

ABC DOCKS, LLC



ATR-700

AUTOMATIC TRAILER RESTRAINT

Owner / Parts Manual

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INTRODUCTION

The 'ATR-700' is designed for grad mounting at dock face. Proper performance relies on adequate preparation and installation. Read this manual to fully familiarize yourself with the added value of this safety equipment. When properly installed and operated the 'ATR-700' will provide many years of reliable service.

Be sure that adequate electrical service is offered to assure proper operation of all electrical circuits. Failure to provide proper/adequate power could result in damage to the equipment.

If any information provided herein is not fully understood contact your local Aaron-Bradley products dealer representative or ABC Docks direct.

Arrangement of the Dock Area

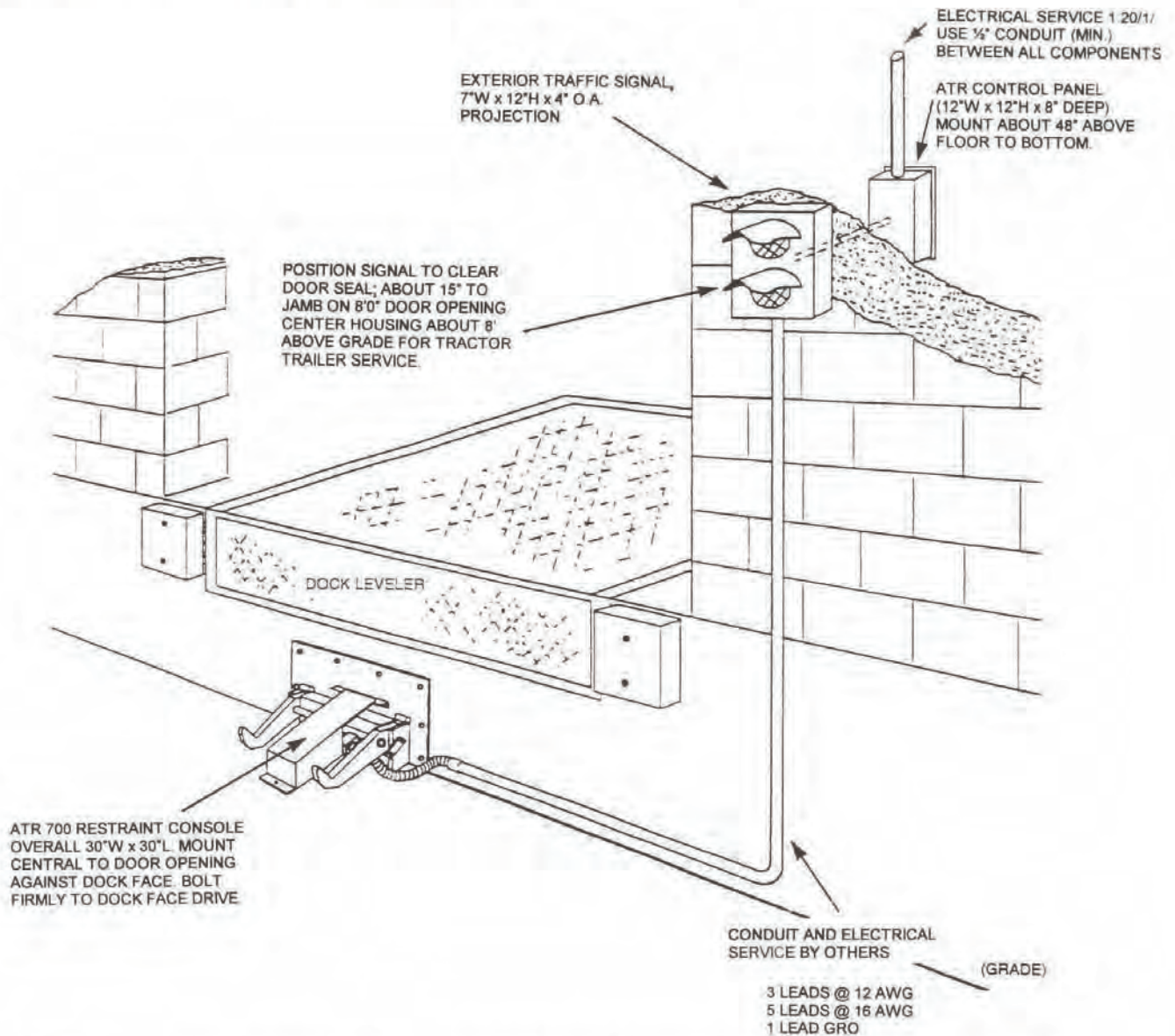
This unit is designed for grade level location. If site conditions require, the Restraint Console may be mounted above grade. ABC Docks recommends limiting above grade mounting to less than 2" to maintain clearance for lower ICC bumper frame sections.

