

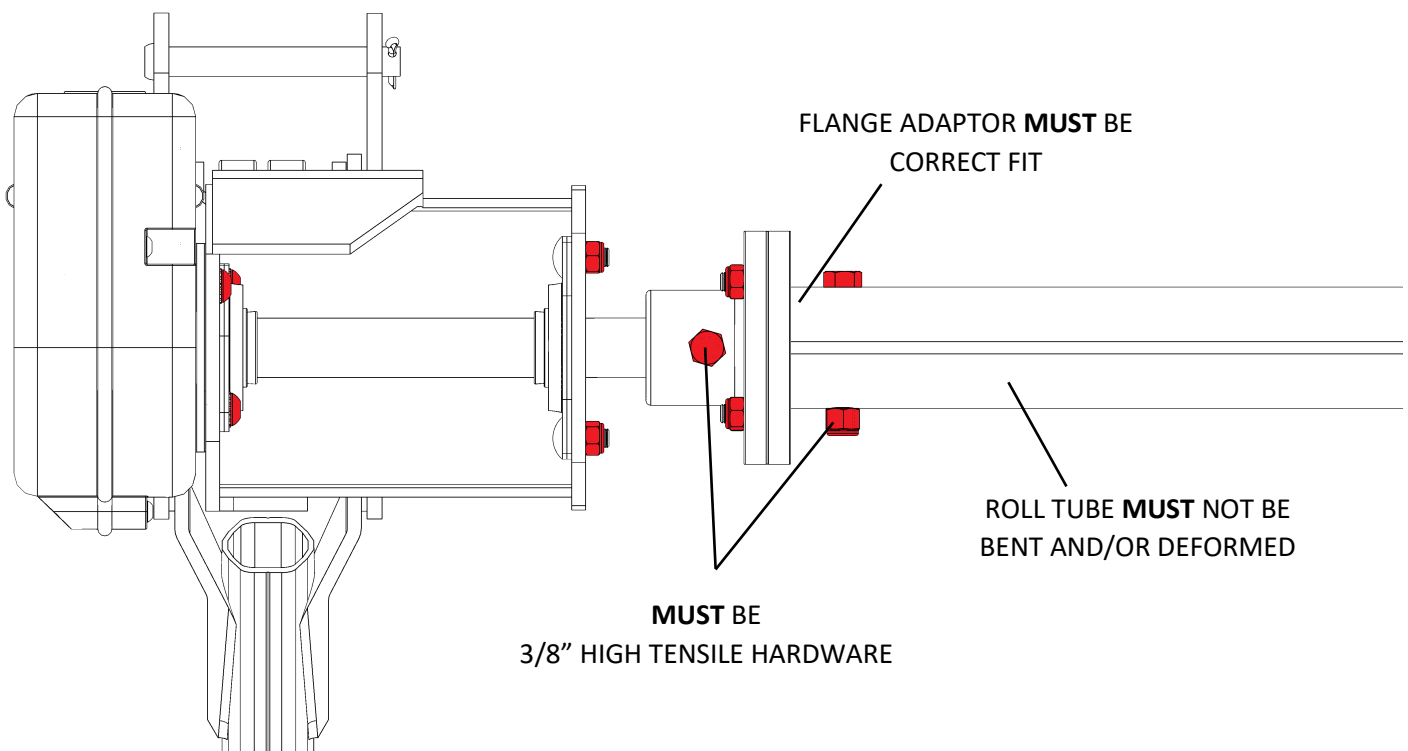
ROLL OVER MAINTENANCE GUIDE

A standard Retractable Tarps supplied roll over system is comprised of 3 main elements. All of which require periodic inspection and maintenance as follows:

1. ROLL RITE ARM ASSEMBLY

The hydraulic/Electric roll over kit comes with single or dual arms, gearmotor and tube adaptors. The following maintenance must be performed.

- i. The system should be periodically inspected for fatigue and/or damage. Key areas to check during this inspection include the aluminum arm(s), tube adaptors and roll tube as per the attached arm inspection guide and figure 1 below. Before inspecting the arm(s) or any part of the tarp system, it must be at the point of lowest tension. This position can be found in the attached arm detensioning guide.
- ii. While performing this inspection, ensure that all bolts are correctly fastened and that the connection between the roll tube and the Roll Rite arm is secure. The roll tube flanged adaptor must be the correct size for the roll tube in use. This adaptor must be secured with a 3/8" high tensile fastener or equivalent. When inspecting the tube adaptor, ensure that the roll tube is not deformed (Refer to figure 1 below).
- iii. These inspections should be undertaken every 3 months. Expected life of the arm(s) is 5 + years of standard operation, not including external damage or extreme use cases.



