

SLATOR and SLATOR-Mini Installation Instructions

*Our **best safety practice** is having our workers trained for the task at hand, not rush, not become distracted, and remain attentive to their safety, potential hazards, others who might come into a danger zone. We embrace "If we can't do it safely, then we haven't yet prepared for the job", and "If we can give ourselves safe access, then our talents can truly be transferred to the job at hand, and that's really, what our clients want."*

These roofing practices with SLATOR, and SLATOR-Mini have kept us working safely so far, we recommend you review them, and then modify them to suit your own needs, environment and risk tolerance.

1. We examine and prepare the site for any hazards such as uneven or slippery terrain, power lines, objects that might impale us if we should fall, objects that could be hit or broken by a falling object. We place our ladders on firm surfaces and secure them with straps to prevent them from moving. We "quarantine" the area below where we are working with caution tape so that people will not accidentally walk into an area that might have falling objects...nails, hammers, slate, etc...
2. We use fiberglass ladders whenever the ladder can come within falling distance of a power line. We use ladder "stand-offs" (for our ladder on the ground) whenever possible to help keep the top of the ladder more stable for access to the roof eve. We use scaffolding with guard rails and set up a workstation high near the work area whenever reasonable.
3. **SLATOR is a single plane anchoring system. It is NOT a ridge anchor. It is designed to hold a ladder firmly on a roof for easier access, and to be an anchor point for fall protection on the same surface and plane as the ladder it is holding. Any other use is unacceptable. The worker's position is important. Their position must be such that any fall results with them falling below the SLATOR and in the same plane. Fastening through the slots only WILL NOT keep the SLATOR firmly in place.** We use (6) or more fasteners into only solid, strong roof rafters made of solid wood. **Plywood and OSB are not "solid wood".** Roof rafters are generally solid wood but each case must be reviewed by the COMPETENT person installing the SLATOR.
4. **INSTALLATION ON ASHALT SHINGLE ROOFS:** Use (6) ¼" lag screws or (6) TimberLOK screws at least 2 ½" long (3 of which must go through the white clamping bracket and the bottom 3 holes in the red SLATOR). Fasteners must penetrate at least 2" into a roof rafter of equal to or greater specific gravity equal to southern yellow pine. The rafter must be in good, dry condition and the roof structure must be able to support a 5,000 pound load in the direction of loading (i.e. possible fall direction).
5. **INSTALLATION ON SLATE ROOFS:** Use (6) ¼" lag screws or (6) TimberLOK screws at least 3 ½" long (3 of which must be through the white clamping bracket and the bottom 3 holes in the red SLATOR. Fasteners must penetrate at least 2" into a roof rafter of equal to or greater specific gravity equal to southern yellow pine. The rafter must be in good, dry condition and the roof structure must be able to support a 5,000 pound load in the direction of loading (i.e. possible fall direction). OSHA and ANSI standards may also be met by installing the SLATOR with (4) 20 penny nails through the circles at the tops of the slots and additionally using (3) TimberLOK screws (min. length 3 ½") through slot in the white clamping bracket and the bottom (3) holes in the red SLATOR when used in conjunction with a 900 pound force limiting lanyard.

6. We always strive to have our "tie-off" point above us and try to use (2) SLATORS per ladder and tie-off to the highest one. In order to meet OSHA requirements, any free-fall cannot be more than 6'. Generally this will mean, that a worker cannot be more than 3' higher than the anchor point. This will need to be determined by YOUR COMPETENT person on a case by case basis. We keep our fall protection rope as tight as possible to decrease our "free-fall" distance and reduce the potential impact shock to our tie-off point and worker.
7. Once our first SLATOR is SECURE, and the ladder clamped into it tightly, we "latch on" to the SLATOR with our fall protection rope (if appropriate for the specific situation – as determined by THE COMPETENT PERSON), tighten up somewhat (allowing enough slack to ascend the ladder slightly), and then step from our scaffolding or ground ladder to the roof ladder.
8. Our next highest priority is to carefully climb the ladder and to install an anchor point, whether it be a red SLATOR, or a ridge anchor so that our "tie-off" point can immediately transferred above us.
9. We use the SLATOR and the SLATOR-mini to gain safer access to the ridge so that we can install an OSHA compliant ridge anchor. We also use them on access and inspection jobs or small repair jobs requiring minimal time on the roof and when securing a ridge anchor exposes us longer to the risks of falling than if we did the repair, we remain "tied-off" to the highest securely mounted SLATOR with minimal slack and no more than one person (310 pounds or less for gear and person) per SLATOR.