The success and strength of any installed product relies heavily on the conditions of the material surrounding the installation site.

This will include the dock face and adjoining drive

area. Repair any structural defects to the dock face and / or drive prior to attempting equipment installation. If necessary, prepare alternate attachment methods to accommodate on-site conditions.

Contact your local Aaron-Bradley products representative or ABC Docks direct to assist in preparation of accessories needed to adequately secure this product.



Arrangement of the Dock Area

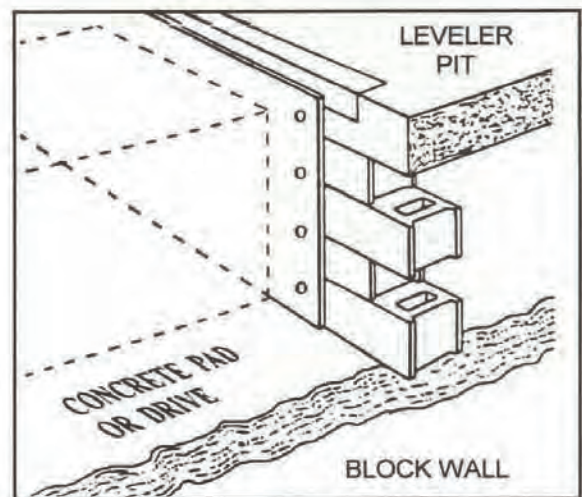
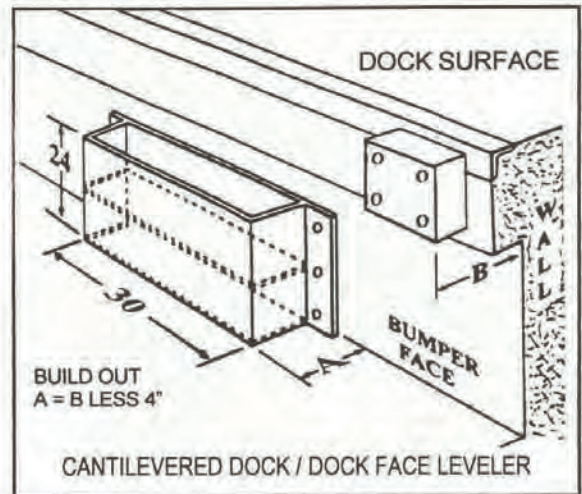
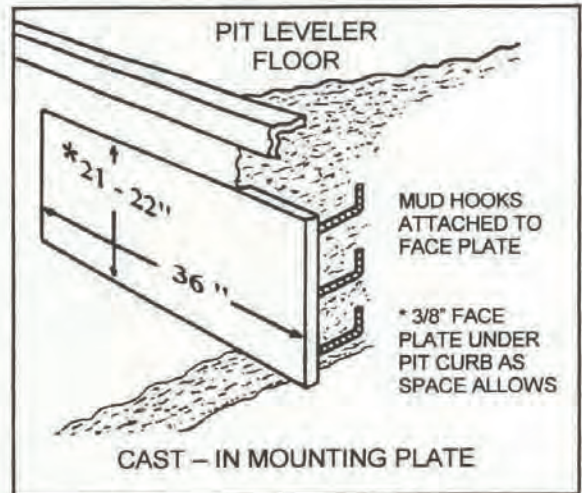
Note: Attachment of this unit places anchor components in shear and tension rather than direct tension providing added strength. Your best results will be achieved when all mounting holes are used.