ALL BOLTS (HIGHLIGHTED IN RED) TO BE INSPECTED/TIGHTENED DURING PERIODIC MAINTENANCE

Figure 1: Inspection points on top of Hydralock Arm



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

2. TARP MATERIAL

RT-ROMES (MESH)/RT-ROPVC (PVC) – Reinforced Mesh or PVC tarp material custom made to suit the body.

- i. The only required maintenance is periodic inspection of the tarp for damage and/or excessive wear. The tarp needs to be repaired or replaced immediately if any significant tears are observed.
- ii. Tarp should be checked for even pressure under the driver's side locking lip. The tarp should be tight along its full length up against a full-length locking lip with no loose or hanging roll tube.
- iii. Expected life of a tarp is 5 + years of standard operation, not including external damage or extreme use cases.

3. HYDRAULIC FITTINGS AND ELECTRICAL CONNECTIONS

PRESSURISED LINES – Lines fitted to the Hydralock Gearmotor (not supplied by Retractable Tarps).

- i. Key points of maintenance are inspect, clean and tighten all fittings, lines and electrical connections.
- ii. A Hydraulic motor should be tested for operating pressure, please see below pressure check point and following system schematic.
- iii. These inspections should be undertaken during regular vehicle servicing.

The whole system is expected to last in the vicinity of 5 years based on normal operation. Damage to one component may result in the rapid deterioration of the entire system. It is essential that any observed issues are rectified immediately.

SYSTEM PRESSURE CHECK POINT

A pressure gauge can be attached to either inlet on the Hydralock Motor (Highlighted in red). The system should then be run in both directions. Maximum pressure should not exceed 1250 PSI in the opening direction, remaining around 1000 PSI. Then remain under 100 psi (as close to zero as possible) in the opposing switch direction. A complete system schematic can be found on the following page.

As mentioned previously Retractable tarps only supplies the arm and tarp hardware. All fittings, control and spool valves are supplied and/or fitted by a 3rd party. If any tarp specific parts are required, a full Roll Rite arm parts catalogue is available on our website.

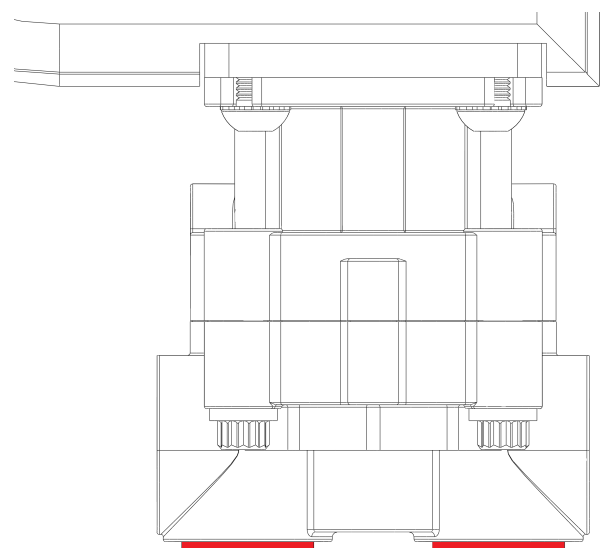


Figure 2: Hydralock Motor Inlet and Outlet points



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 PO Box 5623, Brendale QLD 4500
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HYDRAULIC SCHEMATIC

FOR IDEAL OPERATING EFFICIENCY

- MAXIMUM FLOWRATE: 20 L/min
- MAXIMUM OPERATING PRESSURE: 1250 PSI
- MINIMUM HOSE DIAMETER: ½"

