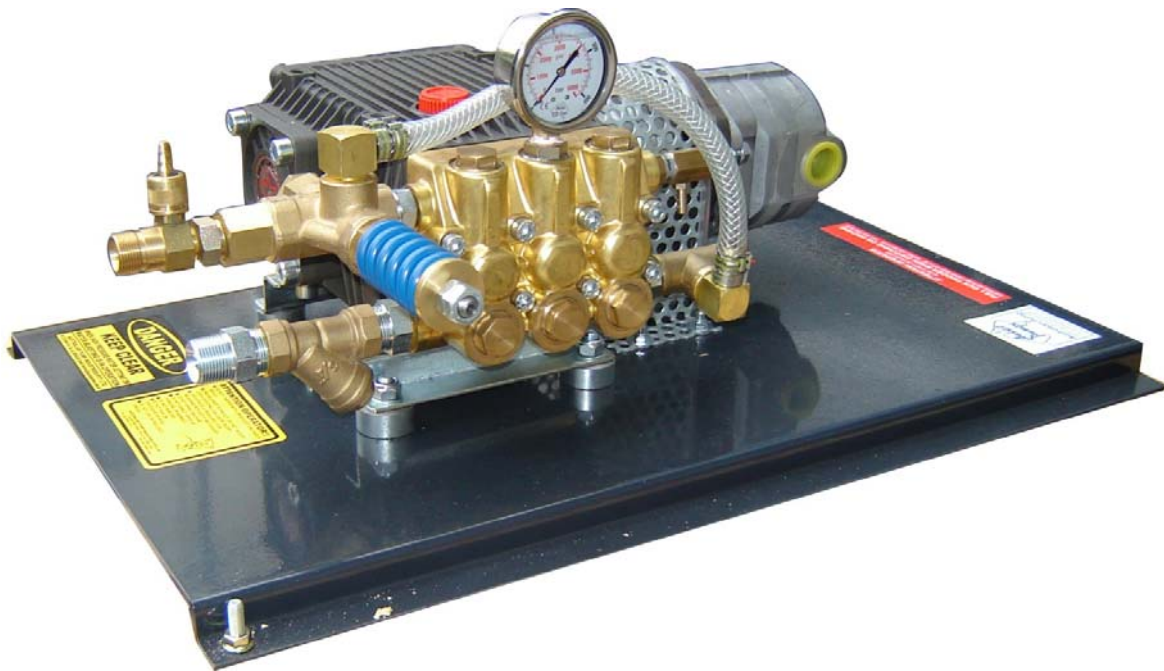


Aussie Eco-Clean Hydraulic Drive High Pressure Blaster OPERATION & MAINTENANCE MANUAL



Covers:

**TTV2015 HYD
KTV4040 HYD**

April 2010



AUSTRALIAN PUMP



IMPORTANT:

TO REDUCE RISK OF INJURY,
READ OPERATING INSTRUCTIONS
CAREFULLY BEFORE USING
EQUIPMENT

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*** * W A R N I N G * ***
**AUSSIE HEAVY DUTY WATER BLASTERS ARE DESIGNED
FOR PROFESSIONAL OPERATORS ONLY**
IMPORTANT
INSTRUCT OPERATORS IN CARE AND USE OF THE MACHINE BEFORE USE!

AUSSIE ECO CLEAN HYDRAULIC DRIVE BLASTER OPERATING AND MAINTENANCE INSTRUCTIONS



Before attempting to operate your machine please read this Instruction Manual thoroughly following all directions carefully. By doing so you will ensure safe operation of the unit and will enjoy long and trouble free service from your heavy duty water blaster.

GUARANTEE

This Aussie Eco Clean product is guaranteed against faults in manufacture for two years from purchase. The Bertolini pump has a three year warranty, but must be serviced by an authorised service agent every six months to maintain this warranty. Keep your receipt as proof of purchase and all service receipts. This guarantee is invalid if the product is found to have been abused in any way, or not used for the purpose for which it was intended.

Routine maintenance is the owner's responsibility. Failure to maintain the machine in line with the services outlined on the back page will invalidate warranty. High pressure accessories carry a 3 month warranty.

Where possible return faulty goods to the place of purchase. No products can be returned to us without our prior permission. The reason for return must be clearly state.

N.B. Warranty is not transferrable to third parties in the event of sale of the machine within the warranty period. Please note that any parts used in warranty repairs are guaranteed for a period limited by the original warranty of the parent product.

