

GUIDE SPECIFICATION

MANUFACTURER:

4Front Engineered Solutions - KELLEY
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SECTION 11 13 19.33

STAR® 4 VEHICLE RESTRAINTS

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This guide specification section has been prepared by 4Front Engineered Solutions - KELLEY, and is intended to assist the specifier in preparing a specification for an Electro-mechanically operated trailer restraint devices, complete with all available options and accessories.

Edit entire section to suit project requirements. Modify or add items as necessary. Delete items, which are not applicable. Words and sentences within brackets [] reflect a choice to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance, proprietary and descriptive type specifications. Edit to avoid conflicting requirements.

This guide specification is written around the Construction Specifications Institute (CSI), Section Format, and standard references to section names and numbers are based on the CSI Master Format 2004.

For specification assistance on specific product applications or information about other 4Front Engineered Solutions - KELLEY products, please contact our offices above or any of our local product representatives throughout the country.

4Front Engineered Solutions - KELLEY reserves the right to modify these guide specifications at any time. Updates to this guide specification will be posted to the manufacturer's web site and/or in printed matter as they occur.

4Front Engineered Solutions - KELLEY makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.

PART 1 - GENERAL

I.1 SUMMARY

- A. Related Documents: Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements and Drawings are collectively applicable to this Section.
- B. Related Sections:
 - 1. Section 03 30 00 - Cast-In-Place Concrete: Concrete pit.
 - 2. Section 05 50 00 - Metal Fabrications: [Perimeter guard rails and inserts.] [Dock slab and door protection edge angles.]
 - 3. [Division 16 - Electrical: Connections to dock equipment.]

I.2 SYSTEM DESCRIPTION

4Front Engineered Solutions - KELLEY Guide Specification
Project No. []

11 13 19.33-1

Vehicle Restraints
KLS-RVST4-0509

- A. Design Requirements: Provide fixed-in-place adjustable vehicle restraint devices.
- B. Provide equipment, which has been manufactured, fabricated, and installed to withstand loads specified and to maintain performance criteria stated by manufacturer without defects or failure.
- C. Comply with ANSI MH 30.3.

I.3 SUBMITTALS

 Include submittal requirements below, which are consistent with the scope of the project and extent of work of this section. Only request submittals which are necessary for review of design intent.

Do not request submittals if drawings sufficiently describe the products of this section or if proprietary specifying techniques are used. The review of submittals increases the possibility of unintended variations to drawings.

- A. General: Submit in accordance with Section 01 33 00.
- B. Product Data: Submit product data for vehicle restraint equipment.
- C. Shop Drawings: Submit drawings indicating fabrication and erection of restraint equipment, including plans, elevations and large-scale details.
 - 1. Show anchorages, critical installation clearances, connections, and accessory items.
 - 2. Provide location template drawings for items supported or anchored to permanent construction.
 - 3. Provide rough-in drawings for electrical service in advance of concrete work.
- D. Informational Submittals: Submit following:
 - 1. Manufacturer's instructions.
- E. Closeout Submittals: Submit following in accordance with Section 01 78 00.
 - 1. Maintenance data.
 - 2. Warranty: Specified warranty.

I.4 QUALITY ASSURANCE

- A. Single Source Responsibility: Each component of restraint device is required to be from same manufacturer.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with minimum ten years documented experience.
- C. Installer Qualifications: Approved in writing by manufacturer with documented experience on at least five projects of similar nature in past five years.
- D. Regulatory Requirements: In compliance with ANSI MH 30.3 plus applicable OSHA requirements.
- E. Manufacturer to hold current ISO 9002 certification

I.5 WARRANTY

- A. Limited 1-Year Parts & Labor Warranty: 4Front Engineered Solutions - KELLEY warrants all components to be free of defects in material and workmanship, under normal use, for a 1-year base period from date of shipment in accordance with 4Front Engineered Solutions - KELLEY's Standard Warranty Policy. The "Base Warranty Period" will begin on the completion of installation or the sixtieth (60th) day after shipment, whichever is earlier.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. 4Front Engineered Solutions - KELLEY, 1612 Hutton Drive, Suite 140, Carrollton, Texas, (972) 466-0707 voice, (972) 323-2661 facsimile

