CROPLANDS

# PARTS & OPERATORS MANUAL
# PEGASUS 4000-6000

WWW.CROPLANDS.COM.AU

**STOP**
**BEFORE COMMENCING** operation, **ENSURE** you read & understand this manual, its contents, and any additional information supplied.


BT-POM00808 Rev 4

CROPLANDS IS CONTRIBUTING TO A SUSTAINABLE FUTURE

# INTRODUCTION | GENERAL MANAGER'S WELCOME

**Sean Mulvaney**
**General Manager**

Dear Customer

Congratulations on the purchase of your new sprayer and thank you for supporting another true blue Australasian manufacturer.

For over 50 years Croplands have been delivering spraying solutions and ongoing support for a variety of applications whilst investing in long term partnerships with our suppliers, distributors, end users and local communities. These partnerships are absolutely key in our commitment to support our products into the future.

At Croplands, we are committed to sourcing the very best technology from around the globe and adapting these products to our specific requirements. When these products don't yet exist, we innovate through continuous investment in our own research and development.

Croplands is a wholly owned subsidiary of Nufarm Ltd, the largest supplier of crop protection products in Australasia. This brings a unique understanding and collaborative approach to new market developments, challenges and opportunities.

Please take the time to thoroughly read this manual before you operate your sprayer. This will provide direction to ensure safe usage and help optimise the performance of your investment. Your feedback is welcome and valued.

We trust you will be happy with your sprayer and the level of support - our goal is to be your preferred spraying solutions partner from this point onwards.

Yours Sincerely

**Sean Mulvaney**
**General Manager**

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# SECTION 1
## IMPORTANT INFORMATION

# SECTION 1
# IMPORTANT INFORMATION

## ABOUT THIS MANUAL

This manual provides assembly, setting up, operating and maintenance instructions for the Croplands Pegasus sprayer.

In addition to this manual, the sprayer will be delivered with the General Safety Manual (GP-SAFE-A) and all other relevant manuals.

Some features and options explained in this manual may not be installed on your sprayer.

Please pass on this manual with the sprayer at the time of resale for usage by the new owner.

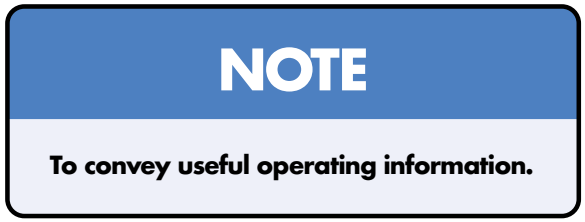
This manual, BT-POM 00808 Rev 3B, was first published in January 2021. Sustainable print Rev 4; Aug 2023.

**Check online** as there may be more recent revisions of this manual. **www.croplands.com.au**

## TERMINOLOGY

These terms/symbols used throughout this manual:

| | |
|---|---|
| **NOTE** | This Note sign is in place to convey useful information and will help you to identify the best possible way to operate the machine. |
| **CAUTION** | This Caution sign shows the potential for incident. An incident may include damage to the machine itself, or possible injury to the operator. |
| **WARNING** | This warning sign shows the potential for risk or injury and highlights the need for steps to be taken to protect ones safety. |
| **DANGER** | This Danger sign will be used in areas where the highest risk is present. Always read the information on these signs and ensure you are taking steps to prevent risk or injury. |







## BEFORE OPERATING YOUR SPRAYER

Before attempting to use your sprayer, make sure you read all Operator Manuals for this sprayer including but not limited to:

This Operator's Manual, **and all other supplied manuals** for items such as controller, pump and PTO etc.

And properly understand:

- All Safety Issues.
- Assembly & Installation instructions.
- Calibration of the sprayer.
- Sprayer Operation.
- Sprayer Maintenance.

For details not covered by the manuals, please contact Technical Support on 1300 650 724.

## INTENDED USE

Croplands sprayers are designed to be used for multipurpose spraying of herbicides, pesticides and fertilisers. The sprayer must not be used for any other purpose.

# General Specifications

*6000 litre Pegasus with 20.8 x 42 single wheels.*

## General Description & Specifications

### Tank

4000, 5000 or 6000 litre polyethylene tank with hinged lid, filling strainer, top/bottom fill point, large sump with drain, dual agitators, direct chemical induction & tank rinsing jet. Calibrated sight gauge fitted. UV and chemical resistant finish.

### Chassis

Strong, fabricated wide-rail chassis, fully welded for maximum strength. Standard with solid fixed-width axle. Adjustable-height drawbar hitch with cast swivel eye and heavy duty jack-stand. Optional air suspension axle and/or adjustable track axle, 2.1 – 3 metres.

### Wheels & tyres

18.4 x 38" on 4000 & 5000 litre models;

20.8 x 42" on 6000 litre models;

Mudguards optional (all models).

Mudflaps optional (all models).

### Pump

AR positive displacement oil-bath four diaphragm pump, chemical resistant, rated to 20 bar. Normal operating range 1 – 8 bar. Standard 185 l/min output (at zero pressure), optional 250 & 280 l/min pumps available. PTO drive standard, hydraulic optional.

### Filtration

Five filtration points: Basket (18 mesh), Filling filter (32 mesh), Suction filter (50 mesh), Pressure filter (100 mesh), Nozzle filters (50 or 100 mesh).

### Controller & boom valves

MT3405 Microtrak fully automatic controller fitted. Three electric (motorized) boom section valves are fitted as standard (4, 5 or 7 optional), dump & servo fitted, Polmac rapid-check flowmeter with in-cab console with switches, showing spray rate and other functions. Optional BA7000 or ZYNX X20 system for dual line operation.

### Boom & Lift

24, 28, 30, 33 & 36 metre booms are options (model dependent). The boom is constructed of high quality steel in a lattice design. Finish is in epoxy-coat paint for chemical resistance. Outer boom wings are fitted with self-returning breakaways. The centre boom section acts as a self-leveller, with adjustment for anti-yaw. Boom liquid tubing is stainless steel, with single non-drip nozzles fitted as standard. Dual lines or triplex nozzle bodies are optional. Boom folds hydraulically, and a wing-lift version is offered on all models. The parallelogram height adjuster has a 2000mm lift (2.5 metre from ground), and is equipped with hydraulic accumulator for boom suspension. Automatic hydraulic boom levelling available with ZYNX X20 system controller

### Agitation

Dual supa-flow agitators are fitted. Pump bypass also aids agitation & mixing.

### Chemical handling

Integrated chemical mixer/induction unit is fitted with a drop-leg device. Options include a chemical suction probe, enviro-transfer kit and a Dosmatic injection kit. A 30 litre hand-wash tank is also fitted for safety.

### Flushing & controls

A 340 litre flushing tank is fitted, operated from the easy-to use control panel, located on the left hand side of the sprayer.

### Options

Hydraulic pump drive, 250 or 280 l/min pump upgrade, 4/5/7 boom sections, dual lines, axle width adjustment kit, air-ride axle kit, mudguards and mudflaps, BA7000 controller, Induction probe, enviro-transfer kit, filling flowmeter, foam marker and/or GPS Guidance system, left & right wing-lift, independent outer wing fold kit, manual or electric fence-line nozzles, larger wheels and tyres.

### Tractor requirements

Tractor size / power required is dependent upon a combination of tractor weight, sprayer weight (with full tanks), boom size, farm conditions (soil and terrain) and road (or inter-farm) travel requirements.

As a general rule, under ideal conditions, the gross sprayer weight should not exceed 150% of the gross tractor weight and the tractor front axle weight should not be less than 20% of gross tractor weight ... (refer New Zealand Agricultural Vehicles Guide 2017).

Determining the correct tractor should be done in consultation with the tractor dealer.

*Machine specifications are subject to change without prior notification.*

## WARRANTY POLICY

Each sprayer module will be delivered with a Specifications, Safety, Warranty & Delivery Booklet which includes:

- the sprayer's specification sheet including the sprayers unique serial number,
- a safety induction checklist,
- a delivery checklist and customer induction,
- the Croplands Warranty policy and warranty registration form.

**We ask that our customers complete these forms in the presence of a Dealer and/or Croplands representative as a part of the sprayer's delivery process.**

Always contact your Croplands Dealer first and foremost for warranty matters.

**NOTE**

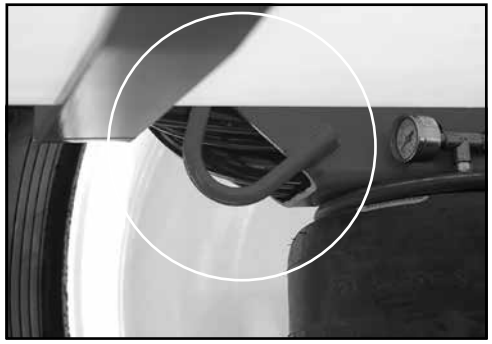
**For full conditions of warranty and warranty policy, please see the Specification, Safety, Warranty & Delivery booklet provided with this sprayer.**

## SAFETY FIRST

Please read and understand all supplied manuals, guides and safety decals before operating this sprayer. This includes the **Croplands Operators Safety Manual** – as pictured here.

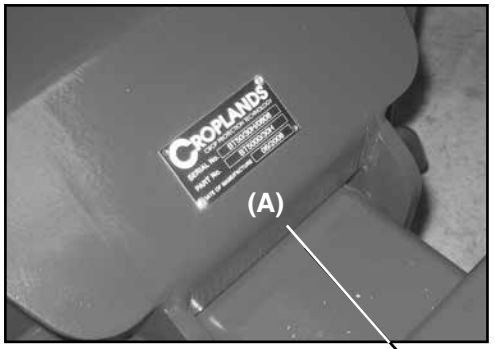
This manual is available on the Croplands Web site, or for printed versions contact Croplands customer support and ask for part number GP-SAFE-A (or later version if available).


# Shipping Information & Product ID

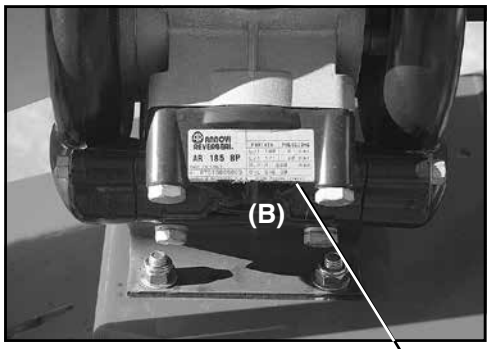


*Use the tie-down points provided when transporting.*

*6000 litre Pegasus with 20.8 x 42 single wheels.*




*Pegasus Serial Number*




*AR Pump Serial Number*

## Shipping Information

The following shipping information is provided but variations can occur without prior notification.

**Approx Weight**

| Model | Approx Dry Weight |
|---|---|
| 4000 litre | 3900 kg (24m boom) |
| 5000 litre | 4300 kg (30m boom) |
| 6000 litre | 5000 kg (36m boom) |

**Maximum Towing Speed**

Do not exceed 30 kph when towing on roads.

**Dimensions (Approx)**

| Model | W x L x H (boom folded) |
|---|---|
| 4000 litre | 2.6m x 7.9m x 3.3m (24m boom) |
| 5000 litre | 2.6m x 7.7m x 3.65m (30m boom) |
| 6000 litre | 3.5m x 7.7m x 3.8m (30m boom) (with boom folded) |

## Product Identification

Always use the serial number of the Pegasus when requesting service information or when ordering parts.

Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure for specific service operations.

## Pegasus Serial Number Plate

The Pegasus Serial Number Plate is located on the chassis above the hitch adjustment (A).

This plate shows name of manufacturer, serial number, product code and date of manufacture.

*Foam Marker Serial Number*


## Pump Serial Number Plate

The Pump Serial Number Plate is located on the pump (B).

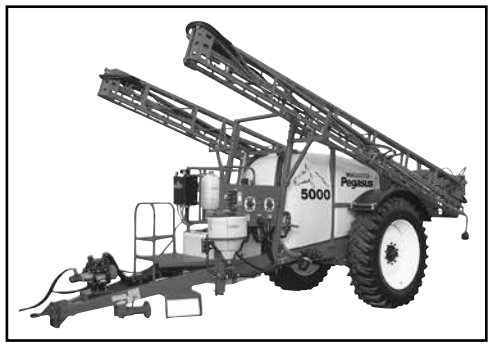
This plate shows name of manufacturer, serial number, type of pump, year of manufacture, maximum flow rate and maximum working pressure of the pump.

## Foam Marker Serial Number Plate

The serial number provides important information about your Outback RA Marker and may be required to obtain the correct replacement part(s).

The serial number plate for the marker is located on the bottom right side of the enclosure. It is suggested that the serial number be recorded.

# SECTION 2
## PRE-OPERATION




The Pegasus is fully assembled at the factory.

## Assembly Instructions

The Pegasus is fully assembled when shipped from the factory except for the PTO shaft (as the standard option).

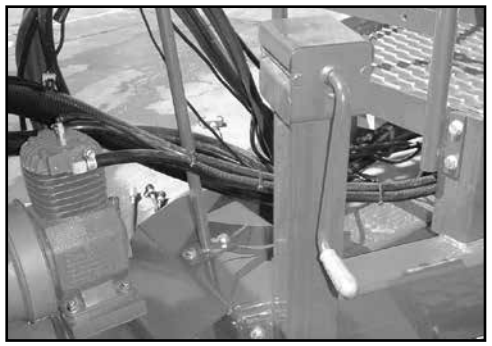
The air-axle suspension, if fitted, should be inflated before setting up the hitch height.

If your particular machine has a hydraulic-drive for the pump instead of a PTO shaft, please read the set-up procedure instructions for the hydraulic drive carefully.

## Connect the Pegasus to the Tractor

Seven steps are initially required to hook up the Pegasus to your tractor.

1. Connect the Pegasus hitch to the drawbar and connect safety chains. (see following procedure.)
2. Fit the PTO shaft, if this is supplied.
3. Connect hydraulic hoses for the boom/height adjuster, and for the hydraulic-drive for your pump if this option is fitted.
4. Fit the Spray-rate controller.
5. Fit the Foam marker controller.
6. Connect all power leads direct to the battery.
7. Activate the air-bag suspension (if fitted) & check pressure.



Adjust the hitch jack until the work platform is level.

### 1. Connect the Pegasus Hitch to the Tractor

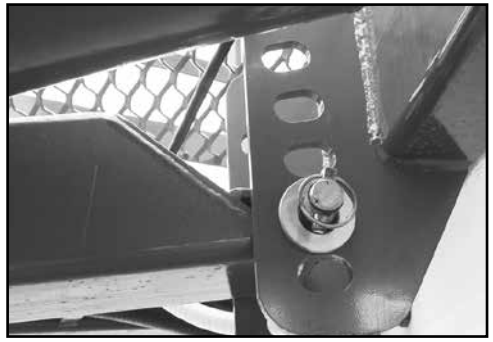
**To connect the Pegasus hitch to a suitable tractor:**

1. Check the Pegasus is level fore and aft. The working platform of the sprayer should be level.

   If not, adjust the hitch up or down using the hitch jack until the work platform is level.

2. Align the Pegasus hitch with the tractor drawbar.

   If the Pegasus hitch is higher or lower than the tractor drawbar, adjust the height of the Pegasus hitch to match the tractor drawbar height.



Remove the pin adjust the hitch height as required.

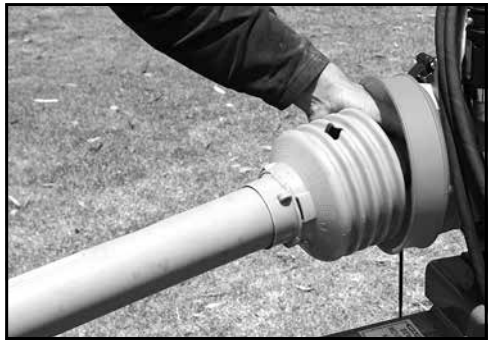
To adjust the hitch height:

a) Using the front and/or rear pins that hold the adjustable hitch in place, adjust the hitch to the correct angle and height to match your tractor drawbar (see above).

b) Ensure the pins are correctly re-installed after adjustment is complete (see below).

Ensure the pins are correctly reinstalled.

Unpin and lift up the lift jack base.



Correctly fit the PTO shaft to the Pegasus.

3 Insert the drawbar pin & lock the retaining pin in position to ensure the pin cannot come out while transporting or operating.

4 Connect the safety chains to the tractor chassis or drawbar.

5 Fold up the hitch jack:

a) Wind up the jack with the handle,

b) Push the release button and lift the foot-plate right up to the bottom of the chassis for full clearance.

When in position, release the button to lock it into position

Pin the lift jack into position.

## 2 Fit the PTO Shaft

This section is not applicable to any Pegasus fitted with a hydraulic pump drive option.

The standard fitted PTO shaft has been fully tested at the factory and packed for transit.

To fit PTO shaft:

1. Remove the PTO shaft which is strapped to the Pegasus platform.
2. Check the PTO shaft has not been damaged in transit.
3. **Measure and fit the PTO** to the Pegasus ensuring the locking pin is correctly located.