Hydraulic drive warranty is the responsibility of the manufacturer. Unit must be returned to authorised dealer for evaluation of warranty. (Refer to hydraulic drive handbook)

STANDARD EQUIPMENT

Before proceeding with assembly of your new Aussie Eco Clean blaster, check that all parts listed below are included.

- 1 Gun handle assembly and high pressure hose
- 1 Lance and nozzle assembly
- 1 Inlet hose connector assembly



SAFETY PRECAUTIONS - IMPORTANT

1. **NEVER** direct the spray jet at any person or animal.
2. **NEVER** direct spray jet at any surface that may contain asbestos material.
3. **NEVER** hold a finger over the high pressure nozzle.
4. **NEVER** direct the spray jet at the machine itself or any electrical equipment.
5. After use release the pressure in the high pressure hose by operating the pistol trigger.
6. **DO NOT** attempt any mechanical repair. If you have a problem with your machine contact your local Aussie Eco Clean Service Division, phone (02) 8865 3500.
7. **NEVER** supply any liquid other than water to the water inlet.
8. **NEVER** pull the high pressure hose if it has formed kinks or nooses.
9. **NEVER** pull the hose over sharp objects.
10. **DO NOT** attempt to disconnect any hose or coupling with pressure still in the hose.
11. **DO NOT** operate the machine whilst standing on ladders, use a platform tower or scaffolding.
12. Children should **NOT** be allowed to use the machine.
13. We recommend the use of safety goggles when using the machine, particularly with the sand blasting attachment (optional accessory) or any application where loose particles of stone or grit, etc. may be blown around by the pressure spray.

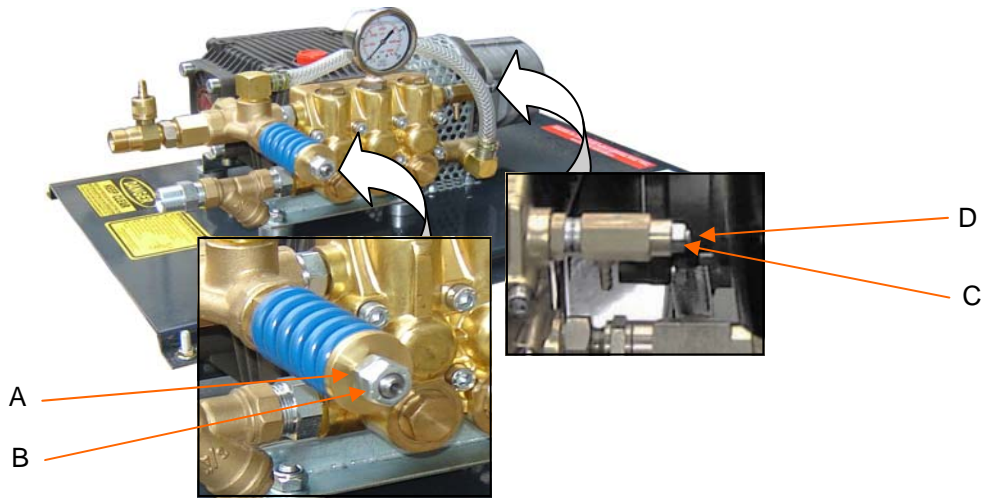


INITIAL SET UP OF HYDRAULIC BLASTER (To be completed once hydraulic motor is operational)

Model	Stock Code	Pump Pressure (psi)	EWP	Flow rate (lpm)	Hydraulic Press Req. (psi)	Hydraulic Flow Req. (lpm)	Pump rpm
TTV2015/HYD	BTTV2015/HYD	3000	4785	15	1800	34	1450
KTV4040/HYD	BKTV4040/HYD	4000	6400	15	2000	55	1725

The Aussie Eco-clean blaster is powered by a Cross Hydraulics hydraulic motor.

The hydraulic system must be designed to include devices to limit the flow of and pressure the system within these limits. Failure to do so will cause damage to the piston pump by over speeding and over powering and void warranty for the unit.



The hydraulic motors are by-directional as is the piston pump. The hydraulic inlet can be on either side of the hydraulic motor.

The following steps should be taken to set the water pressures, with the unit running.

