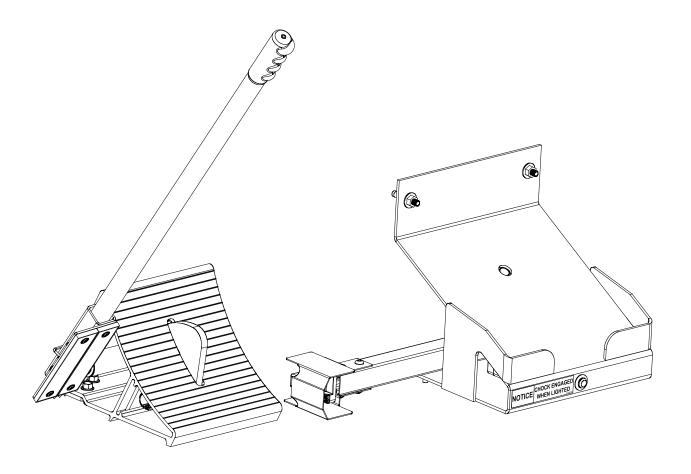
# VERSACHOCK™ Wheel Restraint



Thismanual applies to VERSACHOCK™ units manufactured beginning October 2017 with serial number 61246594 and higher.

#### **▲ WARNING**

Do not install, operate or service this product unless you have read and understand the Safety Practices, Warnings, and Installation and Operating Instructions contained in this manual. Failure to do so could result in death or serious injury.

# **User's Manual**

Installation, Operations, Maintenance and Parts

Part No. 6019794D

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## **INTRODUCTION**

Welcome, and thank you for buying this wheel chock from 4Front Engineered Solutions, Inc.

This User's Manual contains information that you need to safely install, operate and maintain the wheel chock. It also contains a complete parts list and information about ordering replacement parts. Please keep and read this User's Manual before using your new wheel chock.

## **SAFETY SIGNAL WORDS**

You may find safety signal words such as DANGER, WARNING, CAUTION or NOTICE throughout this Owner's Manual. Their use is explained below:

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

#### **ADANGER**

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious 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.

#### NOTICE

Notice is used to address practices not related to personal injury.

### **SAFETY PRACTICES**

#### **▲ WARNING**

Read these safety practices before installing, operating or servicing the wheel chock. Failure to follow these safety practices could result in death or serious injury.

READ AND FOLLOW THE OPERATING INSTRUCTIONS IN THIS MANUAL BEFORE OPERATING THE WHEEL CHOCK. If you do not understand the instructions, ask your supervisor to teach you how to use the wheel chock.

Improper installation of wheel chock could result in death or serious injury to dock workers or other users of the wheel chock.

Vehicles leaving or moving when loading and unloading are in process could result in death or serious injury.

Be certain bystanders in the driveway stand clear when the wheel chock is operating.

Be certain to follow the installation instructions in this manual.

#### **OPERATION**

Use by untrained people can cause property damage, bodily injury and/or death. Your supervisor should teach you the safe and proper way to use the wheel chock. Read and follow the complete OPERATING INSTRUCTIONS starting on page 10 before use. Do not use the wheel chock if it is not working right. Tell your supervisor it needs repair.

Do not operate the wheel chock with equipment, material, or people directly in front of the chock.

Do not use the wheel chock if it looks broken or does not seem to work right. Tell your supervisor at once.

Before chocking vehicle wheel or engaging the wheel chock, dump air from air ride suspensions and set parking brake.

Prior to using the wheel chock:

 Ensure the vehicle is parked firmly against the dock bumpers. After engaging the wheel chock:

- Load or unload the vehicle only when the inside GREEN light is displayed.
- If the wheel chock cannot be engaged, use other wheel chocks to secure the vehicle, then turn selector switch to OVERRIDE.

#### INSTALLATION, MAINTENANCE AND SERVICE

If the wheel chock cannot be operated properly using the procedures in this manual, BE CERTAIN TO MANUALLY CHOCK THE VEHICLE WHEELS WITH OTHER CHOCKS BEFORE LOADING OR UNLOADING. Call your local distributor for service.

Place barricades around pit on dock floor and driveway while installing, maintaining or repairing the wheel chock.

Do not stand in the driveway between the dock and a backing vehicle.

Do not use the wheel chock as a step.

All electrical troubleshooting and repair must be done by a qualified technician and meet all applicable codes.

Before doing any electrical work, make certain the power is disconnected and properly tagged or locked off.

