



USER MANUAL

TUNWAS12-100

v.1.1



1500 PSI



COLD WASH
PRESSURE WASHER





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WARNING

Please read all these instructions before operating this product and save them for future use. This manual has been compiled by Tundra Industrial and is an integrated part of the product with which it's enclosed. The instructions should be kept with it for the future reference.

This manual describes the purpose for which the product has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation or, before performing any kind of adjustment to the product and prior to any maintenance tasks. By following all the general safety instructions contained in this manual you will help to ensure operator safety and extend the potential lifespan of the equipment.

All photographs and drawings in this manual are supplied by Tundra Industrial to help illustrate the operation of the product. Whilst every effort has been made to ensure accuracy of information contained in this manual our policy of continuous improvement determines the right to make modifications without prior warning.

Note: The information contained in this Instruction Manual is designed to assist you in the safe operation and maintenance of the equipment. Some illustrations in this Instruction Manual may show details or attachments that differ from those on your own appliance. Contact your nearest Tundra Industrial Dealer if you are unsure about any information included in this manual or require any additional information about the safe use, operation maintenance, or repair of this equipment.

INTRODUCTION

- Powerful 2.2kW (3HP) cold washer ideal for cleaning soluble dirt over large surface areas
- Combines high capacity washing with high pressure
- 230V~50Hz heavy duty slow running motor (1500rpm)
- Fitted with ceramic pistons and solid brass pump
- Delivers a high flow rate of 12L/Min (720L/Hr) with a maximum pressure of 100bar (1500psi)
- Comes complete with suction hose, filter, detergent tank, quick-release high pressure lance and 10M hose

SPECIFICATIONS

Model Number:	TUNWAS12-100
Motor:	2.2kW / 3HP
Speed:	1500rpm
Maximum Pressure:	100bar (1500psi)
Flow Rate:	12L/Min (720L/Hr)
Input Voltage ~ Frequency	230V ~ 50Hz
Input Current:	13A
Maximum Runtime (continuous):	30 Minutes
Hose:	10M
Weight:	NW: 49kg / GW: 51kg
Dimensions (LxWxH):	740mm x 430 x 620mm

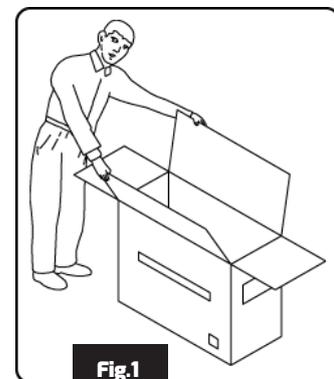
UNPACKING

PLEASE NOTE THE FOLLOWING PHOTOGRAPHS & INSTRUCTIONS ARE FOR REFERENCE ONLY AND MAY DIFFER FOR YOUR PRESSURE WASHER MODEL.

PLEASE CONTACT YOUR TUNDRA INDUSTRIAL DEALER IF YOU NEED ANY ADVICE ON THE ASSEMBLY PROCEDURE.

Upon receipt of the pressure washer, ensure all components are present and have remained undamaged in transit.

Retain the packing materials and packaging in case future transportation of the equipment is necessary. We recommend that the packaging is kept, at least within the period of the guarantee (**Fig.1**).



ASSEMBLY

Use the assembly diagram shown in **(Fig.2)** to set up the pressure washer for use.

Ensure that all of the required parts are included with the packaging - contact your nearest Tundra Dealer if any missing or defective parts are identified. Do not use the equipment if there are any missing or damaged parts.

