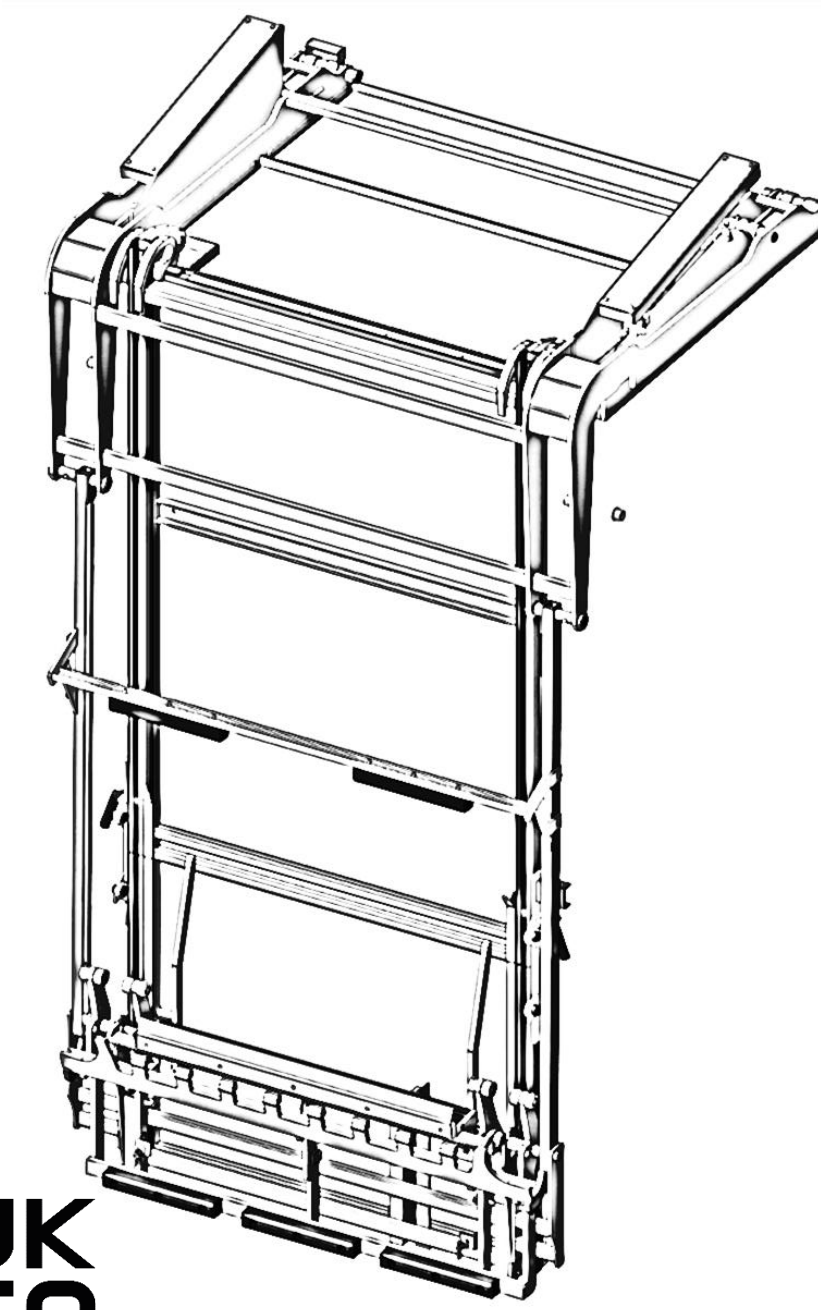
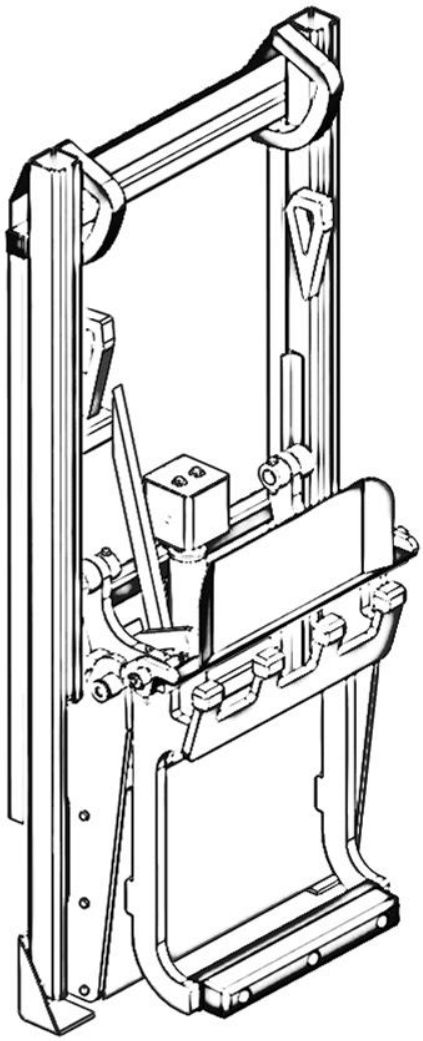
INSTALLATION MANUAL

BIN LIFTS





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P/No. 60609 Issue F

DEL

DEL

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GB
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EC DECLARATION OF CONFORMITY FOR MACHINERY (WB)

We hereby declare that:

DEL Bin Lift Models: **WB**

- are in conformity with the provisions of the **Machinery Directive (2006/42/EC)** and the **EMC Directive (2014/30/EU)**
- parts of the following European harmonised standards have been used:

BS EN 1501-5:2011
BS EN 50498:2010

Signed: 

Name: Ian Mitchell

Position: Director, Sales & Services, UK & Ireland

Place, Date: Hiab UK Ltd , Ellesmere , 22/03/22

Important:

This declaration is null and void without a completed Lift Installation Test Certificate attached and all signatures completed, or if modifications are made to the machine without prior written approval from HIAB UK Ltd.

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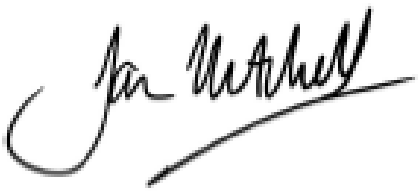
EC DECLARATION OF CONFORMITY FOR MACHINERY (SW)

We hereby declare that:

DEL Bin Lift Models: **SW**

- are in conformity with the provisions of the **Machinery Directive (2006/42/EC)**
- parts of the following European harmonised standards have been used:

BS EN 1501-5:2011

Signed: 

Name: Ian Mitchell

Position: Director, Sales & Services, UK & Ireland

Place, Date: Hiab UK Ltd , Ellesmere , 22/03/22

Important:

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INTRODUCTION

This manual covers the installation of the bin lift range. The correct installation and setting up of the lift is vital to the working life of the lift. Safety must be regarded as of paramount importance during installation. A risk assessment for the installation and commissioning of the bin lift is required before starting work. Read this manual fully before commencing work. The lift is heavy and can crush. Never work under the lift unless it is securely supported and always disconnect the vehicle battery before starting work.

Do not make any design modification to the bin lift unless written permission is first obtained from HIAB UK Ltd.

Please note that any unauthorised modification may: -

- Invalidate the warranty
- Lead to equipment failure
- Create a hazard that is not immediately obvious at the time of installation.

If you are unsure about any aspect of the installation procedure, please contact HIAB service.

IMPORTANT

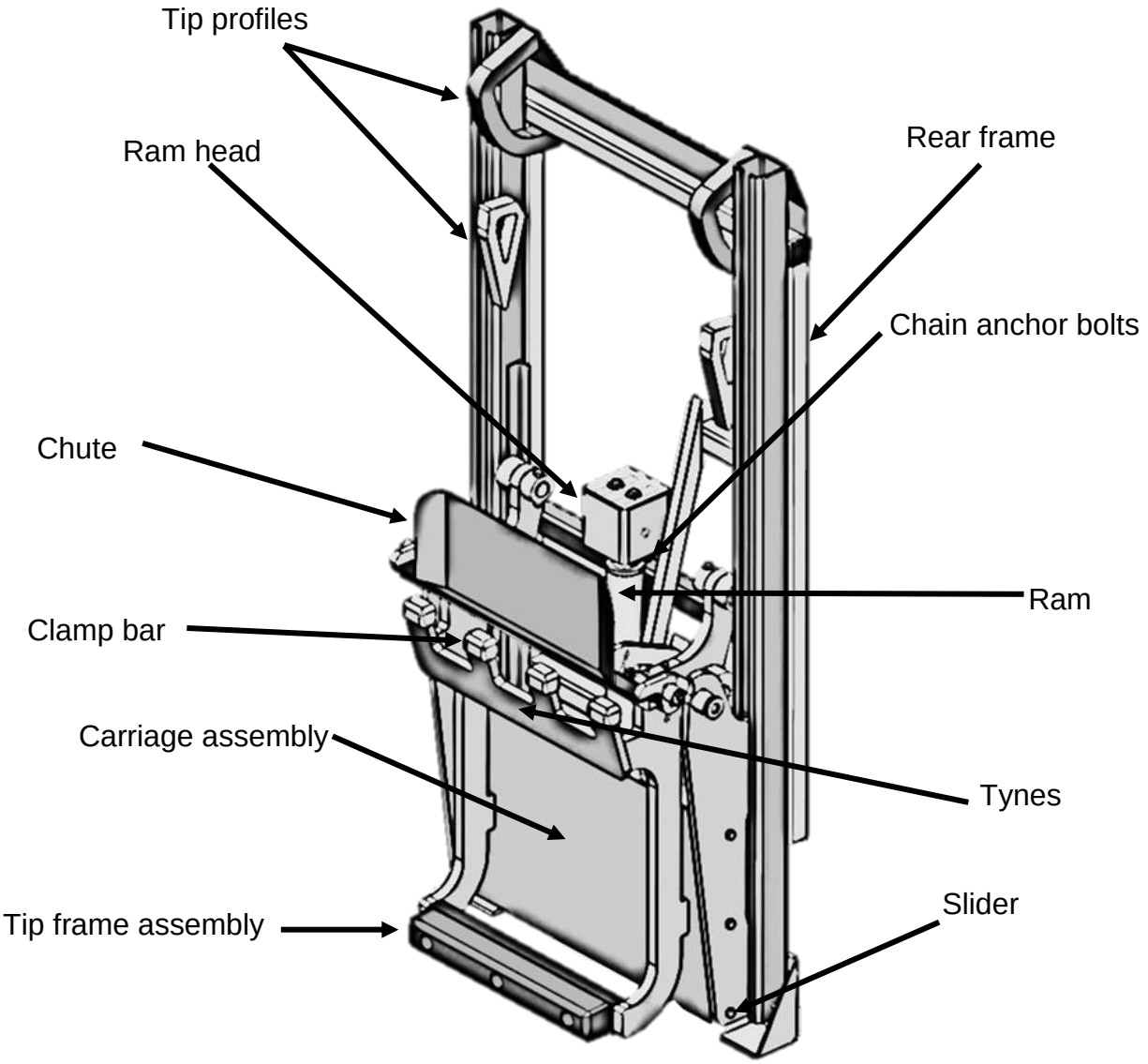
It is the bin lift installer's responsibility to comply with BS EN 1501-5:2011 or the latest BSI Refuse collection vehicles - General requirements and safety requirements.

This manual forms part of the inspection record for the bin lift, and should be passed on to the end user, together with the operator's manual.

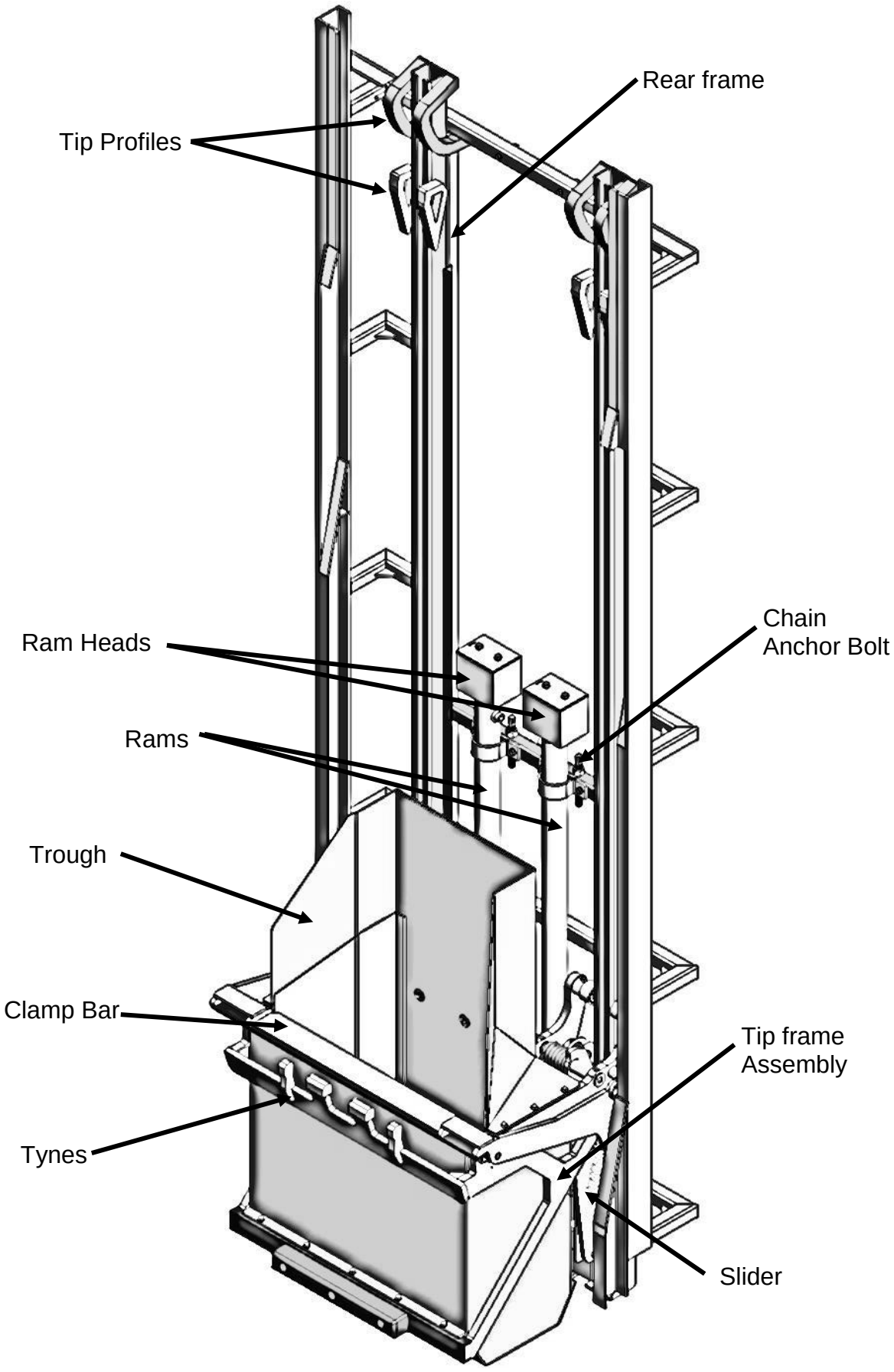
CONTENTS

OPERATING SYSTEMS WB LIFTS

The bin lift can be powered from the vehicle battery or a P.T.O. If the lift is powered from the vehicle battery, a wire is taken from the battery positive to the powerpack starter switch and the hand control, these circuits are protected by in-line fuses. The up button on the hand control provides power to the starter switch, which operates the powerpack motor. This pumps high-pressure hydraulic fluid to extend the lift ram in the centre of the rear frame. The ram is connected to the lift carriage by two chains for the WB150's (four chains for the WB300's) which run over two sprockets in the ram head. As the lift ram extends, it pulls the chains which in turn lifts the carriage assembly. As the carriage raises the bin is automatically mechanically clamped, before being tipped at the top of the rear frame by the lever arms and tip profiles. On release of the up button the fluid is held in the ram due to a non return valve which locks the ram in position therefore holding the carriage stationary. Pushing the down button allows hydraulic fluid to return from the ram to the power pack reservoir, as the ram retracts the lift carriage is lowered to the ground. As the bin nears the ground, the clamp automatically opens, enabling the bin to be removed when it reaches the ground.



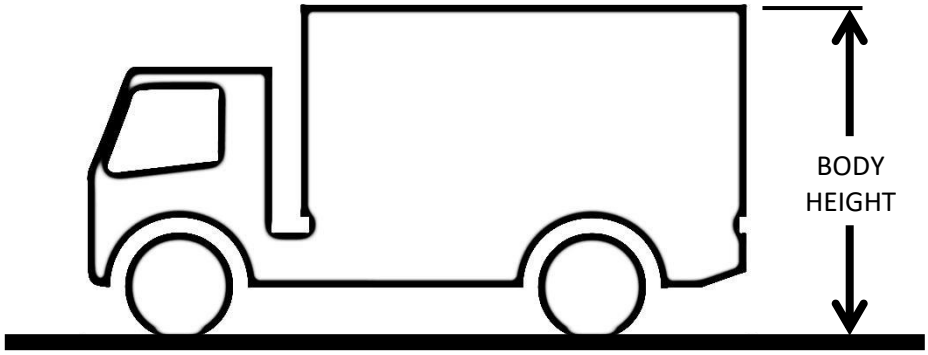
WB300


Rear frame
Tip Profiles
Ram Heads
Chain
Anchor Bolt
Rams
Trough
Clamp Bar
Tip frame
Assembly
Tynes
Slider

INSTALLATION PROCEDURE WB LIFTS

The following installation procedure assumes that the lift is to be run from a powerpack run from the vehicle battery. Note that if the additional lid assembly is to be fitted, care must be taken to ensure that suitable fixing points on the roof exist for its attachment (see roof installation procedure).

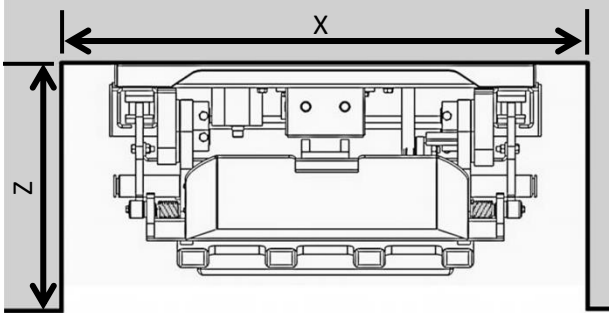
1. Measure the height of the top of the vehicle body to the ground, and check that the lift supplied is suitable for this height.



Model	Body height (mm)
WB150-550	1690
WB150-700	1990
WB150-850	2305
WB150-914	2405
WB150-1208	3040
WB150-1330	3278
WB150-1372	3362
WB300-1330	3278
WB300-1372	3362

Note that the lift can be used to tip into the side of the body, in these cases the 'body height' dimension will be from the ground to the bottom of the hole in the side of the body, into which the bin will tip.
A tolerance of ±25mm is acceptable on the tip heights.

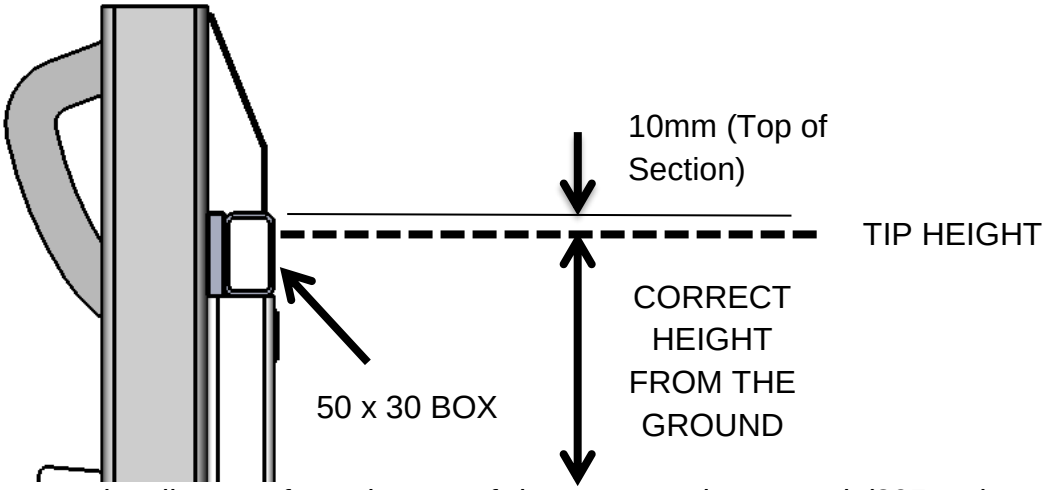
2. It is normal for the lift to mount in a recess in the side of the vehicle body. Create the recess in the side of the body, to the dimensions shown below. Note that if the additional lid attachment is to be fitted, the lift requires a wider recess due to the extra arms fitted. Note that the dimensions given below are minimum dimensions



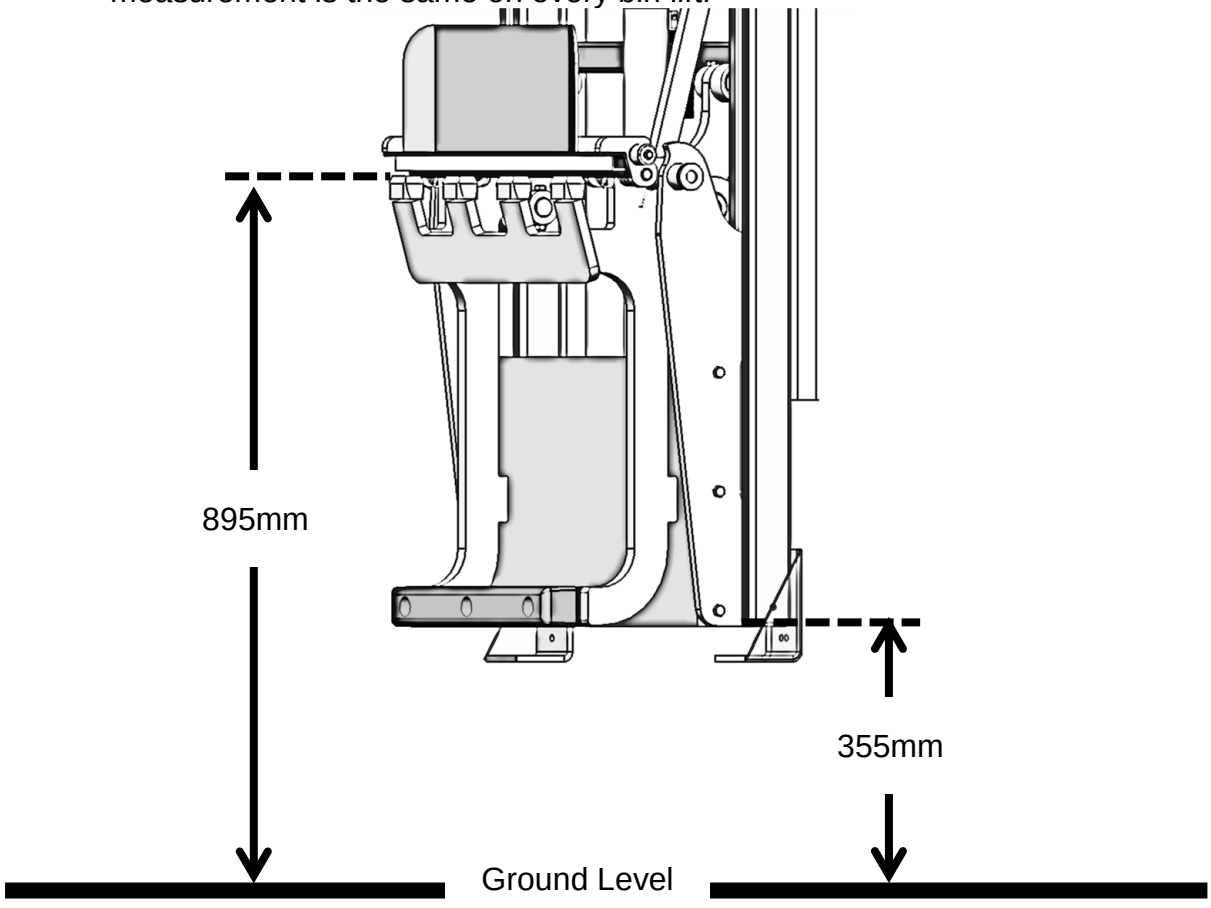
	X	Z
WB150 Without Lid	720mm	350mm
WB150 With Lid	850mm	350mm
WB300	1050mm	750mm

3. The lift will be supplied complete and will have a fitting kit, however hoses, mounting brackets and bulkhead fittings are not included.

