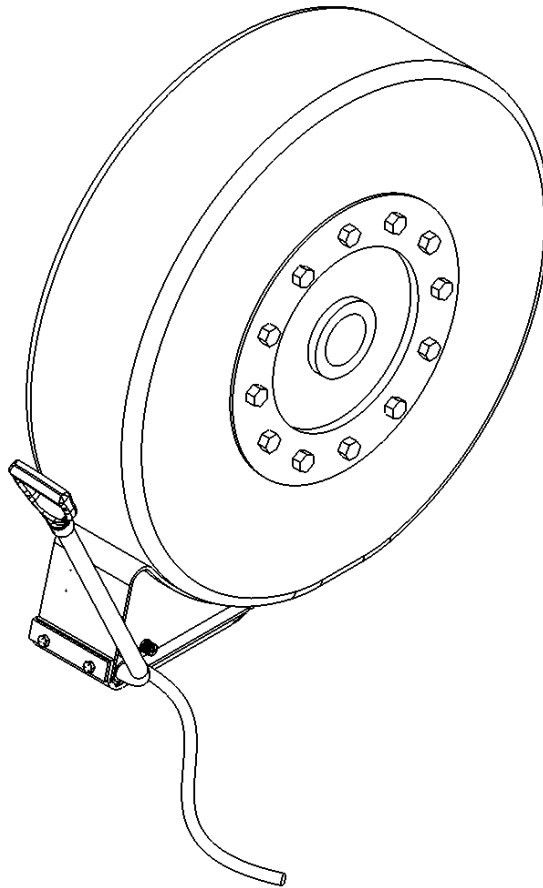




DOK-CHOCK™

Advanced Chocking System

Owner's Manual



This manual applies only to Dok-Chock™ Systems manufactured beginning April, 2021 with Serial Numbers 54899 and greater.

document p/n: 59-0067-B

NORDOCK INC.

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Preface

PLEASE READ AND UNDERSTAND THIS MANUAL COMPLETELY

This manual gives detailed information and instruction on how to operate and maintain your equipment correctly. Failure to do so could result in personal injury, and/or equipment damage. Please consider this manual a permanent part of the unit and keep it nearby for reference whenever needed.

If you have any questions about this manual, the Dok-Chock™, its components, or our products and services, please call us at 1-866-885-4276 and we will be happy to assist you. With proper care and maintenance, the Dok-Chock™ is designed to work effectively and efficiently for many years to come.

Problems, Errors and Omissions

This manual has been prepared with the utmost care and attention to detail to provide accurate parts and service information should the need arise. Nordock Incorporated believes this manual will provide the operators of the Dok-Chock™ all the necessary information required to operate and maintain it for many years. If you believe there is an error, if you have a problem following the guidelines, or if there is information that you feel is missing from this manual, please contact us at the above number so that we may resolve the issue immediately.

Dok-Chock™ Identification

It is very important that in order to obtain the best possible service from Nordock Inc., please provide the description and serial number of the Dok-Chock™ whenever you contact us. Figure 1 below shows the same serial number plate that will be found on the back of the chock weldment. Please record the information from your Dok-Chock™ in the area below. This will greatly reduce the possibility of improper parts being shipped to you.

NORDOCK®

DESCRIPTION:

SERIAL #:

866-885-4276 ~ WWW.NORDOCKINC.COM

MADE IN CANADA

Figure 1: Record Serial Number Plate Information here

Copyright

This manual is copyright to Nordock Incorporated. All information, text, drawings, and technical data contained herein are for reference only. No part of this manual may be copied, altered, or stored on electronic media, and cannot be revealed to others for the purpose of competition.

Warranty

Nordock Incorporated expressly warrants that all of its manufactured product shall remain free of defects in material and workmanship under normal use for a period of one-year from the date of delivery to the purchaser. The purchaser must maintain and operate the product in accordance with proper procedures. In the event the product proves defective in material or workmanship, Nordock Inc. will, at its option, either:

1. Replace the product or the defective portion thereof without charge to the purchaser; or,
2. Alter or repair the product on site or elsewhere, as Nordock Inc. may deem advisable, without charge to the purchaser.

The warranty stated herein is that offered by Nordock Inc. and expressly disclaims all implied warranties including those of merchantability and fitness. This warranty does not cover any failure caused by improper installation, misapplication, overloading, abuse, negligence, or failure to maintain and protect the equipment from vehicle impact. Nordock Inc. or its representative assume no responsibility or liability for any incidental or consequential damages of any kind including loss of use of any equipment, damage or failure resulting from the use of unauthorized replacement parts or equipment modification, or damages resulting from the misuse of the equipment.

Nordock Inc. warranties extend only to the product itself. Nordock Inc. disclaims all liability of any kind arising out of the workmanship, methods and materials used by the installer or premature product wear, product failure, property damage or bodily injury arising from improper installation.

These warranties as stated herein are the exclusive remedies for all claims.

System Overview

As shown in Figure 2 below, the Dok-Chock™ features:

- Lightweight Aluminum chock construction, with a durable steel tube handle, and ergonomic D-grip
- Dual sensors to detect whether the chock is positioned under a tire, or properly stored in its Wall Mounting Station
- High-visibility red and green inside and exterior LED lights that are integrated with the sensors and an audible alarm to alert the operator of safe/ unsafe loading conditions
- An exterior mounted sign with clear, large, forward and reverse lettering for drivers
- A 20 ft long chain and sensor cable, protected by a nylon sheath to prevent the chock from getting lost or stolen

