



# OWNERS MANUAL

**TOUGH TIPPERS FOR TOUGH JOBS**

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## **DISCLAIMER:**

The information in this Owner Handbook is provided by AZMEB for the purpose of assisting with the operation, repair or servicing of your AZMEB Trailer operation, repair or servicing of your equipment should only be undertaken by persons who have appropriate professional training and suitable qualifications. The owner or its authorised delegate is wholly responsible for ensuring that an appropriately qualified person (or persons) is (are) engaged to operate the equipment or undertake maintenance or repair work on the AZMEB equipment in a safe and diligent manner and with all appropriate equipment and tools.

Subject to the applicable laws, including the Australian Consumer Law as set out in Schedule 2 of the Competition and Consumer Act 2010 (Cth) as amended or replaced from time to time, AZMEB and its related entities, directors, other officers, employees, advisors and agents will not be liable in any way for any direct, indirect, or consequential loss, damage, expense, injury or claim of any kind arising from or relating to the application or use of the information in this Owner's Handbook.

**If in doubt at any time, seek advice from your nearest authorised AZMEB dealer.**

AZMEB may amend or replace these instructions at any time without notice. Please refer to your authorised AZMEB dealer for the latest version.

## Section 1: Delivery Confirmation – Customer Copy

### DELIVERY DOCKET – CUSTOMER COPY

#### OPERATOR DETAILS

Company Name:			
Address:			
Suburb:			
State:		Postcode:	
Contact Person:			
Telephone:		Email:	

#### TRAILER DETAILS

Manufacturer:			
Model:			
Vin Number:			
Delivery Date:		Rego No:	
Type:		Application:	
Tyre Make:		Tyre Size	

#### DRIVER OR REPRESENTATIVE DETAILS

Name:	Signature:	Date:
Driver's License:		
Truck Registration		
Truck Make:		
I have inspected the new equipment. It is as quoted, as ordered, and as expected (refer specification in Section 3). I have been shown or understand its general operation. I am familiar with all safety aspects of its operation, understand that my own plant risk assessment is to be completed before use and have taken delivery of the equipment.		
Lights:	Landing Legs:	
Mudflaps & Guards:	Tarp / Curtain Operation:	
Doors:	Turntable Operation (if applicable):	
Hydraulics / Mechanism:	Accessories (if applicable)	
PBS Requirements (i.e. lift / steer axle; quad axle; etc):	Slider / Rollback Operation:	
Tyre Carrier / Spare Tyre / Wheel:	Toolbox(es) / Timber Rack:	
Fridge Unit (if applicable & commissioning)	Hubo / Smartboard (ODO reading upon delivery)	
Artwork:	Other:	

DAMAGE DESCRIPTION (if any):

**SALESPERSON:**

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## DELIVERY DOCKET – DEALERSHIP COPY

Company Name:			
Address:			
Suburb:			
State:		Postcode:	
Contact Person:			
Telephone:		Email:	

Manufacturer:			
Model:			
Vin Number:			
Delivery Date:		Rego No:	
Type:		Application:	
Tyre Make:		Tyre Size	

Name:	Signature:	Date:
Driver's License:		
Truck Registration		
Truck Make:		
I have inspected the new equipment. It is as quoted, as ordered, and as expected (refer specification in Section 3). I have been shown or understand its general operation. I am familiar with all safety aspects of its operation, understand that my own plant risk assessment is to be completed before use and have taken delivery of the equipment.		
Lights:	Landing Legs:	
Mudflaps & Guards:	Tarp / Curtain Operation:	
Doors:	Turntable Operation (if applicable):	
Hydraulics / Mechanism:	Accessories (if applicable)	
PBS Requirements (i.e. lift / steer axle; quad axle; etc):	Slider / Rollback Operation:	
Tyre Carrier / Spare Tyre / Wheel:	Toolbox(es) / Timber Rack:	
Fridge Unit (if applicable & commissioning)	Hubo / Smartboard (ODO reading upon delivery)	
Artwork:	Other:	

DAMAGE DESCRIPTION (if any):

SALESPERSON:

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Section 2: Introduction

### **Welcome:**

Congratulations on the purchase of your new equipment, supplied by AZMEB, Australia's largest manufacturer and supplier of road transport equipment. You will be operating a reliable, freight-efficient unit that will deliver a competitive advantage to your company through a combination of optimum tare weight, maximised cubic capacity and outstanding reliability. Your new equipment has been designed and manufactured to provide a long service life in its designated operating conditions.

The model of equipment you have purchased may have many options and configurations or may have been manufactured to special order. While every effort has been made to cover all current arrangements in this handbook, do not hesitate to contact your salesperson or nearest authorised AZMEB dealer if questions arise.

AZMEB would like to point out the important role the operator of the equipment has on the life expectancy and safety of the equipment. Only adequately trained and competent operators should use this equipment.

### **About this Handbook:**

This handbook is equipment specific and will be unique to each serial number manufactured. For another copy of this handbook, simply contact your salesperson or local AZMEB dealer and quote your serial number as stamped on the compliance plate of your equipment.

In this handbook you will find:

- Information on your equipment
- Information on how to contact AZMEB networks and services
- The warranty for your Unit
- Safety information and cautions
- General and special operating instructions
- General service and maintenance information
- Other general information that may be helpful in operation, safety and service of your equipment.

As the owner or operator, it is important that you read and understand all information in this handbook. Always keep this handbook with the equipment to ensure that each owner/operator has access to all relevant information relating to operation and safety.

The information, specifications and recommended maintenance guidelines in this manual are based on information in effect at time of printing. AZMEB reserves the right to make changes at any time.

## **Delivery and Service Information:**

Your equipment has undergone a pre-delivery check by your dealer before handover. It is important that you spend some time with your salesperson or dealer at handover to:

- Allow the dealer to review the pre-delivery check with you
- Allow you to confirm your satisfaction with the equipment and its specification
- Make yourself familiar with the operation of the equipment
- Provide an opportunity for you to ask any questions relating to the safe use of the equipment

It is important that your new equipment is serviced and checked, especially in the initial running in period. As the purchaser of new AZMEB transport equipment, you must do a “Service and Inspection” which is to be carried out by an authorised dealer or service agent (refer to Contacts Lists for your closest service agent).

Your service must be undertaken at 20,000km or 60 days, whichever is sooner.

This service is to check the performance and safety of all major components following the initial period of operation. Failure to have this service may void your warranty. See **Section 7** for more information on the first service.

## Section 3: Your Equipment

### Equipment and Specifications:

The following pages list information regarding your equipment.



## WARRANTY – AZMEB Trailers

### Manufacturer Warranty

- (1): AZMEB PTY LTD. Trading as AZMEB ABN **56 681 871 447** of 85 Radius Dr, Larapinta Queensland 4110 (the **Company**) which can be contacted on [\(07\) 3726 1166](tel:0737261166) or [info@fwraustralia.com.au](mailto:info@fwraustralia.com.au) expressly warrants that AZMEB trailers and their component parts (the **Products**) will be free from defects in materials and workmanship for one (1) year from the date of delivery to the customer or the date of invoice to the customer, whichever is earlier (the **Warranty Period**).
- (2): The Products come with guarantees that cannot be excluded under the Australian Consumer Law set out in Schedule 2 of the *Competition and Consumer Act 2010* (Cth), as amended, or replaced from time to time (**Australian Consumer Law**). You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage (but only if the Products were mainly used to transport goods on public roads). You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure is not a major failure (but only if the Products were mainly used to transport goods on public roads).
- (3): Subject to the applicable laws, including the Australian Consumer Law, this Manufacturer Warranty does not apply to proprietary items such as tyres, brakes, rims, wheels, suspensions, curtains, signage, and similar equipment which is covered by individual manufacturers' warranties.
- (4): Subject to the applicable laws, including the Australian Consumer Law, this Manufacturer Warranty will only apply during the Warranty Period so long as the following conditions are met:
  - a the Products were manufactured by the Company and were new at the date of delivery.
  - b the Products have been used in accordance with legal loading and speed limits, correctly coupled & operated in such a manner as may be prescribed by the Company or if the Company does not prescribe such conditions, then in such manner as is considered good practice for such Products.
  - c the customer has submitted the Products for testing and inspection during the Warranty Period in accordance with the Company's Owner Service Policy dealing with adjustments and inspections.
  - d no replacement part has been used in relation to the Products other than one manufactured and supplied or approved by the Company.
  - e the Products have not been repaired, altered, or modified in any way whatsoever by persons other than the Company or its authorised service representatives.

- f the Products (or affected component parts) have been returned to the Company's authorised dealer for rectification or replacement within the Warranty Period (the cost of transportation of the Products to and from the dealer will be paid by the customer).
  - g the Products have been fully paid for; and
  - h the Products have been maintained and serviced in accordance with the Company's Owner Service Policy.
- (5): Subject to the applicable laws, including the Australian Consumer Law, this Manufacturer Warranty will not make the Company liable in any way for defects arising directly or indirectly from:
- a accidents which were not caused through a defect in the Products.
  - b fair wear and tear of the Products (for instance: tarps, tyres, rims, bumpers, body, paintwork, signwriting – as applicable in each case).
  - c incorrect, faulty, or negligent operation or maintenance of the Products including coating or cleaning of the curtains with any preparation not approved in writing by the Company.
  - d misuse or other unsuitable operation of the Products, including overloading.
  - e negligence or error in storing, maintaining, or handling the Products including the use of unsuitable cleaning agents.
  - f use of the Products following discovery of a deficiency which has not been rectified;  
or
  - g any cause not directly attributable to the Company.
- (6): Except as provided in this Manufacturer Warranty, the Company makes no express warranties in respect of the Products, although you may have other rights and remedies available to you under the applicable laws, including the Australian Consumer Law. Subject to the applicable laws, including the Australian Consumer Law, the Company will, under no circumstances, be liable for any damage, whether direct, indirect, special or consequential, arising in any way out of the use of or in relation to the Products, whether as a result of the Company's negligence or otherwise. This includes loss of freight, loss of earnings or loss of contracts.

