TRANSAFE BARIATRIC RAMP

Escambia County, Florida - ALS/BLS Medical Protocol

Transafe Manual

Information contained in this booklet

Bariatric Unit General:

The bariatric unit consists of several independent components. Brought together, their operation provides for the engineered safe transportation of obese patients. This Operation Guidebook provides instruction for the safe operation of each component as a combined unit.

Extra weight requires extra help. While the Bariatric unit reduces and eliminates some manual labor, additional personnel are still needed for four aspects of the operation. This is true when:

1 Transferring an obese patient from a bed to a stretcher;

2 Lowering a loaded stretcher from a raised position to lowest position while bedside;

3 Raising a loaded stretcher while bedside; and

4 Transferring the obese patient from the stretcher to a bed.

Training:

The time to learn isn‘t when you‘re attempting to load a patient. Before combining usage, you must be familiar with the operation of each independent component. The Ambulance Cot Model (use models designed for bariatric transport) Read operations and maintenance manuals. Also, view all in-service training videos. The WARN Works 3700 Winch User Manual is supplied with ramp system, read pages 2, 3 and 7 through 12. WARN Industries can be reached at Clackamas, Oregon via telephone (503) 722-1200 for technical assistance. Practice winch operations on —dry runs“ before moving stretchers occupied by individuals.

For your personal protection, outfit your Bariatric unit with leather gloves and safety glasses. Wear leather gloves when handling the ramps or wire rope to protect against slivers from wire fibers and cuts from frayed wire. Wear safety glasses to protect against dust, dirt and debris that may become airborne when handling ramps and during winch operations. Safety glasses also serve to protect against bloodborne pathogens. Completing the list of individual components are Ramps, a Transition Plate, ²-13

Hand-tight Fasteners and Floor Plates. Professionally engineered by MEDPRO. Description and combined operation are explained in greater detail in the following pages.

Parking:

Park on level ground whenever possible. The staging area requires a minimum 40-foot length and 14-foot width to accommodate the ambulance, ramps and one stretcher length. On hills, use a level driveway rather than parking on the hill. If parking on a hill becomes necessary, face downhill only. Turn the front wheel toward the curb and chock the rear wheel to prevent rolling forward. Always set the ambulance‘s parking brake on hills and level ground. Park the ambulance so that it doesn‘t tilt to either side. An ambulance tilting to either side has the same adverse affect as uneven ramps. Therefore, don‘t park across the road on a hill. Also, don‘t park facing uphill.

Transition Plate Description:

As its name implies, the transition plate serves as a transition point between the ramps and the ambulance floor. Made from aluminum, the transition plate is light in weight and easily removable. When in use, it lies flat on the floor near the rear entrance to the ambulance‘s action area. There it is secured with three ² -13 hand-tight fasteners into threaded floor plates. The ramps are hooked over rods located to the outermost ends of the transition plate. A roller designed to prevent hard bends in the winch‘s wire rope during operation is attached to the center of the transition plate. The transition plate‘s inside leading edge is beveled to allow for a smooth landing between the ambulance floor and ramps. The transition plates must be removed when not in use. Otherwise, the rear doors won‘t close properly.

Transition Plate Installation:

First, don a pair of leather gloves. Then, remove the transition plate from the rear outside cabinet. Lay the transition plate over the safety hook and flat onto the floor. Then, align the three pre-drilled holes with the threaded floor plates located beneath the transition plate. Slide each fastener into the pre-drilled holes and through the transition plate. Turn the fasteners clockwise into the threaded floor plates, by hand until snug. Don‘t use tools to tighten them. Keep the threaded floor plates free from dirt to allow for maximum penetration. Lubricate as needed for smooth operation. Before each winch operation, check to ensure the hand-tight screws haven‘t loosened up from vibration.
To remove the transition plate, turn the hand-tight fasteners in a counter-clockwise direction to unscrew from the floor plates. Always, stow the fasteners in the designated stowage rack so that they are not misplaced.

Figure 3 -Transition plate before installation.