Before doing any welding, make certain the power is disconnected and properly tagged or locked off.

If it is necessary to make troubleshooting checks inside the control box with power on, USE EXTREME CAUTION. Do not place fingers or uninsulated tools inside the control box. Touching wires or other parts inside the control box could result in electrical shock, serious injury or death.

### **OWNER'S RESPONSIBILITIES**

The owner's responsibilities include the following:

The owner should recognize the inherent danger of the interface between dock and transport vehicle. The owner should, therefore, train and instruct operators in the safe use of vehicle restraining devices, and take appropriate steps to prevent their use by untrained individuals. The owner shall verify the manual(s) containing the manufacturer's installation, operation, and maintenance requirements, is made available for instruction and training personnel entrusted with such responsibilities.

When industrial vehicles are driven on and off transport vehicles during the loading and unloading operation, the brakes on the transport vehicle shall be applied, and whenever possible, air-ride suspension systems should have the air exhausted and wheel chocks or positive restraints that meet the requirements of ANSI MH30.3 shall be engaged. For more detailed information regarding vehicle restraints see "ANSI MH30.3 Vehicle restraining devices: Performance and Testing" available at www.mhi.org/lodem. When a vehicle restraint is unable to properly engage a transport vehicle, the user shall activate the applicable communication if so included, or provide an alternate method to address a "not restrained vehicle condition" to alert and or protect the loading dock operating personnel.

Manufacturer's recommended periodic maintenance and inspection procedures in effect at date of shipment shall be followed and written records of the performance of these procedures should be kept. Only trained and authorized personnel shall be permitted to maintain, repair, inspect and adjust the vehicle restraint. Use only original equipment manufacturer parts, manuals, maintenance instructions and labels; or their equivalent.

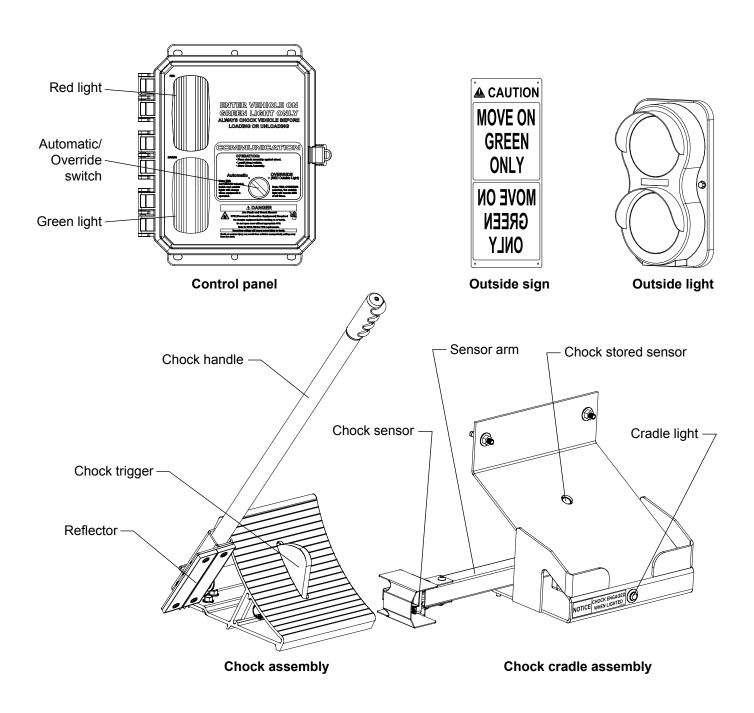
Restraining devices that are structurally damaged shall be removed from service, inspected by the manufacturer's representative, and as needed or recommended by the manufacturer before being placed back into service. Modifications or alterations of restraining devices shall be made only with written permission of the original manufacturer. These changes shall be in conformance with all applicable provisions of ANSI MH30.3 and shall be at least as safe as the equipment was before modification. These changes shall also satisfy all safety recommendations of the original equipment manufacturer for the particular application of the restraint.

The owner shall see that all nameplates, cautions, instructions, and posted warnings are in place and legible and that these items and communication lights shall not be obscured from the view of operating or maintenance personnel for whom such warnings are intended.

The vehicle restraint shall never be used in a manner not intended by its design. It shall also be compatible with the loading dock equipment and other conditions relating to the loading dock area. When selecting a restraining device, it is important to consider not only present requirements but also future plans or adverse environments.