1. Before setting the pressure, the lock nut (C) on the safety valve should be undone and the allen headed bolt (D), should be screwed in all the way.
2. The lock nut on the unloader (B) should be undone and the securing nut (A), should be screwed in gradually until the required pressure is obtained (see table above) whilst the trigger is pulled and water is running through the pump. The lock nut (B) should then be secured in place and a paint mark added across the two nuts for security.
3. With the pump running at the required pressure, the allen headed bolt (D) on the safety valve should be adjusted out until there is a slight drip and then screwed in one quarter of a turn, this will set the safety valve 10% over the required pressure. The lock nut (C) should then be locked off.
4. The unit is by-passing correctly when pressure on the gauge is reading the required pressure with trigger pulled and zero (0) psi when trigger is released.

The pump is fitted with a detergent injection system on the high pressure outlet which operates by unscrewing the handle on the side of the dual lance.

The pump is also fitted with a by-pass system so that the unit can remain running when the high pressure trigger is not operated (maximum 5 minutes). This by-pass system allows water to circulate around the pump however over time it heats up. The unit is therefore fitted with a thermal dump valve which allows fresh cold water into the pump if the water temperature exceeds 63 degrees. The thermal dump will need replacing after several 'over-heating' operations.

ASSEMBLY AND PREPARATION FOR USE

WARNING:

If pressure drops off, check nozzle for wear. Nozzles should be replaced on a regular basis (every month for machines in regular use, every 3 months for machines used intermittently. Using the machine with the incorrect nozzle size or worn nozzle will void warranty and can be dangerous to the operator.

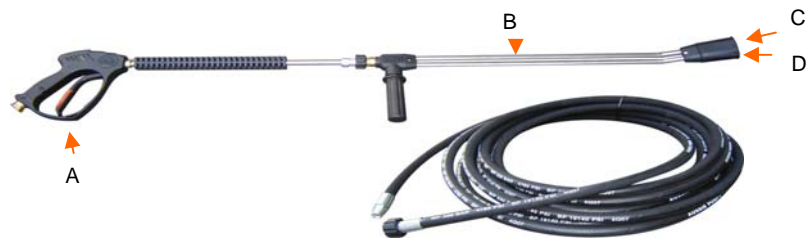
1. Check the oil in the pump. With the machine on a level surface the oil level should cover the red spot in the oil level sight glass on the side of the machine. If necessary, top up with SAE 30w 50 oil (non foaming type). Do not mix different grades of oil as this may affect the machine's performance. If alternative oil is used, first empty out oil by unscrewing drain plug in bottom of machine.
2. Ensure breather plug is fitted to pump (yellow)



WARNING: Before operation ensure top mounted oil filler plug is replaced by breather. Failure to fit breather and keep clean can result in over pressuring of oil chamber (crank case) and can blow oil seals. **This will void warranty.**

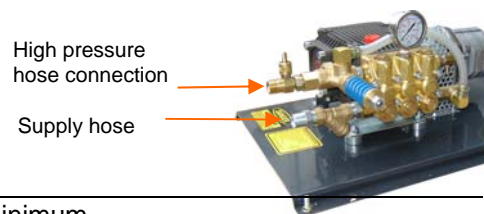
3. Check hydraulic fluid level. Refer to hydraulic drive hand book.

HEAVY DUTY LANCE: To assemble the lance, insert Section B into Section A and screw together and check nozzles have been fitted to end of lance (C & D).



HIGH PRESSURE HOSE

Connect the high pressure hose to the threaded water outlet on the side of the machine via a screw coupling. No spanners are necessary.



WATER SUPPLY HOSE:

Use a good quality hose (not supplied) of 25mm diameter minimum.

Fasten the one end of the hose to the inlet hose connector securing using a worm drive clip. This connection **MUST** be tight to avoid leaks.

Water supply can be by means of either:

- **Mains Supply**
Secure the free end of the hose to your tap using a suitable tap adaptor (not supplied - available through all good hardware and garden supply stores).
- **Syphon Fed Supply**
Place the free end of the hose into a water tank or container and the pump will draw water itself. Use a larger diameter suction hose, at least 1" diameter and no more than 2 metres long. Water supply must be above or level with pump.

NOTE: To prevent the ingress of foreign bodies into the pump we recommend that a gauze filter (not supplied) be fitted to the free end of the hose, before connection to pump.

HOT WATER APPLICATION

Aussie Eco-clean water blasters can be used in their standard configuration with cold or hot water up to 60 C. Using optional **Hot Shot** seals and valves the pumps can be modified to operate with water temperatures up to **80 C**.

OPERATION:

Turn on water supply. Note: Tap should be full on.

