



HOOD TARP KIT FITTING GUIDE

**FOR SHAFT DRIVEN (DUAL CABLE) HOOD TARP KITS UP TO
80% COVERAGE**

28-30 Terrence Road Brendale QLD 4500
PO Box 5623, Brendale QLD 4500
Phone 07 3889 9611, Fax 07 3889 9622
Email: sales@retractabletarps.com.au

WHAT YOU GET IN THE BOX

Thank you for purchasing a full Hood Tarp System from Retractable Tarps. Your custom-made kit should contain the following hardware for each body.

HOOD TARP HARDWARE (COMPLETE MANUAL WINDOUT KIT)

- ☐ 1 x Tarp pack (Tarp, bows, blocks, and block hardware assembled to suit your body width/length)
- ☐ 1 x Front shaft (cut down to suit your body width)
- ☐ 1 x Length of Sailtrack for front panel of tarp (*May not be required if mounting fixed front bow to headboard*)
- ☐ 4 x 1" Shaft support bearings
- ☐ 2 x Front cable pulleys assembled with taper-lock assemblies (Either 100 or 150 mm pulleys)
- ☐ 1 x 4" belt pulley or 24 tooth chain sprocket (belt pulley is default option)
- ☐ 1 x Belt or Chain (belt is default option)
- ☐ 1 x Manual drive handle assembly (corresponds with belt or chain drive option supplied)
- ☐ 2 x Lengths of 6 mm galvanised cable (6 mm stainless if the kit is a long block waterproof kit)
- ☐ 2 x Rear adjuster assemblies (different styles of adjuster are supplied depending on kit)
- ☐ 8 x M10 Tap-Tite self-tapping bolts (for the rear adjuster assemblies)
- ☐ Cable wire grips to suit tarp style

ELECTRIC HARDWARE (ELECTRIC CONVERSION/UPGRADE KIT)

- ☐ 1 x Complete Hollowshaft gearmotor with adjustable mounting bracket
- ☐ 1 x Tarp motor controller and system circuit breaker
- ☐ 1 x In-cab switch **OR** wireless receiver unit and remote (depending on chosen control option)
- ☐ 2 x Pre-cut lengths of electrical cable (6 or 3 B&S depending on truck or trailer application)
- ☐ 1 x Bag of Miscellaneous terminals (Sized appropriately for the supplied cable)
- ☐ 1 X 175A Anderson Connector Plug (not included or required for truck application only)

NOTES ON SUPPLIED HARDWARE KITS

As these kits are highly custom and there is a wide variety of truck body styles, materials, etc.

Retractable Tarps **does not** supply the following items without request.

- Specific nuts, bolts, rivets etc to mount the front shaft assembly, drive handle and/or front bow.
- RHS Spacers for the front shaft support bearings and manual drive handle.
- Fixed bushes or Wire mounted stops for stopping the tarp at the start and end of its travel. (*electric system*)

All of these items can also be supplied as a kit upon request (at an additional cost). Shaft packers/spacers are made from generic Aluminium or Steel RHS (40 x 40 is standard) and are fabricated during the fitting process. They are usually made to suit body to cab or body to hoist clearances which vary greatly.

BEFORE YOU START

Key things to check prior to starting the installation are as follows:

1. UNWRAP YOUR KIT

Be sure to unwrap your tarp pack and check that the colour, material and bow height match what was ordered. Take care not to cut into the tarp material if a knife is used to unpack the kit. Go through the checklist on the previous page of this document to make sure everything is present. **Note** that our kits are wrapped in scrap tarp material for transit which may be a different colour/material to what was ordered. Remove this wrapping/packaging first.

2. TARP WIDTH

The tarp pack was/is made to suit the widest (outside rail width) provided on your measurement form. The outside to outside of blocks on your tarp should be approximately 70 mm wider than the widest point along your combing rail. If this is different, the tarp may need to be adjusted to suit the current state/width of the body.

3. BODY CONDITION

The body's rails should be straight, smooth, and level. If the body is bowed it may need to be straightened to ensure best operation. If the rail is pitted or damaged, steps should be taken to smooth out the sliding surface for the tarp blocks.

4. HEADBOARD CLEARANCES

In the case of a rigid tipper, there must be adequate clearance between the headboard and external hoist and/or cab. Generally, 200 mm of clearance is recommended for our standard shaft assembly offsets (presented later in this guide). If this is not the case; the shaft position may need to be adjusted to suit during the installation.

If all the above conditions are satisfied, you are clear to proceed with the installation of the system.

