CABLE REPLACEMENT INSTRUCTIONS

⚠ Warning ⚠

Read and follow these warnings and the instructions that follow. Failure to do so could result in serious property damage and/or serious bodily injury.

• **BEFORE** operating this equipment, thoroughly read this set of instructions, make sure you understand them, and only then follow the step-by-step directions. **FAILURE TO READ AND FOLLOW THESE INSTRUCTIONS** could result in failure of the equipment. Failure of the equipment while the lift is raised can include a sudden and rapid lowering of the lift and load possibly resulting in serious property damage and/or serious bodily injury.

• **Read** and become familiar with the complete Operator's Manual before operating the PANELLIFT® Drywall Lift. The complete manual is available free by calling Telpro Inc. at 701-775-0551.

• Use and maintenance of the PANELLIFT® Drywall Lift shall be limited to authorized personnel who are trained in the proper techniques for its safe operation and maintenance and who are familiar with the various hazards of overhead material handling.

• As with any lifting equipment, **ALWAYS WEAR A HARD HAT** when operating the PANELLIFT® Drywall Lift. Failure to do so could result in serious bodily injury.

• **DO NOT** ATTEMPT TO USE YOUR PANELLIFT® Drywall Lift IF ANY PART IS MISSING, DAMAGED OR WORN. ORDER A REPLACEMENT PART IMMEDIATELY. Using a PANELLIFT® Drywall Lift with missing, damaged or worn components can result in failure of the unit and possibly severe property damage and/or serious bodily injury.

• **INSPECT THE CABLE BEFORE EACH USE. REPLACE AT THE FIRST SIGN OF WEAR.** A worn, damaged or improperly installed cable can fail resulting in a sudden and rapid lowering of the lift and the load and possibly resulting in serious property damage and/or serious bodily injury. Inspect the cable by disassembling the telescoping system as shown in steps 1-4 on page 11 of this manual and examine the full length of the cable for signs of damage or wear. Replace the telescoping sections according to the instructions on pages 16-19 of this manual. (See page 20 for general standards for cable inspection.)

• **The weight capacity of the PANELLIFT® Drywall Lift is 150 lbs. (68 kg). DO NOT load the unit beyond this limit. Load only one sheet of wallboard at a time.** Failure to follow this warning can result in damage to the PANELLIFT® Drywall Lift contributing to a sudden failure of the machine and serious property damage and/or serious bodily injury.

• **DO NOT ROLL** a loaded PANELLIFT® Drywall Lift while the load is raised. Always keep the load lowered until the lift is in place beneath the space in which the loaded wallboard will be installed. Rolling a PANELLIFT® Drywall Lift while the load is raised can result in tipping the lift and load possibly resulting in serious property damage and/or serious bodily injury.

• The PANELLIFT® Drywall Lift is designed exclusively as a wallboard lift and shall be used for no other purpose. The PANELLIFT® Drywall Lift is not a personnel lift or platform and shall not be used as such. Using the PANELLIFT® Drywall Lift for purposes other than a wallboard lift can subject the unit to stresses and loads that it was not designed to carry. This can result in failure of the unit which may include a sudden and rapid lowering of the lift and the load possibly resulting in serious property damage and/or serious bodily injury.

• The PANELLIFT® Drywall Lift is made of steel which conducts electricity. KEEP THE UNIT AWAY FROM LIVE ELECTRICAL WIRES. Failure to do so could result in electrocution.

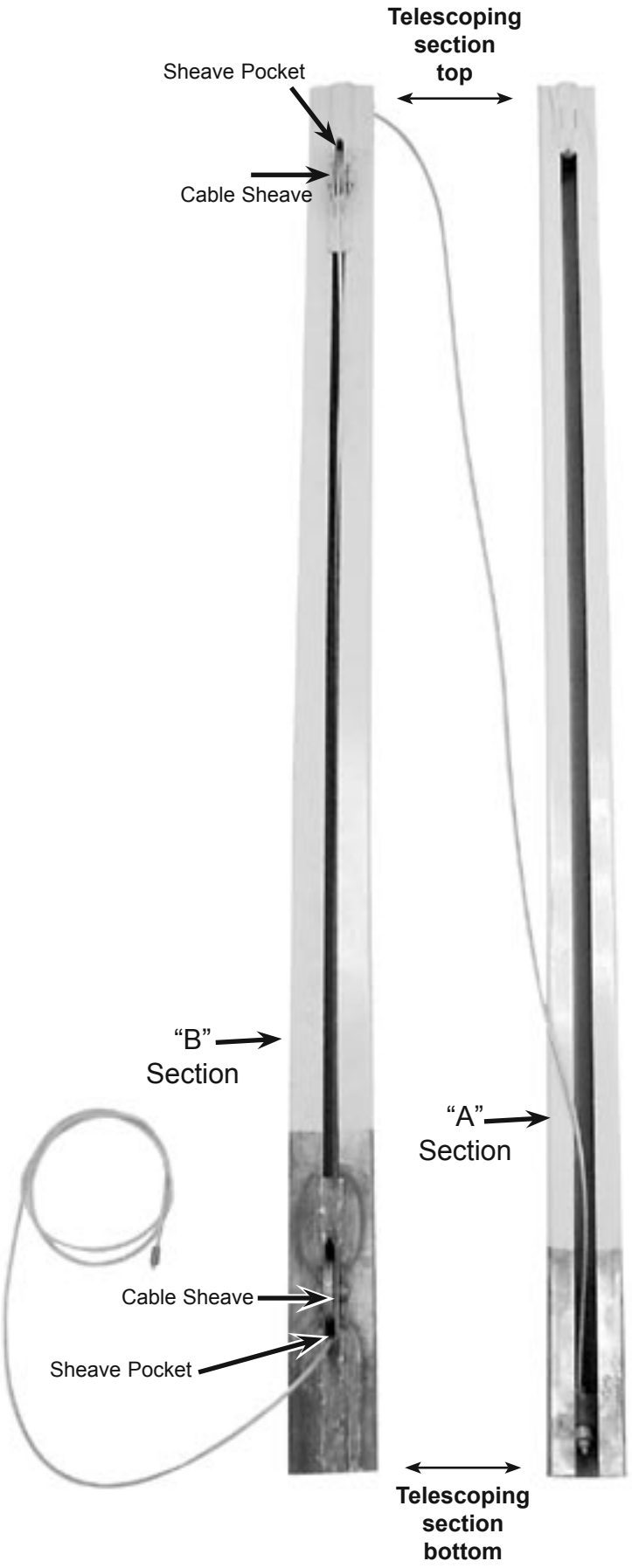
• Use only factory authorized replacement parts. Installation of other parts can compromise the safe design of the PANELLIFT® Drywall Lift and may cause failure of the unit possibly resulting in serious property damage and/or serious bodily injury.

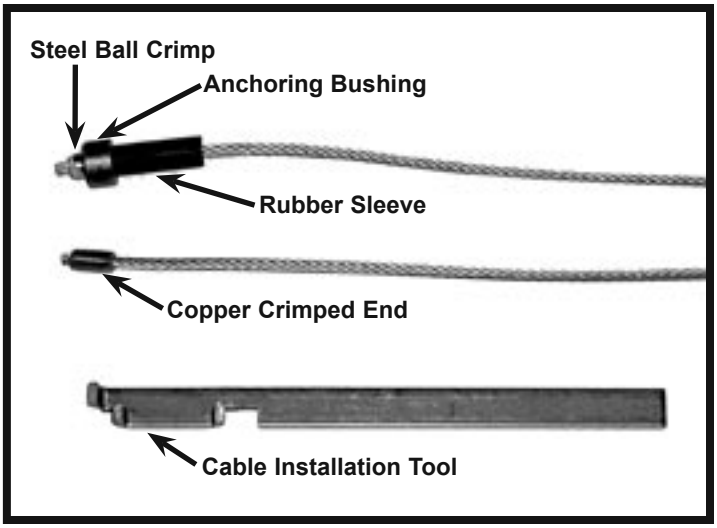
• Moving the PANELLIFT® Drywall Lift from a cold environment to a warm one may cause condensation to form on metal surfaces creating a potential for malfunction. Such malfunction could possibly result in serious property damage and/or serious bodily injury: Allow the unit to reach working room temperature and check to make sure that the winch brake drum is clean and dry before operating.

