



ARRESTA 100®

Product Manual

[Trailer Vehicle Arrestor]

Important

Read this manual before
operating the Arresta 100

Version 1.0 - October 2025

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1. INTRODUCTION AND SAFETY INFORMATION

1.1 PRODUCT IDENTIFICATION

This manual covers the installation, operation, maintenance, and removal of the Arresta 100 (Trailer Vehicle Arrestor), a mobile road safety device for static worksites.

Model: Arresta 100 (Trailer Vehicle Arrestor)

Manufacturer: ProTx

Test Level: MASH TL-3

Manual Version: 1.0

Publication Date: October 2025

1.2 PURPOSE AND SCOPE

The Arresta 100 (Trailer Vehicle Arrestor), hereafter referred to as the Arresta 100, is a trailer-based vehicle arrestor system intended for use at static worksites only.

This manual provides information required for safe and effective operation, including:

- » Device deployment and recovery procedures
- » Operational requirements in alignment with AGTTM
- » Inspection and routine maintenance procedures
- » Safety guidelines
- » Technical specifications

For service and repair details, refer to the separate Arresta 100 (Trailer Vehicle Arrestor) Service & Repair Manual.

1.3 KEY SAFETY WARNINGS



WARNING **STATIC WORKSITES ONLY.**

The Arresta 100 must only be used for stationary work zones and never for mobile or rolling operations (e.g. line marking, moving maintenance).



WARNING **TOW VEHICLE MUST BE DISCONNECTED AND REMOVED.**

The towing vehicle must be completely disconnected and removed clear of the 40m safety buffer zone before the Arresta 100 becomes operational.



WARNING **DEVICE MUST BE FULLY DEPLOYED TO GROUND LEVEL.**

The Arresta 100 base plate must be in complete contact with the road surface (deployed mode), never left elevated in transport mode when deploying at a worksite.



WARNING **SAFETY BUFFER REQUIRED**

A minimum 40m safety buffer must be maintained between the Arresta 100 and the work area. See Section 4-Static Worksite Set Up for requirements.



WARNING **PEDESTRIAN CLEAR ZONE REQUIRED**

The Shoulder and Roadside (shoulder, verge, footpaths, etc.) areas adjacent to the protected lane, must be kept clear of all people through the full 40m safety buffer. See Section 4-Static Worksite Set Up for requirements.



WARNING **DEPLOYMENT SETBACK REQUIRED**

The Arresta 100 must be deployed a minimum of 0.5 metres from the road edge to ensure proper function during impact. See Section 4-Static Worksite Set Up for requirements.



WARNING **MAXIMUM TOWING SPEED. 100 km/h.**

Never exceed this speed when towing the Arresta 100.



WARNING

The operator is at risk of injury or death from approaching traffic during both deployment and recovery operations. Follow procedures carefully and maintain traffic awareness at all times. Always approach from the non-traffic side and never proceed with coupling/decoupling until you have assessed it is safe to do so.



WARNING

The Arresta 100 must be properly deployed to be effective. Incorrect positioning or deployment may severely reduce its ability to arrest vehicles and protect workers.

1.4 SYSTEM OVERVIEW

The Arresta 100 is designed for use at static worksites in the same setup configuration as a TMA, but without requiring a support truck to remain connected.

The device operates in three modes:

1. **Transport Mode** - For towing to and from work locations
2. **Deployed Mode** - Functioning as a safety device with the trailer disconnected from the tow vehicle, and lowered with the base plate on the ground
3. **Storage Mode** - For non-operational storage

When deployed as a safety device, the system:

- » Rests directly on its base plate with high-friction pads contacting the road surface
- » Absorbs energy through the impact face and internal components
- » Provides controlled deceleration of impacting vehicles

1.5 CERTIFICATION AND COMPLIANCE

The Arresta 100 has been tested and certified in accordance with MASH 2016 (Manual for Assessing Safety Hardware) standards at Test Level 3 (TL-3). Testing was conducted following the TMA (Truck Mounted Attenuator) test matrix, excluding the support truck elements, since the Arresta 100 is designed to function as a free-standing unit without requiring a support vehicle when deployed.

The following tests were conducted by Crashlab (Transport for NSW) between September 2024 and February 2025:

- » Test 3-50: 1100kg small car impact at 99.9 km/h (0° angle, centered)
- » Test 3-51: 2270kg pickup impact at 100.0 km/h (0° angle, centered)
- » Test 3-52: 2270kg pickup impact at 100.8 km/h (0° angle, 1/3 offset)
- » Test 3-53: 2270kg pickup impact at 101.3 km/h (10° angle, 1/4 offset)

All tests were successful, with the Arresta 100 meeting the MASH evaluation criteria for structural adequacy, occupant risk, and vehicle trajectory. The device successfully arrested vehicles with acceptable levels of occupant impact velocity (OIV) and ridedown acceleration (RA), and protected the designated work zone in all test scenarios.

The Arresta 100 (Trailer Vehicle Arrestor) has been assessed as crashworthy by the Austroads Safety Barrier Assessment Panel (ASBAP) in accordance with AS/NZS 3845 Part 2 Section 6. The Crashworthiness Assessment was issued on 4 December 2025 and is included in Appendix A, Section 10.1. The Technical Conditions of Use (referred to as 'System Conditions' in the Crashworthiness Assessment) must be followed at all times.

1.6 LEGAL DISCLAIMER

IMPORTANT LEGAL NOTICE

PLEASE READ CAREFULLY

This manual contains important safety, operation, and maintenance information for the Arresta 100 Trailer Vehicle Arrestor. The device must only be used in accordance with the procedures and requirements detailed in this manual AND the Technical Conditions of Use (TCU) document provided in Appendix 10.1.

ProTx has taken reasonable care in the preparation of this manual to ensure its accuracy. While we strive to provide complete and accurate information, this manual is provided “as is” without warranty of any kind.

The Arresta 100 has been crash tested to meet MASH TL-3 specifications when deployed exactly as specified in this manual and the Technical Conditions of Use. Any deviation from these instructions may compromise safety performance and void certification compliance.

The user assumes all risks and responsibilities for the proper, safe use, operation, and maintenance of the Arresta 100. ProTx will not be liable for any consequences resulting from failure to use the product in accordance with this manual and the Technical Conditions of Use.

Component Manufacturer Guidance: For all third-party components (including but not limited to tow coupling, dolly wheel, arrow board, paint, and other manufacturer-supplied parts), operators should follow the respective manufacturer’s product manuals and service/maintenance guidelines in addition to the guidance provided in this manual.

2. SYSTEM SPECIFICATIONS

2.1 DIMENSIONS AND WEIGHTS

PARAMETER	SPECIFICATION
Length	7175 mm
Width	2400 mm
Height (Transport Mode)	1850 mm
Height (Deployed Mode)	2400 mm
Ground Clearance	250-300 mm
Tare Weight	2,000 kg
ATM (Aggregate Trailer Mass)	2,500 kg
Wheel	16 × 7.5, 135 Nm wheel nut torque
Tyre	LT265/75R16, min. LI 121, rec. 65 PSI

2.2 PERFORMANCE PARAMETERS

PARAMETER	SPECIFICATION
Impact Speed	100 km/h (MASH TL-3)
Test Arrest Distance (small car)	9.5 m (measured in TL-3 crash test)
Test Arrest Distance (pickup)	23.9 m (measured in TL-3 crash test)
Required Safety Buffer	40 m minimum (see Section 4.3.1)
Support Vehicle Mass	Not applicable - unit is free-standing when deployed

2.3 OPERATING CONDITIONS

CONDITION	RANGE
Operational Temperature	-10°C to +45°C
Storage Temperature	-15°C to +60°C
Road Surface	Sealed roads only
Maximum Slope	1:20 (5%)
Maximum Cross-Slope	1:25 (4%)

2.4 ELECTRICAL SYSTEM

COMPONENT	SPECIFICATION
System Voltage	12 Volt DC
Electrical Connection	12-pin Flat Plug
Power Source	Onboard 12V Battery
Battery Type	Lithium (LiFePO4) 100Ah
Battery Charging	Solar; Anderson plug; 240V mains

2.5 TOWING VEHICLE REQUIREMENTS

REQUIREMENT	SPECIFICATION
Minimum Towing Capacity	2,500 kg
Tow Ball Height	350mm - 460mm (ADR 62/01 compliant)
Tow Ball Size	50 mm
Electrical Connection	12-pin Flat Socket
Brake Controller	Electric Brake Controller Required
Maximum Towing Speed	100 km/h

3. PRINCIPAL COMPONENTS

3.1 MAIN TRAILER BODY



Figure 3.1: Main components of the Arresta 100 Main Body

The Main Body is the durable structural component of the Arresta 100, designed to be reusable after an impact event. It is primarily constructed of steel components and includes:

1. **Trailer Chassis** - Heavy-duty steel frame forming the structural base
2. **Drawbar** - Connects to towing vehicle with 50mm coupling
3. **Drawbar Support Leg** - Electronically operated height adjustment system specifically for raising and lowering the drawbar to facilitate coupling/uncoupling with the tow vehicle
4. **Suspension System** - Airbag lift/lower mechanism that retracts the wheels during deployment
5. **Sway Control** - Electronic stability control system that automatically applies trailer brakes to counteract sway movements during towing
6. **Base Plate** - Contact surface with high-friction pads
7. **Control Box** - Central housing for the Arresta 100's electrical and pneumatic systems, including the battery and battery isolator
8. **Arrow Board & Warning Lights** - Integrated directional arrow board combined with high-visibility yellow flashing beacons and hazard lights to provide maximum advance warning to approaching drivers.