## **Warranties Implied by Law**

- (7): Nothing in this Manufacturer Warranty operates to exclude, restrict or modify the application of any provision of any statute (including the Australian Consumer Law) where to do so would:
- a contravene that statute; or
  - b cause any part of this clause to be void.

The Company excludes all implied conditions and warranties except any implied condition or warranty the exclusion of which would contravene any statute including the Australian Consumer Law or cause any part of this clause to be void.

## **Limitation of Liability**

- (8): Subject to the applicable laws, including the Australian Consumer Law, the Company's liability for a breach of the Manufacturer Warranty is limited to any one or more of the following as determined by the Company:
- a the replacement of the Products or the supply of equivalent Products; or
  - b the repair of the Products; or
  - c the payment of the cost of replacing the Products or of acquiring equivalent Products; or
  - d the payment of the cost of having the Products repaired; or
  - e in the case of goods, to any one or more of the above as determined by the Company.
- (9): Replaced parts become the property of the Company. If parts are returned under this Manufacturer Warranty, the customer is not entitled to make any deduction from remittances or current accounts without the Company's consent.
- (10): Warranty work is only to be undertaken by an authorised Azmeb dealer. Warranty work may only be undertaken by an alternative repairer with the prior written approval of the Company.

## Remedies

- (11): To make a claim in relation to the Products under this Manufacturer Warranty the customer must contact their selling dealer or the Company within the Warranty Period on the contact details provided in clause 1. If the Company determines that the customer has a claim under this Manufacturer Warranty, the Company will act in accordance with clause 8. The customer will be responsible for its costs of making a warranty claim under this Manufacturer Warranty.
- (12): AZMEB utilises several third-party proprietary brands across the various models within the product range which offer their own specific warranty period separate to that offered by AZMEB. Please refer to the build specification of the unit to locate associated proprietary brands used and refer to their individual website for their minimum warranty period. Alternatively, contact your local AZMEB Dealer.

## Section 4: Safety

### Important Safety Information:

The health and safety of operators, maintenance personnel and the public must always be a major consideration when operating and maintaining equipment. Accidents can result in serious injury or death.

AZMEB cannot, however, anticipate every possible occurrence which may involve potential hazards. Operator skill level, environmental conditions, equipment upkeep and the surrounding physical situation are some factors that can influence the level of hazards. An accident can be avoided by recognising potentially hazardous situations before dangerous situations occur.

There is often little or no direct on-site supervision, so there must be a heavy reliance on the requirement for the operator of the equipment to:

- Be trained in correct procedures. (If in doubt, they should ask for assistance)
- Be trained in completing and interpreting risk assessments when required
- Assess the tasks and operation from a safety perspective including checking for:
- Correct hitching of trailer to trailer or to truck (and testing thereof)
- Obstructions or hazards which may be contacted by the equipment or operator (e.g. low wires, overhead structures, trees, forklifts, docks, etc.)
- A safe distance from other vehicles whilst loading, unloading or tipping
- Understanding and controlling “working at heights” issues if they arise
- Other hazards associated with operating the equipment including pinch points, potential falling objects, operator sprain/strain, etc
- Potential hazards from failure to properly service equipment
- Environmental conditions including high winds, slippery surfaces, etc



**Caution**

When you see this symbol & word, the message that follows is especially important. This signals something that can cause damage or potential failure of your equipment.



**Danger**

When you see this symbol & word, the message that follows is especially important. This signals something that can cause damage or potential failure of your equipment.

## **Plant/Equipment Risk Assessments:**

For health and safety purposes, AZMEB has completed a Plant Risk Assessment for your new equipment. This can be found on the following pages and identifies generic hazards and risk levels that may be associated with the equipment in typical use.

Due to the variety of tasks, applications and environments in which your equipment may be used, there may be some hazards that AZMEB will not be able to identify. For this reason, it is recommended that the owner/operator of this equipment conducts a separate Plant Risk Assessment before operation.



**Danger**

For health and safety purposes, conduct a Risk Assessment of your new equipment before use considering operational methods, your own internal controls, the local physical and natural environment and the skill level of your operator.



**Danger**

It may be necessary to conduct additional Risk Assessments when there are changes in operational methods, physical and natural environments and operators.

For more information on how to conduct a Risk Assessment contact your State or Territory Health and Safety Authority.

## Plant and Equipment Safety Assessment Form

<b>Description of Plant:</b>	AZMEB SIDE TIPPER
<b>Location:</b>	
<b>Date:</b>	
<b>Plant Assessment Team:</b>	
<b>Names:</b>	

**Describe the plant or equipment item.**

<b>What is the Plant used for?</b>
Transporting bulk product and tipping

<b>How is the Plant used?</b>
NA

<b>What is the workplace like?</b>
NA

<b>Is there a system of work for using the Plant?</b>
Safe working procedures relating to the system of work are the transportation companies responsibility to develop

<b>Does the Plant operate outside of normal conditions? If so, list operating conditions.</b>
No

<b>What is the Plant used for?</b>
Transporting bulk product and tipping

**Identify the hazards associated with the item of plant or equipment.**

<b>Hazard</b>	<b>Definition</b>	<b>Yes/No</b>
<b>Entanglement</b>	Can: <ul style="list-style-type: none"> <li>• Hair,</li> <li>• Clothing,</li> <li>• Gloves,</li> <li>• Necktie,</li> <li>• Jewellery,</li> <li>• Rags,</li> <li>• Other materials,</li> </ul> Become entangled with moving parts of plant or materials in motion?	No
<b>Crushing</b>	Can anyone be crushed due to: <ul style="list-style-type: none"> <li>• Falling, uncontrolled or unexpected movement of plant or its load,</li> <li>• Lack of capacity to slow, stop or immobilise the plant,</li> <li>• Tripping or rolling over,</li> <li>• Parts of plant collapsing,</li> <li>• Contact with moving parts during testing, inspection, maintenance, cleaning or repair,</li> <li>• Being thrown off, under or trapped between plant and materials or fixed structures?</li> </ul>	Yes
<b>Cutting, Stabbing and Puncturing</b>	Can anyone be cut, stabbed or punctured by: <ul style="list-style-type: none"> <li>• Coming in contact with moving part or parts,</li> <li>• Sharp or flying objects,</li> <li>• Work pieces ejected,</li> <li>• Work pieced disintegrated,</li> <li>• Other factors not mentioned?</li> </ul>	Yes

<b>Shearing</b>	Can anyone's body parts be cut off between: <ul style="list-style-type: none"> <li>• Two parts of the plant,</li> <li>• A part of the plant and a work piece or structure?</li> </ul>	Yes
<b>Electrical</b>	Can anyone be injured by electrical shock or burnt: <ul style="list-style-type: none"> <li>• Due to damaged or poorly maintained leads,</li> <li>• Switches,</li> <li>• Water near electrical equipment,</li> <li>• Working near or contact with live electrical conductors,</li> <li>• Lack of isolation procedures</li> <li>• Factors not mentioned?</li> </ul>	No
<b>Explosion</b>	Can anyone be injured by an explosion of: <ul style="list-style-type: none"> <li>• Gas,</li> <li>• Vapours,</li> <li>• Liquids,</li> <li>• Dusts,</li> <li>• Other substances,</li> </ul> Triggered by plant operation?	No
<b>Friction</b>	Can anyone be burnt due to: <ul style="list-style-type: none"> <li>• Contact with moving parts,</li> <li>• Surfaces of the plant,</li> <li>• Material handled by anyone?</li> </ul>	No
<b>Striking</b>	Can anyone be struck by moving objects due to plant or working pieces being: <ul style="list-style-type: none"> <li>• Ejected,</li> <li>• Disintegrated,</li> <li>• Mobile,</li> <li>• Uncontrolled,</li> <li>• Unexpected movement of the plant,</li> <li>• Other factors?</li> </ul>	Yes
<b>Slipping, Tripping and Falling</b>	Can anyone using the plant or in the vicinity of the plant slip, trip slip or fall due to: <ul style="list-style-type: none"> <li>• The working environment,</li> <li>• Other factors? (eg: poor housekeeping, slippery or uneven work surfaces or lack of guard-rails)</li> </ul>	Yes
<b>Suffocation</b>	Can anyone be suffocated due to: <ul style="list-style-type: none"> <li>• Lack of oxygen,</li> <li>• Atmosphere contamination?</li> </ul>	No
<b>High Temperature or Fire</b>	Can anyone: <ul style="list-style-type: none"> <li>• Come into contact with objects at high temperatures,</li> <li>• Be injured by fire?</li> </ul>	No
<b>Temperature (Thermal Comfort)</b>	Can anyone suffer ill health due to exposure to high or low temperature?	No
<b>Ergonomic</b>	Can anyone be injured due to: <ul style="list-style-type: none"> <li>• Seating design,</li> <li>• Repetitive body movement,</li> <li>• Posture,</li> <li>• Excessive effort,</li> <li>• Poor workplace or plant design causing mental or physical stress,</li> <li>• Lack of consideration for human behavior,</li> <li>• Poor lighting,</li> <li>• Other factors not mentioned?</li> </ul>	Yes
<b>High Pressure Fluid</b>	Can anyone come into contact with fluids under high pressure: <ul style="list-style-type: none"> <li>• Due to plant failure,</li> <li>• Misuse of plant?</li> </ul>	Yes
<b>Other Hazards</b>	Can anyone be injured or suffer ill health from: <ul style="list-style-type: none"> <li>• Exposure to chemicals,</li> <li>• Toxic gases,</li> <li>• Vapours,</li> <li>• Fumes,</li> <li>• Dusts,</li> <li>• Radiation Dusts,</li> <li>• Noise,</li> <li>• Vibration,</li> <li>• Other factors not mentioned?</li> </ul>	No