• **DO NOT** pass your hand through the spokes on the winch when operating the unit as this could result in serious bodily injury.

Questions? - Call Telpro Inc. Customer Service at 1-800-448-0822 or 701-775-0551

TERMS USED IN THIS SECTION OF THE MANUAL:



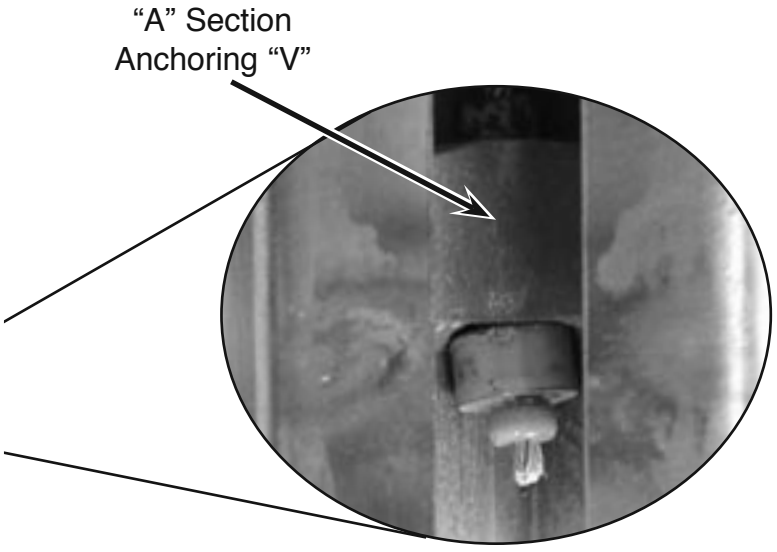


Symbols used in this manual:

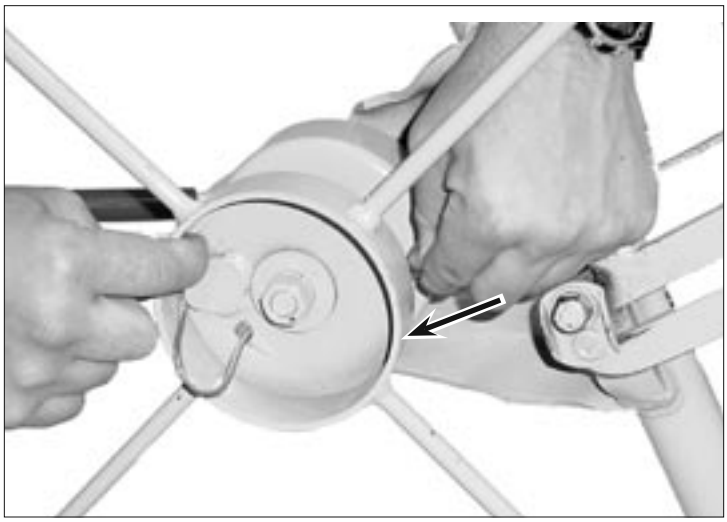
This symbol is used to alert the user to important operating and/or maintenance instructions which if not heeded may result in serious property damage, serious bodily injury and/or death.

This symbol is used to help illustrate and clarify specific information that is referred to in the text.

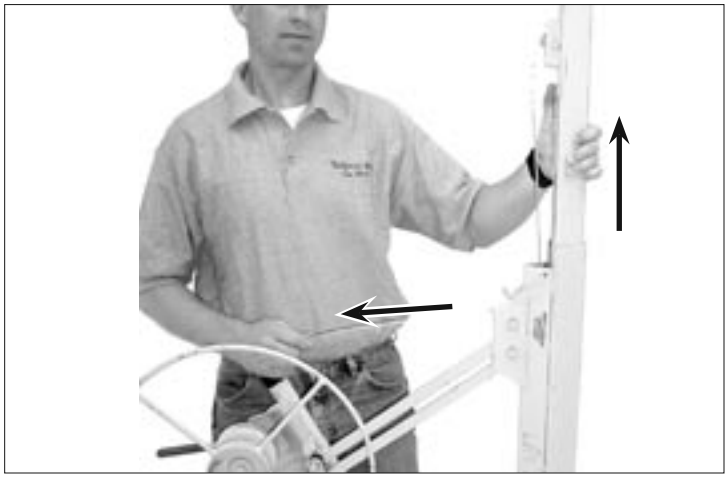
This symbol is used to help illustrate the path of travel that the cable takes through the telescoping system when a view of that path of travel is obstructed by a component of the telescoping system itself.



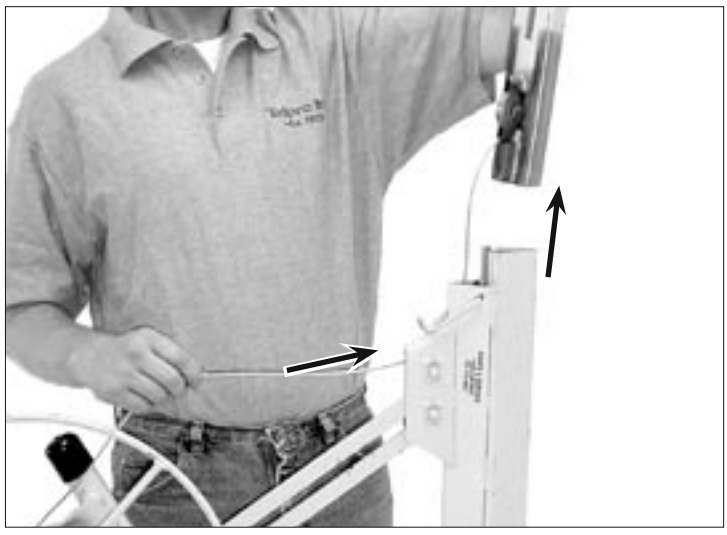
CABLE REPLACEMENT INSTRUCTIONS continued



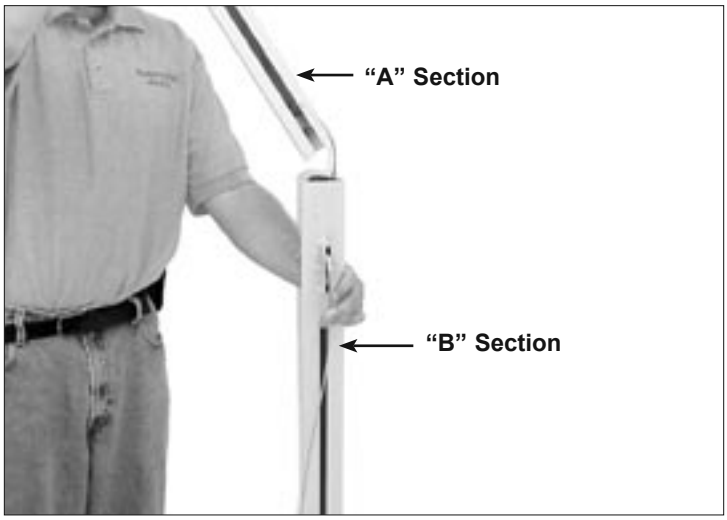
1. Loosen the cable from the mooring tab on the winch and pull it out from the winch drum. BE CAREFUL! A worn cable can have frayed strands. Wearing gloves will help protect your hands.