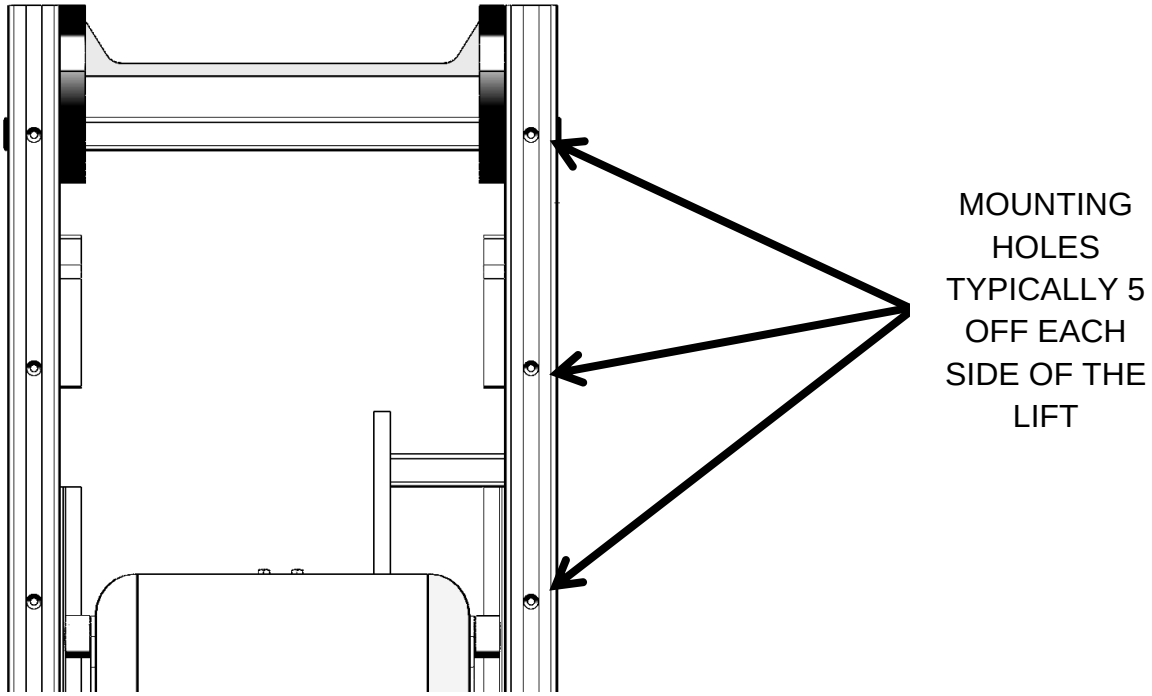
4. Using a suitable lifting device, raise the lift to the correct height inside the recess, so the top of the 50x30 box section on the rear frame is 10mm above the top of the body (or the bottom of the cut out, if the bin will tip into the side of the body). Note that to aid the lifting; it is possible to loop a chain through the tip profiles at the top of the lift.
   Caution when raising the lift, as the carriage and slider assemblies are free to slide within the frame



5. Measure the distance from the top of the tynes to the ground (895mm) and the distance from the bottom of the column to the ground (355mm). Note: this measurement is the same on every bin lift.

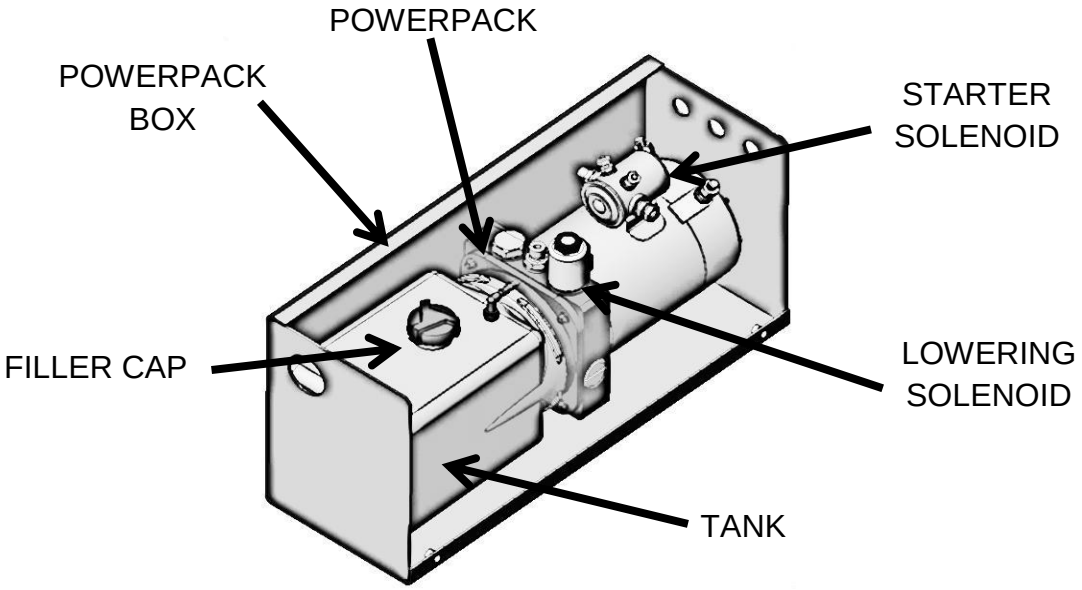


6. Ensuring that the lift is central in the recess, mark the position of the mounting holes. Remove the lift from the recess before drilling clearance holes (dia 8.5mm) at the marked points.



7. Offer the lift back up to the side of the body and bolt in position using the bolts provided. Ensure that the washers supplied are used and that the nyloc nuts are tightened to the correct torque (see technical section). Also ensure that the heads of the countersunk bolts are flush with the back of the lift columns.

8. Mount the powerpack in its protective box in a suitable position on the chassis/body. Try to mount the powerpack close to the lift, as a long hose run from the powerpack to the lift will greatly reduce its operating speed.



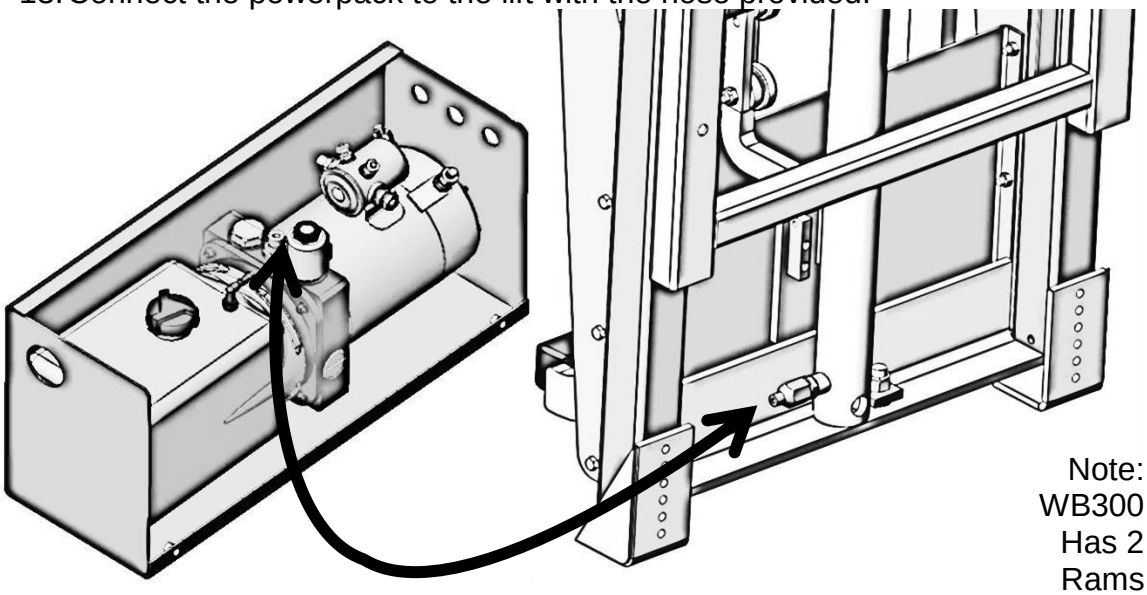
9. Run the 2 core cable to the cab (provided in the fitting kit) and fit the cab on/off switch following the wiring diagram.

10. Mount the push button control in its bracket to the side of the body. Ensure that its position is far enough from the lift so that the operator can work safely, but still has a good view of the working area of the lift (see control position section).

11. Wire the hand control to the powerpack following the wiring diagram.

12. Run the power and earth cables from the vehicle battery to the powerpack. On tipper bodies, these will need to run along the chassis to the hinge then along the tipping part of the body to the powerpack. Ensure that the cables are held securely and protected where they loop at the body hinge. Ensure that the in-line mega fuse on the power cable is mounted as close to the battery as possible and in a position least susceptible to the elements.

13. Connect the powerpack to the lift with the hose provided.



Note:
WB300
Has 2
Rams

14. Fill the powerpack up to the max, mark with oil, before switching the cab switch on and priming the pack by pressing the up/down buttons together. Power the lift up and down to check that it raises, tips and lowers smoothly. If needed top up the power pack with oil. Test the lift with an empty bin and check that it clamps the bin securely.

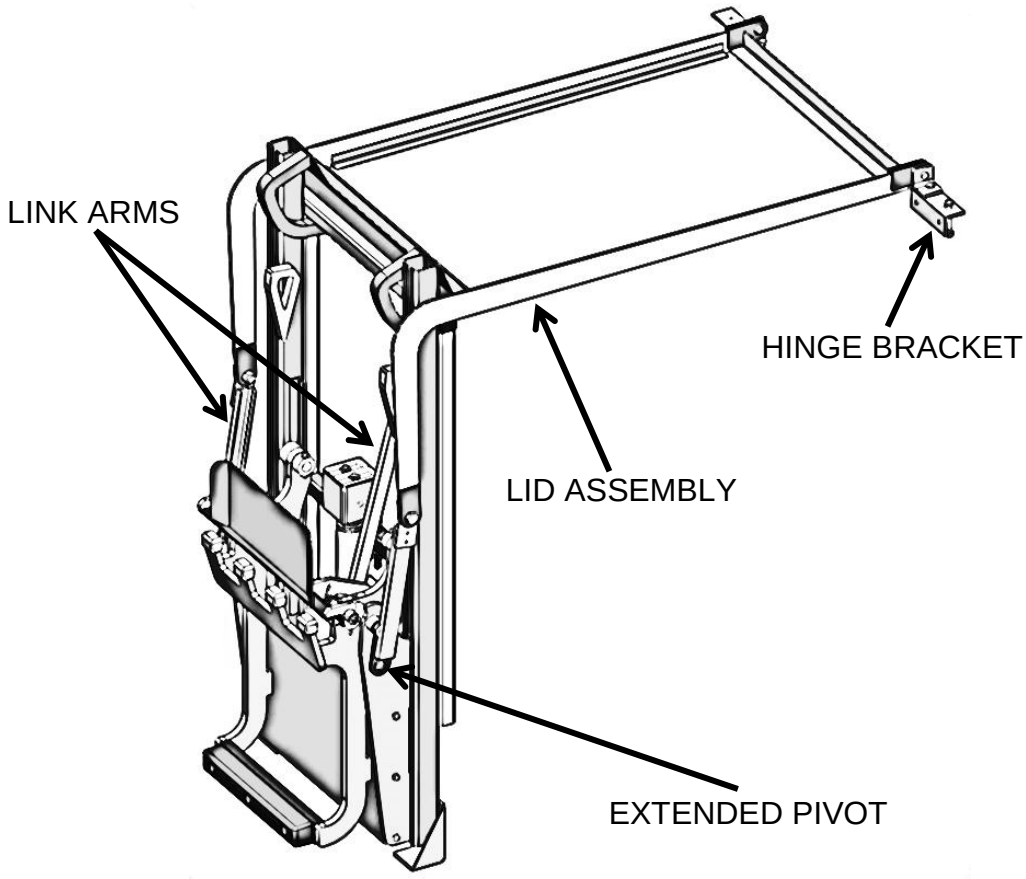
15. Fit the powerpack cover.

16. Complete the tests after installation, and send a copy to HIAB UK Ltd.

17. Once that vehicle has been painted, fit the operation and warning decals provided. Note: see Warning Decals

INSTALLATION OF ADDITIONAL LID ASSEMBLY

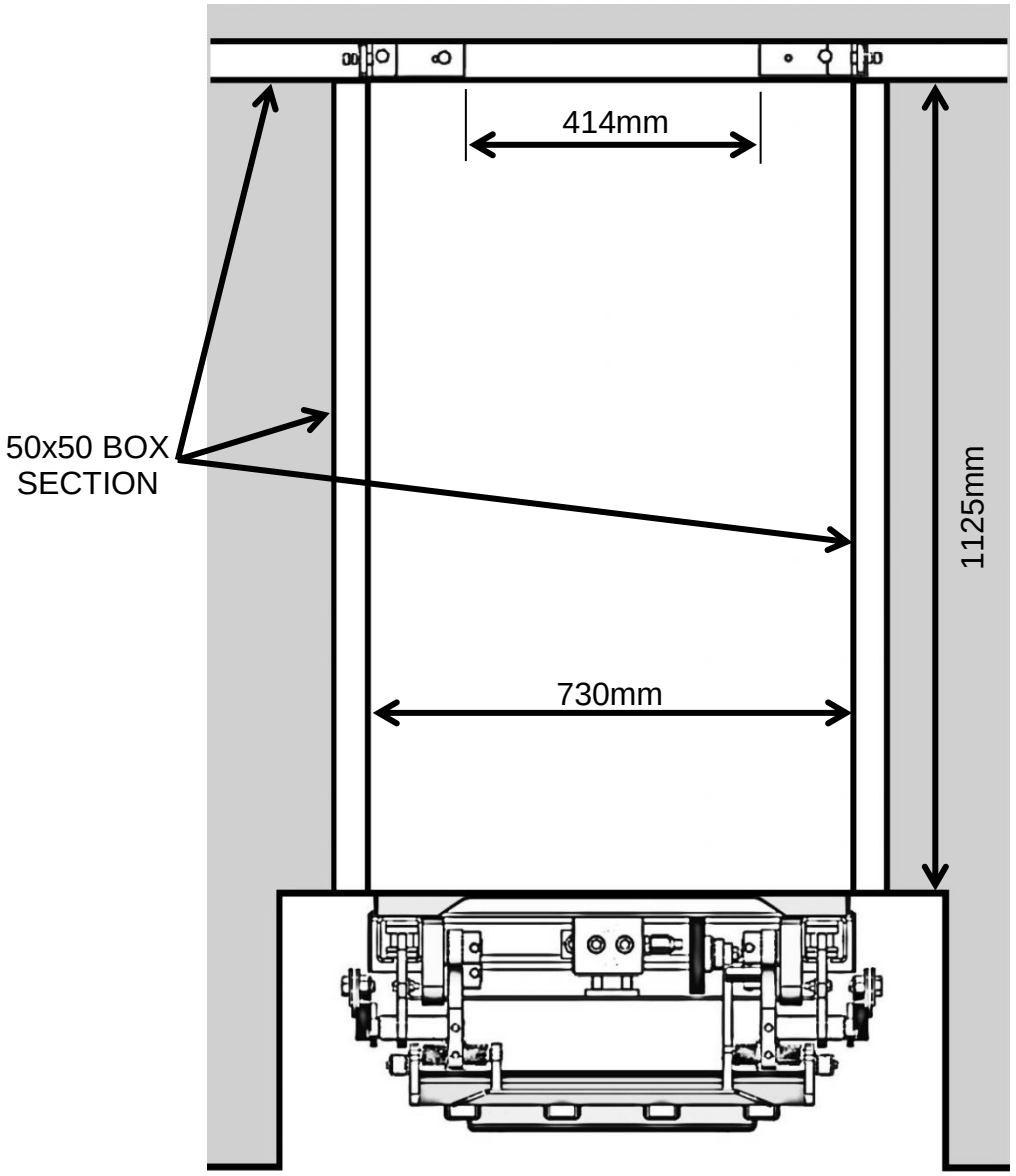
A lid assembly is available for all bin lifts; it consists of a hinged frame which connects to the main pivot on the lift carriage. Since the distance from the top of the bin lift to the roof varies between vehicles, the length of the roof opening arms need to be cut to suit your application



1. The lid assembly will be delivered in a kit consisting of –

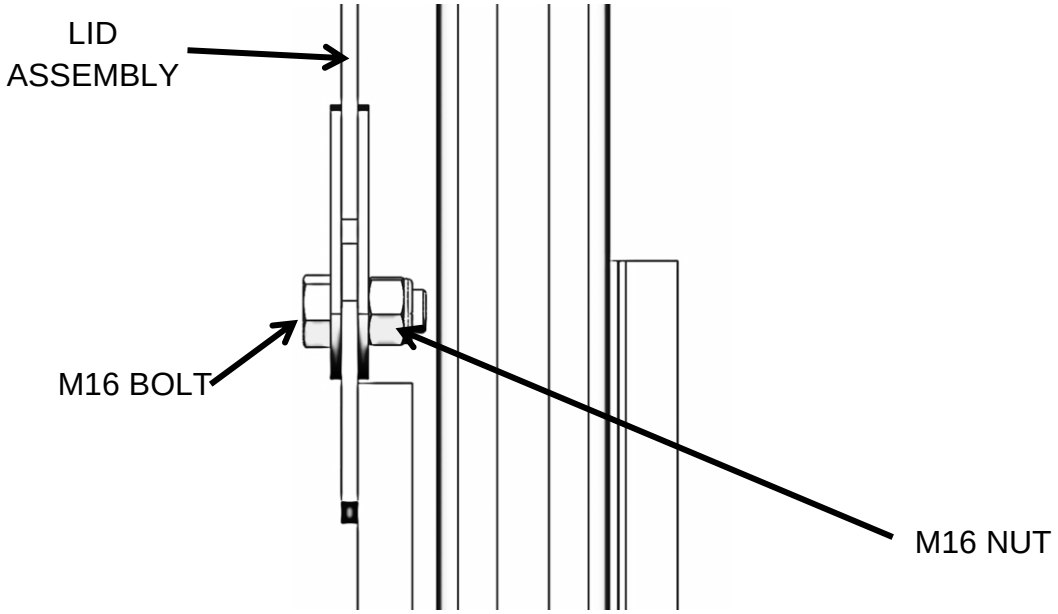
- Lid assembly – 1 off
- Mounting brackets – 2 off
- Link arms – 2 off
- Link arm brackets – 2 off (fitted to lift)
- Extended pivot pins – 2 off (will be fitted to lift)
- Mounting bolts, nuts and washers.
- Link arm pivot bolts and nuts.

2. With reference to the drawing below, ensure that suitable points on the roof exist to bolt the lid assembly to. The roof brackets have been designed to sit on a 50x50 box section bearer mounted at 1125 from the back of the lift frame. Using the mounting brackets as a guide, drill the mounting holes for the brackets in the 50x50 box.

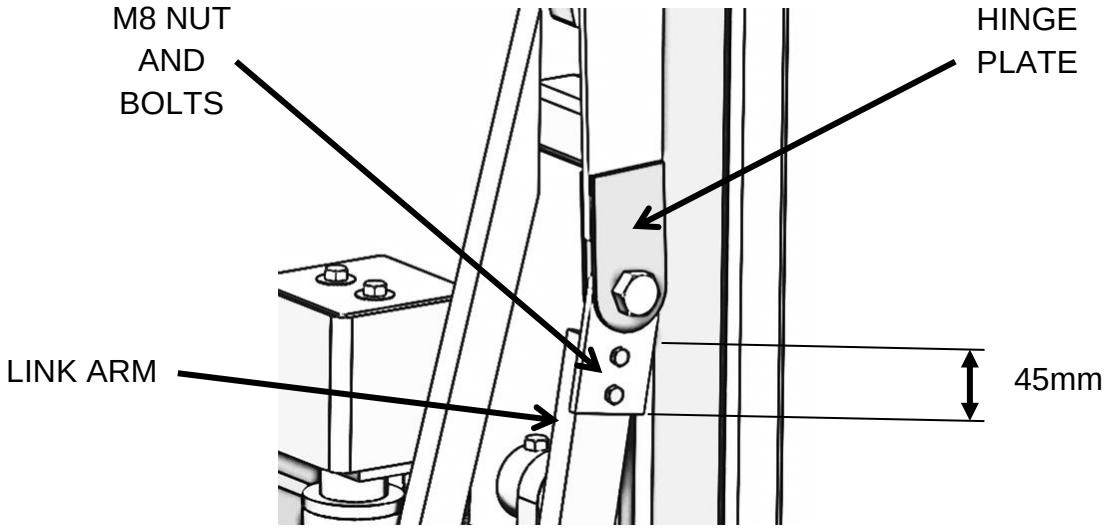


3. Raise the lid assembly onto the roof of the vehicle and position central about the bin lift. Insert the mounting brackets onto the lid assembly and move them into position as shown above, before bolting the brackets in position using the M8 bolts supplied.

4. The roof assembly is supplied with the hinge plate already bolted to the roof assembly with the M16 bolt as shown below.



5. The link arms are supplied already attached to the lift carriage. Swing the link arms up and offer up to the hinge plate on the lid arms. The link arms need to be cut to length. Mark the link arms at a point where the overlap the hinge plate by 45mm before cutting the arms to length. Offer them back up to the hinge plates and clamp them in position before drilling mounting holes in the link arms. Bolt the mounting plates to the link arms using the M8 bolts provided (both sides of the lift).



