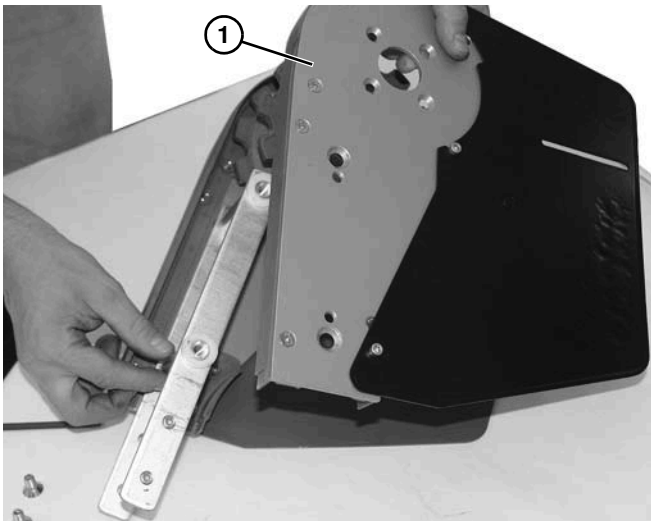


Figure 195

6. Remove spindle shaft assembly **(Figure 196, item 1)** from idler head plate assembly.

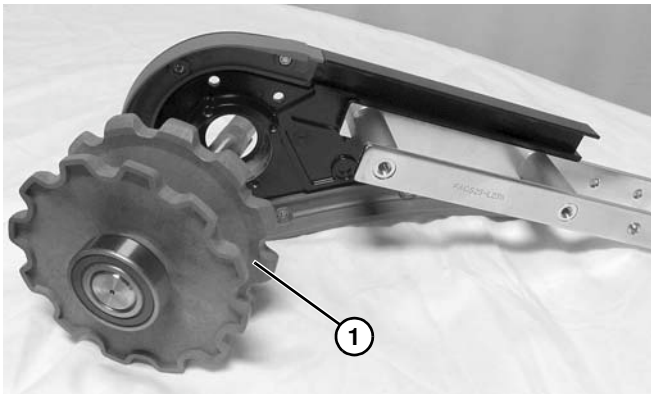


Figure 196

7. Install components reverse of removal.

Drive Spindle Shaft Removal

1. Remove two nuts **(Figure 197, item 1)**.

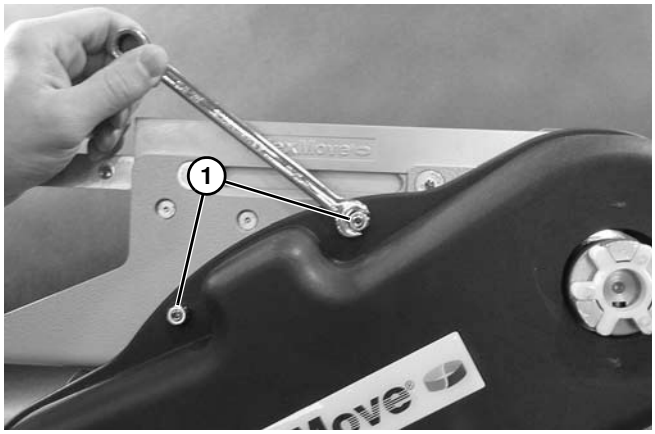


Figure 197

2. Remove cover **(Figure 198, item 1)** from tail assembly **(Figure 198, item 2)**.

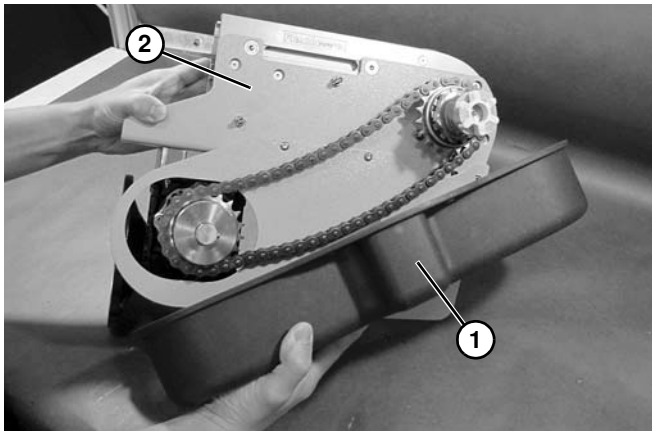


Figure 198

3. Loosen set screws **(Figure 199, item 1)** on drive sprocket **(Figure 199, item 2)**.

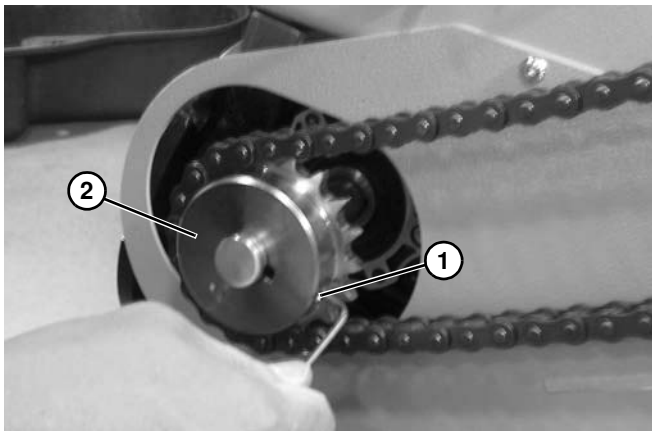


Figure 199

4. Remove four bolts **(Figure 200, item 1)** and remove the gear reducer **(Figure 200, item 2)** from the tail.

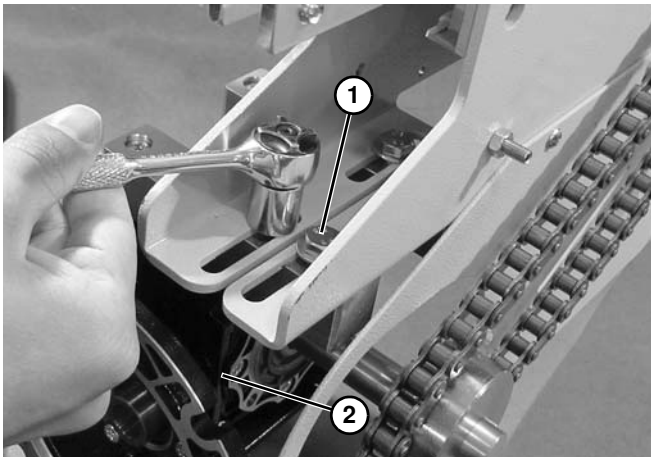


Figure 200

5. Remove drive sprocket **(Figure 201, item 1)** and chain **(Figure 201, item 2)**. Replace if worn or damaged.

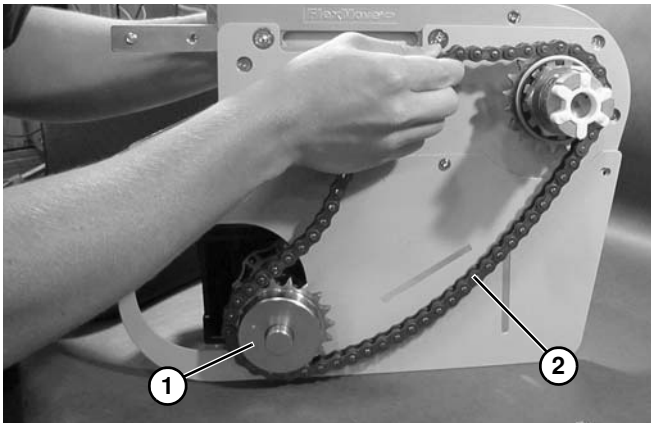


Figure 201

6. Loosen set screws **(Figure 202, item 1)** and remove the three jaw coupler **(Figure 202, item 2)**.

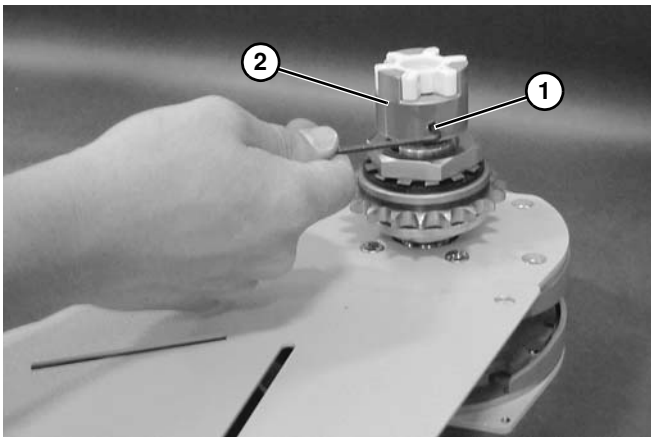


Figure 202

7. Loosen set screws **(Figure 203, item 1)** and remove the sprocket assembly **(Figure 203, item 2)**.

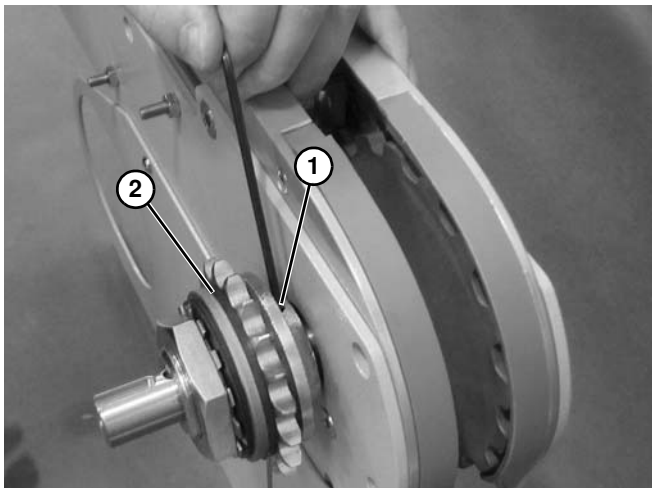


Figure 203

8. Replace worn or damaged parts.
9. Remove two flat head screws **(Figure 204, item 1)** and remove plate **(Figure 204, item 2)**.