The Main Body is engineered to withstand multiple impacts, however it requires thorough inspection after each impact before returning to service. Following inspection and verification of structural integrity, the Main Body can typically be paired with a replacement Cassette for continued operation.

3.2 IMPACT CASSETTE

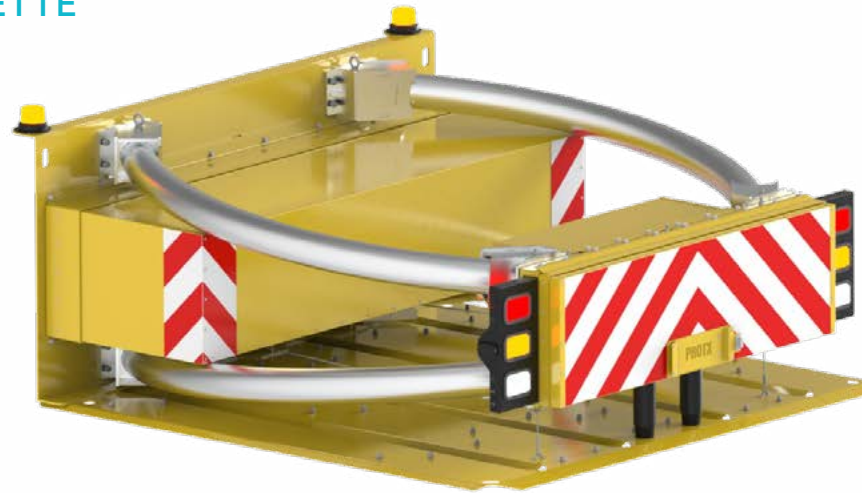


Figure 3.2: Key components of the replaceable Impact Cassette

The Impact Cassette is a replaceable, bolt-on/bolt-off component designed to absorb impact energy during a collision. It is intentionally sacrificial, meant to be replaced after an impact event. The Cassette is primarily constructed of aluminum components and includes:

1. **Impact Face** - Primary energy-absorbing front surface designed to initiate controlled deceleration
2. **Honeycomb Energy Absorbers** - Precision-engineered aluminum crush elements that progressively deform to absorb and dissipate impact energy
3. **Crush-Alignment Arms** - Specialized tubes that both guide the controlled collapse sequence and absorb impact energy during collision events
4. **Floor Plate/Deck** - Flat structural surface that provides the foundation for the cassette assembly
5. **Vertical Plate** - Robust vertical plate at the rear of the cassette that connects to the Main Body while supporting other features of the cassette
6. **Support Lines** - High-strength synthetic fiber ropes that support the cassette floor plate during transport mode, preventing damage from road vibration and bouncing when being towed

The sacrificial nature of the Cassette allows for a more cost-effective system overall, as only this component typically needs replacement after an impact rather than the entire device. This modular design enables faster return to service with minimal downtime, allowing operators to quickly get the Arresta 100 back to work protecting road workers after an impact event.

3.3 CONTROL SYSTEMS



Figure 3.3: Controller

1. **Control Pendant** - Handheld wired controller attached to the control box on the non-traffic side of the Arresta 100, providing all operational functions needed for deployment and recovery.
2. **Pendant Controls** - Controls on pendant include:
 - » **“AIRBAG INFLATE”** Push button once and system will automatically inflate airbags to raise the unit to transport mode ride height
 - » **“AIRBAG DEFLATE”** Push button once and system will automatically deflate airbags completely, lowering unit to ground
 - » **“LEG EXTEND”** Press and hold button to extend drawbar support leg. Release at desired height for coupling/uncoupling (accommodates varying tow vehicle heights)
 - » **“LEG RETRACT”** Press and hold button to retract drawbar support leg. Release when fully retracted or at desired height
 - » **“LIGHTS”** Push button once to turn arrow board and warning beacons on/off. This also controls the raising and lowering of the arrow board. When turned ON, warning beacons and hazard lights activate immediately. The arrow board raises to upright position after a 10-second delay - this allows the driver to reduce speed to the required 40 km/h maximum before the arrow board is raised. When turned OFF, the arrow board automatically lowers to horizontal position for transport mode.
NOTE: When the Arresta 100 is connected to a tow vehicle, this function can also be activated/deactivated by turning the tow vehicle’s hazard lights on/off.
 - » **“ARROW PATTERN”** Push button once to toggle between different arrow display patterns (right arrow, left arrow, double arrow, corner caution)
 - » **“PARK BRAKE”** Press and hold button for 2 seconds to turn parking brake on/off. LED indicates status: flashes orange while engaging or releasing; solid RED = parking brake fully ON; solid GREEN = parking brake fully OFF
 - » **“SPARE”** Manual override - press and hold to manually override automatic system functions. Safety interlocks remain active at all times and cannot be overridden
3. **Emergency Controls - Manual override systems:**
 - » **Backup Controller** - Located inside the Control Box, this is a duplicate set of controls identical to the primary pendant. It can be used if the primary pendant is damaged or malfunctioning
 - » **Manual release valve for pneumatic system**
 - » **Emergency Scissor Jack**
 - » **Emergency Dolly Wheel** - Backup support system (not for standard deployment or recovery). See Section 8.5 for more details

3.4 SIGNAGE AND LIGHTING

1. **Road Lighting** - Stop, tail, indicator, and licence plate lights
2. **Warning Lights** - Beacons and flashing hazard lights
3. **Arrow Board** - Directional signage with multiple patterns
4. **Retroreflective Markings** - High-visibility markings for night visibility

4. STATIC WORKSITE SET UP

The Arresta 100 is designed exclusively for static worksites and is deployed following the established principles and procedures specified in AGTTM Part 3, Section 5.8.1, with additional Technical Conditions of Use (referred to as 'System Conditions' in the Crashworthiness Assessment - see Appendix 10.1) specific to the Arresta 100. This section provides a planning checklist (Section 4.1), explains the operational requirements (Section 4.2) and setup requirements (Section 4.3), and uses visual setup diagrams to show how all Technical Conditions of Use work together (Section 4.4). Work through each subsection in order to ensure proper configuration and compliance.



WARNING **STATIC WORKSITES ONLY.**

The Arresta 100 must NEVER be used for mobile or rolling operations such as line marking or moving maintenance activities. The device requires the tow vehicle to be disconnected and removed, and the Arresta 100 lowered to the ground to provide protection.

4.1 SITE PLANNING & ASSESSMENT

Before deployment, ensure:

1. Site Planning

- » If a Traffic Management Plan exists, review and follow it
- » Verify advance warning signs are in place if required
- » Check that speed reduction measures are in place if required

2. Site Assessment

- » Surface is flat, clean and suitable for deployment
- » Safety buffer zone of at least 40 metres is available
- » Location is suitable for the intended protection zone
- » Minimum 0.5 metre clearance from road edge is available
- » Shoulder and Roadside (all public land beside the road -verge, nature strip, footpaths, etc.) areas to be kept clear of all people
- » No obstructions that would prevent proper positioning

4.2 OPERATIONAL REQUIREMENTS

The Arresta 100 operates differently from a TMA in three critical ways. These operational requirements are Technical Conditions of Use and must be strictly followed.

4.2.1 STATIC WORKSITES ONLY (TCU 1)

The Arresta 100 is designed exclusively for stationary work zones and must never be used for mobile or rolling operations (such as line marking or moving maintenance activities).

4.2.2 TOW VEHICLE DISCONNECTION REQUIRED (TCU 2)

Unlike a TMA where the support truck remains connected throughout the operation, the Arresta 100 requires the towing vehicle to be completely disconnected and removed from the 40m safety buffer zone before the device becomes operational.

4.2.3 GROUND DEPLOYMENT MANDATORY (TCU 3)

The device must be fully lowered to the ground with the base plate in direct contact with the road surface. It must never be left elevated in transport mode when providing protection.

4.3 SETUP REQUIREMENTS

The Arresta 100 requires specific safety zones to function effectively and protect all personnel. These requirements are Technical Conditions of Use (TCU) and must be followed.

4.3.1 SAFETY BUFFER - 40M MINIMUM (TCU 4)

In accordance with AGTTM Part 3, Section 5.8.1, a minimum safety buffer of 40 metres must be maintained between the Arresta 100 and the work area. This standard TMA setup configuration is illustrated in Figure 4.1 below in Section 4.3 (Figure 5.10 from AGTTM Part 3, Section 5.8.1). This safety buffer zone provides adequate space for the device to arrest an impacting vehicle while ensuring that workers in the work area remain protected.

MASH crash testing results demonstrate effective performance of the Arresta 100 at 100 km/h impact speeds. However, the full 40m safety buffer must always be maintained as an absolute minimum.

Site-specific assessments may determine that a larger safety buffer is necessary to account for variations in weather (e.g. wet roads), terrain, traffic conditions, vehicle masses, travel speeds, or other local factors. Always err on the side of safety by providing additional buffer distance whenever conditions warrant.

While the AGTTM requirements for TMAs (illustrated in Figure 4.1 below) focus on the longitudinal safety buffer for the protected lane, the Arresta 100 includes two additional control measures as a conservative safety precaution to address the potential for lateral movement during impact. These additional requirements (Pedestrian Clear Zone and Deployment Setback) provide an extra layer of safety assurance specific to the Arresta 100.

