



Safe Operating Procedure Guide

PORTABOOM® SETUP AND OPERATIONS

Product:

PORTABOOM®
Patent number 2015901729

Model Number:

PB4000(L)

Document:

SOP Guide PORTABOOM® Setup and Operations

Revision:

Version 1, August 2024

Product Owner:

Traffic & Access Solutions Pty Ltd

Contact Details:

Address: 132 Toongabbie Rd, Girraween NSW 2145
Phone: 1300 329 738
Email: info@trafficaccess.com.au
Web: www.trafficaccess.com.au



Safe Operating Procedure Guide

Contents

- 1. Document control..... 3
- 2. Risk management 4
 - 2.1. Risk assessment and resources 4
- 3. Safe operating procedure..... 5
 - 3.1. Personal protective equipment 5
 - 3.2. Pre-operational checks 5
 - 3.3. Site instructions 5
 - 3.4. Review the location and conditions..... 7
 - 3.5. Setup of PB unit tower, boom arm and accessory lights..... 8
 - 3.6. Setup of traffic light and pedestrian light accessories 16
 - 3.7. Positioning for live operation..... 18
 - 3.8. Site operations..... 22
 - 3.9. Contingency planning..... 24
 - 3.10. Pack up summary 25
- 4. Warning 26



Safe Operating Procedure Guide

1. Document control

Version	Date	Author	Details
1	25/08/2016	Traffic & Access Solutions	SOP developed.
2	29/10/2019	Traffic & Access Solutions	SOP updated to include traffic and pedestrian light accessories; template updated.
3	01/06/2021	Traffic & Access Solutions	SOP Updated to include PB3000 Model
4	12/08/2024	Traffic & Access Solutions	SOP Updated to include PB4000 Model



2. Risk management

2.1. Risk assessment and resources

It is strongly recommended that users of this product and accessories conduct their own risk assessment and refer to the video resources for additional guidance. The following information is provided as a guide.

Traffic & Access Solutions Pty Ltd accepts no liability for any accidents, errors or omissions or any losses incurred by anyone who fails to operate the product safely.

General guidelines:

- Complete a risk assessment and train users in assembly and operational procedures.
- Wear appropriate personal protective equipment for setup and operations.
- Complete daily inspections of the product do not use if damaged or not fit for purpose.
- Apply manual handling controls or manual aid when moving the product.
- Ensure the product is installed on a level surface and is stable.

Video resources:

Instruction	Link
Best practice guide for traffic controllers	https://www.youtube.com/watch?v=uvgr1omjtE&feature=youtu.be





Note:

The product refers to the PORTABOOM® (PB) unit, the terms “Product” and “PB unit” may be used interchangeably throughout this document and other supporting resources.

3. Safe operating procedure

3.1. Personal protective equipment

It is recommended that you are wearing the following personal protective equipment when using the product or fitting / handling accessories.

Diagram	Recommendation
	Safety glasses worn on work areas.
	Steel cap boots worn in work areas.
	Gloves worn when handling equipment.
	Hard hat worn while working.

3.2. Pre-operational checks

- Ensure that the product is inspected prior to utilisation as it must be in a safe and working condition prior to use.
- Faulty equipment must not be used. Immediately report suspect equipment to your supervisor.
- **Note** – if something is not working it is most likely one of the mode switches not registering. Turn the product off, turn mode switches off (down), turn required mode switch on (up) and turn the product on (be patient as this will take approximately 5-10 seconds).

3.3. Site instructions

- Deliver product and accessories at the designated setup location, ensuring that it is in a safe location and on a level surface.
- It is recommended manual aid be adopted if lifting the product.
- Ensure relevant approvals have been obtained, risk assessments completed, and personnel trained on the relevant safe operating procedures.
- Ensure the product is switched off prior to fitting and connecting any accessory.
- Ensure that the product and accessories is assembled in a safe location.
- Ensure the product is set up on level ground and ensure wheels are always on the ground and not raised off the ground




