MALTA DYNAMICS

Rebar Chain Assembly Instruction Manual

C7900

Rebar Chain Assembly
INSTRUCTION MANUAL

These instructions apply to the following model(s):
C7900 – Rebar Chain Assembly

Manual Revision Code:
MD-RCAUIM161103

A copy of this manual must be available to users at all times. Visit www.MaltaDynamics.com for the latest user instruction manual based upon date of manufacture.

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UNDER PENALTY OF LAW

This manual must be read and understood in its entirety and used as part of your fall protection training program as required by OSHA 1926 and State and local regulatory agencies. This instruction manual is intended to meet industry standards required by and ANSI Z359.3-2007 and should be used as part of an Employee Fall Safety training program as required by OSHA. User must read and fully understand the limitations and proper use of the equipment, and be properly trained by employer prior to use per OSHA 29 CFR 1910.66, 29 CFR 1926.503, and applicable local standards.

NOTE: This *User Instruction Manual* is not to be removed except by the user of this equipment. Current *User Instruction Manuals* must always be available to the user. Read and understand these instructions before using equipment. *Instructions can be downloaded from www.maltadynamics.com website.*

WARNING

Misuse or failure to follow warnings, instructions and limitations on the use of this equipment may result in serious personal injury or death. For further instructions about proper use, refer to supervisor or contact Malta Dynamics at 1-800-494-1840.

PURPOSE

Malta Dynamics Rebar Assembly is intended for use as part of a Work Positioning system to hold and support the user at a specific work location. The Malta Dynamics Rebar Chain Assembly is not designed for fall arrest, restraint, or personal riding systems. Rebar Chain must be used only in combination with other necessary components of such systems. Examples of applications include concrete rebar assembly and steel erection. OSHA 1926.500 defines this equipment as part of a positioning device system.

INSTRUCTIONS FOR USE

WARNING

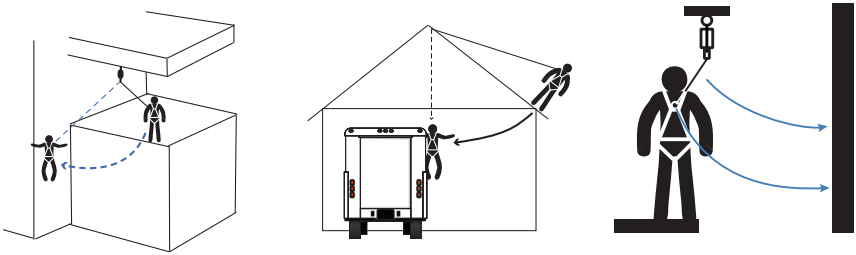
Do not alter or intentionally misuse this equipment.

- If free fall distance is 2’ or greater, Malta Dynamics mandates using a

stand-by Personal Fall Arrest system (PFAS) in conjunction with this equipment. A PFAS is an assembly of components and subsystems used to arrest a person during a fall event. A PFAS typically consists of an anchorage, a Full Body Harness (FBH), and a deceleration device such as a Shock Absorbing Lanyard (SAL) or Self Retracting Device (SRD).

- Before using a personal fall arrest, employees shall be trained in accordance with the requirements of OSHA 29 CFR 1910.66 in the safe use of the system and its components.
- Inspect all Personal Fall Arrest System equipment for wear, damage, and other deterioration prior to each use. Remove defective equipment from service immediately.
- An ANSI tested and rated full body harness with side d-rings must be used with the Malta Dynamics Rebar Chain Assembly. Harness must be donned before use. Snap hooks must be attached to side D-rings. Attach the rebar hook to the rebar. **See Figure 4**.
- Thoroughly evaluate and plan all elements of Fall Protection System(s) before using this equipment. Make sure that your Personal Fall Arrest System is appropriate for your needs and facility. Calculate fall clearance and swing fall clearance. The amount of clearance required is dependent on the type of connecting subsystem, the anchorage location, and other factors. When calculating distance, be sure to consider:
    - Deceleration Distance
    - Movement of harness attachment element (D-ring)
    - Free Fall Distance
    - Height of the worker (how tall is the worker?)
    - Elevation of Anchorage Connector
    - Connecting Subsystems length
- Failure to follow all instructions and limitations of use of this equipment may result in serious personal injury or death.
- Swing falls occur when the anchorage point is not directly above the point where a fall occurs.The force of striking an object in a swing fall may cause serious injury or death. Minimize potential for swing falls by working as close to the anchorage point as possible. Do not permit a swing fall if injury could occur. Swing falls significantly increase the amount of clearance required. **See Illustration 1.**

