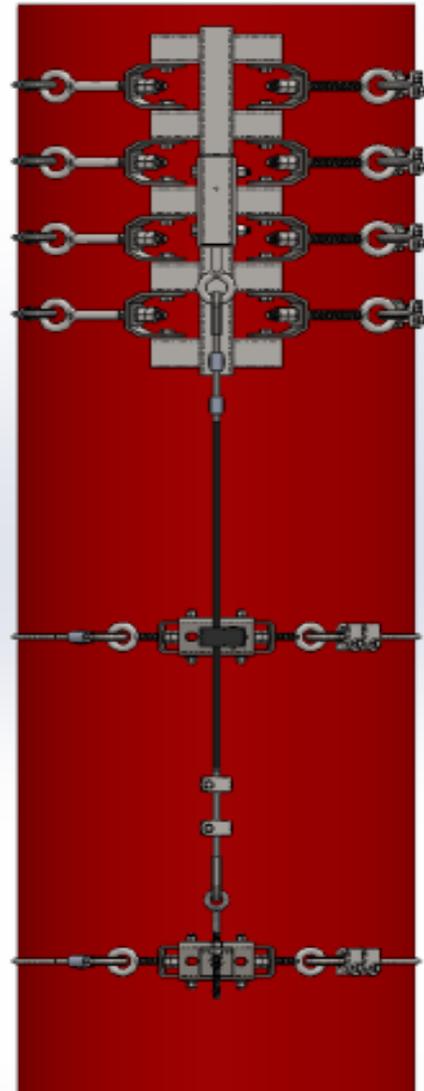
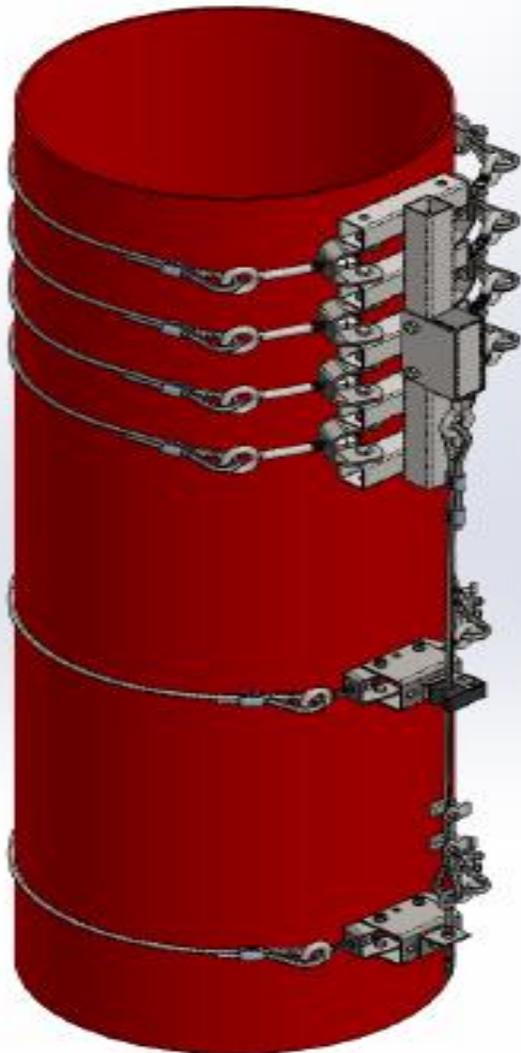




# Universal Pole Mount Clamp-On (UPMCO) Assembly Installation Instructions



**Use for:**  
UMPCO-BP  
120-222  
120-310  
120-232  
TTCCS-15'-SSC

TUF-TUG INC. – 3434 ENCRETE LANE; MORAIN, OH 45439 – (937) 299-1213 – [info@tuf-tug.com](mailto:info@tuf-tug.com)

UPMCO-INST Revision 4



## UNIVERSAL POLE MOUNT CLAMP-ON HEAD ADAPTOR (UPMCO)

### For poles 12 – 36 Inches in Diameter

### 37 – 113 Inches Circumference

TUF-TUG monopole cable clamp-on head adaptor was designed for field retrofit applications on straight or tapered poles where the safe climb anchorage does not exist. It is suited for pole diameters ranging from 12 inches to 36 inches. The UPMCO is designed to provide a 5000 lb. anchorage for cable safe climb anchor attachment when installed per the following:

- A. Make sure that the pole is suited for the cable clamp-on head adaptor.  
**NOTE:** the clamp force of each cable on the pole diameter will approach 2000 lbs. On light duty poles, this force has the potential to crush the structure.
- B. After it has been confirmed that the UPMCO is suited for the pole in question, the point of installation can be measured for pre-fit with a tape measure.