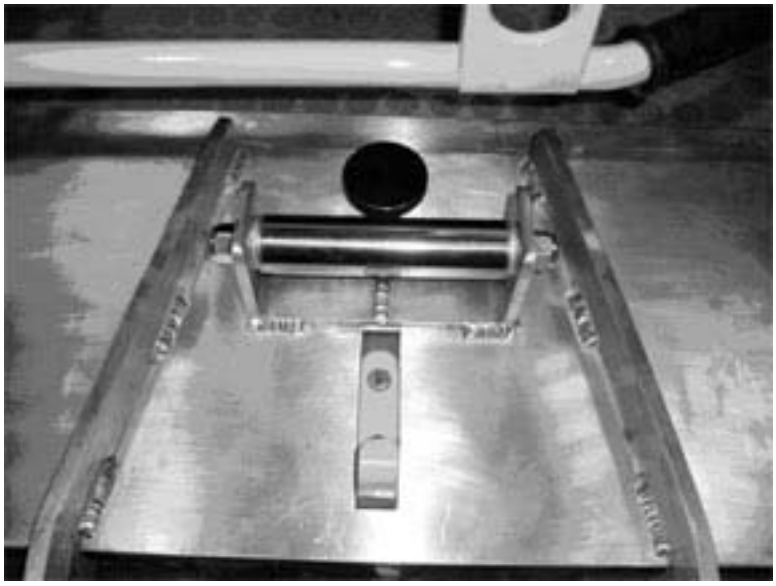


Figure 4 -Transition plate is notched out to fit over safety hook. Roller & center hand-tight fastener are also visible.

Figure 5 -Hand-tight fasteners used to install transition plate.

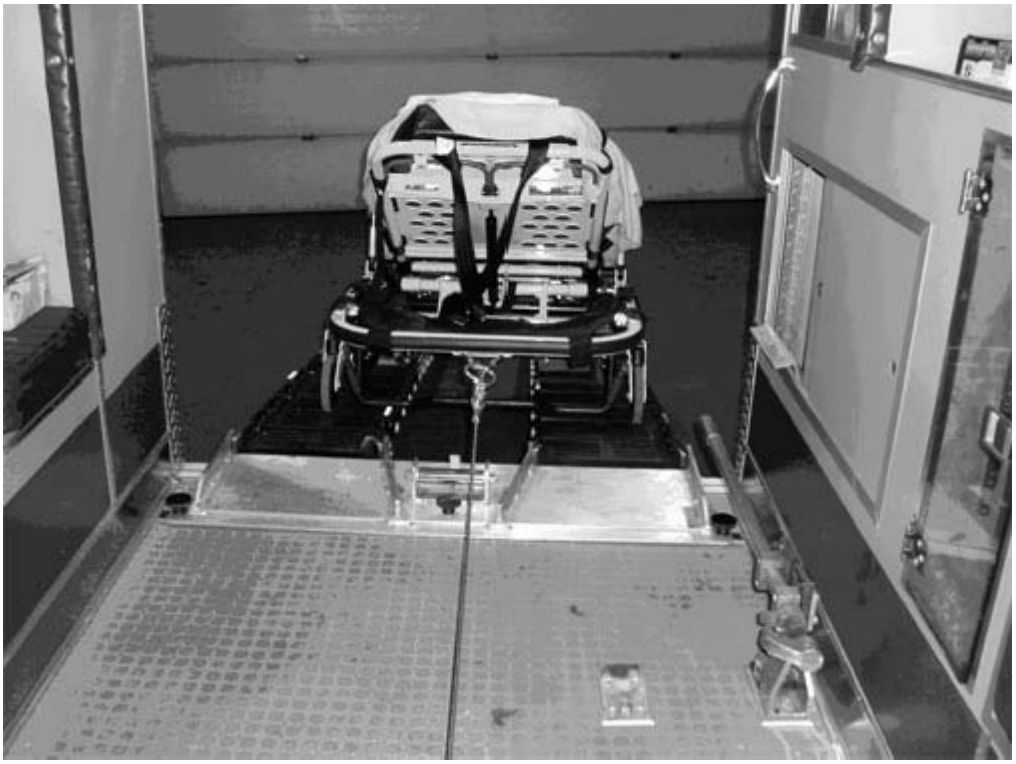


Figure 6 -Transition plate after installation (view from within ambulance)

Ramps:

The Bariatric unit includes two ramps that are 11 ² feet long and 1 foot wide. The ½inch sides prevent the stretcher breakaway head assembly wheels and casters from rolling off the edge. Both ramps are hinged to fold in thirds (or in two 6ft lengths) for storage within side compartments. The foot of each ramp is also hinged and has a beveled landing where it comes in contact with the ground. The upper ends are slotted underneath, across their width. This allows for hooking ramps onto the transition plate‘s horizontal rods.

Setting-up the ramps:

The hinges are pinch points. As pinch points pose a hazard, they are painted red or yellow. The ramps are stored in the outside main O2 cabinet. Their tight fit limits movement while traveling, but also makes it difficult to store and remove them. Wear leather gloves while handling ramps to preclude knuckle busting. Also, make sure the pinch points are clear of all body parts when carrying, handling, unfolding or folding during set-up, break down and storage.

