Oceanscience Cable Chimp II Cableway ROV System

User Guide and Warranty

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Introduction

The Oceanscience Cable Chimp II is a remotely-operated cableway vehicle designed to provide slow, even, repeatable towing of small instrumentation boats. It's intended for use with Oceanscience Riverboats having instrument wells up to 5 inches in diameter in flows of not more than 3 m/s. Larger Oceanscience Riverboats can be used with the Chimp in flows lower than 1 m/s. The Cable Chimp is not intended for use with non-Oceanscience platforms due to increased drag.

Overview

The Cable Chimp II System is comprised of the following components:

- Traveller
- FM transmitter
- (8) AA rechargeable NiMH batteries
- AA NiMH battery charger
- 12V NiMH battery pack
- 12 V NiMH battery charger
- Cable Chimp II charger adapter cable
- User Guide
- Test Log

An optional rugged watertight carrying case is available as are spare battery packs and spare drive wheel kits.

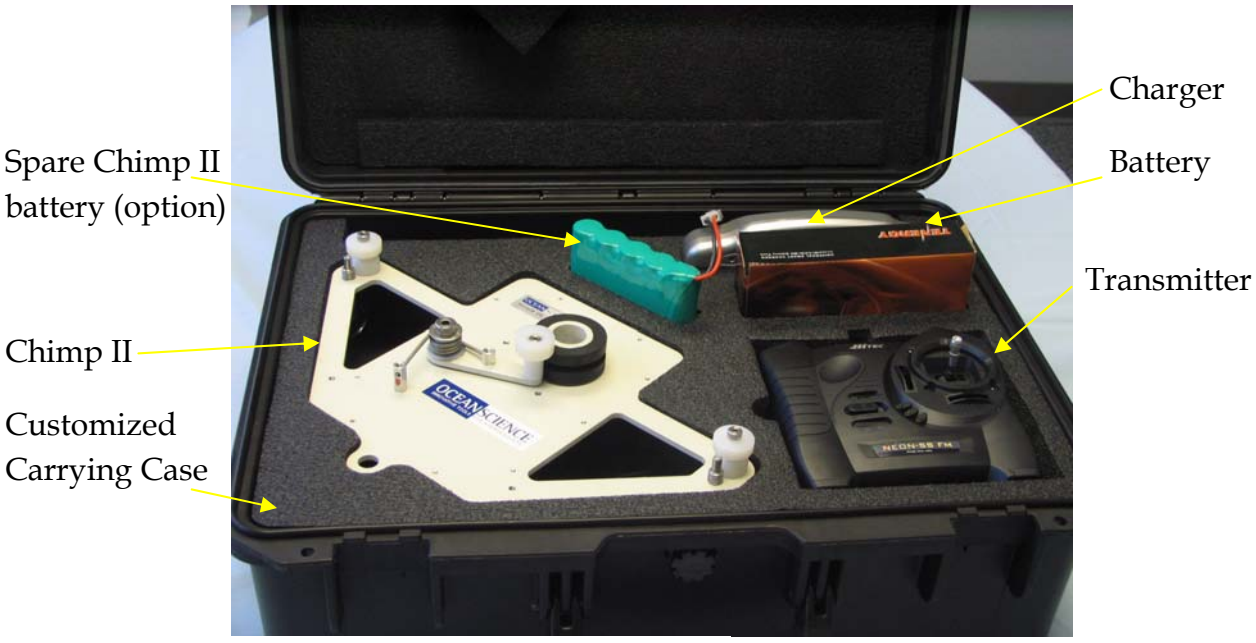

Figure 1

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The main external components of the Cable Chimp II are the drive wheel, idler wheels, and pinch roller (Figure 2). The main internal components are the motor assembly, FM radio receiver, electronic speed controller (ESC), and battery (Figure 3).