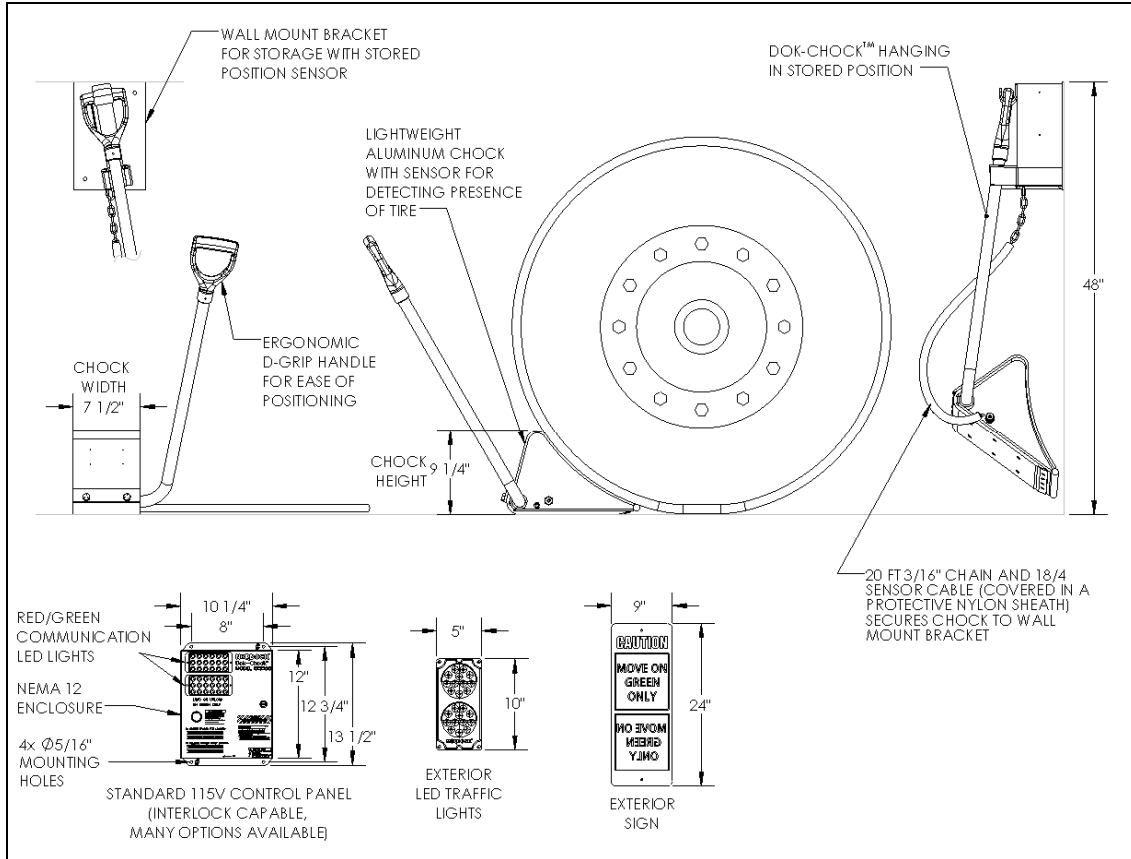


Figure 2: Dok-Chock™ Overview

Safety Practices



WARNING

Personnel using the Dok-Chock™ System must follow these safety practices before installing, operating or servicing the Dok-Chock™. Failure to follow these safety practices may result in bodily injury, property damage or death.

If you do not understand the instructions, contact your supervisor for explanation and instruction on the safe operation of the Dok-Chock™ system.

The following guidelines are to be used in conjunction with all laws, governances and codes in effect where the Dok-Chock™ is installed:

1. Use by untrained people can cause property damage, serious injury and/or death. Your supervisor should instruct you on the safe and proper way to use the Dok-Chock™. Read and follow the complete operating procedure before use.
2. DO NOT USE THE DOK-CHOCK™ SYSTEM IF IT IS NOT WORKING PROPERLY. If the Dok-Chock™ fails to operate using the procedures outlined below, contact Nordock Inc. or an authorized service representative for service.
3. All electrical troubleshooting and repair must be done by a qualified electrician and must meet all applicable codes. Before doing any electrical work, make certain the power is disconnected and properly tagged or locked out.
4. Whenever any maintenance or repair is to be performed on the Dok-Chock™ system, barricade the area around the dock floor and driveway and place clear signage on the perimeter that the loading dock is not to be used.
5. Do not stand in the driveway between the dock and a reversing truck.
6. Do not load or unload any truck until you make certain that the Dok-Chock™ has securely wedged between the truck's tire and the driveway surface. Ensure that the truck brakes are set, with the engine off.
7. Always position the Dok-Chock™ firmly and squarely against the front center of the truck tire, as illustrated in Figure 3 below. Improper positioning decreases the wheel chock's effectiveness.

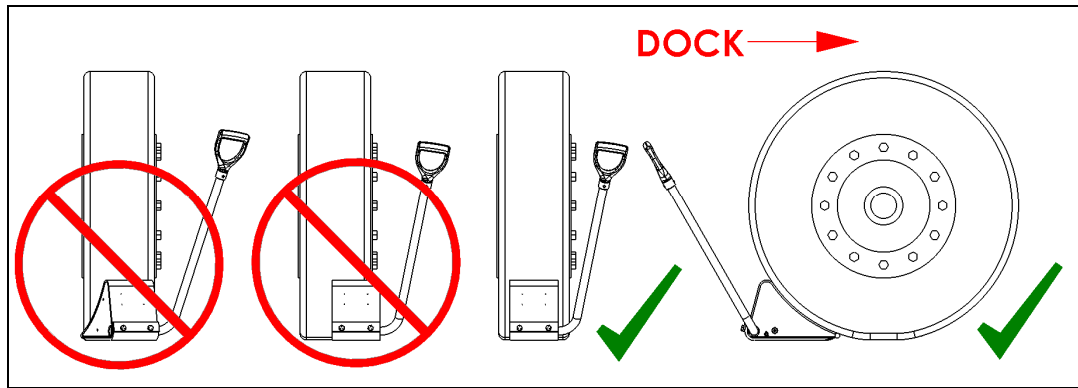


Figure 3: Dok-Chock™ Positioning: Chock must be centered, square, and tight against front of Tire

8. While the Dok-Chock™ system has been designed to enhance dock safety during loading or unloading, many factors must be carefully considered when relying solely on the Dok-Chock™ to prevent a truck or trailer from moving away from a dock:
- Grade and condition of ground surface
 - Weight and speed of forklift during loading/unloading
 - Gross Vehicle Operating Weight
 - Softness of the truck or trailer suspension
 - Tire size, pressure and type (radial tires deflect more than bias-ply tires, thus reducing the chock's effectiveness)
 - Type of transition between the trailer and the warehouse floor (e.g. dock leveler, etc)
 - Lack of connection of the trailer to a tractor and whether appropriate use is made of fixed jacks

It is the responsibility of the end user to make the final determination about proper chocking of a vehicle under the specific conditions present at the dock.

ADDITIONAL WHEEL CHOCKS AND/OR A VEHICLE RESTRAINT SYSTEM MAY BE REQUIRED.

9. If you have any questions, contact your supervisor or your local Nordock Incorporated representative.

Warning Label and Serial Number Plate

The warning label and serial number plate on the Dok-Chock™ must be kept in clean, legible condition at all times- see Figure 4 below for their placement on the unit. Please check their condition on a weekly basis, and replace them immediately if they become unreadable.