Note: Drill 2x8.5mm holes through on each Link Arm

6. The chains are set on manufacture, but small adjustments can be made to the chains which effect the lowered position of the lift carriage and the tip angle. After any chain adjustment:

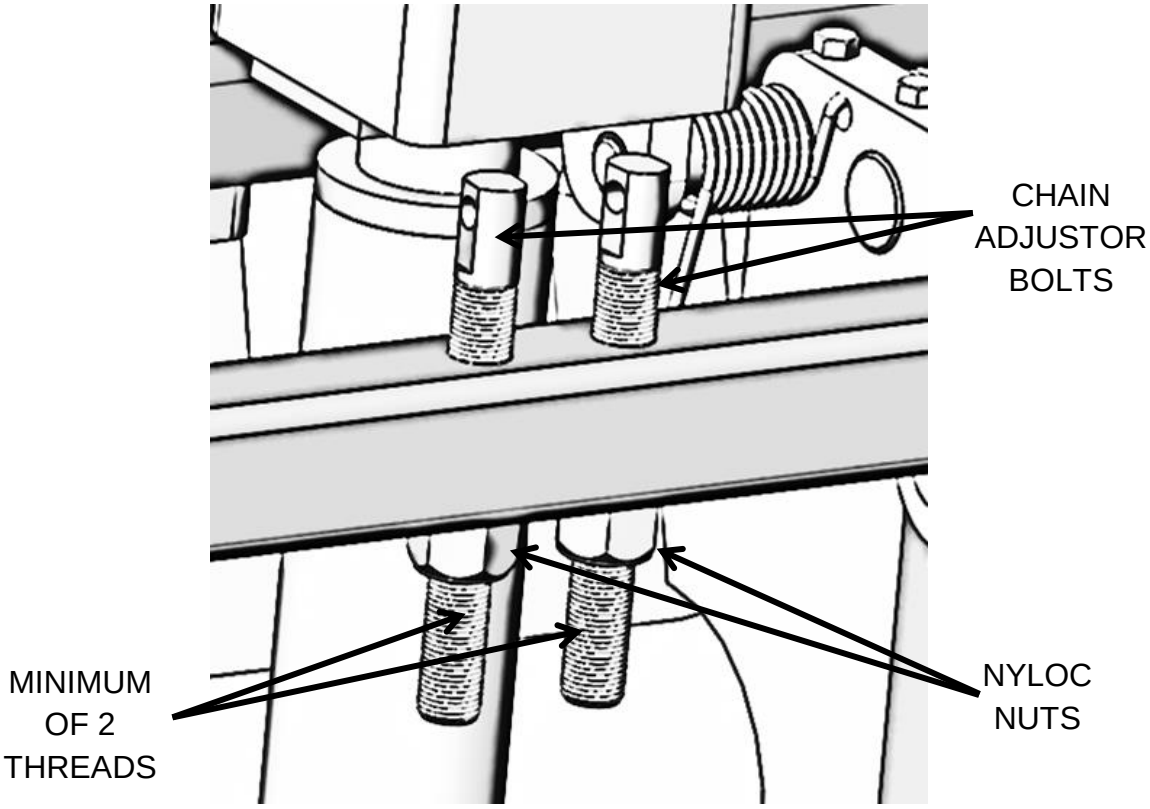
    a. Ensure that the tension on both chains is equal

    b. Minimum of 2 threads visible past the back of the nyloc nut

    c. The chains should not be slack when the lift is fully lowered

    d. The roof lid should sit closed, not supporting the weight of the carriage

    e. The maximum tip angle which can be achieved is 45 degrees



TIGHTEN THE NUT - RAISES THE CARRIAGE
LOOSE THE NUT - LOWERS THE CARRIAGE

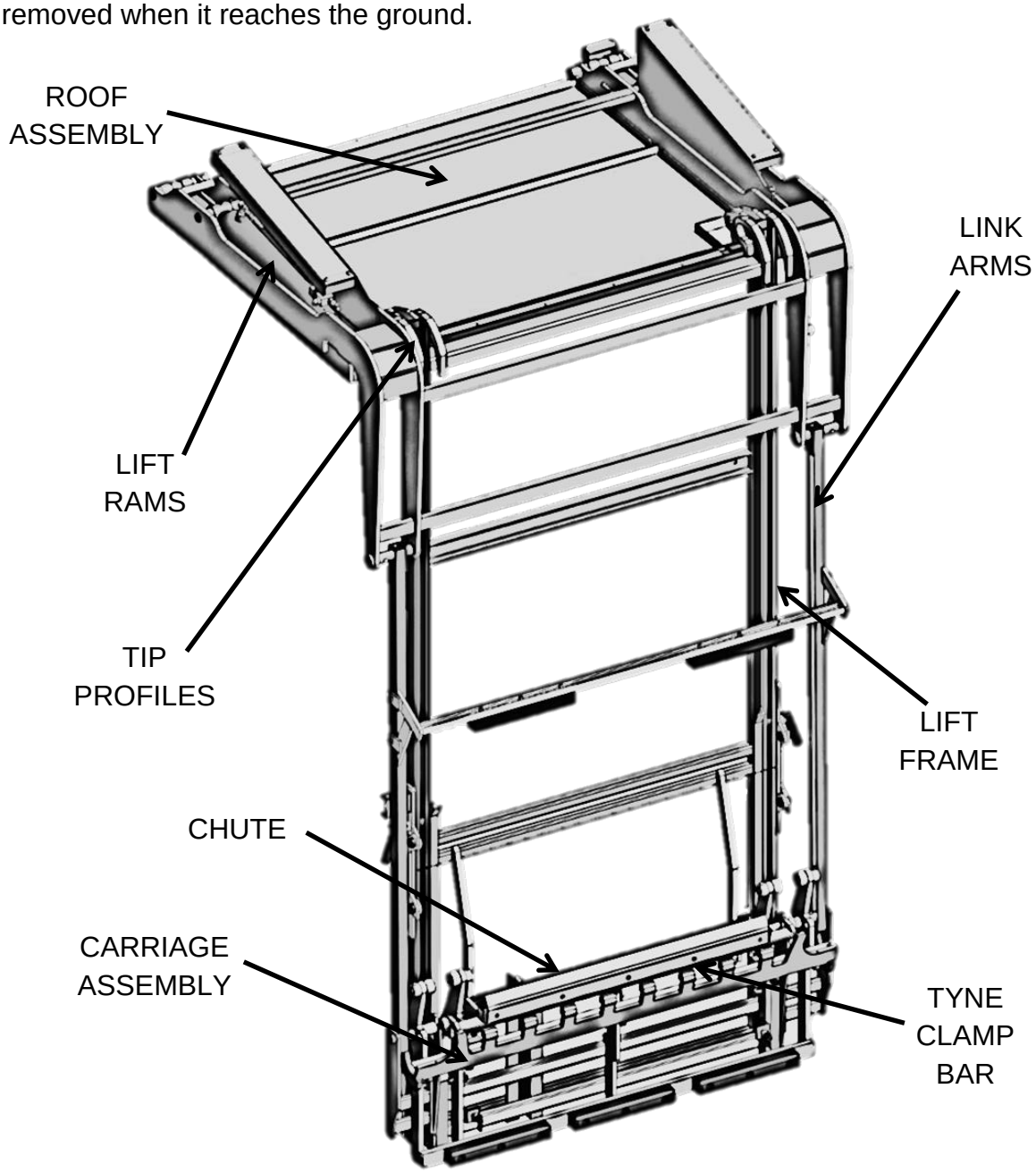
7. Check the lift powers up and lowers smoothly. Use the angles provided on the inside faces of the lid to fill the hole in the lid with a material to match the rest of the body.

8. Once the vehicle has been painted, fit the warning and operation decals.

9. Complete the tests after installation.

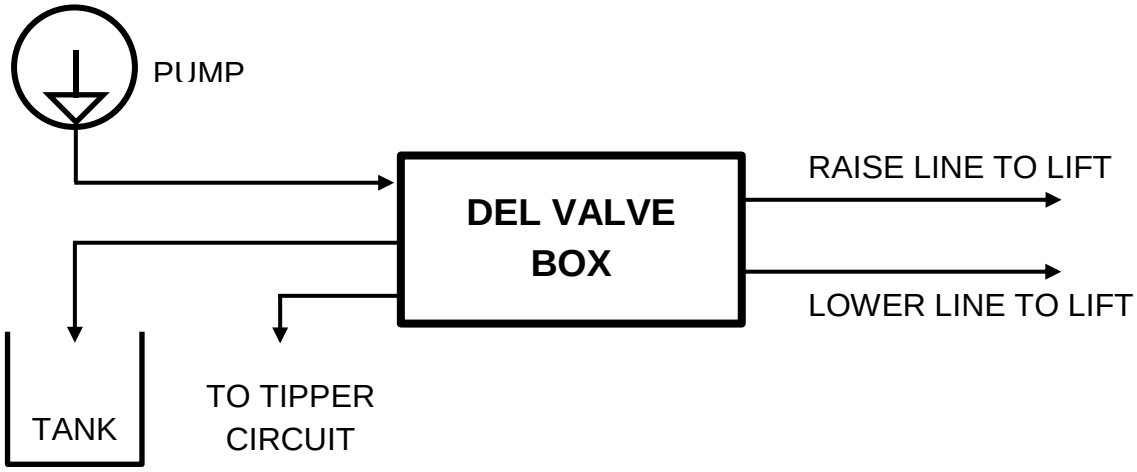
OPERATING SYSTEMS SW LIFTS

The Sidewinder bin lifts are powered from the vehicle P.T.O. A hose is taken from the PTO to the valve box. The valve box contains a diverter, flow and pressure regulator and directional valves. Power is taken from the battery positive to the valve box and the hand control; these circuits are protected by in-line fuses. The up button on the hand control provides power to the directional valves in the valve box. This pumps high-pressure hydraulic fluid to extend the rams in the roof assembly. The lift rams open the roof door and raise the lift carriage. As the carriage raises the bin is automatically mechanically clamped and slowly tips before reaching its final tipped position at the top of the lift frame. On release of the up button the fluid is held in the ram due to a non-return over centre valve which locks the ram in position therefore holding the carriage stationary. Pushing the down button diverts hydraulic fluid to the annulus side of the ram and powers the roof closed while lowering the lift carriage. As the bin nears the ground, the bin clamp automatically opens, enabling the bin to be removed when it reaches the ground.



PTO REQUIREMENTS FOR THE SW RANGE OF LIFTS

- The flow rate required is 20l/m minimum (sw150) and 25l/m minimum (sw450) (we have a flow control valve which adjusts the flow to our lift should the flow be larger). The maximum flow rate the valve box can handle is 100l/m
- A minimum pressure of 190 bar (we have a pressure relief valve to control the pressure to the bin lift)
- The actual volume oil used when raising the lift is 0.5l (sw150) and 1.6l (sw450) (note that this is a small amount since the oil from the anulus side of the ram is pumped back into the tank as the lift is raising). The actual volume of the tank should be much larger to prevent the oil from getting too hot eg 45l.
- The PTO can either be selected or constant mesh type. If a constant mesh PTO is used, a handbrake interlock system is required (please specify at time of order).
- The lift valve box is supplied to be fitted between the PTO pump and the tipper circuit (see diagram below). However, if the system is fitted to a non tipping body, the line to the tipper circuit will go straight back to tank. Note that if the tank and tipper lines do both go to the tank, they can be joined together.
- The lift will need its own ‘back to tank’ line to the tank.
- The filter provided should be fitted inline in the pressure hose from the PTO

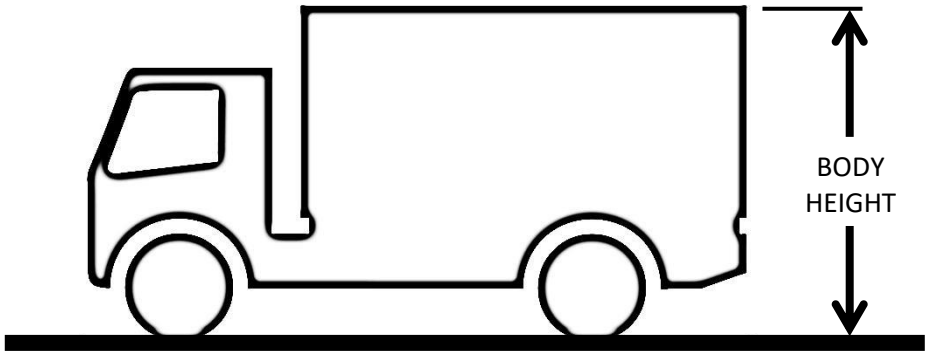


- The lift comes with a cab isolation switch. When the PTO is engaged, flow from the pump goes into the valve box and straight out to the tipper. Flow is diverted away from the tipper only when the lifts are operate
- The system is fitted with a fail safe valve. In the unlikely event of a hydraulic or electrical malfunction, the maximum system pressure is limited to 250bar

INSTALLATION PROCEDURE SW LIFTS

Note that the diagrams in the installation procedure show the SW150 model, but the same procedure will apply to the SW450 models.

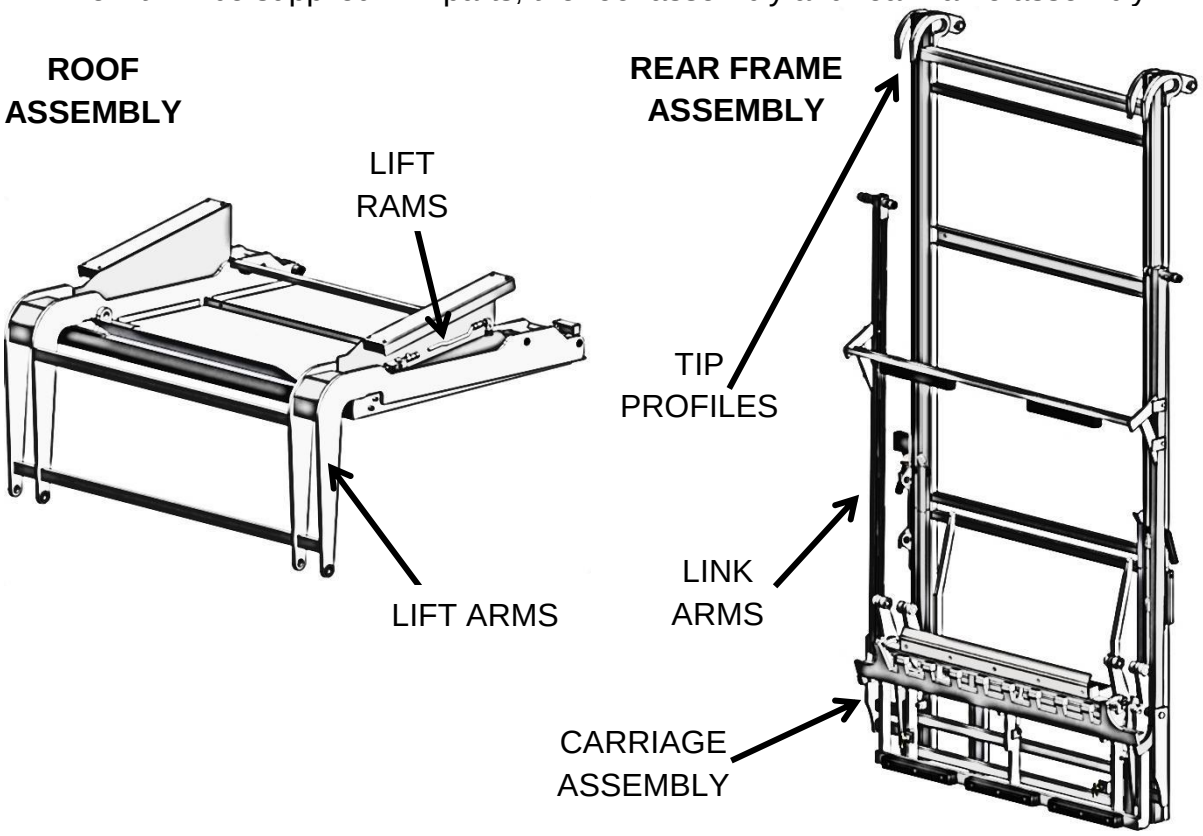
1. Measure the height of the top of the vehicle body to the ground, and check that the lift supplied is suitable for this height.



Model	Body Height (mm) *
SW150-2	2600
SW150-3	3035
SW150-4	3400
SW450-2	2650
SW450-3	2927
SW450-4	3400
SW450-5	3750

*Vehicle Body height: It is important that the maximum body height for each size lift is not exceeded. The Height of the body will determine the height at which the lift tynes come from the ground, if this distance is too high it may be difficult to safely position the bin over the lift tynes. If the body height is slightly lower than recommended (up to 50mm) the bin lift can be powered up to the correct height to safely pick up the bin. For this reason there is a plus zero, minus 50mm tolerance on the mounting height of the bin lift.

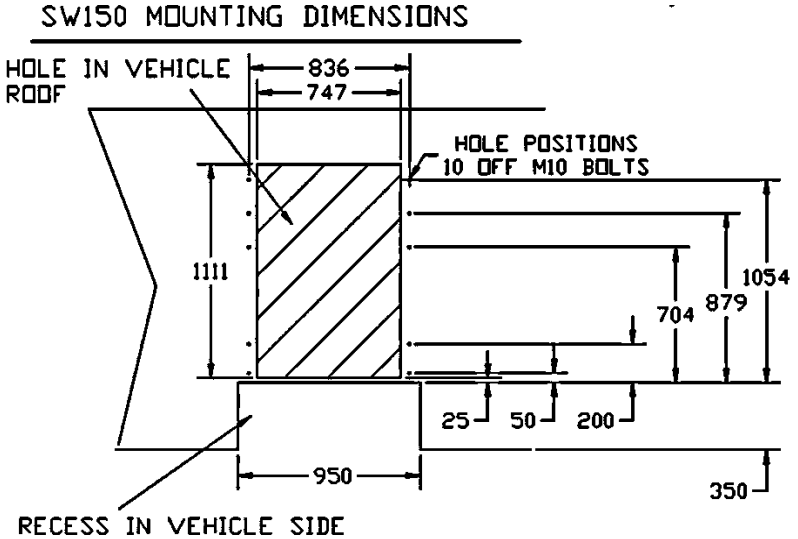
2. The lift will be supplied in 2 parts, the roof assembly and rear frame assembly

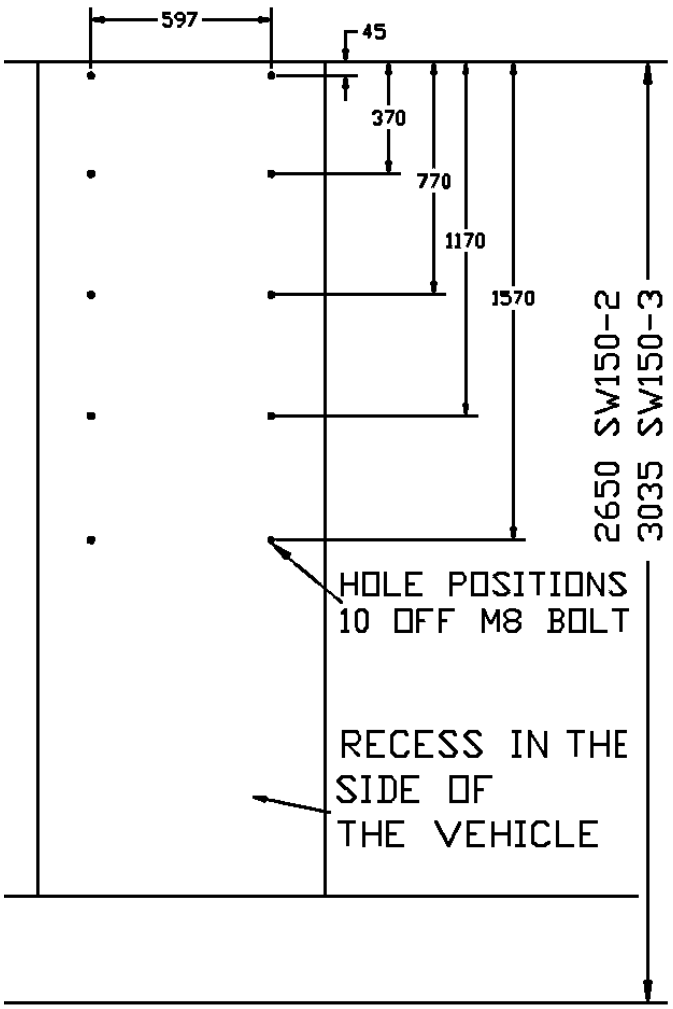


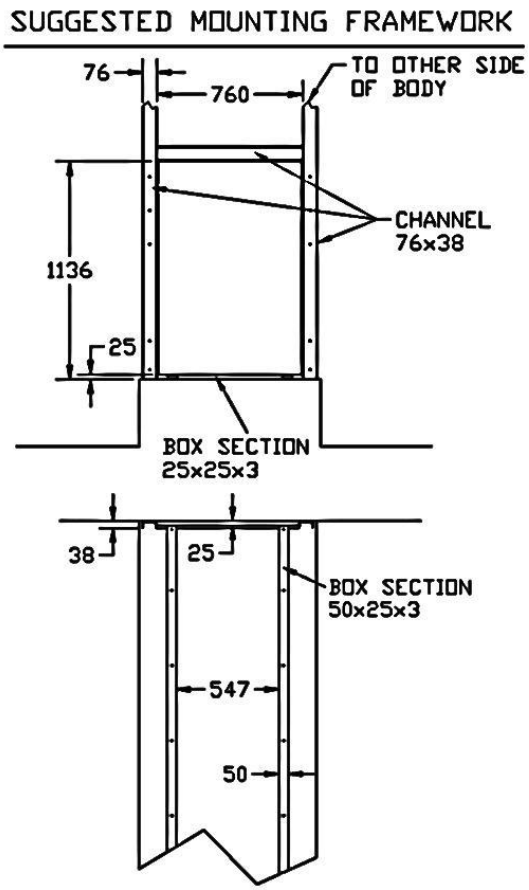
3. It is normal for the lift frame to mount in a recess in the side of the vehicle body, and for the roof assembly to sit on top of the body. Create the recess in the side of the body, and cut a hole in the top of the body over which the roof assembly will fit (see below)

<u>SW150-2 and SW150-3</u>

The recess in the side of the body should be 950mm wide and 350mm deep. In the top of the body, the aperture through which the refuse will tip should be 747mm wide by 1111mm deep. This is positioned 25mm from the edge of the body to enable a bracing plate to be put along the edge. The lift is bolted to the body with 10 off M10 bolts through the roof assembly and 10 off M8 CSK bolts through the lift frame assembly.