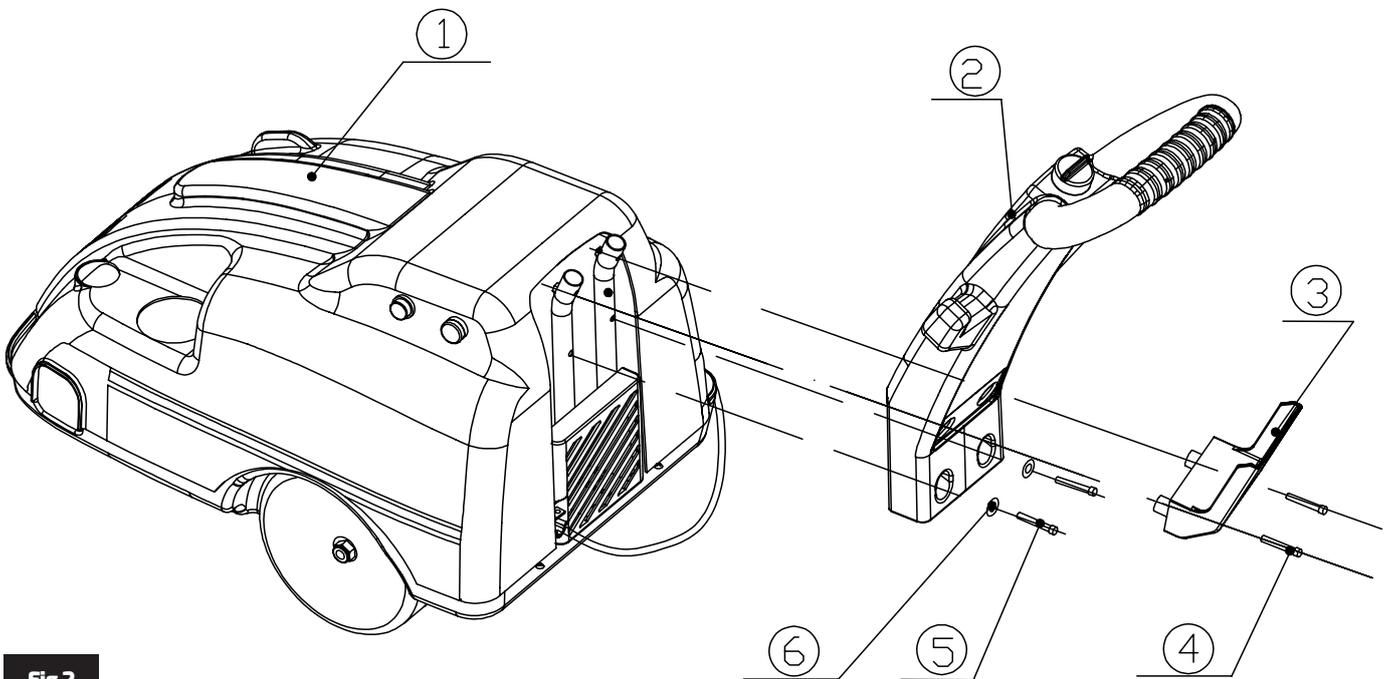


Fig.2

Assembly Parts

1. Equipment Housing (Plastic Body)
2. Handle
3. Hose Retainer
4. M6 x 40 Screw
5. M6 x 40 Screw
6. Ø6 Washers

ASSEMBLY PROCEDURE

- Insert the handle **(2)** in the guide slots on the equipment housing **(1)**
- Fix the handle and hose hanger **(3)** using the screws provided **(4)**
- Fix the bottom of the handle using the screws **(5)** and washers supplied **(6)**

EQUIPMENT IDENTIFICATION



1. Pressure Hose Connection (Outlet)	9. Hose / Gun Retainer
2. Cleaning Nozzle	10. Detergent Filling Cap
3. Water Supply Connection (Inlet)	11. Handle
4. Pressure Regulator	12. Nozzle Holder
5. Pressure Gauge	13. Gun
6. Lance	14. ON (Green) / OFF (Red) Buttons
7. Equipment Housing	15. Wheels
8. Detergent Reservoir	

SAFETY GUIDELINES



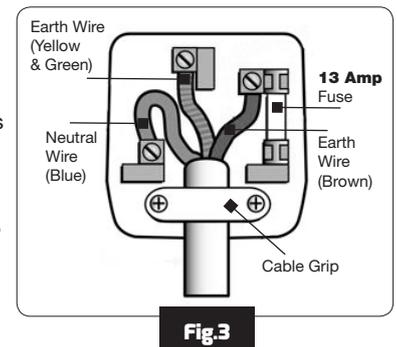
Read and ensure that you understand all of the operating instructions, safety precautions and warnings in this Instruction Manual before operating or maintaining this equipment. Most accidents that result from operation and maintenance are caused by the failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing a potentially hazardous situation before it occurs, and by observing appropriate safety procedures. Hazards that must be avoided to prevent bodily injury or machine damage are identified by warnings on the equipment and in this Instruction Manual. Never use this equipment or modify it in any way that has not been specifically recommended by the manufacturer. Contact a qualified electrician for advice on any issues relating to electrical safety in your working environment.

ELECTRICAL SAFETY



Ensure that you check the equipment thoroughly to ensure it is safe and fit for purpose before each use. It is important that you inspect all plugs, sockets, power cables and electrical fittings for wear and damage and repair or replace any defective components. The risk of electric shock can be minimised by the correct use of the appropriate electrical safety devices.

- We recommend that you fit a **Residual Current Circuit Breaker (RCCB)** in the main distribution board and that a **Residual Current Device (RCD)** is used when operating this equipment.
- The **Electricity at Work Act 1989** includes legislation that places legal implications on employers to ensure the safety of electrical devices in the workplace. The regulations dictate that all portable equipment must be inspected regularly and tested to ensure that it is safe for use. 'Portable equipment' means any electrical item that can be moved and this is often referred to as **Portable Appliance Testing (PAT)**. PAT testing should be carried out regularly on this equipment by trained, authorised personnel, as required by the legislation.
- The **Health and Safety at Work Act 1974** states that it is the responsibility of the owner of electrical appliances to ensure that both the equipment and working environments are maintained to ensure safe operation at all times.
- Check that all equipment cables are secure, correctly insulated, free from damage, and protected against short circuit and overload before connecting to the power supply. Do not use worn or damaged cables, plugs, sockets or other fittings.
- Ensure that the power supply matches voltage requirements specified on the equipment and that the plug is wired correctly and fitted with the correct fuse (See **Fig.3**).
- If the electrical fuse blows, ensure it is replaced by an identical type of fuse with the same rating.
- Never pull or manoeuvre this equipment into position using the power cable (move using the handle).
- Ensure the power cable is kept away from heat, oil and sharp edges.
- We recommend that the equipment is connected directly to the power supply without the use of extension leads as the resulting voltage drop can reduce motor and pump performance.
- All electrical connections should be protected against the water jet and cleaning spray.
- This appliance should always be used with a correctly earthed supply. Contact your electrician for advice if you are unsure.
- Ensure the appliance is disconnected from the power supply before carrying out any maintenance, repairs or adjustments.



EQUIPMENT SAFETY

After opening the carton, unpack the washer and related parts and accessories. Inspect the equipment for any damage that may have occurred during transit, contact your nearest Tundra Dealer if any damage or defects are discovered. Check that all nuts and bolts are secure before putting the washer into operation.