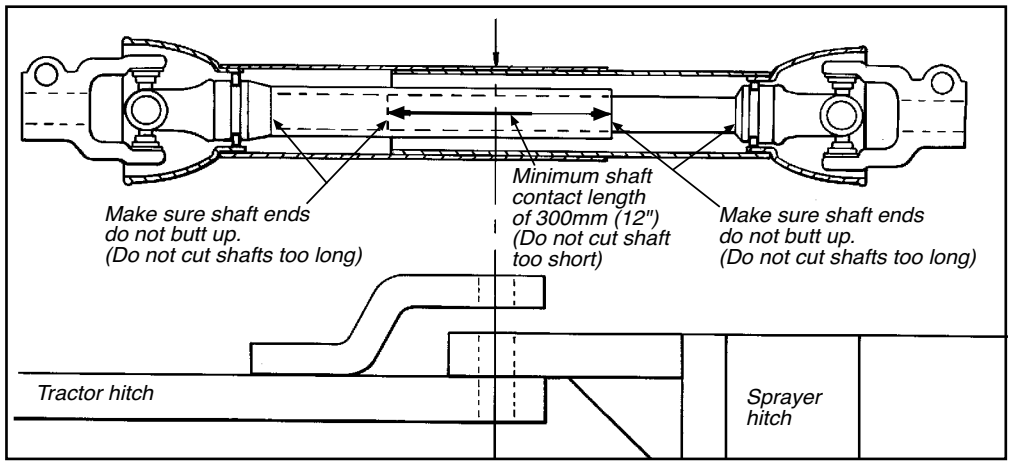
   **Be sure to read, understand and follow instructions, "The important factors for fitting the PTO shaft".**

4 Grease the universal joins and telescoping shafts.

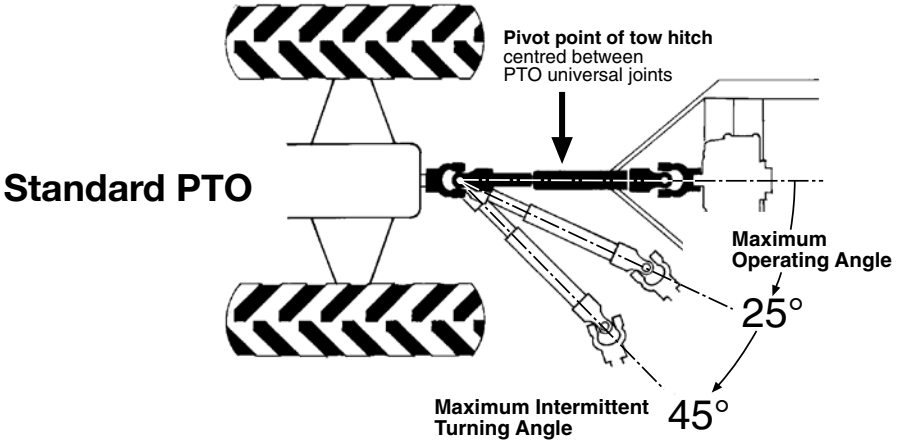
5 Fit the PTO to the Pegasus ensuring the locking pin is correctly located.

6 Before operating the drive shaft, be sure that all safety guards and chains are securely in place.

> ⚠ ***CAUTION***
>
> ***Incorrect fitting of PTO shaft will result in excessive pump vibration, and will likely damage the PTO and pump prematurely.***




On Standard PTO shafts, it is recommended that the drawbar pin connecting the tractor & Pegasus should be as close as possible, between the two universal joints of the PTO shaft.




Standard PTO Operating Limits

## Important Factors when Fitting the PTO Shaft

The following three factors must be correct to avoid pump damage and maximise PTO operating life:

1. When travelling straight ahead, the point at which the sprayer drawbar pin is joined to the tractor should be as close to centre as possible, between the universal joints of a Standard PTO shaft, as illustrated.

   The tractor is then able to make maximum turns with minimal bending of the universals.

2. When the tractor is towing the sprayer straight ahead, the two telescopic sections of the power take-off shaft are at maximum extension.

   When turning or crossing an inversion, the telescopic shaft sections close up.

3 The height difference between the tractor PTO spline and the PTO spline of Pegasus should not be more than 100mm.

   This ensures PTO joint angles are approx equal and do not exceed limits. If greater than 100mm, a wide angle (constant velocity) PTO should be used. See Hitch height adjustment instructions.

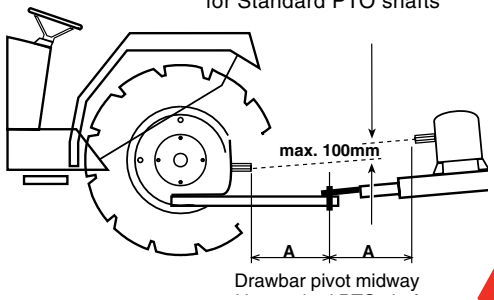
## Heed the Operating Limits of the Standard PTO Shaft

The standard Pegasus is fitted with a STANDARD PTO shaft.

The maximum intermittent turning angles of the Standard PTO shaft is only recommended where should not exceed 45° turning angle of the PTO.

Standard PTO Operating Limits

Maximum spline height
difference 100mm (approx)
for Standard PTO shafts




**NOTE**

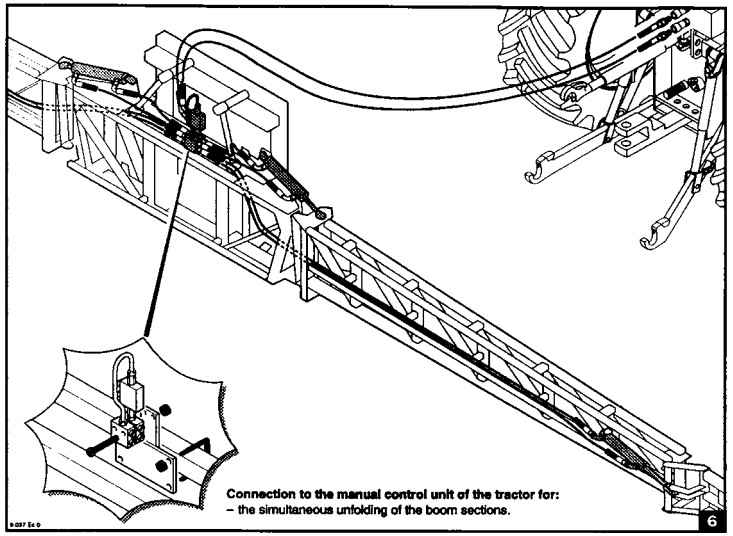
***IMPORTANT: Do not allow more than 10% difference in the two halves of drawbar length. If more than 10% difference occurs, a wide angle shaft must be used.***

**⚠ CAUTION**

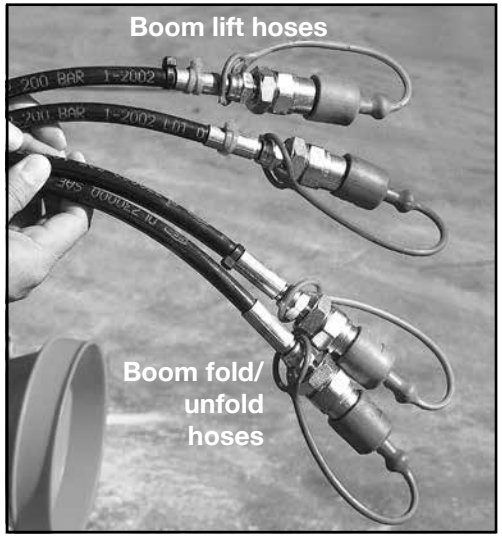
***Ensure that the drive shaft is the correct length to avoid any "butt up" damage to the pump.***

**⚠ CAUTION**

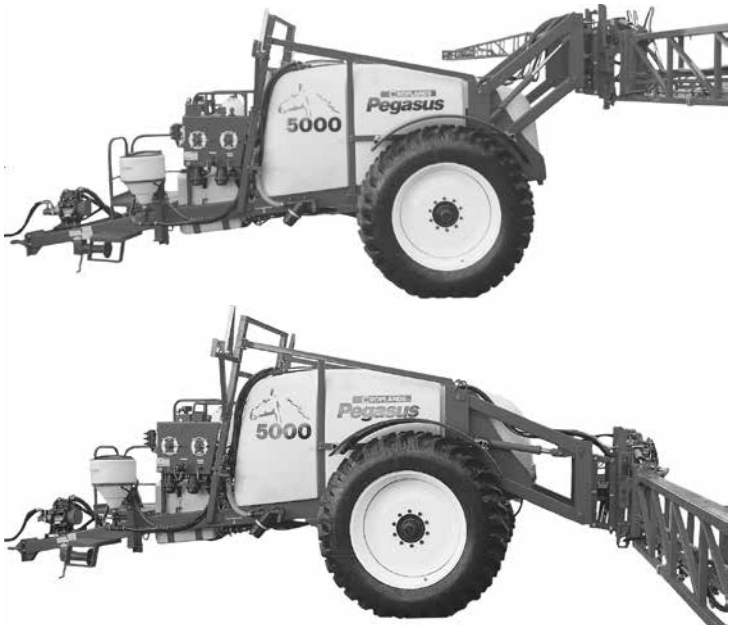
***Pump warranty is not valid for damage caused by incorrect PTO shaft mounting.***




Boom fold hose connection.




Standard hose connectors for boom lift and fold.




Boom lift shown in raised and lowered position.

## 3. Connect Hydraulic Hoses to the Tractor

The standard Pegasus Compact Boom provides simultaneous unfolding of boom sections and hydraulic lift adjustment of boom height.

Prior to connecting your boom hydraulic hoses, remove the boom lock-plate (see pic). This plate is in place for transport to your dealer from the Croplands' factory.

Connect the boom hydraulic hoses to the tractor, namely:

a) Boom fold hoses.

b) Boom parallelogram lift hoses.

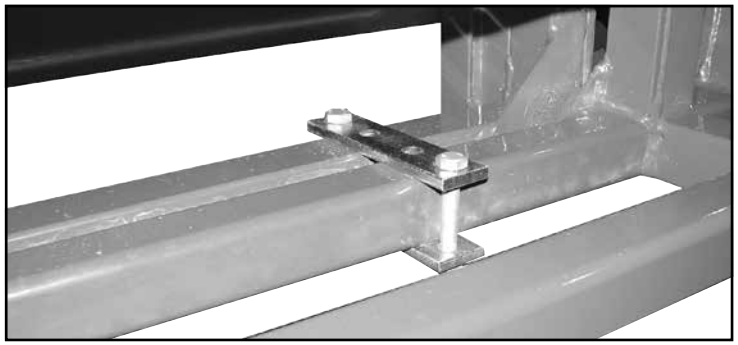
c) If fitted, connect the hoses for the wing lift (optional) - see following pages.

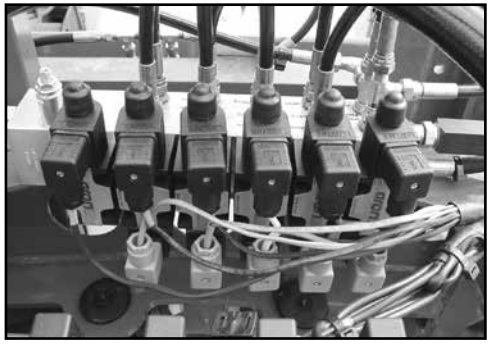
d) If fitted, connect the hoses for the hydraulic pump drive (optional) - see following pages.

**⚠ *WARNING***

***Prior to operating the boom hydraulics, remove the boom lock-plate as shown on right.***

Prior to operating remove the boom lock-plate (in position).





Electric/hydraulic valves.

## 3a. Electric/Hydraulic Valves

If your sprayer is fitted with wing-lift, and/or independent outer wing fold, the hydraulic system on the sprayer consists of electric over hydraulic valves to enable all functions to be operated from one set of hydraulic remotes.

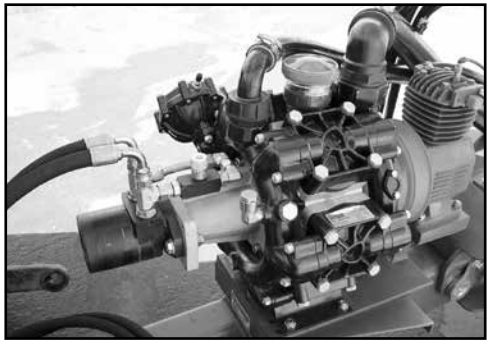
1. Hook up the hydraulic hoses to the tractor remotes.
2. Install the electric/hydraulic control console in the cab in a suitable location.

Electric/hydraulic control console.


Connect electric/hydraulic console cables at rear of tractor.

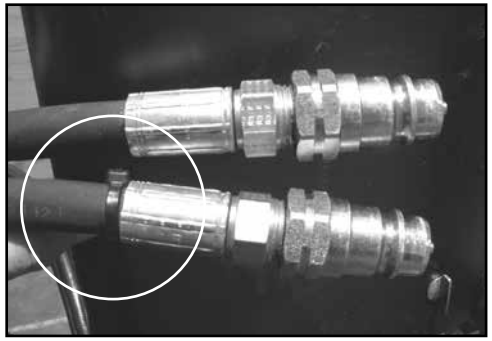
3. Ensure the power leads are connected to the battery terminals.
4. Connect black trailer plugs at rear of tractor (see pictures above & below).

Once the boom & lift hydraulic system is hooked up correctly, test the boom functions with the tractor running. Ensure your working/ testing area is clear of bystanders.



Hydraulic drive pump.

If your sprayer is fitted with a hydraulic pump drive, connect the hydraulic hoses to the tractor remotes.



Hose marked with cable-tie is for the PRESSURE line.

## 3b. Hydraulic Pump Drive Set-up

### Open Centre System

1. If your pump is fitted with a hydraulic pump-drive, connect the hydraulic pressure and return lines to your tractor remote.

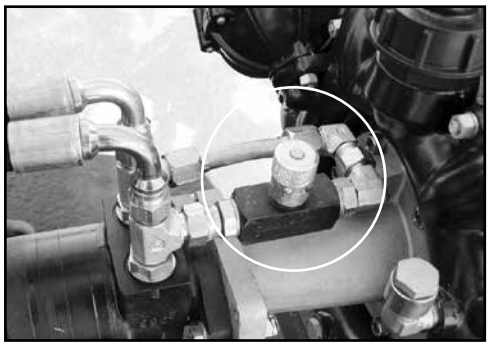
**NOTE**

***Please read the following page to ensure you know if your tractor has open or closed centre hydraulics.***

***This is VERY IMPORTANT to ensure your pump drive works correctly.***

**NOTE**

***Ensure the marked hydraulic line is designated as your pressure line (see pic above)***



Speed adjustment flow-control valve.

2 Open the speed adjustment flow-control valve fully by winding it out anti-clockwise – this must be done prior to engaging your hydraulics

3 Engage the hydraulic control in the cab of the tractor

4 Close the speed adjustment flow-control valve slowly by turning it clockwise until the desired RPM of the pump is reached. Ensure the RPM DO NOT exceed 540.

## Closed Centre System

Leave the control valve closed on the pump and adjust from the tractor to reach the desired speed.
Do no exceed 540 RPM.

***NOTE***

***Consult your Croplands dealer if you require assistance with determining pump RPM.***

***The dealer will be able to calibrate this using an RPM meter or rev counter.***

## Open Centre vs Closed Centre Hydraulics

For the best operation of your hydraulic-drive Diaphragm pump or hydraulic-drive filling pump, there are some adjustments that can be made by your dealer on your tractor hydraulics for best performance & lower heat generation to protect your tractor.

In general terms, there are three systems, which are described below:

## Open Centre Systems

In an open centre system, the hydraulic pump on the tractor puts out a constant flow. If the pump puts out more oil than the hydraulic-drive motor can use, a portion of the oil must be bypassed around the motor.

When the oil is bypassed around a loop and does no work, the energy put into it by the pump turns into heat. Therefore, the amount of oil bypassed should be kept to a minimum.

Tractor adjustments may be necessary, consult your dealer if you are unsure.

## Closed Centre (Pressure Compensated) Systems.

The closed centre pressure-compensated system has a variable displacement pump which will deliver flow at the necessary rate to maintain a specified pressure.

It is best to have the pump operating at around 1800 to 2100 psi with the relatively low-flow hydraulic drive motor fitted to the Pegasus (if fitted).

Tractor adjustments may be necessary, consult your dealer if you are unsure.

## Closed Centre Load Sensing Systems (Flow and Pressure Compensating).

The closed centre flow-compensated system is a variation of the pressure-compensated system, designed primarily for more efficient operation and the generation of less heat.

It works on the principle of maintaining a constant pressure drop from the pump to the work port of the selector valve.

Any variation in the demand at the motor will cause a change in flow.

The system senses this change in flow due to the change in pressure drop across the valve, and causes the pump to compensate by varying the pump flow.

No restrictor is required in the pressure line and no oil is bypassed.

Check with your dealer to see if your tractor has this system.


MT3405 Controller standard.

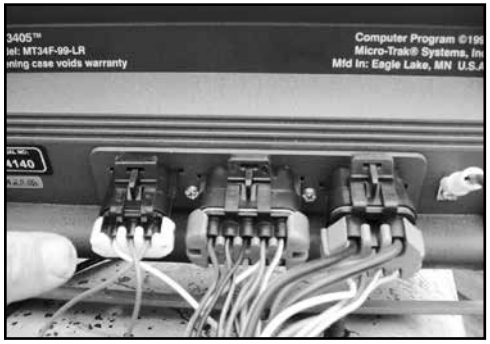
## 4 Fit the Spray Controller

The Spray Controller has been fitted and fully tested at the factory but has been disconnected and packed for transit.

To fit the Spray Controller:

1. Unpack the Spray Controller and cables.

> **NOTE**
>
> ***For operating instructions for the model of spray controller you have been supplied, refer to the controller manual supplied separately.***

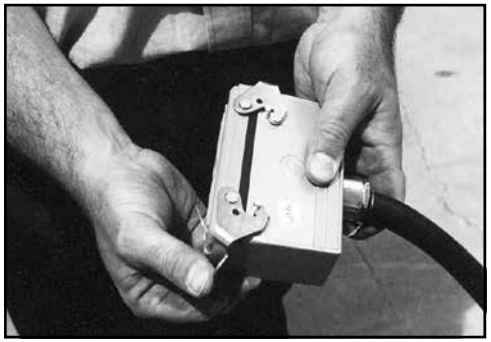


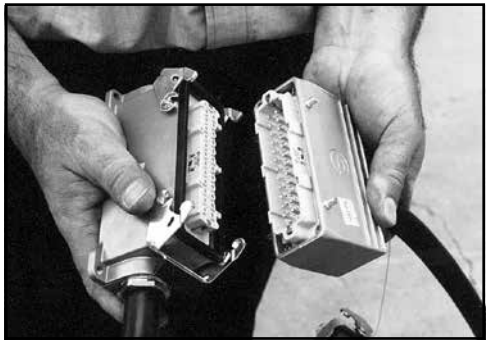

Connect the leads of the Controller to loom.