Lay a folded ramp down, with the notched end on the bottom section closest to the ambulance. For now, the notch should be facing upward. (The inside of the fold is the bottom of the ramp) Unfold the ramp by lifting it upward until fully extended as shown in figure 8. The ramp is now upside down. Roll the ramp over so that the notched hook is underneath as shown in figure 9. Pick the ramp up from the notched end and hook it over the transition plate rod as shown in figure 10. Grab the ramp from above the hinged foot-end and pull it to ensure it is fully extended and stable. Repeat this process for the second ramp.

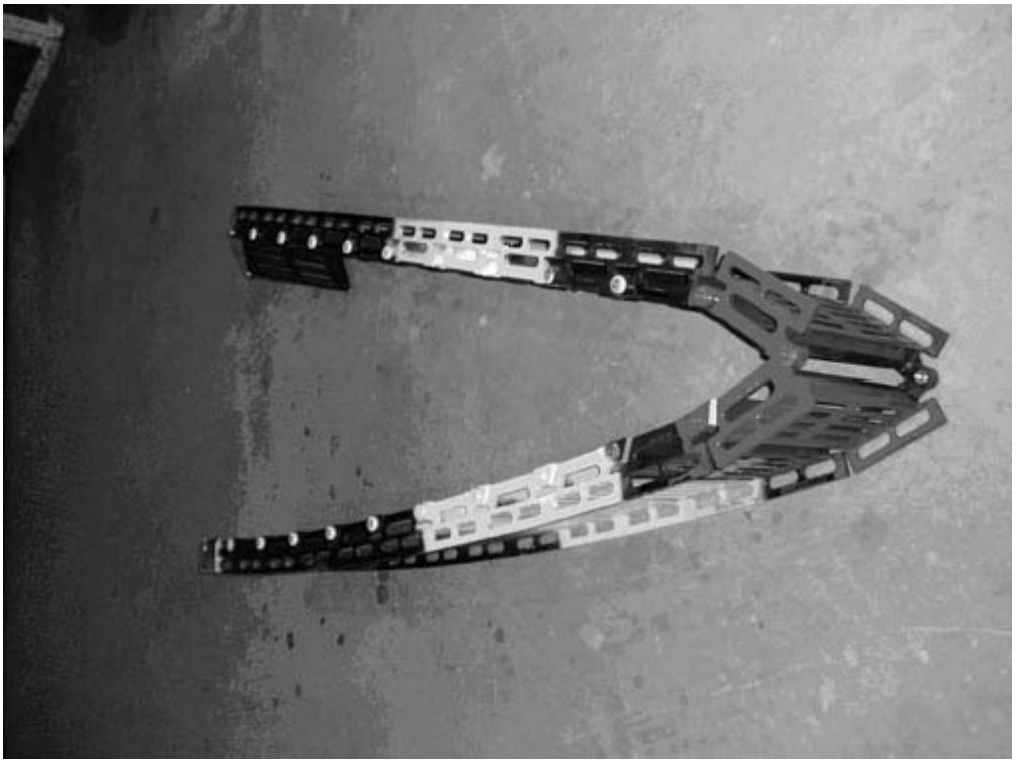


Figure 7 -Ramp folded in half while lying on side. Tri-fold configuration also available.

Figure 8 -With hook end closest to ambulance, unfold ramp without hands being near center pinch point. Then extend landing end of ramp.