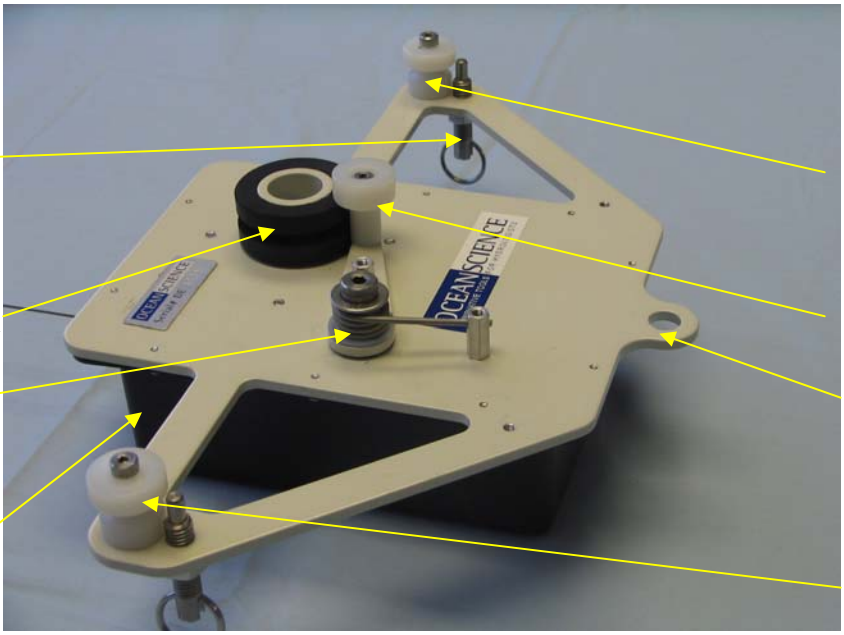

Figure 2

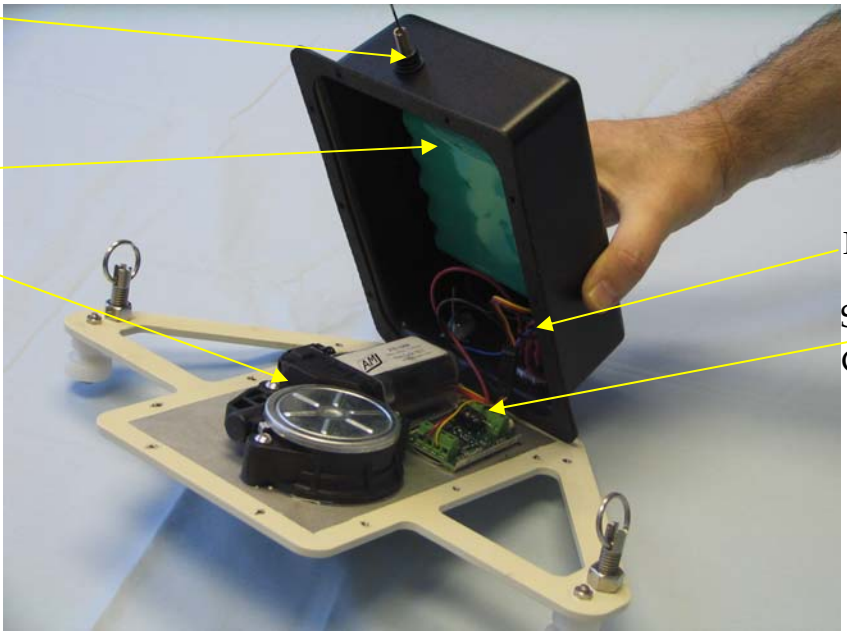

Figure 3

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Setup and Operation

First, screw the antenna into the top of the case (Figure 3). The Chimp is now ready to attach to the line. Open both spring plungers by pulling them back and turning the ring 90º (Figure 4). Then draw back the pinch roller (Figure 5) allowing the line to fit in the groove on the drive wheel. Release the pinch roller to capture the line in the groove. Then position the line under the idler wheels and release the spring plungers.

Note: Oceanscience recommends that a line stopper be firmly attached at the cross-stream end of any line that is not permanently secured. Oceanscience is not responsible for lost equipment or Cable Chimp damage due to submersion.