2. Connect the leads at the rear of the Spray Controller (shown connected).
3. Fit the Spray Controller console into the tractor cab in a convenient and safe location for the operator.

> **NOTE**
>
> ***Ensure any colour coded cable-ties on the looms are matched.***
>
> ***If the ZYNX X20 controller is fitted, refer to the X20 Instruction manual for installation guidelines and connection diagrams.***

Ensure dust caps are fitted to the Controller cable couplings when disconnected.



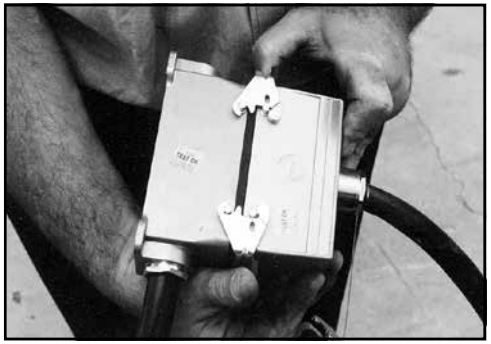


Connect the main loom couplings.

4. Connect and lock together the main loom couplings at the rear of the tractor.

> **NOTE**
>
> ***The male plug has locating holes so it can be mounted on the rear of the cab. Likewise, if you have an electric/ hydraulic control console for a wing-lift boom; it is recommended the black trailer plug also be fixed next to the main loom connector.***

Lock the Controller couplings together.



Dual lines on the boom.

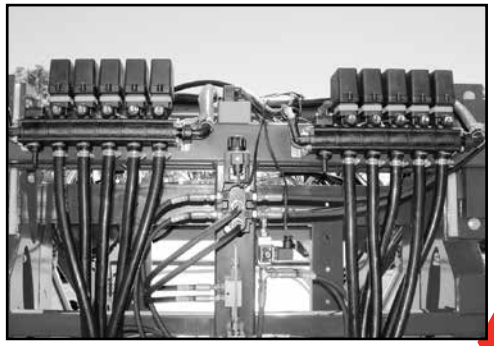
### Dual Line Option

If you have chosen dual lines to be fitted to your sprayer, you will be familiar with the use of this option on your Pegasus sprayer.

In general terms, there are usually two reasons to have dual lines fitted:

1. To increase the boom output using the same speed setting by introducing a second boom line - this negates the need to change nozzles to perform this task, and;
2. To increase the speed range available for your sprayer by having the second boom line cut in/out at a given speed.

Dual line valves at the rear of the sprayer.



# Hook-up


The BA7000 Manual.

For the operation of dual lines, you will need the refer to the BA7000 or ZYNX X20 Spray Controller manual supplied with your Pegasus Sprayer for full calibration and operational information.

Your BA7000 or X20 controller has been factory set to match the nozzles you have fitted to the Pegasus.


Mount the Foam Marker Controller in the cab.

## 5. Fit the Foam Marker Controller

The Foam Marker Controller has been fitted and fully tested at the factory but has been disconnected and packed for transit.

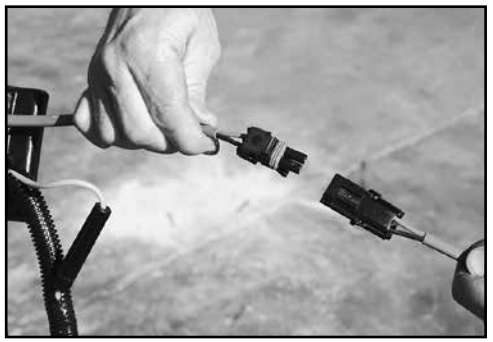
To fit the Foam Marker Controller:

1. Unpack the Foam Marker Controller and cables.
2. Mount the Foam Marker Controller in a convenient location in the tractor cab.

   A Velcro strip has been provided for attaching it to a flat surface.

   Cut the strip into four pieces, placing two strips face to face at each end.

   You are free to choose your own hardware to secure the control box.

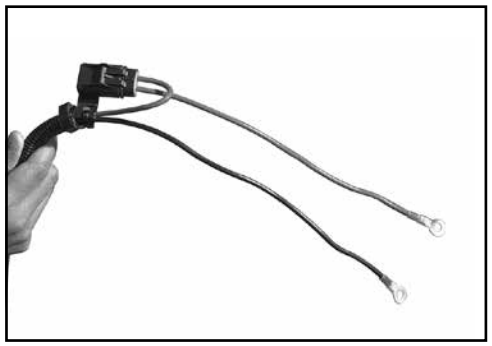


Connect the 4-pin plugs of the Foam Marker Controller.

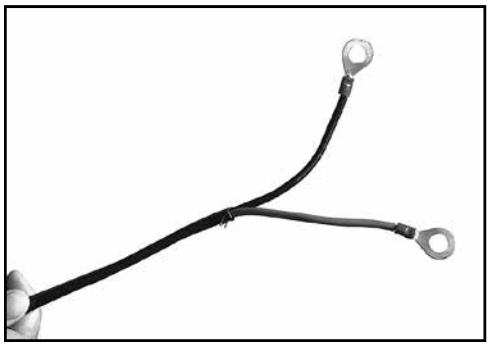
3. Connect and lock the Foam Marker Controller 4-pin plug and loom 4-pin plug together.
4. Route the power loom from the cab to the battery.

Connect Foam Marker.

5. Connect and lock together the Foam Marker Controller loom couplings on the main harness.



Connect the main harness cables to the battery.



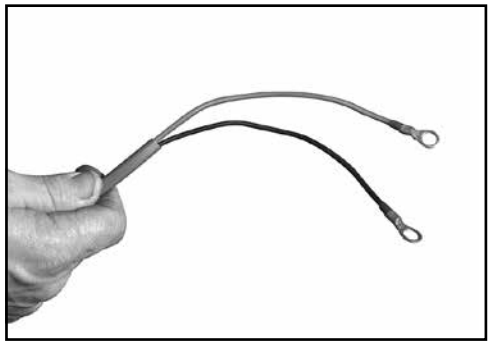
Connect the auxillary power cables to the battery (if fitted).

## 6. Connect Power Leads to the Tractor Battery

Connect all power leads **directly to the battery,** namely the:

- Spray Controller leads
- Foam Marker Controller leads
- Electric/hydraulic control console auxiliary leads

Connect the Foam marker power cables to the battery (if fitted).



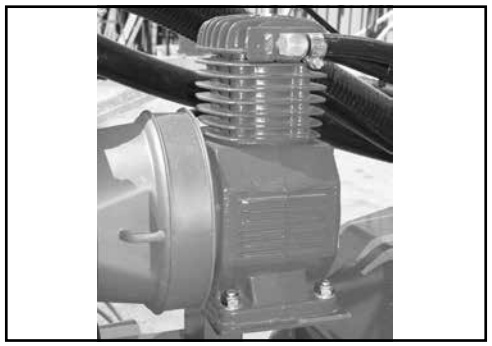
**WARNING**

***Make absolutely certain that:***

***• Red leads are connected to the positive terminal, and***

***• Black leads are connected to the negative terminal.***

***Damage can occur to units if power leads are reversed or incorrectly fitted.***



Air tank compressor.

## 7. Activate the Airbag Suspension

To activate the Airbag Suspension follow the procedure below:

1. Engage the PTO.

   The compressor will now pressurise the Pegasus air chamber, and raise the chassis.

**WARNING**

***Before running the compressor for the first time, ensure the crankcase is filled with 20-40 oil to the CENTRE of sight glass. DO NOT OVERFILL.***

***If the optional dipstick is fitted, DO NOT FILL above the mark of the dipstick bottom stem. When checking oil level with dipstick, insert dipstick in place, DO NOT SCREW IT DOWN, lift out dipstick and check reading. Top up, if necessary.***

***Change oil after the first 30 hours of running, and every 100 hours after the initial running stage.***

***DO NOT USE FRICTION MODIFIED OILS, NEGLECT WILL VOID ANY WARRANTY.***

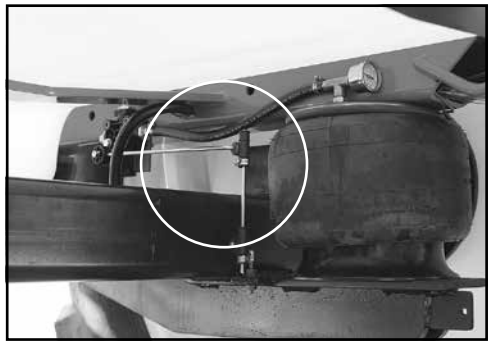
Air chamber/tank.

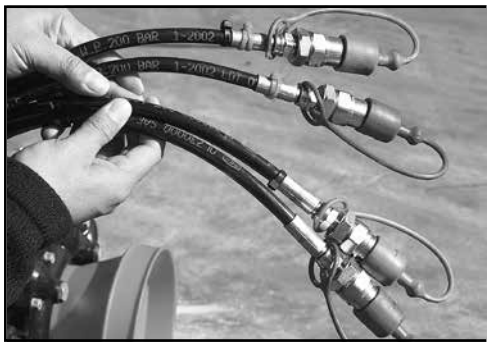
Ensure air-tank drain valve is shut.

The system is fitted with a pressure relief which automatically bleeds air when the preset pressure is reached.

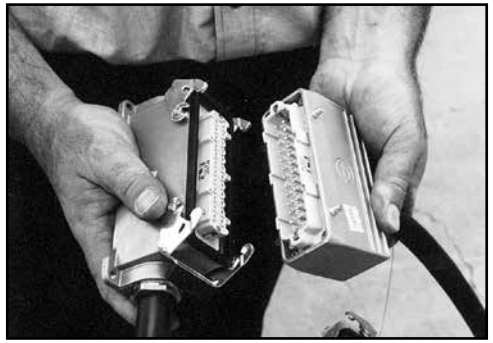
2 Remove the wooden transport **blocks from each side of the chassis (if fitted).**

Wooden transport blocks removed (if fitted).

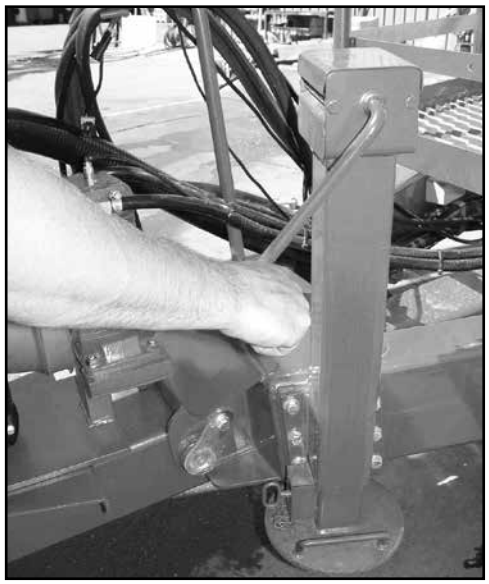




Disconnect hydraulic hoses & PTO shaft.



Disconnect the main loom coupling.



Unlock, unpin & wind down the hitch jack.

## Unhitching the Pegasus from the Tractor

To disconnect the Pegasus sprayer from the tractor, follow the procedure below:

1. Ensure boom arms are in the folded position. THIS IS IMPERATIVE FOR THE SAFE UN-HOOKING OF THE SPRAYER (See Warning below).
2. Locate the sprayer on level ground and disconnect the:
   - PTO shaft,
   - Hydraulic hoses - for the boom and/or the hydraulic pump-drive,
   - All electrical looms,
   - Hydraulic hoses to filling pump (if fitted).
3. Unlock, unpin and wind down the hitch jack.
4. Pin & lock the hitch jack into position and, then, adjust the hitch height using the hitch jack.
5. Unlock and remove the tractor drawbar pin.

***NOTE***

***Steps above must be performed on level ground.***

***WARNING***

***Boom arms MUST be in the folded position prior to parking and un-hooking the sprayer.***

***Failure to complete this operation correctly MAY result in INJURY or even DEATH.***

***NOTE***

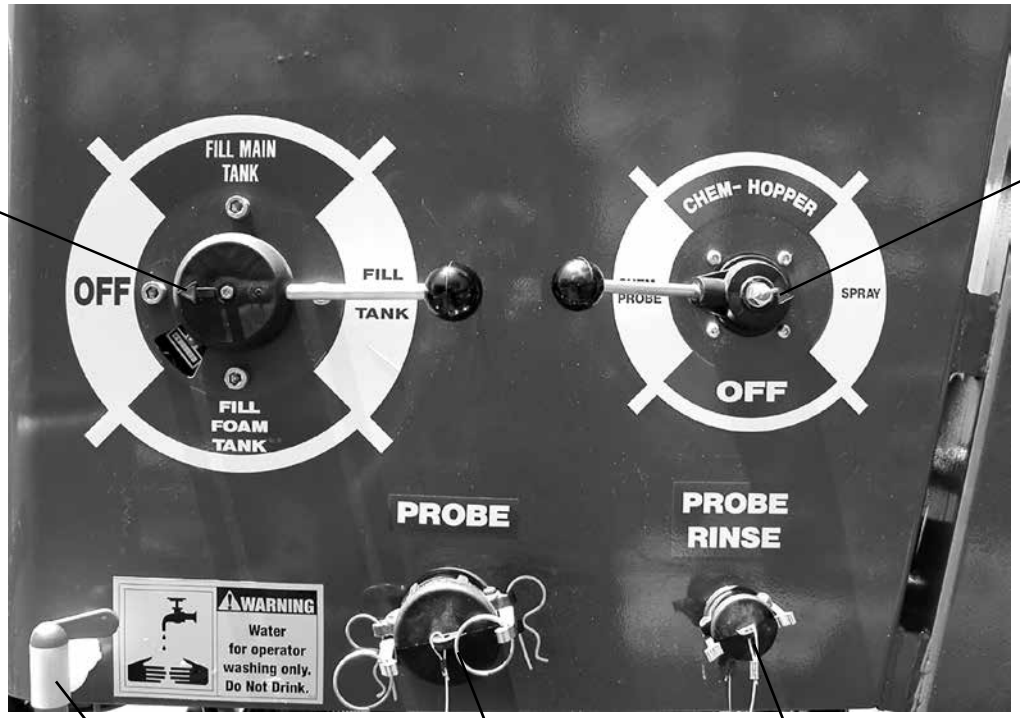
***Fit dust covers to hydraulic remote connectors to avoid dirt/dust contamination.***

# Main Controls & Functions

The location of the Pegasus main control panel & other valves facilitates central, easy access of all control points for filling, mixing, spraying & cleaning functions:

**Fill Control Lever**
(4 operating positions):

- **Off**
- **Fill Spray tank**
- **Fill Flush tank**
- **Fill Foam tank**



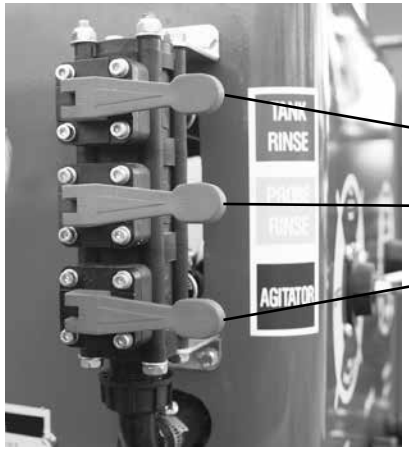

**Pressure Control Lever**
(4 operating positions):

- **Spray**
- **Chem-E-Flush Hopper**
- **Chemical Probe**
- **Off**

**Fresh Water Tap**

**Chemical Probe Connector**

**Chemical Probe Rinse Connector**




**Tank Rinse valve**

**Probe Rinse valve**

**Agitator valve**

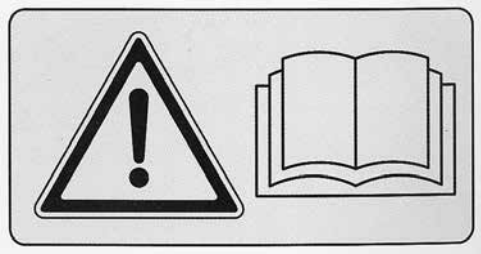
**Suction Line valve**


**Chem-E-Flush Nozzle valve**

**Chem-E-Flush Drum Rinse valve**

**Chem-E-Flush Transfer valve**

# Pre-Operation Check



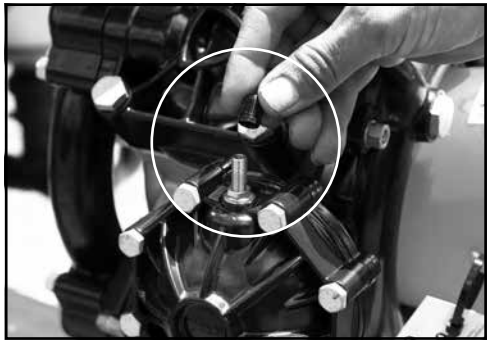
Read Operators' Manuals before operating machine.

## Pre-Operation Check List

1. Read Operator's Manuals thoroughly, before attempting to use this machine.
2. Read and follow instructions on chemical manufacturers labels.
3. Always wear applicable protective clothing.
4. Check that all maintenance procedures have been followed.
5. Check all plumbing and fittings to ensure they are tight, not damaged or leaking.
6. Check PTO shaft is correctly set up.
7. Grease the PTO shaft if necessary.
8. Check hydraulic connections.

Check pump oil level.

9. Check diaphragm pump oil level.



Check pump air chamber pressure.

10. Check air pressure in the diaphragm pump air chamber is 70 - 100 kPa (10- 15 psi).
    As a general guideline it should be 10% - 20% of operating pressure.

Check the suction filter is clean.

11. Check the suction filter is clean.

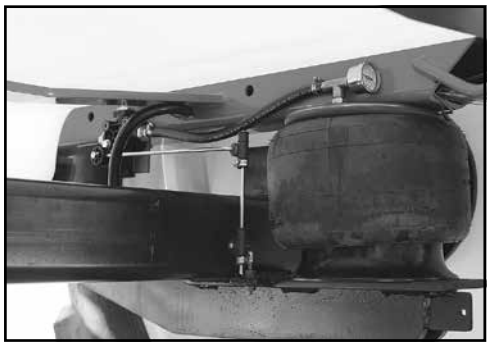
    Thoroughly clean the suction filter out after initial use.