OPTIONAL INSTALLATION NEEDS:

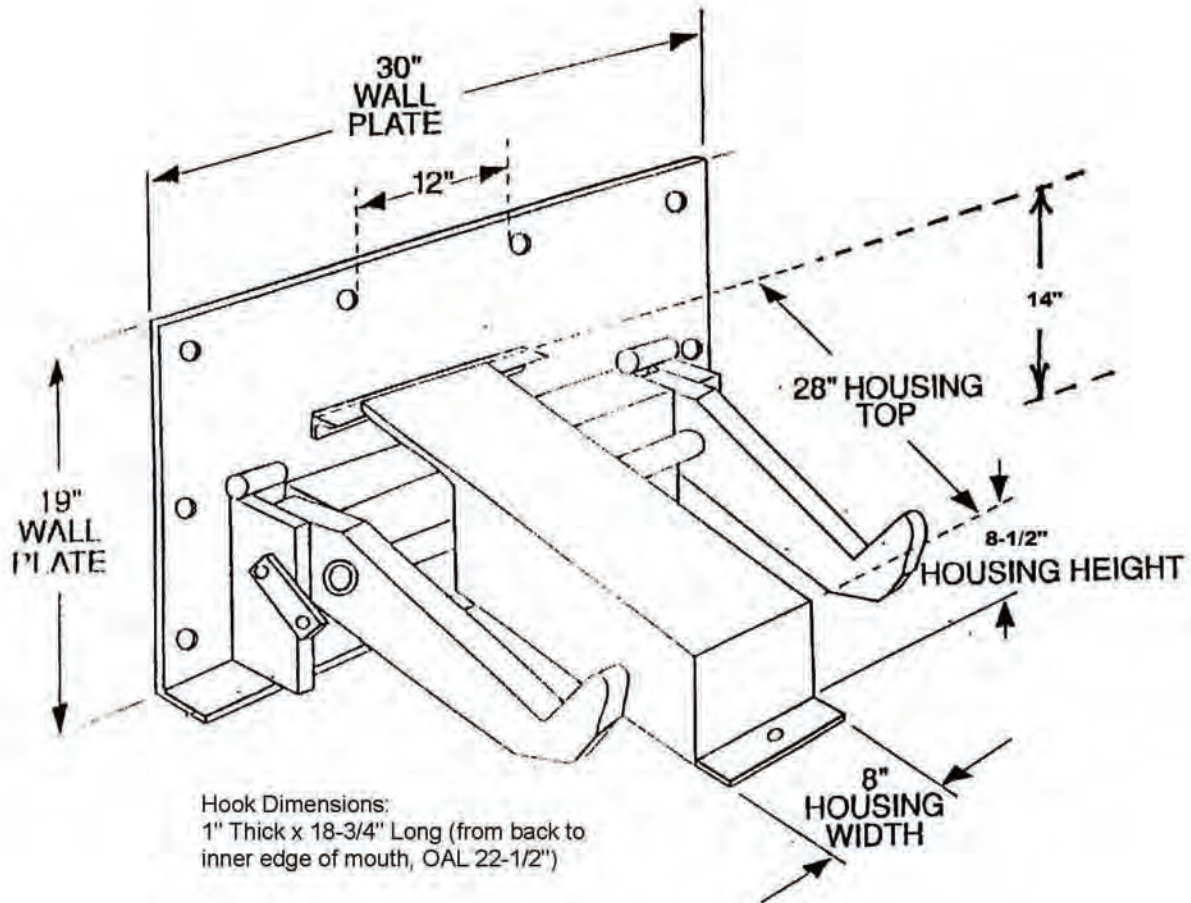
New Construction: Preplanned use of the 'ATR-700' will afford the opportunity to use a cast in place anchor plate offered by ABC Docks or prepared by others to become a fixed component of the dock face. The plates offer maximum strength and ease of installation. When anchor plates are imbedded in a new wall or during remodeling, the 'ATR-700' becomes a weld-on installation.

Leveler Overhang: Should building design offer a cantilevered dock shelf, extended bumpers or dock face mounted leveler (Edge-of-Dock product), the 'ATR-700' restraint consoled must be mounted forward of the dock wall a distance equal to the distance of the dock bumpers face from the foundation wall, less 4". The console size is designed to accommodate industry standard 4" - 6" dock bumping. Any bumper projection more than 6" from dock face necessitates console positioning forward of dock wall. ABC Docks will prepare the 'ATR-700' per order to satisfy your dock conditions if known in advance. ABC Docks can also prepare field adapters for these mounting needs. Discuss with your representative or local fabricator as on-site conditions require.

Cinder Block Wall: Usually a block wall offers minimal longevity to face mounted equipment. It is, therefore, necessary to take added measures to assure improved anchoring. A face plate welded to pit slab curb steel and extending to grade level with extra anchoring will be beneficial, allowing for a weld-on installation of the 'ATR-700'. Additionally, firm foot anchoring is highly recommended. If a concrete approach is not available, a pad should be prepared 8" deep by 6' wide by 4' long with two layers (separated) of reinforcement mesh not less than 4' by 4'. A cast-in anchor base is also recommended for weld-in-place installation in these situations.