4.3.2 PEDESTRIAN CLEAR ZONE (TCU 5)

The Shoulder and Roadside areas must be kept clear of all people (workers and public) through the full 40m safety buffer. The Roadside is all the public land adjacent to the road. This can include verge, nature strip, footpath, etc.

This means:

- » No workers standing, walking, or working
- » No members of the public (pedestrians, cyclists, etc.)
- » Applies to the full width of the Roadside area (public land adjacent to the road), no matter how wide
- » Applies for the full 40m length of the safety buffer

Why: If a vehicle hits the Arresta 100, there may be some sideways movement. Keeping the Shoulder and Roadside clear ensures no one is at risk in this area .

4.3.3 DEPLOYMENT SETBACK (TCU 6)

Position the Arresta 100 at least 0.5 metres (500mm) away from the road edge or kerb.

This means:

- » Measure from the edge of the device base plate to the road edge/kerb
- » Minimum 0.5m clearance to the side (towards the kerb/road edge) must be maintained
- » Don't position hard up against kerbs, guardrails, or other roadside structures
- » Ensure clear space for the device to move into the safety buffer and beside it to allow for transition

Why: The setback ensures the Arresta 100 has freedom to absorb the initial impact and move to dissipate the remaining energy. Don't position hard up against kerbs or other roadside structures.

4.4 DEPLOYMENT SETUP DIAGRAMS

The Arresta 100 follows the established TMA (Truck Mounted Attenuator) setup configuration from AGTTM Part 3, Section 5.8.1, with specific requirements to address the operational differences of the Arresta 100.

FIGURE 4.1: STANDARD TMA SET UP ON STATIC WORKSITES

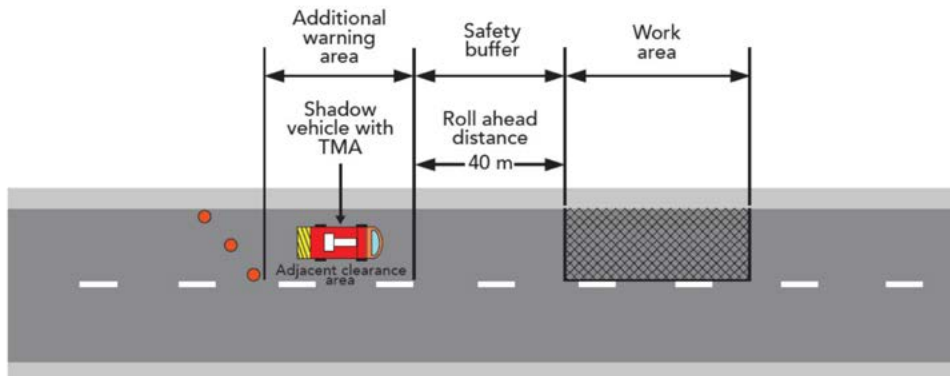


Figure 4.1: Austroads Guide to Temporary Traffic Management (AGTTM) Part 3, Section 5.8.1, Figure 5.10.

FIGURE 4.2: ARRESTA 100 SETUP ON STATIC WORKSITES

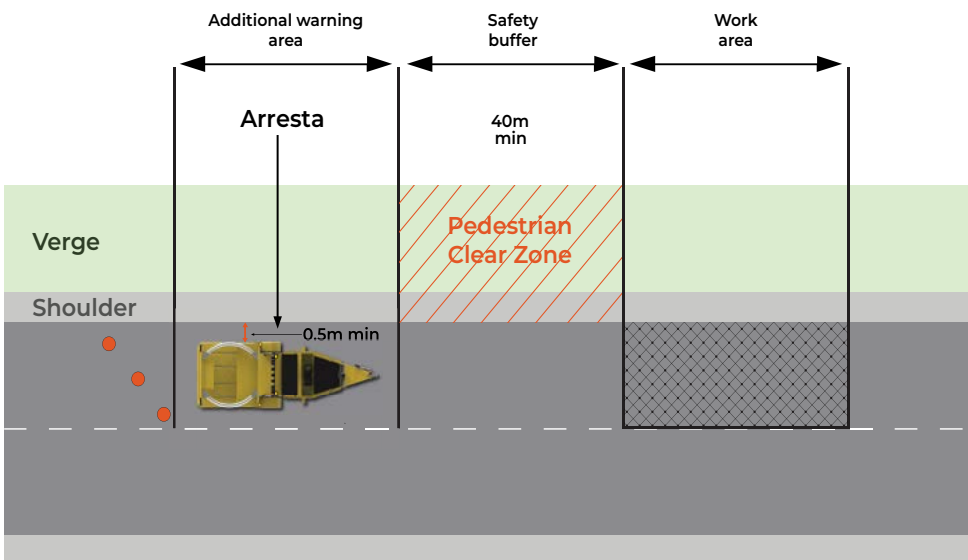


Figure 4.2: Arresta 100 setup configuration showing all Technical Conditions of Use (TCU) requirements.

Summary of Technical Conditions of Use:

- » Static worksites only (TCU 1)
- » Tow vehicle disconnected and removed from safety buffer (TCU 2)
- » Device fully lowered to ground (TCU 3)
- » 40m minimum safety buffer maintained (TCU 4)
- » Pedestrian clear zone – Shoulder and Roadside areas, with no people allowed (TCU 5)
- » 0.5m deployment setback from road edge (TCU 6)

The diagram shows one example of a typical deployment, illustrating how these Technical Conditions of Use work together in practice. While Shoulder and Roadside configurations vary by location (the diagram shows shoulder and verge areas as an example), the purpose of this diagram is to help operators visualise how to apply the complete deployment setup.

Failure to follow these requirements will compromise the safety functionality of the device and may result in severe injury or death in the event of a collision.

5. DEPLOYMENT & RECOVERY PROCEDURES

This section provides complete operational procedures from pre-use inspection through to deployment and recovery of the Arresta 100. Follow these procedures in sequence for safe and effective operation.

5.1 PRE-USE INSPECTION

Before each deployment, complete the following inspection:

- » Verify tow vehicle - tow ball height 350-460mm when coupled, braked towing capacity minimum 2,500 kg (Arresta 100 ATM), electric brake controller installed and operational, and 12-pin plug
- » Verify drawbar, tow coupling, and safety chains condition
- » Check tyre condition and inflation
- » Turn battery isolator to ON -confirm park brake engaged (LED solid RED)
- » Verify battery charge level adequate
- » Test warning lights and arrow board -press LIGHTS button to confirm beacons activate immediately; arrow board raises after a 10-second delay
- » Pre-set arrow board to correct deployment pattern
- » Deploy and recover as per Section 5.4.3 -confirm drawbar support leg and airbag system operate correctly
- » Check frame and impact face for damage or deformation
- » Check Cassette Support Lines -no wear, rope central through each sheave
- » Check painted surfaces, arrow board and lights -no dirt/grime affecting visibility
- » Test road lighting functions (brake, tail, indicators)
- » Verify sway control by applying brake controller manual override -LED should show solid GREEN pulsing
- » Verify break-away brake battery -GREEN light on test
- » Adjust electric brake controller gain setting in tow vehicle to suit the Arresta 100's weight and current road conditions before each trip. Follow your brake controller manufacturer's guidelines for your specific controller

CAUTION

If any component is damaged or not functioning correctly, do not use the Arresta 100 until it has been repaired by authorised personnel.

5.2 TOW VEHICLE REQUIREMENTS

Ensure the towing vehicle meets these requirements:

1. Tow Hitch

- » 50mm diameter ball hitch
- » Rated for minimum 2500kg capacity
- » Height 350-460mm from ground (when coupled, as per ADR 62/01)

2. Electrical System

- » 12-pin flat socket
- » Functional brake, indicator and tail lights
- » Electric brake controller installed and functioning
- » Adequate battery capacity

NOTE: A fully wired 12-pin flat connection is required for full warning light control from the tow vehicle cab. If an adapter is used for a different type of plug (e.g. with a rental vehicle), the arrow board and warning lights will activate when the tow vehicle hazards are switched on, but can only be deactivated from the control pendant - not from the cab.

3. Safety Connections

- » Recommend installing a rated Safety Chain Hook on the tow vehicle with a minimum rating of 2500kg. This specialized hook allows for quick connection and removal of the safety chain during deployment and recovery, minimizing the time operators are at risk between the trailer and vehicle.

5.3 TRANSPORT CONFIGURATION

Before travelling, verify the Arresta 100 is correctly configured for transport:

IMPORTANT SAFETY NOTE

MAXIMUM TOWING SPEED: 100 KM/H

Do not exceed this speed limit when towing the Arresta 100 under any circumstances.

Verify tow ball height 350-460mm when coupled (as per ADR 62/01)

Drive with care - the Arresta 100 is a highly engineered safety device. Care for it by driving in a manner, and at a speed, that helps avoid unnecessary hard impacts and vibration.

Rear deck - the single axle acts as a pivot point; rear deck can drop and strike the ground on kerbs, driveways or speed humps. Approach slowly at a shallow angle.