Illustration 1: Examples of Swing Fall Hazards



- Users must have a written rescue plan and the means to implement it. This plan must provide prompt employee rescue or assure that employees have the ability to rescue themselves in the event of a fall.
- Store this equipment in a cool, dry, and clean environment that is out of direct sunlight when not in use.
- This equipment must be removed from service immediately if a fall is incurred.

LIMITATIONS FOR USE

WARNING

Do not use this equipment if you are unable to tolerate the impact of a fall arrest. Age and fitness can seriously affect your ability to withstand a fall. Consult with a physician if in doubt. Minors, pregnant women, and anyone with a history of back and/or neck problems must not use this equipment.

WARNING

Use caution when employing this equipment around machines, electrical hazards, chemical hazards and sharp edges or abrasive surfaces, as contact may cause equipment failure, personal injury, or death.

WARNING

Altering or misuse of this product could lead to injury or death

- This equipment is designed for a single user. Combined weight of user, including clothing, tools, etc. must not exceed weight capacity of up to 310 lbs.
- This equipment must be rigged in such a way to limit potential free fall to 2 ft. or less.
- Use only with structures capable of supporting static loads required for Personal Fall Arrest Systems (PFAS) as follows:
- **FALL ARREST:** Anchorages used for PFAS must be capable of sustaining static loads in the directions permitted by the PFAS of at least: 3,600 lbs. with certification of a qualified person; or 5,000 lbs. without certification. When more than one PFAS is attached to an anchorage, the strengths stated above must be met independently at and for each anchorage location. Use of a PFAS is recommended when using a Rebar Chain Assembly to protect the user from a potential fall if the work positioning system disengages from its anchorage point, or when worker detaches from the work positioning system when traveling from point to point.
- Do not expose this equipment to chemicals or harsh solutions that may have a harmful effect.
- User must not use or install equipment before receiving proper training from a Competent Person, as defined by OSHA 29 CFR 1926.32(f).
- Only Malta Dynamics shall make repairs or alterations to the equipment.
- This equipment is designed to be used in temperatures ranging from -40 degrees Fahrenheit to +130 degrees Fahrenheit (-40 degrees Celsius to +54 degrees Celsius).

CONNECTOR COMPATIBILITY LIMITATIONS

Malta Dynamics equipment must be coupled only to compatible connectors that are suitable to the specific application. Connectors (snap hook/rebar hook, carabiner and D-ring) must be capable of supporting at least 5,000 lbs. (22kN). Connectors must be compatible with the anchorage and all other system components. Ensure all connections are compatible in size, shape and strength.

Ensure all connectors are fully closed and locked. OSHA 29 CFR 1926.502 prohibits the use of snap hooks hooks to engage to objects unless the following requirements are met:

- Snap hook must be a locking type snap hook.
- Snap hook must be explicitly designed for such a connection. “Designed for” means that the manufacturer of the snap hook specifically created the snap hook to be used to connect to the equipment in question.

Use of a non-locking snap hook can result in rollout (a process by which a snap hook or carabiner unintentionally disengages from another connector or object to which it is coupled). Malta Dynamics connectors (snap hooks and carabiners) are

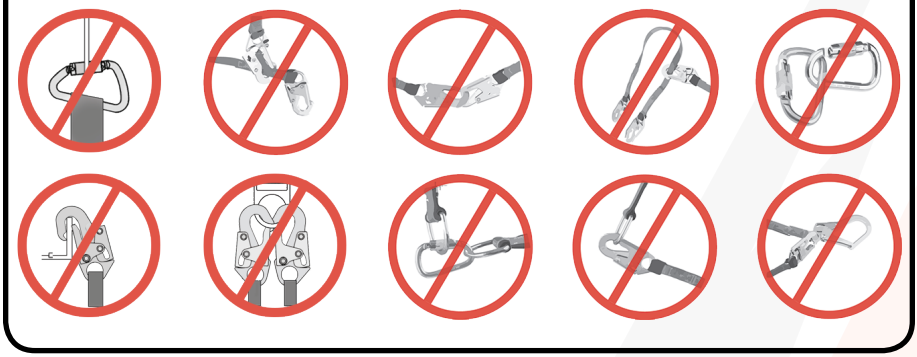
designed to be used only as specified in each product's user's instructions.