"ATR 700" SUBMITTAL DRAWING



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Installation Procedure – Section 1

Read and understand all instructions prior to installation or operation of this safety equipment.

Your "ATR-700" was pre-tested under factory conditions prior to shipment and is ready install. Inspect all materials received and review arrangement layout included to preview installation setup needs.

Inspect the dock face area directly beneath the location where truck docking occurs. Remove or relocate any obstacle that would prevent flush and secure mounting of this product. Repair any weakness observed in the mounting area. If conditions warrant, prepare a slab for base mounting for the "ATR-700". **NOTE:** Base mounting in conjunction with wall mounting provides the ultimate opportunity to maximize the installed strength of this safety equipment and is highly recommended particularly when wall conditions may not be optimum. However, local conditions including floating yard slabs or poor drive construction may negate or minimize the value of this feature. Particular attention should be given to other opportunities that offer a maximum installed strength of this product in the event a portion of the prescribed installation method cannot be followed (See list of optional mounting alternatives).

Position restraint console and mark dock face and driveway for anchors. Unit should be positioned to sit plumb (vertical) and level (horizontal) and as firmly against dock face as possible. Shim beneath front mounting hole as needed to provide firm footing. Shims should be steel and welded into position to avoid accidental dislocation. This unit is prepared for 5/8" diameter

anchor. Minimum length recommended is 6" for stud type anchors. Double wedge machine bolt sockets are highly recommended. Socket depth for a 5/8" bolt is 3" and would require a 1" diameter hole 3½" deep and a 3½" bolt (See other instructions if dock is not poured concrete construction). Eight (8) hole locations are provided for wall attachment and should all be prepared for anchors.

Driveway attachment should be accomplished as allowed by site conditions. Use same technique as wall mount if yard has concrete pad or drive. Adjust length of anchor for any shim addition under mounting hole. For black top or hard compacted drives provide one (1) anchor rod (rebar ½" x 15"). These should be prepared with a modestly pointed nose to be driven into the ground or surface material. The top end should then be welded to restraint base.

The operating range of the "ATR-700" offers engagement of most legally mounted ICC frame members. The unit performance will be limited to the position and strength of the ICC frame section that varies by manufacturer and design as well as its condition. The "ATR-700" will accept very high stress and pulling forces, however, this can be limited by installation technique, anchors and materials and/or the condition of the dock wall and drive area. Equipment failure due to accidents or inadequate preparations and/or reasonable maintenance of the dock area and its equipment could result in further property damage or personal injury. Please advise your local Aaron-Bradley representative if your "ATR-700" is not operating properly.

Installation Instructions – Section 2

MOUNTING CONTROL PANEL AND OUTSIDE LIGHTS:

Mount Operator Station to convenient location (approximately 48" above floor) that provides a good view for dock attendant. We recommend left side of opening looking "out" as shown in dock arrangements diagram as this simplifies installation. Right side of doorway mounting is ok if installation conditions warrant.

Remove face cover of exterior traffic light housing. Prepare incoming and outgoing access for conduit connections.

Mount exterior traffic light on truck driver's side of exterior wall (left side facing out) in area clearly visible to driver. Be certain to offer clearance for future or current installations of seal/shelter products. Light housing should be 8-9' above grade as noted on arrangement diagram. (See Page 2)

Preview junction box for attachment to restraint console to harbor wire connections

where control and motor leads from Operator Station will join pre-wired leads from console components.

Assemble junction box to console: Thread box onto conduit nut at wire exit from exterior of restraint console.

Route conduit and connectors (supplied by electrical installer) to join console unit, restraint console and exterior traffic light (wire also to be supplied by installer). Make connections per diagram and color code chart included.

Install red flood lamp in top socket of traffic light; green flood lamp in lower socket. Replace face cover to traffic light housing and secure.

Install trucker's instruction signs above and below traffic light where clearly visible to incoming traffic.

Supply and connect incoming electrical power to terminals within operator station.

