

## Warranty



Your new Altrad Belle Pressure Washer is warranted to the original purchaser for a period of one-year (12 months) from the original date of purchase. The Altrad Belle warranty is against defects in design, materials and workmanship.

The following are not covered under the Altrad Belle warranty:

1. Damage caused by abuse, misuse, dropping or other similar damage caused by or as a result of failure to follow assembly, operation or user maintenance instructions.
2. Alterations, additions or repairs carried out by persons other than Altrad Belle or their recognised agents.
3. Transportation or shipment costs to and from Altrad Belle or their recognised agents, for repair or assessment against a warranty claim, on any machine.
4. Materials and/or labour costs to renew, repair or replace components due to fair wear and tear.

The following components are not covered by warranty.

- Engine air filter
- Engine spark plug / injector
- Nozzles

Altrad Belle and/or their recognised agents, directors, employees or insurers will not be held liable for consequential or other damages, losses or expenses in connection with or by reason of or the inability to use the machine for any purpose.

### Warranty Claims

All warranty claims should firstly be directed to Altrad Belle, either by telephone, by Fax, by Email, or in writing.

#### For warranty claims:

Tel: +44 (0)1298 84606

Fax: +44 (0)1298 84073

Email: [warranty.dept@altrad-belle.com](mailto:warranty.dept@altrad-belle.com)

#### Write to:

Altrad Belle Warranty Department,  
Sheen, Nr. Buxton,  
Derbyshire,  
SK17 0EU  
England.

#### Warranty Registration:

In the bid for ALTRAD Belle to become greener and more eco friendly, we have now introduced online Warranty registration. To access the registration page of our website, please use the following address:-

[http://www.bellegroup.com/index.php?p=warranty\\_registration](http://www.bellegroup.com/index.php?p=warranty_registration)

Alternatively, please scan the adjacent QR Code (Quick Response Code) using your smartphone to access the registration page.



## Replacement Parts



When maintaining this product only the manufacturers original, genuine replacement parts may be used.

The user will lose any possible claims if replacement parts used are other than the makers original replacement parts.

Replacement parts for this product can be ordered online 24 hours a day, 7 days a week at  
**[www.Altrad-Belle247.com](http://www.Altrad-Belle247.com)**

For more information regarding the availability of replacement parts for this product, please contact Altrad Belle using the following contact details:-

Tel:- +44 (0)1298 84606

Fax:- +44 (0)1298 84073

Email:- [sales@altrad-belle.com](mailto:sales@altrad-belle.com)

Alternatively, please scan the adjacent QR Code (Quick Response Code) using your smartphone to access the Altrad Belle online parts portal.





## Troubleshooting Guide - Pressure Washer

Problem	Cause	Remedy
<b>Machine stops suddenly or will not start.</b>	Low oil.	Check and top-up oil.
	Flat battery.	Check / replace battery.
	Blown fuse.	Check / replace fuse.
<b>Sudden pressure loss.</b>	No water supply.	Check supply & filters.
	No chemical supply.	Check chemical reservoir, close valve.
<b>Low pressure.</b>	High pressure nozzle worn	Replace high pressure nozzle.
	Unloader set incorrectly.	Set unloader to correct setting.
<b>Low pressure, machine is noisy and vibrates.</b>	Valves worn or blocked.	Clean / replace as required.
	Piston seals worn.	Replace.
	Pump sucking air.	Check water supply pipe and unions.
<b>Pump will not by-pass.</b>	Non-return valve dirty or jammed.	Clean or replace.
<b>Water drips from pump box.</b>	Pump seals worn.	Replace.
<b>Oil drips from pump bottom.</b>	Oil seal worn.	Replace.
<b>Oil is cloudy.</b>	Water ingress through oil filter pwheel.	Rinse pump out and replace oil
<b>Water leaks occasionally from underneath the machine.</b>	Pump seals worn.	Water in pump too hot. Release pressure by operating the lance.



## Service and Maintenance - Pressure Washer

The following schedule details the attentions considered necessary to ensure satisfactory operation of the Pressure Washer.

**NOTE:-** The attentions and periods summarised in the schedule are the initial recommendations and should be revised to suit the Power Unit working conditions. Only authorised dealers should repair the Pressure Washer, and within the requirements of the CE mark (where applicable), where no deviation from the original specification must take place.

Please refer to the Engine Manufacturers instruction leaflet, before attempting any maintenance checks or procedures.

Item	Attention	Daily	6 Months / 500 Hours	Yearly / 1000 Hours
<b>Engine</b>	Check oil level and top up a required	✓		
	Check fuel level and top up a required	✓		
	Drain fuel tank and refill.		✓	
	Oil change	See relevant engine manual		
<b>Hoses</b>	Check connections for leaks or damage.	✓		
	Check condition for damage.	✓		
<b>Pump</b>	Check oil, drain and replace.		✓	
	Replace seals.			✓
<b>Fuel Filter</b>	Replace.		✓	
<b>Water Filter</b>	Clean.		✓	
<b>High Pressure Nozzle</b>	Replace.		✓	

### Oil / Fuel Type & Quantity - Spark Plug Type

	Oil Type	Quantity (Litre)	Fuel Type	Capacity (Litre)	Spark Plug Type	Electrode Gap (mm)
<b>Diesel Yanmar L100</b>	SAE 15W 40	1.65	Diesel	5.4	N/A	N/A
<b>Gearbox</b>	SAE 15W 40	0.65	N/A	N/A	N/A	N/A

## WHEEL NUTS (BOLTS) Cont.

Tighten the wheel nuts to the correct tightness to prevent wheels from coming loose. Refer to the steps that follow and the axle manufacturer's information. Use a calibrated torque wrench to tighten the wheel nuts. Over-tightening may result in breaking the studs or permanently deforming the mounting stud holes in the wheels.

Remove all excess paint, oil and grease from mounting surfaces.

Start all wheel nuts by hand to prevent cross threading.

Tighten wheel nuts in sequence shown in in **Figure 2**.

**NEVER** install aftermarket wheels or wheel nuts on your trailer. Use only original equipment wheels and wheels nuts. Aftermarket wheels and wheel nuts may not meet the load carrying requirements, pressure capacity and offset as the original equipment.

**NEVER** install aluminum wheels on hubs/studs that were designed for steel wheels. The stud length required for aluminum wheels is greater than that required for steel wheels.

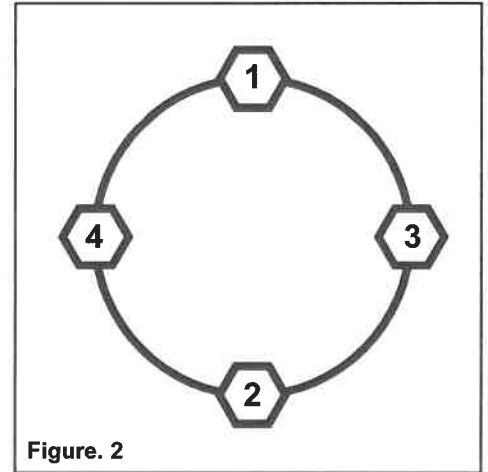


Figure. 2



### CAUTION

Information or torque values stamped on nuts supersedes the information listed in this manual.

WHEEL NUT TORQUE			
Stud Size	1st Stage	2nd Stage	3rd Stage
M12	30Nm	60Nm	100Nm



### CAUTION

Wheel nuts are prone to loosen right after a wheel is mounted to a hub. When driving on a remounted wheel, check to see if the wheel nuts are tight after the first 10, 25 and 50 miles of driving and before each tow thereafter.



