

PALLET CONVEYOR

PARTS & OPERATORS MANUAL



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Norfield Industries

422 Otterson Dr.
Chico, CA 95928

Technical Support: (530) 891-4214 Parts: (800) 824-6242

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Norfield Industries is the name that represents Quality, Reliability, Support, Innovation and True Customer Service. We have been dedicated to providing quality products and excellent customer service for more than 40 years. *Norfield Industries* has earned a reputation in the prehanging industry for setting standards for reliable machinery, full technical support, machine parts, full line industrial woodworking tools and supplies and a team of customer care representatives to support you! Our factory-trained technical personnel are ready to assist you on the telephone or in your shop.

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Safety

Safety considerations are an important element of machine installation and operation. Actively maintaining a safety mindset about yourself and others while working around or on the equipment is of primary importance. Operators and maintenance personnel should refer to the safety information on the following pages to familiarize themselves with warning labels and practices providing for safe operation and servicing of this machine.



Danger indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or injury.



Warning indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



Caution indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.



Caution, without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided may result in property damage (i.e. not personal injury).



Notice indicates important information that if not followed may **CAUSE** damage to the equipment.



Mandatory Action conveys an action step that must be taken to avoid a hazard.



Do not operate this machine unless all guards are in place and working correctly. If any guards or hazard labels are missing or damaged call Norfield's service department immediately and request a replacement at 800-824-6242.



Read and understand the operator's manual before using this machine. Failure to follow proper operating instructions could result in death or serious injury.



This machine, when in operation, produces wood chips and dust. The operator and all persons in the work area **MUST** wear approved eye protection with permanently attached, rigid plastic side shields. These safety glasses must conform to ANSI Z87.1 standards and will have "Z87" printed on the lens.



 **WARNING**



This machine, when in operation, produces a noise level greater than 85dB. The operator and all persons in the work area **MUST** wear approved hearing protection. OSHA has determined that a noise level in excess of 85dB average in 8 hours can cause permanent hearing damage. We recommend that hearing protection be worn even if the decibel level is below 85dB.

 **WARNING**

Certain types of wood dust can cause allergic reactions, Sawdust has been determined to be a **Group A** carcinogen by the International Agency for Research on Cancer (IARC). A dust collection system or an approved personal dust mask **MUST** be used during the operation of this equipment.

 **WARNING**



This machine has moving parts that loose clothing and long hair can become entangled in. Take care not to become caught between the work material and the feed mechanisms or any other moving components.

 **WARNING**

Before beginning any service repairs, general maintenance, or adjustments you **MUST** follow proper Lockout Tag-Out procedures. OSHA regulation 1910.147 establishes a minimal lockout tag-out procedure to assist employers in development of their own procedures.

 **WARNING**

Only trained personal that have read and understand the operator's manual and all the safety precautions may operate this machine.

 **WARNING**

Inspect the machine at the beginning and end of each shift for damaged or cracked components such as, but not limited to, saw blades, router bits, drill bits, and boring bits.

 **WARNING**

Never leave this machine unattended while it is in operation. Make sure that all electrical and air is in the off position when the machine is not in use or is unattended and that any cutting blades have come to a complete stop.

 **WARNING**

Do not attempt to clean material from this machine until all the cutting blades have come to a complete stop. Even when the machine has been turned to the off position it may take up to several minutes for the blades to coast-down to a complete stop.

 **WARNING**

Woodworking machinery is inherently dangerous, common sense and good safety practices are your best defense against injury.

NOTICE

If you have any questions regarding the correct operation of the machine and safety procedures in this manual call the Norfield Industries Service Department at 800-824-6242.

Lockout Procedures

The following is an example of the minimum requirements for a lockout/tagout procedure. Norfield strongly recommends that your company establish its own written procedure. OSHA Regulation 1910.147 establishes a minimal lockout/tagout procedure to assist employers in the development of their own Lockout Procedures.

All employees will comply with these procedures. All equipment and/or circuits will be locked out to protect against accidental or inadvertent operation when such operation of the equipment and/or circuits could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device bearing a lock.

Lockout Responsibility

The primary responsibility for the proper lockout of equipment and /or circuits on a maintenance or repair project belongs to the project Supervisor and/or Foreman. However, this does not alleviate any sub-contracted maintenance or repair personnel from insuring that proper lockout/tagout procedures are followed at all times. The Supervisor and/or Foreman will insure that each employee is properly instructed in the safety significance of lockout procedures.

