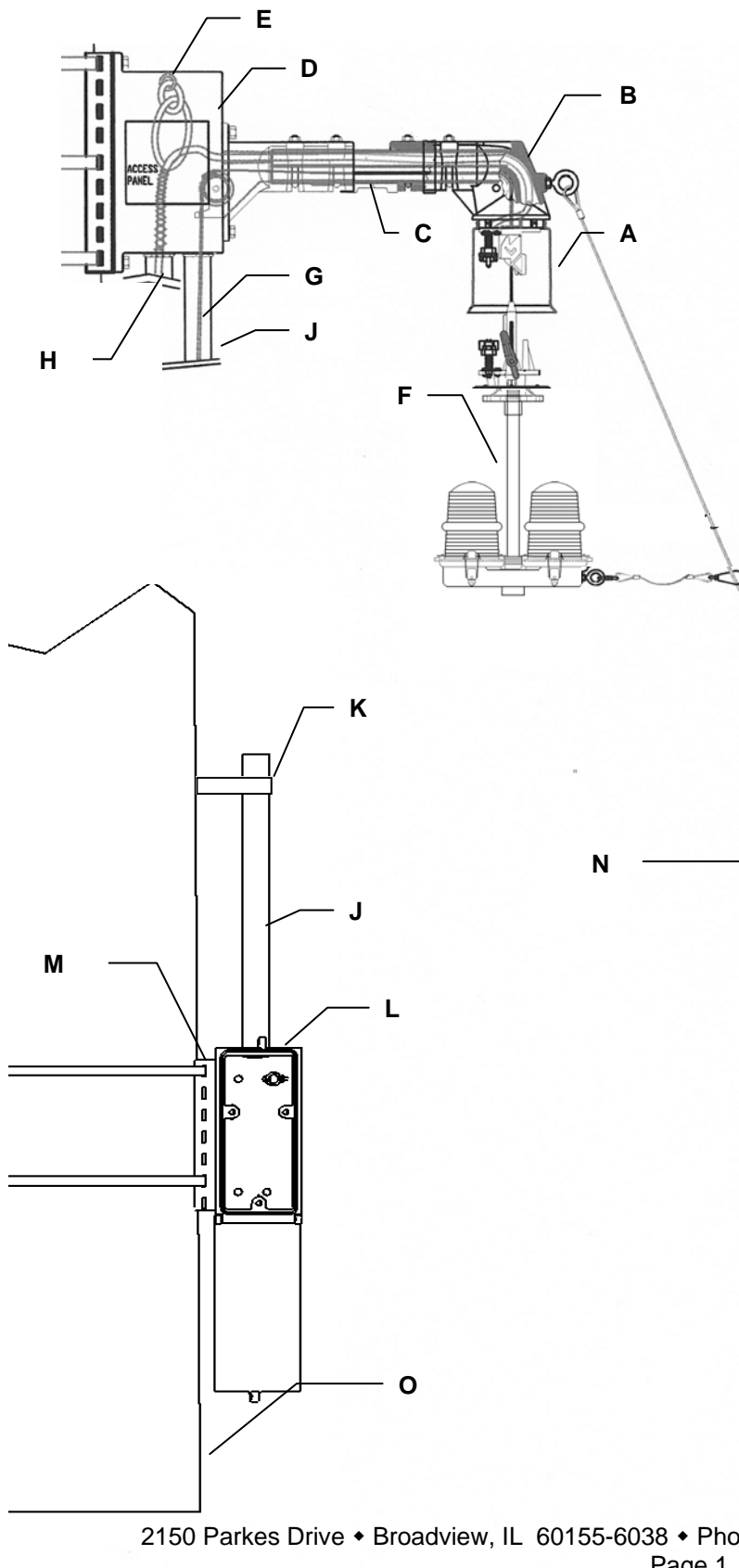


**TOWER/CHIMNEY FIXTURE MOUNT SYSTEM**



- A. ELECTRICAL AND SIGNAL DISCONNECT UNIT WITH MULTI-PIN CONNECTOR.
  - B. DISCONNECT UNIT FITTER WITH PULLEY AND U-BOLT MOUNTING.
  - C. DIVIDED PIPE ARM: 2-3/8 IN. O.D. SEPARATES CONTROL CABLE AND ELECTRICAL/SIGNAL WIRES.
  - D. TOWER MOUNTED FITTER WITH PULLEY HOUSING AND MOUNTING BRACKETS TO STRAP TO TOWER (STRAPS BY OTHERS).
  - E. ELECTRICAL CORD STRAIN RELIEF
  - F. AERONAUTICAL FIXTURE (BY OTHERS).
  - G. CONTROL CABLE CONSTRUCTED OF 5/32 INCH DIA. STAINLESS STEEL 7X19 CABLE.
  - H. ELECTRICAL/SIGNAL WIRES & CONNECTOR (BY OTHERS). OPTIONAL 1 PCE ELECT/SIGNAL CABLE FROM DISCONNECT UNIT TO BASE.
  - J. 1.5" CONDUIT (BY OTHERS).
  - K. CONDUIT CLAMPS EVERY 10 FT. (BY OTHERS).
  - L. CAST ALUMINUM SECURITY LOCKING BOX. (LOCK BY OTHERS).
  - M. STAINLESS STEEL MOUNTING BRACKETS WITH SLOTS FOR STRAPPING TO POLE OR OTHER STRUCTURE. STRAPS BY OTHERS.
  - N. FIXTURE GUIDE CABLE, 5/32" STAINLESS STEEL ALLOWING FIXTURE TO SAFELY FOLLOW GUIDE TO GROUND.
  - O. TOWER/CHIMNEY (BY OTHERS).
  - P. GUIDE CABLE ANCHOR IN GROUND (By Others).
- OPTIONAL: POWDER COAT PAINTED FINISH.



## Design ALS-XX-34M-4C

### System Specifications and Ordering Information

#### SYSTEM SPECIFICATIONS

Design ALS is comprised of the following major assemblies:

ELECTRICAL DISCONNECT UNIT ♦ FIXTURE MOUNTING BRACKET ♦ DISCONNECT UNIT FITTER ♦ CONTROL CABLE  
DIVIDED PIPE ARM ♦ WALL MOUNTED FITTER ♦ ELECTRICAL WIRING AND CONNECTORS ♦ GUIDE CABLE

#### ELECTRICAL DISCONNECT UNIT

**3-WAY TRACKING GUIDE AND SUPPORT:** Constructed of precision cast high strength aluminum alloy. A permanently fixed position piece incorporating a special tracking guide system, the 'maze', permitting the moveable portion of the Disconnect Unit to align in the same position every time the system is operated. This eliminates the need to re-orient the fixture. Twin high strength notches secure the load of the Lower Contact Assembly and fixture and work with the tracking guide system to assure stability.

**ELECTRICAL CONTACTS:** See following page.

**DISCONNECT UNIT COVER:** One piece hydro-spun heavy gauge stainless steel cover.

**GUIDE POST:** Constructed of precision cast high strength stainless steel. Utilizes cast-in-place guide bar for precise alignment of Lower Contact Assembly with the fixed portion of the Disconnect Unit.

**TWIN TRACKING SUPPORT ARMS:** Made of precision cast high strength stainless steel. Dual arms provide balanced stability of the Disconnect Unit. When locked in the 3-Way Tracking Guide and Support notches, the Twin Tracking/Support Arms hold the weight of the light fixture and components, removing all tension from the Control Cable.

**LOWER CONTACT ASSEMBLY:** Constructed of precision cast high strength aluminum alloy. Features cast-in-place guide that mates with the fixed portion of the Disconnect Unit to aid in tracking and stability. All hardware used on the Lower Contact Assembly as well as the entire Disconnect Unit is corrosion resistant stainless steel.