Using a carabiner or shackle, attach the Riverboat by a tether to the towing eye located at the bottom of the Cable Chimp frame.

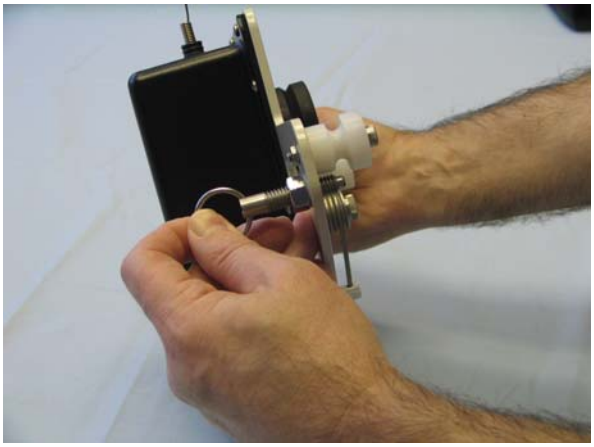

Figure 4

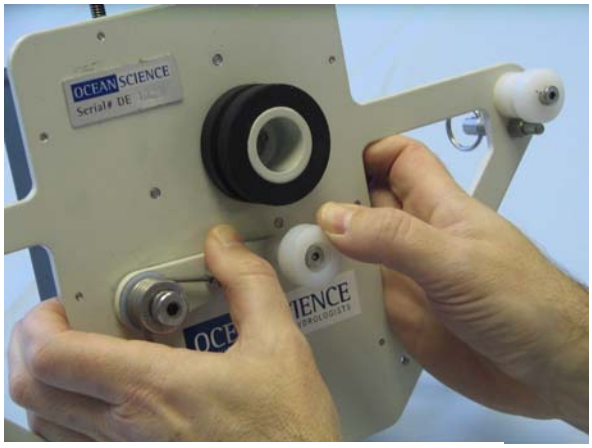

Figure 5

Turn on the FM Transmitter. Then turn on the Cable Chimp by moving the power switch to the "I" position (Figure 6). Confirm proper operation by gently moving the joystick forward and back. The joystick moves incrementally and maintains a constant speed without operator action. Forward and reverse speeds are balanced by adjusting the trim switch (Figure 7.)

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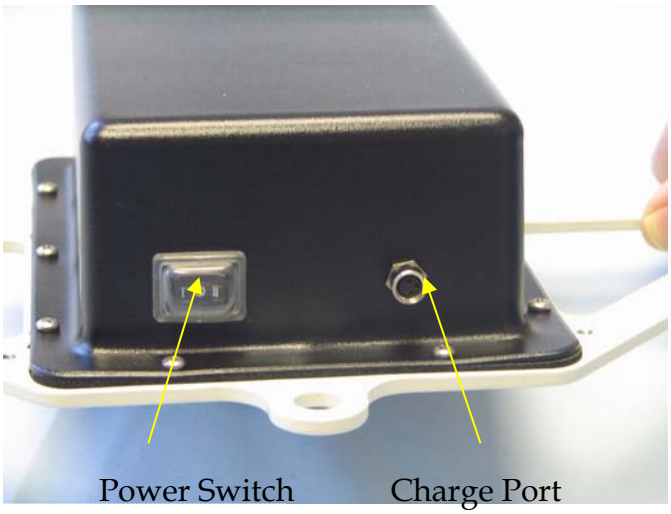

Figure 6

Figure 7

Remote Control

The remote control unit is powered by rechargeable batteries which are accessed by opening the case as shown in Figures 8-12. First, unscrew and remove the antenna. Then remove the crystal (Figure 8), slide tabs located at the bottom corners outward (Figure 9) and gently pull the bezel at the base of the antenna up (Figure 10). Separate the two case halves; be careful of the internal wiring harness (Figure 11). The transmitter battery holder can now be reached (Figure 12).


