

GOLDACRES

Australia's World Class Sprayers



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Contact
Goldacres
1-3 Morang Crescent,
Mitchell Park Vic 3355
P: 03 5342 6399
F: 03 5342 6308
info@goldacres.com.au

Please note: All information in this operator’s manual is based on the latest product information available at the time of printing. The policy of Goldacres is one of continuous improvement and as such, Goldacres reserve the right to alter any specifications and designs without notice and without incurring any obligation regarding such changes.

No part of this manual may be reproduced without written permission from Goldacres. All photographs and technical information remain the property of Goldacres.

Register your product

By taking just a few minutes to register your product, you can ensure that you will receive:

- Fast product support
- Product support alerts when applicable.

We will also keep you informed of bonus offers and upcoming promotions when applicable.

How to Register...

Visit goldacres.com.au/warranty

What details will you need?

Serial Number, Product description, place of purchase, date of purchase and invoice number - along with all other relevant contact details.

How to make a warranty claim

In the event of a fault or breakdown with your product, that you believe to be a warranty issue, the following steps must be taken.

1. Ensure that you have read the Operator's Manual and gone through the troubleshooting procedure.
2. If you continue to experience problems then please contact Goldacres on 03 5477 3999. The operator will advise the method of warranty service for your product.

Warranty exclusions

Machines must be registered for warranty before a warranty can be requested. All information on delivery and installation must have been submitted before a claim can be requested. If follow up inspections are required these must have been carried out before warranty is requested as well.

Goldacres 12 month standard warranty

Some common exclusions:

- Pump diaphragms
- Pump Seals
- Pump check valves
- Pump o-rings
- Filters and filter screens
- Filter o-rings
- Chemical Hoses
- Nozzle Bodies
- Nozzle Body Brackets
- Nozzle Diaphragms and seals
- Solenoid Diaphragms
- Hand Gun, lance or wand seals and o-rings
- Consumables, oil, chemicals, coolant or fuels.
- Hose reel seals and o-rings
- Pressurised sprayer seals and o-rings
- Belts drive chains.
- Wire cables
- Springs
- Shockers and dampeners
- Adjustment of components.
- Damaged items.
- Items controlled by or fitted to Non Genuine parts or devices

Terms and Conditions

Interpretation

1. In terms and conditions:
- (1) "Goldacres" means Goldacres Trading Pty. Ltd. A.C.N. 061 306 732 trading as Goldacres Agricultural Equipment (its successors and assigns) which is the seller of the Goods;
- (2) "Purchaser" means the purchaser of the Goods;
- (3) "Goods" means the products and, if any, the services sold or provided by Goldacres to the Purchaser;
- (4) "GST Act" and "GST" are given the meanings referred to in a New Tax System (Goods and Services Tax) Act 1999.
- (5) "PPSA" means the Personal Property Securities Act 2009 (Cth) (as amended);
- (6) Nothing in these terms and conditions shall be read or applied so as to exclude, restrict or modify or have the effect of excluding, restricting or modifying, any condition, warranty, guarantee, right or remedy implied by law (including the Competition and Consumer Act 2010) and which by law cannot be excluded, restricted or modified.

General

2. (1) The Goods and all other products or services provided by Goldacres are provided subject to these terms and conditions. These terms and conditions and any terms and conditions incorporated herein by virtue of clause 3 hereto shall prevail over all other terms and conditions of the Purchaser or otherwise to the extent of any inconsistency.
- (2) These terms and conditions may not be modified or amended without the expressed written consent of Goldacres endorsed by the Managing Director of Goldacres Trading P/L.

Additional Terms and Conditions

3. From time to time Goldacres may provide additional or extended warranties in respect of certain goods and/or services. Where such additional or extended warranties are provided to a Purchaser in writing they will be incorporated into these terms and conditions provided that in the event of any inconsistency between these terms and conditions and the terms of any additional or extended warranty, the provisions of the additional or extended warranty shall prevail.

Goldacres quotations.

4. Unless previously withdrawn, Goldacres quotations are open for acceptance within the period stated therein or, when no period is stated, with 14 days only of the quotation date. Goldacres reserves the right to refuse any order based on any quotation within 7 days of receipt of the order.

Packing

5. The cost of any special packing and packing materials used in relation to the Goods shall be at the Purchaser's expense notwithstanding that such cost may have been omitted from any quotation.

Shortage

6. The Purchaser waives any claim for shortage of any Goods delivered if a claim in respect thereof has not been lodged with Goldacres within (7) seven days from the date of receipt of the Goods by the Purchaser.

Specifications, etc. Catalogues, etc. Quantities

7. All specifications, (including but not limited to: drawings, particulars of weights, volumes, capacities, dimensions, load factors) are approximate only and any deviation shall not be taken to vitiate any contract with Goldacres or form any claim against Goldacres. The descriptions, illustrations, and performances contained in catalogues, price lists and other advertising matter do not form part of the contract of sale of the Goods. Where specifications, drawings or other particulars are supplied by the Purchaser, Goldacres' price is made on estimates of quantities required. Should there be any adjustments in quantities above or below the quantities estimated by Goldacres and set out in a quotation, then any such increase or decrease shall be adjusted on a unit rate basis according to unit prices set out in the quotation.

Performance, Capacities, Chemicals, Liquids, Application Methods, Environmental Effects

8. Any performance, volumes, and/or capacity figures given by Goldacres are estimates only. Goldacres shall be under no liability for damages for failure to obtain such figures unless specifically guaranteed in writing and any such written guarantee shall be subject to the recognised tolerances applicable to such figures. The suitability of chemicals and other liquids for any application and the application methods and the environmental effects shall be the sole decision and responsibility of the Purchaser and the user of the Goods. Goldacres gives no warranty as to the suitability of any chemicals or other liquids for any application, nor the application methods nor the environmental effects, which may result from the use of the Goods. Goldacres shall be under no liability for damages arising out of the use of any chemicals, liquids, or mixtures in the Goods nor for any application, nor for the application methods nor for the environmental effects, which may result from the use of the Goods.

Delivery/Service Times

9. The delivery times and service times made known to the Purchaser are estimates only and Goldacres shall not be liable for late delivery, non-delivery or delay and under no circumstances shall Goldacres be liable for any loss, damage or delay occasioned by the Purchaser or its customers arising from the late or non-delivery or late installation of the Goods.

Loss or damage in transit

10. Goldacres is not responsible for any loss or damage to Goods in transit. Goldacres shall render the Purchaser such assistance as may be necessary to press claims on carriers provided that the Purchaser shall have notified Goldacres and the carriers immediately the loss or damage is discovered on receipt of Goods and shall lodge a claim on the carrier within three days of the date of receipt of the Goods. Insurance of Goods in transit is the responsibility of the Purchaser.

Limit of Liability

11. (1) Goldacres liability for Goods manufactured by it is limited to:
(a) where the law implies consumer guarantees into these terms and conditions pursuant to Part 3.2 Division 1 of Schedule 2 to the Competition and Consumer Act 2010 ("Cth" "consumer guarantees") which cannot be excluded and Goldacres breaches a consumer guarantee, the loss and damage the Purchaser is entitled to at law which cannot be excluded by these terms and conditions;
and, in all other cases
(b) making good any defects by repairing the same or at Goldacres option by

- replacement within a period not exceeding either 1000 hours or twelve calendar months, whichever comes first, after the Goods have been dispatched provided that:
- (i) the defects have arisen solely from faulty materials or workmanship;
- (ii) the Goods have not received maltreatment inattention or interference;
- (iii) accessories of any kind used by the Purchaser are manufactured or approved by Goldacres;
- (iv) where applicable, the seals on the Goods remain unbroken;
- (v) there has been no improper adjustment, calibration or operation;
- (vi) the use of accessories including consumables, hardware or software (not manufactured by Goldacres) has been approved in writing by Goldacres;
- (vii) no contamination or leakage has been caused or induced;
- (viii) any modification to the Goods have been authorised in writing by Goldacres;
- (ix) there has been no inadequate or incorrect use, storage, handling or application of the Goods;
- (x) there has been no use or operation of the Goods outside of the physical, electrical or environmental specifications of the Goods;
- (xi) there has been no inadequate or incorrect site preparations;
- (xii) there has been no inadequate or improper maintenance of the Goods;
- (xiii) it has not been caused by fair wear and tear; and
- (xiv) firstly the Goods have been thoroughly inspected and any damage (from whatever cause) to the Goods (and in particular – the structure, welding, seams, bolts, booms) has been repaired prior to the Goods being operated, used driven or moved and on each occasion the tanks are filled; and
- (xv) there has been no failure to comply with the requirements of all present or future laws or regulations relating to the Goods and/or the use and/or the operation of the Goods; and
- (xvi) there has been no failure to maintain a record of hours of operation (which record shall contain full details of all inspections, repairs and maintenance) and produce same to Goldacres at the time of the claim;
- (xvii) the defective Goods or any damaged part of the Goods are promptly returned free of cost to Goldacres or a representative of Goldacres;
- (xviii) all warranty related repairs have been carried out with the prior authorisation of Goldacres;
- (2) If Goods or any part thereof are not manufactured by Goldacres, in particular engines, engine accessories, transmissions, transfer cases, differentials, tyres, tubes, batteries, radios and UHFs, the guarantee of the manufacturer thereof shall be accepted by the Purchaser and is the only guarantee given to the Purchaser in respect of the Goods or that part provided always that this clause does not seek to exclude the consumer guarantees;
- (3) In the case of hydraulic systems, Goldacres shall replace defective parts in accordance with clause 11(1) of these conditions, provided that the failure of the part was not related to contamination within the system. Goldacres shall not be liable for labour in the case of repairing hydraulic system defects;
- (4) Goldacres will not accept liability for damage attributed to fair wear and tear including but not limited to fair wear and tear to nozzles, chains, belts, filters, brake pads, polyethylene bushes and liquid pump valves, valve O-rings, diaphragms and seals;
- (5) Goldacres shall not be liable for and the Purchaser releases Goldacres from any claims in respect of faulty or defective design of any Goods supplied unless such a design has been wholly prepared by Goldacres and the responsibility for any claim has been specifically accepted by Goldacres in writing and in any event Goldacres liability hereunder shall be strictly limited to the replacement of defective parts in accordance with paragraph 11(1) of these conditions provided always that this clause does not seek to exclude the consumer guarantees;
- (6) Except as provided herein, all express and implied warranties, guarantees and conditions under statute or general law as to the merchantability, description, quality, suitability or fitness of the Goods for any purpose or as to design, assembly, installation, materials or workmanship or otherwise are hereby expressly excluded and Goldacres shall not be liable for physical or financial injury, loss or damage or for consequential loss or damage of any kind arising out of the supply, layout, assembly, installation or operation of the Goods or arising out of Goldacres negligence or in any other way whatsoever;
- (7) The benefit of any warranty provided under these terms and conditions shall only be available to the Purchaser and shall not be transferable by the Purchaser;
- (8) The warranties provided under these terms and conditions do not extend to second hand or used Goods that may be sold by Goldacres.
12. Goldacres liability for breach of a consumer guarantee is hereby limited (in the case of goods and services not used for personal, domestic or household purposes) to:
(1) in the case of Goods, any one or more of the following:
(a) the replacement of the Goods or the supply of equivalent Goods;
(b) the repair of the Goods;
(c) the payment of the cost of replacing the Goods or acquiring the equivalent Goods;
(d) the payment of having the Goods repaired; or
(2) in the case of services;
(a) the supplying of the services again; or
(b) the payment of the cost of having the services supplied again.