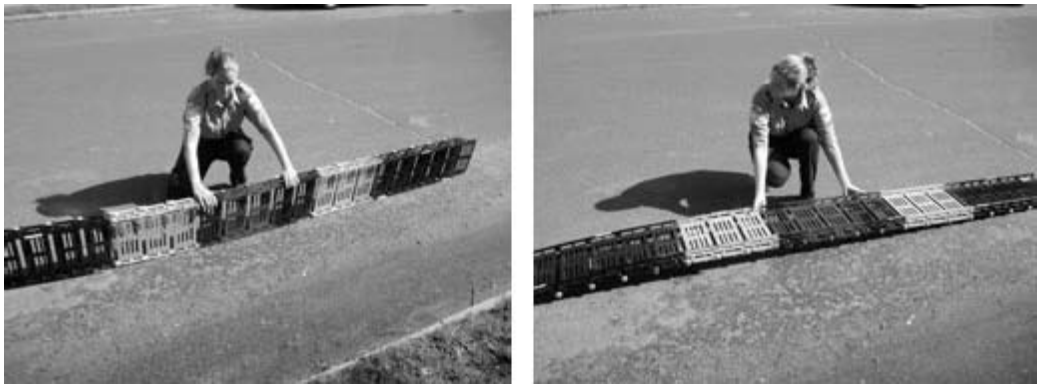
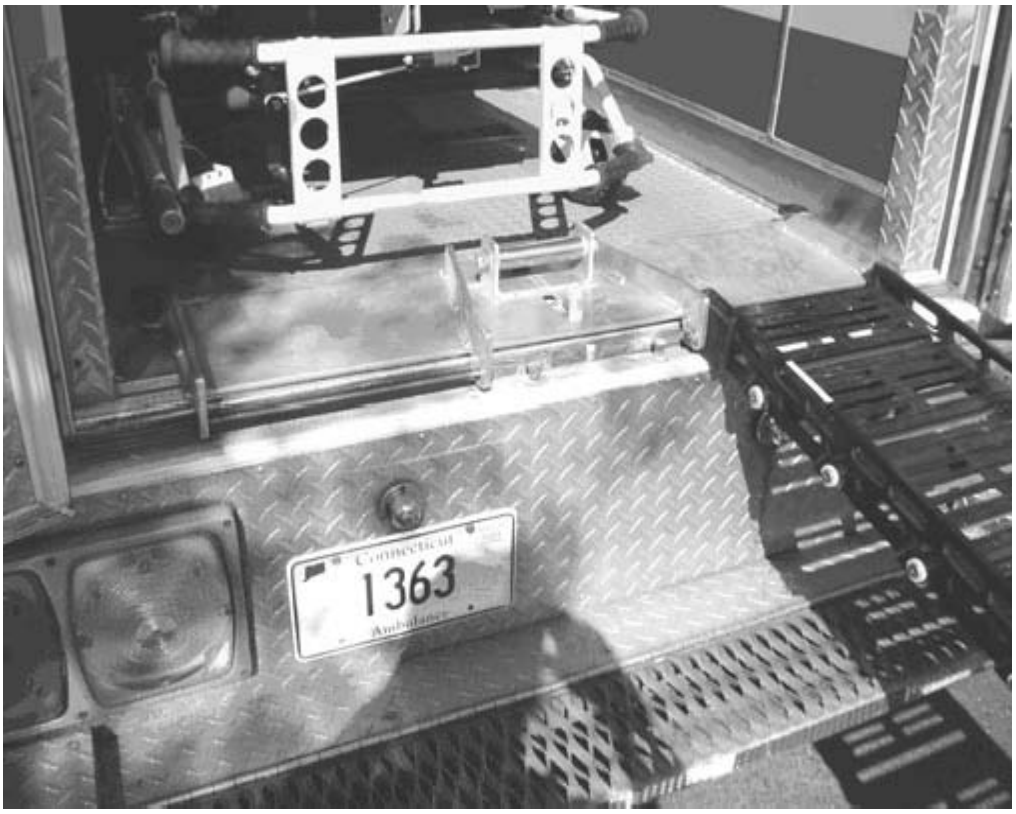


Figure 9 -Roll ramps over while keeping your hands free of pinch points.

Figure 10 - Lift end of ramp up and hook onto the transition plate rod.



Ramp Angles:

The ramps can be used to bridge across landings that are as high as the ambulance floor off the ground. Avoid bridging down into the ambulance from a higher surface or up from the ambulance to a higher surface. The ramps have two angles that you must manage, lengthwise and sideward. The only thing holding the stretcher down on the ramps is gravity. When the center of gravity shifts, the stretcher is no longer stable and will tip. If ramp angles aren't parallel lengthwise and level across the width, the stretcher will tilt and the center of gravity will shift. Hence, the stretcher will tip over and off the ramps, causing serious injury.

Lengthwise the angle of the ramps should be near parallel to accommodate four-point contact with the stretcher. The ramps are designed to rise up and down independently which allows for using them where minor surface differences exist. However, a stretcher's free-floating wheel can drift over the ramp's ½-inch edge, placing the stretcher in peril of tipping. Remember, four of the stretcher wheels and casters should remain in contact with the ramps at all times.

Both ramps must be level across their width. Neither ramp should lean inward or outward; from side-to-side or to one side. Additionally, the ramps shouldn't rock from side to side. Instability from side to side will cause the center of gravity to shift. Never risk your patient's safety by using ramps that aren't stable. If you can't stabilize the ramps, don't move the patient across them. Reposition the ambulance if the foot-end doesn't have solid contact with the ground. For instance, if the foot-end rests on the edge of a curb and you foresee that the ramp would drop under the weight of a patient, then the ramps must be reconfigured to prevent movement. Never move the ambulance with ramps attached. Doing so will cause irreparable damage to the ramps, transition plate, hand-tight fasteners and threaded floor-plates.