Safe Operating Procedure Guide

3.4. PORTABOOM Considerations & Tips


- Daily Use
 - If the PORTABOOM unit(s) are utilised where daily loading and unloading and/or daily set up and pack up occurs, additional care and checks are required prior to commence utilisation
- Battery Usage
 - If access to 240v or 12v charging is limited due, we recommend utilising the boom led lights only in non-day light hours. This alone will significantly lengthen the PORTABOOM operating duration
 - Using Solar Panels
 - Ensure PORTABOOM unit is fully charged prior to deploying to site
 - Ensure battery indicator is checked daily and if the indicator for below 40% is present and continues for a couple days we advise to arrange a 240V overnight charge. If the 10% or less indicator is shown, the unit must be placed on charge that evening
 - Although the provided 40ah battery will suffice, if access to 240v charging for top up is not easily accessible we recommend the 90ah battery accessory for this and if LED boom lights or traffic/pedestrian lights are utilised

3.5. Review the location and conditions





Step	Instruction	Diagram															
<p>1.</p>	<p>Once on site, review TCP and identify the required positions of the PB units.</p> <p>The “PORTABOOM AHEAD” sign is to be placed at ‘D’ from the Flagman sign.</p> <p>The diagram shown is an NSW TCP setup – please refer to relevant TCP or equivalent for your respective state.</p>																
<p>2.</p>	<p>Prior to commencing the setup, an assessment of overhead hazards must be conducted. Look for low lying power lines, tree branches, streetlights, road signage which the boom arm may come in contact within its setup and operation.</p> <p>Identify other hazards that may impact the effective and safe operation of the PB unit such as uneven surfaces or obstructions.</p> <p>It is not recommended to use the PB unit on uneven ground.</p> <p>Where hazards have been identified, the operator (Traffic Controller), in consultation with the Team Leader / Supervisor, may be able to reposition the PB unit to remove the hazard.</p> <p>If a new position has been identified, ensure that scope of works can be maintained, and the TCP is amended to show the revised location of the PB unit(s).</p>	<table border="1"> <thead> <tr> <th>Hazard</th> <th>Risk</th> <th>Control Measure</th> </tr> </thead> <tbody> <tr> <td>Power Lines</td> <td> <ul style="list-style-type: none"> Electrocution Damage to powerlines Damage to PORTABOOM[®] </td> <td> <ul style="list-style-type: none"> Reposition PORTABOOM[®] to a different area to remove powerline hazard </td> </tr> <tr> <td>Trees (Branches etc)</td> <td> <ul style="list-style-type: none"> Branch falls from height, hitting TC, member of the public or client Damage to PORTABOOM[®] </td> <td> <ul style="list-style-type: none"> Reposition PORTABOOM[®] to remove hazard Diligent PORTABOOM[®] setup to ensure arm does not hit the tree </td> </tr> <tr> <td>Uneven Ground</td> <td> <ul style="list-style-type: none"> Slip/trip/fall resulting in injury PORTABOOM[®] damage from tipping over due to uneven ground/platform </td> <td> <ul style="list-style-type: none"> Risk assessment conducted Identify if PORTABOOM[®] can be moved to an area of even ground to reduce risk Vigilance when on-site and setting up PORTABOOM[®] / signage etc. </td> </tr> <tr> <td>Street Signs / Lights etc</td> <td> <ul style="list-style-type: none"> Damage to PORTABOOM[®] Damage to sign / light etc </td> <td> <ul style="list-style-type: none"> Reposition PORTABOOM[®] to remove hazard Diligent PORTABOOM[®] setup to ensure arm does not hit street signs and/or lights </td> </tr> </tbody> </table>	Hazard	Risk	Control Measure	Power Lines	<ul style="list-style-type: none"> Electrocution Damage to powerlines Damage to PORTABOOM[®] 	<ul style="list-style-type: none"> Reposition PORTABOOM[®] to a different area to remove powerline hazard 	Trees (Branches etc)	<ul style="list-style-type: none"> Branch falls from height, hitting TC, member of the public or client Damage to PORTABOOM[®] 	<ul style="list-style-type: none"> Reposition PORTABOOM[®] to remove hazard Diligent PORTABOOM[®] setup to ensure arm does not hit the tree 	Uneven Ground	<ul style="list-style-type: none"> Slip/trip/fall resulting in injury PORTABOOM[®] damage from tipping over due to uneven ground/platform 	<ul style="list-style-type: none"> Risk assessment conducted Identify if PORTABOOM[®] can be moved to an area of even ground to reduce risk Vigilance when on-site and setting up PORTABOOM[®] / signage etc. 	Street Signs / Lights etc	<ul style="list-style-type: none"> Damage to PORTABOOM[®] Damage to sign / light etc 	<ul style="list-style-type: none"> Reposition PORTABOOM[®] to remove hazard Diligent PORTABOOM[®] setup to ensure arm does not hit street signs and/or lights
Hazard	Risk	Control Measure															
Power Lines	<ul style="list-style-type: none"> Electrocution Damage to powerlines Damage to PORTABOOM[®] 	<ul style="list-style-type: none"> Reposition PORTABOOM[®] to a different area to remove powerline hazard 															
Trees (Branches etc)	<ul style="list-style-type: none"> Branch falls from height, hitting TC, member of the public or client Damage to PORTABOOM[®] 	<ul style="list-style-type: none"> Reposition PORTABOOM[®] to remove hazard Diligent PORTABOOM[®] setup to ensure arm does not hit the tree 															
Uneven Ground	<ul style="list-style-type: none"> Slip/trip/fall resulting in injury PORTABOOM[®] damage from tipping over due to uneven ground/platform 	<ul style="list-style-type: none"> Risk assessment conducted Identify if PORTABOOM[®] can be moved to an area of even ground to reduce risk Vigilance when on-site and setting up PORTABOOM[®] / signage etc. 															
Street Signs / Lights etc	<ul style="list-style-type: none"> Damage to PORTABOOM[®] Damage to sign / light etc 	<ul style="list-style-type: none"> Reposition PORTABOOM[®] to remove hazard Diligent PORTABOOM[®] setup to ensure arm does not hit street signs and/or lights 															