## **COMPONENTS AND SPECIFICATIONS**

The main components of the wheel chock are shown below.



### INSTALLATION INSTRUCTIONS

#### **▲ WARNING**

Before installation read and follow the Safety Practices on page 3. Failure to follow these safety practices could result in death or serious injury.

READ AND FOLLOW THE OPERATION INSTRUCTIONS IN THIS MANUAL BEFORE OPERATING THE WHEEL CHOCK. If you do not understand the instructions, ask your supervisor to teach you how to use the wheel chock.

Improper installation of the wheel chock could result in death or serious injury to dock workers or other users of the wheel chock.

Place barricades around pit on dock floor and drive while installing, maintaining or repairing the wheel chock.

Be certain bystanders in the driveway stand clear when the wheel chock is operated.

Be certain to follow the installation instructions in this manual.

#### **ASSEMBLY**

- Insert the chock handle (6019499) into the chock handle socket, aligning the bolt holes. Insert the two 5/16"x1-3/4" flange bolts (6017837) through the two aligned bolt holes and tighten two 5/16" flange nuts (6010661) using two 1/2" SAE wrenches. Torque to 20 Ft-Lbs. See Fig. 1.
- 2. Locate the sensor arm assembly on the chock cradle so that it projects inward, toward the center of the dock. Fasten the sensor arm assembly using the two provided sensor arm bolts (6010662) and nuts (6010661). Torque to 8 Ft-Lbs. See Fig. 2.

#### **INSTALLATION INSTRUCTIONS**

- 1. Lay out the installation position. See Fig. 3.
  - a. Mark the center line of the dock on the driveway. This is point "A".
  - b. While facing the dock, measure over 72" to the right of the center line and mark the driveway at the dock wall. This is point "B".
  - c. Measure up from the driveway 6" at point "B" and mark a vertical line perpendicular to the driveway, approximately 12" long.
- 2. Position the chock cradle assembly with the outboard edge along the 12" long vertical line and 6" above the driveway.

Fig. 1

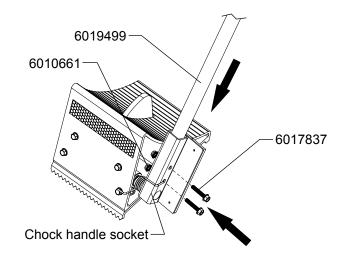


Fig. 2

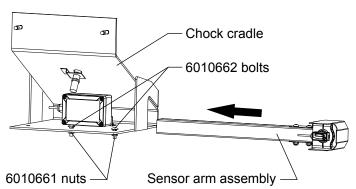
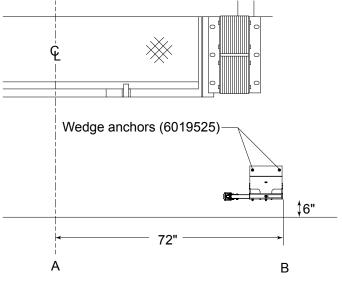


Fig. 3



## **INSTALLATION INSTRUCTIONS, continued**

Using the holes in the cradle as a guide, mark the holes on the wall then drill and anchor the cradle to the wall using the two provided 3/8" dia. x 2-1/4" long wedge anchors (6019525). Torque anchors to 20 ft-lbs. See Fig. 3.

### Fig. 4

#### **A** DANGER

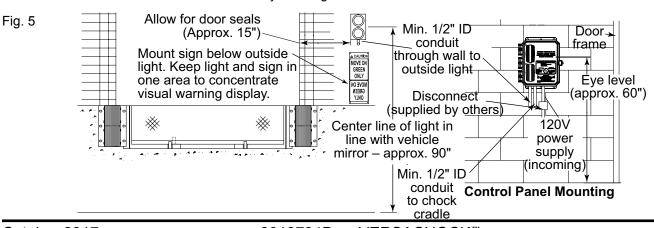
Before doing any electrical work, make certain the power is disconnected and properly locked or tagged off.

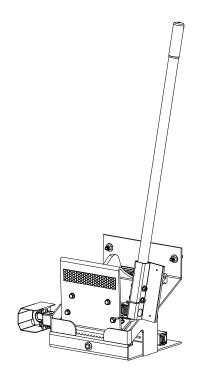
Failure to do so may result in death or serious injury. All electrical work must be done by a qualified technician and must meet all applicable codes.

Do not route control wiring for any other device through this control panel unless properly shielded.