Preparation for Lock-Out of Circuits and Equipment

In the following steps, when more than one individual is involved with the project and required to lock out the equipment and/or circuits, each employee will place their own personal lock on the energy isolating devices. A lock for each individual involved is the preferred method for locking out energy sources. If this not feasible, the designated individual to the work crew (e.g. the project Supervisor or Foreman) with complete knowledge of who is on the crew may be designated by the work crew as the individual responsible for carrying out all steps of the lockout procedure. That individual will inform the work crew when it is safe to work on the equipment and/or circuits. Additionally, the designated individual will not remove a crew lock until it has been verified that ALL individuals are clear.

1. Notify all affected employees and customers that a lockout is required and the reason for it.
2. If the equipment is in operation, after obtaining approval, shut it down by the normal stopping procedures.
3. Operate the switch, valve or other energy isolating devices so that all energy sources (electrical, mechanical, pneumatic, hydraulic, etc.) are disconnected or isolated from the equipment and/or circuits. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air/gas, steam or water pressure, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

4. All affected employees are then required to lockout the energy devices with their individual lock.

5. After insuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operation controls to make certain the equipment will not operate. In the event that electrical circuits have been locked out, insure that the circuits are de-energized by applying an appropriate voltage tester that itself has been tested on live circuits. Be sure to return all operating controls to the neutral position.

The equipment and/or circuits are now locked out.

Restoring Equipment and/or Circuits to Service

1. When the job is complete and the equipment or circuits are ready for testing or normal service, check the equipment and/or circuits to insure that no one is exposed.

2. When the equipment and/or circuits are clear, remove all locks. The energy isolating devices may be operated to restore energy to the equipment and or circuits.

Introduction

Congratulations on your purchase of a *Norfield Industries* Pallet Conveyor. You can be assured that this machine was constructed and assembled to a set of rigid specifications by trained workers who take pride in the quality of their work. To safely operate this machine it is vital that you read and understand all safety and operator instructions.

The Pallet Conveyor is capable of operating as a standalone machine or it can be integrated into one of Norfield's door loading systems. It provides a simplified way of feeding pallets of doors into a loader without requiring the operator to leave the machine controls.

Prior to shipment from our factory every Norfield machine is rigorously inspected and tested to ensure it provides the highest quality product for your business.

In order for this machine to provide you with a long period of continuous and trouble free service, it is necessary that it be properly installed, operated, and maintained. We urge you to study the contents of this manual and be guided by the suggestions herein. We strongly recommend that a periodic review of the contents of this manual be made to maintain a high level of competency when operating this machine.

Theory of Operation

The Norfield Pallet Conveyor is a drag chain style conveyor. It is independently operated with a pendent control for forward and reverse motion. Speed of conveyance is controlled via a variable speed drive located within the electrical enclosure.

If sold with a Norfield loader a photo eye and reflector are included and mounted to the loader. When the photo eye's view of the reflector is broken by a loaded pallet, forward motion of the conveyor is disabled. This is intended to prevent the operator from driving a loaded pallet against the loader feed table. Once the door stack is below the photo eyes beam the conveyor can be driven forward again. This will load a new pallet of doors and eject the empty pallet out under the loader table.

When driving a pallet of doors into position for the loader, be sure to drive the pallet at full speed until the sensor beam is broken. The photo eye is set back slightly from the final stack position to compensate for coasting of the conveyor. If the conveyor is not as full speed when the photo eye is triggered then there may be insufficient coasting and the pallet can stop too far from the loader table.

Specifications

System Specifications	
Electrical Requirement	208-230, 3 Phase, 60 Hz, 20 Amps
Shipping weight	800 lbs
Minimum Floor space	Machine Foot Print, 7'6"W X 17'L x 18"H

Warranty

Part Replacement Policy

The following will explain *Norfield Industries* policy for handling warranty claims. Our "Limited Warranty" is stated below for your reference.

Our warranty covers the replacement of defective parts; however, the labor to replace the parts on the machine is not included.

Upon notification of a warranty claim, Norfield will either refer the customer to a regional repair facility or replacement parts will be shipped from the factory. Parts shipped from the factory will be invoiced to the customer's account until the warranty claim is verified. To obtain verification, the defective parts must be returned to Norfield within thirty (30) days from the date of the claim for inspection. **Before returning the defective parts, please contact Norfield to obtain a "Return Material Authorization Number".**

All parts manufactured by Norfield and found to be defective will be given appropriate credit. All parts not manufactured by Norfield are covered by their respective manufacturer's warranty and will be sent to the original manufacturer for credit. When, and if, credit is issued to Norfield, we will in turn issue credit to your account.