May you have safe and meticulous roofing experience!

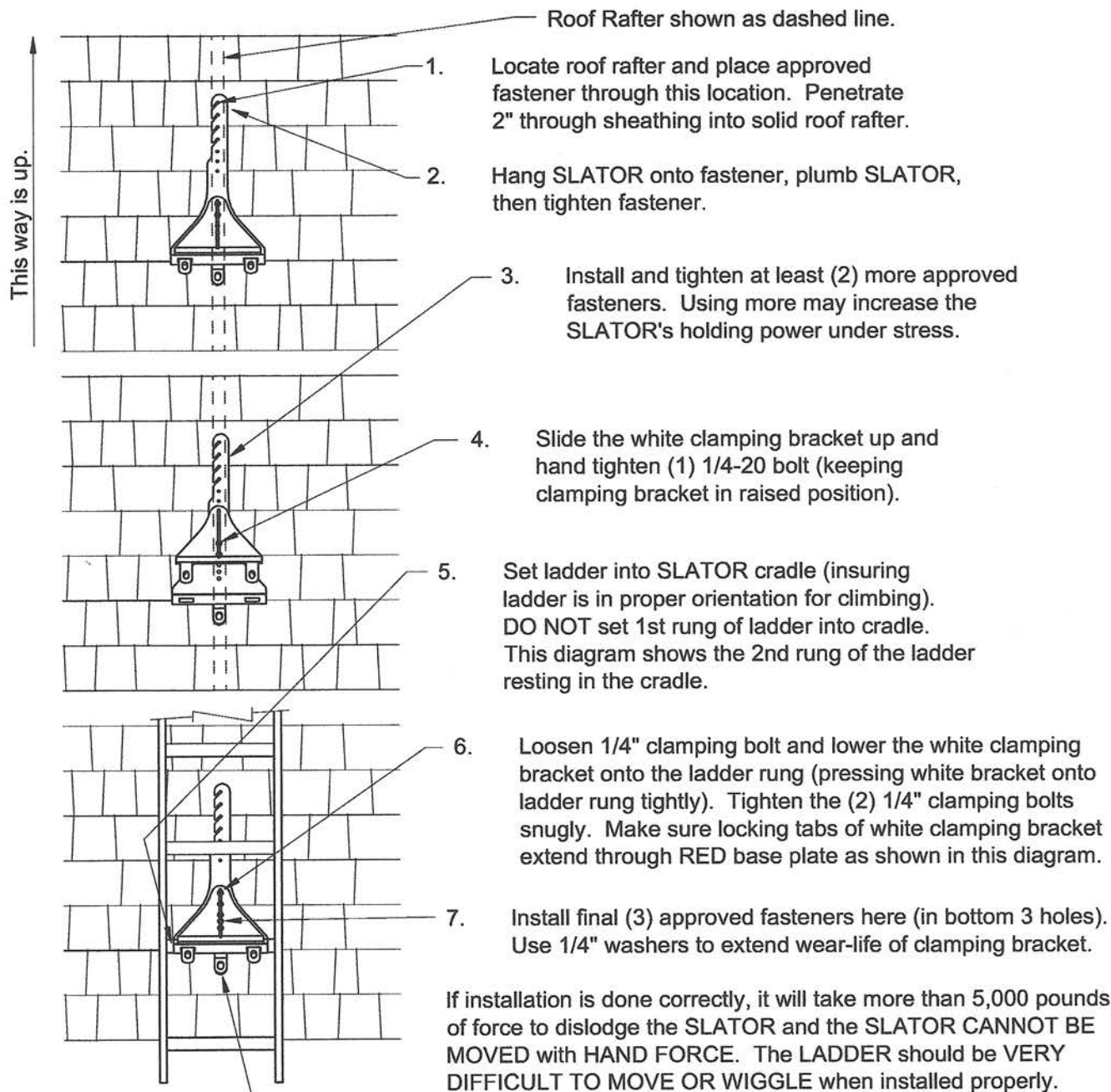
Approved Fasteners for SLATOR and SLATOR-Mini are shown below and they are readily available at Lowes. 1 / 4" Lag bolts are also approved.

In order to meet OSHA's 5,000 pound anchor requirement, all fasteners must penetrate through the roof sheathing and into a solid roof rafter. See product stickers for more details.



SLATOR INSTALLATION DIAGRAM (asphalt shingles shown)

SLATOR should only be installed by a COMPETENT person (as defined by OSHA).