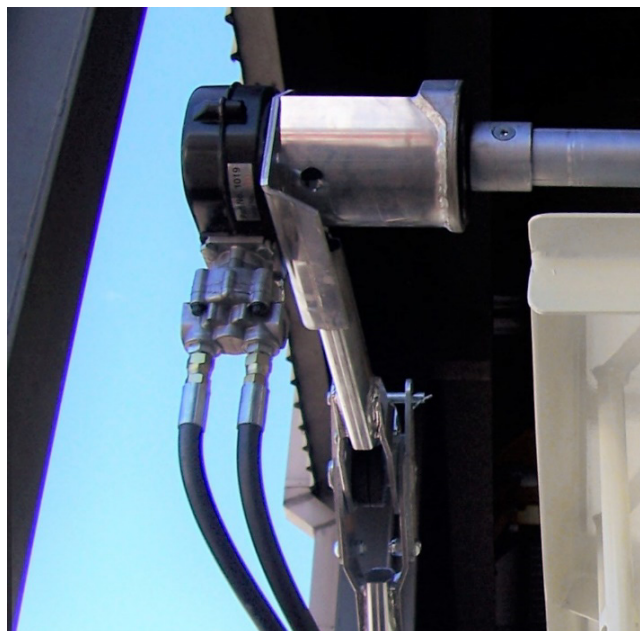
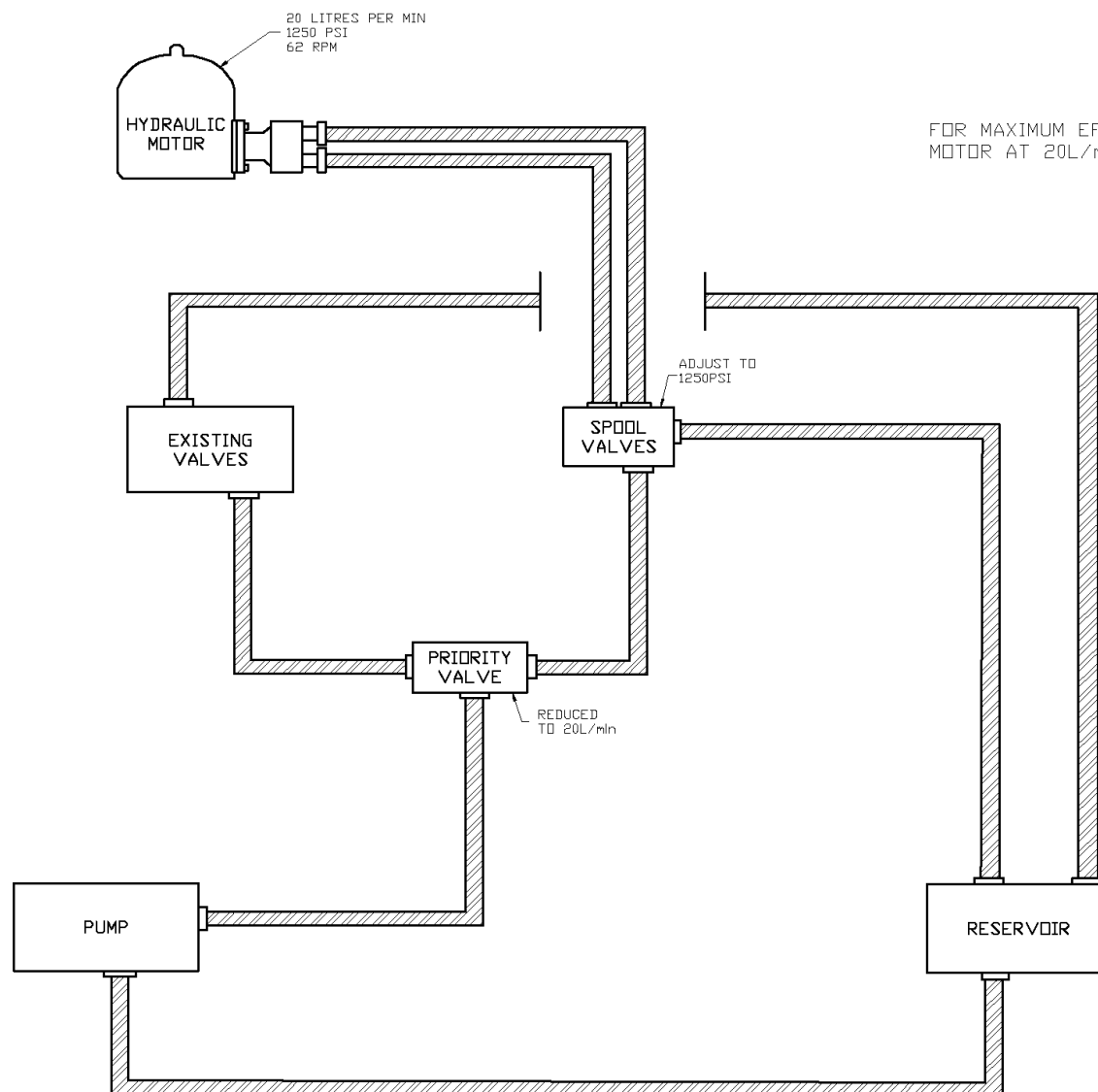


Figure 3: Example of system plumbing

NOTE: we do not supply hydraulic lines, fittings or control/spool valves. It is important to ensure that the hydraulic motors are operated at the correct specification noted above.



