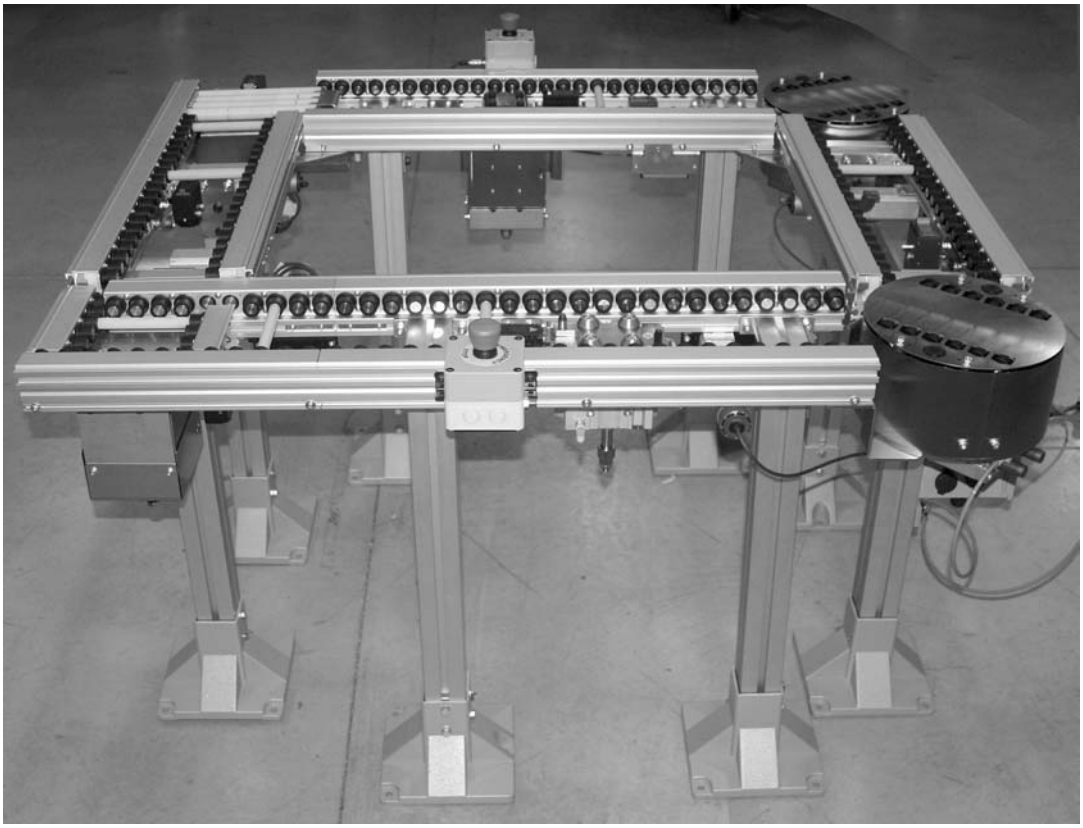
ERT® 150 Pallet System Stations & Accessories

Installation, Maintenance & Parts Manual



For other service manuals visit our website at:
www.dornerconveyors.com/manuals-literature

Record Conveyor Serial Number Here

851-961 Rev. A

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

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.

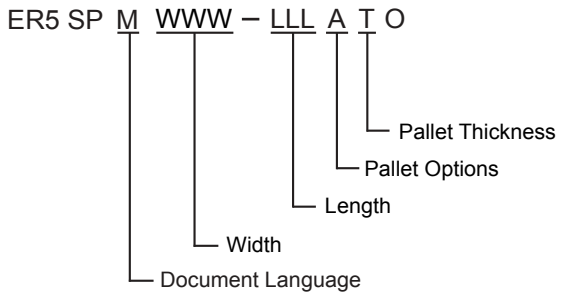
⚠ WARNING

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

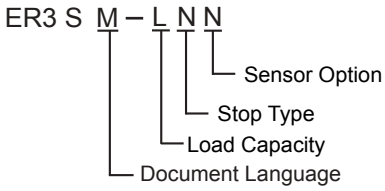
SUPPORT CONVEYOR SECTIONS PRIOR TO LOOSENING STAND HEIGHT OR ANGLE ADJUSTMENT SCREWS.

Accessories:

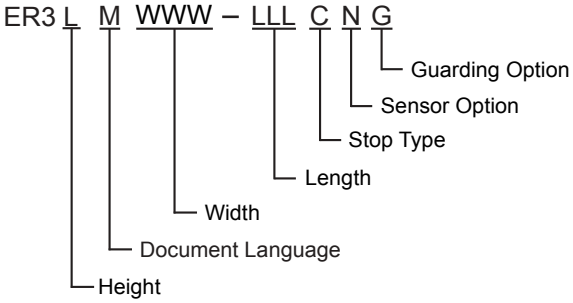
Pallets



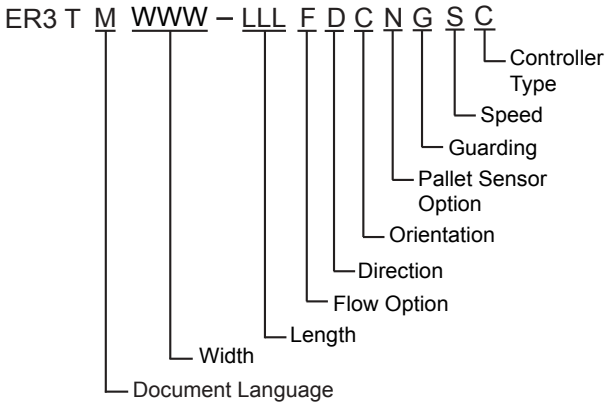
Pallet Stops



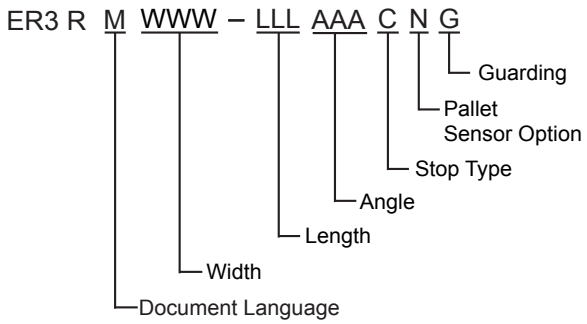
Lift and Locate Station



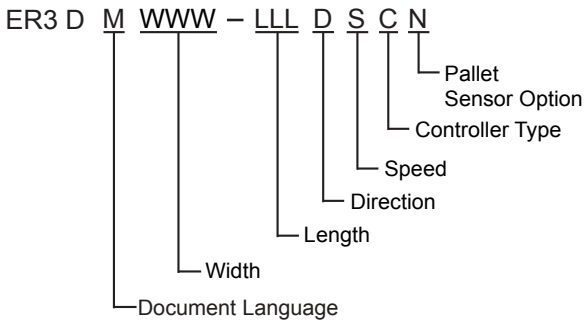
Lift and Transfer Station



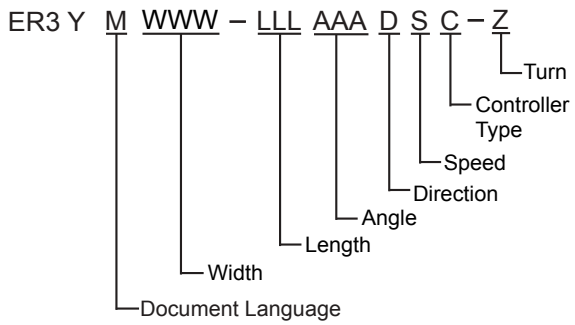
Lift and Rotate Station



Pallet Pusher



Turn and Transfer Station



Specifications

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
- 4 mm hex wrench
- 5 mm hex wrench
- 6 mm hex wrench
- 13 mm wrench
- 17 mm wrench
- 19 mm wrench

Sensor Mounts

Bottom Mount

1. Install spring nut **(Figure 1, item 1)** into T–slot.

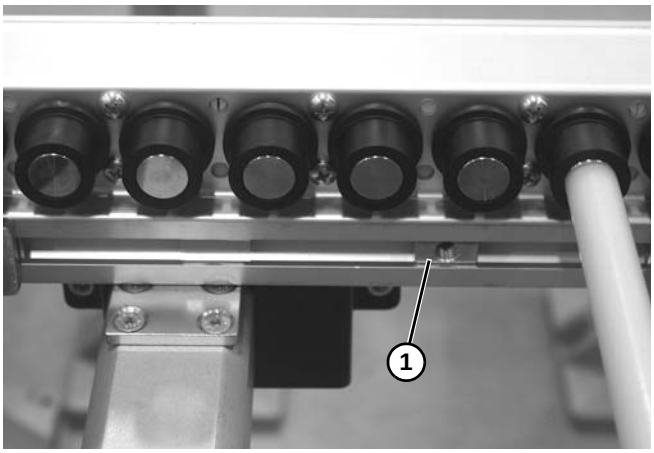


Figure 1

2. Attach sensor **(Figure 2, item 1)** to conveyor with screw **(Figure 2, item 2)**.

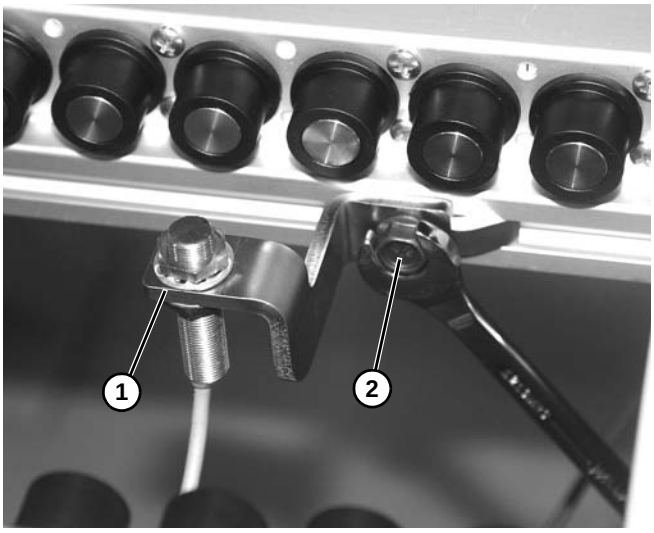


Figure 2

Side Mount

1. Install spring nut **(Figure 3, item 1)** into T–slot.

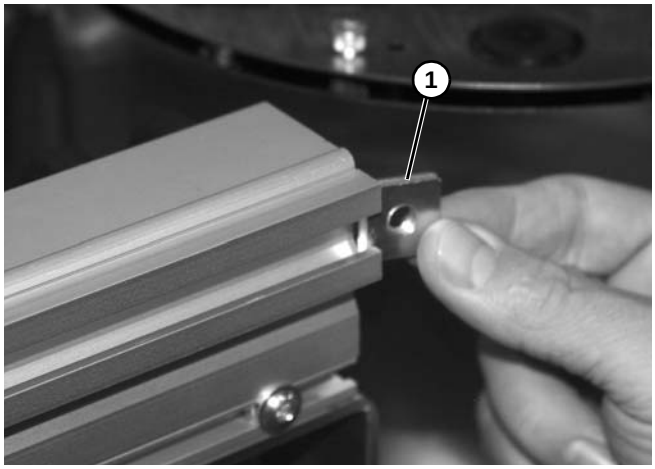


Figure 3

2. Attach sensor **(Figure 4, item 1)** to conveyor with screw **(Figure 4, item 2)**.

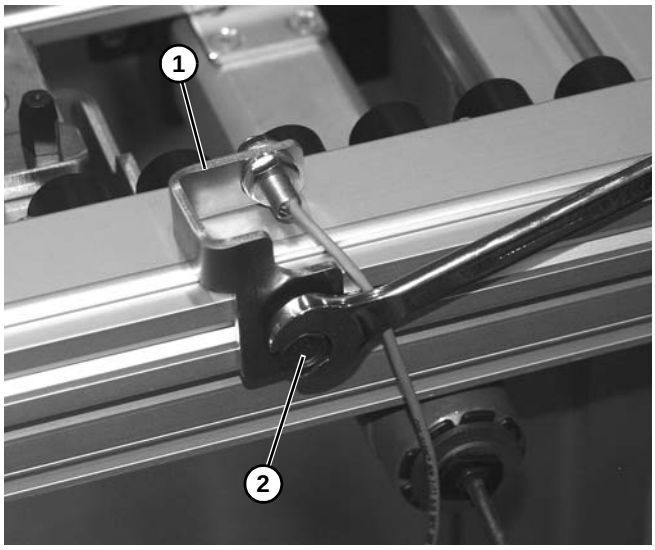


Figure 4

Installation

Pallet Stops

Installation

1. Install spring nuts **(Figure 5, item 1)** into T–slot.

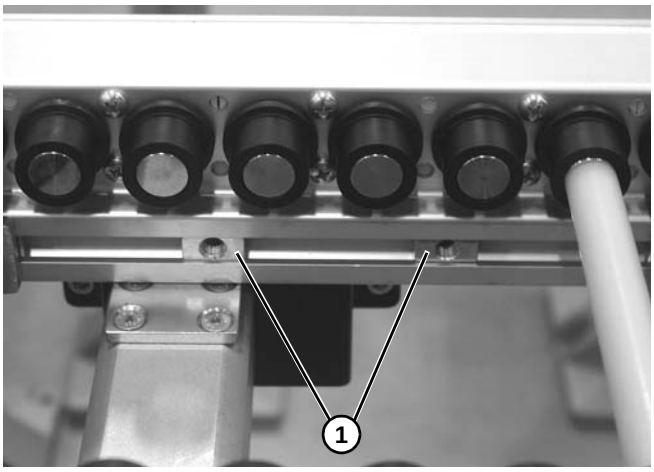


Figure 5

2. Install pallet stop **(Figure 6, item 1)** to conveyor using two screws **(Figure 6, item 2)**. Tighten screws.

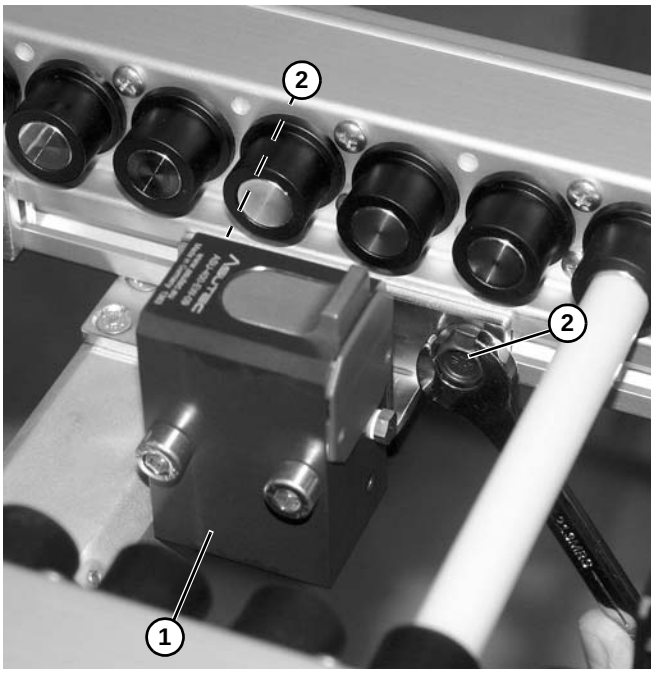


Figure 6

To switch pallet stop from left hand to right hand

1. Remove two screws **(Figure 7, item 1)** and remove bracket **(Figure 7, item 2)**.

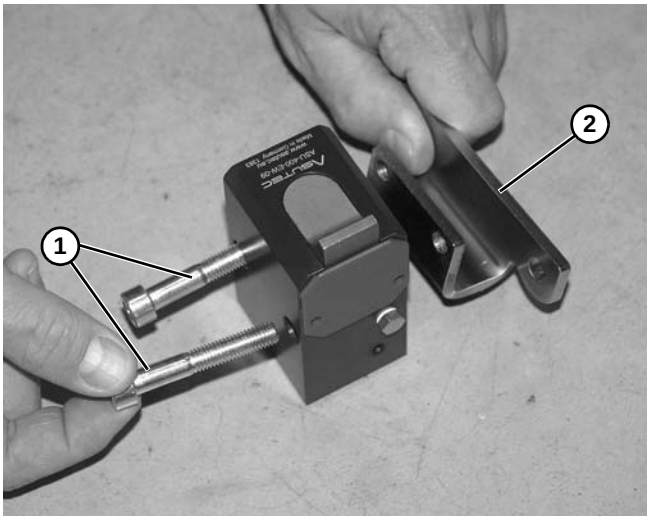


Figure 7

2. Install the bracket **(Figure 8, item 1)** and the two screws **(Figure 8, item 2)** on the opposite side of the pallet stop.

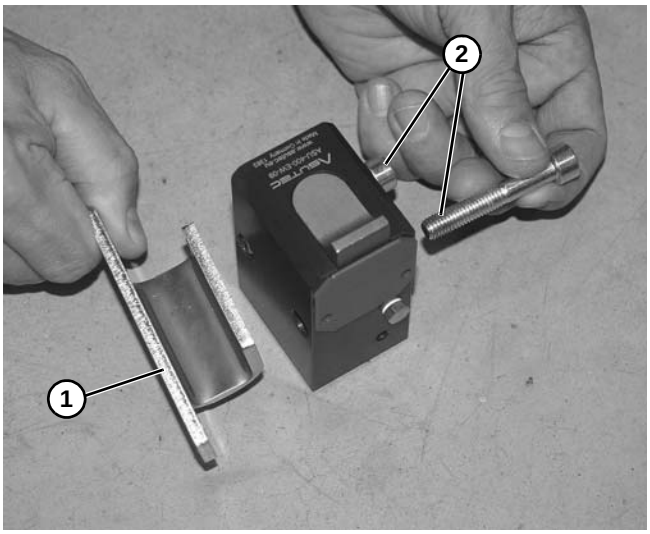


Figure 8

3. Tighten screws to secure bracket back onto pallet stop.

Pneumatic and Control Logic Suggestions

Recommended Pneumatics

Dorner recommends using a 3–port 2–way solenoid valve **(Figure 9)** to operate Pallet Stops.

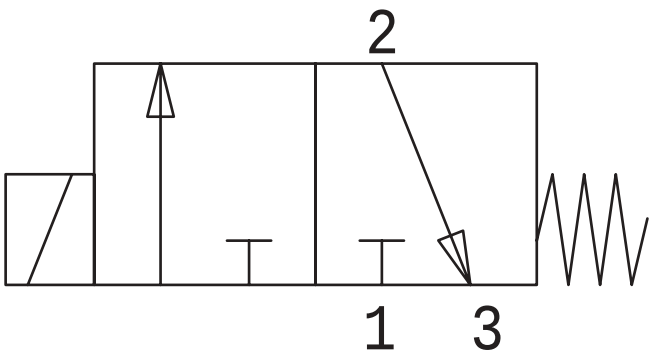


Figure 9

Attaching and Operations of Pneumatics

1. Connect the solenoid to the stop. Dorner fittings **(Figure 10, item 1)** accept 1/4" outside diameter tubing standard **(Figure 10, item 2)**.

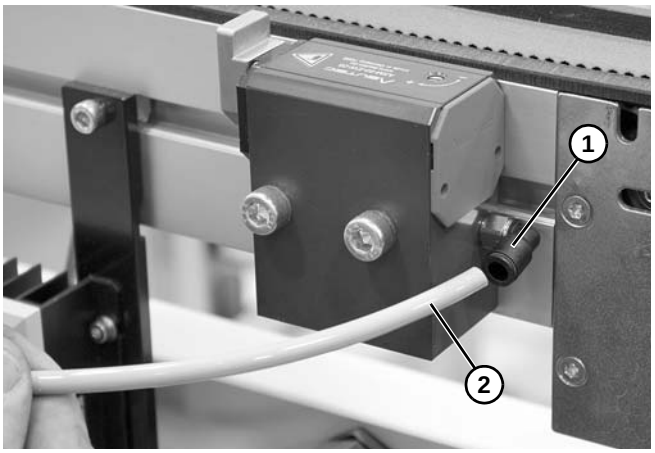


Figure 10

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 11, item 1)** or side mount **(Figure 11, item 2)** sensor brackets can be used to mount a 12 mm barrel proximity sensor **(Figure 11, item 3)**.

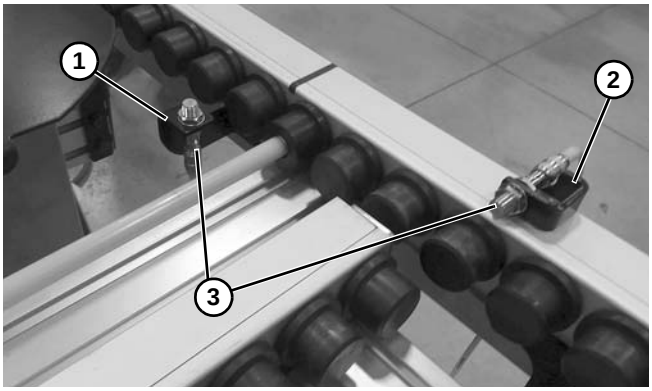


Figure 11

- On an in–frame stop, two bottom **(Figure 12, item 1)** and two side flags **(Figure 12, item 2)** can be used for sensing.

Figure 12

- 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 12, 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).

Lift and Locate Station

Simplified Installation

1. Install and adjust Lift and Locate module **(Figure 13, item 1)**.

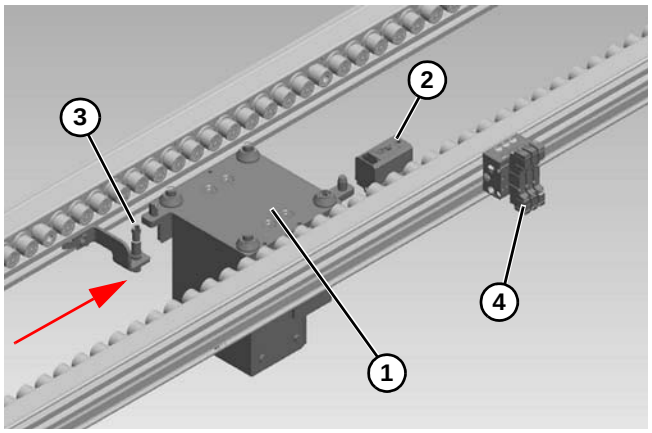


Figure 13

2. Locate and install pallet stop **(Figure 13, item 2)**. (Refer to "Pallet Stops" starting on page 8.)
3. Locate and install pallet sensor **(Figure 13, item 3)**. (Refer to "Sensor Mounts" starting on page 7.)
4. Install and connect pneumatic solenoids **(Figure 13, item 4)**, provided by others.

Full Installation Steps

1. For pallet sizes under 240x240, install two spring nuts **(Figure 14, item 1)** in inner T–slot on both sides of the conveyor.

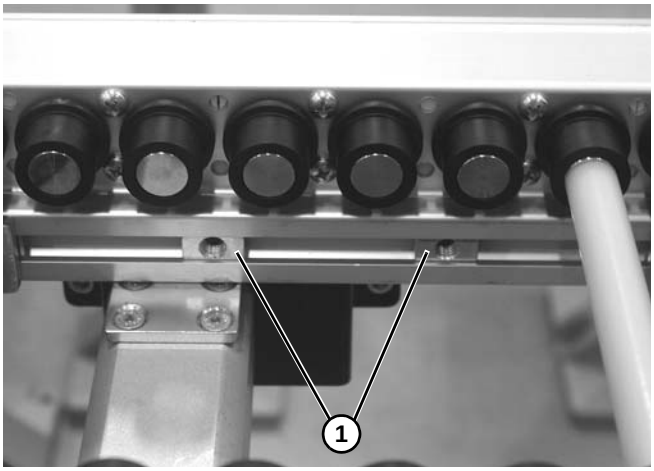


Figure 14

2. For pallet sizes 240x240 and larger, install two spring nuts **(Figure 15, item 1)** in bottom T–slot on both sides of the conveyor.

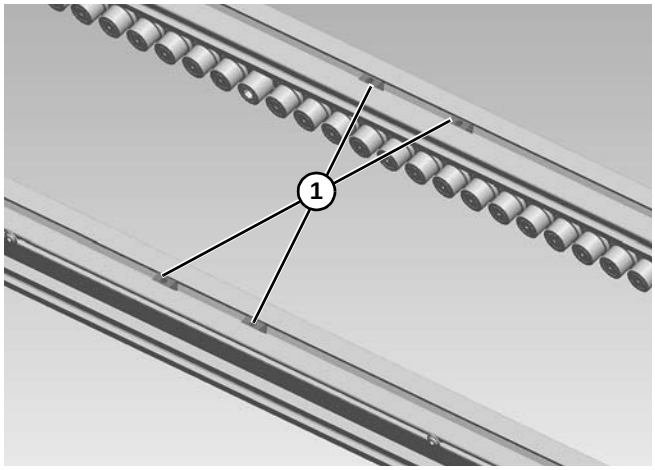


Figure 15

3. Raise lift and locate station **(Figure 16, item 1)** into position from under the conveyor, lining up two holes in bracket **(Figure 16, item 2)** with spring nuts in slotted channel of conveyor. Tighten screws **(Figure 16, item 3)**.

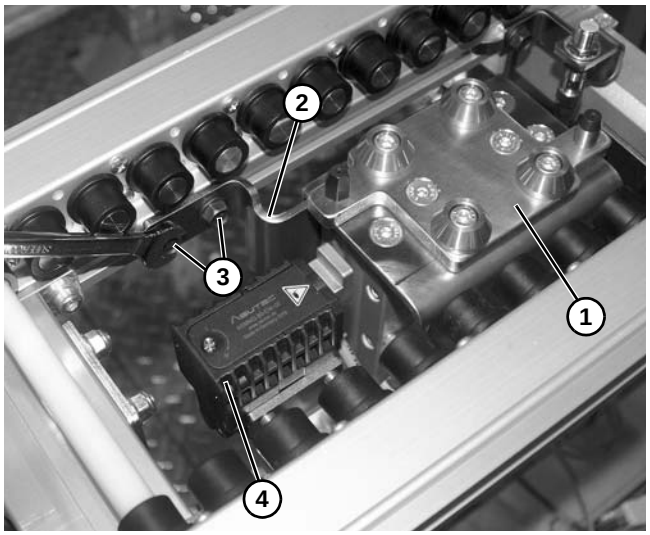


Figure 16

4. Install pallet stop **(Figure 16, item 4)** at leading end. (Refer to "Pallet Stops" starting on page 8.)

Guard Kit Removal (If Equipped)

1. For pallet sizes under 240 x 240, remove two screws **(Figure 17, item 1)** that secure cylinder guard **(Figure 17, item 2)** over cylinder assembly.

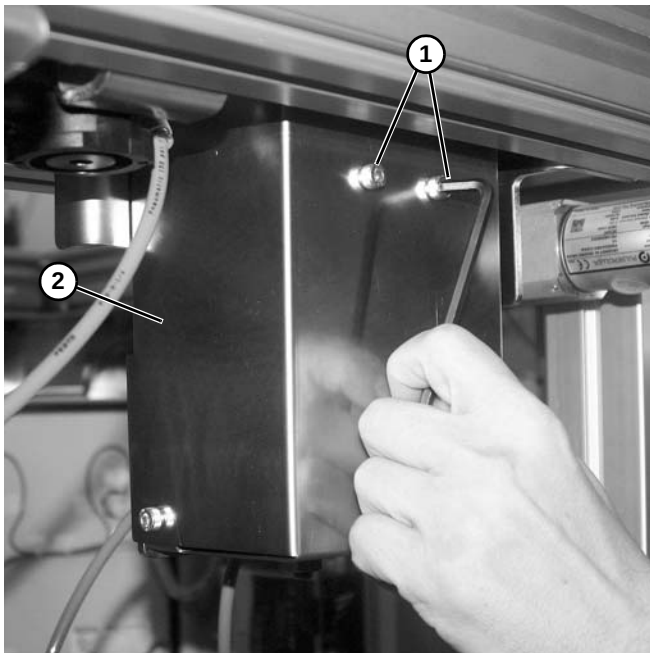


Figure 17

2. For pallet sizes 240 x 240 and larger, remove two screws **(Figure 18, item 1)** on each side of the cover **(Figure 18, item 2)**, and four screws **(Figure 18, item 3)** from the top of the guard **(Figure 18, item 4)**.

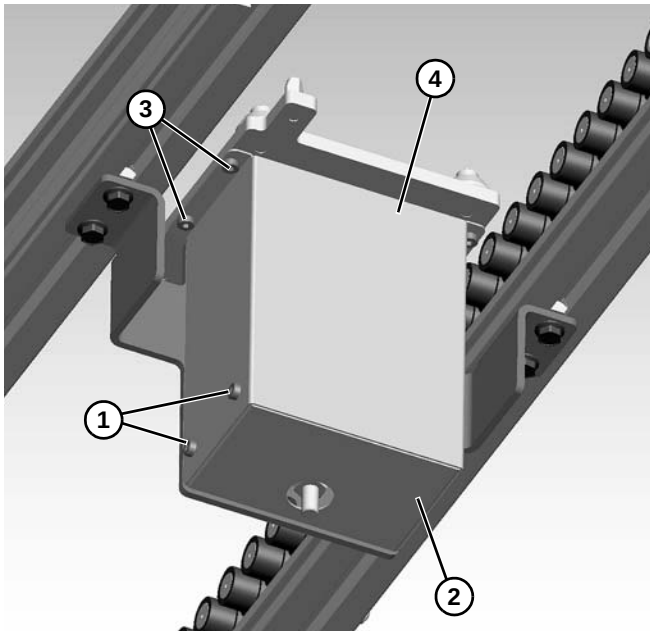


Figure 18

3. Lower cylinder guard **(Figure 19, item 1)** from around cylinder assembly.

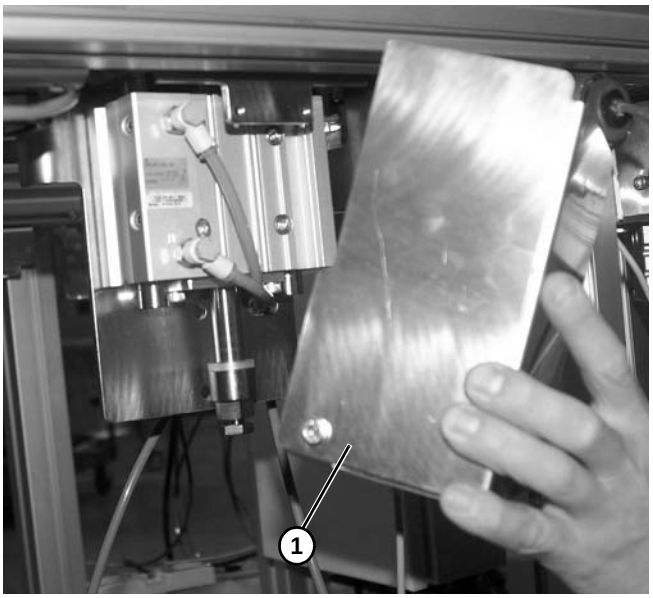


Figure 19

Stroke Adjustment

NOTE
*Adjust stroke to that pallet **(Figure 20, item 1)** raises to desired level.*

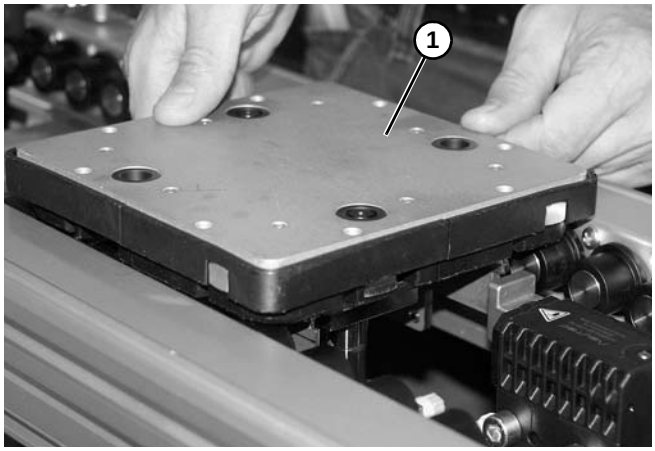


Figure 20

1. To adjust stroke, loosen jam nut **(Figure 21, item 1)** from large nut **(Figure 21, item 2)** on the bottom of cylinder shaft.

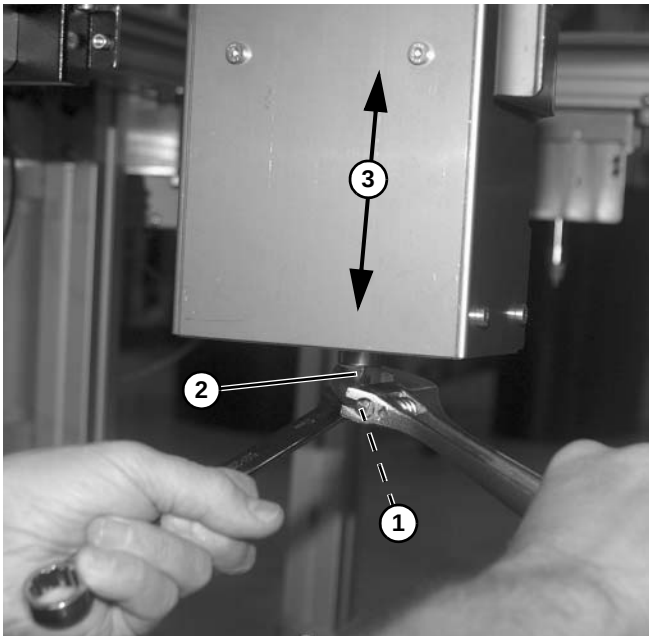


Figure 21

2. Turn large nut **(Figure 21, item 2)** clockwise or counterclockwise to raise or lower **(Figure 21, item 3)** pallet assembly as needed.
3. Tighten jam nut against large nut to secure position.

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.

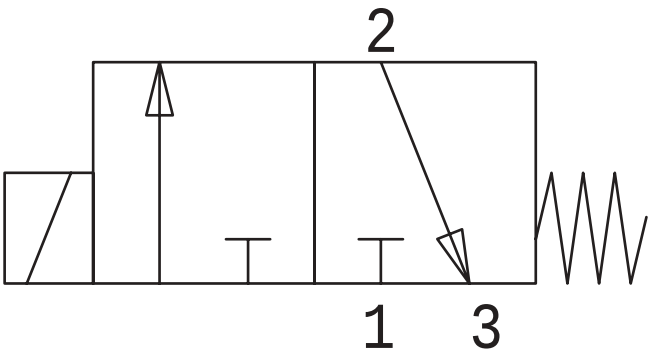


Figure 22

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

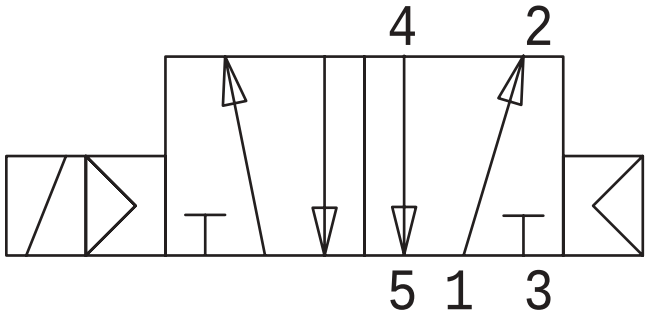


Figure 23

Attaching and Operations of Pneumatics

1. Remove guarding, if equipped.
2. 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)**.

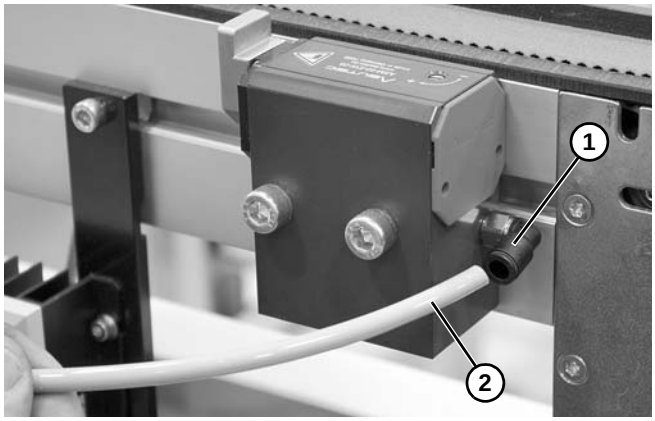


Figure 24

3. 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.

4. Connect Port 4 **(Figure 23)** of the 5–port 2–way solenoid through the slotted opening **(Figure 25, item 1)** in plate **(Figure 25, item 2)** and to the lowest port **(Figure 25, item 3)** on the lift. Dorner fittings accept 1/4" outside diameter tubing standard.

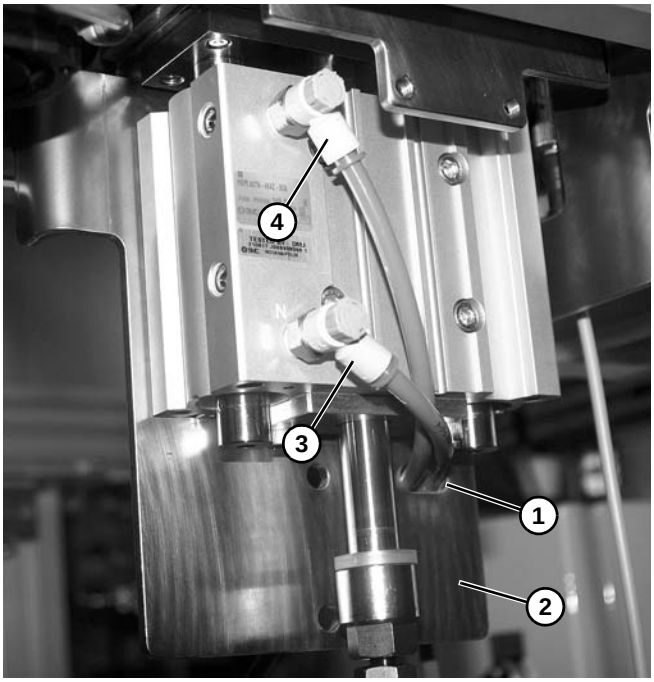


Figure 25

5. Connect Port 2 **(Figure 23)** of the 5–port, 2–way solenoid through the slotted opening **(Figure 25, item 1)** in plate **(Figure 25, item 2)** to the upper port **(Figure 25, item 4)** 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.