Be certain power is off when wiring to the control panel or outside lights. Failure to do so could result in electrical shock, death or serious injury.

- 3. Mount control panel inside the building at eye level (approximately 60") above the floor, to the left of the left-hand door jamb from inside. See Fig. 5.
- 4. Mount and wire outside 24V outside light assembly to the control panel using terminals "Outside R" for red, "Outside G" green, and "Outside +" for common on the terminal strip in the control panel. Do not connect any outside light wire to ground. Always mount the outside light with the red light on top and the green light on the bottom. See Fig. 5 and wiring details located inside control panel.
- Connect the multiconductor cable from the chock cradle.See electrical schematic on page 13.
- 6. Permanently mount the vehicle driver's instruction sign on the outside wall below the outside light. See Fig. 5.
- 7. Place the chock unit in the cradle assembly. See Fig. 4.





## **INSTALLATION INSTRUCTIONS, continued**

#### WEDGE ANCHOR INSTALLATION

Fig. 5

#### **▲ WARNING**

Do not install the wheel chock anchor bolts into aged or unsound concrete.

Use standard anchors on smooth 4,000 PSI concrete walls only. For aggregate, cinder block or tilt walls - consult factory.

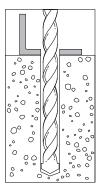
#### **ACAUTION**

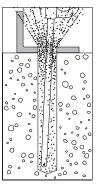
Oversized holes in the base material will make it difficult to set the anchor and will reduce the anchor's load capacity.

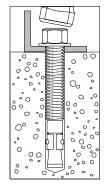
### NOTICE

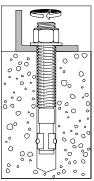
Do not use an impact wrench to set or tighten the wedge anchors.

Drill a hole in the concrete using a rotary hammer with a 3/8" drill bit. Drill the hole to the specified embedment depth and blow it clean using compressed air. Alternatively, drill the hole deep enough to accommodate embedment depth and dust from drilling. Assemble the anchor with nut and washer so the top of the nut is flush with the top of the anchor. Place the anchor in the fixture and drive into the hole until washer and nut are tight against fixture. Torque to 20 ft-lbs. See Fig. 5









## **INSTALLATION INSTRUCTIONS, continued**

#### STARTUP INSTRUCTIONS

#### NOTE:

To ensure proper performance, this procedure should be performed at both the maximum and minimum engagement distances expected at each dock position.

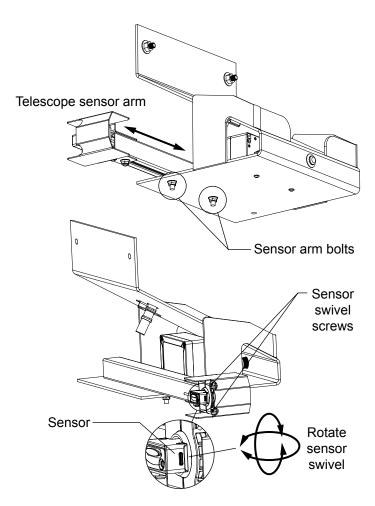
1. Place and engage the chock against the vehicle wheel. See the operating instructions beginning on page 10.

#### Verify the following light conditions:

Outside light — FLASHING RED Inside light — SOLID GREEN Cradle assembly light — SOLID WHITE

- 2. If the sensor on the cradle is not seeing the reflectors on the chock arm, perform the following adjustments:
  - a. Loosen the sensor arm bolts holding the sensor arm. See Fig. 6.
  - b. Loosen the sensor swivel screws in two places using a cross-recess (Phillips®) screwdriver.
  - c. With the wheel chock in place on the wheel, telescope the sensor arm and rotate the sensor swivel until the light conditions stated in step 1 are true.
  - d. Re-tighten the sensor arm bolts and sensor swivel screws.
- 3. Verify full engagement range.

Fig. 6



### **OPERATING INSTRUCTIONS**

#### **▲ WARNING**

Before operating the wheel chock, read and follow the Safety Practices, Warnings, and Operation instructions contained in this manual. Use by untrained people could result in death or serious injury.

Do not use the wheel chock if it looks broken or does not seem to work right. Tell your supervisor at once.

Do not load or unload any vehicle unless you make certain the wheel chock has securely engaged the tire and set the brakes. If the wheel chock will not chock the vehicle's tire for any reason, BE CERTAIN TO MANUALLY CHOCK THE VEHICLE WHEELS BEFORE LOADING OR UNLOADING.