2. Pinch the two telescoping sections together and lift them out as a unit. Pulling on the cable will help to raise them.

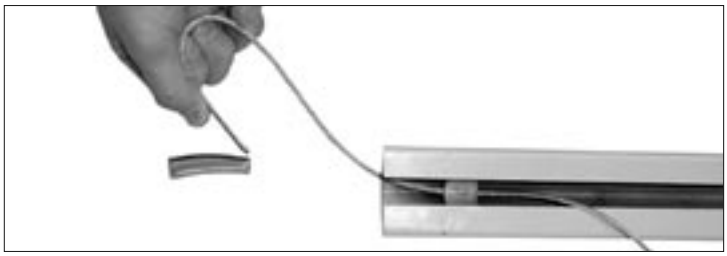


3. Remove the two telescoping sections completely from the frame housing. Pull the cable completely out from the frame along with them. BE CAREFUL for loose strands or frays on the cable.

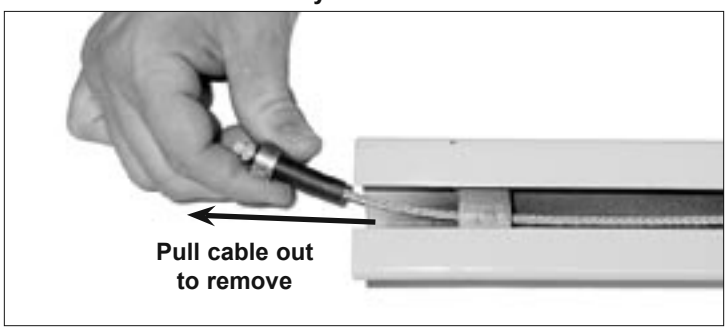


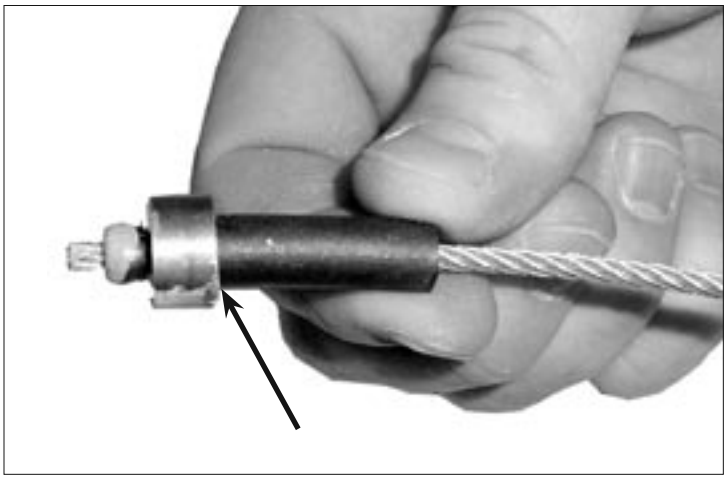
4. Pull the "A" section out of the "B" section. If you are working with a PANELLIFT® Model 182, you will pull the "L" section out of the "M" section. If you are working with an extension 186-00, you will pull the "E" section out of the "F" section.

5. Remove the old cable from the "A" section. **WARNING!! Destroy and discard the old cable along with any anchoring devices used to hold it in place to prevent accidental reuse which could result in failure of the cable.** Failure of the cable while the lift is raised will result in a sudden and rapid lowering of the lift and load which could result in serious property damage, serious bodily injury, and/or death.

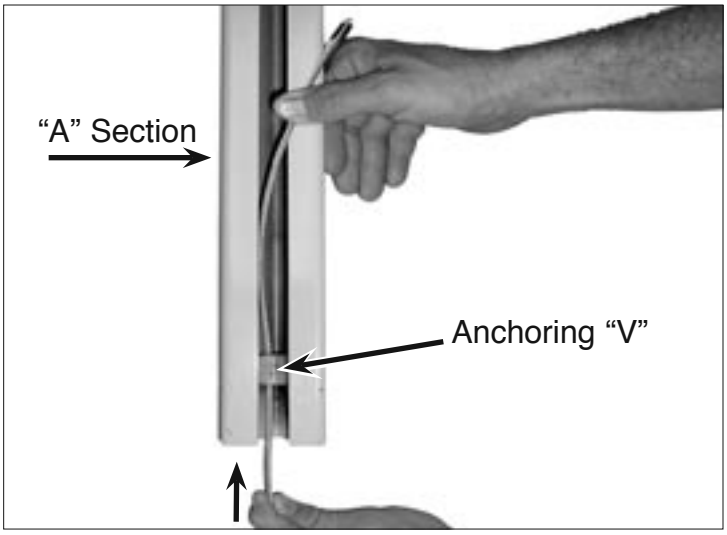


Note: If you are removing an older style of cable, you will need to use a hammer and tapered punch to loosen the anchoring wedge as shown in the two photos above. If you are replacing a newer cable (like the one you are installing) simply pull the cable completely out of both telescoping sections in the direction shown below. **Make sure to destroy and discard the old cable**.

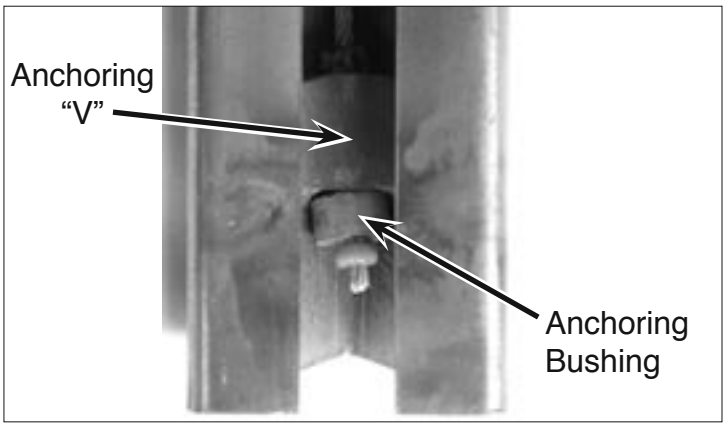




6. Make sure the rubber sleeve is seated completely against the anchoring bushing on the new cable.



7. Feed the copper crimped end of the cable through the "A" section anchoring "V" from the bottom as shown.

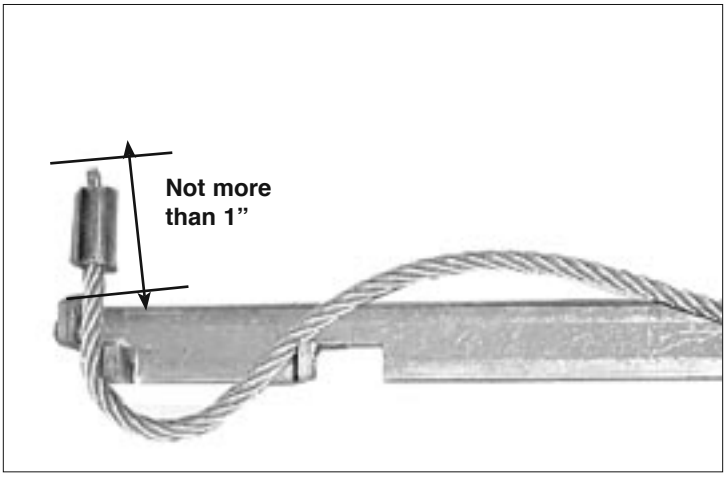


8. Pull the cable all the way through until the rubber sleeve passes under the anchoring "V" and the anchoring bushing sits tightly against the "V". **WARNING!! DO NOT use a hammer to pound this assembly in place and DO NOT use a wedge or any other anchoring device.** Doing so may damage the steel ball crimp and may cause the cable to fail under a load, possibly resulting in serious property damage and/or serious bodily injury.