When using the SLATOR as a fall protection anchor point for 1 person < 310 lbs (person and gear) - Attach fall protection rope with 900 pound force limiting laynard here. Attach it from underneath so that the "opening portion" faces the sky.

Climb ladder, install a 2nd SLATOR (or other OSHA compliant anchor) and secure yourself to the highest anchor point with proper fall protection gear prior to beginning work. When installing a 2nd SLATOR on a ladder, it may be necessary to remove and then replace the white clamping bracket to get the SLATOR into location.

Use new fasteners for each installation. Reusing fasteners fatigues them, significantly increases their risk of failure, and may cause catastrophic failure, injury and death.

Inspect the SLATOR for damage and proper installation before each use. Immediately discard any SLATOR that has experienced a fall, appears stressed or damaged. Inspect ladder before each use and NEVER USE A LADDER THAT HAS BEEN DAMAGED OR STRESSED.

The Challenges of Installing a Fall Protection Anchor on a Slate Roof:

All personal fall protection anchors are designed for one specific purpose. They are designed to resist the load exerted on it by a falling person when attached to personal fall protection equipment – keeping that person from hitting the ground or object below and suspending them until they can be rescued.

OSHA'S guidelines state that "free-falls" cannot exceed more than 6 feet prior to activating the fall force reducing mechanism in the fall protection gear. OSHA's guidelines also state that the anchor must be able to withstand a 5,000 pound force in the direction of fall.

It is important to note that, the ROOF STRUCTURE that the anchor is fastened to, must also be able to withstand a 5,000 pound force in the direction of fall. SLATOR has been tested and certified OSHA compliant when the approved fasteners penetrate 2" through the roof sheathing and into the roof rafter (dry and sound condition with a specific gravity > or = to yellow pine).

In today's residential construction, this task is relatively easy because we can readily determine the roof sheathing and roof truss material, run calculations and tests to determine the limits of the system. We can also test the holding strength of today's roof sheathing (OSB and Plywood) and quickly determine that the load limits are not reached. Therefore, the anchor must be fastened to a solid roof rafter underneath the sheathing.

Most SLATE roofs, however, are on older structures. The roof sheathing may be solid pine, oak or any species of wood that was readily available at the time of construction. The holding power of this aged wood MAY be able to withstand a 5,000 pound force in the direction of fall, however, now we are presented with another challenge. Are our fasteners in a "good" board or a "bad" board? Are they in 2 or 3 good boards?

Remember, to be OSHA compliant, the structure itself must be able to withstand a 5,000 pound force. What if those boards are split, or short (only between 2 rafters), or what if the anchor is positioned near the end of the board? Some slate roofs do not have solid sheathing (they might have large gaps between boards), and some newer slate roofs are attached to plywood. The safest method, and OUR RECOMMENDED METHOD will require removing some slate, removing some old roof paper, and anchoring into a solid roof rafter.

The great advantage of anchoring into a roof rafter, is that in order for the rafter to be pulled free of the roof, the roof sheathing would have to be pulled off also.