Moving the stretcher to and from ambulance:

When patient loaded, never roll the bariatric transport cot in a raised position. Lower it to the lowest position as soon as possible after loading, but before moving. Moving obese patients in a raised position places the stretcher at risk of tipping over.

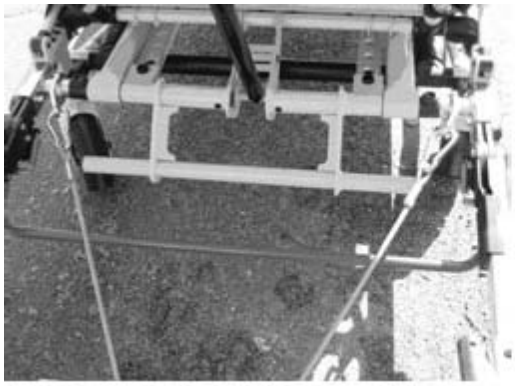
Inspecting the stretcher tow package, before winching:
Stryker —Bariatric Cots only.

The STRYKER bariatric transport stretcher is equipped with a tow package to load and unload patients weighing up to 1,600 pounds. By design, the tow package can be removed when not in use. However, you should leave it attached so that it is not misplaced. Since the installation isn‘t permanent, you must inspect it before each shift. The visual inspection can be performed by looking up from under the breakaway head assembly or looking beneath the head-end storage pouch. See figure 13.

1 Make sure the stretcher‘s tow package is hooked to the litter base adapters on both sides. The adapters are attached to the outer rail near the breakaway head section‘s pivot points. See figure 14.

2 Make sure the tow package cables are positioned above the red bar and safety bar and below the black bar. See figure 15

3 Make sure the tow ring runs through the tow harness loop bracket. The bracket is attached to the center of the breakaway head assembly‘s outer rail. Later, the tow ring will be used to connect the winch cable by a single clip. See figure 16.



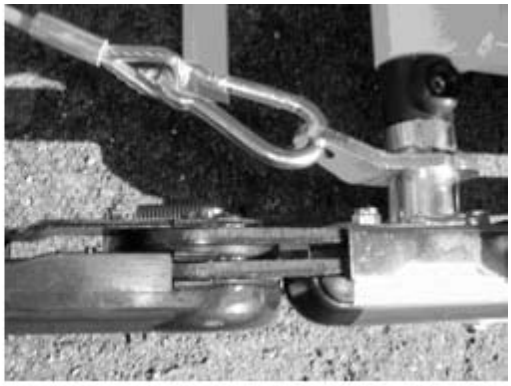
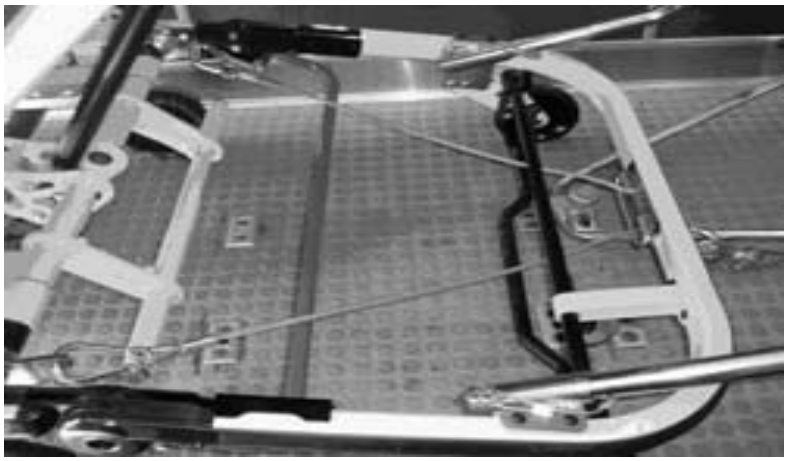