<b>Risk Control Options</b>			
(Elimination, Substitution, Engineering, Isolation, Administrative, PPE)			
Implementation of a Safe Operating Procedure by the transport company operating this trailer mandating the following: The operator has confirmed that all people are clear of the trailer and it is safe to operate or load and unload.			
<b>Describe the identified hazard</b>	<b>Risk Rating</b>		
	High	Med	Low
Crushing can occur when loading or unloading with the use of a bucketed loader. Driver to ensure person are clear when loading or unloading.	High		
Crushing can occur between tub & chassis at hinge point if someone places hand or fingers or body over rails while operating, units are fitted with anti burst valve & it is recommended that anti burst valve must not be removed. Driver to ensure people are clear when Raising or lowering.	Very High		
Crushing can occur if someone places hand or fingers between tub & tailgate while operating. Driver to ensure people are clear when operating.			Low
Crushing/Shearing can occur in the event of hydraulic failure on a raised body, units are fitted with anti burst valve & it is recommended that anti burst valve must not be removed. Ensure no personnel enter under a raised body without the use of a safety prop.	Very High		
Crushing can occur between tipper and truck when jack knifing combination. Operator to ensure area is clear	Very High		
Striking can occur when opening or closing tail gate. Driver to ensure person are clear when opening or closing.			Low
Slipping, Tripping and falling can occur when climbing on front and/or rear access steps. Persons to take care when climbing on front and/or rear access steps.			Low
Slipping, Tripping and falling can occur when in inside tub or exiting tub. Persons to take care when in tub or exiting tub.	High		
High Pressure Fluid, Hydraulic fluids can be released under high pressure & could cause bodily harm, If Hydraulic hoses are not maintained, units are fitted with anti burst valve & it is recommended that anti burst valve must not be removed.		Med	
Other Hazards can occur; Instability of tipped trailer can result in over-turning, causing crushing hazards for nearby operators. Ensure surface is sufficient for tipping applications. Ensure loading and other environmental factors do not induce possibilities of instability during tipping process.	Very High		
Ergonomic, Excessive effort can be applied due to handling of tires, operator to obtain help if required			Low
Other Hazards can occur, Raising a tipping body into overhead power lines can result in electrocution. Operator to ensure area is clear before tipping	Very High		
Other Hazards can occur, Sprain/Strain when trying to manually lift draw arm if required when connecting dog to trailer – operator to use appropriate lifting device.		Med	

USE THE RISK CALCULATOR BELOW TO DETERMINE THE SEVERITY OF RISK AND IF CORRECTIVE ACTIONS ARE REQUIRED

### CONSEQUENCE CATEGORIES

LEVEL	RATING	DESCRIPTION (Safety)
1	Negligible	Low-level short-term subjective inconvenience or symptoms. No measurable physical effects. (eg: minor laceration, burn or abrasion requiring basic first aid)
2	Minor	Objective but reversible disability / impairment. (eg: laceration, sprain/strain, burn etc. that requires medical treatment and/or modified duties)
3	Medium	Moderate short-term or irreversible disability or impairment. (eg: fracture, crush injury, burns etc requiring specialist medical and/or hospital treatment)
4	Major	Single fatality or severe irreversible disability or impairment. (eg: loss of life, loss of limbs, loss of bodily function such as major paralysis)
5	Extreme	Short or long term health effects leading to multiple fatalities. (eg: as for 4 but with multiple fatalities)

### PROBABILITY CATEGORIES

LEVEL	RATING	DESCRIPTION (Safety)
1	Rare	The event may occur only in exceptional circumstances (1 chance in 10,000 per year)
2	Unlikely	The event could occur at some time (1 chance in 1,000 per year)
3	Possible	The event might occur at some time (1 chance in 100 per year)
4	Likely	The events will probably occur in most circumstances (1 chance in 10 per year)
5	Almost certain	The event is expected to occur in most circumstances (1 chance per year)

### RISK RATING TABLE

		CONSEQUENCE				
		Negligible	Minor	Medium	Major	Extreme
		1	2	3	4	5
PROBABILITY						
Almost certain	5	6	7	8	9	10
Likely	4	5	6	7	8	9
Possible	3	4	5	6	7	8
Unlikely	2	3	4	5	6	7
Rare	1	2	3	4	5	6

SUGGESTED ACTIONS	TIME TO RECTIFY or REDUCE RISK	RISK LEVEL
Manage by routine procedures	365 days	Low
Responsibility and action dates must be specified	60 days	Moderate
Reduce as soon as possible	7 days	High
Stop work and address risk	Immediately	Very High

POTENTIAL RISKS		
ENTANGLEMENT	STRIKING	POISONING
CRUSHING	SLIP/TRIP/FALL	ISOLATION
CUTTING / STABBING	SUFFOCATION	INHALATION
ELECTRICAL	TEMPERATURE	ABSORBTION
TEMPERATURE	ERGONOMIC	HEARING LOSS
EXPLOSION / FIRE	PROCEDURES	RADIATION
FRICTION	SHEARING	CONTAMINATION

## Section 5: Before Using Your Equipment

### Compliance and Regulatory Responsibilities:

There are many authorities and regulatory bodies in Australia that govern many aspects of the equipment design, type of use, and operation. These are not limited to, but could include:

- State Road Authorities (eg: axle mass limits, configuration restrictions, etc)
- Australian Design Rules (eg: structural design, minimum light and decal requirements, etc)
- National Road Transport Commission (eg: Load Restraint Guide)
- Workplace Safety Authorities (eg: Working at Heights, Plant Risk Assessments, etc)

Also remember, as an operator, the company you are working for or contracting to may also have their own policies and procedures.

It is the owner/operator's responsibility to know and follow any compliance and regulation that may relate to the equipment, its operation, and its safe use.

AZMEB wishes to remind you of the following dangers and cautions:



**Caution**

Before hitching to a prime mover or other trailing equipment, it is the responsibility of the owner/operator to ensure the combination complies with relevant company, local and state authorities. The compliance plates (located on the front section of the chassis or front wall) also give dimensional and weight restrictions for your equipment which should be noted.



**Caution**

Understand the tare weights of equipment and the prime mover, particularly hitched in combination. It is the responsibility of the owner/operator to ensure that axle and axle group masses are within the limits of company, local and state authorities.



**Caution**

Be aware that components such as marker lamps, rear lamps, conspicuity decals, compliance plates, warning decals and the like are included and strategically positioned to make the equipment comply with Australian Design Rules and other regulations. Do not modify, move or remove them.



**Danger**

Be aware that equipment manufactured by AZMEB has been designed to comply with relevant authorities and guides at the time of manufacture. Owners or operators must not substitute, alter, re-design, remove, or the like, any component that is fitted for structural, load restraint, or compliance reasons without approval from relevant road or safety authorities.



**Danger**

Be aware that the NRTC Load Restraint Guide provides detailed guidelines on requirements for the effective restraint of loads. These guidelines must be complied with. There are several AZMEB designed 'Load Restraint Systems', but all have limiting factors including physical shape, location and mass of the load. It is the

owner/operator's responsibility to ensure that they abide AZMEB guidelines for each type of system for it to comply. Ultimately, it is the operator's responsibility to ensure that they comply with the NRTC Load Restraint Guide (available at [www.ntc.gov.au](http://www.ntc.gov.au)).



Be aware that loading towable trailers with payload when unhitched from a prime mover or towing vehicle or unhitching already loaded trailers from a prime mover or towing vehicle, could result in unstable loads. On some occasions the following could occur:







- Where ground surface is unstable or unsuitable, trailer support legs and tyres could sink causing trailer and load instability.
- Where trailer support legs and wheels are dimensionally positioned respective to the load space of the trailer in a manner which impairs gross mass equilibrium, a fully or partially loaded loadspace could result in the trailer inadvertently tipping forward or rearward.

In these instances, personnel injury and equipment damage is highly likely. It is therefore the responsibility of the owner/operator to include an analytical assessment of the above risks in the equipment risk assessment. Consult AZMEB if assistance is required in the analytical assessment.

## Inspections:

It is important that you familiarise yourself with the equipment before each use. The best way of doing this is to walk around the equipment and configuration and visually look for anomalies or hazards.