Figure 8


Figure 9

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Figure 10

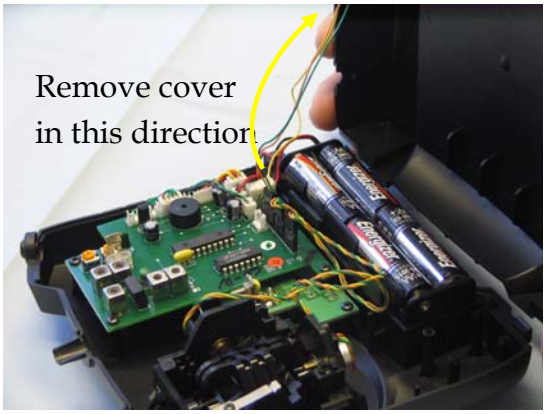

Figure 11

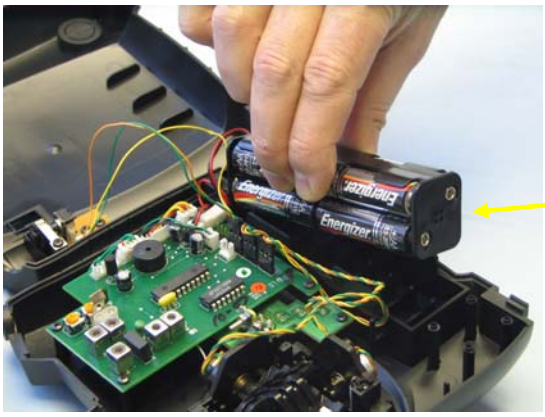

Figure 11

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Power Management

The FM transmitter comes with (8) non-rechargeable AA alkaline batteries. Oceanscience provides an additional (8) rechargeable NiMH AA batteries and an 8-cell charger. Batteries must be fully charged before use. The transmitter panel has 3 LED lights indicating charge. Green is full power, amber is half power and red is low power. See the Remote Control section for battery replacement instructions.

The 8-cell battery charger features a discharge function that provides maximum charge density and extends the life of the cells. The LED indicator provides charging status. Solid red indicates rapid charge, solid green indicates trickle charge, flashing red indicates a bad cell, and flashing green indicates cell is being discharged. *Note: This charger is for use with AA or AAA NiMH batteries only.*

The Cable Chimp battery can be recharged inside the unit. Make sure the Cable Chimp power switch is in position "II" while charging. Next, connect the charger to the Cable Chimp with the charging cable and plug the charger into any 110 VAC wall source. The charger LED will show green when the charge is complete.

To replace the Cable Chimp battery, remove the plastic cover by unscrewing the 10 cover screws (Figure 13) and gently lift the cover off (Figure 14.) Remove battery from Velcro fastener attached to the inside of the cover. Unplug the Molex 2 pin connector and replace with spare battery (Oceanscience part number CCBNM). Secure new battery with Velcro fastener and replace plastic cover and screws. CAUTION: Do not over tighten the screws (Figure 15) as this can reduce the effectiveness of the case gasket against moisture.

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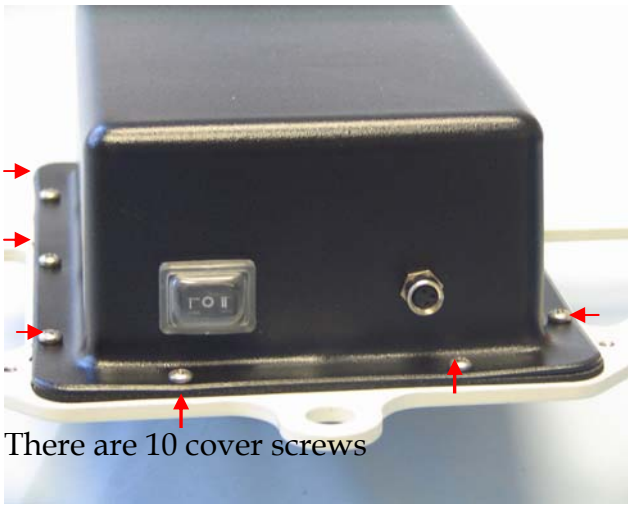