Pull the trigger to expel air from the system. Water will trickle from the end of the lance when air is expelled.

Start the engine. (Refer to engine manual for details)

Check that there are no leaks in the line connections, pistol or power lance. Pressure begins when the pistol trigger is squeezed.



**KEEP THE MACHINE OUT OF MOISTURE LADEN
ATMOSPHERES**

ACCESSORIES: (Consult Selection Guide)

Your Aussie water blaster can be used with a wide variety of optional extras to enhance performance.

To use the accessories you must first disassemble the lance. Unscrew quick coupler to unlock the lance. The accessories can then be connected to the end of the lance assembly. If quick coupler is not supplied it can be purchased from your local Aussie Eco-Clean Distributor.

TURBO LANCE - A correctly selected heavy duty turbo lance can cut pressure cleaning time in half and is a very important accessory.

SANDBLAST HEAD - Wet sandblasting is safe and tremendously effective. Ideal for rust removal, paint stripping and graffiti removal.

ADJUSTABLE VARIO ZOOM HEAD - Available for smaller machines, allows high/low pressure adjustment and variable angle at the twist of the wrist.

OPTIONAL LANCES - A range of optional lances in stainless steel or zinc plated steel are available in lengths of up to 2 metres.

ROTARY CLEANER - The Aussie Eco-Clean rotary cleaner allows flat surfaces to be cleaned in a fraction of the time normally taken. Ideal for contractors and professional users.

LONG LENGTH HOSES - HOSE REELS, COUPLINGS - A wide range of optional long length hose assemblies, rapid reel hose reels and quick couplers and fittings are available to enhance your machine's performance.

Consult your Aussie Eco-Clean Distributor for details.

Q STYLE COUPLERS - Colour coded quick couplers make nozzle change over a matter of seconds. Change from zero degrees for direct impact to 15 or 25 degrees in seconds.

Personal protection apparel recommended.

CARE AND MAINTENANCE:

AFTER EACH USE.....

If cleaning agents have been mixed with the incoming water, it is particularly important to flush the machine with clean water after use.

If there is a danger of freezing anti-freeze should be mixed with the flush water or the machine must be completely drained.

After the final flush stop the machine. DO NOT allow the machine to idle for more than 15 seconds. This is particularly important when there is a danger of freezing. Do not run for longer without water supply.

STORAGE:

Store the washer in an upright position, preferably drained of water if there is a danger of freezing (or fill with anti-freeze).

*** * * * IMPORTANT * * * ***

WARNING DO NOT RUN EXCESSIVE BY-PASS SWITCH MACHINE OFF WITHIN TWO MINUTES OF CEASING OPERATION AS EXCESSIVE BY-PASS CAN CAUSE HEAT BUILD UP IN PUMP AND SUBSEQUENT DAMAGE. EXCESSIVE BY PASS RUNNING VOIDS WARRANTY!!

ASP SYSTEM..... AUSSIE SAFETY PROTECTOR SYSTEM

THERMAL DUMP (A): All Aussie Eco-clean machines are fitted with this valve as of June 2000 production. This device protects the pump by dumping water to ground if the machine is left on bypass running.

DO NOT allow machine to run on bypass for more than 5 minutes.

AUSSIE SAFETY VALVE (B): This device “blows off” excess pressure if unloader has been tampered with thus protecting the pump.



Do not tamper with pre-set unloader and safety valve. **(This will void your warranty.)**