Prices

13. (1) Unless otherwise stated in writing by Goldacres, all prices quoted by Goldacres are inclusive of GST for supplies within Australia and exclusive of GST for exports outside of Australia. Prices quoted are those ruling at the time of quotation or the date the price is given and are based on rates of freight, insurance, customs, duties, taxes, exchange, shipping expenses, sorting and stacking charges, cartage, cost of materials and other charges affecting the cost of production ruling on that date and any alterations thereto either before acceptance of or during currency of the contract shall be to the Purchaser's account.
- (2) For the purpose of 38.185 of the GST Act, the day upon which the seller gives the invoice for the supply shall be the date of the invoice.

Payment

14. (1) The purchase price in relation to the Goods and the cost of the service shall be payable without deduction and or set off and payment thereof shall be made on or before the thirteenth day of the month following the delivery of the Goods or

- performance of the services unless other terms of payment are expressly stated in writing.
- (2) A decreasing or increasing adjustment and or the issuing of an adjustment note, pursuant to Division 21 and Division 29-C of the GST Act, shall not, in any way, constitute a release, waiver, and or forgiveness of the debt incurred by the Purchaser.

Interest on overdue payments

15. If Goldacres is not paid for any Goods or services on the due date specified in this agreement without prejudice to any other right or remedy, all outstanding money shall bear interest at the rate set, pursuant to the Penalty Interest Rates Act, Victoria, 1986, as such money, together with interest shall be recoverable forthwith from the Purchaser.

Rights in relation to Goods.

16. (1) At all times until the Debts have been paid in full the Purchaser shall be responsible for any loss or damage occasioned to the supplied Goods howsoever occasioned on a strict liability basis and shall indemnify Goldacres against any such loss or damage and shall insure and keep insured the Goods in the name of both the purchaser and Goldacres against such loss or damage to the full extent of the purchase price and shall provide a copy of such Insurance Policy to Goldacres.
- (2) The Purchaser shall have the right to resell Goods but only as fiduciary agent and trustee for Goldacres by way of bona fide sale at full market value and in the ordinary course of its business.
- (3) Until all the Debts have been paid in full:
- (a) The Purchaser shall take custody of the Goods as trustee, fiduciary agent and bailee for Goldacres;
- (b) The Purchaser shall keep the Goods separate from any other goods and properly marked, stored, protected and insured;
- (c) The Purchaser must hold all of the money it receives ("Proceeds");
- (i) from the sale of any property into which Goods supplied have been incorporated; and
- (ii) from the sale of Goods or provision of services including the Goods supplied by the Goldacres as bailee, fiduciary agent and trustee for Goldacres, but the Purchaser need not hold on trust any money exceeding the amount of the Debts at the time the money is received.
- (d) The Purchaser expressly acknowledges that it is bound by the fiduciary obligation created in the preceding paragraph and acknowledges that:
- (i) it must hold the Proceeds on trust for Goldacres;
- (ii) it must place the whole of the Proceeds in an account separate from its own moneys (the "Proceeds Account");
- (iii) it must maintain the Proceeds Account separate from its own moneys at all times.
- (iv) it must maintain proper records for the Proceeds Account.
- (v) it must not assign or encumber any book debts arising from sales made in circumstances set out in clauses 16(c)(i) and (ii) or do any other act in derogation of Goldacres' legal or beneficial interests; and
- (vi) it must account to Goldacres on demand for all moneys standing to the credit of such account.
- (e) For the purposes of identification of different consignments of Goods purchased from Goldacres and receipt of Proceeds, the Purchaser agrees that the principle of "Last In, First Out" shall be applied to any items that cannot be distinguished.
- (f) Goldacres may trace the Proceeds in equity.
- (4) Goldacres may at any time, without notice to the Purchaser and without prejudice to any other rights which it may have against the Purchaser, terminate any contract connected with the Goods and the bailment referred to in clause 16(3) and enter upon any premises owned or occupied by the Purchaser where Goldacres reasonably believes the Goods may be stored, and repossess the Goods without liability for any damaged caused, and subsequently dispose of the Goods at Goldacres' discretion if:
- (a) the Debts are not paid in accordance with these terms and conditions or any other contract or arrangement between Goldacres and the Purchaser; or
- (b) Goldacres receives notice of or reasonably believes that:
- (i) a third person may attempt to levy execution against the Goods; or
- (ii) the Purchaser is insolvent (within the meaning of the Corporations Act 2001) or bankrupt; or
- (iii) the Purchaser has entered into any arrangement or composition with its creditors, gone into liquidation, or has appointed a receiver, a receiver and manager or administrator.
- (5) If after repossession under clause 16(4) Goldacres sells the Goods, Goldacres shall account to the Purchaser for any proceeds of sale (less expenses of repossession and sale) that exceeds the amount of the outstanding Debts.
- (6) If any Goods belonging to Goldacres are disposed of by the Purchaser or an insurance claim is made in respect of them, Goldacres shall be entitled to trace the sale or insurance proceeds, which proceeds shall be held by the Purchaser in a separate bank account on trust for Goldacres.
- (7) The Purchaser agrees and acknowledges that in the event it sells Goods to a third party on account, it will include in its terms and conditions of sale a provision under which the Purchaser retains title to the Goods until such time that the total amount due in respect of the Goods and all monies owing to the Purchaser have been paid in full by that third party debtor. The Purchaser also agrees and acknowledges that in these instances, it will register its PMSI in accordance with the PPSA in respect of its security interest in the Goods.

PPSA provisions

17. (1) The Purchaser acknowledges that these terms and conditions constitute a security agreement for the purposes of section 20 of the PPSA and that a security interest exists in all Goods (and any associated Proceeds from their sale) previously supplied by Goldacres to the Purchaser (if any) and in all future Goods (and any associated Proceeds from their sale) that may be supplied to the Purchaser by Goldacres.
- (2) The Purchaser acknowledges that Goldacres has a first ranking purchase money security interest ("PMSI") (as defined in section 14 of the PPSA) in the Goods and the Purchaser must not jeopardise such ranking (whether by act or omission).
- (3) The Purchaser acknowledges that it has received value as at the date of first delivery of the Goods and has not agreed to postpone the time for attachment of the security interest (as defined in the PPSA) granted to Goldacres under these terms and conditions.
- (4) The Purchaser will execute documents and do such further acts as may be required by Goldacres to register the security interest granted to Goldacres under these terms and

conditions under the PPSA.

- (5) Until ownership of the Goods passes, the Purchaser must not give to Goldacres a written demand or allow any other person to give Goldacres a written demand requiring Goldacres to register a financing change statement under the PPSA in respect of Goldacres' interest in the Goods.
- (6) The Purchaser must indemnify Goldacres and on demand reimburse Goldacres for all costs and expenses incurred by Goldacres in respect of these terms and conditions including but not limited to Goldacres registering its security interest in the Goods, lodging, discharging or amending any financing statement or financing change statement, or otherwise complying with the PPSA.
- (7) The Purchaser agrees (other than as provided in these terms and conditions) not to sell, lease, mortgage, deal with, dispose of or create or attempt to create any other security interest in or affecting the Goods unless and until the Purchaser's Debts have been satisfied.
- (8) The Purchaser waives its rights under the following provisions of Chapter 4 of the PPSA:
- (a) to receive a notice on enforcement action against liquid assets (section 121(4));
- (b) to receive a notice to seize collateral (section 123);
- (c) to receive a notice of disposal of Goods by Goldacres purchasing the Goods (section 129);
- (d) to receive a notice to dispose of Goods (section 130);
- (e) to receive a statement of account following disposal of Goods (section 132(2));
- (f) to receive a statement of account if no disposal of Goods for each 6 month period (section 132(4));
- (g) to receive notice of any proposal of Goldacres to retain Goods (section 135(2));
- (h) to object to any proposal of Goldacres to either retain or dispose of Goods (section 137(2));
- (i) to redeem the Goods (section 142);
- (j) to reinstate the security agreement (section 143);
- (k) to receive a notice of any verification statement (section 157(1) and section 157(3));
- (9) The rights Goldacres may have under the PPSA are supplementary and in addition to those set out in these terms and conditions and do not derogate from the rights and remedies of Goldacres under these terms and conditions or under any other statute or under general law.
- (10) The Purchaser must give 10 business days prior written notice of any proposed change in the Purchaser's name or other identifying characteristics and details.