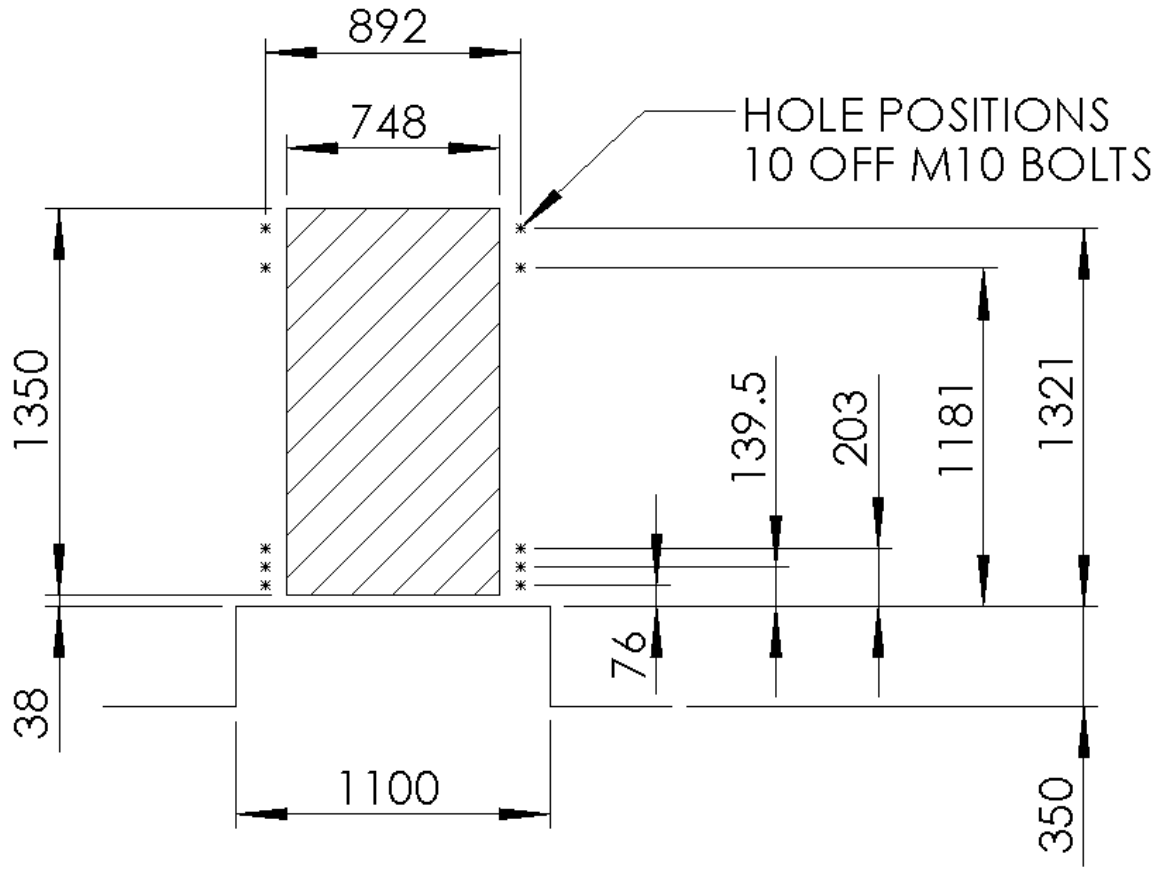

597
45
370
770
1170
1570
2650 SW150-2
3035 SW150-3
HOLE POSITIONS
10 OFF M8 BOLT
RECESS IN THE
SIDE OF
THE VEHICLE

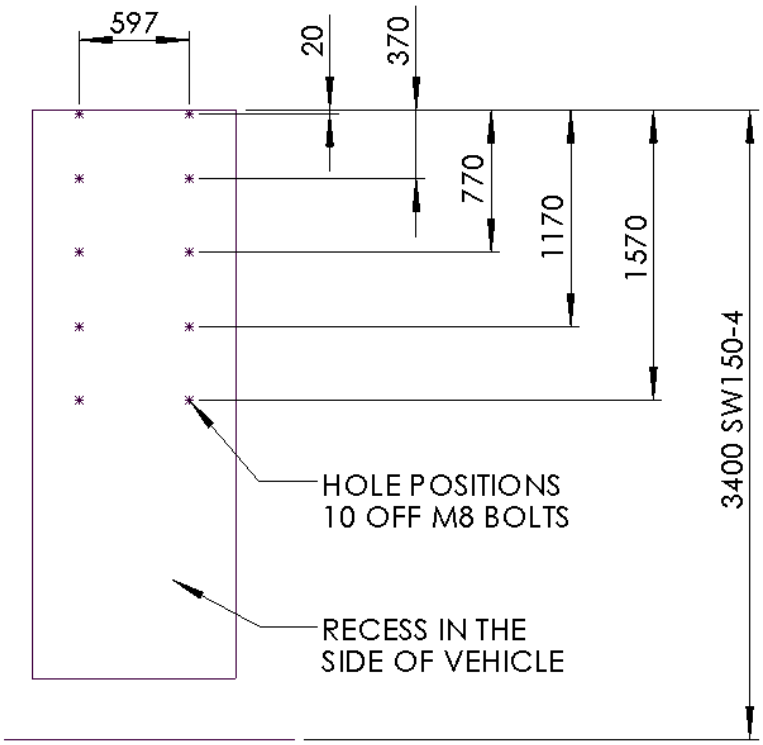

SUGGESTED MOUNTING FRAMEWORK
76
760
TO OTHER SIDE
OF BODY
CHANNEL
76x38
1136
25
BOX SECTION
25x25x3
38
25
BOX SECTION
50x25x3
547
50

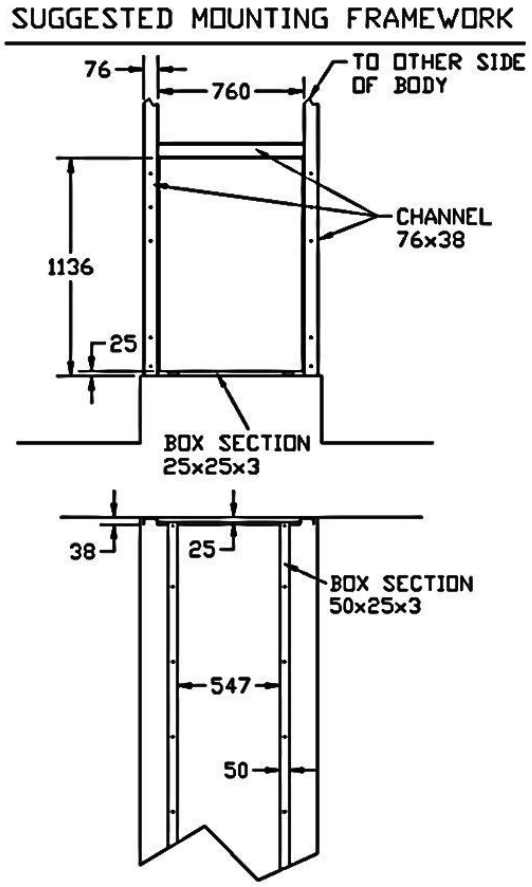
SW150-4

The recess in the side of the body should be 1100mm wide and 350mm deep. In the top of the body, the aperture through which the refuse will tip should be 748mm wide by 1350mm deep. This is positioned 38mm from the edge of the body to enable a bracing plate to be put along the edge. The lift is bolted to the body with 10 off M10 bolts through the roof assembly and 10 off M8 CSK bolts through the lift frame assembly.

SW150-4 MOUNTING DIMENSIONS

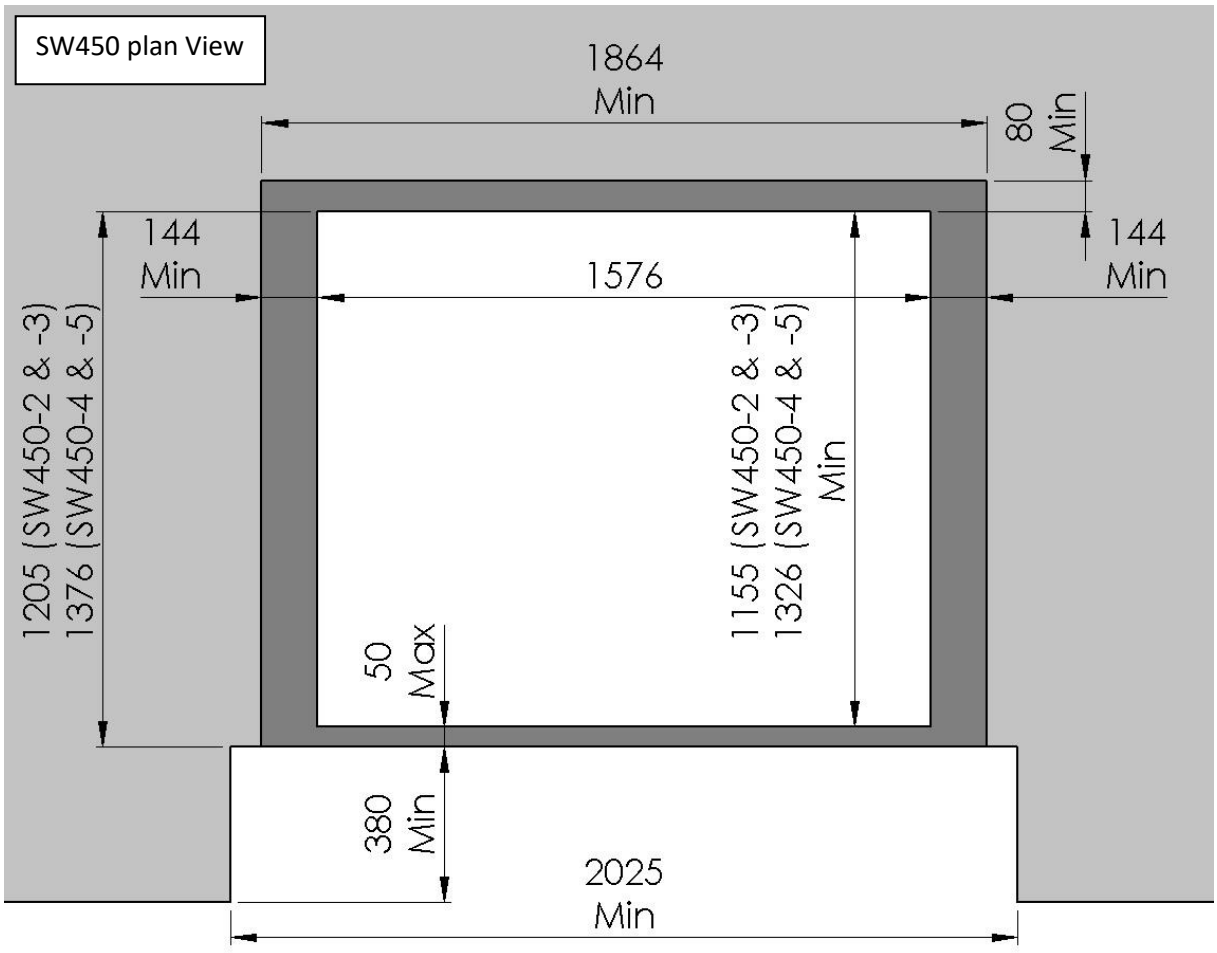


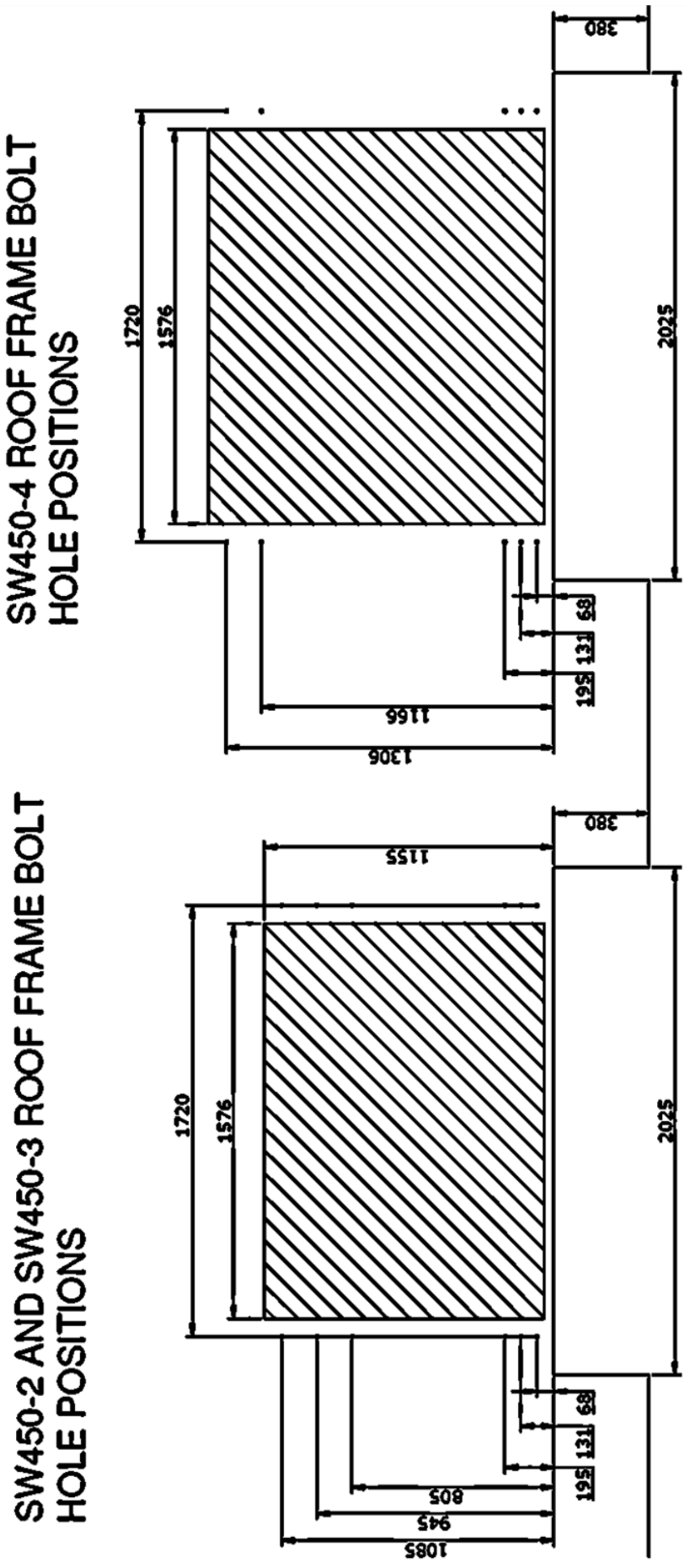

597
20
370
770
1170
1570
3400 SW150-4
HOLE POSITIONS
10 OFF M8 BOLTS
RECESS IN THE
SIDE OF VEHICLE

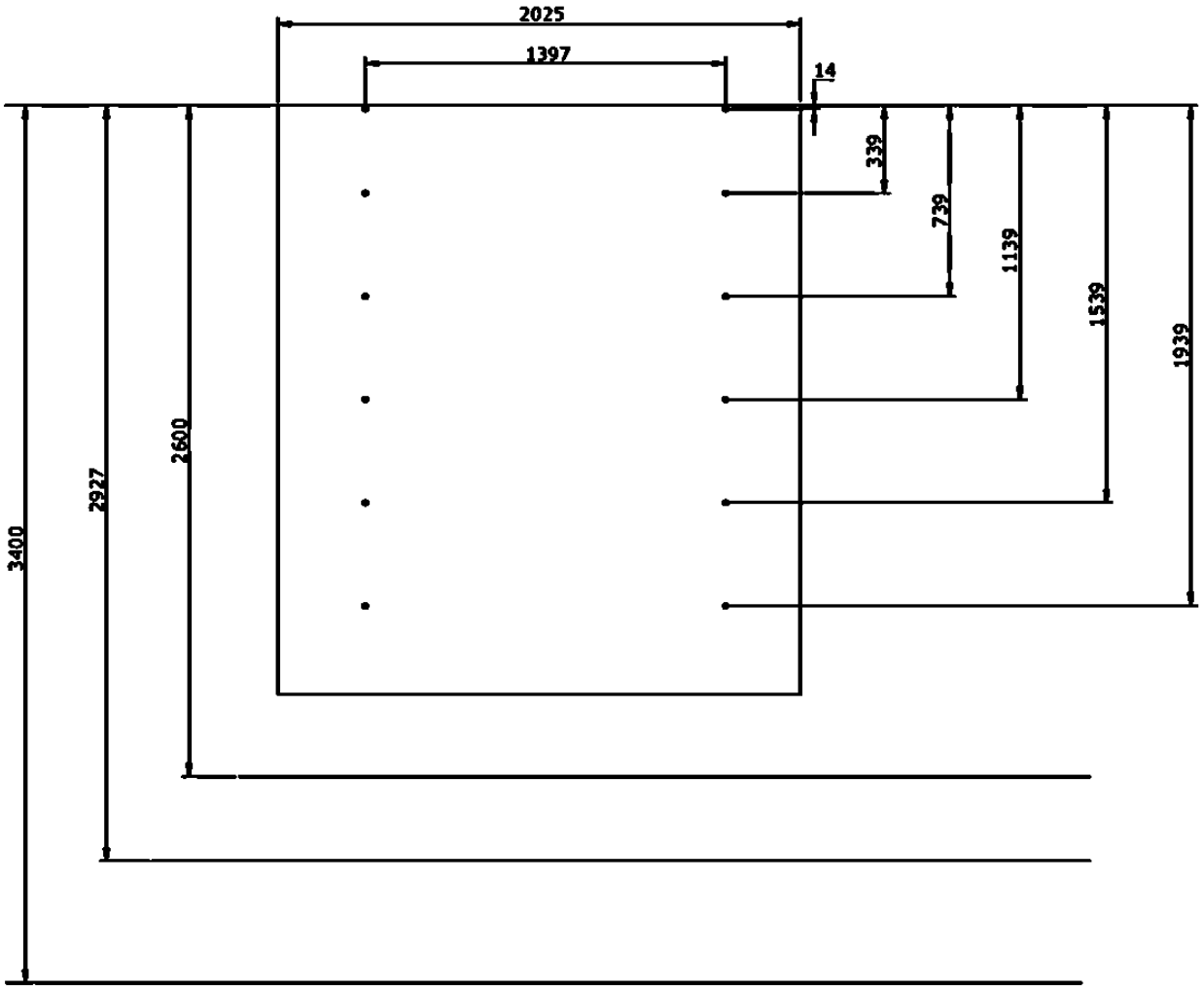

SUGGESTED MOUNTING FRAMEWORK
76
760
TO OTHER SIDE
OF BODY
CHANNEL
76x38
1136
25
BOX SECTION
25x25x3
38
25
BOX SECTION
50x25x3
547
50

SW450

The recess in the side of the body should be a minimum of 2025mm wide and 380mm deep. In the top of the body, the aperture through which the refuse will tip should be 1576mm wide by 1155mm deep (SW450-2 and SW450-3) and 1576mm wide by 1326mm deep (SW450-4). This is positioned 50mm from the edge of the body to enable a bracing plate to be put along the edge. The lift is bolted to the body typically with 10 off M12 bolts through the roof assembly and 12 off M8 CSK bolts through the lift frame assembly.

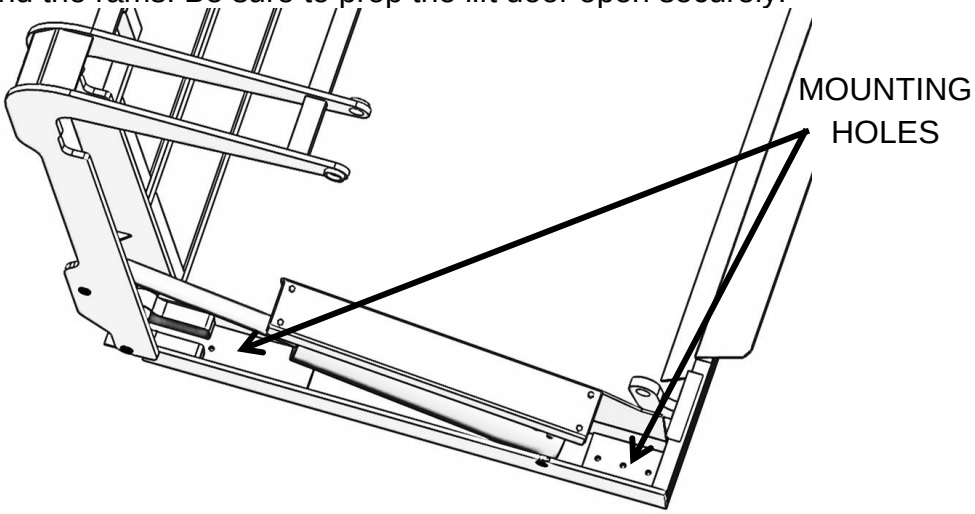


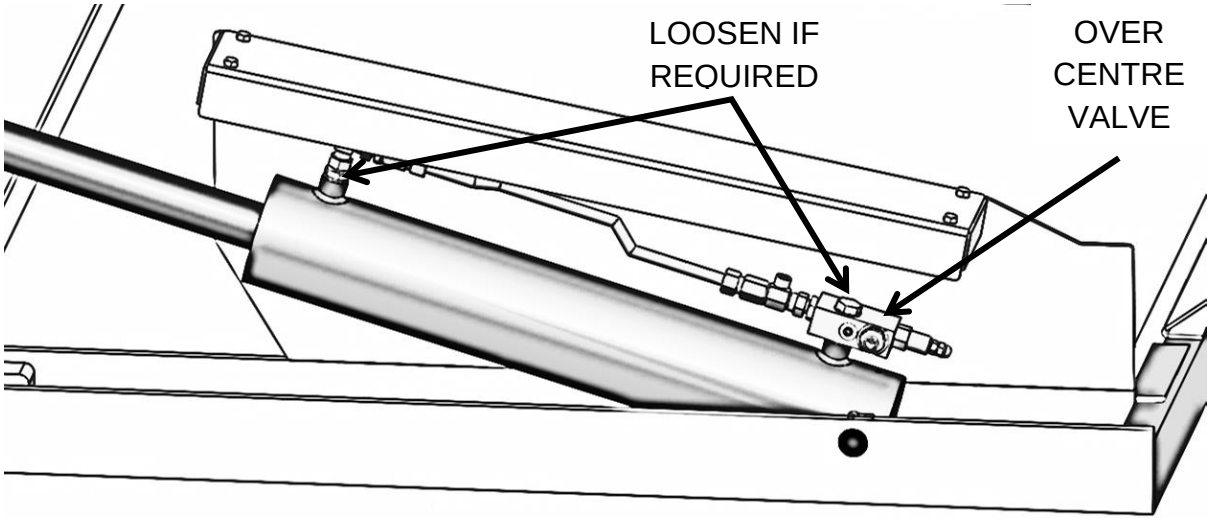

SW450-4 ROOF FRAME BOLT
HOLE POSITIONS
380
1720
1576
2025
68
131
195
1166
1306
SW450-2 AND SW450-3 ROOF FRAME BOLT
HOLE POSITIONS
380
1155
1720
1576
2025
68
131
195
805
945
1085



SW450-2, SW450-3 AND SW450-4 REAR FRAME BOLT HOLE POSITIONS

4. Using a suitable lifting device, raise the lift roof assembly onto the roof of the vehicle. Open the roof door half way so that you have easy access to the roof mounting holes on each side of the frame. Due to the over centre valves being closed it may be necessary to loosen the two fittings close to the ram ports to be able to extend the rams. Be sure to prop the lift door open securely.





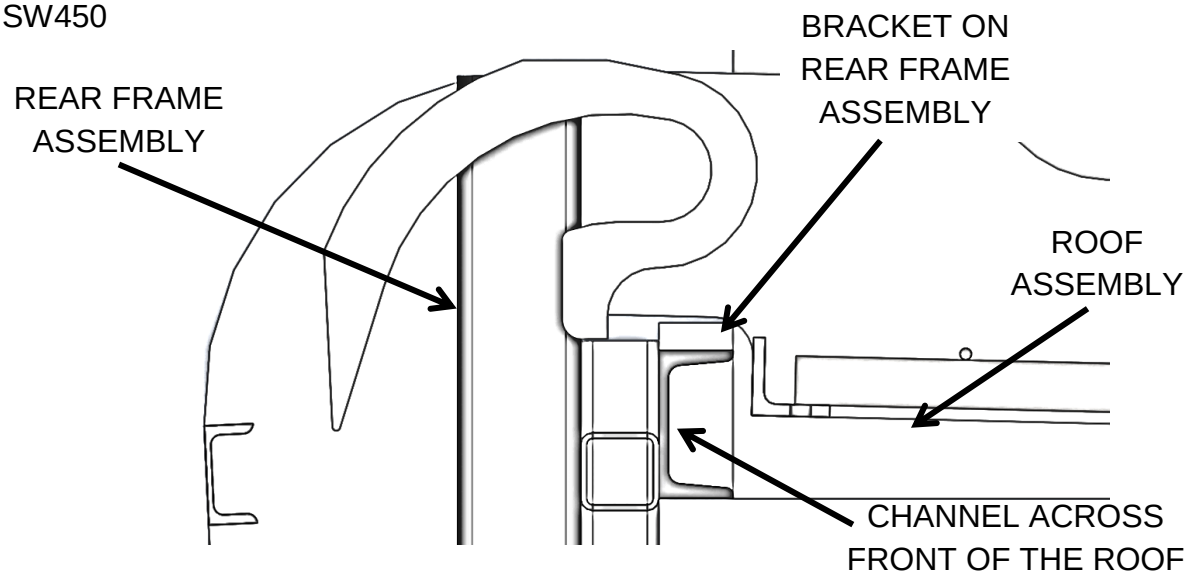
5. Move the roof assembly into position, so its edge, where the pipe fittings protrude, is flush with the side of the vehicle body, and central about the recess.