Figure 13

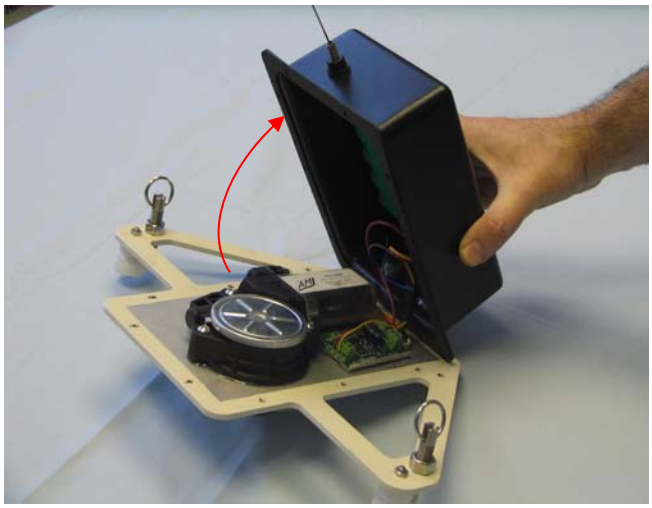

Figure 14

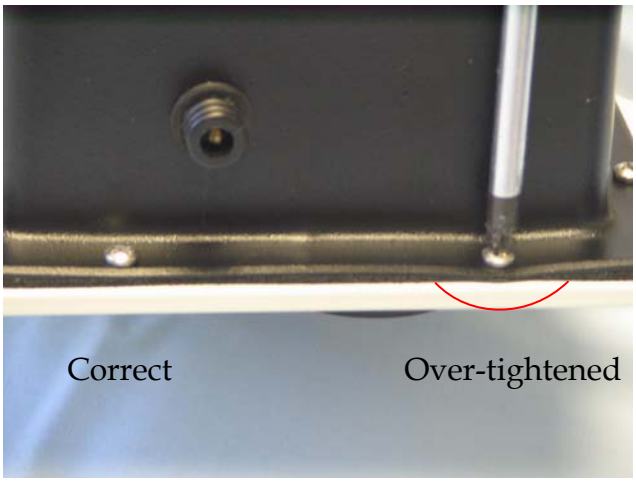

Figure 15

Figure 1

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Deployment Criteria

The Cable Chimp II drive wheel is designed for use with ¼" (6mm) high-grip rope, continuous filament low stretch three-strand polyester or Kevlar line. The line should be tight enough such that the Cable Chimp II experiences no more than 8 degrees of slope.

The Cable Chimp II should not be used in areas where debris or standing waves are present.

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Specifications

Technical Specifications

- Dry line pulling force: 6.5 lbs (29 N)
- Wet line pulling force: 4.5 lbs (20 N)
- Transect speeds: >.1 to .7 ft/s (3 to 21 cm/s)
- Climbing angle: 12 degrees
- Battery: 12V NiMH
- Wall charger: 110V
- Battery endurance: 2 hours at full speed | 3 hours at half speed
- Transmitter range: 200 ft (61 m)

Construction

- Lightweight powder-coated aluminum
- Stainless steel hardware
- ABS case
- Spring antenna
- Water resistant

Dimensions

- Length: 9.5 in (241 mm)
- Width: 14 in (356 mm)
- Depth: 4.5 in (114 mm)

Weight

- With battery: 4 lbs, 13 oz (2.18 kg)

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WARRANTY

The Oceanscience Group, Ltd makes every effort to assure that its products meet the highest quality, reliability and durability standards and warrants to the original purchaser or original purchasing agency that each product be free from defects in materials or workmanship for a period of one year from date of shipment.

Warranty does not apply to defects due directly or indirectly to misuse, negligence or accidents, repairs or alterations outside of our facilities, or use of the UCTD for purposes other than profiling operations described above.

Oceanscience is not responsible for loss of mount or instruments, damage to property, injury or death associated with the use of any of its products or products that may be included or used with Oceanscience products.