Purchasers property

18. Any property of the Purchaser under Goldacres' custody or control shall be entirely at the Purchaser's risk as regards loss or damage caused to the property or by it.

Storage

19. Goldacres reserves the right to make a reasonable charge for storage if delivery instructions are not provided by the Purchaser within (14) fourteen days of a request by Goldacres for such information.

Returned Goods

20. Goldacres shall not be under any obligation to accept Goods returned by the Purchaser and will do so only on terms to be agreed in writing in each individual case.

Goods sold

21. All Goods to be supplied by Goldacres shall be described on the purchase order agreed by Goldacres and the Purchaser and the description on such purchase order modified as so agreed shall prevail over other descriptions including any Purchaser's specification or enquiry.

Cancellation

22. No order may be cancelled except with the consent in writing and on terms, which will indemnify Goldacres against all losses.

No waiver

23. The exercise of any party to enforce the provisions of these terms and conditions or to exercise any rights expressed in these terms and conditions shall not be a waiver of such provisions or rights and shall not affect the enforcement of this agreement. The exercise by any party of any of its rights expressed in this agreement shall not preclude or prejudice such party from exercising the same or any other rights it may have irrespective of any previous action taken by that party.

Force Majeure

24. If by reason of any fact, circumstance, matter or thing beyond the reasonable control of Goldacres is unable to perform in whole or in part any obligation under these terms and conditions then Goldacres shall be relieved of that obligation under these terms and conditions to the extent and for the period that it is so unable to perform and shall not be liable to the Purchaser in respect of such inability.

Passing of risk

25. Risk in the Goods shall pass to the Purchaser upon delivery of the Goods to the Purchaser or collection of the Goods by the Purchaser's agent or carrier as the case may be.

Exclusion of liability

26. To the extent permitted by law Goldacres shall not be liable to the Purchaser in contract or in tort arising out of, or in connection with, or relating to, the performance of the Goods or any breach of these conditions or any fact, matter or thing relating to the Goods or error (whether or not it is negligent or a breach of contract) in information supplied to the Purchaser or a user before or after the date of the Purchaser's or user's use of the Goods and Goldacres shall be under no liability for damages arising out of the use of any chemicals, liquids, or mixtures in the Goods, nor for any application, not for the application methods nor for the environmental effects, which may result therefrom or from the use of the Goods.

Exclusion of representations and arrangements

27. To the extent permitted by law the terms and conditions supersede and exclude all prior and other discussions, representations (contractual or otherwise) and arrangements relating to the supply of the Goods or any part thereof including, but without limiting the generality of the foregoing, those relating to the performance of the Goods or any part thereof or the results that ought to be expected from using the Goods.

Place of contract

28. The contract for sale of the Goods and the provision of the services is made in the State of Victoria and the Purchaser agrees to submit all disputes arising with Goldacres to the courts of such State and any court competent to hear appeals therefrom.

SAFETY

General

The following pages outline important safety information. At Goldacres safety is a high priority. These safety and warning instructions **MUST** be followed to ensure the safe operation of your Goldacres equipment.

Explanation of key terms used in this operator's manual are:

Danger - You will be killed or seriously hurt if you don't follow instructions

Warning - You can be seriously hurt if you don't follow instructions

Caution - You can be hurt if you don't follow instructions

Note - Is used to notify people of installation, operation or maintenance information that is important but not hazard related.

The Operator

All operators of this equipment should be adequately trained in the safe operation of this equipment. It is important that all operator's have read and fully understand the operators manual prior to using this equipment.

All new operators should be trained in an area without bystanders or obstructions and become familiar with the sprayer prior to operation.

Safety Precautions

Warnings

- Any unauthorised modifications to this equipment may affect its function and create a serious safety risk.
- Keep clear of overhead obstructions – especially powerlines as contact can be fatal.
- Never attempt to clean parts, or nozzles, by blowing with the mouth.
- Never attempt to siphon chemicals, or substances, by sucking.
- It is imperative that the vehicle manufacturer's specifications be checked and all instructions for use when transporting, or towing, be adhered to at all times.

- Care should be taken when transferring liquid into the tank to ensure that the gross weight of the equipment does not exceed the carrying, braking and/or towing capacity of the vehicle to which the equipment is attached as specified by the vehicle manufacturer.

NOTE: 1 LITRE WATER = 1 KG.

- Water weighs 1kg per litre, however conversion factors must be used when spraying liquids that are heavier or lighter than water. Example: liquid nitrogen has a density of 1.28 kg/L and will therefore be significantly heavier than water if the tank is filled completely.
- Suitable care should be taken when driving with the equipment attached to the vehicle. Consideration should be given to both the carrying capacity of the vehicle and the gradient of the terrain when determining the speed at which the vehicle can be driven safely.
- Ensure that the maximum speed of the vehicle, when loaded, is within the vehicle manufacturer's limitations.
- Ensure equipment is securely fastened, or attached, to vehicle at all times.
- Where equipment is fitted to a tractor, ensure tractor linkage arms are secure and do not sway.
- Never stand within the radius of boom wings.
- Never work under any hydraulically raised boom.
- Do not use access steps or ladders on this equipment unless it is safely supported on solid blocks or by vehicle attachment. If unsupported, the equipment can become unstable and may become likely to tip

DO NOT HEAT PRESSURIZED FLUID LINES

When conducting any process on the machine that involves heat; be aware of pressurized fluid lines in the vicinity of your work area. Pressurized lines can be easily cut when the heat over shoots the target object.

FLUIDS UNDER PRESSURE

Fluids escaping from high pressure lines can cause serious injury to skin. Hydraulic oil can easily penetrate human skin. This hazard can be avoided by relieving the pressure in the system. Do not disconnect any hoses, nozzles or filters while equipment is operating. Disconnecting these components while under pressure may result in uncontrolled fluid discharge which may be hazardous. When the repair is complete ensure that all fittings and lines are secured before re-applying pressure.

ENTANGLEMENT IN ROTATING DRIVE LINES

Rotating drives can cause serious injury or even death when entanglement occurs. Keep hands, feet, hair and clothing away from all moving parts to prevent injury. Never operate this machine with covers, shrouds, or guards removed. To reduce the risk of entanglement, ensure that the appropriate PPE is worn and ensure that all other clothing is not loose fitting.

AIR BORNE PARTICLES

Always stand well clear of equipment during operation. Any spray drift is dangerous and may be hazardous to humans.

When heating and welding components, ensure that all paint and other such materials are removed.

Often hazardous air borne particles and fumes are generated from welding and heating.

When sanding the machine, work in a well ventilated area and wear an approved respirator.

If a solvent is used to remove paint and other substances, wash the area with soap and water to neutralize the work area.

DO NOT CARRY PASSENGERS

Do not stand or carry passengers on the steps or platform when the equipment is in motion or when the booms are being folded or unfolded.

Cautions

- A supply of fresh water should be with the equipment at all times.
- Not for use with diesel fuel or any

flammable liquid.

- Do not use this machine in ambient temperatures exceeding 40 degrees Celsius.
- Each individual boom section has a maximum delivery of 35 litres per minute with clean filters fitted.
- The maximum combined flow of all boom sections is limited to 140 litres per minute, or 50% of the pump flow whichever is the lesser amount, with clean filters.
- Do not exceed the maximum spraying pressure of 8 Bar.
- Ensure that all bolts are tightened and secured before operation.
- Where fitted, care should be taken to never overfill the diaphragm pump with oil or operate at speeds exceeding 540 rpm.
- Where fitted, always ensure that the boom is securely supported when travelling

Notes

- Always read and understand the operator's manual prior to operation of this equipment.
- It is the responsibility of the operator to ensure that there are no decals missing from the equipment and that any damaged or missing decals are replaced prior to operation.
- Goldacres equipment ordered or operated, outside the guideline limitations may not be warranted by Goldacres for successful performance. Operators working outside these limitations do so at their own risk, unless specific advice has been sought from and provided by Goldacres in writing.
- Always read and follow the chemical manufacturer's guidelines for safe application as per the chemical label. Particular attention should be given to the recommended target application rate of the chemical being applied as per the chemical label.

- Inspect the equipment thoroughly for damage and wear before operation.
- Lubricate the equipment as per recommended requirements before operating.
- Flush chemicals from equipment immediately after use.
- Certain chemicals may be unsuitable for use with Goldacres standard plumbing designs. Consult your Goldacres dealer if in doubt.
- Do not operate the equipment while under the influence of any drugs, alcohol or if excessively tired.
- Make sure that the equipment complies with all relevant road regulations when transporting.
- Goldacres equipment uses several materials that may be harmful to the environment. Potentially harmful waste used with Goldacres equipment includes: such items as oil, fuel, coolant, brake fluid and batteries. If these items are disposed of incorrectly the waste can threaten the surrounding environment and ecology. The waste products can leech into surrounding water sources and contaminate the area.
- When draining fluids from the equipment use appropriate, leak proof containers. Do not use food or beverage containers as someone may consume the contents by mistake.
- After reading the operator's manual if there is any thing that you do not understand please contact your Goldacres dealer.