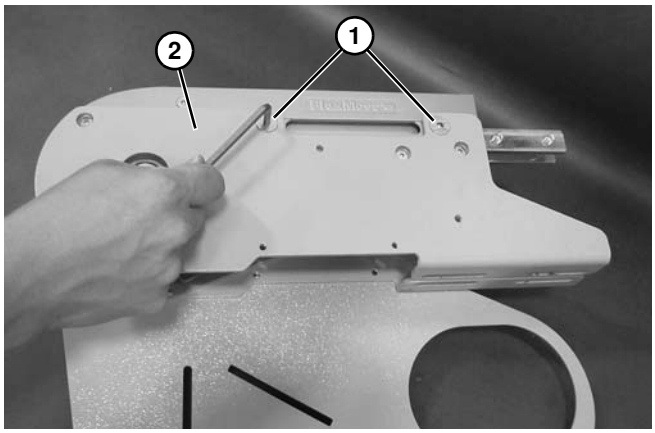


Figure 204

10. Remove four socket head screws **(Figure 205, item 1)** on side of drive spindle.

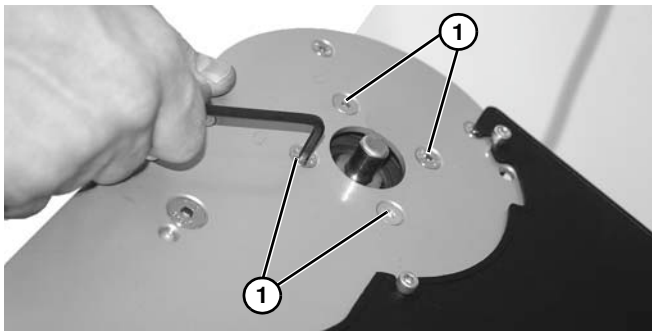


Figure 205

11. Remove two socket head screws **(Figure 206, item 1)** on side of drive spindle.

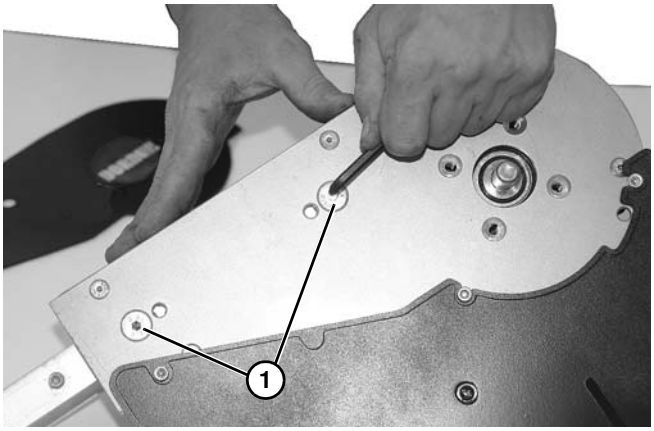


Figure 206

12. Remove the head plate **(Figure 207, item 1)** from the drive end.

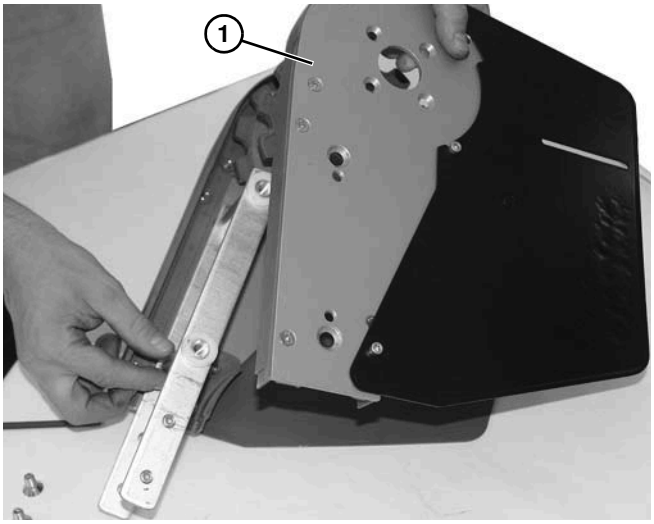


Figure 207

13. Remove spindle shaft assembly **(Figure 208, item 1)** from idler head plate assembly.

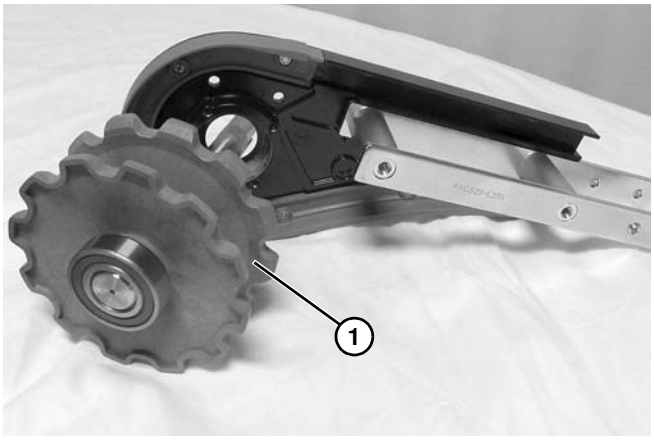


Figure 208

14. Remove screw **(Figure 209, item 1)** and remove the shaft from the gear reducer.

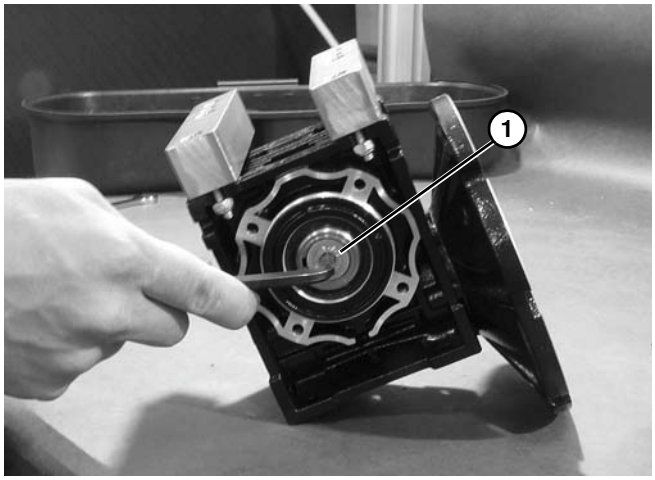


Figure 209

15. Remove fasteners **(Figure 210, item 1)** on both sides and remove the blocks **(Figure 210, item 2)** from the gear reducer.

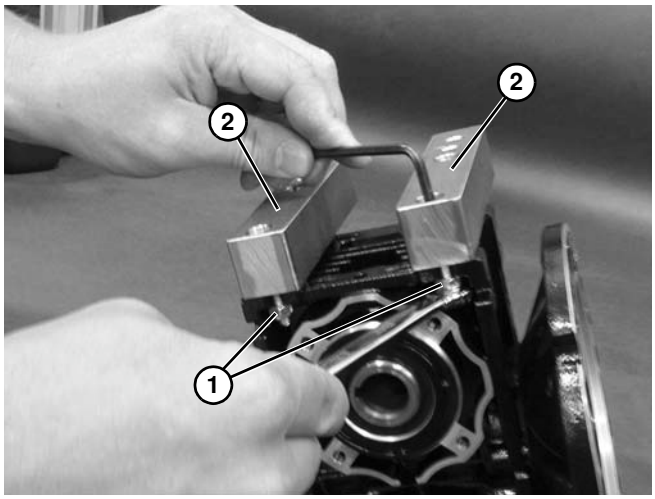


Figure 210

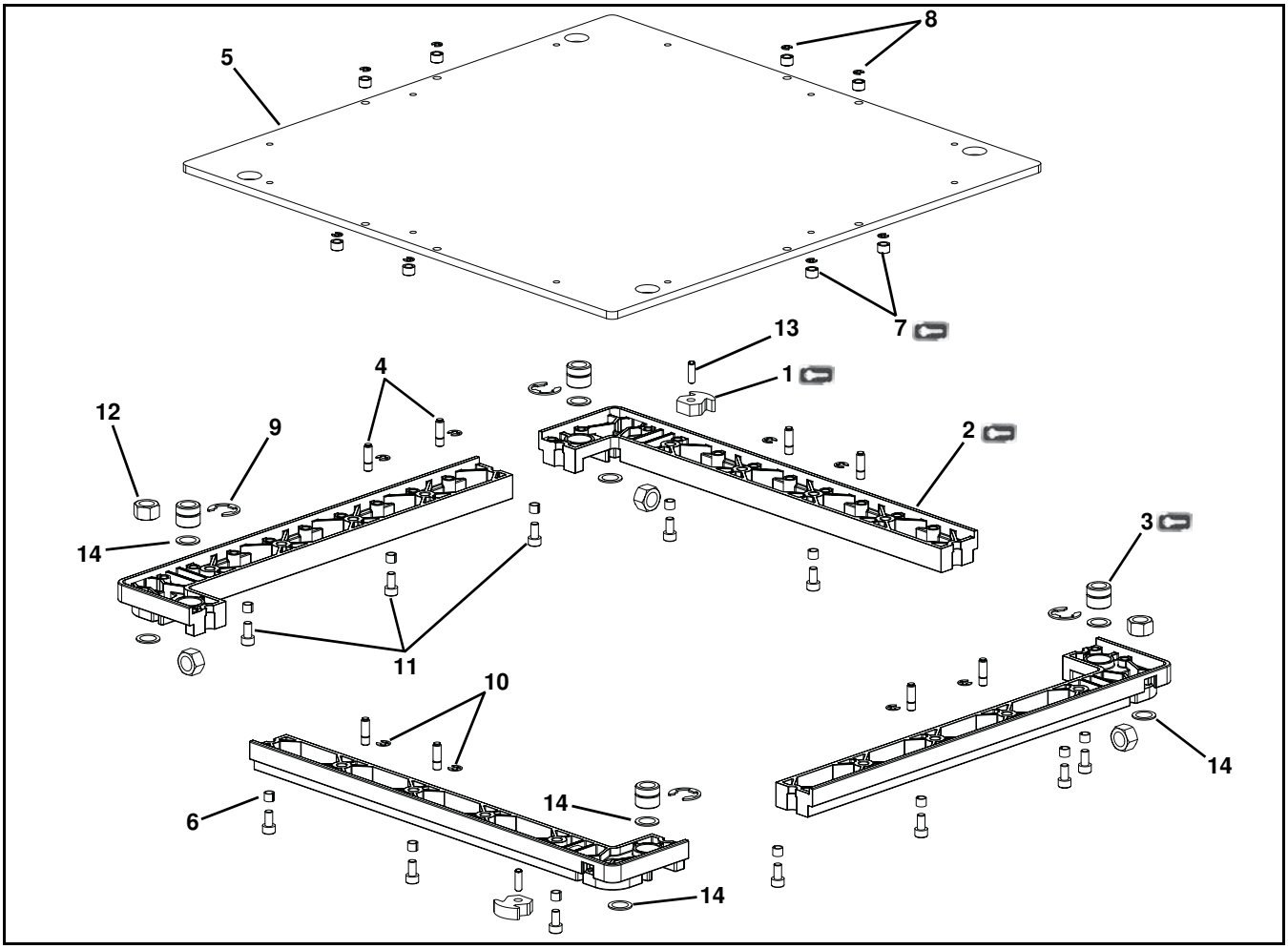
16. Install components reverse of removal.

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.

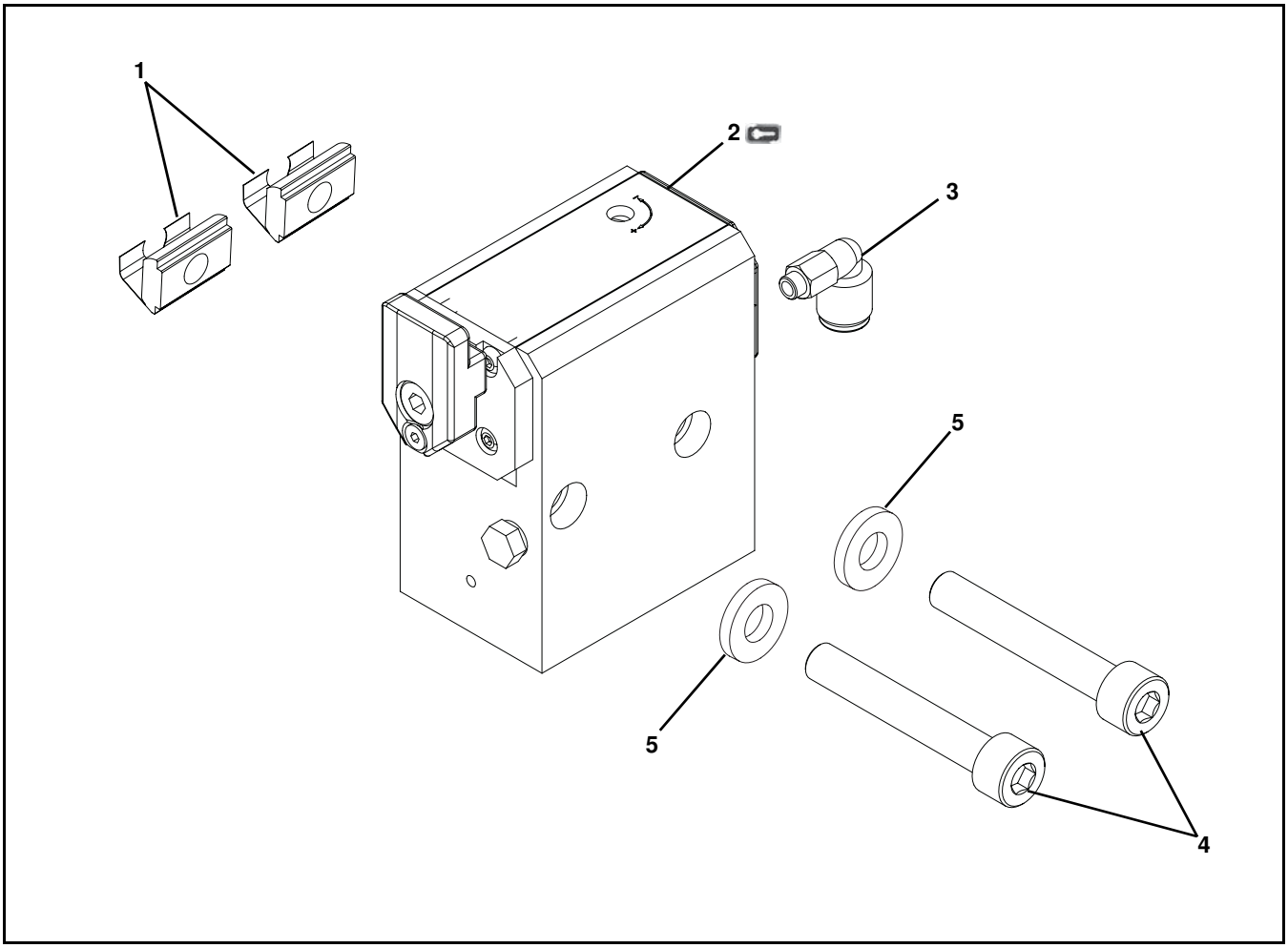
Pallets



Item	Part Number	Description
1	205173	Bumper
2	204288-WWW	Corner Skirt
3	204548	Bushing
4	204549-3	Guide Pin, for 3/16" Thick Top Plate
	204549-4	Guide Pin, for 1/4" Thick Top Plate
	204549-6	Guide Pin, for 3/8" Thick Top Plate
	204549-8	Guide Pin, for 1/2" Thick Top Plate
5	205583-WWWxLLL	3/16" Thick Top Plate
	205584-WWWxLLL	1/4" Thick Top Plate
	205586-WWWxLLL	3/8" Thick Top Plate
	205588-WWWxLLL	1/2" Thick Top Plate

Item	Part Number	Description
6	208239	Sleeve
7	802-267	Bearing
8	915-003	Retaining Ring
9	915-225	Retaining Ring
10	915-342	Retaining Ring
11	950614MN	Low Head Cap Screw, M6-1.00 x 14 mm
12	991201M	Hex Nut
13	913-051	Roll Pin
14	911-537	Washer
WWW = Pallet width reference: 160, 240, 320, 400, 480		
LLL = Pallet length reference: 160, 240, 320, 400, 480		