***NOTE***

***IMPORTANT: Clean the suction filter out after initial use.***

***Whilst all precautions are taken during assembly, it is possible to get filings in the tank and lines. These will accumulate in the suction filter during first use.***

Check the pressure filter is clean.



Airbag Suspension.


Check foam marker operates correctly.

12. Check the pressure filter is clean.

    Thoroughly clean the pressure filter out after initial use, and nozzles if necessary.

13. If fitted, check the airbag suspension system is working correctly (Refer to “Check the Airbag Suspension”).

14. Check the foam marker operates correctly (Refer to Foam Marker operating instructions).

15. Check all Pegasus spraying functions (Refer to “Check the Spray Controller Operation”).

***NOTE***

***IMPORTANT: Clean the pressure filter out after initial use.***

***Whilst all precautions are taken during assembly, it is possible to get filings in the tank and lines. These will accumulate in the filter during first use.***

**WARNING**

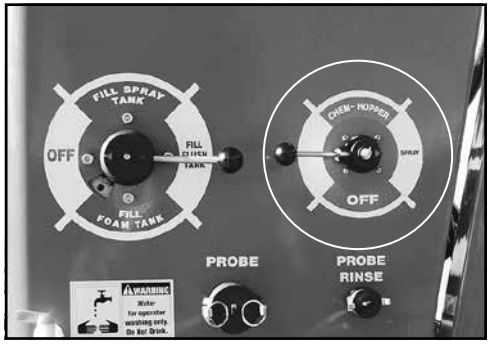
**Ensure wheel nuts are tight before every use.**
**Recommended Torque settings:**

**M12 = 100 Nm (73 ft. lbs.)**
**M14 = 166 Nm (122 ft. lbs.)**
**M16 = 235 Nm (173 ft. lbs.)**
**M18 = 344 Nm (253 ft. lbs.)**
**M20 = 504 Nm (372 ft. lbs.)**
**M22 = 600 Nm (442 ft. lbs.)**

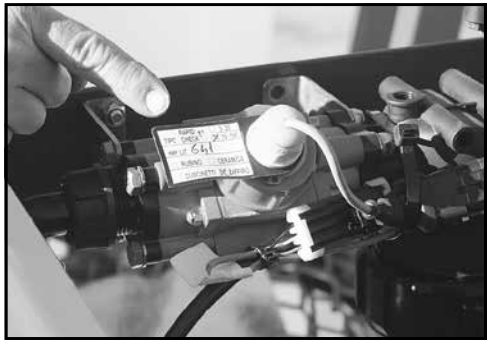
# Pre-Operation Check


MT3405 Controller standard.


Place the suction valve in "Spray" position.




Rotate the Pressure Control Lever to "Spray" position.



Enter the flow meter calibration factor.

## Check the Spray Controller Operation

The automatic Spray Controller controls all aspects of the spray application rate.

Set the rates you want and the Controller ensures constant application rate - irrespective of undulating terrain, engine speed, ground speed and variations in nozzle wear.

To operate the unit:

1. Connect Pegasus to tractor.
2. Fill an appropriate quantity of clean water into spray tank.
3. Place the Suction Line valve in “Spray” position.
4. Rotate the Pressure Control Lever to “Spray” position.
5. Follow the instructions in the Spray Controller Instruction Manual - to calibrate and operate the Controller. If a X20 controller is installed, it will need to be charged prior to use. Refer to manufacturer's installation instructions for details.
6. Place the master switch of the Spray Controller in OFF position for start up. Ensure the controller power switch is ON.
7. Engage the PTO and bring the PTO (pump) speed up to 540 RPM.

   In the case of a hydraulic drive, engage the appropriate hydraulic remote.

   All pumped liquid is now being passed through the dump valve back into the tank. The system is not pressurised and tank agitators are not working.
8. Pressurise the system and operate the tank agitators.

**⚠ *WARNING***

***Do not have pesticides in the spraytank when checking the sprayer.***

***NOTE***

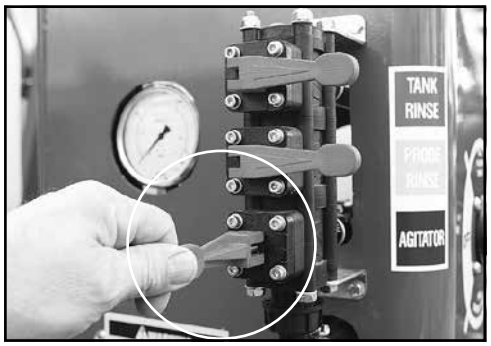
***Additional copies of the Spray Controller manual can be downloaded in a PDF file format from the Internet.***

***For the micro-trak MT3405 or MT9000 controllers, log onto www.micro-trak.com and follow the menu.***

***For the Teejet 854, send an email with your request to teejetoz@spray.com and they will forward you a spare copy.***

X20 Controller

Adjust the manual pressure relief valve.




Check the tank agitator valve is open.


+/- keys and auto/man key.


Boom switches on, master switch in hold.

9. Adjust the spraying pressure as follows with the tractor & sprayer stationary:

   (a) On the Spray Controller, select the MANUAL mode using the appropriate key.

   (b) Switch on all boom valves, and switch the controller into the "RUN" position. Water will now be flowing out the nozzles.

   It is recommended to do this with the boom open in the spraying position.

   (c) Use the "+" key on the Spray Controller to fully close the electric servo valve. This will take a few seconds.

   (d) When the servo is fully closed, adjust the manual pressure relief valve as shown to the maximum working pressure. In the case of the Pegasus, we recommend the maximum working pressure be set at 8 BAR (120 psi).

   If the maximum pressure is above this, damage to your sprayer may result.

   (e) Use the "-" key to reduce the pressure to your normal spraying pressure - 2-4 BAR (30-60 psi).

10. Check the tank agitator valve is open.

11. Visually check that both tank agitators are working.

> ***NOTE***
>
> ***The maximum spraying pressure will vary with different nozzles.***
>
> ***We recommend you re-adjust your maximum pressure if you change your nozzle selection.***

12. Turn the Controller Master switch ON & OFF and check all boom sections switch off together.

13. Turn fenceline* nozzle ON & OFF to check it is working correctly (*if fitted)

14. While water is being pumped through the boom, check for any leakages or blockages throughout the sprayer.

    Check all hoses, connections, valves, filters, boom fittings etc.

    Check the nozzles are operating correctly.

    Rectify any problems.

15. With all boom operating, re-check pressure range by alternating from "+" to "-" on the Spray Controller while in MANUAL mode.

    Ensure maximum pressure does not exceed 8 BAR. Minimum pressure should reach almost zero.

16. Switch booms ON & OFF several times, ensuring each section is operating individually, and that the non-drip nozzle bodies are working.

17. On completion of checking the sprayer, turn controls Off by placing the master switch and boom switches in OFF position.

18. Disengage PTO or Hydraulic pump drive after the Spray Controller is switched off.

### Pump Storage and Corrosion Protection

1. **Warm Climates**

   If you operate in a warm climate with no chance of frost in the winter, you will not have any problems with frost damage.

   If you are storing your sprayer between seasons, ensure your pump has been thoroughly flushed with clean water. A good idea is to run a mixture of 1% solution of summer mineral spraying oil through the pump and plumbing system. Summer spraying oil is water-soluble oil such as DC-Tron. This will coat and protect all internal pump parts. Ensure this mixture is flushed out before spraying commences in the new season.

2. **Cold Climates**

   For prolonged storage, an anti-freeze mixture can be flushed through the pump. Ensure this is thoroughly flushed out prior to the commencement of spraying again.

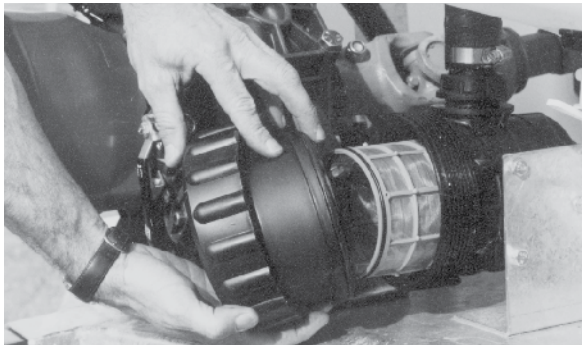
   If the pump is being stored overnight and a risk of freezing is imminent, drain all liquid from the pump and lines, including boom lines.

## FILTERS

### Filter Maintenance

Clean filters ensure that no solids enter the spraying system to block or damage pump or nozzles.

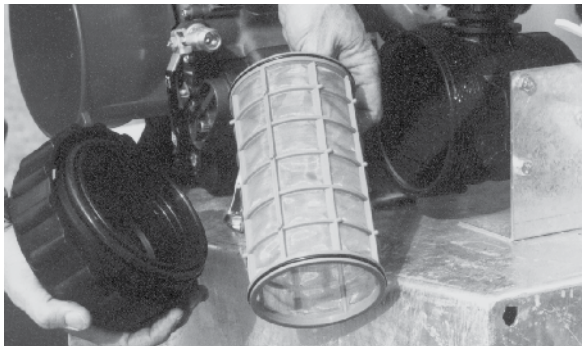
All filters should be cleaned regularly or after each spraying period.



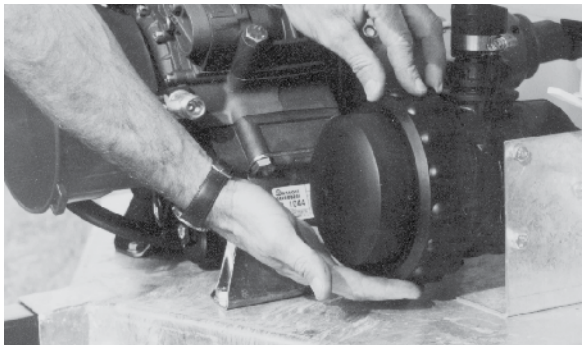
Remove the outer screw and bowl of suction filter

### Suction Filter

The suction filter should be cleaned regularly, or after each spray tank has been emptied.



Remove & clean the filter element & components

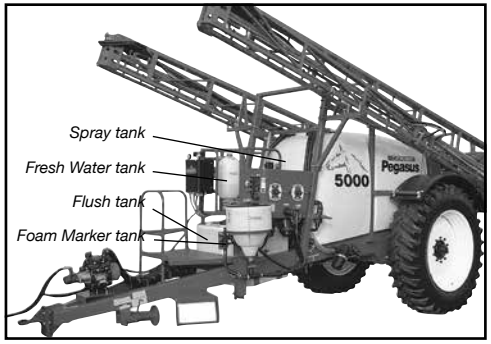


Reassemble & tighten the outer screw of suction filter

### Pressure Filters

The pressure filters should be cleaned regularly, or after each spray tank has been emptied.

# SECTION 3
## SPRAYER OPERATION




*Open spray tank lid for top-filling.*

## Filling the Pegasus Tanks

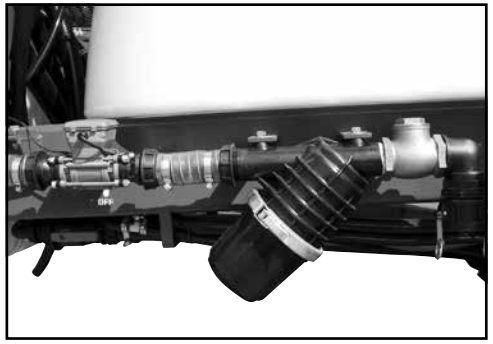
Three of the four Pegasus tanks can be filled by bottom-filling or via the top lid.

| Tank | Top Fill | Bottom Fill |
|---|---|---|
| 1. Spray tank | ✓ | ✓ |
| 2. Flush tank | ✓ | ✓ |
| 3. Foam Marker tank | ✓ | ✓ |
| 4. Fresh Water tank | ✓ | x |

Use clean, fresh water (preferably rainwater), free of suspended organic matter or clay. Some chemicals are deactivated when they contact these materials.

Always calculate the correct water quantity required, and when filling, allow sufficient water quantity for adding and mixing chemicals. If necessary top up the tank to required quantity after adding chemicals.

Use your preferred filling method.



*Clean the bottom fill filter.*

## Bottom-Filling

The bottom-fill facility requires a pressured water source and can be used to fill the spray tank, flush tank and foam marker tank.

To fill tanks using the bottom fill:

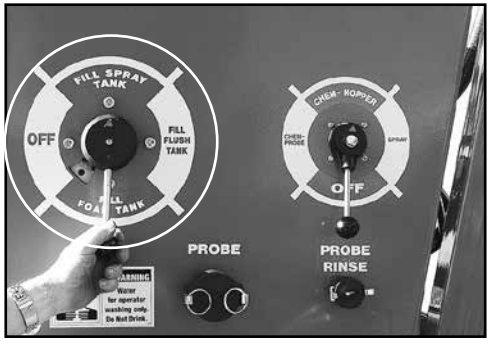
a) Clean the bottom fill filter.

b) Connect the filling hose to the bottom fill inlet connector.

**NOTE**

***The Pegasus is fitted with a filling flowmeter.***

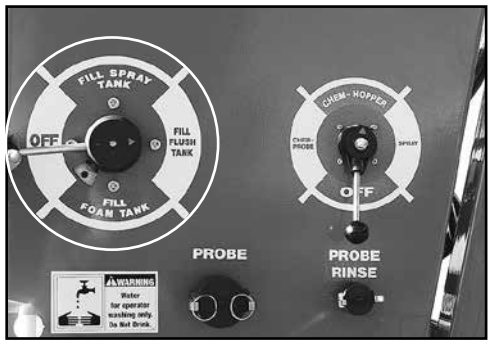
***Zero the filling flowmeter prior to filling.***




*Rotate the Fill Control Lever to "Fill Spray Tank" position.*

c) Rotate the Fill Control Lever to "Fill Spray Tank" position.

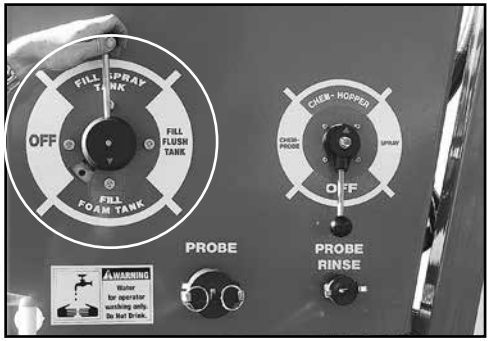
d) Fill the Spray tank with the required amount of water.




*Rotate the Fill Control Lever to "Fill Flush Tank" position.*

e) Rotate the Fill Control Lever to "Fill Flush Tank" position.

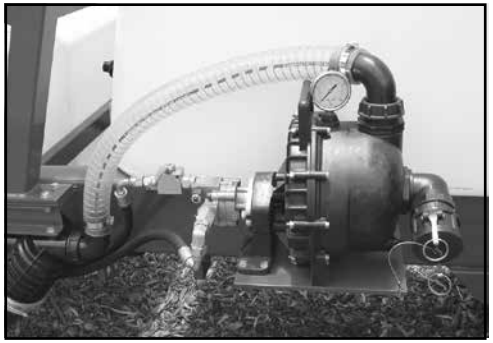
f) Fill the Flush tank with water.




*Rotate the Fill Control Lever to "Fill Foam Tank" position.*

g) After filling the tanks, rotate the Fill Control Lever to “Off” position.

h) Disconnect the filling hose and replace the bottom fill inlet cap.



*Filling pump (if fitted).*

## Operating the Filling Pump

a) Connect your filling hose from the water source (tank, filling station, dam etc) to the camlock coupling in the pump inlet

b) Ensure the Hydraulic hoses for the filling pump are connected to the appropriate tractor remotes

c) Turn on the hydraulic supply tap (see pic above right)

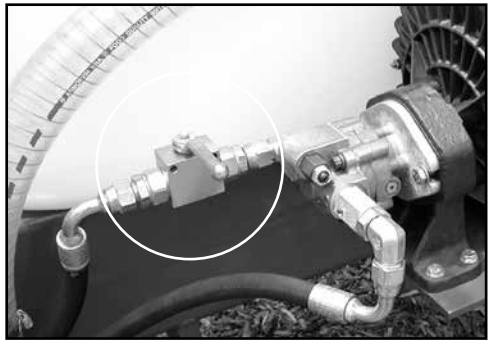
d) Engage the appropriate tractor remote from the cab to start your filling pump.

e) Filling can be interrupted by using the hydraulic supply tap at any time.

***NOTE***

***On open-centre hydraulics, this will de-stroke the hydraulic pump on the tractor and allow you to pause the filling job.***

***If your remote disengages, to begin filling again you will need to open the hydraulic supply tap and re-engage the tractor remote lever or dial.***



*Hydraulic supply tap.*

f) Shut the hydraulic supply tap

g) Un-hook your filling hose and store in the shed or on the sprayer

***NOTE***

***On closed-centre hydraulics you will likely find the tractor will bypass hydraulic flow through the pressure relief valve and/or your remote will disengage.***

***If your remote disengages, to begin filling again you will need to open the hydraulic supply tap and re-engage the tractor remote lever or dial.***


*Orion filling flow-meter.*

## Operating the Orion Filling Flowmeter

Power is supplied from the main power harness, so no battery is required.

The Orion filling flowmeter is set in Mode 1 at the factory. This allows the unit to be used as a flow-rate reader as well as a total flow meter.

An instruction book is included with your sprayer, and operation is described in section 5.2 (English instructions).

a) Reset the digital display to zero before commencing filling - Page 29 of Orion booklet

b) Fill the sprayer from the filling pump or your filling station. Instant flow reading can be indicated, or total flow reading - Page 29 of Orion booklet.

*Open Spray tank lid for top-filling.*

## Top-Filling

All Pegasus tanks can be filled via the top lid.