6. Mark the position of the mounting holes in the roof assembly, before moving it to one side. Drill suitable clearance holes (dia. 10.5mm for SW150 models and dia. 12.5mm for SW450 models) at the positions marked.

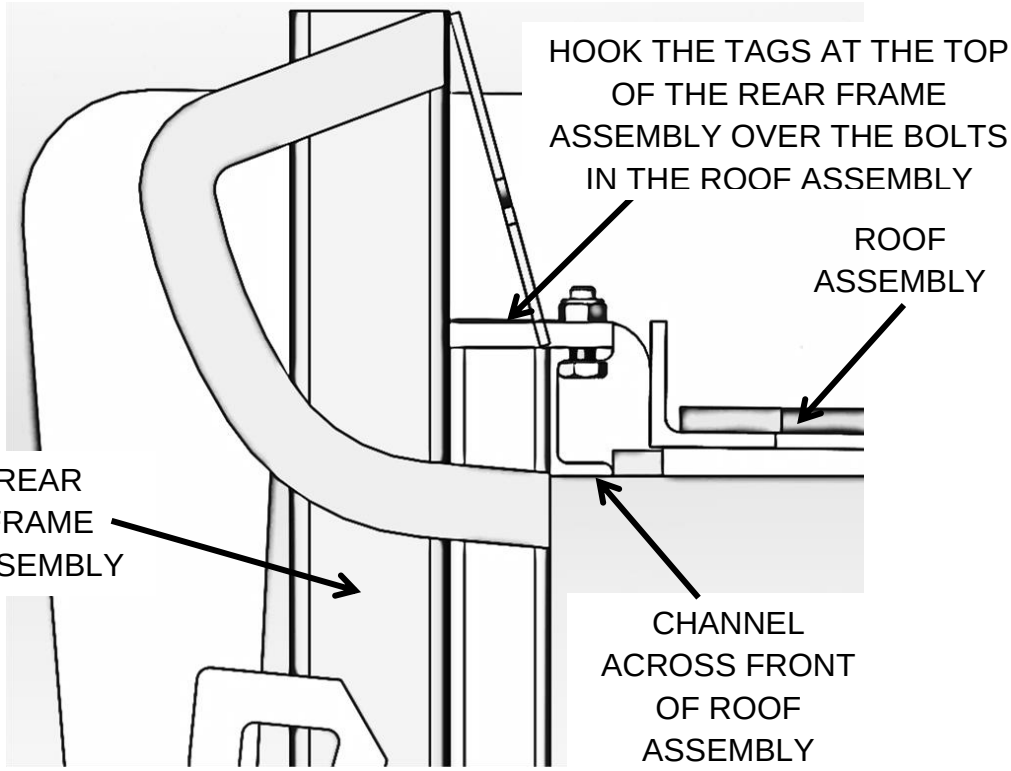
7. Bolt the roof assembly in position with the 10 M10 bolts (SW150), or 10 M12 bolts (SW450) provided and tighten to the correct torque (see technical section).

8. Offer the frame assembly up to the side of the vehicle. Note that the lift carriage is free to slide up and down the lift frame. Please ensure this is secure before lifting/moving the rear frame assembly.
   Ensure that the rear frame is in the centre of the recess and of the lift roof assembly, raise it up so that the top of the rear frame assembly is aligned correctly with the roof assembly. To aid fitting, the rear frame assembly will 'hook' over the front of the roof assembly (see below).

SW450



SW150

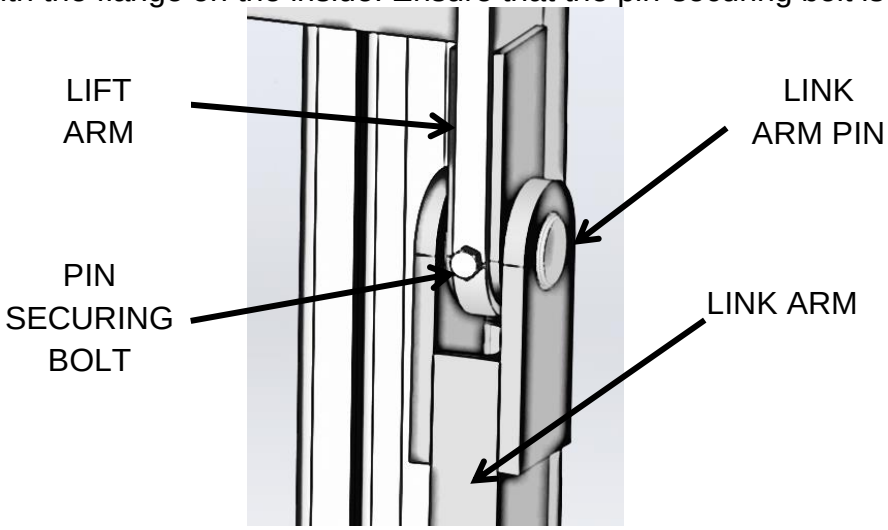


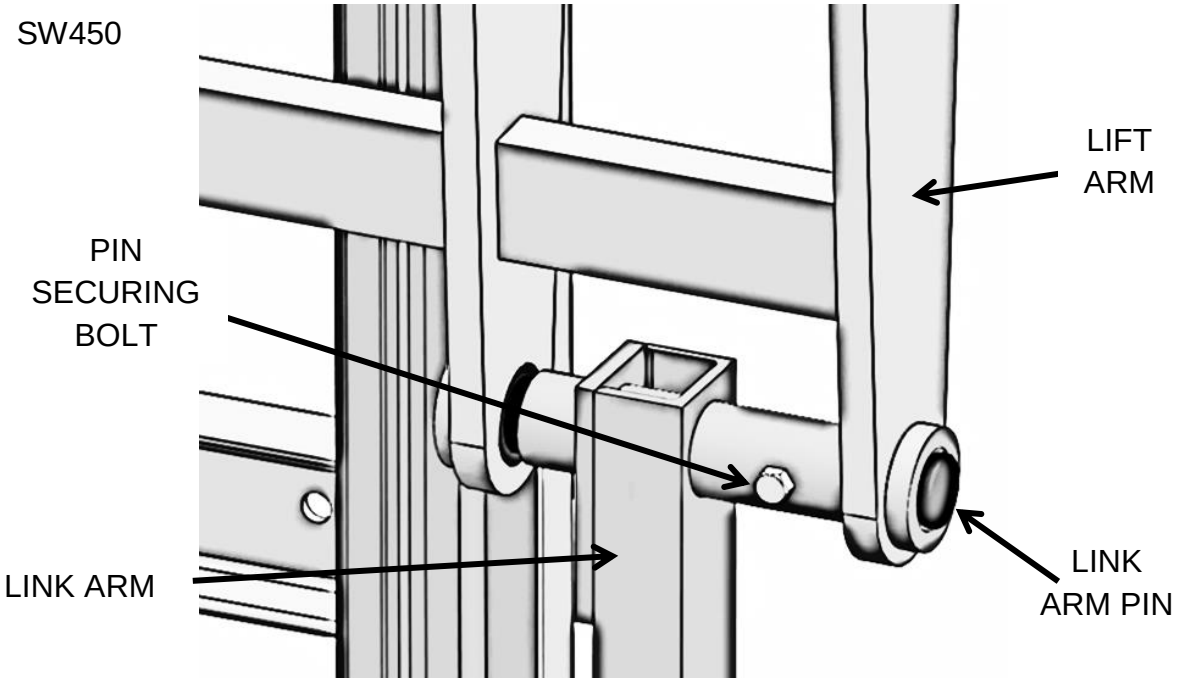
9. Mark the positions of the 10 mounting holes in the rear frame (12 on the SW450). Move the lift frame to one side before drilling through the vehicle body (dia 8.5mm) in the marked positions.

10. Bolt the rear frame to the side of the vehicle with 10 or 12 off M8 CSK bolts (min grade 8.8) provided.

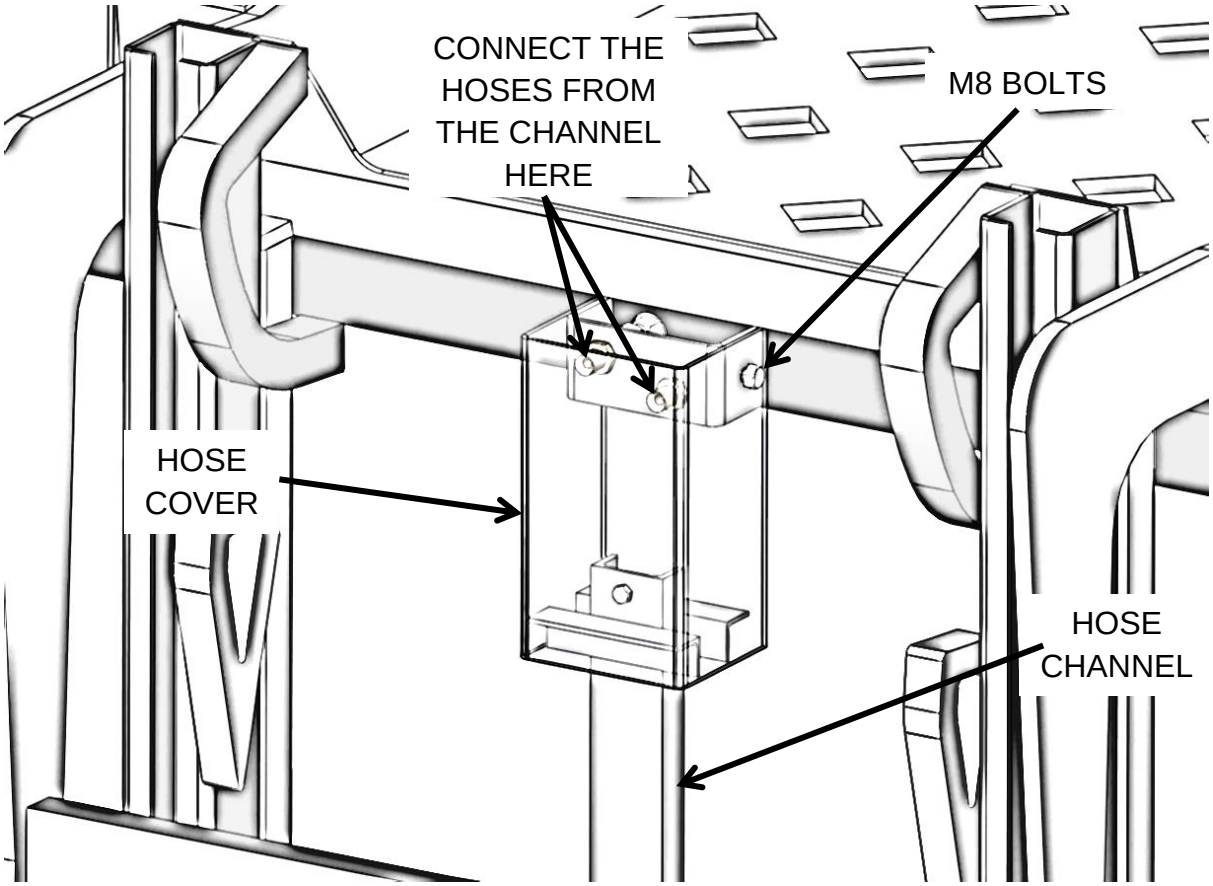
11. Remove the pins located in the ends of each link arm. Remove any ties holding the carriage before moving the link arms in position on the lift arms. Secure the link arms in position with the pins. Please ensure that the bushes remain in position with the flange on the inside. Ensure that the pin-securing bolt is tight.

SW150

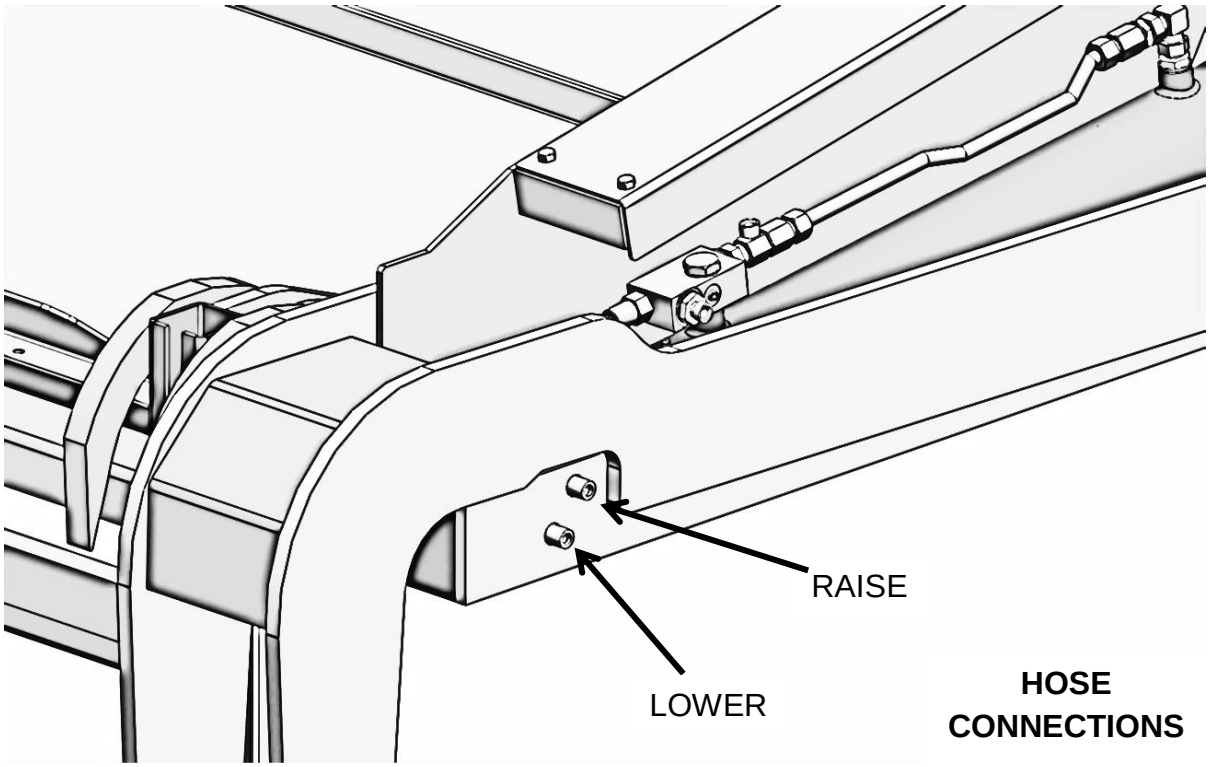




12. On SW150 models, connect the hoses which run behind the channel in the centre of the lift frame to the appropriate fittings in the roof assembly. SW150 SW450



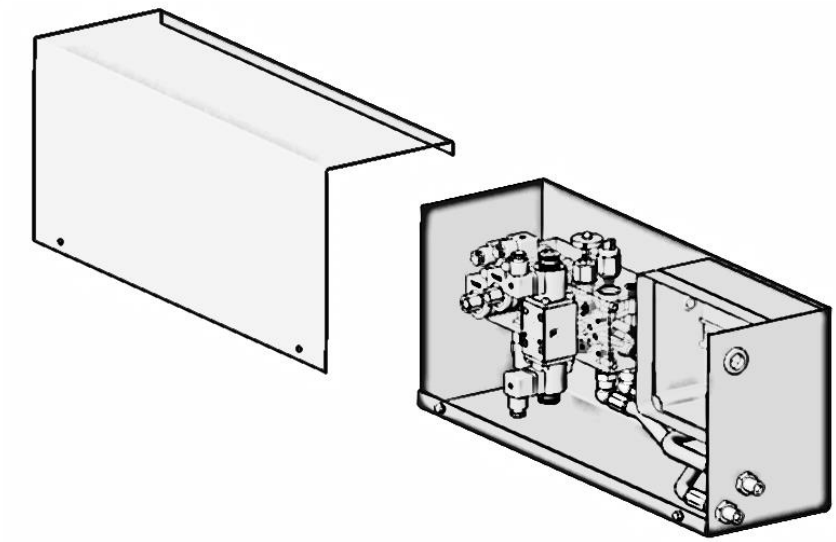
The hoses on SW450 models connect at the side of the roof assembly. Run hoses/hard pipe from the valve box to the roof assembly and connect.



13. Bolt on the upper hose cover with the 2 M8 bolts provided

14. Mount the hand control in its cover in a suitable position (see location of control position section).

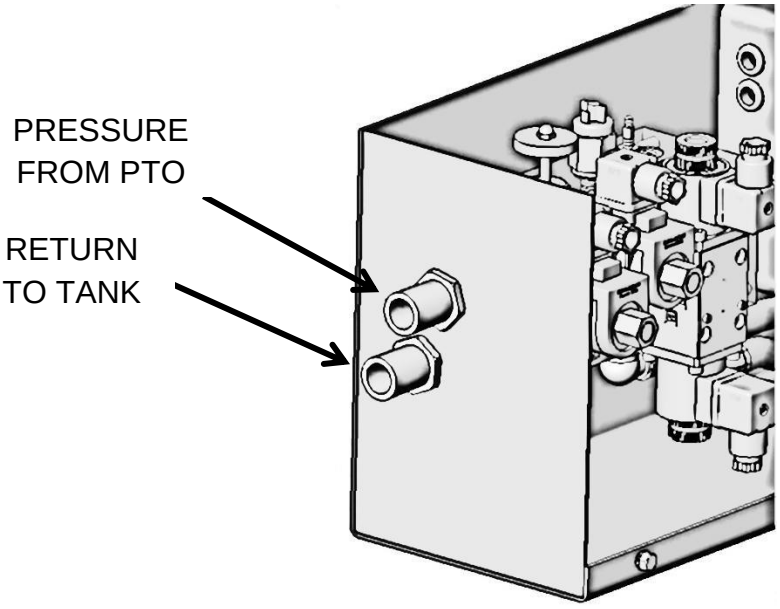
15. Remove the valve box lid



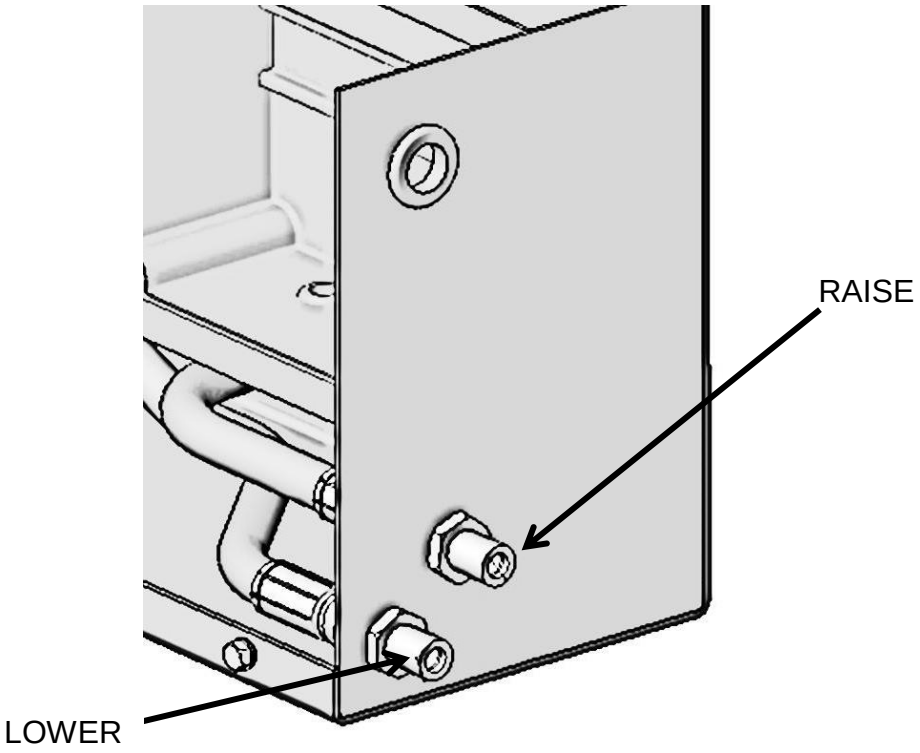
16. Mount the Valve box in a suitable position on the vehicle chassis. The position of the ports on the valve box assumes that it will be fitted on the near side of the

vehicle. Note that it may be necessary to drill additional mounting holes in the valve box. Ensure that the position of the box allows easy access for maintenance.

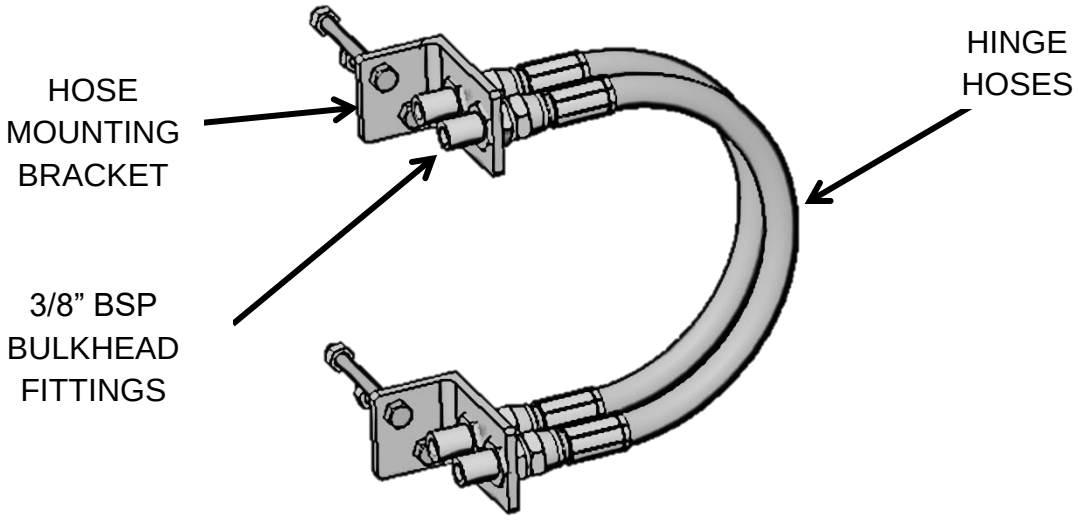
17. Run hoses (not provided) from the left hand side of the valve box to the pressure and tank ports on the PTO and to the tipper circuit. These hoses should be at least ¾" in size. If the vehicle does not have a tipper circuit, connect the tipper line to the tank. The filter provided should be fitted in line in the pressure hose from the PTO.



18. Run hoses from the right hand side of the valve box to the lift. These hoses need to be a minimum of 3/8" in diameter.