Enter the vehicle only when the GREEN inside light on the control panel is on. If the GREEN inside light on the control panel goes off at any time during loading operations, immediately cease loading operations and check the wheel chock to ensure that it is securely hitched.

If the power to the wheel chock is interrupted, immediately cease operations. Consult the troubleshooting instructions to reset the lights when power resumes.

Vehicles leaving or moving when loading and unloading are in process could result in death or serious injury.

Do not release the chock with dock leveler lip in trailer. Always return the dock leveler to its stored position at dock level before removing wheel chock or allowing the vehicle to leave.

Failure to follow these safety practices may result in death or serious injury.

## **OPERATING INSTRUCTIONS, continued**

#### **ENGAGING THE VEHICLE**

- With the chock stored in its cradle and the selector switch in the AUTOMATIC position the inside light will be RED, the cradle light will be OFF and the outside lights will be GREEN. Remove the wheel chock from the wheel chock cradle. The outside lights will change from GREEN to RED.
- Place the wheel chock directly in front of the wheel. Slide
  the wheel chock towards the wheel until firmly seated
  while maintaining a vertical attitude on the handle. The
  inside light will change from RED to GREEN. The cradle
  light will change from OFF to solid WHITE. See Fig. 7.



#### **▲ WARNING**

Do not remove the wheel chock with dock leveler lip in trailer.

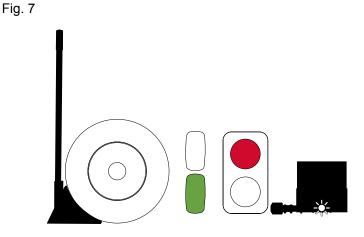
- Remove the wheel chock from the vehicle wheel. The inside light will change from GREEN to RED and the cradle light will change from solid WHITE to OFF.
- Store the wheel chock in the chock cradle. The outside light will change from RED to GREEN. The vehicle is now safe to leave. See Fig. 8.

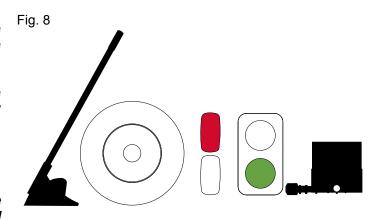
#### FOR VEHICLES THAT CANNOT BE ENGAGED

#### **▲ WARNING**

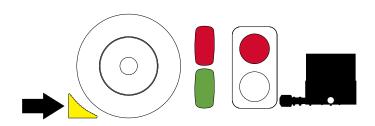
Do not initiate OVERRIDE unless vehicle wheels have been chocked with other wheel chocks. Only authorized trained personnel should initiate OVERRIDE.

- If the configuration of the vehicle wheels prevent proper engagement of the of the wheel chock, the wheels must be chocked using other chocks. Remove wheel chock from cradle and place it in a safe space clear of any traffic. The outside light will change from GREEN to RED. Chock the vehicle wheels with the other chocks and then rotate the switch from AUTOMATIC to OVERRIDE. The inside lights will change from solid RED to flashing RED/GREEN and the cradle light will be OFF. The vehicle is now safe to load and/or unload. See Fig. 9.
- After loading and/or unloading is completed, return the dock leveler to the stored position. Remove the other chocks and rotate the selector switch to the AUTOMATIC position and store the wheel chock in the cradle. The outside light will change from RED to GREEN and inside lights will change from flashing RED/GREEN to solid RED. The vehicle is now safe to leave.









### PLANNED MAINTENANCE

To ensure the continued proper operation of your wheel chock, perform the following planned maintenance procedures.

### Fig. 10

#### **▲ WARNING**

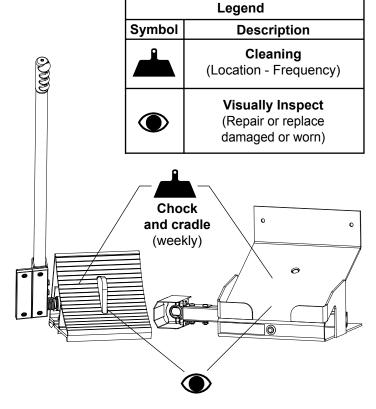
Do not service this product unless you have read and followed the Safety Practices, Warnings and Operation instructions contained in this manual. Failure to follow these safety practices could result in death or serious injury.