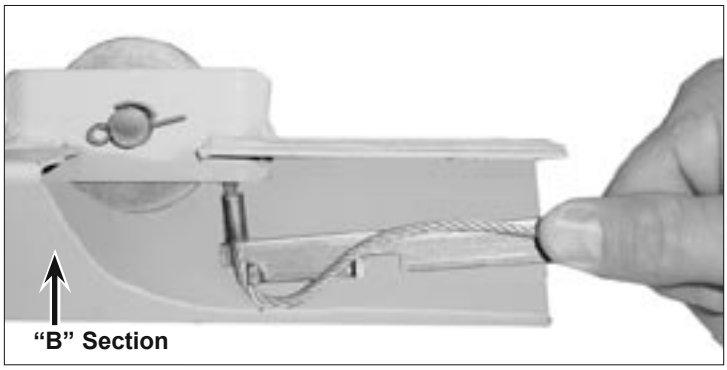
⚠WARNING⚠

The cable MUST feed in from the bottom of the "A" exactly as shown in steps 7 and 8 in order to function properly. Failure to install the cable correctly as shown can cause wearing of the cable for which it is not designed which can result in failure of the cable. Failure of the cable while the lift is raised will result in a sudden and rapid lowering of the lift and the load possibly resulting in serious property damage and / or serious bodily injury.

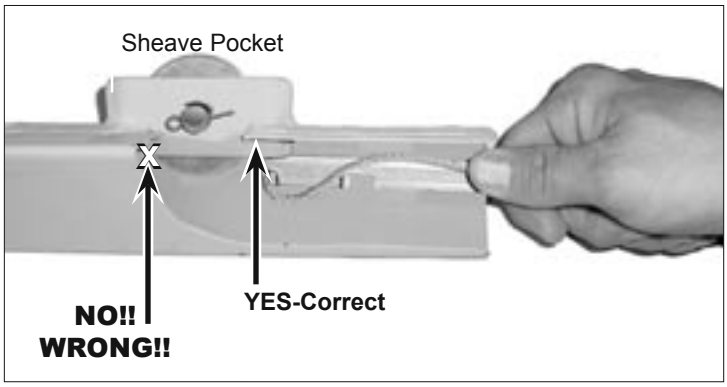
<u>DO NOT</u> feed the cable into the "A" section as shown above!!



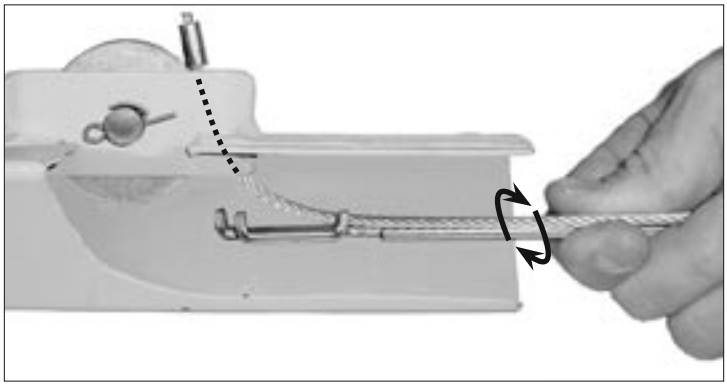
9. Load the cable installation tool as shown. There should not be more than 1" of cable extending at the end.



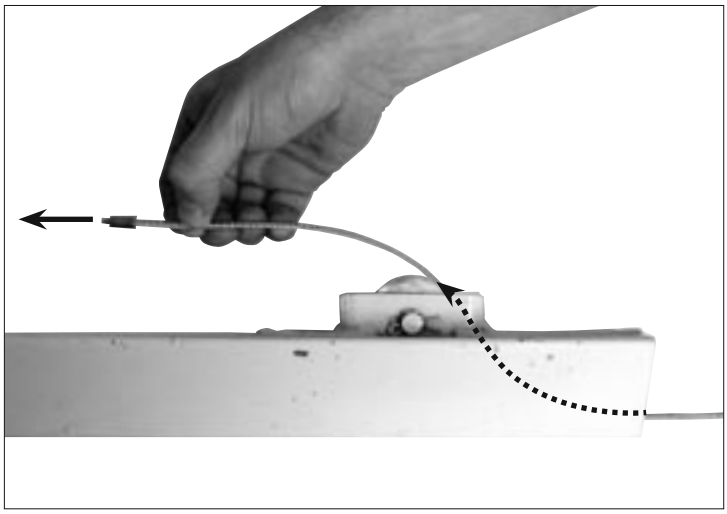
10. Use the special tool provided to insert the copper crimped end of the cable into the **TOP** end of the "B" section as shown in this cut away view. If your "B" section is the factory original and not a replacement, the top is the painted end and the bottom has several inches of unfinished surface. If both ends of your "B" section are painted it is either a replacement or you are working on the "F" section of an extension 186-00. In either of these cases wear marks on the section should give you an indication of which end is the top.



11. Insert the crimped end of the cable up into the bottom of the sheave pocket at the end nearest the end of the "B" section as shown.



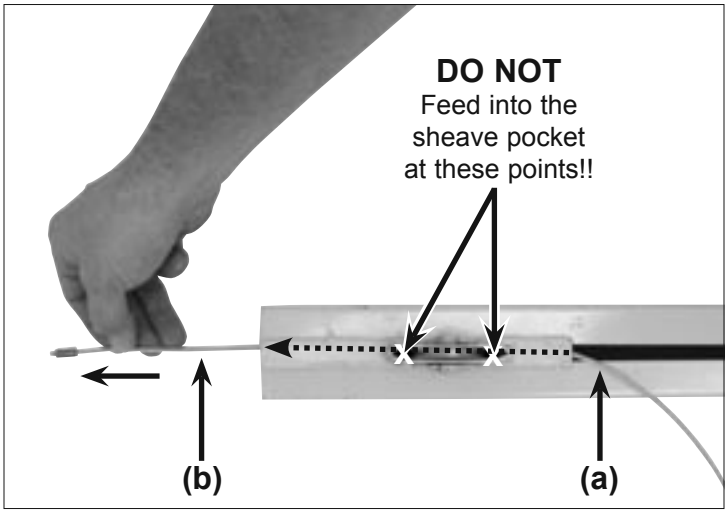
12. With a clock-wise motion like that of tightening a screw driver, twist the cable installation tool while holding the crimped end of the cable up into the sheave pocket. The cable will pop loose from the tool and pop up through the sheave pocket as shown in this cut away view.



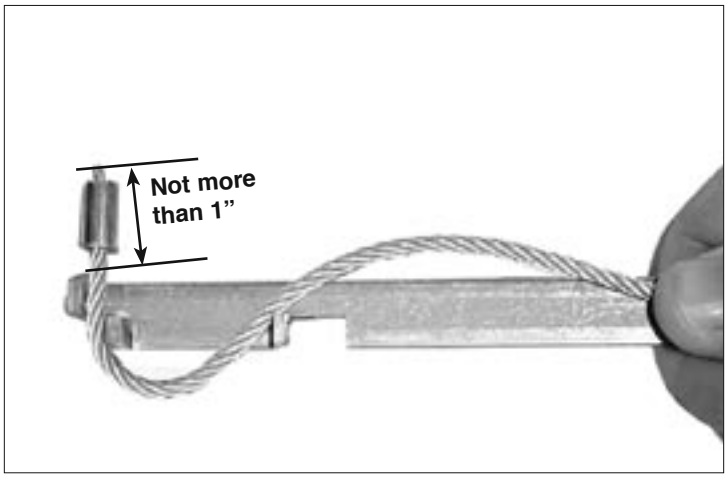
13. Pull the copper crimped end of the cable out through the sheave pocket in the direction shown.