- C. This circumference dimension, plus 3 to 4 additional inches (100 mm) will be used to estimate the cable assembly lengths.
- D. After the overall assembly length has been determined, the eyebolt and cable assemblies can be fabricated.

- E. While on the ground, initiate the assembly with the all-thread eyebolts attached to the clevis (with nut, lock washer, bearing washer) at its full extension.



- F. Now the outboard eyebolts can be attached to the opposite end of the cable.
- G. Place the 120-222 bracket assembly on top of the tape measure with the end inside the opposing clevis.



- H. Layout cable over tape measure to approximate estimated installation length (pole circumference plus 3 to 4 inches).
- I. Lightly attached outboard eyebolt to cable assembly with 2 fist grips (Each Cable). 1<sup>st</sup> Fist grip should be placed a min. one base width away from the dead end of the wire rope. The 2<sup>nd</sup> fist grip shall be placed as near to the thimble as possible. The end of the eyebolt should be at the predetermined estimated installation length. NOTE: Do not final torque fist grips until install length is confirmed.
- J. Repeat for each cable/eye bolt assembly.



- K. 120-222 UPMCO head adaptor assembly is ready to hoist up to the installation location.
- L. When UPMCO is at the installation point, temporarily hang with a lanyard from a point above.
- M. Once in place, wrap the cable assemblies around the pole. Insert the ends of the eyebolts into the corresponding matching clevis



- N. Connect eyebolt with bearing washer, lock washer and nut shown. Connection should remain loose until desired location is established.
- O. Repeat four times.



P. After location and cable length are confirmed, fist grips can be secured in place with targeted 45 ft.lbs. torque or optional TIA turn of nut and mark fasteners.

Q. Repeat eight times.

R. Now the cable assemblies can be secured to the structure by tensioning the eyebolts with the nuts supplied. Be sure to torque fasteners evenly on the eyebolts, left and right, to make sure the installation is level on the pole. Target torque at 75 ft.lbs. on eyebolts or optional TIA turn of nut.



**Note: The security of the UPMCO is critical, the wire rope must remain direct contact with the tower.**

- S. After UPMCO is in location, it is recommended that the eyebolts are locked in place with a secondary jam nut and mark fasteners on assembly.

NOTE: Loctite adhesive should also be considered for extreme weather installations.



- T. With cables secured around pole, the clevis brackets can be locked into position with the ½" diameter fasteners at the pivot points. Torque bolts to 50 ft.lbs. in sixteen locations (optional TIA turn of nut) and mark fasteners.



- U. 120-222 UPMCO head adaptor bracket should be ready for TUF-TUG cable safe climb system attachment. Double check security of all fasteners and torque mark for future reference, including cable clips, eyebolt and clevis fasteners.
- V. Now installation of the TUF-TUG pole mount cable safe climb system is ready to install per the monopole safe climb instructions.