FOR MAXIMUM EFFECI
 MOTOR AT 20L/min W

Figure 4: Standard configuration for hydraulic arm system

ROLL RITE ARM INSPECTION GUIDE

WHERE TO LOOK

During the regular inspection period, the front and rear Roll Rite arms must be checked for fatigue and/or failure. Issues may occur at the joint or knuckle in the centre of the arm. Specifically, around the welds connecting the knuckle to the upper and lower arm tube(s) (See figure 1). All welds in and around this area should be checked, along with the brackets themselves.

WHAT TO LOOK FOR

Welds should be checked for hairline cracking and separation from the arm tube. The knuckle brackets should be straight and free of any visible damage or cracking. Arm(s) should travel backward and forward smoothly with little to no resistance or notchiness. The complete arm assembly should be parallel to the body and should not be bending/pulling in towards the head/back board.

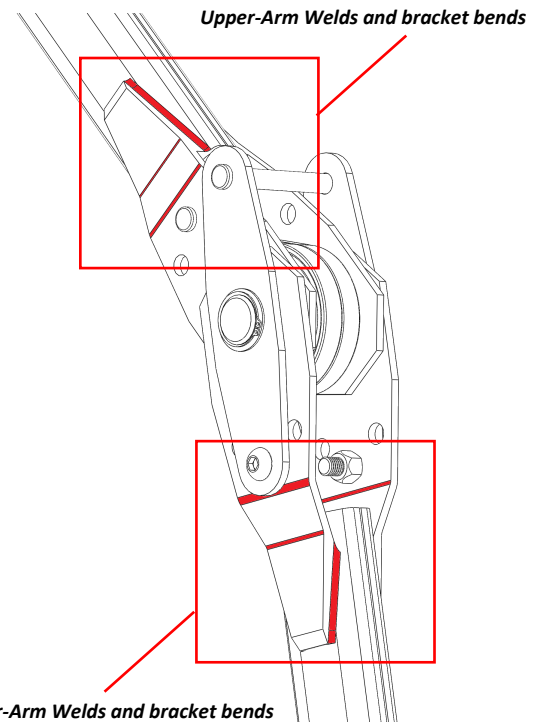


Figure 5: Inspection areas on standard Roll Rite arms

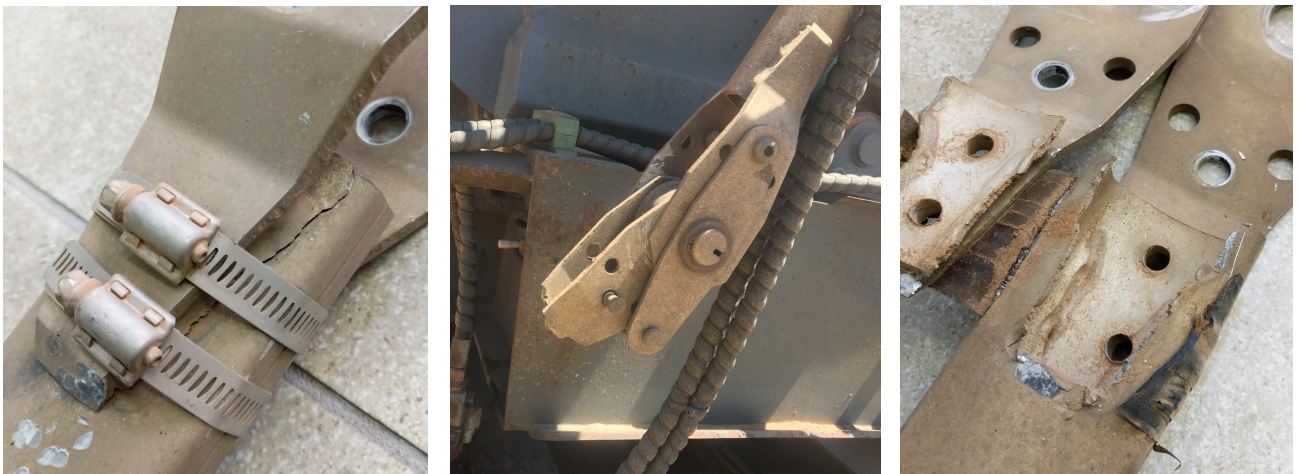


Figure 6: Examples of unchecked arm fatigue

WHAT TO DO

If any of the above symptoms are present, note the details of the vehicle and age of the tarp system then organise to have the relevant replacement parts ordered. The replacement components are reinforced and specific to the given application and load scenarios. Use the following part numbers when generating an order:

- Complete arm only: RT-RARMHD – Specify: drive or idler arm, at front or rear of body
- Bottom Arm Only: RT-4698BHD
- Upper Arm Only: RT-4698THD

For any additional parts, refer to our Roll Rite arm parts catalogue on our website.