AZMEB wishes to highlight the following dangers and cautions:

- |   |  |
|---|--|
| <br><b>Danger</b>    | Ensure you read and understand the prime mover's operator's manual before hitching and using equipment   |
| <br><b>Danger</b>    | Familiarize yourself with the operation of new devices such as landing legs, 5 <sup>th</sup> wheel, road-train couplings, air and electrical connections and other ancillary items that affect the operation of the equipment. The operation and safety risks will vary depending on the proprietary brand and model that has been chosen on your equipment. 'Section 8' lists a directory of websites for common proprietary items which will assist you in reaching operating instructions that relate to these. |
| <br><b>Caution</b>  | Before hitching to a prime mover or other trailing equipment, it is the responsibility of the owner/operator to ensure that swing clearances, guard clearances, turntable heights and overall heights suit the combination.  |
| <br><b>Danger</b>  | If the equipment is new, or it is the first time you have used it, familiarise yourself and understand any associated company policies and risk assessments.   |
| <br><b>Danger</b>  | Before using equipment, ensure that wearing items such as tyres, turntable plates, kingpins, brakes and other components are in good safe order to use.  |
| <br><b>Caution</b> | Before using equipment, ensure that compliance components such as side marker lamps, rear lamps, conspicuity plates, combination signs and the like are in good working order.   |

## Section 6: Equipment Operation

### Generic Operation

This equipment must only be used by truck drivers and operators appropriately trained and licensed to use the equipment in the operational configuration. Therefore, this manual does not include instructions on how to:

- Drive and manoeuvre the equipment and combination
- Check tyres, wheel, couplings, etc before hitching
- Hitch on and off a prime mover (including 5<sup>th</sup> wheel attachment, air and electrical connection, EBS/ABS connection, etc)
- Change a spare wheel or other parts
- Conform to NTC Load Restraint Guidelines

These activities are dealt with in obtaining the relevant license through your state licensing agencies.

However, AZMEB wishes to highlight general warnings and cautions for these activities as follows:



**Danger**

After hitching or at the beginning of each drive cycle, always check the operation of couplings, brakes, body locks, tyres and electrical. Complete a tug test with the trailer brakes on, cycle the service brakes, check tyre inflation pressures and wear and check for functioning clearance and signal lamps.



**Danger**

Be aware that your prime mover and/or trailer may be fitted with ABS or EBS functionality. For these features to operate correctly, the ABS/EBS electrical plug must be correctly connected. Ensure you are familiar with this functionality if required, and that the system is working correctly before the beginning of each drive cycle.



**Danger**

There are devices and components on your equipment that may be heavy to manually handle and could pose the risk of sprain/strain, crush, shear, etc to the operator. Use mechanical lifting aids where necessary and use skilled personnel competent in the field. For example, changing a wheel may introduce hazards during removing the spare wheel from the tyre carrier, loosening wheel nuts, manoeuvring wheels, re-torqueing wheel nuts and replacing the damaged wheel assembly in the tyre carrier. It is the responsibility of the owner/operator/technician to analyse and manage each risk accordingly.



**Danger**

Certain everyday activities such as lashing loads, tarping loads, or washing equipment can also be hazardous. AZMEB does not recommend climbing up on equipment and loads to carry out such activities. Use certified ladders and other work platform equipment to reduce risk. Always keep at least three points of contact when climbing ladders etc. It is also the responsibility of the operator/owner to

comply with “working at heights” regulations.



Ensure that all loose items and other ancillary items are tied, lashed, clamped or adequately secured by other means to prevent detachment from the equipment. Detached items may cause harm and fatal injury to others. It is the responsibility of the owner/operator to maintain safe operation of equipment.



Always ensure the trailer is decoupled on hardstand. It is the responsibility of the owner/operator to properly chock beneath landing leg feet where needed. Equipment with air suspensions can sometimes experience slow air loss in airbags due to leaks. The dropping and articulation of the suspension trailing arms when this occurs can result in the trailer creeping up to 100mm in some instances. This must be dealt with by ensuring landing leg chocking (where used) has adequate surface area to the rear of the leg foot to resist foot rolling/falling off the chock. Failure to do so could result in damage to the equipment.



Always ensure the landing gear (if fitted) is engaged and the handle is stored into the holder when in the retracted position. Failure to do so could result in damage to the equipment, roads, and property.



At all times when leaving the cabin of the prime mover ensure that the park brakes are applied. Chock wheels of equipment in situations of risk.



Always use and wear appropriate personal protection equipment, as defined by your risk assessment or company policy.



There are many operations and activities that require manual lifting and handling on a trailer. Certain everyday activities such as lifting gates and load racks, removing mezzanine posts, lifting tarps, opening and closing doors, lifting ramps and the like are examples for potential risk. Always use proper lifting and handling techniques and use manual handling equipment where necessary.



Beware of pinch points. General pinch points are identified on the equipment using decals like these examples:





**Caution**

Be aware of minimum chassis and frame heights of your equipment with respect to the ground. Steep grades, curbing, spoon drains, and other road conditions can potentially cause damage.



# SIDE TIPPER TRAILER SPECIFIC INFORMATION



**PRIME MOVER MINIMUM REQUIREMENTS:**

Prime mover hydraulic pump minimum requirement is 120 L/min @ 3000 psi.

Prime mover electrical system abs requirements are 12V or 24V

The following safety notices should be observed at all times when working with side tippers:



**Danger**

Ensure that all park brakes are applied before leaving the vehicle cab. Failure to do so could result in serious damage to equipment, injury or death.



**Danger**

Do not stand or reach under a raised body without fail-safe measures in place to prevent the accidental lowering of the body. Accidental or unexpected lowering of the body could result in serious damage to equipment, injury or death.



**Danger**

Do not attempt to enter a tipper body when it is raised. Doing so could result in serious injury or death.



**Danger**

Hydraulic fluid will be under pressure. Keep clear of all hydraulic lines at all times. Failure of hydraulic lines could end in high velocity oil streams capable of penetrating skin.



**Caution**

Observe all company, site and government requirements in respect to height restrictions when climbing on the body.

## A-TRAILER GREASE POINTS

GREASE 8 POINTS  
ON DOOR ARMS  
4 POINTS FRONT  
4 POINTS REAR



GREASE BLOCK FOR  
PINS & BUSHES  
5 POINTS FRONT  
5 POINTS REAR

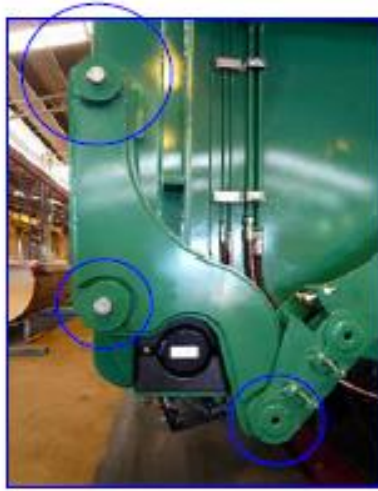


5th WHEEL  
GREASE BLOCK  
7 POINTS



GEARED LANDING LEG  
1 POINT

## B TRAILER GREASE POINTS



GREASE 8 POINTS  
ON DOOR ARMS  
4 POINTS FRONT  
4 POINTS REAR

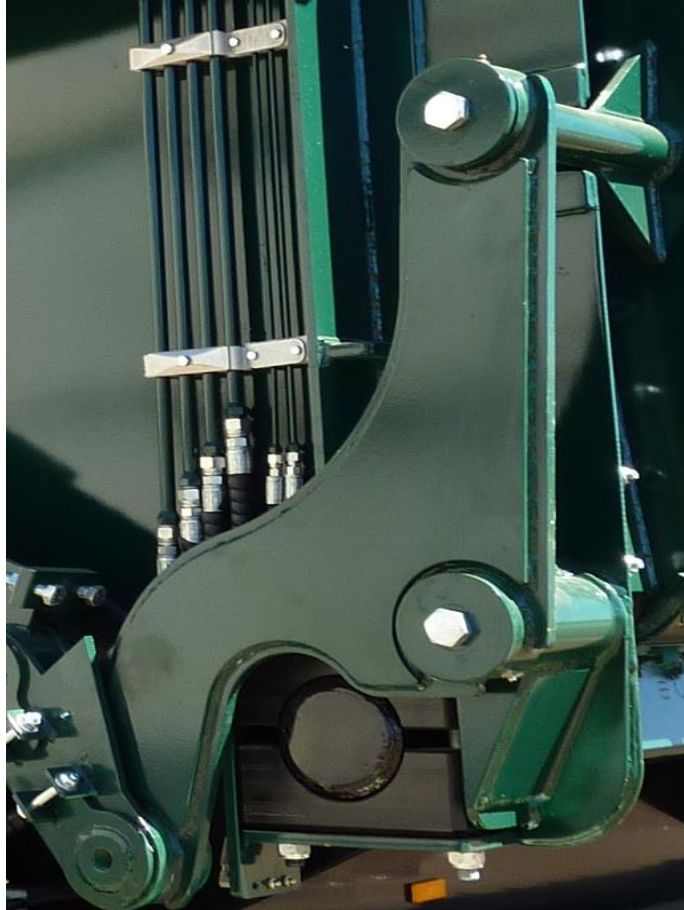


GREASE BLOCK FOR  
PINS & BUSHES  
5 POINTS FRONT  
5 POINTS REAR



GEARED LANDING LEG  
1 POINT

## DOOR ARM



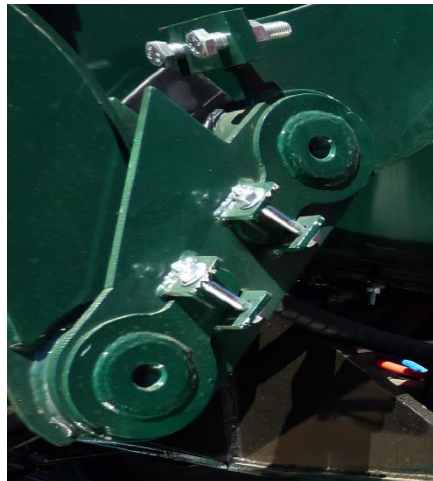
1. Check door arm during 3 month service or after any heavy impact that may damage the arm.
2. Ensure all door arm bushings move freely over pins.