# TUF-TUG<sup>®</sup>

P R O D U C T S

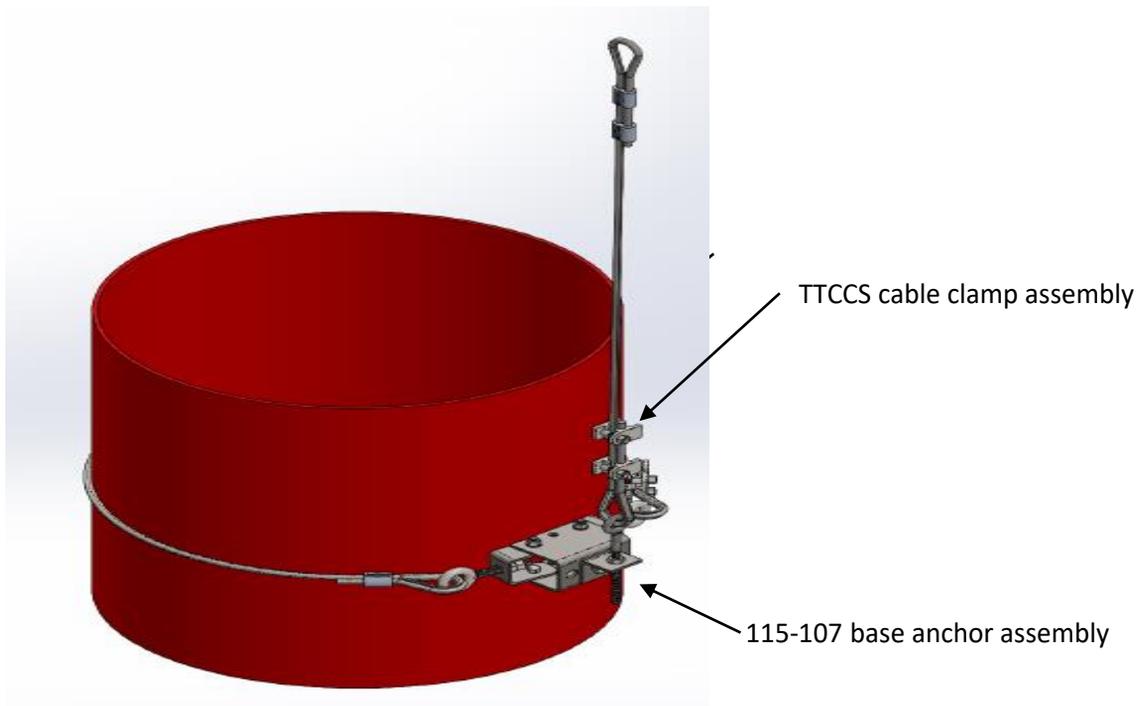
## TTCCS/115-107 CABLE CLAMP SYSTEM/BASE ANCHOR ASSEMBLY

### Assembly includes:

- (1) Universal mount bracket with two clevis attachments
- (1) Factory swaged wire rope assembly
- (2) Eyebolt/thimble assemblies with fasteners
- (2) Fist Grips
- (1) 115-107 base anchor assembly

### Warning:

- Fits Grips are for appurtenance/materials attachment only.
- Load capacity is 200 lb. maximum.
- Do not use for people or PPE attachments.
- Never use a defective clamp system for materials overhead.



# **TUF-TUG<sup>®</sup>**

## **P R O D U C T S**

### **TTCCS CABLE CLAMP SYSTEM**

#### **Installation:**

- Approximate round member/pole size of installation.
- Attach eyebolts to clevis brackets with fasteners in full extended positions.
- Preassemble cable to eyebolts at the approximate diameter required with a turned-back eye configuration using two cable clips.
- Remove eyebolt from clevis.
- Wrap around pole at desired install location.
- Re-attach eyebolt into clevis and loosely tighten both eyebolts evenly until assembly is snug onto structure.
- Torque nuts on Fist Grips to 40 ft. lbs. (optional TIA turn of nut) and mark fasteners.
- Torque fasteners on clevis brackets to 30 ft. lbs. (optional TIA turn of nut) and mark fasteners.
- Continue to torque eyebolts to approximately 40 ft. lbs. (optional TIA turn of nut).
- When installation is optimum, jam nut eyebolts and mark fasteners.
- If assembly is not secure to structure, repeat installation process.
- Secondary attachment can be connected to mount bracket after jam nut installation is complete.



**TTCCS TUF-TUG CABLE SAFETY CLIMB SYSTEM**  
**UNIVERSAL POLE MOUNT CLAMP-ON ASSEMBLY INSTRUCTIONS**

**WARNING!** YOU MUST READ AND FULLY UNDERSTAND OR HAVE THESE INSTRUCTIONS EXPLAINED TO YOU BEFORE USING THIS EQUIPMENT. FAILURE TO OBSERVE THE LIMITATIONS, CAUTIONS AND WARNINGS IN THESE INSTRUCTIONS COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

Equipment users must be fully trained as a competent climber and conversant with all regulatory requirements applicable to the workplace in which the fall protection equipment is to be used. If in doubt, contact your local OSHA office for clarification. These instructions are not a substitute for a formal climbing and Fall Protection Training program. Such training should include information about local circumstances, rules and regulations applicable to the work situation, a hands-on opportunity to learn how to wear and attach equipment properly, instructions about adequate anchor points and proper techniques for securing and connecting lanyards, drop lines or lifelines, and guidance and demonstration on how to inspect and maintain the equipment.