INSTALLATION INSTRUCTIONS

STEP 1: REAR ADJUSTER PLACEMENT

1. The rear adjuster should be placed as far back on the body as possible. Usually this is between the rear post and the forward most point of the tailgate hinge, sometimes the rear pulley will need to be mounted in front of the hinge. If the body has a rear handle for a two-way gate, this must be checked and potentially modified to allow the cable to run past it towards the front of the vehicle. The supplied stainless bracket will also likely need to be modified to suit various rail configurations.
2. Once the position of the adjuster is finalised. Fix the assembly to your combing rail with the provided M10 x 30 Tap Tite Bolts. These are self-threading bolts which require a 9 mm pilot hole through/into your rail. Alternative fixture methods can be used if the self-tapping bolts are not applicable.
3. Once both sides are permanently in place, measure the cable centre width across the body (outside of one pulley to inside of the opposite pulley). Ideally this measurement should be the widest rail measurement + 50 mm. This should be as close as possible to the block bush centre width measurement on the supplied tarp pack. If not, shift the pulley assemblies appropriately to make this match.
4. Before moving onto the next step, measure from the headboard (first bow position) to the forward most edge of your rear adjuster(s). Confirm that this distance is equal to or greater than your ordered tarp length. If not, adjust or modify the bracket's position to achieve this. (Checking if Tarp length is correct)

STEP 2: FRONT SHAFT INSTALLATION

BEARING PLACEMENT

The front shaft requires a **minimum** of 4 support bearings evenly spaced across the headboard. These should be placed on 40 x 40 x 165 RHS packers to allow clearance for a drive sprocket/pulley and/or Roll Rite Gearmotor.

1. The first two shaft bearings should be placed between 10mm & 30 mm (**Figure 1 A**) in from the outside edges of the headboard (driver and passenger sides). Vertical Position of the bearing and packer for a standard 150 mm wire pulley are as follows:
 - i. The top of the RHS packer should be 9 mm above the sliding surface (**Figure 1 B**). This allows for future conversion to 100 mm wire pulleys if tarp configuration is changed.
 - ii. The top off the bearing pillow block should be 16 mm below the sliding surface (**Figure 1 C**).
 - iii. Final shaft position should be 86 mm down from the sliding surface (**Figure 1 D**) and 75 mm out from the headboard in this standard configuration.
2. The two remaining bearings from the kit can be evenly placed between the two outer bearings at the same height/rail offset. If a Hollowshaft motor is provided it should be placed in the centre of the middle bearings positioned closer to the driver side bearing to align motor terminals on motor with centre of the bin. If a hoist or gusseting prevents this placement, the gearmotor can be placed offset to one side of the headboard.
3. For the smaller 100 mm pulley, the bearing pillow block should be level with the top of the packer. This places the shaft centreline (**Figure 1 D**) 61 mm down from the combing rail/sliding surface.

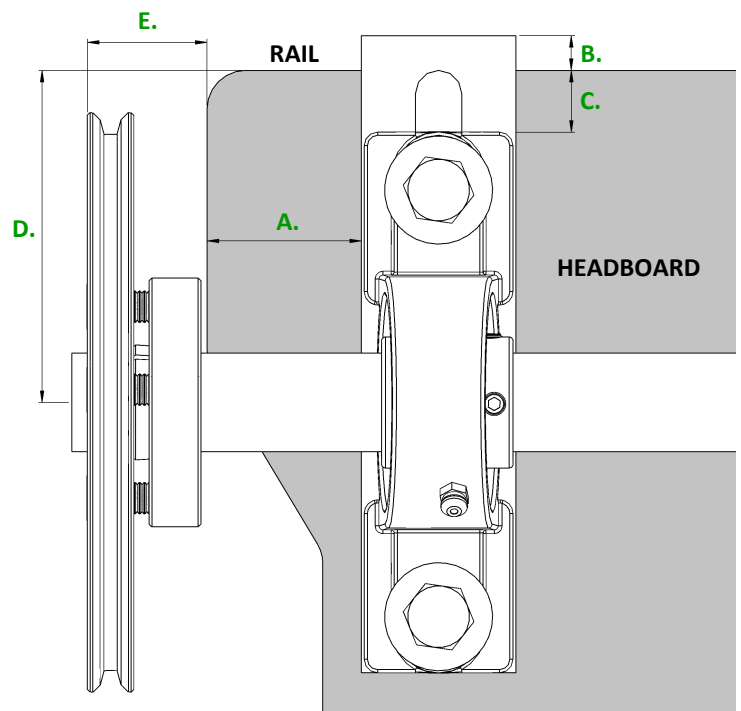


Figure 1: Placement diagram for front shaft and outer bearing(s)

Table 1: Shaft and bearing placement summary

STANDARD SHAFT OFFSETS (MILLIMETERS)					
PULLEY SIZE	A.	B.	C.	D.	E.
150 mm	≤ 30	9	16	86	31
100 mm	≤ 30	9	-9	61	31

SHAFT INSTALLATION

4. Remove all grub screws from the shaft bearings, then slide the stainless shaft through from the passenger side. Make sure you slip the shaft through the gearmotor (if applicable), followed by the belt pulley (**BELT SHOULD BE HANGING OFF/WITH THE PULLEY**) or chain sprocket before threading it through the outer driver's side bearing.
5. **Measure the shaft and body ensure that it is centred.** Shafts are cut to 70 mm over provided width of the body as standard.
6. Replace and tighten grub screws into shaft bearings. Ball bearings on grub screws will secure shaft from moving.
7. The two cable pulleys are then pressed on and adjusted to match the rear cable centre width measured previously in step 1. Ideally the outside of your cable pulley(s) should sit 31 mm approx off your combing

Rail (**Figure 1 E**). During this step, check that the shaft is straight and parallel to the headboard. The cap head socket screws are then evenly torqued to 25 ft. Lbs.