### 1. Spray Tank

Use clean, fresh water (preferably rainwater), free of suspended organic matter or clay. Some chemicals are deactivated when they contact these materials.

Always calculate the correct water quantity required, and when filling, allow sufficient water quantity for adding and mixing chemicals. If necessary top up the tank to required quantity after adding chemicals.

To top-fill the Spray tank:

a) Open the Spray tank lid and ensure the basket filter is in place.

b) Fill the Spray tank with the required amount of water.

c) Close and lock the tank lid after filling.


*Open Flush tank lid for top-filling.*

### 2. Flush Tank

Use clean, fresh water (preferably rainwater) in the 340 litre flush tank. Always fill the flushing tank before spraying.

To top-fill the Flush tank:

a) Unscrew the flush tank lid.

b) Fill the Flush tank.

c) Replace tighten the lid after filling.


*Open Foam tank lid for top-filling/adding concentrate.*

### 3. Foam Marker Tank

The Pegasus incorporates a 130 litre foam marker tank for minimal stops and maximum foam output.

Always use clean, fresh water (preferably rainwater).

To top-fill or add concentrate to the Foam Marker tank:

a) Unscrew the Foam tank lid.

b) Fill the Foam tank with the required amount of water

c) Replace & tighten the lid after filling.

*Open Fresh Water tank lid for filling.*


*White foam concentrate.*


*Pink foam concentrate.*

### 4. Fresh Water Tank

The Pegasus incorporates a 30 litre fresh water tank for personal safety when operating the unit in the field. Always fill the fresh water tank before spraying.

To fill the fresh water tank:

a) Unscrew the tank lid.

b) Fill the tank using only rainwater.

c) Replace & tighten the lid after filling.

## Foam Solution

The performance of the foam marker will depend greatly on using a high quality foam concentrate and good water quality.

### Selecting a Concentrate

Always use high quality foam concentrate. We recommend Croplands brand White or Pink Foam for all general purpose marking.

Be aware that a lot of poor quality foam concentrate is sold every year to unsuspecting customers. Some concentrates may work well in some circumstances and not others, so be careful.

### Water Conditioner

Croplands also offer a water conditioner if your water has a high mineral content.

If the foam appears watery, it may need more concentrate or a water conditioner. With some experimentation, you will easily find the right mix.

## Operating the Foam Marker

### Mixing the Solution

The bottom-fill facility of the Pegasus allows concentrate to be added while filling.

Always add concentrate to water and not water to concentrate when top-filling.

When topping-up a tank of mix with a water hose, place the end of the hose under the surface so as not to agitate the solution causing the tank to fill up with foam. Always follow label directions.

Place a known volume of water in foamer tank. Measure out the required amount of foam concentrate and optional water softener and add to the tank.

It may be necessary to stir the tank to get the solution mixed. Normally the solution will be adequately mixed after transport to the field.


*Make sure the foam marker liquid filter is clean.*

*Make sure air filter is clean*


*"Left (On) / Off / Right (On)" switch.*


*Foam density control knob.*

## Foam Marker Controller

The foam marker works by pumping air through the FoamTube™ on its way to the boom. Liquid is injected through an orifice into the air stream just prior to entering the foam mixing tube. A directional valve (on two sided models) then diverts the foam either left or right.

To operate the foam marker:

1. Make sure the foam liquid filter is clean and the tap is turned On after cleaning.
2. Make sure the air filter is clean.
3. Make sure the Foam tank tap is open.
4. To start the foam marker, move the switch either LEFT or RIGHT. The option of left or right selects which side you want the foam to go.
5. Rotate the foam control knob **fully clockwise** until pressure is indicated on the pressure gauge.

   Turn knob **counter clockwise** until pressure is stable at 45- 50 psi.

   It may be necessary to bleed air at the gauge.
6. Move the toggle switch to the “Left” position, and verify that the:
   - Foamer is making foam, and
   - Foam is flowing out of the LHS boom drop.

   Move the toggle switch to the “Right” position, and verify that the:
   - Foamer is making foam, and
   - Foam is flowing out of the RHS boom drop.

   If foam direction is opposite to the switch, reverse hoses at the foamer.
7. By rotating the pressure adjusting knob on the cab control, the operating pressure and foam density can be changed.

   The higher the pressure the “wetter” and runnier the foam will be.

   The lower the pressure, the “drier” and lighter the foam will be.

   The mix ratio and water quality will significantly affect the pressure setting.

   Experiment with various pressures and mixtures to find the one that is best for your conditions. Normal operating pressure is 35-55 psi.
8. Switch OFF the foam marker by placing the switch in the central (Off) position.
9. A Reset switch (resettable circuit breaker) on the Controller, allows resetting if a prolonged high current condition occurs.

*The foam marker pressure gauge.*

## Setting Liquid Pressure

The foam marker injects the foam liquid mixture under pressure into the air stream to make foam. Liquid pressure is adjusted using the in-cab control.

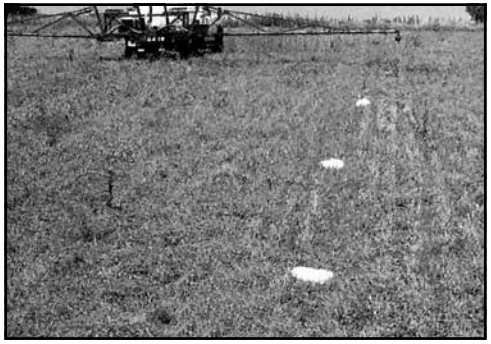
The foam control knob adjusts the relative mixture of air and water, which in turn controls the output and quality of foam.

The pressure gauge shows the pressure at which the liquid is being injected (higher pressure means more liquid is being injected into the air stream)

When the knob is turned fully **counter-clockwise,** the liquid pump is shut completely off. By rotating the knob **clockwise,** the pump will speed up, increasing liquid flow and liquid pressure will rise.

**⚠ *WARNING***

***Never operate the unit continuously over 60 psi. Operating continuously above 60 psi will overload the system and may cause damage.***



*Adjusted for low foam output.*

Adjust the pressure to obtain the best foam result for your conditions.

- Do not operate under 20 psi. It will often result in intermittent foam because there simply isn't enough liquid pressure to overcome the foam discharge pressure.

**⚠ *WARNING***

***Air pressure is factory set at a maximum of 28 psi. Do not increase above 28 psi or damage may result.***

*Adjusted for high foam output.*

- Generally you won't operate over 55 psi as it will use excessive solution and create a very wet foam.

  In very hot, dry conditions, it may be necessary to use very wet foam to increase the life of the foam.

**Foam Pressure Setting Characteristic Chart**

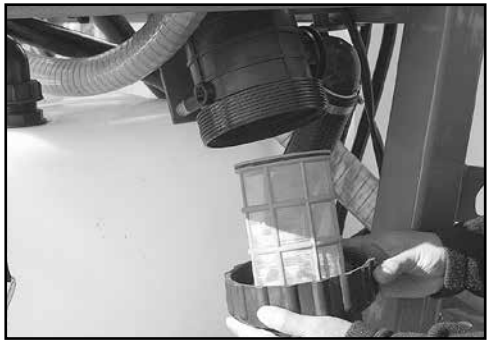
| CHARACTERISTIC | LOW PRESSURE | HIGH PRESSURE |
|---|---|---|
| **Pressure Range** | 20 to 30 psi | Above 30 psi |
| **Foam Density** | Light | Heavy |
| **Foam Consistency** | Fluffy, larger bubbles | Thick, smaller bubbles |
| **Solution Usage** | Lower | Higher |
| **Average Blob Size** | Larger | Smaller |
| **Hot Weather Durability** | Less | More |

# Filters

**⚠ WARNING**

***Always wear protective gloves when cleaning filters containing toxic chemicals.***


*Clean bottom-fill filter regularly.*



*Clean suction filter regularly.*

*Clean pressure filter regularly (Inset shows valve).*

## Cleaning Filters

Filters are used to stop solids entering the liquid system and blocking lines, nozzles or damaging the pump.

The Pegasus spray tank is fitted with a basket filter. The system incorporates large filling and suction filters, boom pressure filters, nozzle filters and a small filter is fitted to the foam marker.

1. Always ensure the basket filter is in place when filling the main tank through the lid.
2. All filters should be cleaned regularly or after each spraying period.

   If the filter screen is damaged, replace with a new screen.

## Bottom-Fill Filter

The bottom-fill filter should be cleaned regularly or before each filling of the spray tank.

To clean the bottom-fill filter:

1. Completely stop all sprayer functions.
2. Ensure the Fill Control lever is in “Off" position.
3. Remove the outer filter screw and bowl, and then remove the filter and thoroughly clean it before re-assembling the filter.

**NOTE**

***Be careful not to damage or deform the mesh or O-ring while cleaning and refitting the filters.***

## Suction Filter

The suction filter should be cleaned regularly or after each spray tank has been emptied.

To clean the suction filter:

1. Completely stop all sprayer functions.
2. Turn the Suction Line valve to “Off” position to shut Off liquid from the spray tank.
3. Remove the outer filter screw and bowl, and then remove the filter and thoroughly clean it before re-assembling the filter.
4. Return the Suction Line valve to “Spray” position.

## Pressure Filters

The pressure line filter should be cleaned regularly or after each spray tank has been emptied.

To clean the pressure line filter:

1. Completely stop all sprayer functions.
2. Rotate the Pressure Control lever to "Off" position.
3. Open the valve at the bottom of the filter to ensure all pressure is removed from the filter.
4. Remove the outer filter bowl, and then remove the filter and thoroughly clean it before re-assembling the filter.

*Clean nozzle filters regularly.*

## Nozzle Filters

Nozzle filters should be cleaned regularly and when a nozzle spray pattern is effected by blockage.

To clean the nozzle filters:

1. Completely stop all sprayer functions.
2. Ensure all pressure is removed from the spray lines.
3. Remove the nozzle cap and nozzle, and then remove nozzle filter.

   Thoroughly clean nozzle filter (and nozzle if necessary) before re-fitting the nozzle & nozzle cap.
4. Repeat step 3 for each nozzle.

***NOTE***

***Be careful not to damage or deform the mesh or gasket while cleaning and refitting the filters and nozzle caps.***

*Close the filter tap & then remove the filter bowl.*

## Foam Marker Filters

The foam marker is protected by:

- A 50 mesh filter under the cabinet, &
- A 100 mesh filter located in the line before the liquid orifice.

These should be cleaned periodically, depending on cleanliness of operations.

To clean foam marker filters:

1. Completely stop all sprayer functions.
2. Close the tap next to foam marker filter (underneath the Outback cabinet).

***NOTE***

***In some circumstances you may find the nozzle filters are best not used.***

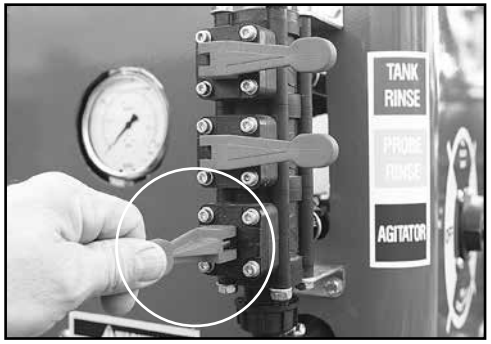
***If your nozzle filters continuously block, check that your main pressure filter is not torn or that the product you are using is not the cause.***

*After cleaning, replace the screen & filter bowl.*

3. Remove the outer filter bowl, remove the filter (50 mesh) and thoroughly clean it before re-assembling the filter.
4. Re-open the tap next to the filter.

***NOTE***

***Be careful not to damage or deform the mesh or O-ring while cleaning and refitting the filters.***




*Ensure agitator valve is open before adding chemical.*

## Tank Agitation

When chemical is added to the spray tank, the pump and agitator(s) must be operating at all times to ensure chemical does not settle in the tank.

Check to see that tank agitation is correctly adjusted.

If agitation causes too much foaming in the tank, try closing Off one agitator to reduce foaming

If chemical settles, through pump break down or another reason, start up the sprayer after the fault has been rectified and let the mixture in the tank agitate for a length of time to ensure thorough mixing of the chemical.

*Open the Tank Drain valve to drain the tank.*

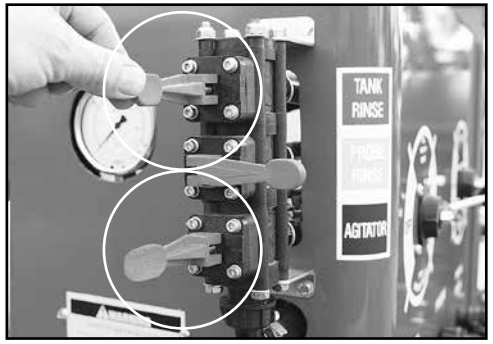
## Flushing the Pegasus

The Pegasus is equipped with a flush tank for cleaning the sprayer when changing chemicals, and at the end of the day.

To flush the Pegasus:

1. Ensure the site for flushing and cleaning the Pegasus meets with environmental and statutory regulations.
2. Open the Tank Drain valve to drain any remaining spray mixture from the tank.
3. Check the Pressure Control lever is in “Spray” position.
4. Check the Agitator valve is open.
5. Open the Tank Rinse valve.

> ***NOTE***
>
> ***Ensure the drained mixture is disposed of as required by law. Read chemical instructions.***

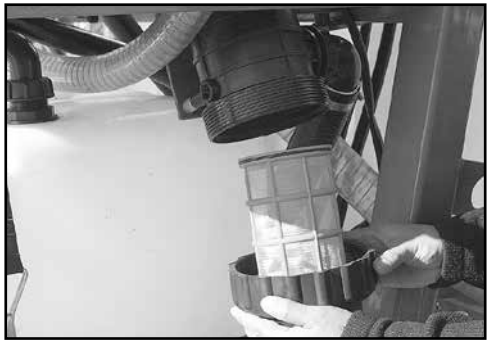



*Open the Tank Rinse & Agitator valves.*

6. Turn the Suction Line valve to "Flush" position
7. Start tractor and place sprayer controls in start up position according to Controller operating instructions.
8. Engage PTO/hydraulic drive and bring the pump speed up to 540 RPM.

   All pumped liquid is now being passed through the dump valve back into the tank. The system is not pressurised and tank agitators are not working.

*Turn the Suction Line Valve to "Flush" position.*

*Remove and clean the suction filter*

9. Pressurise the system to operate tank rinse and agitators.
10. Adjust pressure to desired operating pressure by adjusting pressure up or down.
11. Turn the spray boom sections ON.

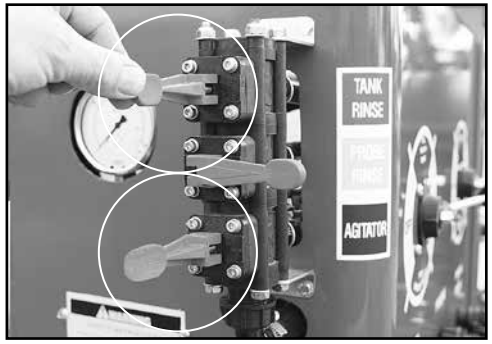
    Fresh water now flushes through the suction line, suction filter, pump, agitator(s), pressure lines, boom sections and nozzles.

    All water comes into the spray tank from the flush tank. Water remaining in the tank drains out of the tank through the drain outlet.
12. On completion of flushing, shut down all controls and disengage the PTO/ hydraulic drive.
13. Remove and clean the suction filter & screen, and reassemble.

*Remove and clean the pressure filter*

14. Remove and clean the pressure filter & screen, and reassemble.
15. Adjust all valves back to operating mode.
    a) Close the Tank Rinse valve.
    b) Turn the Suction Line valve to "Spray" position
    c) Close the Tank Drain valve.
16. Wash/hose down the outside of the sprayer.

*Close the Tank Drain valve.*




*Open the Tank Rinse & Agitator valves.*


*Place the suction valve in "Spray" position.*

*Open the Tank Drain valve to drain the tank.*

## Using Tank and Equipment Cleaners

If a cleaning agent is required (refer to chemical label), first completely flush the Pegasus with water as outlined in Steps 1 - 16, then:

1. Fill the spray tank with fresh water to the desired level.
2. Add cleaning agent into the main tank (use according to instructions).
3. Check the Pressure Control lever is in “Spray” position.
4. Check the Agitator valve is open.
5. Open the Tank Rinse valve.
6. Turn the Suction Line valve to "Spray" position
7. Start tractor and place sprayer controls in start up position according to Controller operating instructions.
8. Engage PTO and bring the PTO speed up to 540 RPM.

   All pumped liquid is now being passed through the dump valve back into the tank. The system is not pressurised and tank agitators are not working.
9. Pressurise the system to operate tank rinse and agitators.
10. Adjust pressure to desired operating pressure by adjusting pressure up or down.
11. Turn the spray boom sections ON.

    Fresh water now flushes through the suction line, suction filter, pump, agitator(s), pressure lines, boom sections and nozzles.
12. If you require the cleaning agent to soak or stand for a period, turn the spray booms Off, and completely shut down the sprayer for a period.
13. Repeat steps 7 - 10 after soaking is completed.
14. Turn the spray booms OFF and shut down the sprayer.
15. Open the Tank Drain valve.
16. After the tank is drained,completely flush the Pegasus again following steps 1 - 16.

# Boom Adjustment - 24 to 30m

*Unique parallelogram boom lift - low position.*

*Unique parallelogram boom lift - high position.*

## Boom Set-Up - 24-30 metre

The Compact boom hydraulically side folds and locks for transport. Unique parallelogram boom lift and suspension with hydraulic accumulator protects the boom and improves boom ride.

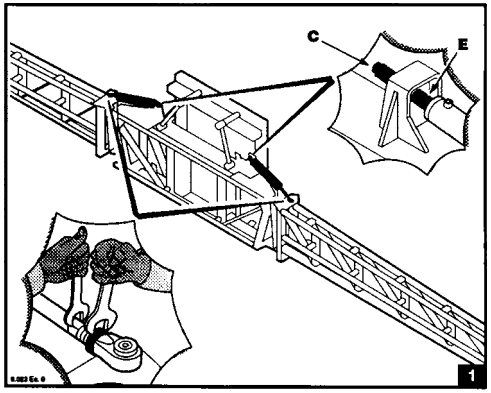
Adjustable boom breakaways with 90° self-returning boom ends and self levelling are standard.