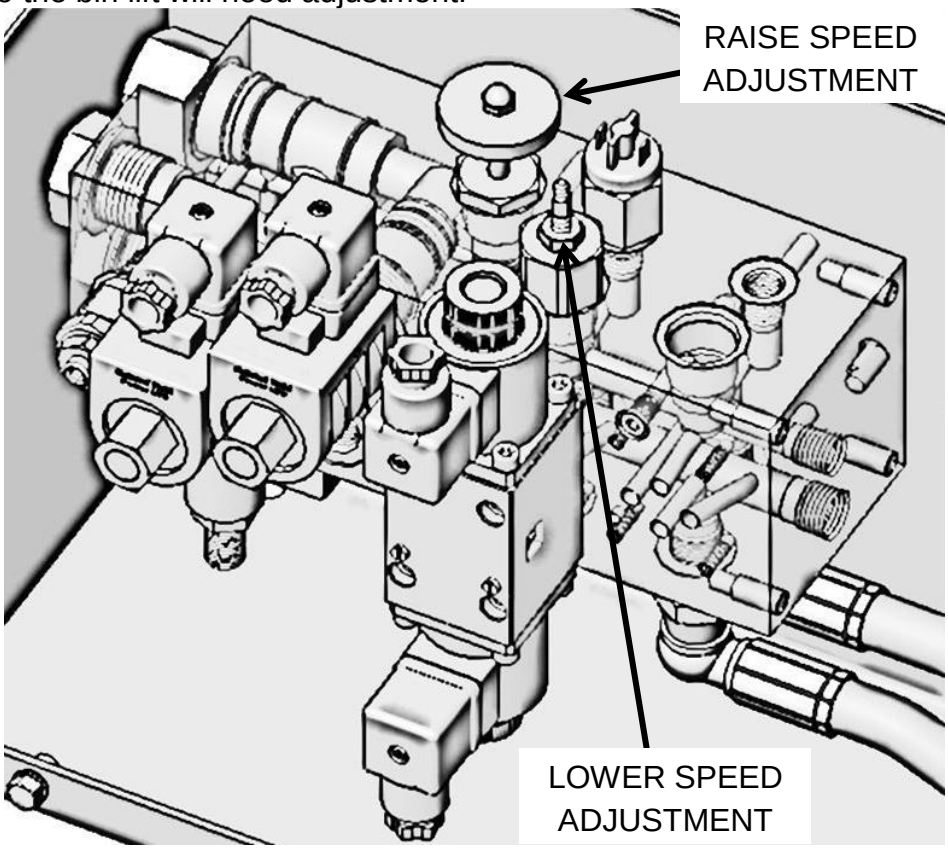
If the lift is fitted onto a tipper body, at the tipper hinge, use the hoses and brackets provided to hook around the hinge.



19. Wire the valve box to the lift sensors, hand control and cab switches.

20. Engage the PTO and raise and lower the lift a couple of times to check that it operates smoothly. Check that the stow warning light and the emergency stop button operate correctly.

21. The pressures have been factory set and MUST NOT be adjusted; however the flow to the bin lift will need adjustment.



Adjust the flow to the bin lift to achieve a raise time of 12 seconds (SW150 lifts) and 17 seconds (SW450 lifts) and a lower time of 12 seconds (SW150 lifts) and 17 seconds (SW450 lifts)

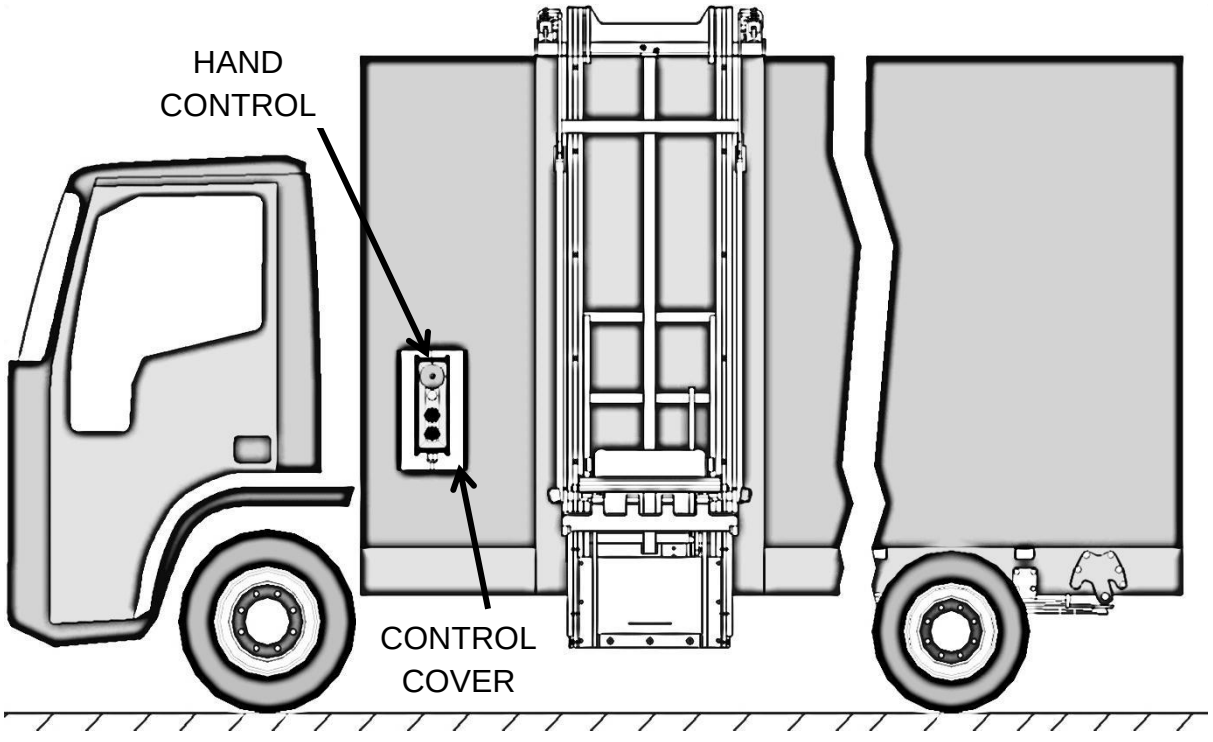
22. Check for any hydraulic leaks, before re-fitting the lid on the valve box.

23. Fit the operation and warning decals as described in the decals section.

24. Complete the tests after installation, and forward a copy of the test certificate to HIAB UK Ltd.

LOCATION OF THE CONTROL POSITION

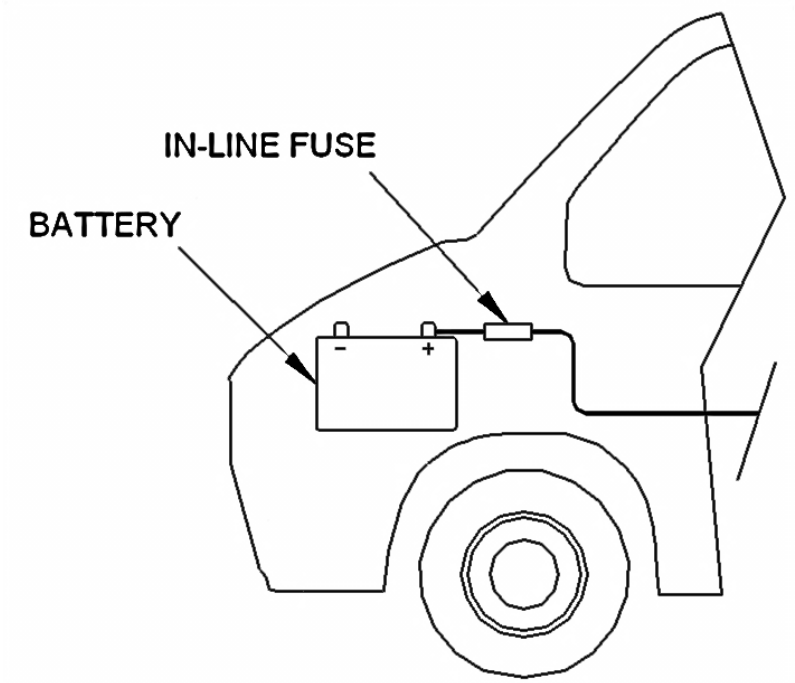
The standard control for bin lifts is a fixed 2 button control, which includes an emergency stop. The control is located in a protective cover to one side of the bin lift in a position where the operator has a clear view of the moving parts of the lift, but also has a good view of the working and surrounding areas. The hand control must be isolated after use, using the in cab switch.



INSTALLATION OF IN-LINE FUSE & EARTH

Route the main battery cables from bin lift to the battery along the chassis avoiding the exhaust, fuel pipes and sharp edges.

Locate the fuse holder on the positive cable, **as close to the battery as possible, inside the engine compartment** using the short cable to the battery +ve terminal. Connect the negative cable to the battery.

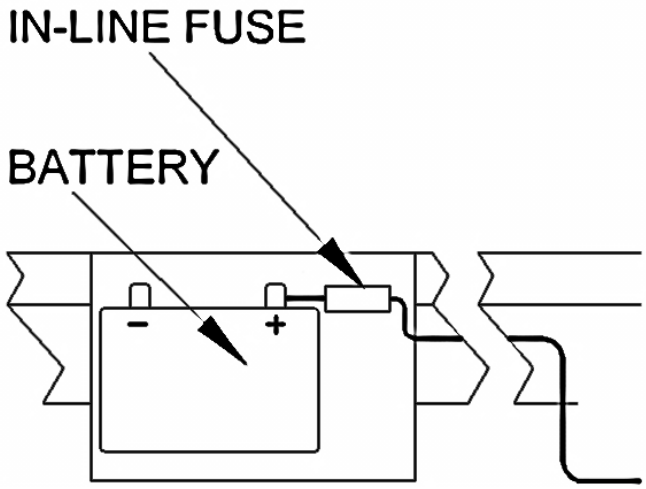


VEHICLE WITH CHASSIS BATTARY

Route the main battery cables from bin lift to the battery along the chassis avoiding the exhaust, fuel pipes and sharp edges.

Locate **the fuse holder <u>inside</u> the battery case, using bolts, <u>not</u> self-tappers.** If insufficient space inside the case, locate **as close to the battery as possible, in an area <u>least</u> susceptible to the elements.**

Connect the negative cable to the battery.



<u>IF YOU ARE UNSURE ON FITTING THE INLINE FUSE</u>

<u>PLEASE CONTACT HIAB SERVICE</u>

RELIEF VALVE

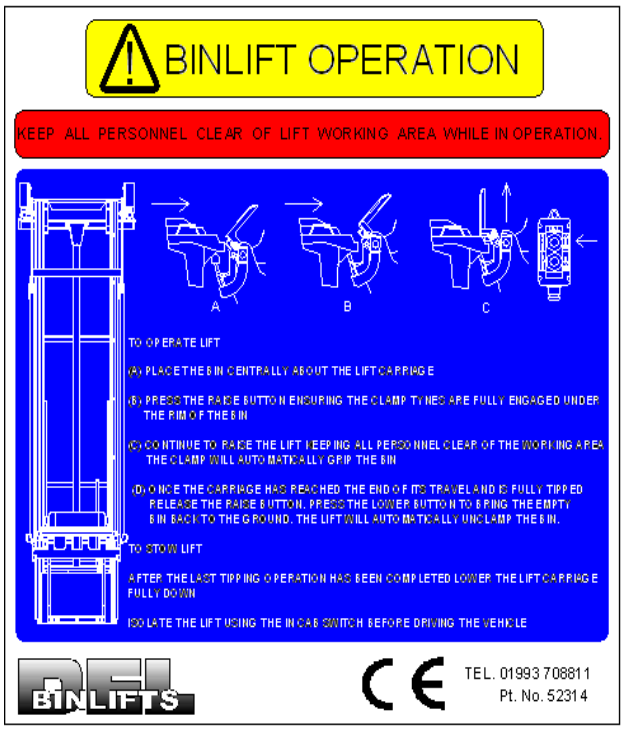
The relief valve has been factory set, if for maintenance purposes the valve needs to be adjusted, please contact the HIAB service department.

WARNING DECALS

Before use, the lift should be inspected to check that all warning decals are present and legible, if not contact HIAB Service for replacements.

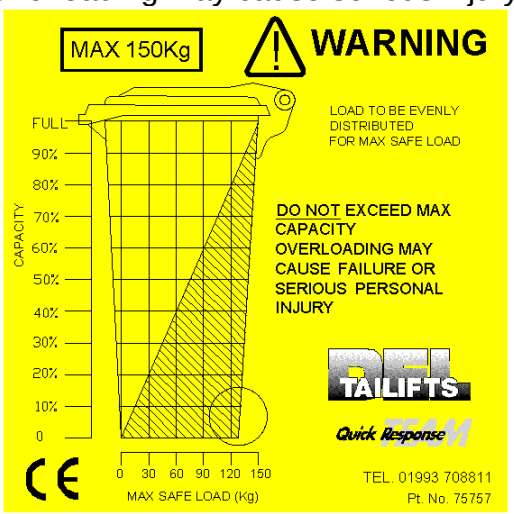
1. BIN LIFT OPERATION

Located at eye level next to the hand control
Ensure you understand the operating instructions
Keep all personnel away from the lift during operation
Be aware of the area around the lift and stop operating if anyone enters it.
Ensure the area is clear from obstructions before use.



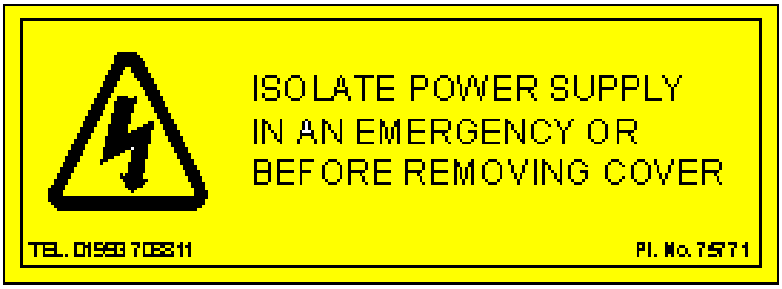
2. MAXIMUM LOAD

Located at eye level next to the hand control
Do not exceed the safe working load of the lift (150kg or 450kg)
Overloading may cause serious injury



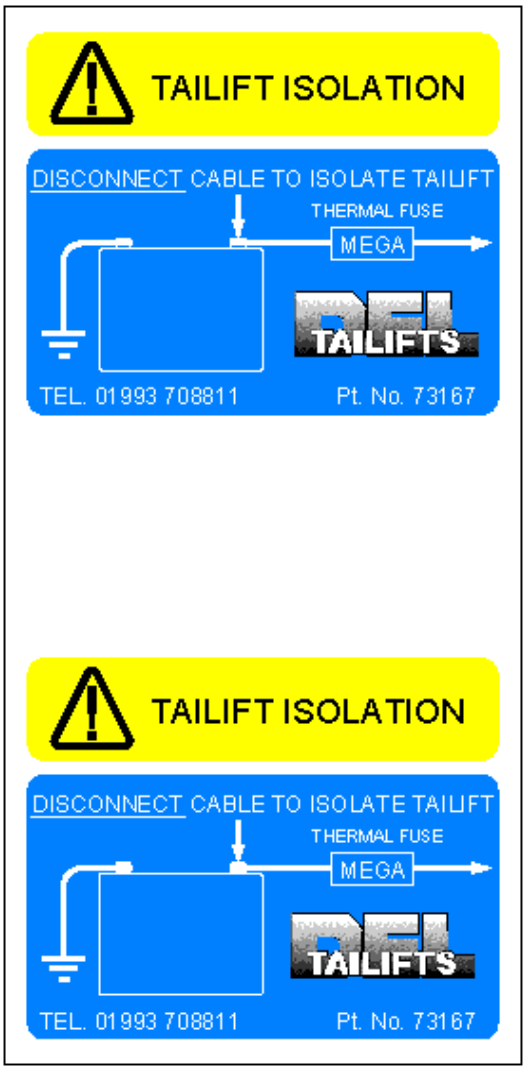
3. ISOLATE POWER SUPPLY

Located on the power pack box
Be sure to isolate the power supply before removing the cover



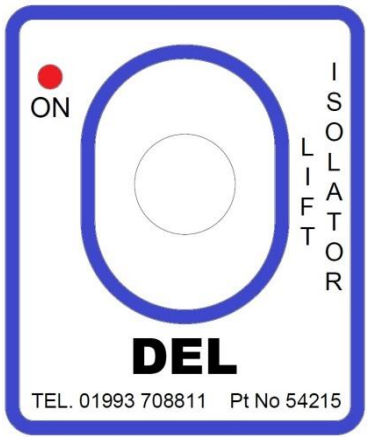
4. LIFT ISOLATION

Located around the positive wire to the powerpack
Be sure to isolate power supply before removing power pack box cover.
Not on the PTO driven lifts



5. LIFT ISOLATOR ROCKER SWITCH DECAL

Located in the drivers cab.
Always isolate the bin lift after use
Not on the PTO driven lifts



6. SIDE MARKER

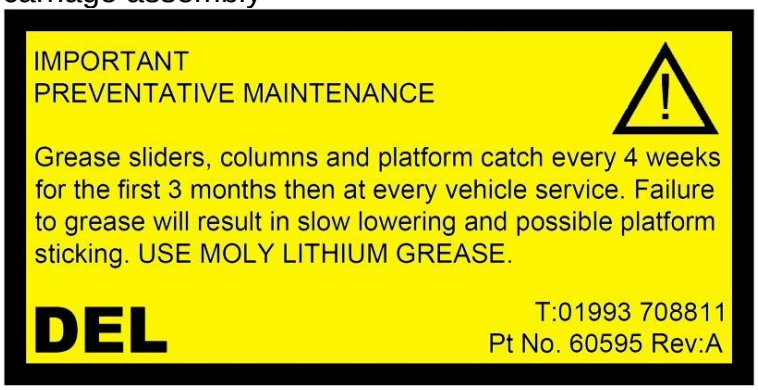
Located on carriage tip arms

7. LEGEND PLATE

Attached to the carriage assembly

8. LEGEND PLATE

Attached to the carriage assembly



9. OPERATING BIN LIFT

Located next to the hand control
Be sure you understand before using the lift

10. STOW INDICATOR

Located next to the stow warning light
Ensure that the light is off before driving the vehicle
Stow indicator decal is optional, only supplied as a customer request

11. Do not reach into moving parts
Located near the lift
Instructing the operative of the dangerous zone

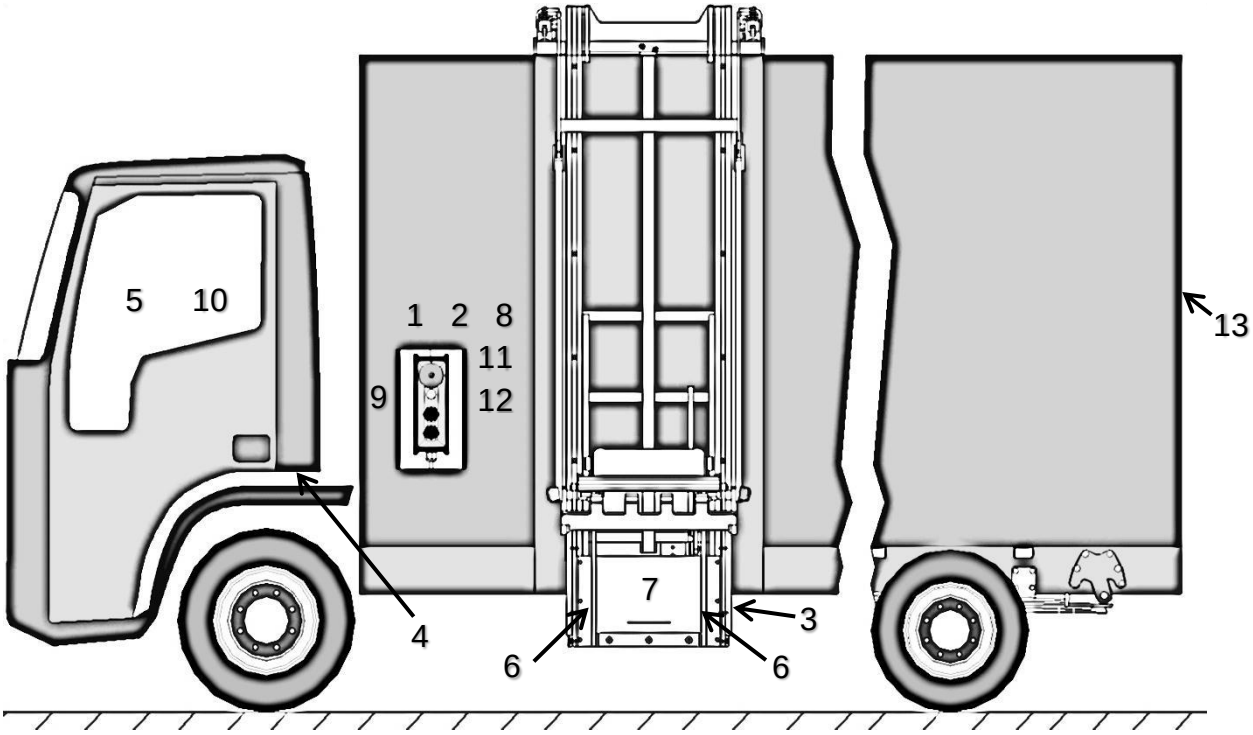
12. DO NOT STAND UNDER ANY MOVING PART

Located near the lift
Instructing the operative of the dangerous zone

13. FALLING CONTAINER OR OBJECT

Located at the rear of the vehicle
Instructing the road user(s) that part(s) of the lifting device protrude beyond the lateral dimensions when operating.

POSITIONING THE WARNING DECALS



Be sure you understand the warning decals, and check they are present and legible during regular inspections. If any are missing, contact DEL service to obtain replacements.

TESTS AFTER INSTALLATION

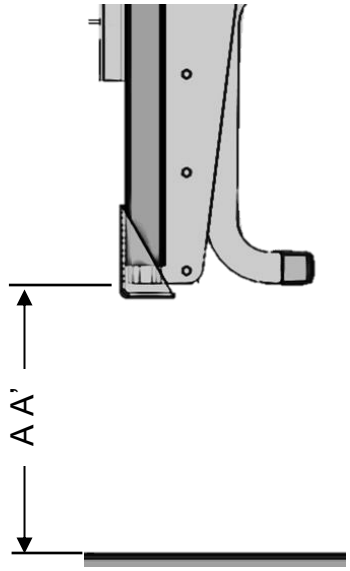
After the lift has been initially installed the following tests MUST be completed to ensure the lift has been installed and set up correctly in accordance with CE regulations. The results of the test should be entered on the test certificate provided in the back of this manual and a copy returned to HIAB UK Ltd, the original should be kept in the manual as part of the inspection record for the lift.

IMPORTANT – CE REGULATIONS REQUIRE THE TEST CERTIFICATE TO BE COMPLETED AND RETURNED TO HIAB UK (UK) Ltd

Vertical Speed

- To check that the vertical speed of the lift does not exceed 2.5m/s
- Since the bin would never be lowered fully laden, the maximum raising and lowering speeds would occur when the lift has no bin attached.

1. With the lift fully lowered, measure the distance from the ground to the bottom of the lift slider (dimension A), and record the value in mm in the table below.



2. With a stopwatch, record the time taken to fully raise the lift, and record the time and the new distance (in mm) from the bottom of the lift sliders to the ground (dimension A') in the table below.

3. Calculate the distance travelled by subtracting dimension A from Dimension A' and record in the table.

4. Calculate the vertical raising speed by dividing the distance found in part 3 above, by the time (in seconds) and record in the table. The speed should not exceed 2500mm/s.