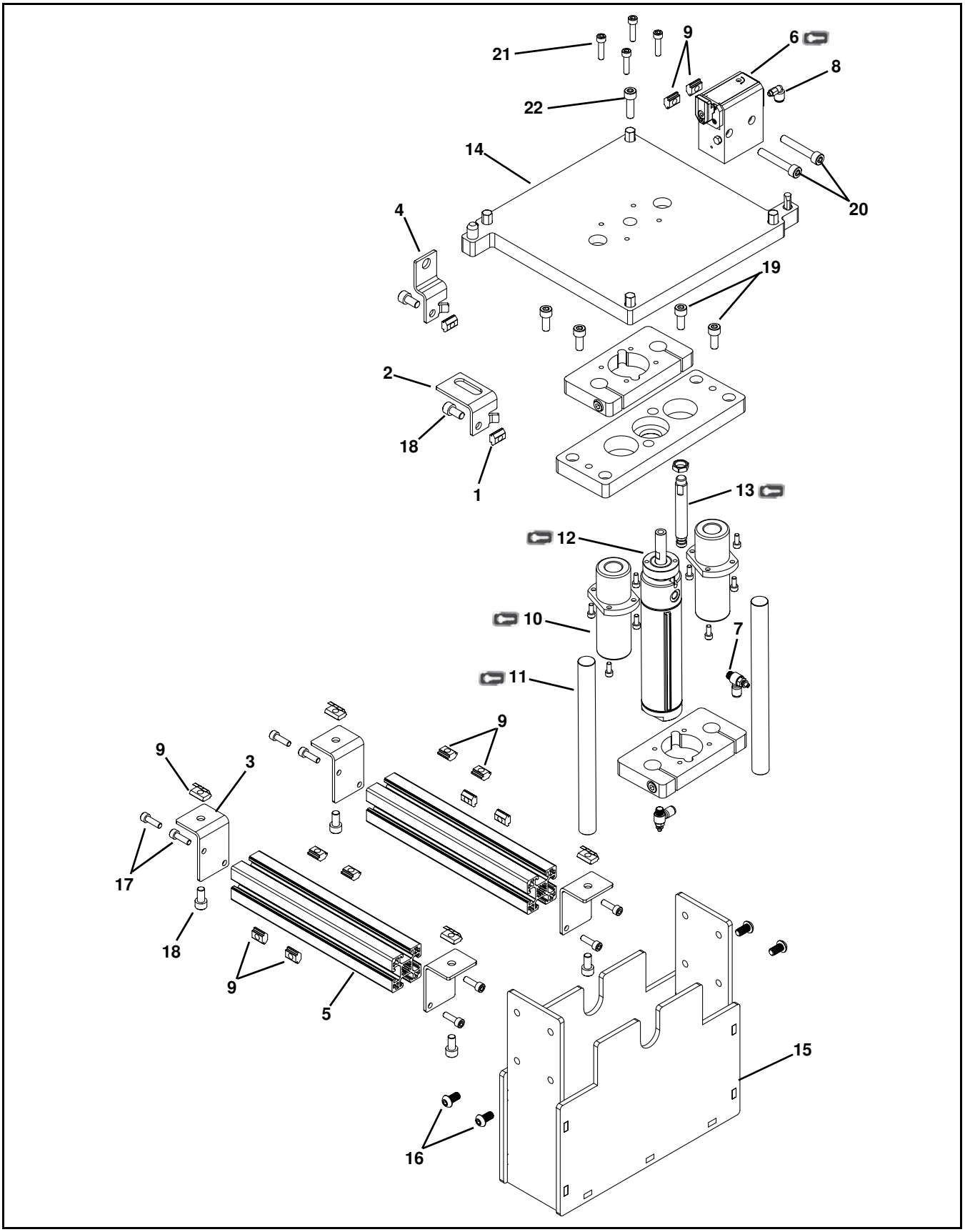
Pallet Stops



Item	Part Number	Description
1	FASL-M8	Spring Tee Nut
2	804-724	Non-Cushioned Stop Assembly
⇦	804-1092	Cushioned Stop Assembly
3	810-529	Elbow Fitting
4	920850M	Socket Head Screw, M8-1.25 x 50 mm
5	605280P	Washer

Service Parts

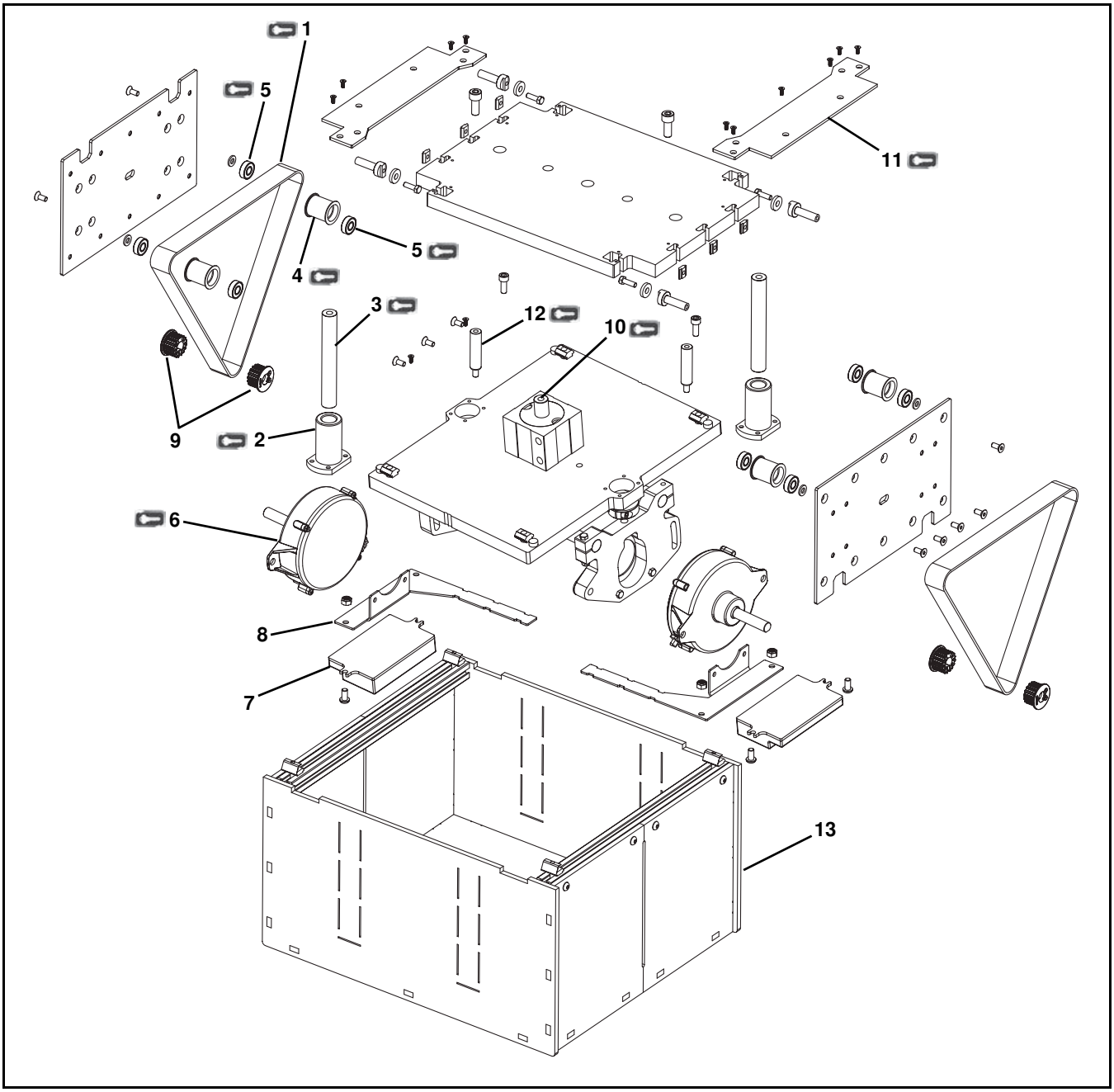
Lift and Locate Station



Item	Part Number	Description
1	202390M	Cam Follower Nut
2	205157	Optional Bottom Sensor Bracket
3	205556	Mounting Bracket
4	205557	Optional Side Sensor Bracket
5	205568-WWW	Mounting Tube
6	804-724	Non-Cushioned Stop Assembly
	804-1092	Cushioned Stop Assembly
7	810-535	Flow Control Valve
8	810-529	Elbow Fitting
9	FASL-M8	Spring Tee Nut
10	835-154	Bushing
11	835-152	Shaft
12	835-153	Cylinder
13	835-151	Shock
14	835-011-WWWxLLL	Top Plate Assembly
15	835-022	Guarding Kit
16	910816M	Button Head Screw, M8-1.25 x 16 mm
17	920620M	Socket Head Screw, M6-1.00 x 20 mm
18	920816M	Socket Head Screw, M8-1.25 x 16 mm
19	920820M	Socket Head Screw, M8-1.25 x 20 mm
20	920850M	Socket Head Screw, M8-1.25 x 50 mm
21	920630M	Socket Head Screw, M6-1.00 x 30 mm
22	920825M	Socket Head Screw, M8-1.25 x 25 mm
WWW = Pallet width reference: 160, 240, 320, 400, 480		
LLL = Pallet length reference: 160, 240, 320, 400, 480		

Service Parts

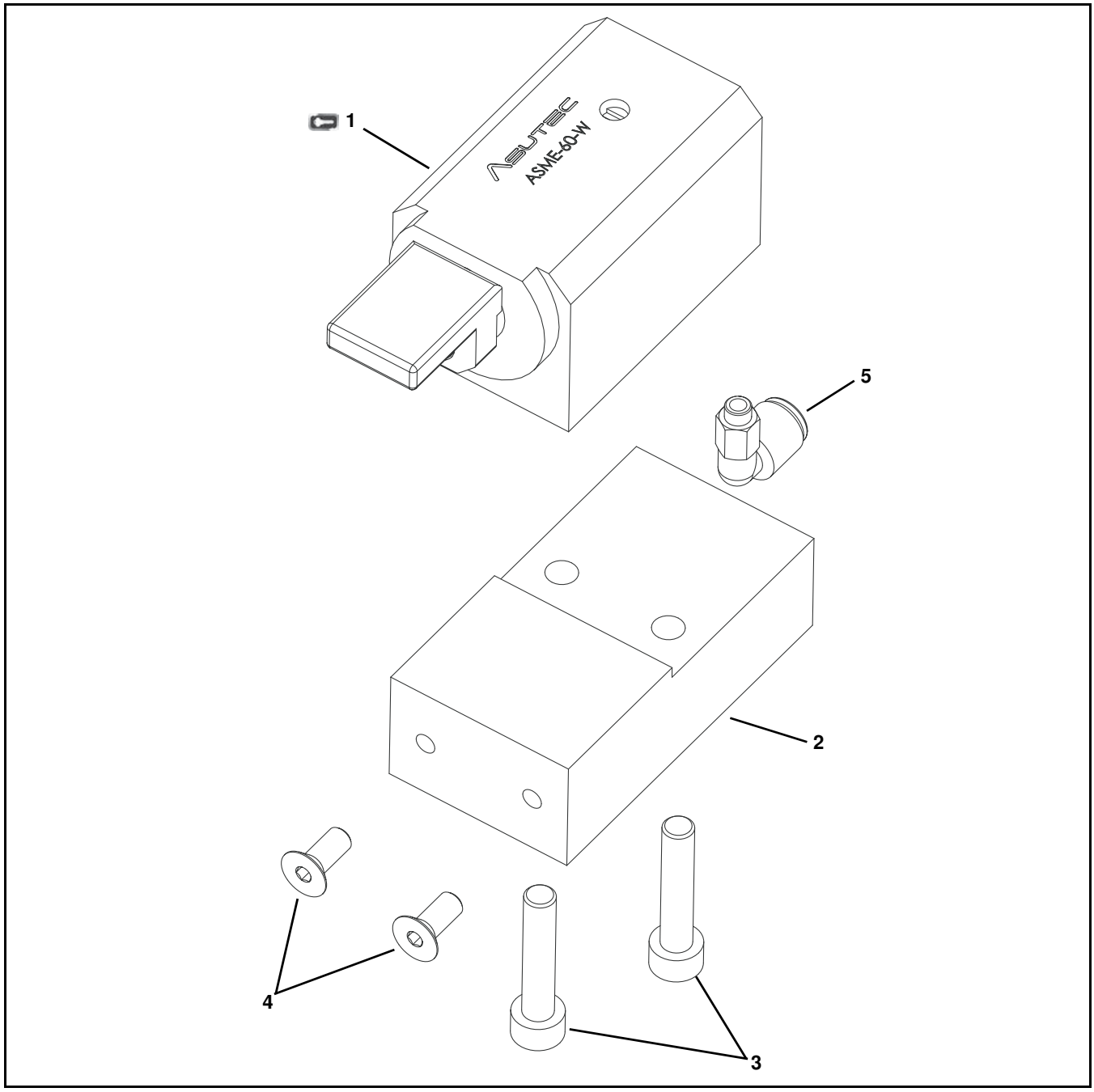
Lift and Transfer Station



Item	Part Number	Description
1	835-143-WWW-LLL	Belt
2	835-144	Bushing
3	835-145	Shaft
4	835-102	Flange Roller
5	835-103	Bearing
6	835-140	Motor