## Service and Maintenance - Bowser

You must inspect, maintain and service your trailer regularly to insure safe and reliable operation. If you cannot or are unsure how to perform the items listed here, have your dealer do them. Note: In addition to this manual, also check the relevant component manufacturer's manual.



### CAUTION

*Regular maintenance with particular attention to the Brake condition / adjustment and Bearings is vital to the safety of the trailer.*

Attention	Weekly	First 1200 Miles	Every 2500 Miles	Every 16000 Miles / Annually
Check and adjust Brakes		✓	✓	✓
Check and adjust system				✓
Grease Linkages and Cables			✓	✓
Grease and Check Over-Run Coupling			✓	✓
Check Tyre Pressures	✓			
Check and Grease Hubs		✓	✓	
Check Wheel Nut Tightness		✓		✓
Check Tyre Tread Depth	✓			✓
Check Hub Adjustment		✓		✓
Remove Hubs - Check Brakes, Bearings				✓



### CAUTION

*Worn or broken suspension parts can cause loss of control and injury may result. Have trailer professionally inspected annually and after any impact.*

### LIGHTS AND SIGNALS

Before each tow, check the trailer taillights, stoplights, turn signals and any clearance lights for correct operation.



### CAUTION

*To avoid collisions, taillights, stoplights and turn signals must work.*

### WHEEL RIMS

If the trailer has been struck, or impacted, on or near the wheels, or if the trailer has struck a curb, inspect the rims for damage (i.e. being out of round); and replace any damaged wheel. Inspect the wheels for damage every year, even if no obvious impact has occurred.

Never install aftermarket wheels or wheel nuts on your trailer. Use only original equipment wheels and wheels nuts. Aftermarket wheels and wheel nuts may not meet the load carrying requirements, pressure capacity and offset as the original equipment.

### WHEEL NUTS (BOLTS)

- Be certain you have a clear understanding of the specific wheel maintenance responsibilities your vehicle manufacturer requires /recommends you, as the owner, must perform in order to insure your wheel equipment is safely maintained. Check the wheel nut tightness the first 10, 25 and 50 miles of driving and before each tow thereafter. Refer to the owner's manual and speak with your dealer if you have any questions about correct tightening practices.
- The only way to be certain you have checked the tightness or torqued the wheel nuts to the correct value is with a torque wrench. Fourway wrenches, ratchets, and similar tools can be useful for short-term emergency repairs but are not appropriate tools for accurately checking wheel nut torque. You must use a torque wrench to accurately indicate the torque that you are applying to the wheel nut.
- Keep a record of the date and approximate mileage when you check the wheel nut torque. Note any wheel nut that has lost torque. Investigate the reason(s) if the wheel nut torque is not maintained after more than one re-torque application, because this indicates there is something wrong with the wheel nuts, nut studs, wheels and/or hubs and should be corrected.
- Contact your dealer or vehicle manufacturer immediately if you experience any persistent wheel nut loosening or any other wheel, wheel or axle problems.
- In the event of a wheel separation incident, notify the vehicle manufacturer and dealer. Seek prompt professional assistance in assessing the trailer and its gear, and retain, but don't re-use involved wheels, wheels and studs.  
**DO NOT** repair or service the trailer yourself. Contact a trained technician.

# Troubleshooting Guide - Bowser



★ = MOST LIKELY CAUSE

● = LIKELY CAUSE

Symptom	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Brakes over-heating	★	●		●	●	●		●			●	●				
Trailer failing to auto-reverse	●	●	●		★	●		●	●			●	●	●		
Hand brake not working efficiently		●	●	★	●	●							●			
Brakes not working efficiently		●	●	★	●	●					●		●		●	
Brakes snatching		●	●		●	●				★			●		●	
Trailer 'snaking'		●	●			●						★	●		●	
Trailer swerving to one side		●	●			●	●						●		★	●
Brakes remaining on after hand brake has been released	●	●	●			★	●						●			
Trailer failing to tow easily (resistance)	★	●		●	●	●			●				●			
Trailer brakes are jerky		●	●		●	●	●			★	●		●			

Problem	Remedy
<b>A - Brake Shoes - too tight, wheels not rotating correctly.</b>	Reset Brakes according to the reset procedure.
<b>B - Brake Cable - sticking, dirty, trapped or corroded.</b>	Remove Cables, clean and re-grease and fit to the reset procedure.
<b>C - Brake Spring broken or dislodged.</b>	Remove hubs, clean brakes and drums, refit new springs and brake shoes.
<b>D - Brake Shoes - Worn</b>	Remove hubs, clean brakes and drums, replace brake shoes.
<b>E - Hitch incorrectly adjusted.</b>	Follow adjustment procedure as laid down.
<b>F - Cable linkage system incorrectly adjusted, sticking.</b>	Remove linkages, cables and rods then clean, refit and re-adjust linkage system.
<b>G - Cable system insufficiently supported or supports broken.</b>	Re-fit flexible supports under trailer to reduce friction in system.
<b>H - Trailer moves backwards on slippery surface.</b>	Use manual stop on over-run coupling (if fitted)
<b>I - Hand brake left 'on' or 'partially on'.</b>	Ensure hand brake fully off - if vehicle has been driven extensively with hand brake on, remove hubs, check brakes and hub bearing - replace if necessary.
<b>J - Damper failing in coupling.</b>	Contact Altrad Belle.
<b>K - Coupling shaft jammed or damaged / rusty.</b>	Contact Altrad Belle.
<b>L - Incorrect nose weight on trailer coupling.</b>	Adjust load to give between 50 - 100kgs 'Nose weight' on trailer coupling.
<b>M - Rust formation on hub grease in brake drum.</b>	Remove hubs/drums, clean carrier shoe with a wire brush. Grease rollers with 'Copperslip' or similar material, refit and adjust.
<b>N - Brake Shoe carrier rollers are rusty, damaged / worn.</b>	Remove hubs and brakes, clean carrier shoe with wire brush. Grease rollers with 'copperslip' or similar material, refit and adjust.
<b>O - Brakes not equally adjusted on all wheels.</b>	Jack-up the trailer and adjust.
<b>P - Wrong tyre pressures.</b>	Check tyre pressures and inflate to the correct recommendations.

**WARNING**

Before you operate or carry out any maintenance on this machine **YOU MUST READ** and **STUDY** this manual.

**PRE-OPERATION**

- Check your Pressure Washer before use and **IMMEDIATELY** replace any damaged parts.
- Place the Pressure Washer on firm level ground with the engine switched **OFF**.
- Check the engine oil level, low oil levels will result in the engine not starting.
- Check the fuel level.
- This equipment could emit a Sound Power Level (LWA) of up to 110dB(A). See Technical Data section for more details and wear appropriate ear defenders.
- Your Altrad Belle Pressure Washer comes preset and **NO** adjustment is necessary.
- Be aware of how to stop the Pressure Washer by use of the On/Off switch or throttle lever.

Refer to the engine and pump manuals provided for full pre-operation check.

**HOSE CONNECTION - HIGH PRESSURE OUTLET (MACHINE MUST BE TURNED OFF)**

- Ensure in-line filters are in good condition and not removed.
- Check condition of the o-rings in the ends of the hose.
- Attach the high pressure hose to the pump connection.
- Attach the lance to opposite ends of the high pressure hose.

**CAUTION**

When connection to temporary / gravity-fed supply, always ensure supply hose is primed with water to ensure pump is not run dry on start-up. Running dry will permanently damage the pump.

**OPERATION**

- Turn on the water supply.
- Start the engine (see start and stop procedure)
- Aim the lance at the area being cleaned and press the lance trigger.
- Adjust the pressure regulator to obtain required working pressure. **ALWAYS** use on full throttle.