2.2 VEHICLE RESTRAINT DEVICES

- A. General:
 - 1. Provide manufacturer's standard automatic device designed to engage trailer's rear-impact guard and hold truck at loading dock. Non-impact restraint shall consist of 3/8" steel mounting plate and 1/2" steel plate T-rail support member, horizontal mounting plate for tie to dock leveler pit, (14) 1/2" anchor bolts, ductile iron casting hook with pivot and upward biased gas spring, and linear actuator drive system. Visual communication system consisting of single exterior caution sign, exterior red / green LED compact lights and red / green LED lights on interior control panel.
- B. Operation:
 - 1. Vehicle restraint designed to hook the rear impact guard of a truck and hold the truck at the loading dock. The restraint is activated and released at inside-mounted control panel. To include a red / green light LED communication system on the inside and red / green LED outside lights. When the restraint is not in use the arm to be stored in lowered position to avoid trailer impact. Unit includes sensor bar to signal contact of hook with the rear impact guard of a trailer. If for any reason the loss of rear impact guard is sensed the interior lights will flash red to notify dock personnel of an unsafe condition.
 - 2. Automatic Operating System: Provide manufacturer's standard electrically powered restraint, activated by a remote-control station.
 - a. Electrical Requirements: Coordinate wiring requirements and current characteristics with building electrical system. See Division 16 Sections
 - b. Remote-Control Station: Provide manufacturer's standard control, enclosed in a NEMA 12 box. Engage restraint by pushing the HITCH button and release restraint by pushing RELEASE button.
- C. Operating Range: Low-profile design stores at 9-1/2" off grade and will engage rear-impact guards positioned up to 10 inches horizontally from face of 4" bumpers. Vertical hooking range of 11" – 27 1/2".
- D. Mounting: Provide manufacturer's standard mounting method as follows
 - 1. Provide manufacturer's standard concrete anchor bolts and pit mounted reinforcing plate for field mounting to concrete dock face and pit floor.
 - 2. [New Construction Mounting Plate: Designed to be poured in place into dock face with studs for field bolting of restraint back plate, to be used in place of concrete anchor bolts in dock face.]
- E. Restraining Capacity: Not less than 32,000 lbs.
- F. Controls: Control box to be operated by programmable logic controller (PLC) with diagnostic capability. Solid state control panel (14"w x 16"h x 8"d). Integral 24V LED red and green lights.
- G. Communication System: Provide manufacturer's standard system, as follows:
 - 1. Caution Sign: Single surface-mounted sign with forward facing and reversed letters.
 - 2. Signal Lights: Set of illuminated exterior (24V) and interior (24V) LED signal lights to indicate device's status to both controller and truck driver. Lights shall be activated automatically when device engages rear-impact guard.
 - 3. Alarm: Audible Alarm and flashing interior lights indicating that rear-impact guard is not engaged.

- H. Acceptable Product: Model no.
- I. 4Front Engineered Solutions - KELLEY STAR® 4

2.3 FINISHES

- A. Finish:
 - 1. Preparation: Clean surfaces free from slag and splatter, loose mill scale, oil, grease, or rust.
 - 2. Factory apply manufacturer's standard zinc-plated finish
 - 3. Color: Manufacturer's standard color.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions and proceed with Work in accordance with Section 01 40 00.

3.2 INSTALLATION

- A. Install in accordance with Section 01 60 00.
- B. Connect motors and electrical leads with control units.
- C. Remote Control Station: Locate where indicated.

3.3 ADJUSTING AND CLEANING

- A. Adjust installed unit for smooth, safe, efficient and balanced operation.
- B. Remove temporary labels and coverings and protection of adjacent work areas.
- C. Repair or replace damaged products.
- D. Remove construction debris from site and dispose.

3.4 INSTRUCTION OF OWNER'S PERSONNEL

- A. Instruct Owner's personnel in operation and maintenance of installed units. Provide bound copy of manufacturer's operation and maintenance manual at time of instruction.

END OF SECTION