Item	Part Number	Description
7	805-1644	Drive
8	835-148	Bracket
9	835-147	Pulley Assembly
10	835-146	Cylinder
11	835-142-WWW-LLL	Plate
12	835-141	Spring
13	835-013-WWW-LLL	Guarding Kit
WWW = Pallet width reference: 160, 240, 320, 400, 480		
LLL = Pallet length reference: 160, 240, 320, 400, 480		

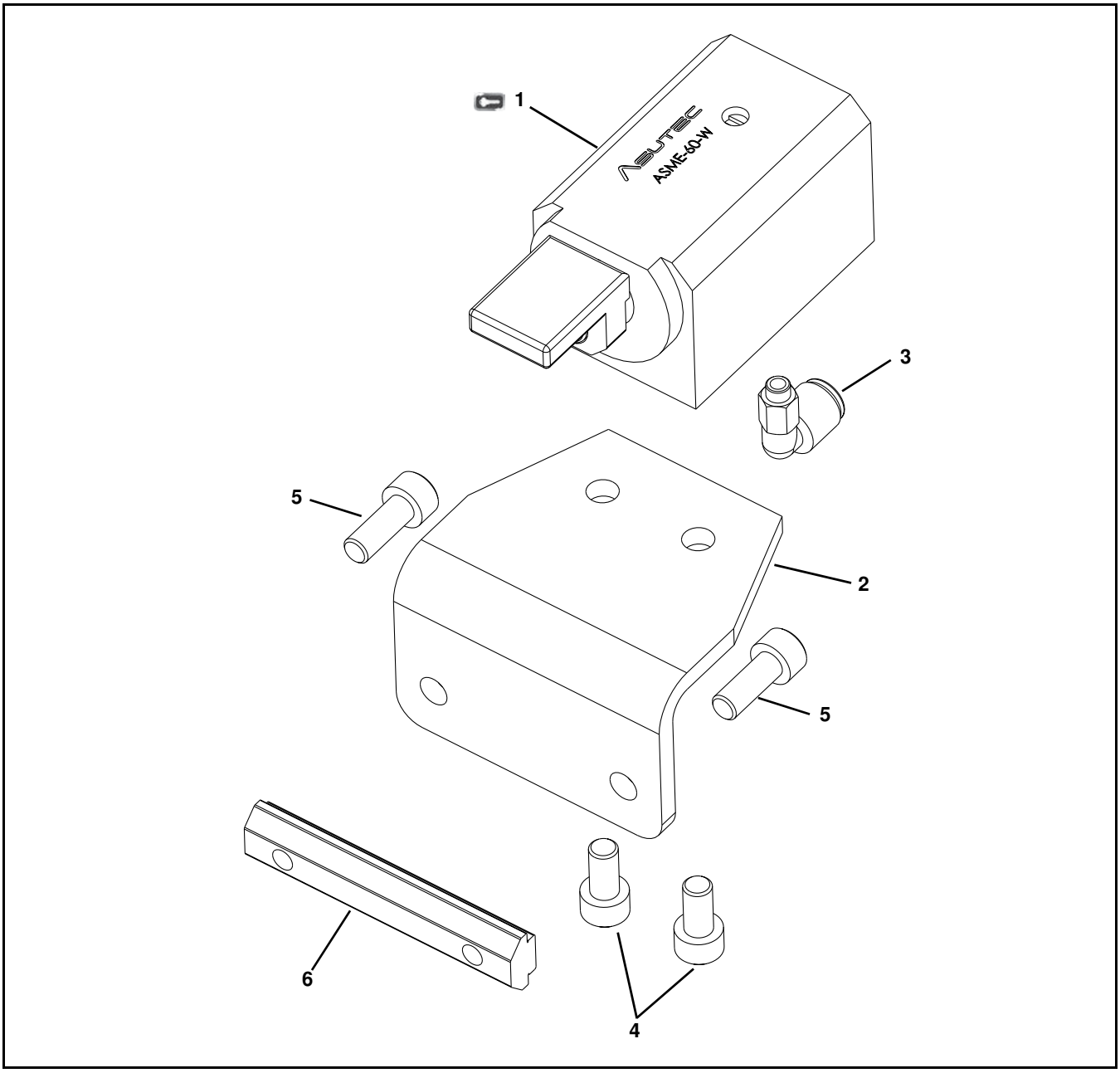
Sending Cushioned Stop Assembly



Item	Part Number	Description
1	804-774	Angle Damper
2	835-014	Mounting Block
3	920630M	Socket Head Screw, M6-1.00 x 30 mm
4	930512M	Flat Head Screw, M5-.80 x 12 mm
5	810-529	Elbow Fitting, M5 to 1/4" O.D.

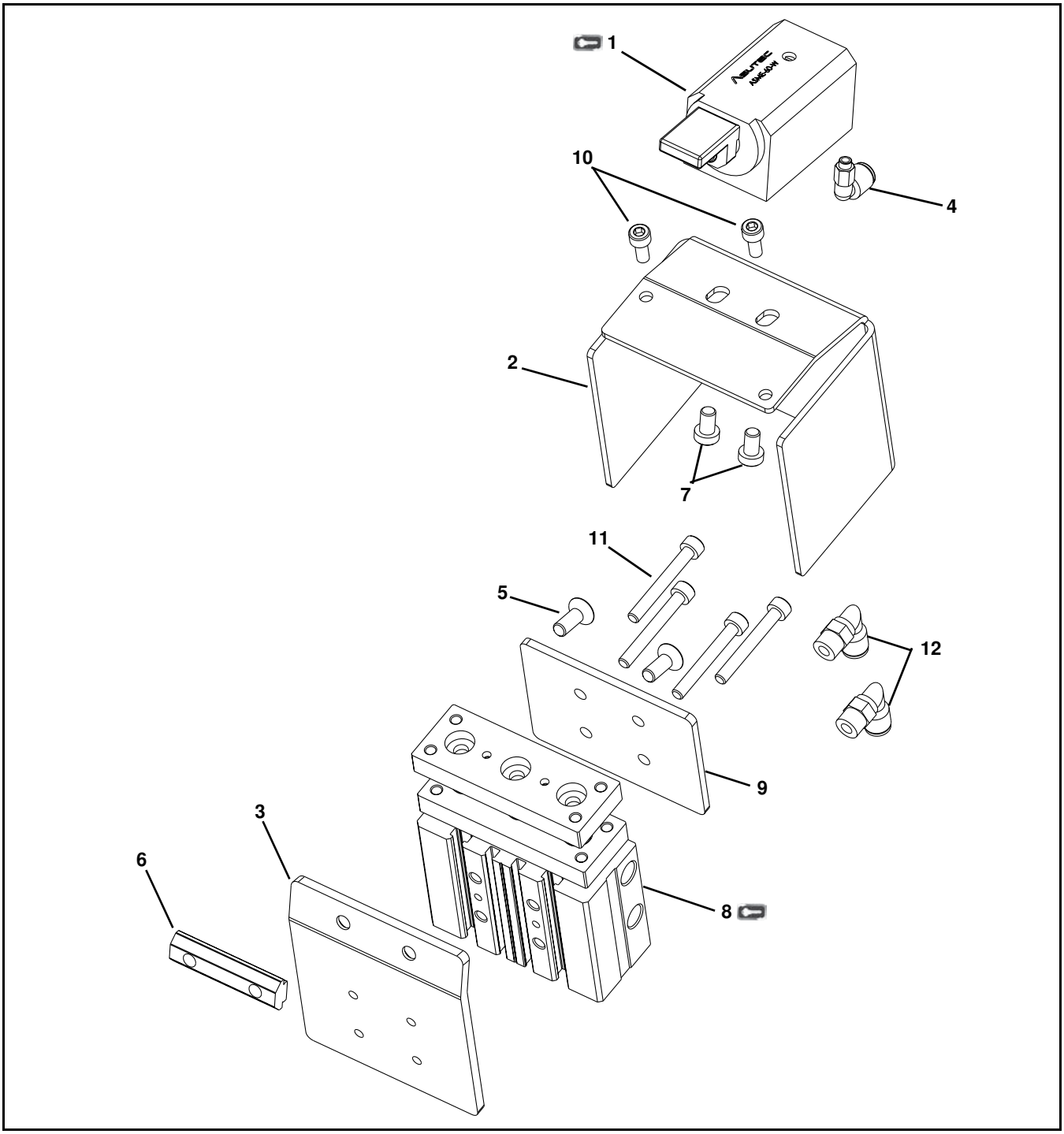
Service Parts

Receiving Cushioned Stop Assembly



Item	Part Number	Description
1	804-774	Angle Damper
2	204730	Mounting Angle
3	810-529	Elbow Fitting, M5 to 1/4" O.D.
4	920612M	Socket Head Screw, M6-1.00 x 12 mm
5	920616M	Socket Head Screw, M6-1.00 x 16 mm
6	300150M	Drop-In Tee Bar

Receiving Cushioned Flow Thru Stop Assembly

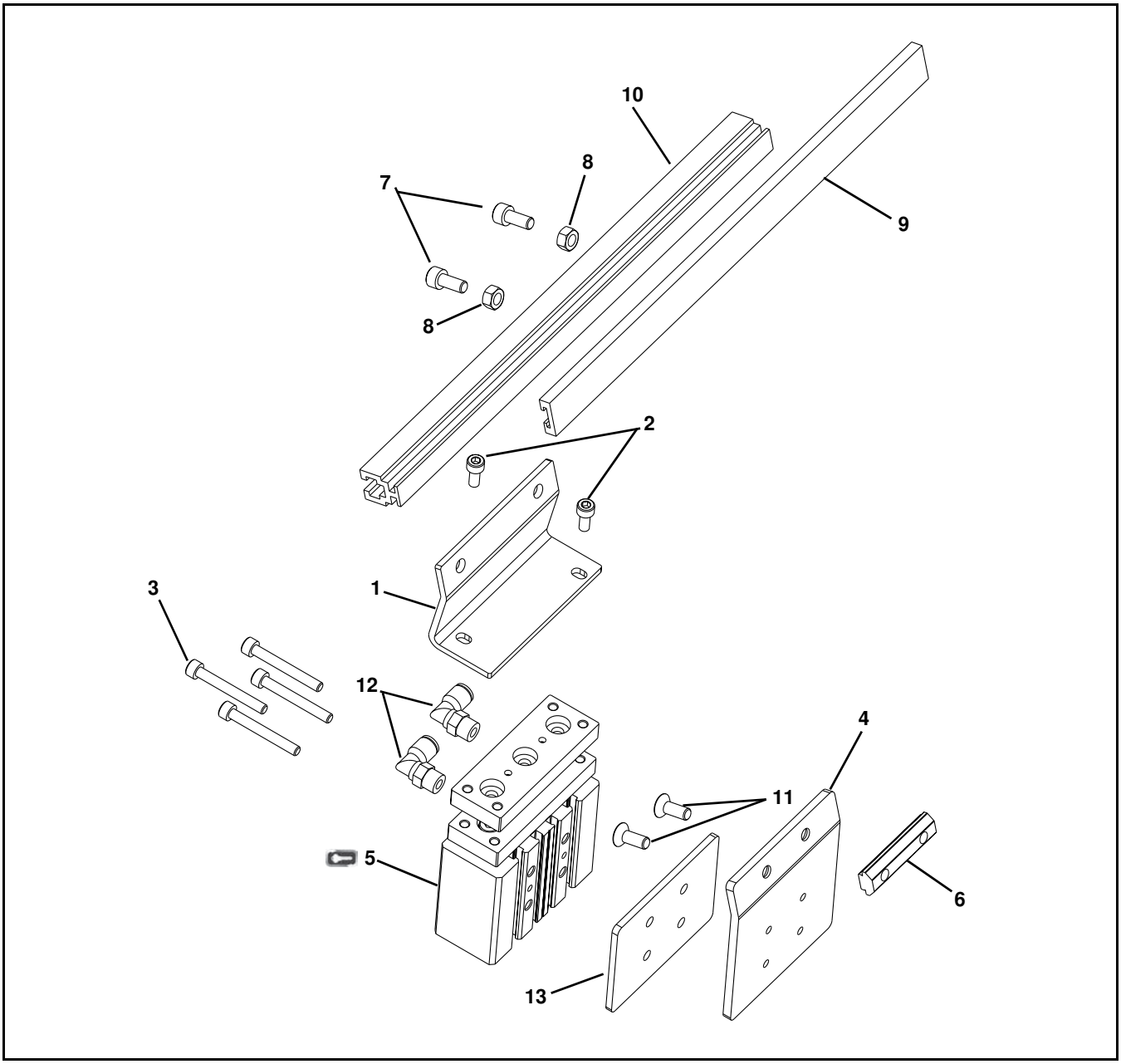


Item	Part Number	Description
1	804-774	Angle Damper
2	206657	Guard Plate
3	204739	Mounting Plate
4	810-529	Elbow Fitting, M5 to 1/4" O.D.
5	930616M	Flat Head Screw, M6-1.00 x 16 mm
6	639717M	Drop-In Tee Bar