Step	Instruction	Diagram
3.	<p>Assess the weather conditions prior to setup by checking the Bureau of Meteorology radar (BOM) www.bom.gov.au/australia/radar/ for current and forecasted weather conditions.</p> <p>If the current or forecasted weather advises of windy conditions then add weight to the Stability Legs using sandbags, refer to section 3.6. If in doubt, add sandbags for increased stability.</p> <p>Important note:</p> <ul style="list-style-type: none"> - Remain diligent and vigilant with regards to environmental changes on worksites. - Environmental changes could result in having to add weight to the stability legs. - Monitor the BOM for forecasted weather conditions every 2 hours. 	





3.6. Setup of PB unit tower, boom arm and accessory lights

Step	Instruction	Diagram
1.	<p>Position the PB unit in the shoulder/kerb for set up, ensuring the shaft is facing the footpath.</p>	



Safe Operating Procedure Guide

Step	Instruction	Diagram
2.	Once in position, shift the spring-loaded locking pins into the locking position for both wheels.	
4.	With boom in the vertical position, lower the boom into the boom holder	
5.	The boom will slide down to the bottom of the boom holder. The clip on the boom will be positioned just above the top side of the boom holder	
6.	Place the latch over the clip as shown	





Safe Operating Procedure Guide

<p>7.</p>	<p>Pull down the latch to secure boom to the boom holder. Ensure when secured it is a snug fit but ensure not too tight. *The latch can be modified to loosen or tighten. Do not use any force to attach the latch to the clip on the boom. If it is tight, loosen the latch bolt</p>	
<p>8.</p>	<p>Using the access panel key provided, open the small compartment panel</p>	
<p>9.</p>	<p>Turn the PB unit on and wait a few seconds until there is a slight audible sound and 1 x red light flashing which means the unit is ready for calibration.</p>	
<p>10.</p>	<p>Press the remote button (Or button on the control panel) which will commence the calibration process. Can be up to 10 seconds before the boom moves</p>	