6. Adjust flow controls to achieve desired lift speed.
7. Reinstall guarding, if equipped.

Sensor Installation and Basic Logic

Optional bottom mount **(Figure 26, item 1)** or side mount **(Figure 26, item 2)** sensor brackets can be used to mount a 12 mm barrel proximity sensor **(Figure 26, item 3)**.

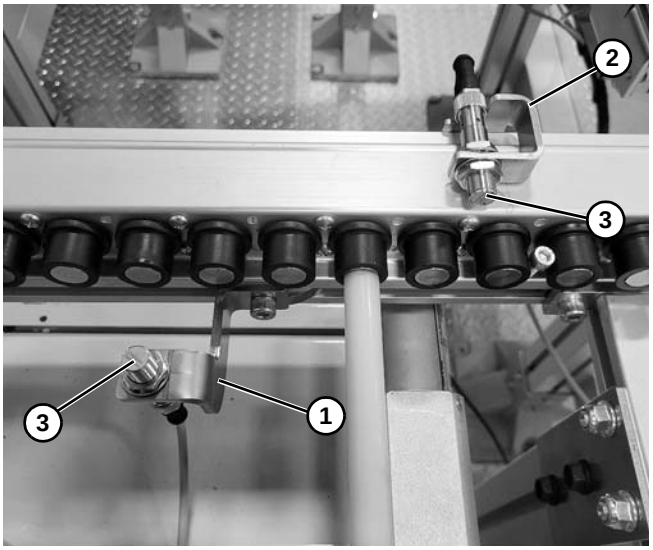


Figure 26

- One bottom **(Figure 27, item 1)** and two side flags **(Figure 27, item 2)** can be used for sensing.

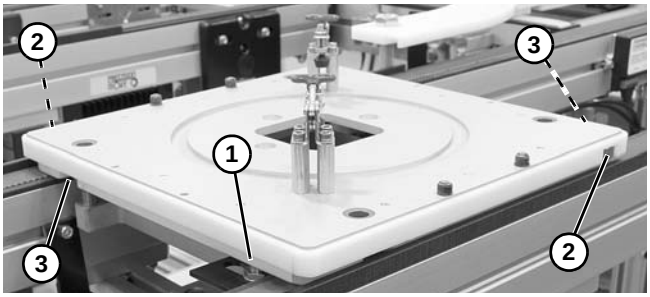


Figure 27

- 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 27, item 3)** in skirt allow stop to be reset before pallet clears stop area.

Lift and Transfer Station

Simplified Installation

1. Install and adjust Lift and Transfer module **(Figure 28, item 1)**.

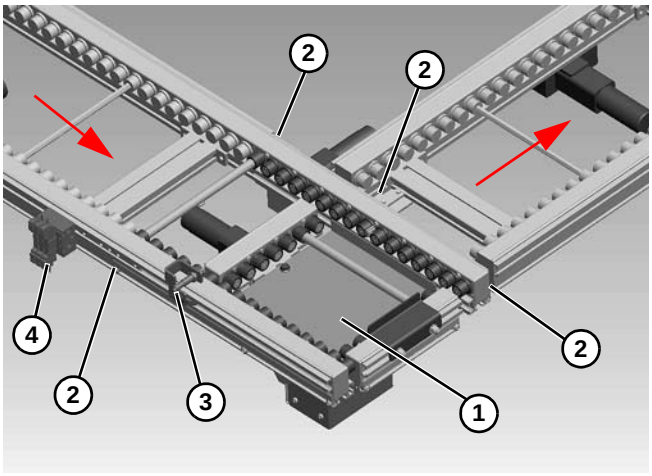


Figure 28

2. Connect transfer conveyor with connecting brackets **(Figure 28, item 2)**.
3. Locate and install pallet sensor **(Figure 28, item 3)**. (Refer to "Sensor Mounts" starting on page 7.)
4. Install and connect pneumatic solenoids **(Figure 28, item 4)**, provided by others.

Full Installation Steps

1. Join conveyor frames **(Figure 29, item 1)** and install conveyor tie brackets **(Figure 29, item 2)** in bottom slots **(Figure 29, item 3)** on both sides of the conveyor.

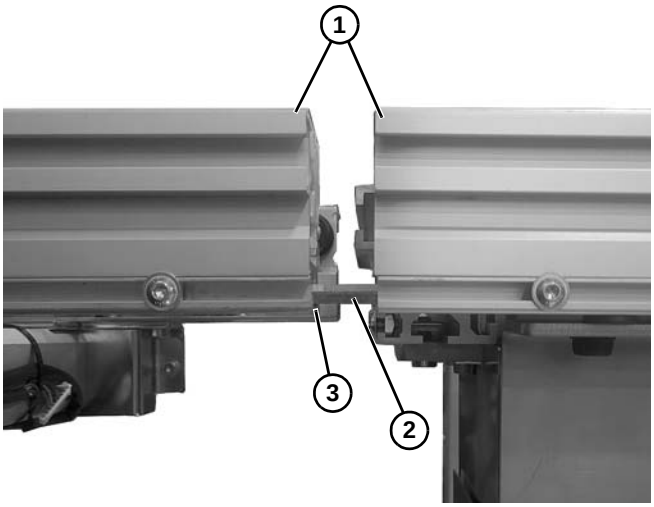


Figure 29

2. Before securing conveyor sections, verify that infeed conveyor and lift and transfer conveyor rollers **(Figure 30, item 1)** are level.

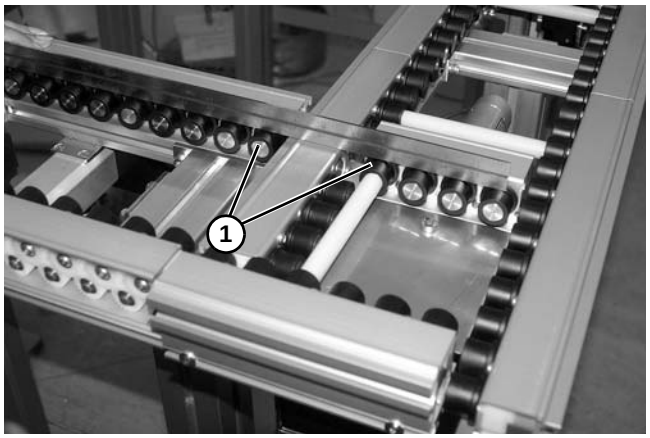


Figure 30

3. Secure tie bracket **(Figure 31, item 1)** with screws **(Figure 31, item 2)** to the transfer conveyor.

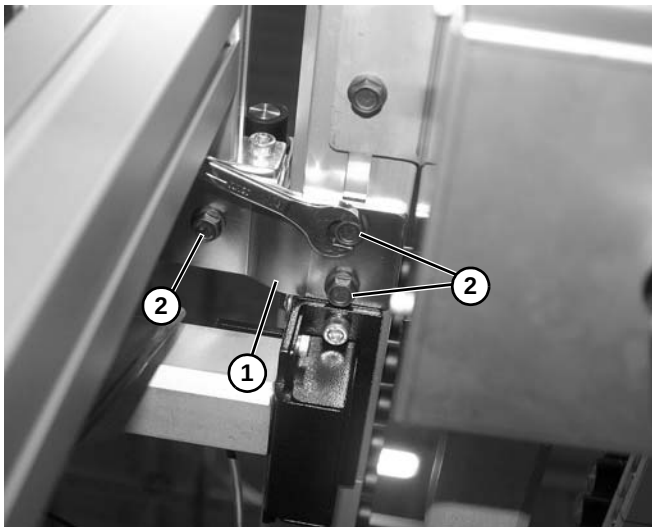


Figure 31

Guard Kit Removal (If Equipped)

1. Remove two screws **(Figure 32, item 1)** from each side of guard **(Figure 32, item 2)**. Remove guard from around lower end of cylinder assembly.

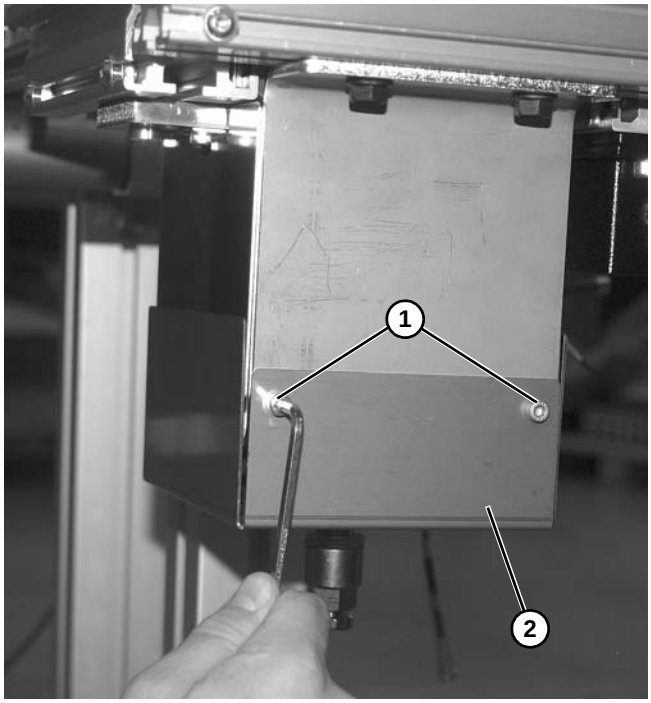


Figure 32

2. Remove two screws **(Figure 33, item 1)** and remove side guard **(Figure 33, item 2)**.

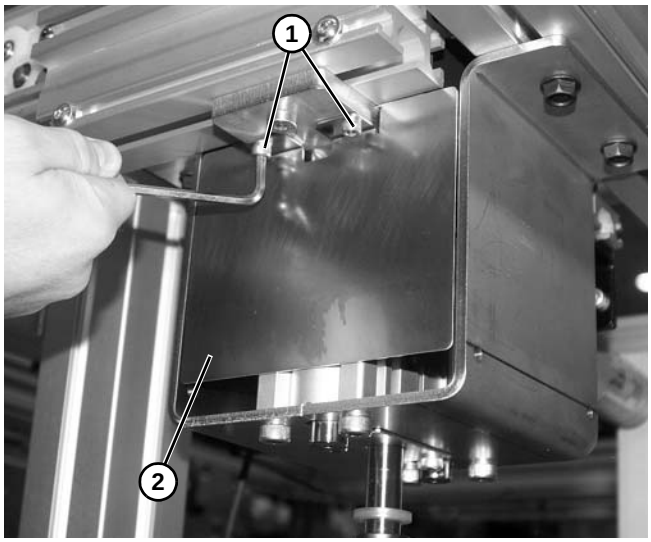


Figure 33

3. Remove two screws **(Figure 34, item 1)** securing bracket **(Figure 34, item 2)** onto conveyor frame spring nuts.

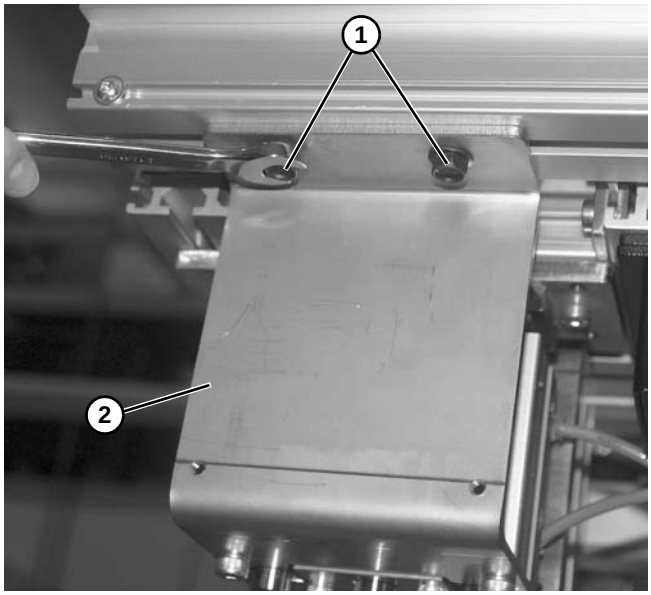


Figure 34

4. Remove two lower screws **(Figure 35, item 1)** securing bracket **(Figure 35, item 2)** onto lift cylinder.

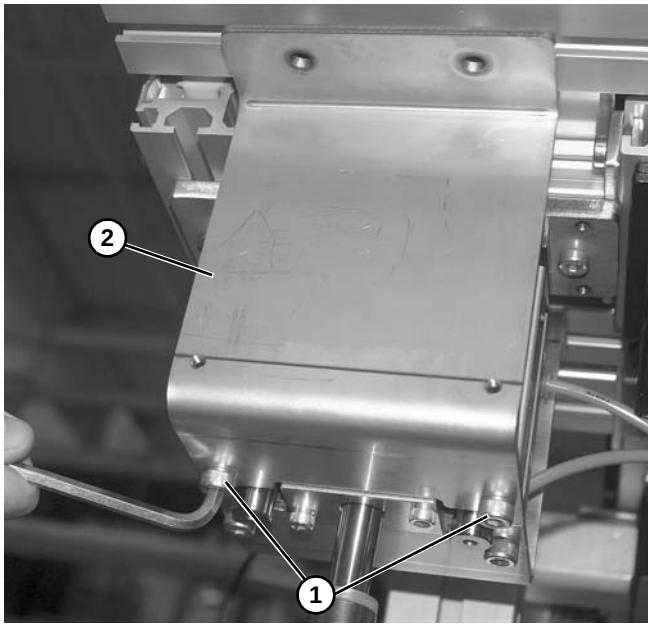


Figure 35

5. Remove bracket **(Figure 36, item 1)** from around lift cylinder **(Figure 36, item 2)**.

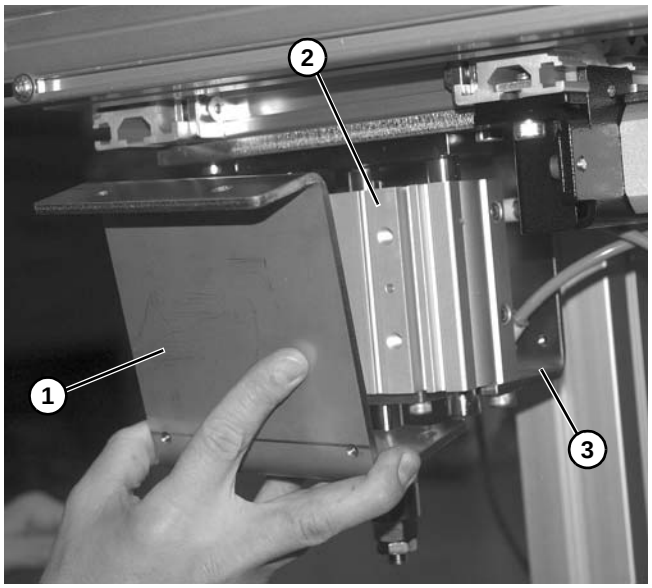


Figure 36

6. Repeat to remove bracket **(Figure 36, item 3)** on opposite side of lift cylinder.

Stroke Adjustment

1. Adjust stroke so that rollers **(Figure 37, item 1)** are level, and pallet **(Figure 38, item 1)** mates correctly with sending/receiving conveyor **(Figure 38, item 2)**.

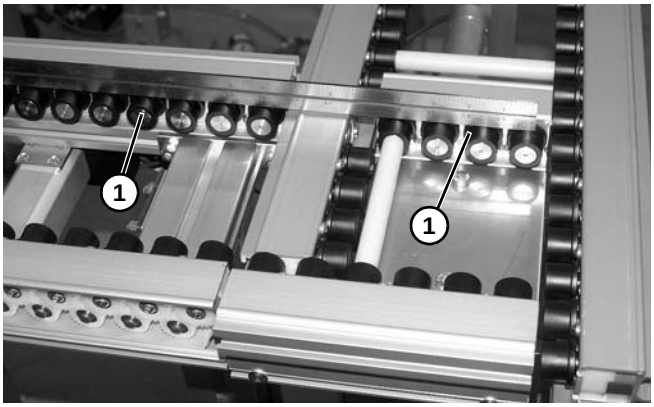


Figure 37

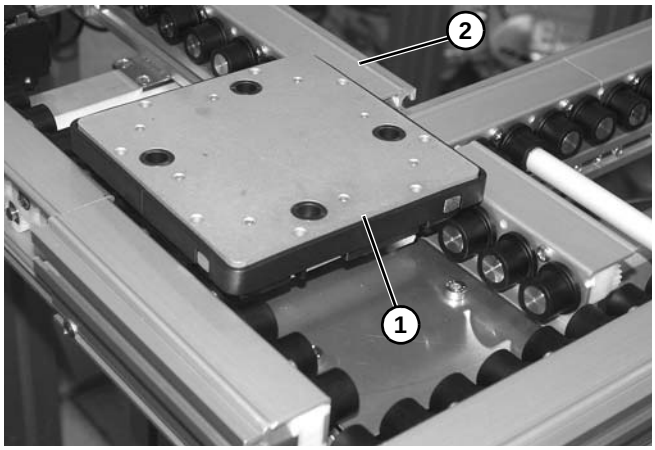


Figure 38

2. To adjust stroke, loosen jam nut **(Figure 39, item 1)** from large nut **(Figure 39, item 2)** on the bottom of cylinder shaft.

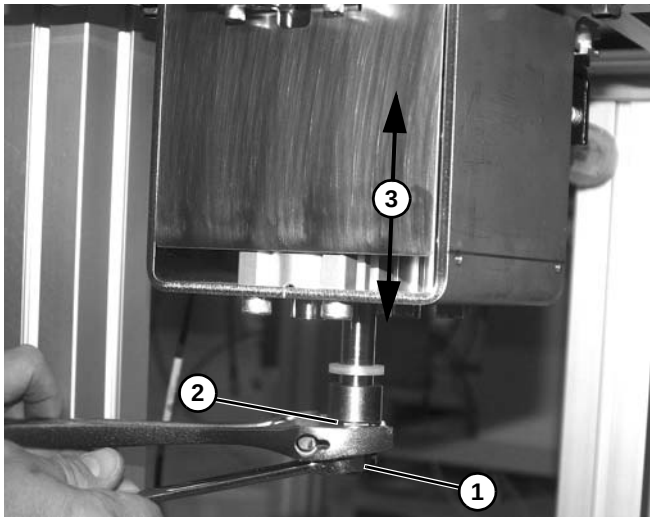


Figure 39

3. Turn large nut **(Figure 39, item 2)** clockwise or counterclockwise to raise or lower **(Figure 39, item 3)** pallet assembly as needed.
4. Tighten jam nut against large nut to secure position.

Pneumatic and Control Logic Suggestions

Recommended Pneumatics

Dorner recommends using a 3 port, 2 way solenoid valve **(Figure 40)** to operate the Lift and Transfer Stop.

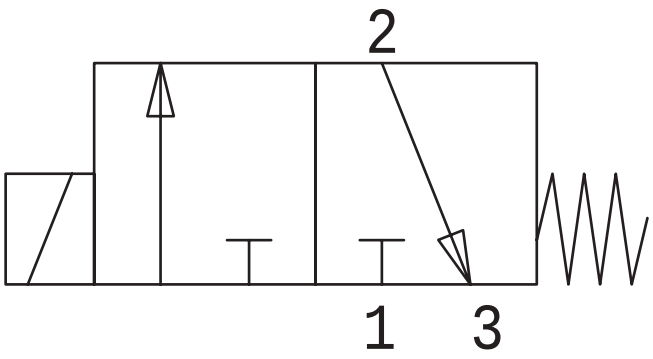


Figure 40

Dorner recommends using a 5–port 2–way solenoid valve **(Figure 41)** to operate the Lift and Transfer Pallet Unit.

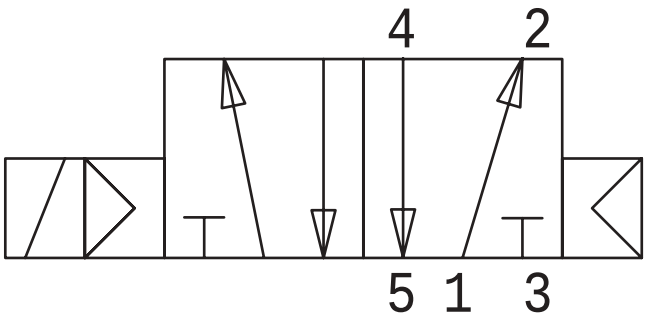


Figure 41

Attaching and Operations of Pneumatics

1. Remove guarding, if equipped.
2. Connect the 3–port 2–way solenoid valve to the stop. Dorner fittings **(Figure 42, item 1)** accept 1/4" outside diameter tubing standard **(Figure 42, item 2**).

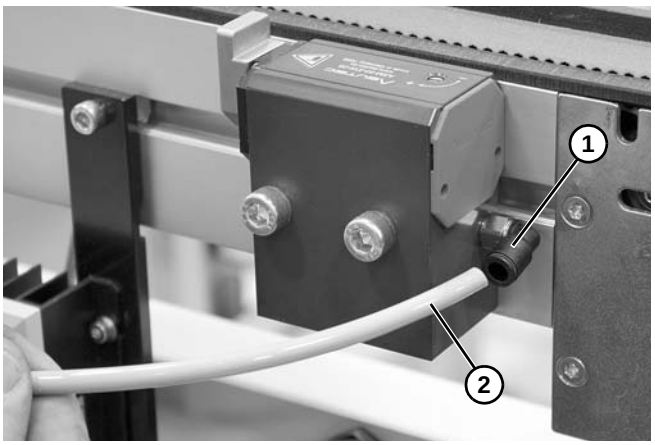


Figure 42

3. 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.
4. Connect Port 4 **(Figure 41)** of the 5–port 2–way solenoid to the lowest port **(Figure 43, item 1)** on the lift. Dorner fittings accept 1/4" outside diameter tubing standard.

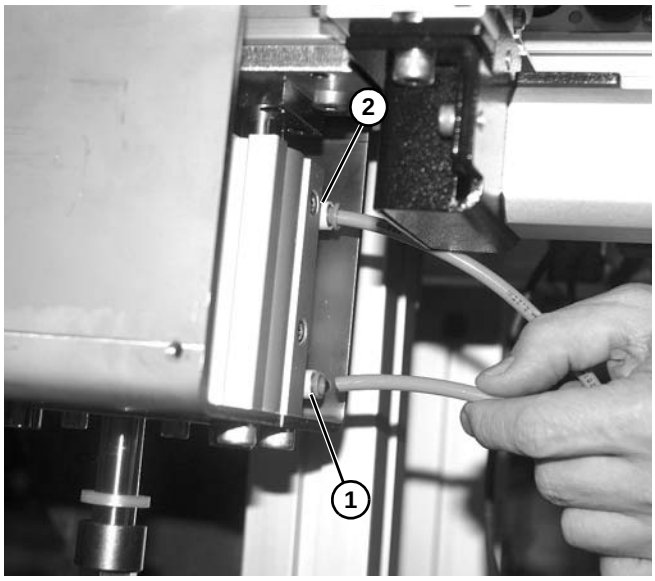


Figure 43

5. Connect Port 2 **(Figure 41)** of the 5 port, 2 way solenoid to the upper port **(Figure 43, 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.

6. Adjust flow controls to achieve desired lift speed.
7. Reinstall guarding, if equipped.

Lift and Rotate Station

Simplified Installation

1. Install and adjust Lift and Rotate module **(Figure 44, item 1)**.

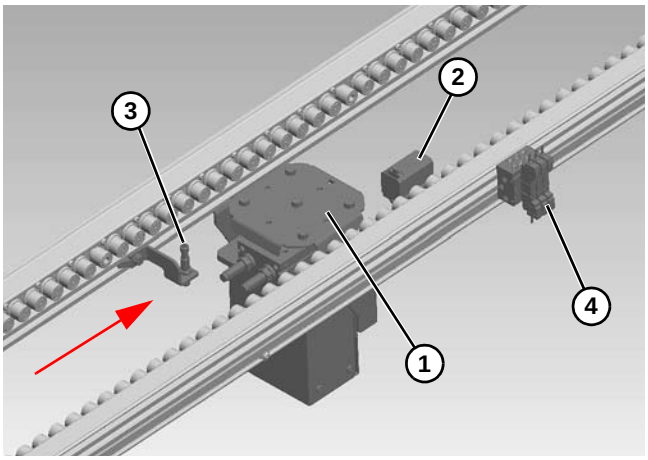


Figure 44

2. Locate and install pallet stop **(Figure 44, item 2)**. (Refer to "Pallet Stops" starting on page 8.)
3. Locate and install pallet sensor **(Figure 44, item 3)**.
4. Install and connect pneumatic solenoids **(Figure 44, item 4)**, provided by others.

Full Installation Steps

1. For pallet sizes under 240x240, install two spring nuts **(Figure 45, item 1)** in inner T–slot on both sides of the conveyor.

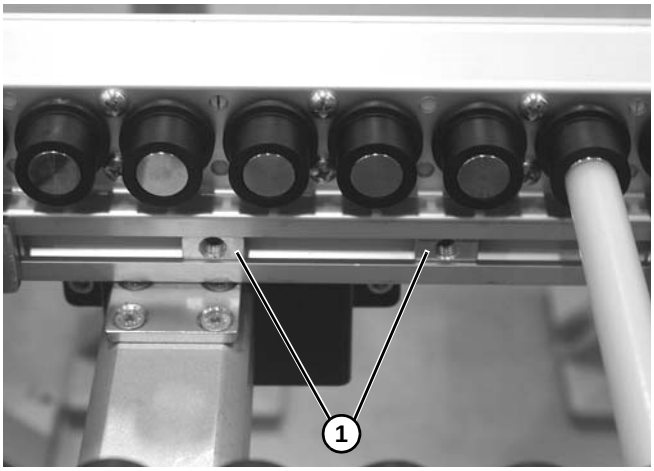


Figure 45

2. For pallet sizes 240x240 and larger, install two spring nuts **(Figure 46, item 1)** in bottom T–slot on both sides of the conveyor.

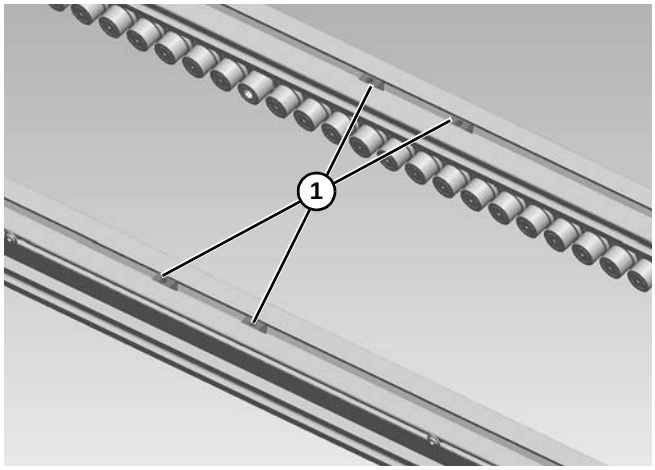


Figure 46

3. Raise lift and locate station **(Figure 47, item 1)** into position from under the conveyor, lining up two holes in bracket **(Figure 47, item 2)** with spring nuts in slotted channel of conveyor. Tighten screws **(Figure 47, item 3)**.

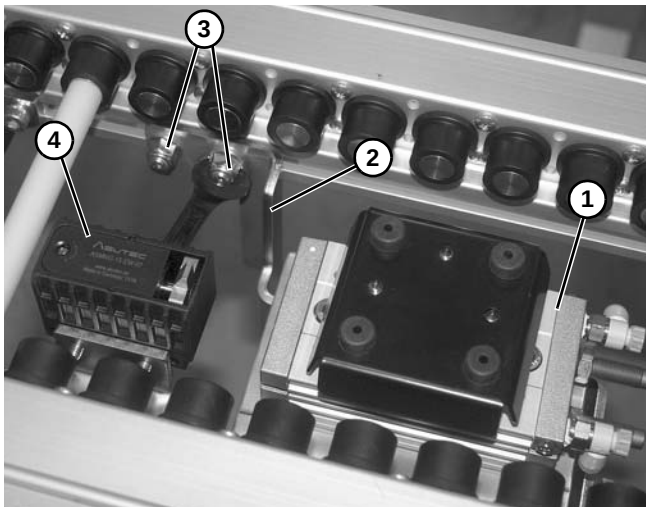


Figure 47

4. Install pallet stop **(Figure 47, item 4)** at leading end. (Refer to "Pallet Stops" starting on page 8.)

5. Place lift and rotate plate **(Figure 48, item 1)** on lift and rotate assembly **(Figure 48, item 2)**. Verify that three holes **(Figure 48, item 3)** in plate line up with three studs **(Figure 48, item 4)** on rotation plate (See **Figure 49**.)

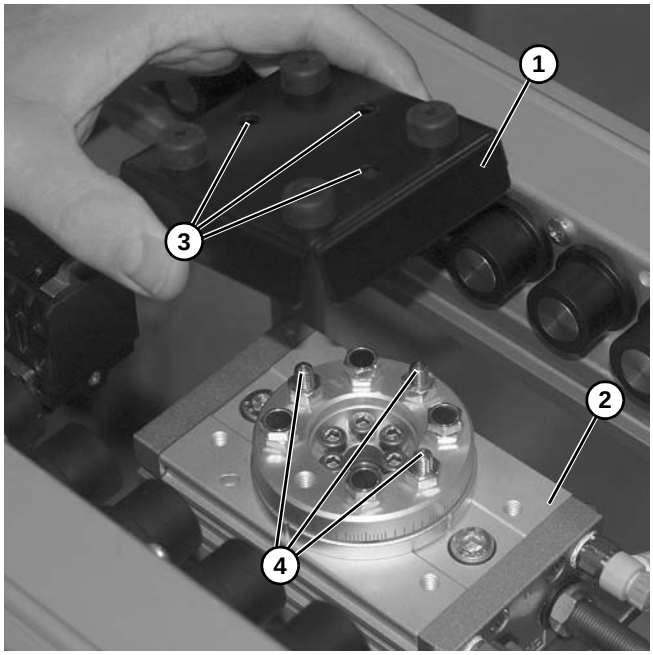


Figure 48

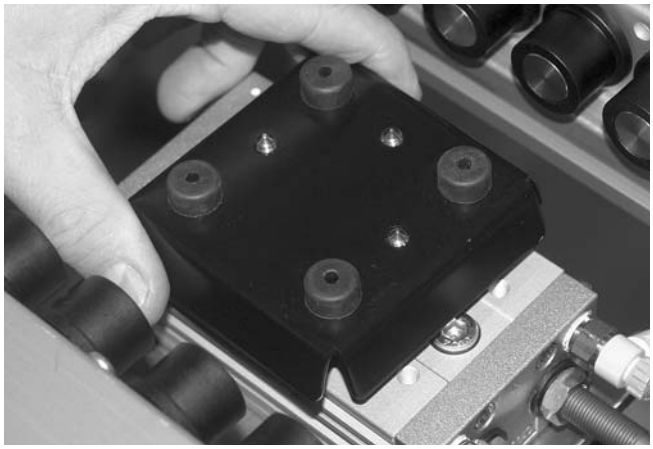


Figure 49

NOTE

*If adjustment is needed, remove lift and rotate plate and adjust nuts on four magnetic posts **(Figure 50, item 1)**, as needed. Secure position by tightening bottom nuts.*

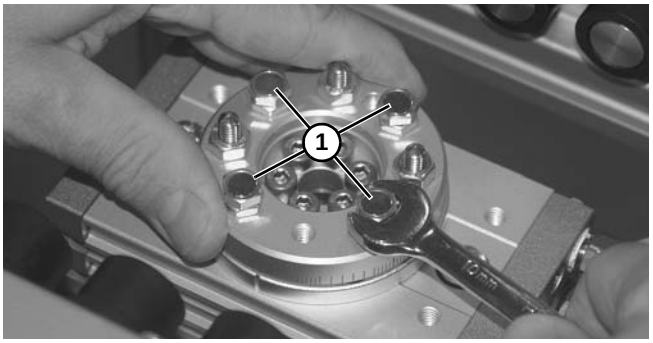


Figure 50

6. Place pallet **(Figure 51, item 1)** on lift and rotate plate **(Figure 51, item 2)**. Raise top plate to underside of pallet.

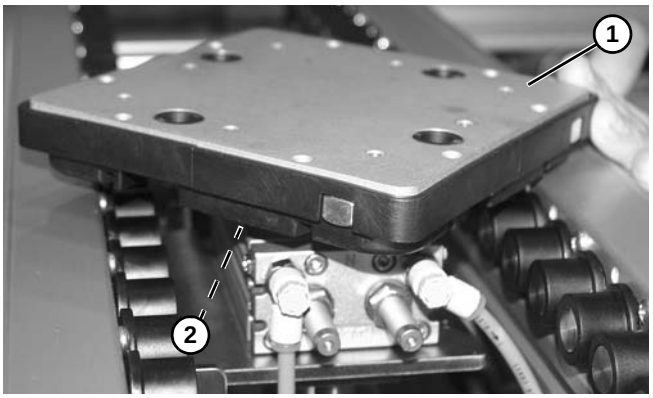


Figure 51

Rotation Adjustment

1. Loosen nuts **(Figure 52, item 1)** with an open–end wrench.

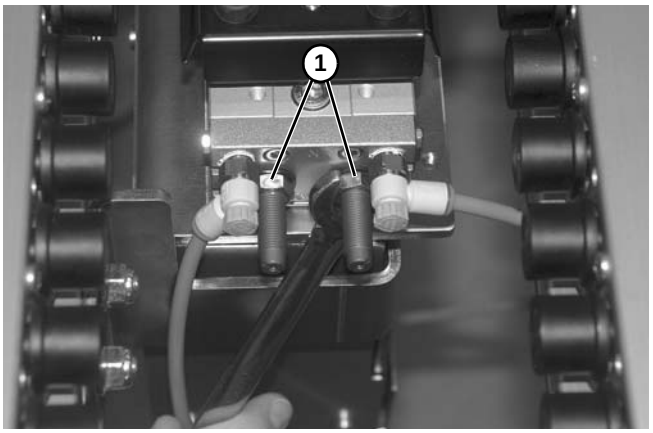


Figure 52

2. Adjust movement by rotating screw **(Figure 53, item 1)** left or right with an open–end wrench. Adjust stroke by rotating screw **(Figure 53, item 2)** left or right with an open–end wrench. Tighten nuts **(Figure 53, item 3)**.

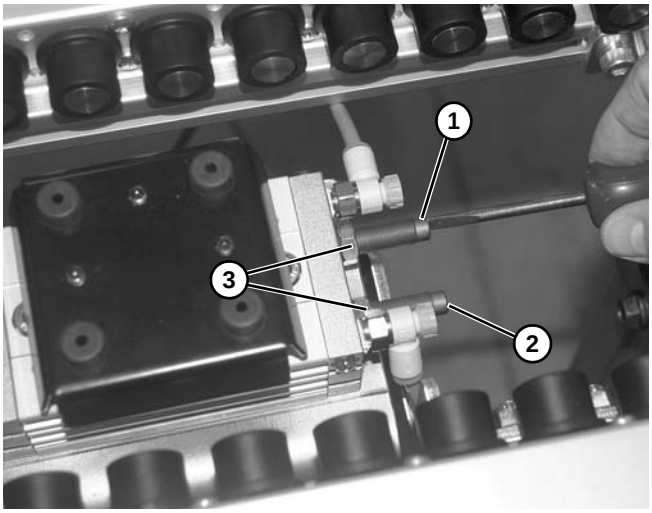


Figure 53

Guard Kit Removal (If Equipped)

1. Remove two screws **(Figure 54, item 1)** that secure the front of cylinder guard.

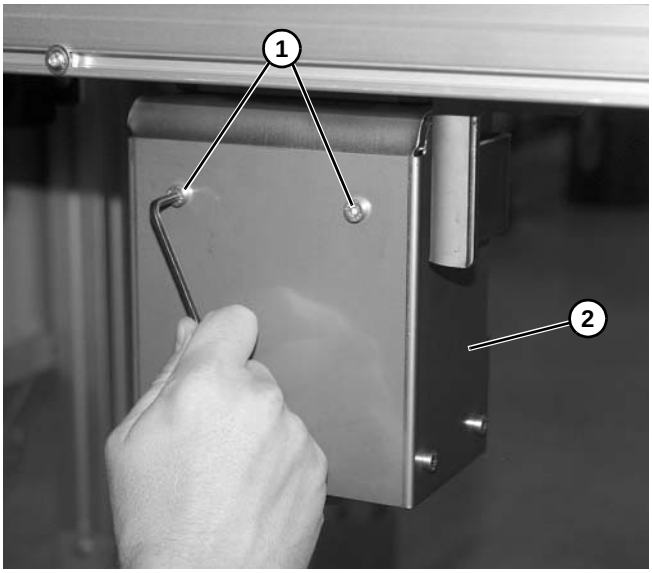


Figure 54

2. Lower cylinder guard **(Figure 54, item 2)** from around cylinder assembly.

Stroke Adjustment

1. Adjust stroke so that pallet **(Figure 55, item 1)** clears rollers **(Figure 55, item 2)** and remaining conveyor components.