Safe use of chemicals

The safe use of AgVet chemicals with this equipment is the responsibility of the owner/operators. All operators should be trained in the safe use of AgVet chemicals. Goldacres suggest that a relevant ChemCert course is completed by owners/operators prior to operation of this equipment as a spray unit.

ChemCert Course Overview:

The ChemCert course is aimed at providing the level of training needed by producers to make sure that they understand the requirements to use agricultural and veterinary chemicals safely and effectively.

The course also encourages people to think about using alternatives to chemicals in their production systems by taking a risk management approach.

The ChemCert course has become the industry standard for AgVet chemical training. Satisfactory completion of the ChemCert AgVet Chemical Users Course results in ChemCert registration and the award by the training provider of a Statement of Attainment for two nationally recognised competency standards:

RTC 3704A - Prepare and apply chemicals

RTC 3705A - Transport, handle and store chemicals.

The ChemCert course is generally delivered by trainers over two days, plus additional assessment activities.

Further information on ChemCert courses can be supplied by the ChemCert organisation in your state:

Victoria:

www.chemcertvic.org.au

Ph: 03 5622 2055

South Australia:

www.chemcertsa.com.au

Ph: (08) 8842 4048

Queensland:

www.chemcertqld.org.au

Ph: (07) 5466 5850

Western Australia:

www.chemcertwa.com.au

Ph: (08) 9341 5325

New South Wales:

www.chemcert.com.au

Ph: (02) 9387 4714

Personal Protective Equipment (PPE)

Always wear close fitting clothing and safety equipment designed for the job.

Exposure to loud noise over an extended period can cause impairment or loss of hearing. Be active in the conservation of your hearing and wear appropriate hearing protection at all times.

Chemicals can be harmful to humans, appropriate PPE should be used when handling chemicals. Always refer to the chemical manufacturers label for guidelines on the appropriate PPE to use with the chemicals you are using.

Goldacres also suggest that you read and understand the following Australian standards:

- Australian Standard for Chemical protective clothing AS3765
- Australian Standard for Respiratory protection devices AS1715

Safety Decals

Understanding safety decals and their purpose assists in the safe operation of your sprayer. Safety decals are there for your protection and it is the responsibility of the owner operator to replace damaged and/or missing safety decals.

Regularly review safety decals with operators. It is very important to ensure that all new machine components and replacement parts include current hazard identification decals. Replacement safety decals can be ordered from all Goldacres dealers.



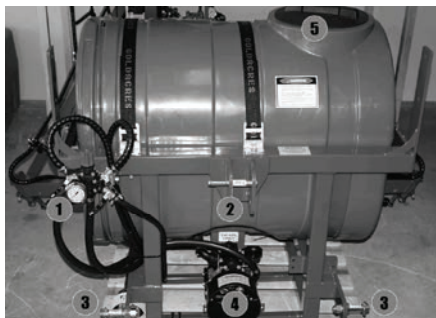
GENERAL INFORMATION AND SPECS

General

KNOW YOUR SPRAYER

Getting to know your sprayer prior to operation is crucial in the safe and efficient operation of this equipment. Take the time to familiarise yourself with all the standard and optional components fitted to your sprayer, not only do you need to know where key components are located on your machine you need to become competent in the operation of these components prior to operation.

It is also important to become familiar with common spraying methods and common spraying terms prior to using this sprayer for the first time



1. Manual controller
2. 3PL top link pin
3. 3PL bottom link pins
4. Diaphragm pump
5. Tank lid

MANUAL CONTROLS

A general explanation of manual controllers functions are as follows:

PRESSURE RELIEF VALVE

The pressure relief valve provides relief when the pressure exceeds a pre-determined value. Altering the adjusting stem will affect the setting at which the relief valve will come into operation. Turning the stem clockwise will increase the pressure relief setting

DUMP VALVE

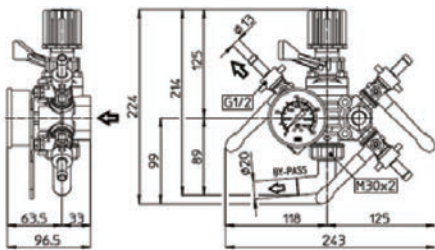
The dump valve enables all pump delivery to bypass back to the tank. The dump valve should be engaged when starting the pump with an engine so that the engine does not start under load. The dump valve should also be engaged when wanting to agitate the tank mixture when not spraying. To engage the dump valve, turn the dump valve down. This will cause all pump delivery to be bypassed back to the tank.

To disengage the dump valve, turn the dump valve up so that the pump delivery is directed out to the spray lines

BOOM / ATTACHMENT LEVERS

The boom/attachment levers (number fitted dependent on options specified) open or close flow to the appropriate boom section/s or attachment/s as labeled. Turn the lever to the ON position in order to direct flow from the pump to the required function. Turn OFF to stop flow going to the attachment that is now not required

DL controller



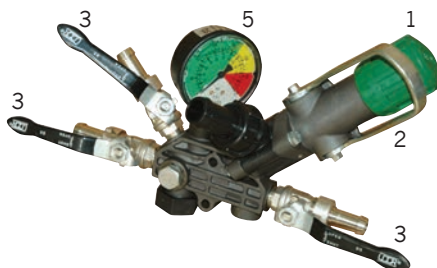
1. Pressure regulator
2. Dump valve
3. Boom/hose reel on/off levers
4. Bypass
5. Pressure gauge

SPECIFICATIONS	L/min	GPM
Flow Rate	100	26,4
	Bar	PSI
Pressure	20/30/40	290/435/580
No. of Outlet	2/3/4	
Suggested for Pump Models	RO 110, ZETA 70, ZETA 85, ZETA 100, KAPPA 25, KAPPA 32, KAPPA 40, KAPPA 50, KAPPA 33, KAPPA 43, KAPPA 53, KAPPA 55, KAPPA 65, KAPPA 75, KAPPA 100.	

DS controller

The manual pressure regulator provides delivery pressure control. Screwing in the adjusting stem on the pressure regulator will decrease the amount of bypass back to the tank and thus increase the delivery pressure.

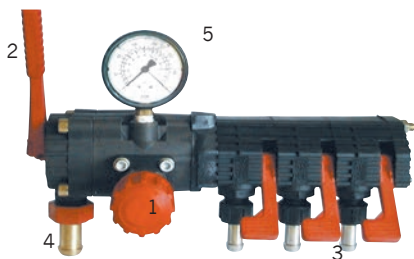
Screwing out the adjusting stem on the pressure regulator will increase the amount of bypass back to the tank and thus decrease the delivery pressure. The pressure gauge gives an indication of the delivery pressure (to either gunjet, wand or boom).



1. Pressure regulator
2. Dump valve
3. Boom/hose reel on/off levers
4. Bypass
5. Pressure gauge

SPECIFICATIONS	L/min	GPM
Flow Rate	100	26,4
	Bar	PSI
Pressure	20/30/40	290/435/580
No. of Outlet	2/3/4	
Suggested for Pump Models	RO 110, ZETA 70, ZETA 85, ZETA 100, KAPPA 25, KAPPA 32, KAPPA 40, KAPPA 50, KAPPA 33, KAPPA 43, KAPPA 53, KAPPA 55, KAPPA 65, KAPPA 75, KAPPA 100.	

SB controller



1. Pressure regulator
2. Dump valve
3. Boom/hose reel on/o! levers
4. Bypass
5. Pressure gauge

SPECIFICATIONS	L/min	GPM
Flow Rate	120	31,7
	Bar	PSI
Pressure	20	290
No. of Outlet	3/4/5/6	
Suggested for Pump Models	RO 110, RO 130, ZETA 70, ZETA 85, ZETA 100.	

DIAPHRAGM PUMPS

CAUTION: Never overfill pump with oil as damage to seals & oil bowl may result. Do not operate diaphragm pumps above 540 RPM.

NOTE: The pump will perform optimally operating between 400 and 540 RPM. At lower revs excessive pulsation will occur, while pump and diaphragm damage can result at higher revs. Diaphragm pumps are a positive displacement pump that utilises a number of rubber diaphragms and non-return check valves to pump (displace) the fluid. Diaphragm pumps are fitted as standard equipment on all Goldacres sprayers and are very well suited to chemical spraying applications. To ensure that you get the most from your pump, using it correctly and carrying out periodic maintenance are essential in obtaining the best possible performance from your sprayer. Please follow the following guidelines for safe and efficient use:

1. When the pump is operating, the oil

should be visible in the bowl.

2. Whilst the pump is running, frequently check the oil level and colour.

NOTE:

A change in either colour or level indicates probable damage to diaphragm or valves.

STOP THE PUMP IMMEDIATELY.

3. Inspect all hoses to make sure they are the correct size, fitted securely and that there is no throttling or leaking.
4. Do not start the pump with the pump under pressure.
5. Make sure that the pump PTO shaft cover is fitted correctly to prevent accidental injury.
6. Make sure the strainer in the suction filter is clean and correctly installed.
7. Regularly lubricate the PTO shaft according to recommendations (see "PTO SHAFT") to prevent the shaft from binding.
8. Always flush pump with clean water at the end of each spraying day. Prolonged chemical contact can severely damage seals and diaphragms.
9. Regularly check the pump mounting bolts.
10. Change the pump oil after the first 50 hours of operation and then after every 300-350 hours. Be careful to use the correct oil (use SAE 30W40 motor oil) and do not overfill. Rotate pump manually (by hand) to remove air locks when filling with oil.
11. Do not leave water in pump if sprayer is to be left in a cold environment. The water may freeze and cause damage to pump if pumping is attempted while water is frozen. Empty pump of all water (run the pump dry for 15-20 seconds) and cover pump (i.e. with bag) to ensure this situation does not arise. If this has not been done and there is a possibility there may be frozen water in the pump and/or in the lines, wait until any ice has completely thawed before using pump. NOTE: Ensure that the pump can be turned over by hand before starting.