Limited Warranty

Norfield warrants any and all such parts manufactured by them against defects in material or workmanship for a period of one-year from date of purchase. Norfield's liability under this warranty shall be limited to replacing free of charge, F.O.B. Chico, California, any parts proved to be defective within the period of the warranty. Norfield will not be responsible for transportation charges or consequential damages.

Norfield will not in any case or under any circumstances be liable or responsible for any injuries to persons or property suffered as a result of the use or operation of the machine, or losses or costs resulting from any period of non-operation for any reason.

Parts which are claimed to be defective, but show tangible evidence of abuse or negligence will not be replace on a no-charge basis.

Norfield reserves the right, at its own discretion without notice and without making similar changes in machinery previously manufactured, to make changes in material, design, finish and/or specifications.

Any changes, alteration or installation of additional equipment to this machine without first obtaining written consent from Norfield may void this warranty. Determination of the effect of any alteration on this warranty is left to the discretion of Norfield.

Norfield makes no written or implied warranty with respect to electrical equipment, including motors or other purchased components used in the manufacture of the machine. All such parts are covered by their respective manufacturer's warranty. We do endeavor, at all times, to purchase only those components manufactured by responsible manufacturers which we have found to be reputable in their handling of warranties. Norfield expressly disclaim any warranty, expressed or implied, other than those which are expressly made in this limited warranty.

Contact & Order Information

Norfield Industries is the name that represents Quality, Reliability, Support, innovation and True Customer Service. We are dedicated to providing world class customer care. Norfield has been providing quality care in the pre-hanging door industry for over 40 years and has earned a reputation for setting the standard for innovation, reliability, full technical support, machine parts and a full line of industrial woodworking tools and accessories. Our team of Customer Care Representatives is available to support you.

If you need to contact the Norfield Service department, please have the following information available:

- Serial Number of the machine.
- Model of the Machine.
- Date of purchase or date that the machine was installed.
- A description of the problem and in what part of the machine the problem is occurring.

For warranty issues and service questions contact the Norfield Service Department at (800) 824-6242.

To order replacement components and consumable items, such as drill and router bits, saw blades and other accessories, contact a Norfield Tools and Supply Customer Care Representative at (800) 824-6242.

Setup

Shipping Damage & Shortages

Before and after the crated machine is unloaded from the truck the crate should be inspected for any signs of damage. If suspected damage is found it must be noted on the bill of lading and signed by the driver and the person receiving the shipment. After the machine has been uncrated inspect it and all other contents of the crate for shipping damage. In the event that damage has occurred in transit notify the freight carrier and **Norfield Industries** immediately. Inspect the complete shipment against the packing slip to make sure all items listed are accounted for. If any shortages are noticed, the freight carrier and **Norfield Industries** should be notified immediately. While any shortages, other than back orders, or freight damages are the complete responsibility of the freight carrier, **Norfield Industries** desires to be notified so that the replacement of lost or damaged parts can be expedited.

Installation

If the purchase of your Pallet Conveyor did not include a startup by a Field Service Technician, it will be necessary to follow these instructions closely to insure proper operation.

1. Review the pre-installation packet that was sent prior to the shipment of your new machine.
2. Uncrate the machine and inspect for shipping damage and shortages.
3. Position the machine in its permanent location.
4. Provide the proper electrical receptacle.
5. Install Lockout/tag-out devices on all power sources at the machine.

Unpacking and Placement

Select a location for your machine that is level. De-crate the machine near its final location to minimize potential damage during uncrated transport. Move the machine to its permanent position within your shop.

Electrical Supply and Connection

Before connecting to a power receptacle be sure that the electrical requirements depicted in the **Specifications** section match those of your service. All power must be disconnected from the machine when maintenance or adjustments are performed. Be sure to keep the power cord clear of the operator and material movement.

Auto Stop Photo Eye

If supplied for use with a Norfield loader a photo eye is included and should already be installed on the loader frame. Attach the yellow M12 connector to the photo eye located on the downstream side of the loader frame.

Width Adjustment

With pallet sizes varying, the Pallet Conveyor is adjustable to the size of pallets that will be used in your shop. The Drive Shaft that comes with the conveyor is 60" long. This will make the width of the chains, center to center, approximately 73-5/8". To adjust the conveyor to the width of the pallets in your shop, the drive shaft can be trimmed to your desired length.