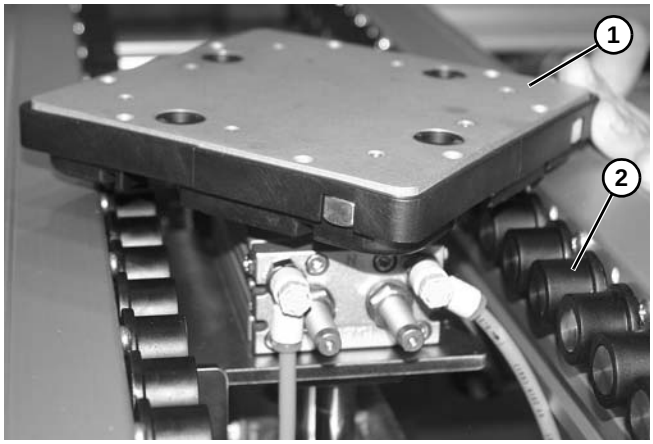


Figure 55

2. To adjust stroke, loosen jam nut **(Figure 56, item 1)** from large nut **(Figure 56, item 2)** on the bottom of cylinder shaft.

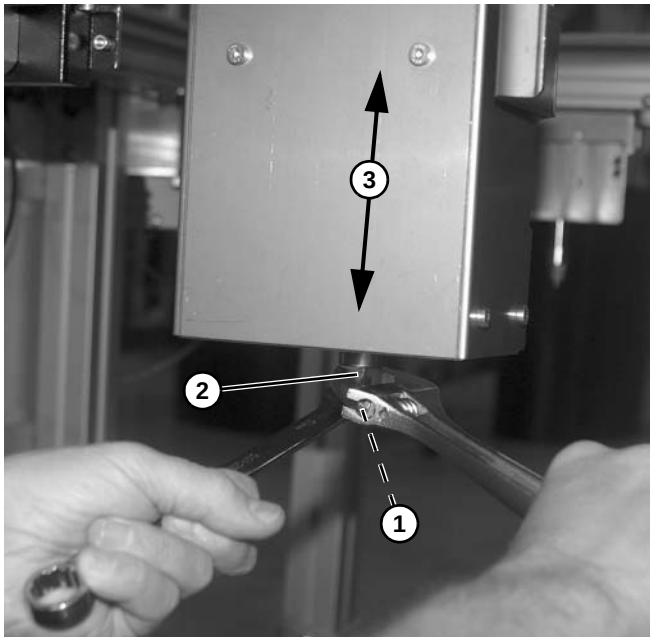


Figure 56

3. Turn large nut **(Figure 56, item 2)** clockwise or counterclockwise to raise or lower **(Figure 56, item 3)** pallet assembly as needed.
4. Tighten jam nut against large nut to secure position.

Pneumatic and Control Logic Suggestions

Recommended Pneumatics

Dorner recommends using a 3 port, 2 way solenoid valve **(Figure 57)** to operate the Lift and Rotate Stop.

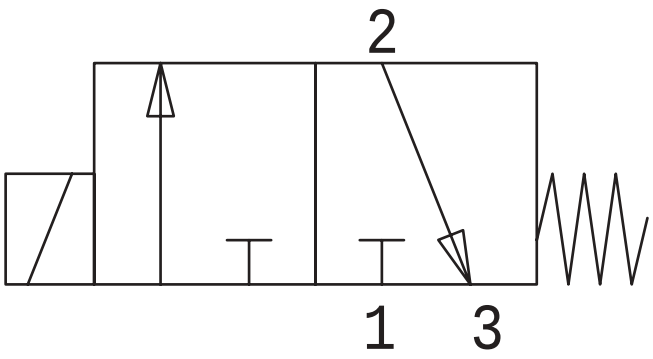


Figure 57

Dorner recommends using a 5 port, 2 way solenoid valve **(Figure 58)** to operate the cylinder.

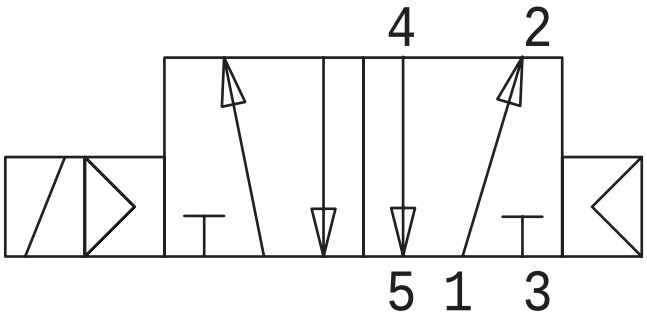


Figure 58

Dorner recommends using a 5–port 2–way solenoid valve **(Figure 59)** to operate the Rotating Actuator.

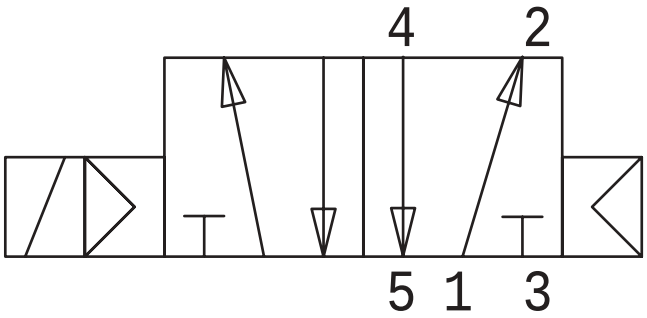


Figure 59

Attaching and Operations of Pneumatics

Stop:

1. Connect the 3–port 2–way solenoid valve to the stop. Dorner fittings **(Figure 60, item 1)** accept 1/4" outside diameter tubing standard **(Figure 60, item 2)**.

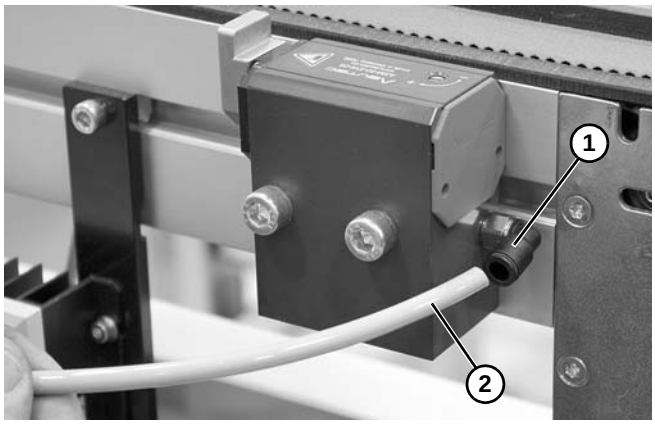


Figure 60

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 58)** of the 5–port 2–way solenoid through the lower opening **(Figure 61, item 1)** in plate **(Figure 61, item 2)** and to the lowest port **(Figure 61, item 3)** on the lift. Dorner fittings accept 1/4" outside diameter tubing standard.

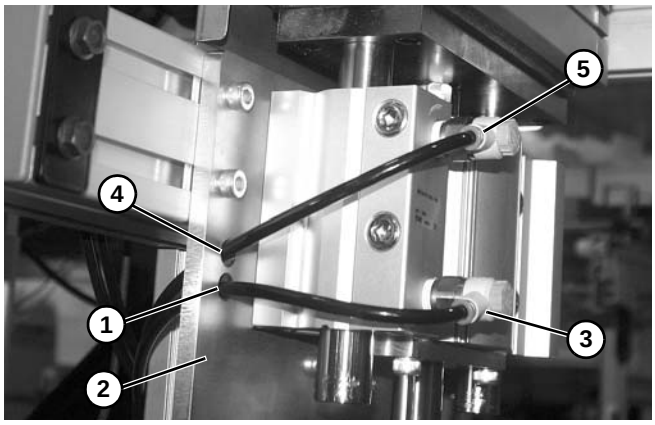


Figure 61

2. Connect Port 2 **(Figure 58)** of the 5–port 2–way solenoid through the upper opening **(Figure 61, item 4)** in plate **(Figure 61, item 2)** and to the upper port **(Figure 61, item 5)** 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 59)** of the 5–port 2–way solenoid t to the left port **(Figure 62, item 1)** of the rotator. Dorner fittings accept 1/4" outside diameter tubing standard.

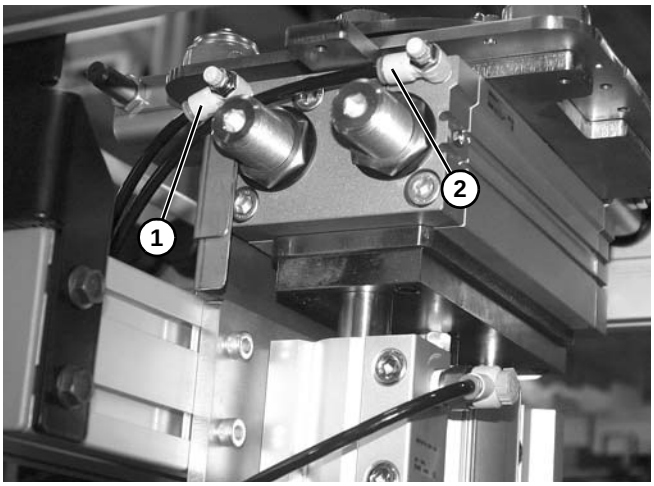


Figure 62

2. Connect Port 2 **(Figure 59)** of the 5–port 2–way solenoid to the right port **(Figure 62, 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 63, item 1)** sensor brackets can be used to mount a 12 mm barrel proximity sensor **(Figure 63, item 2)**.

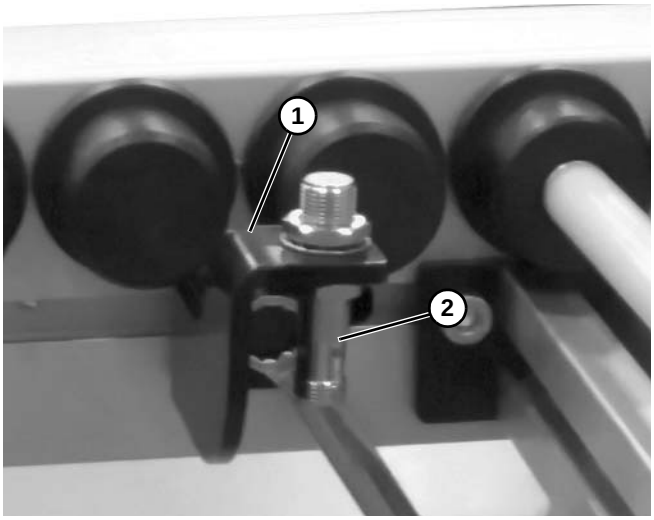


Figure 63

- Two bottom flags **(Figure 64, item 1)** can be used for sensing.

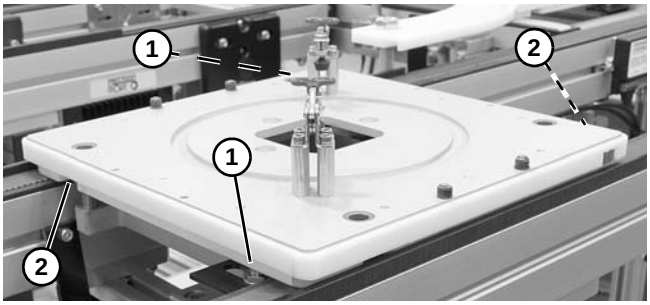


Figure 64

- 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 64, item 2)** in skirt allow stop to be reset before pallet clears stop area.
- Reinstall guarding, if equipped.

Turn and Transfer

Install Sensor (Provided by Others)

1. Remove side guard **(Figure 65, item 1)** by removing three screws **(Figure 65, item 2)** on side with the sensor holes **(Figure 65, item 3)**.

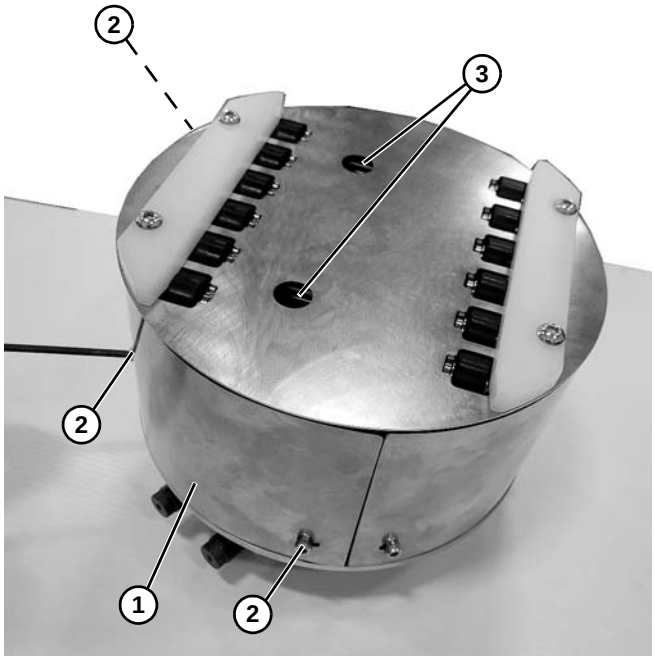


Figure 65

2. Remove top cover **(Figure 66, item 1)** by removing four screws **(Figure 66, item 2)**.

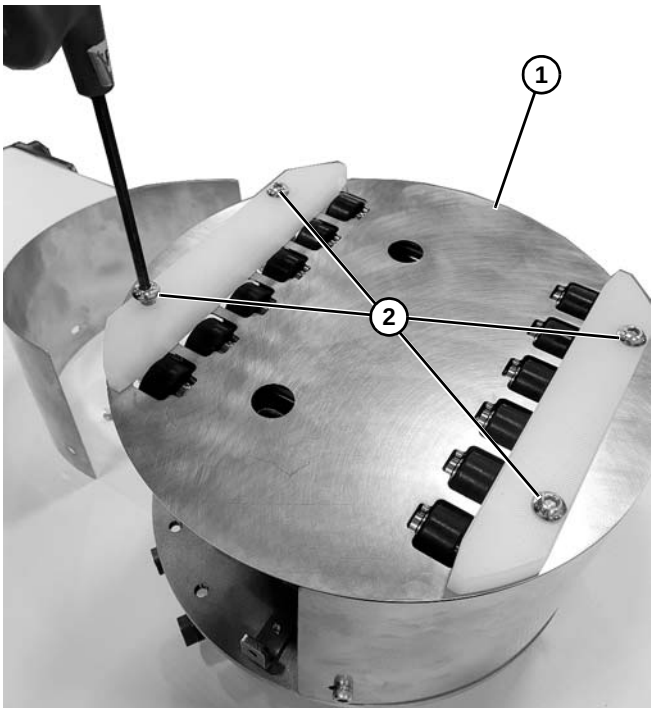


Figure 66

3. Install sensor(s) **(Figure 67, item 1)** (provided by others) into slots **(Figure 67, item 2)** in sensor bracket.

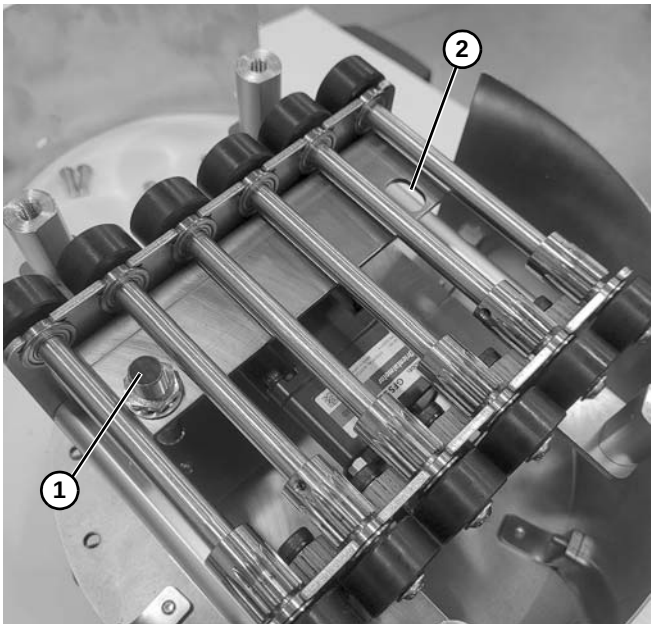


Figure 67

4. Adjust sensor's **(Figure 68, item 1)** height. Sensor must be approximately 1 mm **(Figure 69, item 1)** lower than the top of the rollers **(Figure 69, item 2)**.

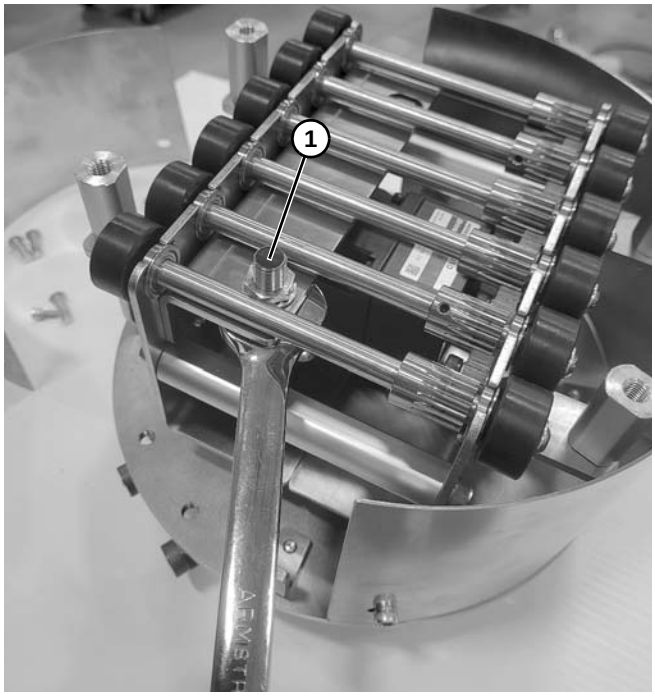


Figure 68

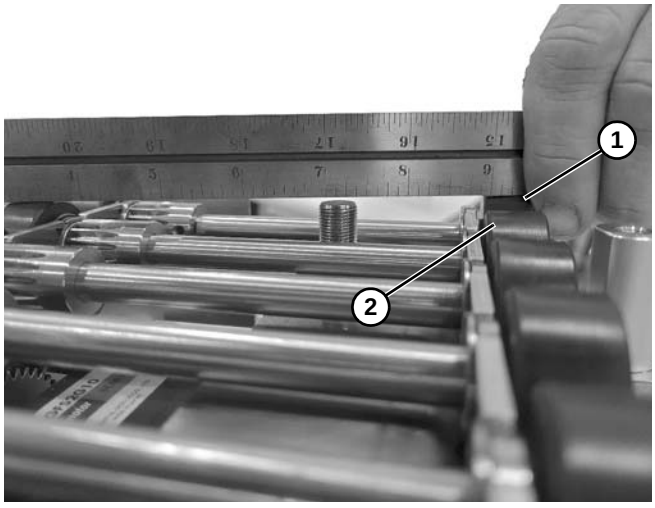


Figure 69

5. Route wires **(Figure 70, item 1)** from sensor down through center hole **(Figure 70, item 2)**.

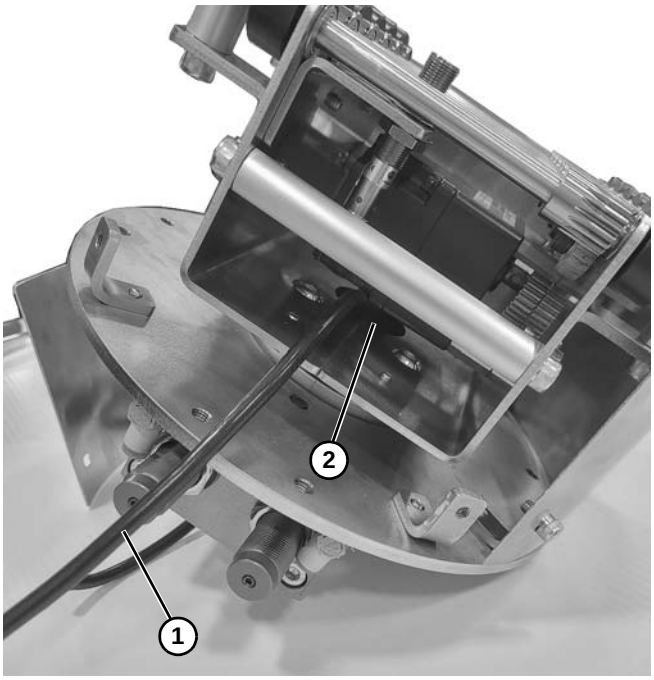


Figure 70

Simplified Installation

1. Install and adjust turn and transfer module **(Figure 71, item 1)**.

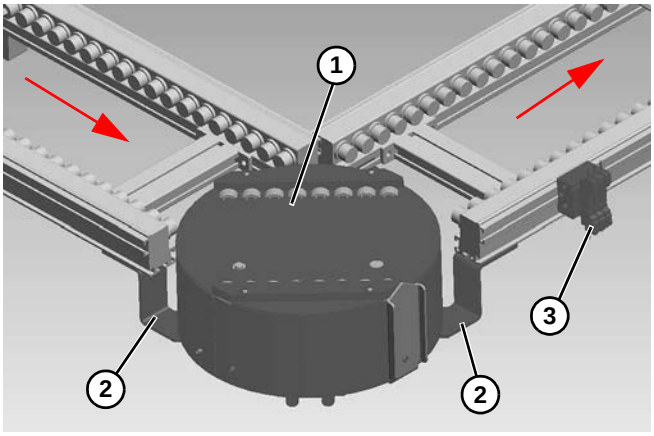


Figure 71

2. Connect transfer conveyor with connecting brackets **(Figure 71, item 2)**.
3. Install and connect pneumatic solenoids **(Figure 71, item 3)**, provided by others.

Full Installation Steps

1. For installing conveyor to turn and transfer **(Figure 72, item 1)**, install connecting strips **(Figure 72, item 2)** into conveyor channels. Install tie bracket **(Figure 72, item 3)** with two screws **(Figure 72, item 4)**.

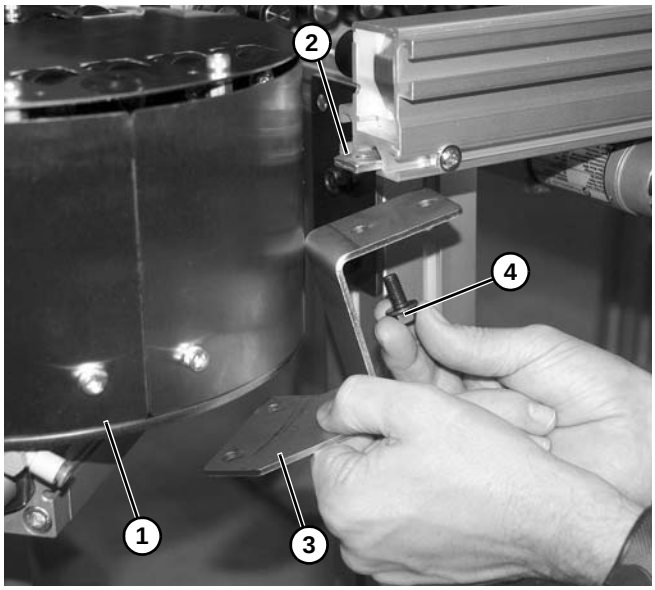


Figure 72

2. Tighten two screws **(Figure 73, item 1)**.

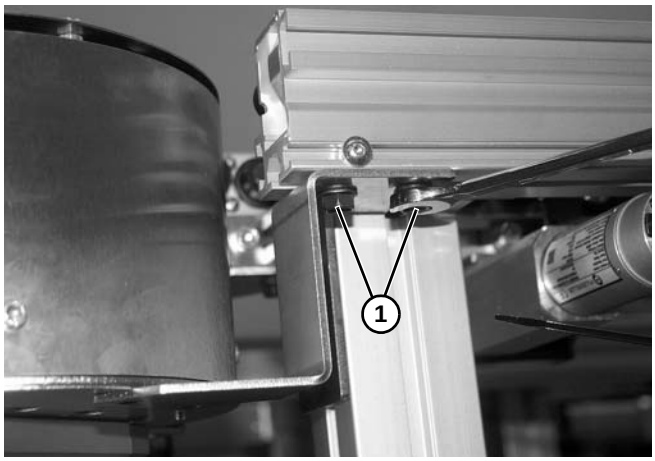


Figure 73

3. Install and tighten two screws **(Figure 74, item 1)** to secure tie bracket onto turn and transfer bottom plate **(Figure 74, item 2)**.

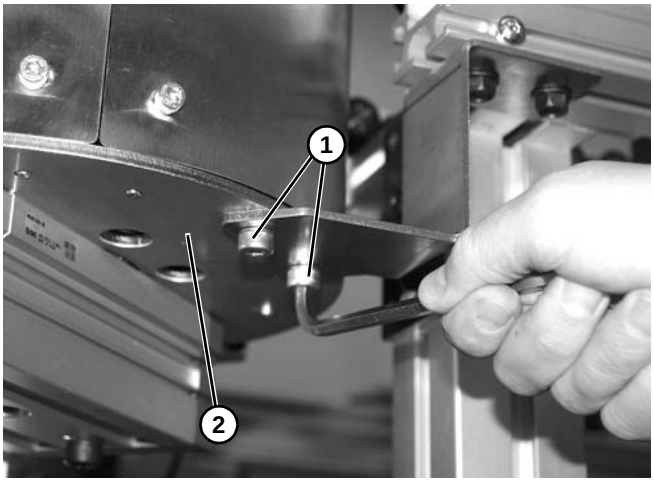


Figure 74

4. Repeat for opposite corner, as required.
5. Adjust height by adding or removing shims (12 included). Adjust height so rollers of module are even with infeed and discharges conveyors. Remove shims **(Figure 75, item 1)** from bottom of brackets **(Figure 75, item 2)** and place between brackets and module.

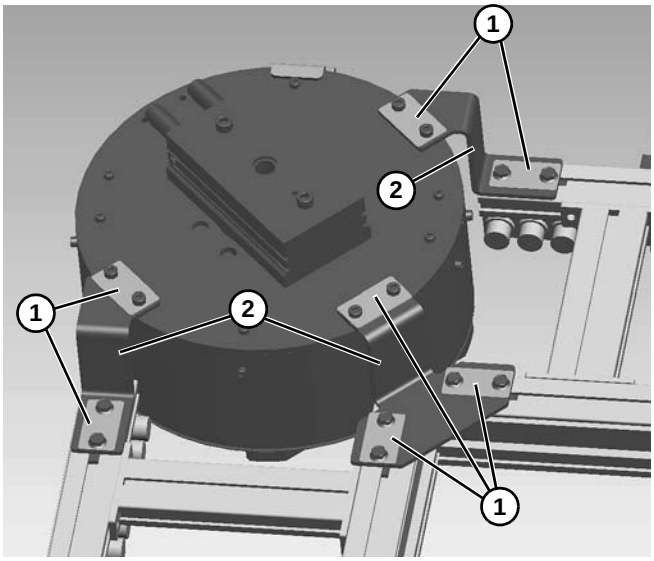


Figure 75

6. Verify that pallet is level **(Figure 76)**. Adjust, as needed, and tighten all hardware.

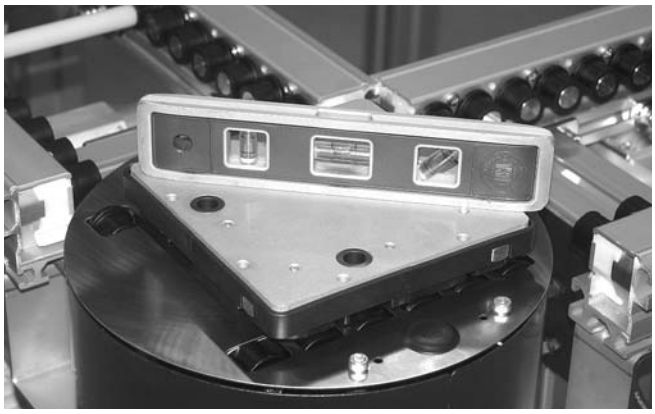


Figure 76

NOTE

*Stop bracket(s) **(Figure 77, item 1)** should be located at all locations without a transfer conveyor. For multiple turn options, the stop bracket can be removed.*

Figure 77

Pneumatic and Control Logic Suggestions

Recommended Pneumatics

Dorner recommends using a 5–port 2–way solenoid valve **(Figure 78)** to operate the Rotating Actuator.

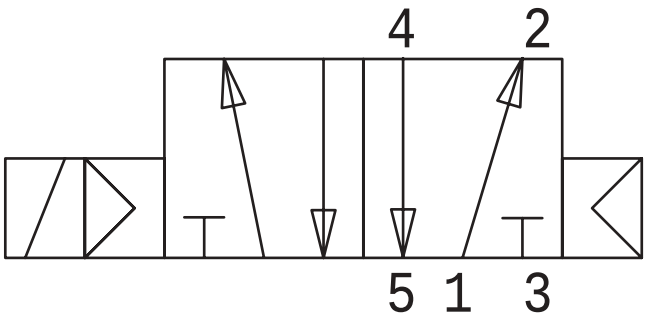


Figure 78

Attaching and Operations of Pneumatics

Rotate:

1. Connect Port 4 **(Figure 78)** of the 5–port 2–way solenoid through the outer port **(Figure 79, item 1)** on the pallet pusher. Dorner fittings accept 1/4" outside diameter tubing standard.

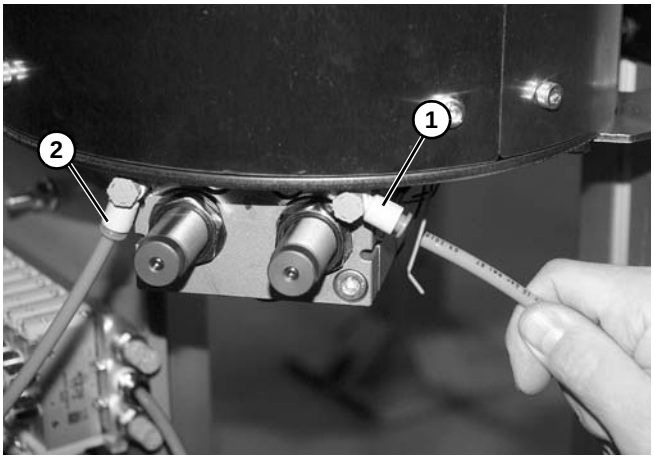


Figure 79

2. Connect Port 2 **(Figure 78)** of the 5–port 2–way solenoid through the center port **(Figure 79, item 2)** on the lift. 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.

Rotation Adjustment

1. To adjust counterclockwise rotation, loosen right side nut **(Figure 80, item 1)** with an open–end wrench.

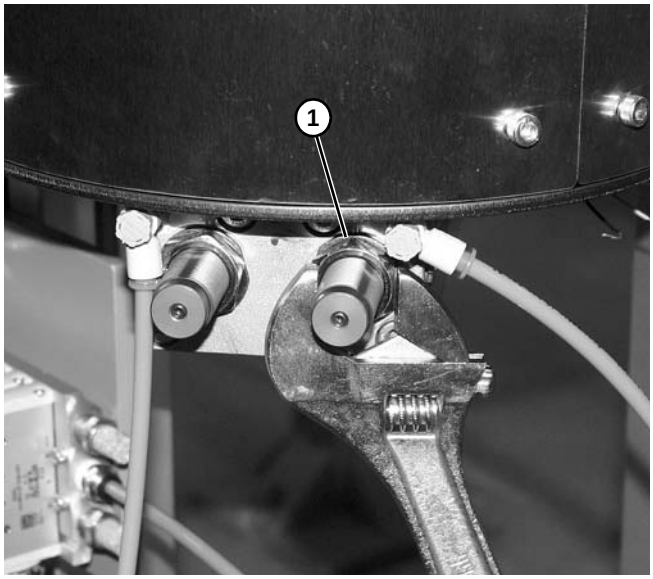


Figure 80

2. Adjust counterclockwise rotational movement by rotating rod **(Figure 81, item 1)** left or right with an open–end wrench until turn and transfer unit rollers **(Figure 81, item 2)** are aligned with conveyor rollers **(Figure 81, item 3)**. Tighten nut **(Figure 80, item 1)**.

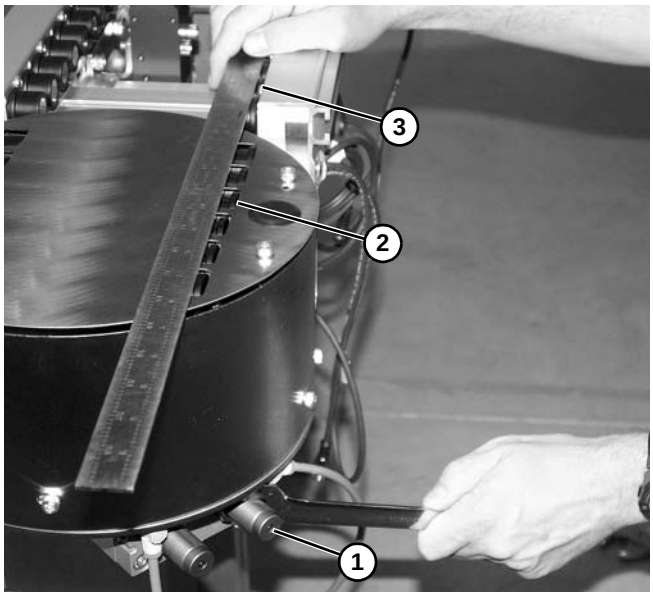


Figure 81

3. Repeat on opposite side to adjust clockwise rotational movement by rotating rod **(Figure 82, item 1)** left or right with an open–end wrench until turn and transfer unit rollers **(Figure 82, item 2)** are aligned with conveyor rollers **(Figure 82, item 3)**. Tighten nut.

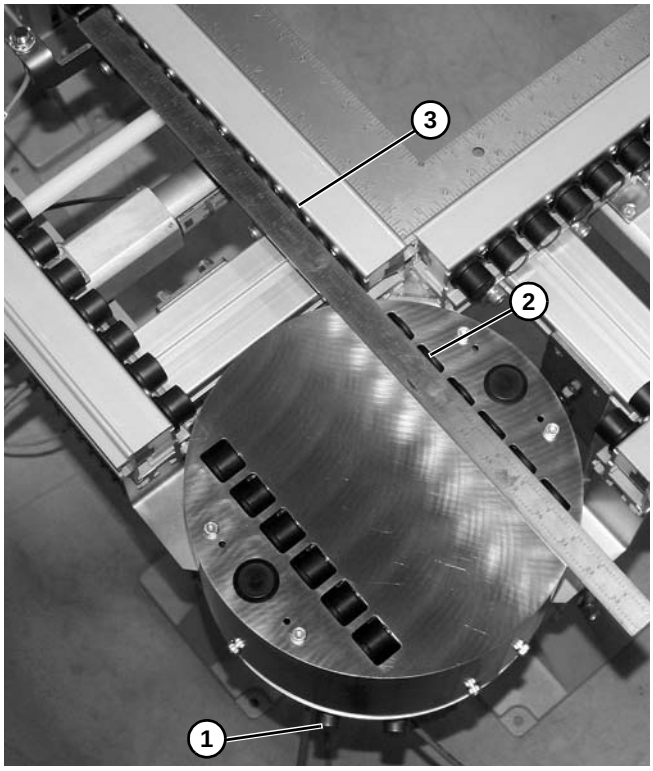


Figure 82

Pallet Pusher

Simplified Installation

1. Install and adjust Pusher module **(Figure 83, item 1)**.

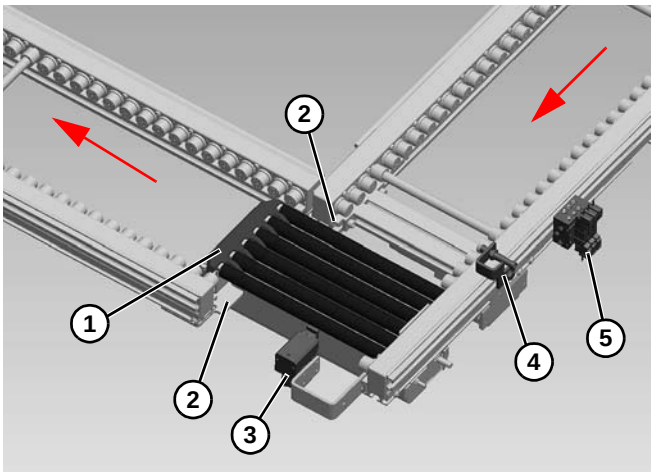


Figure 83

2. Connect transfer conveyor with connecting brackets **(Figure 83, item 2)**.
3. Locate and install pallet stop **(Figure 83, item 3)**. (Refer to “Pallet Stops” starting on page 8.)
4. Locate and install pallet sensor **(Figure 83, item 4)**. (Refer to “Sensor Mounts” starting on page 7.)
5. Install and connect pneumatic solenoids **(Figure 83, item 5)**, provided by others.

Full Installation Steps

1. For installing conveyor to pallet pusher, install studs **(Figure 84, item 1)** and/or spring nuts into conveyor channels.