Pump Diaphragms

The pump diaphragms are wearing components that need to be replaced during the life of the pump. Life expectancy depends upon the operation and maintenance and its suitability for the task.

- Pump diaphragms should be replaced prior to diaphragm failure.
- For large operations, where the sprayer is used extensively, the pump should be reconditioned once a season, including replacing diaphragms, seals and valve springs.
- It is recommended to keep a spare pump repair kit (including diaphragms, seals, valve o-rings and springs) on hand in case of a breakdown. The main causes of premature diaphragm failure are:
- Blocked or incorrectly fitted suction filter restricting flow to the pump.
- Incorrect air damper chamber pressure.
- Running pump at speeds greater than 540 RPM.
- Exceeding the pressure limit of the pump.
- Failure to wash chemicals from pump after use.
- Incompatibility of the diaphragm material and the chemicals used.
- Insufficient lubrication of PTO shaft or binding of PTO shaft which can cause a side thrust to the internal components of the pump and overheat the pump and diaphragms. A change of oil colour indicates a pump problem. The oil should be regularly monitored when spraying so that any problem is detected as soon as possible. If the oil goes milky in colour, it is likely the diaphragm has been damaged and the spray mixture has come into contact with the oil. If the oil goes black (or dark grey), it is likely the pump has overheated, possibly due to the PTO shaft binding through insufficient lubrication.

To replace a side diaphragm:

When side diaphragms require replacement it is normal practice to replace the air damper diaphragm as well.

1. Flush pump with clean water to remove chemical residue, then flush with appropriate decontaminating agent (refer to chemical label for decontamination instructions).
2. Run pump dry for 15-20 seconds to remove water.
3. Remove all air from air damper chamber by pushing in air valve.
4. Remove pump from sprayer.
5. Remove pump manifolds and pump heads.
6. Drain oil from pump.

NOTE: Carefully note the position and orientation of all heads, manifolds and valves when disassembling pump. Failure to reassemble correctly will result in severe pump damage.

7. Remove diaphragms.
8. Remove cylinder sleeves.
9. Flush inside of pump with diesel.
10. Visually inspect inner workings of pump.
11. Reassemble with new diaphragms (must be correct diaphragms) once satisfied with condition of pump.
12. Refill with oil. Rotate pump manually (by hand) to remove air locks. Do not overfill.

Troubleshooting

"MY PUMP OIL IS CHANGING COLOUR, IT'S BECOMING MILKY"

STOP SPRAYING IMMEDIATELY

- Diaphragms damaged and all will need to be replaced.

“MY PUMP OIL IS CHANGING COLOUR,
IT’S BECOMING BLACK OR DARK GREY”

STOP SPRAYING IMMEDIATELY

The Pump is overheating:

- Check the pump speed. (must not be greater than 540 RPM)
- Check PTO shaft lubrication.

“MY PUMP IS NOISY”

- Check pump oil level.

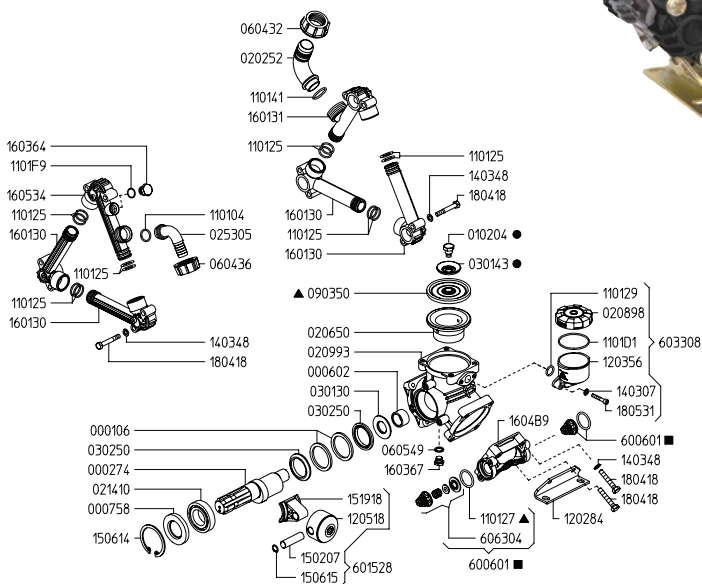
- Reset the air damper chamber pressure.
- Check whether the PTO shaft is suitably lubricated.
- Check suction line for air leaks (pump sucking air)
- Check suction line for restrictions.
- Check pump valves.
- Check pump bearings.

“MY PUMP HOUSING OR MOUNTINGS ARE CRACKED”

- Check PTO shaft length and lubrication.
- Check for ice in the pump, particularly if the sprayer has been parked in an environment where it may have been subjected to sub-zero temperatures or frosts.

Udor Zeta 70 Diaphragm Pump

SPECIFICATIONS	
Max Pump Capacity	70.5 L/min
Max Pump Speed	540 RPM
Max Pressure Capacity	20 BAR (290 PSI)
Max Power Requirement	3.0. HP
Oil Type	SAE 30W40



Udor Zeta 85 Diaphragm Pump

SPECIFICATIONS	
Max Pump Capacity	85 L/min
Max Pump Speed	540 RPM
Max Pressure Capacity	20 BAR (290 PSI)
Max Power Requirement	3.0 HP
Oil Type	SAE 30W40



SERIES

ZETA

842100

842300

842200

ZETA 85 1C

ZETA 85 VA

ZETA 85 TS 1C

ZETA 85 1C

ZETA 85 VA

ZETA 85 TS 1C

Variables of version TS 1C compared to 1C

Variables of version VA compared to 1C

FILTERS

General Information

WARNING:

Ensure that operator's wear the appropriate PPE when cleaning filters. It is essential to maintain all filters, and filter screens, in good condition. Filter screens that are not regularly cleaned can severely impede the flow and thus affect delivery pressure.

If the screen is in any way damaged, it can allow foreign material into the pumping system which can result in damage to the pump, solenoids, valves and nozzle tips. If the screen is not properly fitted, it can allow air into the pumping lines which will reduce the performance of the pump. The filter screen should be cleaned after every spraying operation. The best way to clean the filter screen is with a soft brush or compressed air after washing the entire chemical residue from the pump.

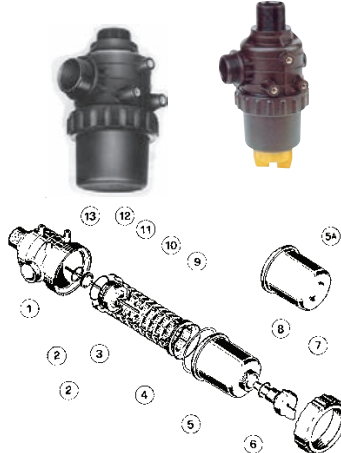
SAFETY SHUT-OFF VALVE

The safety shut off valve enables the filter bowl to be removed while automatically shutting off the supply line to the filter. As the filter bowl is removed (with the bowl cap), the valve plunger seats so as to seal off the filter from the supply line. Replacing the filter bowl unseats the valve plunger and thus opens the supply line to the filter.

314 Suction filter

To clean the suction filter:

1. Wear all necessary protective clothing;
2. Ensure the pump is turned off
3. Carefully unscrew filter nut and remove bowl;
4. Remove screen and clean (with a soft brush or compressed air);
5. Check for damage to screen, bowl, body and 'o' ring;
6. Place screen back in position;
7. Make sure 'o' ring is in position for proper seal;
8. Replace bowl and screw nut on;
9. Do not over-tighten nut.



POS.	PART NUMBER	DESCRIPTION
1	314160.010	Suction filter body 1½"
2	314300.060	O Ring 71.1x2.6
3	314003.030	Blue screen (50 mesh)
3	3140035.030	Grey screen (80 mesh)
4	314000.050	O Ring 94.6 x 5.3
5A	314000.020	Suction filter bowl
5	314400.020	Suction filter bowl valve version
6	314000.040	Suction filter nut

POS.	PART NUMBER	DESCRIPTION
7	314400.060	Bowl cap
8	462300.230	O Ring 31.0x2.5 Viton
9	314400.070	Valve body
10	460000.190	O Ring 56.8x2.6
11	314400.080	Valve plunger
12	462300.550V	O Ring 29.7x3.5 Viton
13	314400.090	Valve spring

MANUAL FOLDING BOOMS

General information

The boom fitted as standard is part of the Goldacres range of “folding booms” which are available in sizes from 3 metres to 8 metres. These booms are constructed from RHS for strength, the wings fold in for transport, and jet bodies are mounted on stainless steel brackets behind the boom for protection.

All booms, regardless of their design and operating width, present certain safety hazards in their operation. Please ensure that you have read all safety precautions as included in this manual and take particular note of those re-listed below.

WARNINGS

- Never stand within the radius of boom wings.
- Keep clear of overhead obstructions.
- CRUSH HAZARD - Keep hands clear of moving parts when carrying out boom fold and unfold sequences.