Pallet Conveyor

Securing Pallet Conveyor

Once the Pallet Conveyor has been moved to the permanent location, the conveyor will need to be secured to the floor using the holes in the Rail Supports. Use anchors with a minimum size of 3/8 inch. If used with a Norfield loader it is also recommended that the loader table be anchored to the floor as well. Anchoring the loader table will prevent heavy loads from bumping the table out of alignment with downstream equipment. To be sure the conveyor is in the correct position under the loader table, the conveyor motor should be located directly in front of the loader table legs. As shown in Fig 1-1.

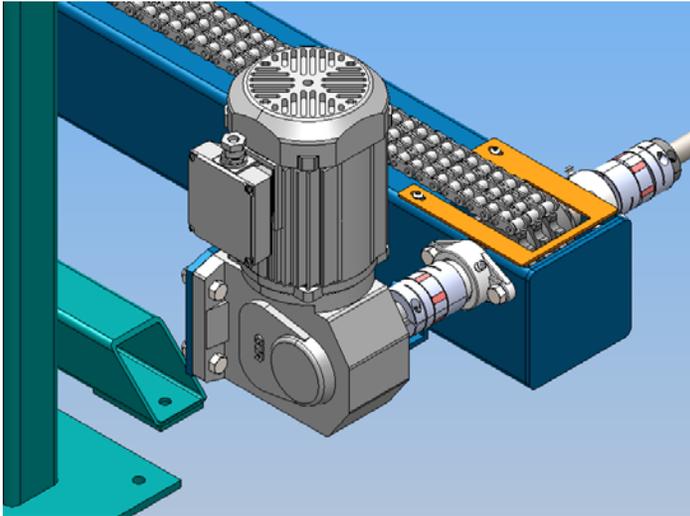
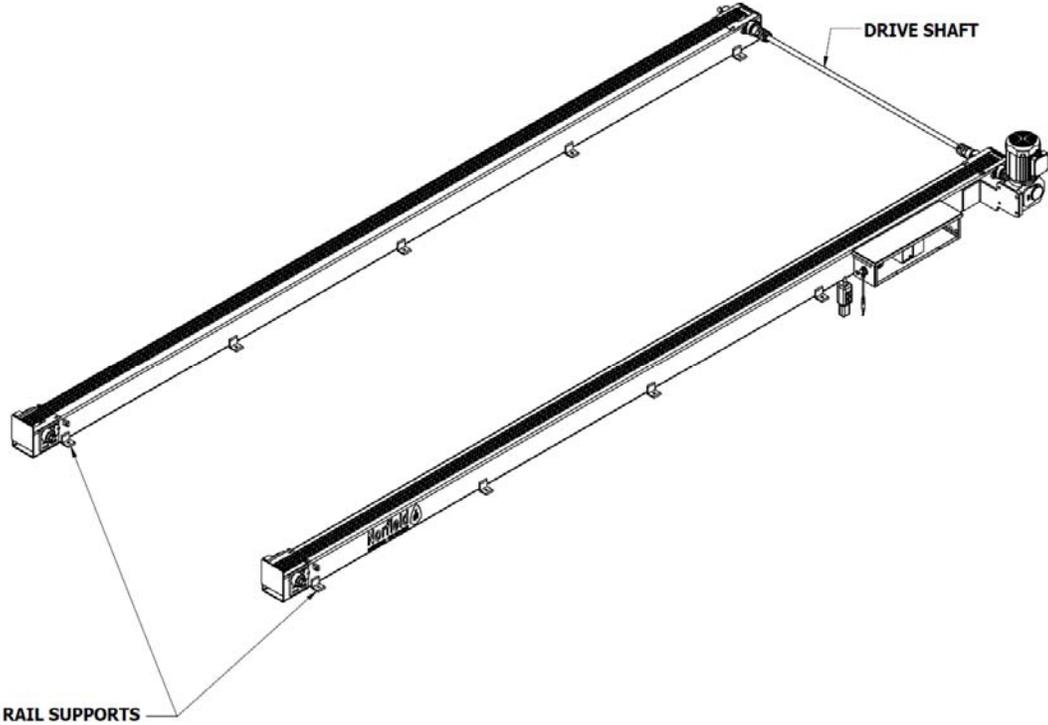
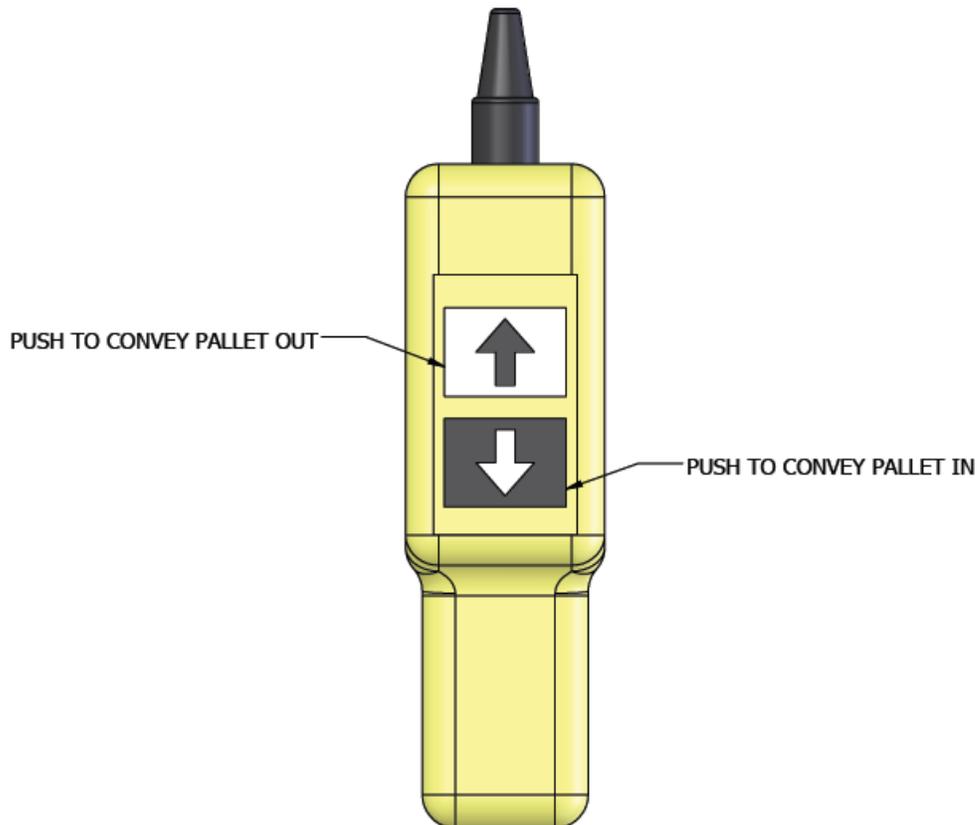