Item	Part Number	Description
7	950610M	Low Head Cap Screw, M6-1.00 x 10 mm
8	804-776	Air Cylinder
9	204745	Spacer Plate
10	920512M	Socket Head Screw, M5-.80 x 12 mm
11	920540M	Socket Head Screw, M5-.80 x 40 mm
12	810-222	Male Elbow

Service Parts

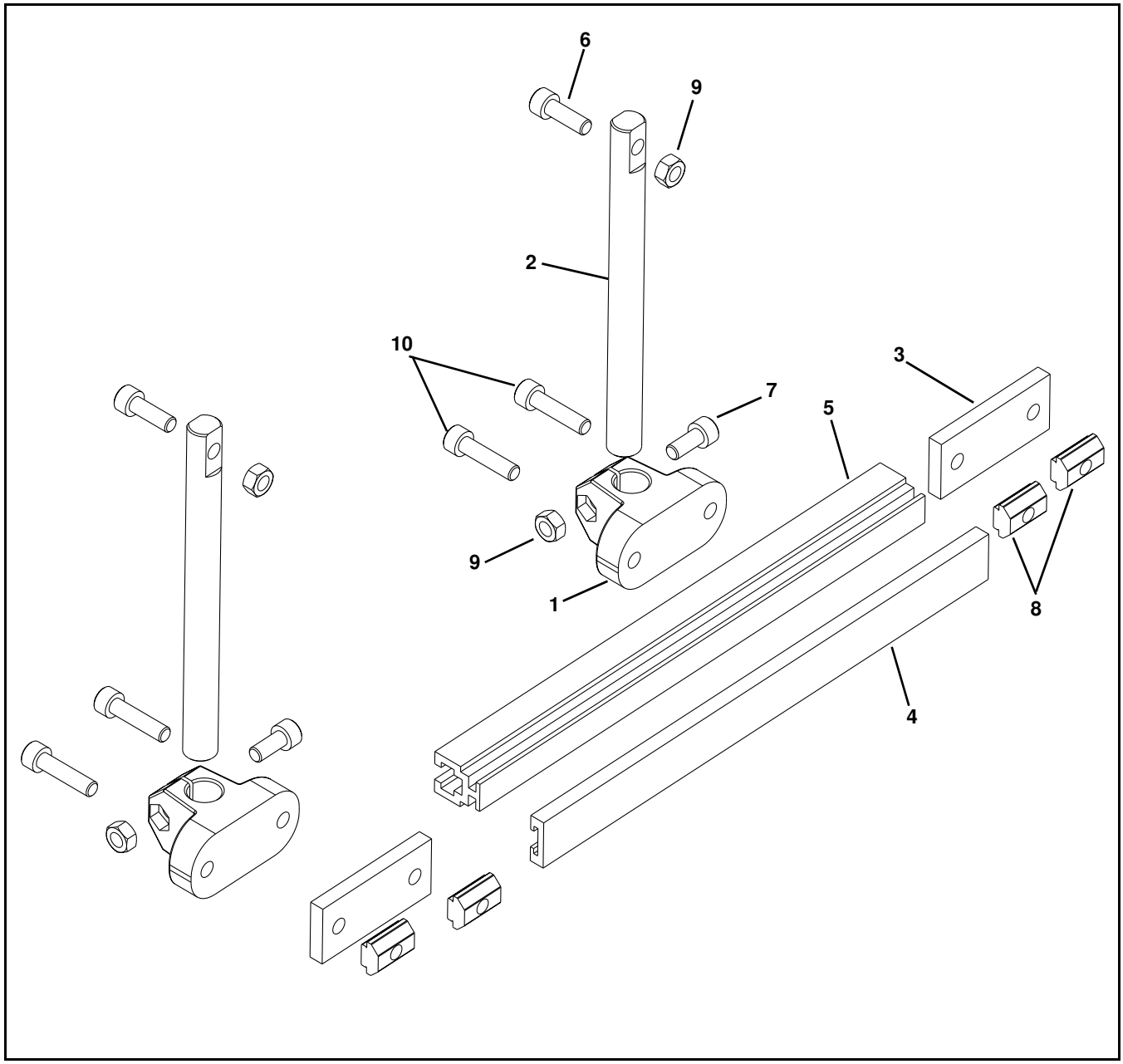
Receiving Non-Cushioned Flow Thru Stop Assembly



Item	Part Number	Description
1	205591	Pallet Stop Bracket
2	920512M	Socket Head Screw, M5-.080 x 12 mm
3	920540M	Socket Head Screw, M5-.080 x 40 mm
4	204739	Mounting Plate
5	804-776	Air Cylinder
6	693717M	Drop-In Tee Bar
7	920614M	Socket Head Screw, M6-1.00 x 14 mm
8	990601M	Hex Nut

Item	Part Number	Description
9	614068P-00291	Extruded Guide for 160 width
	614068P-00606	Extruded Guide for 240 width
	614068P-00921	Extruded Guide for 320 width
	614068P-01236	Extruded Guide for 400 width
	614068P-01551	Extruded Guide for 480 width
10	203525-00291	Profile Guide for 160 width
	203525-00606	Profile Guide for 240 width
	203525-00921	Profile Guide for 320 width
	203525-01236	Profile Guide for 400 width
	203525-01551	Profile Guide for 480 width
11	930616M	Flat Head Screw, M6-1.00 x 16 mm
12	810-220	Male Elbow
13	204745	Spacer Plate

Receiving Non-Cushioned Stop Assembly

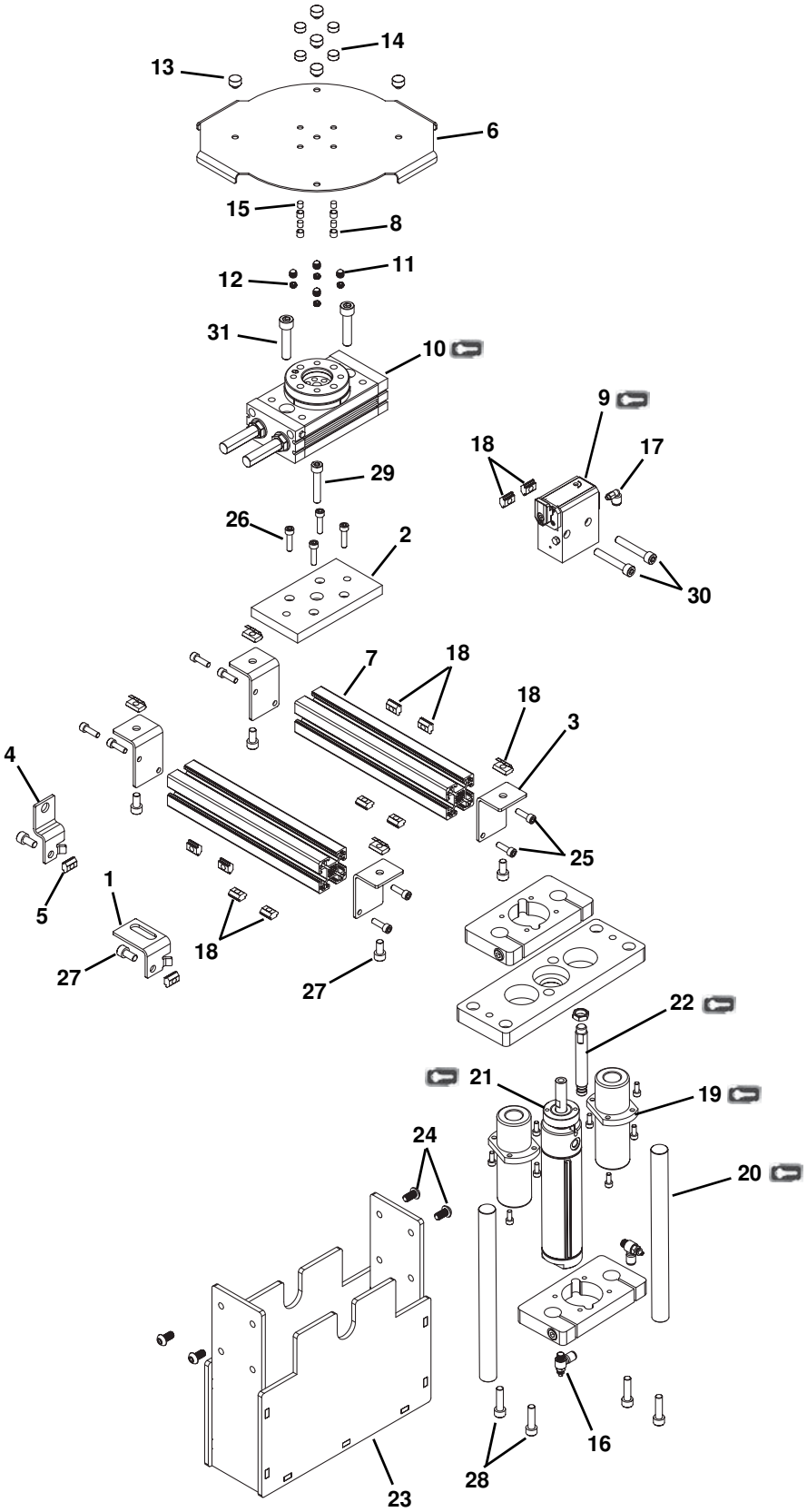


Item	Part Number	Description
1	807-824	Clamp Block
2	462050M	Vertical Shaft
3	205592	Spacer Bracket
4	614068P-00291	Extruded Guide for 160 width
	614068P-00606	Extruded Guide for 240 width
	614068P-00921	Extruded Guide for 320 width
	614068P-01236	Extruded Guide for 400 width
	614068P-01551	Extruded Guide for 480 width
5	203525-00291	Profile Guide for 160 width
	203525-00606	Profile Guide for 240 width
	203525-00921	Profile Guide for 320 width
	203525-01236	Profile Guide for 400 width
	203525-01551	Profile Guide for 480 width

Item	Part Number	Description
6	920618M	Socket Head Screw, M6-1.00 x 18 mm
7	920614M	Socket Head Screw, M6-1.00 x 14 mm
8	639971M	Drop-In Tee Bar
9	990601M	Hex Nut
10	920625M	Socket Head Screw, M6-1.00 x 25 mm