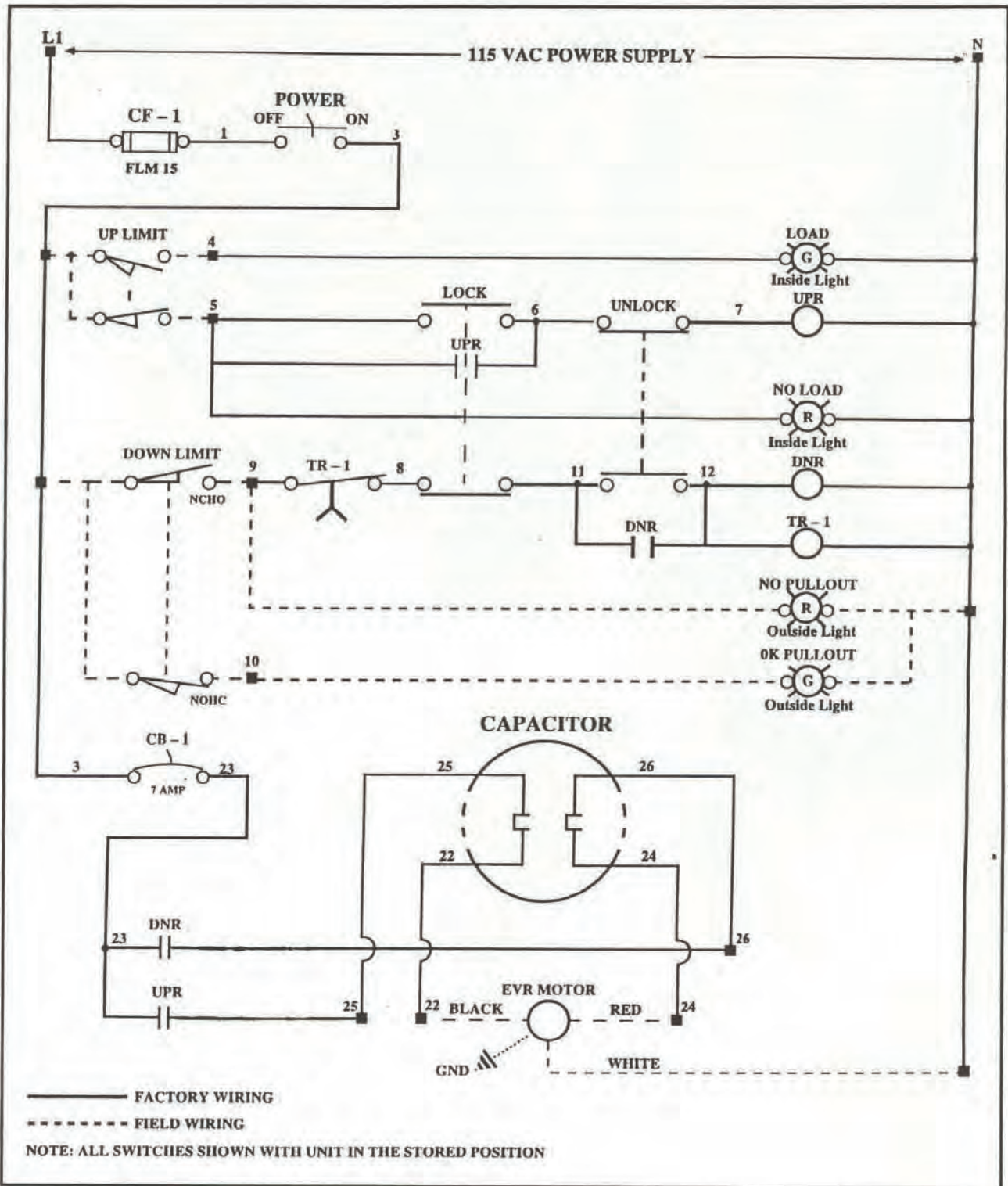
Adjustments – Section 3

Properly installed and serviced this Vehicle Restraint will greatly enhance safety during truck loading/unloading operations and should offer many years of service without a regular maintenance schedule. This product is designed for use in the outdoor environment. Regional and seasonal climate variables offer a wide range of maintenance possibilities for equipment exposed to the elements. The factory adjustment of this product offered proper operation prior to shipment. Although the factory attempts to offer equipment that will display normal operation for most