Warning: Do not use this equipment if it is damaged or defective in any way.

This equipment should only be operated by qualified and responsible individuals who have read and understood the information and guidelines described in this document. In particular, the following safety instructions should be followed to reduce the risk of injury to the operator and members of the public.

- Familiarise yourself with this equipment and its operation before use - **read this user manual carefully before use**. Save for future reference.
- This appliance is for outdoor use only. Ensure that all bystanders are kept at a safe distance and that animals and children are kept from the work area.
- This appliance has been designed for use with detergents specified by the manufacturer (for example neutral shampoo based on biodegradable anionic surface active detergents). Do not use any chemicals that will corrode the coating materials of the high pressure hose or pump. **Do not use bleach, alcohol, petrol, or hydrochloric acid in the detergent reservoir**. Please consult the manufacturer for advice before using other detergents or chemicals in order to prevent damage to the equipment and the environment.
- Do not direct the nozzle towards mechanical parts containing lubricant grease. High pressure jet can be harmful and dangerous always ensure a safe working distance when spraying objects and assess and fix the appropriate nozzle for the job at hand.
- The high pressure jet can cause loose particles to be propelled at high speed - always appropriate protective clothing. Safety goggles must always be worn when using this equipment.
- **Never point the high pressure hose directly at people animals, live electrical parts or the appliance itself.**
- The appliance operates at fluid pressures and velocities high enough to penetrate human and animal flesh. Do not treat fluid injection caused by accident or misuse of this equipment as a simple cut injury - **seek medical advice immediately**.
- Do not step or stand on the high pressure hose and ensure that the hose is clean, free from debris, obstructions and kinks before use. Always unwind the hose fully before use.
- Check and ensure that the nozzle has been fitted correctly before use as the high pressure can result in the nozzle being "fired" from the lance with considerable force if not fitted correctly.
- Beware of kick-back force and the sudden torque on the spray gun assembly when operating the trigger. Grip the gun firmly to counteract the recoil.
- Ensure that you have evaluated the pressure required for the job at hand and selected the appropriate nozzle before use. High pressure jets can remove paint and other specialised surface treatments (including alloy wheel lacquer). High pressure jets may also breakdown and remove the grouting between paving slabs and can even damage tarmac.
- Always shut the equipment off completely when not in use and if left unattended.
- Do not operate this equipment in an explosive atmosphere, near combustible materials.
- Discharge any residual pressure from the lance before disconnecting the high pressure hose.
- The operating temperature of the water supply should be within a standard range of 1°C - 50°C.
- Only approved engineers should carry out repairs and maintenance on this equipment. Only use approved replacement parts to repair this equipment. Never modify the equipment in anyway. Ensure that the equipment is kept in good working order and cleaned and serviced regularly. Regularly check external nuts and fixings to ensure that they have not loosened from vibration during use.



OPERATION GUIDE

IMPORTANT BEFORE USE: Check that all connections, nuts bolts and screws are tight and fixed correctly.

Check Pump Oil Bung and Oil Level

If your washer is shipped with a pump oil transit bung (red) replace it with the yellow dipstick supplied before use. Check the pump oil sight glass to ensure that the pump oil level is sufficiently within the MIN & MAX levels using the maintenance procedure explained later in this manual.

Check Water Filter

Ensure that the water filter is fitted on the Water Supply Connection (Inlet) on the pressure washer and that the filter is clean. A well-cleaned filter will ensure the appliance runs to peak performance and will help to protect the pump from damaging debris and particles.

Connect the Lance to the Gun

Slot the lance into the gun connector and twist to lock in position securely as shown in **(Fig.4)**. Select and fit the appropriate nozzle for your cleaning needs. Further information on nozzle types is included later in this manual.

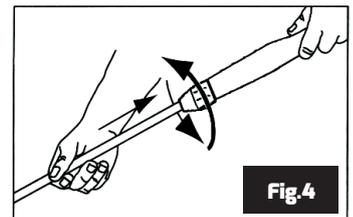


Fig.4

Connect the Hose to the Gun

Insert the end of the high pressure hose to the gun using the quick release connection as shown in **(Fig.5)**.

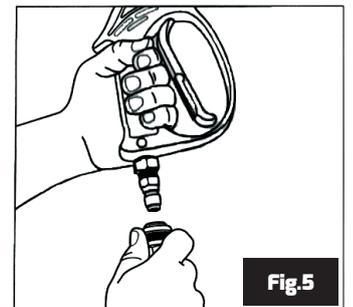


Fig.5

Connect the Water Supply

Connect the appliance to the water supply using the high pressure hose and quick release connections supplied. The hose connector fits onto the Water Supply Connection (Inlet) on the pressure washer. The water supply should be sufficient to deliver **15L per minute** in order to ensure efficient pump operation. Do not use the washer on a water supply that is less than 15L per minute to prevent damage to the appliance and poor cleaning performance. The operating temperature of the water supply should be within a standard range of **1°C - 50°C**.

Connect the Appliance to the Power Supply

Ensure that the mains voltage corresponds with the required supply requirements for this equipment (**230V-50Hz**). Ensure that the plug is wired correctly with the correct fuse and an earth connection. It is recommended that the power connection is protected by a Residual Circuit Breaker (RCB) with a sensitivity of less than 30mA. Do not connect other appliances to the same outlet during operation. Ensure that the Power Switch on the pressure washer is in the **OFF** position before connecting the **13A Plug** to the socket and turning on the supply.