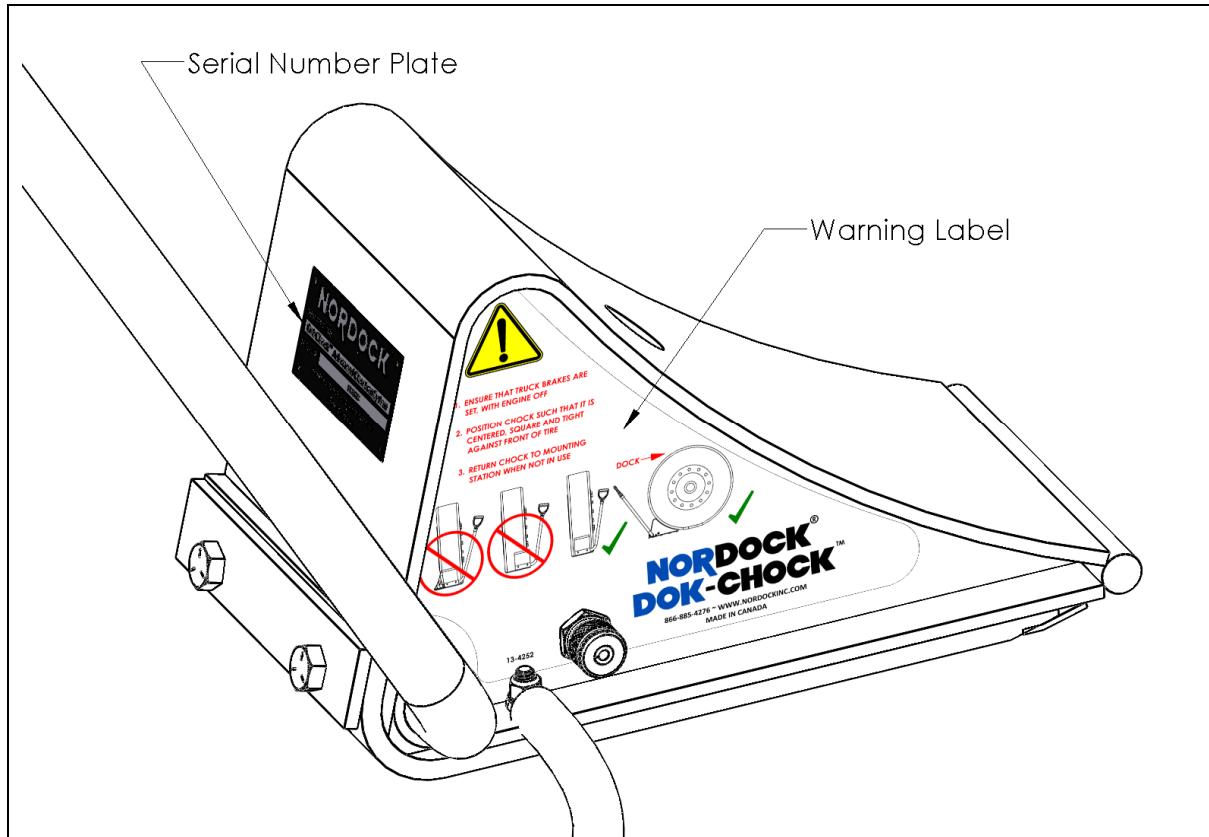


Figure 4: Dok-Chock™ Warning Label and Serial Number Plate Locations

Installation



WARNING

IMPROPER INSTALLATION OF THE DOK-CHOCK™ SYSTEM COULD RESULT IN SERIOUS INJURY OR DEATH TO DOCK WORKERS OR OTHER USERS

A typical Dok-Chock™ installation is shown in Figure 5 below.