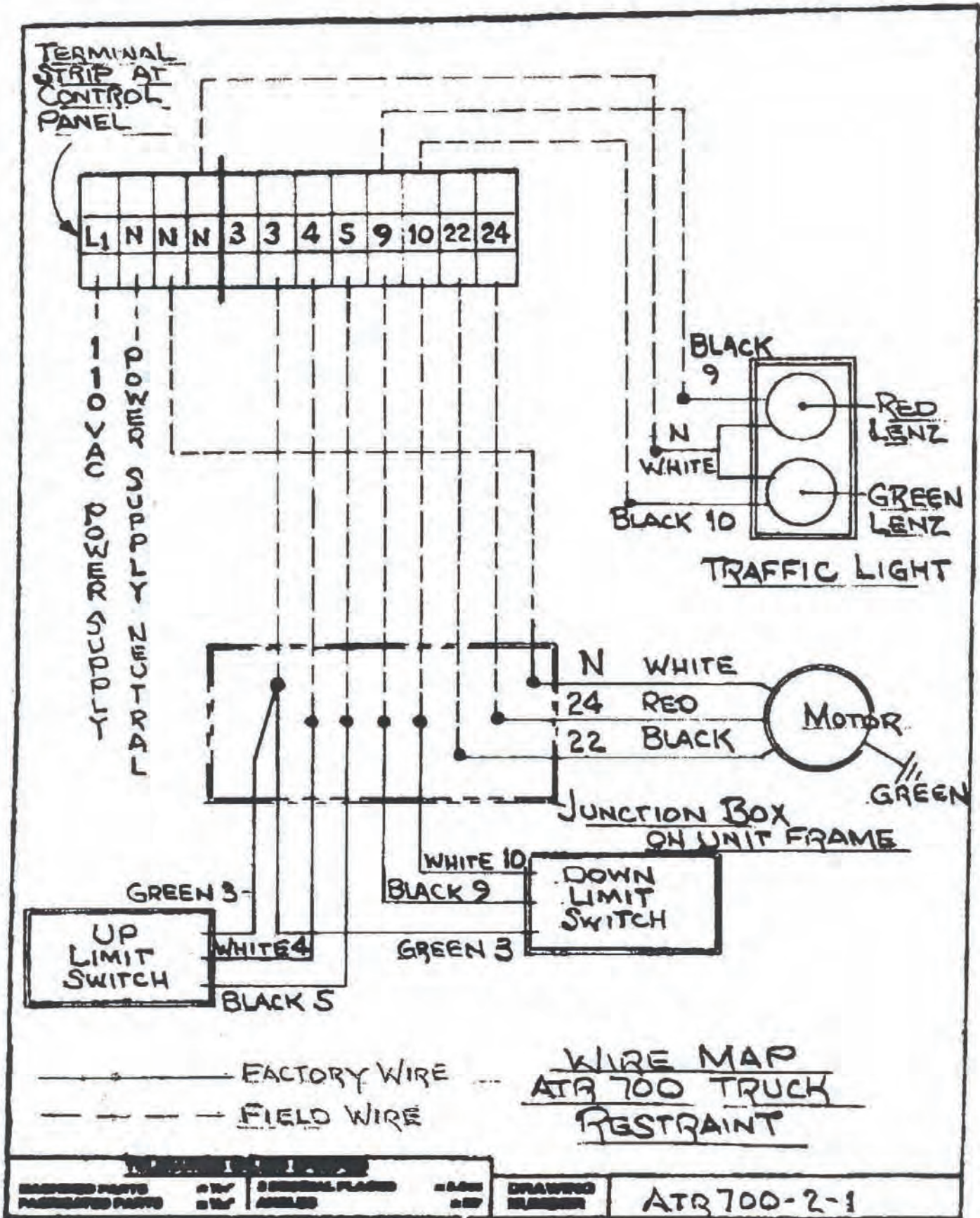
installations, local conditions may require attention at installation to cope with specific site needs.

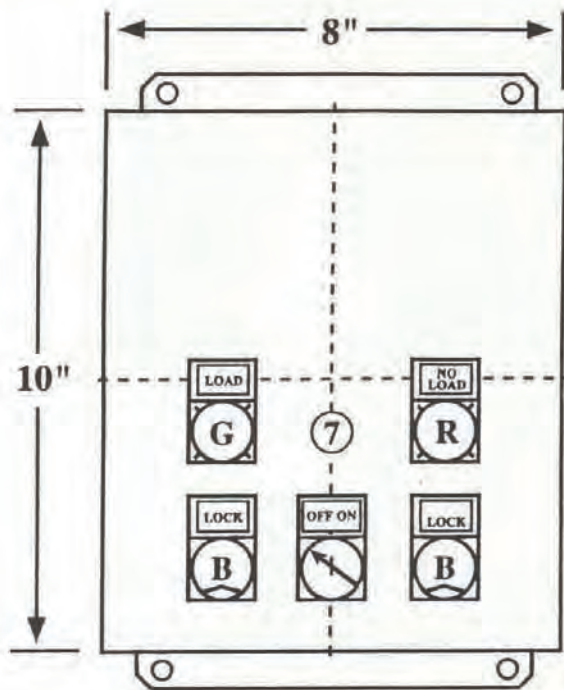
Please contact the factory to review any installation or equipment issue which is not covered by this manual or which is not fully understood.