Optional Hydraulic wing lift and/or independent wing-fold wing electric/ hydraulic solenoid valves and an in-cab control are options.

Boom set-up requires:

1. Wing alignment.
2. Wing extension alignment.
3. Balancing device alignment.
4. Backlash between sliding surfaces alignment.
5. Locking the balancing device adjustment.

To set-up the boom for operation, follow the instructions for the 21, 24, 28 and 30 metre compact booms and for the 33 & 36 metre booms.

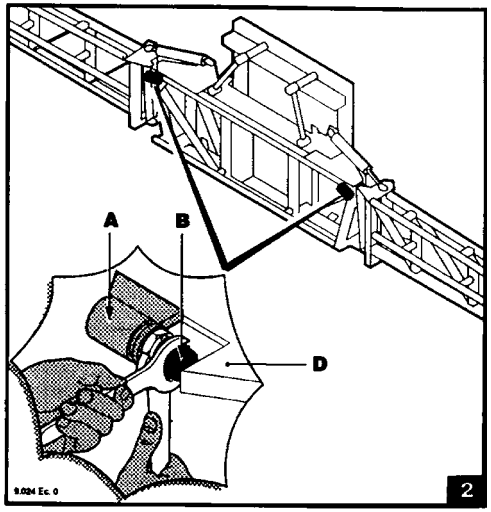



### 1. Wing Alignment

Wings are aligned to the central frame via the adjusting rods (C) shown in figure 1 (above).

To align wings:

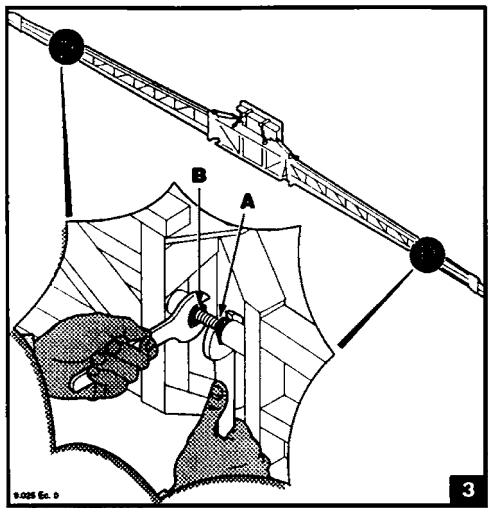
1. Release pressure from the shock absorbers (A) shown in figure 2 (above right).
2. Align the wings by adjusting the cylinder rods shown in figure 1.
3. Once aligned, tighten the lock nuts on the cylinder rods.




4. Adjust the shock absorbers (A), shown in figure 2 above, as follows:
   i) Tighten cap (B) against the limit stop (D) until springs are slightly pressurised.
   ii) Tighten the lock nut when adjustment is finalised.

> ***NOTE***
>
> ***The initial boom alignment is carried out at the factory and checked by your dealer.***

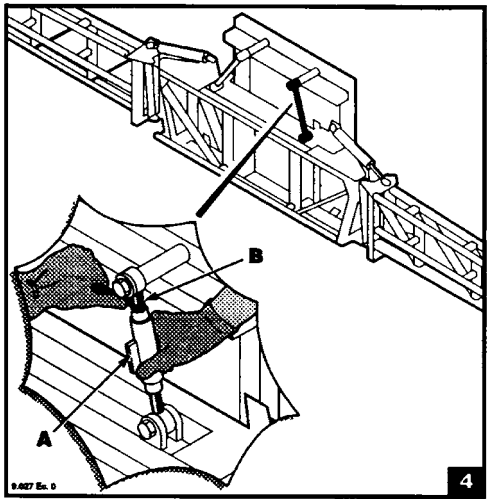
# Boom Adjustment - 24 to 30m




## 2. Wing Extension Alignment

After inner wing alignment is completed, align the wing extensions by:

1. Loosening the lock nuts B, shown in figure 3 above.
2. Tighten or loosen adjusting screws (A) until the wing extensions are aligned with the inner wings.
3. Tighten lock nuts (B), after alignment is finalised.

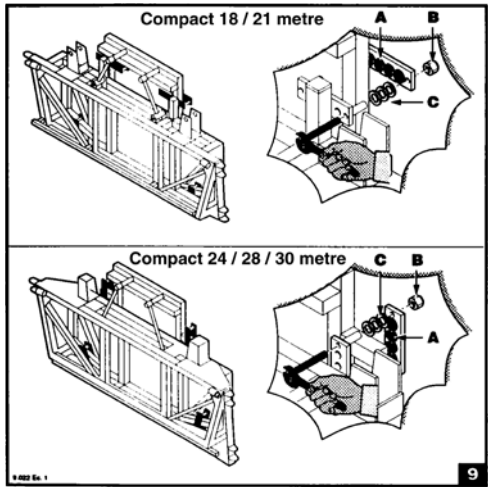



## 3. Balancing Device Alignment

The boom is fitted with an adjustable connecting rod which allows the boom to tilt 0° ± 3° on the horizontal axis.

Adjust the boom to the require horizontal plane by:

1. Loosening the lock nuts (B,) shown in figure 4 above.
2. Turn the turnbuckle (A) as required.
3. Tighten the lock nut (B).

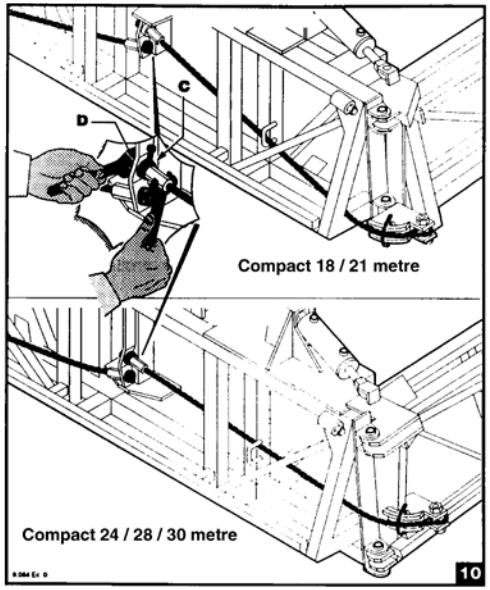



## 4. Backlash Between Sliding

The balancing device oscillation must be adjusted so that the surfaces slide freely and without backlash.

To eliminate backlash:

1. Tighten nuts (B), shown in figure 9 above.
2. If necessary, depending on wear of sliding pads (A), remove spring sections (C) as needed to take up the wear and remove backlash.




## 5. Locking the Balancing Device Adjustment

The ropes of the wing balancing device must be tight.

To adjust the balancing device:

1. Fold the wings to transport position
2. Tighten the ropes by adjusting the nuts (D), shown in figure 10 above.
3. Move the lock (C) closer and lock it with its screw.

# Boom Adjustment - 36m

*Take the pressure off the boom by nudging the boom forward.*

## Boom Adjustment - 36 metre

To adjust the boom alignments on your 36 metre boom on the Pegasus, follow the instructions.

These instructions are for adjustments you can do as the spring tensions change over time.

Not all steps may be necessary, but it is a good idea to check them as you make adjustments as required.

To adjust the boom:

**NOTE**

***The initial boom alignment is carried out at the factory and checked by your dealer.***


*Adjust the nut, until the desired level is found.*

### Step 1: Horizontal Levelling

Take the pressure off the boom (as shown above left) using a forklift or other lifting mechanism. Make sure this is done on ground which is as level as possible.

a) First, adjust the main Boom arm Rod or Hydraulic ram (shown above) to set the boom to level.

   For a G-Var wing lift boom, this is done by turning the large self locking nut with a large spanner on the spring end as shown until desired level is met.

**NOTE**

***Leave hydraulic pressure on extension side of ram to assist preventing rod from turning during adjustment.***

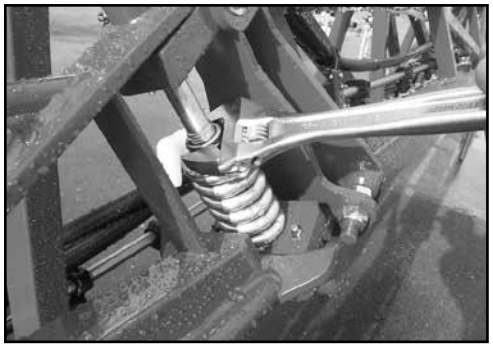
*Adjust the sleeve until the boom is at the desired level, then re-lock the lock nut to secure in place.*

   You will need to have the hydraulic rams at maximum length to ensure an accurate setting.

   For standard booms adjust the nut in the same place (as shown above left), until the desired level is found.

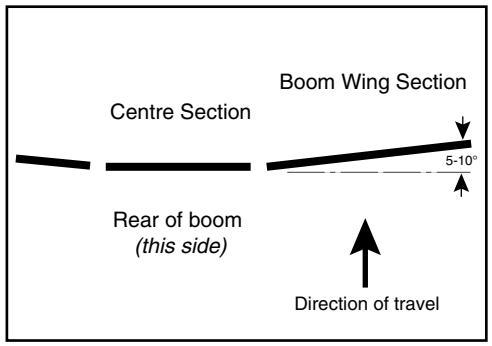
b) Secondly, relieve the weight from the boom. This adjustment is done using a turnbuckle. Unlock the lock nut so it is free from the sleeve.

   Using a large spanner, adjust the sleeve until the boom is at the desired level, then re-lock the lock nut to secure in place (as shown above).



*Finally, adjust the breakaway arm to the desired breakaway pressure.*

c) The final horizontal adjustment is the breakaway arm. Adjust this to the desired breakaway pressure.



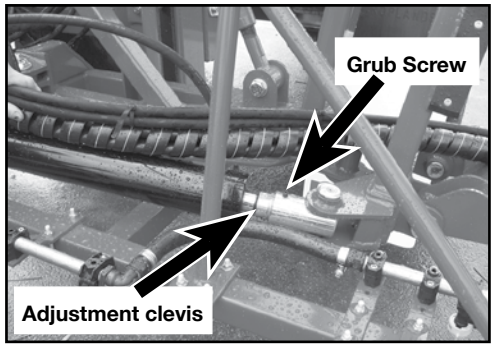

*Ensure the boom wing is slightly forward in relation to the centre section (approx 5-10 degrees).*

## Step 2: Yaw adjustment

The second step towards accurately adjusting your boom is to set where the boom sits when fully opened into the spraying position.

This is the Yaw adjustment which means it is adjusted on a vertical axis or pivot point, setting the boom in a forward or backward direction.

The ideal position for each wing is slightly forward (approx 5-10 degrees) of the centre section (as shown in the diagram above).




*Remove the grub screws & adjust the clevis, then, return the grub screws to lock the setting in place.*

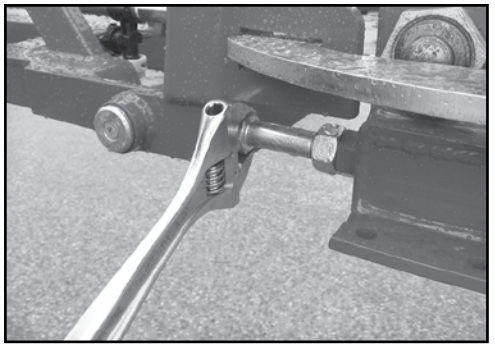
**a)** Adjust the clevis on the rod end of the inner fold ram at the centre section to bring the boom forward into desired position.

Firstly, you will need to relieve the pressure on the rams by loosening the ram fittings on one cylinder and releasing some oil.

Remove the grub screws and adjust the clevis to set the boom Yaw position.

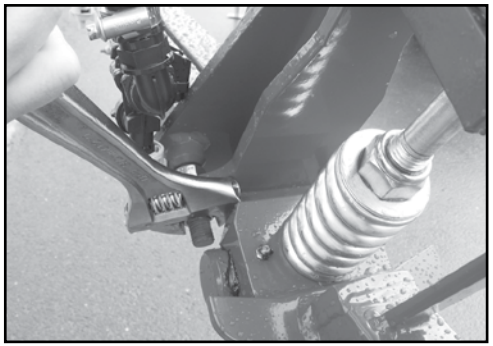
Return the grub screws to lock the setting in place (shown above).

> ⚠ ***CAUTION***
>
> ***When releasing oil from and cylinders, be sure to cover the fittings with a cloth to prevent oil from spraying out, as it is hazardous.***



*Set the bolt stopper to stop the boom at the position required.*

b) The next adjustment in the outer fold pivots is just a matter of winding out and locking the bolt in place as shown. Set the bolt stopper to stop the boom at the position required (shown above).



*Lock the nuts in place when set correctly.*

c) Set the breakaway position by tightening and loosening the matching bolts on either side of the boom.

Lock the nuts in place when set correctly (shown above).

*Adjust the turnbuckle sleeve until the centre section is level.*

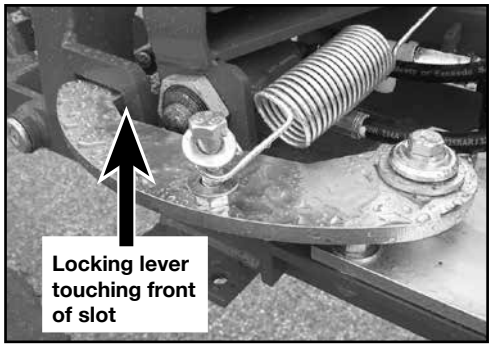
## Step 3: Boom tilt adjustment

The next setting is the tilt adjustment which dictates the level position of the booms and centre section as a whole. This is very important to get right so that the centre section is level before spraying.

To adjust undo the lock nut on the turnbuckle.

Adjust the turnbuckle sleeve (as shown above) until the centre section is level.

Lock the nut back in place to secure the setting.

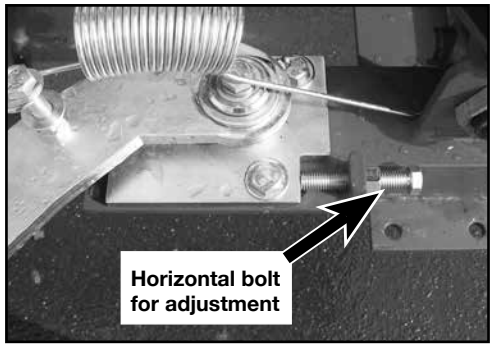



*When locked the hook part of the locking lever should be in contact with the front edge of the slot.*

## Step 4: Outer arm locking plate

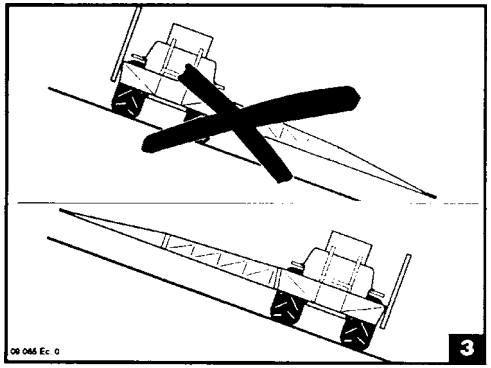
The final setting is the outer arm locking plate. This is to keep the boom locked in place while spraying.

When locked the hook part of the locking lever should be in contact with the front edge of the slot (as shown above) to ensure no movement during spraying.




*Loosen the lock nuts and then adjust the horizontal bolt to position the plate in the correct setting.*

To adjust this, loosen the lock nuts and then adjust the horizontal bolt (shown above) to position the plate in the correct setting.




*Boom in raised position.*

*Boom in lowered position.*

## Unfolding & folding the Spray Boom

Understand the safety precautions below before operating the folding mechanism of the spray boom.

**DANGER - WARNING:**

Make sure there are no people, things or power lines with in range of the spray boom when folding or unfolding

**CAUTION:**

If working on steep terrain, please note the following:

- Lock the balancing device ( if the unit is provided with hydraulic locking).
- For vehicle stability, always unfold the up hill side boom before unfolding down hill side boom, see figure 3 above .
- For vehicle stability, always fold the down hill side boom before folding up hill side boom.
- Never operate with the down hill side boom lowered and up hill side boom folded.

**To operate the boom:**

1. Use the tractor remote controls to fold and unfold the spray boom.
2. Use the tractor remote controls to raise and lower the spray boom height as required.

***WARNING***

***Make sure there are no people, things or power lines with in range of the spray boom when folding or unfolding***

***CAUTION***

***If working on steep terrain, please note the following:***

- ***Lock the balancing device (if the unit is provided with hydraulic locking).***
- ***For vehicle stability, always unfold the up hill side boom before unfolding down hill side boom, see figure 3 above .***

***CAUTION***

***If working on steep terrain, please note the following:***

- ***For vehicle stability, always fold the down hill side boom before folding up hill side boom.***
- ***Never operate with the down hill side boom lowered and up hill side boom folded.***

*Accurately calculate the amount of chemical required.*

## Calculate Water & Chemical Quantities

Before spraying it is necessary to calculate the exact quantities of water and chemical needed to spray the required area. The following formulae may be useful:

1. For chemical rates expressed in litres or kg per hectare (land area), calculate the amount of chemical needed, using the formula:

   **Chemicals required (litres) =**

   **Tank Volume (l) x Recommended Chemical Rate (l/ha) ÷ Spray Application Rate (l/ha)**

   eg. [4000 x 3] ÷ 150

   = 80 litres.