**SYSTEM REQUIREMENTS:** Tuf-Tug Safety Climb Cable and Head Assembly Kit are designed to meet the performance requirements of OSHA/ANSI for personal fall arrest on permanent climb facilities. It utilizes a 3/8" solid core cable with factory swaged sleeves to provide an anchorage capable of maintaining a min. 5,000 lb. tensile load. An impact attenuator is incorporated in the head anchor to help dampen any extreme shock loads that may occur as a result of a fall. Cable stand offs are provided for every 25 ft. with Tuf-Tug kits to stabilize and maintain the cable in a good operable condition. Base anchor attachment is required to maintain system tension load from 220 lbf. – 420 lbf.

**NOTE:** This cable safety climb system is intended to be used as part of a complete personal fall protection system. All components, subsystems and connectors should be compatible and meet the appropriate ANSI/OSHA requirements for the intended application. Substandard or non-approved components could compromise the reliability of the system and jeopardize the safety of the user. **USE ONLY TUF-TUG SUPPLIED OEM COMPONENTS TO ASSEMBLE THE COMPLETE CABLE SAFE CLIMB SYSTEM. DO NOT ATTACH TO OTHER MANUFACTURER'S, NON-APPROVED SAFE CLIMB MOUNT BRACKETS TO TUF-TUG CABLE AND HEAD ASSEMBLY. ALTERING SYSTEM DESIGN WILL VOID ALL CLAIMS AND WARRANTY.** The Tuf-Tug wire rope grab (TTWG-500) and climbers/positioning full body harness (TTFBH-C/P), should be used in conjunction with the cable safety climb system to assure maximum reliability.

**SAFE CLIMB SYSTEM LOADING:** Factored Live Loads +75 lb. average Tuf-Tug system weight = minimum top anchorage load calculations. For 2- 4 climbers per OSHA/ANSI, TIA and SEMC are as follows:

- (2) Person factored live loads = 3,240 lbs.
- (3) Person factored live loads = 3,705 lbs.
- (4) Person factored live loads = 4,170 lbs.

**KNOW YOUR WORKPLACE:** Assess the workplace for hazards such as heat, flames, chemical, electrical, environmental, sharp objects, moving equipment, unstable/uneven or slippery surfaces. Identify the potential hazards and plan for the installation to avoid dangerous paths, obstructions and zones.

Have an emergency rescue/contingency plan in place in the event that an accident may occur per rescue/retrieval section.

**UNIVERSAL POLE MOUNT CLAMP-ON ASSEMBLY INSTALLATION:**  
**START AT THE TOP AND WORK YOUR WAY DOWN**

- A. Attach head assembly with cable to the 120-222 clamp-on top assembly with the supplied  $\phi 1/2$ " bolts. Allow cable to hang freely down face of pole to ensure that mount is installed square to the climb. Torque  $\phi 1/2$ " diameter fasteners to approximately 40 ft. lb.
- B. Climbing down ladder attach a cable stand-off every 25 ft. with the supplied fasteners and insert cable into slot. Alternate slot openings left and right to cable center as the run is installed. Torque 3/8" fasteners to approximately 25 ft. lb.
- C. Secure the base anchor bracket in line with cable to the TTCCS cable clamp system on the pole with the eyebolt facing up and tighten  $\phi 3/8$ " U-bolts to 25 ft. lb.



- E. With Anchor Eyebolt fully extended up, thread cable through thimble and loosely attach cable clips. Pull on free end of cable to take slack out of line and secure nuts on cable clamps to approximately 40 ft. lb. torque.
- F. Tension cable lifeline by tightening nut on anchor eyebolt until 220 lb. tension is achieved
- G. Check security of installation by pulling down on cable to assure the Safe Climb System has been tensioned.
- H. If, not repeat steps E & F until line is properly tensioned.
- I. Attach I.D. Plate at base of ladder and fill out installation date and number of allowable users.

**NOTE:** TTCCS cable clamp system may also be used to attach cable guides to pole.

**BEFORE EACH USE:** Reference specific installation application for the climb facility in question. Inspect installation for obvious miscues from the ground, and/or refer to the SEMC document for detailed information. Points of caution may include one or more of the following: excessive corrosion, loose cable, loose brackets, over tensioned system/deployed eyebolt, etc. If any of these items are encountered and cannot be remedied, climb with extreme caution. A secondary fall protection system may be warranted until the issue can be identified, classified and/or corrected. Also, be aware of the current environmental hazards that these elements represent and plan for a safe climb accordingly with approved JHA/JSA documentation.