HANDLE PLACEMENT

As mentioned in the previous step. The belt should be loosely hanging off the upper 4" pulley. If a chain sprocket was chosen for the kit, the length of chain should be draped over the upper sprocket and connected with the provided joiner at the desired handle height. The provided handle assembly should also be fully loosened so that the drive pulley/sprocket is at the top of the adjustment slot. Now perform the following steps.

1. Hang the handle assembly off the loop check the position. Ideally the drive belt or chain should be approximately 150 mm (To the centreline of the belt or chain) in from the edge of the body. Though this may not be achievable due to body to cab constraints, exhaust position, etc. Adjust the lateral position of the handle and loop until it has adequate clearance. You should be able to release and stow the handle without interference in this position.
2. With the position found. Mark the final position of the handle then move on to fixing the upper pulley/sprocket in place. Remove the grub screw from the 4" Belt Pulley, mark and drill a 6mm divet. Coat the locking grub screw with thread lock (Loctite 222) and tighten to the shaft. If a chain sprocket is used, evenly tighten the 4 cap screws to 25 ft-lb of torque.
3. Mount the handle to headboard on a 150 x 50 RHS spacer and tension the drive pulley/sprocket down until belt is taught or slack is removed from the chain. This can be adjusted at a later time if belt slip is encountered.

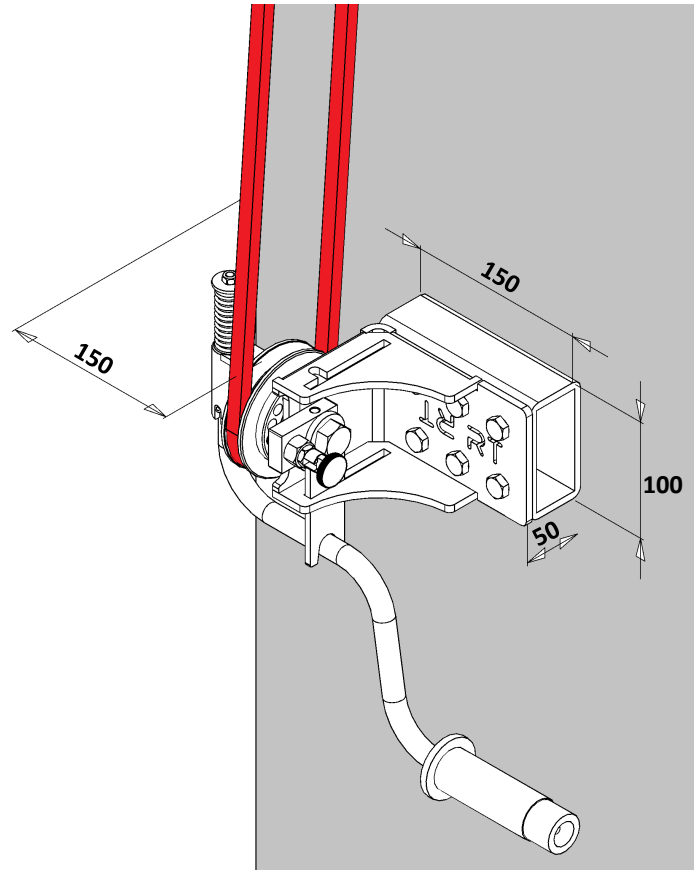


Figure 2: Ideal handle position

BELT TENSION

The belt should be as tight as possible to give the best traction and grip against the pulleys. This amount of tension varies greatly from vehicle to vehicle due to belt length and handle position. It should be tightened until the handle winding action starts to become difficult (this is the point when the belt is putting too much preload on the handle bearings). Then backed off till operation becomes smooth again.

HOLLOWSHAFT MOTOR MOUNTING

While mounting the shaft, the position of the gearmotor should be finalised and marked. A clearance hole for the provided 3/8" High Tensile Hex head bolt should be marked and drilled where appropriate. The Gearmotor only requires one drive bolt and this is usually mounted on the opposite side of the casing to the mounting bracket. It can then be routed through the vehicle and wired to the DMC as per the attached DMC quick start guide at the back of this document.

STEP 3: FIXING THE TARP PACK

FIXING YOUR FRONT BOW

Correctly fixing the front bow is **key** to smooth operation and maximum tarp life. Common scenarios/fixture methods are presented in the following section.

SCENARIO 1: NO HEADBOARD – IDEAL SETUP

If your truck body has no headboard above the rail. Retractable Tarps recommendation for best fit and finish is a pair of 6 mm tabs on the top edge of the headboard (*Highlighted in red, Figure 3 A*). Or use L shaped aluminium bracket provided in bolt kit. The front blocks in the tarp pack are then bolted to these tabs with appropriate M10 or M8 hardware. These tabs should be 40 mm tall and stop flush with the inside face of the block on both sides. These tabs can either be welded to the top edge of the rail or bolted to the headboard.

SCENARIO 2: NO HEADBOARD – ALTERNATIVE SETUP

In the event that the above tabs cannot be added to the top edge of the headboard. The blocks can be bolted directly into the rail (*highlight in red, Figure 3 B*). Either with a nut and bolt (if inside/underside of rail is accessible), or the rails can be drilled and tapped (if thick enough).