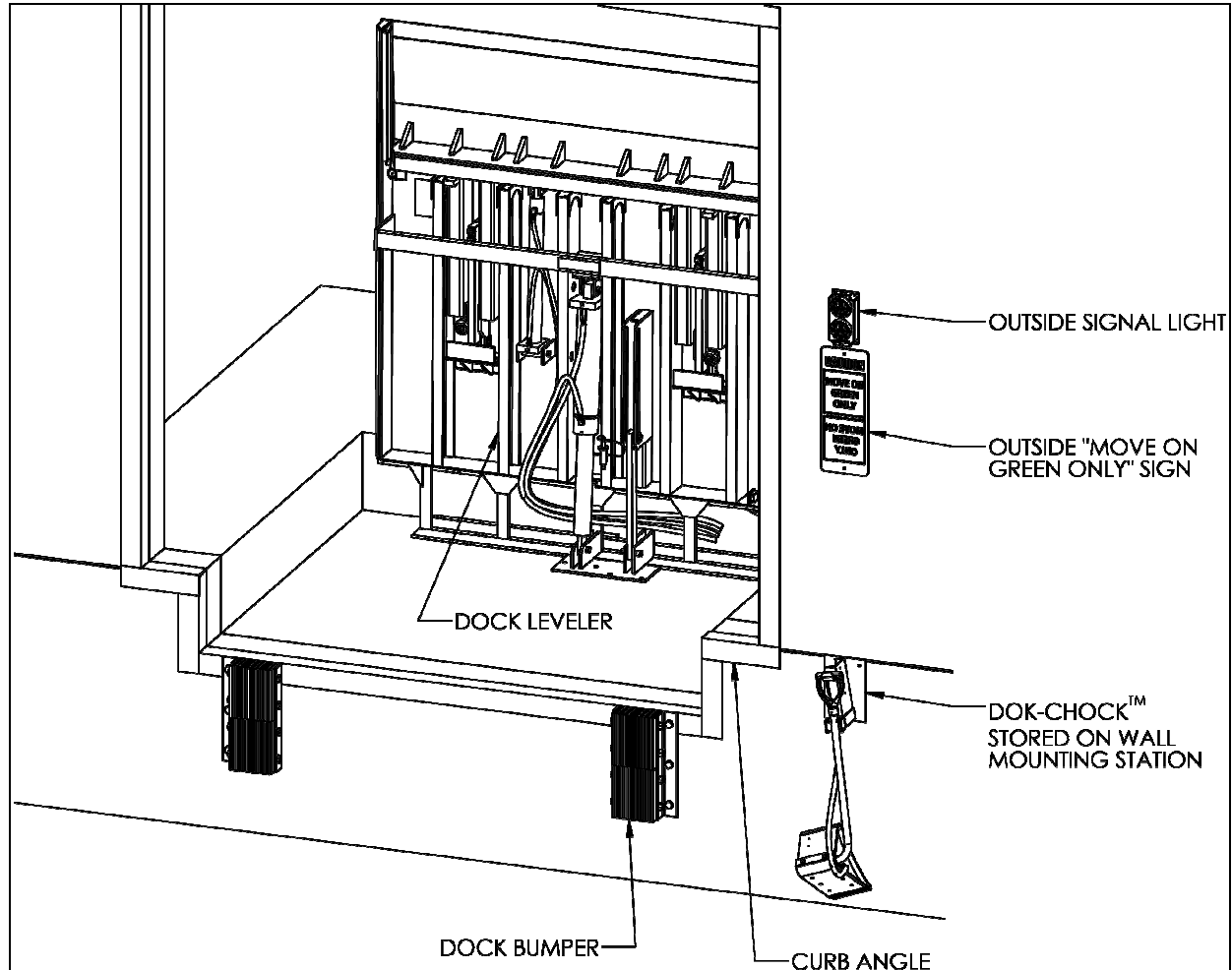


Figure 5: Dok-Chock™ Typical Installation

The following installation materials are included with the Dok-Chock™ system:

- 1 pc Dok-Chock™ Aluminum wheel chock with tire sensor
- 1 pc Dok-Chock™ Mounting Station with chock storage sensor
- 2 pcs. Mounting Station Anchors
- 1 pc Control Panel with integrated Inside Signal Light
- 1 pc Outside Signal Light
- 1 pc Outside "Move on Green Only" Sign
- 1 pc Outside "Notice: Wheels must be chocked before loading or unloading" Sign

All other materials required are to be provided by the installer.

Tools Required

- Hammer drill with 3/8" diameter masonry bit
- 7/16" Wrench
- General hand tools
- Touch up paint (Blue)

Mounting Station Installation

2. The dock face on which the Dok-Chock™ Mounting Station is to be mounted must be flat, vertically plumb and a minimum of 48" tall (refer to Figure 6 below).
3. If the dock face is not flat, it may be necessary to use shims behind the backplate of the Mounting Station or to modify the dock face to provide a flat mounting surface. If shimming is required, it is necessary to place shims at all of the anchor hole locations where the backplate does not contact the wall. This will prevent distortion of the backplate when the anchors are tightened.
4. Ensure that there are no projections or obstructions along the dock face that would prevent the Dok-Chock™ from resting properly in its Mounting Station. Failure to do so may result in the system's inability to detect when the Dok-Chock™ is stored.
5. The standard concrete anchors (3/8" x 2" wedge style) provided with the Dok-Chock™ system may only be used on docks constructed of solid concrete. Docks constructed of other materials require special mounting considerations. Welding the Mounting Station to the dock's curb angle may provide a suitable alternative- contact your local Nordock distributor for application specific information.
6. Do not install the Dok-Chock™ anchor bolts into concrete of questionable integrity.

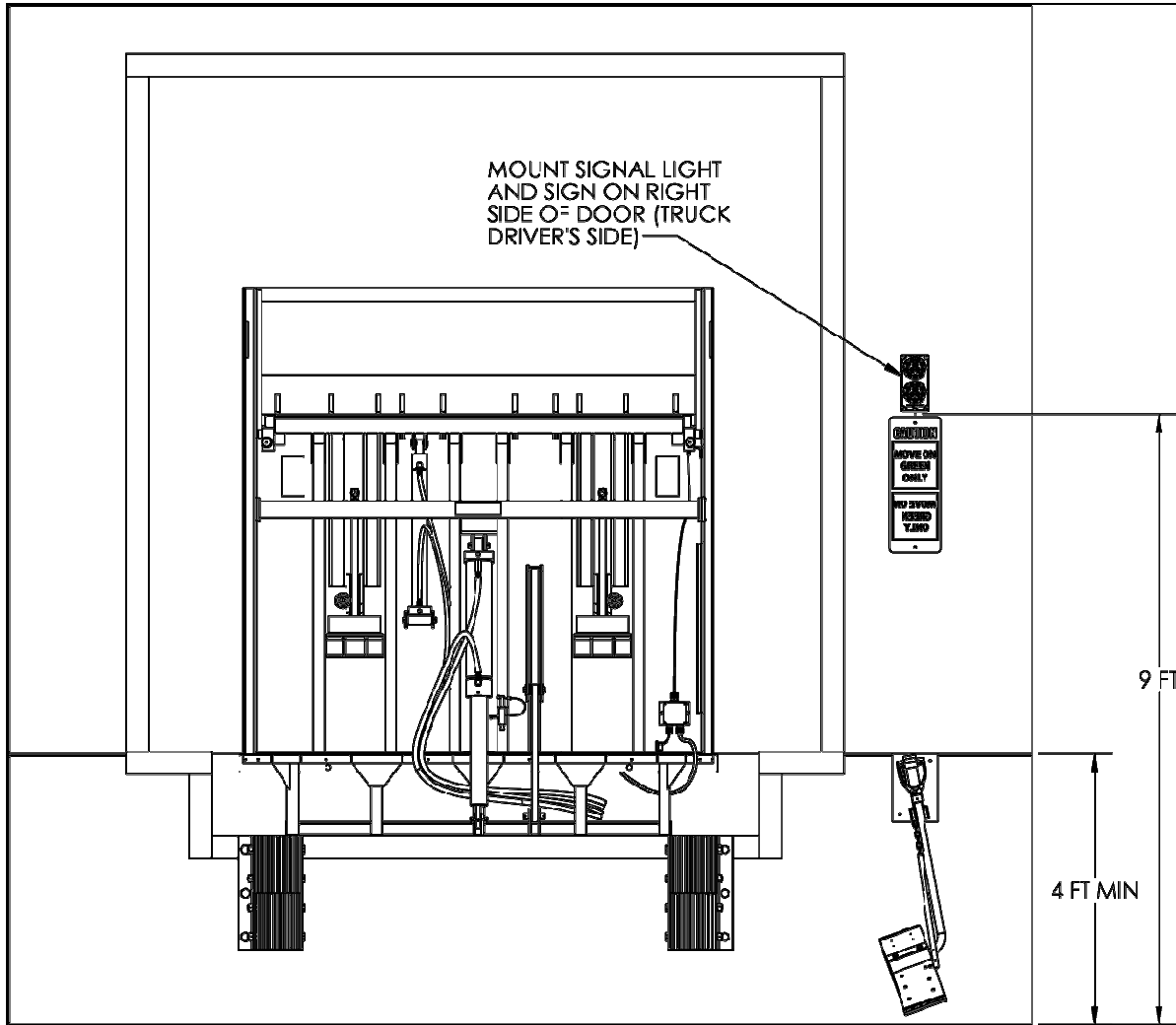


Figure 6: Typical Mounting Station, Outside Light and Sign Placement

Control Box and Traffic Light Installation



WARNING

Before doing any electrical work, the power must be disconnected and properly locked/tagged off. Failure to do so could result in death or serious injury. All electrical work must meet all applicable codes and be carried out by a qualified electrician.