⚠WARNING⚠

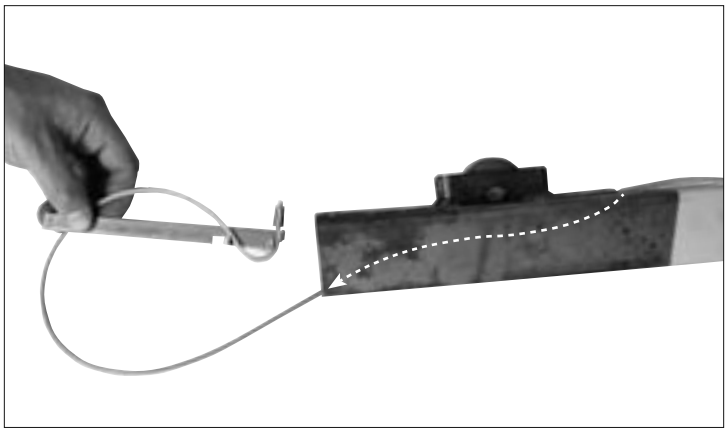
The cable MUST feed in from the top of the "B" exactly as shown in steps 10-13 in order to function properly. Failure to install the cable correctly as shown can cause wearing of the cable for which it is not designed which can result in failure of the cable. Failure of the cable while the lift is raised will result in a sudden and rapid lowering of the lift and the load possibly resulting in serious property damage and/or serious bodily injury.



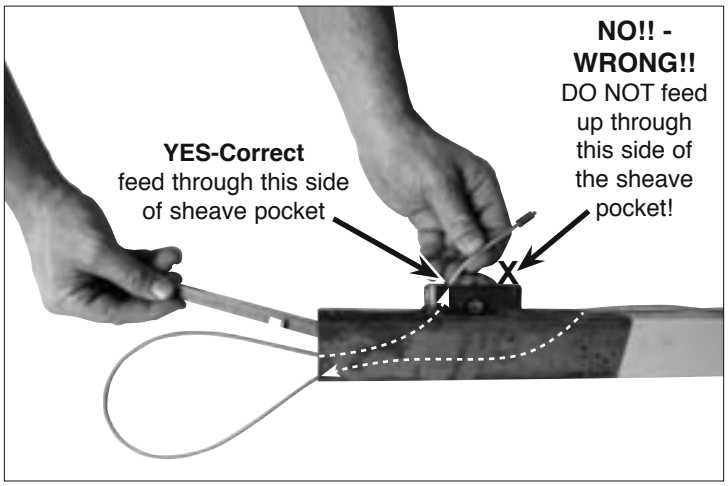
14. Feed the crimped end of the cable down into the slot (a) of the "B" section and out the bottom end of the telescoping section (b) as shown.
Pull the cable completely through to remove the slack.



15. Re-load the copper crimped end of the cable into the cable installation tool as shown.



16. Insert the cable installation tool into the BOTTOM end of the “B” section as shown.

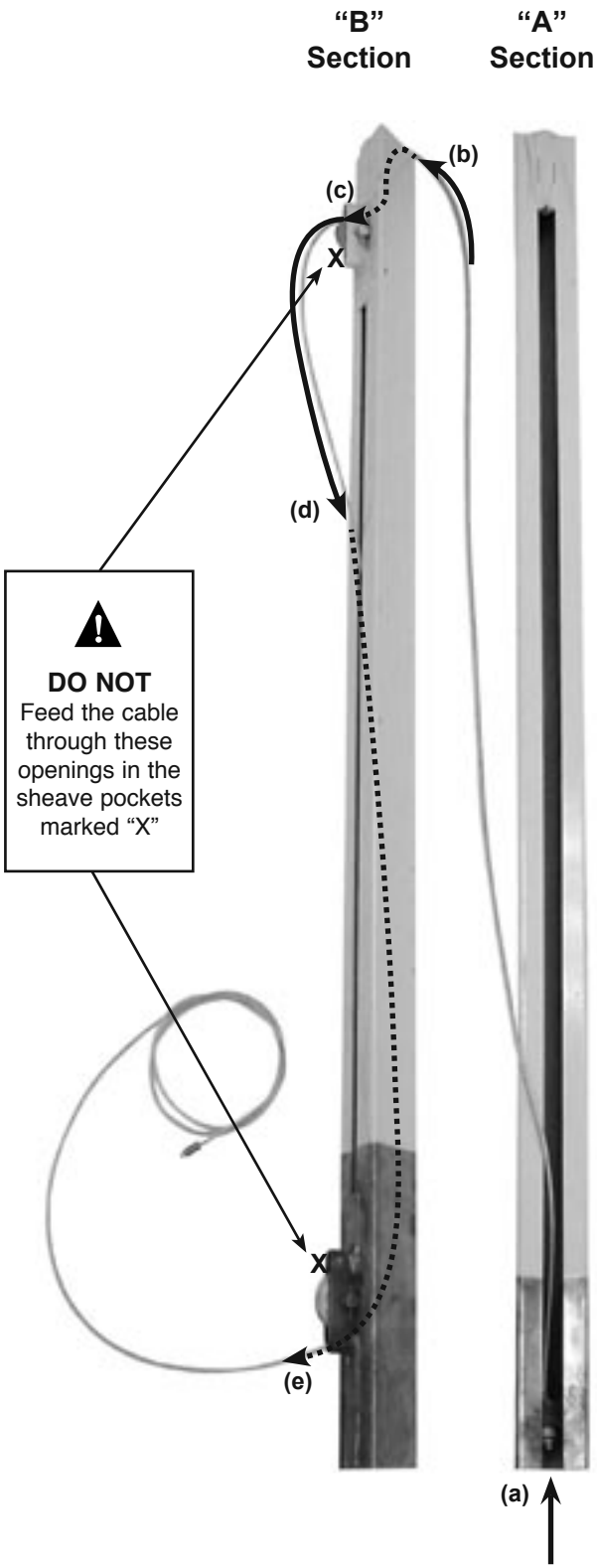


17. Repeat the process performed in steps 11 and 12: Insert the crimped end of the cable up into the end of the sheave pocket at the end nearest the end of the “B” section as traced by the dotted arrows. With a motion like that of tightening a screw driver, twist the installation tool while holding the copper crimped end of the cable up into the sheave pocket. The cable will pop loose from the tool and up through the sheave pocket. Pull the crimped end out completely to remove the slack.

⚠ WARNING ⚠

The cable MUST first pass down through the slot and out the bottom, then loop back in from the bottom of the “B” to feed through the sheave pocket exactly as shown in steps 14 - 17 in order to function properly. Failure to install the cable correctly as shown can cause wearing of the cable for which it is not designed which can result in failure of the cable. Failure of the cable while the lift is raised will result in a sudden and rapid lowering of the lift and the load possibly resulting in serious property damage and / or serious personal bodily injury.

18. At this point your telescoping sections with the cable correctly installed should look like the pieces shown above.

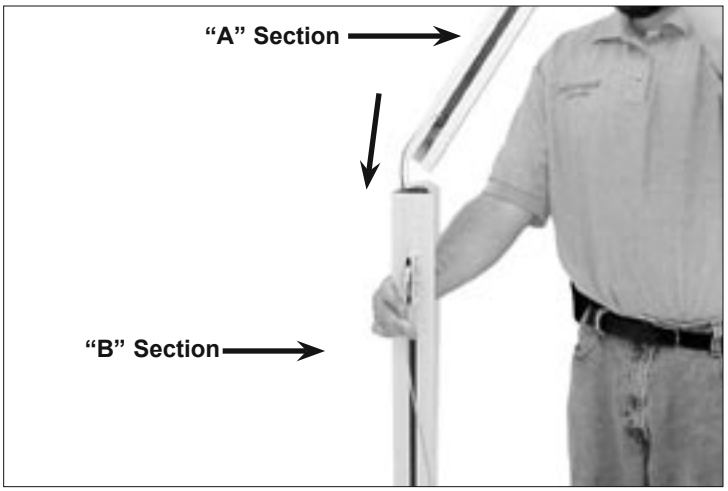


19. A correctly strung cable is shown above : Through the "A" section anchoring "V" from the bottom (a), into the top of the "B" section (b), back out through the sheave pocket at the end nearest the top of the telescoping section (c), into the slot of the "B" section (d), and out a final time through the end of the sheave pocket nearest the bottom of the "B" section (e).