SCENARIO 3: BODY WITH A FLAT HEADBOARD

If the body has a flat upright headboard, the bow and front blocks can be bolted directly to it in a similar fashion to the “ideal setup” above (Figure 3 C). The peak of the bow should also be bolted to the headboard for additional stability (*this prevents tarp material from loosening mounting bolts in blocks over time*)

SCENARIO 4: BODY WITH A GUSSETED HEADBOARD

In the event that the headboard has gusseted or boxed in sides. The front bow can be cut down and front blocks removed (if necessary) to fit the bow between them. It is then bolted through the bow and tarp directly to the headboard with M10 hardware. **NOTE** this cut down bow scenario only works for 60% coverage tarps (standard quarry mesh or 60% PVC). 80% or greater (Canvas and PVC) coverage tarps which extend the material over the block to the outside of the body will not fit correctly/at all.

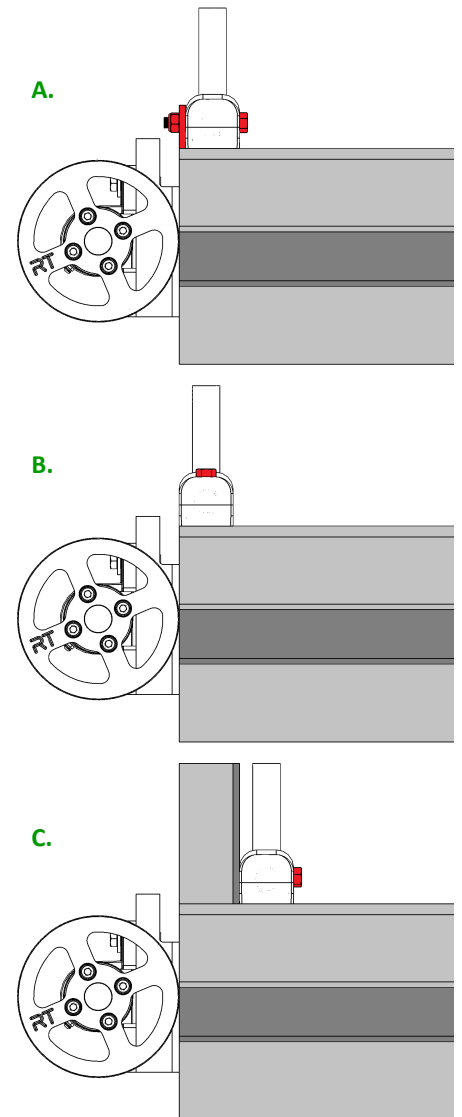


Figure 3: Front bow mounting scenarios

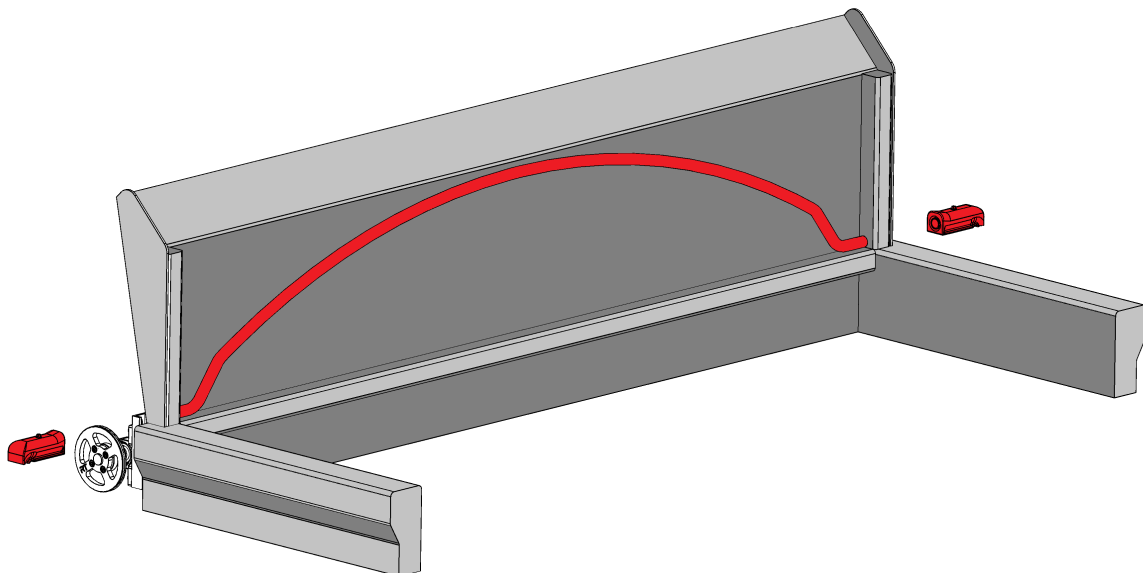


Figure 4: Cut down front bow scenario

NOTCHING THE HEADBOARD GUSSETS

Other common scenarios include instances where the side gussets project out onto the rail/sliding surface. If possible, these should be notched to allow the tarp pack to bunch up as tight as possible. Allowing for maximum tipping/loading area. Generally, this notching is in combination with scenario 4 noted above.