Avoid the following types of connections:

- Connection of two (or more) snap hooks or carabiners to one D-ring.
- Connection of a snap hook back to its integral lanyard.
- Direct connection of a snap hook to horizontal lifeline.
- Connection in a manner that results in a load on the gate. NOTE: *Large throat opening snap hooks should not be connected to standard size D-rings or similar objects, as such use will result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on structural elements such as rebar or cross members that are not shaped in such a way that they may capture the gate of the hook.*
- False engagement connections, where protruding features of the snap hook or carabiner may catch on the anchor and seem to be fully engaged to the anchor point. Always confirm engagement.
- Connection to other snap hooks or carabiners.
- Direct connection to webbing lanyard, webbing loop, rope lanyard or tie-back (unless the manufacturer's instructions for both the lanyard and connector specifically allow such a connection).
- Connection of a snap hook to a D-ring, rebar, or other connection point of improper dimensions in relation to the snap hook dimensions or configurations that could cause the snap hook keeper to be depressed by a turning motion of the snap hook, or such that snap hook or carabiner will not fully close and lock, or that roll-out could occur.

Illustration 2 depicts examples of a few of these inappropriate connections:

Illustration 2: Inappropriate Connections



COMPONENT LIMITATIONS

- For use by **one person only**, weight max. 310 lbs. (including clothing, tools, etc.)

- Do not use if any part of the device appears to be damaged.
- Do not attempt to service the device or alter it in any way.
- A Competent Person must ensure compatibility of all connections and the system.
- Do not use the system if any connector does not lock or if any other component in the system does not operate properly.
- An ANSI tested and rated full body harness with side d-rings must be used with the Malta Dynamics Rebar Chain Assembly.

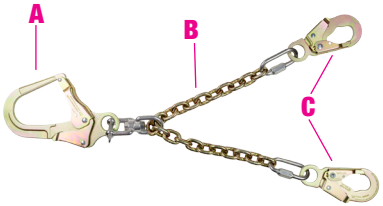


Figure 1: About Chain Rebar Positioning Lanyards	
A	Swiveling Rebar Hook with 2.5” gate opening
B	9/32” Welded Link Grade 80 Chain
C	Clevis-pin Snap Hooks for side D-Ring Connection

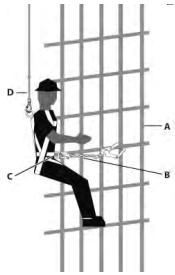


Figure 2: Work Positioning on Vertical Rebar	
A	Vertical Form Rebar
B	Rebar Positioning Lanyard
C	Side/Positioning D-Rings on Full Body Harness
D	Back-up Personal Fall Arrest System (PFAS)

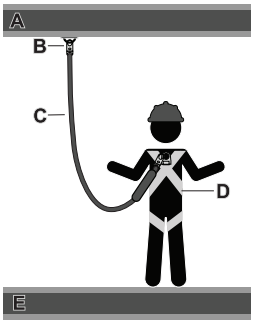


Figure 3: Fall Arrest (PFAS)	
A	Anchorage
B	Anchorage Connector
C	Shock Absorbing Lanyard (SAL)
D	Full Body Harness (FBH)
E	Walking/Working Surface

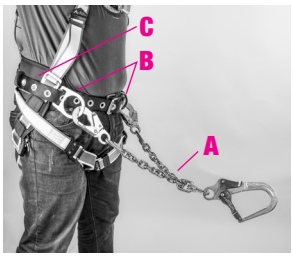


Figure 4: Correct Attachment to Side D-Rings	
A	Rebar Positioning Lanyard
B	Side/Positioning D-Rings
C	Full Body Harness with Side D-Rings

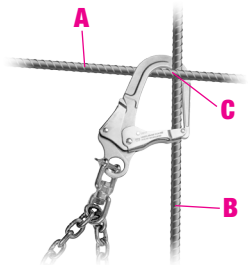


Figure 5: Correct Rebar Hook Attachment	
A	Horizontal Rebar Member
B	Vertical Rebar Member
C	Rebar Hook Connection to the intersection of both vertical and horizontal rebar members

PERFORMANCE

All Malta Dynamics carabiners and snap hooks/rebar hooks are statically tested in accordance with the requirements of ANSI Z359.12-2012 standards. All gate strengths (side and face) are rated 3,600 lbs (16kN). Proof load of 3,600 lbs (16kN).