**WEATHER SEALING GASKET:** Extra flexible polymer sealing gasket provides weather-tight seal between Lower Contact Assembly and Disconnect Unit Cover.

#### GUIDE CABLE

The fixture shall follow the guide cable to the ground to keep the fixture from hitting the structure. The Guide Cable shall be made of 316Stainless steel 5/32 inch diameter 7 x 19 construction aircraft cable. The assembly shall also have a stainless steel turnbuckle assembly to adjust the cable length. All hardware shall be of corrosion resistant stainless steel or aluminum.

#### DISCONNECT UNIT FITTER

Cast of heavy duty aluminum alloy to fit 2-3/8 inch outside diameter Divided Pipe Arm. Fitter designed to completely isolate moving Control Cable from the electrical wires. A molybdenum impregnated nylon pulley provides high strength and low resistance for the moving Control Cable thereby increasing the life of the cable. Pulley uses permanently lubricated bearing.

#### DIVIDED PIPE ARM

A two inch (2-3/8 inch O.D.) schedule 80 steel pipe with galvanized finish standard. Divided entire length to keep Control Cable and electrical wires separate. Provides rigid support between the Disconnect Unit Fitter and Wall Mounted Fitter. Interlocking arm and fitters provides positive non-rotating positioning of pipe arm for all outdoor wall mounted lowering systems.

#### WALL MOUNTED FITTER

Heavy duty cast aluminum alloy to fit 2-3/8 inch O.D. Divided Pipe Arm. Utilizes cast-in-place cable stop to prevent cable connections from entering pulley. Pulley is molybdenum impregnated nylon. Two U-bolt pipe clamps rigidly hold the Divided Pipe Arm. Interlocking arm and fitters provides positive non-rotating positioning of pipe arm for all outdoor lowering systems. Fitter designed to bolt directly to the cast aluminum wall arm mounting box

#### CONTROL CABLE

316 Stainless steel 5/32 inch diameter 7 x 19 construction aircraft lowering cable (See drawing of SS1110-XX).

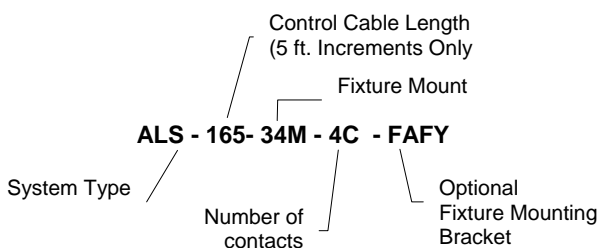
#### ELECTRICAL WIRING AND CONNECTORS

Systems are prewired from Disc. Unit to wall arm mounting box with 3 conductor 14AWG SEOW cord (optional 5 cond).

#### VIBRATION TEST

The electrical disconnect unit shall meet or exceed sine vibration tests of 3.5 g's within the frequency range of 5-60 Hz in all three axes for minimum of six 5-minute cycle each axes. It shall meet or exceed random vibration tests of frequency range 60-1000 HZ at .025 g<sup>2</sup>/Hz applied for 30 minutes in each of the three axes. It shall have results to exhibit no electrical discontinuities greater than 10 microseconds. Tests applicable to Electrical Disconnect Unit and attached components.

#### ORDERING INFORMATION



- Design ALS is shipped assembled and prewired.
- Standard System Finish is Aluminum and Galvanized Steel. Painted Finishes Available-Consult Factory.
- Lowering Tool Ordered Separately.
- Fixture Mounting Hardware, Wall and Security Lock Boxes hardware, conduit, conduit bracket, by others.

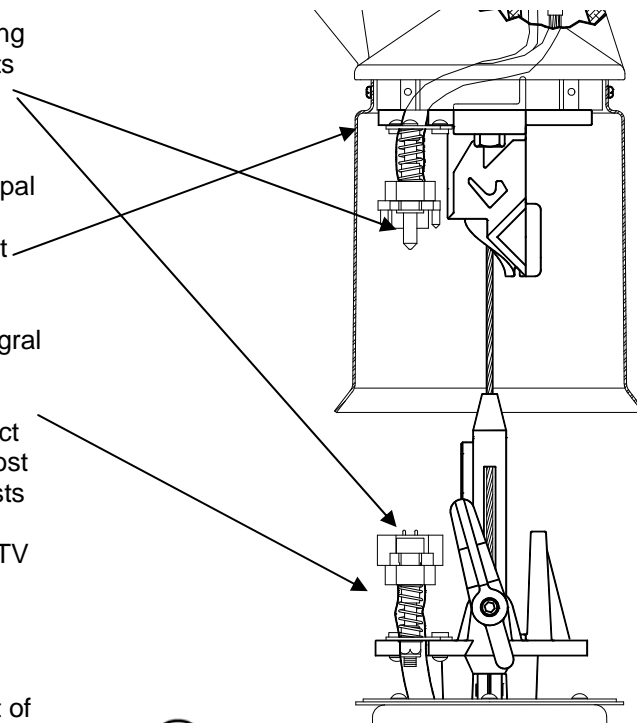
Contact LIGHTING & LOWERING SYSTEMS for specific catalog number codes required for your application

**NOT FOR LIFTING PEOPLE OR RAISING/LOWERING OVER PEOPLE.**

## Specifications Guide

- ❖ The EDU shall have a 3-way tracking guide and support. It shall be constructed of precision cast high strength aluminum alloy 356-T6. A permanently fixed position piece incorporating a special tracking guide system permits the moveable portion of the *Disconnect Unit* to align in the same position every time the system is operated, thereby eliminating the need to re-orientate the fixture. The Electrical Disconnect Unit shall have twin high strength stainless steel locking cams securing the load of the *Lower Contact Assembly* and fixture. All tension on the cable is relieved when the fixture is in the raised position.
- ❖ The MULTI-CONTACT Connector assembly shall be modular for easy installation and retrofit requirements. The connector shall have **2** size 12 contacts. Material of contacts shall be copper with nickel plating, and with gold plating over nickel per MIL-G-45204. Gold plating shall keep contacts from corroding. Electrical contacts shall have a rating of 20 year mean time between failures. All hardware shall be corrosion resistant stainless steel. It shall have a self-aligning and self-adjusting mechanical system comprised of two principal assemblies:
  - The UPPER CONTACT HALF* shall house the socket contacts. It shall incorporate spring assisted polymer contact body with precision-machined stainless steel guideposts. The socket contact body shall have integral guideposts for precise contact alignment.
  - The LOWER CONTACT HALF* shall house the pin contacts comprised of spring assisted polymer contact body with precision-machined stainless steel guidepost receivers. The pin contact body aligns with guideposts of integral socket body guideposts.
- ❖ The wire leads are potted in Superflex® Black RTV Silicone, an industrial grade sealant for bonding and sealing.
- ❖ The unit shall have a guidepost constructed of precision cast high strength stainless steel. It shall utilize a cast-in-place guide bar for precise alignment of *Lower Contact Assembly* with the fixed portion of the *EDU*.
- ❖ The **EDU shall have** twin (2) tracking support arms made of precision cast high strength stainless steel. When locked in the *3-Way Tracking Guide and Support* notches, the *Twin Tracking/Support Arms* shall hold the weight of the fixture and components and it shall remove all tension from the *Control Cable or Lowering Cable*.