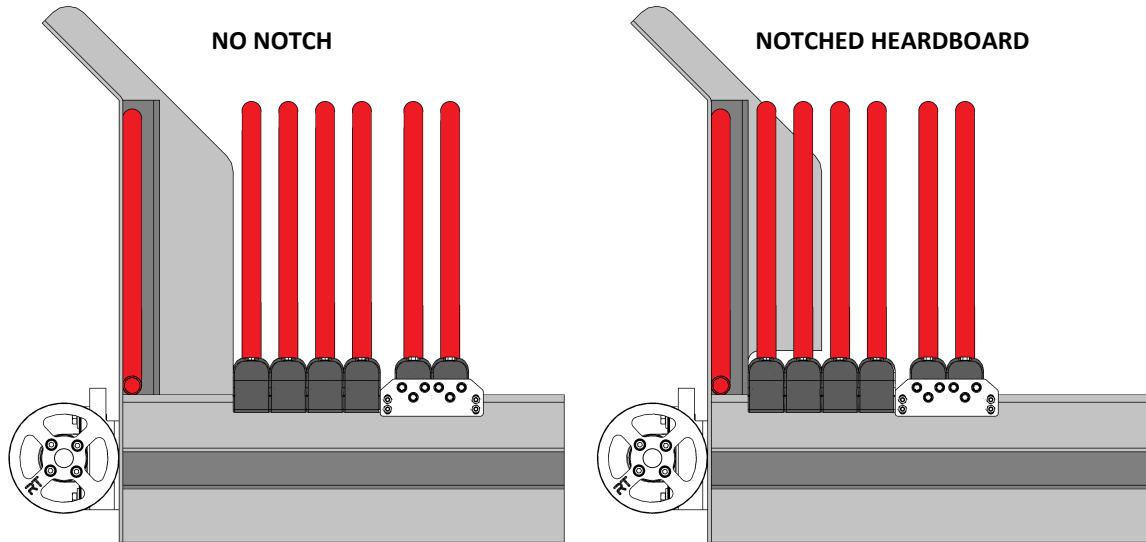


Figure 5: Headboard notching example

FIXING THE SAILTRACK

If the tarp pack has a solid front panel, take the provided Sailtrack and slide it on to the corresponding bead in the tarp. (Sail track may need to be cut down to size) This is then pulled down till the front panel becomes taught and even, then secured to the front using rivets or screws. The headboard shape will have an effect on the final fitting of the front panel and should be clearanced where necessary to get the best fit (Example shown below in Figure 6). If Sailtrack is not available, flat bar can also be used to sandwich the bottom 50 mm (Reinforced edge) of the panel to the headboard. **NOTE** The Sailtrack is not a structural or load bearing component of the tarp system. Relying on this to hold the tarp in place will result in likely failure and or damage to the tarp system and a **voided warranty**.