Service Parts

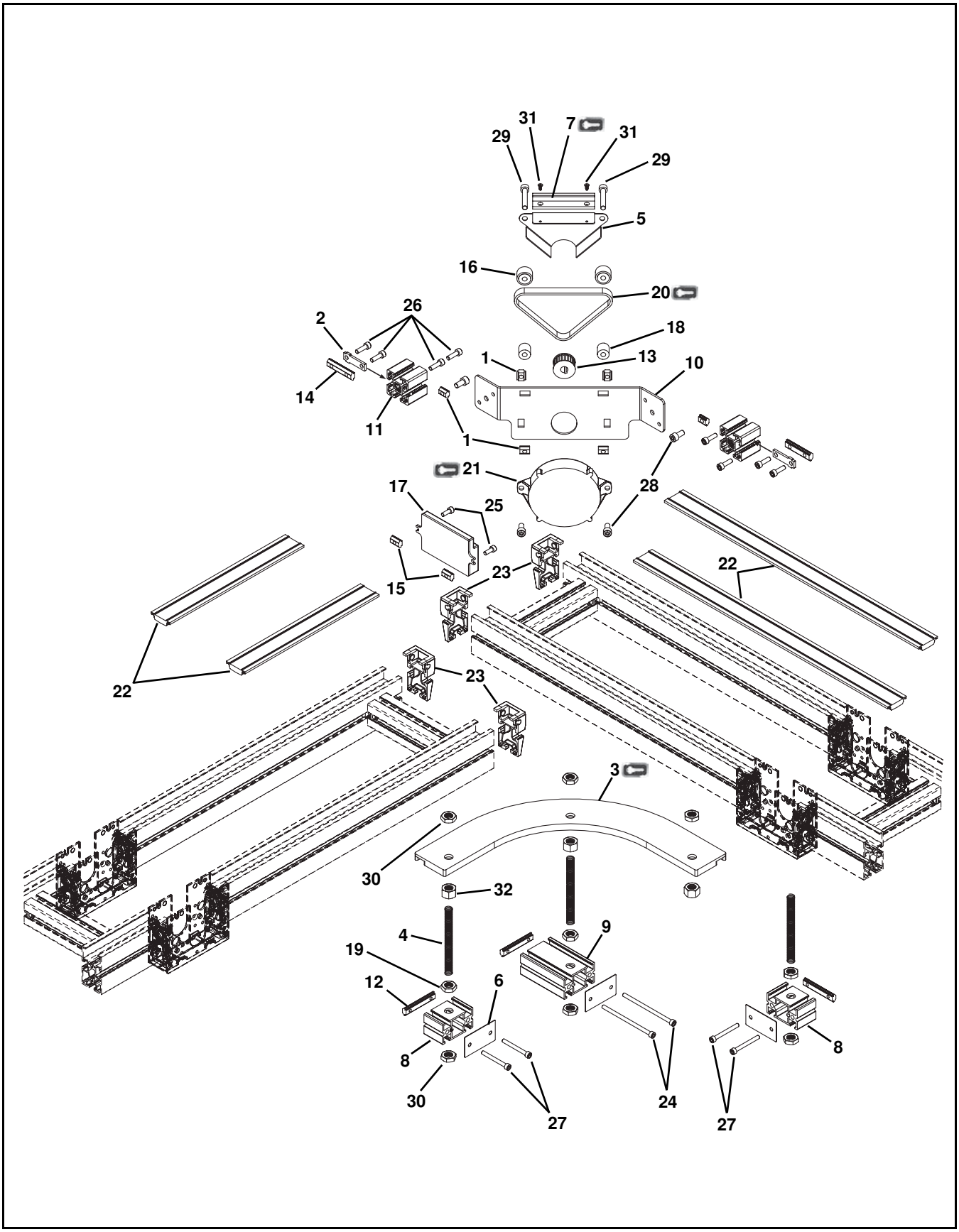
Lift and Rotate Station



Item	Part Number	Description
1	205157	Optional Bottom Sensor Bracket
2	205554	Adaptor Plate
3	205556	Mounting Bracket
4	205557	Optional Side Sensor Bracket
5	202390M	Cam Follower Nut
6	205553-WWWxLLL	Lift and Rotate Plate
7	205568-WWW	Mounting Tube
8	450226SSP	Sleeve
9	804-724	Non-Cushioned Stop Assembly
	804-725	Cushioned Stop Assembly
10	804-771	Rotating Actuator
11	807-2555	Set Screw, M8-1.25 x 10 mm
12	807-2640	Set Screw, 5/16"
13	807-2641	Bumper
14	807-2652	Bumper
15	808-020	Magnet
16	810-535	Flow Control Valve
17	810-529	Elbow Fitting
18	FASL-M8	Spring Tee Nut
19	835-150	Bushing
20	835-152	Shaft
21	835-153	Cylinder
22	835-151	Shock
23	835-022	Guarding Kit
24	910816M	Button Head Screw, M8-1.25 x 16 mm
25	920620M	Socket Head Screw, M6-1.00 x 20 mm
26	920625M	Socket Head Screw, M6-1.00 x 25 mm
27	920816M	Socket Head Screw, M8-1.25 x 16 mm
28	920830M	Socket Head Screw, M8-1.25 x 30 mm
29	920845M	Socket Head Screw, M8-1.25 x 45 mm
30	920850M	Socket Head Screw, M8-1.25 x 50 mm
31	921045M	Socket Head Screw, M10-1.50 x 45 mm
WWW = Pallet width reference: 160, 240, 320, 400, 480		
LLL = Pallet length reference: 160, 240, 320, 400, 480		

Service Parts

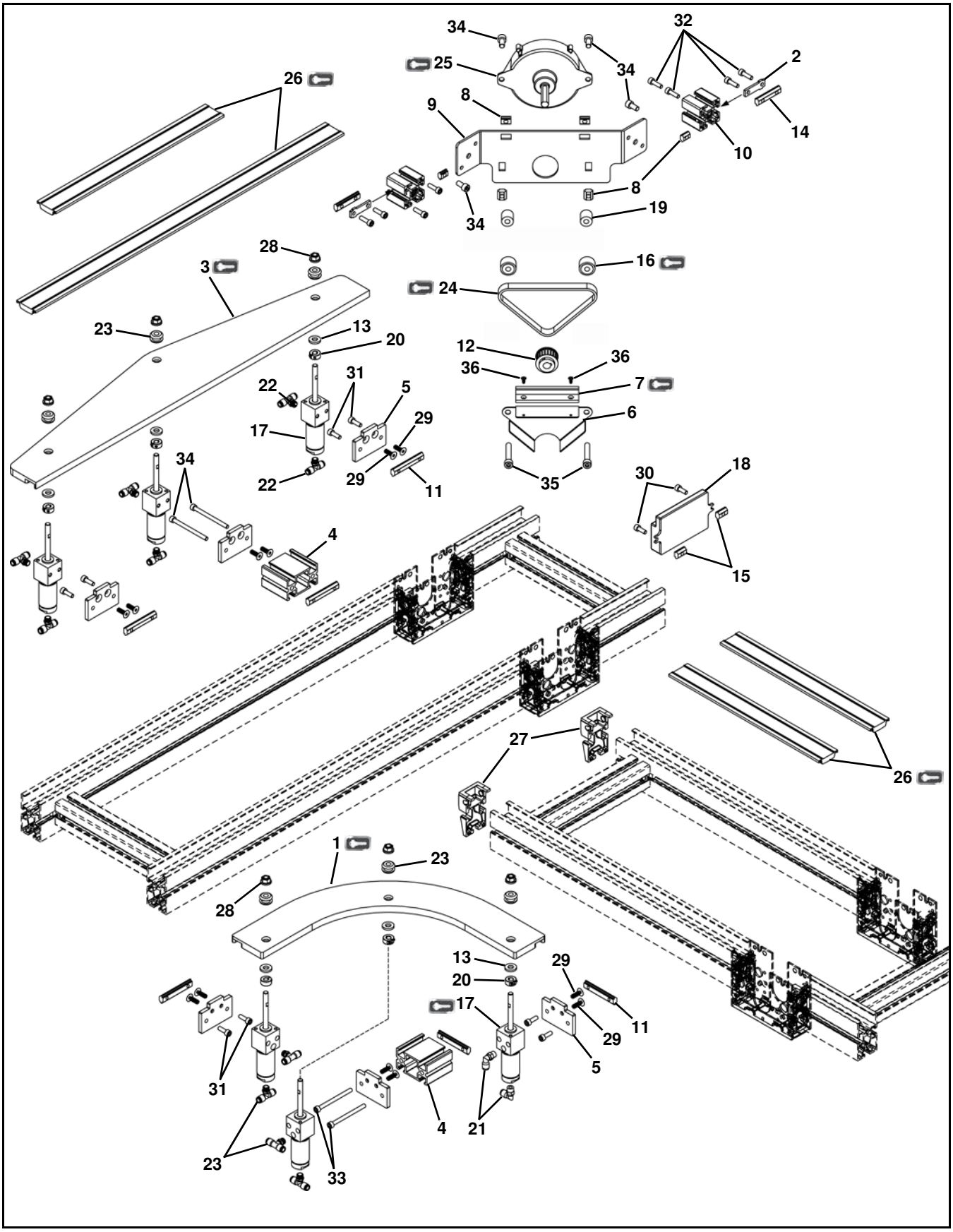
90° Corner



Item	Part Number	Description
1	202390M	Cam Follower Nut
2	204537	Key Bar for 320 width only
3	205176	Corner Guide
4	205179	Stud
5	205186	Guard
6	205564	Cover
7	206652	Wearstrip
8	205177-1.5	Support Tube 1.5"
9	205177-4	Support Tube 4.0"
10	205185-LH	Left Hand Angle Bar
	205185-RH	Right Hand Angle Bar
11	205562-WWW	Rail Extension for 320 width only
12	300150M	Drop-In Tee Bar
13	450556P	Pulley, 5MMP x 15MMW x 22T
14	639717M	Drop-In Tee Bar 1.25" for 320 width only
15	639971M	Single Drop-In Tee Bar
16	802-046	Cam Follower Bearing
17	805-1644	Drive Control
18	807-2296	Spacer
19	807-2637	Hex Nut
20	814-100	Timing Belt, 5 x 400 mm
21	826-773	Motor
22	835-002-LLLLL	Lowside Bedplate
23	835-126	Lowside Tail Assembly
24	9206110M	Socket Head Screw, M6-1.00 x 110 mm
25	920616M	Socket Head Screw, M6-1.00 x 16 mm
26	920620M	Socket Head Screw, M6-1.00 x 20 mm
27	920655M	Socket Head Screw, M6-1.00 x 55 mm
28	920812M	Socket Head Screw, M8-1.25 x 12 mm
29	920850M	Socket Head Screw, M8-1.25 x 50 mm
30	991409M	Jam Nut
31	807-2693	Flat Head Screw M8-18
32	991402M	Lock Nut
WWW = Pallet width reference: 160, 240, 320 (up to 30 lbs.)		
LLLLL = Part length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Service Parts

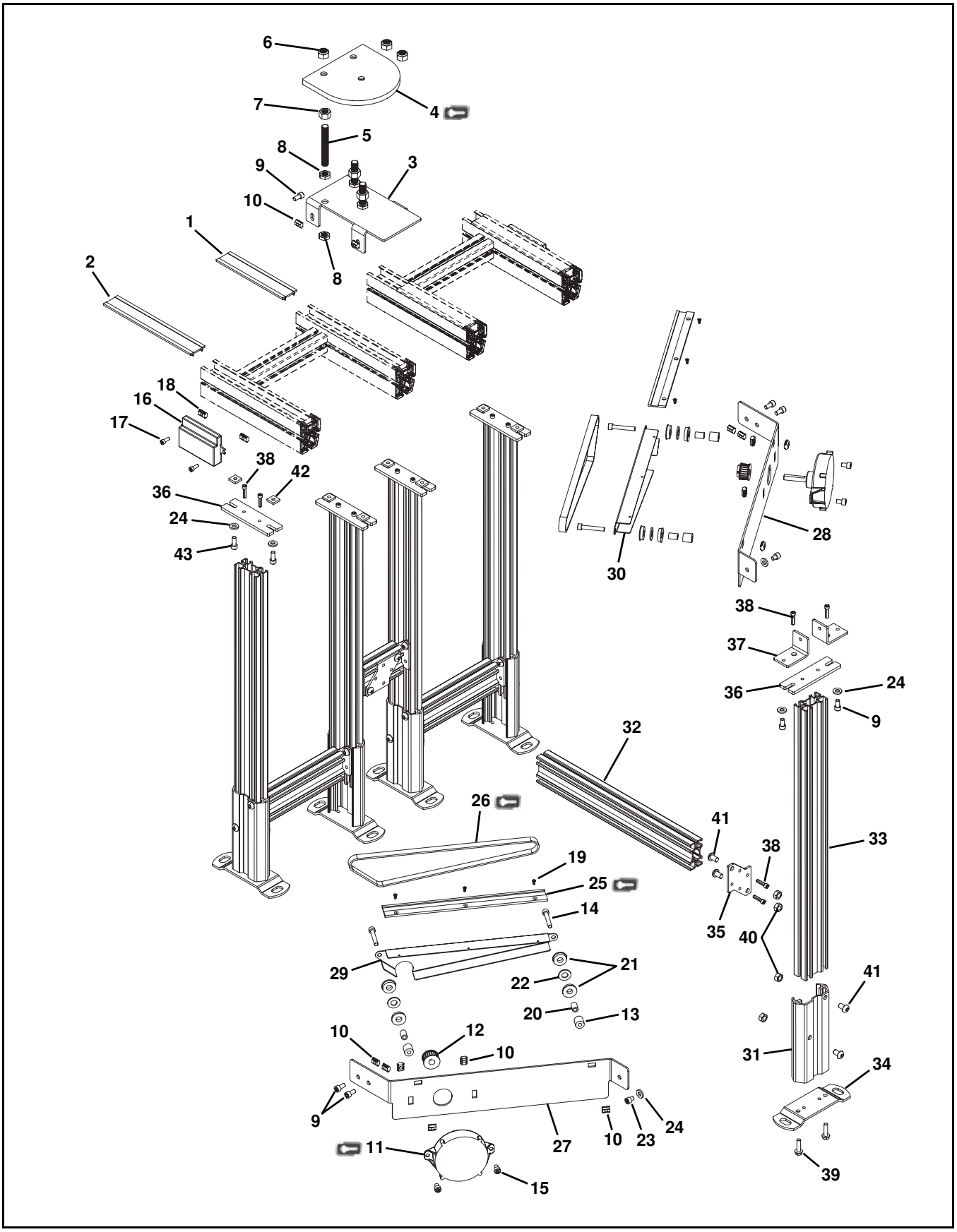
90° Corner and Merge



Item	Part Number	Description
1	205176	Corner Guide
2	204537	Key Bar for 320 width only
3	205178	Straight Guide
4	205180	Spacer
5	205181	Mounting Plate
6	205186	Guard
7	206652	Wearstrip
8	202390M	Cam Follower Nut
9	205185-LH	Left Hand Angle Bar
	205185-RH	Right Hand Angle Bar
10	205562-WWW	Rail Extension for 320 width only
11	300150M	Drop-In Tee Bar
12	450556P	Pulley, 5MMP x 15MMW x 22T
13	605280P	Washer
14	639717M	Drop-In Tee Bar 1.25" for 320 width only
15	639971M	Single Drop-In Tee Bar
16	802-046	Cam Follower Bearing
17	804-768	Cylinder
18	805-1644	Drive Control
19	807-2296	Spacer
20	807-2638	Clamp Collar
21	810-222	Male Elbow
22	810-533	Male Tee Branch
23	812-087	Grommet
24	814-100	Timing Belt, 5 x 400 mm
25	826-773	Motor
26	835-002-LLLLL	Lowside Bedplate
27	835-126	Lowside Tail Assembly
28	910-321	Flange Lock Nut
29	903-136	Flat Head Cap Screw, 1/4-20 x .75"
30	920616M	Socket Head Screw, M6-1.00 x 16 mm
31	920618M	Socket Head Screw, M6-1.00 x 18 mm
32	920620M	Socket Head Screw, M6-1.00 x 20 mm
33	920675M	Socket Head Screw, M6-1.00 x 75 mm
34	920812M	Socket Head Screw, M8-1.25 x 12 mm
35	920850M	Socket Head Screw, M8-1.25 x 50 mm
36	807-2693	Flat Head Screw M8-18
WWW = Pallet width reference: 160, 240, 320 (up to 30 lbs.)		
LLLLL = Part length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Service Parts