5. With a stopwatch, record the time taken to lower the lift and record the time in the table.

6. Calculate the lowering speed and record in the table. Check that the speed does not exceed 2500mm/s.

Dimension A (mm)	Dimension A' (mm)	Distance travelled (mm)	Raising time (secs)	Vertical speed (mm/s)	Lowering time (secs)	Lowering speed (mm/s)

If either of the speeds above exceeds the stated value, please contact DEL service.

<u>Function Test</u>

- To check the lift operates safely and correctly

1. With the lift carriage fully lowered, and following the operating procedure, offer up an empty bin of the correct capacity to the lift. Press the raise button and check that the lift clamps the bin securely within the first few feet of

movement. Check that the lift stops raising as soon as the button is released and that the emergency stop button works correctly.

2. Continue pressing the raise button and check that the lift tips the bin smoothly. Release the raise button when the lift reaches its fully tipped position.

3. Lower the bin back to the ground checking that the lift lowers smoothly, stops as soon as the lower button is released and unclamps the bin as it nears the ground.

   If the lift fails to clamp the bin or does not operate smoothly, please contact HIAB Service.

Dynamic Test

- To check that the lift operates safely at the specified dynamic load.

1. Fill the designated waste container with 1.1 times the maximum working load. If water is used to simulate the maximum load please remember that the density of water is greater than density of general refuse. Please note 1Litre of water weighs 1Kg. According to EN 840-2:2012 this is 4kg / dm^3 x nominal volume. For example for a 1100 litre waste container the maximum working load is 440kg.

2. With the lift carriage fully lowered, and following the operating procedure, offer up the bin to the lift. Press the raise button and check that the lift clamps the bin securely within the first few feet of movement.

   ! STAND AS FAR FROM THE LIFT AS POSSIBLE AS WATER WILL START RUNNING FROM THE BIN BEFORE IT HAS FULLY TIPPED, AND WILL EXIT THE SIDE OF THE LIFT AS WELL AS THE BACK!

3. As the lift raises and tips ensure that the lift only just tips this load.

4. Lower the bin back to the ground before checking that the attachment of the lift to the vehicle has remained secure.

Static Test

The functional static test load shall be 1.25 times the maximum working load.

1. Lift the designated waste container half way of the tip height.

2. Fill the designated waste container with 1.25 times the maximum working load.

3. Check that no permanent deformation has occurred in the lift or its attachment to the vehicle, which would affect its function

TEST CHECK LIST

- Vertical speed test completed ☐
- Function test completed ☐
- Dynamic test completed ☐
- Static test completed ☐

TECHNICAL INFORMATION

TORQUE SETTINGS –

SIZE	TORQUE (Nm)	
	GRADE 8.8	GRADE 10.9
M8	20	29
M10	40	57
M12	70	99
M14	112	158
M16	175	246

HYDRAULIC FLUID –

Automatic Transmission Fluid – Viscosity - 39 Centi-strokes at 40°C
7.5 Centi-strokes at 100°C

Type ‘A’ automatic transmission fluid or Shell T22 or equivalent is recommended.

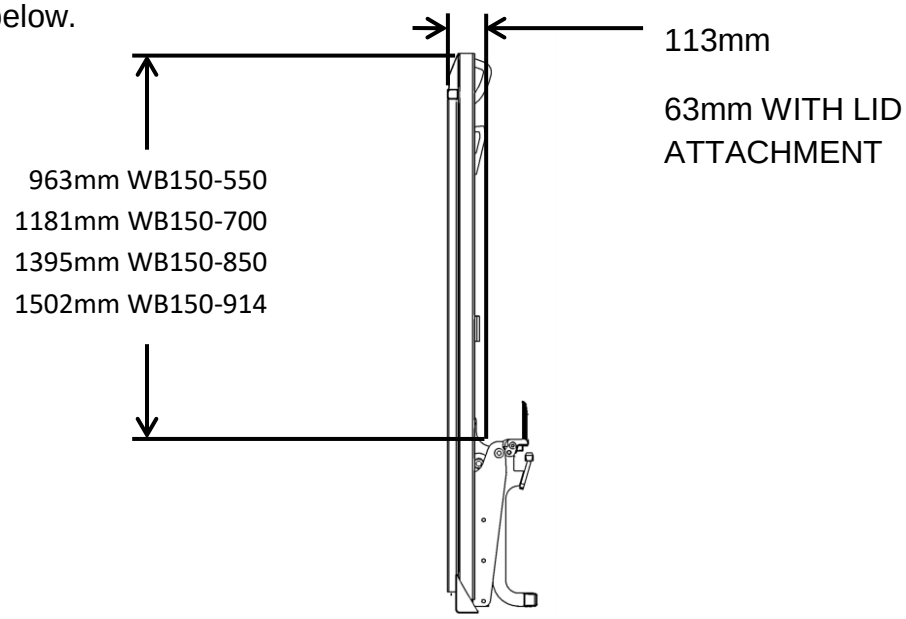
WEIGHT –

MODEL	OVERALL WEIGHT (KG)
WB150-550	134
WB150-700	145
WB150-850	155
WB150-914	161
WB150-1041	170
WB150-1208	180
WB150-1330	205
WB150-1372	210
WB300-1330	
WB300-1372	
SW150-2	245
SW150-3	255
SW450-2	580
SW450-3	600
SW450-4	700

NOTE – The weights shown above do not include a powerpack filled with oil (add 15kgs).

CENTRE OF GRAVITY

The centre of gravity of the lift lies central about its width, and at the dimensions shown below.

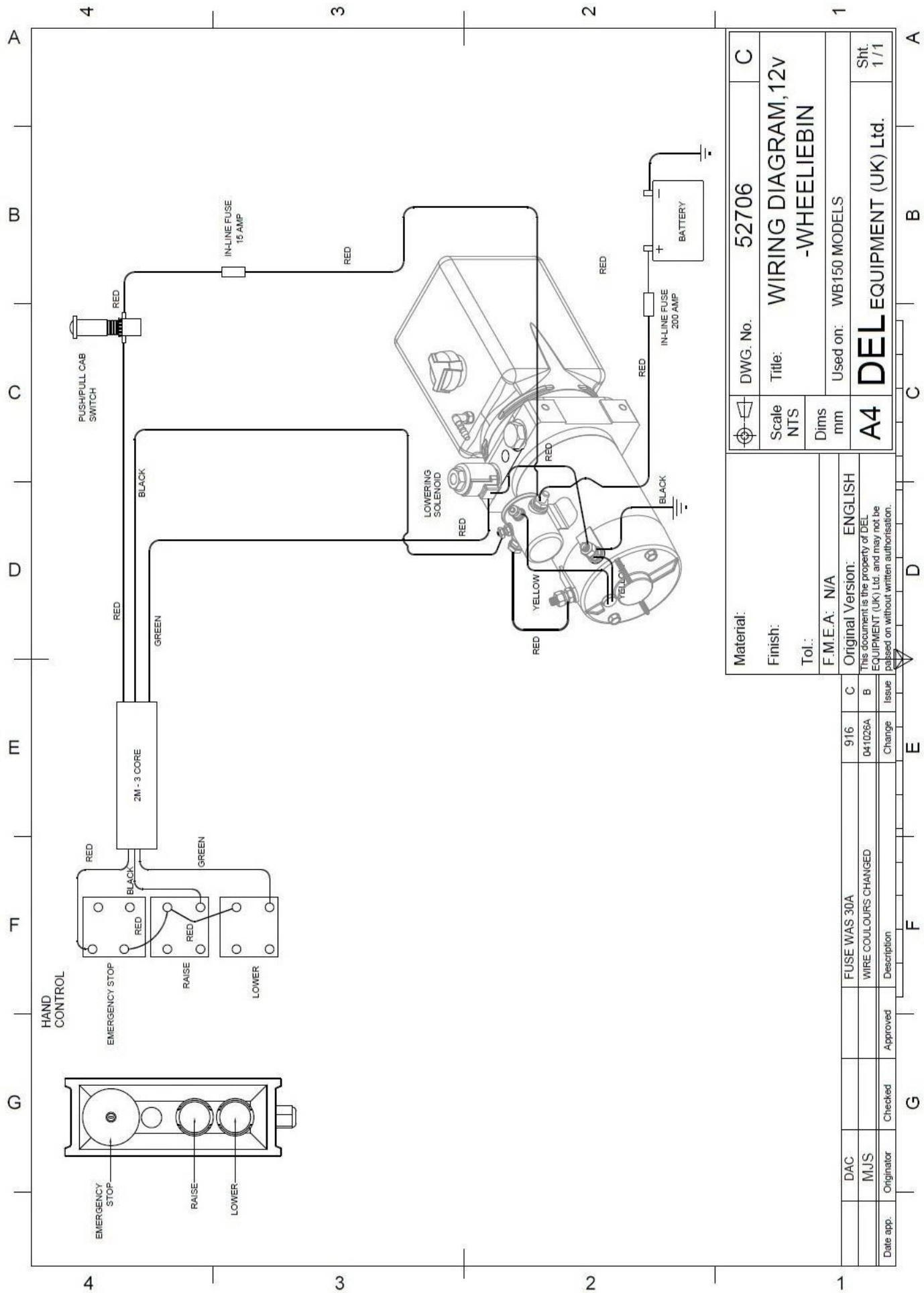


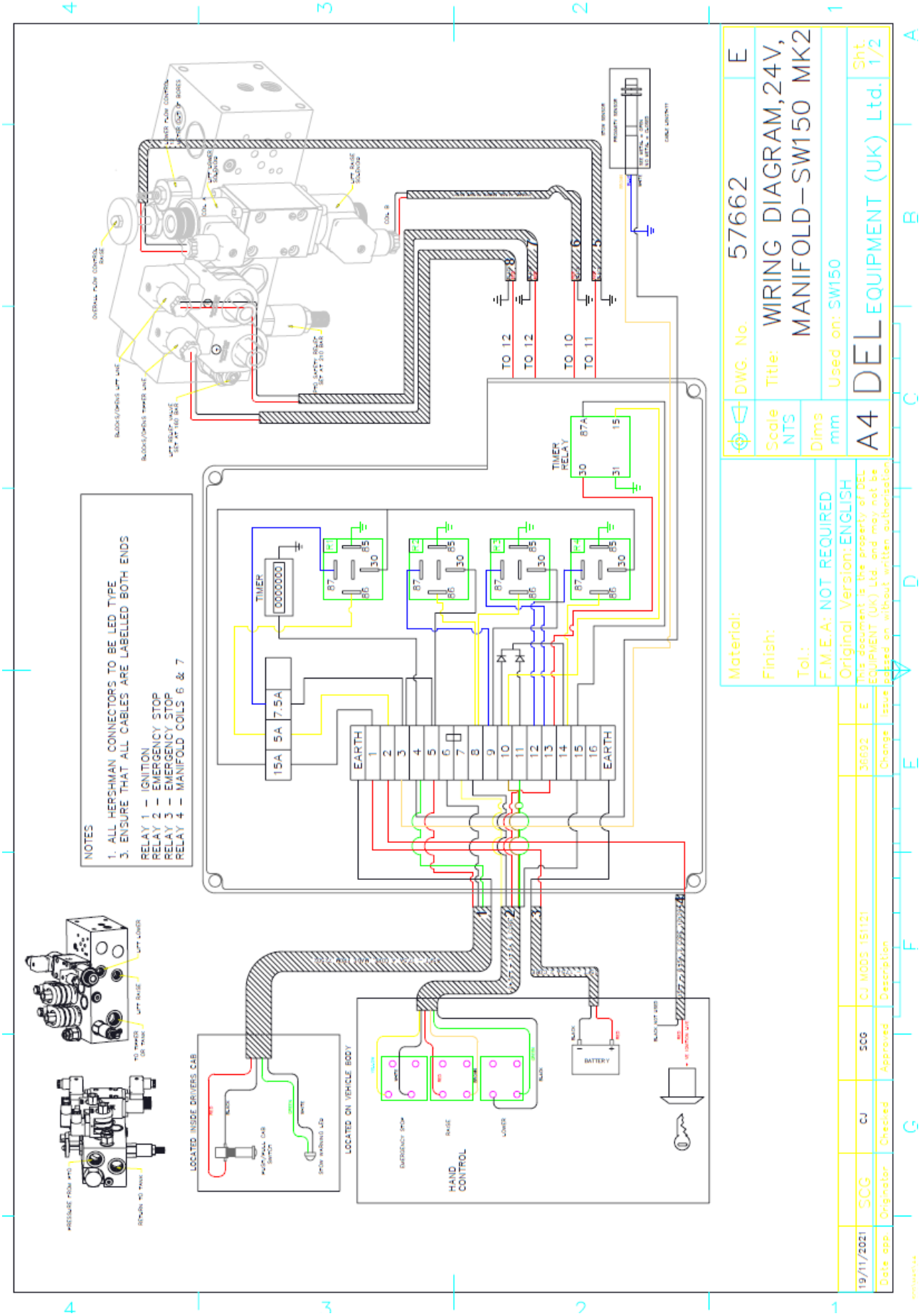
FINAL INSPECTION CHECKLIST

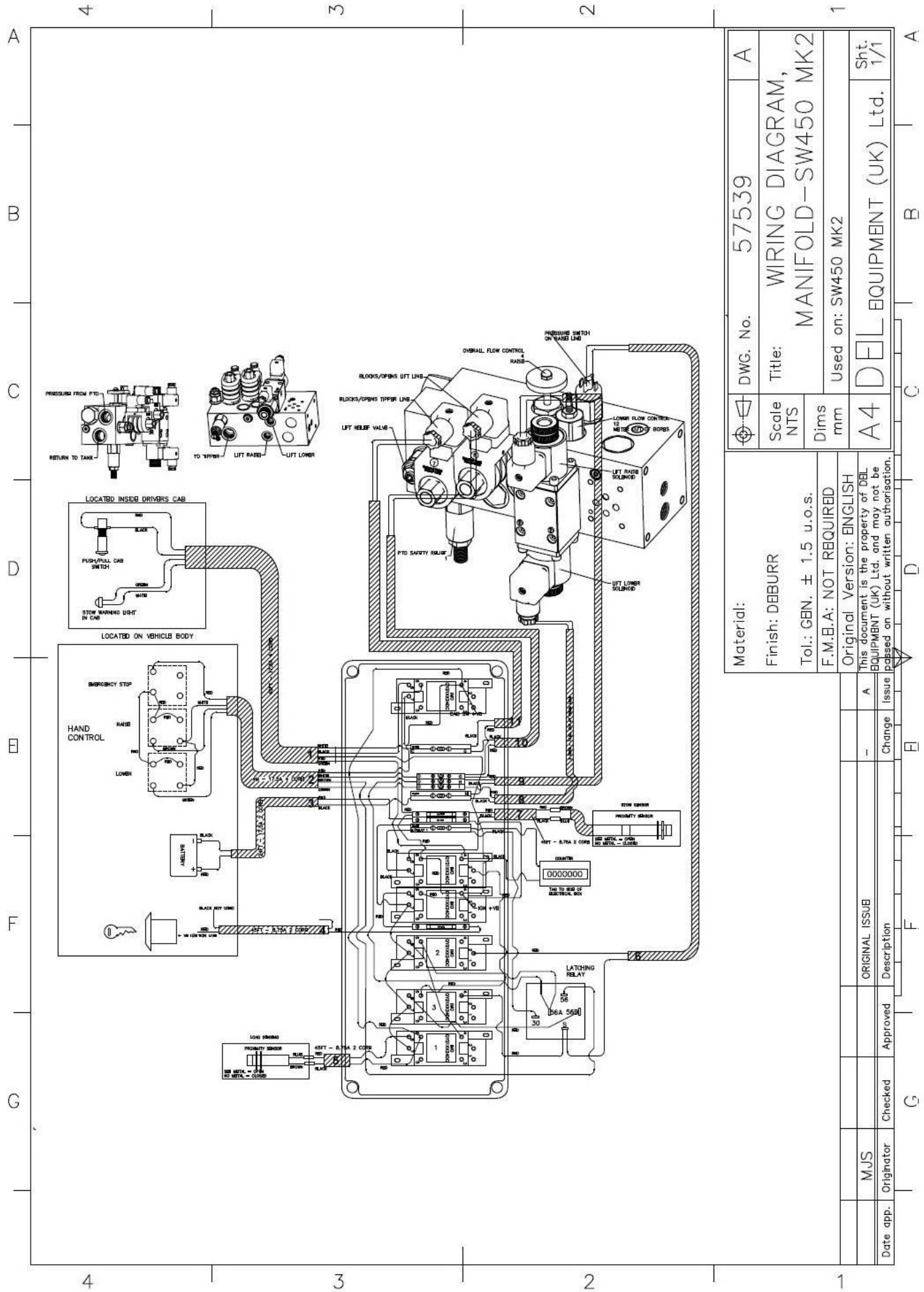
CAUTION: Do not use the bin lift if any of the items below are not checked and verified. If you have any questions contact HIAB sales. Failure to verify the following could result in severe damage to the lift or personal injury.

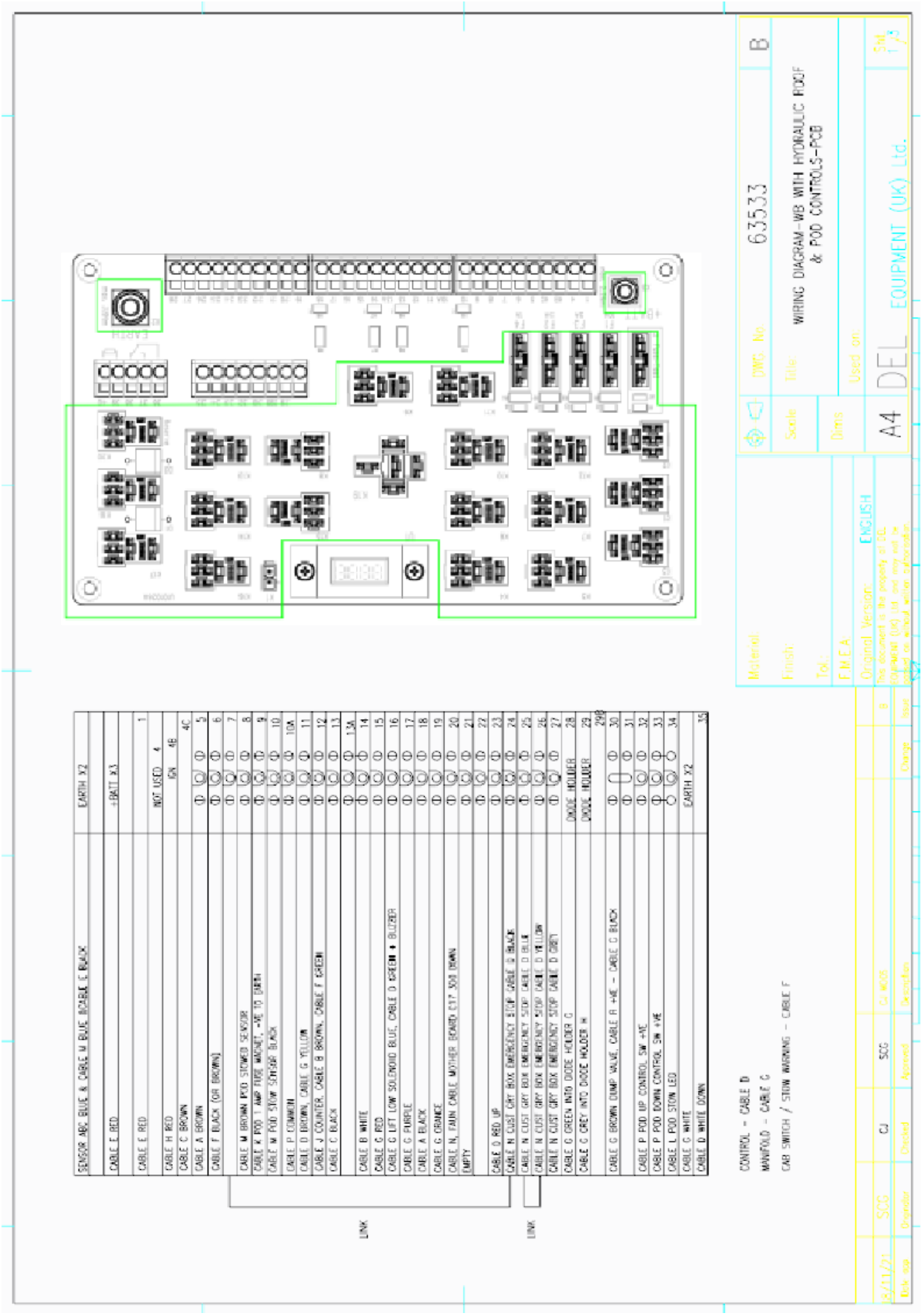
Installation is not fully complete until all the following items are checked and verified.

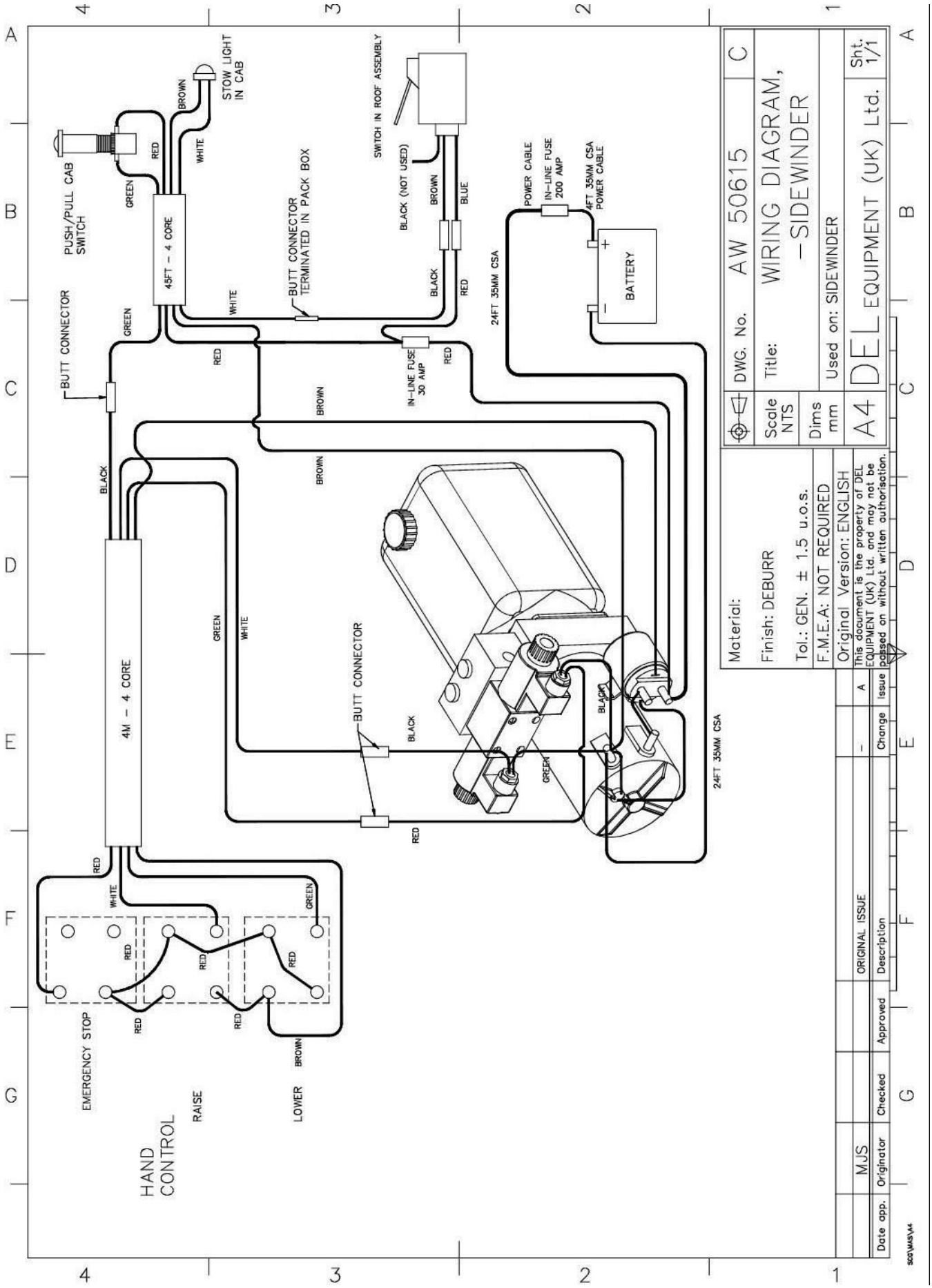
- ☐ Reservoir is full of oil with lift carriage fully lowered (powerpack operated lifts only).
- ☐ All tack welds are now complete welds.
- ☐ Lift fully tips and operates smoothly.
- ☐ Hydraulic components checked for leakage.
- ☐ Battery cables attached and clamped tight.
- ☐ All decals properly in place and they are legible after painting.
- ☐ Operators' manual in vehicle.
- ☐ Control switch operates properly including emergency stop.
- ☐ Tests after installation completed
- ☐ Bin lift tested and certificate issued.