1. Arrow Board

- » Lowered to horizontal position (ensure "LIGHTS" button is in OFF position or tow vehicle hazard lights are OFF, as either method controls arrow board position)

2. Wheels and Suspension

- » Airbags inflated and wheels fully deployed

3. Electrical Systems

- » Battery isolator in the ON position - park brake will automatically engage on start-up (LED flashes orange then turns solid RED)
- » Control pendant stored securely

4. Securing Elements

- » No loose equipment or components
- » All compartments and hatches secured
- » Drawbar correctly positioned and locked

NOTE: Do not use the break-away brake cable as a parking brake. The Arresta 100 has a dedicated electronic park brake for this purpose - always use it. Using the break-away system as a parking brake will damage the brake magnets, flatten the break-away battery, and void the warranty.

5.4 DEPLOYMENT PROCEDURE

CRITICAL SAFETY WARNING

HIGHEST RISK DURING COUPLING/DECOUPLING

Operators are at greatest risk when moving between the tow vehicle and the Arresta 100 to couple or decouple in live traffic. Never proceed with coupling/decoupling until you have assessed it is safe to do so. If conditions are not safe, wait until safe to do so.



WARNING

TOW VEHICLE MUST BE DISCONNECTED AND REMOVED.

The towing vehicle must be completely disconnected and removed clear of the 40m safety buffer zone before the Arresta 100 becomes operational.



WARNING

DEVICE MUST BE FULLY DEPLOYED TO GROUND LEVEL.

The Arresta 100 base plate must be in complete contact with the road surface (deployed mode), never left elevated in transport mode.

5.4.1 SYSTEM CONTROLS TO ENSURE PROPER DEPLOYMENT

The Arresta 100 incorporates several intelligent safety features designed to guide operators through the proper deployment sequence and prevent operational errors:

- » **Mandatory Brake Activation:** The system requires the parking brake to be engaged (indicated by solid RED LED on the control pendant) before allowing the drawbar support leg to extend. Applying the park brake on the wheels of the Arresta 100 locks it into position ready for decoupling.
- » **Sequential Deployment Protection:** The system requires the parking brake to be engaged before allowing drawbar leg extension, ensuring operators must activate the parking brake first before the system will allow leg extension. Additionally, the airbag deflation system will not activate until sensors confirm the drawbar support leg is fully retracted, ensuring the nose of the drawbar is lowered to the ground first, followed by the airbag deflation lowering the rear of the trailer second. This sequence ensures the cassette is lowered last, protecting the cassette rear deck/floor plate.

IMPORTANT SAFETY NOTE

DEPLOYMENT STATUS ALERT SYSTEM

- » **Deployment Status Alert System:** When the Arrow Board & Warning Lights are activated, the system monitors deployment status. If proper deployment is incomplete (tow vehicle disconnected, unit lowered to ground), a loud and persistent audible alarm and visual warning on the pendant screen remain active. The alarm can only be deactivated by completing proper deployment.

Once sensors confirm the Arresta 100 is properly positioned on the ground with airbags fully deflated and parking brake released, these alerts automatically terminate, confirming successful deployment.

- » **Ride Height Control During Transport:** While not directly related to deployment, it's worth noting that the Arresta 100 uses airbag pressure sensors during transport mode to continuously monitor and adjust suspension height. This automated system ensures optimal ride characteristics and stability when the unit is being towed between locations.

These integrated safety systems provide operators with clear feedback throughout the deployment process, reducing the risk of improper setup and ensuring the Arresta 100 is correctly deployed as a standalone protection device, unlike traditional TMAs which remain connected to support vehicles.

5.4.2 COUPLING/DECOUPLING SAFETY PROCEDURES

The coupling and decoupling process presents the highest risk to operators during deployment and recovery. During these operations, operators must move between the tow vehicle and the Arresta 100 in potentially active traffic lanes. Follow these critical safety procedures at all times:

1. Before Approaching the Coupling Area:

- » Assess traffic conditions carefully and only proceed when safe to do so
- » Identify a clear escape route before beginning the operation
- » The ideal time is when there is a gap in traffic with no passing vehicles
- » If conditions are not safe, wait until they improve - no deployment is so urgent that it cannot wait for safe conditions

2. When Moving Between Vehicle and Trailer:

- » Always approach and access from the non-traffic side
- » Wear high-visibility clothing and ensure it remains visible
- » Make quick, deliberate movements
- » Keep time spent between vehicle and trailer to an absolute minimum

3. During Coupling/Decoupling:

- » Complete one task at a time, moving efficiently but not rushing
- » Begin with electrical connections when coupling, disconnect them last when decoupling
- » Use the quick-release Safety Chain Hook system described in Section 4.2 to minimize time spent in vulnerable positions during connection and disconnection

5.4.3 DETAILED DEPLOYMENT STEPS

For a visual step-by-step guide with supporting illustrations and diagrams of the deployment process, refer to the Quick Deployment & Recovery Guide in Appendix 10.4. The Quick Guide presents these steps in a visually-assisted format designed for easy field reference.

Follow these steps for deployment:

1. Approaching the Worksite:

- » Drive toward the worksite with the Arresta 100 in tow
- » Activate tow vehicle hazard lights to turn on warning beacons - the arrow board will automatically raise to upright position after a 10-second delay. This allows time to reduce speed to the required 40 km/h maximum before the arrow board is raised

IMPORTANT SAFETY WARNING

MAXIMUM TRAVEL SPEED WITH RAISED ARROW BOARD: 40 KM/H

If moving the Arresta 100 with the arrow board raised and warning lights activated, do not exceed 40 km/h under any circumstances.

2. Position in Worksite:

- » Position according to Traffic Management Plan if one exists
- » Face trailer toward oncoming traffic
- » Maintain minimum 40m safety buffer between device and work area
- » Ensure device is clearly visible to approaching traffic
- » Activate parking brake on tow vehicle

3. Prepare the Arresta 100:

- » Retrieve control pendant from non-traffic side of control box
- » Activate warning systems by:
 - If not already activated by tow vehicle hazard lights, push "LIGHTS" button once to turn on arrow board and warning lights
 - Verify arrow board has fully risen to upright position (LED indicator shows solid)
- » Select appropriate arrow pattern using "ARROW PATTERN" button:
 - Right arrow
 - Left arrow
 - Double arrow
 - Corner caution
- » Confirm selection on pendant display

NOTE: *The system will begin monitoring deployment status with an intermittent audible alert and visual warning until proper deployment is completed*

IMPORTANT NOTE ABOUT DOLLY WHEEL

The dolly wheel is for emergency use only. Do not use for standard deployment.

4. **Prepare for Decoupling:**

- » Push “PARK BRAKE” button and hold for 2 seconds to activate parking brake -LED flashes orange while engaging. Wait for solid RED to confirm parking brakes are fully ON before proceeding.
- » Press and hold “LEG EXTEND” button to lower drawbar support leg until it contacts ground
- » Release button when leg reaches desired height

5. **Disconnect Towing Vehicle:**

- » **ASSESS TRAFFIC CONDITIONS** -Only proceed with decoupling when it is safe to do so
- » Always approach coupling from the non-traffic side
- » Disconnect electrical connections
- » Remove safety chain and break-away cable from non-traffic side
- » Hold coupling open while extending drawbar support leg to lift coupling off tow ball
- » Ensure coupling is completely clear of tow ball
- » Move towing vehicle clear of Arresta 100 and safety buffer zone

6. **Complete Deployment:**

- » Press and hold “LEG RETRACT” button to fully retract drawbar support leg
- » Release button when leg is fully retracted and drawbar nose sits on ground
- » Push “AIRBAG DEFLATE” button once to automatically deflate suspension
- » Confirm entire unit is lowered with base plate in full contact with road surface
- » Once the unit is fully lowered with the base plate in full contact with the road surface, the park brake releases automatically - LED flashes orange while releasing, then turns solid GREEN to confirm the parking brake is fully OFF and deployment is complete. No action required

NOTE: Once sensors confirm proper deployment, the audible alert and visual warning will automatically terminate

- » Stow control pendant

7. **Final Checks:**

- » Verify device is stable and correctly positioned
- » Confirm arrow board is functioning properly
- » Ensure all warning lights are operational
- » Check that minimum 40m safety buffer is established between device and work area

For a visual step-by-step guide with supporting illustrations and diagrams of the deployment process, refer to the Quick Deployment & Recovery Guide in Appendix 10.4. The Quick Guide presents these steps in a visually-assisted format designed for easy field reference.

5.5 RECOVERY PROCEDURE

5.5.1 SYSTEM CONTROLS TO ENSURE EFFECTIVE RECOVERY

The Arresta 100 incorporates several intelligent safety features designed to guide operators through the proper deployment sequence and prevent operational errors:

- » **Mandatory Brake Activation:** The system requires the parking brake to be engaged before allowing the airbag inflation process. This locks the wheels in position and prevents the trailer from moving unexpectedly during the lifting process.
- » **Sequential Recovery Protection:** The system requires the parking brake to be engaged before allowing airbag inflation, protecting the recovery sequence with a parking brake interlock. Additionally, the drawbar support leg extension system will not activate until sensors confirm the airbag inflation is complete. This safety interlock ensures the correct sequence of lifting the trailer - the rear deck/floor plate is lifted first (via airbag inflation) before allowing the drawbar to be raised. This sequence maintains proper weight distribution and protects the cassette rear deck/floor plate from damage during the recovery process..

IMPORTANT SAFETY WARNING

RECOVERY STATUS ALERT SYSTEM

- » **Recovery Status Alert System:** An audible alert and visual warning on the pendant screen remain active from when the Arresta 100 is on the ground with the parking brake engaged until the Arrow Board and Warning Lights are turned off. Once the unit is properly coupled to the tow vehicle and prepared for transport, turning off the Arrow Board and Warning Lights automatically terminates these alerts, confirming successful recovery.