## HOOD OPERATING ARMS



1. Check hood arm during 3 month service or after any heavy impact that may damage the arm.
2. Ensure all hood arm bushes move freely over pins.
3. Check plastic bearing for damage, replace if needed

## LOCKING MECHANISM



Ensure locking mechanism locks door closed when hydraulics are completely retracted and adjust bolts as required.

## CONTINUOUS RUBBER HINGE



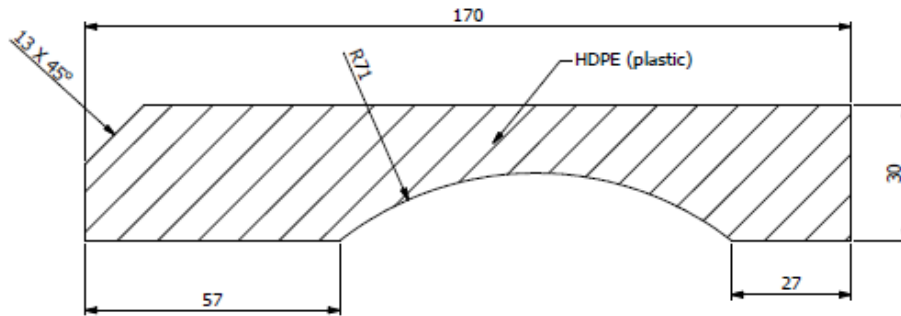
1. Check rubber for any cuts or tears.
2. Ensure all hinge retaining bolts are tight.

## PLASTIC BEARING MAINTENANCE

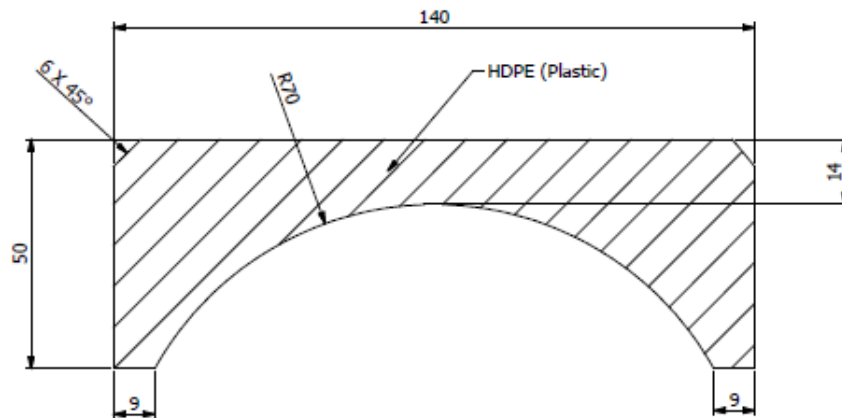
Ensure all plastic bearings are in good working order and supporting the body when in the closed position.

### PLASTIC BEARING SECTIONAL PROFILE

BODY PIVOT PLASTIC



TOP BOX PLASTIC





## TOP BOX HOIST MOUNT & PIVOT TORQUE POINTS



## OPERATION PRIOR TO TIPPING

- Check for overhead hazards such as overhead wires, structures and trees.
- Be aware of the wind conditions at the tipping site.
- Check that the tipping area is clear of personnel and equipment.
- Check that the ground is even, level and firm, with no soft spots or ridges that could cause the vehicle to become unstable while tipping.
- Check that the trailer is securely connected to the towing vehicle (where applicable).
- Check tyre condition, paying particular attention to ensuring tyre pressure is equal on each side of the vehicle.
- Familiarize yourself with the nature of the load. Be aware that sticky materials such as asphalt, clay or manure may not discharge evenly.



**Danger**

Inspect the site for overhead hazards such as wires, structures and trees before raising a tipping body. Failure to do so could result in serious damage to equipment, injury or death.



**Danger**

Ensure the tipping site is clear of personnel and plant equipment during the entire tipping operation. Failure to do so could result in serious damage to equipment, injury or death.



**Danger**

Ensure that ground surface of the tipping site is even, level and firm prior to tipping the body. Failure to do so could result in the vehicle becoming unstable during the tipping operation, resulting in serious damage to equipment, injury or death.



**Danger**

Ensure the trailer is securely connected to the towing vehicle (where applicable). The vehicle may become unstable while tipping if the trailer is not securely connected prior to tipping the body.



**Danger**

If the vehicle becomes unstable at any stage during the tipping operation, the process should be halted and the body carefully lowered. Once the vehicle is stable again, the cause of instability should be identified and rectified before attempting to raise the body again.

## LOADING LIGHT MATERIAL

1. Ensure roll tarp is in the open position
2. Load trailers
3. Ensure zero product is sitting on coamings rails or mudguards
4. Ensure roll tarps is in the closed position before driving away

## LOADING HEAVY SOLIDS

1. Engage prime mover hydraulics
2. Raise top body to open position
3. Disengage prime mover hydraulics
4. Load trailers
5. Re-engage prime mover hydraulics
6. Lower top body to closed position
7. Disengage prime mover hydraulics
8. Ensure roll tarp closed
9. Ensure top body is fully closed before driving away

## DISCHARGE

1. Position the vehicle in the tipping area. The most stable orientation of a combination for tipping is with the towing vehicle and trailer in a straight line, on level ground across the width of the vehicle, and level. All combinations should be in a straight line during the tipping cycle.
2. Apply the park brakes
3. For multi-body combinations, divert hydraulic oil to the body to be tipped.
4. Engage the truck hydraulics (on the PTO switch on the dashboard)
5. Raise bodies to tipped position, top body will raise automatically as body lifts
6. Lower body back into cradle

Note: For Correct operation of PTO please refer to the truck manual



**Danger**

All truck and trailer combinations should be in a straight line during their tipping cycle. Tipping with a combination jack knifed can cause a trailer to become unstable and lead to a roll over.



**Danger**

Ensure a stabiliser key is installed and functioning on units coupled up to stabilized, or ballrace mounted fifth wheel. Failure to do so could result in trailer becoming unstable and could cause a roll over. This may result in serious injury or death.



## **SPARES INFORMATION**

For spare parts or service information reach out to us at AZMEB or your nearest AZMEB dealer or service provider.

## Section 7: Servicing and Maintenance

### First Service:

service must be undertaken at 20,000km or 60 days, whichever is sooner.

This service is to check the performance and safety of all major components following the initial period of operation. Failure to have this service may void your warranty.

At this service it is important that the owner advises the service dealer of any irregularities in the operation of the unit.

The first service and Inspection should include the following general criteria: (where applicable on the equipment)

- Axles: Checked for bearing adjustment, brake adjustment and condition of grease.
- Brake System: Checked for correct operation of valves, possible air leaks and correctly secured and pinned brake power chambers.
- Axle and Suspension Assembly: Checked for alignment and adjusted if necessary. All nuts and bolts, including U bolts, checked for tension (where fitted). Trailer ride height checked.
- Landing Gear: Checked for correct winding up and down and operation of high and low gear selection.
- Trailer Curtains: Checked for correct and secure operation of buckles, straps, rollers and end tensioners, where applicable.
- Door Hardware: Checked for correct tightness and securing of fasteners.
- Lighting System: Checked for correct operation.
- Tyre Pressures: Checked and noted. The driver will be advised if any are low.
- All grease points will be lubricated
- General visual check for structural failure (bolted/welded/bonded)
- General visual check on refrigerated panel
- Check for correct operation of all safety items (including hoist props, ladders, etc)
- Check for correct operation of general functions (eg. body tipping on a tipper)
- Other items specific to the design and function of the trailer in question

## Generic Service and Maintenance:

Your trailer has been manufactured with high quality components. Many of these components, such as suspensions, brakes, landing legs, etc are proprietary brand items and must be serviced according to the recommendations of their manufacturers (See Section 8 for a list of contacts for commonly used proprietary components).

The following 'Maintenance Schedule' may not cover the service requirements of all components fitted to the trailer and must be read in conjunction with component supplier literature. Where there is a variance in the maintenance advice the recommendations of the component suppliers must be adhered to.