NOTE

The control voltage for this unit is 24 VDC. If the Dok-Chock™ system is being integrated with a Dock Leveler and/or any other equipment, all motor power wires or other high voltage wires should be run in a separate conduit.

The following procedure applies to a stand-alone Dok-Chock™ system, with its own control panel. A separate control panel may not be required for the Dok-Chock™ if it is being integrated with a Nordock Dock Leveler system.

1. Mount the Dok-Chock™ control box inside the building, to the left of the doorway, 4 ft. above the floor. Refer to Figure 7 below.

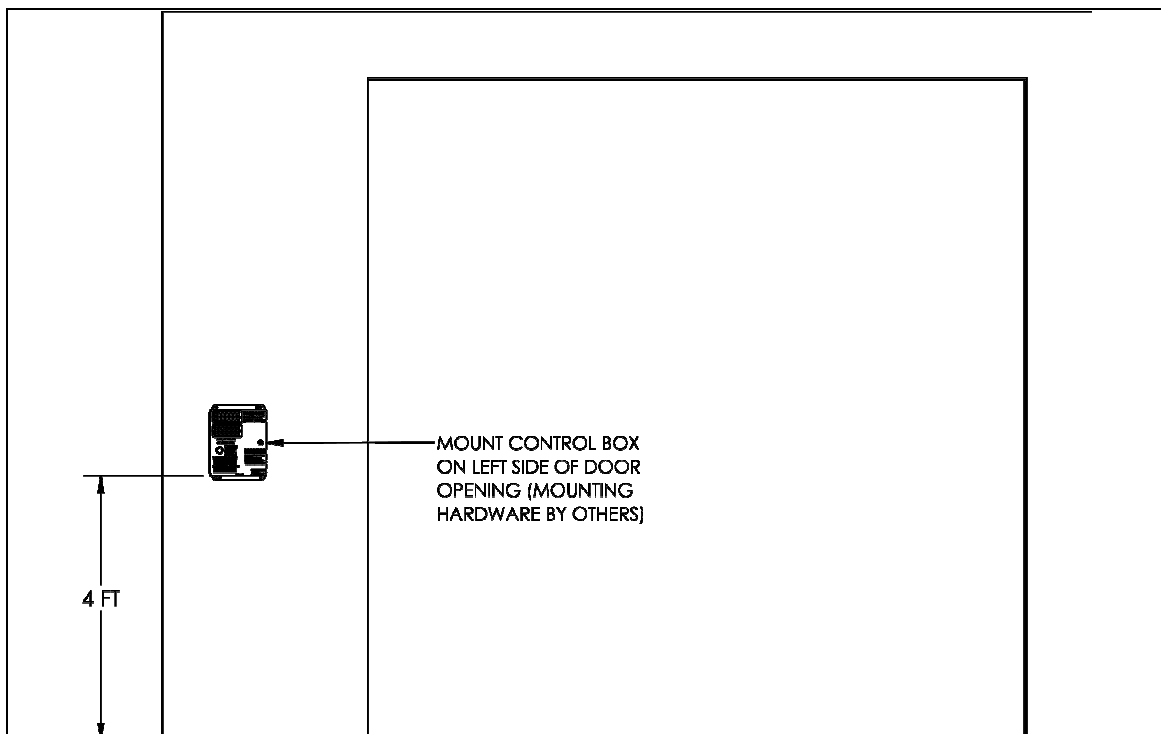


Figure 7: Control Panel Location

2. Run 1 piece of 18/4 (min) electrical cable (not supplied) from the control panel to the Dok-Chock™ Mounting Station junction box.
3. The outside signal light is to be placed approximately 9 ft above the driveway on the driver's side of the door opening as shown in Figure 6 above. Drill a hole through the wall at the centre of the signal light mounting position.
4. Run a length of 18/4 (min) electrical cable (not supplied) from the control box location through the wall. Make connections in panel and signal light assembly as indicated in the wiring diagram located at the back of this manual.
5. Fasten the signal light housing to the wall.
6. Mount the "Move On Green Only" sign provided to the exterior wall under the signal light as shown in Figure 6 above.
7. Bring 110/1/60 power to panel and wire according to the diagram located at the back of this manual. **CHECK ALL CONNECTIONS BEFORE APPLYING POWER.**
8. Apply power to the control panel.
9. The outside light should be a solid green and the inside light a solid red. If the lights are not on or not as described, verify power and all field wiring connections.
10. Verify correct operation outlined in the Operating Procedure on pgs 13 through 15 of this manual.
11. If the lights do not operate as described, there is a field-wiring problem. Turn off the power and check the wiring per the Wiring Diagram at the back of this manual. Contact Nordock Inc. for technical support and/or rewire as required.

Operating Procedure



WARNING

Before operating or maintaining the Dok-Chock™, read and follow the safety practices contained in this manual. Failure to follow the guidelines in this manual and those in effect in the workplace can result in serious bodily harm and equipment damage.

Do not load or unload any truck unless you make certain the Dok-Chock™ has securely engaged the truck's tire and that the truck brakes are set.

Failure to store the Dok-Chock™ when not in use could result in damage to the Dok-Chock™ and incoming trucks.

The operating procedure outlined in this manual is generalized, and does not account for all possible equipment options. Contact your local Nordock Incorporated representative for details specific to your installation.

