



SUPER ANCHOR SAFETY®

CRA Commercial Roof Anchor Instruction/Specification Manual 2016 rev.

!WARNING TO USER!
You are required to read and use the Instruction/ Specification manual supplied at the time this device was shipped. Improper use and installation can result in serious injury or death. Follow inspection requirements before each use.

CRA-12 No. 1032 / CRA-18 No. 1033
PTT and Custom Fabrication Models.
Strength Rating: 5,400lb(22.6kN)

Materials Specification:

A-36 Steel or equivalent. **Coating:** Galvanized per ASTM 123. **Riser:** 3" d. x 1/4" pipe fitted with a 5/8" d. Loop or Pass Through Top (**PTT**). **Base Plate:** 3/8" x 16" x 16".

Fastener Holes: Screws: 40- 3/8". **Bolts:** 8-9/16". 3/8" drain holes in riser and base.

Serial No.: Stamped or riveted tag. **Flashings:** Optional ABS Storm Cap and Flashing Base.

See **Figs. 8-9**. Includes fastener pack **No. 2022**: 40 ea. No. 14x2.5" hex head screws for wood or metal.

Use only **SAS** factory supplied fasteners.

Custom Fabrication/Engineering/Field Welding models are available upon request.

Specification of Use:

Fall Arrest: 1 person. **Work Positioning:** 4 persons. Maximum body wt. each person of 310lb(140kg).

PPE Energy absorbers required for each worker. **Horizontal Line:** See **PTT** section page 2.

Non-specified use: Do Not Use for scaffolding tie off or hoisting equipment.

PPE Compatibility: Recommend to use **SAS** safety equipment for "Ensured" compatibility.

Window Washing Anchor:

Compliance: IWCA I-14.1-2001: Support 5,000lb(22.5kN) in any direction

a load is applied. **OSHA 1910.66 App.C** Non-Mandatory Guidelines Section II Article (2)

Requires bolt attachment as shown at **Fig. 7**, or engineering by a qualified person.

Structural Engineering:

CRA attachment point must be capable of supporting 5,000lb(22kN) or 2 times the intended fall protection load when industrial safety standards permit. All substrates and metal decks must be attached to supporting structure per current building code requirements.

Attachments not specified in this manual: Contact **SAS** for custom or engineered solutions.

Plywood/OSB Sheathing Installation:

Install anchors onto 3/4" plywood with fastener pack **No. 2022**, (40 screws). For plywood less than 3/4" or **OSB**, a 3/4" backer is required as shown at **Fig. 2** or **2-B**. Visually inspect fastener penetration is a minimum of 3/4". Do not install onto plywood that has water damage, cracks, cuts, or delamination.

Metal Decking 20 Gauge Minimum:

Use 36 screws from fastener pack **No. 2022** to penetrate the raised channel section as shown at **Figs. 3,4**

18 gauge or less: Install metal backer panel shown at **Fig. 5** using same width and 36" length. Or

1/2" x 48" x 48" plywood base over the metal decking. **Insulation Board:** Screw fasteners must not exceed 6" in length. For thicknesses greater than 6", bolts are required or an engineered fastener system.

Steel /Wood Beams/Insulation Board / Bolt Attached:

Minimum of 4 each grade 5 x 1/2" d. "All Thread" or grade 8 bolts/ nuts as shown at **Fig. 7**. Bolts must extend aprx. 1/2" through the nut on the underside. **SAS** factory supplied backer plates and bolts are required for steel/wood beams.

Concrete Minimum Strength 2,000 p.s.i. x 4" thickness:

8 ea. 1/2" x 6,000lb(27kN) tensile strength bolts engineered for concrete embedment and installed per bolt mfg. specifications. See **Fig. 6**. For concrete less than 4" thick, use a 16x16x3/8" steel backer plate supplied by **SAS** or an engineered specification.