Maintenance Schedule					
ITEM	1 <sup>st</sup> Service 20,000km or 60 days, whichever is sooner	Daily / or trip	Weekly	Quarterly or 20,000kms	Annually or 250,000kms
<b><u>Electrical</u></b>					
Check all lights and switches are operational		✓			
Check for worn/damaged looms and cables					✓
<b><u>Brakes / Control</u></b>					
Drain moisture from air reservoirs		✓			
Check service brakes are operational		✓			
Check emergency brakes are operational		✓			
Check air lines valves and fittings for leaks				✓	
LPV (Load Proportioning Valve), Retest Pressure.					✓
Replace EBS Line Filter					✓
Check EBS System for damaged lines, plugs and corroded terminals			✓		
<b><u>Couplings</u></b>					
Check kingpin bolt torque				✓	
Check kingpin wear limits					✓
Check turntable wear					✓
Check tow eyes	3,000km, then regularly at 15,000 intervals				
Check tow couplings				✓	
Check ball race				✓	
Check Structural integrity of King Pin Skidplate/Baseplate assemblies (cracks & wear)				✓	
<b><u>Pneumatic / Hydraulic</u></b>					
Check for air / oil leaks and damaged hoses				✓	
Check ride height control valve is operational				✓	

Maintenance Schedule					
ITEM	1 <sup>st</sup> Service 20,000km or 60 days, whichever is sooner	Daily / or trip	Weekly	Quarterly or 20,000kms	Annually or 250,000kms
<b><u>Axle group</u></b>					
Check tyre condition and pressures			✓		
Check air bags condition and leaks				✓	
Check air suspension ride height					✓
Check brake adjustment				✓	
Check brake drums / rotors / linings / pads				✓	
Check wheel rim and nuts	Recheck after first run under laden conditions after re-assembly				
Check axle bearing and brake adjustment					✓
<b><u>Load restraint</u></b>					
Load retention equipment	✓			✓	
<b><u>Tarp Systems</u></b>					
Check / re-tension cable systems			✓		
Clean cable of grit and oil				✓	
<b><u>Landing Gear</u></b>					
Landing gear – check for correct winding up and down and movement between high and low gear				✓	
<b><u>Lubrication</u></b>					
King pin and skid plate				✓	
Landing legs				✓	
Ball race turntable				✓	
Brake camshafts and slack adjusters				✓	
All non-specified grease-able pivot points				✓	
Axle bearings					✓
<b><u>Safety</u></b>					
Check that all safety decals are attached and legible				✓	
Check that all safety items including props, ladders, restraints, walkways, platforms and the like are in a safe working order				✓	
<b><u>Structural</u></b>					
Check for cracking and fatigue failure in main chassis and beams, remove all covers required before inspection.					✓
Check all general bolted connections and sub-frames for tightness and robustness					✓

Maintenance Schedule					
ITEM	1 <sup>st</sup> Service 20,000km or 60 days, whichever is sooner	Daily / or trip	Weekly	Quarterly or 20,000kms	Annually or 250,000kms
Check all general bonded connections including insulated panel joins (for connections using adhesive only).					✓
Check all moving parts which form structural components (excluding suspension) for wear and robustness					✓
<b><u>Proprietary Components</u></b>					
Items such as fridge units, EBS modules etc. are to be serviced as per manufacturer's recommendation.	Follow manufacturer's recommendations.				

Note that more frequent lubrication is recommended when the equipment is used under extreme conditions such as off-road, water fording, on construction sites, on poor roads etc. After long idle periods, moving parts such as such the brake levers and camshaft bearings should be actuated and lubricated before the equipment is used.

### Service and Maintenance Details:

The following lists general information and safety warnings for the generic areas for maintenance.



During service and maintenance, ensure that replacement items are of equivalent specification to original equipment specifications. A full list of suppliers in the AZMEB Parts Network can be found in Section 8.

### Tyre Care and Wear:

Incorrect tyre pressure and axle alignment are the two biggest contributing factors to poor tyre wear. Frequently checking the tyre tread for unusual or uneven wear can highlight a potential problem with other components on the equipment. In the event of unusual or excessive tyre wear, professional advice should be sought to rectify the issue.

Operators should consult with the tyre supplier to establish the correct pressures and procedures for their application. AZMEB recommends that a qualified and competent person is utilised for all tyre, wheel and alignment maintenance.



Do not over-inflate tyres above the manufacturer's recommendation. The tyre may explode or produce unpredictable handling.



Ensure all tyres are in roadworthy condition before use. Always ensure tyre tread is well above minimum tyre wear indicators. Consult the tyre manufacturer for details.



A “Tyre Maintenance Program” developed by an independent industry group can be found in Section 8 of this manual for your reference. This gives an insight into best practice maintenance for tyres and wheels and is intended to help the owner/operator endorse their qualified tyre professional.

### Repair of Hydraulic and Pneumatic Systems and Components:

Hydraulic and Pneumatic systems should only be repaired by appropriately qualified technicians. Contact AZMEB Service Divisions for assistance.



**Danger**

Never modify hydraulic components or circuits without prior AZMEB consent.



**Danger**

Hydraulic systems operate under high pressure and can hold fluid under high pressure for long periods of time when not in use. The system should be appropriately de-energised prior to conducting any repair or maintenance to avoid the risk of high-pressure fluid escaping which can penetrate the skin and cause serious injury.



**Danger**

Hydraulic systems can hold load. Never stand or put any part of your body under a load being held up by a hydraulic system or one of its devices. Unforeseen failure of the system can result in uncontrolled loads, causing serious injury.

## Repair to chassis, sub-chassis and associated components:

AZMEB recommends that all maintenance and modification to any of these components be done by a AZMEB approved repair centre. Material used in AZMEB designs can range in strength, hardness and corrosion protection, depending on its application. Altering a component without knowing its material grade or specifications can result in the wrong repair process being chosen, potentially resulting in a weakened material and component. For this reason, AZMEB will not accept any responsibility for any alteration or repair done outside an authorised repair centre, unless prior approval is granted.



### **Caution**

Welding on high strength steel, particularly steel above 700MPa yield stress, can cause embrittlement and a reduction in strength. Always consult your AZMEB dealer for repair.

## Paint Maintenance:

In the first two months after application, new paint finishes should be washed only with low pressure water and not water containing cleaners. At all times when high pressure cleaners or steam jet cleaners are used, the distance between the spray nozzle and the vehicle should be at least 30cm. Vehicles that are to be cleaned in washing lines with rotating brushes should always be sprayed with water before washing.



### **Caution**

Your trailers paint is most vulnerable in the first 2 months. Avoid chemical cleaners, high wash pressures and abrasive cleaning tools to maintain a quality paint finish.

## Lubrication:

Always use lubricants specified by the manufacturer of the component in question. Generally, where such information is not available, the following lubricants may be used:

Axle and Hub Grease	Castrol AXP-T or equivalent
Landing Gear Grease	Castrol AXP-T or equivalent
Camshaft Grease	Castrol AXP-T or equivalent
Ballrace Grease	Castrol AXP-T or equivalent
General pivot and pinned bushes	Castrol AXP-T or equivalent
Hydraulics (inc tipper hoists)	68 weight hydraulic fluid
Lubrication used on proprietary items (eg oil filled hubs, gearboxes, etc)	Refer to proprietary documentation or website

## Axles, Hubs and Suspension:

General visual inspection and lubrication of these items should be carried out as per the component supplier's specifications.

Regular maintenance and replacement of high wearing items are also essential. This should be carried out by a qualified and competent person, following the recommendations of the

component supplier. A full list and contact information of common proprietary suppliers can be found in Section 8.



**Danger**

Different suspension systems contain different moving parts such as air boosters, slack adjusters, air bags, trailing arms, etc. These systems can exert large, unexpected forces resulting in injury if the operator is not competent and trained in repair and service.



**Danger**

Always make sure the trailer, wheels, or suspension is properly chocked and/or secured when lifted while working on suspensions and the like. Failure to do so may result in injury or death.



**Danger**

Axle and suspension components rely on properly torqued fasteners for safe operation. Always refer to the component's manufacturer and follow their torque recommendations.

### Towing Equipment:

Towing equipment includes kingpins, turntables, tow couplings, drawbar eyes and ball coupling assemblies. Regular inspection, maintenance and replacement of these items is essential. General visual inspection and lubrication of these items should be carried out as per the component supplier's specifications. This should be carried out by a qualified and competent person under the recommendations from the component supplier. A full list and contact information of common proprietary suppliers can be found in Section 8.



**Danger**

Note: There are minimum wear tolerances for towing equipment that must be periodically inspected and maintained. It is the responsibility of the owner/operator to ensure these are met.



**Danger**

Towing equipment components rely on properly torqued fasteners for safe operation. Always refer to the component's manufacturer and follow their torque recommendations.

## Section 8: Appendices

### Proprietary Components:

The following is a list of proprietary brands commonly used across the various models of the AZMEB product range. Use these links to find information on operation, safety, servicing and maintenance of components from these brands or contact the manufacturer/supplier to obtain that information.

### AZMEB Proprietary Items list

<b>Suspension &amp; Axles</b>
Hendrickson – <a href="http://www.hendrickson.com.au">www.hendrickson.com.au</a>
BPW Transpec – <a href="http://www.bpwtranspec.com.au">www.bpwtranspec.com.au</a>
York – <a href="http://www.yorktransport.com.au">www.yorktransport.com.au</a>
TMC – <a href="http://www.tmcaustralia.com.au">www.tmcaustralia.com.au</a>
SAF – <a href="http://www.safholland.com.au">www.safholland.com.au</a>
<b>Wheels &amp; Tyres</b>
Alcoa – <a href="http://www.alcoa.com.au">www.alcoa.com.au</a>
Bridgestone – <a href="http://www.bridgestone.com.au">www.bridgestone.com.au</a>
Dunlop – <a href="http://www.dunloptyres.com.au">www.dunloptyres.com.au</a>
Michelin – <a href="http://www.michelin.com.au">www.michelin.com.au</a>
Goodyear – <a href="http://www.goodyear.com.au">www.goodyear.com.au</a>
Continental – <a href="http://www.continental.com.au">www.continental.com.au</a>
<b>Pneumatics</b>
Air Brake Corp – <a href="http://www.airbrakecorp.com.au">www.airbrakecorp.com.au</a>
BPW Transpec – <a href="http://www.bpwtranspec.com.au">www.bpwtranspec.com.au</a>
Sealco – <a href="http://www.sealcocvp.com">www.sealcocvp.com</a>
Wabco – <a href="http://www.wabco.com.au">www.wabco.com.au</a>
Knorr – <a href="http://www.knorr-bremse.com.au">www.knorr-bremse.com.au</a>
Norgren – <a href="http://www.norgren.com.au">www.norgren.com.au</a>