⚠ WARNING ⚠

• DO NOT feed the cable through the areas marked "X" in the photo at left. Doing so will cause wearing on the cable for which it was not designed which can result in failure of the cable. Failure of the cable while the lift is raised will result in a sudden and rapid lowering of the lift and load possibly resulting in serious property damage and/or serious bodily injury.

• Failure to install the cable correctly as shown in these instructions can cause wearing of the cable for which it is not designed which can result in failure of the cable. Failure of the cable while the lift is raised will result in a sudden and rapid lowering of the lift and the load possibly resulting in serious property damage and/or serious bodily injury.

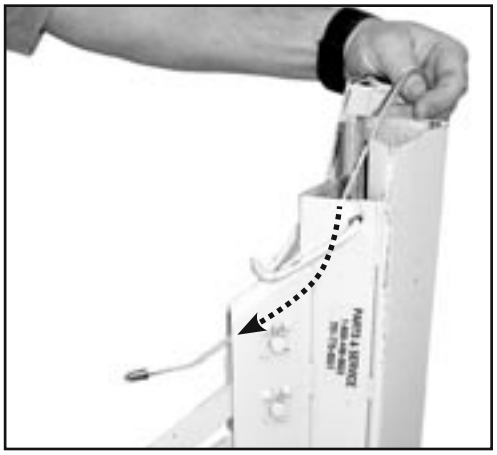


20. Pull the slack out of the cable and slide the "A" section into the "B" section. In the case of the Panellift® Model 182, slide the "L" section into the "M" section. In the case of the extension 186-00, slide the "E" section into the "F" section.

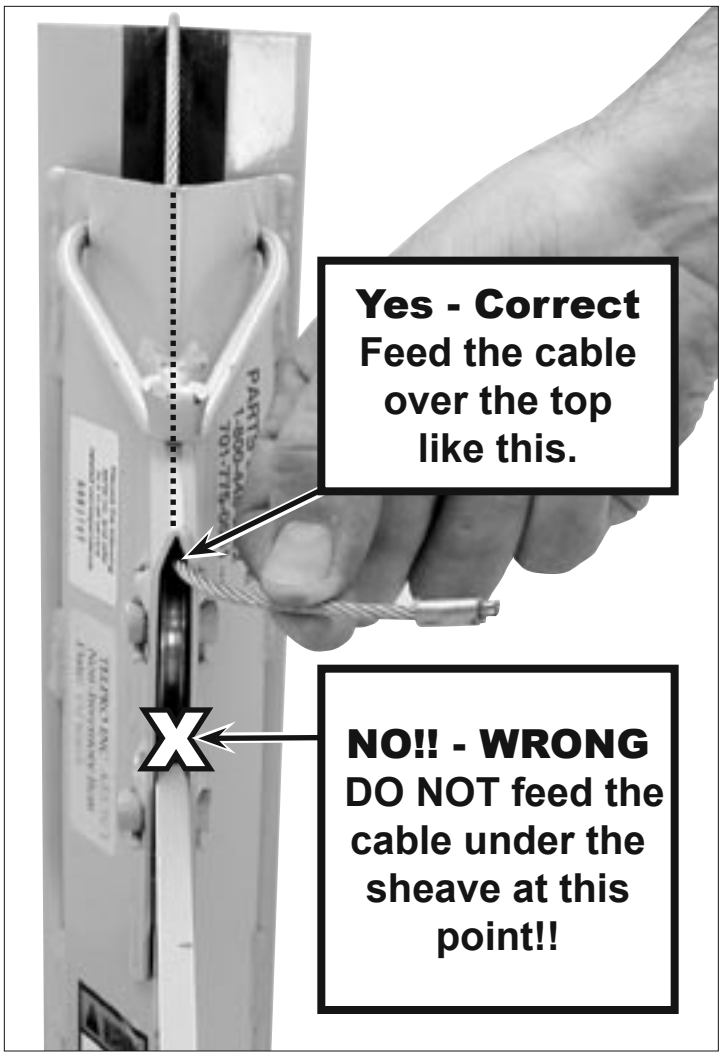
- If you are working with the Panellift® Model 138-2 continue at step 21, Page 16.

- If you are working with the Panellift® Model 182 continue at step 24, Page 17.

REINSTALLING the telescoping sections: PANELLIFT® Model 138-2



21. Feed the copper crimped end of the cable through the frame sheave pocket from the top as shown.

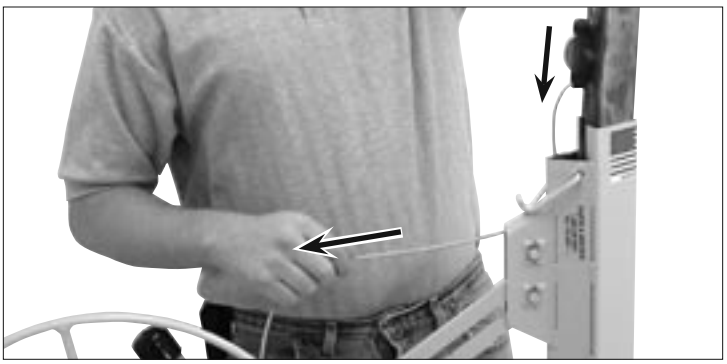


22. MAKE SURE that the cable feeds over the TOP of the cable sheave as shown in step 21 and 22.

⚠ WARNING ⚠

The cable MUST feed down from the top of the frame housing and over the top of the sheave exactly as shown in steps 21 - 22 in order to function properly. Failure to install the cable correctly as shown can cause wearing of the cable for which it is not designed which can result in failure of the cable. Failure of the cable while the lift is raised will result in a sudden and rapid lowering of the lift and the load possibly resulting in serious property damage and / or serious bodily injury.

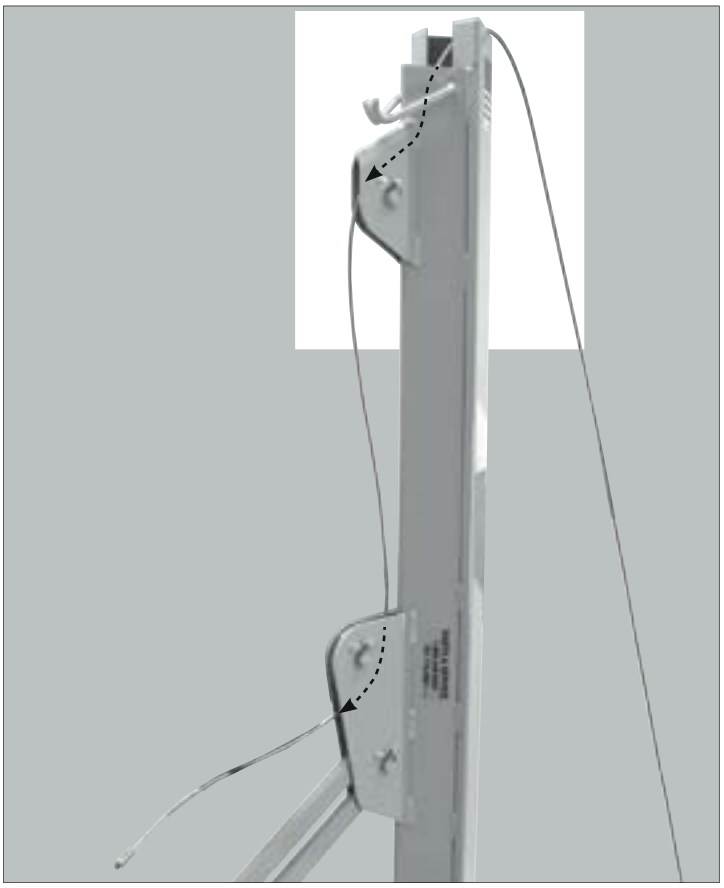
DO NOT feed the cable under the cable sheave on the frame as shown in this photo!