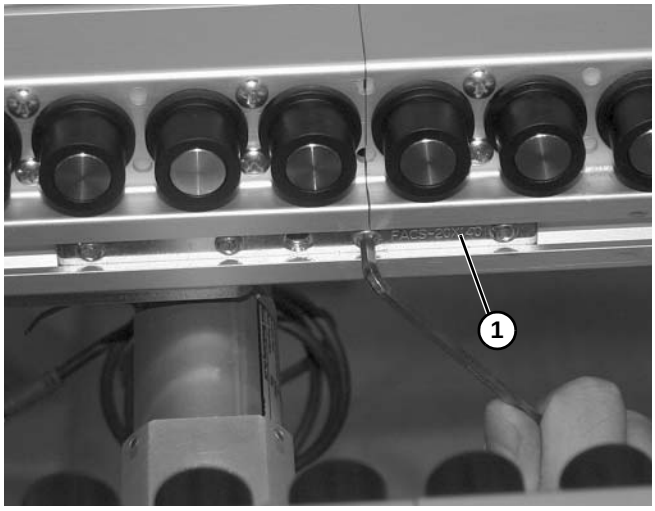


Figure 84

2. Install tie bracket **(Figure 85, item 1)** with five screws **(Figure 85, item 2)**.

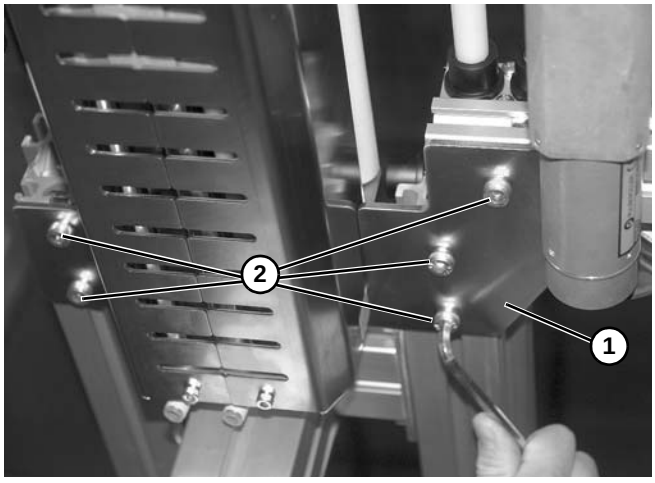


Figure 85

3. Connect Port 4 **(Figure 78)** of the 5–port 2–way solenoid through the outer port **(Figure 86, item 1)** on the pallet pusher. Dorner fittings accept 1/4" outside diameter tubing standard.

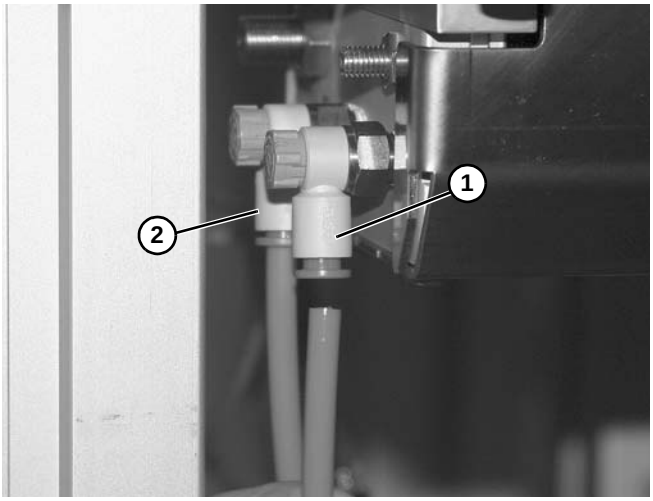


Figure 86

4. Connect Port 2 **(Figure 59)** of the 5–port 2–way solenoid through the center port **(Figure 86, 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.

Guard Kit Removal (If Equipped)

1. Remove screw **(Figure 87, item 1)** from each end of outer guard **(Figure 87, item 2)**.

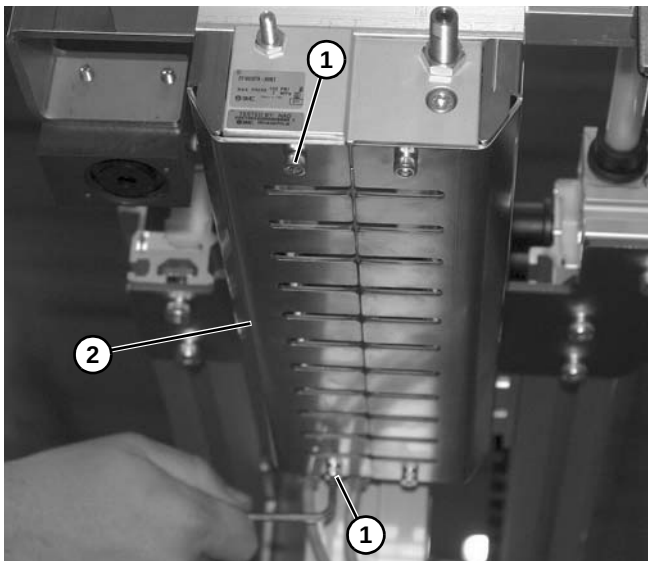


Figure 87

2. Remove guard from around outer side of cylinder assembly.

Stroke Adjustment

1. To adjust outward stroke distance (limit), loosen jam nut **(Figure 88, item 1)** from stud **(Figure 88, item 2)** on the left side of cylinder assembly.

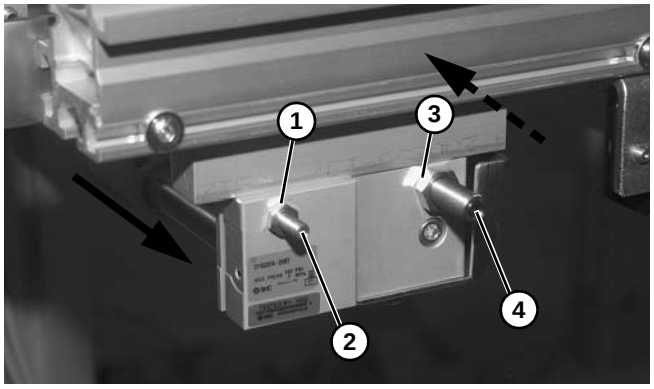


Figure 88

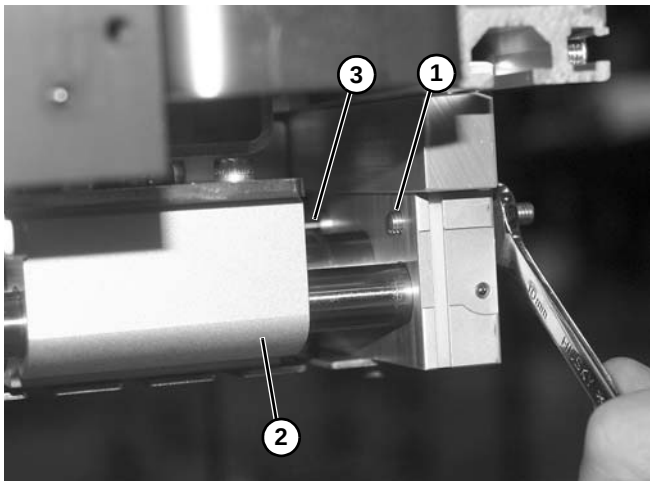


Figure 89

2. Adjust stud **(Figure 89, item 1)** clockwise or counterclockwise to limit pusher **(Figure 89, item 2)** path. Tighten jam nut to secure position.
3. Repeat for inward return switch **(Figure 89, item 3)** by loosening jam nut **(Figure 88, item 3)** and turning stud **(Figure 88, item 4)** to desired setting. Tighten jam nut to secure position.

Required Tools

- .050" hex wrench
- 2 mm hex wrench
- 3 mm hex wrench
- 4 mm hex wrench
- 5 mm hex wrench
- 6 mm hex wrench
- 10 mm wrench
- 13 mm wrench
- 17 mm wrench
- 19 mm wrench
- 13 mm socket
- Flat blade screw driver
- Sprocket Removal Tool (400571)

Checklist

- Keep service parts on hand. Refer to the "Service Parts" section starting on page 50 for recommendations.
- Replace any worn or damaged parts.

Pallets

1. Remove pallet from conveyor.
2. Remove corner skirt from top plate **(Figure 90, item 1)**. Make sure not to lose sleeve **(Figure 90, item 2)** at the point where two corner skirts meet.

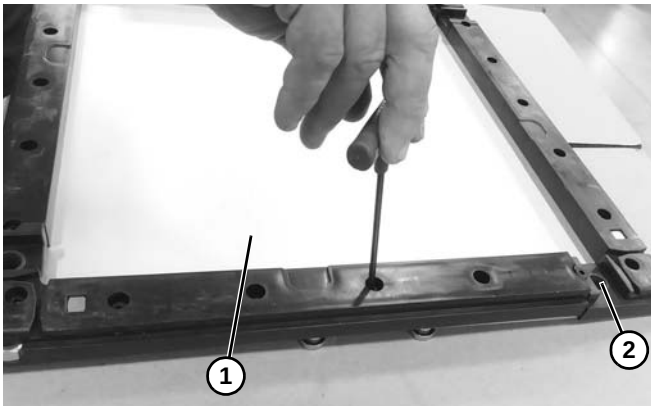


Figure 90

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

Pallet Stops

1. Remove two screws **(Figure 91, item 1)**, air line, and pallet stop **(Figure 91, item 2)** from conveyor.

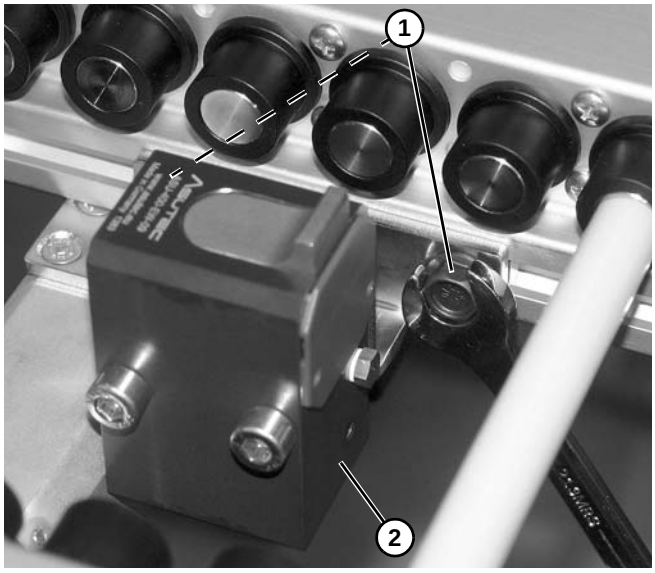


Figure 91

2. Installation is the reverse of removal.

Lift and Transfer, and Lift and Rotate Stations

Stroke Adjustment

1. Adjust stroke so that pallet **(Figure 92, item 1)** mates correctly with rollers **(Figure 92, item 2)** and remaining conveyor components.

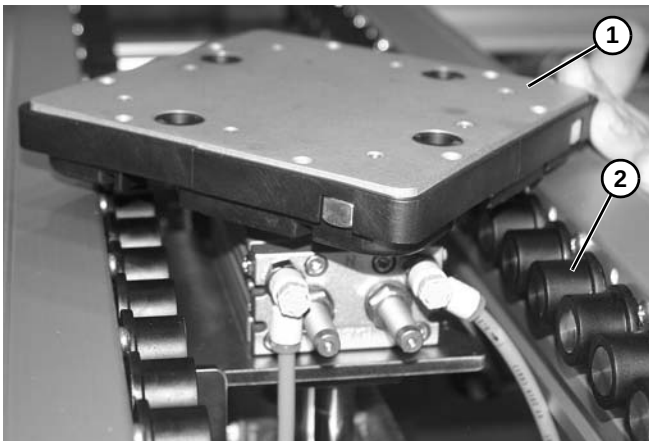


Figure 92

2. To adjust stroke, loosen jam nut **(Figure 93, item 1)** from large nut **(Figure 93, item 2)** on the bottom of cylinder shaft.

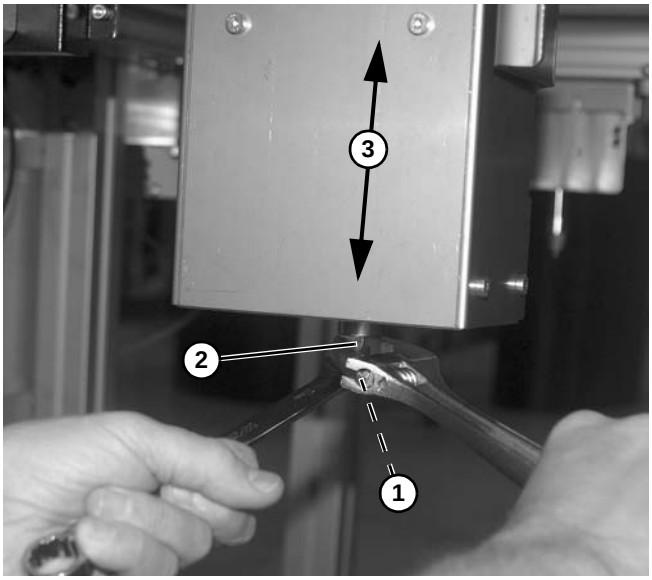


Figure 93

3. Turn large nut **(Figure 93, item 2)** clockwise or counterclockwise to raise or lower **(Figure 93, item 3)** pallet assembly as needed.
4. Tighten jam nut against large nut to secure position.

Lift and Locate Station

Cylinder Replacement

1. Remove optional guarding that secures cylinder guard **(Figure 94, item 1)** over cylinder assembly. See "Guard Kit Removal (If Equipped)" on page 11.

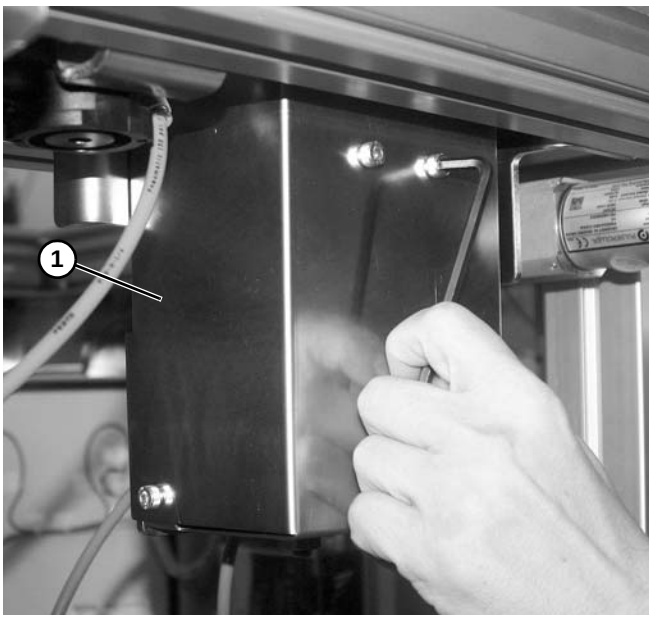


Figure 94

2. Lower cylinder guard **(Figure 95, item 1)** from around cylinder assembly.

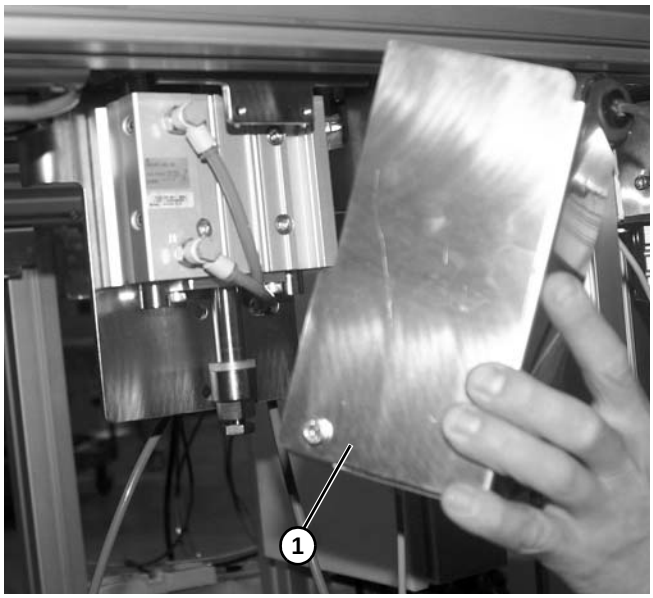


Figure 95

3. Remove two screws **(Figure 96, item 1)** holding lift station platform **(Figure 96, item 2)** onto mounting plate **(Figure 96, item 3)**.

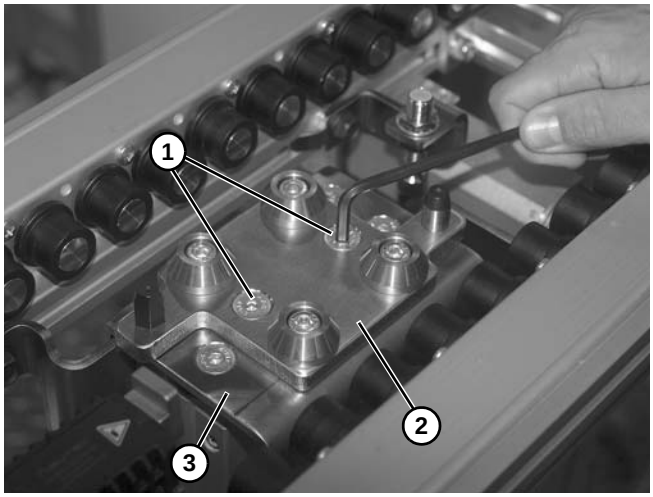


Figure 96

4. Remove lift station platform **(Figure 97, item 1)** from mounting plate **(Figure 97, item 2)**.

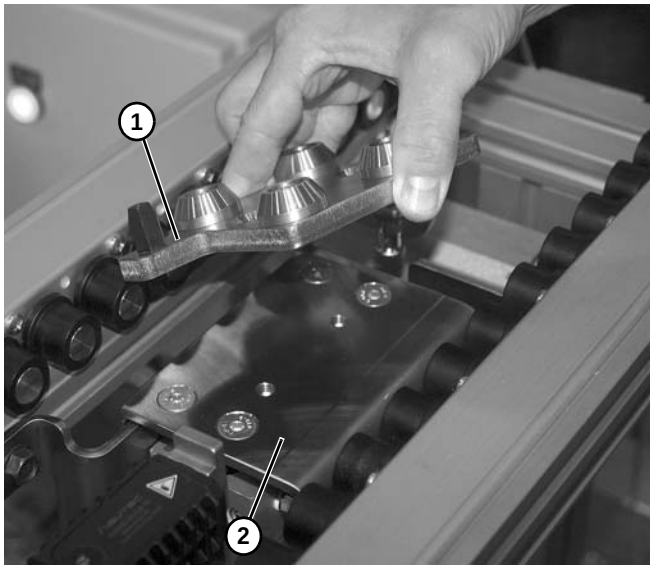


Figure 97

5. Remove four screws **(Figure 98, item 1)** holding mounting plate **(Figure 98, item 2)** onto lift cylinder assembly.

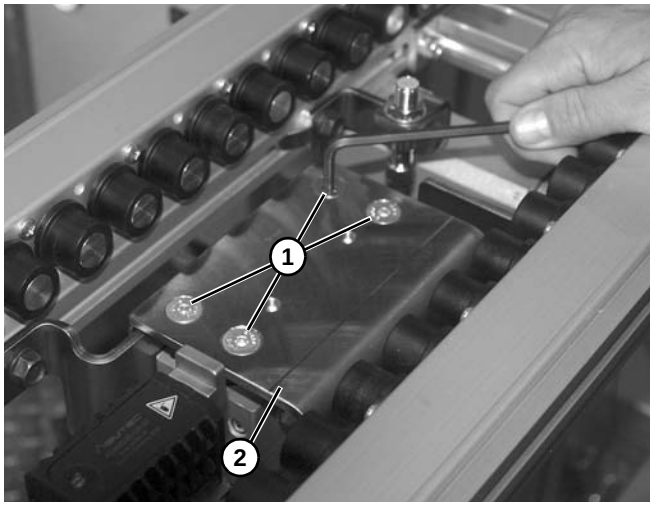


Figure 98

6. Remove mounting plate **(Figure 99, item 1)** and inner plate **(Figure 99, item 2)** from lift cylinder.

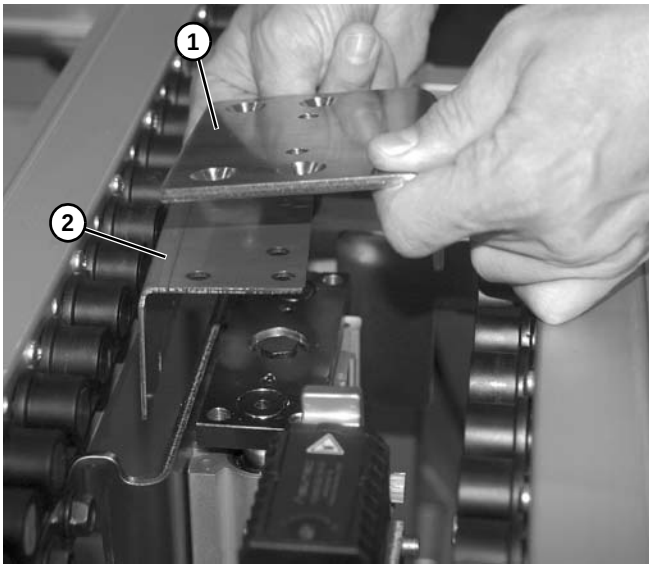


Figure 99

NOTE

*Be sure to mark lower and upper hoses and there locations and routing to aid in reinstalling. (See **Figure 100** and **Figure 101**.)*

7. Disconnect upper **(Figure 100, item 1)** and lower **(Figure 100, item 2)** hoses from fittings on lift cylinder **(Figure 100, item 3)**.

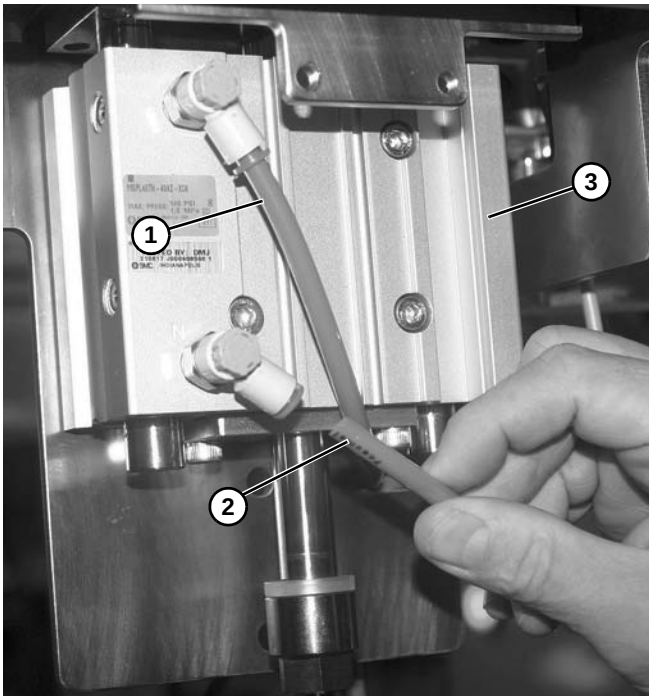


Figure 100

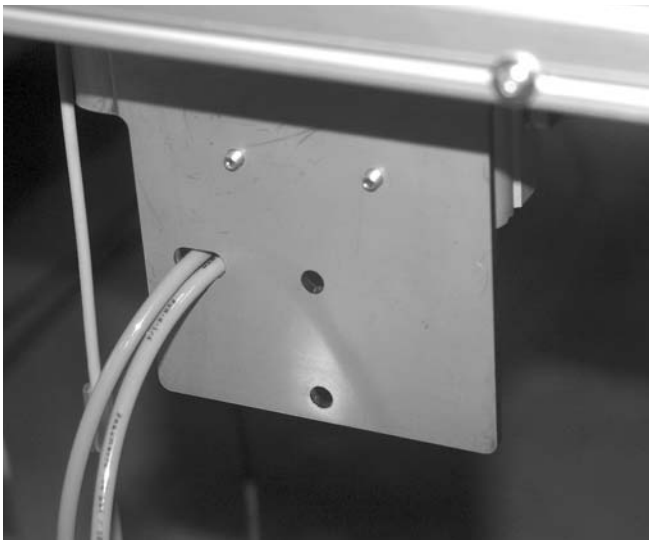


Figure 101

8. Remove four screws **(Figure 102, item 1)** securing cylinder **(Figure 102, item 2)** to mounting bracket **(Figure 102, item 3)**.

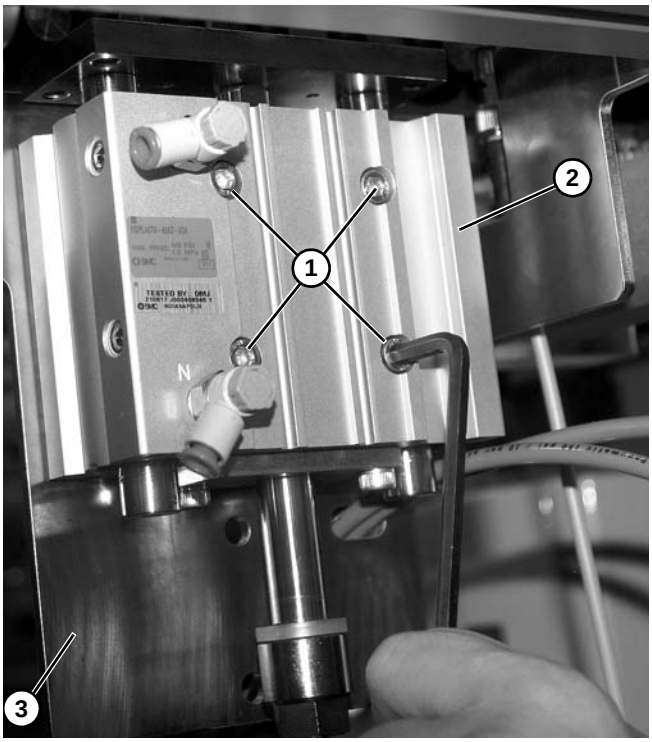


Figure 102

9. Remove cylinder **(Figure 103, item 1)** from mounting bracket **(Figure 103, item 2)**.

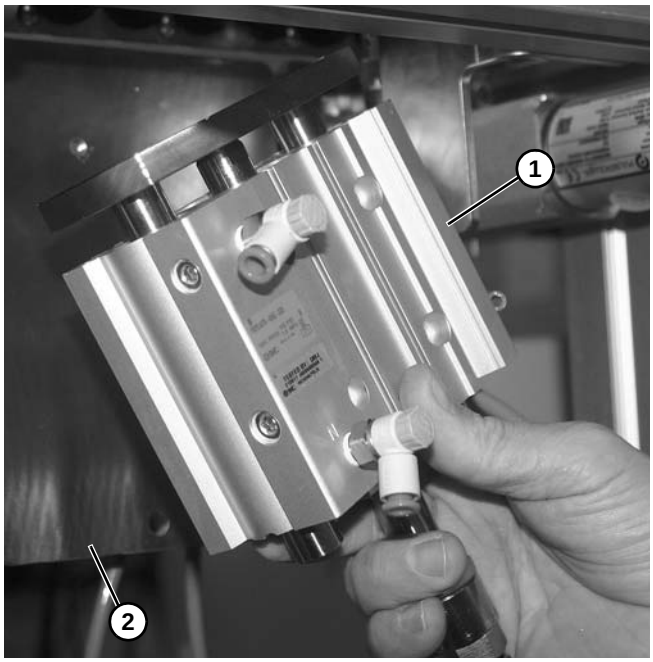


Figure 103

10. Replace worn or damaged parts.
11. Installation is the reverse of removal.

Lift and Transfer Station

Cylinder Replacement

1. Remove two screws **(Figure 104, item 1)** securing bracket **(Figure 104, item 2)** to lift and transfer station **(Figure 104, item 3)**.

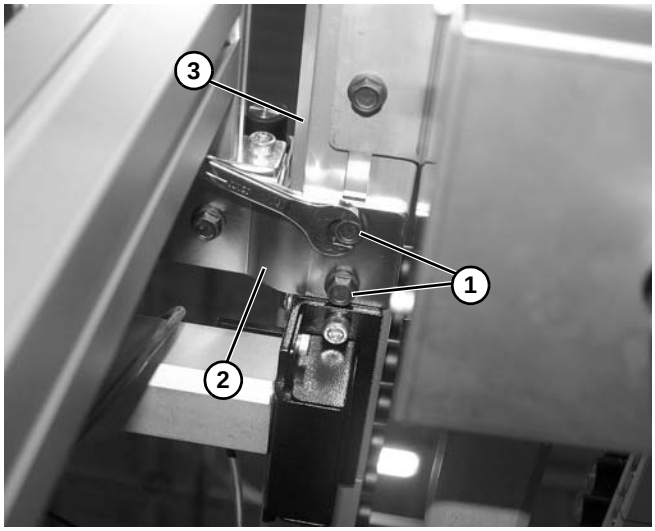


Figure 104

2. Remove optional guarding by removing two screws **(Figure 105, item 1)** from each side of guard **(Figure 105, item 2)**. Remove guard from around lower end of cylinder assembly.

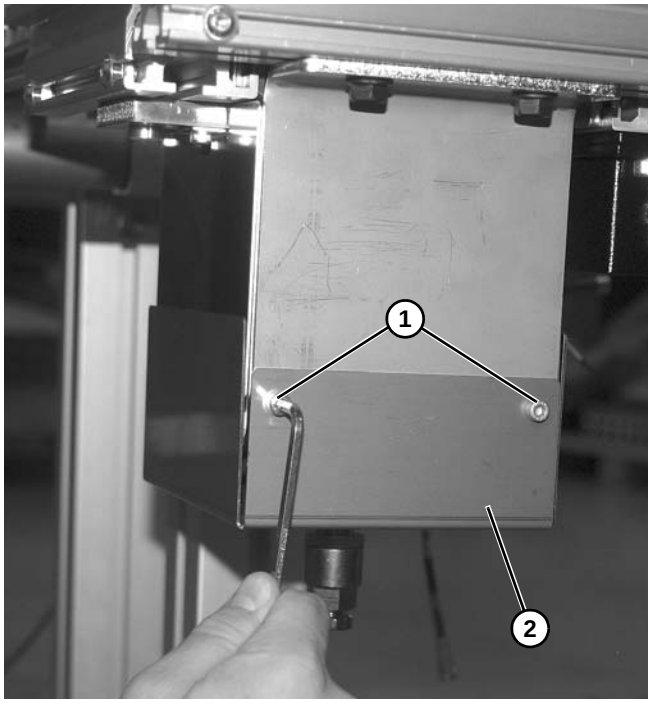


Figure 105

3. Remove two screws **(Figure 106, item 1)** and remove side guard **(Figure 106, item 2)**.

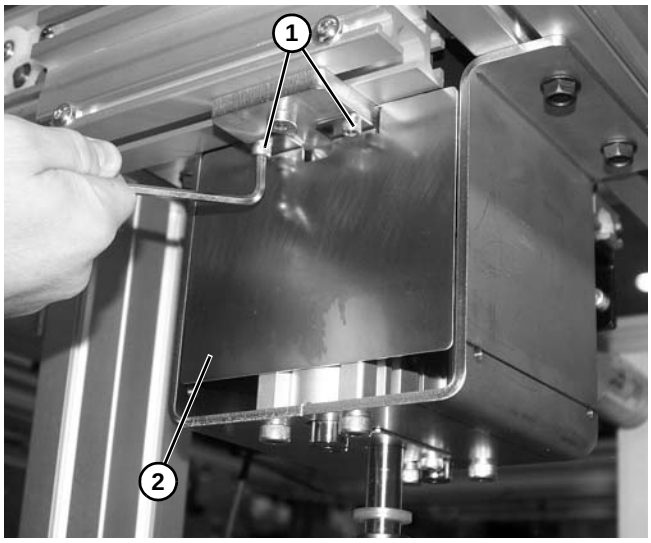


Figure 106

NOTE
Be sure to mark lower and upper hoses and there locations to aid in reinstalling.

4. Disconnect upper **(Figure 107, item 1)** and lower **(Figure 107, item 2)** hoses from fittings on lift cylinder **(Figure 107, item 3)**.

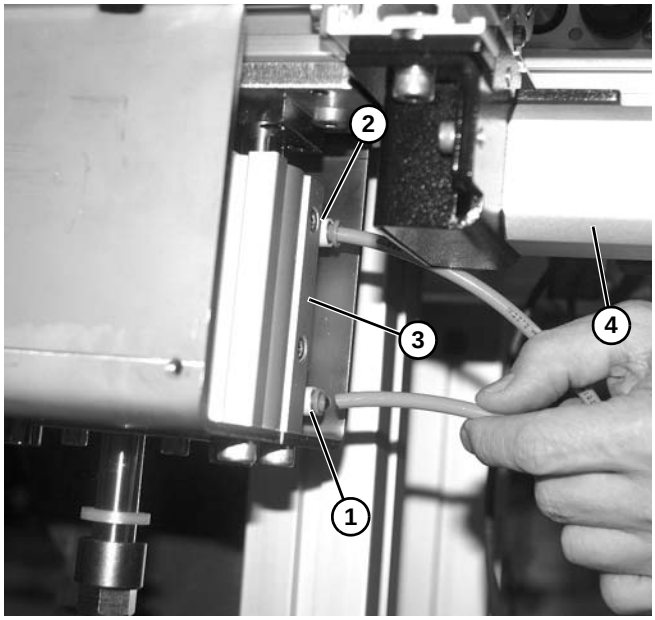


Figure 107

5. Disconnect motor **(Figure 107, item 4)** from power source.
6. Remove two screws **(Figure 108, item 1)** securing bracket **(Figure 108, item 2)** onto conveyor frame spring nuts.

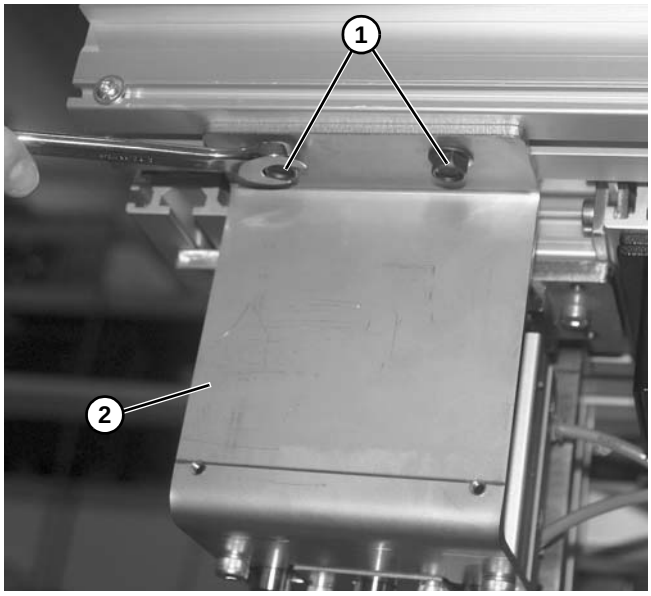


Figure 108

7. Remove two lower screws **(Figure 109, item 1)** securing bracket **(Figure 109, item 2)** onto lift cylinder.

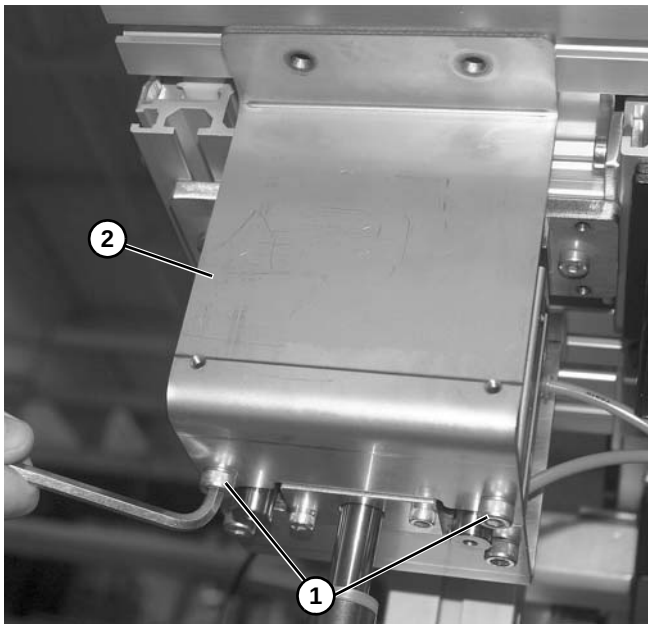


Figure 109

8. Remove bracket **(Figure 110, item 1)** from around lift cylinder **(Figure 110, item 2)**.

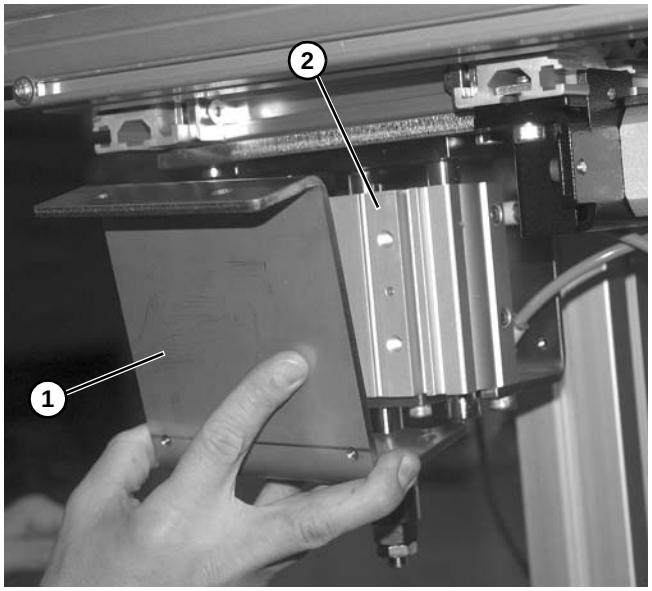


Figure 110

9. Remove two lower screws **(Figure 111, item 1)** securing the lift cylinder **(Figure 111, item 2)** onto bracket **(Figure 111, item 3)**.

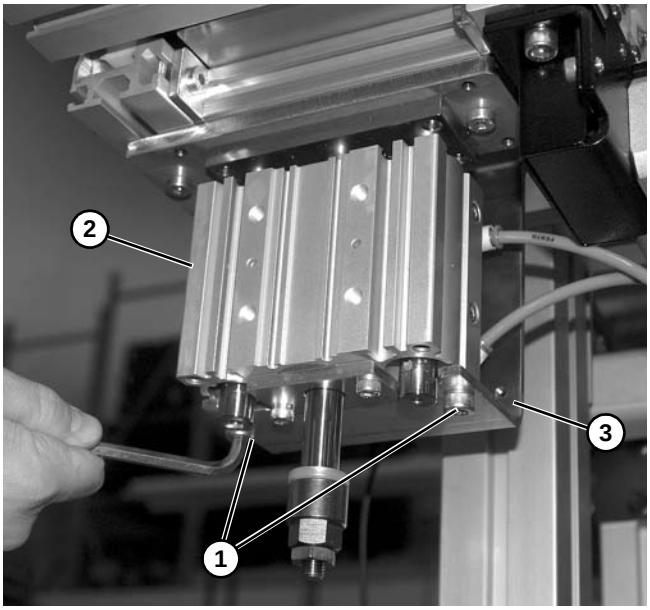


Figure 111

10. Remove lift and transfer section and cylinder **(Figure 112, item 1)** from bracket **(Figure 112, item 2)** on conveyor.