Common interlocks include:

- ***Dok-Chock™/ Dock Leveler- Dock leveler cannot be lowered unless the Dok-Chock™ is in place. If the Dok-Chock™ is removed from tire while leveler is not stored, the alarm will sound***
- ***Overhead Door/ Dock Leveler -Door interlock terminals provided with factory jumper installed. Removal of the jumper and installation of a remote mounted door open switch (by others) will prevent the Dock Leveler from working unless the door is fully open***

The following procedure outlines the normal sequence of events for loading/unloading a truck with the Dok-Chock™ system, with and without a Dock Leveler installed:

1. Initial Conditions: Overhead Door Open or Closed, Dock Leveler stored (if installed), Dok-Chock™ stored in Wall Mounting Station:
 - Proximity sensor detects Chock handle in bracket
 - Inside Light is Solid Red
 - Outside Light is Solid Green
2. Truck positioned against dock bumpers, brakes set, and engine turned off
3. Dok-Chock™ removed from Wall Mounting Station:
 - Proximity sensor confirms Chock handle is not in bracket
 - Inside Light changes from Solid Red to Flashing Red
 - Outside Light changes from Solid Green to Flashing Red

4. Dok-Chock™ positioned under Truck/Trailer tire:
 - Ultrasonic sensor detects tire on chock
 - If the chock is not placed within 60 seconds, an audible alarm will sound
 - The alarm may be silenced by positioning the chock correctly
 - If the alarm continues to sound after the chock has been positioned correctly, it may be silenced by turning the “BYPASS” key-switch
 - With Dock Leveler installed:
 - Inside Light changes from Flashing Red to Solid Red with a Pulsing Green
 - Outside Light changes from Flashing Red to Solid Red
 - Without Dock Leveler installed:
 - Inside Light changes from Flashing Red to Solid Green
 - Outside Light changes from Flashing Red to Solid Red
5. Overhead Door and Trailer Doors opened if they are not already open
6. Dock Leveler (if installed) is lowered
 - Inside Light changes from Solid Red with a Pulsing Green to Solid Green
7. Load/ Unload Truck/Trailer
8. Dock Leveler (if installed) is cleared of all goods, equipment and personnel, and returned to stored position:
 - The Inside light will change from Solid Green to a Solid red with a Pulsing Green
 - The Outside light will stay Solid Red
9. Overhead Door and Trailer Doors closed as required
10. Driver Removes Chock and returns it to Wall Mounting Station:
 - Ultrasonic sensor confirms no tire on chock, Proximity sensor detects Chock handle in bracket
 - If the chock is not placed in the mounting station within 60 seconds, an audible alarm will sound
 - The alarm may be silenced by positioning the chock correctly in the mounting station
 - With Dock Leveler installed:
 - The Inside light will change from Solid Red with a Pulsing Green to a Solid Red
 - The Outside light will change from Solid Red to Solid Green
 - Without Dock Leveler installed:
 - Inside light changes from Solid Green to Solid Red
 - Outside Light changes from Solid Red to Solid Green
11. Truck may now pull away

12. In the event of a power outage, DO NOT CONTINUE LOADING/UNLOADING, even if the Dok-Chock™ is positioned under a tire, and the Dock Leveler (if installed) is lowered:
- Once power fails, the Inside and Outside lights will not function, and the Dock Leveler will be held in position. Press the E-stop button to lock all solenoids if the Leveler is not in the stored position.
 - After power has been restored:
 - the Inside and Outside lights will return to their normal states
 - if the ramp is above the working range, the dock leveler will stay on hold. Release E-stop button and press “LOWER” button to lower ramp, or press and release “STORE DOCK” to raise leveler to stored position.
 - If the ramp is in the working range, dock starts lowering after power restored and E-stop button released.

Troubleshooting

A list of potential problems that can be encountered while using the Dok-Chock™ system, as well as their causes and corrective actions are shown in Table 1 below.

Table 1: Dok-Chock™ Troubleshooting Chart

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTIVE ACTION</u>
Inside and Outside lights do not function	1. Power failure (no power to control panel)	Check incoming power and troubleshoot as necessary
	2. Blown control fuse	Check and replace if necessary
Dok-Chock is positioned under tire, but Inside and Outside lights flashing Red, and Audible Alarm sounds	1. Chock improperly positioned	Check and re-position chock under tire
	2. Ultrasonic tire sensor disconnected	Check cable connections
	3. Ultrasonic tire sensor malfunctioning	Check and replace if necessary.
Dok-Chock is stored in mounting station, but Outside light does not turn green for Truck to depart	1. Chock improperly stored	Check and reposition chock in mounting station
	2. Chock Stored Proximity Sensor disconnected	Check cable connections
	3. Chock Stored Proximity Sensor malfunctioning	Check and replace if necessary.
Dock leveler not stored, Inside light changes to flashing Red, Audible alarm sounds	1. Chock position has shifted, wheel no longer properly chocked	Check and re-position chock under tire
	2. Chock removed prematurely (before leveler was stored)	Store leveler

Abnormal events and DOK-CHOCK™ system response:

1. Dok-Chock™ Tire Sensor Fails or Cable gets Disconnected from Chock:
 - Inside and Outside Lights flash Red
 - Outside Light turns Solid Red, and if wheel was chocked, Audible Alarm turns on and does not turn off until power is turned off or cable is plugged back in
 - Dock Leveler functions disabled, except for “STORE DOCK.”
 - Store the Dock Leveler if it is not in stored position
 - Ensure that the Truck/Trailer is properly restrained by the Dok-Chock™ or alternate means
 - Turn the “BYPASS” key-switch to silence the alarms and enter bypass mode
 - Lower the dock leveler for loading/unloading
 - After loading is completed, proceed with normal operation to store dock and chock
 - After truck leaves, press E-stop button and power down the control panel
 - Inspect and repair the ultrasonic sensor and/or cable as necessary

2. Chock Improperly Stored or Chock Stored Sensor Fails:
 - Ultrasonic tire sensor confirms no tire on chock, Proximity sensor fails to detect Chock handle in bracket
 - Outside Light does not turn Solid Green for truck to depart
 - After a delay of 60 seconds, an Audible alarm will sound and the Inside and Outside Lights will both flash Red
 - Ensure Dock-Chock™ is properly stored in the Mounting Station
 - If alarm continues, allow the Truck to depart, press E-stop button and power down the control panel
 - Inspect and repair Chock Stored Proximity Sensor

3. Chock Pulled Prematurely with Dock Leveler not stored:
 - Ultrasonic sensor fails to detect tire on chock while Dock Leveler is not stored
 - Inside light changes from Solid Green to Flashing Red
 - Outside Light remains Flashing Red
 - Audible Alarm sounds
 - Store Leveler or reposition the DOK-CHOCK™ under Truck tire

4. Dok-Chock system not being used during loading/unloading:
 - Ensure that the Truck/Trailer is properly restrained by alternate means
 - Use the “BYPASS” key-switch to allow operation of Dock leveler (if applicable)
 - Inside light will change to Solid Green with Flashing Red, and Outside light will change to Flashing Red

Maintenance Schedule



WARNING

Before servicing the Dok-Chock™, read and follow the safety practices contained in this manual. Failure to follow the guidelines in this manual and those in effect in the workplace can result in serious bodily harm and equipment damage.