Starting the Pressure Washer

1. Ensure the gun trigger is not pressed or locked. Press the Green (ON) button on the side of the pressure washer.
2. With the water supply turned on, hold the gun trigger down for a few seconds to release any air from the hose. Point the hose at a safe surface area with the nozzle pointing away from any bystanders.
3. As the water begins to jet from the Spray Gun you can make adjustments to the pressure using the regulator as shown in **(Fig.6.4)**.
4. You are now ready to clean with the pressure washer using your selected nozzle.

WARNING: The maximum rated running time for the equipment is **30 mins (continuous)**.

In the event of power failure at any time during operation always turn the pressure washer **OFF** at the appliance immediately.

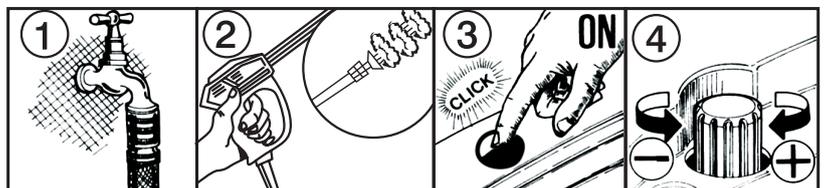


Fig.6

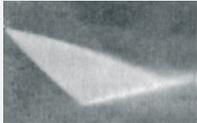
Adjusting the Pressure

The pressure setting has been set and tested at the factory during manufacture and should not be adjusted by the user. You can safely adjust the operating pressure using the pressure regulator, using different nozzles, adjusting the distance between the nozzle and the cleaning surface.

Important: For most effective cleaning keep the spray nozzle approximately 8 to 24 inches away from the cleaning surface. When cleaning tyres do not bring the nozzle within 6 inches of the surface to avoid damage and potential injury.

Nozzle Selection

The pressure washer is equipped with four different nozzle types which are stored in a receptacle below the handle at the rear of the detergent tank. The following table and illustrations below provide a quick guide to the type of nozzle selections available.

Nozzle	Description	
0° Nozzle	High pressure cleaning (stone, metal etc.)	
15° Nozzle	Mid pressure cleaning (stone, metal, wood etc.)	
40° Nozzle	Wide washing. Low pressure, everyday use (wood plastics etc.)	
Detergent Nozzle	Delicate materials. Chemical cleaning using approved cleaning products. Seek advise before use if you are unsure which detergents are safe to use with this equipment and your local environment.	

Changing Nozzles

Warning do not attempt to change the nozzles while the appliance is running. Turn the washer **OFF** before changing nozzles. To change the nozzle pull back the collar and insert the nozzle and release the collar so that it locks securely. Twist and test that the nozzle is secure before turning the pressure washer back on and pressing the gun trigger (see Fig.7).



Fig.7

Cleaning Blocked & Dirty Nozzles

If the nozzle becomes blocked with dirt or debris the pressure will become imbalanced and will place excessive strain on the pump.

If the nozzle is blocked, stop the washer and turn off the water supply. Pull the trigger on the gun to relieve any latent water pressure. Disconnect the lance from the gun. Remove the nozzle from the lance. Clean the nozzle using the nozzle cleaning tool supplied and rinse with clean water. Reassemble and reconnect to the power and water supply. Test the nozzle on the high pressure setting (Fig.8).

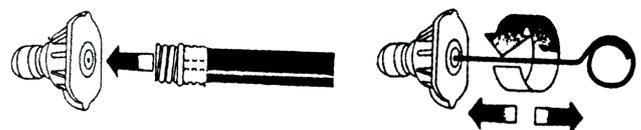


Fig.8

Detergent Cleaning

This appliance has been designed for use with detergents specified by the manufacturer (for example neutral shampoo based on biodegradable anionic surface active detergents). Do not use any chemicals that will corrode the coating materials of the high pressure hose or pump. **Do not use bleach, alcohol, petrol, or hydrochloric acid in the detergent reservoir.** Please consult the manufacturer for advise before using other detergents or chemicals in order to prevent damage to the equipment and the environment.

Applying chemicals or cleaning solvents is a low pressure operation. Chemicals, soaps and cleaning solvents will not siphon when a high pressure nozzle is used. Always use the detergent nozzle for chemical and solvent cleaning .

To Apply Detergent:

1. **With pressure washer turned off, and equipment isolated from the power and water supply:** Prepare the detergent solution as recommended by the manufacturer.
2. Remove the detergent tank cap.
3. Fill the tank with the prepared detergent solution using a funnel if necessary. Replace the detergent tank cap.
4. Lock the trigger and attach the detergent nozzle to the lance.
5. Start the pressure washer. Unlock the trigger and squeeze the spray gun trigger and apply detergent to the cleaning surface using long, even & overlapping strokes.
6. Allow the detergent to "soak in" for 3-5 minutes before washing and rinsing. Reapply as required to prevent the surface from drying. Do not allow the detergent to dry on the surface (this will result in streaking).

To Rinse:

1. **Shut down the pressure washer.** Replace the detergent nozzle with a suitable cleaning nozzle. Squeeze the trigger and wait for the detergent to clear.
2. Keep the spray gun a safe distance from the area you plan to spray.
3. Start at the top of the cleaning area working down with consistent overlapping strokes.