Figure 14 - Tow package clipped to litter/base adapters



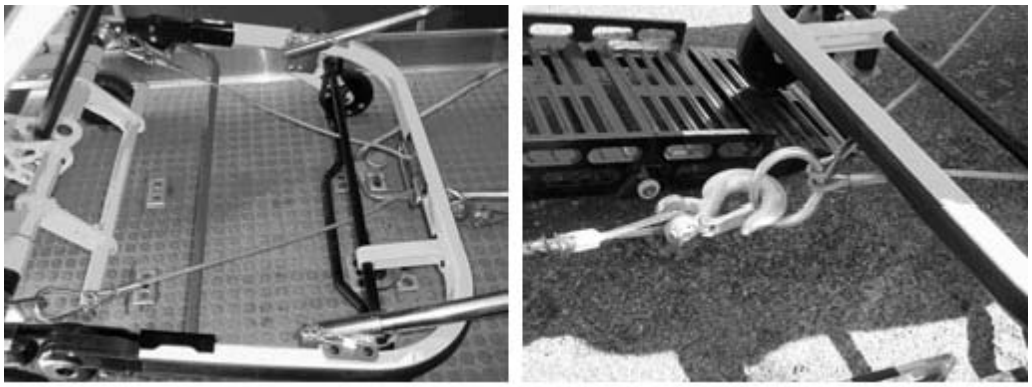


Figure 16 - Tow harness loop bracket attached to inner rail. Tow ring and winch hook.

Setting up the winch:

The winch is mounted inside a box to guard against injury. The box is held down to the threaded floor plates using two ² œ13 hand tight screws. Prior to each use, turn the hand tight screws clockwise to ensure they are tight and haven‘t loosened up from vibration. Don‘t use tools to tighten them. See figure 17. Plug in winch power as seen in figure 18.

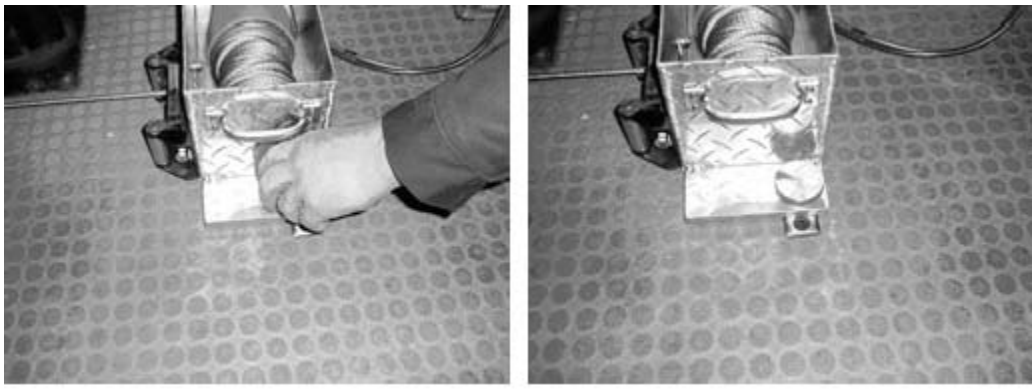


Figure 17 - Screw two hand-tight fasteners into threaded floor plates.

Figure 18 - Plugging in power cable to winch

Winch operator:

The winch must be operated through the side entrance during loading and unloading operations. See figure 19. (Important! TWO OR MORE TRAINED PERSONNEL MUST REMAIN WITH THE PATIENT LOADED COT IN ORDER TO GUIDE THE COT UP OR DOWN THE RAMPS). This position provides the best view of the cable in operation. Extend the remote control cable between the cab and the winch, and out the side door. Make sure that both the winch power and remote control cables don‘t come in contact with sharp edges or lie in the path of moving objects, such as the wire rope. As the operator it is your responsibility to watch the cables path during operation and listen to those who are guiding the stretcher. No one is authorized to occupy the action area, between the stretcher and the winch, while winching the stretcher up or down the ramps.

Figure 19 - Winch operator stands in side doorway to operate winch with the remote control.

Attaching wire rope to stretcher before loading:

A snap-hook is attached to the —bitter-end of the wire rope. While wearing leather gloves, free-spool the wire rope until the hook reaches the end of the ramps. Run the wire rope under the antlers. See figure 20. Make sure the wire rope runs across the roller at the Transition plate and not to the side of the roller. See figure 21.

Align the stretcher‘s breakaway head assembly wheels with each ramp landing. This is the ready position. While other person(s) hold the foot end of the stretcher stable, clip the hook down onto the stretcher‘s tow ring. Don‘t use the stretcher‘s wheel locks to hold the stretcher in the ready position, while occupied by a patient.

Before winching, visually inspect the entire wire rope‘s length between the winch and the stretcher for fraying. If fraying is observed or you suspect the wire rope is unsafe, don‘t use the winch until a qualified mechanical technician inspects the equipment. The the wire rope and winch should be inspected at the end of each day, whenever the Baraitric Unit is available for use.