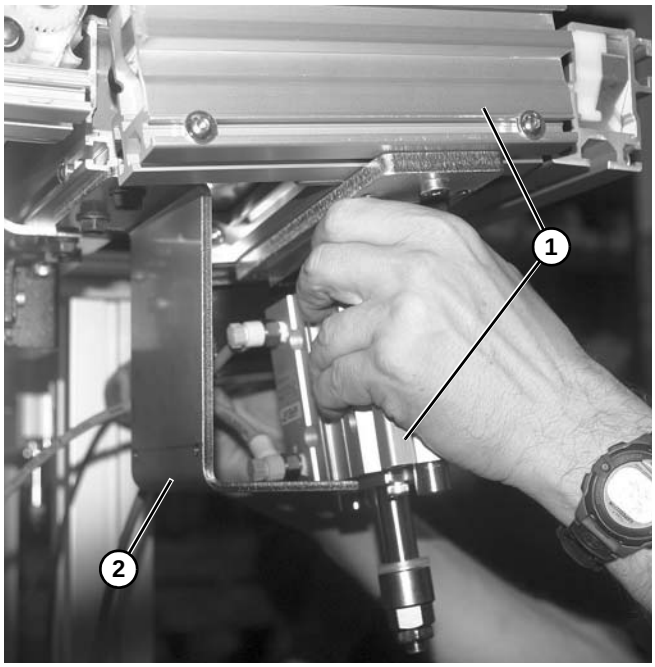


Figure 112

11. Remove entire lift and transfer section and cylinder **(Figure 113, item 1)** from conveyor onto work surface.

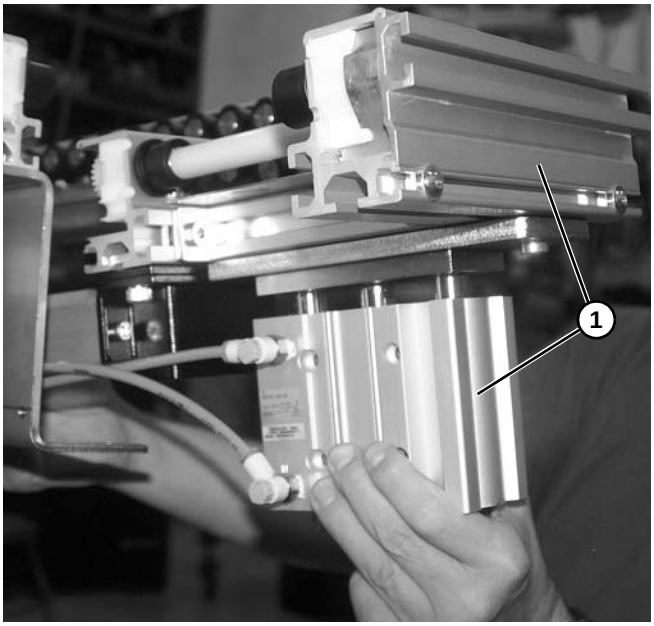


Figure 113

12. Remove two socket head screws **(Figure 114, item 1)** securing cylinder to conveyor frame.

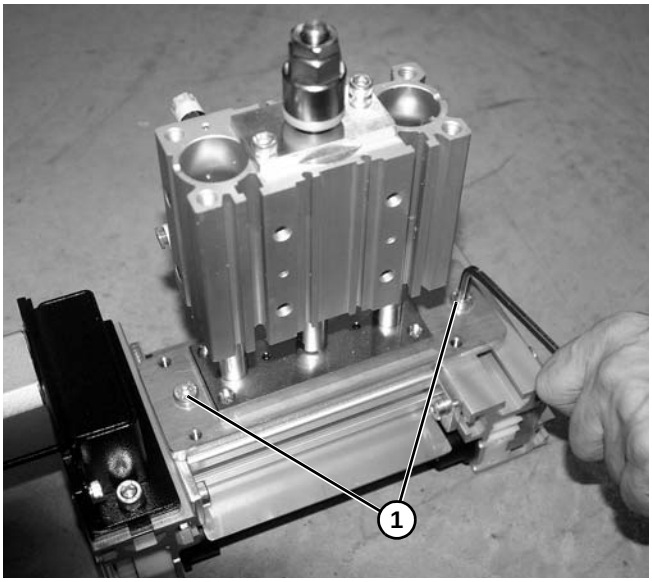


Figure 114

13. Remove cylinder **(Figure 115, item 1)** from conveyor frame.

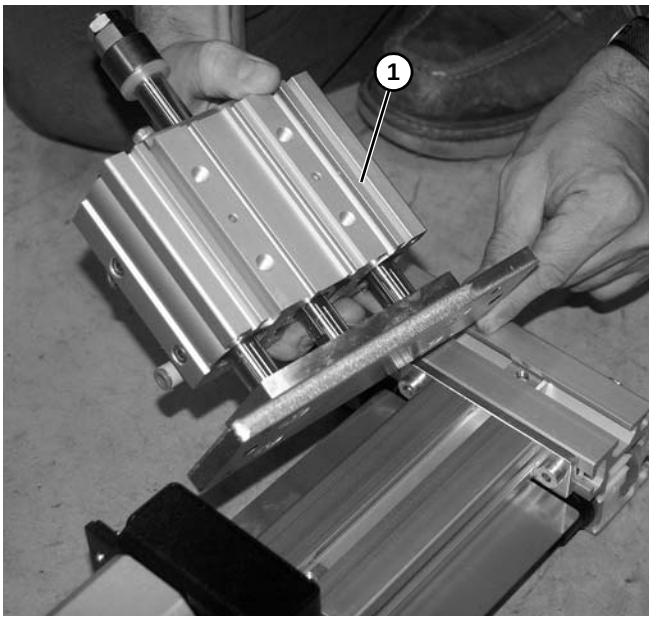


Figure 115

14. Remove two fittings **(Figure 116, item 1)** from cylinder.

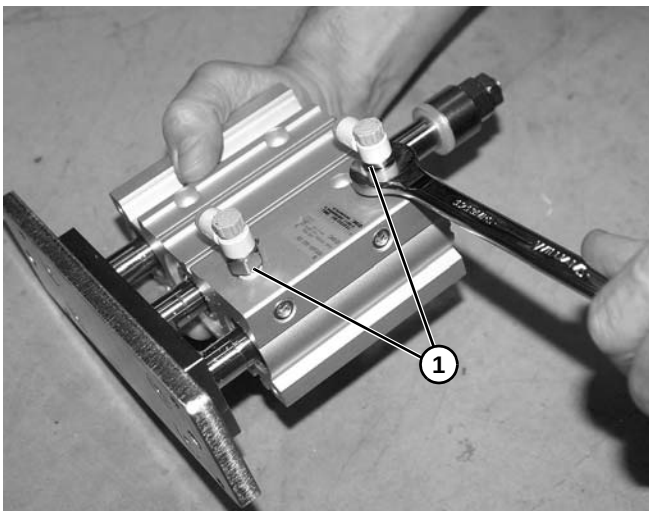


Figure 116

15. Remove four screws **(Figure 117, item 1)** securing mounting plate **(Figure 117, item 2)** onto cylinder.

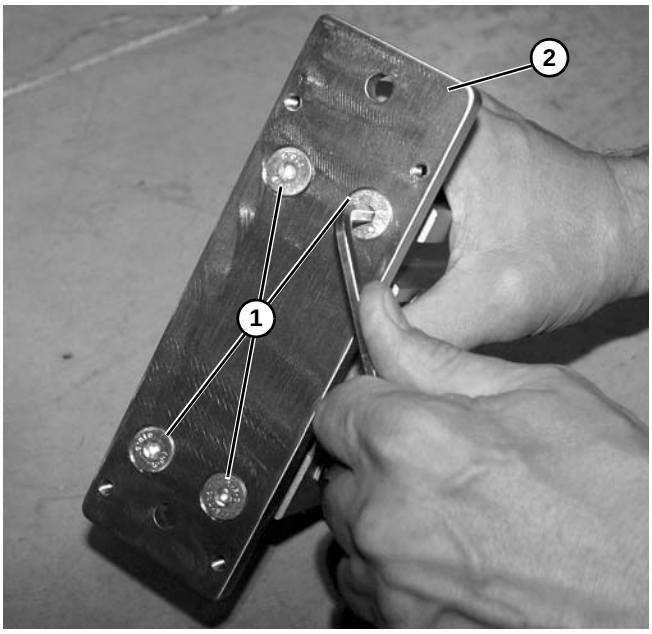


Figure 117

16. Replace worn or damaged parts.
17. Installation is the reverse of removal.

Lift and Rotate Station

Cylinder Replacement

1. Remove two screws **(Figure 118, item 1)** that secure the front of cylinder guard.

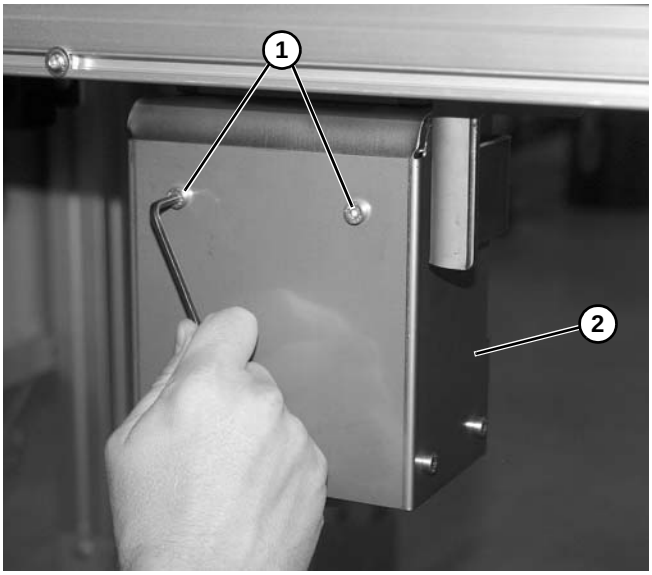


Figure 118

2. Lower cylinder guard **(Figure 118, item 2)** from around cylinder assembly.

NOTE

*To aid in reinstalling, be sure to mark all of the hoses and there locations, including routing through access holes **(Figure 119, item 3)**.*

3. Disconnect upper and lower hoses **(Figure 119, item 1)** from fittings on lift cylinder **(Figure 119, item 2)**.

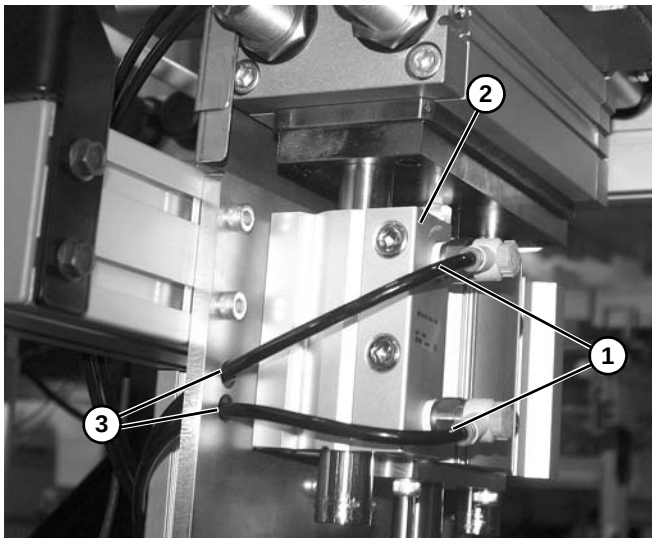


Figure 119

NOTE

Be sure to mark all of the hoses and there locations to aid in reinstalling.

4. Disconnect both hoses **(Figure 120, item 1)** from fittings on rotate cylinder **(Figure 120, item 2)**.

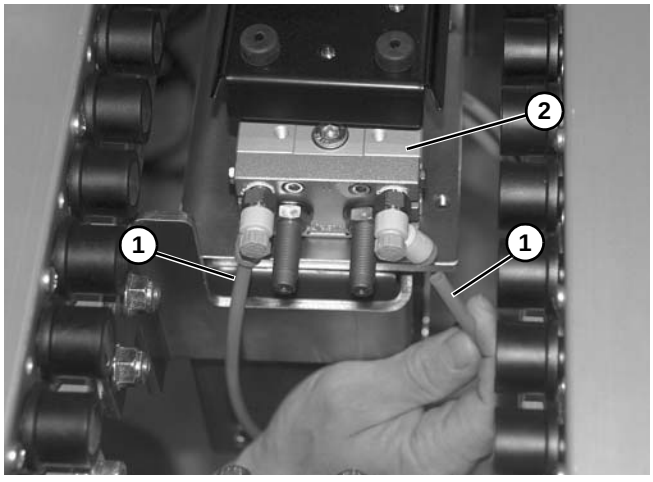


Figure 120

5. Remove lift and rotate plate **(Figure 121, item 1)** on lift and rotate assembly **(Figure 121, item 2)**. Make note that the three holes **(Figure 121, item 3)** in plate line up with three studs **(Figure 121, item 4)** on rotation plate (See **Figure 122**.)

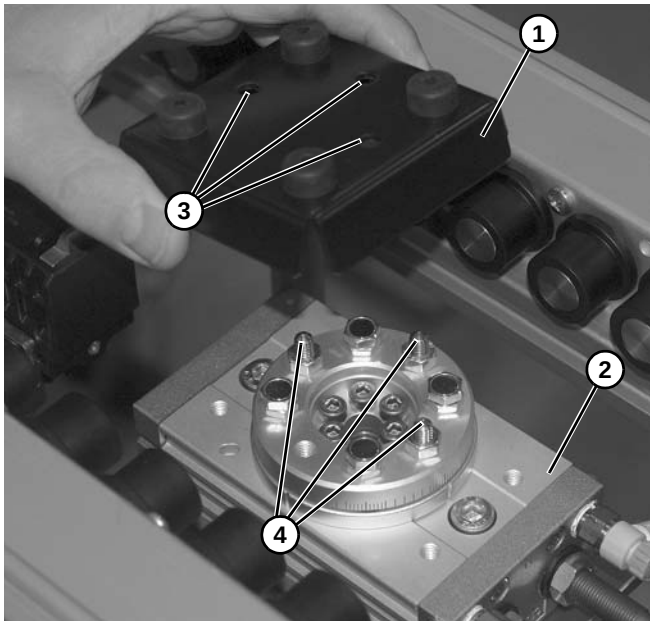


Figure 121

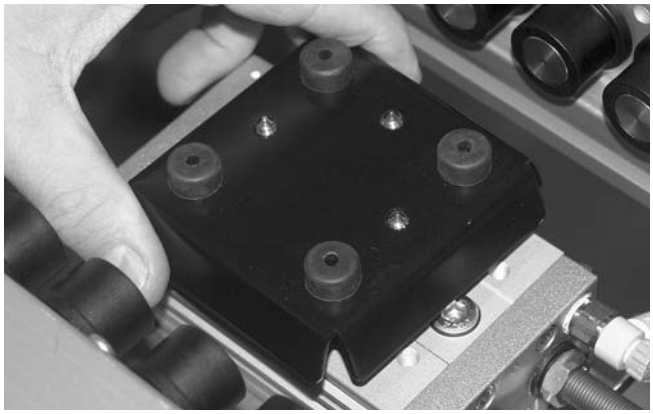


Figure 122

6. Remove two socket head screws **(Figure 123, item 1)** from the top of rotate cylinder.

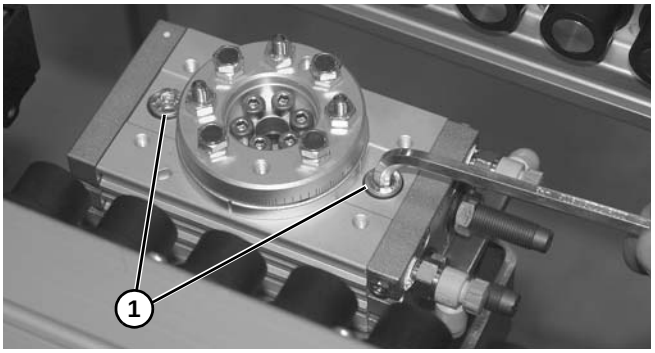


Figure 123

7. Remove rotate cylinder **(Figure 124, item 1)**.

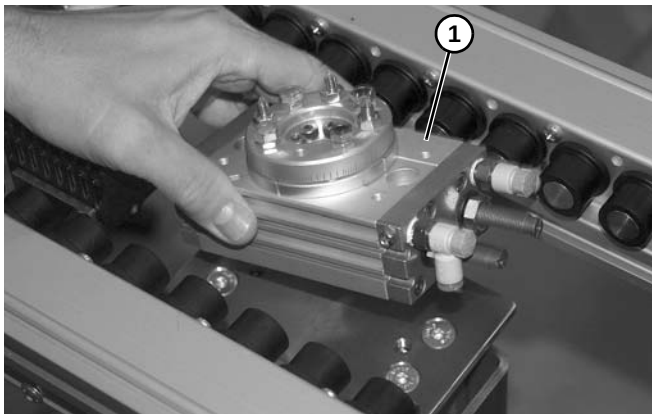


Figure 124

8. Remove four screws **(Figure 125, item 1)** securing top plate **(Figure 125, item 2)**.

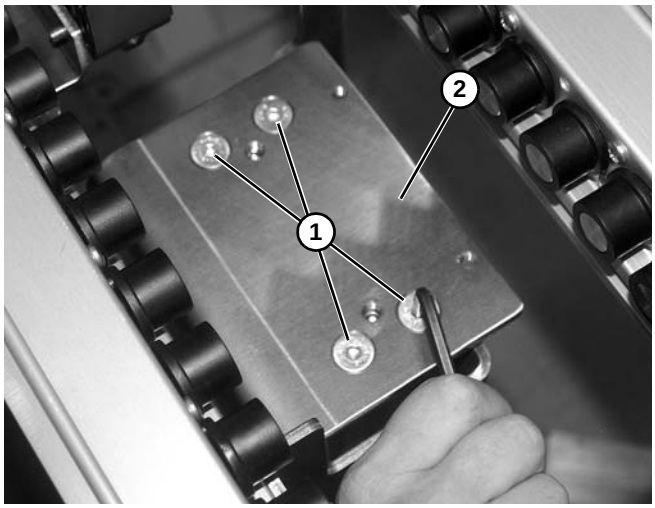


Figure 125

9. Remove top plate **(Figure 126, item 1)** from top of lift cylinder **(Figure 126, item 2)**.

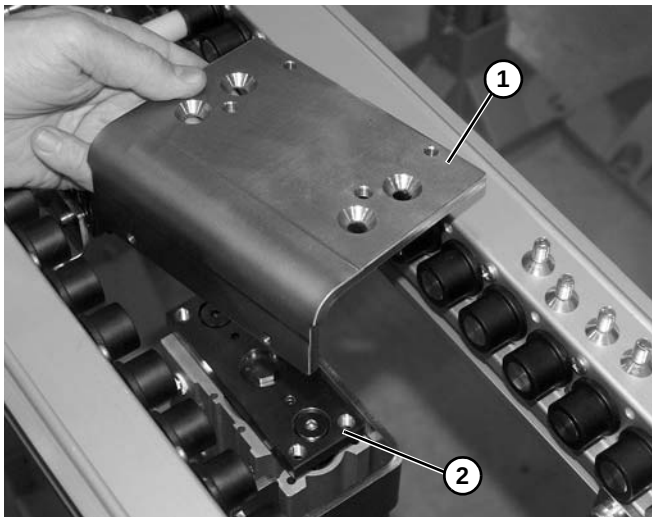


Figure 126

10. Remove four screws **(Figure 127, item 1)** securing lift cylinder.

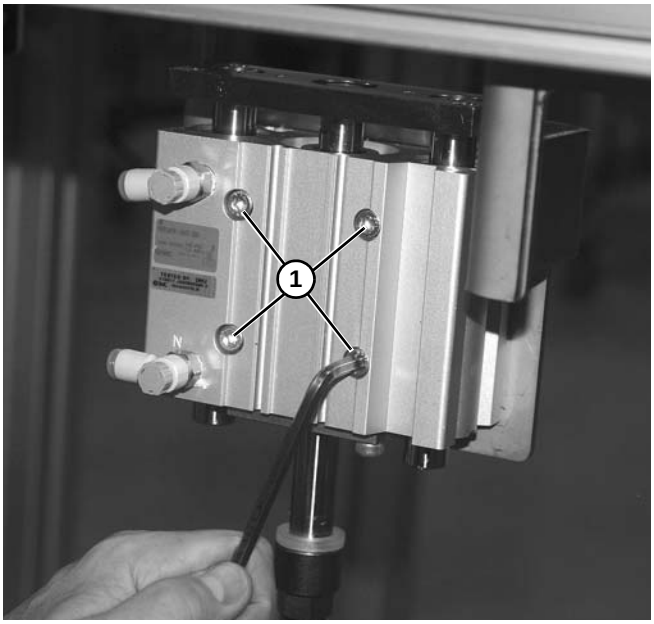


Figure 127

11. Remove lift cylinder **(Figure 128, item 1)** from mounting bracket **(Figure 128, item 1)**.

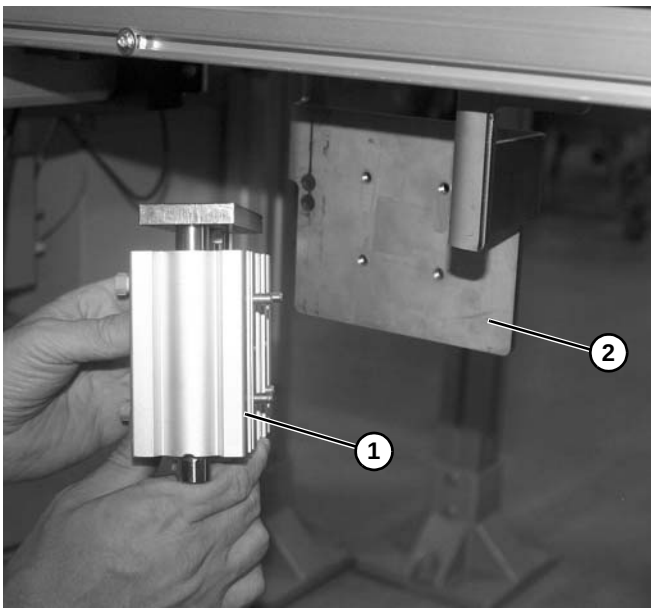


Figure 128

12. Remove two fittings **(Figure 129, item 1)** from cylinder.

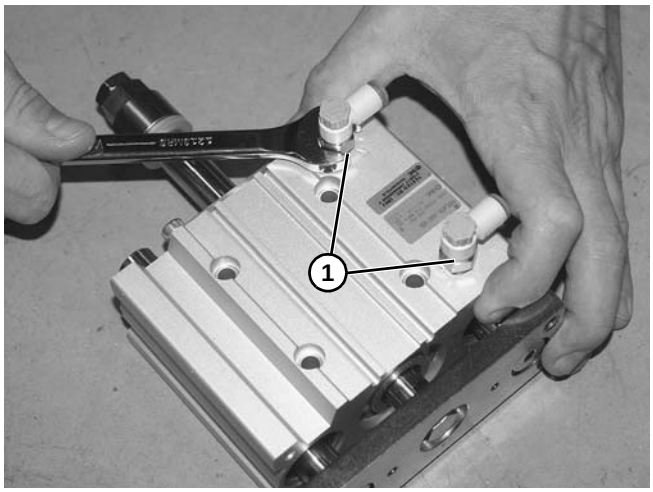


Figure 129

13. Replace worn or damaged parts.
14. Installation is the reverse of removal.

Turn and Transfer

Top Plate Removal

1. Remove four screws **(Figure 130, item 1)** that secure the two pallet guides **(Figure 130, item 2)** and top plate **(Figure 130, item 3)**.

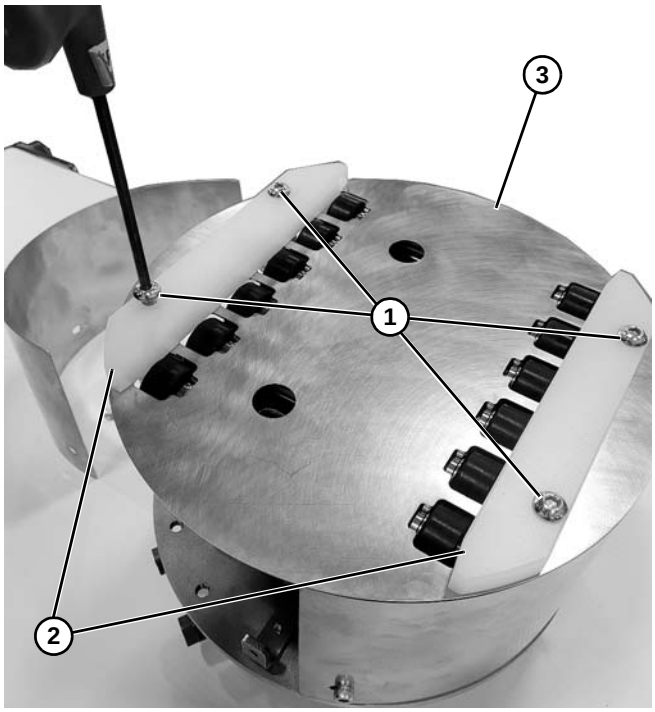


Figure 130

2. Remove top plate **(Figure 131, item 1)**.

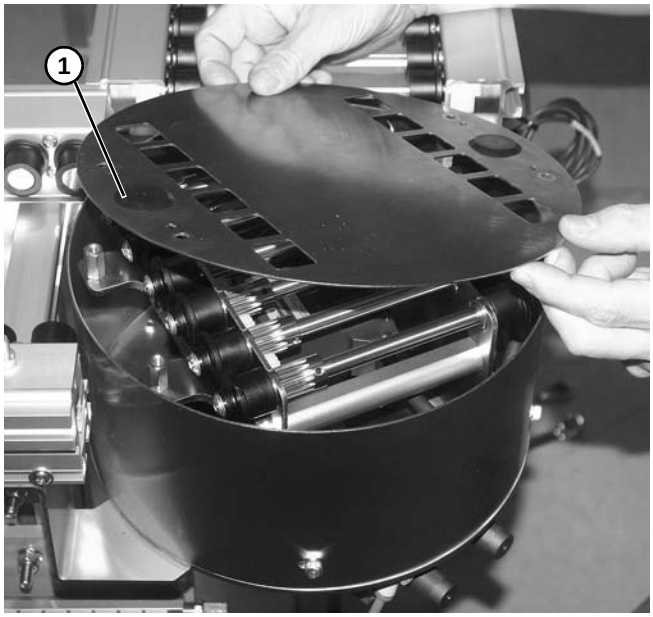


Figure 131

3. Replace pallet guides, if worn.
4. Reassemble in reverse order.

Guarding Removal

1. Remove top plate. See "Top Plate Removal" on page 38.
2. Remove three screws **(Figure 132, item 1)** from bottom of turn and transfer unit that secure one half of the guard.

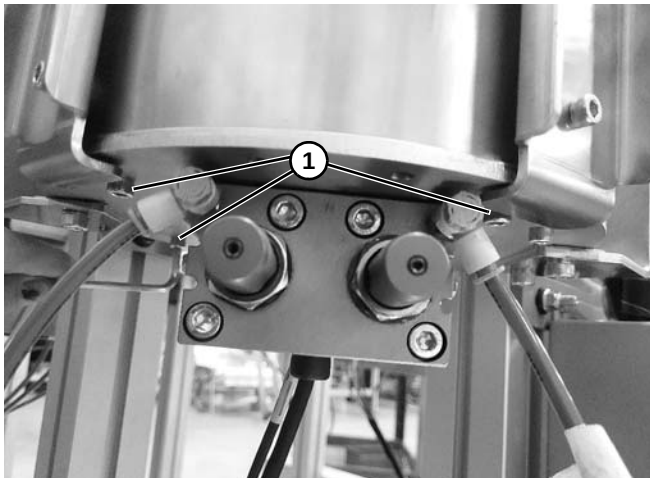


Figure 132

3. Remove side guard **(Figure 133, item 1)**.

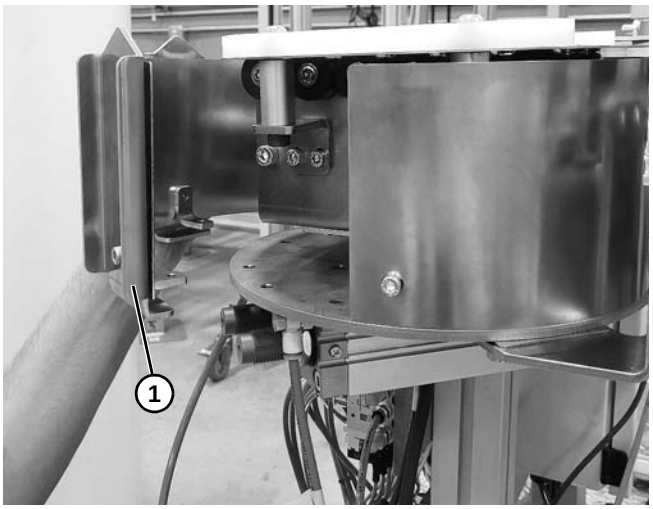


Figure 133

4. Repeat for second side guard (if applicable).
5. Reassemble in reverse order.

Roller and Gear Replacement

1. Remove top plate. See "Top Plate Removal" on page 38.

NOTE
Be sure to mark both hoses and there locations to aid in reinstalling.

2. Disconnect both hoses **(Figure 134, item 1)** from fittings on turn and transfer assembly cylinder **(Figure 134, item 2)**.

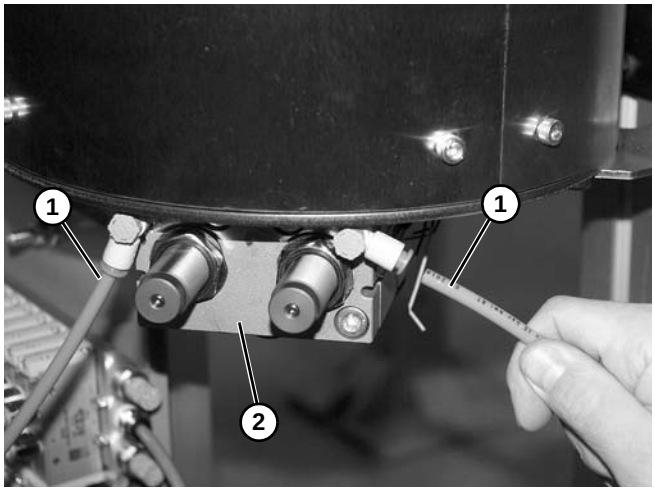


Figure 134

3. Remove screw **(Figure 135, item 1)** from roller **(Figure 135, item 2)** on turn and transfer assembly.

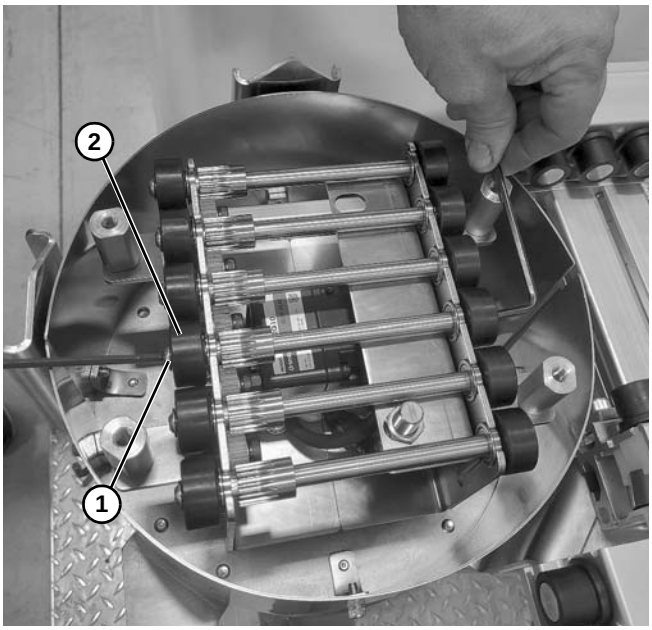


Figure 135

4. Pry roller **(Figure 136, item 1)** from shaft **(Figure 136, item 2)**.

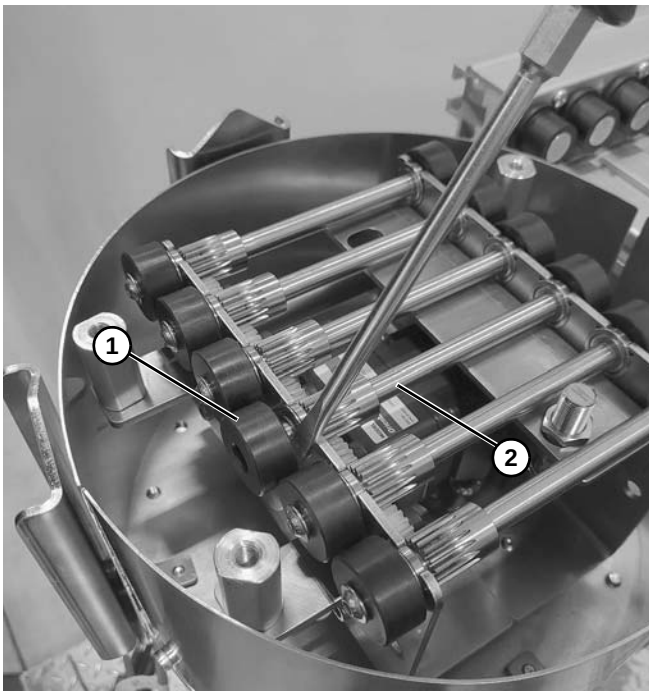


Figure 136

5. Loosen set screw **(Figure 137, item 1)** on gear to slide gear **(Figure 137, item 2)**.

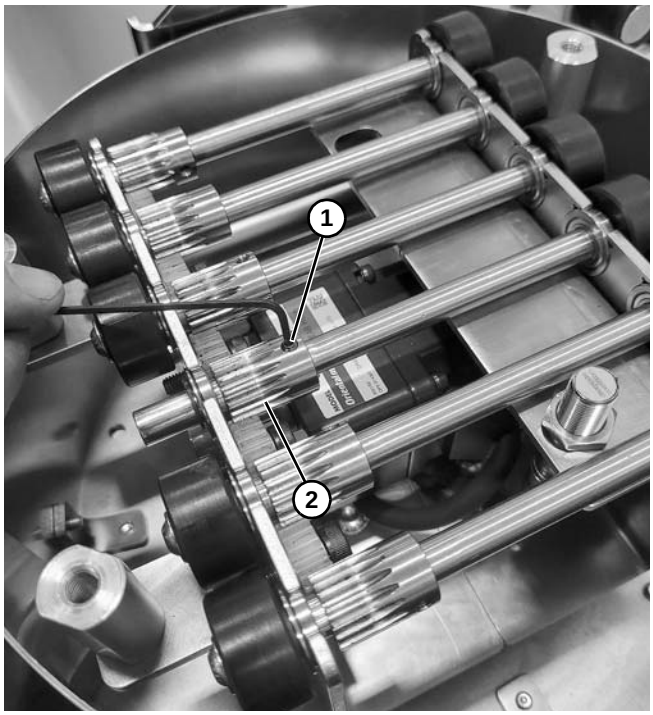


Figure 137

6. Loosen two screws **(Figure 138, item 1)** on sensor bracket **(Figure 138, item 2)**, so the bracket is no longer secured.