These integrated safety systems provide operators with clear feedback throughout the recovery process, reducing the risk of procedural errors and ensuring the Arresta 100 is correctly prepared for transport, unlike traditional TMAs which remain connected to support vehicles at all times.

5.5.2 COUPLING/DECOUPLING SAFETY PROCEDURES

CRITICAL SAFETY WARNING

HIGHEST RISK DURING COUPLING/DECOUPLING

Operators are at greatest risk when moving between the tow vehicle and the Arresta 100 to couple or decouple in live traffic. Never proceed with coupling until you have assessed it is safe to do so. If conditions are not safe, wait until safe to do so.

The same safety procedures for decoupling during deployment (Section 5.2.2) apply to coupling during recovery. Always follow these critical safety procedures:

1. Before Approaching the Coupling Area:

- » Assess traffic conditions carefully and only proceed when safe to do so
- » Identify a clear escape route before beginning the operation
- » The ideal time is when there is a gap in traffic with no passing vehicles
- » If conditions are not safe, wait until they improve - no deployment is so urgent that it cannot wait for safe conditions

2. When Moving Between Vehicle and Trailer:

- » Always approach and access from the non-traffic side
- » Wear high-visibility clothing and ensure it remains visible
- » Make quick, deliberate movements
- » Keep time spent between vehicle and trailer to an absolute minimum

3. During Coupling:

- » Complete one task at a time, moving efficiently but not rushing
- » Connect mechanical components first, followed by safety chains and electrical connections
- » Use the quick-release Safety Chain Hook system described in Section 4.2 to minimize time spent in vulnerable positions during connection

4. If Traffic Conditions Change:

- » Be prepared to pause operations and move to safety if traffic conditions deteriorate
- » Reassess safety before continuing
- » Safety is paramount — never rush regardless of time pressures or schedules

Remember, the coupling operation during recovery poses the same risks as decoupling during deployment. These safety procedures are designed to minimize the time operators spend in vulnerable positions between the tow vehicle and the Arresta 100.

5.5.3 DETAILED RECOVERY STEPS

For a visual step-by-step guide with supporting illustrations and diagrams of the recovery process, refer to the Quick Deployment & Recovery Guide in Appendix 10.4. The Quick Guide presents these steps in a visually-assisted format designed for easy field reference.

Follow these steps for recovery:

1. Prepare for Recovery:

- » Activate hazard lights on tow vehicle during approach and positioning
- » Position tow vehicle in front of the Arresta 100
- » When exiting tow vehicle, always walk around front and stay on non-traffic side

2. Prepare the Arresta 100:

- » Verify all warning lights are functioning
- » Retrieve control pendant from non-traffic side
- » Push “PARK BRAKE” button and hold for 2 seconds to activate parking brake-LED flashes orange while engaging. Wait for solid RED to confirm parking brakes are fully ON before proceeding

NOTE: *When parking brake is engaged, an audible alert and visual warning will activate and remain until recovery is complete*

- » Push “AIRBAG INFLATE” button once to raise the rear suspension system
- » Wait for airbags to fully inflate, which raises only the rear of the trailer while leaving the nose/drawbar on the ground
- » Press and hold “LEG EXTEND” button to lower drawbar support leg until coupling is positioned above tow ball
- » Release button when coupling is at proper height

IMPORTANT NOTE ABOUT DOLLY WHEEL

The dolly wheel is for emergency use only. Do not use for standard recovery procedures. See Section 8.5 for more details.

3. Connect to Tow Vehicle::

- » Reverse tow vehicle so tow ball is directly under coupling
- » **ASSESS TRAFFIC CONDITIONS** - Only proceed if it is safe to do so
- » Always approach coupling from the non-traffic side
- » Hold coupling open while lowering drawbar onto tow ball using “LEG RETRACT” button
- » Release button when coupling securely locks onto tow ball
- » Attach safety chain
- » Connect break-away cable
- » Connect electrical plug

4. Prepare for Transport:

- » Turn off arrow board display by either:
 - Turning off hazard lights on tow vehicle (if connected), or
 - Pressing “LIGHTS” button once until LED turns off
- » Either method will automatically lower arrow board to horizontal position

NOTE: *Once Arrow Board & Warning Lights are turned off, the audible alert and visual warning will terminate*

- » Push “PARK BRAKE” button and hold for 2 seconds to deactivate parking brake - LED flashes orange while releasing. Wait for solid GREEN to confirm parking brakes are fully OFF

5. Final Checks:

- » Check that trailer is correctly coupled to towing vehicle
- » Verify all lights and signage are properly configured for transport
- » Ensure all items are correctly stowed
- » Stow control pendant on control box

CRITICAL SAFETY WARNING

If at any point traffic conditions make the recovery operation unsafe, pause operations and reassess. Consider requesting additional traffic control if needed.



REMEMBER: NO RECOVERY IS SO URGENT THAT IT CANNOT WAIT FOR SAFE CONDITIONS

6. POST-IMPACT PROCEDURES



WARNING

Components may have sharp edges after impact. Use caution when approaching the device and wear appropriate PPE.



WARNING

The Arresta 100 must not be reused after impact without inspection and recertification by authorised personnel.

6.1 IMMEDIATE RESPONSE

When the Arresta 100 has been impacted:

1. Assess Scene Safety:

- » Look for hazards such as fire, unstable vehicles, or traffic
- » Do not enter unsafe areas
- » **Always contact emergency services immediately after any impact**
- » Follow agency emergency procedures

2. Check for Injuries::

- » If safe to do so, check vehicle occupants
- » Do not move injured people unless in immediate danger
- » Provide first aid if qualified and necessary

3. Secure the Site:

- » Establish additional traffic management if needed
- » Keep bystanders away from impact area
- » Document the scene with photos if possible
- » Record details of the incident including:
 - Date and time
 - Vehicle details
 - Witness information if available

6.2 DEVICE RECOVERY

After emergency services have cleared the scene:

1. Damage Assessment:

- » Document the condition of the Arresta 100 by taking comprehensive photographs
- » If possible, measure and record the arrest distance from the original deployment position
- » Identify any detached components
- » Record vehicle type
- » If possible, obtain details of vehicle driver who impacted the device - name, license and contact details
- » Take photographs of the impact damage for assessment purposes

2. Recovery Procedure:

- » For minor impacts where wheels function:
 - Use recovery procedure to raise onto wheels if possible
 - Move to roadside or safe area if possible
- » For significant impacts:
 - Unbolt the Impact Cassette from inside the Main Body

IMPORTANT

If the Arresta 100 has increased in width due to collapsed tubes, the Cassette **MUST** be removed before transport as the overall width may exceed the maximum legal width for trailers on Australian roads

- Arrange for recovery of both the Main Body and Impact Cassette using a tow truck
- Do not attempt to tow the device with standard vehicles after impact

3. Incident Reporting:

- » Complete company incident documentation
- » Request a police report for the incident

6.3 POST-IMPACT REQUIREMENTS

IMPORTANT

After ANY impact, the Arresta 100 must **NOT** be returned to service until it has been inspected and authorised by qualified personnel.

1. Arrange Professional Inspection:

- » The Arresta 100 must be inspected by a qualified local repairer with access to the Arresta 100 Service & Repair Manual
- » Provide incident documentation and photographic evidence to ProTx

2. Professional Assessment Required:

- » Main Body structural integrity must be assessed following procedures in the Service & Repair Manual
- » Impact Cassette replacement must be performed by qualified technicians following manufacturer specifications detailed in the Service & Repair Manual
- » All operational systems must be tested and verified before return to service

3. Return to Service Authorisation:

- » The device may only be returned to service after the qualified repairer has completed all required inspections, repairs, and testing
- » Complete documentation must be maintained for all post-impact inspections and repairs
- » Contact ProTx if clarification is needed on repair procedures or component specifications

The Arresta 100 Service & Repair Manual is available to qualified local repairers. Contact ProTx to arrange access to the Service & Repair Manual for your repair facility.

IMPORTANT

If the Arresta 100 has increased in width due to collapsed tubes, the Cassette **MUST** be removed before transport as the overall width may exceed the maximum legal width for trailers on Australian roads.

7. MAINTENANCE AND INSPECTION

In addition to the Pre-Use Inspection outlined in Section 5.1, the following periodic maintenance schedule must be followed:

INSPECTION SCHEDULE

Quarterly Inspection (operator)

- » Tow ball and coupling mechanism
- » Tyre condition and pressure - check both tyres and spare are inflated to 65 PSI
- » Emergency dolly wheel condition and operation
- » Check bolts and fasteners for tightness
- » High-friction pads-visual check from sides with unit in tow mode; if wear or damage suspected, refer to a qualified repairer for safe underside inspection
- » Main body structural frame-visual check for any obvious signs of damage or deformation
- » Cassette-visual check for any obvious signs of damage or deformation
- » Wiring and airlines-visual check for any obvious signs of damage or deterioration
- » Battery condition and charge
- » Control system -check backup controller in the Control Box to confirm redundancy system is functional
- » Check Cassette Support Line tension -with unit fully deployed on ground, rope should have firm tension; adjust via ratchet inside main body if needed. Do not over-tension -this can bow the rear floor plate and stress the rope
- » Check Cassette Support Line alignment-rope must run centrally through each sheave. If the eye nut has shifted (e.g. from road vibration), re-align before use
- » Wash painted surfaces, arrow board, and lights with warm water and non-abrasive, pH neutral detergent; rinse thoroughly and wipe with soft cloth. Do not use high pressure washing -this can damage the powder coat finish, arrow board LED lenses, and electrical components

If damage or deterioration is found, do not inspect underneath - refer to a qualified repairer for safe inspection and repair.