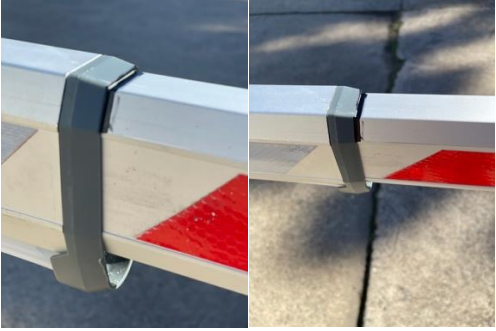
Safe Operating Procedure Guide

<p>11.</p>	<p>The boom will lower to approximately 50 degrees, stop, then it will automatically raise back to the vertical position</p>	
<p>12.</p>	<p>When raised vertical the green lights will appear and the unit is ready for operation</p>	


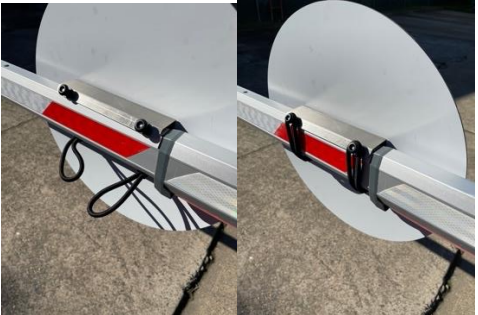


Safe Operating Procedure Guide



Step	Instruction	Diagram
Step	Instruction	Diagram
13.	Press button to lower the boom to horizontal	
14.	Locate the plunge pin as shown	
15.	Raise the pin to free the inner boom section. Do not use any force whilst doing this. If you find that it is not coming free easily, slightly move the inner section either way with slight pull of the pin and it will come free	
16.	Whilst the pin is raised, use other hand to slide out the inner section	

Safe Operating Procedure Guide




<p>17.</p>	<p>Slide out to the desired length. *Note – Holes for varied boom lengths are located approximately every 200mm</p>	
<p>18.</p>	<p>Whilst sliding and you are close to the desired extension length, let go of the plunge pin and the pin will find the next hole and secure the boom</p>	
<p>19.</p>	<p>*Note – Max extension of 4m occurs when the black mark is visible</p>	

Safe Operating Procedure Guide

Step	Instruction	Diagram
20.	<p>Locate the stop sign ready to attach to boom</p> <p>Note:</p> <ul style="list-style-type: none"> - The use of PORTABOOM to stop traffic on public roads must always have the stop sign attached 	
21.	<p>Attach "STOP" sign using the buckles straps to secure the sign.</p>	
22.	<p>Ensure the stop sign is positioned in the direction of oncoming traffic.</p> <p>Note:</p> <ul style="list-style-type: none"> - Stop signs may vary from stage/region. - Refer to your relevant state approvals i.e. NSW uses octagonal stop signs whilst all other states use a round stop sign. 	
23.	<p>Check manual operation of the unit (UP, DOWN, STOP, ACCESSORY LIGHTS) using the "PUSH BUTTON" in the top left-hand corner of the control panel.</p> <p>For PB4000L models, All switch functions are to be switched off (in down position) for manual boom operation.</p>	

Step	Instruction	Diagram
24.	<p>The PB4000 Model now includes a programme button to pair remotes. Instructions are in the user manual and should not be shared with operators utilising the product</p> <p>Warning: This should only be performed by Fleet and Supervisory staff. When performing traffic control duties, never programme 1 x Unit Remote to another Unit as it could cause both units to operate simultaneously</p>	
25.	<p>Prior to operation, check the operation of both remote controls (UP, DOWN, STOP, ACCESSORY FUNCTIONS) using the single button remote controls provided.</p> <p>Note: All remotes are labelled with a unit number to match the PB tower unit number.</p>	