Model/Part #	Material	Length	Standard
C7900	9/32" 80 Grade Chain, Forged Steel Hooks, Stainless Steel Swivel	24" Total Length	ANSI Z359.12:2009 ANSI A10.32:2004

Applicable Standards:
Refer to national standards, including ANSI Z359.1, and local, state and federal (OSHA 1910.66, appendix C, 1926.500) requirements for more information on personal fall arrest systems and associated components.

Before Each Use and Installation:

- Inspect the Rebar Chain Assembly according to the steps listed in this manual.
- Plan your work positioning system before using this equipment.
- A back up personal fall arrest system us mandatory if free fall distance is 2' or greater.
- When planning your system, consider all factors that will affect your safety during use of this equipment including, but not limited to:
  - Evaluation of the job site for possible hazards.
  - Ensuring the intended path of the user is unobstructed.
  - An ANSI tested and rated full body harness with side d-rings must be used with the Malta Dynamics Rebar Chain Assembly. Harness must be donned before use. Snap hooks must be attached to side D-rings. Attach the rebar hook to the rebar. **See Figure 4**.
  - Use of a compliant and compatible Personal Fall Arrest System.
  - Written Rescue Plan developed and means at hand to implement it when using this equipment where a suspension could occur (i.e.: following a fall when self-rescue is not possible).

INSTRUCTIONS

Connecting the Rebar Chain Assembly to Full Body Harness and Anchorage:

- Connect one leg of the rebar chain assembly to each side D-ring of a compatible and compliant (see Limitations for Use and Connector Compatiblity Limitations sections) full body harness.
- Connect to a compliant (see Limitations for Use and Connector Compatiblity Limitations sections) anchorage point by attaching the snap hook or carabiner on the rebar chain assembly to the intersection of the horizontal and vertical

rebar.

- Connect to a compatible and compliant (see Limitations for Use and Connector Compatiblity Limitations sections) Personal Fall Arrest System. Connect the personal fall arrest system to the dorsal back D-ring on your full body harness.

Anchorage:
In accordance with ANSI Z359.1, anchorage selected for Personal Fall Arrest Systems must meet all anchorage strength requirements. Personal Fall Arrest: Anchorages used for PFAS must be capable of sustaining static loads in the direction permitted by the PFAS of at least: 3,600 lbs. with certification of a qualified person; or 5,000 lbs. without certification. When more than one PFAS is attached to an anchorage, the strengths stated above must be met independently at and for each anchorage location.

Work Positioning: The structure to which the work positioning system is attached must sustain static loads applied in the directions permitted by the work positioning system of at least 3,000 lbs., or twice the potential impact load, whichever is greater. See OSHA 1926.502. When more than one work positioning system is attached to an anchorage, the strengths stated above must be multiplied by the number of work positioning systems attached to the anchorage.

Restraint: Anchorages selected for rescue systems must be capable of sustaining static loads of at least: 1,100 lbs. When more than one restraint and travel restraint system is attached to an anchorage, the strengths stated above must be multiplied by the number of work positioning systems attached to the anchorage.

Rescue: The structure to which the rescue system is attached must sustain static loads applied in the directions permitted by the work positioning system of at least 3,000 lbs., or five times the potential impact load, whichever is greater. See OSHA1926.502. When more than one work positioning system is attached to an anchorage, the strengths stated above must be multiplied by the number of work positioning systems attached to the anchorage.