The Dok-Chock™ system Field Maintenance Schedule is shown in Table 2 below. Failure to provide proper maintenance may result in system malfunction and reduction in component life span.

Table 2: Dok-Chock™ System Maintenance Schedule

Item	Inspection	Cleaning
Signal Lights Interior & Exterior	Daily – check that all lights are working	Clean lenses as required
Dok-Chock™ Warning Label and Serial Number Plate	Weekly- ensure warning label and serial number plate are attached and legible	Clean as required
Dok-Chock™ Aluminum Weldment	Monthly- inspect weldment for structural damage. Return to factory for repair if necessary	Remove debris as required
Neoprene Rubber Sole	Monthly – Check for embedded debris, tearing or other damage. Repair as required	Remove debris as required
Dok-Chock™ Handle Tube	Monthly – Check for loose bolts and ensure that handle is securely fastened to the Dok-Chock™ weldment. Tighten bolts as required	Remove debris as required
Dok-Chock™ Ultrasonic Tire Sensor	Monthly – Check for loose electrical connection. Tighten connector as required	Ensure that no debris is covering sensor
Dok-Chock™ Mounting Station Proximity Sensor	Monthly – Check for loose electrical connection. Tighten connector as required	Ensure that no debris is covering sensor
Dok-Chock™ Mounting Station Concrete Anchors	Monthly check that all anchors are tight. Re-tighten if necessary	None required
Dok-Chock™ D-Grip Handle	Monthly – Check for loose rivets and ensure that handle is securely fastened to the Dok-Chock™ handle tube. Replace rivets as required.	None required
Driveway Area Around Dock	None	As required to remove debris

Parts Replacement



WARNING

Before servicing the Dok-Chock™, read and follow the safety practices contained in this manual. Failure to follow the guidelines in this manual and those in effect in the workplace can result in serious bodily harm and equipment damage.

The Dok-Chock™ has been designed to minimize the number of serviceable components in order to reduce maintenance requirements and ensure a long service life.

Field serviceable/ replaceable components include:

1. Ultrasonic tire sensor
2. Proximity storage sensor
3. Handle tube and insert
4. D-grip handle
5. Fuses

Any damage sustained by the Aluminum weldment will require its return to the factory for inspection and repair, before it can be re-certified for field usage.

Always replace components with genuine Nordock Inc. replacement parts (refer to assembly diagram and parts list on pages 21 and 22 of this manual).