- ❖ The lower contact assembly shall be constructed of precision cast high strength aluminum alloy. It shall feature a cast-in-place guide that mate with the fixed portion of the *Disconnect Unit* to aid in tracking and stability. All hardware used on the *Lower Contact Assembly* as well as the entire *Disconnect Unit* shall be made of corrosion resistant stainless steel.
- ❖ The disconnect unit shall have a **HOUSING SEAL** made up of a spun aluminum closure ring with a sealing gasket constructed of extra flexible polymer providing a weather-tight seal between *Lower Contact Assembly* and *Disconnect Unit Cover*. This provides a flexible environmental seal. Seal swipes and conforms to interior of cylinder housing during all operating stages of the disconnect unit.



**Electrical Contact Rating:** 35 Amps at 600 volts per contact.  
(2 circuit max)

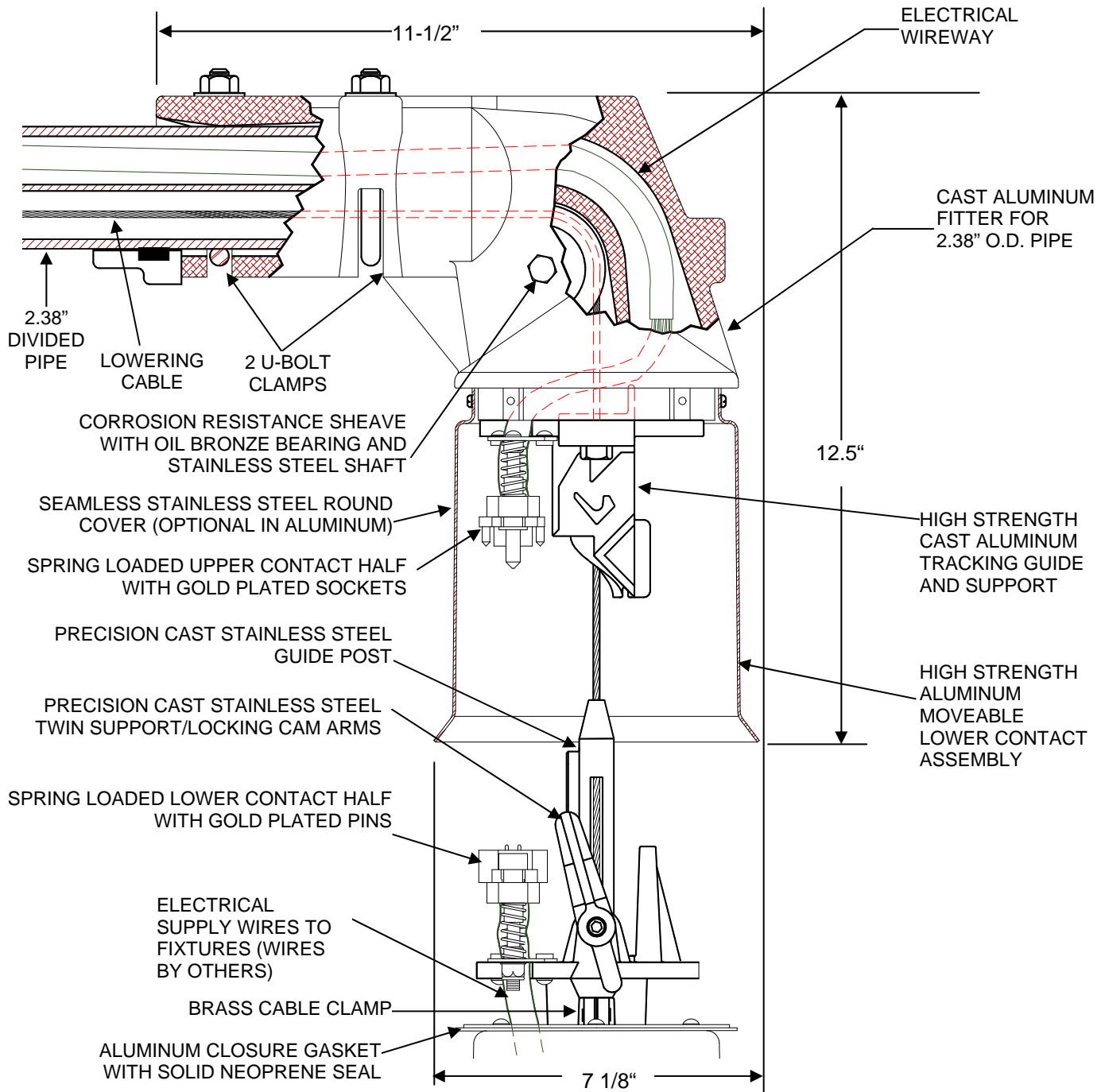
**Mechanical Rating:** 100 lbs with 10:1 safety factor

**Wind Load Rating:** 130MPH w.1.3 Gust

SYSTEM DESIGNED SPECIFICALLY FOR USE WITH LIGHT FIXTURES, CAMERAS, AND RELATED EQUIPMENT ONLY.  
**NOT FOR LIFTING PEOPLE OR THINGS OVER PEOPLE.**  
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

## SCU-1HD-2C Disconnect Unit

For pole arm mounting using 2-3/8" O.D. mounting pipe.  
Load capacity of 200 lbs. with a safety factor of 12 to 1.  
2 Contacts plus ground standard.



Options:	Suffix
(4) Contacts	4C
Counterweight	CW
Chain Fixture Mount	CH
3/8" Internal Pipe Thread Mounting	38

Specification subject to change without notice.

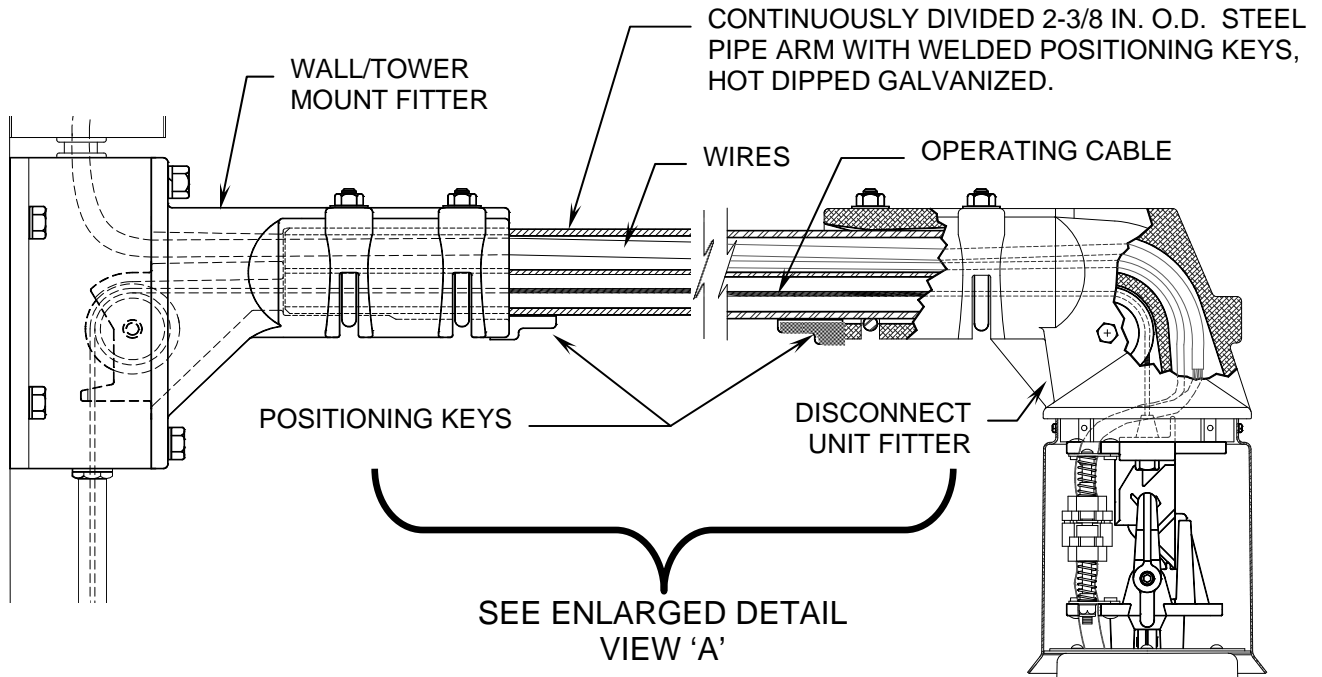
**UL Listed**  
10 AMP 480/600 V.  
15 AMP 277/240/208 V.  
20 AMP 120 V.  
**Per Contact**