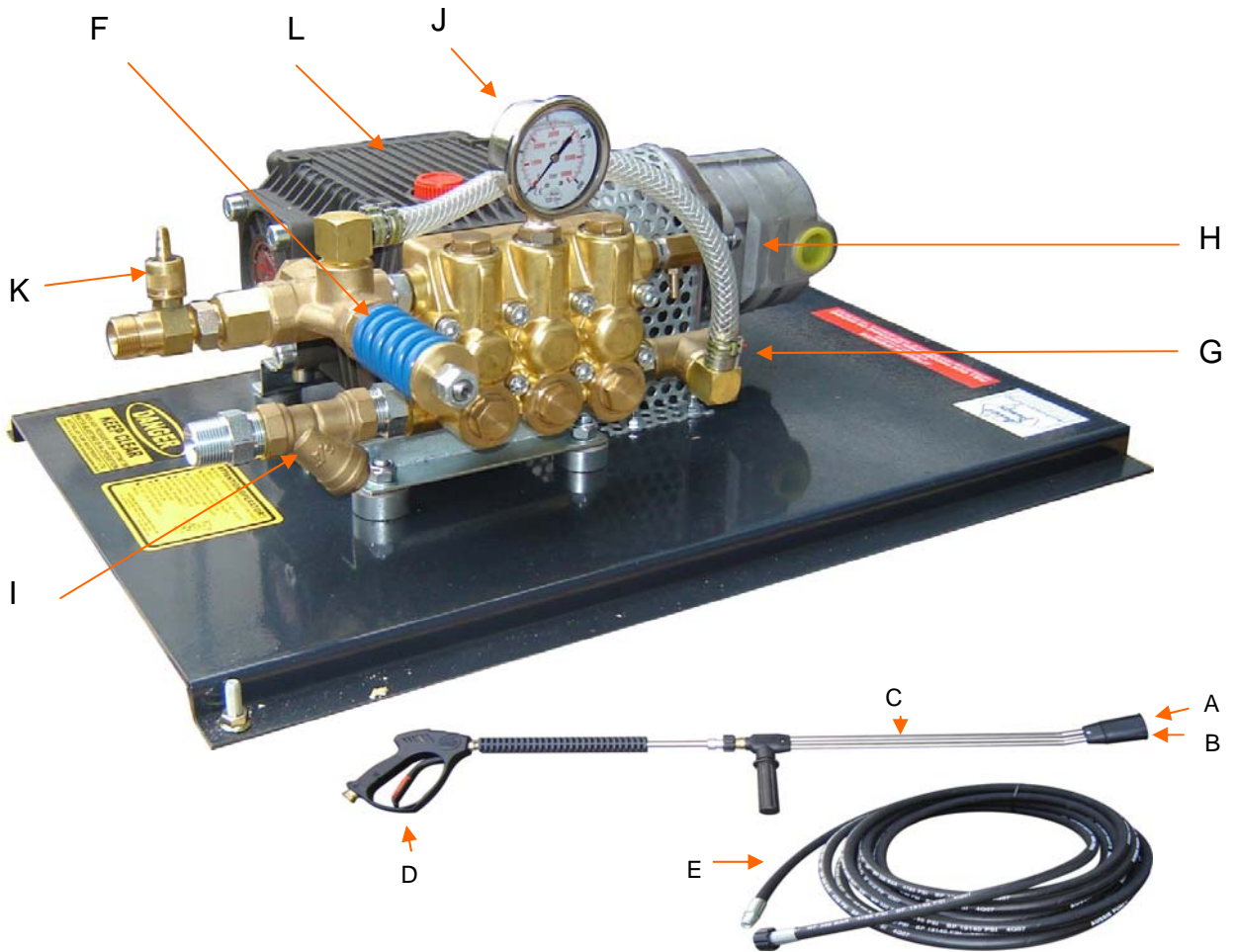
When the operator turns the gun on again he **MUST** first switch the double lance back to low pressure, momentarily, before moving back to the high pressure side of the lance.

The machine will start automatically when the operator presses the gun trigger when the machine is on low pressure lance adjustment.