IN-LINE FUSE 15 AMP
RED
PUSH/PULL CAB SWITCH
BLACK
GREEN
2M - 3 CORE
LOWERING SOLENOID
IN-LINE FUSE 200 AMP
BATTERY
YELLOW
HAND CONTROL
EMERGENCY STOP
RAISE
LOWER
DWG. No. 52706
Title: WIRING DIAGRAM,12v -WHEELIEBIN
Used on: WB150 MODELS
A4 DEL EQUIPMENT (UK) Ltd.
Material:
Finish:
Tol.:
F.M.E.A: N/A
Original Version: ENGLISH
This document is the property of DEL EQUIPMENT (UK) Ltd. and may not be passed on without written authorisation.
FUSE WAS 30A
WIRE COULOURS CHANGED
Originator
Checked
Approved
Description
Change
Issue
Date app.








PUSH/PULL CAB SWITCH
STOW LIGHT IN CAB
45FT – 4 CORE
BUTT CONNECTOR TERMINATED IN PACK BOX
SWITCH IN ROOF ASSEMBLY
BLACK (NOT USED)
POWER CABLE
IN-LINE FUSE 200 AMP
4FT 35MM CSA POWER CABLE
BATTERY
24FT 35MM CSA
BUTT CONNECTOR
IN-LINE FUSE 30 AMP
4M – 4 CORE
EMERGENCY STOP
RAISE
LOWER
HAND CONTROL
Material:
Finish: DEBURR
Tol.: GEN. ± 1.5 u.o.s.
F.M.E.A: NOT REQUIRED
Original Version: ENGLISH
DWG. No. AW 50615
Title: WIRING DIAGRAM, – SIDEWINDER
Used on: SIDEWINDER
DEL EQUIPMENT (UK) Ltd.
Sht. 1/1
ORIGINAL ISSUE
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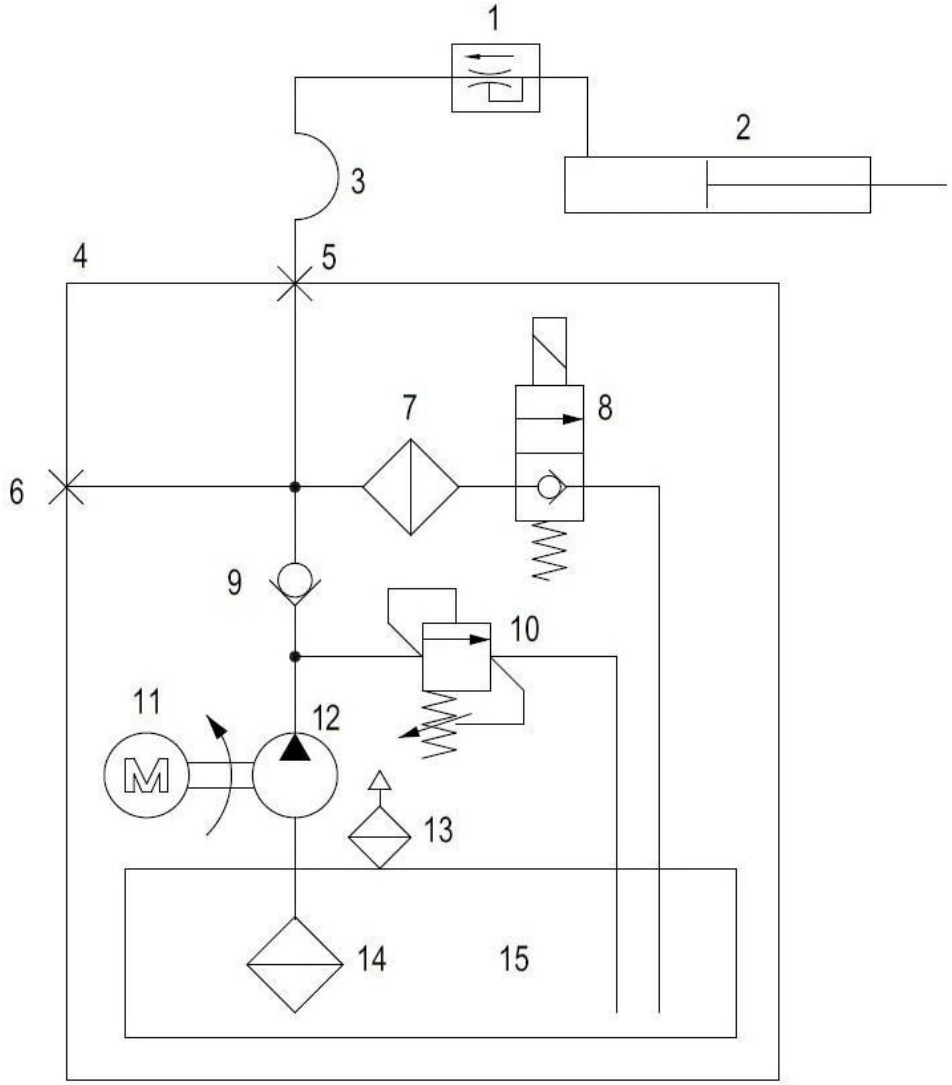
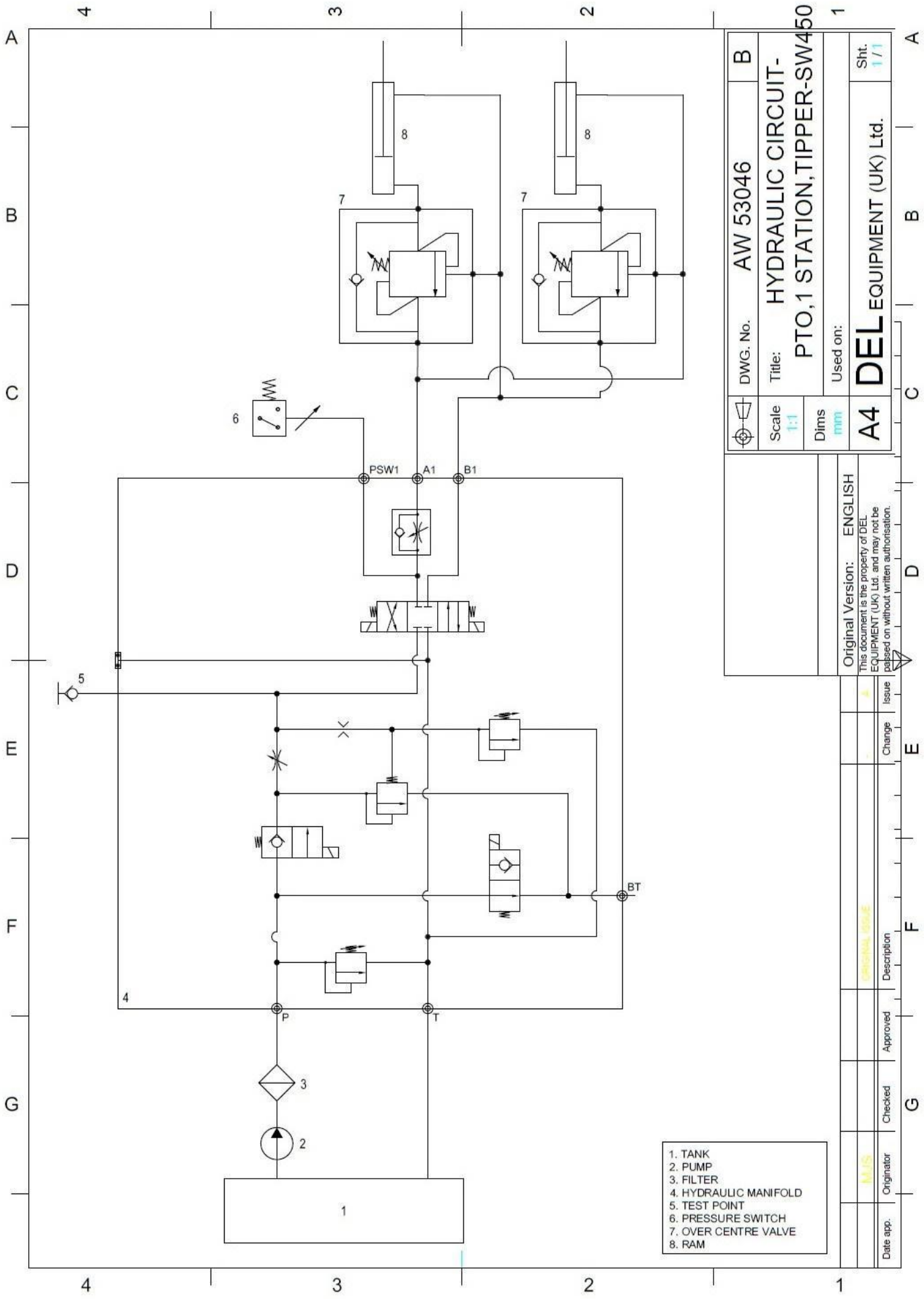


1. FLOW VALVE
2. LIFT RAM
3. HOSE
4. POWER PACK (INCLUDES ALL ITEMS BELOW)
5. PRESSURE PORT
6. PRESSURE GUAGE PORT
7. FILTER
8. LOWERING SOLENOID
9. NON RETURN VALVE
10. RELIEF VALVE
11. MOTOR
12. PUMP
13. OIL FILLER CAP
14. SUCTION FILTER
15. OIL RESERVOIR

DWG. No. AW 75215 C
Title: HYDRAULIC CIRCUIT-WHEELIE BIN LIFT
Used on:
Scale 1:1
Dims mm
A4
DEL EQUIPMENT (UK) Ltd.
Sht. 1 / 1

Original Version: ENGLISH

Issue	Change	Description	Approved	Checked	Originator	Date app.
A	-	ORIGINAL ISSUE			MJS	


DWG. No. AW 53046 B
Title: HYDRAULIC CIRCUIT-PTO,1 STATION,TIPPER-SW450
Used on:
Scale 1:1
Dims mm
A4
DEL EQUIPMENT (UK) Ltd.
Sht. 1 / 1
Original Version: ENGLISH
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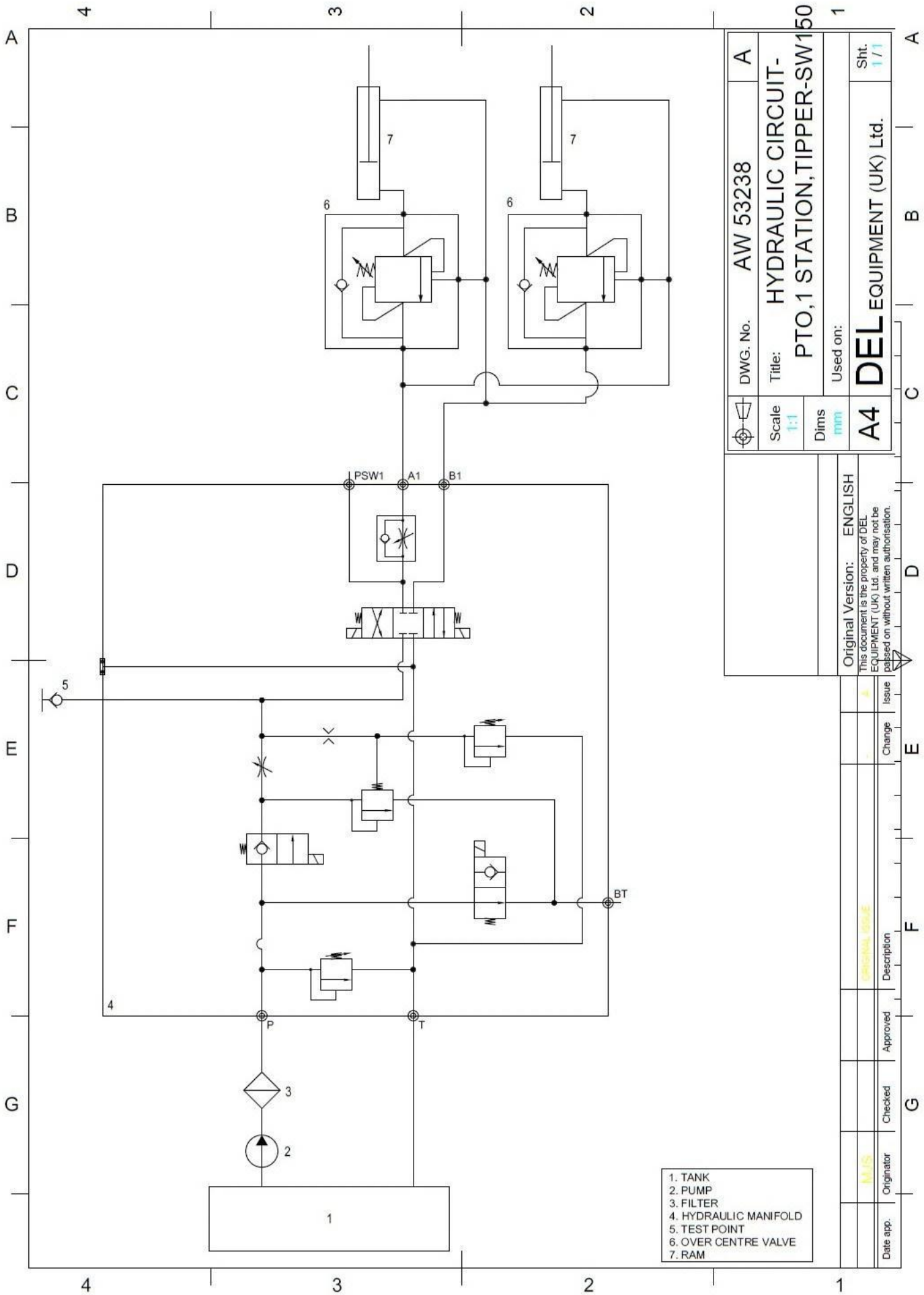
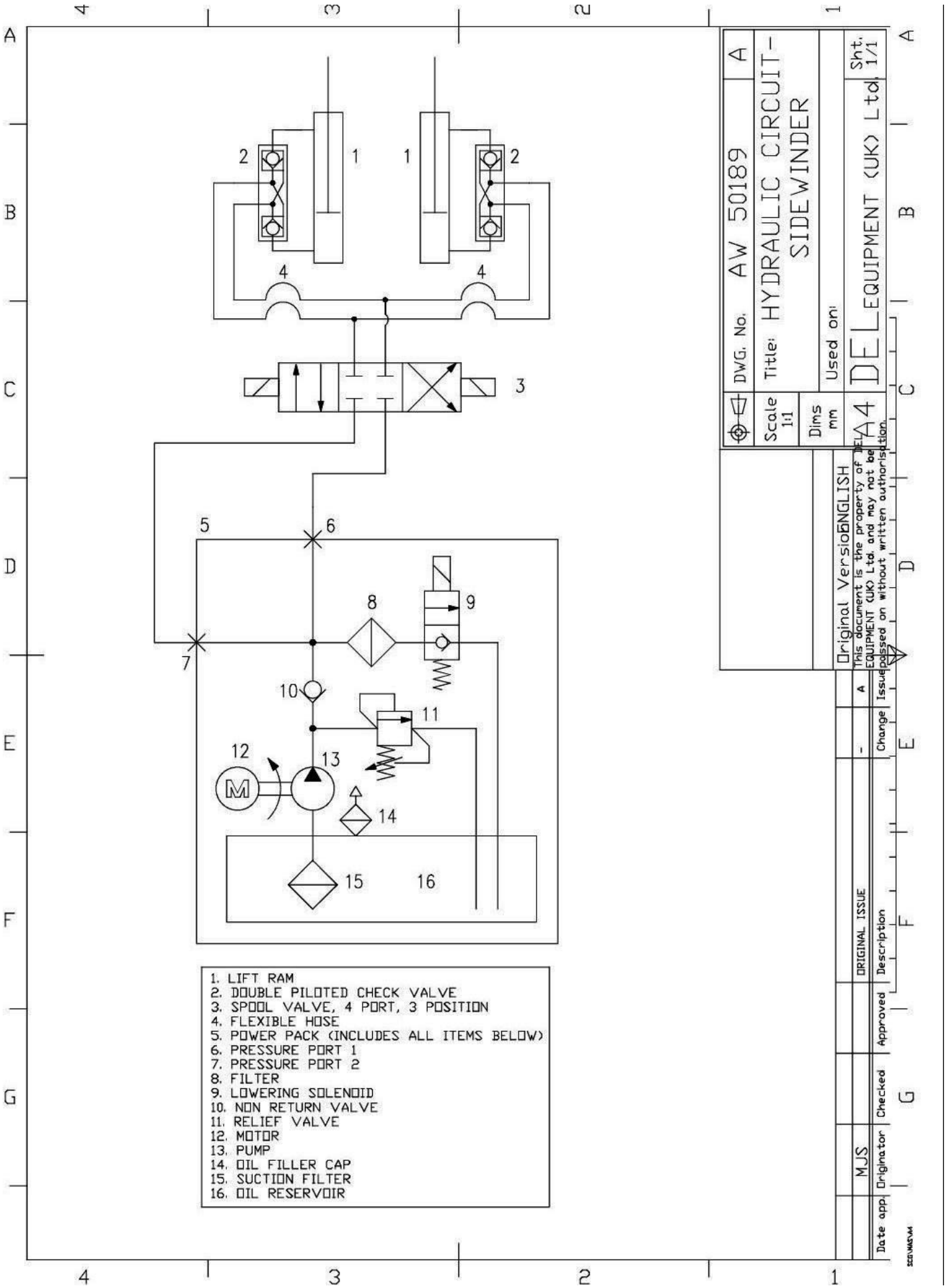
PSW1
A1
B1
BT
P
T
1. TANK
2. PUMP
3. FILTER
4. HYDRAULIC MANIFOLD
5. TEST POINT
6. PRESSURE SWITCH
7. OVER CENTRE VALVE
8. RAM
Issue
Change
Description
Approved
Checked
Originator
Date app.


DWG. No. AW 53238 A
Title: HYDRAULIC CIRCUIT- PTO,1 STATION,TIPPER-SW150
Used on:
Scale 1:1
Dims mm
A4
DEL EQUIPMENT (UK) Ltd.
Sht. 1 / 1
Original Version: ENGLISH
This document is the property of DEL EQUIPMENT (UK) Ltd. and may not be passed on without written authorisation.
PSW1
A1
B1
BT
P
T
1. TANK
2. PUMP
3. FILTER
4. HYDRAULIC MANIFOLD
5. TEST POINT
6. OVER CENTRE VALVE
7. RAM
Issue
Change
Description
Approved
Checked
Originator
Date app.


1. LIFT RAM
2. DOUBLE PILOTED CHECK VALVE
3. SPOOL VALVE, 4 PORT, 3 POSITION
4. FLEXIBLE HOSE
5. POWER PACK (INCLUDES ALL ITEMS BELOW)
6. PRESSURE PORT 1
7. PRESSURE PORT 2
8. FILTER
9. LOWERING SOLENOID
10. NON RETURN VALVE
11. RELIEF VALVE
12. MOTOR
13. PUMP
14. OIL FILLER CAP
15. SUCTION FILTER
16. OIL RESERVOIR
DWG. No. AW 50189
Title: HYDRAULIC CIRCUIT- SIDEWINDER
Used on:
DEL EQUIPMENT (UK) Ltd
Scale 1:1
Dims mm
A4
Sht. 1/1
Original Version ENGLISH
ORIGINAL ISSUE
Description
Approved
Checked
Originator
Date app.
MJS

HIAB LIMITED
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SHROPSHIRE
SY12 9JW
GB
www.hiab.com
TEL:+44 (0)24 76834500

HIAB WARRANTY REGISTRATION FORM

REGISTER YOUR DEL LIFT AND OBTAIN UPDATED

INFORMATION ON THE DEL RANGE

PLEASE PRINT CLEARLY.

1. Purchasers name:
2. Address:
   Town:
   County:
   Postcode: Tel No:
3. Form completed by: Position:
4. Type of business:
5. Model purchased: Serial No:
6. Truck make/model/reg.
7. Date purchased:
8. Purchased from:
9. Lift installed by:
10. Were you satisfied with the installation of this unit?
11. Were all warning decals affixed to the bin lift?
12. Number of bin lift you now operate?
    Of these, how many are DEL units?
    What other makes of bin lift do you own?
13. Was this purchase a replacement?
14. Why did you select a DEL bin lift?
    - Owned a DEL unit previously
    - Dealer recommended it
    - Colleague recommended it
    - Advertisement (Name of magazine)
    - Received literature in post
    - Price
    - Other (Please specify)
15. Are you planning to buy additional lifts within the next six months?

Thank you for completing this registration form. Once completed please return the form to HIAB UK Ltd at the address above.

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CARGOTEC INDUSTRIAL PARK
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TEL:+44 (0)24 76834500

LIFT TEST CERTIFICATE

DATE: DD / MM / YYYY

CUSTOMER NAME:		INSTALLER/TESTER NAME:	
ADDRESS:		ADDRESS:	
MODEL:		FITTED TO:	
SERIAL NO:		VEHICLE REG:	
RATED CAPACITY: (TEST LOAD)	kg	OVERLOAD SETTING: (TEST LOAD+25%)	kg

INSTALLATION TESTS	
1. STATIC TEST:	PASS / FAIL
2. DYNAMIC TEST:	PASS / FAIL
3. EXCESSIVE LOAD TEST:	PASS / FAIL
4. SAFETY FUNCTION:	PASS / FAIL
5. VERTICAL SPEED TEST:	PASS / FAIL
HAS THE FINAL INSPECTION CHECKLIST BEEN COMPLETED	YES / NO
HAS THE OPERATORS MANUAL BEEN PASSED ON TO THE END-USER	YES / NO

GENERAL OBSERVATIONS:

We certify that the product detailed above has been installed in accordance with the manufacturer's instructions and that all post installation tests have been completed and passed. We confirm that the manufacturer and end user have been consulted with regard to the products compatibility with the vehicle taking into account the intended use.
The product has not been modified in any way. Any modifications have been approved in writing by the manufacturer.

TESTED BY:	SIGNED:
COMPANY:	

THIS CERTIFICATE SHOULD REMAIN IN THE INSTALLATION HANDBOOK

NOTES

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