**Minimum Load 20 lbs.**



# INTERLOCKING ARM & FITTERS

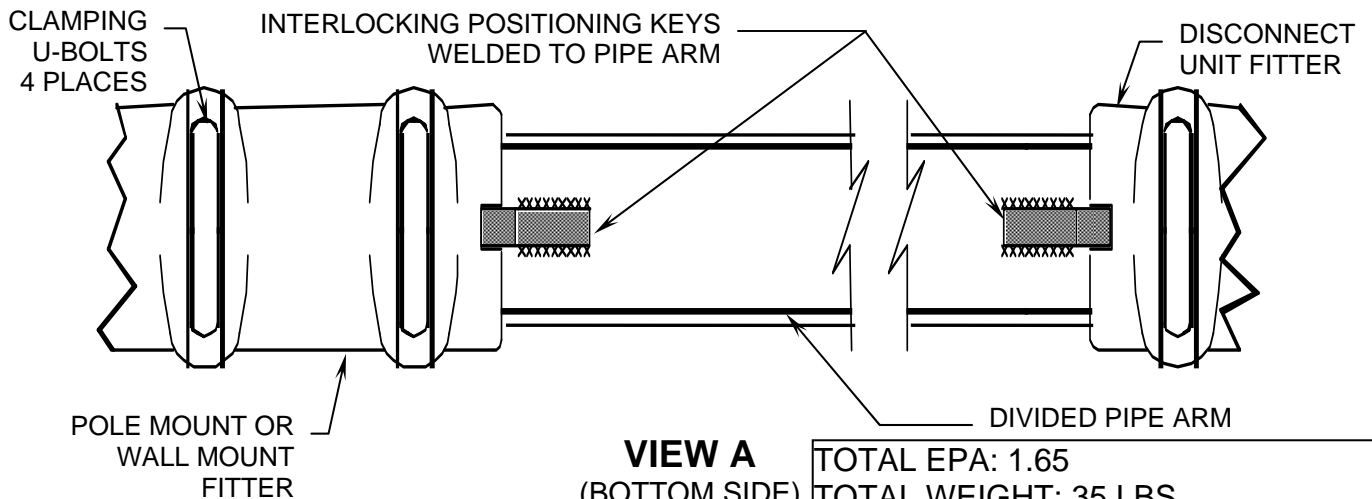
PROVIDES POSITIVE NON-ROTATING POSITIONING OF PIPE ARM FOR ALL OUTDOOR WALL AND TOWER MOUNTED LOWERING SYSTEMS



## FEATURES

Specially shaped steel keys are welded to divided pipe arm before arm is galvanized. Precise alignment of keys with corresponding notches in the pole/wall fitter and the disconnect unit fitter provide positive positioning and prevents rotating of components about the divided pipe arm during extreme environmental conditions.

Pipe arm has full length divider separating the wires from the movement of the control cable. Separate chambers within the fitters for electrical wires and the control cable assures complete protection to the wires during the operation of the system.



**VIEW A**  
(BOTTOM SIDE)

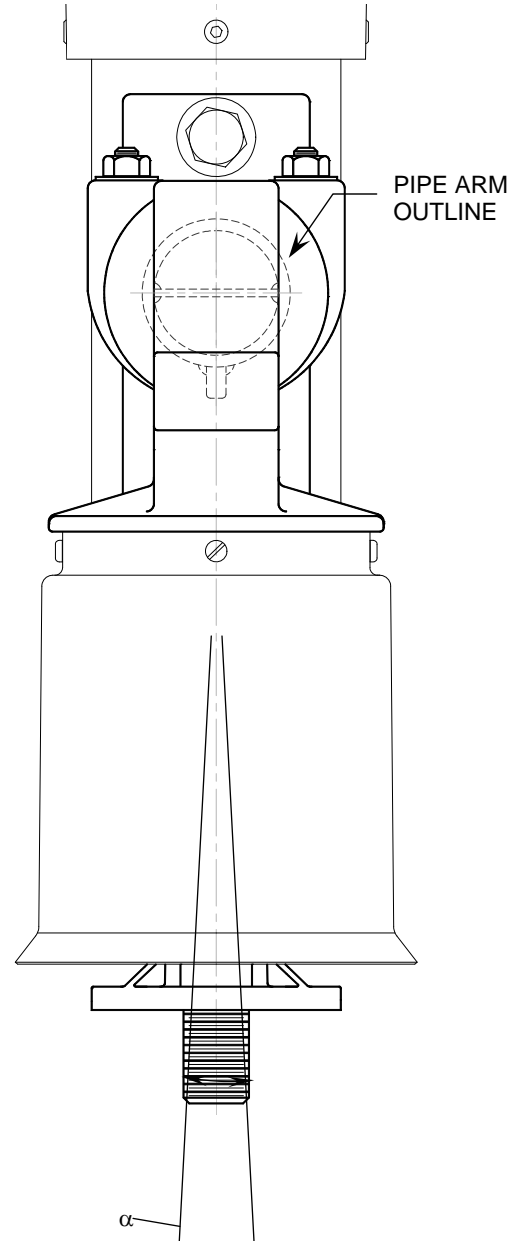
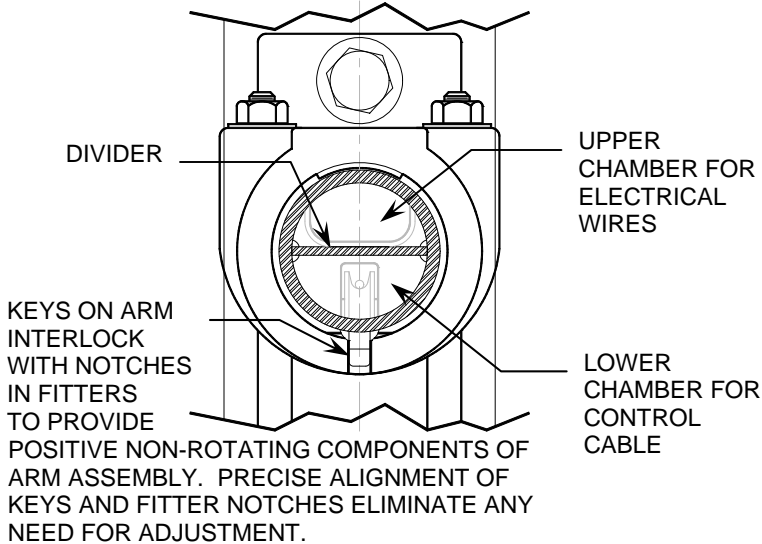
TOTAL EPA: 1.65  
TOTAL WEIGHT: 35 LBS  
(includes arm, disconnect unit, pole top junction box)



# INTERLOCKING ARM & FITTERS

PROVIDES POSITIVE NON-ROTATING POSITIONING OF PIPE ARM FOR ALL OUTDOOR POLE AND WALL MOUNTED LOWERING SYSTEMS

## ARM CROSS SECTION



## DETAILS OF FEATURES

**NOTE:** WHEN THE INTERLOCKING POSITIONING KEYS OF THE ARM ASSEMBLY ARE MATED WITH THE CORRESPONDING NOTCHES IN THE FITTERS, THE POLE SHAFT MUST BE PLUMB FOR THE PROPER OPERATION OF THE SYSTEM.

