

MODEL DSC7500(MBR)
CRASH BEAM BARRIER SYSTEM
HORIZONTAL SWING - MANUAL OPERATION
TAMPER RESISTANT HYDRAULIC LOCKING SYSTEM

SYNOPSIS

-) The Series DSC7500(MBR) Crash Beam Barrier System Incorporates a Crash Resistant Arm that is principally fabricated from a Custom Rolled, High Strength Alloy Steel beam. It is opened and closed manually and is secured in the closed (guard) position by a Tamper Resistant Hydraulic Locking System.
-) The Series DSC7500 Barrier System has been tested in full scale configuration in accordance with the Department of State Certification Standard Test Method for Vehicle Crash Testing of Perimeter Barriers and Gates, SD-STD-02.01, Revision A, March 2003. The U.S. Department of State Certified rating is K12.
-) Delta has been manufacturing Crash Beam Barrier Systems for over 15 years and has over 3,000 in service worldwide. These include fully automated systems; both hydraulic and pneumatic, manual and hydraulic counterbalanced systems that are deployed by rotating vertically, horizontally or operated by retracting along a linear cantilever or ground track.
-) DSC7500 Series Barriers can be operated in a fully automatic mode by the addition of a Delta hydraulic power unit and appropriate control options [reference: Model DSC7500(H)].
-) A complete range of optional Prime Movers, Control Options, Interface Packages, Sensors, Signal Lights, Safety Provisions etc., is available.

1.0 SCOPE

This specification defines the procurement of a CRASH CERTIFIED HORIZONTAL SWING CRASH BEAM BARRIER SYSTEM, Model DSC7500(MBR), consisting of a crash beam, bearing assembly, hinge end support column locking end support column, a Tamper Resistant Hydraulic Locking System, mounting hardware, with other options as defined herein.

- 1.1 U.S. PATENT LICENSE. The CRASH CERTIFIED DROP ARM BEAM BARRIER SYSTEM shall be fully licensed for manufacture under U.S. Patent Number 4,844,653 dated July 4, 1989.

2.0 SYSTEM CONFIGURATION

- 2.1 Barrier Construction. Barrier shall be an above grade assembly containing a crash beam hinged at one end, which can be rotated manually. When in the closed position the beam shall present a formidable obstacle to approaching vehicles.
- 2.2 Barrier Height. Height of the Barrier shall nominally be 33 inches (0,93 M) as measured from the roadway surface to the centerline of the crash beam. Height can be varied during installation to suit local security requirements.
- 2.3 Barrier Clear Opening. The standard clear opening shall be 144 inches (3,66 M) as measured inside to inside of the buttress supports. The Barrier can be specified with a clear opening up to 360 inches [9,14 M].
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- 2.4 Finish. The foundation base of the Barrier shall be asphalt emulsion coated for corrosion protection. Exposed
- 2.5 Barrier surfaces shall be painted with a gloss white, two-part epoxy high weather resistant paint (or optional galvanized finish). The drop arm beam shall be finished with reflective tape (red and white diagonal stripes) across the front and back faces of the crash beam.

3.0 PERFORMANCE

- 3.1 Experience. Barrier and auxiliary equipment shall be of a proven design. Manufacturer shall have 15 years documented experience with similar vehicle Barriers.
- 3.2 Qualification Tests. The Model DS7000 Barrier System has been tested in full scale configuration in accordance with the Department of State Certification Standard Test Method for Vehicle Crash Testing of Perimeter Barriers and Gates, SD-STD-02.01, Revision A, March 2003. The Department of State certified rating is K12.

4.0 OPERATION.

- 4.1 The Horizontal Swing Barricade shall be configured so that a single attendant can easily rotate it between the guard and the free passage position.

5.0 TAMPER RESISTANT LOCKING SYSTEM

5.1 SYNOPSIS

-) The Locking System is operated by a manually driven bi-directional hydraulic pump. The pump output extends and retracts the steel locking pin.
-) Operation of the system is only permitted by entering an authorized personalized code into an electronic keypad. An improper or unauthorized code deactivates the hydraulic circuit.
-) The hydraulic and electromechanical components of the Locking System are enclosed within a thick walled steel tube. With the Barrier arm in the locked position the access to the service or inspection doors are strongly secured. Only with the Barrier arm in the open position can the Locking System be removed from the post.
-) The sealed battery used in the system is maintained at operating level by a solar panel array. The solar panel is provided with a mounting stand and interconnection cable. In the event of battery total discharge or failure, the system can be operated using power from an external source such as an automobile car battery. The external power source is connected to the system through a weather resistant connector mounted on the body of the System.
-) When the Locking System is activated through the use of the key code, 30 seconds is allowed to perform the lock or unlock function. Five turns of the removable crank in corresponding direction will unlock or lock the Barrier. After 30 seconds has exhausted the locking pin will remain in the current position until the key code is

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entered again, allowing for another 30 seconds of operation.