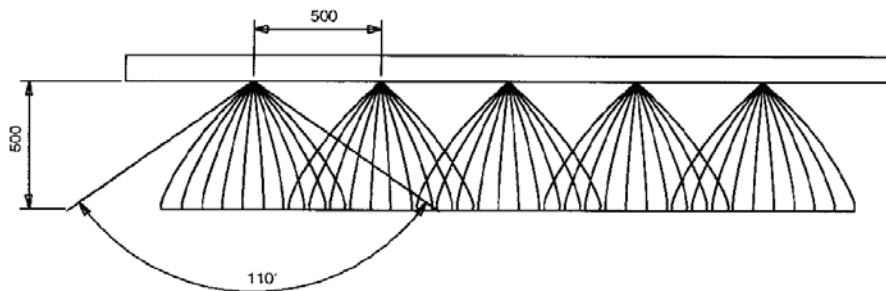
CAUTIONS

- Always ensure that there is adequate room for the boom to open.
- Always ensure that the boom is adequately supported when transporting.

Boom Height

The standard nozzle spacing on Goldacres booms is 500 mm. For this spacing, the optimum height the boom should be from the object to be sprayed (with a 110° fan angle nozzle) is 500 mm.

There will be adequate spray coverage if the nozzles are higher than this but this increases the potential for drift. The spray pattern is affected by many factors not limited to, but including, gravity, pressure, chemical composition and droplet size so the pattern does not extend to the full theoretical coverage. Refer to the TeeJet nozzle selection catalogue for further information on spray application and nozzle technology.



Boom height adjustment

For booms that do not feature a screw height adjust or hydraulic lift, adjust the height of the boom by loosening the nuts on the U-bolts clamping the boom to the frame.

Raise or lower the boom to the desired height and then re-tighten the nuts on the U-bolts.

Booms fitted with optional screw height adjuster.

Operating instructions for folding booms

1. Starting with the boom in the closed position

(Fig.1), pull each wing against the spring in an out and down manner until open and resting against the stop plate with the adjustment bolt.

2. With both wings folded out into the open position (Figure 2): check that boom is aligned correctly.

3. If not aligned correctly, adjust position with the adjustment bolts as necessary.

4. The 3 metre folding boom folds vertically and the 8 metre models includes flip over ends that should be folded into the open position prior to operation.

Folding boom lubrication

Folding booms have a grease nipple fitted at each pivot point. Grease these points regularly with quality multi purpose grease



Figure 2: 3PL with 6 metre folding boom open

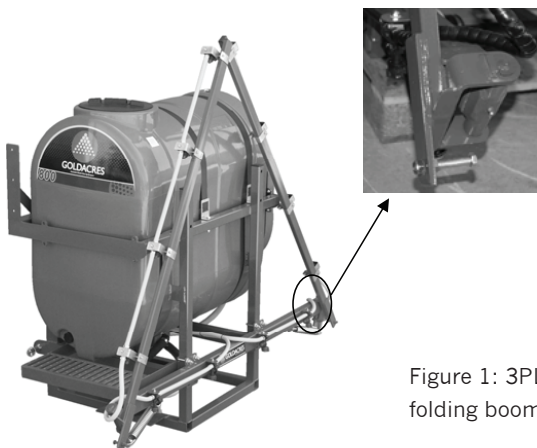
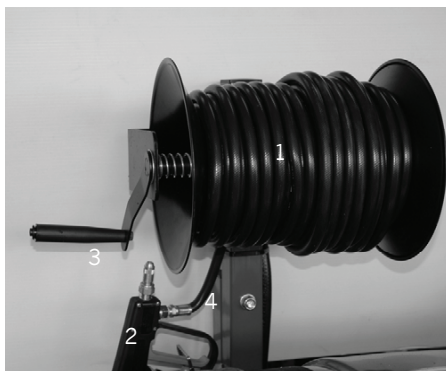


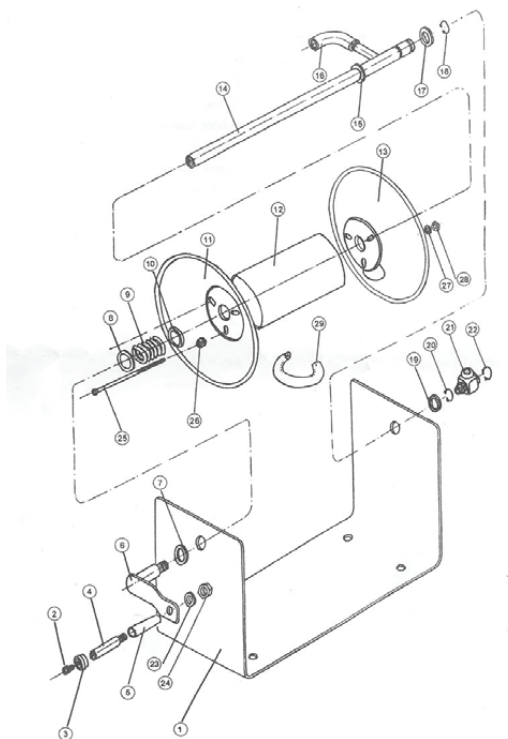
Figure 1: 3PL Pasture with 6 metre folding boom closed.

30MT MANUAL HOSE REEL

Ref.No	PART NUMBER	DESCRIPTION
1	GA5066080	30 Mt manual hose reel
2	GA4900546	AA30L GunJet with adjustable brass ConeJet
3	5500X18	Adjustable ConeJet
4	GA5020875	Male tailpiece 1/4" thread x 1/2" barb

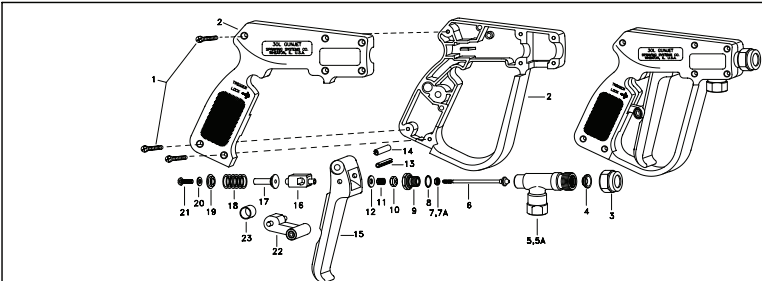


Part No.	QTY.	DESCRIPTION
1	1	Base
2	1	Screw
3	1	Rubber Sleeve
4	1	Handle
5	1	Handle Sleeve
6	1	Link Lever
7	1	Washer
8	1	Washer
9	1	Spring
10	1	Washer
11	1	Flange A
12	1	Sleeve
13	1	Flange B
14	1	Axle
15	1	Fixed Washer
16	1	Outlet Fitting
17	1	Washer
18	1	Spring Washer
19	1	Washer
20	1	Spring Washer
21	1	Swivel Valve (Inc. 2 valve O-ring)
22	1	Spring Washer
23	1	Washer
24	1	Nut
25	1	Screw
26	1	Washer
27	1	Washer
28	1	Nut




AA30L GunJet

The gunjet trigger needs to be locked via the trigger lock when not in use to prevent the gunjet from spraying inadvertently.

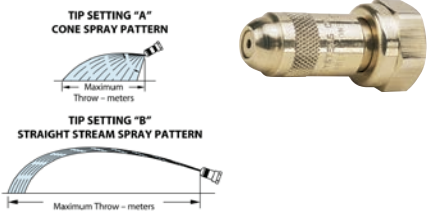


ITEM	PART NO.	DESCRIPTION
1	CP17103-1/16-302SS	Screw, Type 302 Stainless Steel (7 Req'd)
2	CP19684-1-NY8	Right and Left Hand Mounting Set, Nylon (Black)
3	CP7880-NP	Cap, Steel, Nickel Plated
4	CP7480-WRTEF	Valve Seat, Brass and Teflon
5	CP22136	Inlet Body, Brass (For Model 30L-1/4)
5A	CP822136	Inlet Body, Brass (For Model 30L-1/4)
6	CP22137-BK302SS	Stem Sub-Assembly, Brass and Type 302 Stainless Steel
7	CP14255-1-BU	Cup Packing, Buna-N
7A	CP14255-1-VI	Cup Packing, Viton
8	CP19812	Gasket, Brass
9	CP19811	Packing Screw, Brass
10	CP7484-SS	Stem Nut, Stainless Steel
11	CP7488-302SS	Trigger Stop Spring, Type 302 Stainless Steel
12	CP7622-302SS	#8 Burr, Type 302 Stainless Steel
13	CP17720-420SS	Roll Pin, Type 420 Stainless Steel
14	CP19820-420SS	Roll Pin, Type 420 Stainless Steel
15	CP17703-NY	Trigger, Nylon (Yellow)
16	CP19810	Trigger Guide, Brass
17	CP19815	Spring Guide, Brass
18	CP22138-302SS	Spring, Type 302 Stainless Steel
19	CP19816	Spring Retainer, Brass
20	CP19819-SS	Washer, Type 18-8 Stainless Steel
21	CP19818-SS	Screw, Type 18-8 Stainless Steel
22	CP19806-NY	Trigger Lock, Nylon (Yellow)
23	CP19805-CE	Lock Spring Ring, Carbon
No. AA30L-1/4, GunJet® Spray Gun		
No. AA30L-1/4-VI, GunJet® Spray Gun (BSPT threads)		
No. AA30L-1/4-VI, GunJet® Spray Gun with Viton packing		
No. AA30L-1/4-VI, GunJet® Spray Gun with Viton packing (BSPT threads)		
AA30L-KIT - Spare Parts Kit (includes all items marked with * and item 7)		
AA30L-VI-KIT - Spare Parts Kit (includes all items marked with * and item 7A)		

ITEM	PART NO.	DESCRIPTION
DESCRIPTION: NO. AA30L-1/4 AND AA30L-1/4 GUNJET SPRAY GUNS		
 Spraying Systems Co. Spray Nozzles and Accessories P.O. Box 7900 • Wheaton, IL 60159-7900		
Rev. No. 4	PARTS LIST	
Ref.	PL 30L & B30L SHEET 2F	

Adjustable ConeJet Nozzle

The adjustable brass ConeJet nozzle rotates through a half turn to provide spray selection from wide angle, finely atomized cone spray to a straight stream spray. Tip settings “A” and “B” represent two extreme points of rotation in tip adjustment.