**CAUTION**

The high pressure of water may cause the lance to jolt. Ensure you have a good grip of the lance before operating the pressure washer.

- On completion of the job, stop the engine (see start and stop procedure)
- Turn off the water supply.
- Press the lance trigger to release the pressure within the lance.

**CAUTION**

Always drain water from pump after operating in cold conditions to prevent frost damage.

**When Using Detergents**

- Set the machine up as for using water.
- Connect the detergent hose to the machine and place the filter end into the detergent supply.
- Loosen detergent control valve.
- Loosen control handle to deliver detergent.
- On completion of the job, flush out the hose and lance with clean water to remove any residual detergent.
- Tighten detergent control valve.
- Tighten control handle.

**When Using the Hose Reel**

**NOTE:** When using the pressure washer with a hose reel, the high pressure outlet on the front of the machine becomes redundant. You can use this coupling to attach the hose for storage purposes.

- Pull the securing pin in the side of the hose reel to release the reel. Unravel the hose to the desired length.
- Connect the hose to the lance.
- On completion of the job, remove the hose from the lance and reel the hose back in.
- Connect your hose to the coupling if you desire.

## **STOPPING - Yanmar L100**

- In preparation for stopping the engine, move the throttle lever to LOW position.
- Allow the engine to idle.
- Move the Throttle Lever to STOP position to stop the engine. Then, set the Key Switch to "OFF" position.

## **STARTING - Yanmar L100 Electric Start**

- Insert the key into the key switch.
- Place the throttle into the mid-way position.
- Turn the key clockwise to the START position. Release the key as soon as the engine starts, it will return to the ON position.

## **STARTING - Yanmar L100 Manual Start**

- Grasp the recoil starter handle.
- Pull the handle out slowly until you feel strong resistance.
- Slowly return the recoil starter to the initial position.
- Push the decompression lever down and then release it. The decompression lever will automatically return to the original position when the engine starts.
- Grasp the recoil starter handle.
- Pull the handle all the way out with a strong and even motion. Use two hands if necessary.
- Slowly return the starter handle to the initial position.
- If the engine does not start, repeat the procedure.



### **CAUTION**

*The max. engine running speed is pre-set by the manufacturer and must not be adjusted.*



## General Safety - Pressure Washer

For your own personal protection and for the safety of those around you, please read and ensure you fully understand the following safety information. It is the responsibility of the operator to ensure that he/she fully understands how to operate this equipment safely. If you are unsure about the safe and correct use of the Pressure Washer, consult your supervisor or Altrad Belle.

### BEFORE STARTING THE PRESSURE WASHER



#### **CAUTION**

*Improper maintenance or use can be hazardous. Read and Understand this section before you perform any maintenance, service or repairs.*

- This equipment is heavy and must not be lifted single-handedly. Where possible, please use the integrated wheels to transport the Pressure Washer otherwise **GET HELP** or use suitable lifting equipment on the lifting point.
- Always switch **OFF** the engine before transporting, moving it around the site or servicing it.
- Cordon off the work area and keep members of the public and unauthorised personnel at a safe distance.
- Suitable PPE must be worn when using this equipment and should meet relevant EEC/local standards: waterproof clothing / boots / gloves, safety goggles, helmet or helmet & visor and ear defenders. Tie back long hair and remove any jewellery which may catch in the equipment's moving parts.
- Become familiar with the controls before operating the Pressure Washer and make sure you know how to safely switch this machine **OFF** before you switch it **ON** in case you get into difficulty.
- Never remove or tamper with any guards fitted, they are there for your protection. Always check guards for condition and security, if any are damaged or missing, **DO NOT USE THE PRESSURE WASHER** until the guard has been replaced or repaired.
- **DO NOT** operate the Pressure Washer when you are ill, feeling tired, or when under the influence of alcohol or drugs.
- **ALWAYS** ensure the water pressure is released before starting the engine. This can be done safely by depressing the trigger.
- **ALWAYS** ensure high-pressure hose is connected before starting the engine.
- Replace any worn/damaged decals.
- Remove all packaging material before operating.

### WHEN OPERATING THE PRESSURE WASHER

- During use the engine becomes very hot, allow the engine to cool before touching it. Never leave the engine running and unattended.
- **EXHAUST FUMES CAN KILL** - Ensure plenty of ventilation when running petrol/diesel engines in a confined area.
- Place the Pressure Washer at least 3 metres away from buildings and other equipment during operation.
- High pressure jets can be dangerous if misused. The lance must not be aimed at persons, animals, live electrical equipment or the machine itself.
- **DO NOT** run the pump dry for more than 30 secs. This will cause internal damage.
- **DO NOT** leave engine running whilst not in use for long periods. This may cause damage to internal components.
- **DO NOT** use the Pressure Washer on any equipment that is connected to mains electrical supply. **ENSURE** all electrical components are covered and check for water ingress before reconnecting to the mains supply.
- **NEVER** disconnect a hose with pressure in it or allow a hose to be flattened / kinked.
- **ALWAYS** drain water from pump after operating in cold conditions to prevent frost damage.
- **DO NOT** use the Pressure Washer whilst positioned on a ladder. Use a suitable platform or scaffolding.

### FUEL SAFETY

- Before refuelling, switch off the engine and allow it to cool.
- When refuelling, **DO NOT** smoke or allow naked flames in the area.
- Refuel in a well ventilated area with the engine switched off. Check for spilled fuel or leaks.
- Spilt fuel must be made safe immediately, using sand. If fuel is spilt on your clothes, change them.
- Store fuel in an approved, purpose made container away from heat and ignition sources.



#### **CAUTION**

*Fuel is flammable. It may cause injury and property damage. Shut down the engine, extinguish all open flames and do not smoke while filling the fuel tank. Always wipe up any spilled fuel.*

### SAFETY AND ACCIDENT PROTECTION

#### **Operating Instructions:**

All persons who apply, assemble, operate, start, control, maintain or repair this machine must read and understand these operating instructions.

#### **Owner Responsibility:**

The owner must ensure that only qualified persons operate, maintain, or repair this machine.

#### **Storage:**

When not in use, store in a dry, locked place. Keep away from children.

#### **Transport :**

This equipment is heavy and must not be lifted single-handedly. Where possible, please use the integrated wheels to transport the Pressure Washer otherwise **GET HELP** or use suitable lifting equipment on the lifting point.

**NOTE:- ALWAYS** ensure handle is always locked in place when transporting the machine



## Breaking In A New Trailer



### RETIGHTEN WHEEL NUTS AT FIRST 10, 25 & 50 MILES

Wheel wheels can shift and settle quickly after being first assembled, and must be checked after the first 10, 25 and 50 miles of driving. Failure to perform this check may result in a wheel coming loose from the trailer, causing a crash leading to death or serious injury. Refer to the "Service & Maintenance" section for the correct tightening sequence and torque value for the wheel wheels nuts (bolts).



#### **CAUTION**

*Wheel nuts are prone to loosen after being first assembled. Death or serious injury can result. Check wheel nuts for tightness on a new trailer, and after re-mounting a wheel at 10, 25 and 50 miles.*

### TYRE PRESSURE

Check tyre pressures on both the trailer and tow vehicle. Inflate to the value indicated on the trailer Certification/VIN label located on the right front side.



## General Safety - Bowser

### INOPERABLE BRAKES, LIGHTS OR MIRRORS

Be sure that the brakes and all of the lights on your trailer are functioning properly before towing your trailer. Lights on a trailer are controlled via a connection to the tow vehicle, generally a multi-pin electrical connector.