*Unlock the Chem-E-Flush with the foot latch.*

2. For volume of mixture required to spray the selected area, calculate the liquid required, using the following formula:

   **Tank Volume Required (litres) =**

   **Area (ha) x Spray Application Rate (l/ha)**

   eg. 300 x 150

   = 45,000 litres

3. For area covered by a given volume of mixture, calculate the area, using the following formula:

   **Area Covered (ha) =**

   **Tank Volume (litres) ÷ Spray Application Rate (l/ha)**

   eg. 4000 ÷ 150

   = 26.7 hectares

> ***NOTE***
>
> ***IMPORTANT! Be sure to mix only enough spray mixture to cover the area required. Avoid wastage and problems of needless chemical disposal.***

*Lower hopper into the filling position.*

## Adding Chemical To the Spray Tank

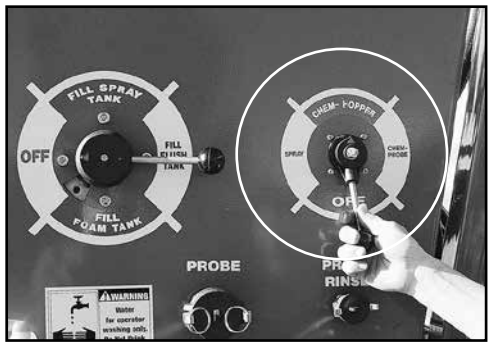
Chemical can be added to the spray tank using the Chem-E-Flush hopper, and/or if fitted, the optional Chemical Probe.

### 1. Chem-E-Flush Hopper

To add chemical to the spray tank, follow the steps outlined:

a) Make sure sufficient water is added to the spray tank and the flush tank.

b) leg lock by placing your foot on the latch lever. Hold on to the handle and pull out and down once the latch is released.



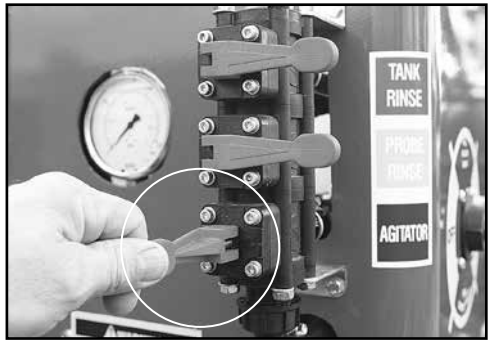

*Rotate the Pressure Control lever to "CHEM-HOPPER".*

c) Lower the hopper to filling position.

d) Rotate the Pressure Control lever to “Chem-Hopper” position.

**e) Turn the Suction Line valve to "Flush" position.**

*Turn the Suction Line Valve to "Flush" position.*




*Open the Agitator valve.*

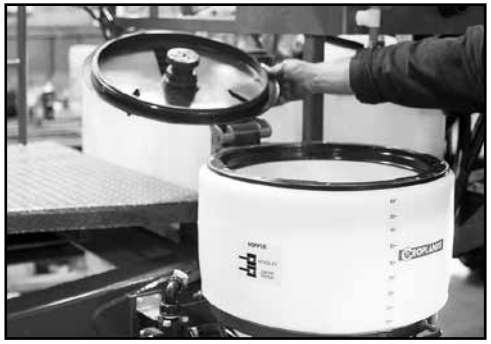
f) Open the Agitator valve.

g) Close the Chem-E-Flush Transfer valve at the base of the hopper.

h) Start the tractor and operate the pump with PTO & tractor engine at idling speed only.

Warning! Operating the pump at faster than idling speed, may burst lines.

i) Pressurise the pressure lines by switching the spray controller ON & in RUN mode with booms OFF.



*Open hopper lid & add chemical powder/liquid.*

j) Open the hopper lid & add chemical powder/liquid to the hopper.

k) Close the hopper lid & open the Chem-E-Flush Nozzle valve to mix chemical.

l) Close the Chem-E-Flush Nozzle valve after the chemical is mixed.

*Open the Transfer valve to transfer the mixture.*

m) Open the Chem-E-Flush Transfer valve at the base of the hopper to transfer chemical mixture to the spray tank.

n) To rinse the hopper, close the Chem-E-Flush Transfer valve at the base of the hopper and open the Chem-E-Flush Drum Rinse valve.

*Lift the hopper & lock it back into transport position.*

**o) To transfer the rinse mixture to** the spray tank, open the Chem-E-Flush Transfer valve at the base of the hopper.

p) After rinse mixture has been transferred:

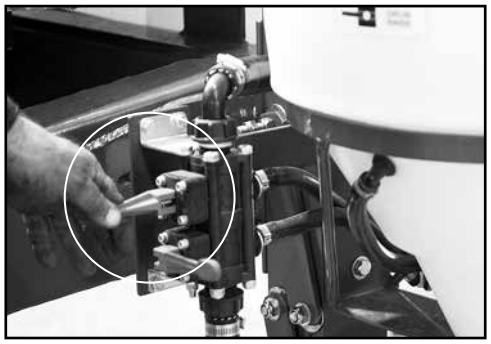
- Close the Chem-E-Flush Transfer valve at the base of the hopper.
- Rotate the Pressure Control lever to “Spray” position.
- Turn the Suction Line valve to "Spray" position

q) Lift the hopper back to transport position when mixing is completed.

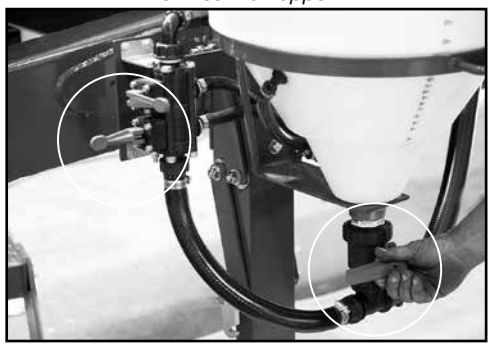
r) Lock the Chem-E-Flush dropdown leg lock by pushing the hopper up hard enough to engage the latch mechanism.

*Close transfer valve at the base of the hopper.*

*Close hopper lid & open the Chem-E-Flush Nozzle valve to mix chemical.*



*Close transfer valve & open the Drum Rinse valve to rinse the hopper.*



**NOTE**

***IMPORTANT! Ensure agitation of spray tank continues after chemical is added to the spray tank.***


*Connect Probe & Probe Rinse hoses.*


*Turn the Suction Line Valve to "Flush" position.*

*Open Probe valve to transfer mixture to spray tank.*

*Close probe valve.*

## 2. Chemical Probe

To add chemical to the spray tank using the chemical probe (optional), follow the steps outlined:

a) Make sure sufficient water is added to the spray tank and the flush tank.

b) Connect the Probe and Probe Rinse hoses to the connectors (on the control panel).

c) Rotate the Pressure Control lever to "Chem-Probe" position.

d) Turn the Suction Line valve to "Flush" position

e) Open the Agitator valve.

f) Open the Probe Rinse valve.

g) Start the tractor and operate the pump with PTO & tractor engine at idling speed only.

> **⚠ *WARNING***
>
> ***Operating the pump at faster than idling speed may burst lines.***

h) Place the probe in the chemical and open the Probe valve to transfer chemical to the spray tank.

i) Use the Probe Rinse gun to rinse the container while the Probe valve is open.

j) Close the Probe valve when the chemical transfer is completed.

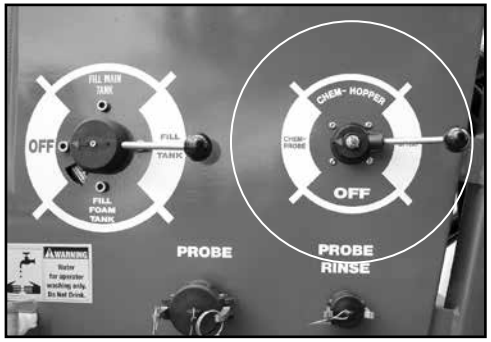
k) Close the Probe Rinse valve.

l) Rotate the Pressure Control lever to "Spray" position.

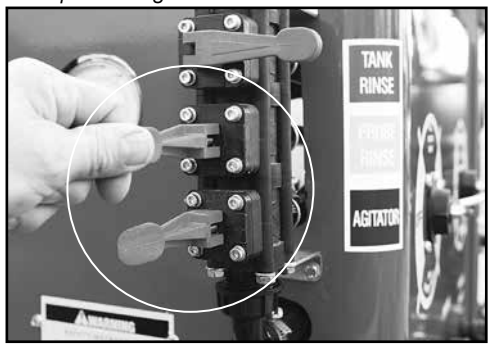
m) Turn the Suction Line valve to "Spray" position

n) Disconnect the Probe and Probe Rinse hoses and refit the connector caps.

*Rotate the Pressure Control lever to "Chem-Probe"*




*Open the Agitator and Probe Rinse valves.*




*Use the Probe Rinse gun to rinse the container.*

> ***NOTE***
>
> ***IMPORTANT! Ensure agitation of spray tank continues after chemical is added to the spray tank.***

*Unclip the Micromatic fitting from its docking point.*


*Turn the rotary selector to "Chem Hopper".*

## Enviro-transfer Kit

The Enviro-transfer kit is a volumetric filling system designed to transfer chemicals directly from Envirodrums into the Chem-e-flush mixer/induction unit on the Pegasus.

If using a closed centre system hydraulic pump, you can OPEN the control valve to slow down the enviro-transfer speed.

Remember to close the valve and check the pump speed after transfer is complete.

### Step 1

Unclip the Micromatic fitting from the docking fitting on the sprayer and clip it into the Envirodrum containing the chemical you intend to use.

### Step 2

Turn the rotary selector on the main control panel to "Chem Hopper".

Ensure the Chem-e-flush is empty of any liquid or residue before progressing.

The Chem-e-flush can be left in the "up" position during the following process. It is not necessary to lower the drop-leg.

### Step 3

Engage the PTO to start the main spray pump operating at low revs.

**DO NOT OPERATE AT FULL REVS.**

If you are operating a hydraulic drive on the pump, turn down the hydraulic flow to slow the pump down temporarily.

***WARNING***

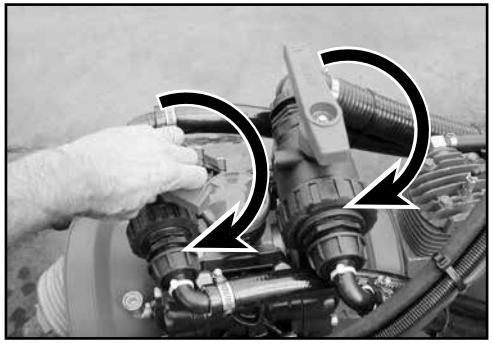
***The operator must not leave the Enviro-transfer kit unattended while filling. Over-filling and chemical spillage could result if the unit is unattended during the transfer process.***

***The system is only suitable for liquid transfer.***

*Clip the Micromatic fitting finto the Envirodrum.*

***CAUTION***

***Do not operate the pump at full speed when filling with the Enviro-transfer, otherwise damage to plumbing may result.***



*With the pump running, turn the two taps into the Enviro-transfer position.*

## Step 4

With the pump running, turn the two taps (pictured) from the normal spray position to the Enviro-transfer position.

The Enviro-transfer position is marked with two white cable ties as shown.

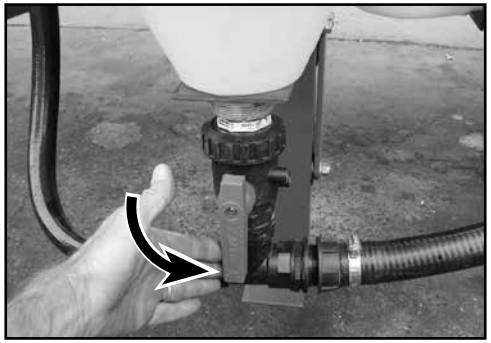

*Watch the level closely - maximum fill is 50 litres.*

## Step 5

Once the taps are in the correct position, the chem-e-flush will begin to fill immediately. Watch the level closely.

Once the level you require is reached, shut off the flow by turning the two taps back to the original position simultaneously.

> **NOTE**
>
> ***The chem-e-flush can hold a recommended maximum of 50 litres in one fill.***



*Turn the Chem-e-flush tap to introduce the chemical directly to tank (as shown).*

## Step 6

Check the level of your selected chemical in the Chem-e-flush is correct. If so, turn the tap on the bottom of the Chem-e-flush to introduce the chemical directly to tank (as shown above).

Flush the Chem-e-flush with water after the contents of the mixer have been introduced to the main tank.

See full instructions on the Chem-e-flush (see page 3.21).

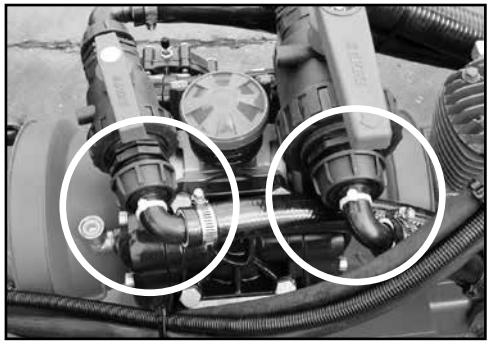
*Unclip the Micromatic fitting from the Envirodrum.*

## Step 7

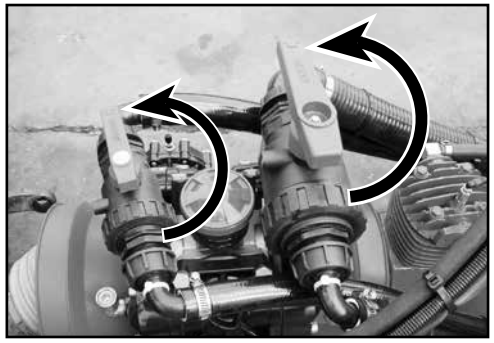
Unclip the Micromatic fitting from the Envirodrum and clip it back into the docking fitting.

Ensure it is fully located.

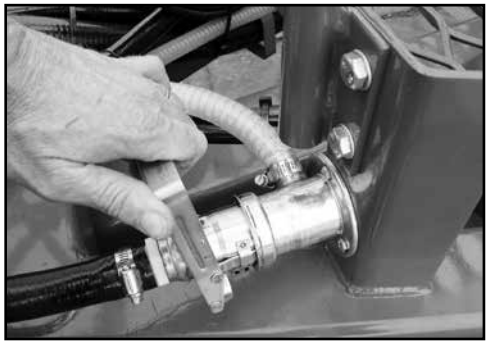
*Note the two white cable tie which show the direction of the taps for the Enviro-transfer.*

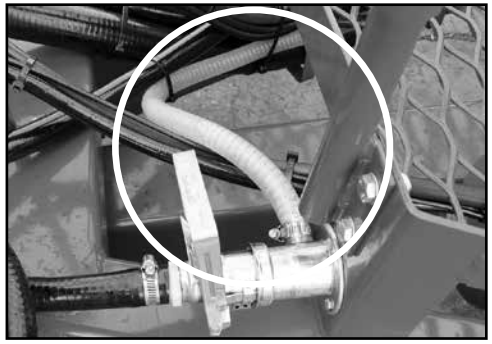


*When the required level is reached, simultaneously turn the two taps back to their original position to stop flow.*



*Clip the Micromatic fitting back into the docking fitting.*





*A fresh water hose allows the Micromatic fittings to be flushed after use.*

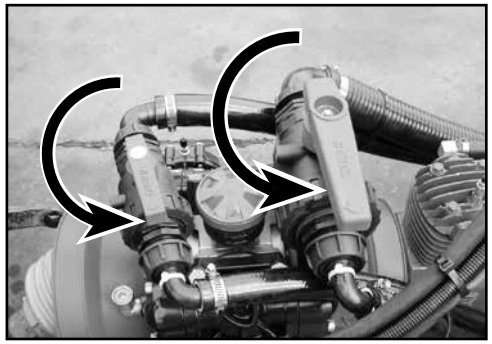
## Step 8

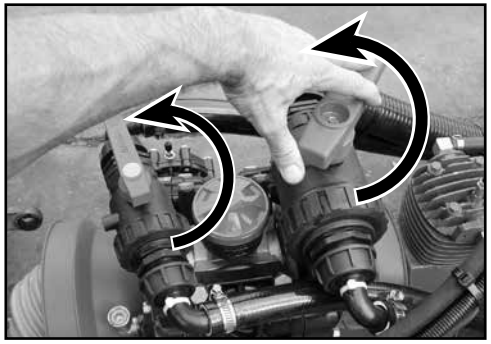
The docking fitting has a flushing hose plumbed direct to the fresh water tank.

By turning the two taps on top of the pump back to the Enviro-transfer position for approximately 30 to 60 seconds, you can flush the Micromatic fittings and the hose with fresh water.

This is imperative to avoid any future contamination.

*Turn the taps for the Enviro-transfer to flush the Micromatic hose and fittings.*





*Return the two taps to the normal spray position.*

## Step 9

Return the two taps to the normal spray position after step 8 is completed.

**⚠ CAUTION**

***Always flush the Micromatic fittings & hose with fresh water after each use to avoid any future contamination.***

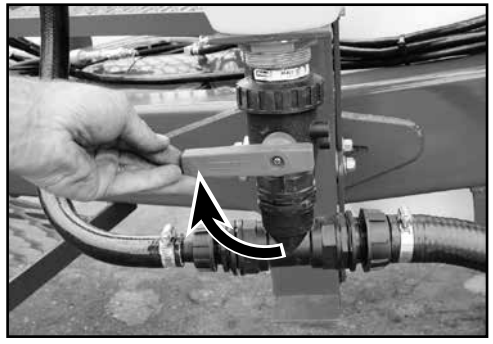

*Return the main rotary selector to the "Spray" position.*

## Step 10

Return the main rotary selector to the "Spray" position.

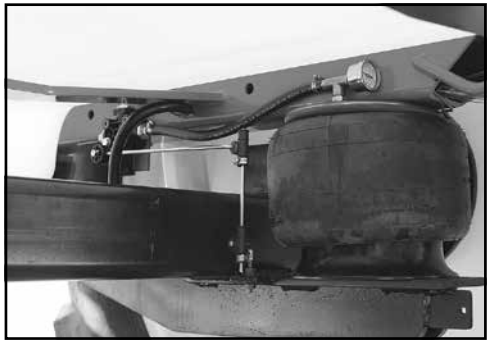
Ensure the tap on the bottom of the chem-e-flush is shut off.

It is recommended you leave the PTO engaged to ensure your chemicals are agitating/mixing correctly in the main tank.