ADJUSTABLE CONJET TIP NO.	PERFORMANCE	LIQUID PRESSURE (bar)							
		1.5		2		3		4	
		A	B	A	B	A	B	A	B
5500-X18	Capacity—l/min	0.79	2.61	0.98	3.18	1.14	3.67	1.40	4.54
	Spray angle °	71	-	75	-	77	-	78	-
	Max throw m	1.2	11.6	1.2	12.8	1.2	13.3	1.2	13.0
5500-X22	Capacity—l/min	0.98	3.14	1.21	3.79	1.40	4.54	1.70	5.30
	Spray angle °	71	-	75	-	78	-	79	-
	Max throw m	1.2	11.7	1.40	13.0	1.5	13.6	1.5	13.2
5500-X26	Capacity—l/min	1.17	3.71	1.40	4.54	1.63	5.30	2.01	6.43
	Spray angle °	72	-	76	-	78	-	79	-
	Max throw m	1.4	11.6	1.5	13.1	1.5	13.7	1.7	13.3

OPERATION

COMMON SPRAYING METHODS

To ensure complete coverage in general field applications, Goldacres suggest that two spray swaths (depending on boom size fitted) are completed around the outside perimeter of the field. After completing the outside laps you will now have a wide headland on which to turn when completing the remaining sections moving up and down the length of the field. To avoid over application of chemical, switch off boom sections as you pass over the already completed headland section.

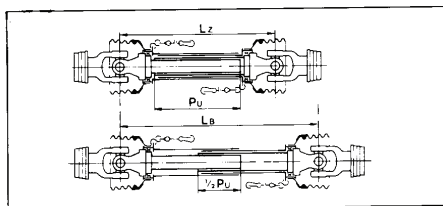
NOTE:

Variations in field sizes, shapes and terrain may require a change in the spraying method. Please use the most appropriate method that is safe and suitable for your application.

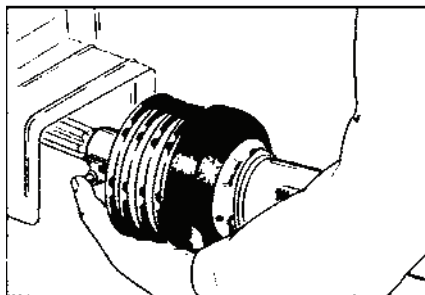
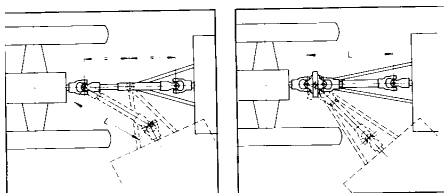
First time set up procedure (Water test only)

The Goldacres 3PL Pasture sprayer has been designed for connection to Category 1 and 2 linkages.

1. Remove from pallet (if attached) and position on a solid, flat surface.
2. Lower the tractors linkage arms to a height appropriate for connection to the sprayer's lower linkage pins, and then connect the tractors top link to the top linkage pin of the sprayer.
3. Make sure that all securing pins are in place prior to raising 3PL.
4. Lift 3PL to intended spray height and then adjust linkage top link to level with the sprayer.
5. Fit PTO shaft as per the following Instructions: When hitching a sprayer, especially for the first time, the following critical points concerning the PTO shaft must be considered:
MAXIMUM OPERATING LENGTH LB Try to obtain the greatest possible overlap.

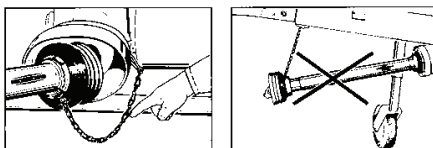


In its working position, the PTO shaft must not be extended by more than half the profile overlap P_u available when fully compressed L_z .



CHAINS

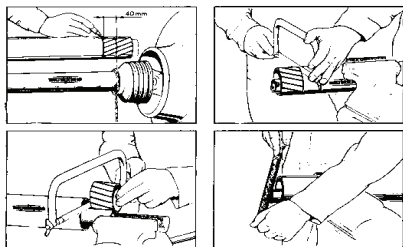
Chains must be fitted so as to allow sufficient articulation of the shaft in all working positions. The PTO shaft must not be suspended from the chain.



PTO SHAFT LENGTH ADJUSTMENT

To adjust the length:

- 1) Hold the half-shafts next to each other in the shortest working position and mark them.
- 2) Shorten inner and outer guard tubes equally.
- 3) Shorten inner and outer sliding profiles by the same length as the guard tubes.
- 4) Round off all sharp edges and remove burrs.
- 5) Grease sliding profiles before reassembling.



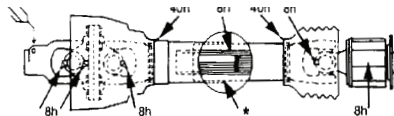
CAUTION: When attaching shaft to sprayer and tractor, always ensure all guard covers are in place. Operate the PTO slowly when the PTO shaft is first attached to assess installation. Care should be taken when engaging the clutch so that sudden loading, which can result in pump damage and gear wear, is avoided. Ideally the pump should start from zero pressure. It is essential to maintain lubrication schedule while PTO shaft is in use.

PTO SHAFT LUBRICATION

Proper grease is essential for the sprayer to operate with maximum effectiveness and life-expectancy.

CAUTION:

Never lubricate the PTO shaft while it is running. It is important to keep the lubricant and lubricant applicator clean. Wipe all dirt from the fittings before use. Goldacres recommends that multi-purpose grease should be used for all lubrications. The figures mentioned below refer to the frequency (in hours) of lubrication for the respective grease nipple locations.



- Pull shaft apart - apply grease to inside of outer telescopic profile
6. Check pump oil level prior to engaging PTO.
 7. Fill the tank with a quantity of water sufficient to test spray unit for leaks.
 8. Unfold the boom as per the boom folding instructions in this manual
 9. To start the pump, engage the PTO at the lowest revs possible and then gradually increase revs until the pump reaches its operating speed.

CAUTION:

Do not run diaphragm pumps above 540 R.P.M.

10. Make sure the pressure relief valve is backed off prior to engaging PTO.
11. Visually check that all fittings are in place and secure and taps are in working positions.
12. Ensure that all taps are in the off position and bypass back to tank is open. All boom taps should be in the off position.
13. Set the pressure relief valve to the desired spraying pressure. Once PTO has been engaged and is running at 540RPM.
14. Gradually turn on individual boom sections, until all sections are engaged.
15. Adjust pressure to suit desired spraying rate.
16. Run unit at operating speed until contents of tank are dispersed.
17. Take note of any water leaks, and tighten fittings to rectify the problem immediately.

Calibrating your sprayer

Any sprayer should be calibrated regularly to ensure minimal error in the application rate. A nozzle selection chart indicates what application rates are to be expected but variations due to nozzle wear, ground speed error and pressure irregularities can result in large application rate errors.

Goldacres suggest the use of a current TeeJet nozzle selection catalogue for reference to nozzle sizes, outputs, spray patterns and general spraying information. For more technical information on the function of spray nozzles and factors affecting their performance you can also use the TeeJet "User's guide to spray nozzles".

The TeeJet nozzle selection catalogue and Users guide to spray nozzles are available from Goldacres dealers or as a free download from the TeeJet website. www.teejet.com

As part of your daily sprayer calibration, Goldacres suggests that you carry out a jug test to ensure the spray nozzles you are using are delivering the correct amount of chemical, as stated in your nozzle supplier's rate chart.

The method of carrying out the jug test is as follows:

You will need:

- A calibrated measuring container that can measure the medium in litres, in 10 ml increments. e.g. 0.45 Lt.
- A timing device showing seconds.
- A pressure gauge mounted at the nozzle tip to verify the system pressure being delivered at the nozzle. Goldacres part numbers QJ4676-45-1/4-NYR & Q590-2-NY will mount a suitable gauge to the nozzle body bayonet fitting. (Not including gauge).

NOTE: There may be a noticeable difference between pressure shown on main spray pressure gauge on sprayer and the gauge installed on the boom. This is due to pressure loss through the circuit.

1. Check the plumbing system for kinked or obstructed hoses and repair or replace any hoses that restrict the normal flow of the liquid.

2. Start your sprayer
 - a. For sprayers not fitted with a spray application controller, set the boom operating pressure to the pressure at which you expect to spray.
 - b. For sprayers fitted with a spray application controller, initiate a 'self test' procedure and set the application rate and speed to the settings depicted in your "Rate Chart" at which you expect to spray.
3. Then place the jug under one of the nozzles, for 1 minute (exactly) and then record the volume of liquid collected.
4. Repeat the test over a representative sample of the jets in each boom section
5. Compare the volume collected from each nozzle to the stated volume in your rate chart. It should be no more than plus or minus 10% of the volume stated in your Nozzle Supplier's rate chart
6. In the event that any of your nozzles do not deliver the required volume, a further investigation is required which may include, but not be limited to:
 - a. Cleaning the nozzles, using the method recommended by the nozzle supplier.
 - b. Replacing the nozzles.
 - c. TeeJet advise that nozzles that flow greater than +10% of their stated volume are 'worn out' and should be replaced.
 - d. Cleaning nozzle filters.
 - e. Replacing filters.
 - f. Replacing pump diaphragms.
 - g. Replacing the pump.
 - h. Ensuring that the application rate required does not exceed the maximum flow and pressure parameters of the sprayer.