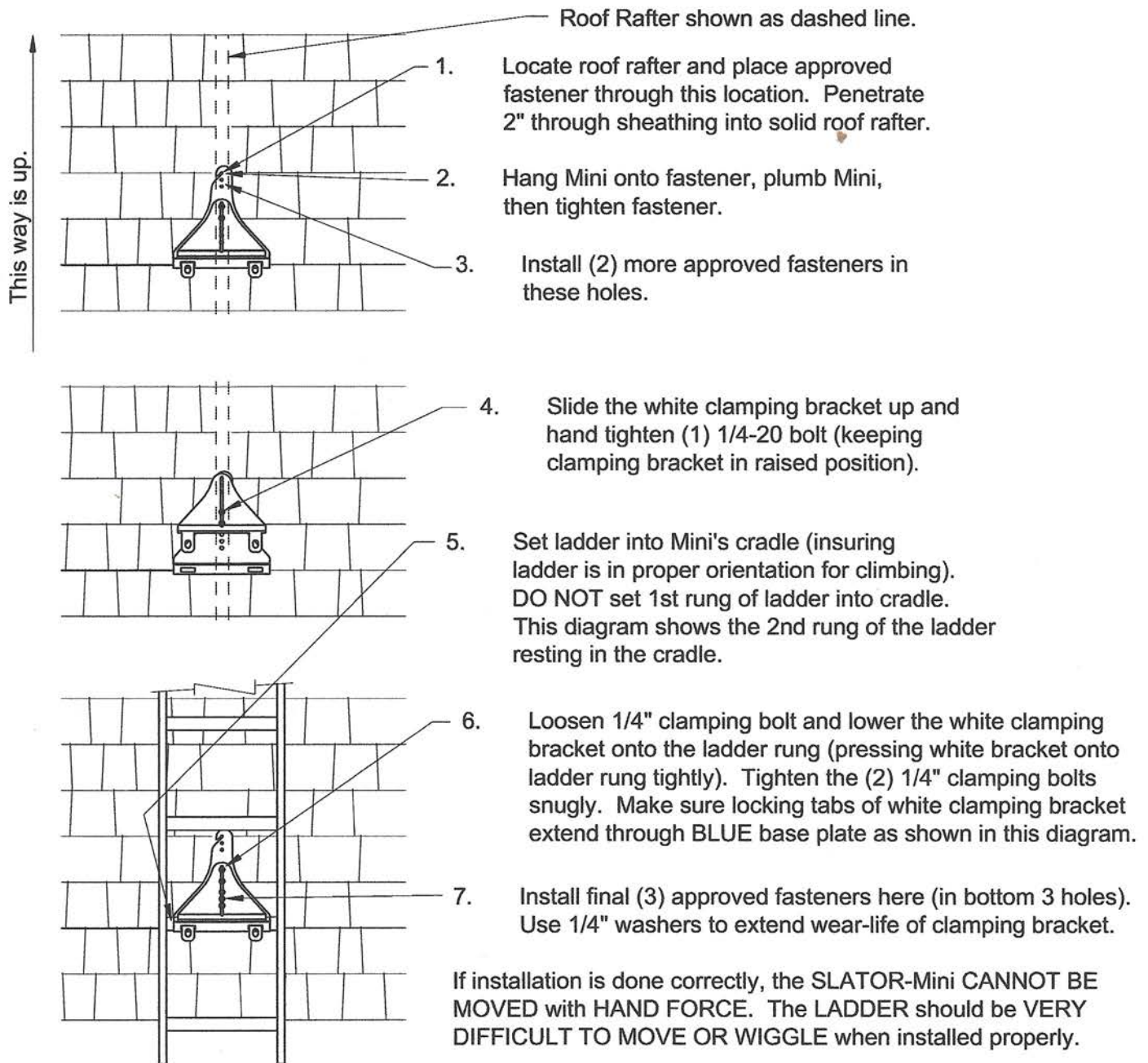
You, and your COMPETENT installer will have to make these decisions every day. Will the structure I am anchoring to, be able to resist the forces of a fall? This is also an excellent reason to ALWAYS use a fall force reducing device that limits the load on the body to 900 pounds, and as quickly and often as possible, keep your anchor point above you and your fall protection rope tight – eliminating the chances of a free fall and the escalating loads associated with them.

OSHA's 5,000 pound load requirement applies to the SLATOR when used as a FALL PROTECTION ANCHOR. It does not apply to the SLATOR, or SLATOR-mini when used only as a tool to hold the ladder securely to a roof.

SLATOR-Mini INSTALLATION DIAGRAM (asphalt shingles shown)

SLATOR-Mini (Mini) should only be installed by a COMPETENT person, experienced with roofing and locating roof rafters and ladder usage.

The SLATOR-Mini is NOT an anchor for fall protection.



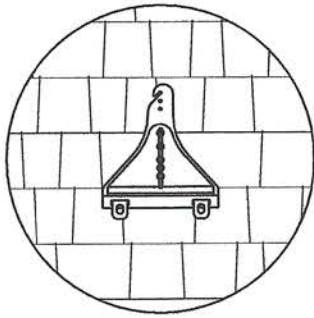
Climb ladder, install a SLATOR (or other OSHA compliant anchor) and secure yourself to the highest anchor point with proper fall protection gear prior to beginning work. When installing a SLATOR on a secured ladder, it may be necessary to remove and then replace the white clamping bracket to get the SLATOR into location.

Use new fasteners for each installation. Reusing fasteners fatigues them, significantly increases their risk of failure, and may cause catastrophic failure, injury and death.

Inspect the SLATOR-Mini for damage and proper installation before each use. Immediately discard SLATOR-Mini if it appears stressed or damaged. Inspect ladder before each use and NEVER USE A LADDER THAT HAS BEEN DAMAGED OR STRESSED.