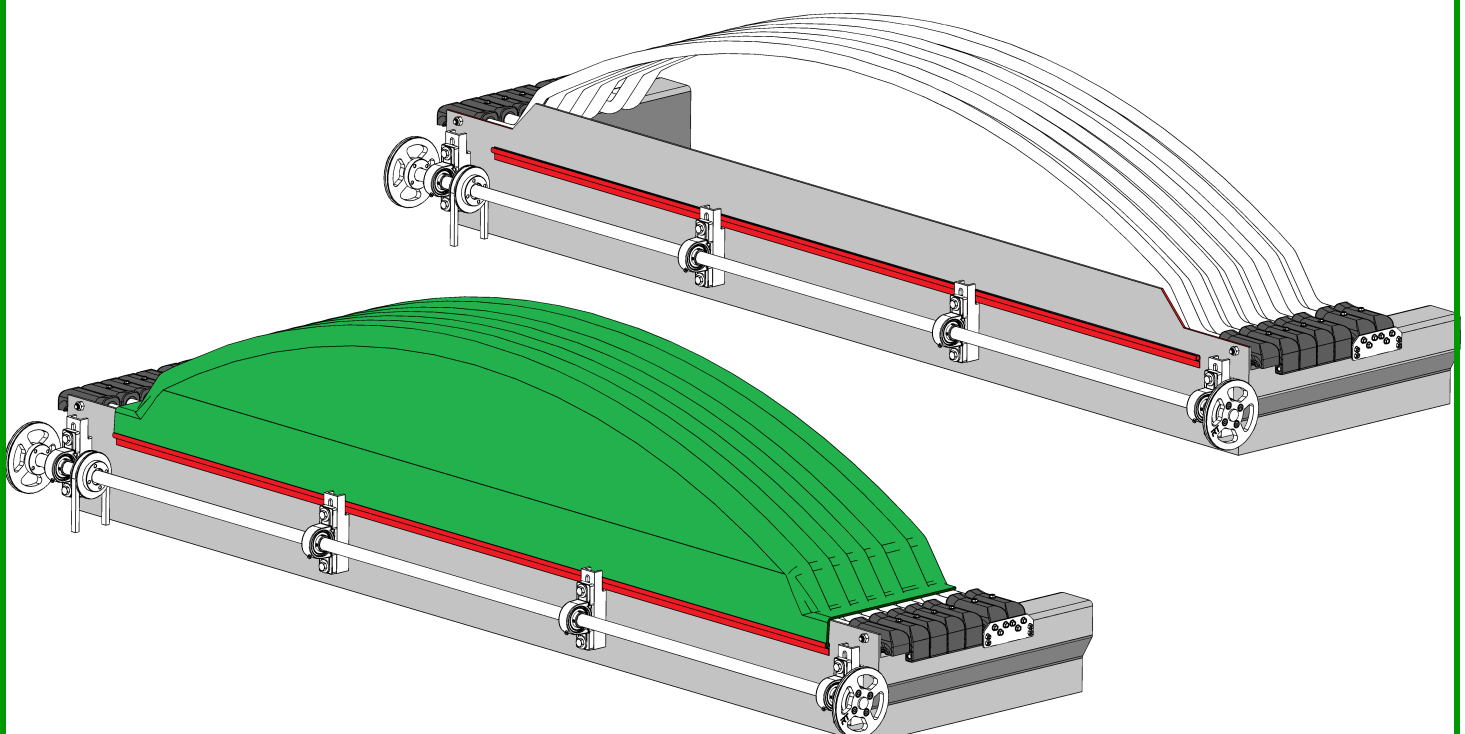


Figure 6: Mounting Sailtrack

STEP 4: CABLE ROUTING AND TENSIONING

CABLE ROUTING

Once the shaft assembly is mounted, front bow is fixed and the rear adjusters are installed, the cable can now be routed through the system. The tarp pack (tarp, bows and blocks) should be bunched up at the headboard ready for the next step. (Only remove each rod from tarp pack upon fitting cable, as this stops pack from falling over). The rear adjusters should also be **fully loosened** to give you the maximum range of adjustment/tension. There are a range of options when fixing the cable as follows.

OPTION 1: MEET INSIDE THE LAST BLOCK(S) – IDEAL SETUP

The cable should be looped around the front and rear pulleys then pulled together to meet at the rear block(s). Overlap them at the cable clamping plate and cut off the excess. Clamp both ends of the cable inside the drive plate and begin tensioning from the rear adjuster. Take the slack out of the cable and repeat on the opposite side of the vehicle.

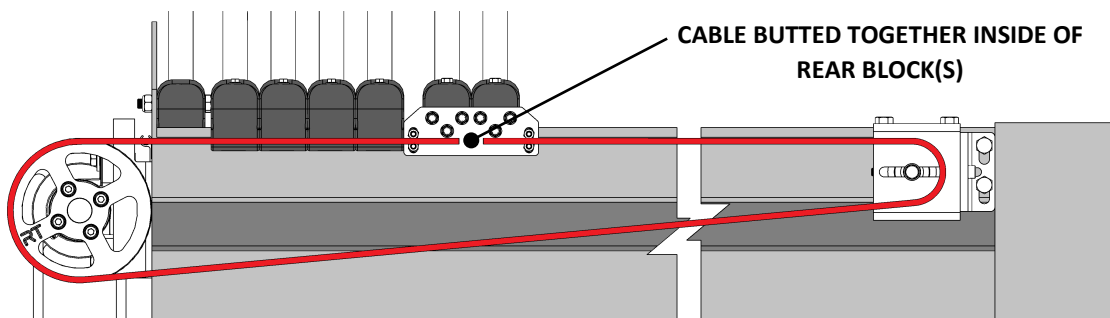


Figure 7: Anchoring the cable inside the rear cable drive plate.

OPTION 2: ANCHORED BEHIND THE LAST BLOCK(S) – ALTERNATIVE SETUP

If the tarp stops considerably short of the rear adjuster (usually due to a deep projecting hinge). The cable can also be overlapped and anchored behind the rear drive block(s). Repeat the same process of looping around the pulleys, pulling tight and then cutting off the excess. Leave enough overlap behind the last block so the cable can be clamped together (minimum of 2 clamps) to complete the loop (amount of overlap will vary depending on tarp to adjuster clearance). The last block in the set must still be anchored to the cable to provide drive for the system. (This style uses 8 clamps, 2 in drive plate each side and 2 each side on cables)

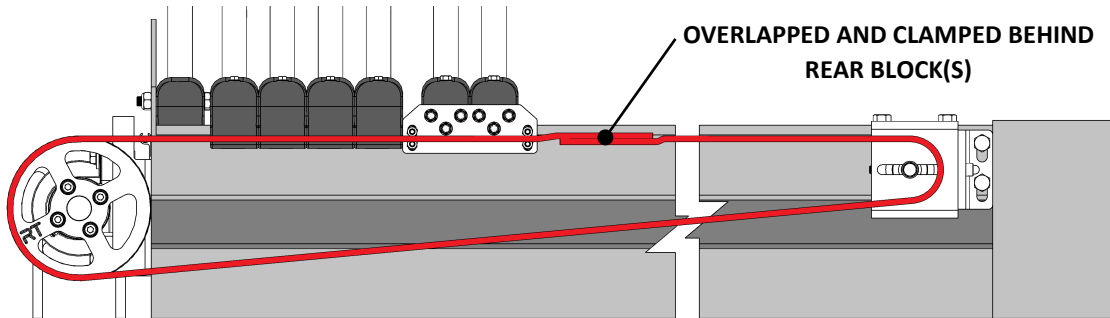


Figure 8: Clamped behind rear block(s)

OPTION 3: ANCHORED ON THE RETURN CABLE – ALTERNATIVE SETUP 2

The final option is to overlap and clamp the cable in front of the rear adjuster on the lower/return cable. The tarp should be bunched up at the front of the body when clamping in this style. Again, this is packaging and body dependent.