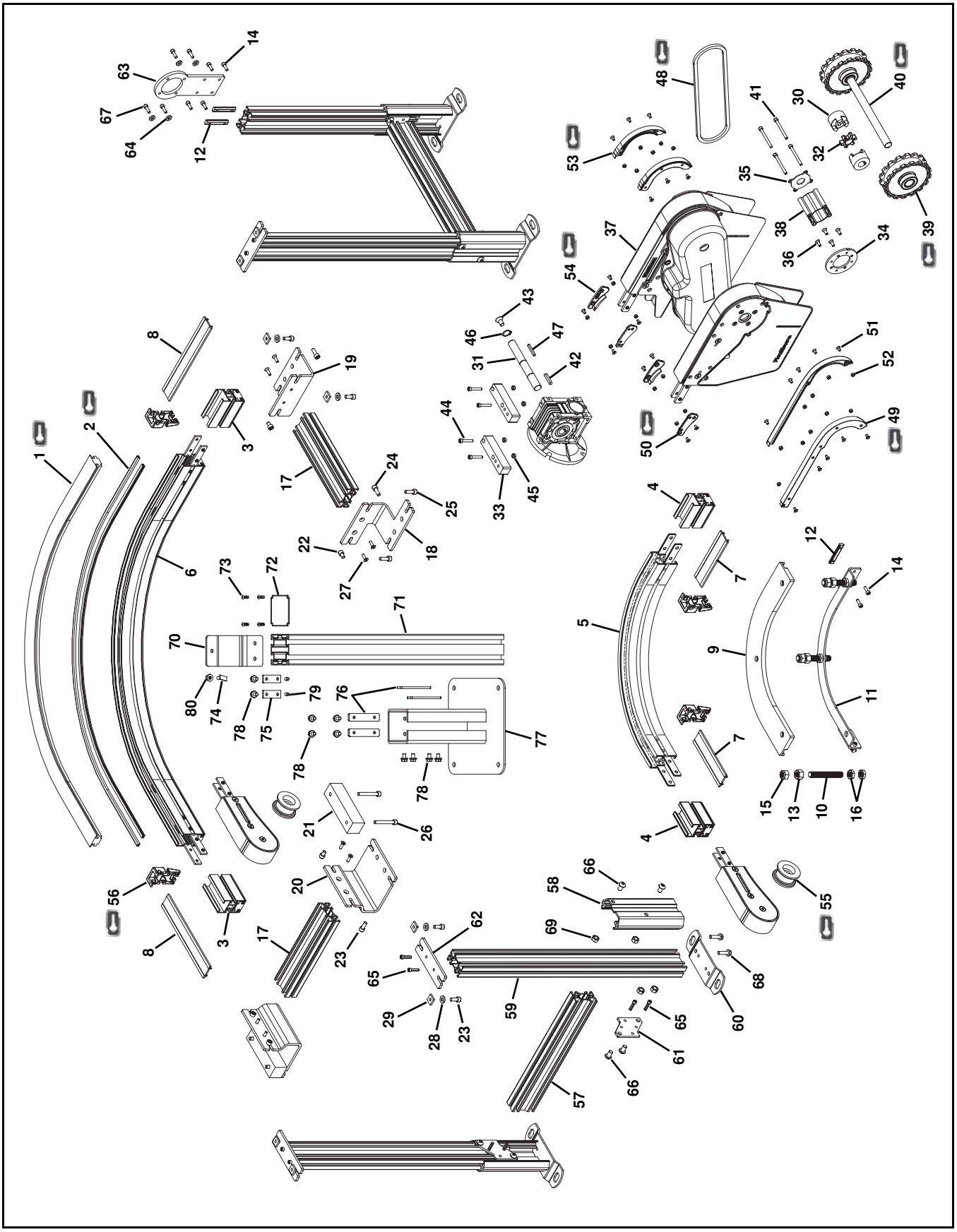
180° Corner



Item	Part Number	Description
1	835-002-00800	Lowside Bedplate for inside conveyors
2	835-002-00800	Lowside Bedplate for 160 width Outside Conveyors
	835-002-00900	Lowside Bedplate for 240 width Outside Conveyors
	835-002-01050	Lowside Bedplate for 320 width Outside Conveyors
3	207659	Corner Support Bracket
4	207660	Corner Guide
5	207632	Stud, M14
6	991402M	Lock Nut, M14
7	807-2637	Hex Nut, M14
8	991409M	Jam Nut, M14
9	920816M	Socket Head Screw, M8-1.25 x 16 mm
10	202390M	Cam Follower Nut
11	826-773	Motor
12	450556P	Pulley, 5MMP x 15MMW x 22T
13	807-2296	Spacer
14	920850M	Socket Head Screw, M8-1.25 x 50 mm
15	920812M	Socket Head Screw, M8-1.25 x 12 mm
16	805-1644	Drive Control
17	920616M	Socket Head Screw, M6-1.00 x 16 mm
18	639971M	Single Drop-In Tee Bar
19	807-2693	Flat Screw, 8-18 x 3/8"
20	801-159	Bearing
21	802-221	Ball Bearing
22	911-011	Flat Washer
23	920810M	Socket Head Screw, M8-1.25 x 10 mm
24	605280P	Washer
25	207675	Wearstrip for 160 width Conveyors
	207670	Wearstrip for 240 width Conveyors
	206653	Wearstrip for 320 width Conveyors
26	814-065	Belt for 160 width Conveyors
	814-110	Belt for 240 width Conveyors
	814-428	Belt for 320 width Conveyors
27	207672	Corner Bracket Left Hand for 160 width Conveyors
	207667	Corner Bracket Left Hand for 240 width Conveyors
	207665	Corner Bracket Left Hand for 320 width Conveyors
28	207671	Corner Bracket Right Hand for 160 width Conveyors
	207666	Corner Bracket Right Hand for 240 width Conveyors
	207664	Corner Bracket Right Hand for 320 width Conveyors
29	207674	Transfer Guard for Left Hand 160 width Conveyors
	207669	Transfer Guard for Left Hand 240 width Conveyors
	206655	Transfer Guard for Left Hand 320 width Conveyors
30	207673	Transfer Guard for Right Hand 160 width Conveyors
	207668	Transfer Guard for Right Hand 240 width Conveyors
	207346	Transfer Guard for Right Hand 320 width Conveyors
31	710031-LLLLL	Stand Boot
32	710210-LLLLL	Stand Crossmember
33	710211-LLLLL	Stand Leg
34	710004	Stand Foot
35	710006	Stand End Plate
36	205188	Stand Top Plate
37	207677	Stand Corner Mount Bracket
38	708180P	Trilobe Screw, M6-1.00 x 25 mm
39	960897M	Hex Flange Cap Screw, M8-1.25 x 30 mm
40	991011M	Hex Nut M10
41	911016M	Button Head Screw, M10-1.50 x 16 mm
42	834-FASN-M8	Slide-In Nut, M8
43	920820M	Socket Head Screw, M8-1.25 x 20 mm
LLLLL = Part length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Service Parts

Heavy Load 90° Corner



Item	Part Number	Description
1	834-FKPC-5	Conveyor Chain (sold per foot)
2	834-FASR-25K	Wear Strip (sold per foot)
3	834-FKCB-3-00535	Frame Rail for Outside Straight 320 width Conveyors
	834-FKCB-3-00550	Frame Rail for Outside Straight 400 width Conveyors
	834-FKCB-3-00377	Frame Rail for Outside Straight 480 width Conveyors
4	834-FKCB-3-00325	Frame Rail for Inside Straight Conveyors
5	207634	Frame Rail for Inside Corner Conveyors
6	834-FKHB-90R300	Frame Rail for Outside Corner 320 width Conveyors
	207636	Frame Rail for Outside Corner 400 width Conveyors
	834-FKHB-90R500	Frame Rail for Outside Corner 480 width Conveyors
7	835-002-00650	Lowside Bedplate for Inside Conveyors
8	835-002-00800	Lowside Bedplate for Outside 320 width Conveyors
	835-002-00900	Lowside Bedplate for Outside 400 width Conveyors
	835-002-01050	Lowside Bedplate for Outside 480 width Conveyors
9	205176	Corner Guide
10	207632	Stud, M14
11	207633	Corner Support Bracket
12	300150M	Drop-In Tee Bar
13	807-2637	Hex Nut, M14
14	920618M	Socket Head Screw, M6-1.00 x 18 mm
15	991402M	Lock Nut, M14
16	991409M	Jam Nut, M14
17	207650-WWW	Crossmember
18	207641	Drive End Crossmember Bracket
19	207651	Drive Side Crossmember Bracket
20	207652	Idler End Crossmember Bracket
21	207653	Spacer
22	920812M	Socket Head Screw, M8-1.25 x 12 mm
23	920820M	Socket Head Screw, M8-1.25 x 20 mm
24	920822M	Socket Head Screw, M8-1.25 x 22 mm
25	920825M	Socket Head Screw, M8-1.25 x 25 mm
26	920860M	Socket Head Screw, M8-1.25 x 60 mm
27	930620M	Flat Head Screw, M6-1.00 x 20 mm
28	605280P	Washer
29	834-FASN-M8	Slide-In Nut, M8
30	807-1140	3 Jaw Coupling
31	207643	Drive Shaft
32	807-1143	3 Jaw Spider
33	207640	Drive Mount Bracket
34	207647	Corner Guard Plate
35	207648	Drive Guard Plate
36	930616M	Flat Head Screw, M6-1.00 x 16 mm
37	207654	Drive Corner for 320 width Conveyor
	207655	Drive Corner for 400 & 480 width Conveyors
38	207649-WWW	Standoff
39	207744	Spindle Assmebly, Auxilary Drive
40	207745-WWW	Spindle Assmebly, Main Drive
41	950635M	Low Head Cap Screw, M6-1.00 x 35 mm for 320 width Conveyors
	920665M	Socket Head Screw, M6-1.00 x 65 mm for 400 & 480 width Conveyors

Item	Part Number	Description
42	980636M	Key
43	931020M	Flat Head Screw, M10-1.50 x 20 mm
44	920635M	Socket Head Screw, M6-1.00 x 35 mm
45	990601M	Hex Nut, M6
46	915-026	Retaining Ring
47	912-084	Square Key
48	FS008B	Chain
49	834-FKD44101	Driven Steering Guide, pair
50	834-FKD44102	Driven Return Steering Guide, pair
51	930510M	Flat Head Screw, M5-.80 x 10 mm
52	990501M	Hex Nut, M5
53	834-FSD63101-A	Drive Steering Guide, pair
54	834-FSD63102-A	Return Steering Guide, pair
55	834-FIE201	Ilder Pulley Assembly
56	206649	End Tail assembly
57	710210-LLLLL	Stand Crossmember
58	710031-LLLLL	Stand Boot
59	710211-LLLLL	Stand Leg
60	710004	Stand Foot
61	710006	Stand End Plate
62	205188	Stand Top Plate
63	207657	Tail Bracket
64	605279P	Washer
65	708180P	Trilobe Screw, M6-1.00 x 25 mm
66	911016M	Button Head Screw, M10-1.50 x 16 mm
67	920620M	Socket Head Screw, M6-1.00 x 20 mm
68	960897M	Hex Head Cap Screw, M8-1.25 x 30 mm
69	991011M	Hex Nut, M10
70	207678	Corner Stand mount Bracket
71	203164-LLLLL	Corner Stand Leg
72	203165	Tube Cover
73	807-2273	Rivet
74	834-FATB-20	Twist-In Stud, M8 x 20 mm
75	834-FBCS-20X55	Connecting Strip, 20 mm x 55 mm
76	834-FBCS-20X96	Connecting Strip, 20 mm x 96 mm
77	834-FBFT-80B	Foot Support
78	960882M	Hex Head Cap Screw, M8 x 12 mm
79	970810M	Cup Set Screw, M8-1.25 x 10 mm
80	990812M	Lock Nut, M8