Fig. 1-1

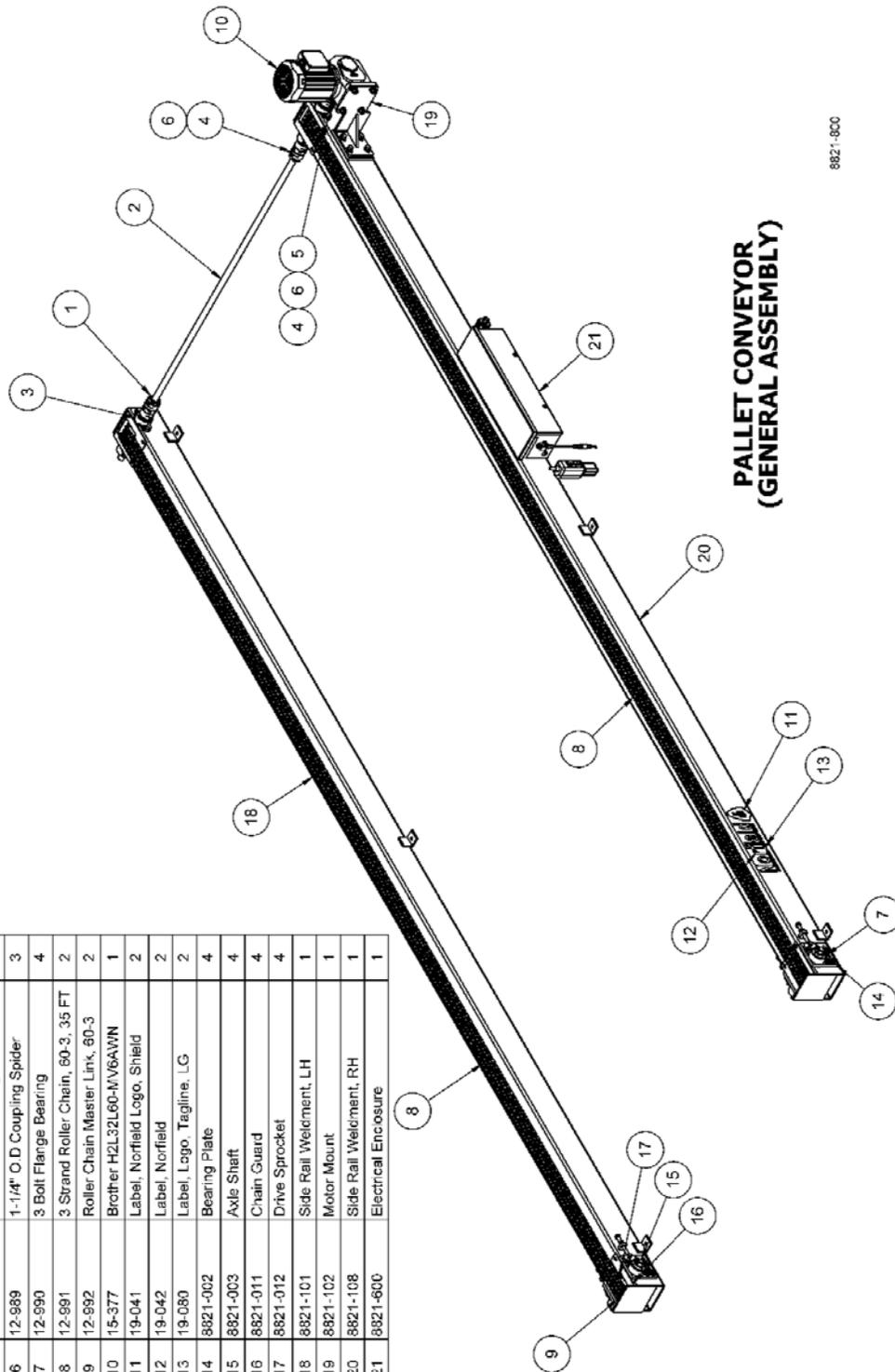
Startup

With the conveyor in the correct position, anchored to the floor, drive shaft in place and electrical power cord plugged in, the conveyor is ready for production. For convenience we recommend locating the operator pendent on the front of the loader near its operator interface.