TROUBLE SHOOTING GUIDE

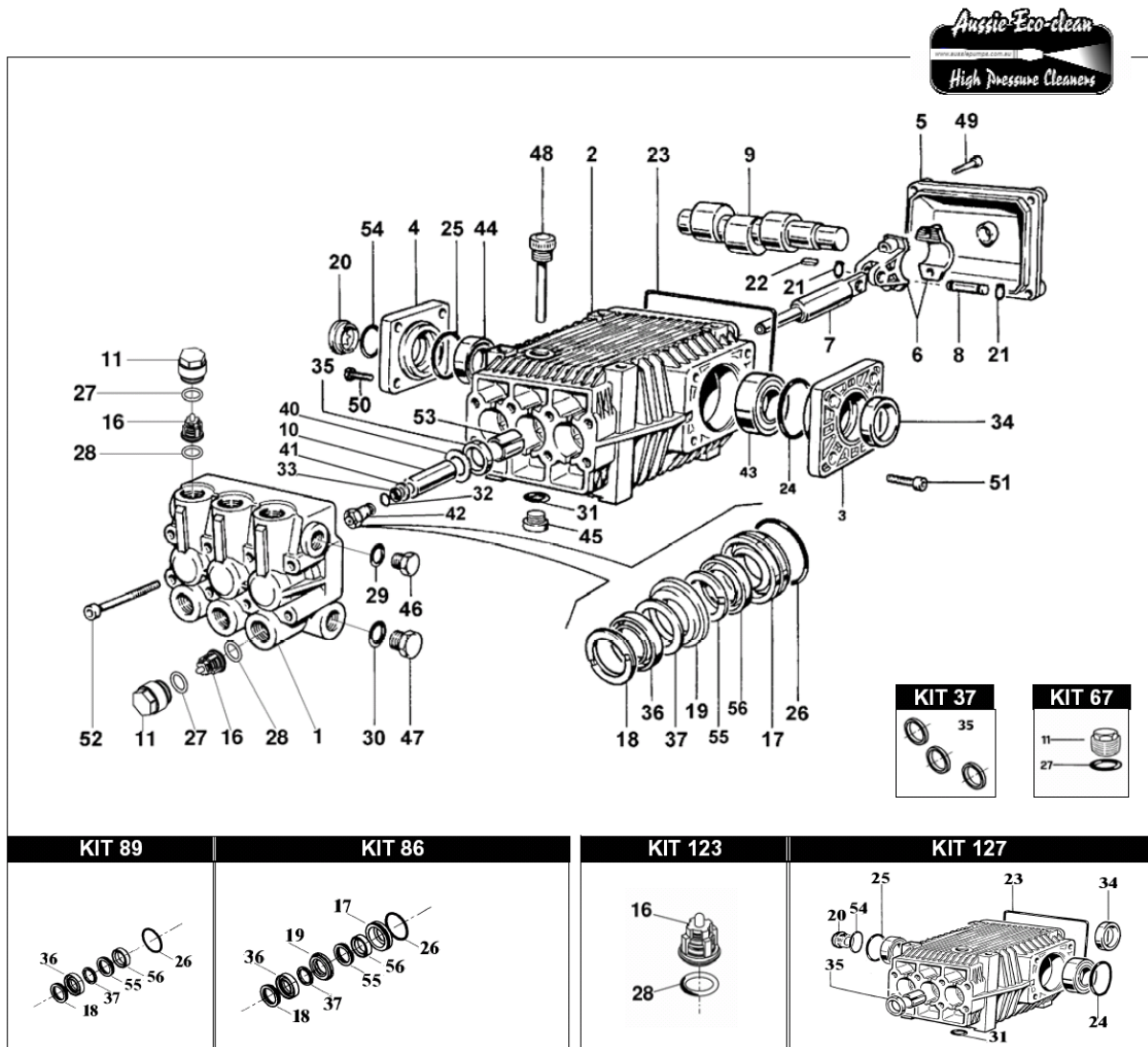
Pump running normally but pressure low on installation	Pump sucking air Valves sticking Unloader valve seat faulty Nozzle incorrectly sized	Check water supply and possibility of air ingress. Check and clean or replace if necessary Check and replace Check and replace
Fluctuating Pressure	Valves worn Valves blocked Pump sucking air Worn piston packing	Check and replace Check and replace Check water supply and air ingress at joints in suction line Check and replace
Pressure low after period of normal use	Nozzle worn Check valves worn Check valves blocked Unloader valve seat worn Worn piston packing	Check and replace Check and replace Check and clean Check and replace Check and replace
Pump Noisy	Air in suction Broken or weak suction or delivery valve spring Foreign matter in valves Worn bearing	Check water supply and connections on suction line Check and replace Check and clean Check and replace
Presence of water in oil	Oil seal worn High humidity in air Piston packing worn	Check and replace Check and change oil twice as often Check and replace
Water dripping below pump	Piston packing worn O.R plunger retainer worn	Check and replace Check and replace
Oil Dripping	Oil seal worn	Check and replace if necessary
Valves switches repeatedly when gun is off	Leaking gun and/or pressure pipe. Leaky sleeve Worn out kick-back valve body Leaky seals	Renew gun, seal pressure pipe Renew sleeve Check and renew as necessary kick-back valve plate and seat Renew seals
Leaky piston rod	Defective O-Ring/Support Ring	Renew piston rod seals and examine surfaces in guide case
Leaky by-pass at nominal pressure	Nozzle too small, too much water. Worn out by-pass valve	Install larger nozzle Examine and renew as necessary, poppet (16 for APR-11 for VD valves - 10 for ADV-8 for Unifit valves), valve set (14 or APR-12 for VD valves - 11 for AVD valves - 7 for Unifit) and by-pass
Pressure gauge shows high pressure fluctuations when shutting off gun	Valve set too high above operating pressure Dirty valve	Adjust the unloader at the operating pressure. Clean valve (removing lime deposits etc). Grease parts before installing.