Annual Service (qualified repairer)

The annual service covers trailer coupling and drawbar, airbag suspension and axle, wheels and tyres, main body frame and cassette, all bolts, fasteners and lubrication points, and electrical, pneumatic and control systems.

Refer to the Arresta 100 Service & Repair Manual for detailed procedures.

Record Keeping: Maintain records of all quarterly and annual inspections, including date, items checked, and any maintenance performed.

8. TROUBLESHOOTING

8.1 DEPLOYMENT ISSUES

PROBLEM	POSSIBLE CAUSE	SOLUTION
Device won't lower to ground	<ul style="list-style-type: none"> » Pneumatic system failure » Obstruction under unit » Insufficient battery power 	<ul style="list-style-type: none"> » Check manual release valve » Clear area beneath unit » Check battery voltage (min 12V)
Wheels won't retract	<ul style="list-style-type: none"> » Mechanical jam » Air system leak » Control system fault 	<ul style="list-style-type: none"> » Check for debris or damage » Inspect air lines and connections » Check fuses and electrical connections
Drawbar support leg malfunction	<ul style="list-style-type: none"> » Motor failure » Mechanical binding » Insufficient power 	<ul style="list-style-type: none"> » Check fuse and connections » Lubricate mechanism » Check battery voltage
Device not stable when deployed	<ul style="list-style-type: none"> » Uneven ground surface » Incomplete deployment » Damaged components 	<ul style="list-style-type: none"> » Relocate to level surface » Restart deployment sequence » Inspect support structure

8.2 ARROW BOARD PROBLEMS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Arrow board won't raise	<ul style="list-style-type: none"> » Actuator failure » Battery issue » Mechanical binding 	<ul style="list-style-type: none"> » Check fuse and connections » Verify battery charge » Inspect for obstructions
Lights not working	<ul style="list-style-type: none"> » Blown fuse » LED failure » Controller issue 	<ul style="list-style-type: none"> » Check lighting fuse » Inspect LED arrays » Reset controller
Pattern won't change	<ul style="list-style-type: none"> » Control panel fault » Communication error » Software issue 	<ul style="list-style-type: none"> » Use backup controls » Check connections » Power cycle the system
Arrow board stuck in raised position	<ul style="list-style-type: none"> » Actuator failure » Control system fault 	<ul style="list-style-type: none"> » Use manual override » Check for mechanical binding

8.3 ELECTRICAL PROBLEMS

PROBLEM	POSSIBLE CAUSE	SOLUTION
No power to systems	<ul style="list-style-type: none"> » Discharged battery » Main fuse blown » Loose connection 	<ul style="list-style-type: none"> » Check battery voltage » Inspect main fuse (50A) » Check all power connections
Road lights not functioning	<ul style="list-style-type: none"> » Blown fuse » Damaged wiring » Connection issue 	<ul style="list-style-type: none"> » Check lighting fuses » Inspect wiring harness » Clean and secure connections
Control pendant inoperative	<ul style="list-style-type: none"> » Cable damage » Pendant failure » System lockout 	<ul style="list-style-type: none"> » Check pendant cable » Use backup controller in Control Box » Reset control system
Intermittent electrical issues	<ul style="list-style-type: none"> » Corroded connections » Water ingress » Loose wiring 	<ul style="list-style-type: none"> » Clean all connections » Dry affected components » Secure loose connections

If problems persist after attempting these troubleshooting steps, or if the issue requires component replacement or advanced diagnostics, contact a qualified local repairer. For detailed diagnostic procedures and repair instructions, refer to the Arresta 100 Service & Repair Manual.

8.4 USING THE BACKUP CONTROLLER

A backup controller is permanently installed inside the Control Box for emergency use if the primary pendant fails:

- » **Access:** Open the Control Box on the non-traffic side.
- » **Operation:**
 - Has identical functions to the primary pendant
 - Use the same operating procedures as the primary pendant
 - No need to disconnect the primary pendant
- » **Use only when:** Primary pendant is damaged or non-functional
- » **After use:** Close Control Box door and report pendant failure to maintenance personnel

IMPORTANT NOTE

The backup controller is a permanent installation and cannot be removed. Test it during regular maintenance inspections.

8.5 EMERGENCY DOLLY WHEEL USE

The emergency dolly wheel serves as a backup system with specific limitations:

- » **Purpose:** Backup support if electronic drawbar support leg fails
- » **Workshop use:** For moving Arresta 100 during maintenance or storage only
- » **Operation:** Rotate handle counterclockwise to lower wheel to ground
- » **Limitations:**
 - NOT for standard deployment or recovery operations
 - NOT for use on rough surfaces
 - CANNOT be used as an alternative to the support leg in deployment and recovery as it cannot be retracted sufficiently to allow the drawbar nose to be completely on the ground as required for proper deployment

CAUTION

Only use the dolly wheel for workshop handling and emergency situations. For deployment in live traffic, always use the electronic drawbar support leg system.

8.6 CHANGING A FLAT TYRE

For flat tyre replacement during transport:

IMPORTANT SAFETY NOTE

Never change a tyre while the Arresta 100 is in deployed protection position.

Tools required: 19mm wrenches (×2) and tyre iron -provided with the Arresta 100

1. **Prepare:**
 - » Park on level ground, activate parking brake, retrieve jack and tools
2. **Access spare:**
 - » The spare wheel is mounted on the Arresta 100 in a bracket -the bracket and wheel must be removed as a unit before the spare can be accessed
 - » Undo the 4 bracket nut and bolts using the 19mm wrenches provided
 - » Lift the bracket and wheel off the Arresta 100 as a unit
 - » Remove the spare wheel from the bracket by undoing the wheel nuts using the tyre iron provided
3. **Jack trailer:**
 - » The jacking point is visible as a protruding lug on the underside of the flat deck, near each wheel
 - » Position jack at jacking point, raise until flat tyre clears ground
4. **Replace tyre:**
 - » Remove wheel nuts and flat tyre
 - » Mount spare wheel, hand-tighten nuts in star pattern
 - » Lower trailer until tyre touches ground
 - » Fully tighten wheel nuts to 135 Nm in star pattern
5. **Check tyre pressure:**
 - » Inflate spare to 65 PSI before driving
6. **Complete:**
 - » Refit flat tyre to bracket, refit bracket to Arresta 100 and hand-tighten bolts
 - » Repair or replace the flat tyre as soon as possible

9. STORAGE AND TRANSPORTATION

9.1.1 SHORT-TERM STORAGE (UP TO 30 DAYS)

1. Position on level ground
2. Deploy trailer on to the ground, deflating airbags
3. Lower arrow board to horizontal position
4. Turn battery isolator to the OFF position

NOTE: *To maintain battery charge during storage, the 240V mains charger located on the side of the control box can be connected. If stored outdoors, the solar panel will continue to charge the battery.*

5. Protect from weather if stored outdoors
6. For assistance in positioning during storage, the emergency dolly wheel can be used to make minor adjustments in location and orientation within workshops, garages, or other storage facilities

9.1.2 LONG-TERM STORAGE (BEYOND 30 DAYS)

1. Clean all surfaces thoroughly
2. Apply lubricant to all specified points
3. Reduce tyre pressure by 25%
4. Disconnect and remove battery
5. Apply protective coating to exposed metal parts
6. Cover with breathable, waterproof cover
7. Store in a sheltered location with good ventilation
8. Inspect monthly during storage period
9. If repositioning is required during storage, the emergency dolly wheel can be used for minor movements within the storage facility

9.2 TRANSPORTATION REQUIREMENTS

When towing the Arresta 100:

1. Pre-departure Checks:

- » Deactivate Warning Lights by either:
 - Turning off hazard lights on the tow vehicle, or
 - Pressing the “LIGHTS” button once to turn it OFF
- » Either method will automatically lower the Arrow board to horizontal position
- » All lighting operationa
- » Correct ride height for towing
- » Tow coupling properly connected and locked
- » Safety chain and break-away cable connected to tow vehicle
- » Electrical connection secure with all lights functioning
- » Tyre pressure correct (40 psi)

2. Towing Specifications:

- » **MAXIMUM TOWING SPEED: 100 km/h**
- » Recommended following distance: 3 seconds minimum
- » Take extra care when cornering or braking

3. Special Conditions:

- » Reduce speed in adverse weather
- » Take extra care on rough or unsealed roads
- » Check tow coupling security at regular intervals during long journeys


10. APPENDICES

10.1 TECHNICAL CONDITIONS OF USE (TCU)

The following Crashworthiness Assessment for the Arresta 100 (Trailer Vehicle Arrestor) was issued by the Austroads Safety Barrier Assessment Panel (ASBAP) on 4 December 2025. The Technical Conditions of Use are documented in the ‘System Conditions’ section of this assessment.