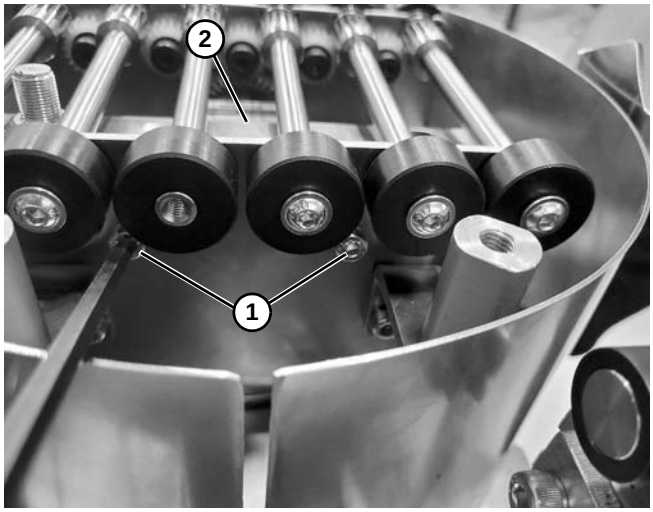


Figure 138

7. Pry roller **(Figure 139, item 1)** from shaft **(Figure 139, item 2)**.

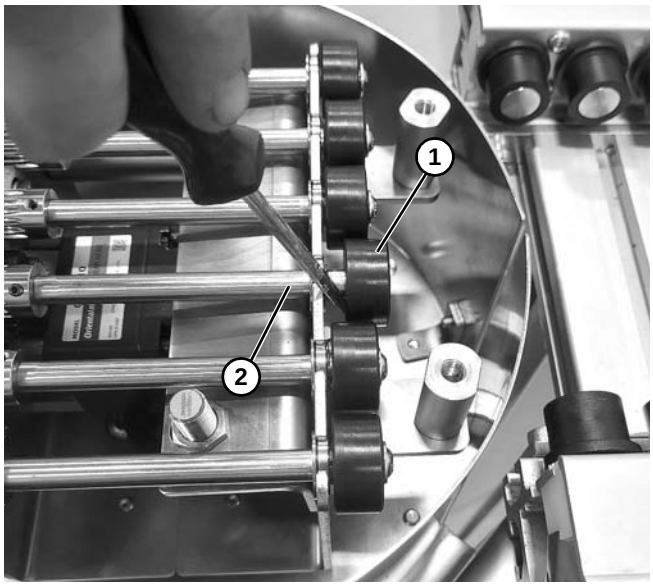


Figure 139

8. Tap roller shaft assembly **(Figure 140, item 1)** to remove **(Figure 141)**.

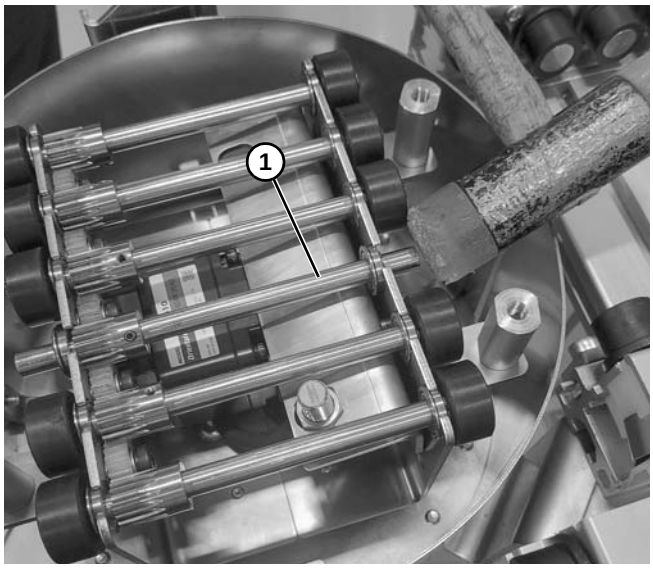


Figure 140

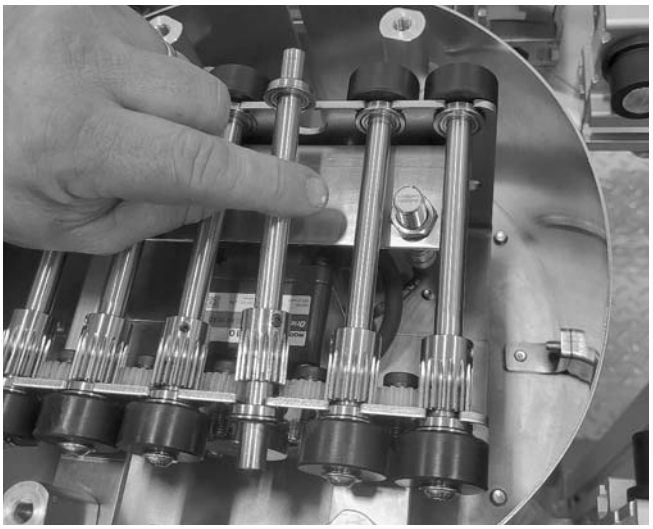


Figure 141

9. Remove screw **(Figure 142, item 1)** to remove idler gear assembly **(Figure 143, item 1)**.

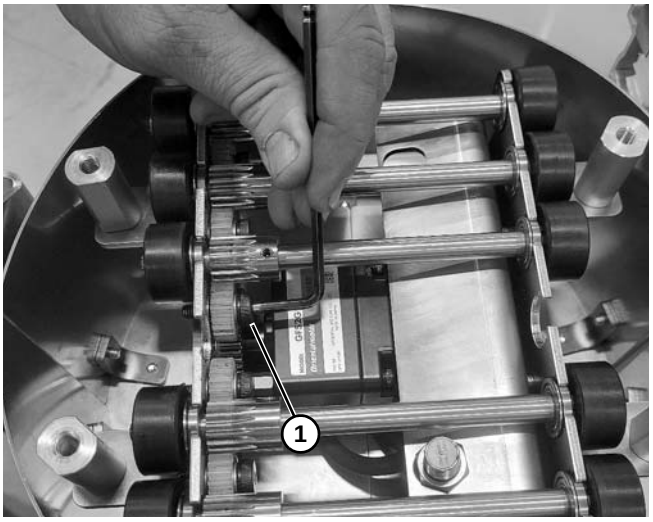


Figure 142

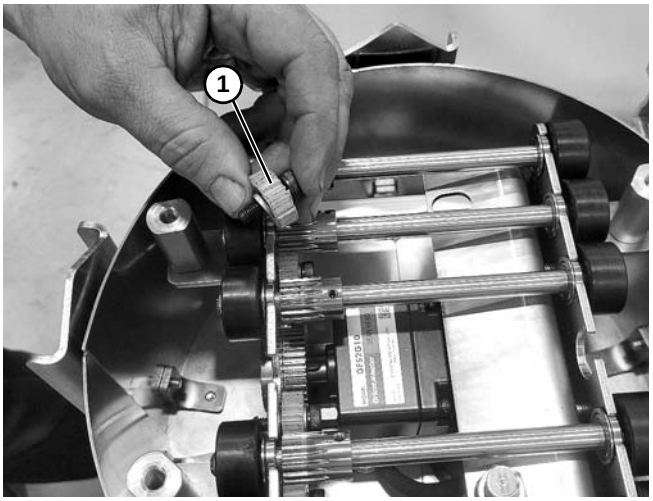


Figure 143

10. To reinstall tap from opposite end **(Figure 144)**. Replace all worn parts. Reassemble in reverse order.

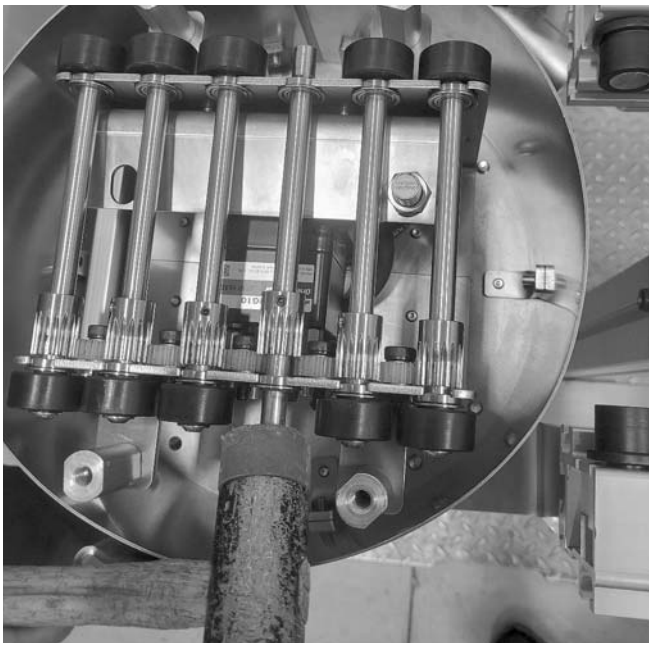


Figure 144

NOTE
*When reassembling, make sure there is a gap **(Figure 145, item 1)** between the gear and the U frame.*

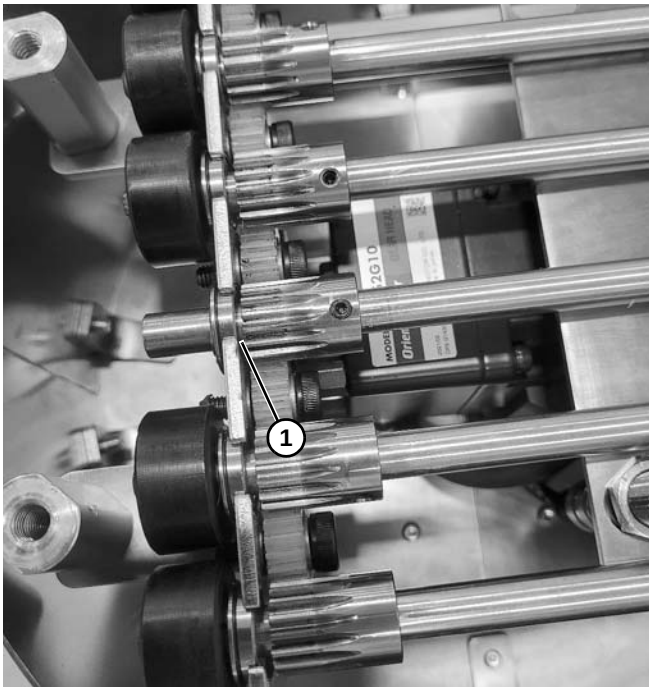


Figure 145

Drive Motor Replacement

1. Remove top plate. See “Top Plate Removal” on page 38.
2. Remove guards. See “Guarding Removal” on page 39.
3. Remove two screws **(Figure 146, item 1)** holding support bar **(Figure 146, item 1)** onto turn and transfer assembly.

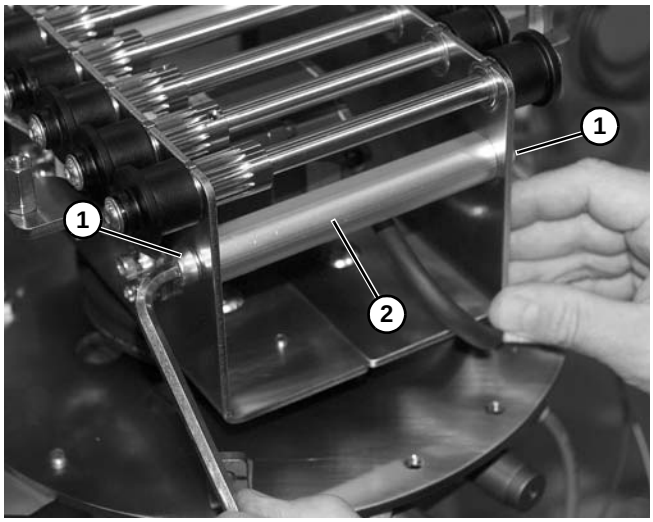


Figure 146

4. Remove support bar **(Figure 147, item 1)** from assembly.

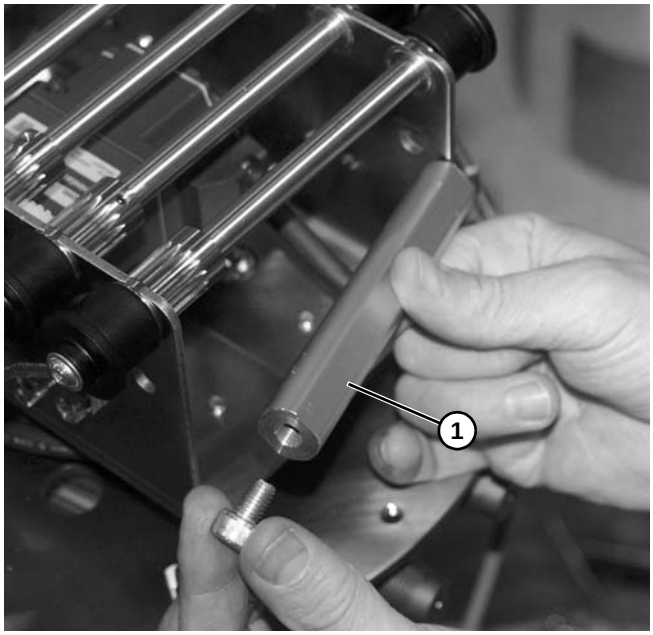


Figure 147

5. Remove four screws **(Figure 148, item 1)** securing drive motor **(Figure 148, item 2)** onto assembly.

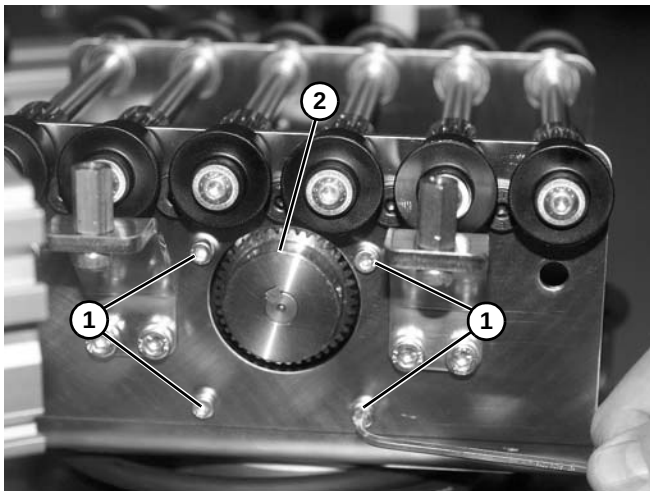


Figure 148

6. Remove drive motor **(Figure 149, item 1)** from assembly.

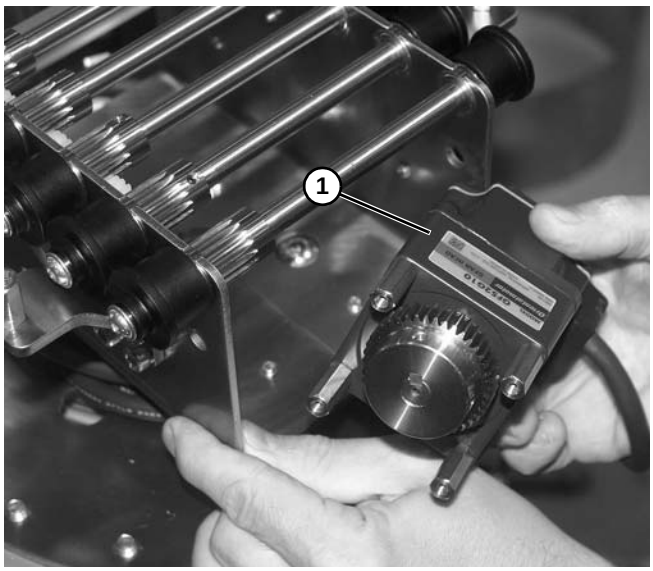


Figure 149

7. Loosen two set screws **(Figure 150, item 1)** securing gear **(Figure 150, item 2)** onto drive motor.

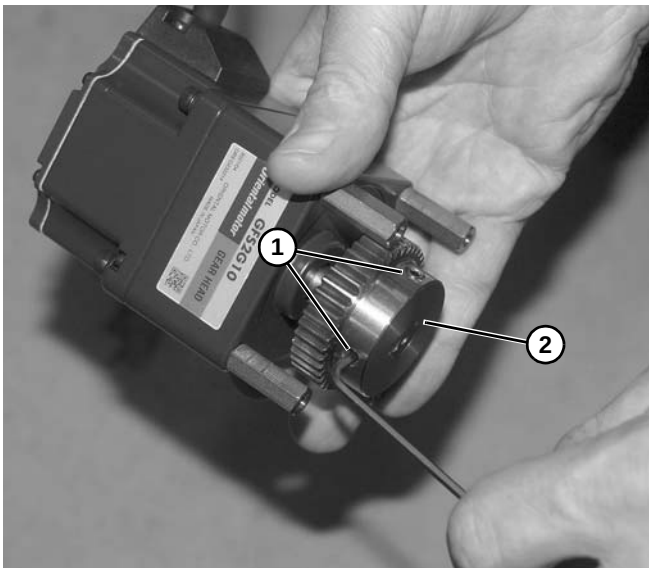


Figure 150

8. Remove gear **(Figure 151, item 1)** and key **(Figure 151, item 2)** from drive motor shaft.

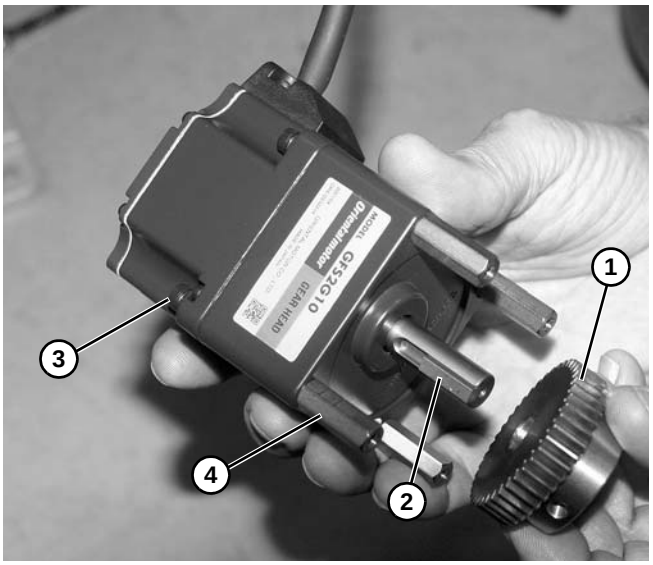


Figure 151

9. Remove four screws **(Figure 151, item 3)** holding hex posts **(Figure 151, item 4)** onto motor.
10. Replace worn or damaged parts.
11. Installation is the reverse of removal.

Cylinder Replacement

1. Remove top plate. See “Top Plate Removal” on page 38.
2. Remove guards. See “Guarding Removal” on page 39.
3. Remove four screws **(Figure 152, item 1)** from underneath the frame.

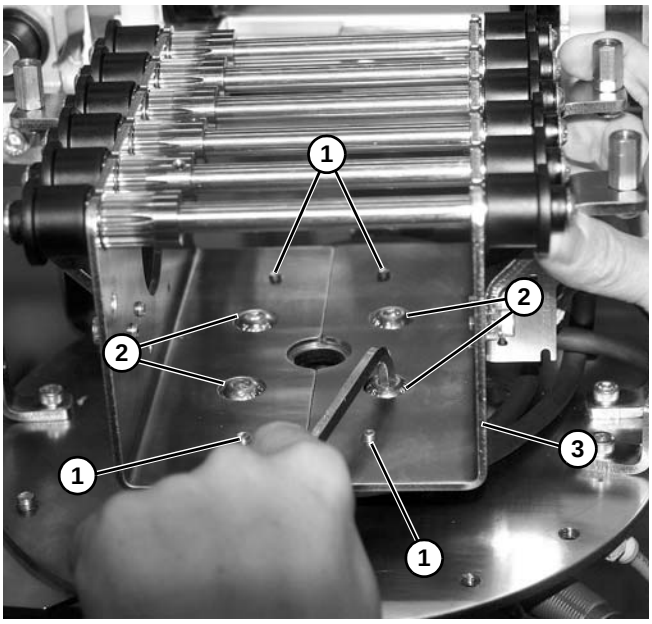


Figure 152

4. Remove four screws **(Figure 152, item 2)** holding turn and transfer assembly **(Figure 152, item 3)** onto top plate.
5. Remove turn and transfer assembly **(Figure 153, item 1)** from cylinder **(Figure 153, item 2)**.

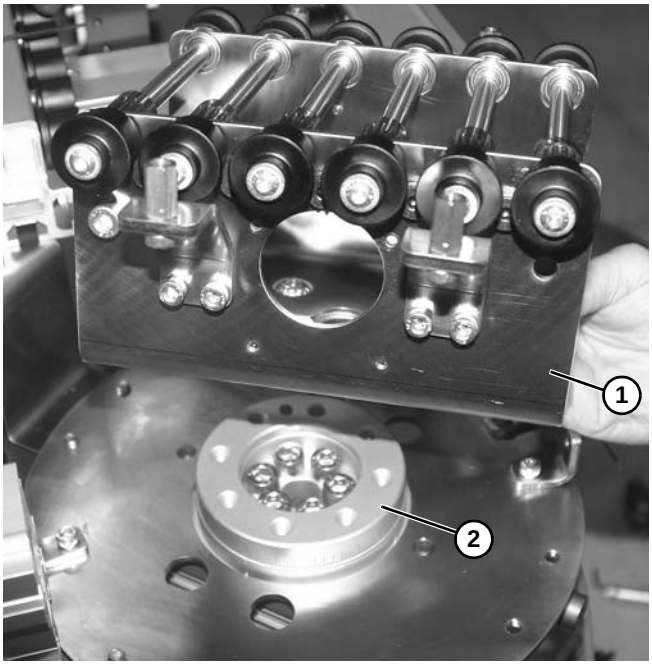


Figure 153

6. Remove two screws **(Figure 154, item 1)** securing cylinder **(Figure 154, item 2)** onto round plate **(Figure 154, item 3)**.

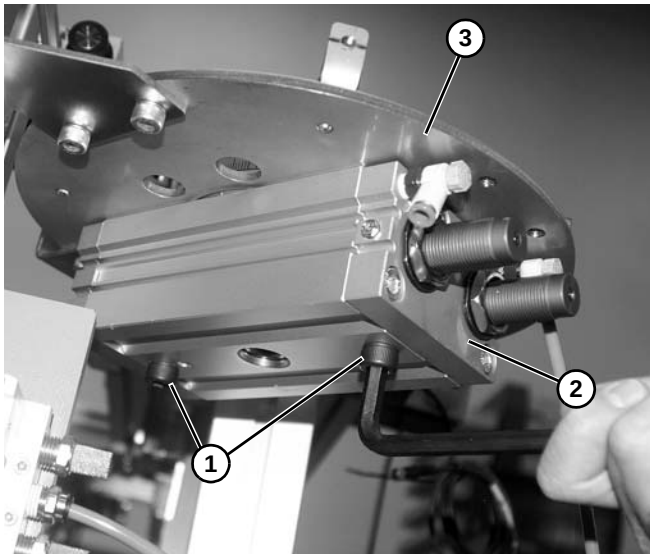


Figure 154

7. Remove cylinder **(Figure 155, item 1)** from round plate **(Figure 155, item 2)**.

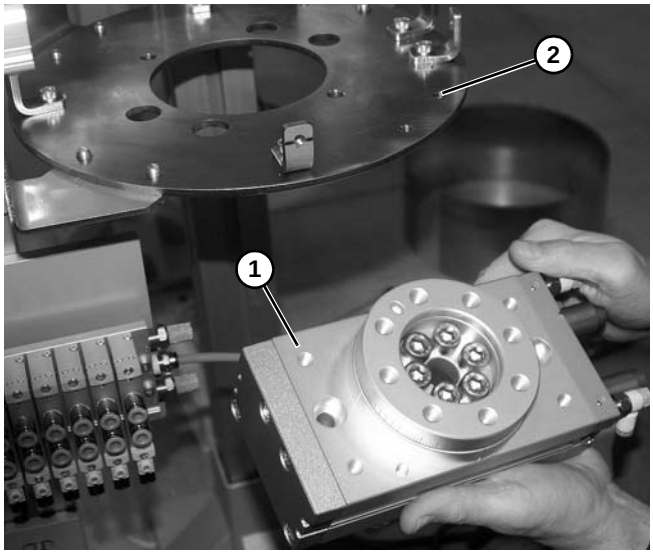


Figure 155

8. Replace worn or damaged parts.
9. Installation is the reverse of removal.

Pallet Pusher

Cylinder Replacement

NOTE

Be sure to mark both hoses and there locations to aid in reinstalling.

1. Disconnect both hoses **(Figure 156, item 1)** from fittings on pallet pusher assembly **(Figure 156, item 2)**.

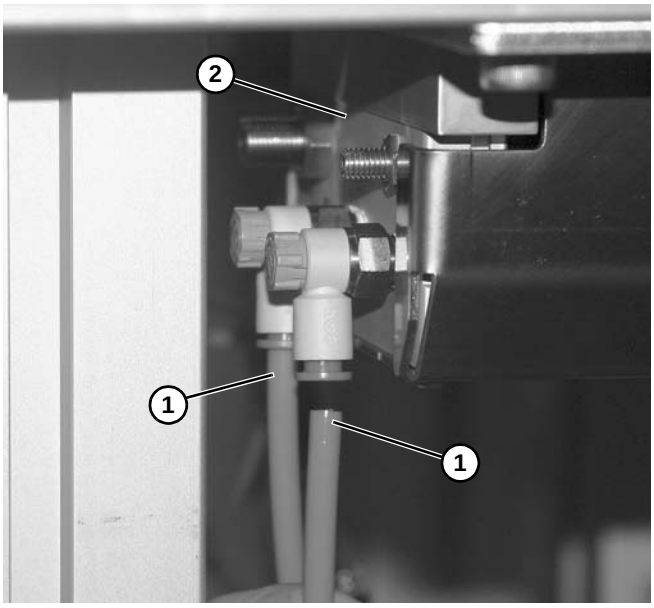


Figure 156

2. Remove screw **(Figure 157, item 1)** on both ends and remove cover **(Figure 157, item 2)**.

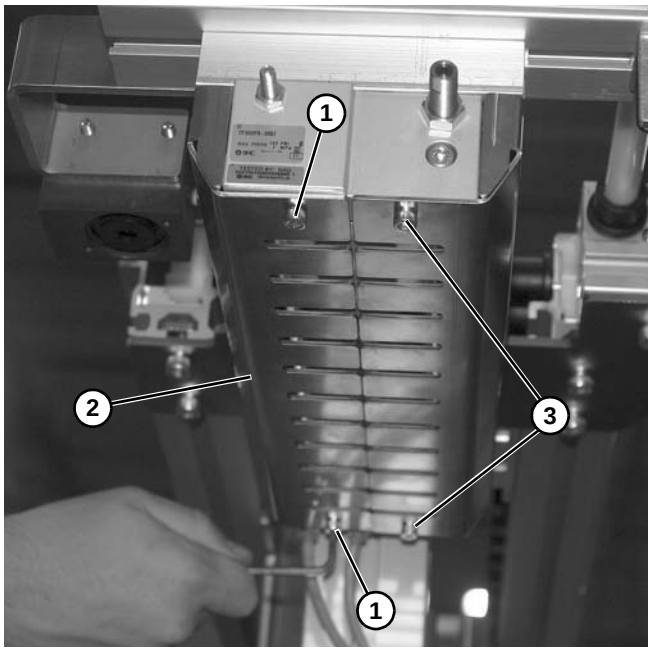


Figure 157

3. Remove two remaining screws **(Figure 157, item 3)**, and lower cylinder **(Figure 158, item 1)** and second cover **(Figure 158, item 2)** from conveyor.

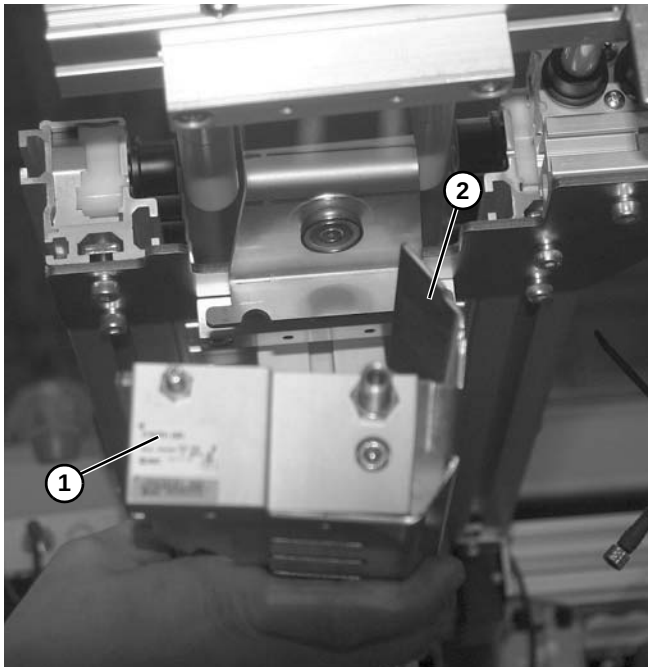


Figure 158

4. Remove four screws **(Figure 159, item 3)** and mounting plate **(Figure 159, item 2)** from cylinder body **(Figure 159, item 3)**.

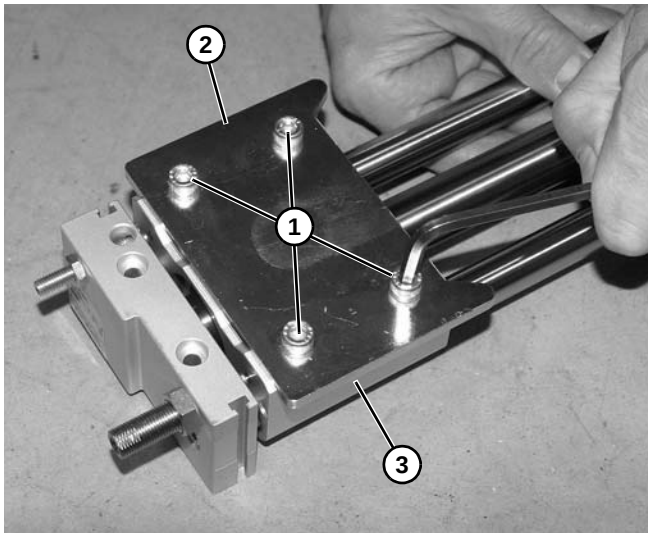


Figure 159

5. Remove two fittings **(Figure 160, item 1)** from cylinder end plate **(Figure 160, item 2)**.

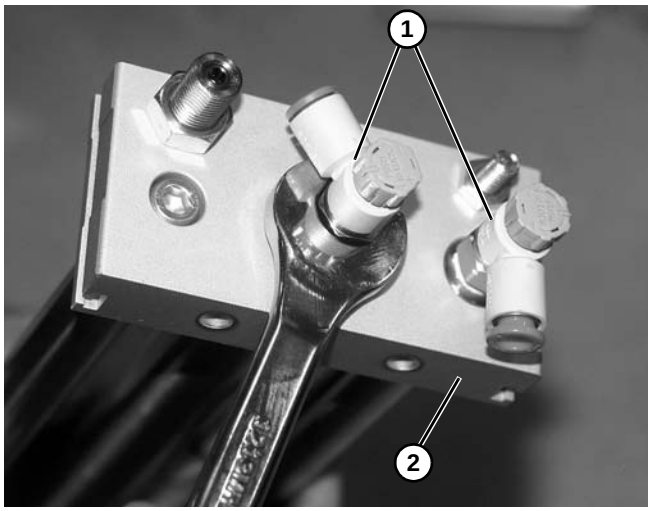


Figure 160

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

Gear, Roller, and Roller Shaft Replacement

1. Remove screws **(Figure 161, item 1)** holding side cover **(Figure 161, item 2)**. onto conveyor frame.

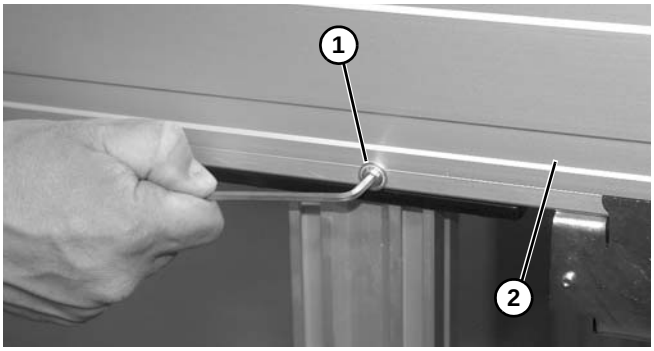


Figure 161

2. Rotate and remove side cover **(Figure 162, item 1)** from conveyor frame

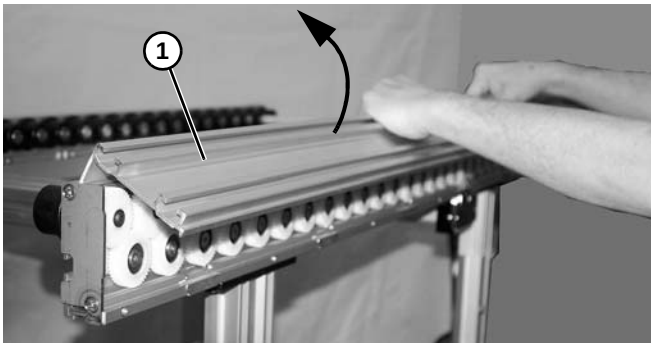


Figure 162

3. Install sprocket removal tool, part number 400571 **(Figure 163, item 1)** between gears.

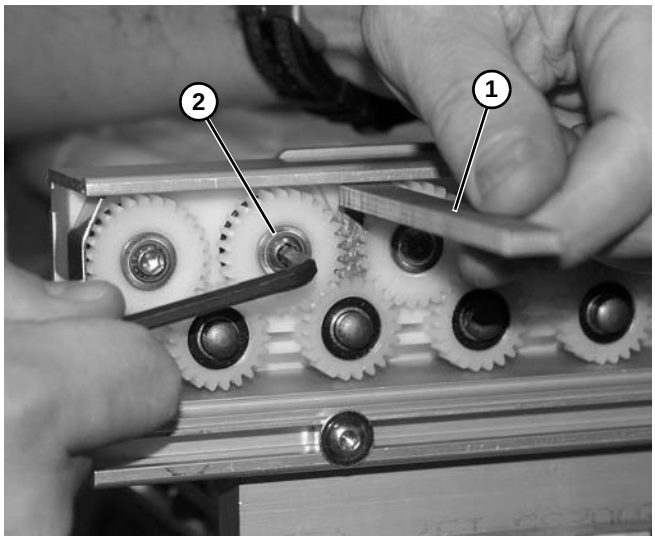


Figure 163

4. Loosen screw **(Figure 163, item 2)** holding gear onto roller shaft.
5. Remove two screws **(Figure 164, item 1)** securing plate **(Figure 164, item 2)** on assembly.

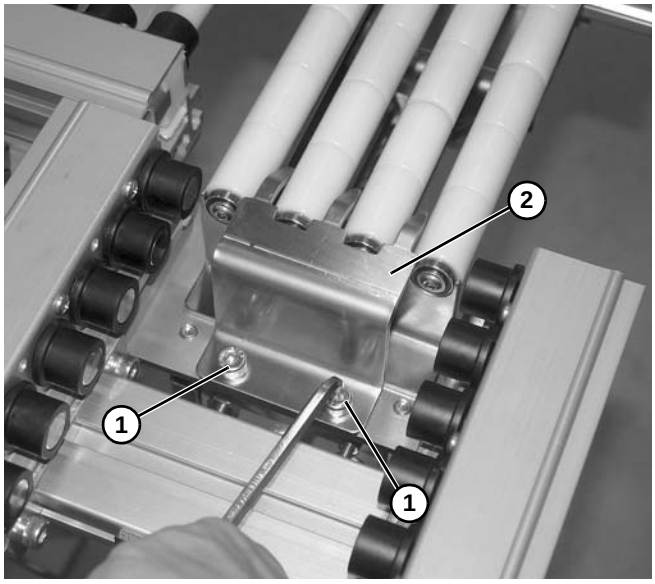


Figure 164

6. Remove plate **(Figure 165, item 1)** from assembly.

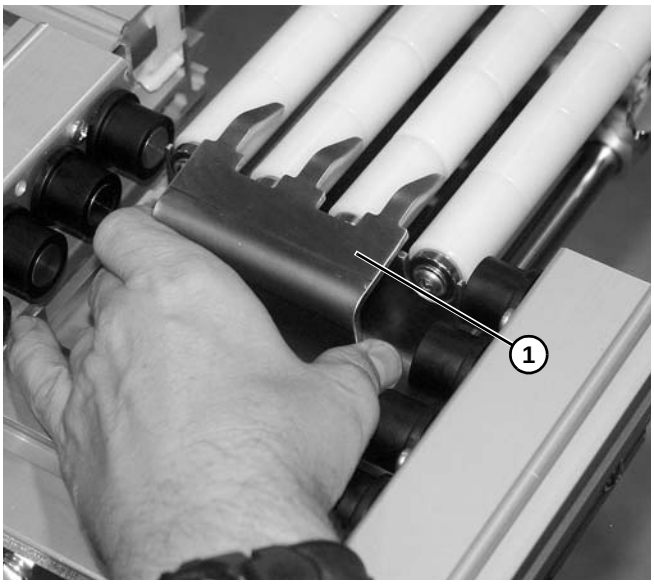


Figure 165

7. Remove screw **(Figure 166, item 1)** securing gear **(Figure 166, item 2)** on roller shaft.

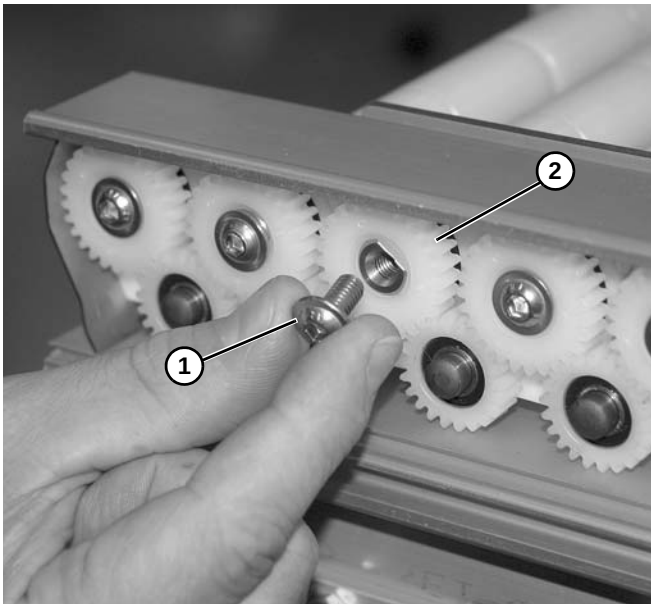


Figure 166

8. Remove the gear **(Figure 167, item 1)** from the roller shaft. Make note of the notches **(Figure 167, item 2)** in the gear and roller shaft.