3.7. Setup of traffic light and pedestrian light accessories



Step	Instruction	Diagram
1.	<p>Traffic light and pedestrian light accessories are available as an additional enhancement to the PORTABOOM product.</p> <p>Select the relevant accessory noting that a similar process for installation applies.</p>	
2.	<p>Insert the accessory attachment rod / arm into the connection point.</p> <p>If using the traffic light, position the traffic light in the direction of oncoming traffic.</p> <p>If using the pedestrian light, position the pedestrian light in the direction of pedestrians.</p> <p>Secure this position with the clip provided as shown</p>	
3.	<p>Use the white marks to line up the cable plug to the connector for easy alignment.</p> <p>Line up pins and connect the accessory cable plug to the L1 port.</p> <p>Note that the L1 Port is the primary Light and is predominantly used for 1 light operation, the L2 Port is secondary.</p> <p>Ensure the plug is pushed in and connected.</p>	
4.	<p>To establish functionality, access the control panel and select the required mode (switch up for on).</p> <ul style="list-style-type: none"> - Auto Open (AO) will activate an automatic cycle commencing with the traffic light green and boom open. - Auto Close (AC) will activate an automatic cycle commencing with the traffic light red and the boom closed. <p>Turn the product on, once the self-testing cycle is complete (5-10seconds), the power light will illuminate green indicating that it is ready.</p>	

Safe Operating Procedure Guide

Step	Instruction	Diagram
5.	<p>If utilising the dual pedestrian and traffic light accessory and functionality, fit the attachment bracket to the traffic light then connect the pedestrian light to the bracket.</p> <p>The PB unit must be firmly secured to a level surface (bolted through stability legs).</p> <p>Note: Consider appropriate manual handling controls when fitting attachment.</p> <p>Insert the accessory attachment rod / arm into the connection point and secure with a minimum of two wing nuts (hand tighten).</p> <p>Position the traffic and pedestrian light in the direction of oncoming traffic and pedestrian.</p>	
6.	<p>Line up pins and connect the traffic light cable plug to the L1 port (primary) and the pedestrian light cable plug to the L2 port (secondary).</p> <p>Ensure that both plugs are pushed in and fully connected.</p>	
7.	<p>To establish functionality, access the control panel and select the required mode (switch up for on).</p> <ul style="list-style-type: none"> - Auto Open (AO) will activate an automatic cycle commencing with the traffic light green, pedestrian light red and boom open. - Auto Close (AC) will activate an automatic cycle commencing with the traffic light red, pedestrian light green and the boom closed. <p>Turn the product on, once the self-testing cycle is complete (5-10 seconds), the power light will illuminate green indicating its ready.</p>	





8.	<p>IMPORTANT NOTE:</p> <ul style="list-style-type: none"> - If the boom arm is not required, switch deactivate boom (DB) off and detach it from the product. - If you are intending on using any of the other accessories, connect them prior to turning the PB unit on. <p>Refer to the relevant section of this SOP or the user manual for instructions.</p>	OTHER ACCESSORIES
----	---	--------------------------

3.8. Positioning for live operation

Step	Instruction	Diagram
1.	Ensure the boom arm is in the vertical position.	
2.	Enables brakes (standard or all-terrain mechanism).	


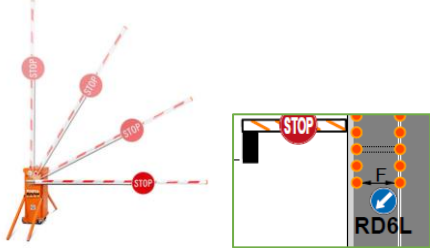

Step	Instruction	Diagram
------	-------------	---------

Safe Operating Procedure Guide

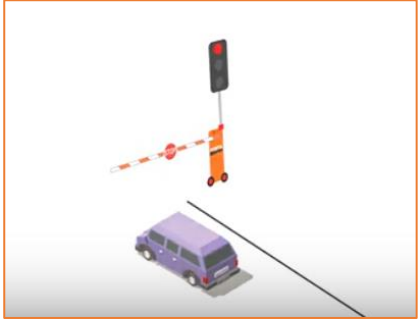


<p>3.</p>	<p>Secure stability legs by first pulling the plunge pin maximum (this ensures the stability leg unhitches freely).</p>	
<p>4.</p>	<p>Placing one hand on the plunge pin and the other hand at the base of the leg, slide the stability leg out to the maximum position</p>	
<p>5.</p>	<p>Once in position as shown, line up the hole and release the plunge pin which will lock the stabiliser into position</p>	
<p>6.</p>	<p>Secure Front stability legs by first pulling the plunge pin maximum (this ensures the stability leg unhitches freely).</p>	