#### **DAILY**

- 1. Check inside/outside lights and alarms to ensure they are functioning properly.
- 2. Clear all debris (dirt, snow, etc.) from the chock operating area and sensors.
- 3. Check for worn, torn, missing bumpers. Replace if necessary.

#### **WEEKLY**

- 1. Remove all debris from the chock and/or cradle.
- 2. Inspect the wheel chock and cradle for damage and proper functionality.



### **TROUBLESHOOTING**

DDODI EM

#### **▲ WARNING**

Before servicing the wheel chock, read and follow the Safety Practices on page 3 and the Operation section in this manual. Failure to do so could result in death or serious injury.

Use the Troubleshooting Guide if the wheel chock fails to perform properly. Find the condition that most closely matches your situation, and make the recommended adjustments.

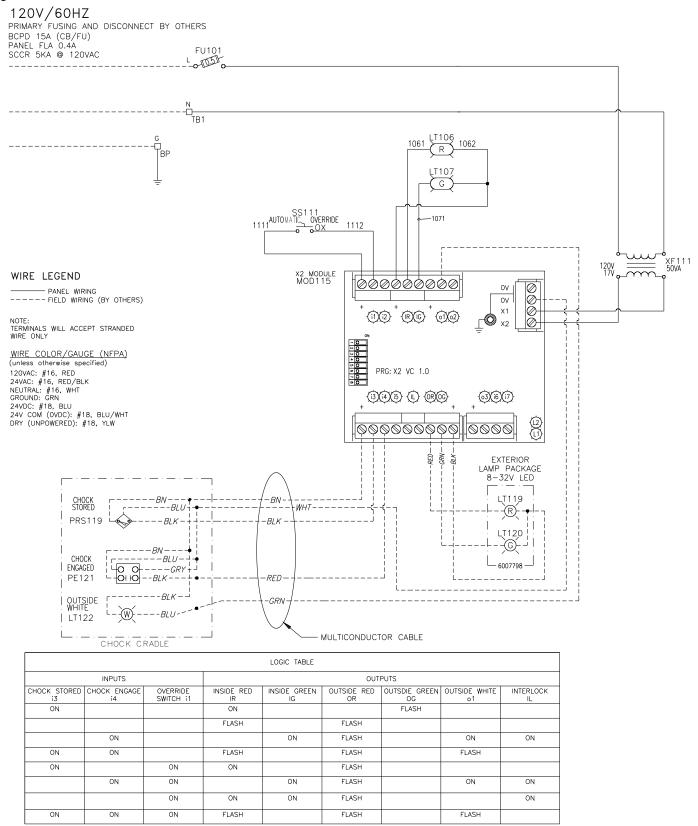
COLUTION

POSSIBLE CAUSE	SOLUTION
a) No power to panel.	a) Check power supply.
b) Fuse failed.	b) Check fuse FU101
a) Chock sensor out of adjustment.	a) Re-adjust sensor using steps on page 9.
b) Chock reflector(s) missing.	b) Replace reflector(s).
a) Trigger jammed.	a) Clean debris from trigger pivot.
b) Chock reflector(s) missing.	b) Replace reflector(s).
a)Arm jammed.	a) Clean debris from arm pivot.
b)Arm spring broken.	b) Replace chock assembly.
	<ul> <li>a) No power to panel.</li> <li>b) Fuse failed.</li> <li>a) Chock sensor out of adjustment.</li> <li>b) Chock reflector(s) missing.</li> <li>a) Trigger jammed.</li> <li>b) Chock reflector(s) missing.</li> <li>a) Arm jammed.</li> </ul>

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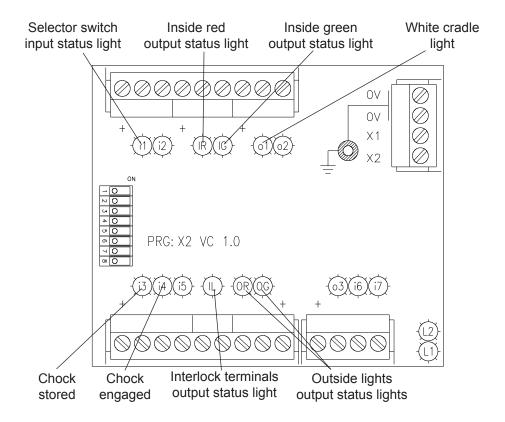
### **ELECTRICAL SCHEMATIC**