Tasks prior to spraying

CAUTION: Before using this equipment with a chemical mix, read, and understand, the instructions on the chemical label. The first time setup procedure should be carried out as a water test only prior to any chemical being added to the tank and applied. Following the initial set up procedure being followed, there are several important checks to be carried out prior to starting spraying.

1. Inspect the sprayer to ensure there is no damage or wear which could lead to injury, further damage or reduce its performance.
2. Check all bolts and nuts to make sure they are tight and secure.
3. Carry out scheduled lubrication.
4. Fit PTO shaft and fit protective cover and chains.
5. Make sure the sprayer is securely hitched (i.e. PTO shaft is properly fitted and tractor linkage arms are securely attached to the sprayer);
6. Ensure that the two lower linkage arms are secure and do not sway
7. Fill the flush water tank (where fitted) and hand wash tank with an appropriate amount of clean water.
8. Clean all filters and nozzles.
9. Fill main tank with a quantity (approx 10% of total tank volume) of fresh water.
10. Test the pump with clean water. To start the pump, engage the PTO at the lowest revs possible and then gradually increase revs until the pump reaches its operating speed. Do not exceed 540 RPM.
11. Check nozzle patterns for irregularities. If there are irregularities, clean the nozzles and replace. If the problem persists they could be worn so remove and replace.
12. For optimal sprayer set-up, the operator needs to be aware of the correct nozzle, the correct speed at which to travel and the appropriate rate per hectare to apply the product. For this information, refer to the chemical label, the supplier

of the product and the TeeJet catalogue.

13. Check all hoses and fittings for leaks or damage.
14. Follow the chemical label and ensure that you follow the specified mixing procedure for addition of chemicals to main tank.
15. When mixing procedure has been followed, fill main tank with appropriate quantity of water required for task at hand.

WARNING: When filling tanks with water, 1 litre of water will add 1kg of weight. Some chemicals weigh more than water, therefore it is the operators responsibility to ensure the loaded weight of the sprayer does not exceed the towing and / or carrying capacity of the vehicle.

16. You are now ready to start using the sprayer.

TRANSPORTING THE SPRAYER

Make sure the vehicle has sufficient lifting and braking capacity to carry the sprayer. All relevant transport regulations must be adhered to when transporting the sprayer. (ie: speed regulations, oversize signs, flashing light, etc.) It is the operator's responsibility to know the relevant regulations. Make sure the sprayer is securely hitched to the tractor 3PL.

- Ensure that the boom is securely supported when travelling and that the tail indicator lights on the sprayer are connected via the 7-pin trailer plug (if fitted on sprayer)

CAUTION: Take care when reversing the tractor with the sprayer attached. If driver visibility is restricted use another adult, with a clear view to the rear of the sprayer, to give reversing directions.

CAUTION: It is the operator's responsibility to know the tare weight and gross weight of the sprayer. Contact your Goldacres dealer to ascertain a more precise tare weight for your sprayer if unsure. If any alterations are made to the sprayer, it is the operator's responsibility to know the tare weight and the gross weight of the modified sprayer at all times.

End of spraying day tasks

NOTE: Empty the spray tank by disposing of any residual spray in the appropriate manner. Use the flush water tank or refill the tank with approximately 10% of the tank volume of fresh water to flush the pump and boom. The following steps should be adhered to: Unfold the boom in an area convenient to dispose of residual chemical (an area where chemical can not run-off into above ground or sub surface water courses).

- Operate the diaphragm pump at idle revs
- Open the Boom Supply Ball Valves, and allow to rinse for a sufficient amount of time.
- Close the Boom Supply Ball Valves, and open the Hose Reel Ball Valve to rinse hand gun line (where fitted).
- Run sprayer until fresh water contents has been flushed through the system.
- When the tank has been emptied, shut off the pump drive by either disengaging the PTO, or closing the hydraulic supply.
- To clean and decontaminate the sprayer, follow the instructions provided on the chemical label for appropriate decontamination procedure.
- Clean all filters.
- Clean all nozzles.

CAUTION: If the sprayer is left attached to the tractor when parking the sprayer, make sure the tractor park brake is applied, the engine turned off and the sprayer lowered onto the ground. If the sprayer is to be disconnected from the tractor: Ensure the main tank and any other tanks fitted are empty.

- Lower the sprayer to release the weight off the linkage arms (the sprayer may need lowering onto a pallet or several large pieces of timber).
- Adjust the top linkage arm until it becomes loose, then remove from sprayer.
- Loosen the stabilising chains on the linkage arms, then detach arms from the sprayer.

- Disconnect all lines between the sprayer and the tractor (i.e. hydraulic lines, foam marker lines, etc.)
- Remove the PTO shaft from both the sprayer and the tractor.

NOTE: Store the sprayer in a suitable location to prevent freezing. If the sprayer is to be left where freezing may occur, cover the pump and flow meter with a material bag and empty pump and flow meter of all water (run the pump dry for 15-20 seconds). Make sure any ice has thawed before using sprayer.

END OF SEASON TASKS

If the sprayer is to be stored for a long period of time without use, there are several tasks that need to be performed. Clean the sprayer thoroughly as described under

“END OF SPRAYING DAY TASKS”.

- With the sprayer attached to the tractor, carry out a thorough observation to determine if there is any damage to the sprayer.
- Park the sprayer in a position where it will not be affected by frosts, and preferably out of direct sunlight.
- Ensure all tanks are empty.
- Lower the sprayer to release the weight off the linkage arms (the sprayer may need lowering onto a pallet or several large pieces of timber).
- Adjust the top linkage arm until it becomes loose, then remove from sprayer.
- Loosen the stabilising chains on the linkage arms, then detach arms from the sprayer.
- Disconnect all lines between the sprayer and the tractor (i.e. hydraulic lines, foam marker lines, etc.)
- Remove the PTO shaft from both the sprayer and the tractor.
- Periodically check the sprayer to ensure frosts and/or vermin are not damaging the machine.

TROUBLESHOOTING

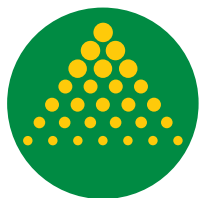
The troubleshooting information is provided as a reference when your sprayer is not functioning correctly.

To ensure that you receive the best possible service, it is recommended that you exhaust all applicable troubleshooting solutions shown prior to calling your dealer, or Goldacres, for service advice.

Diaphragm pump

Problem	Common Causes	Common Solution
Pressure and flow rate are too low	Excessive bypass on pressure manifold Supply to pump is restricted Pump	Check the pressure relief valve setting on pressure manifold. Close the ball valve labelled bypass, if the pressure increases on the pump gauge there is a problem with the control valve Measure the flow per minute coming out of one nozzle and check the nozzle chart for the corresponding flow. Suction filter may be blocked Check tank sump and suction line blockages Check suction line for air leaks Check pump speed Check oil for colour change. If the oil appears milky, a diaphragm will be damaged and needs to be replaced. Check valves in pump.
Pressure and flow rate are too high	Bypass line is restricted or blocked..	Check for restriction in bypass line. Check pump speed is not too fast.
The pressure on my gauge is higher than the nozzle flow indicates	Blocked filters of nozzles Flow loss due to resistance in lines, valves and filters.	Check and clean all pressure and nozzle filters
The flow rate is correct but my pressure is too low or high.	Nozzles	Check nozzle chart for correct nozzle size.
Pressure fluctuation	Air leak on suction side of pump Incorrect pump speed Faulty pump valves	Check suction pump for air leaks Adjust pump speed so it is between 400 -540rpm Replace pump valves
Pump pressure pulsating	Air accumulator pressure is incorrect Air accumulator diaphragm has a leak Incorrect pump speed Air leak on suction side of pump	Reset the pressure in air accumulator Replace air accumulator diaphragm Adjust pump speed so it is between 400 - 540rpm Check pump suction for air leaks

Problem	Common Causes	Common Solution
Pump oil is becoming milky	Cracked diaphragm	Replace all diaphragms
Pump oil is changing colour and becoming black or dark grey	Pump is overheating	Check pump speed and oil level
Pump is noisy	Low oil level Air accumulator pressure set incorrectly Insufficient lubrication on PTO shaft Damaged pump valves Pump suction line has air leak or is restricted	Refill or replace oil Recharge air accumulator to specified pressure Grease PTO shaft Replace all bearings Replace pump valves Clean suction filter and check for leaks in suction lines
Pump housing or mountings cracked	PTO shaft not sliding freely or incorrect length Extremely cold weather can cause liquid in the pump to freeze	Check PTO shaft length and lubricate Check for ice in the pump and let defrost if required
Damaged universal joint	The shaft is too long PTO shaft is inadequately lubricated	Shorten shaft Lubricate PTO shaft and uni joints
PTO shaft bent or vibrating excessively	PTO shaft is too short	Replace PTO shaft



GOLDACRES

1-3 Morang Crescent, Mitchell Park Vic 3355
P: 03 5342 6399 F: 03 5342 6308
info@goldacres.com.au