Follow the Trouble-Shooting Guide or contact your authorized Aaron-Bradley representative for required service or adjustments.

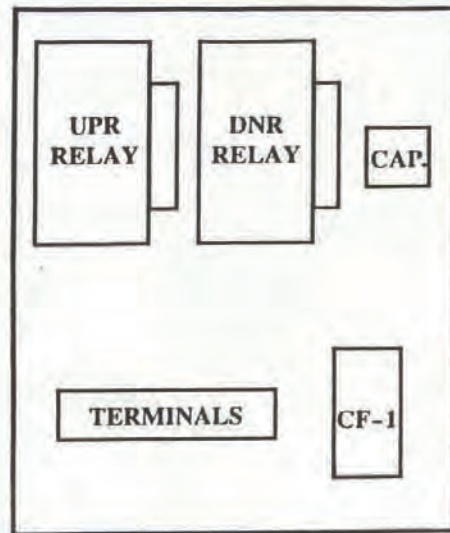


**1 Phase 115 Volt Wiring Schematic
Truck Restraint Control Panel**

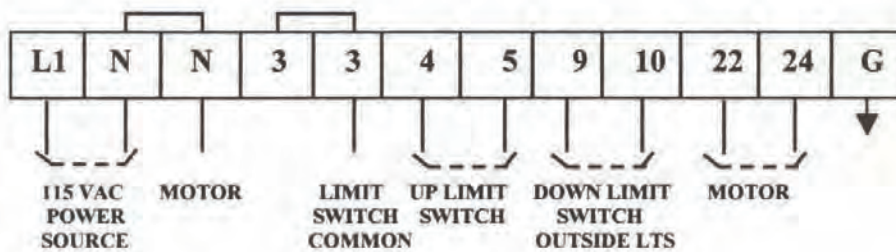




PANEL FRONT VIEW



INTERIOR PANEL LAYOUT



FIELD CONNECTIONS

NOTE: IF MOTOR FAILS TO OPERATE WHEN "LOCK" BUTTON IS PRESSED AT INITIAL STARTUP - SWITCH MOTOR WIRES AT TERMINAL STRIP NUMBERS 22 AND 24 TO CHANGE DC CURRENT PHASE AT MOTOR.

**Panel Layout Drawing ATR-700
Truck Restraint**

Operation – Section 4

The “ATR-700” Vehicle Restraint uses state-of-the art circuitry to engage and disengage the locking arms. This system eliminates the need for regular maintenance although an adjustment as previously noted may be in order. The restraint arms are extended and retracted as follows:

With the truck docked firmly against the bumpers face, the dock attendant simply touches the system “Lock” push-button at the control panel. Automatically the exterior traffic signal will switch from green to red to advise the trucker not to attempt a departure. The locking arms will raise to engage the vehicle ICC frame section. The control panel light will switch to green to advise a safe loading condition. A brief check to the engagement should show the ICC frame entrapped within the restraining arms of the “ATR-700”. If the truck is noted

to have a weak or missing ICC frame the attendant should advise supervision of the noted problem and see that other measures are taken to secure the truck prior to loading or unloading. The “ATR-700” should remain engaged to offer a secondary opportunity by controlling truck traffic with its exterior traffic light.

When the “Unlock” button is touched the restraint arms will power retract into the stored position within the console housing; the exterior traffic light will switch from red to green to release the docked truck; and the interior visual display will switch to red to advise caution around the dock area because the “ATR-700” is now deactivated and the truck may leave at any time. If the “Unlock” button is touched while the restraint is not in use, the system will not cycle.

Major Components – Section 5

Restraint Console: A heavy steel housing, to enclose the operating components of the “ATR-700”, serves as the mounting framework for the unit installation. The console is offered for grade level mounting against the dock wall face. Alternate mounting options are available to satisfy unique conditions.