**ANGLE  $\alpha$ :** The angle  $\alpha$  shown in the END VIEW is based on mechanical tolerances between mating parts and should not exceed a total of  $1/2^\circ$ . This deviation from plumb will not affect the operation of the components of the arm assembly. All tolerances are based on the pole shaft being plumb when installed.

**PIPE ARM:** (See Fig. 1) Constructed of 2 inch structural steel pipe having an outside diameter of 2-3/8 inch. Positioning keys are permanently welded to the pipe arm at precise positions that align with notches in the ends of each of the fitters. Arm finish is hot dip galvanized after all welding is completed. Optional finishes over the galvanizing are available to match the color of the pole. Ends of the pipe arm bottom out against the inside of the fitters a small fraction of an inch before the keys bottom out in the notches to provide a secure fit.

The pipe arm is installed complete with the rest of the arm components at the factory and is pre-wired to eliminate any need for adjustment in the field.

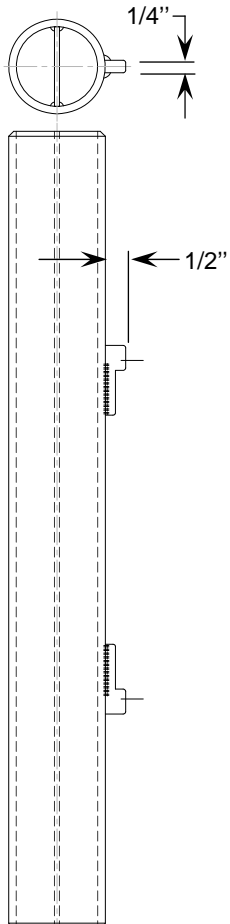
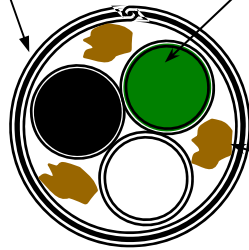


Fig. 1

Composite Cord Specifications:  
Type: SOOW  
3-#14 AWG POWER CABLES (Green, White, and Black)  
Voltage Rating: 600V.  
Water & Sunlight Resistant SOOW Jacket  
Temp. Rating for SOOW cord: 90°C

(S) Hard Surface Flexible Cord  
Material: Rubber Composite  
(O) Oil Resistant Jacket



Three #14 AWG. Stranded Tinned Copper;  
Wire insulation colors: White/Black/Green  
Voltage Rating: **600V**  
(O) Oil Resistant Conductor  
Wire Insulation Material: Rubber Composite

Fillers as required

## Electrical Cable, Cord Grip Specifications

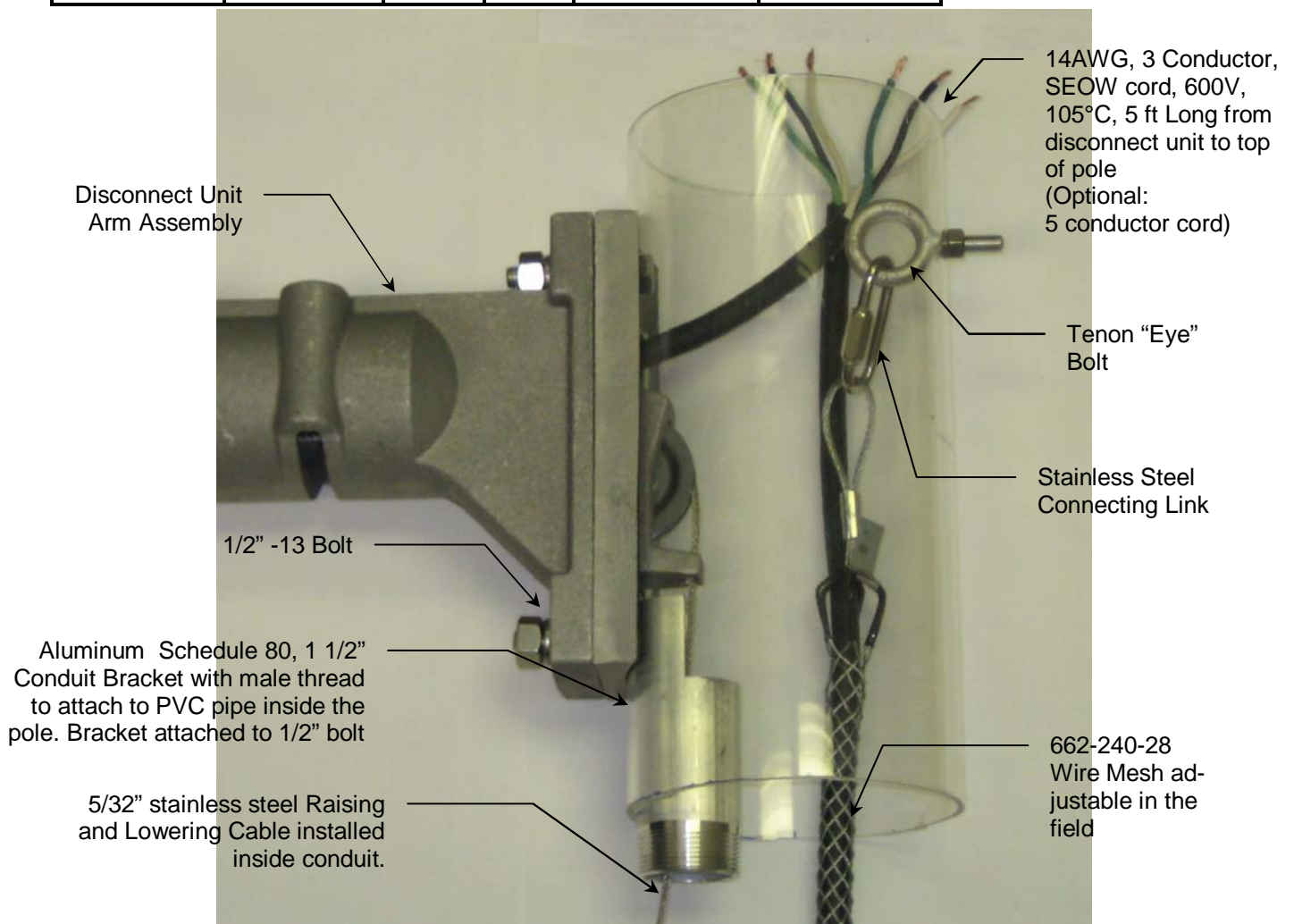
662-240-28 SUPPORT GRIPS Standard Duty, Closed Mesh