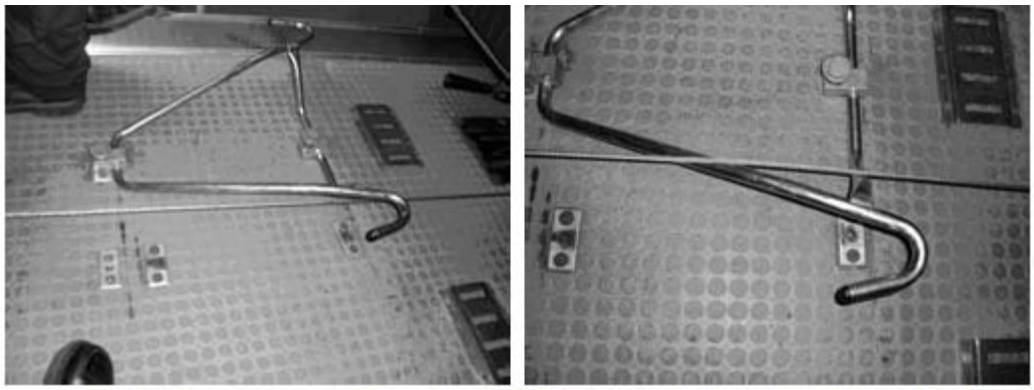


Figure 20 - Run the winch cable under the horn only. Placing the winch cable on top of the horn, as shown on the right, will result in damage and serious personal injury!

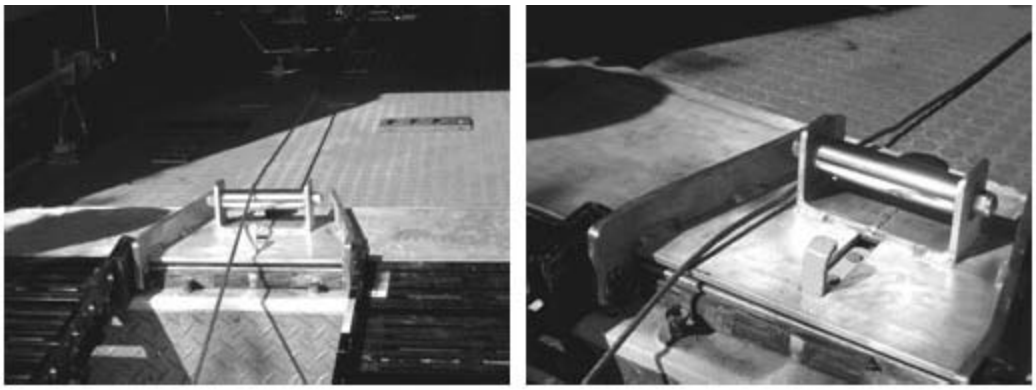
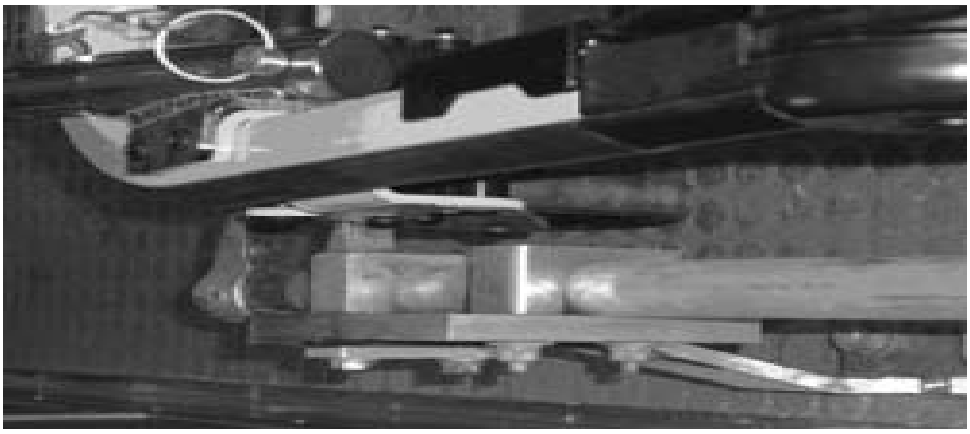


Figure 21 - Make sure the wire rope drops onto the roller. Allowing the wire rope to run across the transition plate, as shown on the right, will result in damage and serious personal injury!

Loading the stretcher:

Begin winching by moving the toggle switch forward. Guide the stretcher to the right side as it moves up the ramps so that the stretcher‘s breakaway head assembly doesn‘t get hung up on the cot fastener lock rail (AKA lock down bar) See figure 22.