Check the trailer taillights by turning on your tow vehicle headlights. Check the trailer brake lights by having someone step on the tow vehicle brake pedal while you look at trailer lights. Check the turn signal lights by operating the turn signal lever in the tow vehicle.



#### CAUTION

*Failure to connect the tow vehicle lighting and braking to the trailer will result in inoperable lights and brakes, and can lead to collision.*

If your trailer has hydraulic "surge" brakes, pull the emergency breakaway brake lanyard to check the operation of the surge mechanism.

Standard mirrors usually do not provide adequate visibility for viewing traffic to the sides and rear a towed trailer. You must provide mirrors that allow you to safely observe approaching traffic.

### HAZARDS FROM MODIFYING YOUR TRAILER

Essential safety items and structural integrity can be damaged by altering your trailer.

Alteration of the trailer structure or modification of mechanical, electrical, hydraulic or other systems on your trailer must be performed only by qualified technicians who are familiar with the system as installed on your trailer.



## Coupling To The Tow Vehicle

A ball hitch / ring coupler connects to a ball that is located on or under the rear bumper of the tow vehicle. This system of coupling a trailer to a tow vehicle is sometimes referred to as "bumper pull."

A ball hitch / ring coupler trailer may be fitted with a tongue jack that can raise and lower the coupler. The tongue jack is mounted to the A-frame (front, or tongue) part of the trailer. By rotating the jack handle clockwise, the jack will extend and raise the tongue of the trailer. **Figure 1 shows a trailer with a ball hitch coupler.**

Be sure the ball hitch / ring coupler is suitable for the size and weight of the trailer. The load rating of the coupler and the necessary ball size are listed on the trailer tongue. You must provide a hitch and ball for your tow vehicle, where the load rating of the hitch and ball is equal to or greater than that of your trailer. Also, the ball size must be the same as the coupler size. If the hitch ball is too small, too large, is underrated, is loose or is worn, the trailer can come loose from the tow vehicle, and may cause death or serious injury.

THE TOW VEHICLE, HITCH AND BALL MUST HAVE A RATED TOWING CAPACITY EQUAL TO OR GREATER THAN THE TRAILER GROSS VEHICLE WEIGHT RATING (GVW).

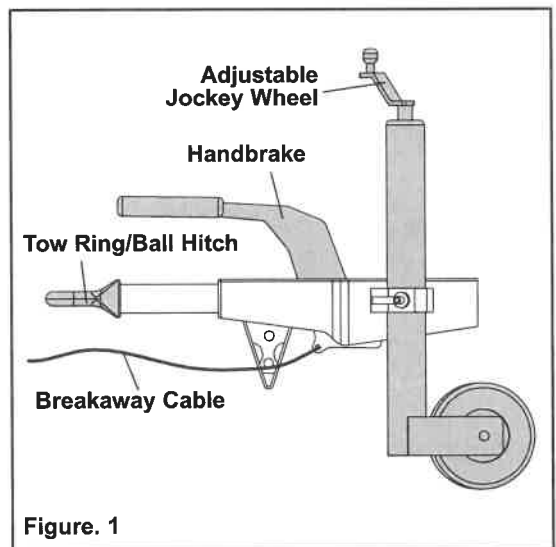


Figure. 1

IT IS ESSENTIAL THAT THE HITCH BALL BE OF THE SAME SIZE AS THE COUPLER.

IF THE HITCH BALL IS TOO SMALL, IS UNDERRATED, IS LOOSE OR IS WORN, THE TRAILER CAN COME LOOSE FROM THE TOW VEHICLE, RESULTING IN DEATH OR SERIOUS INJURY.

The ball size and load rating (capacity) are marked on the ball; hitch capacity is marked on the hitch.

### BEFORE COUPLING THE TRAILER TO THE TOW VEHICLE

- Be sure the size and rating of hitch ball match the size and rating of the coupler. Hitch balls and couplers are marked with their size and rating.
- Wipe the hitch ball clean and inspect it visually and by feel for flat spots, cracks and pits.
- Rock the ball to make sure it is tight to the hitch, and visually check that the hitch ball nut is solid against the lock washer and hitch frame.
- Wipe the inside and outside of the coupler clean and inspect it visually for cracks and deformations; feel the inside of the coupler for worn spots and pits.
- Be sure the coupler is tight to the tongue of the trailer. All coupler fasteners must be visibly solid against the trailer frame.

### ATTACH AND TEST THE BREAKAWAY BRAKE SYSTEM

If the coupler or hitch fails, a properly connected and working breakaway brake system will apply brakes on the trailer.

Visually inspect the breakaway system for broken or missing parts. Repair or replace worn, damaged or missing parts before towing trailer.

An ineffective breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or ball hitch fails.

Test the function of the breakaway brake system before towing the trailer. **DO NOT** tow the trailer if the breakaway brake system is not working; have it serviced or repaired. Connect the breakaway lanyard to the tow vehicle - **NOT** to the hitch, ball or support.

## MATCHING TRAILER AND HITCH



### **WARNING**

*Use of an under-rated hitch, ball or tow vehicle can result in loss of control leading to death or serious injury. Make certain your hitch and tow vehicle are rated for your trailer.*

## WORN TYRES, LOOSE WHEELS AND Wheel NUTS

Just as with your tow vehicle, the trailer tyres and wheels are important safety items. Therefore, it is essential to inspect the trailer tyres before each tow.

If a tyre has a bald spot, bulge, cut, cracks, or is showing any cords, replace the tyre before towing. If a tyre has uneven tread wear, take the trailer to a dealer service center for diagnosis. Uneven tread wear can be caused by tyre imbalance, axle misalignment or incorrect inflation.

Tyres with too little tread will not provide adequate frictional forces on wet roadways and can result in loss of control, leading to death or serious injury.

Improper tyre pressure causes increased tyre wear and may reduce trailer stability, which can result in a tyre blowout or possible loss of control. Therefore, before each tow you must also check the tyre pressure. Remember, the correct tyre pressure is listed on the Certification (VIN) label, and should be checked when tyres are cold. Allow 3 hours cool-down after driving as much as 1 mile at 40 mph before checking tyre pressure

The tightness of the wheel nuts is very important in keeping the wheels properly seated to the hub. Before each tow, check to make sure they are tightened to the correct torque.



### **CAUTION**

*Metal creep between the wheel rim and wheel nuts (bolts) will cause rim to loosen. Death or injury can occur if wheel comes off. Tighten wheel nuts (bolts) before each tow.*

The correct tightening sequence and tightness (torque) for wheel nuts is listed in the "Inspection, Service & Maintenance" chapter of this manual. Use a calibrated torque wrench to tighten the wheel nuts.

Wheel nuts are also prone to loosen after first being assembled. When driving a new trailer (or after wheels have been remounted), check to make sure they are tightened to the correct torque after the first 10, 25 and 50 miles of driving and before each tow thereafter.

Failure to perform this check can result in a wheel parting from the trailer and a crash, leading to death or serious injury.



### **CAUTION**

*Inadequate wheel nut torque can cause a wheel to part while towing. Death or serious injury can result. Make sure wheel nuts are tight before towing trailer.*

## TYRE SAFETY TIPS

### Preventing Tyre Damage

- Slow down if you have to go over a pothole or other object in the road.
- Do not run over curbs or other foreign objects in the roadway, and try not to strike the curb when parking.

### Tyre Safety Checklist

- Check tyre pressure regularly (at least once a month), including the spare.
- Inspect tyres for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.
- Make sure your tyre valves have valve caps.
- Check tyre pressure before going on a long trip.
- Do not overload your vehicle. Check the tyre information placard or owner's manual for the maximum recommended load for the vehicle.