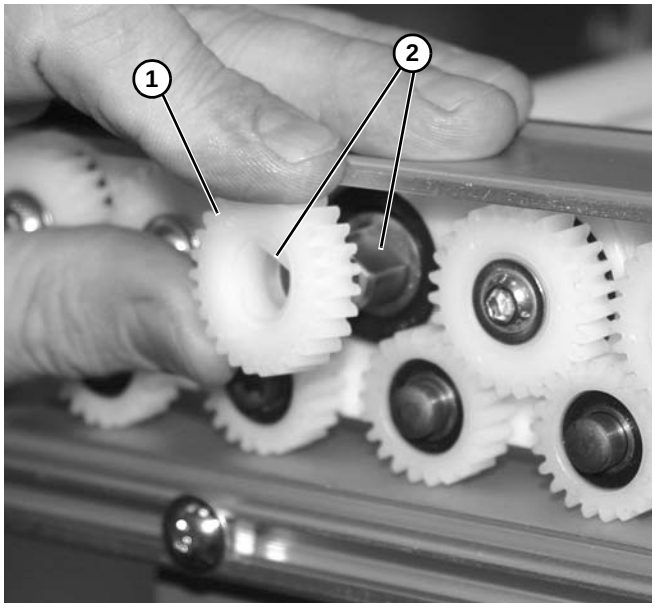


Figure 167

9. Remove two screws **(Figure 168, item 1)** securing roller plate **(Figure 168, item 2)** on assembly.

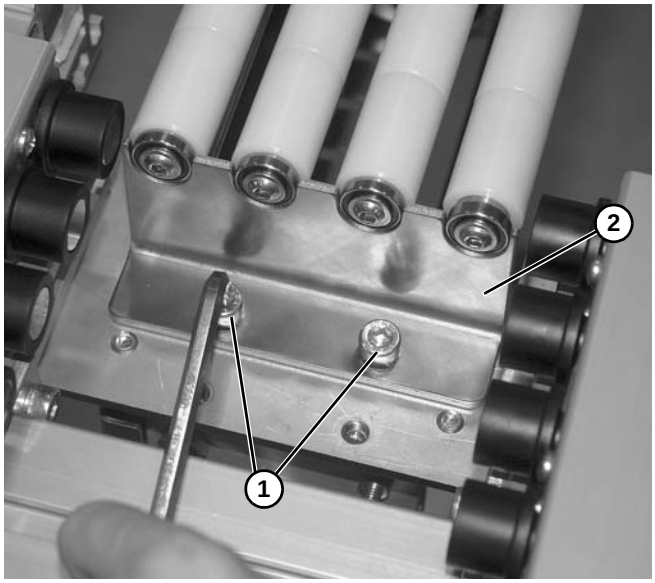


Figure 168

10. Remove roller plate **(Figure 169, item 1)** from rollers.

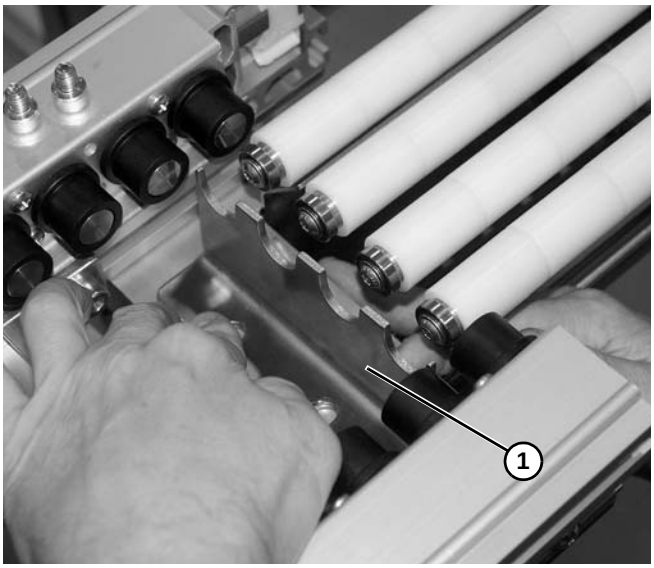


Figure 169

11. Pull rod end **(Figure 170, item 1)** slightly out, and remove rollers **(Figure 170, item 2)** from rod.

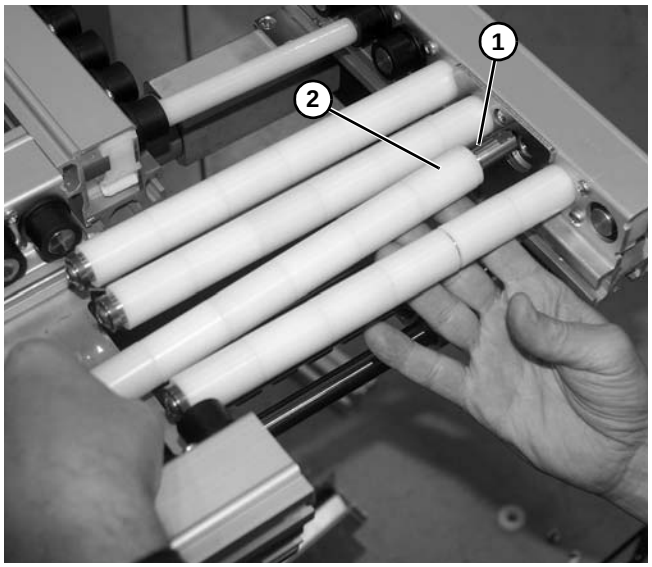


Figure 170

12. Continue removing all rollers **(Figure 171, item 1)** from rod **(Figure 171, item 2)**.

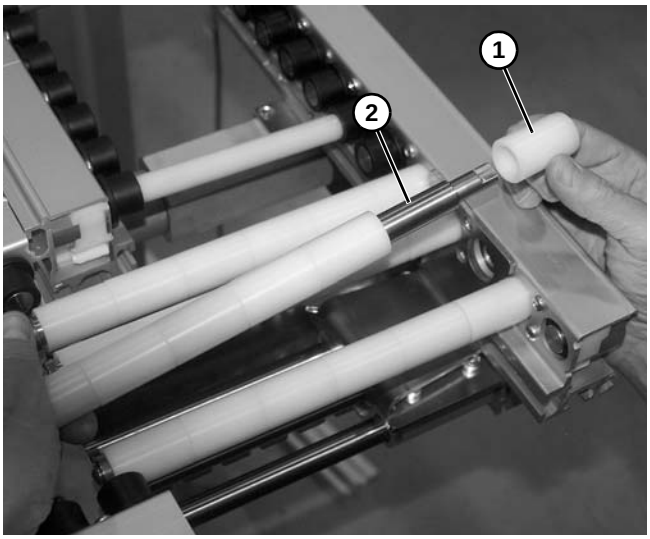


Figure 171

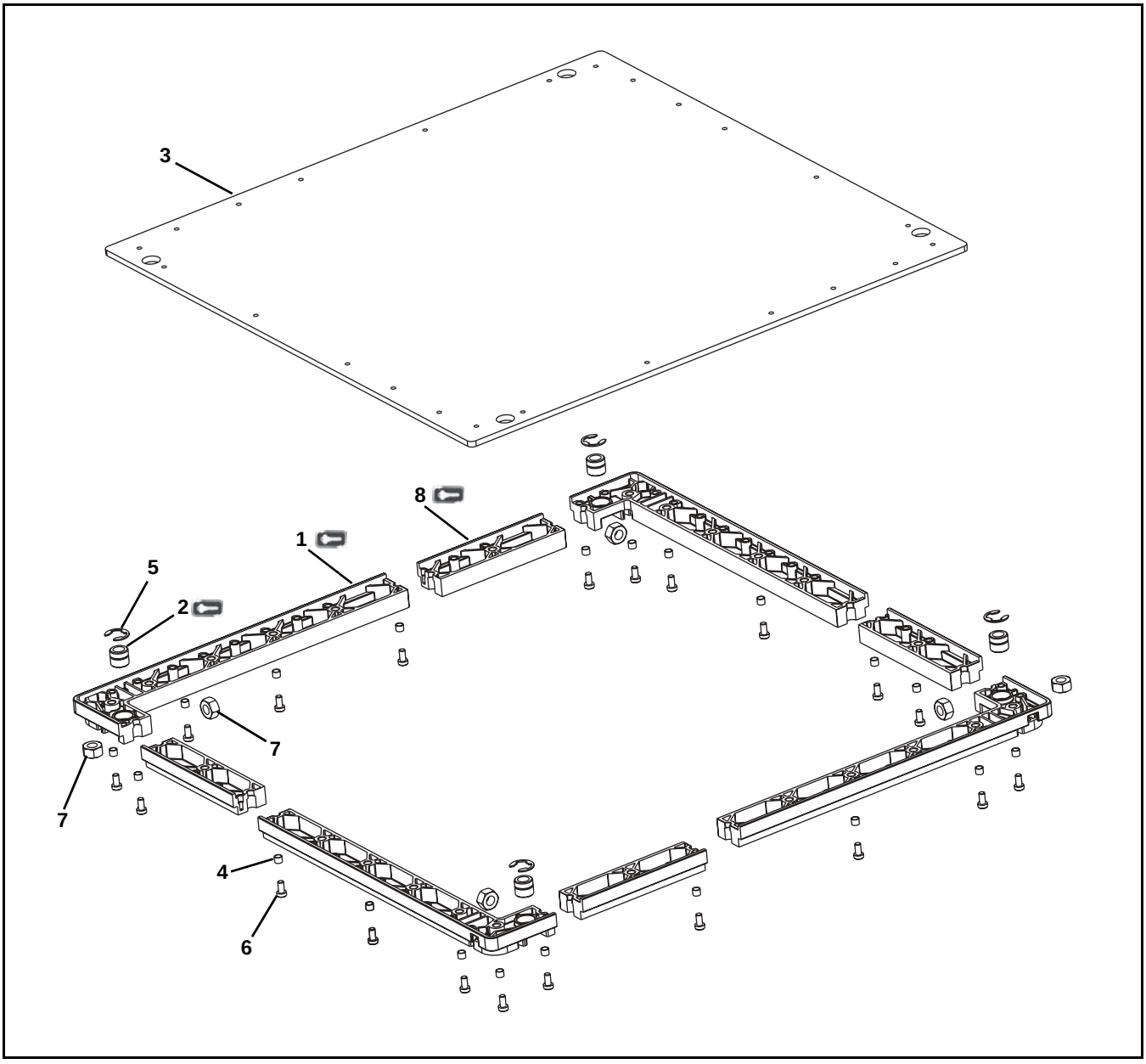
13. Repeat for removing remaining gears and rollers, as necessary.
14. Replace worn or damaged parts.
15. Installation is the reverse of removal.

Notes

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.

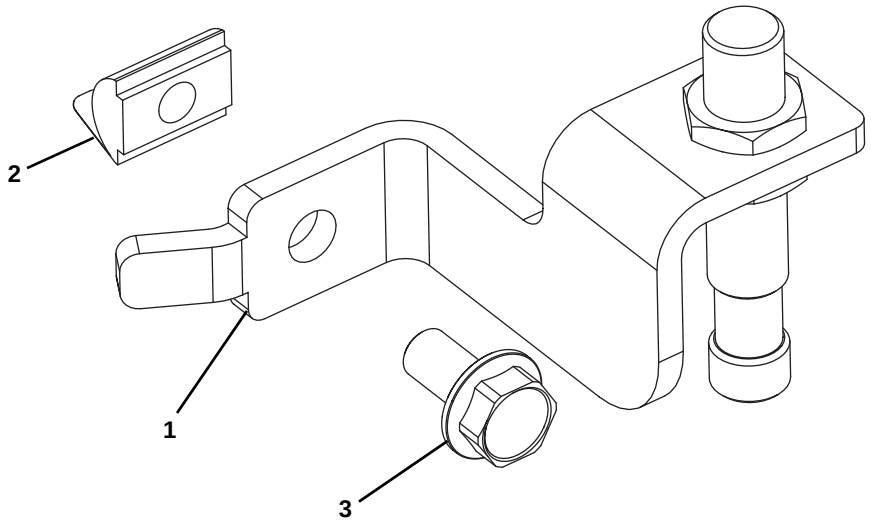
Pallet



Item	Part Number	Description
1	204288–WWW	Corner Skirt
2	204548	Bushing
3	400873–WWWxLLL	1/4" Thick Top Plate
	400874–WWWxLLL	3/8" Thick Top Plate
4	450226SSP	Sleeve
5	915–225	Retaining Ring
6	950614M	Low Head Cap Screw, M6–1.00 x 14 mm
7	991201M	Hex Nut
8	400567	Skirt Filler, for 200 and 280 widths
WWW = Pallet width reference: 160, 200, 240, 280, 320		
LLL = Pallet length reference: 160, 200, 240, 280, 320		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

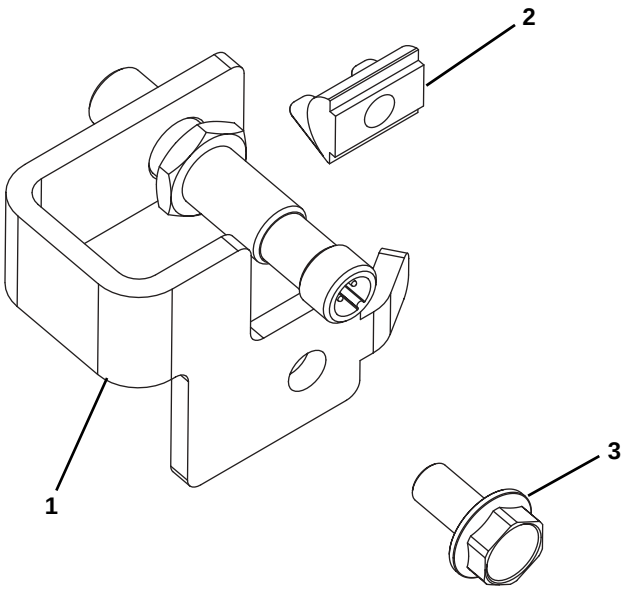
Service Parts

Bottom Sensor



Item	Part Number	Description
1	400541-LH	Bottom Bracket, Left Hand
	400541-RH	Bottom Bracket, Right Hand
2	FASL–M8	Spring Tee Nut
3	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

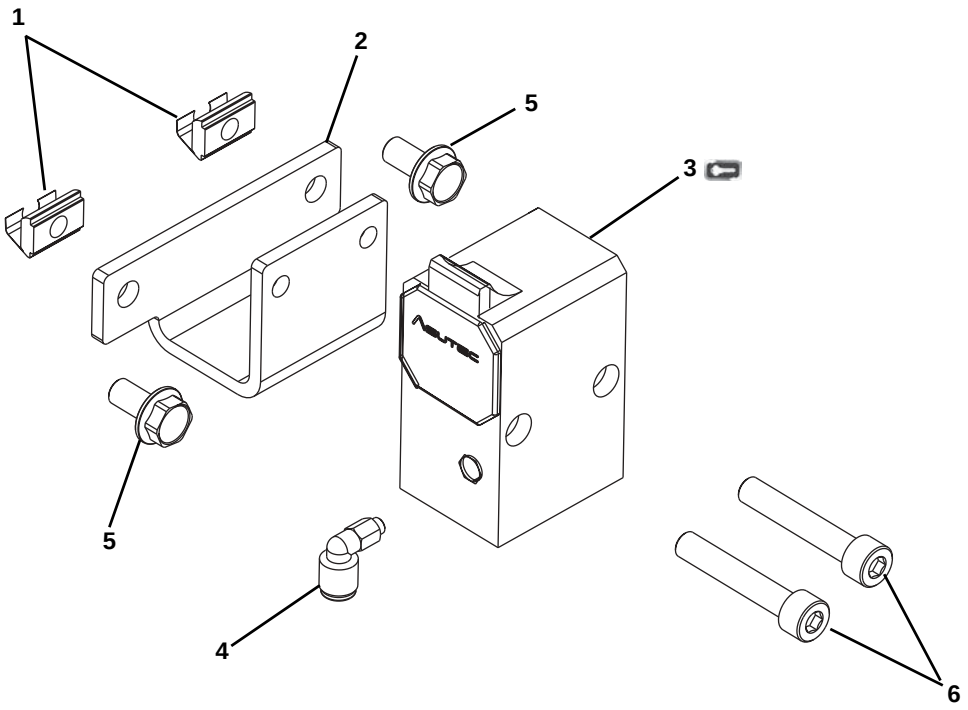
Side Sensor



Item	Part Number	Description
1	400540	Side Bracket
2	FASL–M8	Spring Tee Nut
3	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

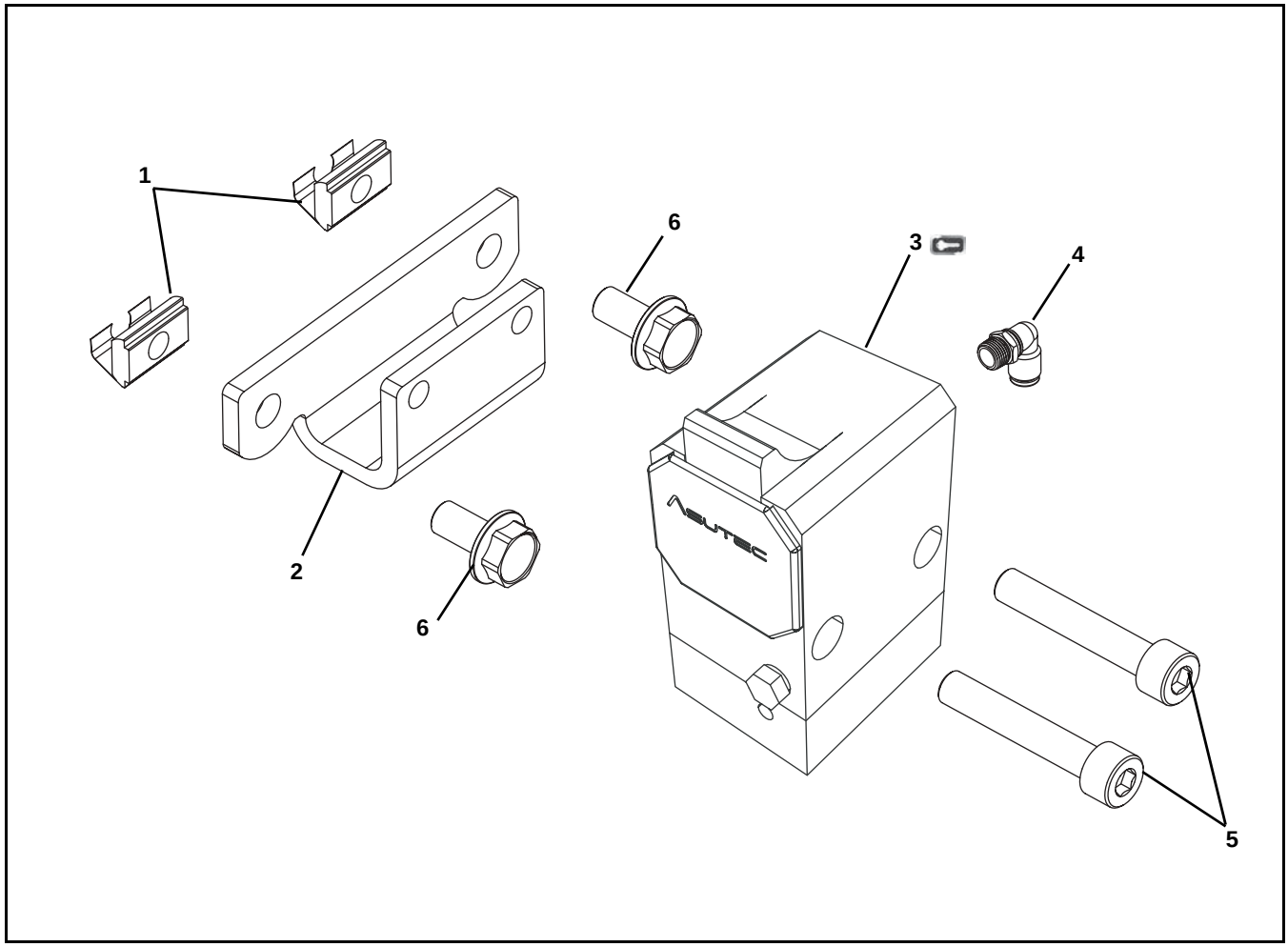
Service Parts

Light Load Pallet Stop



Item	Part Number	Description
1	FASL–M8	Spring Tee Nut, M8–1.25 x 20 mm
2	400259	Mounting Bracket
3	804–1198	Cushioned Pallet Stop
4	810–529	Elbow Fitting
5	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
6	920640M	Socket Head Screw, M6–1.00 x 40 mm
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

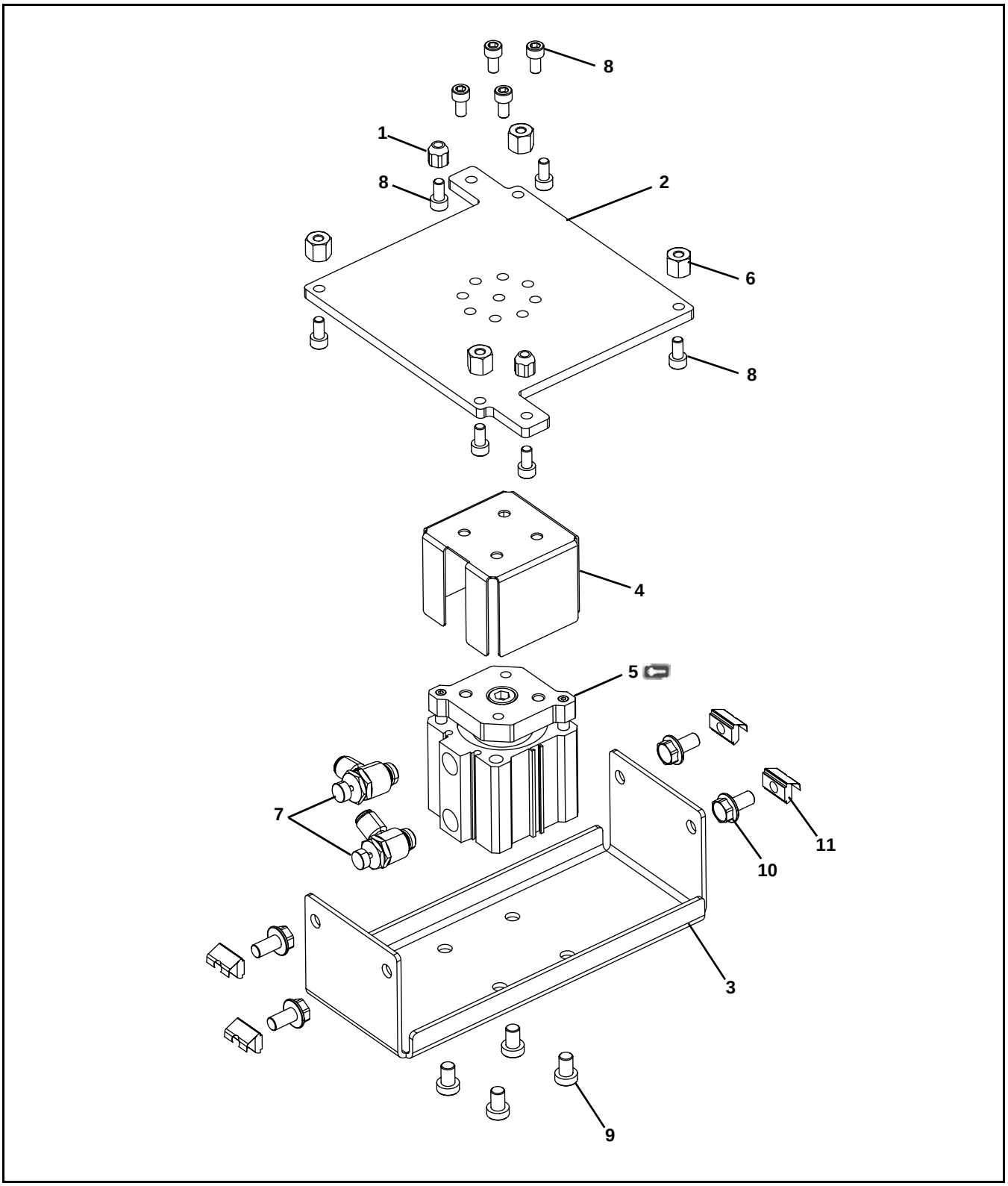
Standard Load Pallet Stop



Item	Part Number	Description
1	FASL–M8	Spring Tee Nut, M8–1.25 x 20 mm
2	400473	Mounting Bracket
3	804–724	Fixed Pallet Stop
⇦	804–1092	Cushioned Pallet Stop
4	810–529	Elbow Fitting
5	920845M	Socket Head Screw, M8–1.25 x 45 mm
6	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Service Parts

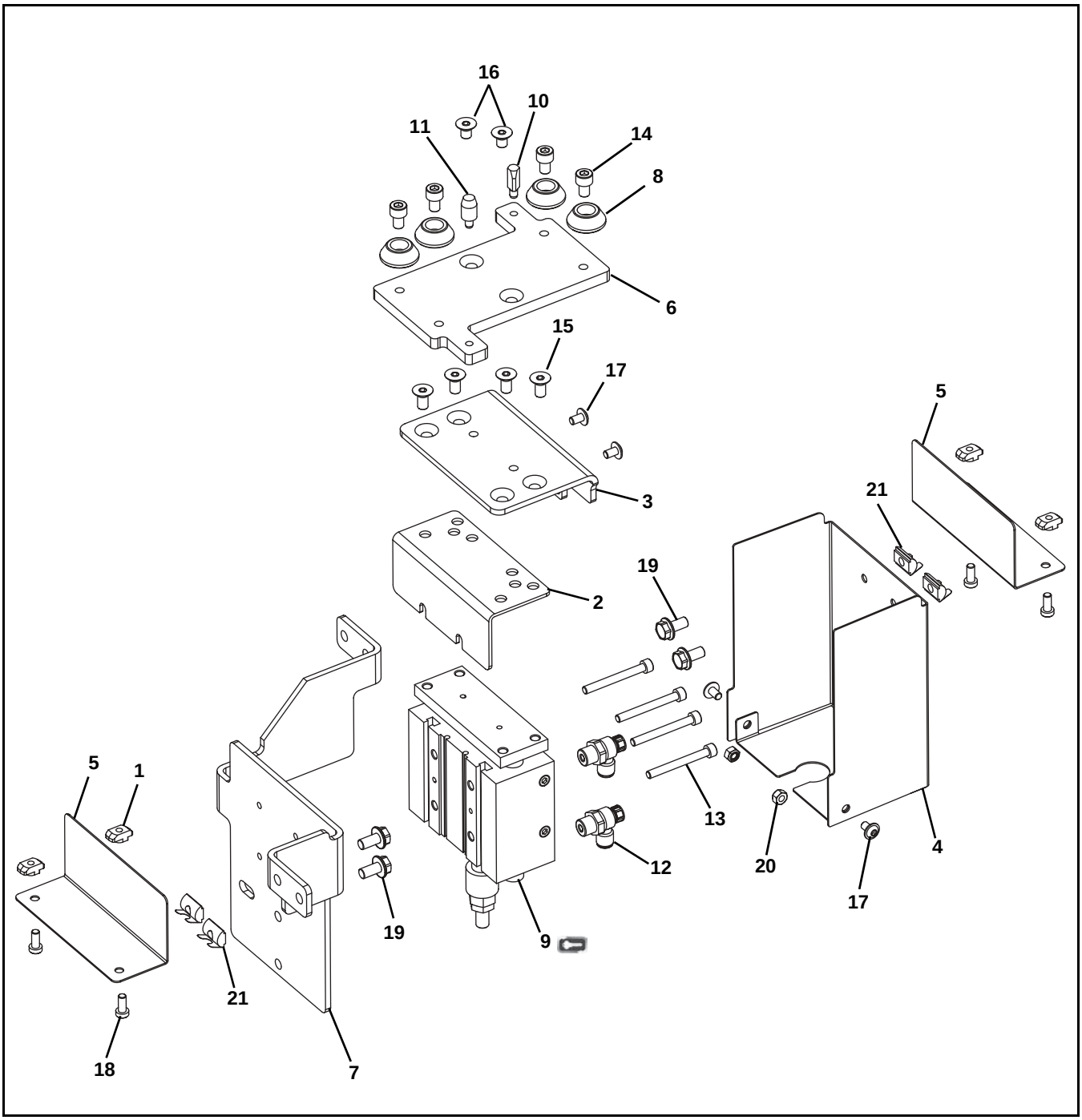
Low Height Lift and Locate



Item	Part Number	Description
1	206896	Locator Pin
2	207300-WWWxLLL	Top Plate
3	400538-WWW	Cylinder Mounting Bracket
4	400539	Cylinder Guard
5	804-912	Cylinder
6	807-3846	Hex Standoff
7	810-465	Flow Control Fitting
8	920612M	Socket Head Screw, M6-1.00 x 12 mm
9	950812M	Low Head Cap Screw, M8-1.25 x 12 mm
10	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
11	FASL-M8	Spring Tee Nut
WWW = Pallet width reference: 160, 200, 240, 280, 320		
LLL = Pallet length reference: 160, 200, 240, 280, 320		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Service Parts

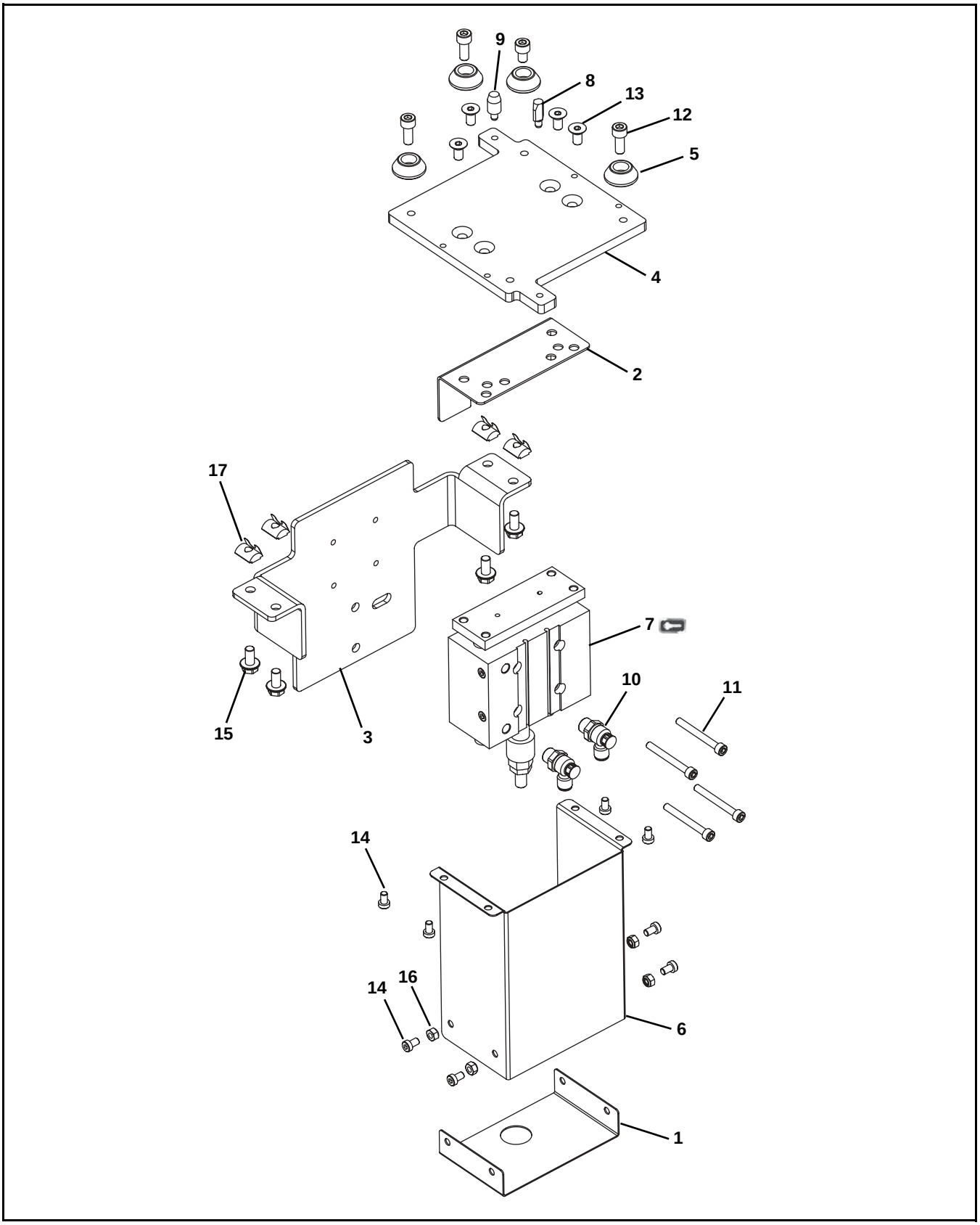
Lift and Locate for Pallets 160 x 160, 160 x 240, 200 x 200, and 240 x 160



Item	Part Number	Description
1	206685	T-Nut
2	400485	Rear Cylinder Guard
3	400520	Cylinder Spacer
4	400478	Cylinder Guard
5	400552	Rollers Cover Plate
6	400412-WWW-LLL	Top Plate
7	400413-WWW	Cylinder Mounting Plate
8	400477-30	Locating Support
9	804-1142	Cylinder
10	807-4084	Diamond Locating Pin
11	807-4085	Round Locating Pin
12	810-985	Speed Control Fitting
13	920655M	Socket Head Screw, M6-1.00 x 55 mm
14	920812M	Socket Head Screw, M8-1.25 x 12 mm
15	930816M	Flat Head Screw, M8-1.25 x 16 mm
16	930812M	Flat Head Screw, M8-1.25 x 12 mm
17	910610MF	Flanged Button Head Screw, M6-1.00 x 10 mm
18	950614ML	Low Head Cap Screw, M6-1.00 x 14 mm
19	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
20	990602M	Lock Nut
21	FASL-M8	Spring Tee Nut
WWW = Pallet width reference: 160, 200, 240		
LLL = Pallet length reference: 160, 200, 240		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Service Parts

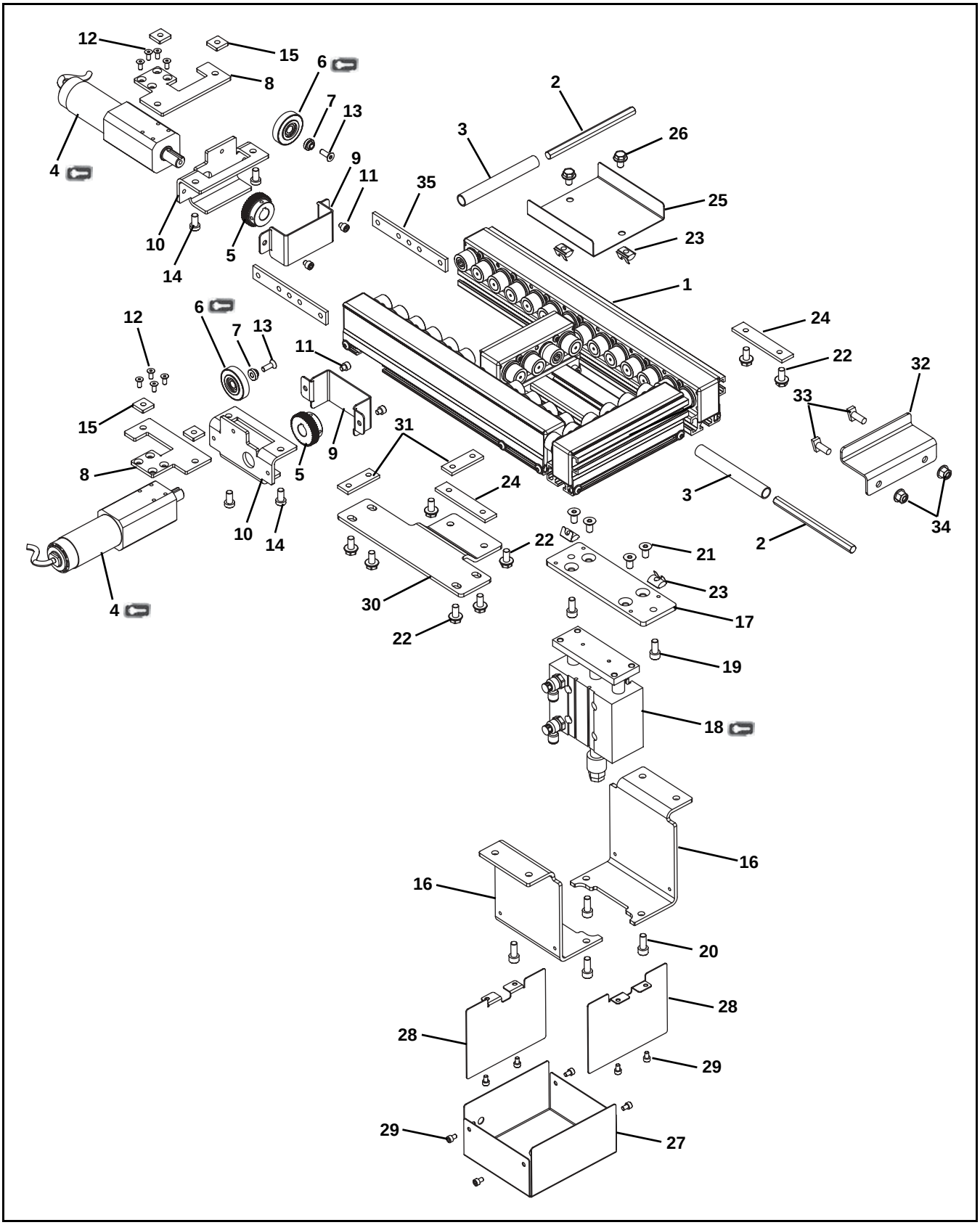
Lift and Locate for Pallets 240 x 240, 240 x 320, 280 x 280, 320 x 240 and 320 x 320



Item	Part Number	Description
1	400408	Bottom Guard
2	400485	Cylinder Guard
3	400413-WWW	Cylinder Mounting Plate
4	400412-WWW-LLL	Top Plate
5	400477-30	Locating Support
6	400492	Slide Guard
7	804-1142	Cylinder
8	807-4084	Diamond Locating Pin
9	807-4085	Round Locating Pin
10	810-985	Speed Control Fitting
11	920655M	Socket Head Screw, M6-1.00 x 55 mm
12	920812M	Socket Head Screw, M8-1.25 x 12 mm
13	930820M	Flat Head Screw, M8-1.25 x 20 mm
14	950610M	Low Head Cap Screw, M6-1.00 x 10 mm
15	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
16	990602M	Lock Nut
17	FASL-M8	Spring Tee Nut
WWW = Pallet width reference: 240, 280, 320		
LLL = Pallet length reference: 240, 280, 320		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Service Parts