Crashworthiness Assessment

Arresta 100 (Trailer Vehicle Arrestor)

	Issue Date: 4 December 2025	Proponent: ProTx
	<p>This document is a summary of the Austrroads Safety Barrier Assessment Panel's evaluation of the product's crash performance in accordance with AS/NZS 3845 Parts 1 or 2 only. While the product has been assessed as crashworthy, this is not the only consideration. Users should select devices which are fit for purpose to their total requirements, noting that crashworthiness is just one aspect to consider.</p>	
	<p>This document does not imply that this product may be used on roads under the care and control of individual Road Agencies. Users should refer to individual Road Agency websites to determine whether this product is accepted for use within that jurisdiction, and if the Road Agency has adopted any additional requirements or approval processes.</p> <p>These conditions do not take precedence over Road Agency specifications and standards. These conditions do take precedence over instructions in the Product Manual.</p>	

Status	Crashworthy in accordance with AS/NZS 3845 Part 2 Section 6
Product accepted	Arresta 100 (Trailer Vehicle Arrestor)
Accepted impact speed	100 km/h
Product manual reviewed	Version 1.0 – October 2025

<p>Additional considerations* (not included in crashworthiness assessment)</p>	<ul style="list-style-type: none"> • Vehicle design laws • Vehicle registration • Road agency deployment and operational requirements • Characteristics of the device must be considered when planning temporary traffic management activities
--	--

**road agencies may have additional requirements and approvals*

System Details

Containment Level		MASH TL3
Support Vehicle Mass Including Ballast	Minimum (kg)	Not applicable
	Maximum (kg)	Not applicable
Roll Ahead Distance (m)		23.9 (Note: minimum safety buffer of 40 metres required between the device and work zone)
Dimensions and Weight	Length (mm)	7175
	Width (mm)	2400
	Height (mm)	2400
	Weight (kg)	2000
Road Clearance (mm)		Not applicable
System Conditions		<ul style="list-style-type: none"> • For static worksites only. • Towing vehicle must be disconnected and removed from safety buffer zone. • Device must be fully lowered to the ground in deployed mode. • Minimum safety buffer of 40 metres required between the device and work zone. • Shoulder and Roadside areas must be kept clear of all personnel (workers and public) through the full 40m safety buffer. • Device must be deployed minimum of 0.5m from the road edge.

10.2 SETUP DIAGRAMS

The following diagrams illustrate the correct setup configuration for the Arresta 100 at static worksites. These diagrams consolidate the setup requirements detailed in Section 4 - Static Worksite Set Up.

FIGURE 10.1: STANDARD TMA SETUP ON STATIC WORKSITES

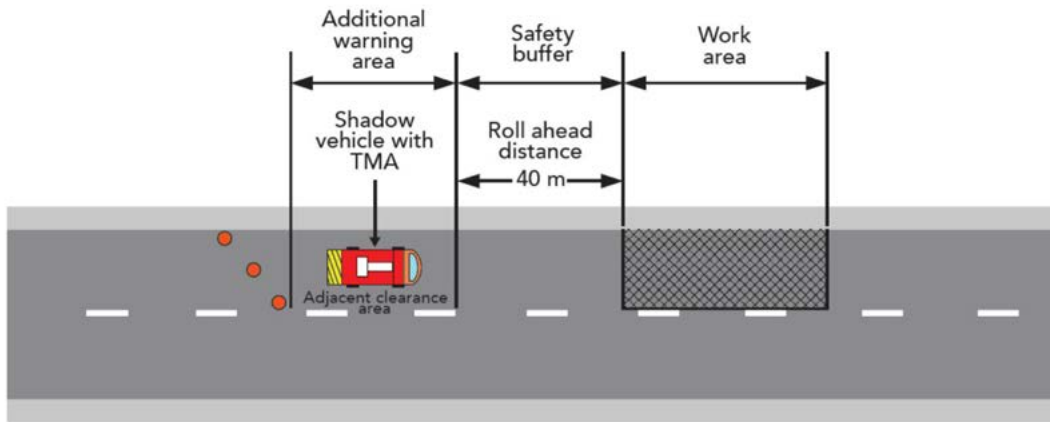


Figure 10.1: Austroads Guide to Temporary Traffic Management (AGTTM) Part 3, Section 5.8.1, Figure 5.10.

The Arresta 100 follows the same setup principles as a TMA (Figure 10.1), while also incorporating specific Technical Conditions of Use. This is shown in Figure 10.2 as follows. For detailed setup procedures and TCU requirements, refer to Section 4 - Static Worksite Set Up.

FIGURE 10.2: ARRESTA 100 SETUP ON STATIC WORKSITES

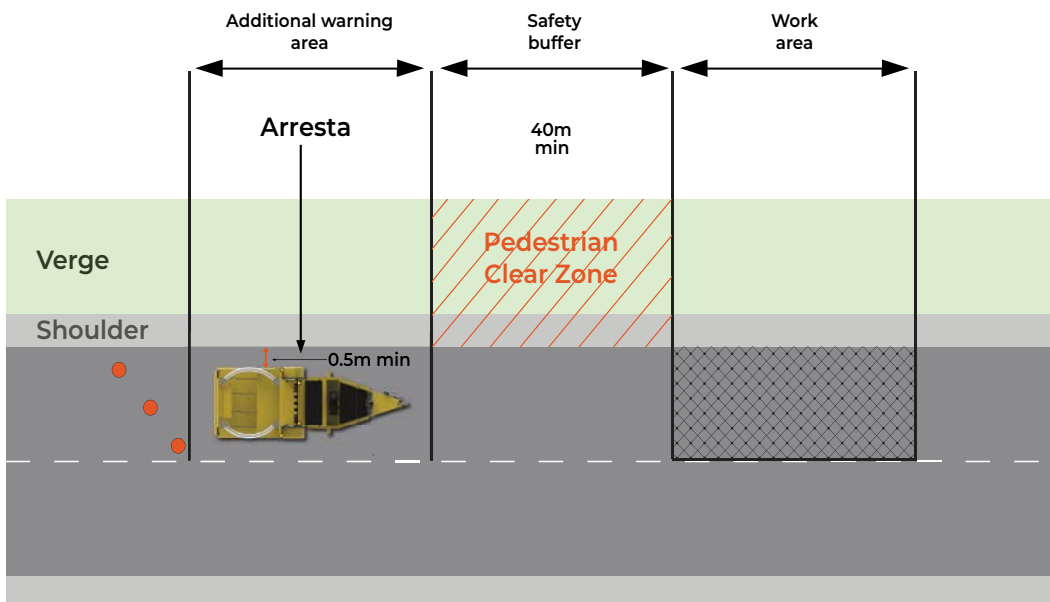


Figure 10.2: Arresta 100 setup configuration showing all Technical Conditions of Use (TCU) requirements.

10.3 ARRESTA 100 PRINCIPAL COMPONENTS

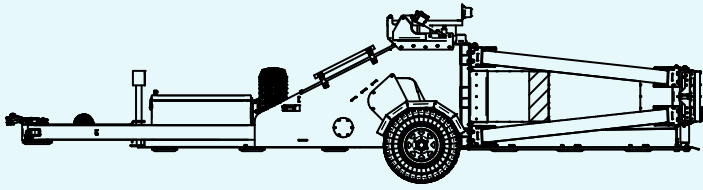


FIGURE 3.1 MAIN BODY TRAILER

1. **Trailer Chassis** - Heavy-duty steel frame forming the structural base
2. **Drawbar** - Connects to towing vehicle with 50mm coupling
3. **Drawbar Support Leg** - Electronically operated height adjustment system specifically for raising and lowering the drawbar to facilitate coupling/uncoupling with the tow vehicle
4. **Suspension System** - Airbag lift/lower mechanism that retracts the wheels during deployment
5. **Base Plate** - Contact surface with high-friction pads
6. **Control Box** - Houses all systems including electrical components, battery, air compressor, and air tank
7. **Arrow Board & Warning Lights** - Integrated directional arrow board combined with high-visibility yellow flashing beacons and hazard lights to provide maximum advance warning to approaching drivers.

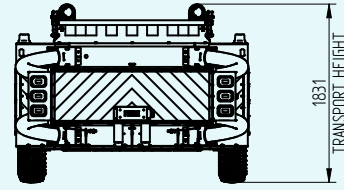


FIGURE 3.2 IMPACT CASSETTE

1. **Impact Face** - Primary energy-absorbing front surface designed to initiate controlled deceleration
2. **Honeycomb Energy Absorbers** - Precision-engineered aluminum crush elements that progressively deform to absorb and dissipate impact energy
3. **Crush-Alignment Arms** - Specialized tubes that both guide the controlled collapse sequence and absorb impact energy during collision events
4. **Floor Plate/Deck** - Flat structural surface that provides the foundation for the cassette assembly
5. **Vertical Plate** - Robust vertical plate at the rear of the cassette that connects to the Main Body while supporting other features of the cassette
6. **Support Lines** - High-strength synthetic fiber ropes that support the cassette floor plate during transport mode, preventing damage from road vibration and bouncing when being towed

ARRESTA 100 (TRAILER VEHICLE ARRESTOR)

QUICK DEPLOYMENT & RECOVERY GUIDE



CRITICAL SAFETY WARNINGS

- » **STATIC WORKSITES ONLY** Never use for mobile operations
- » **HIGHEST RISK DURING COUPLING/DECOUPLING**
Only proceed when safe
- » **TOW VEHICLE MUST BE REMOVED** from safety buffer zone
- » **DEVICE MUST BE FULLY ON GROUND** Never leave in transport mode
- » **MAINTAIN MINIMUM 40m SAFETY BUFFER** between Arresta 100 and work area
- » **PEDESTRIAN CLEAR ZONE** Keep Shoulder & Roadside (verge, foot-path etc.) areas clear of all people throughout minimum 40m buffer
- » **DEPLOYMENT SETBACK** Position minimum 0.5m from road edge