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- 5.2 Power Source: The Keyless Entry System, as well as the hydraulic circuit elements, shall be powered by an internal rechargeable battery.
- 5.3 Frequency of Operation: The Locking System can be operated in cycles of 30 second intervals once key code is entered. Such intervals can be performed at a rate of 60 per hour.
- 5.4 The Locking System shall be enclosed in a weather resistant, lockable enclosure.
- 5.5 The enclosure shall consist of a thick walled 8" x 10" steel tube.
- 5.6 The Locking System will be mounted to an insert that will slide into the enclosure as one assembly. The insert will be secured to the enclosure by the (2) bolts that are covered when the barrier is in the locked position.
- 5.7 The enclosure shall have all necessary, external terminals, plug-in connectors for solar panels, Booster Battery Packs, etc.
- 5.8 All external openings for the crank handle and external power source connections shall be sealed from easy access by a locked cover.
- 5.9 Internal Rechargeable Battery. The Battery shall be a 12V 7Ah sealed unit.
- 5.10 Performance: A fully charged battery shall be sized to operate 200 full operating cycles without external charging or supplemental power.
 - 5.10.1 The internal battery shall be conveniently located within the Locking System for easy removal for off-site charging, interchanging or replacement.
 - 5.10.2 Solar Array Re-Charging System: The system shall be supplied with a Solar Array for maintaining the Battery at working levels.
 - 5.10.3 Recharging Rate: The Solar Array shall be sized so that for each standard solar day (defined as 5 hours continuous sunlight) the Locking system can be operated 125 full cycles without depleting the overall battery charge level.
 - 5.10.4 The Solar Array shall be provided with a mounting 8.0-FT (96-in.) post and frame for local placement or mounting. An interconnecting electric cable 25 feet long shall be provided.
- 5.11 Keyless Entry System: A weather proof Keyless Entry System will be provided to enter a personal 5 digit key code. The entry of this key code will allow operation of the Locking System.
- 5.12 Manual Override: A Manual Override operation of the Keyless Entry System can be performed by authorized personnel.
- 6.0 **QUALITY ASSURANCE PROVISIONS**

Testing. Upon completion, the Barrier system will be fully tested in the manufacturer's shop. The following checks shall be made:
- 6.1 Identification. A nameplate with manufacturer's name, model number, serial number and year built shall be

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located at the hinged end structure.

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- 6.2 Workmanship. The Barrier shall have a neat and workmanlike appearance.
- 6.3 Dimensions. Principle dimensions shall be checked against drawings and ordering information.
- 6.4 Finish. Coatings shall be checked against ordering information and shall be workmanlike in appearance.

7.0 PREPARATION FOR SHIPMENT

- 7.1 The Barrier system shall be crated or mounted on skids as necessary to prevent damage from handling. The shipping container(s) shall be of sufficient structural integrity to enable the assembly to be lifted and transported by overhead crane or forklift without failure.

8.0 DISCLAIMER

- 8.1 Please note - careful consideration must be devoted to the selection, placement and design of a Drop Arm Barrier System installation. Just as in the case of any Barricade system, perimeter security device or security gate those blocks a roadway or drive, care must be taken to ensure that approaching vehicle as well as pedestrians are fully aware of the Barriers and their operation. Proper illumination, clearly worded warning signs, auxiliary devices such as semaphore gates, stop-go signal lights, audible warning devices, speed bumps, flashing lights, beacons, etc. should be considered. Delta has information available on many such auxiliary safety equipment not specifically listed herein. It is strongly recommended that an architect and or a traffic and or safety engineer be consulted prior to installation of a Barricade system. Delta will offer all possible assistance in designing the operating equipment, controls and the overall system but we are not qualified nor do we purport to offer either traffic or safety engineering information.

- 9.0 **PROCUREMENT SOURCE.** The **Model DSC7500(MBR)** Crash Beam Barrier System shall be purchased from:

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