## WEIGHT AND LOAD DISTRIBUTION

Correct loading of your trailer is essential for your safety. Tyre, wheel, axle or structural failure can be caused by overloading.



### **CAUTION**

*An overloaded trailer can result loss of control of the trailer, leading to death or serious injury. Never load a trailer so that the weight on any tyre exceeds its rating. Never exceed the trailer Gross Vehicle Weight rating (GVW).*

## INAPPROPRIATE CARGO

Your trailer is designed for specific cargo, only carry that cargo in the trailer. Your trailer must not be used to carry certain items, such as people, containers of hazardous substances or containers of flammable substances.

## TRANSPORT USING THE LIFTING POINTS

- **DO NOT** lift the Bowser when there is water in the tank.
- **ALWAYS** use the designated Lifting Points.
- **ALWAYS** use suitably rated chains/straps.

## TRANSPORT USING A FORKTRUCK

- **DO NOT** lift the Bowser when there is water in the tank.
- Only use the designated Forktruck Tine Guides, highlighted by the decals.



## General Safety - Bowser

For your own personal protection and for the safety of those around you, please read and ensure you fully understand the following safety information. It is the responsibility of the operator to ensure that he/she fully understands how to operate this equipment safely. If you are unsure about the safe and correct use of the Bowser, consult your supervisor or Altrad Belle.

### IMPROPER SIZING OF THE TRAILER TO THE TOW VEHICLE

Trailers that weigh too much for the towing vehicle can cause stability problems, which can lead to death or serious injury. Furthermore, the additional strain put on the engine and drive-train may lead to serious tow vehicle maintenance problems. For these reasons the maximum towing capacity of your towing vehicle should not be exceeded (see Technical Data section)

### DRIVING TOO FAST

With ideal road conditions, the maximum recommended speed for safely towing a trailer is 60mph. If you drive too fast, the trailer is more likely to sway, thus increasing the possibility for loss of control. Also your tyres may overheat, thus increasing the possibility of a blowout.



#### **CAUTION**

*Driving too fast for conditions can result in loss of control and cause death or serious injury. Adjust speed down when towing trailer.*

### FAILURE TO ADJUST DRIVING BEHAVIOR WHEN TOWING A TRAILER

When towing a trailer, you will have decreased acceleration, increased stopping distance, and increased turning radius (which means you must make wider turns to keep from hitting curbs, vehicles, and anything else that is on the inside corner). Furthermore, the trailer will change the handling characteristics of your towing vehicle, making it more sensitive to steering inputs and more likely to be pushed around in windy conditions or when being passed by large vehicles. In addition, you will need a longer distance to pass, due to slower acceleration and increased length. With this in mind:

- Be alert for slippery conditions. You are more likely to be affected by slippery road surfaces when driving a tow vehicle with a trailer, than driving a tow vehicle without a trailer.
- Anticipate the trailer "swaying." Swaying can be caused by excessive steering, wind gusts, roadway edges, or by the trailer reaction to the pressure wave created by passing trucks and busses.
- When encountering trailer sway, take your foot off the accelerator, and steer as little as possible in order to stay on the road. Use small "trimlike" steering adjustments. Do not attempt to steer out of the sway; you'll only make it worse. Also, do not apply the tow vehicle brakes to correct trailer swaying. The application of the trailer brakes alone will tend to straighten out the combination, especially when going downhill.
- Check rearview mirrors frequently to observe the trailer and traffic.
- Use lower gear when driving down steep or long grades. Use the engine and transmission as a brake. Do not ride the brakes, as they can overheat and become ineffective.
- Be aware of your trailer height, especially when approaching bridges, roofed areas and around trees.

### IMPROPER LOADING

The total weight of the load you put in or on the trailer, plus the empty weight of the trailer itself, must not exceed the trailer's Gross Vehicle Weight rating (GVW). An overloaded trailer can result in loss of control of the trailer, leading to death or serious injury. Never load a trailer so that the weight on any tyre exceeds its rating.

### TRAILER NOT PROPERLY COUPLED TO THE HITCH

It is critical that the trailer be securely coupled to the hitch, and that the emergency breakaway brake lanyard is correctly attached. Uncoupling may result in death or serious injury to you and to others.

- Make sure the hitch and ball are rated for the trailer.
- Make sure the hitch [ball size] matches the coupler.
- Check the hitch ball for wear, corrosion and cracks before coupling. Replace worn, corroded or cracked hitch ball before coupling to the trailer.
- Make sure the hitch ball is tight to the hitch before coupling the trailer.

An improperly coupled trailer can result in death or serious injury. Do not move the trailer until:-

- The coupler is secured and locked;
- The safety chains are secured to the tow vehicle; and
- The trailer jacks are fully retracted.

Do not tow the trailer on the road until:-

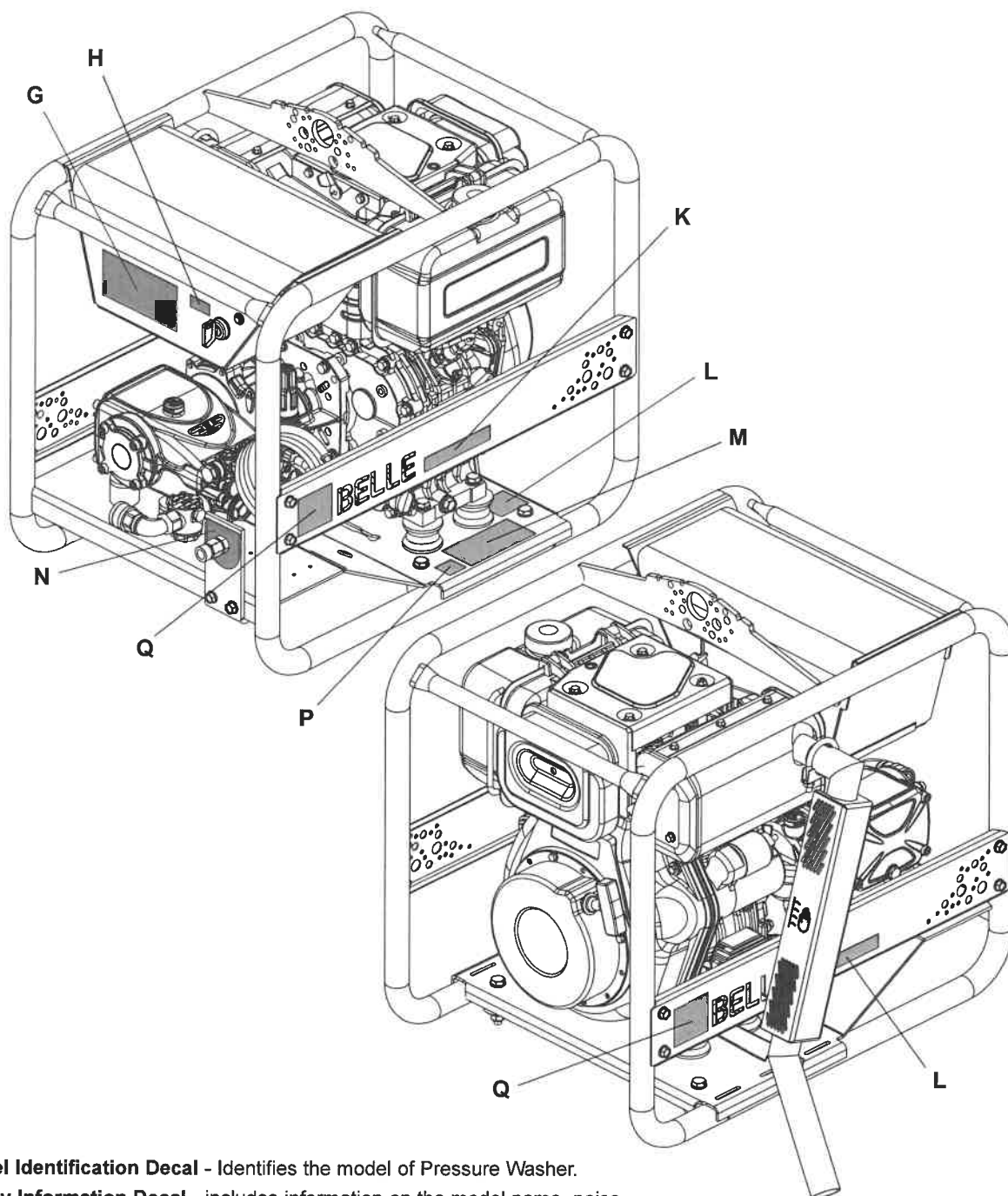
- The trailer brakes are checked;
- The breakaway switch is connected to the tow vehicle;
- The load is secured to the trailer; and
- The trailer lights are connected and checked.