SPEED WARNINGS

- » **MAXIMUM TOWING SPEED:** 100 km/h
- » **MAXIMUM SPEED WITH RAISED ARROW BOARD:** 40 km/h

DEPLOYMENT

1. POSITION AT WORKSITE:

- » Activate arrow board and warning lights by turning on hazard lights in tow vehicle while approaching site
- » (Note: Audible alert and visual warning will activate when Arrow Board and warning lights are turned on, and remain until deployment complete)
- » Position trailer to protect work area
- » Ensure 40m minimum safety buffer to work area



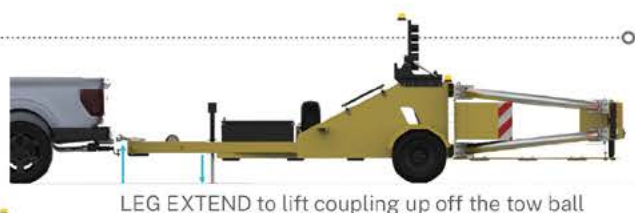
2. PREPARE FOR DEPLOYMENT

- » Retrieve control pendant from the non-traffic side and move to a safe position
- » Verify arrow board and warning lights are activated (if not already done in step 1, activate by pressing "LIGHTS" button)
- » Confirm correct arrow board mode/pattern is selected and change if needed by pressing "ARROW PATTERN" button to cycle through options
- » **ACTIVATE PARKING BRAKE** press and hold "PARK BRAKE" button for 2 seconds. LED flashes orange while engaging - wait for solid RED to confirm fully ON
(Note: System requires parking brake to be engaged before allowing drawbar leg extension)
- » Press and hold "LEG EXTEND" to lower drawbar support leg until it just touches the ground



3. DISCONNECT TOW VEHICLE:

- » **ASSESS TRAFFIC** before proceeding - only move between vehicle and Arresta 100 when safe
- » Always approach from non-traffic side
- » Disconnect electrical, safety chain & breakaway brake cable
- » **Hold coupling open** while pressing "LEG EXTEND" to lift coupling off tow ball
- » Move tow vehicle clear of buffer zone



COMPLETE DEPLOYMENT:

1. Press and hold "LEG RETRACT" button to fully retract drawbar support leg and lower drawbar nose onto the ground



2. Press "AIRBAG DEFLATE" button once to automatically deflate suspension and lower rear of unit to ground (Note: System won't allow airbag deflation until sensors confirm drawbar leg is fully retracted)



3. **PARK BRAKE AUTO-RELEASES**

Once the unit is fully lowered with the base plate on the ground, the park brake releases automatically. LED flashes orange while releasing, then turns solid (GREEN) to confirm. No action required.

- » (Note: Audible alert and visual warning will automatically terminate once properly deployed)
- » Stow control pendant

PARK BRAKE off (GREEN)

END: Deployed Mode

ARRESTA 100 (TRAILER VEHICLE ARRESTOR)

QUICK DEPLOYMENT & RECOVERY GUIDE

RECOVERY

1. PREPARE FOR RECOVERY:

- » Activate hazard lights on tow vehicle while approaching
- » Position tow vehicle in front of Arresta 100
- » When exiting tow vehicle, always walk around front and stay on non-traffic side
- » Retrieve control pendant from the non-traffic side and move to a safe position



2. PREPARE ARRESTA 100

1. **ACTIVATE PARKING BRAKE** press and hold "PARK BRAKE" button for 2 seconds. LED flashes orange while engaging - wait for solid **RED** to confirm fully ON
(Note: System requires parking brake to be engaged before allowing airbag inflation)
(Note: Audible alert and visual warning will activate and remain until recovery is complete)
2. Press "AIRBAG INFLATE" button once to raise the rear suspension system while leaving the nose/drawbar on the ground



AIRBAG INFLATE to raise rear end off the ground

- » Wait for airbags to fully inflate

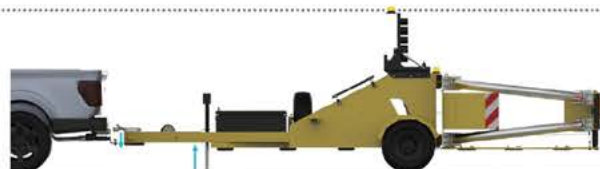
3. Press and hold "LEG EXTEND" button to lower drawbar support leg until coupling is positioned above tow ball
(Note: System requires airbags to be fully inflated before allowing drawbar leg extension)



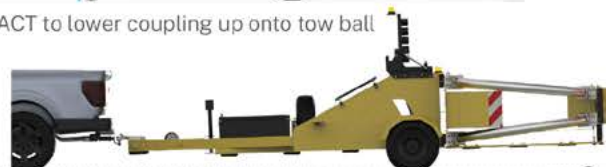
LEG EXTEND to raise drawbar nose off the ground

3. CONNECT TO TOW VEHICLE:

- » Reverse tow vehicle so tow ball is directly under coupling
- » **ASSESS TRAFFIC** before proceeding - only move between vehicle and Arresta 100 when safe
- » Always approach coupling from non-traffic side
- » **Hold coupling open** while lowering drawbar onto tow ball by pressing and holding "LEG RETRACT" button
- » Release button when coupling securely locks onto tow ball
- » Attach safety chain, connect break-away cable, and connect electrical plug



LEG RETRACT to lower coupling up onto tow ball



4. PREPARE FOR TRANSPORT:

- » Turn off arrow board display by either:
 - Turning off hazard lights on tow vehicle, or
 - Pressing "LIGHTS" button once until LED turns off
- » Either method will automatically lower arrow board to horizontal position
- » (Note: Audible alert and visual warning will terminate when arrow board and warning lights are turned off)
- » **DEACTIVATE PARKING BRAKE** - press and hold "PARK BRAKE" button for 2 seconds. LED flashes orange while releasing - wait for solid **GREEN** to confirm fully OFF
- » Stow control pendant on control box



END: Transport Mode (ready to tow)

EMERGENCY PROCEDURES

- » If control pendant fails, use backup controller in Control Box
- » If pneumatic system fails, use manual release valve
- » If unsafe traffic conditions develop, pause operations
- » After impact, contact emergency services immediately
- » **IMPORTANT** Emergency dolly wheel is for workshop use only - NOT for standard deployment/recovery

10.5 INSPECTION CHECKLISTS

10.5.1 PRE-USE INSPECTION CHECKLIST

- » Verify tow vehicle -tow ball height 350-460mm when coupled, braked towing capacity minimum 2,500 kg (Arresta 100 ATM), electric brake controller installed and operational, and 12-pin plug
 - » Verify drawbar, tow coupling, and safety chains condition
 - » Check tyre condition and inflation
 - » Turn battery isolator to ON -confirm park brake engaged (LED solid RED)
 - » Verify battery charge level adequate
 - » Test warning lights and arrow board -press LIGHTS button to confirm beacons activate immediately; arrow board raises after a 10-second delay
 - » Pre-set arrow board to correct deployment pattern
 - » Deploy and recover as per Section 5.4.3 -confirm drawbar support leg and airbag system operate correctly
 - » Check frame and impact face for damage or deformation
 - » Check Cassette Support Lines -no wear, rope central through each sheave
 - » Check painted surfaces, arrow board and lights -no dirt/grime affecting visibility
 - » Test road lighting functions (brake, tail, indicators)
 - » Verify sway control by applying brake controller manual override -LED should show solid GREEN pulsing
 - » Verify break-away brake battery -GREEN light on test
 - » Adjust electric brake controller gain setting in tow vehicle to suit the Arresta 100's weight and current road conditions before each trip. Follow your brake controller manufacturer's guidelines for your specific controller
-

10.5 INSPECTION CHECKLISTS

10.5.2 QUARTERLY INSPECTION CHECKLIST

- » Tow ball and coupling mechanism
- » Tyre condition and pressure - check both tyres and spare are inflated to 65 PSI
- » Emergency dolly wheel condition and operation
- » Check bolts and fasteners for tightness
- » High-friction pads-visual check from sides with unit in tow mode; if wear or damage suspected, refer to a qualified repairer for safe underside inspection
- » Main body structural frame-visual check for any obvious signs of damage or deformation
- » Cassette-visual check for any obvious signs of damage or deformation
- » Wiring and airlines-visual check for any obvious signs of damage or deterioration
- » Battery condition and charge
- » Control system -check backup controller in the Control Box to confirm redundancy system is functional
- » Check Cassette Support Line tension-with unit fully deployed on ground, rope should have firm tension; adjust via ratchet inside main body if needed. Do not over-tension-this can bow the rear floor plate and stress the rope
- » Check Cassette Support Line alignment-rope must run centrally through each sheave. If the eye nut has shifted (e.g. from road vibration), re-align before use
- » Wash painted surfaces, arrow board, and lights with warm water and non-abrasive, pH neutral detergent; rinse thoroughly and wipe with soft cloth. Do not use high pressure washing -this can damage the powder coat finish, arrow board LED lenses, and electrical components

If damage or deterioration is found, do not inspect underneath - refer to a qualified repairer for safe inspection and repair.