PARTS IDENTIFICATION



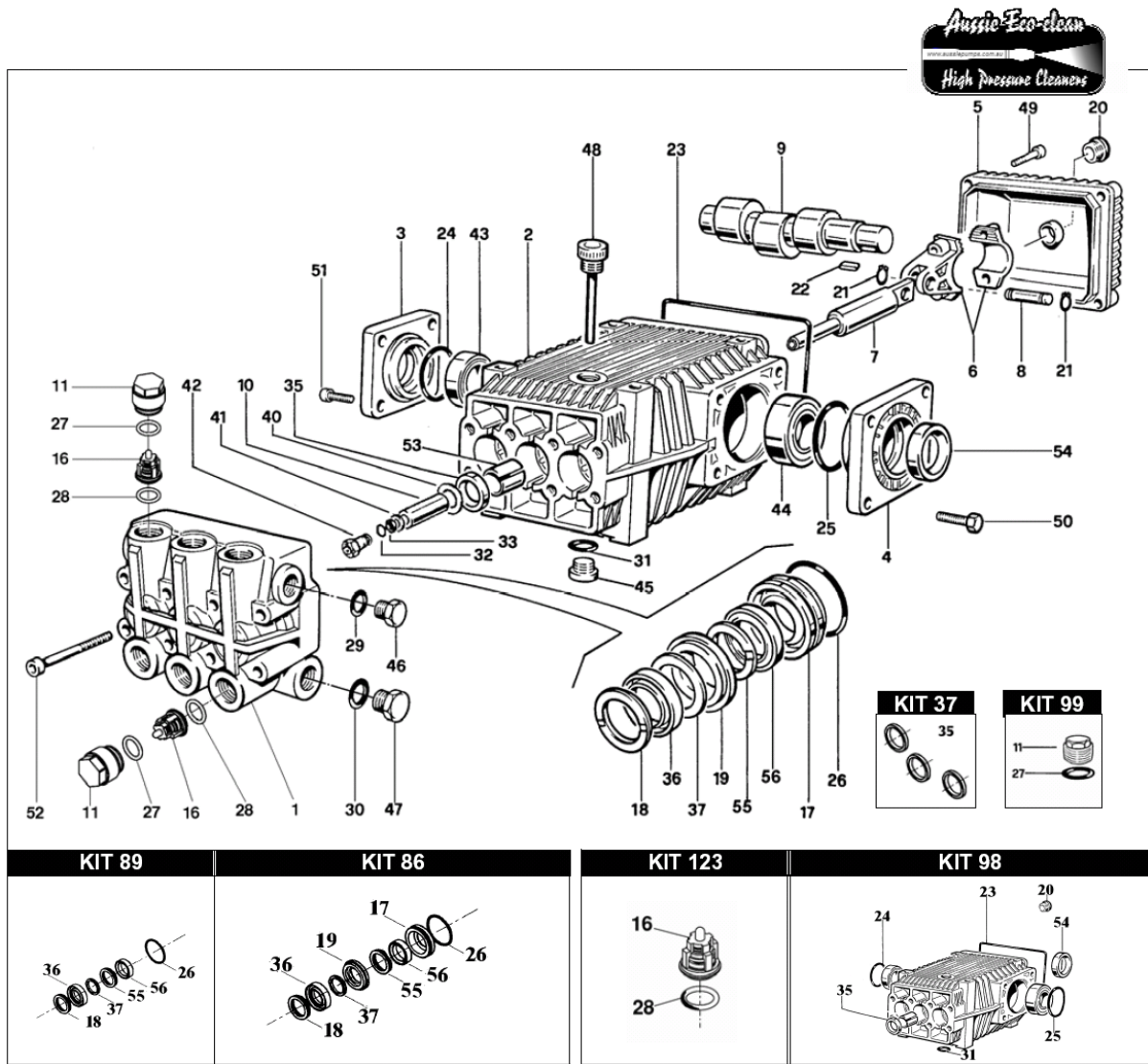
Position	Part No	Description	TTV2015	KTV4040
Nozzles				
A	C915045M	HP NOZZLE (15° ANGLE, TIP SIZE 45)	x	
	C915035M	HP NOZZLE (15° ANGLE, TIP SIZE 35)		x
B	C915500MSS	LP DETERGENT NOZZLE	x	x
Lance				
C	C3924.01	684MM SS DOUBLE LANCE C/W BOOT	x	x
Gun				
D	C4326.23	AL5 GUN WITH MELTED HANDLE & QC	x	x
Hose				
E	R206K2214MB6X10	10 MTR HP HOSE (R2, 4500 PSI)	x	x
Unloader				
F	BVB80/280	UNLOADER VALVE (4000 PSI)	x	
	BVB350	UNLOADER VALVE (5100 PSI)		x
Thermal Dump Valve				
G	MPA60063070	1/2" THERMAL DUMP VALVE	x	x
Safety Valves				
H	MTM00033003	3600 PSI SAFETY VALVE	x	
	MPA60156000	4000 PSI SAFETY VALVE		x
Inlet Strainer				
I	AYSTRAINER3/4	STRAINER 3/4"	x	x
Gauge				
J	AGCDR0102	6000 PSI GAUGE	x	x
Chemical Injector				
K	MTM00029143	INJECTOR	x	x
Pumps				
L	BTTV2015	BERTOLINI PUMP (3000 PSI, 15 LPM)	x	
	BKTV4040	BERTOLINI PUMP (4000 PSI, 15 LPM)		x