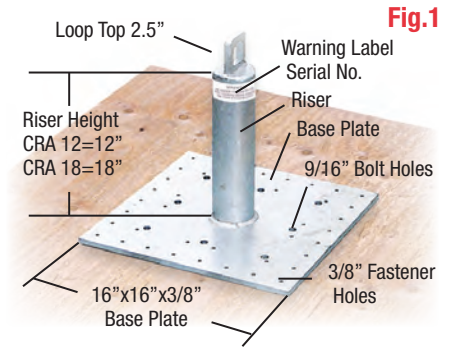


Fig. 1

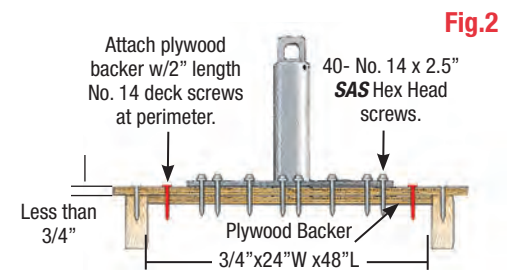


Fig. 2

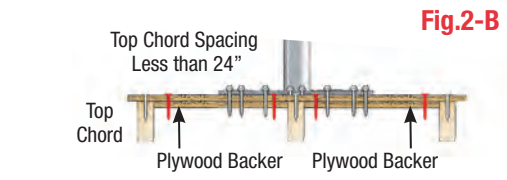


Fig. 2-B

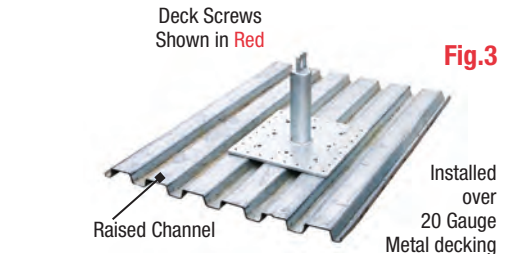


Fig. 3

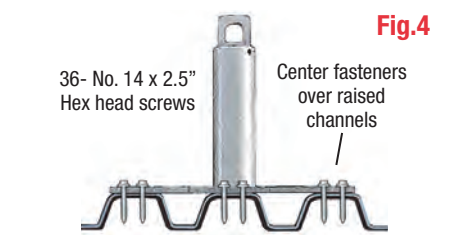


Fig. 4

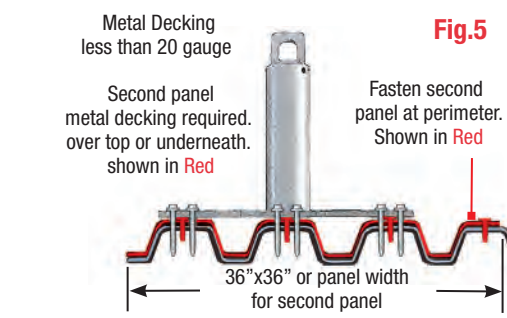


Fig. 5

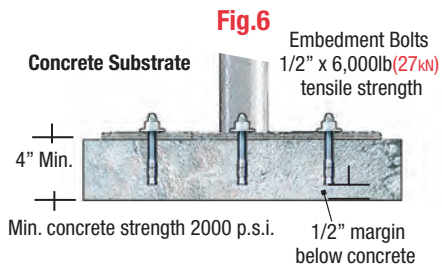


Fig. 6

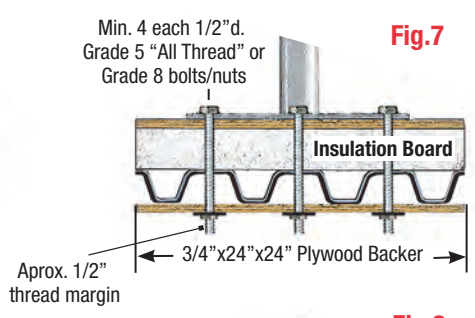


Fig. 7

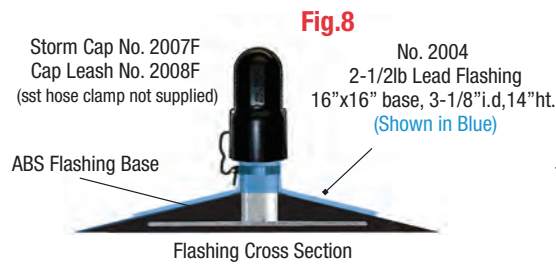


Fig. 8

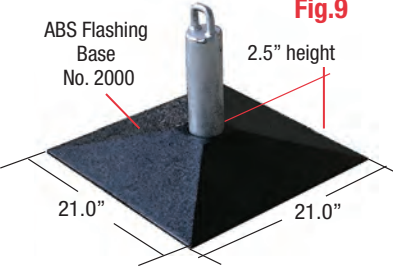


Fig. 9

Anchor Spacing:

Recommended spacing between anchors is $20\pi(6m)$ as shown at Figs.16,17,18. Maximum horizontal line length is $120\pi(36m)$. Set anchors 6- $10\pi(2-3m)$ from leading edges. Consult SAS plan service for anchor locations.