Parts and Assembly Drawings

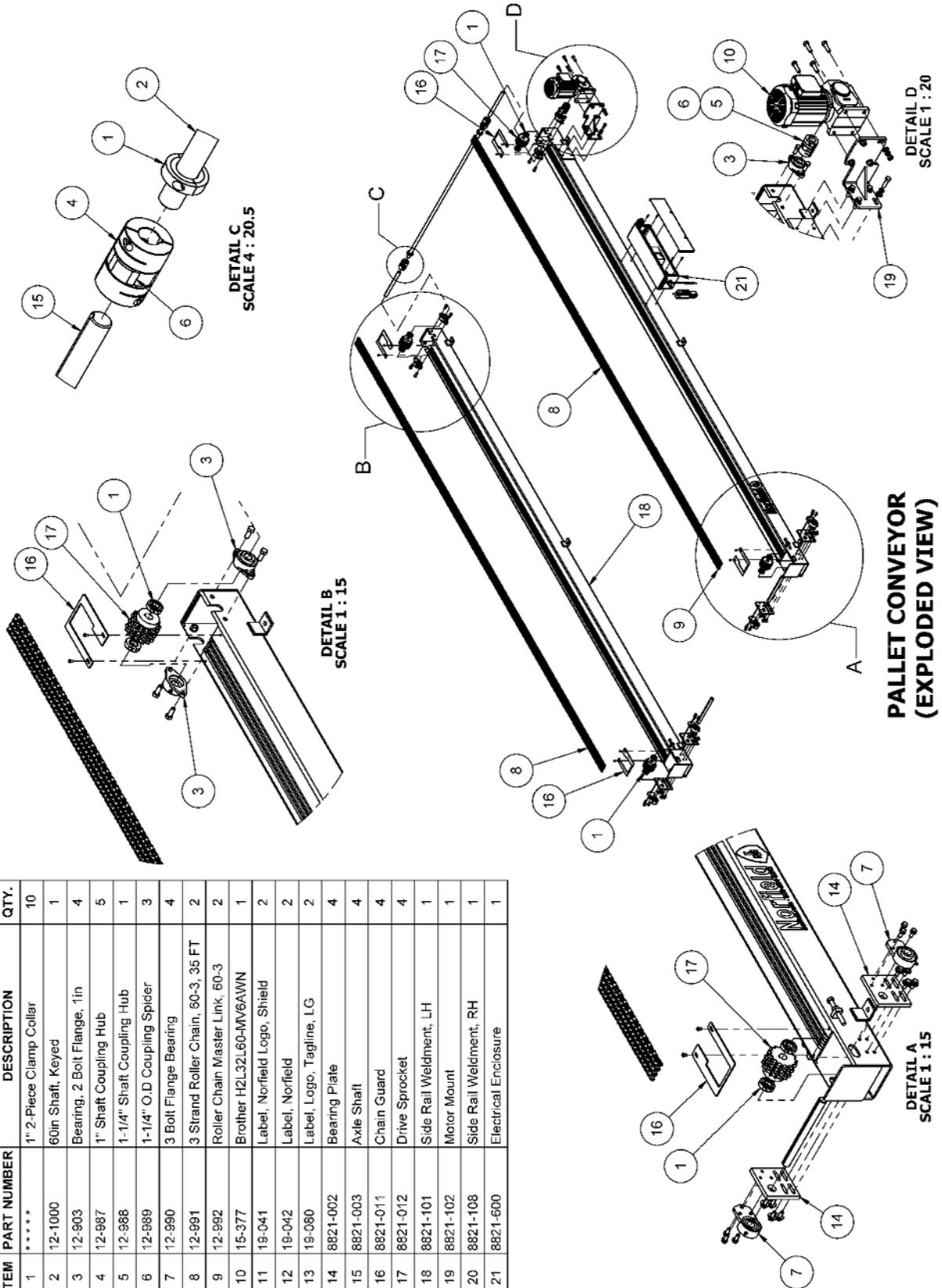
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	*****	1" 2-Piece Clamp Collar	10
2	12-1000	60in Shaft, Keyed	1
3	12-903	Bearing, 2 Bolt Flange, 1in	4
4	12-987	1" Shaft Coupling Hub	5
5	12-988	1-1/4" Shaft Coupling Hub	1
6	12-989	1-1/4" O.D Coupling Spider	3
7	12-990	3 Bolt Flange Bearing	4
8	12-991	3 Strand Roller Chain, 50-3, 35 FT	2
9	12-992	Roller Chain Master Link, 60-3	2
10	15-377	Brother H2L32L60-MV6AWN	1
11	19-041	Label, Norfield Logo, Shield	2
12	19-042	Label, Norfield	2
13	19-080	Label, Logo, Tagline, LG	2
14	8821-062	Bearing Plate	4
15	8821-003	Axle Shaft	4
16	8821-011	Chain Guard	4
17	8821-012	Drive Sprocket	4
18	8821-101	Side Rail Weldment, LH	1
19	8821-102	Motor Mount	1
20	8821-108	Side Rail Weldment, RH	1
21	8821-600	Electrical Enclosure	1