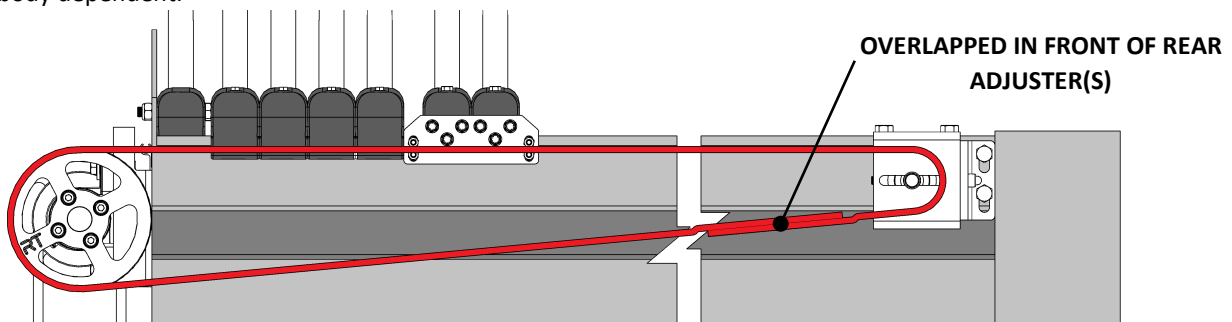


Figure 9: Clamped on the return cable

FINAL TENSIONING

When anchoring the cable in any of the above scenarios remove excess slack on both sides and make sure the tarp pack and specifically the drive bow are square across the body. This is **critical** to getting smooth operation and no misalignment during operation. The rear adjusters are then tightened with a 6 mm Allen key or 13mm spanner. Then the M8 locking bolt is tightened with a 13mm spanner. Correct baseline tension is achieved when the top and bottom cable firmly resist being squeezed together between thumb and forefinger. This squeeze test should be performed approximately a metre forward of the rear adjuster assembly on both sides. The cable should touch, but strongly resist the squeezing motion. Repeat this on both sides then wind the tarp out approximately 2 metres from the headboard to begin the next step.

STEP 5: FINAL ALIGNMENT AND ADJUSTMENTS

NOTE If an 80% Coverage tarp was chosen, please read 80% fitment section prior to checking final alignment.

CHECKING FINAL ALIGNMENT (If not a completely new system)

In case of electric tarp system, be sure to mount tarp stops at required length when tarp is out tight. Extend tarp out being cautious not to over extend with the electric motor before tarp stops are installed. Tarp stops should be installed to prevent tarp from closing and extending too far which can stretch and damage the tarp.

A tarp pack will come assembled and aligned to the provided body dimensions. However, this should always be checked prior to final/regular operation.

1. Wind the tarp out 2 metres from the headboard and space the remaining bows evenly between the fixed front bow and rear drive bow(s). Make sure each bow's blocks are flat on the combing rail and are even and the bow is 90° to the combing rail.
2. Each bow and block combination should be checked for correct outside to outside of block width (rail width + 70 mm) and cable centre width (body width + 50 mm). If a pair of blocks is incorrect (too wide/too narrow), remove the tek screw on the top of each block in preparation for adjustment.
3. Tap the block with a mallet or hammer until the steel bush is centred on the cable. Once the bushes are centred on both sides of the body, resecure with the tek screws through the top of the block. Make sure the bow is still perpendicular to the rail before screwing back together.
4. Move to the next bow and repeat the process until all bows and blocks are at a consistent width.
5. Wind the system in and out multiple times and watch the bows for any misalignment or "juddering" as it extends and contracts. Adjust blocks where necessary.

80% COVERAGE TARP FITMENT

In the event an 80% Coverage PVC or Canvas tarp was chosen. Edges of the tarp material will be folded up for freight packaging purposes. The tarp will need to be unfolded and secured to the outside of the blocks. This process involves pulling the material over the outside of the body and aligning the outer edge with the bottom of the block. This should then be held taught and secured through the stainless eyelet into the sliding block with an appropriate tek screw as shown below. (Be careful not to screw into the bush or cable)