PTT Anchors / Horizontal Line System (HLS):

The Pass Through Top (PTT) is designed for a Horizontal Line System (HLS). Shown at Fig.10, O-Ring No. 5010, is installed onto a 3/8" d. steel cable No. 1055. PPE is connected to the O-Ring and passes through the PTT by rotating the ring. HLS components have a minimum breaking strength of 5,000lb(22.6kN.)

HLS Factory Engineered System: Fall Arrest = 1 person. Work Positioning 4 persons. Additional workers may be added when specified by an engineer or qualified person in a written plan.

Specification for Factory Engineered System:

Warning: Only SAS supplied HLS components qualify as a "Factory Engineered System". Components supplied by others require engineering by a qualified or competent person.

Corners/Ends: Use only loop top models

No. 1032-1033 shown at Figs.16,18.

Intermediate Anchors: No. 1032-P/1033-P

shown at Figs.10,17.

Cable: No. 1055 galvanized 3/8" - 7x19 steel cable.

End Loops: Use 3 SAS No. 1056 Crosby clamps

or equal for each end loop as shown at Fig.12.

Turnbuckles: No. 1058-3/4" galvanized Jaw-Jaw type.

Lengths over 60ft.(18m) use turnbuckles on both ends.

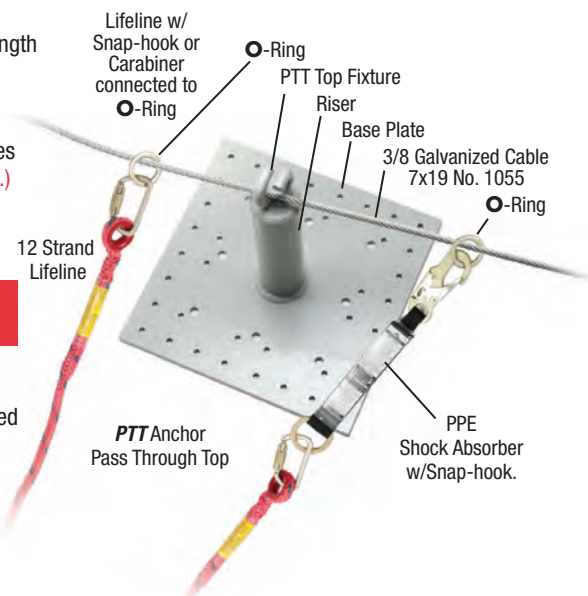
Metal Energy Absorber: No. 1059 is equipped with Tension and Force indicators.

Absorber Coupler No. 1053, Fig.11-B, is required to link a turnbuckle to a Metal Energy Absorber.

PTT/PPE Adaptor No. 1054 shown at Fig.19, converts a PTT top fixture into a loop top for attachment of fall protection equipment.

O-Ring No. 5010 Require one per worker.

Insert onto cable before forming end loops.



Cable Attachment / Cable Length Calculation:

Cable length is the distance between two ends or corners plus 18" for each loop as shown at Figs.12&16. Do not add 18" when turnbuckles or energy absorbers are used.

See Figs.18,11-A. Connect Turnbuckles to anchors or loop ends with factory supplied shackle and cotter pin. Some Turnbuckles have a lock nut. Cotter pins are required to prevent accidental disengagement. An equal size grade 8 bolt and lock nut may be substituted.

Cable end loops: are required to be formed as shown at Fig.12 for all terminations or connections to turnbuckles and energy absorbers. Use a torque wrench to evenly tighten all clamp nuts to 45lb.

Cable Tension: Tighten turnbuckles leaving a minimum of 2" of slack in the line. **WARNING! DO NOT** over tighten cable to prevent damage to the anchor fasteners and supporting structure.

Non-Specified Use: Do not use PTT anchors for corners or ends. **WARNING! DO NOT** attach fall protection equipment to a PTT anchor top, cable loop end, turnbuckle or around the riser as it may result in unintentional disengagement when subjected to a static load or in service loading (free fall) .

Inspection / Maintenance:

Inspect all components of the HLS prior to each use.