ROLL RITE ARM PRESERVING INFORMATION

RELEASE OF STORED ENERGY PRIOR TO MAINTENANCE

The aim of this document is to provide a succinct guide to the safe dissipation of internal spring tension in all Roll Rite arm systems. This stored energy can be **hazardous** if not correctly isolated and removed prior to servicing and maintenance. Failure to follow the attached procedure could result in an uncontrolled release of spring energy and **severe injury**.

ENERGY STORAGE IN STANDARD OPERATION

In the standard orientation, the Roll Rite arm setup rolls from the passenger side (**open position**) to the driver's side (**closed position**). As shown in **Figures 1 and 2**, the point of highest tension is in the fully **open position** when the tarp is completely spooled up on the passenger side. Prior to any maintenance or disassembly, the arm or arms **MUST** be in the **closed position**, with the roll tube hanging over the driver's side at its lowest position.

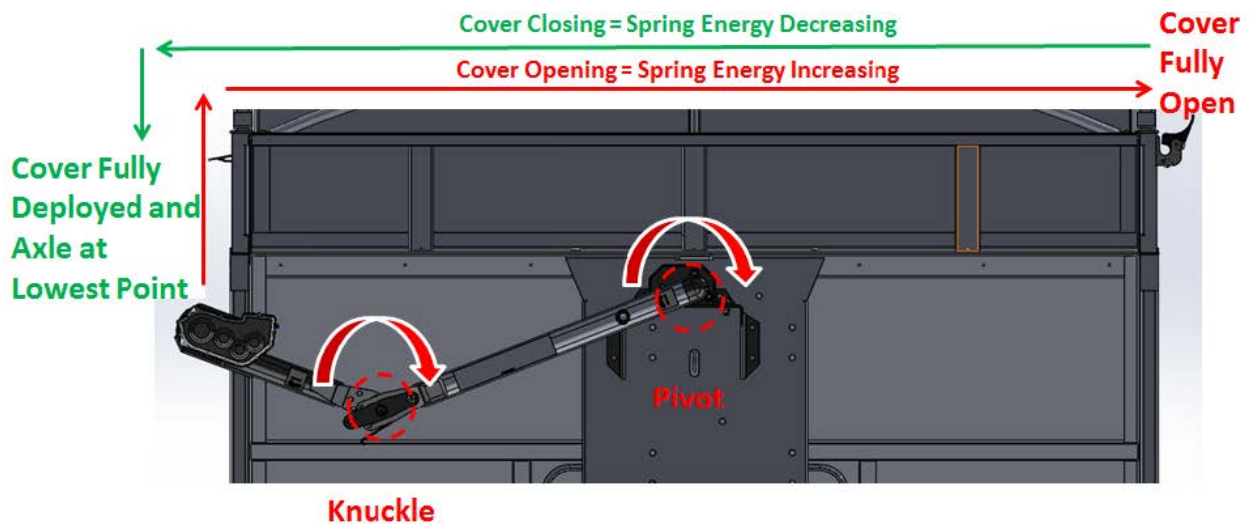


Figure 7: Arm orientation on front of body.