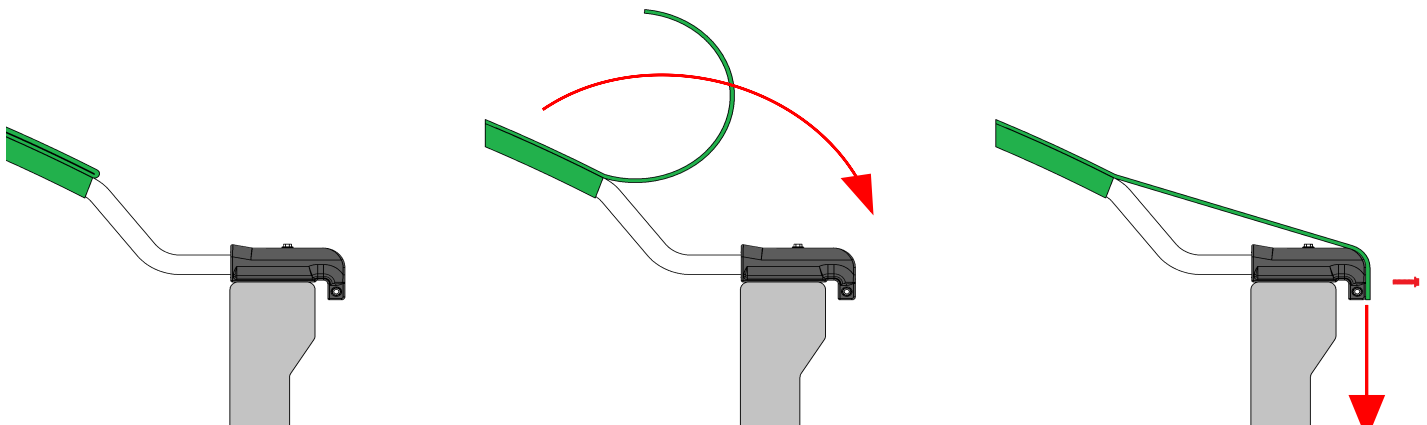


Figure 10: Securing the 80% Coverage

OPERATION OF YOUR TARP SYSTEM

Your system is now ready for use! Be sure to test it multiple times in a controlled environment to check alignment, cable tension and smoothness of operation before regular use. Once satisfied the following steps can be taken to maximise tarp life.

MANUAL HOOD TARP OPERATION

To operate a Hood tarp system correctly, the following steps are to be taken: -

- Check the rail and tarp for any debris or obstructions prior to use.
- Release the handle from the bracket and lock into the open winding position.
- Wind out at a steady rate until the unit is fully extended and/or hits the rear stops.
- Rotate the handle back into the locked position to finish the operation.

ELECTRIC HOOD TARP OPERATION

Alternatively, if using a tarp with a Roll Rite drive system: -

- Check the rail and tarp for any debris or obstructions prior to use.
- To close the tarp, press close button momentarily and the tarp will automatically extend out to the closed position with no need for holding the button.
- To open the tarp, briefly depress open button in the same fashion to engage the automatic procedure.

HOOD TARP SAFETY PRECAUTIONS

When operating a Hood Tarp system, the following precautions are required: -

- Always operate the system from the front of the body.
- Refrain from jerking/sudden movements when winding the tarp to its full extension.
- Only use the manual handle when retracting or extending the tarp, do not grab the belt or chain.
- Stand clear of the sides of the body when unit is retracting.
- Be aware of the bow height with respect to the surroundings.
- Be sure to lock the handle into its closed position when not in use, as to avoid any unwanted movement in the tarp or handle itself.
- If the system is electric, allow adequate cooldown time between each operation.
- Avoid disassembling the controller and gearmotor assemblies as it could cause electrical shock and potentially void the warranty of the component.
- Always secure PVC and Canvas tarp systems with ropes and/or provided locking plates.
- Do not tip material with the load covered.
- Always store in the front position prior to loading.
- Avoid levelling of loads by using the tarping system.
- When washing do not use acidic detergents.

Failure to comply with these precautions can result in injury and/or damage to the hood tarp assembly. For further information on operating and installation procedures, contact our sales team at sales@retractabletarps.com.au or call (07) 3889 8611.

REQUIRED MAINTENANCE FOR A WIND-OUT HOOD TARP SYSTEM

Each wind-out hood tarp system is manufactured to a high standard, thus minimising any ongoing maintenance costs. However, lack of basic preventative maintenance may lead to premature wear and improper function of the tarping system and components. To ensure that your system operates correctly, the following basic maintenance is required.

On an average day shift operation, the following procedures are to be performed: -

MONTHLY TARP HARDWARE CHECK

- Grease front shaft bearings
- Check belt tension or condition of chain
- Lubricate handle spring
- Inspect system for damaged tarp, damaged bows, and blocks
- Check cables for fraying and tension
- Check all cable clamps are fastened

For electric systems, additional maintenance to be performed as per the following: -

MONTHLY ELECTRICAL CHECK

- Inspect connecting plugs for damage
- Inspect all terminals and lugs for corrosion, tighten and clean accordingly
- Inspect wire condition at high risk areas e.g. draw-bar or turn-table
- Inspect gear motor for oil leaks
- Test system to ensure electronic controller is functioning with the tarp fully extended.
- Test remote control range and replace batteries if required.

ANNUAL TARP HARDWARE CHECK

- Grease bearings and lubricate all moving parts, i.e. handle winder, chain, etc.
- Check all bolts and fasteners for correct tension
- Inspect front wire pulleys for excessive wear in the wire groove
- Inspect cables for wear and replace as required

GENERAL WARNINGS FOR ALL SYSTEMS

- Do not tip material with the load covered
- Always store in the front position prior to loading
- Avoid levelling of loads by using the tarping system
- When washing do not use acidic detergents

If under heavy operation, the frequency of the maintenance schedule may have to be adjusted to suit.