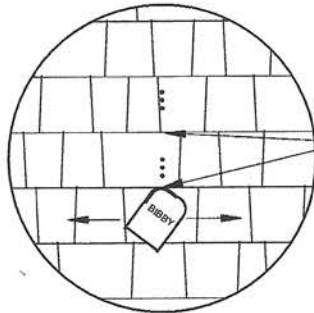
How to fix the holes in the shingles using the "Bibby"

Fix it Once. Fit it Right. Show your clients you're a Pro! Never fix a hole with roof tar or caulk on the surface of the shingle. The repair will only last 3 - 7 years. Use a "Bibby" and fix it from underneath the shingle. If you do it right, the repair will last the life of the shingle!

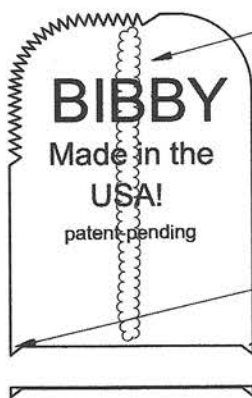


If you keep some black, bronze, grey, and brown Geocel (available at ABC Supply) on your truck, your repairs will become invisible!

Remove Slator or Slator-Mini from roof. Exposing holes in asphalt shingles.

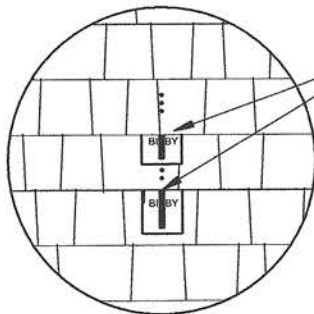


1. Use serrated edge of BIBBY in a "sawing" manner to cut the "seal" between the shingles in these (2) locations.

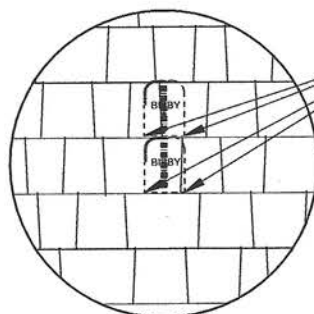


3. Lay a thin line of Geocel here and place a single "dab" on the back side.

2. Use pliers or the "claw" of your hammer to bend these (2) tabs down 90 degrees.



4. Gently pry up the shingles in these (2) locations and slide the Bibbys underneath the shingles and push down on the shingles until the "Geocel" is oozing out through the holes in the shingle. Wipe off excess.



5. Gently tap the "tab" locations with a hammer (imbedding the tabs partly into the shingle below).

Wipe off any additional excess "Geocel" and, Congratulations! You're done!

Employee Comprehension of Slator and Slator-Mini:

Name: _____ **Signature:** _____

Date: _____

I have read the installation instructions, product literature and stickers _____

I have watched the tutorial and training videos _____

1. How many approved fasteners does it take to be OSHA compliant? _____
2. Are 16d nails an approved fastener? Yes or No _____
3. Are Star-Drive screws an approved fastener? Yes or No _____
4. How many pounds of force is the SLATOR rated to handle? _____
5. What are the approved fastener types?

6. Is the blue Slator-Mini a Fall Protection Anchor? Yes or No _____
7. Does the 5,000 pound OSHA load requirements have to be met when installing the blue SLATOR-Mini? Yes or No

8. What is the maximum pitch roof allowable for SLATOR use?

9. How far do the "approved" fasteners have to penetrate a solid roof rafter? _____
10. How often does the SLATOR and SLATOR-Mini have to be inspected? _____
11. If the SLATOR experiences a "fall" but does not look damaged, can we continue to use it? Yes or No

12. OSHA does not require fall protection for a worker doing a preliminary roof inspection. At what point do they require a worker to be protected by fall protection equipment?

13. Once a worker begins actually "working" on a roof and is protected by fall protection equipment, what is the maximum allowable "free fall" permitted prior to the deceleration device activating? _____
14. How often does the ladder have to be inspected? _____
15. When using the SLATOR as a fall protection anchor, the force/shock reducing section of the lanyard should limit the forces on the worker's body to how many pounds? _____
16. What do you do with a damaged ladder, SLATOR, or SLATOR-Mini? _____
17. How many workers are permitted to "tie-off" to one SLATOR? And what is the maximum weight of that person and gear permitted for use with the SLATOR? _____
18. Should I mount the bottom rung of a ladder to a SLATOR? _____ Why or Why not?

19. The locking tabs in the white clamping bracket are NOT designed to be an anchor for fall protection. They have slots in them to accept tool straps with carabineers. What tool will be the most handy for installing and removing the SLATOR?

20. When using the SLATOR as a fall protection anchor, the worker should be positioned so that any fall that occurs will allow them to fall in the same roof plane that holds the SLATOR and the ladder. Yes or NO _____