All warranty services are FOB Oceanscience's facility in Oceanside, CA.

To take advantage of this warranty, contact Oceanscience at 760-754-2400 or info@oceanscience.com.

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Oceanscience Cable Chimp II
Remotely-operated Cableway Vehicle

Towing Arm Addendum

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Introduction

The Oceanscience Cable Chimp II is a remotely-operated cableway vehicle designed to provide slow, even, repeatable towing of small instrumentation boats. Often the smaller instruments have no compass and therefore velocity direction and ship track direction are relative to the instrument coordinates, not to earth coordinates. To reduce errors due to loss of coordinates, a towing arm is available to fix the instrument relative to flow direction. Just as the Cable Chimp is not intended for use with non-Oceanscience platforms due to increased drag, the towing arm is meant for use only with the Oceanscience Cable Chimp II.

Overview

The Cable Chimp II Towing Arm System is comprised of the following components:

- Two piece towing arm
- (2) 10-32 x 1in. Phillips head screws
- (2) Flat washers
- (4) 10-32 Nyloc nuts
- (2) Split ring lock washers
- (2) 10-32 x ½ in. Phillips head screws
- Addendum
- 3/8 in. Hex driver

A Phillips screwdriver is required

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Align the towing arm members so the pairs of screw holes are concentric.

Use (2) 10-32 x 1 inch screws with split ring washers and flat washers installed as shown to attach the towing arm assembly to the Cable Chimp.

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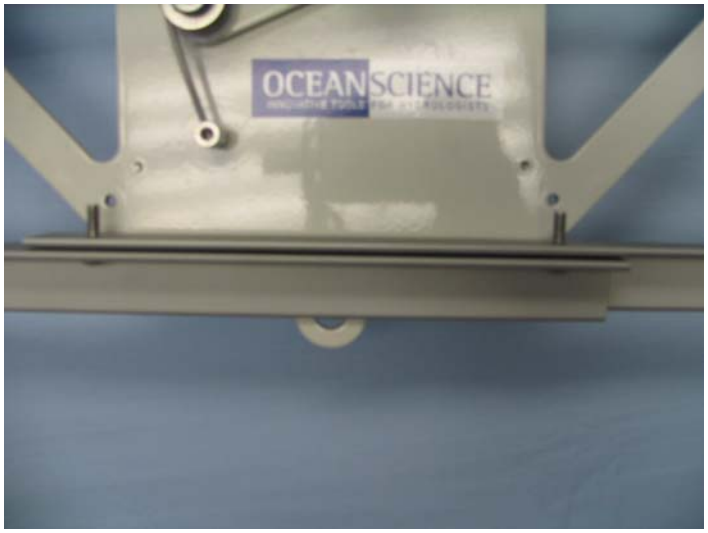
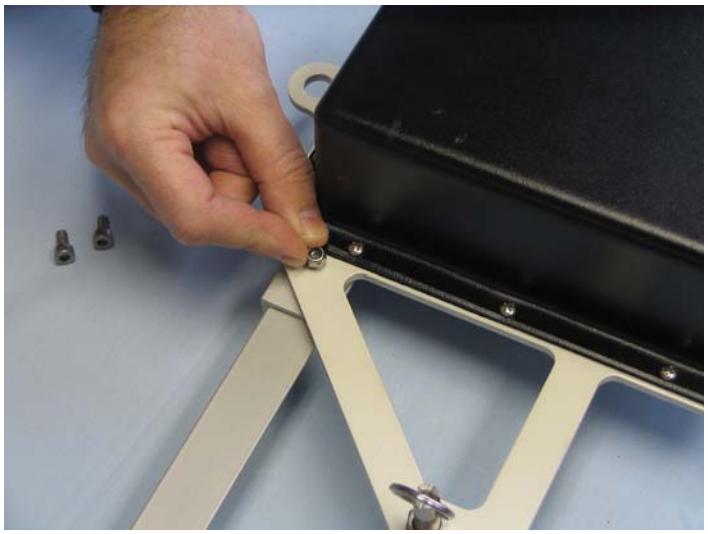
Align the towing arm assembly and screws with the two threaded mounting holes in the Chimp frame.