**USE:** Cable safety climb system should be used in accordance to the SEMC PPE inspection outlined with the TTWG-500 Wire Rope Grab instructions that are supplied with specific bracket pack installation information. A climb log of the system's use should be kept per the specific climb facility's installation.

If the system arrests a fall, it should be removed from service and replaced to assure maximum reliability. If this is not immediately feasible, a qualified person/climber can make an assessment to the damage and provide short term recommendations/remediation.

**INSPECTION:** Inspect system before each use for corrosion, wear, damage and/or defects during each climb per SEMC document. Record findings per the climb log. If system shows signs of any hazards, contact owners for corrective action immediately. It is recommended an annual or regular scheduled inspection should be made of the Cable Safety Climb System along with the supporting structure to assure its functionality.

**RESCUE/RETRIEVAL:** For a safety climb that is subjected to a fall, and rescue is required, the competent rescuer executing the rescue shall be required to assess the means available to efficiently and safely rescue the climber to avoid suspension trauma. If the best means is to use the existing wire rope safety climb that has been exposed to a fall, then the competent rescuer shall be required to, at a minimum:

- A) Verify that the equipment utilized, including but not limited to the safety climb, meets the intended requirements for rescue as outlined by the manufacture(s).
- B) Visually inspect the safety climb for changed conditions from the last written PPE inspection in compliance with section 5 of the SEMC document to assess the usability of the safety climb.
- C) Communicate the plan to use the safety climb system with others involved with rescue procedures.
- D) The competent rescuer shall ensure that use of the system will not create a greater hazard than other means.
- E) Once the rescue is complete, the wire rope safety climb is to be reported and tagged out until corrective action has been taken.

**\*Always keep these instructions and records with the system in a place that is easily accessible to all users\***



**WARNING:** All users of fall protection equipment must be in good health, must not have a medical history of conditions that could be aggravated by a fall, must be mentally fit and must not be under the influence of alcohol or drugs. Inattention to these factors could cause falls, serious injury or death.

**WARNING:** Any component which has arrested a fall should be removed from service and replaced.

**WARNING:** Never alter or use a Safety Climb System that has been altered – the potential malfunctions could result in serious injury.

**WARNING:** Do not attempt to repair damaged equipment. Remove from service and replace.

**WARNING:** Discard equipment if there is any evidence of excessive wear, damage or malfunction.

**ALWAYS BE CAREFUL!** Your Safety is important to us. If a situation is questionable, consult a qualified professional for proper procedures or reference appropriate specification.

**WARRANTY:**

“Limited 1 Year Warranty to Original Using Buyer” - TUF-TUG Cable Safe Climb Systems are warranted for 1 year against defects when operated under normal conditions, within their rated capacities and in accordance with the operating instructions and use considerations.

Any part or mechanism that is recognized as defective by TUF-TUG Products will be replaced or repaired Free of Charge during the warranted period if it is returned, prepaid, to the factory with a return authorization. Claims for labor, delays, or damages are not covered by this warranty. This warranty does not apply if the unit has been altered, modified, or repaired by any source other than TUF-TUG Products.

**Environmental / Corrosion considerations**

A) Macro-environmental: Installation exposure warranty for normal macroscopic rural, suburban, and temperate marine environments with moderate chemical, salinity, sulfur dioxide, and relative humidity, equals 10 years.

B) Micro-environmental: Tuf-Tug safety climbs with increased exposure to near coastal (within 25 miles), tropical marine environments, high winds, chemical exposure, salinity exposure, sulfur dioxide exposure, and high humidity locations, anticipated time to first maintenance is 5 years.

C) Extreme Micro-environmental: Direct exposure within 5 miles of the corrosive catalyst, to the aforementioned microscopic extreme environments, including, but not limited to; direct coastal exposure, continuous exposure to tropical marine environments, high winds, caustic chemicals, high salinity, streaming sulfur dioxide, and extreme high humidity could reduce the first time to maintenance warranty period to TIA inspection requirements. These sites shall be identified and targeted for additional TIA maintenance and condition assessment to assure the validity of the safe climb system installation on the structure that has extreme environment exposure. Recommended first to maintenance inspection cycle should not exceed 2-year maximum timeline.

*“Quality is long remembered after the price has been forgotten”*

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