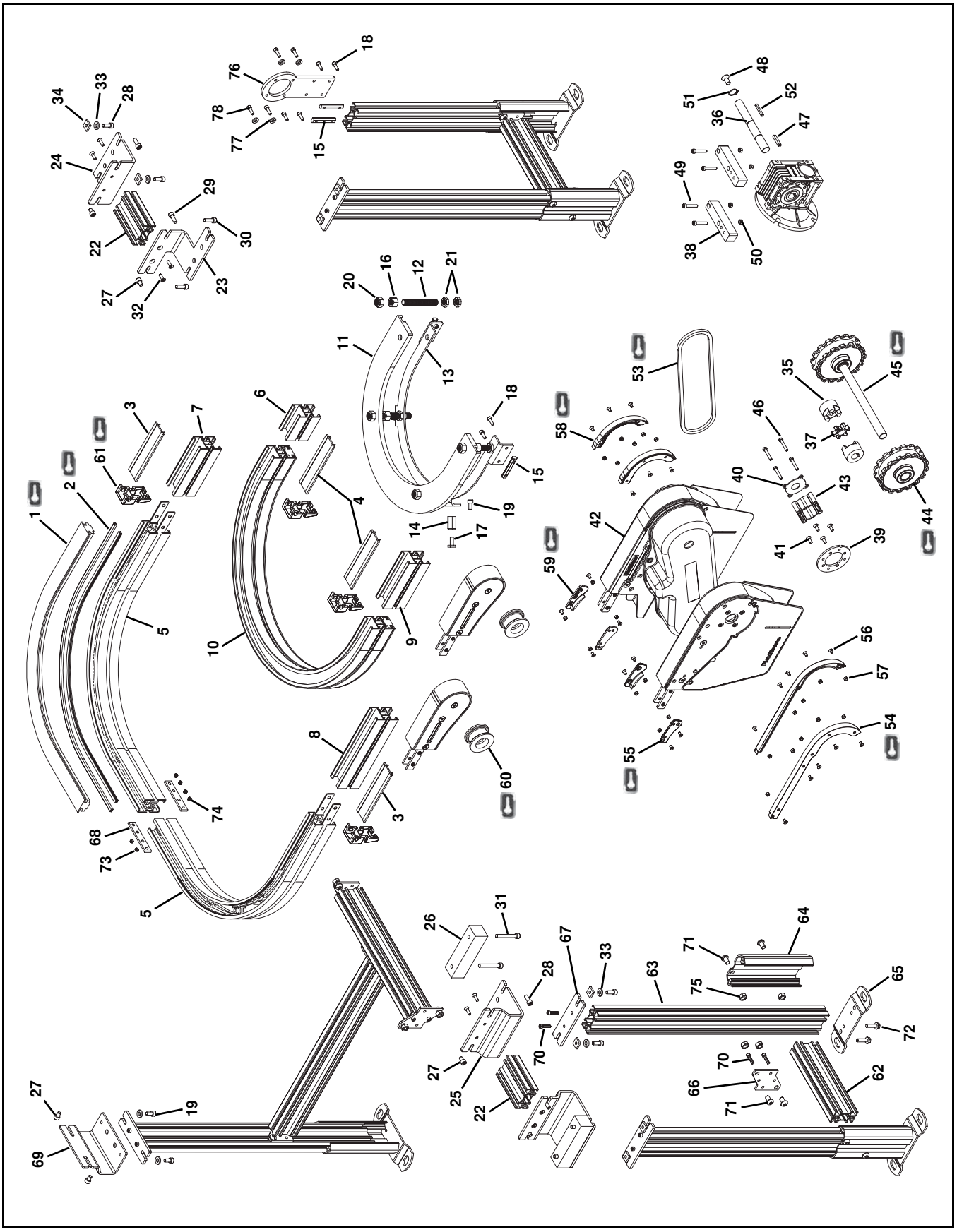
WWW = Convetor width reference: 320, 400, 480

LLLLL = Part length in inches with 2 decimal places.

Length Example: Length = 95.25" LLLLL = 09525

Service Parts

Heavy Load 180° Corner



Item	Part Number	Description
1	834-FKPC-5	Conveyor Chain (sold per foot)
2	834-FASR-25K	Wear Strip (sold per foot)
3	835-002-00650	Lowside Bedplate for Outside 320 width Conveyors
	835-002-00800	Lowside Bedplate for Outside 400 width Conveyors
	835-002-00900	Lowside Bedplate for Outside 480 width Conveyors
4	835-002-00650	Lowside Bedplate for Inside Conveyors
5	207742	Frame Rail for Outside Corner 320 width Conveyors
	207688	Frame Rail for Outside Corner 400 width Conveyors
	207741	Frame Rail for Outside Corner 480 width Conveyors
6	834-FKCB-3-00325	Frame Rail for Inside Drive Side Straight Conveyors
7	834-FKCB-3-00650	Frame Rail for Outside Straight Drive Side 320 width Conveyors
	834-FKCB-3-00325	Frame Rail for Outside Straight Drive Side 400 width Conveyors
	834-FKCB-3-00519	Frame Rail for Outside Straight Drive Side 480 width Conveyors
8	834-FKCB-3-00949	Frame Rail for Outside Straight Non-Drive Side 320 width Conveyors
	834-FKCB-3-00624	Frame Rail for Outside Straight Non-Drive Side 400 width Conveyors
	834-FKCB-3-00818	Frame Rail for Outside Straight Non-Drive Side 480 width Conveyors
9	834-FKCB-3-00624	Frame Rail for Inside Non-Drive Side Straight Conveyors
10	207686	Frame Rail for Inside Corner Conveyors
11	207682	Corner Guide
12	207632	Stud, M14
13	207683	Corner Bracket
14	207743-WWW	Hex Spacer
15	300150M	Drop-In Tee Bar
16	807-2637	Hex Nut, M14
17	834-FATB-20	Twist-In Stud, M8 x 20 mm
18	920618M	Socket Head Screw, M6-1.00 x 18 mm
19	920816M	Socket Head Screw, M8-1.25 x 16 mm
20	991402M	Lock Nut, M14
21	991409M	Jam Nut, M14
22	207650-WWW	Crossmember
23	207641	Drive End Crossmember Bracket
24	207651	Drive Side Crossmember Bracket
25	207652	Idler End Crossmember Bracket
26	207653	Spacer
27	920812M	Socket Head Screw, M8-1.25 x 12 mm
28	920820M	Socket Head Screw, M8-1.25 x 20 mm
29	920822M	Socket Head Screw, M8-1.25 x 22 mm
30	920825M	Socket Head Screw, M8-1.25 x 25 mm
31	920860M	Socket Head Screw, M8-1.25 x 60 mm
32	930620M	Flat Head Screw, M6-1.00 x 20 mm
33	605280P	Washer
34	834-FASN-M8	Slide-In Nut, M8
35	807-1140	3 Jaw Coupling
36	207643	Drive Shaft
37	807-1143	3 Jaw Spider
38	207640	Drive Mount Bracket
39	207647	Corner Guard Plate
40	207648	Drive Guard Plate
41	930616M	Flat Head Screw, M6-1.00 x 16 mm
42	207654	Drive Corner for 320 width Conveyor
	207655	Drive Corner for 400 & 480 width Conveyors
43	207649-WWW	Standoff
44	207744	Spindle Assmebly, Auxilary Drive
45	207745-WWW	Spindle Assmebly, Main Drive
46	950635M	Low Head Cap Screw, M6-1.00 x 35 mm for 320 width Conveyors
	920665M	Socket Head Screw, M6-1.00 x 65 mm for 400 & 480 width Conveyors
47	980636M	Key
48	931020M	Flat Head Screw, M10-1.50 x 20 mm
49	920635M	Socket Head Screw, M6-1.00 x 35 mm
50	990601M	Hex Nut, M6
51	915-026	Retaining Ring
52	912-084	Square Key
53	FS008B	Chain
54	834-FKD44101	Driven Steering Guide, pair
55	834-FKD44102	Driven Return Steering Guide, pair
56	930510M	Flat Head Screw, M5-.80 x 10 mm
57	990501M	Hex Nut, M5
58	834-FSD63101-A	Drive Steering Guide, pair
59	834-FSD63102-A	Return Steering Guide, pair
60	834-FIE201	Ilder Pulley Assembly
61	206649	End Tail assembly
62	710210-LLLLL	Stand Crossmember
63	710211-LLLLL	Stand Leg
64	710031-LLLLL	Stand Boot
65	710004	Stand Foot
66	710006	Stand End Plate
67	205188	Stand Top Plate
68	207684	Connecting Bar
69	207687	Stand Bracket
70	708180P	Trilobe Screw, M6-1.00 x 25 mm
71	911016M	Button Head Screw, M10-1.50 x 16 mm
72	960897M	Hex Head Cap Screw, M8-1.25 x 30 mm
73	970806M	Cup Set Screw, M8-1.25 x 6 mm
74	970808M	Cup Set Screw, M8-1.25 x 8 mm
75	991011M	Hex Nut, M10
76	207657	Tail Bracket
77	605279P	Washer
78	920620M	Socket Head Screw, M6-1.00 x 20 mm

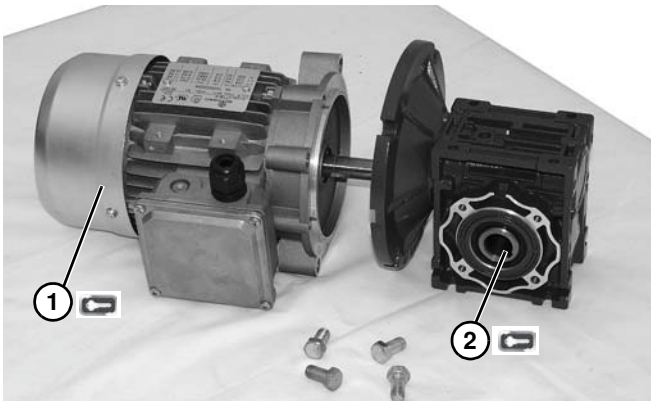
WWW = Convetor width reference: 320, 400, 480

LLLLL = Part length in inches with 2 decimal places.

Length Example: Length = 95.25" LLLLL = 09525

Service Parts

Heavy Load Corners 90° Industrial Gearmotors



Item	Part No.	Description
1	62MES411FN	Motor, 0.25hp (0.19Kw), 115/230 Volts, 60 Hz, 1-Phase
	62MES423FN	Motor, 0.25hp (0.19Kw), 208–230/460 Volts, 60 Hz, 3-Phase
	22MSD3DEN	Motor, 0.25hp (0.19Kw), 130 VDC
	62MEH411FN	Motor, 0.5hp (0.37Kw), 115/230 Volts, 60Hz, 1–Phase
	32MES423FN	Motor, 0.5hp (0.37Kw) 208–230/460 Volts, 60Hz, 3 Phase
	62MHD9DEN	Motor, 0.5hp (0.37Kw), 90 VDC
	32MES423EN	Motor, 0.5hp (0.37Kw), 230 Volts, 3 Phase Inverter Duty
	32MHD9DEN	Motor, 0.75 hp, (0.56Kw), 90 VDC
2	32M005EL	Gear Reducer, 5:1, NEMA 42CZ
	32M010EL	Gear Reducer, 10:1, NEMA 42CZ
	32M020EL	Gear Reducer, 20:1, NEMA 42CZ
	32M040EL	Gear Reducer, 40:1, NEMA 42CZ
	32M060EL	Gear Reducer, 60:1, NEMA 42CZ
	32M005ES	Gear Reducer, 5:1, NEMA 56C
	32M010ES	Gear Reducer, 10:1, NEMA 56C
	32M020ES	Gear Reducer, 20:1, NEMA 56C
	32M040ES	Gear Reducer, 40:1, NEMA 56C
	32M060ES	Gear Reducer, 60:1, NEMA 56C
	32M010EH	Gear Reducer, 10:1, NEMA 140 TC

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. Include part serial number if available.

A representative will discuss action to be taken on the returned items and provide a Returned Materials 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.

<table>
<tr><td></td><td colspan="9">Product Type</td></tr>
<tr><td></td><td colspan="8">Standard Products</td><td>Engineered to order parts</td></tr>
<tr><td>Product Line</td><td>Conveyors</td><td>Gearmotors & Mounting Packages</td><td>Support Stands</td><td>Accessories</td><td>Spare Parts (non-belt)</td><td>Spare Belts - Standard Flat Fabric</td><td>Spare Belts - Cleated & Spec. Fabric</td><td>Spare Belts - Plastic Chain</td><td>All equipment and parts</td></tr>
<tr><td>1100 Series</td><td colspan="6" rowspan="7">30% return fee for all products except:
50% return fee for conveyors with modular belt, cleated belt or speciality belts

All Electrical items are assigned original manufacturers return policy.</td><td colspan="2" rowspan="14">non-returnable</td><td rowspan="14">case-by-case</td></tr>
<tr><td>2200 Series</td></tr>
<tr><td>3200 Series</td></tr>
<tr><td>Pallet Systems</td></tr>
<tr><td>FlexMove/SmartFlex</td></tr>
<tr><td>GAL Series</td></tr>
<tr><td>All Electrical</td></tr>
<tr><td>7100 Series</td><td colspan="6" rowspan="4">50% return fee for all products</td></tr>
<tr><td>7200/7300 Series</td></tr>
<tr><td>AquaGard 7350 Series Version 2</td></tr>
<tr><td>GES Series</td></tr>
<tr><td>AquaGard 7350/7360 Series</td><td colspan="8" rowspan="2">non-returnable</td></tr>
<tr><td>AquaPruf Series</td></tr>
</table>

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 Dorner, an authorized sales channel or visit our website: www.dorner.com.

For replacement parts, contact an authorized Dorner Service Center or the factory.

www.dorner.com

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