### CORRECT CONNECTION OF BREAKAWAY BRAKE

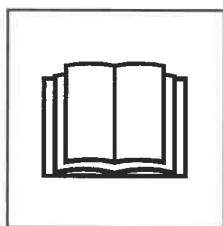
Your trailer is equipped with brakes and a breakaway brake system that can apply the brakes on your trailer, if your trailer comes loose from the hitch for any reason.

An ineffective breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or ball hitch fails. Test the function of the breakaway brake system before towing the trailer. Do not tow the trailer if the breakaway brake system is not working; have it serviced or repaired.

Connect the breakaway lanyard to the tow vehicle **NOT** to the hitch, ball or support.



- K. Model Identification Decal** - Identifies the model of Pressure Washer.
- L. Safety Information Decal** - includes information on the model name, noise level (in dB(A)) and safety symbols which are identified below:-



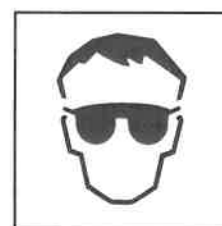
**Please Read  
Operators Manual**



**Wear Protective  
Footwear**

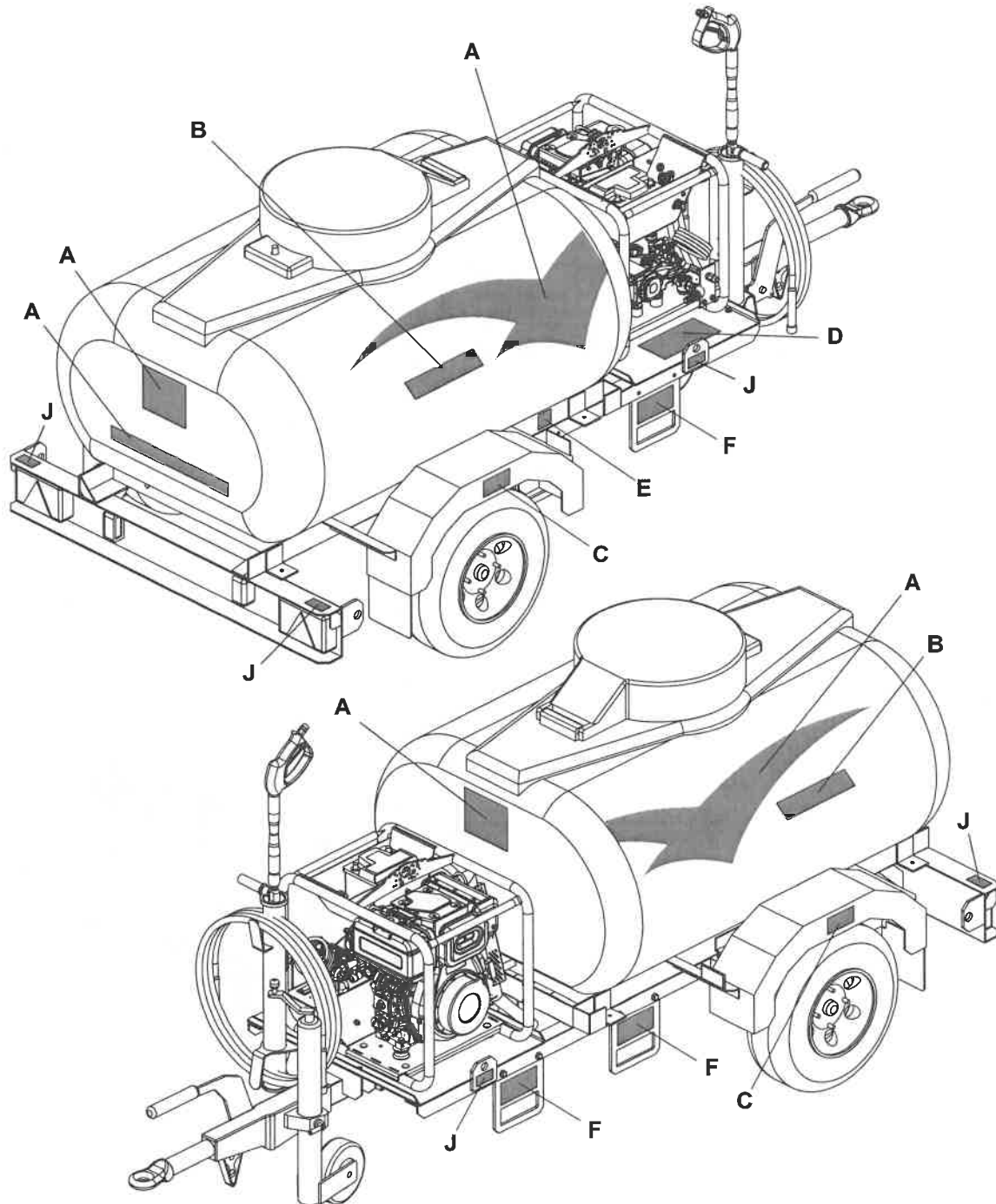


**Wear Ear  
Protection**



**Wear Eye  
Protection**

- M. Operating Safety Decal** - highlights important safety information that must be read before operating the machine.
- N. High Pressure Outlet Decal** - highlights the position of the High Pressure Outlet on the machine.
- P. Noise Decal** - indicates the noise level of the machine.
- Q. Altrad Logo Decal.**



**A. Altrad Branding Decals.**

**B. Model Identification Decals** - Identifies the model of Bowser Pressure Washer

**C. Tyre Pressure Decal**

**D. Drain Tap Decal** - If the forecasted ambient temperature is below freezing, the Water Tank & Pump must be drained using the Drain Tap. This decal indicates where the taps should be whilst operating the machine, draining the pump or draining the pump and tank.