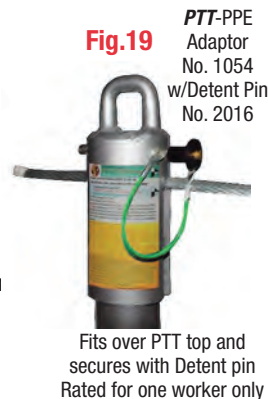
Do not use if any of the following conditions are present:

- **Cable:** Broken, cut, frayed, or creased strands.
- **Clamps:** Loose or Missing clamps/ nuts.
- **Turnbuckles:** Loose, missing cotter pins, Broken or bent.
- **O-Ring:** Missing, bent, out of round. Replace.
- **Energy Absorber:** Attachment bolt/nut missing, or loose. Tension indicator visible. Cable is too tight. Loosen turnbuckle. Fall Indicator visible: Do Not Use if HLS has been subjected to a force load or used by wire walkers.
- **CRA/PTT:** Loop/PTT top or riser is bent. Anchor is loose.

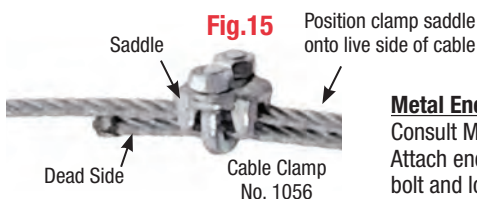
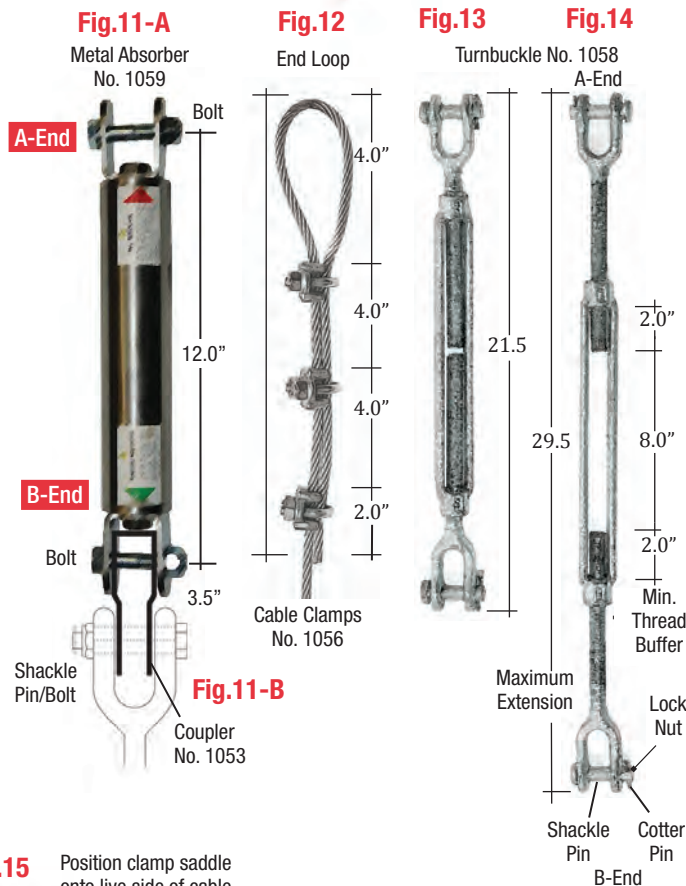
Free Fall / In Service Loading:

HLS components subjected to a free fall or other force must be removed and replaced before further use.

Anchors: Are not required to be replaced provided they have been inspected by a "qualified person" or engineer and there is no evidence of damage to the anchor, the fasteners or the supporting structure.



Fits over PTT top and secures with Detent pin Rated for one worker only



Metal Energy Absorber:

Consult Metal Energy absorber instructions before use. Attach end "A" to CRA Loop top with SAS M12x60mm sst. bolt and lock nut, and B-end of absorber to cable loop end, Fig.12. **With Turnbuckle:** Attach Turnbuckle A-end to CRA Loop top. Use Absorber Coupler No. 1053, Fig.11-B, to attach B-end of absorber to turnbuckle B-end and A-end to a cable loop. **Tension Indicator:** Absorber B-end green arrow indicates the correct amount of tension when the interior indicator is NOT visible. **Force Indicator:** A-end red arrow interior indicator will be visible when the HLS has been subjected to a force load. If deployed DO NOT USE HLS and determine cause.