Flush the system

1. Turn off the engine and fill the detergent tank with clean water.
2. Remove the nozzle and turn the washer back on.
3. Point the wand in a safe direction and squeeze the trigger to flush clean water through the detergent tank and pressure washer system until it is completely clean.

Warning: Leaving chemicals and cleaning solutions in the pressure pump could result in damage to the pump components. **Any damage caused by soap or detergent residue will not be covered under warranty.**

Shutdown Procedure

1. If you have used any chemicals, rinse system thoroughly as outlined on to prevent damage to the pump.

IMPORTANT: Never turn the water supply off when the motor is running.

2. To stop the appliance press the **RED Power OFF** switch on the side of the pressure washer (**Fig.9**)
3. Pull the trigger on the spray gun to relieve any water pressure in the hose or the gun. Turn the power and water supply off and disconnect the high pressure hose from the pressure washer.
4. Pull the trigger on the spray gun to relieve any further water pressure in the hose or the gun.

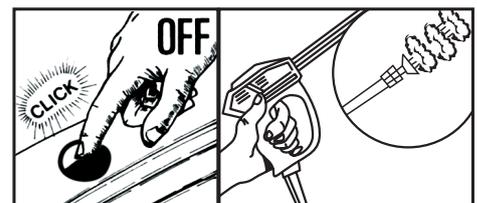


Fig.9

Allow the equipment to cool before cleaning and storing in a dry and safe location.

MAINTENANCE

IMPORTANT: Before performing any maintenance be aware that the equipment should be completely shutdown, depressurised and allowed to cool down. This will ensure that no injuries can be sustained by moving parts, water pressure or hot surfaces. All repairs should be carried out by approved engineers. All replacement parts should be supplied or recommended by Tundra Industrial. Any unapproved repairs or modifications will invalidate the warranty. To ensure efficient operation and longer life of your pressure washer a routine maintenance schedule should be prepared and followed. If the equipment is used in unusual conditions such as high-temperature or dusty conditions more frequent maintenance checks will be required.

Pump Oil:

Change the pump oil regularly. Change the pump oil after the first 50 hours of work and successively every 100 hours. In either case ensure that the oil is changed at least once a year. Oil Type: SAE 15W-40

To access the pump to top up the oil level or change the pump oil transport bung as described earlier in the manual remove the 4 screws on the housing as shown in **(Fig.10)**.

Remove the dipstick and fill the oil level using a funnel as required. The capacity of the oil reservoir is 375ml \pm 5ml **(Fig.11)**

Changing Oil: Remove the drainage bung and gather the waste oil into a suitable container. Clean any spillage or residue and replace the drainage bung.

Spray Gun & Nozzle Cleaning:

Keep the gun case, trigger area and quick release connections clean at all times Check and clean regularly with every use.

If the nozzle becomes clogged with dirt and debris excessive pressure can build up. If the nozzle becomes partially clogged or restricted the pump pressure will fluctuate and can become harmful and dangerous.

Clean the nozzle immediately and follow these instructions:

1. Shut-off the engine and turn off / disconnect the water supply.
2. Pull the trigger on the gun to relieve any water pressure
3. Disconnect the lance from the gun
4. Remove the nozzle from the lance - remove any obstructions with the nozzle cleaning tool provided and back flush with clean water
5. Direct the water supply into the spray wand end to back flush loosened particles for 30 seconds.
6. Reassemble the nozzle onto the lance
7. Reconnect the lance to the gun and turn on the water supply
8. Start the washer pump and place the lance into the high pressure setting to test.

Cleaning The Water Filter:

The water filter should be checked regularly and cleaned if necessary:

1. Remove the filter by grasping the end and removing it from the water inlet on the pump
2. Clean the filter by flushing it with water on both sides
3. Re-insert the filter in the water inlet on the pump

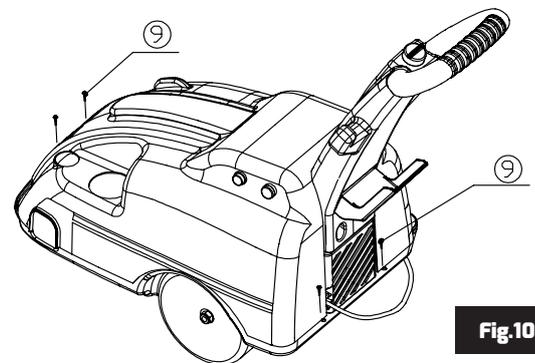


Fig.10

Oil Transit Bung / Dipstick
Replace as described



Pump Oil
Drainage Bung

Pump Oil
Sight Glass

Fig.11

TROUBLESHOOTING

IMPORTANT: The following troubleshooting guide highlights some common problems. Some users may experience and be able to rectify without specialist training. For these and any other issues, faults or problems with the equipment that you are unsure about we recommend that you contact your Tundra Industrial dealer for advice on service and repair:

PROBLEM	CAUSE / REMEDY
Motor will not start	1. Check plug for loose connections or a blown fuse
Water leaking from the pump	1. The system will generate small amounts of leakage during operation and this is normal. If leaking is extreme disconnect from water and mains power before checking all connections are secure and fittings are free from dirt or damage.
Circuit breaker tripping or blown fuse	1. Circuit is overloaded 2. Check extension cable. Problems can arise if cable is too long or too thin. 3. Nozzle is partially blocked causing excessive pressure to build up
Trigger jams	1. Check that the gun safety lock is not engaged
Pump and motor do not stop when trigger is released	1. Trigger is damaged. Contact your dealer.
The motor is running but pump is not operating at the correct pressure	1. Air trapped in the pump. (Let the washer run with the gun open and lance removed for a period of time until a steady stream of water is released. 2. Suction or discharge valves are clogged or worn out. Check that water filter is not clogged or damaged. Contact your dealer. 3. Check for a kink in supply hose and that water tap is turned on to full supply pressure.
Fluctuating pressure	1. Worn or faulty valves. Check and replace 2. Pump sucking air. Check that the hoses and connections are air tight. 3. Worn piston packing. Contact your dealer. 4. Dirty water filter. Check and clean if necessary. 5. Dirty nozzle. Check and clean if necessary.
Oil dripping from the pump	1. Worn seal. Check and replace (contact your dealer) 2. Loose drainage bung or dipstick. Check and tighten if required.
Noisy pump	1. Worn bearings. Contact your dealer. 2. Pump sucking air. Check that the hoses and connections are air tight. 3. Dirty water filter. Check and clean if necessary. 4. Dirty nozzle. Check and clean if necessary. 5. Valves worn or dirty. Check, clean, replace (contact your dealer)

ENVIRONMENTAL PROTECTION



**PLEASE
RECYCLE**

Recycle any packaging and unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment.

When the product becomes completely unserviceable, reaches the end of its working life and requires disposal, drain off any fluids (if applicable) into approved containers and dispose of the product and the fluids according to local regulations.

13. WEEE Waste Electrical and Electronic Equipment Statement



Information on Disposal for Users of Waste Electrical & Electronic Equipment

This symbol on the product(s) and / or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product(s) to designated collection points where it will be accepted free of charge.

For private households:

Dispose of this product at the end of its working life and in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). Contact your local solid waste authority for recycling information for this equipment.

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling.

Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

For business users in the European Union:

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union:

This symbol is only valid in the European Union. If you wish to discard this product please contact your local authorities or dealer and ask for the correct method of disposal.

EC DECLARATION OF CONFORMITY

We, Tundra Industrial, as the authorised European Community representative of the manufacturer, declare that the following equipment conforms to the requirements of the following Directives:

Directive:	Description:	Notified Body:
2014/35/EU (as amended)	Low Voltage Directive	TÜV Rheinland LGA Products Tillystr. 2 90431 Nuremberg Germany +49 221 806-0

Equipment Category: Electric Pressure Washer
Product Name/Model: TUNWAS12-100
 1500psi Industrial Cold Wash Pressure Washer

Signed by:

Stephen McIntyre



Position in the company:

Operations Director

Date:

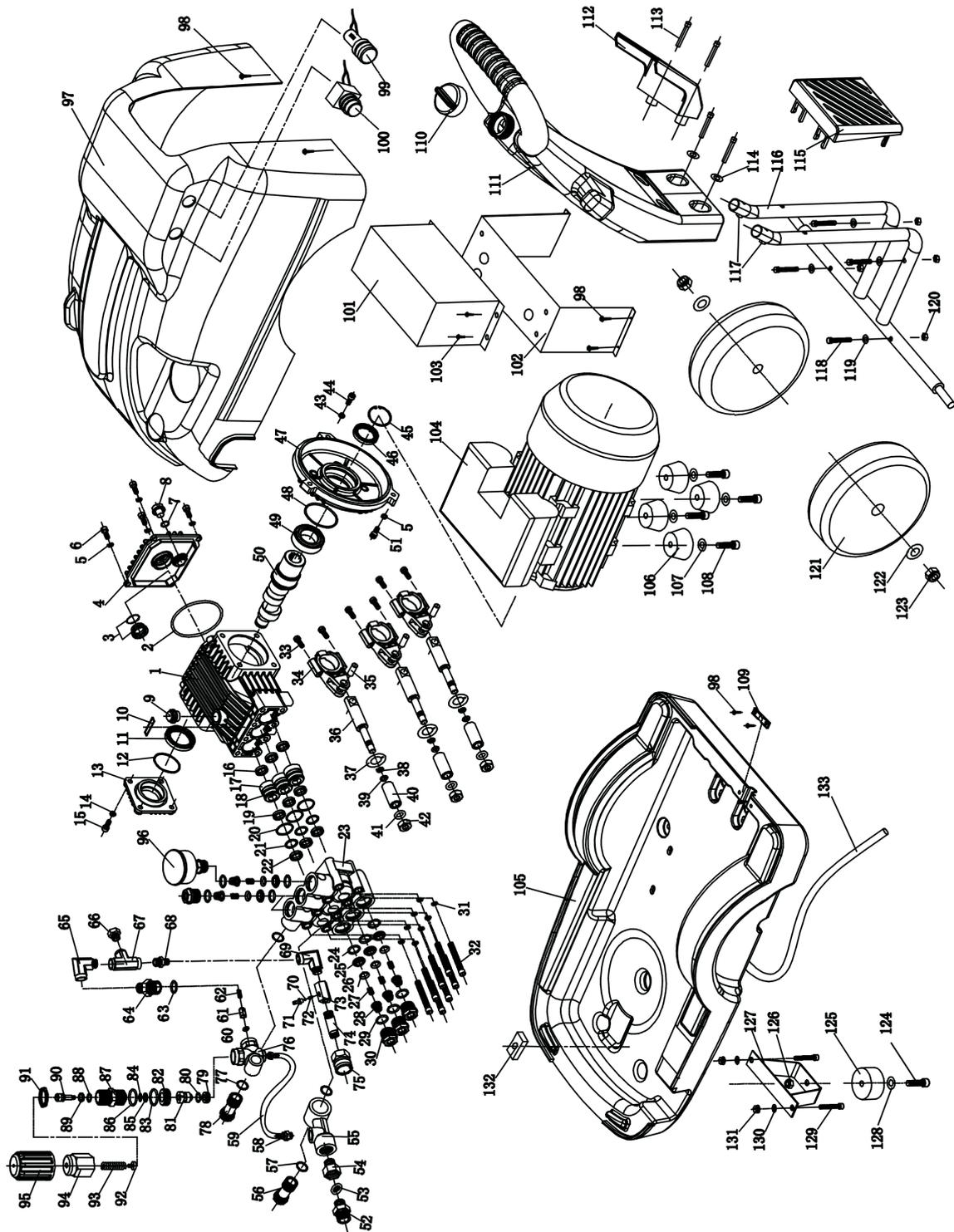
29 May 2018

Name and address of manufacturer

or authorised representative:

Tundra Industrial, Herons Way, Chester
 Business Park, Chester,
 United Kingdom, CH4 9QR
 Telephone: +44 (0)1244 646 048
 Fax: +44 (0)1244 241 191

PARTS LIST & DIAGRAM



#	Qty	Description	#	Qty	Description	#	Qty	Description
1	1	Crankcase	46	1	Oil seal	91	1	Adjust valve nut
2	1	O-ring <D97.5 X 2.65	47	1	Flange	92	1	Brass washer
3	1	Oil mirror assembly	48	1	O-ring <D63 X 2.2	93	1	Adjust valve spring
4	1	Crankcase cover	49	1	Bearing 61908	94	1	Adjust valve screw cap
5	7	Washer <D6	50	1	Crankshaft	95	1	Adjust handle
6	4	BoltM6X25	51	3	Bolt M6X35	96	1	Pressure gauge
7	1	O-ring <D11.2X 1.8	52	1	Water inlet connector	97	1	Plastic crust
8	1	Oil outlet plug	53	1	Inlet filter	98	10	Bolt ST2.5 X 18
9	1	Oil inlet plug	54	1	Water inlet reliever	99	1	Switch "OFF"
10	1	Nameplate	55	1	Water inlet guide	100	1	Switch "ON"
11	1	Bearing 6305	56	1	Water inlet guide nut	101	1	Wiring cover
12	1	O-ring <D63 X 2.2	57	2	Water inlet guide washer	102	1	Wiring fixture
13	1	Bearing cover	58	2	Water-circulated connector	103	4	Bolt M4X 8
14	4	Washer <D8	59	1	Hose with clip <D14	104	1	Motor
15	4	BoltM8X25	60	1	O-ring <D4.5 X 2.0	105	1	Chassis
16	3	Oil seal <D18 X <D28 X 6/7	61	1	Wimble valve	106	4	Underlay (30mm)
17	3	Bracket	62	1	Wimble valve spring	107	4	Washer <D8
18	3	Water seal seat	63	1	O-ring <D15 X 1.8	108	4	Bolt M8X50
19	3	Water seal <D18 X <D26 X 6.5	64	1	Water outlet connector	109	1	Wire Fixture
20	3	O-ring <D 24.3 X 1.8	65	1	Screw thread connector R3/8	110	1	Chemical tank cover
21	3	Water seal underprop	66	1	Screw thread plug R3/8	111	1	Handrail
22	3	Water seal <D18 X <D26 X 5.5	67	1	Headrace	112	1	Wire underprop
23	1	Pump body	68	1	Hose	113	4	M6 x 40 Bolt
24	6	O-ring <D15 X 2.4	69	1	M14X 1.5 connector	114	2	Washer D6
25	6	Valve seat	70	1	Chemical injection ball	115	1	Clapboard
26	3	Valve patch	71	1	Chemical injection	116	1	Tube
27	6	Valve spring	72	1	Chemical injection spring	117	4	Nut M6
28	6	Valve bracket	73	1	Chemical injection connector	118	4	M6x40 Bolt
29	6	O-ring <D17.5 X 2.65	74	1	Extend hose	119	4	Washer D6
30	6	Valve socket	75	1	GI/4 QC connector	120	4	M6 Nut
31	8	Washer <D8	76	1	Water outlet guide	121	2	Wheel
32	8	Bolt M8X70	77	2	Water outlet guide washer	122	2	Washer D12
33	6	Bolt M7 X 1 X 25	78	1	Water outlet guide nut	123	2	M6 Nut
34	3	Connecting rod	79	1	Adjust valve stem	124	1	M8 x 25 Bolt
35	3	Plunger pin	80	1	O-ring <D10 X 1.0	125	1	Underlay (25mm)
36	3	Plunger	81	4	Adjust valve	126	1	M8 Nut
37	3	Water proof washer	82	1	Adjust valve plug washer	127	1	Underprop
38	3	Back-ring	83	1	O-ring <D12.5 X 1.8	128	1	Washer D8
39	3	O-ring <D7 X 2.0	84	1	O-ring <D6.0X 1.8	129	2	M6x16 Bolt
40	3	Ceramic plunger pipe	85	1	Back-ring <D9 X <D6 X 1	130	2	Washer D6
41	3	Plunger washer	86	1	O-ring <D15 X 1.8	131	2	M6 Nut
42	3	Plunger nut	87	1	Adjust valve body	132	2	Underlay
43	4	Washer <D8	88	1	O-ring <D6.3 X 2.5	133	1	Chemical Hose
44	4	Bolt M8X25	89	1	Back-ring <D 11 X <D6.5 X 1			
45	1	Clip <D55	90	1	Adjust valve plug			

LIMITED WARRANTY STATEMENT

Tundra Industrial warrants its customers that its products will be free of faults in workmanship or material. Tundra Industrial shall, upon suitable notification, correct any faults, by repair or replacement, of any parts or components of this product that are determined by Tundra Industrial to be faulty or defective.