**E. Statutory Plate** - includes Type Approval Number, VIN (Vehicle Identification Number) and Axle Weights

**F. Forktruck Decal** - highlights where the Bowser can be handled using a Forktruck.

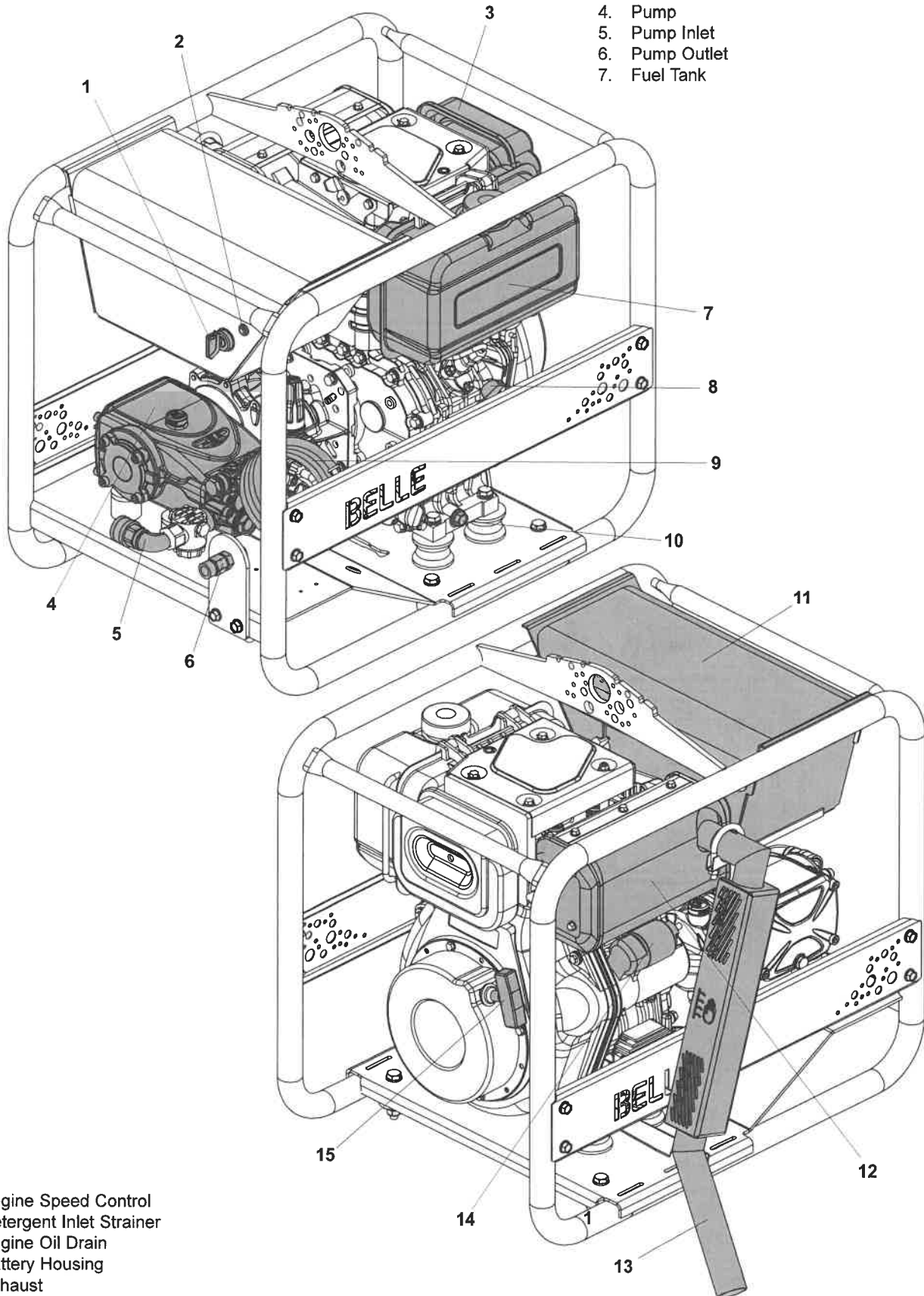
**NOTE:- DO NOT** lift the Bowser when there is water in the tank.

**G. Operating Decal** - information on how to safely start the Bowser Pressure Washer.

**H. Ignition Warning Light Decal** - The Light is illuminated when the ignition is in the ON position but the mechanical engine stop may be activated. A warning buzzer will also sound.

**J. Lifting Eye Decal** - Indicates the Lifting Points on the chassis. The Bowser **MUST** not be lifted when there is water in the tank.

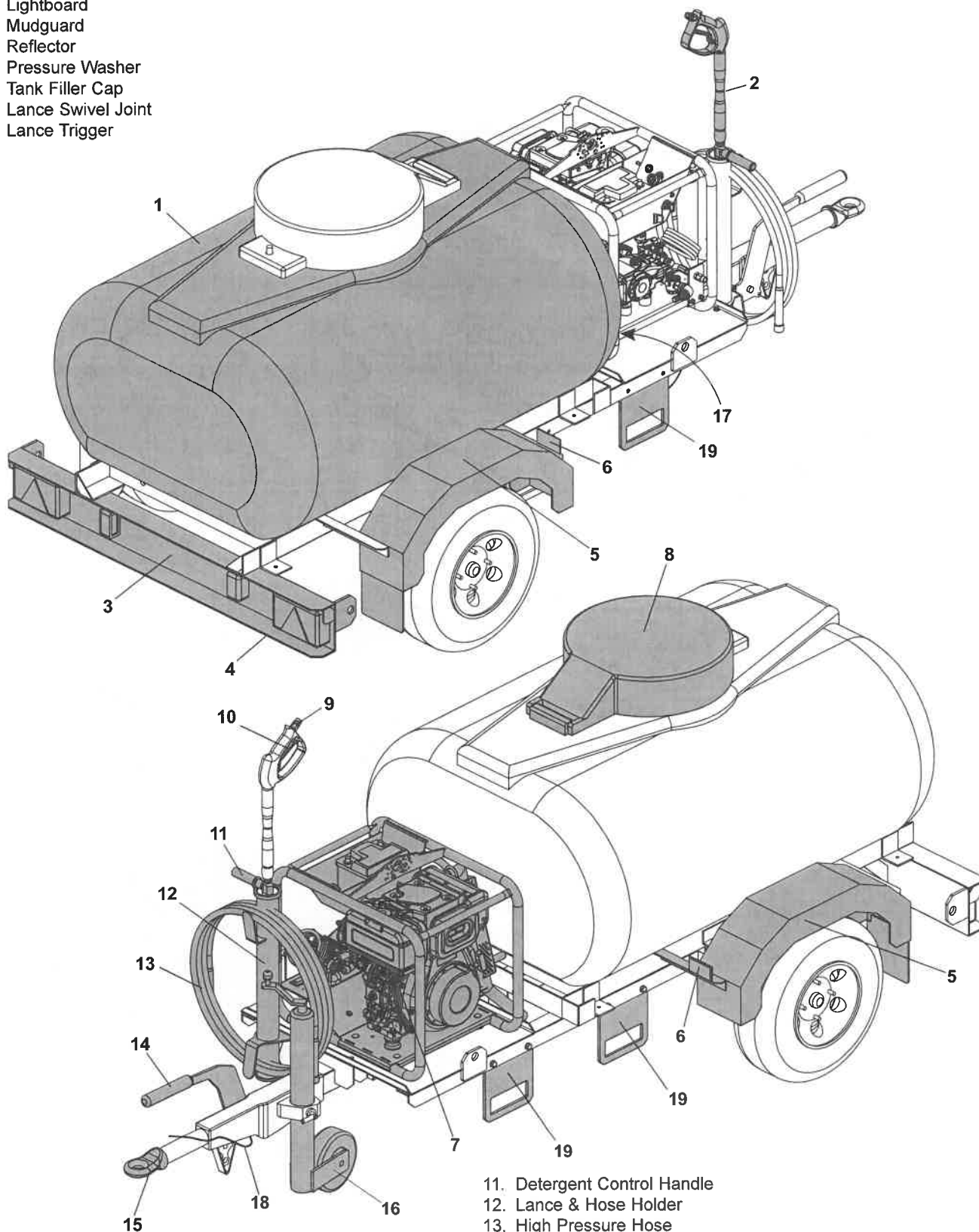
1. Key Start
2. Ignition / Low Oil Pressure Buzzer & Warning Light
3. Air Cleaner
4. Pump
5. Pump Inlet
6. Pump Outlet
7. Fuel Tank