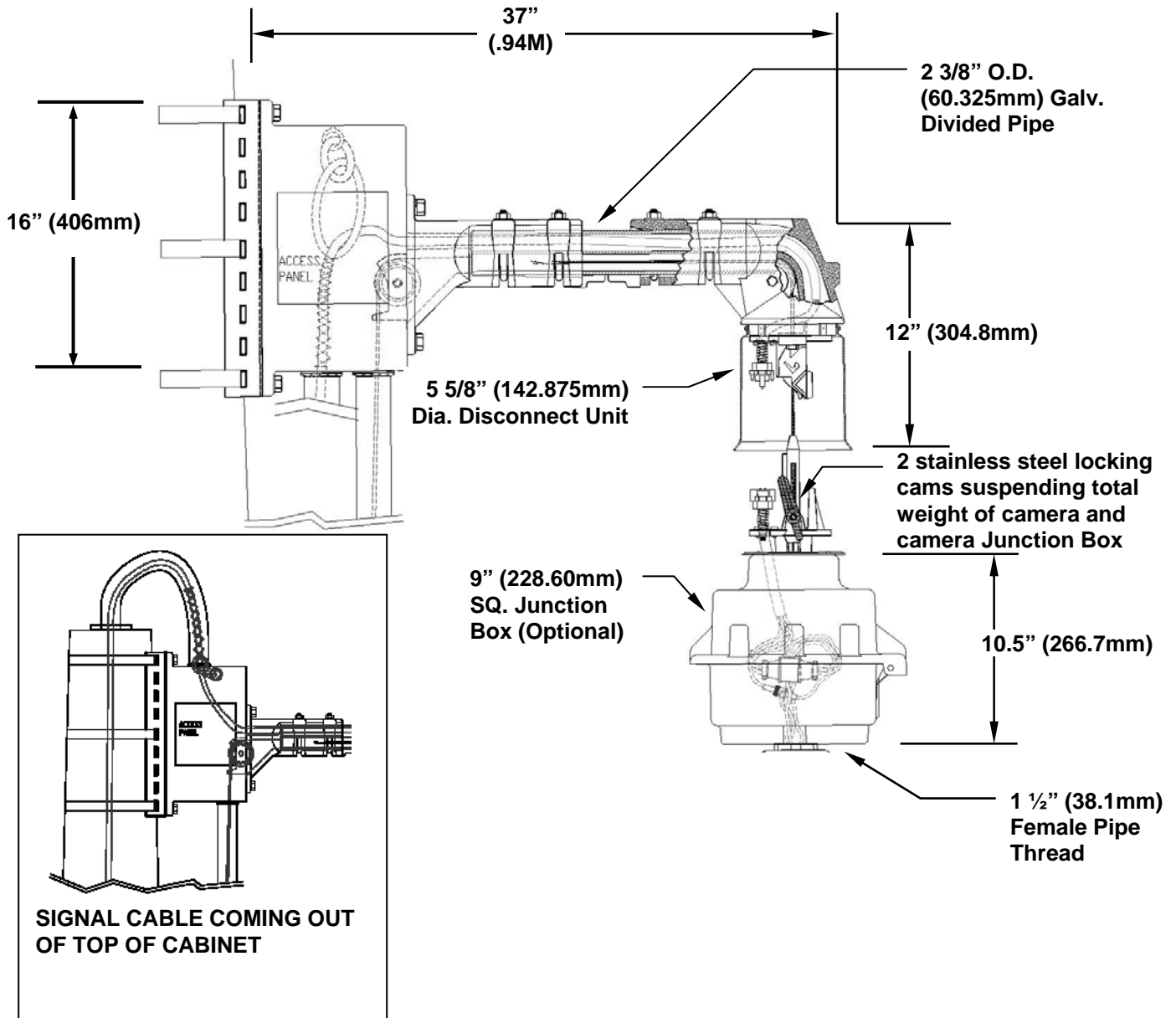
Standard closed mesh support grips are designed for loads up to 600 lbs. and vertical runs of up to 100ft. The 662-240-28 are used to support electrical/signal cable with a cable diameter ranging from 0.50" to 0.75". Closed mesh support grips have a loop to hang from the eye hook. Support grips are woven of corrosion-resistant tinned-bronze wire.



Optional: **662-240-38** stainless steel wire mesh

Cable Diameter Range	Part Number	Bale Length	Mesh Length	Approximate Break Strength	Material
0.50-0.750"	662-240-28	8"	14"	1300 LBS	Tinned-bronze
0.50-0.750"	662-240-38	8"	14"	1300 LBS	Stainless Steel





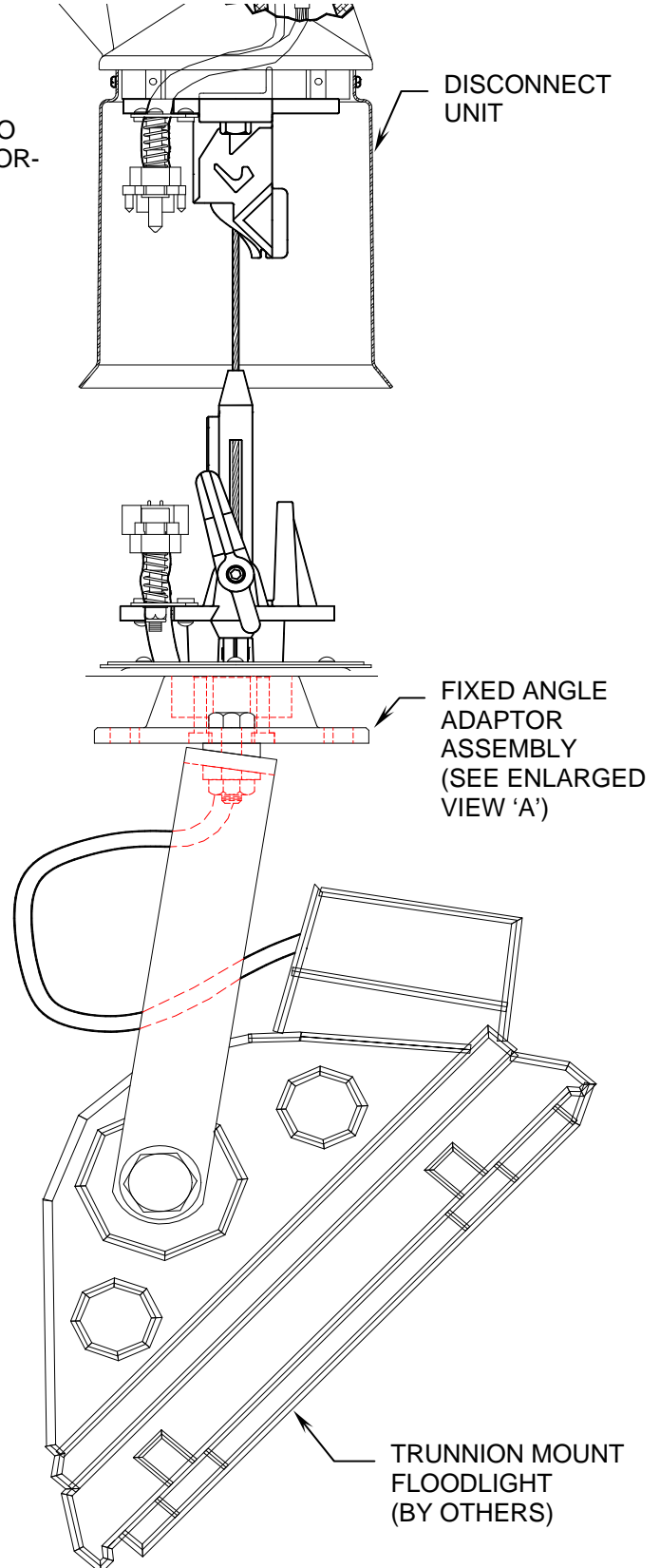
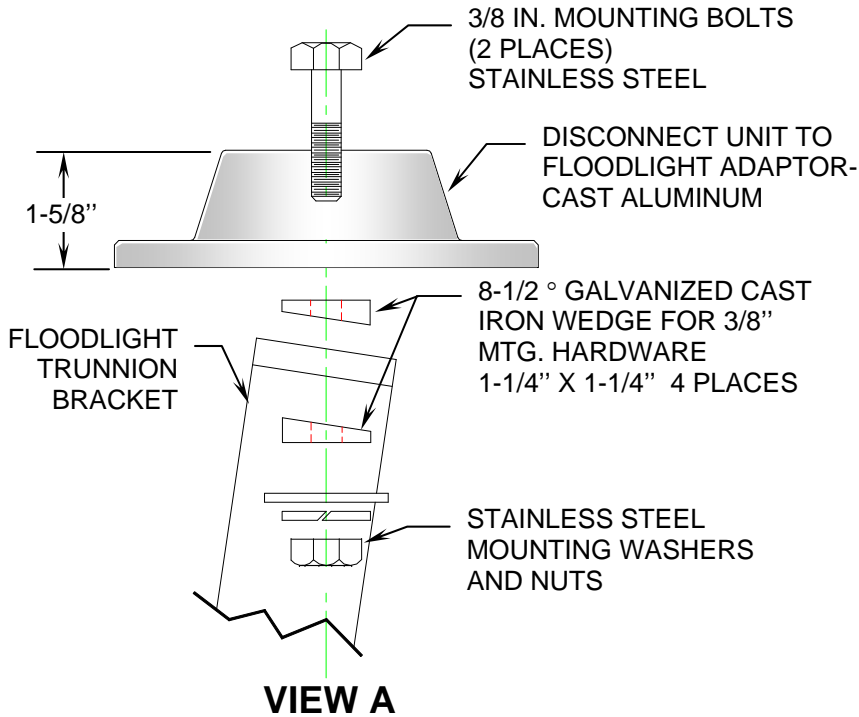
**Wind load Rating:** 120mph (195kmph) w/1.3 Gust with 1.65 safety factor.  
**Load Capacity:** 200lbs (91kgs) with safety factor of 10  
**Total EPA:** 3.00  
**Total Weight:** 95 lbs  
 (includes arm, disconnect unit, camera junction box, pole top junction box, and camera)