PUMP PARTS TTV 2015



Kit No.	Part No.	Description
127	B069872973	Oil Seal & Sight Glass Kit
123	B069867973	Valve Kit
89	B069839973	Seal Kit Minor
86	B069836973	Seal Kit Major
37	B069814973	Oil Seal Kit
Aussie pressure test set		Aussie pressure test set includes gauge and fitting for testing pump output pressure and Bertolini Pump Selection Guide

PUMP PARTS KTV 4040



Kit No.	Part No.	Description
98	B069842973	Oil seal & Sight Glass kit
123	B069867973	Valve Kit
89	B069839973	Seal Kit Minor
86	B069836973	Seal Kit Major
37	B069814973	Oil Seal Kit
Aussie pressure test set	Aussie pressure test set includes gauge and fitting for testing pump output pressure and Bertolini Pump Selection Guide	

WARNING

OVERSPEEDING

Do not operate machine at over the maximum rpm. Over speeding can cause serious pump damage.

EXCESSIVE BYPASS

Do not run on excessive by-pass. Switch machine off within five minutes of ceasing operation as excessive by-pass can cause heat build up in pump and subsequent damage. Excessive bypass running voids warranty.

HIGH PRESSURE SETTING

The high pressure pump is factory set to operate at its rated pressure. DO NOT ADJUST. Tampering with the pressure regulator will void warranty and can be DANGEROUS.

CHECK NOZZLE MONTHLY

If pressure drops off check nozzle for wear. Nozzles should be replaced on a regular basis (every month for machines in regular use, every three months for machines used intermittently). Using the machine with the incorrect nozzle size or worn nozzle will void warranty and can be DANGEROUS to the operator.

PRESSURE CLEANER DAILY CHECK LIST

- . Check pump oil level
 - . Check engine oil level
 - . Check nozzle for wear
 - . Check all high pressure components for leaks:
 - . gun/lance
 - . HP hose
 - . all fittings
 - . Check water filter and clean if necessary
 - . Check unloader, safety valve and thermal dump for leaks
-

THREE MONTHLY REGULAR SERVICE

All professional machines need to be thoroughly serviced every three months. The service involved should include the engine manufacturer's recommendations (see separate Engine Manual) and the following;

- . Change pump oil
 - . Change gearbox oil (if applicable)
 - . Check filter for foreign debris
 - . Check unloader, safety valve and thermal dump for leaks
 - . Check all HP components for leaks: Gun/lance, HP hose and all fittings
 - . Replace nozzles
-

SIX MONTHLY REGULAR SERVICE

To maintain the Bertolini pump warranty (three years from date of purchase), the pump must be serviced by an authorised service agent every six months. Contact Aussie for your nearest agent.

LOOK AFTER YOUR MACHINE AND IT WILL LOOK AFTER YOU!

**WEAR PROTECTIVE GOGGLES
AND CLOTHING!**



AUSTRALIAN PUMP

Australian Pump Industries Pty Ltd
7 Gladstone Road, Castle Hill NSW 2154
Ph: (02) 8865 3500 Fax: (02) 9894 4240
www.aussiepumps.com.au info@aussiepumps.com.au