Fig. 11



## **CONTROL PANEL CIRCUIT BOARD**

Fig. 12

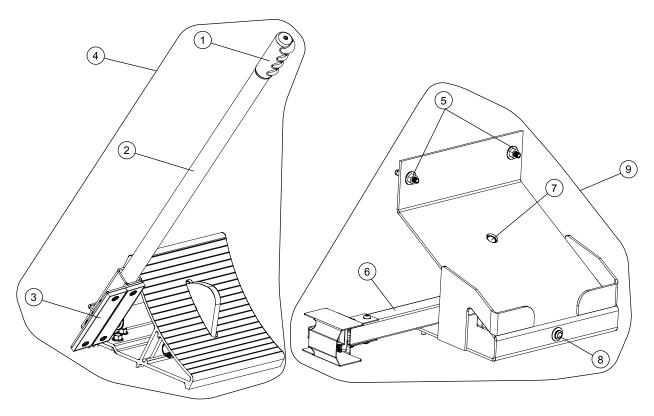


### PARTS LIST — WHEEL CHOCK

### **▲ WARNING**

To ensure proper function, durability and safety of the product, only replacement parts that do not interfere with the safe, normal operation of the product must be used. Incorporation of replacement parts or modifications that weaken the structural integrity of the product, or in any way alter the product from its normal working condition at the time of purchase from 4Front Engineered Solutions, Inc. may result in product malfunction, breakdown, premature wear, death or serious injury.

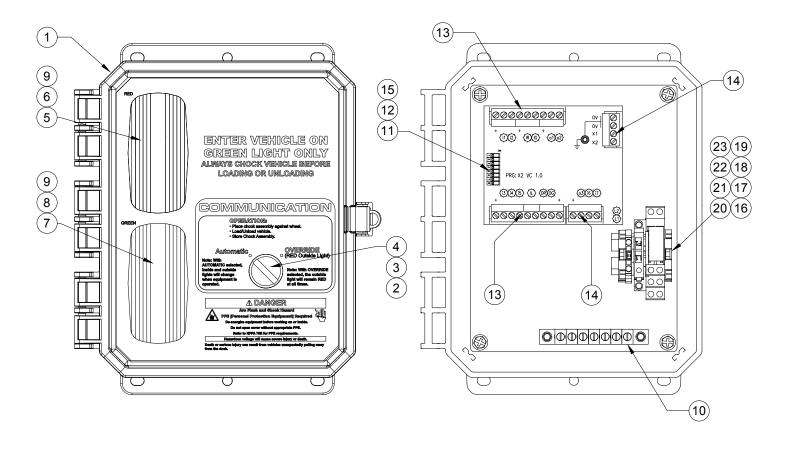
Fig. 13



Item	Qty.	Part Description	Part Number
1	1	CHOCK HANDLE GRIP	6020990
2	1	CHOCK HANDLE	6019499
3	2	REFLECTORS	6019506
4	1	CHOCK ASSEMBLY — COMPLETE (INCLUDES ITEMS 1-3)	6019470
5	2	3/8 X 2-1/4 LG WEDGE ANCHOR	6019525
6	1	SENSOR ARM ASSY (INCLUDES SENSOR, SENSOR ARM AND CLAMPS)	6019481
7	1	CHOCK STORED SENSOR	625208
8	1	CRADLE LIGHT — WHITE	6019479
9	1	CRADLE ASSEMBLY — COMPLETE (INCLUDES ITEMS 5-8)	6019478