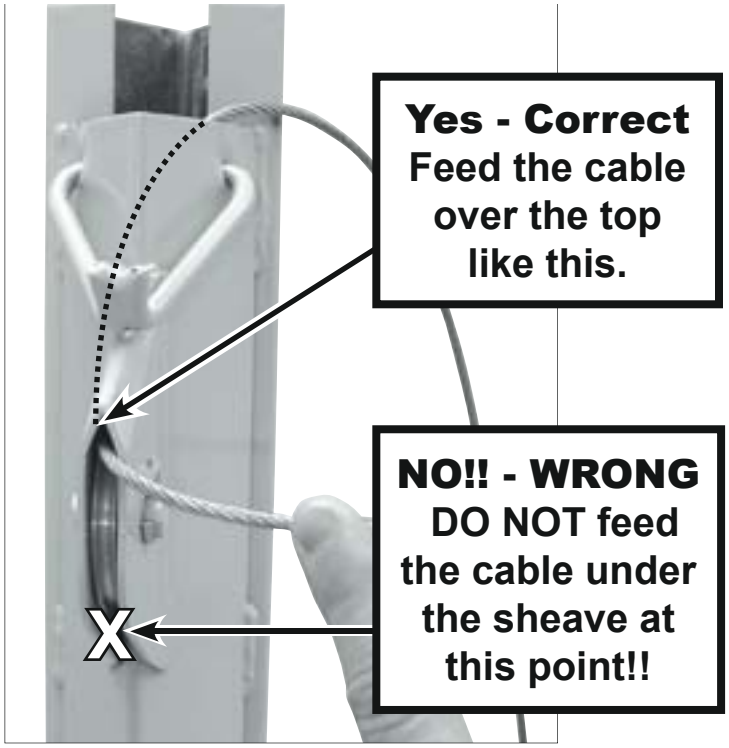
23. Pull the slack cable through the sheave pocket and slide the telescoping sections into the frame housing. As the telescoping sections lower into the frame, the slack cable will be drawn back up over the sheave.

- For Model 138-2 go to step 29, Page 19

REINSTALLING the telescoping sections: PANELLIFT® Model 182



24. Feed the copper crimped end of the cable through the upper frame sheave pocket from the top as shown.



25. Make sure the cable feeds over the TOP of the upper cable sheave as shown in steps 24 and 25.

⚠ WARNING ⚠

The cable MUST feed down from the top of the frame housing and over the top of the upper cable sheave exactly as shown in steps 24 - 25 in order to function properly. Failure to install the cable correctly as shown can cause wearing of the cable for which it is not designed which can result in failure of the cable. Failure of the cable while the lift is raised will result in a sudden and rapid lowering of the lift and the load possibly resulting in serious property damage and / or serious bodily injury.

DO NOT feed the cable under the upper cable sheave on the frame as shown in this photo!

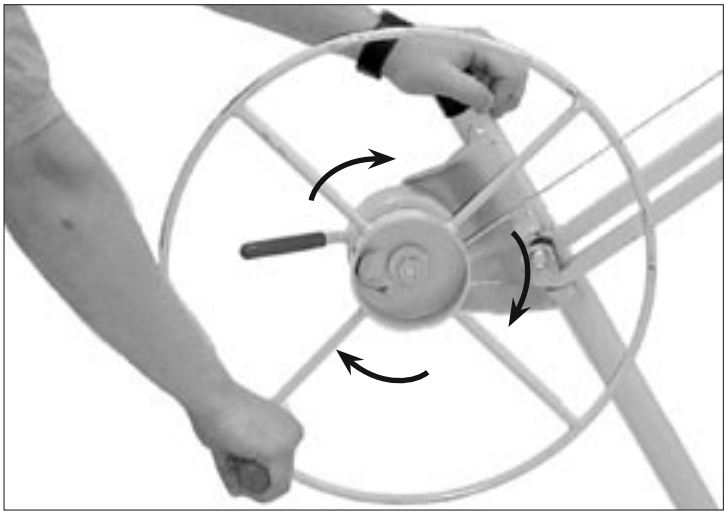
REINSTALLING the telescoping sections: PANELLIFT® Model 182

26. Feed the copper crimped end of the cable through the lower frame sheave pocket from the top and out the bottom as shown.

27. A correctly threaded cable for the Panellift® Model 182 is shown above.

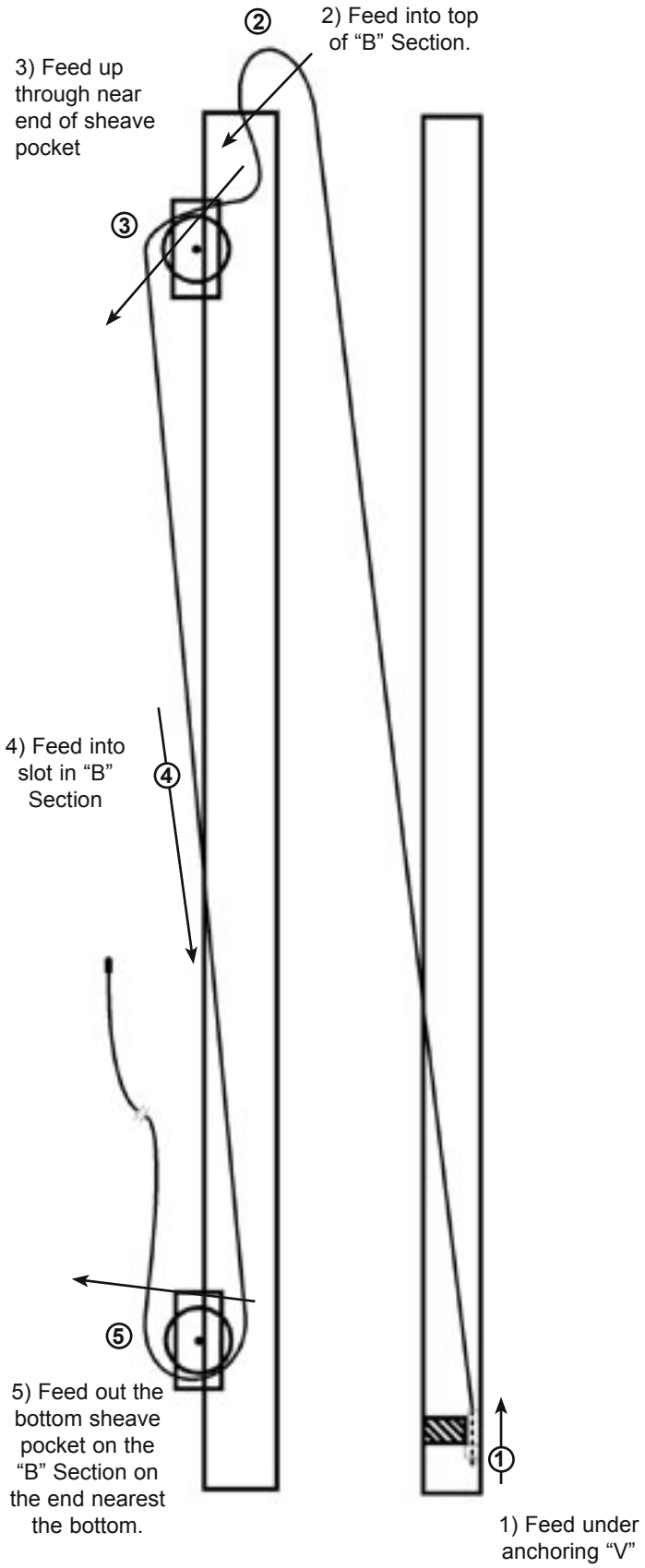
28. Pull the slack cable through the sheave pocket toward the winch and slide the telescoping sections into the frame housing. As the telescoping sections lower into the frame housing, the slack cable will be drawn back through the sheave pocket.