# FIXED ANGLE FLOODLIGHT ADAPTOR

USED TO COUNTERBALANCE FLOODLIGHTS  
WHEN MOUNTED TO RAISING/LOWERING SYSTEMS

Part Number: **FAF-Y**

## ADAPTOR ASSEMBLY

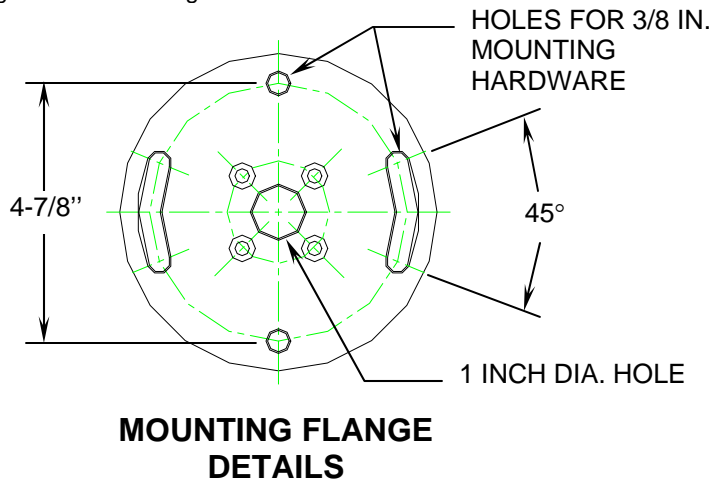


### FEATURES:

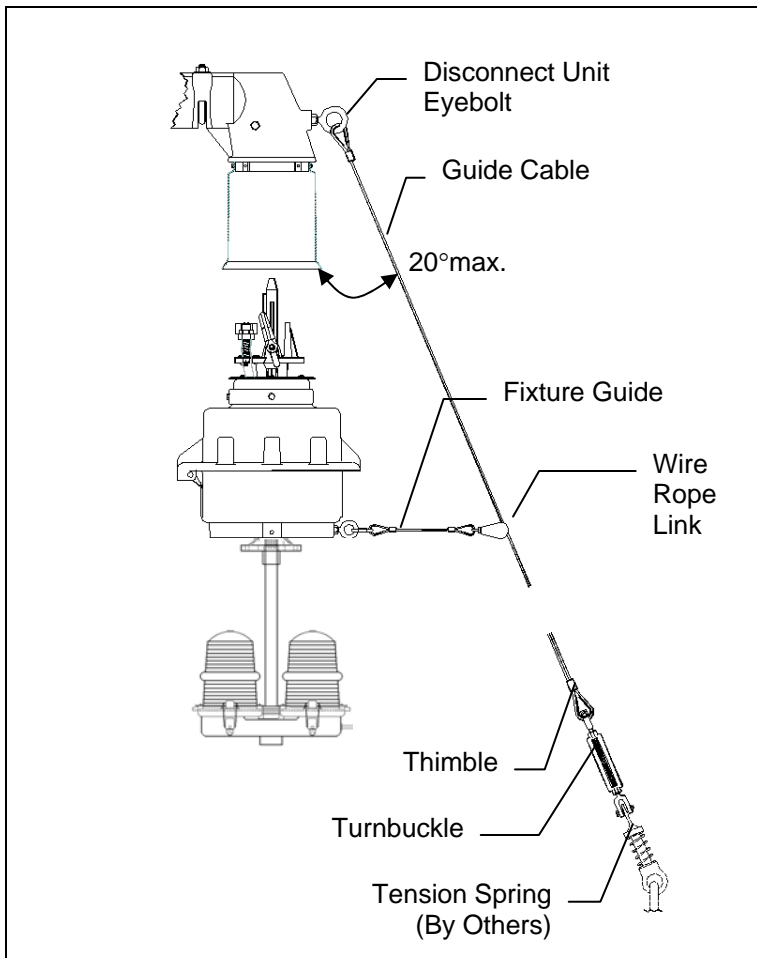
Flange provides two position mounting of trunnion bracket; fixed position and adjustable position. The adjustable position setting permits turning the floodlight left or right up to 45°. Flange rotates on disconnect unit in 90° increments for proper floodlight alignment.

Fixed angle (8-1/2°) wedges position trunnion bracket at proper angle for counterbalance so that floodlight hangs plumb to assure proper operation of the disconnect unit during the operating cycles.

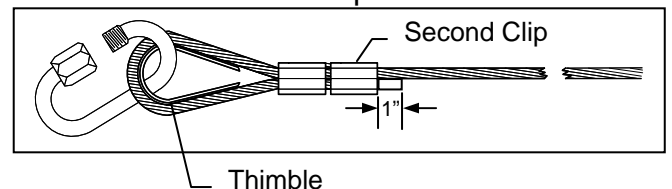
Extra large wireway permits easier feeding of cords or wires through the flange from the floodlight to the disconnect unit.



## Aeronautical Lowering System Guide Cable Instructions



1. Attach Tension Spring (By Others, One per fixture assembly) about 20° Max from fixture.
2. Attach Guide Cable Quick Link to Eyebolt on Disconnect Unit.
3. On other end of cable, slip through pulley on Fixture Guide.
4. Attach Turnbuckle to Tension Spring.
5. Attach Thimble to Turnbuckle.
6. Slip Guide Cable around Thimble and bring short end of cable next to long end of cable.
7. Install U-bolt section of Wire Rope Clip on short end of rope, and saddle on long end of rope and tighten nuts evenly. Apply first clip as near the thimble as possible. Apply second clip about one inch away from first clip.
8. Tape cable with electrical tape and cut extra cable in center of tape. On short end of cable, leave about one inch of cable from cable end to second clip.