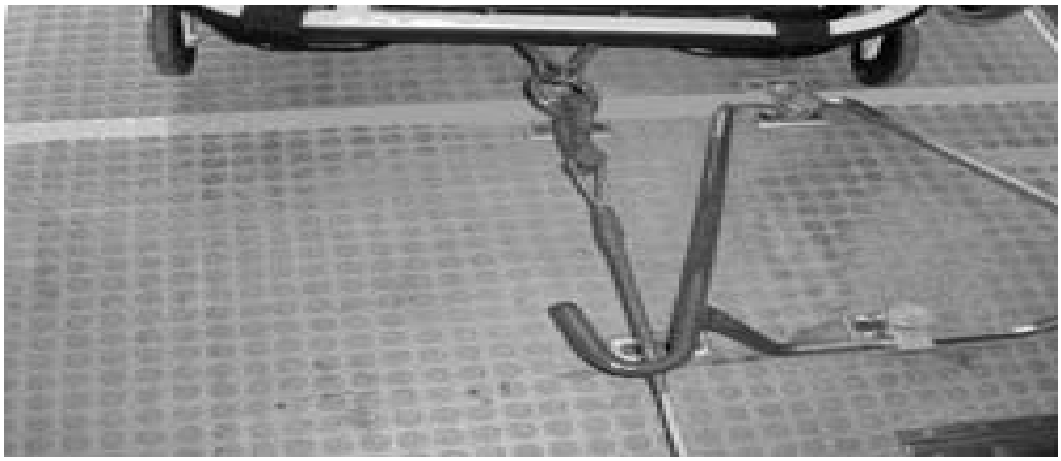


A center mounted cot fastener set up is the preferred configuration.

However, certain state regulations may preclude using the recommended center mounted fasteners systems as the Bariatric stretcher‘s width doesn‘t allow for aisle-space that complies with some regulations. As a result, the antlers and lock-bar are —side

mounted“. The off-center mounting creates an operational conflict with the ramps, transition plate roller and the winch‘s wire rope that are centered on the ambulance.

The offset poses a risk of fouling the hook and the antlers. To avoid risk, the winch operator ensures the stretcher‘s breakaway head assembly wheels never cross the yellow line painted across the action area floor. Doing so prevents contact between the antlers and the hook. See figure 23. Failure to prevent contact between the hook and antlers while the wire rope is under tension will cause damage and personal injury. Unfortunately, being told that the head assembly wheels must not cross the yellow line is not the same as being told how to accomplish this.



To prevent the breakaway head section wheels from crossing the yellow line, avoid continuous towing. As the front of the stretcher is half way into the ambulance begin toggling the remote control switch, forward and off. Repeat this step until the stretcher is in position. Doing so allows you to inch the stretcher forward. This is a critical aspect of the operation. Don‘t be hasty. Take your time.

Once the head assembly —load wheels“ reach the yellow line, release the toggle switch. ONLY when all four of the cot swivel casters are inside the ambulance, disconnect the hook from the tow ring until you are ready to lower the stretcher again.

Manually roll the stretcher into the antlers and hook the stretcher into the lock-bar.

While loading is complete, your work is not. The wire rope and hook pose a tripping hazard and must be moved out of the way. Don‘t winch the wire rope and hook in tight.

Instead, hook the wire rope to the winch cover‘s driver‘s side handle and winch in until the wire rope no longer presents a tripping hazard.

Unloading the stretcher:

Before unloading the stretcher, install the push/pull handles if the cot is so equipped. Then disengage the lock-bar and manually roll the stretcher back so that the head assembly wheels are behind the yellow line. Disconnect the hook from the winch cover and slacken the wire rope. Once again, make sure the wire rope runs under the antlers. Connect the hook to the stretcher‘s tow ring. Reel out enough wire rope so that the stretcher‘s foot-end can be pushed or pulled out onto the ramps. Once the weight of the stretcher pulls the wire rope taught, use the remote control to lower the stretcher. While the stretcher descends the ramps it must be guided so the wire rope lands on the transition plate roller. If the wire rope lands off to the side of the roller, you must stop unloading and reload to a point where the stretcher can be guided so that the wire rope lands on the roller. Never try to manhandle the cable onto the rollers. Allow the machinery to do the work. Once the stretcher‘s breakaway section load wheels roll off the ramps, hold the stretcher steady while the hook is released.

Storage:

The Bariatric Unit has outside cabinets used to store ramps, push/pull handles, transition-plate and hand tight fasteners. This equipment must be properly stored whenever the vehicle is moving, as illustrated in figures 25 and 26. Additionally, the

winch cover must be secured with a bungee cord to prevent it from becoming a missile hazard. See figure 27.

Figure 25 Storage of ramps in forward left-side main oxygen tank cabinet.

Figure 26 Storage of transition plate, and hand-tight fasteners in rear left-side cabinet.