29. Feed the copper crimped end of the cable through the winch drum and secure it behind the mooring tab by hand pulling the cable snug as shown.



30. Rotate the winch in the direction shown to take the slack out of the cable.

Summary Diagram:



ASME Standards for wire rope (cable) inspection and replacement

Reprinted with permission from ASME B30.19 Cableways

The following is intended as a helpful guide to the general topic of inspection and replacement of wire rope (cable). It is not intended to be an exhaustive treatment of the topic.

Frequent inspection (at least daily) and prompt replacement of any cable that shows any sign of wear is the responsibility of the owner and the operator of the PANELLIFT® Drywall Lift.

With reference to the chart below at 19-2.4.3(b)(6) the Panellift® Drywall Lift cable is a nominal 1/8" high tensile cable (rope).

(00) General

…

The use of cableways, cranes, derricks, hoists, hooks, jacks, and slings is subject to certain hazards that cannot be met by mechanical means but only by the exercise of intelligence, care, and common sense. It is therefore essential to have personnel involved in the use and operation of equipment who are competent, careful, physically and mentally qualified, and trained in the safe operation of the equipment and the handling of the loads. Serious hazards are overloading, dropping or slipping of the load caused by improper hitching or slinging, obstructing the free passage of the load, and using equipment for a purpose for which it was not intended or designed.

…

Section 19-2.4: Rope Inspection, Replacement, and Maintenance

19-2.4.1 General. Sheave diameters, drum diameters, and rope design factors are limited because of cableway design configuration. Due to these parameters, inspection in accordance with para. 19-2.4.2 to detect deterioration and timely replacement in accordance with para. 19-2.4.3 are essential.

19-2.4.2 Inspection

(a) Frequent Inspection

(1) All running ropes in service should be visually inspected once each working day. A visual inspection shall consist of observation of all rope that can reasonably be expected to be in use during the day's operations. These visual observations should be concerned with discovering gross damage that may be an immediate hazard, such as listed below:

(a) distortion of the rope such as kinking, crushing, unstranding, birdcaging, main strand displacement, or core protrusion. Loss of rope diameter in a short rope length or unevenness of outer strands should provide evidence that the rope or ropes are to be replaced.

(b) general corrosion;

(c) broken or cut strands;

(d) number, distribution, and type of visible broken wires [see paras. 19-2.4.3*(b)(1), (2),* and *(7)* for further guidance];

(e) core failure in rotation-resistant ropes; when damage is suspected, the rope shall either be removed from service or given an inspection as detailed in para. 19-2.4.2(b).

(2) Care shall be taken when inspecting sections of rapid deterioration, such as flange points, crossover points, and repetitive pickup points on drums.

(3) Care shall be taken when inspecting certain ropes, such as rotation-resistant ropes, because of their higher susceptibility to damage and increased deterioration when working on equipment with limited design parameters. The internal deterioration of rotation-resistant ropes may not be readily observable.

(b) Periodic Inspection

(1) The inspection frequency shall be determined by a qualified person and shall be based on such factors as expected rope life (determined by experience on the particular installation or similar installations), severity of environment, percentage of capacity lifts, frequency rates of operation, and exposure to shock loads. Inspections need not be at equal calendar intervals and should be more frequent as the rope approaches the end of its useful life. The inspection shall be made at least every 1000 hr of cableway operation or annually, whichever comes first.

(2) Periodic inspections shall be performed by an appointed or authorized person. This inspection shall cover the entire length of rope. Only the surface wires of the rope need be inspected. No attempt should be made to open the rope. Any deterioration resulting in appreciable loss of original strength, such as described below, shall be noted, and a determination shall be made as to whether further use of the rope would constitute a hazard:

(a) points listed in para. 19-2.4.2*(a)*:

(b) reduction of rope diameter below nominal diameter due to loss of core support, corrosion, or wear of outside wires;

(c) severely corroded or broken wires at end connections;

(d) severely corroded, cracked, bent, worn, or improperly applied end connections.

(3) Care shall be taken when inspecting sections of rapid deterioration, such as the following:

(a) sections in contact with saddles, equalizer sheaves, or other sheaves, including track cable sheaves, where rope travel is limited;

(b) sections of the rope at or near terminal ends where corroded or broken wires may develop.

19-2.4.3 Rope Replacement

(a) No precise rules can be given for determination of the exact time for rope replacement, since many variable factors are involved. Once a rope reaches any one of the specified removal criteria, it may be allowed to operate to the end of the work shift, based on the judgment of a qualified person. The rope shall be replaced after that work shift, at the end of the day, or at the latest time prior to the equipment being used by the next work shift.

(b) Removal criteria for rope replacement shall be as follows:

(1) In running ropes, six randomly distributed broken wires in one lay, or three broken wires in one strand in one lay.

(2) One outer wire, broken at the contact point with the core of the rope, that has worked its way out of the rope structure and protrudes and loops out from the rope structure. Additional inspection of this section is required.

(3) Wear of one-third the original diameter of outside individual wires.

(4) Kinking, crushing, birdcaging, or any other damage resulting in distortion of the rope structure.

(5) Evidence of heat damage from any cause.

(6) Reductions from nominal diameter greater than those shown below:

Rope Diam.	Max. Allowable Reduction From Nominal Diam.
Up to 5/16 in. (8 mm)	1/64 in. (0.4 mm)
Over 3/8 in. up to 1/2 in. (13 mm)	1/32 in. (0.8 mm)
Over 9/16 in. up to 3/4 in. (19 mm)	3/64 in. (1.2 mm)
Over 7/8 in. up to 1 1/8 in. (29 mm)	1/16 in. (1.6 mm)
Over 1 1/4 in. up to 1 1/2' in. (38 mm)	3/32 in. (2.4 mm)

(7) In standing ropes, more than two broken wires in one lay in sections beyond end connections, or more than one broken wire at an end connection.

(c) Broken wire removal criteria cited in this Volume apply to wire rope operating on steel sheaves and drums. The user shall contact the sheave, drum, or cableway manufacturer, or a qualified person for broken wire removal criteria for wire ropes operating on sheaves and drums made of material other than steel.

(d) Replacement rope shall have a nominal strength rating at least equal to the original rope furnished or recommended by the cableway manufacturer or designer, or a qualified person. Any deviation from the original size, grade, or construction shall be specified by the rope manufacturer, the cableway manufacturer or designer, or a qualified person.

(e) Ropes Not in Regular Use. All rope that has been idle for a period of a month or more due to shutdown or storage of a cableway on which it is installed shall be given an inspection in accordance with para. 19-2.4.2*(b)* before it is placed in service. This inspection shall be for all types of deterioration and shall be performed by an appointed or authorized person.

(f) Inspection Records

(1) Frequent inspection-no records required.

(2) Periodic inspection - in order to establish data as a basis for judging the proper time for replacement, a dated report of rope condition at each periodic inspection shall be kept on file. This report shall cover points of deterioration listed in para. 19-2.4.2*(b)(2)*.

(g) A long-range inspection program should be established and should include records on examination of rope removed from service so a relationship can be established between visual observation and actual condition of the internal structure.