Safe Operating Procedure Guide

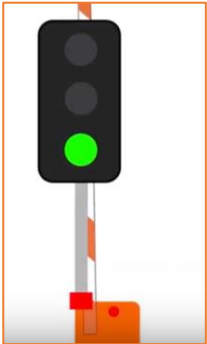

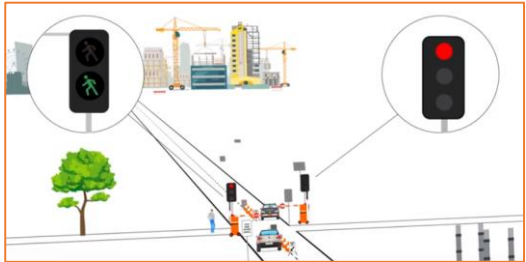
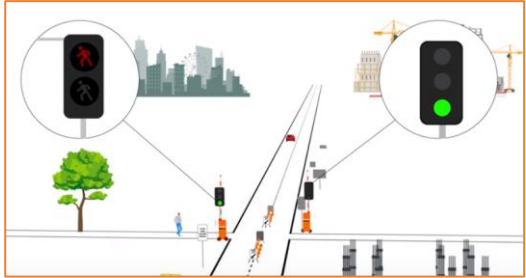
<p>7.</p>	<p>Repeat process for all stabilisers and slide the stability legs out to the maximum position and lock by releasing the plunge pin</p>	
<p>8</p>	<p>Once all stabilisers are locked in at the maximum position, lower the levelling feet to ground position and stop when the weight of the unit has been taken</p> <p>Caution: - Never lower the feet to the point where the units' wheels are off the ground. This can cause a backward tipping effect</p>	
<p>8.</p>	<p>Apply the same process to all 4 stability legs to complete the setup.</p>	

Step	Instruction	Diagram
9.	<p>Add sandbags to all stability legs for increased stability and in the event of windy / forecasted windy conditions, sandbags MUST be applied to all 4 stability legs for additional stability.</p>	
10.	<p>Leave the boom arm in an upright operational position until you are ready to commence controlling traffic / site.</p> <p>Ensure advancing warning signs, "KEEP LEFT" signs and lead in cones are all positioned in accordance with the selected TCP.</p> <p>Repeat steps for setting up additional PB units.</p>	
11.	<p>If using the pedestrian button accessory, position the pedestrian button near the PB unit (radius no greater than 4m).</p> <p>Ensure the plate is on a flat surface and secured to the ground to prevent it from falling.</p> <p>Ensure the button is visible and accessible to pedestrians.</p>	


Site operations

Step	Instruction	Diagram
1.	<p>Once all the PB units are setup, tested and ready for operation, position yourself in a safe area that will allow you to operate the PB units ensuring you adhere to all line of site and operational distances and radius.</p>	
2.	<p>When a single operator is operating multiple PB units, the PB units must be labelled with the supplied magnets.</p> <p>The magnets are numbered to correspond with the respective remote control.</p> <p>Operators must ensure they always use remote control caddy ensuring the remote controls are labelled the same as the PB unit magnets.</p>	
3.	<p>Ensure operators are positioned in a safe zone off the road / away from vehicle or plant movement paths.</p> <p>Operators should be positioned no further than 75m from the PB unit.</p> <p>Ensure operators have clear line of site (at least 120m visual on approach) for any PB units in operation.</p> <p>The traffic light accessory is synchronised with the operation of the boom arm.</p> <p>Standing in the safe zone, the operator activates the controller to stop the traffic.</p> <p>The traffic light changes from green to amber to red, after approximately 3 seconds the boom arm lowers securing the work zone and providing a physical barrier.</p>	