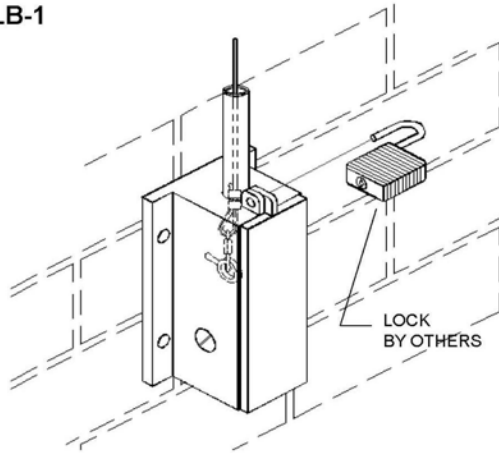


### Installation of Guide Cable

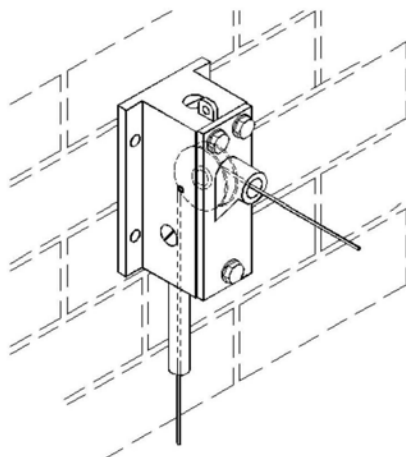
The purpose of the Guide Cable is to guide the fixture down to the ground while being lowered. The cable keeps the fixture from possibly hitting the structure during heavy wind gusts. The taper of the mounting structure may also interfere in the fixture coming down. The angle of the guide cable will vary. The angle is determined by the diameter of the fixture and the taper of the structure. The angle must be equal to or greater than the taper of the structure. Also, the cable must be angled out far enough as to not touch the fixture. The smaller the fixture diameter, the smaller the angle can be.

9. A tension spring should be provided in each guide cable to provide sufficient tension to hold guide cable taut (30-50 lbs) depending on length of guide cable. It must provide also sufficient movement for the sway of the structure (tower, stack, pole, and wall) under maximum wind load without exerting more than 150 lbs. tension on the guide cable. The brackets must be properly anchored and secured to withstand this load. Tension spring is not required if sway at top of structure is less than 6°, under maximum allowable wind load.
10. Mount fixture onto disconnect unit. Fixture must weigh at least 20 lbs. Add additional weights if necessary.

SLB-1

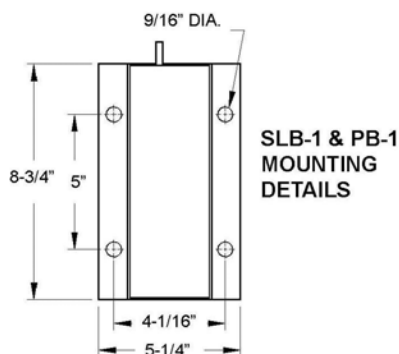


PB-1

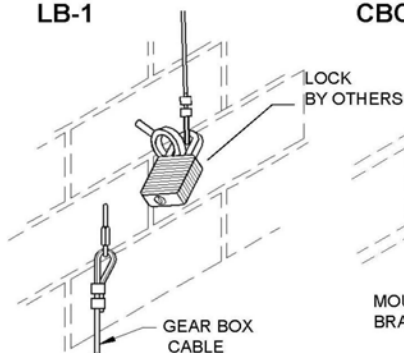


- Security Locking Box Design SLB-1
- Pulley Box PB-1
- Locking Bolt LB-1
- Wall Conduit Mounting Bracket CBC-169

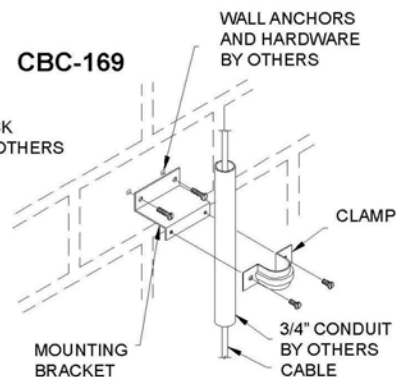
Each lowering cable must be terminated in a locking system. Two types are available to prevent unauthorized personnel from lowering the fixtures. If the lowering cable is mounted indoors and a security locking box is not required the locking bolt **LB-1** design can be considered. When conduit entry is required and maximum protection and corrosion conditions exist, the use of **SLB-1** security locking box is recommended. The box is cast aluminum. For highly corrosive areas, an optional painted unit is available. Vandal proof construction uses no screws, nuts or bolts to enter unit. The lowering tool to service this box is the **LT-4**. For locations where concealed boxes are required, consult factory for decorative designs. Each security locking box uses a **CCS-1** conduit cable shuttle to connect to the lowering cable to pass through the conduit.



LB-1



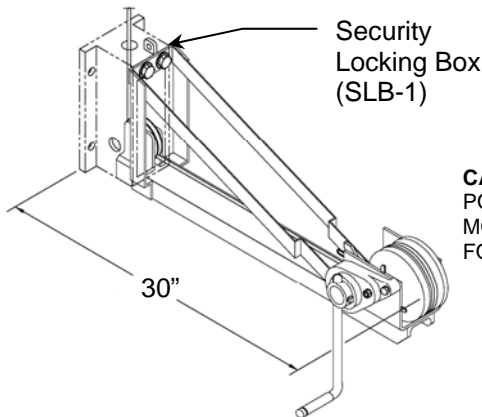
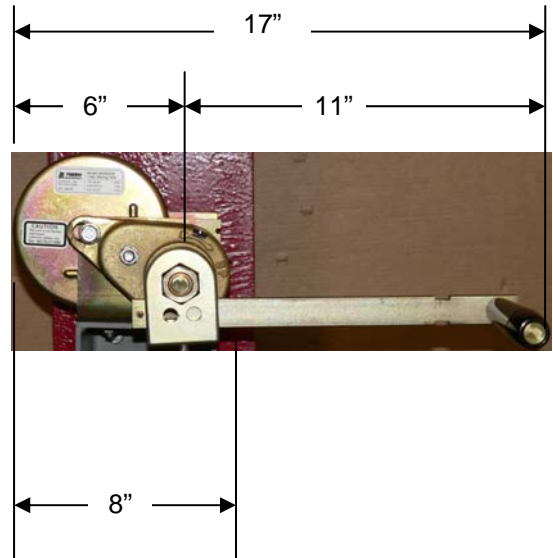
CBC-169





# LT-5-SSXX LOCKING BOX LOWERING TOOL

All gear boxes and lowering tools are of heavy duty design to provide reliability, long life, and ease of operation. They incorporate heat treated gears for maximum durability and strength. All are equipped with a special automatically actuated disc brake for better load holding ability and the prevention of the load free wheeling. The gear box assembly also has corrosion resistant plating. The systems are available for permanent installation or portable use indoors or outdoors for wall mounting or pole mounting. Each system is custom tailored to work with required load and operation for the raising/lowering specifications. The mounting bracket is made of heavy duty steel with a powder coated finish. The frame mounts to the Security Locking box utilizing 3 bolts.



**CATALOG # LT-5**  
PORTABLE LOCKING BOX  
MOUNTED LOWERING TOOL  
FOR FIXTURES UP TO 400 LBS.

### Specifications on Lowering Tool

- Tool mounts on Security Locking Box
- Fabricated from heavy gauge steel w/black powder coat finish.
- The winch has a primer base coat followed by an enamel finish coat. Excellent resistance to corrosion.
- Oil impregnated bronze bushings and sealed ball bearings.
- All hardware is made out of stainless steel.
- The winch has a 3:1 Gear reduction to reduce the effort required to raise and lower the assembly.
- Winch comes with heavy-duty disk brake to afford greater load holding ability. This provides a positive locking mechanism to secure cable and keep from freewheeling.
- **Drum Capacity:** 200 ft.
- **Cable:** Equipped 1/8" 7x19 stainless steel aircraft cable.
- **Dimensions:** 29"L.x8"W. With handle, 12"W.
- **Weight:**34LBS.