Wiring Diagram

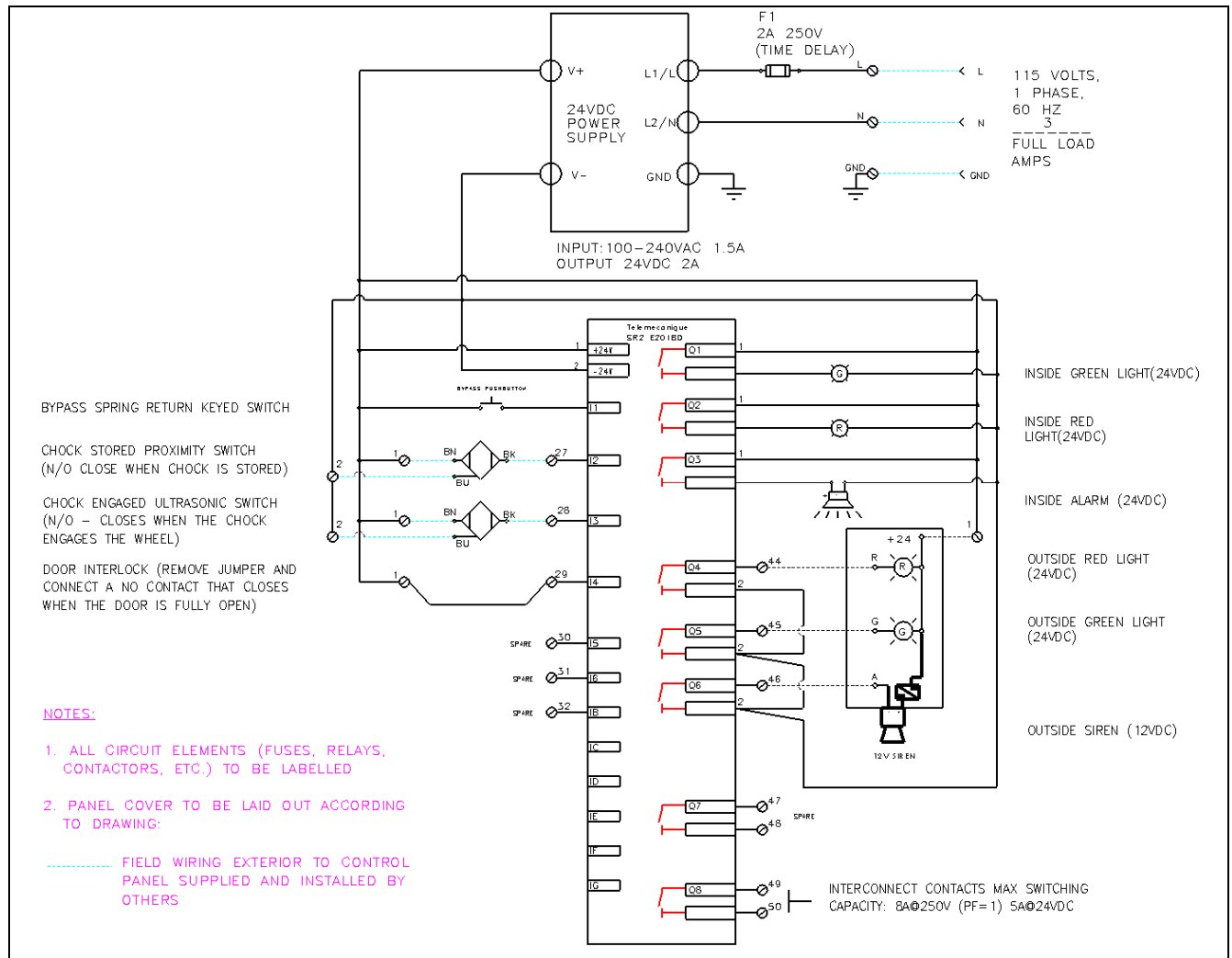


Figure 8: Wiring Diagram

Assembly Diagram

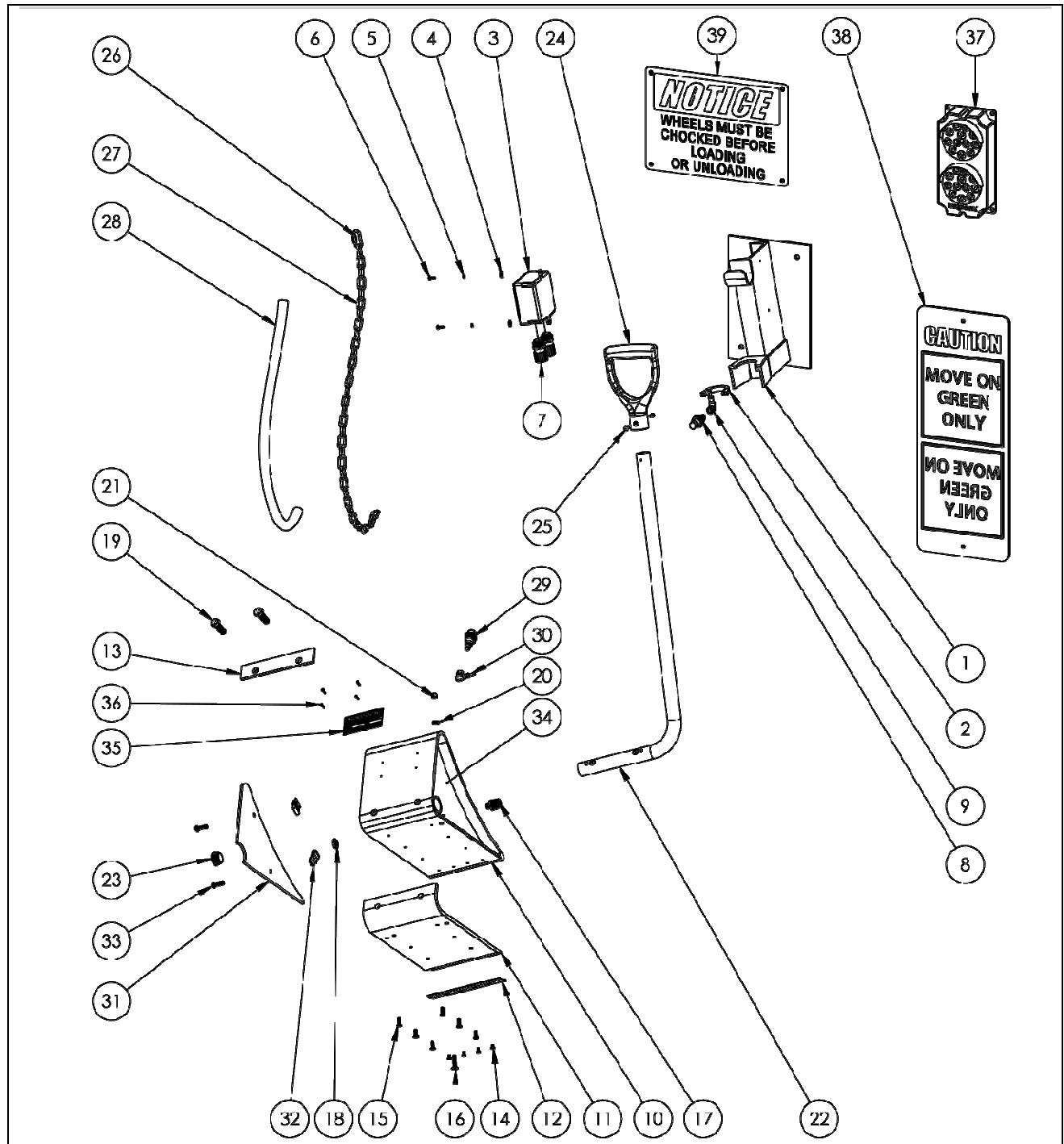


Figure 9: Assembly Diagram

Parts List

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	52-2003	Mounting Station Weldment
2	1	13-4257	Rubber Moulding
3	1	13-2145	4 x 4 PVC Junction Box
4	2	13-1956	10-24 Flat Washer
5	2	13-0948	10-24 Lock Washer
6	2	13-0124	10-24 x 1/2" Pan Head Screw
7	2	13-0419	1/2" Strain Relief Connector
8	1	13-3191	Proximity Sensor
9	1	13-3192	Proximity Sensor Connector/Cable
10	1	52-2000	Aluminum Chock Weldment
11	1	53-2023	Neoprene Rubber Sole
12	1	53-2014	Front Rubber Attachment Plate
13	1	53-2015	Back Rubber Attachment Plate
14	4	13-4969	10-24 x 3/8" Flat Head Stainless Steel Screw
15	6	13-4968	1/4"-20 x 3/4" Flat Head Stainless Steel Screw
16	1	13-4970	5/16"-18 x 1&1/4" Flat Head Stainless Steel Screw
17	1	13-4227	1/4" NPT Strain Relief
18	1	13-4228	1/4" NPT Nut
19	2	13-2782	1/2"-13 x 1&1/2" UNC Bolt
20	1	13-4253	5/16" Washer
21	1	13-0846	5/16"-18 Nylock Nut
22	1	52-2001	Handle Weldment
23	1	13-4229	1 1/4" Tubing Plug
24	1	13-4226	D-Grip Handle
25	2	13-4255	3/16" Pop Rivet
26	1	13-0785	3/16" Quick Link
27	1	13-1626-240	20 ft x 3/16" Chain
28	1	53-2024	20 ft Chain/Cable Nylon Sleeve
29	1	13-4224	Ultrasonic Tire Sensor
30	1	13-4302	Ultrasonic Tire Sensor Connector/Cable (10m)
31	1	53-2016	Side Cover
32	2	53-1103	5/16"-18 J-type Nut Retainer
33	2	13-2684	5/16" 18 x 1" Button Head Cap Screw
34	1	13-4252	Warning Label
35	1	13-3471	Serial Number Metal Label
36	4	13-3678	#4 x 3/8" U-Drive Screws for SN Plate
37	1	13-4215	Traffic Light and Buzzer
38	1	23-0124	"Move On Green Only" Sign
39	1	13-3131	"Notice: Wheels must be chocked before loading or unloading" Sign