**PALLET CONVEYOR
(GENERAL ASSEMBLY)**

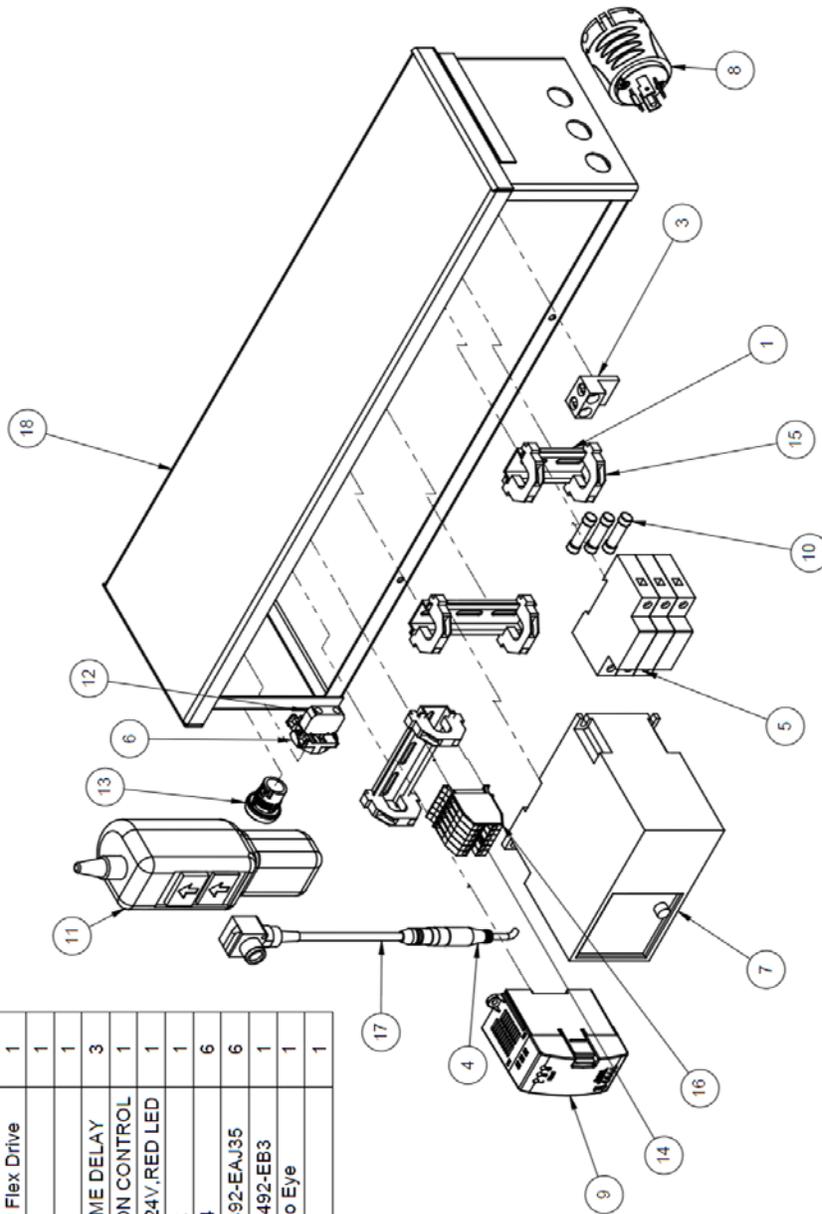
8821-800

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	*****	1" 2-Piece Clamp Collar	10
2	12-1000	60in Shaft, Keyed	1
3	12-903	Bearing, 2 Bolt Flange, 1in	4
4	12-987	1" Shaft Coupling Hub	5
5	12-988	1-1/4" Shaft Coupling Hub	1
6	12-989	1-1/4" O.D Coupling Spider	3
7	12-990	3 Bolt Flange Bearing	4
8	12-991	3 Strand Roller Chain, 60-3, 35 FT	2
9	12-992	Roller Chain Master Link, 60-3	2
10	15-377	Brother H2L32L60-MV6AWN	1
11	19-041	Label, Norfield Logo, Shield	2
12	19-042	Label, Norfield	2
13	19-080	Label, Logo, Tagline, LG	2
14	8821-002	Bearing Plate	4
15	8821-003	Axle Shaft	4
16	8821-011	Chain Guard	4
17	8821-012	Drive Sprocket	4
18	8821-101	Side Rail Weldment, LH	1
19	8821-102	Motor Mount	1
20	8821-108	Side Rail Weldment, RH	1
21	8821-600	Electrical Enclosure	1



8821-900

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	*****	11-220 DIN RAIL X 3"	1
2	*****	DIN RAIL x 4-1/4" (11-220)	2
3	11-055	Ground Bar	1
4	11-1217	AB 889D-F4AC-10 Cable	1
5	11-1528	Fuse Holder	1
6	11-1567	Latch, AB 800F-ALP	1
7	11-1602	AB 22A-84PSN104 Power Flex Drive	1
8	11-1676	PLUG, 72120NP	1
9	11-2095	AB 2080-PS120-240VAC	1
10	11-2131	FUSE, CLASS CC. 5A, TIME DELAY	3
11	11-2132	PENDANT, PUSH BUTTON CONTROL	1
12	11-2133	AB INTEGRATED LED, 24V, RED LED	1
13	11-2134	AB PILOT LIGHT, CLEAR	1
14	11-887	Terminal Blk., AB 1492-W4	6
15	11-960	AB Terminal Anchor, AB 1492-EAJ35	6
16	11-969	Terminal Blk Barrier, AB 1492-EB3	1
17	11-987	AB 42EF-P2MPB-F4 Photo Eye	1
18	8821-010	ENCLOSURE	1



ELECTRICAL ENCLOSURE