8. Engine Speed Control
9. Detergent Inlet Strainer
10. Engine Oil Drain
11. Battery Housing
12. Exhaust
13. Exhaust Extension
14. Starter Motor
15. Recoil Start



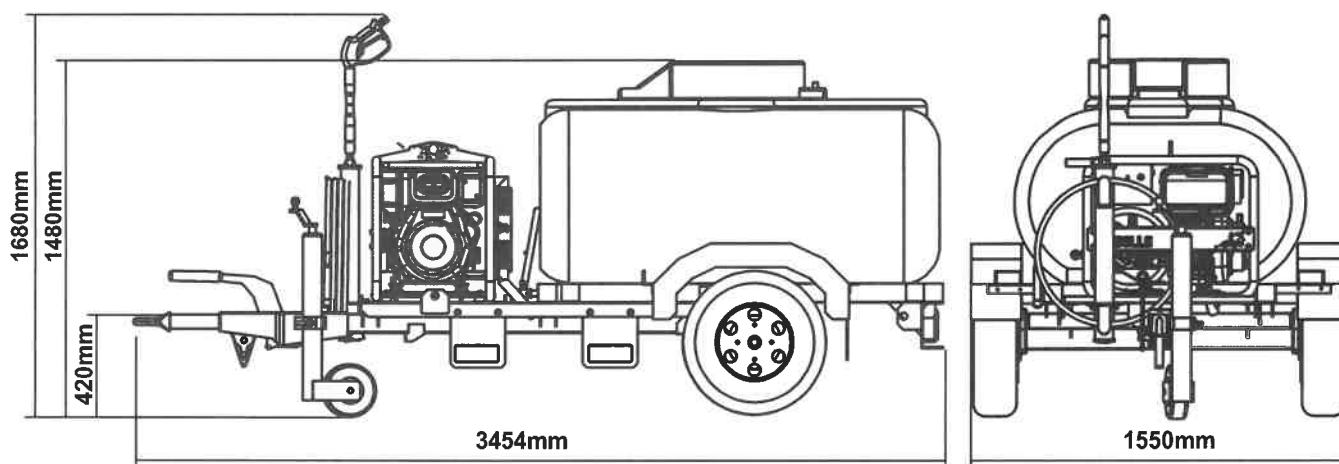
1. Tank
2. Lance
3. Registration Plate
4. Lightboard
5. Mudguard
6. Reflector
7. Pressure Washer
8. Tank Filler Cap
9. Lance Swivel Joint
10. Lance Trigger



11. Detergent Control Handle
12. Lance & Hose Holder
13. High Pressure Hose
14. Handbrake
15. Ring Eye / Ball Hitch
16. Adjustable Jockey Wheel
17. Tank Drain Tap
18. Break Away Cable
19. Forktruck Tine Guides



## Technical Data



Model	BWX 15/250D
Unladen Weight / Max Laden Weight (Kg)	460 / 1500
Towing Height (mm)	420
Water Tank Capacity (Ltrs)	1125
Tyre Size (mm)	185 x 13 -8
Tyre Pressure (psi - bar)	60 - 4.13
*Max. Towing Speed (mph)	60
Tow Eye Type	40mm Ring Eye
Engine	Yanmar L100 Electric Start
Engine Power (Hp-kW)	8.0 - 6.0
Water Flow (lpm)	15
Max. Water Pressure (bar - psi)	250 - 3600
Max. Water Inlet Temperature (°)	40/45
Fuel Tank Capacity (Ltrs)	5.4
Gearbox Driven Pump	Yes
Hose Length (M)	10
Vibration Level (m/sec <sup>2</sup> )	<2.5
Sound Power Level (dB LWA)	110

\*Always take into account the maximum speed limit per road as outlined in the highway code.

## Environment



### Safe Disposal.



Instructions for the protection of the environment. The machine contains valuable materials. Take the discarded apparatus and accessories to the relevant recycling facilities.

Component	Material
Trailer	Galvanised Steel & Rubber
Tank	Polyethylene & Steel
Wheels	Steel / Butyl Rubber
Mudguards	HDPE
Pressure Washer Main Frame	Steel
Lance	Nylon, Stainless Steel & Brass
Engine	Aluminium
Pump	Steel, Aluminium & Brass
Flexible Mounts	Steel and Rubber
Various Parts	Steel and Aluminium



## How To Use This Manual

This manual has been written to help you operate and service the Bowser Pressure Washer safely.  
This manual is intended for dealers and operators of the Bowser Pressure Washer.

### Foreword

The **'Environment'** section gives instructions on how to handle the recycling of discarded apparatus in an environmentally friendly way.  
The **'Machine Description'** section helps you to familiarise yourself with the machine's layout and controls.  
The **'General Safety'** and **'Health and Safety'** sections explain how to use the machine to ensure your safety and the safety of the general public.  
The **'Start and Stop Procedure'** helps you with starting and stopping the machine.  
The **'Trouble Shooting Guide'** helps you if you have a problem with your machine.  
The **'Servicing'** section is to help you with the general maintenance and servicing of your machine.  
The **'Warranty'** Section details the nature of the warranty cover and the claims procedure.

### Directives with regard to the notations.

Text in this manual to which special attention must be paid are shown in the following way:



#### **CAUTION**

*The product can be at risk. The machine or yourself can be damaged or injured if procedures are not carried out in the correct way.*



#### **WARNING**

*The life of the operator can be at risk.*



## WARNING



#### **WARNING**

*Before you operate or carry out any maintenance on this machine **YOU MUST READ** and **STUDY** this manual.*

**KNOW** how to safely use the unit's controls and what you must do for safe maintenance. (NB Be sure that you know how to switch the machine off before you switch on, in case you get into difficulty.)

**ALWAYS** wear or use the proper safety items required for your personal protection. If you have **ANY QUESTIONS** about the safe use or maintenance of this unit, ASK YOUR SUPERVISOR OR CONTACT: **Altrad Belle (UK): +44 (0) 1298 84606**



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*Altrad Belle reserves the right to change machine specification without prior notice or obligation.*



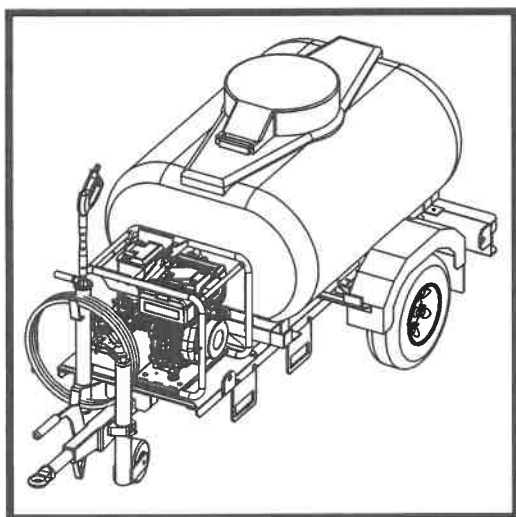


# BELLE

# BWX 15/250

BOWSER  
PRESSURE WASHER

870/60001/7  
10/23



- Ⓒ GB Operators Manual
- Ⓒ F Manuel De L'Opérateur
- Ⓒ D Bedienungshandbuch
- Ⓒ PL Instrukcja Obsługi

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EC/EU Declaration of Conformity



BELLE  
LIGHT  
CONSTRUCTION  
EQUIPMENT