Turn the Chimp over and secure the towing arm assembly hardware with (2) Nyloc hex nuts.



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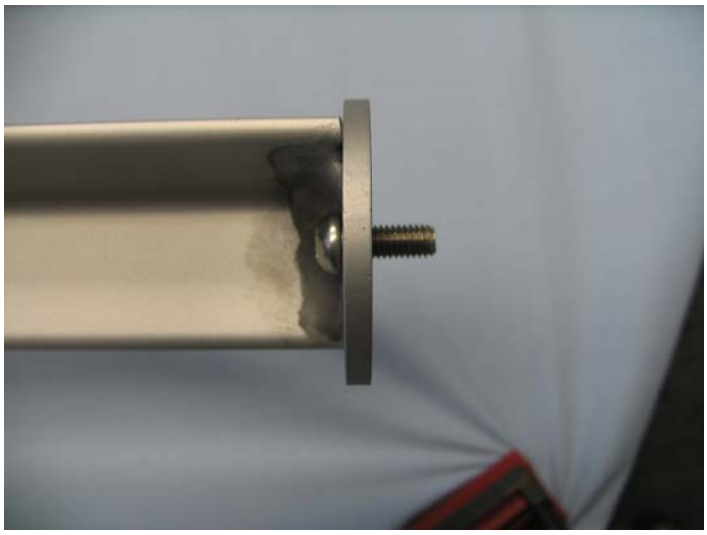
Insert a 10-32 x ½ inch screw through each end of the towing arm assembly



Position the Cable Chimp II with towing arm assembly between the rigid bridle as shown.

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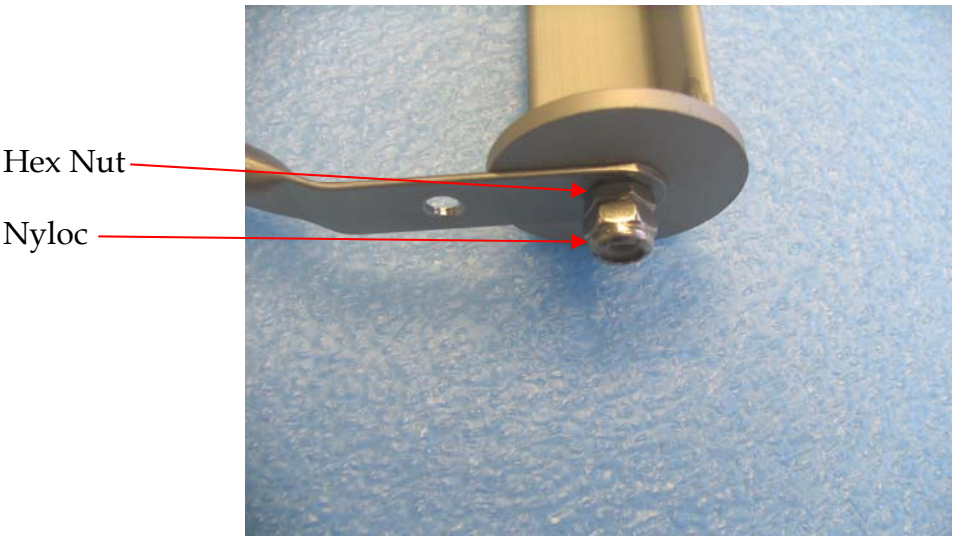
Secure the Chimp and towing arm assembly to the rigid bridle with (2) 10-32 Nyloc hex nuts and (2) 10-32 regular hex nuts. Using two nuts allows the towing arm assembly to rotate freely between the arms of the rigid bridle..



The Cable Chimp II with towing arm is ready for deployment; see the Cable Chimp II User Guide for more instruction.

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Technical Support

Contact 760-754-2400 x 111 or support@oceanscience.com.

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