This warranty is void if the equipment has been subjected to improper installation, storage, alteration, abnormal operations, improper care, service or repair.

Warranty Period

Tundra Industrial will assume both the parts and labour expense of correcting faults during the stated warranty periods below.

All warranty periods start from the date of purchase from an authorised Tundra Industrial dealer. If proof of purchase is unavailable from the end user, then the date of purchase will be deemed to be 3 months after the initial sale to the distributor.

1 Year

- TUNWAS12-100 - 1500psi Industrial Cold Wash Pressure Washer

90 Days

- All replacement parts purchased **outside** of the warranty period

Important: All parts used in the repair or replacement of warranty covered equipment will be subject to a minimum of 90 days cover or the remaining duration of the warranty period from the original date of purchase.

Warranty Registration / Activation

You can register and activate your warranty by visiting the Jefferson Tools website using the following address:

www.jeffersontools.com/warranty and completing the online form. Online warranty registration is recommended as it eliminates the need to provide proof of purchase should a warranty claim be necessary.

Warranty Repair

Should Tundra Industrial confirm the existence of any fault covered by this warranty the fault will be corrected by repair or replacement at an authorized Tundra Industrial dealer or repair centre.

Packaging & Freight Costs

The customer is responsible for the packaging of the equipment and making it ready for collection. Tundra Industrial will arrange collection and transportation of any equipment returned under warranty. Upon inspection of the equipment, if no fault can be found or the equipment is not covered under the terms of the Tundra Industrial warranty, the customer will be liable for any labour and return transportation costs incurred.

These costs will be agreed with the customer before the machine is returned.

Important: Tundra Industrial reserve the right to void any warranty for damages identified as being caused through misuse

Warranty Limitations

Tundra Industrial will not accept responsibility or liability for repairs made by unauthorised technicians or engineers. Tundra Industrial's liability under this warranty will not exceed the cost of correcting the fault of the Tundra Industrial products.

Tundra Industrial will not be liable for incidental or consequential damages (such as loss of business or hire of substitute equipment etc.) caused by the fault or the time involved to correct the fault. This written warranty is the only express warranty provided by Tundra Industrial with respect to its products. Any warranties of merchantability are limited to the duration of this limited warranty for the equipment involved.

Tundra Industrial is not responsible for cable wear due to flexing and abrasion. The end user is responsible for routine inspection of cables for possible wear and to correct any issues prior to cable failure.

Claiming Warranty Coverage

The end user must contact Tundra Industrial (Tel: +44 (0) 1244 646 048) or their nearest authorised Tundra Industrial dealer where final determination of the warranty coverage can be ascertained.

Step 1 - Reporting the Fault

Online Method:

- Visit our website www.jeffersonstools.com/warranty and complete the Warranty Returns form. You can complete the form online and submit it to us directly or download the form to print out and return by post.

Telephone Method:

Contact your Tundra Industrial dealer or sales representative with the following information:

- Model number
- Serial number (usually located on the specification plate)
- Date of purchase

A Warranty Returns form will be sent to you for completion and return by post or fax, together with details of your nearest authorised Tundra Industrial repair centre. On receipt of this form Tundra Industrial will arrange to collect the equipment from you at the earliest convenience.

Step 2 - Returning the Equipment

It is the customer's responsibility to ensure that the equipment is appropriately and securely packaged for collection, **together with a copy of the original proof of purchase**. Please note that Tundra Industrial cannot assume any responsibility for any damage incurred to equipment during transit. Any claims against a third party courier will be dealt with under the terms & conditions of their road haulage association directives.

Please note: Tundra Industrial will be unable to collect or process any warranty requests without a copy of the original proof of purchase.

Step 3 - Assessment and Repair

On receipt, the equipment will be assessed by an authorised Tundra Industrial engineer and it will be determined if the equipment is defective and in need of repair and any repairs needed are covered by the warranty policy. In order to qualify for warranty cover all equipment presented must have been used, serviced and maintained as instructed in the user manual.

Where repair is not covered by the warranty a quotation for repair, labour costs and return delivery will be sent to the customer (normally within 7 working days).

Note: If the repair quotation is not accepted Tundra Industrial Professional Tools & Equipment will invoice **1 hour labour time at £30 per hour plus return carriage costs (plus VAT)**.

In cases where no fault can be found with the equipment, or, if incorrect operation of the equipment is identified as the cause of the problem, a minimum of 1 hour labour at **£30 per hour plus carriage costs** will be required before the equipment will be despatched back to the customer.

Any equipment repaired or replaced under warranty will normally be ready for shipment back to the customer within 7 working days upon receipt of the equipment at an authorised Tundra Industrial Repair centre (subject to part availability). Where parts are not immediately available Tundra Industrial will contact you with a revised date for completion of the repair.

General Warranty Enquiries

For any further information relating to Tundra Industrial warranty cover please call **+44 (0) 1244 646 048** or send your enquiry via email to **warranty@jeffersonstools.com**