Lift and Transfer for Pallets 160 x 160, 160 x 240, 200 x 200, 240 x 160, and 240 x 240



Item	Part Number	Description
1	———	For Conveyor Components See Manual 851–960
2	400323-WWW	Hex Shaft
3	400324-WWW	Shaft Cover
4	826–984	Motor, Speed = 10 Mpm, Gear Ratio = 67:1, RPM = 8.7–87
	826–985	Motor, Speed = 15 Mpm, Gear Ratio = 45:1, RPM = 12.9–129
	826–986	Motor, Speed = 20 Mpm, Gear Ratio = 33:1, RPM = 17.6–176
	826–987	Motor, Speed = 25 Mpm, Gear Ratio = 27:1, RPM = 21.5–215
	826–988	Motor, Speed = 37 Mpm, Gear Ratio = 18:1, RPM = 31.7–317
5	400085	Motor Gear
6	400075	Bearing, Idler Gear
7	400076	Bearing Spacer
8	400367	Outside Motor Bracket
9	400368	Motor Cover
10	400385	Motor Mounting Bracket
11	920606M	Socket Head Screw, M6–1.00 x 6 mm
12	930512M	Flat Head Screw, M5–.80 x 12 mm
13	930618M	Flat Head Screw, M6-1.00 x 18 mm
14	950816M	Low Head Cap Screw, M8-1.25 x 16 mm
15	FASN–M8	Square Nut
16	400429-WWW	U-Plate
17	400430-A	Bottom Plate for 160 wide Conveyors
	400430-C	Bottom Plate for 200 & 240 wide Conveyors
18	804-1142	Cylinder
19	920818M	Socket Head Screw, M8-1.25 x 18 mm
20	920820M	Socket Head Screw, M8-1.25 x 20 mm
21	930816M	Flat Head Screw, M8-1.25 x 16 mm
22	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
23	FASL-M8	Spring Tee Nut
24	FBCS-20x96	Connecting Strip
25	400527-WWW-LLL	Top Cover
26	960812MFY	Flanged Hex Head Cap Screw, M8 x 12 mm
27	400483	Lower Guard
28	400491	Side Guard
29	920508M	Socket Head Screw, M5-0.80 x 8 mm
30	400577-WWW-RH	Connecting Bracket, Right Hand
	400577-WWW-LH	Connecting Bracket, Left Hand
31	FBCS-20x55	Connecting Strip
32	400598	End Stop
33	FATB-20	Twist -In Stud, M8 x 20 mm
34	990812M	Lock Nut, M8-1.25
35	FACS-20x140	Connecting Strip

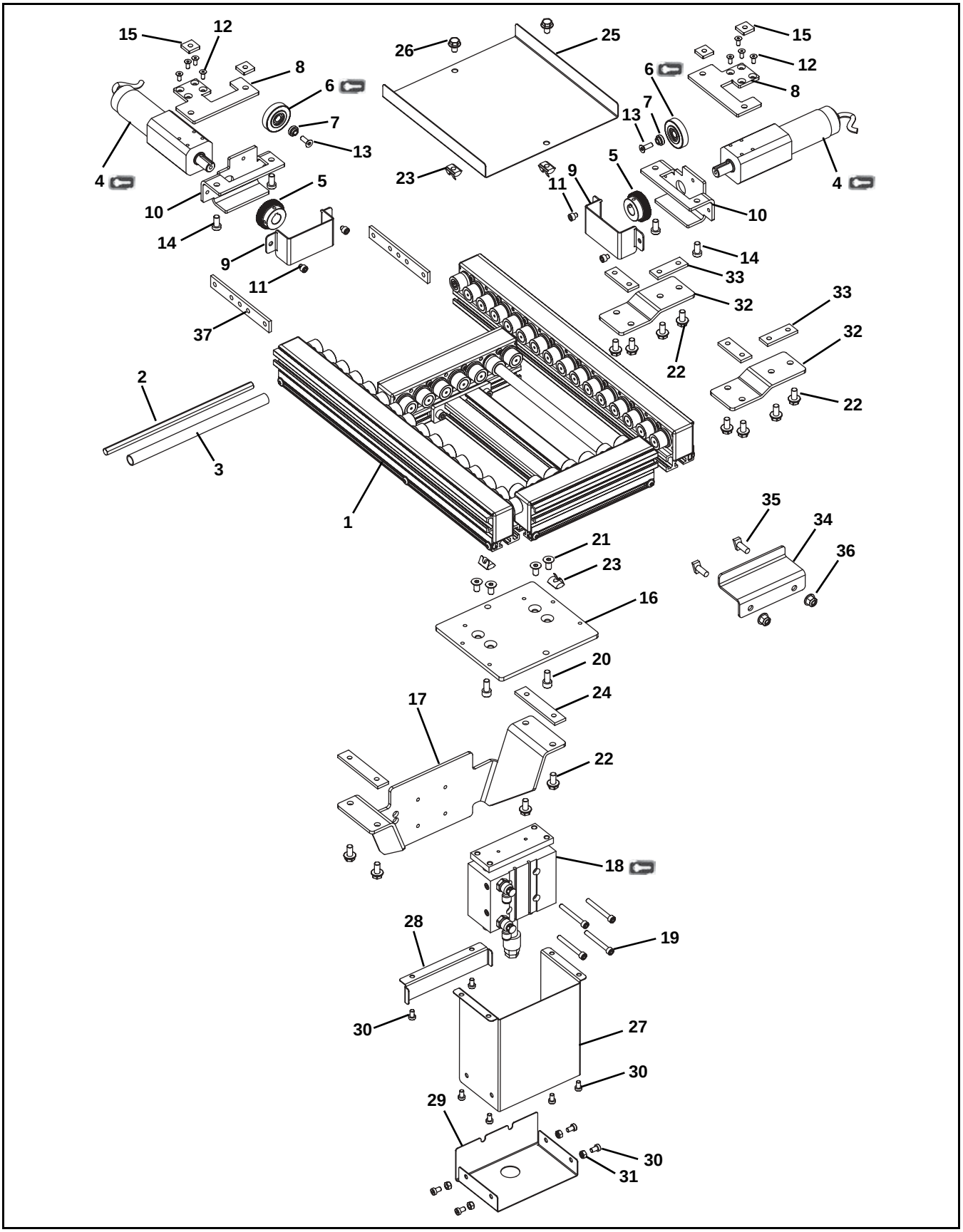
WWW = Pallet Width Reference: 160, 200, 240

LLL = Pallet Length Reference: 160, 200, 240

Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com

Service Parts

Lift and Transfer for Pallets 240 x 320, 280 x 280, 320 x 240 and 320 x 320



Item	Part Number	Description
1	———	For Conveyor Components See Manual 851–960
2	400323-WWW	Hex Shaft
3	400324-WWW	Shaft Cover
4	826–984	Motor, Speed = 10 Mpm, Gear Ratio = 67:1, RPM = 8.7–87
	826–985	Motor, Speed = 15 Mpm, Gear Ratio = 45:1, RPM = 12.9–129
	826–986	Motor, Speed = 20 Mpm, Gear Ratio = 33:1, RPM = 17.6–176
	826–987	Motor, Speed = 25 Mpm, Gear Ratio = 27:1, RPM = 21.5–215
	826–988	Motor, Speed = 37 Mpm, Gear Ratio = 18:1, RPM = 31.7–317
5	400085	Motor Gear
6	400075	Bearing, Idler Gear
7	400076	Bearing Spacer
8	400367	Outside Motor Bracket
9	400368	Motor Cover
10	400385	Motor Mounting Bracket
11	920606M	Socket Head Screw, M6–1.00 x 6 mm
12	930512M	Flat Head Screw, M5–.80 x 12 mm
13	930618M	Flat Head Screw, M6-1.00 x 18 mm
14	950816M	Low Head Cap Screw, M8-1.25 x 16 mm
15	FASN–M8	Square Nut
16	400430-B	Bottom Plate
17	400536-WWW	Cylinder Mount

Item	Part Number	Description
18	804-1142	Cylinder
19	920655M	Socket Head Screw, M6-1.00 x 55 mm
20	920818M	Socket Head Screw, M8-1.25 x 18 mm
21	930816M	Flat Head Screw, M8-1.25 x 16 mm
22	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
23	FASL-M8	Spring Tee Nut
24	FBCS-20x96	Connecting Strip
25	400527-WWW-LLL	Top Cover
26	960812MFY	Flanged Hex Head Cap Screw, M8 x 12 mm
27	400495	Slide Guard
28	400496	Rear Guard
29	400545	Bottom Guard
30	950610M	Low Head Cap Screw, M6-1.00 x 10 mm
31	990602M	Lock Nut, M6-1.00
32	400528	Connecting Bracket
33	FBCS-20x55	Connecting Strip
34	400598	End Stop
35	FATB-20	Twist -In Stud, M8 x 20 mm
36	990812M	Lock Nut, M8-1.25
37	FACS-20x140	Connecting Strip

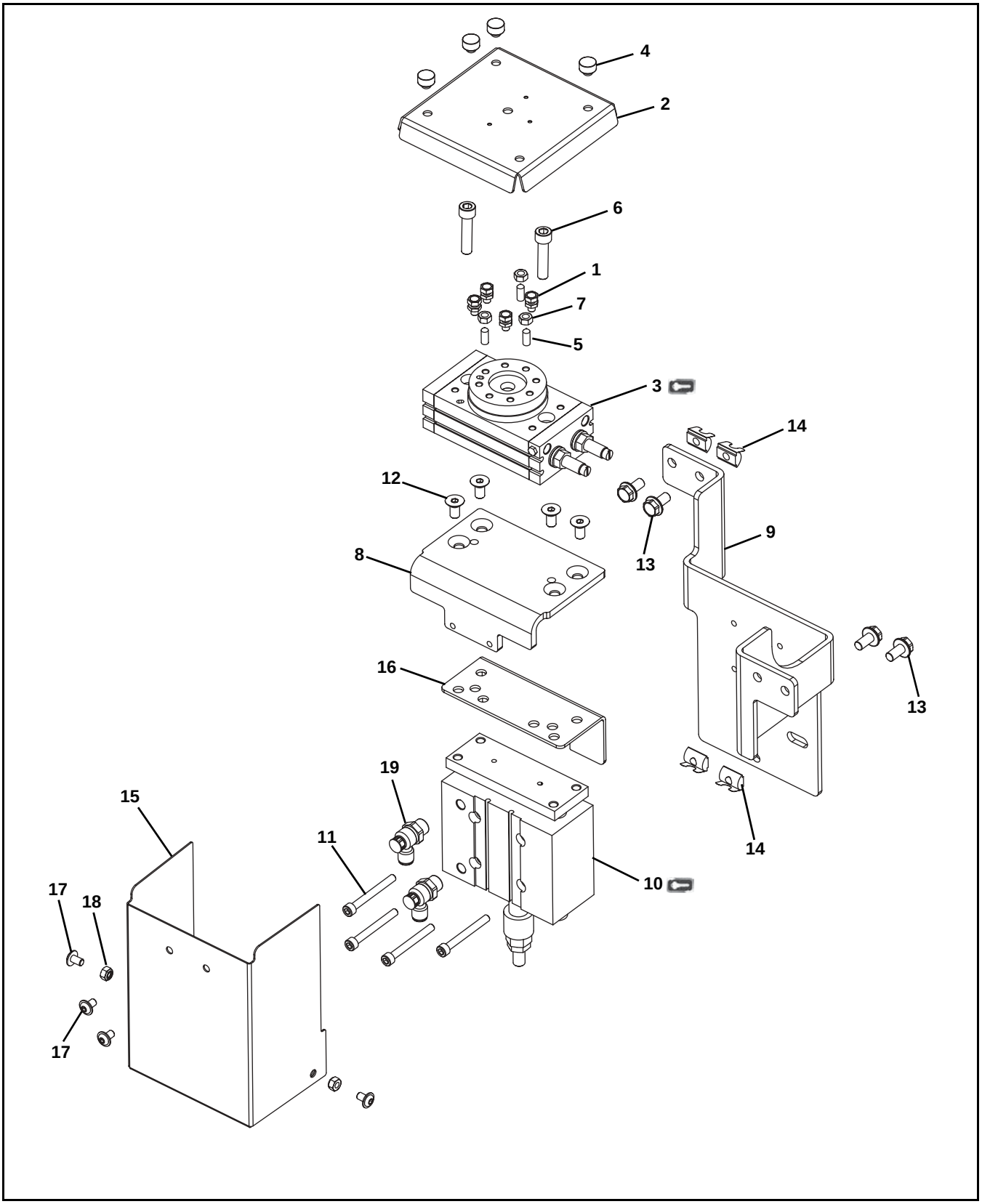
WWW = Pallet Width Reference: 240, 280, 320

LLL = Pallet Length Reference: 240, 280, 320

Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com

Service Parts

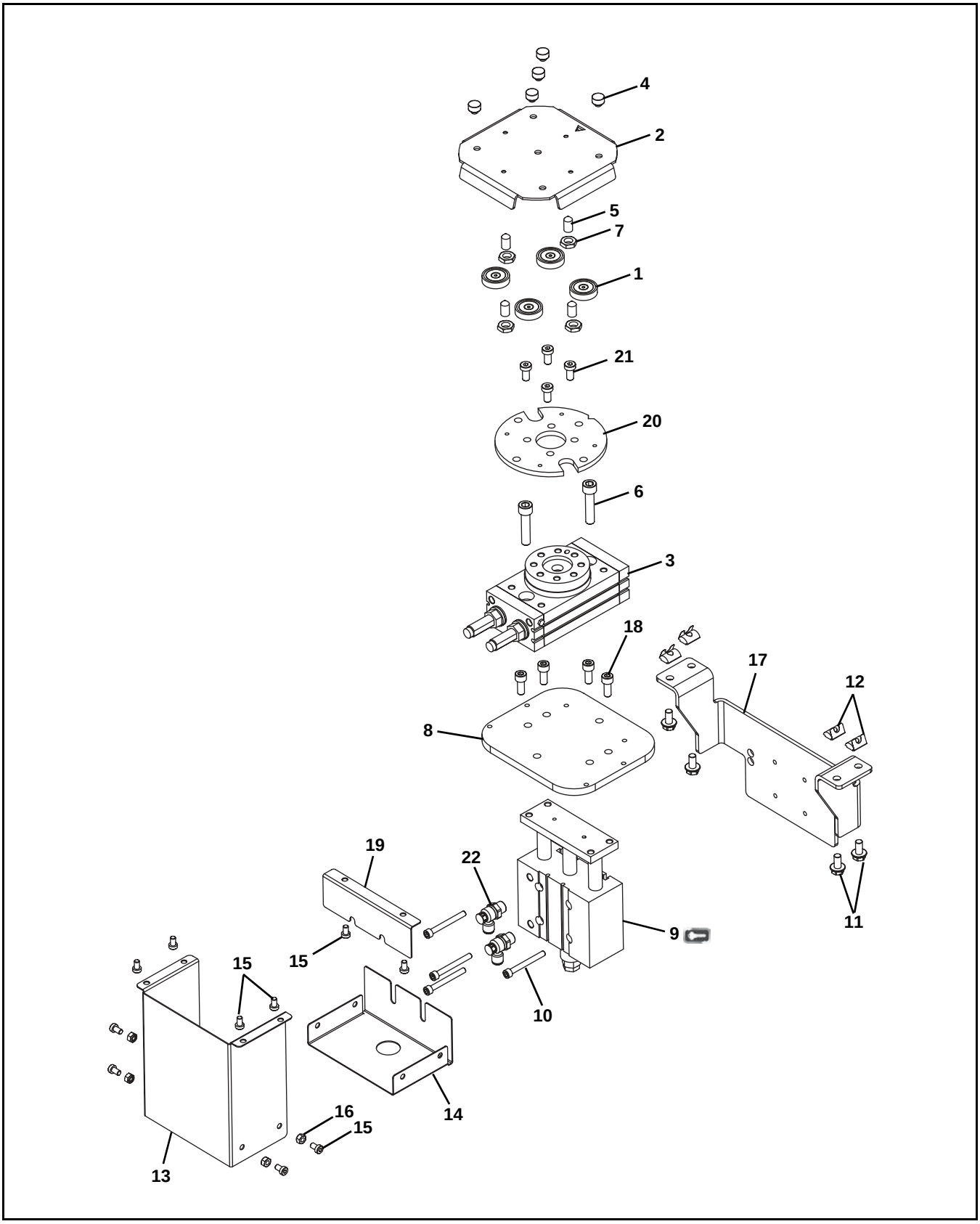
Lift and Rotate for Pallets 160 x 160, 160 x 240, and 200 x 200



Item	Part Number	Description
1	808-045	Magnet Stud
2	400414-WWW-LLL	Top Plate
3	804-1144	Rotary Cylinder
4	807-2641	Bumper
5	807-4278	Cone Set Screw, M6-1.25 x 16 mm
6	920840M	Socket Head Screw, M8-1.25 x 40 mm
7	990601M	Hex Nut
8	400416	Bottom Plate
9	400417-WWW	Cylinder Mounting Plate
10	804-1142	Slide Cylinder
11	920655M	Socket Head Screw, M6-1.00 x 55 mm
12	930816M	Flat Head Screw, M8-1.25 x 16 mm
13	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
14	FASL-M8	Spring Tee Nut
15	400478	Cylinder Guard
16	400485	Rear Cylinder Guard
17	910610MF	Flanged Button Head Screw, M6-1.00 x 10 mm
18	990602M	Nut
19	810-985	Speed Control Fitting
WWW = Pallet width reference: 160, 200, 240		
LLL = Pallet length reference: 160, 200, 240		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Service Parts

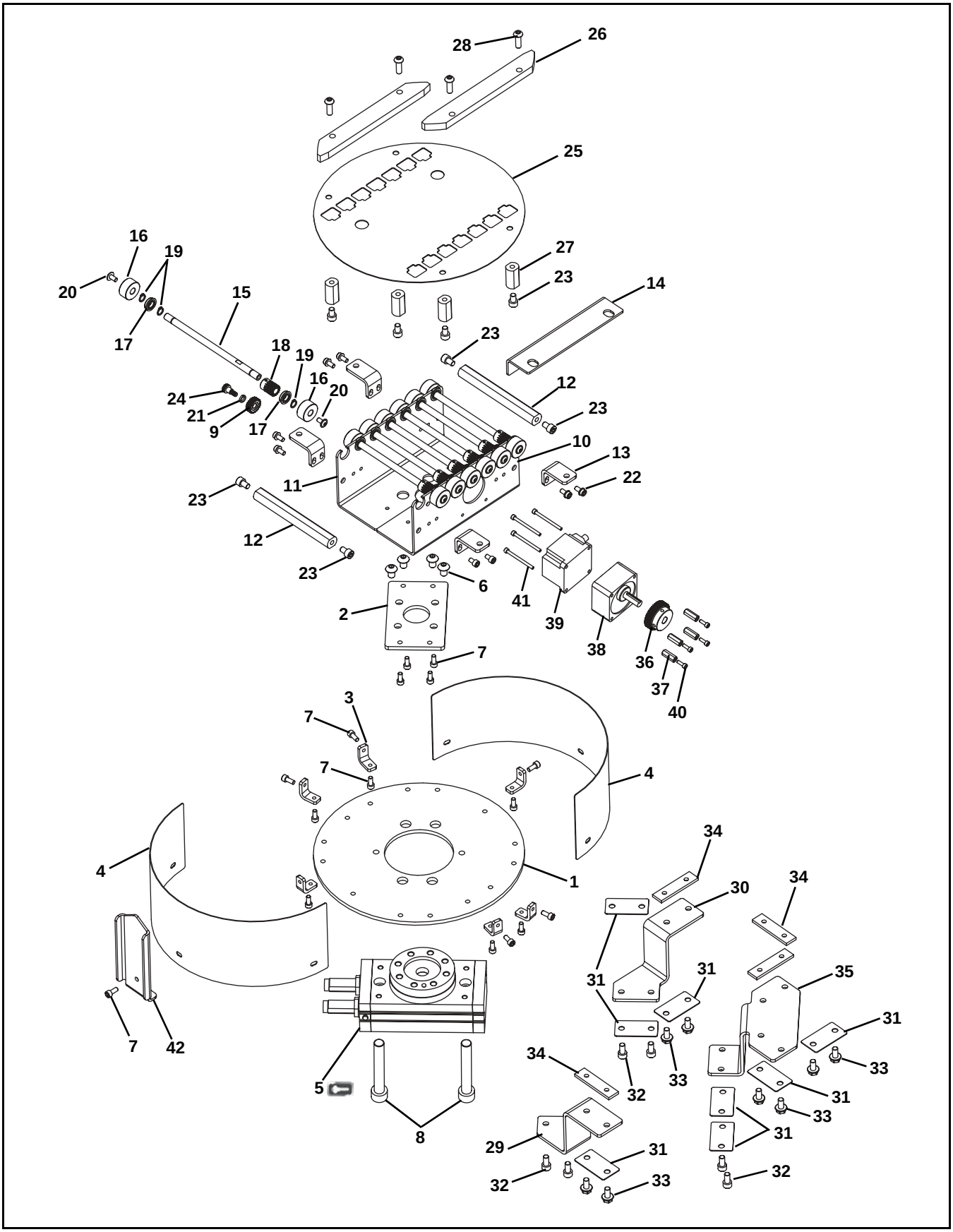
Lift and Rotate for Pallets 240 x 160, 240 x 240, 240 x 320, 280 x 280, 320 x 240 and 320 x 320



Item	Part Number	Description
1	808-045	Magnet Stud
2	400414-WWW-LLL	Top Plate
3	804-1144	Rotary Cylinder
4	807-2641	Bumper
5	807-4278	Cone Set Screw, M6-1.25 x 16 mm
6	920840M	Socket Head Screw, M8-1.25 x 40 mm
7	990601M	Hex Nut
8	400420A	Bottom Plate
	400420B	Bottom Plate for 240 x 160 width only
9	804-1142	Slide Cylinder
10	920655M	Socket Head Screw, M6-1.00 x 55 mm
11	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
12	FASL-M8	Spring Tee Nut
13	400479	Cylinder Guard
14	400480	Rear Cylinder Guard
15	950610M	Low Head Cap Screw, M6-1.00 x 10 mm
16	990602M	Nut
17	400421	Cylinder Mounting Plate
18	920820M	Socket Head Screw, M8-1.25 x 20 mm
19	400481	Slide Guard
20	400419	Round Plate
21	950816M	Low Head Cap Screw, M8-1.25 x 16 mm
22	810-985	Speed Control Fitting
WWW = Pallet width reference: 160, 200, 240		
LLL = Pallet length reference: 160, 200, 240		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Service Parts

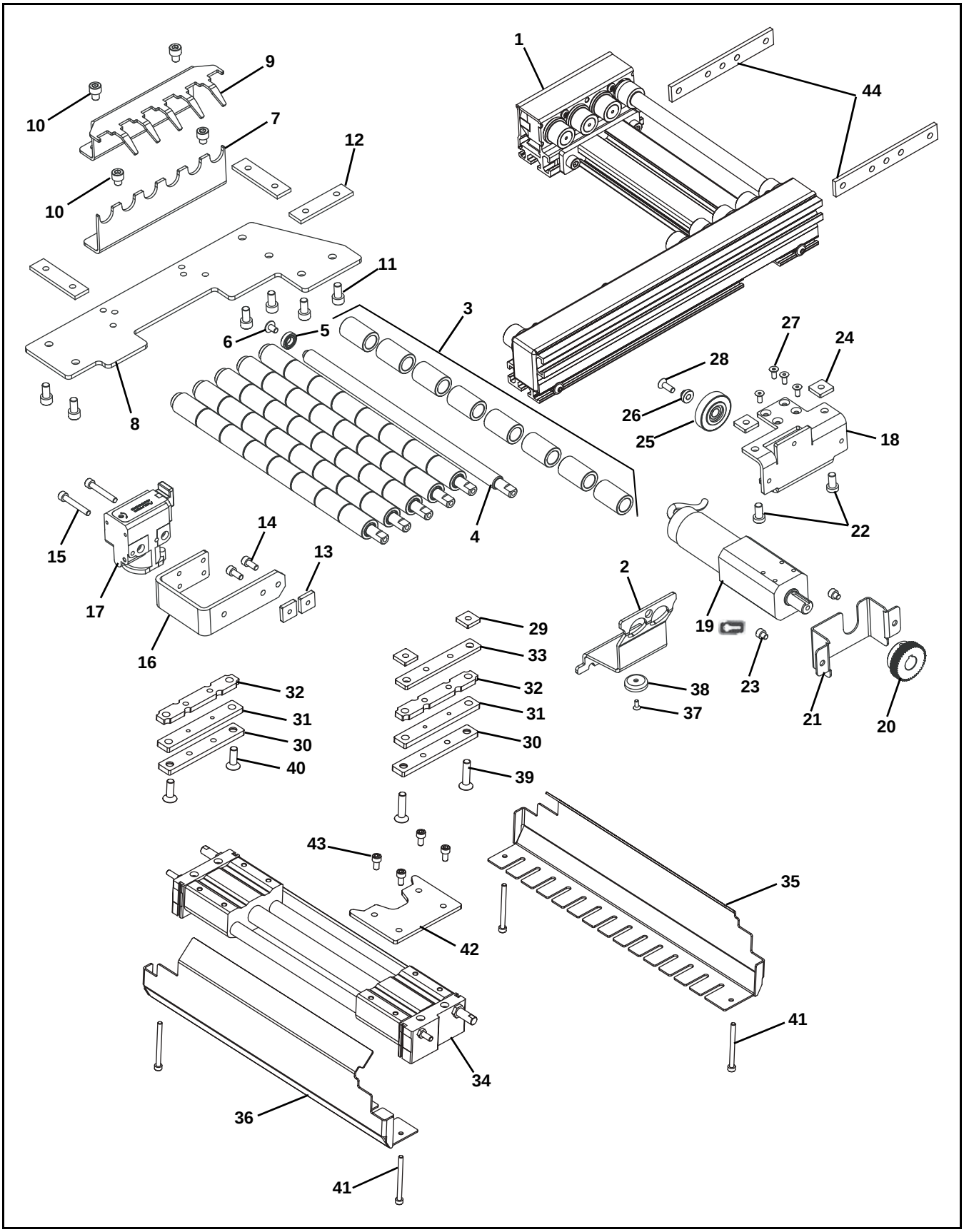
Turn and Transfer



Item	Part Number	Description
1	400488-WWW	Round Plate
2	400489	Top Cylinder Plate
3	400513	Round Guard Bracket
4	400514-WWW	Round Guard
5	804-1105	Cylinder
6	911014M	Button Head Screw, M10-1.50 x 14 mm
7	920612M	Socket Head Screw, M6-1.00 x 12 mm
8	921070M	Socket Head Screw, M10-1.50 x 70 mm
9	400332	Idler Gear, 22 Teeth
10	400507-WWW-LLLA	U Frame Half, A Side
11	400507-WWW-LLLB	U Frame Half, B Side
12	400508-WWW	Driving Shaft
13	400516	Angle Bracket
14	400564-LLL	Sensor Bracket
15	400509-WWW	Driven Shaft
16	400562-F	Fixed Roller
17	802-379	Bearing
18	806-044	Gear
19	807-5008	Retaining Ring
20	910610MF	Flanged Button Head Screw, M6-1.00 x 10 mm
21	911-224	Washer
22	920610M	Socket Head Screw, M6-1.00 x 10 mm
23	920812M	Socket Head Screw, M8-1.25 x 12 mm
24	940808M	Shoulder Screw, 8 mm Dia. X 8 mm
25	400512-WWW-LLL	Top Cover
26	400561-WWW-LLL	Pallet Guide Bar
27	400563	Top Cover Post
28	910825M	Button Head Screw, M8-1.25 x 25 mm
29	400490-LH	Z-Bracket, Left Hand
30	400490-RH	Z-Bracket, Right Hand
31	400569	Shim Plate
32	920816M	Socket Head Screw, M8-1.25 x 16 mm
33	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
34	FBCS-20x76	Connecting Strip
35	400487	Angle Mounting Plate
36	400499	Motor Gear, 42 Teeth
37	807-5006	Hex Standoff
38	820-679	Gear Reducer, 15:1
	820-680	Gear Reducer, 20:1
39	826-678	Brushless DC Motor
40	920412M	Socket Head Screw, M4-.70 x 12 mm
41	920450M	Socket Head Screw, M4-.70 x 50 mm
42	400595	Stop Bracket
WWW = Pallet width reference: 160, 200, 240, 280, 320		
LLL = Pallet length reference: 160, 200, 240, 280, 320		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Service Parts

Pallet Pusher

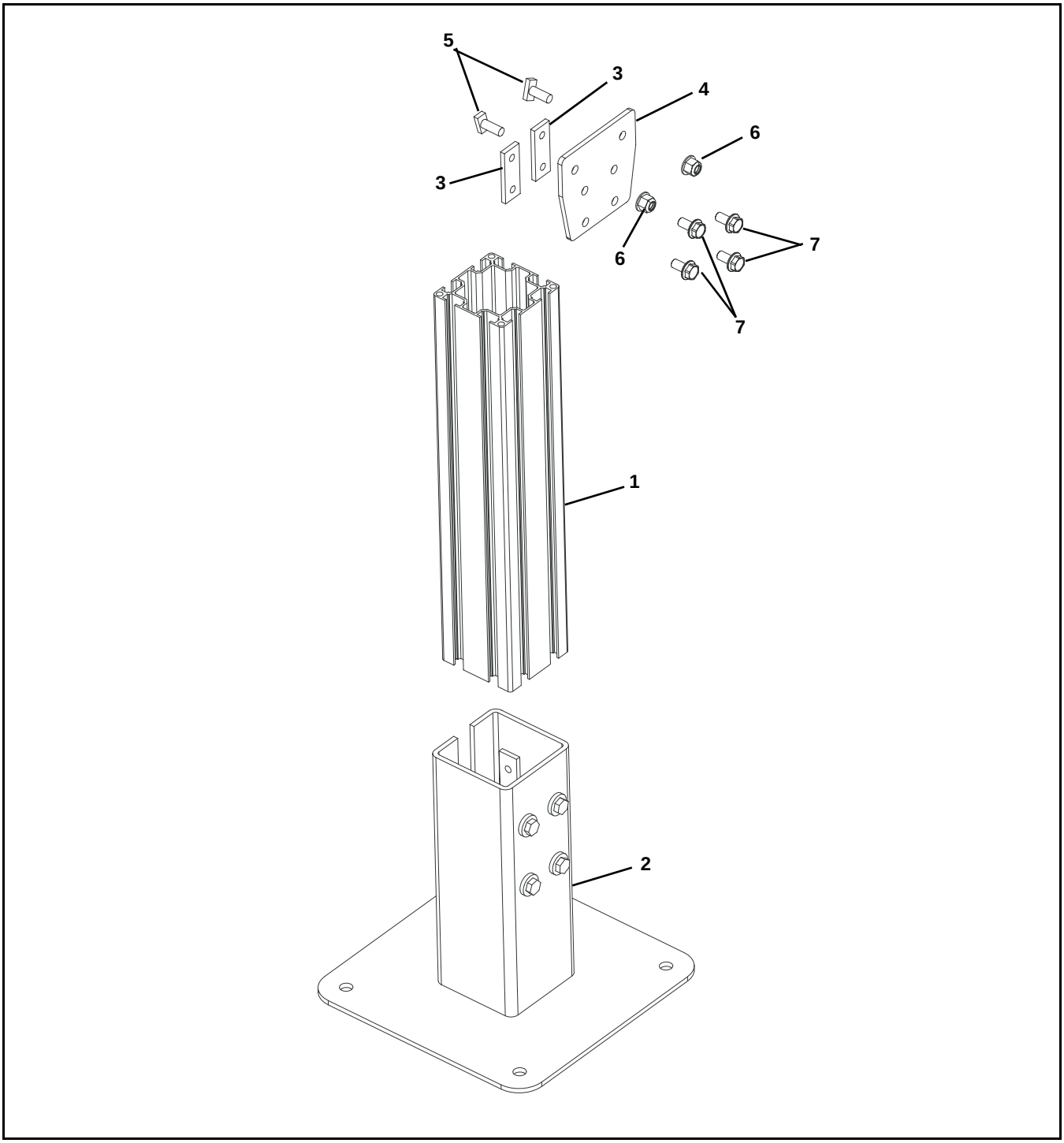


Item	Part Number	Description
1	———	For Conveyor Components See Manual 851-960
2	400438	Corner Push Plate
3	400329-40	Roller
4	400433-WWW	Roller Shaft
5	802-397	Bearing
6	910610MF	Flanged Button Head Screw, M6-1.00 x 10 mm
7	400431-LLL	Angle Bearing Clamp
8	400455-LLL	Mounting Plate
9	400532-LLL	Bearing Hold Down
10	920810M	Socket Head Screw, M8-1.25 x 10 mm
11	920816M	Socket Head Screw, M8-1.25 x 16 mm
12	FBCS-20x76	Connecting Strip
13	FASN-M6	Square Nut, M6
14	920614M	Socket Head Screw, M6-1.00 x 14 mm
15	920640M	Socket Head Screw, M6-1.00 x 40 mm
16	400454-A	End Plate for Widths 160 and 200
	400454-B	End Plate for Widths 240, 280 and 320
17	804-1198	Pallet Stop for Widths 160 and 200
	804-1092	Pallet Stop for Widths 240, 280 and 320
18	400365	Motor mounting Bracket
19	826-984	Motor, Speed = 10 Mpm, Gear Ratio = 67:1, RPM = 8.7-87
	826-985	Motor, Speed = 15 Mpm, Gear Ratio = 45:1, RPM = 12.9-129
	826-986	Motor, Speed = 20 Mpm, Gear Ratio = 33:1, RPM = 17.6-176
	826-987	Motor, Speed = 25 Mpm, Gear Ratio = 27:1, RPM = 21.5-215
	826-988	Motor, Speed = 37 Mpm, Gear Ratio = 18:1, RPM = 31.7-317

Item	Part Number	Description
20	400085	Motor Gear
21	400366	Drive Cover
22	950816M	Low Head Cap Screw, M8-1.25 x 16 mm
23	920606M	Socket Head Screw, M6-1.00 x 6mm
24	FASN-M8	Square Nut, M8
25	400075	Bearing, Idler Gear
26	400076	Bearing Spacer
27	930512M	Flat Head Screw, M5-.80 x 12 mm
28	930816M	Flat Head Screw, M8-1.25 x 16 mm
29	FASN-M8	Square Nut, M8
30	400597-A	Bottom Spacing Plate
31	400597-B	Middle Spacing Plate
32	400597-C	Inner Top Spacing Plate
33	400597-D	Outer Top Spacing Plate
34	809-1258	Slide Cylinder
35	400497-WWWA	Guard A Side
36	400497-WWWB	Guard B Side
37	930410M	Flat Head Screw, M4-.70 x 10 mm
38	804-044	Magnet
39	930835M	Flat Head Screw, M8-1.25 x 35 mm
40	930825M	Flat Head Screw, M8-1.25 x 25 mm
41	920560M	Socket Head Screw, M5-.80 x 60 mm
42	400439	Cylinder Top Plate
43	920612M	Socket Head Screw, M6-1.00 x 12 mm
44	FACS-20x140	Connecting Strip
WWW = Pallet Width Reference: 160, 200, 240, 280, 320		
LLL = Pallet Length Reference: 160, 200, 240, 280, 320		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Service Parts

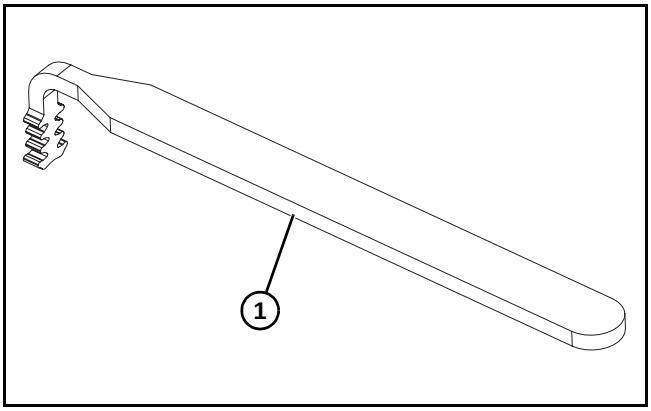
Post Support Stand



Item	Part Number	Description
1	FBSB-80X80-LLLLL-M	Beam
2	FBFT-80B	Foot Assembly
3	FBCS-20X55	Connecting Strip
4	400278	Top Plate
5	FATB-20	Twist-In Stud, M8 x 20 mm
6	990812M	Lock Nut, M8

Item	Part Number	Description
7	960816MFY	Flanged Hex Head Cap Screw, M8 x 16 mm
LLLLL = Part length in mm with one decimal place.		
Length Example: Length = 485 mm LLLLL = 04850		
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

Sprocket Removal Tool



Item	Part Number	Description
1	400571	Sprocket Removal Tool
Service parts can be obtained through your distributor or directly from Dorner Mfg. Corp. (800) 397-8664 or customerservice@dorner.com		

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><th></th><th colspan="9">Product Type</th></tr>
<tr><th></th><th colspan="8">Standard Products</th><th>Engineered to order parts</th></tr>
<tr><th>Product Line</th><th>Conveyors</th><th>Gearmotors & Mounting Packages</th><th>Support Stands</th><th>Accessories</th><th>Spare Parts (non-belt)</th><th>Spare Belts - Standard Flat Fabric</th><th>Spare Belts - Cleated & Spec. Fabric</th><th>Spare Belts - Plastic Chain</th><th>All equipment and parts</th></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="12">non-returnable</td><td rowspan="12">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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