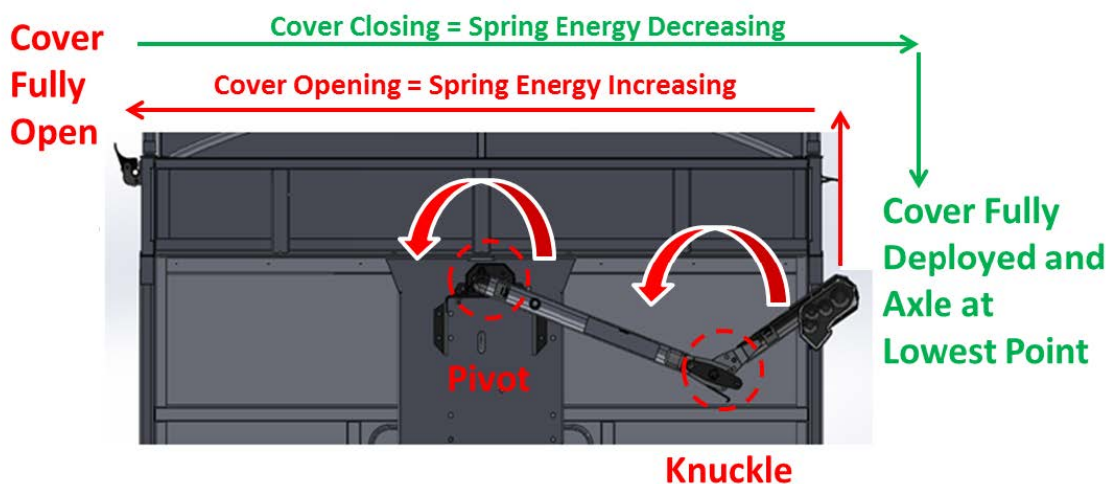


Figure 8: Arm orientation of rear of body.



28-30 Terrence Road Brendale QLD 4500

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Phone 07 3889 9611, Fax 07 3889 9622

Email: sales@retractabletarps.com.au

ISOLATION AND REMOVAL OF STORED ENERGY

WARNING

Failure to complete all actions stated in this section may generate hazardous conditions resulting in bodily injury and/or property damage

ENERGY DISSIPATION

NOTE: Some roll over systems will operate in the opposite direction to the standard setup shown (driver to passenger side). The tension relief procedure remains the same in the opposite orientation. Please confirm the running direction of the tarp setup before proceeding.

1. Test that the system is operating normally by opening and closing it using the accompanying switch and/or wireless remote.
2. If system is operable, roll the tarp towards the **closed position** and stop it at its lowest point on the driver's side (this occurs when the tarp is fully unspooled, and is hanging at the lowest point in its travel).
3. If the arm is unresponsive to controls due to physical damage or other issues. The system will need to be physically moved as close as possible to the **closed position**, in order to relieve as much preload as possible on the arm(s). The utmost safety should be taken when attempting this.
4. If the arm cannot be moved to the lowest point in its travel. A 50 mm (2") Ratchet strap should be used to pull the upper section of the arm downwards towards the ground as shown in **Figure 3**. This should then be anchored to the chassis or rigid hard point. **NOTE: The ratchet mechanism MUST be accessible from ground level while standing on the open position side of the body/vehicle.**
5. Now that the arm is secured with a strap. The gearmotor to roll tube adaptor should be located and separated (*Standard roll over kits supplied by Retractable Tarps will be secured with a two-piece flange adaptor*). Taking care to stand clear of the top arm and gearmotor. The system is now ready for tension dissipation.
6. Return to ground level on the **open position** side of the body and slowly release/feed out the ratchet strap. The act of releasing the strap will allow the arm to rotate in a controlled fashion, releasing the spring tension from the lower pivot point. Keep feeding the strap until the arm finishes its arc and comes to a rest.
7. The energy has now been dissipated from the arm system and is safe to work on/disassemble.

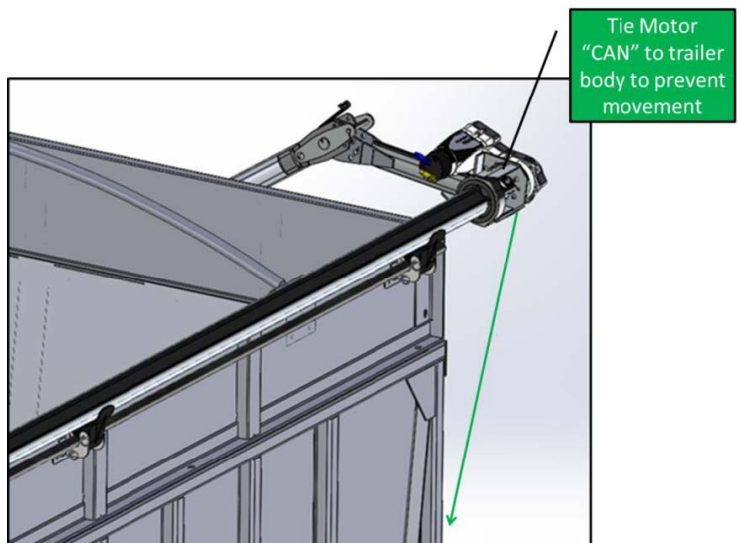


Figure 9: Securing the upper arm to prevent movement when disconnecting the roll tube