Fall Arrest	Non-Certified Anchorage	5,000 lbs. (22.2kN)	Multiple Systems: When more than one of the defined systems is attached to an anchorage, the strength defined shall be multiplied by the number of systems attached to the anchorage.
	Certified Anchorage	3,600 lbs. (16.1kN)	
Restraint	Non-Certified Anchorage	1,100 lbs. (22.2kN)	
	Certified Anchorage	≥ 2 Times the Maximum Potential Impact Load	

Work Positioning	Non-Certified Anchorage	3,000 lbs. (22.2kN)	Certified Anchorage: An anchorage for Personal Fall Arrest, Work Positioning, Restraint or Rescue systems that a qualified person certified to be capable of supporting the potential fall or that meets the criteria for a certified anchorage point, as prescribed by relevant ANSI and OSHA standards.
	Certified Anchorage	≥ 2 Times the Maximum Potential Impact Load	
Rescue	Non-Certified Anchorage	3,000 lbs. (22.2kN)	
	Certified Anchorage	≥ 5 Times the Maximum Potential Impact Load	

TRAINING

Employers must provide training to any employee who may be exposed to fall hazards in order to enable the employee to recognize and reduce fall hazards. Training must be conducted by a Competent or Qualified Person. Trainer and trainees must not be exposed to fall hazards during the training course. This equipment is intended to be used by persons trained in its correct application and use.

INSPECTION

Inspect this equipment and its components prior to each use. If inspection reveals any unsafe condition, remove the equipment from service immediately.

Any equipment that has been subjected to the forces of arresting a fall must be removed from service immediately.

Note: Equipment must not be altered in any way, including attempted repair. Only manufacturer, or entities authorized in writing by the manufacturer, may make repairs to this product.

- Equipment must be free of corrosion, chemical attack, alteration, excessive heating or extreme wear.
- All markings must be legible and attached to the equipment.
- Inspect rebar hooks, links, chain, swivel and snap hooks for evidence of distortion, sharp edges, burrs, cracks, worn parts or corrosion.
- Snap hook gate spring provides tension to keep the snap hook gate closed in a locked position; snap hook must close flat and exhibit no sideways play. Rivets and grommets must be tightly set in the material with no distortion.
- Inspect each system component and subsystem according to manufacturer's instructions.

If inspection reveals any defective condition, remove from service immediately.

CLEANING

- Clean the rebar chain assembly with water and mild detergent.
- Wipe dry. Hang away from heat to dry.
- Excessive build-up of dirt, paint, etc., can prevent the Rebar Chain Assembly from working properly. Contact Malta Dynamics if you have questions about the condition of your Rebar Chain Assembly.
- Do not disassemble this equipment. Only Malta Dynamics or entities authorized in writing by Malta Dynamics may service this equipment.
- Store equipment in a cool, dry, clean environment, out of direct sunlight.
- Do not expose to chemical vapors. Avoid areas where chemical vapors are present. Thoroughly inspect this equipment after extended storage.

FREQUENCY

- All Personal Fall Arrest equipment must be visually inspected prior to each use according to the manufacturer's instructions included at time of shipment. Inspections must be performed by a Competent Person other than the user (as defined by OSHA) a minimum of twice per year.
- Record the results of each formal inspection in your Hog Tracker account or inspection log.

PRODUCT LABELS

The following labeling is affixed to product and must not be removed:

INSPECTION LOG

Date of Manufacture: _____
Model Name/#:_____
Serial: _____
Date of First Use: _____

Inspection Date	Items Noted	Corrective Action	Approved By

WARRANTY

THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Equipment offered by Malta Dynamics is warranted against factory defects in workmanship and materials for a period of one year from date of installation or first use by the original owner. LIMITED REMEDY: Upon notice in writing, Malta Dynamics will repair or replace all defective items at Malta Dynamics's sole discretion. Malta Dynamics reserves the right to require that the defective item be returned to its plant for inspection before determining the appropriate course of action. Warranty does not cover equipment damage resulting from wear, abuse, damage in transit, failure to maintain the product or other damage beyond the control of Malta Dynamics. Malta Dynamics shall be the sole judge of product condition and warranty options. This warranty applies only to original purchaser and is the only warranty applicable to this product. Please contact Malta Dynamics customer service department at 800-494-1840 for assistance. LIMITATION OF LIABILITY: IN NO EVENT WILL MALTA DYNAMICS BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO LOSS OF PROFITS, IN ANY WAY RELATED TO THE PRODUCTS REGARDLESS OF THE LEGAL THEORY ASSERTED.

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