## PARTS LIST — CONTROL PANEL

Fig. 14

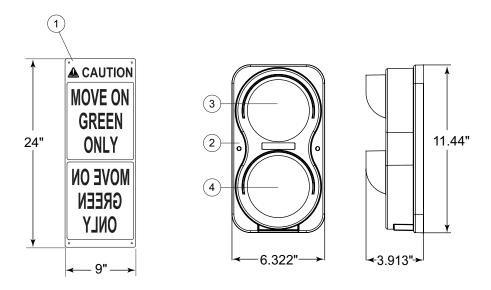


# PARTS LIST — CONTROL PANEL, continued

Item	Quantity	Description	Part Number
1	1	CONTROL PANEL ASSEMBLY — KELLEY CONTROL PANEL ASSEMBLY — SERCO CONTROL PANEL ASSEMBLY — ENTREMATIC	6019423 6019437 6019457
2	1	SELECTOR SWITCH-2 POS. MAINT.	6012565
3	1	CONTACT BLOCK SWITCH N.O.	6012563
4	1	MOUNTING COLLAR	6012562
5	1	RED LENS	823100
6	1	LIGHT BASE RED	823107
7	1	GREEN LENS	AP0027
8	1	LIGHT BASE GREEN	823111
9	4	WHITE LED-24VDC, STD	6015737
10	1	LUG, GROUNDING, 4-14 ALUMINUM	6017390
11	1	COVER PLATE - X CONTROLLER	6013870
12	1	X CONTROLLER PCB W/ VERSACHOCK PROGRAM	6019732
13	2	TERMINAL BLOCK, 9 POS	6008824
14	2	TERMINAL BLOCK, 4 POS	6008822
15	1	TRANSFORMER,CONTROL 120/17 50VA	6008636
16	2	TERMINAL, END STOP, SCREWLESS	6000549
17	1	TERMINAL, 2 POLE	6000542
18	1	TERMINAL BLOCK, FUSED DISCONNECT	6000538
19	1	FUSE MDL 0.5A (NOT SHOWN)	6008836
20	1	TERMINAL END PLATE, 2MM	6006848
21	1	END AND INTERMEDIATE PLATE 2.5MM	6008853
22	1	RELAY SOCKET FINDER 95.85.1	6000522
23	1	MINIATURE PCB RELAY 24VDC	6000520

## PARTS LIST — LIGHTS AND SIGN

Fig. 15



Item	Quantity	Part Description	Part Number
1	1	OUTSIDE SIGN – NORMAL AND REVERSE LETTERING	709-832
2	1	OUTSIDE LIGHT ASSEMBLY - COMPLETE (LEDS)	6007798
3*	1	RED LED LIGHT ASSY.	6007800
4*	1	GREEN LED LIGHT ASSY.	6007801

<sup>\*</sup> Part of Item 2 (Light Assembly – Complete).

### LIMITED WARRANTY

THIS LIMITED WARRANTY IS 4FRONT'S SOLE AND EXCLUSIVE WARRANTY WITH RESPECT TO THE WHEEL CHOCK AND IS IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES. EXPRESS OR IMPLIED.

4Front warrants that this WHEEL CHOCK will be free from flaws in material and workmanship under normal use for a period of one (1) year from the earlier of 1) 60 days after the date of initial shipment by 4Front, or 2) the date of installation of the WHEEL CHOCK by the original purchaser, provided that the owner maintains and operates the WHEEL CHOCK in accordance with this User's Manual.

In the event that this WHEEL CHOCK proves deficient in material or workmanship within the applicable Limited Warranty period, owner shall so notify 4Front, and 4Front will, at its option:

- 1. Replace the WHEEL CHOCK, or the deficient portion(s) thereof, without charge to the owner; or
- 2. Alter or repair the WHEEL CHOCK, on site or elsewhere, without charge to the owner.

This Limited Warranty does not cover any failure caused by improper installation, abuse, improper operation, negligence, or failure to maintain and adjust the WHEEL CHOCK properly. Parts requiring replacement due to damage resulting from vehicle impact, abuse, or improper operation are not covered by this warranty. 4FRONT DISCLAIMS ANY RESPONSIBILITY OR LIABILITY FOR ANY LOSS OR DAMAGE OF ANY KIND (INCLUDING WITHOUT LIMITATION, DIRECT, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, OR LOST PROFITS OR LOST PRODUCTION) arising out of or related to the use, installation or maintenance of the WHEEL CHOCK (including premature product wear, product failure, property damage or bodily injury resulting from use of unauthorized replacement parts or modification of the WHEEL CHOCK). 4Front's sole obligation with regard to a WHEEL CHOCK that is claimed to be deficient in material or workmanship shall be as set forth in this Limited Warranty. This Limited Warranty will be null and void if the original purchaser does not notify 4Front's warranty department within ninety (90) days after the product deficiency is discovered.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, INCLUDING, BUT NOT LIMITED TO, A WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH 4Front HEREBY DISCLAIMS.

Please direct questions about your wheel chock to your local distributor or to 4Front Engineered Solutions, Inc.

Your local 4Front Engineered Solutions, Inc. distributor is:

Corporate Head Office:

1612 Hutton Dr. Suite 140 Carrollton, TX. 75006 Tel. (972) 466-0707 Fax (972) 323-2661

4Front Engineered Solutions® VERSACHOCK™