SMC – <a href="http://www.smcaus.com.au">www.smcaus.com.au</a>
<b>Landing Legs</b>
Jost – <a href="http://www.jostaustralia.com.au">www.jostaustralia.com.au</a>
Holland – <a href="http://www.safholland.com.au">www.safholland.com.au</a>
<b>Electrical</b>
Narva – <a href="http://www.narva.com.au">www.narva.com.au</a>
Hella – <a href="http://www.hella.com.au">www.hella.com.au</a>
<b>Turntables, Couplings &amp; King Pins</b>
Jost – <a href="http://www.jostaustralia.com.au">www.jostaustralia.com.au</a>
Holland – <a href="http://www.safholland.com.au">www.safholland.com.au</a>
Ringfeder – <a href="http://www.ringfeder-rf.com">www.ringfeder-rf.com</a>
<b>Hoists &amp; Hydraulics</b>
Hyva – <a href="http://www.hyva.com.au">www.hyva.com.au</a>
Edbro – <a href="http://www.edbro.com.au">www.edbro.com.au</a>
PT Hydraulics – <a href="http://www.pthydraulics.com.au">www.pthydraulics.com.au</a>
Hoist – <a href="http://www.hoist.net">www.hoist.net</a>
<b>Tarps</b>
Retractable tarps – <a href="https://retractabletarps.com.au/">https://retractabletarps.com.au/</a>

## Common Bolt Torque Charts

Depending on the brand of equipment you have purchased and its options, there will be varying bolt grades and sizes being used, and therefore varying bolt torque requirements. Use the following tables to identify the correct torque value for the application when not specified.

**Metric:**

<b>GR8.8 BOLT TORQUE TABLE</b>	
<b>Metric Thread</b>	<b>Recommended Assembly Torque (Nm)</b>
M6	9
M8	22
M10	44
M12	76
M14	122
M16	189
M18	270
M20	382
M24	660
M30	1311
M36	2293

<b>GR10.9 BOLT TORQUE TABLE</b>	
<b>Metric Thread</b>	<b>Recommended Assembly Torque (Nm)</b>
M6	13
M8	32
M10	63
M12	110
M14	174
M16	270
M18	374
M20	528
M24	913
M30	1814
M36	3173

**Note:** Recommended torque given in the above tables will put a bolt pre-load of 65% of the proof load for a Zinc or Black bolt which is NOT lubricated, dirty, rusty, wet, or used (Torque Factor -  $K=0.2$ ) bolt condition will affect the torque required to pre-load a bolt to 65% of its proof load.

## Common Bolt Torque Charts continued...

Stainless Steel Hex Bolts Recommended Tightening Torque Based on Class 50, 70 & 80.  
Typically, Class 70 is used and specified.

**Metric:**

### STAINLESS HEX BOLTS - RECOMMENDED TIGHTENING TORQUE (Nm)

Nominal Size	Pitch (mm)	Stress Area (mm <sup>2</sup> )	Class 50	Class 70	Class 80
M3	0.50	5.03	0.4	0.9	1.2
M4	0.70	8.78	1.0	2.1	2.7
M5	0.8	14.20	1.9	4.2	5.5
M6	1.00	20.10	3.3	7.1	9.4
M8	1.25	36.60	8.0	17.1	22.8
M10	1.50	58.00	15.8	33.9	45.2
M12	1.75	84.30	27.6	59.2	78.9
M14	2.00	115.00	44.0	94.2	125.6
M16	2.00	157.00	68.6	147.0	195.9
M18	2.50	192.00	94.3	202.2	269.6
M20	2.50	245.00	133.8	286.7	382.2
M22	2.50	303.00	182.0	390.0	519.9
M24	3.00	353.00	231.3	495.6	660.8
M27	3.00	459.00	338.3	725.0	966.7
M30	3.50	561.00	459.5	984.6	1312.7
M33	3.50	694.00	625.2	1339.8	1786.4
M36	4.00	817.00	802.9	1720.6	2294.1
M39	4.00	976.00	1039.1	2226.7	2969.0

**Note:** Recommended torque figures listed in the table above will result in a theoretical bolt preload of 65% yield stress based on a coefficient (*k* factor) of 0.16, which assumes threads are burr free and a good quality lubricant (molybdenum disulphate MoS<sub>2</sub>) is used. Tensioning of stainless fasteners without lubrication or coating is not recommended and is likely to result in galling (locking, freezing, or seizing up) which can exhibit *k* factors in excess of 0.35.

Some proprietary components used on AZMEB equipment will require unique torques, as suggested by the proprietary manufacturer (Refer to Section 8 for links to common proprietary brands). Some common torques for such items are included in the following table. These torques should only be used if the component manufacturer is unable to provide a specific recommendation.

Table for Proprietary items Torque		
Component	Type	Torque (Nm)*
Spider Rim Bolts and Nuts		270
Flange Nuts for 10 stud wheels - Aluminium	Hendrickson 610Nm (recommended)	640
Flange Nuts for 10 stud wheels - Steel		640
King Pin	Holland	190
Tow Coupling (#Ringfeder – RF50 B AUS MSD)	Backing Plate Bolts	390 <sup>#</sup>
	Castle Nut	1500-2000 <sup>#</sup>
	Bolt In Crossmember (Tow Coupling)	340
Landing Leg		270
Adjustable Radius Rod Clamp Bolts and Nuts		230
Bolts and Nuts for 5 <sup>th</sup> wheel	ALL	270
Jost bolt in tow eye OC51F8E		220-260
Jost Rock 57254 bolt in tow eye Castellated nut		>500Nm
V'Orlandi OC50RT1		410-480

\*WHERE A TORQUE RANGE IS NOT GIVEN, A TOLERANCE SPECIFICATION OF  $\pm 5\%$  IS ACCEPTABLE.

## Suspension Torque (Nm)

BRAND	U bolt nuts	Pivot bolt	Shocker mount upper	Shocker mount lower	Airbag bolts / nuts lower	Airbag bolts / nuts upper	Rocker pin nuts	Radius arm pins	Adjustable Radius Rod Clamp
<b>Hendrickson HT Series</b>	645-715	1017-1119	285-320	285-320	55-68	110-135			
<b>Hendrickson Intraxx</b>	NA	685-810	285-320	285-320	75-81	110-135			
<b>SAF Holland MODUL</b>	580	1200	400	400	180	40			
<b>SAF Holland Intra Steel hanger</b>	NA	1200	600	600	180: steel plunger 80: plastic plunger	40			
<b>SAF Holland alloy Hanger</b>	NA	1200	400	600	180: steel plunger 80: plastic plunger	40			
<b>BPW Steel hanger M24 pivot bolt</b>	650	650	400-450	400-450	230	66			
<b>BPW Steel hanger M30 pivot bolt</b>	650	1000	400-450	400-450	230	66			
<b>BPW Alloy hanger M24 pivot bolt</b>	650	650	300-350	300-350	230	66			
<b>BPW Alloy hanger M30 pivot bolt</b>	650	1000	300-350	300-350	230	66			
<b>York Tecair 2</b>	820	1090-1160	250	250	70	35			
<b>York Tecair FB</b>	NA	400	150	150	70	3/4" Stud:70 1/2" Stud:35			
<b>VE 50</b>	407						542	270	230

WHERE A TORQUE RANGE IS NOT GIVEN, A TOLERANCE SPECIFICATION OF  $\pm 5\%$  IS ACCEPTABLE.  
FOR ANY OTHER INFORMATION NOT LISTED IN THE TABLE ABOVE, PLEASE REFER TO MANUFACTURERS SPECIFICATIONS



## Taptite Torque Charts

### Metric Sizes (Nm)

Screw Size	Plate Thickness	Hole Size	Nearest Drill Size	Thread Forming Torque	Recommended Assembly Torque	Failure Torque
M3 x 0.5	1.0	2.71	#36	0.3 - 0.4	1.0	1.6 - 2.2
	2.0	2.77	7/64	0.3 - 0.5	1.1	1.7 - 2.8
	3.0	2.77	7/64	0.5 - 0.7	1.7	2.7 - 3.9
M4 x 0.7	2.0	3.64	#27	0.6 - 0.8	2.0	3.1 - 4.2
	3.0	3.68	3.7	0.8 - 1.2	3.9	6.0 - 8.2
	4.0	3.70	3.7	1.1 - 1.5	5.0	7.7 - 11.0
M5 x 0.8	2.5	4.58	#15	1.2 - 1.8	3.7	5.8 - 8.8
	3.5	4.64	#14	1.4 - 2.5	7.1	11.0 - 13.5
	5.0	4.66	4.65mm	1.8 - 2.7	7.8	12.0 - 15.5
M6 x 1.0	3.0	5.48	5.5mm	1.8 - 2.5	6.4	9.9 - 14.5
	4.5	5.55	7/32	2.9 - 4.0	11.3	17.5 - 23.0
	6.0	5.58	5.6mm	3.2 - 4.3	13.0	20.0 - 27.5
M8 x 1.25	4.0	7.35	L	4.3 - 6.3	23.4	36.0 - 46.0
	6.0	7.43	7.4	5.0 - 8.5	30.5	47.0 - 58.0
	8.0	7.47	M	6.3 - 10.8	39.3	60.5 - 71.5
M10 x 1.5	5.0	9.22	9.2mm	10.0 - 13.5	37.7	58.0 - 70.0
	8.0	9.32	9.3mm	12.5 - 17.0	57.2	88.0 - 100.0
	10.0	9.37	U	13.5 - 20.0	65.0	100.0 - 115.0
M12 x 1.75	6.0	11.09	11.1	20.5 - 26.0	78.0	120.0 - 145.0
	9.0	11.20	11.2	22.5 - 28.0	81.2	125.0 - 150.0
	12.0	11.26	11.3	27.0 - 34.0	123.5	190.0 - 220.0

## **Tyre Maintenance Program:**

The following Tyre Maintenance Program was developed by the Tyre Wear Study Group, an industry group comprising representatives from tyre manufacturers, trailer manufacturers and trailer operators. This gives an insight into best practice maintenance for tyres and wheels and is intended to help the owner/operator endorse their qualified tyre professional.