Restraint Arms: Operate to engage the ICC frame section of the truck or trailer chassis. When engaged the restraint arms offer resistance to truck movement. When disengaged the restraint arms are stored beside the console housing to allow free passage of docking or departing vehicles.

Torsion Spring/Motor Unit: “ATR-700” arms are torque activated by adjustable torsion spring. Drive motor maintains arms in retracted (stored) position. Lock circuit

allows arms to engage truck via motor operation to release arms from stored position and engage truck at ICC frame. Unlock circuit causes motor drive to reverse direction and retract arms to stored position.

Operating Station: A fully-gasketed steel enclosure which mounts the operating push-buttons, the interior visual indicators and contains the electrical service which operates the motor and the interior/exterior visual traffic signals.

Exterior Traffic Lights: Plastic enclosure for housing red and green visual traffic control indicator to display docking or no-go conditions for trucker. To open light housing, screw clamps must be loosened and two (2) hinge pins (upper and lower) must be pulled from housing to service lights or wiring.

Specifications – Section 6

Electrical: 120V AC, 20A

Motor Unit: Utilized worm drive activator with clutch and thermal overload protection.

Wiring: Operator station pre-wired. Refer to field arrangement drawing (Page 2) for conduit and wire needs.

Limit Switch: Industrial quality momentary contact type. Used to control traffic signals and stop cycle in motor control circuit.

Push-button: Momentary contact type industrial quality control push-button. Used to select lock/unlock cycles.

Capacitor Number: 28 – 33 split

Control Breaker: 5A, protects circuit from overload.

Relays: Enclosed motor starter. Provides motor free current when activated in either lock or unlock mode by touching push-button.

Exterior Lights: ANSI bulb No. 25T8DC-4 (Red or Green)

Interior Traffic Indicator: ANSI bulb No. 949

Timer: 0-10 second variable to limit motor over run.

Maintenance – Section 7

Maintenance Procedure: Shut off electrical power before servicing electrical system or during lamp replacement.

Remove four (4) bolts from console cover to open. Remove any debris. Inspect components for indications of potential problems (wear, damage). Cycle to review operation. Make adjustment or repairs as necessary. See Operation Instructions on Page 9.

Quick Check: Are all lamps on when required in cycle? Do the restraint arms fully extend and motor stop to complete "Lock" cycle? Do the restraint arms fully retract and motor stop to complete "Unlock" cycle?

Visual Indicator: Proper traffic signals are critical to this safety equipment. Review functions on Page 9. Verify correct lamps on/off during lock/unlock cycles. See specifications on this page for replacement bulbs. Shut power off before lamp replacement.

Lubrication: This product is designed to function without excessive lubrication. However, a squirt a WD-40 or similar product on torsion spring, restraint arm pivots, switch arm pivots, and bottom slide arm of motor unit's end guide will help promote a smooth operation.

CAUTION

Contact your Aaron-Bradley products representative or the factory if a malfunction occurs which is not understood. **DO NOT** attempt to correct the situation without proper information and understanding, as this may damage components and void the warranty.

SERVICE AND MAINTENANCE

ABC Docks recommends periodic inspection and servicing of the Aaron-Bradley 'ATR-700' Trailer Restraint to assure proper operation and maximum life span. Units should be inspected a minimum of every six (6) months, and if needed, can be adjusted and lubricated. Contact your local Aaron-Bradley products dealer to secure a complete maintenance plan.

ABC Docks, LLC



Warranty – Trailer Restraints

ABC Docks warrants trailer restraints against defective parts and faulty workmanship for a period of one (1) year commencing at the time of shipment from our plant. All replacement parts will be F.O.B. our plant and will be issued upon return of defective parts or as designated by ABC Docks. All purchased items, such as components not manufactured in our plant, will carry the warranty of the original manufacturer. This warranty shall not cover failure or defective operation in excess of the recommended capacities, misuse, negligence, accident, alteration or repair not authorized by ABC Docks. All applicable and incurred labor and / or freight charges are the customer's responsibility.

"No other warranty exists except as stated herein."

ABC Docks has no liability for general, consequential, incidental or special damages; is not responsible for loss of use of any equipment, and expressly disclaims any and all implied warranties. In the United States, some states do not allow exclusion or limitation of incidental or consequential damages, so the limitations above may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

IMPROVEMENTS

ABC Docks is constantly striving to improve its products. Change in design and improvement will be made whenever we believe the performance or operation of the equipment will be improved with no obligation to incorporate any such improvement in any equipment, which has been shipped or is in service.