Safe Operating Procedure Guide

Step	Instruction	Diagram
4.	<p>When it is safe for the motorists to proceed, the operator activates the remote control which raises the boom arm.</p> <p>When the boom arm is completely vertical, the traffic light turns green for the motorists to proceed.</p>	
5.	<p>If using the traffic light fitted with the pedestrian light accessory, this will be used to assist with managing pedestrians.</p> <p>The traffic light accessory controls the vehicles which have right of way and the pedestrian light assists with controlling pedestrians.</p>	
6.	<p>When a pedestrian pushes the crossing button, the traffic lights will activate changing the light to amber and red.</p> <p>Once the traffic light changes to red, the boom arm will lower to stop traffic, the pedestrian walk light then turns green for pedestrians to cross.</p>	
7.	<p>When the pedestrian crossing phase is complete, the pedestrian sign will flash red, then turn solid red.</p> <p>The traffic lights turn from red to green and the boom arm raises to the vertical position.</p>	

3.9. Contingency planning

Step	Instruction	Diagram
1.	<p>If a PORTABOOM® Tower fails, ensure you are prepared to:</p> <ul style="list-style-type: none"> - manually operate the failed Tower and operate the “other” Tower by using the remote control. <p>OR</p> <ul style="list-style-type: none"> - perform STOP/SLOW in place of the failed Tower and operate the “other” Tower by using the remote control. 	 <p>The diagram illustrates a contingency plan for a tower failure. It shows a yellow PORTABOOM truck on a road. Several workers in orange safety gear are positioned around the truck, some holding traffic cones. A dashed line indicates a lane or boundary. The scene is set on a road with a white dashed line and a solid line, suggesting a controlled work area.</p>



Safe Operating Procedure Guide

3.10. Pack up summary

The following guide will assist with the pack up process:

Step	Instruction
1.	Raise the boom arm to vertical position.
2.	Turn PB unit off.
3.	Remove accessory cables from ports and sockets, detach accessories and stow appropriately.
4.	Remove sandbags from stability legs and stow on vehicle (if applicable).
5.	Wind up the stability leg leveling foot up to maximum & slide back into the stowed position and lock with plunge pin
6.	Disable brakes and reposition the PB unit clockwise parallel to the curb.
7.	Enable brakes, turn PB unit back on and lower the boom arm.
8.	Unbuckle the STOP sign and stow away.
9.	Lift plunge pin and retract boom arm to stow position
10.	Turn PB unit off, switch accessories off and lock the control panel.
11.	Place remote into pocket of carry bag (ensuring the spare remote and small panel key are also stowed).
12.	When in raised position, unclip the latch from boom holder and remove boom
13.	Place boom arm in the carry bag and zip to close.
14.	Disable brakes on PB unit.
15.	Reposition the PB unit to a safe level surfaced area ready for loading.
16.	Enable brakes.

4. Warning

WARNING

- Product
 - Only qualified technicians should access the internals of the main tower unit
 - Only qualified technicians should utilise the programme button to pair remotes.
 - Periodically review battery clamp to ensure it remains well secured
 - Use the 240V Charging outlet for battery charging only. Never use as the source of power and keep plugged in
 - Do not touch or interfere with the white control box located inside the main tower unit
 - When installing stabiliser legs and levelling feet, wheels are not to be lifted off the ground
- Operation
 - Ensure only trained and competent personnel use the product and accessories.
 - Ensure operators hold the appropriate tickets and licences for the work environment.
 - Ensure operators and relevant personnel have read and understood the SOPs.
 - Ensure appropriate plans, risk assessments and approvals are established.
 - Ensure the PB product is on a stable and level surface and secure to prevent it from falling.
 - Ensure product is turned off prior to fitting or adjusting any accessories.
 - Some of the accessories are considered heavy or awkward, it is recommended that manual aid or a two-person lift be adopted.
 - Wear gloves when handling and fitting any of the accessories.
 - Ensure accessories are appropriately secured to prevent them from falling.
 - If any of the accessories are not working or damaged, do not use them, refer to the user manual or contact your distributor.
 - Always remain vigilant around plant, vehicles and worksite activities.
 - Closely monitor vehicle movements and traffic flow.
 - Stay in your safe zone and away from the live lanes – never turn back on traffic.
 - Ensure clear escape routes.