(AZMEB acknowledges the assistance of the Group members: Dunlop, Good Year, Australia Post and Hendrickson).

**Disclaimer:** AZMEB provides this information in good faith but does not warrant the applicability of this information to any transport application.

Trailer operators should consult with their tyre suppliers to establish the correct pressures and procedures for their application.

This program was developed for tri-axle trailers running on interstate highways.

Maximising tyre performance requires attention to the following items:

### **Vehicle Maintenance:**

It is essential that the trailer is kept in good alignment, set with the axles parallel and at right angles to the centre line of the trailer.

Alignment settings should be within the manufacturer's tolerances.

It is preferred that alignment is checked with the vehicle in the loaded condition. To achieve the required settings, all suspension components and bearings must be in good condition. Regular alignment checks should be part of your maintenance program.

### **Tyre Selection:**

For trailer tyres, a tread pattern with continuous ribs is preferred.

The wider the tread surface and the smaller the tyre diameter, the more important it is to run a tight maintenance program.

### **Tyre Pressure:**

Use the minimum cold inflation pressure required to carry the load [this can be found in the Tyre and Rim Association Manual] plus 20% to compensate for any uneven loading that may occur in the dual configuration. Eg. If, from the Tyre and Rim Manual, 75 psi is required, use 75 psi +20% which equals 90 psi. However, best results for some applications may vary from this.

Consult your tyre supplier for specific recommendations for your application.

### **Tyre Fitting**

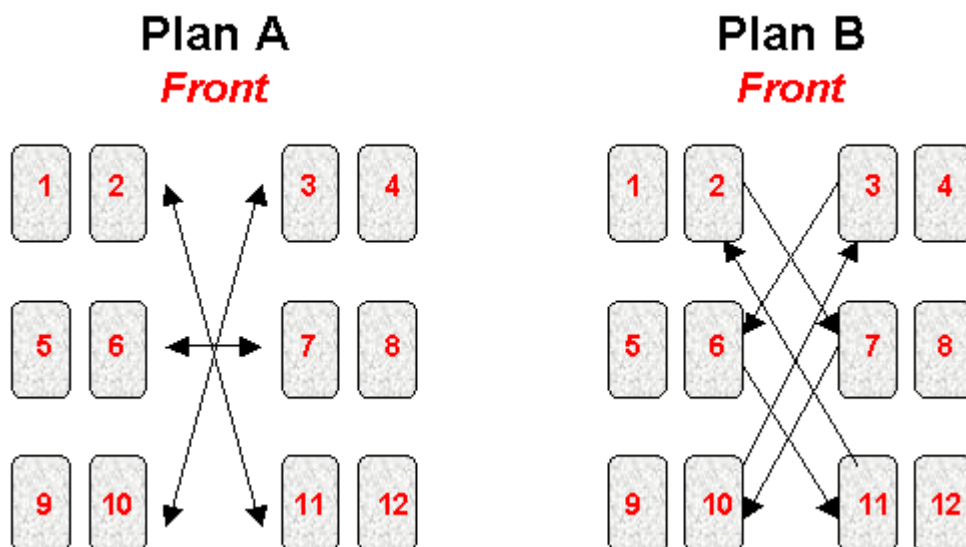
Ensure all tyres have been mounted correctly on the rims, and the dual tyres are matched in overall diameter [within 5mm O.D.] It is recommended that tyres be dual inflated at fitting, to ensure bead centrality.

The valve stem should be fitted with a metal valve cap. The valve cap is the primary seal and must be fitted straight and tight. Inner duals should be fitted with valve extensions to ensure inflation pressure can be checked and maintained on the vehicle.

If spider wheels are being used, ensure the rims and tyres are fitted centrally and true. Lateral run out at the tyre tread shoulder should be no more than 5mm.  
Be sure to re-tension the wheel nuts after 50km of use following removal and re-fitment of a wheel.

## Tyre Maintenance:

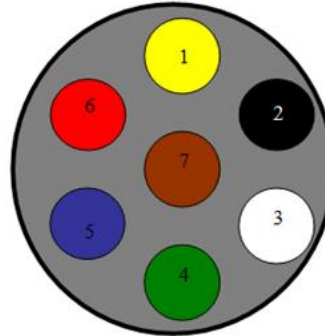
- Pressure checks are the single most important item in any tyre maintenance program. Inflation pressure should be checked/reset for all tyres every 10,000 km or at least monthly. If the tyre varies in pressure by 15% or more, remove the tyre for inspection. There could be a problem such as a slow leak. The pressure difference between dual tyres should be maintained at less than 4 psi.
- After the first 10,000 km, check the tread surface for any signs of uneven wear. Uneven wear at this stage would mean there is a fundamental problem. Eg. Tyre fitted incorrectly, axle misalignment. Subsequent checks should be made every 20,000 km.
- Rotate the tyres according to either of the rotation patterns shown below, every 20,000 to 25,000 km. At the same time check the pressure of each tyre. The key point is to reverse the direction of rotation of all tyres. This is achieved with these rotation patterns by ensuring outer tyres are re-fitted as outers in the new position and inner tyres are re-fitted as inners. Rotation Plan A has been proven in trials to provide a significant reduction in irregular wear. Rotation Plan B should, in theory, provide better results, but has not as yet been proven in trials.



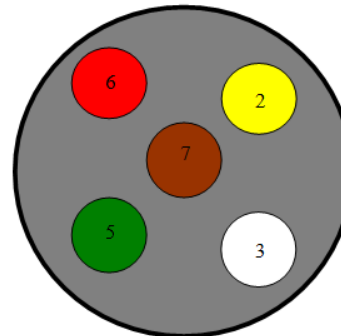
## Electrical Plug and Connector Wiring Diagrams:

(Note: Plug shown – socket wired in mirror image)

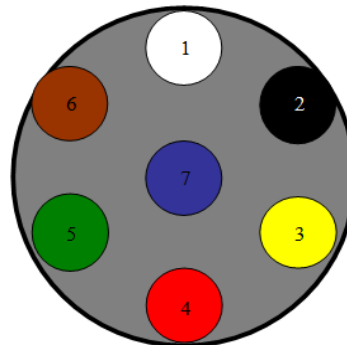
<u>NO.</u>	<u>7 PIN PLUG</u>	<u>COLOUR</u>
1	LEFT FLASHER	YELLOW
2	REVERSING LIGHTS	BLACK
3	EARTH	WHITE
4	RIGHT FLASHER	GREEN
5	AUXILIARY	BLUE
6	STOP LAMPS	RED
7	TAIL, LICENCE	BROWN



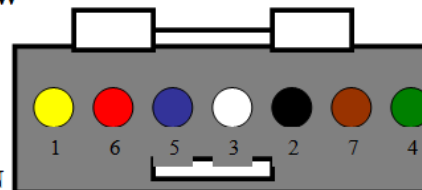
<u>NO.</u>	<u>5 PIN PLUG</u>	<u>COLOUR</u>
2	LEFT FLASHER	YELLOW
3	EARTH	WHITE
5	RIGHT FLASHER	GREEN
6	STOP LAMPS	RED
7	TAIL, LICENCE	BROWN



<u>NO.</u>	<u>HEAVY DUTY NARVA 7 PIN PLUG</u>	<u>COLOUR</u>
1	EARTH	WHITE
2	REVERSING LIGHTS	BLACK
3	LEFT FLASHER	YELLOW
4	STOP LAMPS	RED
5	RIGHT FLASHER	GREEN
6	TAIL, CLEARANCE	BROWN
7	AUXILLIARY	BLUE



<u>NO.</u>	<u>7 PIN FLAT PLUG</u>	<u>COLOUR</u>
1	LEFT FLASHER	YELLOW
2	REVERSING LIGHTS	BLACK
3	EARTH	WHITE
4	RIGHT FLASHER	GREEN
5	AUXILLIARY	BLUE
6	STOP LAMPS	RED
7	TAIL, LICENCE	BROWN





**Service Records**

The following details are to be filled out by the AZMEB authorized service provider after completing the First Service.

I have received the

**UNIT TYPE:** .....

**UNIT V.I.N.:** .....

Owner Details

**COMPANY NAME:**

**ADDRESS:** .....

.....

..... **POST CODE:**.....

For and on behalf of the owner

**SIGNATURE:** .....

Print Name: .....

Date: .....

\*\*\*\*\*

**SERVICING DEALER** .....

**APPROX. KILOMETERS:** .....

**DATE COMPLETED:** .....

**ITEMS CORRECTED/ADJUSTED:**

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(Service provider to copy this page for warranty and administration purposes)