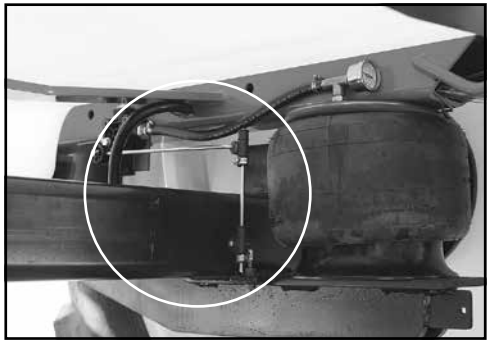
*Turn-off the tap on the bottom of the Chem-e-flush.*

# Airbag Suspension



*Airbag suspension system.*


*Unladen airbag ride height is pre-set to 220mm.*



*Slacken the clamp on the vertical rod.*

## Check the Airbag Suspension

The Airbag Suspension comprises a compressor, air tank, airbags and height levelling valves.

When filling the sprayer with water the airbag suspension automatically increases the pressure in the air bag to carry the extra load.

Conversely, as the spray tank is emptied, the airbag suspension automatically decreases the pressure in the air bag adjusting to the lighter load.

On hillsides, more pressure automatically inflates the lower side airbag which improves stability.

## Airbag Ride Height

The ride height of the airbag is factory pre-set to approximately 220mm from the top plate to the bottom plate of the airbag.

The ride height under load should be set to 230 - 240mm.

## Airbag Valve operation

The airbag valves operate by increasing or decreasing air pressure in the airbags to compensate for the existing load.

1. Move the horizontal rod up - air should flow into the airbag.
2. Move the rod to horizontal - air flow should stop.
3. Move the horizontal rod down - air should flow out of the airbag.

**NOTE**

***The air chamber is automatically charged by the compressor to a pressure of 95 psi. Pump drive is required for the compressor.***

***When air chamber pressure drops the compressor automatically recharges the chamber to 95 psi. Excess air is automatically bled from the air tank.***

## Airbag Pressure Adjustment

To raise (increase pressure in) an airbag:

1. Slacken the clamp on the vertical valve rod, and
2. Raise the end of the horizontal rod slightly (about 20mm).

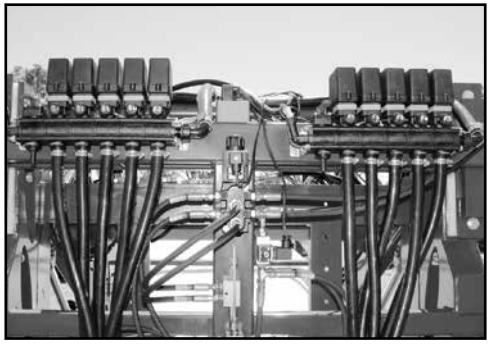
   Air will be heard entering the bag through the valve.
3. When the bag pressure is even, return the rod to horizontal position and retighten the clamp.

To lower (decrease pressure in) an airbag:

1. Slacken the clamp on the vertical valve rod, and
2. Lower the end of the horizontal rod slightly (about 20mm).

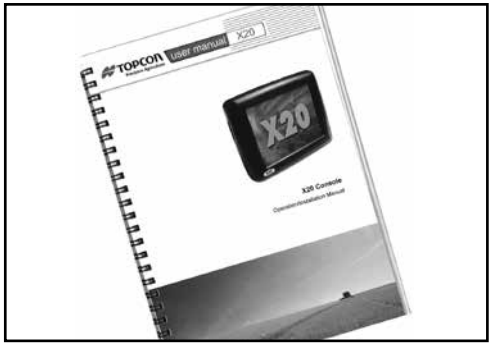
   Air will be heard leaving the bag through the valve.
3. When the bag pressure is even, return the rod to horizontal position and retighten the clamp.

*Dual lines on the boom.*



*Dual line valves at the rear of the sprayer.*


*The BA7000 Manual.*




*X20 Manual.*

## Dual Lines

If you have chosen dual lines to be fitted to your sprayer, you will be familiar with the use of this option on your Pegasus sprayer. In general terms, there are usually two reasons to have dual lines fitted:

1. To increase the boom output using the same speed setting by introducing a second boom line - this negates the need to change nozzles to perform this task, and
2. To increase the speed range available for your sprayer by having the second boom line cut in/out at a given speed.

For the operation of dual lines, you will need the refer to the BA7000/X20 Controller booklet supplied with your Pegasus Sprayer for full calibration and operational information. Your BA7000/ X20 controller will have been factory set to match the nozzles supplied and fitted to your Pegasus.

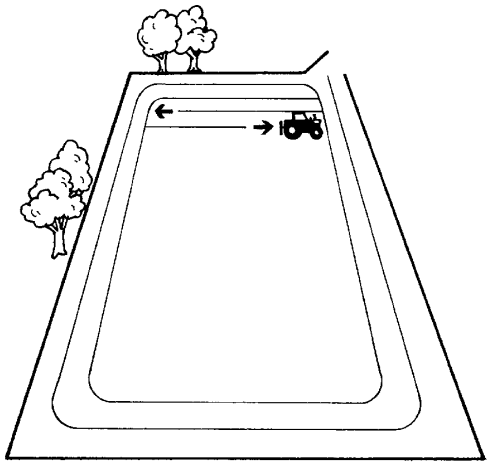
# Operating Pointers

## Operating Methodology for Broadacre Spraying

It is always preferable to spray travelling across the wind direction.

This minimises any drift effect caused by the wind especially with flat fan nozzles because the wind only hits the narrow end of the pattern rather than the full face of the fan spray.

It also maximises the effect of the wind forcing droplets downwards into contact with the target.



Travelling with the wind increases the tendency of spray droplets to float away from the target, and travelling against the wind effectively multiplies the force of the wind (depending on speeds) increasing drift and reducing target contact.

## Proceed to Spray

Once the chemical mixture is in the tank, proceed to spray:

1. Adjust the pressure to the correct operating pressure by adjusting pressure (up or down) according to the instructions of the Controller.
2. Turn spray booms ON and OFF as required to spray according to the instructions of the controller fitted.

   Refer to page 2.7 for spray controller operating instructions, and page 3.4 for foam marker operating instructions.

## Operating Pointers

While spraying, continually observe that:

1. Engine and PTO speed are correct.
2. Correct operating pressure is being maintained.
3. Ground speed is correct and within the operating range of the nozzles and application rates selected.
4. Pegasus spray heads are operating correctly and aimed toward the targeted foliage.

**⚠ *CAUTION***

***Running a diaphragm pump faster than specified will not improve performance, but will damage and wear out moving parts.***

***Warranty will be made void by speeds in excess of those indicated on the pump name plate.***

# SECTION 4
## SPRAYER CALIBRATION

# Calibration Procedure


*Proper calibration considers all spraying variables.*

Applying the correct amount of chemical to a crop is only possible if:

- the sprayer is calibrated correctly.
- the sprayer is operated correctly.
- the sprayer is maintained correctly.

The variables of spray application (distance, time, working width, liquid and chemical volumes) must be measured and controlled accurately to ensure chemicals are applied at the correct rate.

The automatic spray controller measures and controls the variables of speed and flow rate to give constant application.

However proper nozzle selection, checking calibration of nozzles, speed and flow rate as well as correct mixing of chemicals must be done to ensure the accuracy and performance of the sprayer and its controller.

Accurate calibration is essential to ensure uniform application of the recommended dose of chemical to the target.

Proper calibration involves setting up the sprayer (nozzle selection, pressure, speed), calculating chemical and water rates and measuring the performance of the sprayer itself. Only then can you be totally confident in applying chemical correctly.

## Fully Automatic Spray Controller

The fully automatic spray controller maintains the application rate (set by the operator) when operated in Auto position.

The controller monitors speed of travel (speed sensor) and flow rate (flow meter) and automatically adjusts flow rate (via a servo valve) to maintain correct application rate irrespective of speed variations within the limits of the nozzles used.

**IMPORTANT:**

1. It should be remembered that the spray controller does not eliminate the necessity to measure and check the accuracy of nozzle spray patterns and outputs. These must be checked regularly to ensure correct and uniform application rates because nozzles wear with use.
2. Flow meters used by the controller also needs to be checked and calibrated on a regular basis.

   On the following page, you will see how to maintain and check your Rapid-check flowmeter. It is recommended you do this regularly during the spraying season.

   See the Controller Operator's Manual for detailed information and calibrating procedures specific to your spray controller.

*Rapid Check Flowmeter*

## Calibration Procedure

For accurate spray rate application, follow this calibration procedure:

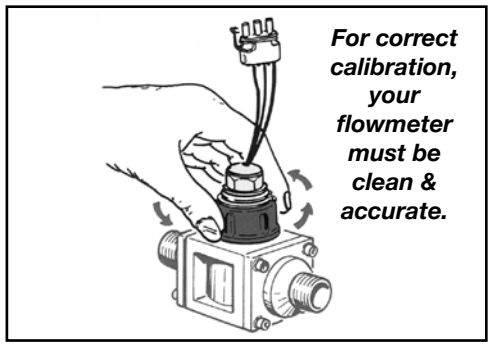
### Step 1

### Ensure Equipment Is In Good Working Order.

Tank, pump, boom, filters and nozzles must be clean, free of leakages and functioning properly.

Follow the pre-operation checklist, maintenance and operating instructions in this manual.

Install, calibrate and operate the spray controller according to the spray controller Installation/Operators Manual.

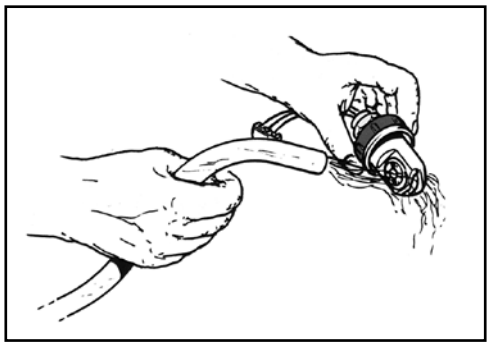



*Unscrew the Rapid Check assembly.*

## Daily Check & Maintenance of Flowmeter

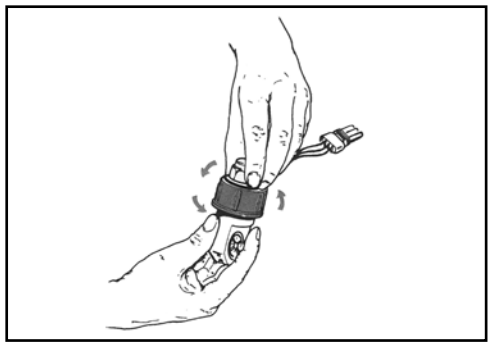
This is to be performed every day after work is finished:

1. Unscrew the assembly that holds the Rapid Check unit in the body.
2. Remove the Rapid Check unit from the body.



*Wash any impurities out of the removable turbine unit.*

3. Use clean water to wash any impurities out of the removable turbine unit.
4. Use compressed air to verify that the turbine unit rotates freely (maximum air pressure 1 BAR [15 psi]).

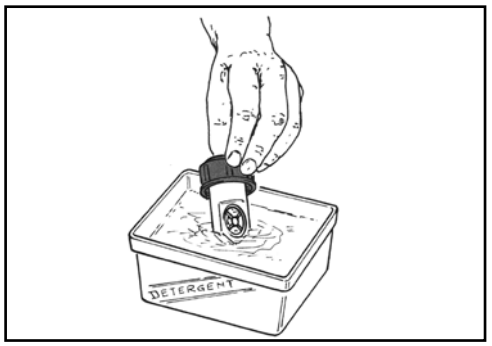


*Unscrew the sensor.*

## Every 50 Hours

Carry out the following procedure after every 50 hours of operation:

1. Unscrew the sensor.
2. Separate the sensor from the Rapid Check unit.



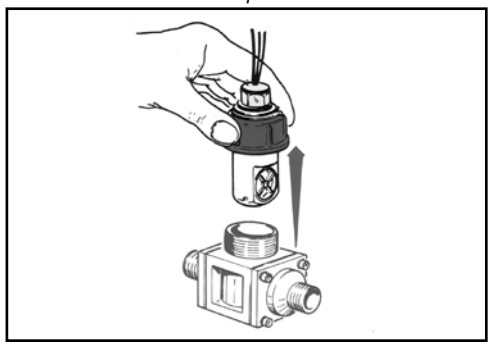

*Place the Rapid Check unit in a detergent bath.*

3. Place the Rapid Check unit in a detergent bath for a few hours.
4. Remove the Rapid Check unit from detergent bath.

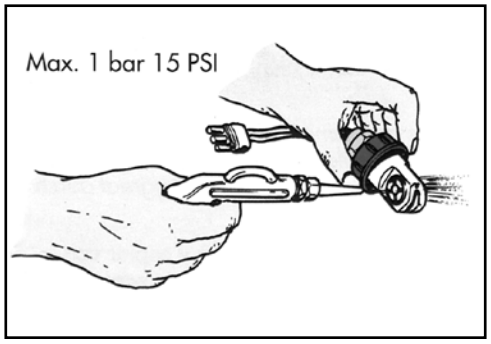
   Use compressed air to verify that the turbine unit rotates freely (maximum air pressure 1 BAR [15 psi]).

   If necessary, replace the Rapid Check unit with a new one.

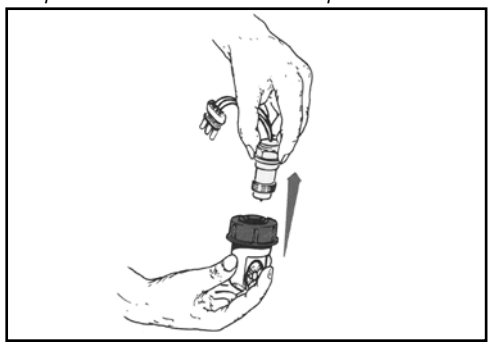
*Remove the Rapid Check unit.*



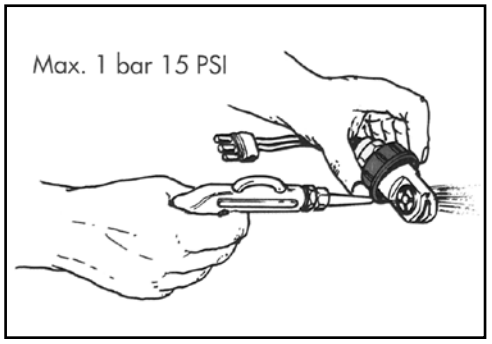
*Use compressed air to check that the turbine unit rotates freely.*

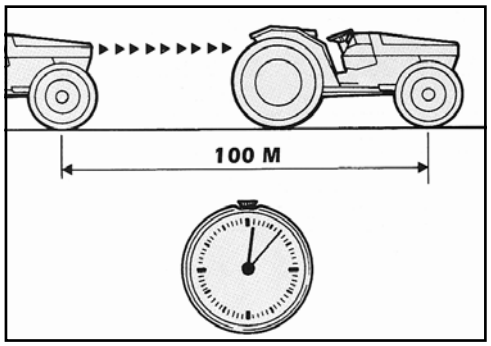



*Separate the sensor from the Rapid Check unit.*



*Use compressed air to check that the turbine unit rotates freely.*






*Determine actual speed of travel.*

## Step 2
## Determining the Actual Speed Of Travel

Your Pegasus has been factory set with a calibration number. This should be fine-tuned prior to commencement of spraying and checked by your dealer. This is done by traveling a known distance (usually 100 metres) and comparing the distance measured by the Spray Controller to the known distance. If there is a discrepancy, the Spray Controller Manual explains how to easily adjust the calibration number automatically.

## Step 3
## Measure Swath Width

The spray controller requires the boom width to be entered in 3/4/5/6 parts.

Measure the nozzle spacing and multiply nozzle spacing by the number of nozzles on each boom section to establish the width of each boom section.

eg, 0.5m x 12 = 6m

0.5m x 12 = 6m

0.5m x 12 = 6m

**NOTE**

***Boom sections may vary on some booms.***


*Buyers Guide - courtesy of Teejet.*

## Step 4
## Select Nozzle Type & Size

Select Nozzle Type & Size according to:

- Chemical recommendations.
- Application rate required.
- Pressure setting.
- Swath width.
- Chosen speed of travel. (Use actual speed of travel, refer to step 2)

Two methods of selecting nozzle output are:

a) Use the charts on pages 4.9 to 4.11 or the manufacturer's nozzle chart.

b) Calculate Required Nozzle Flow Rate.

**NOTE**

***Use your own experience or a registered rate calibration consultant to determine effective application rates in litres per hectare.***

*AI nozzle - courtesy of Teejet.*

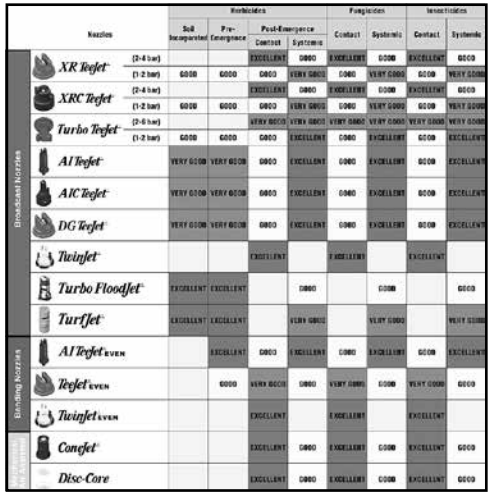
### a) Use Your Manual's Chart Or Manufacturer's Nozzle Chart.

Using the chart on pages 4.9 to 4.11 or the manufacturer's nozzle rate chart, reference:

- Application rate (eg 50 l/ha),
- Speed of travel (eg 12km/hr), &
- Pressure setting (eg 250kPa), find the nearest nozzle to suit your requirements.

Also check to see what speed variations are available for applying the same rate. See pages 4.9 to 4.11.

It is usually best to select mid range pressure as this will allow the spray controller to adjust pressure up or down when speed variations occur.



| Nozzles | | Herbicides: Soil Incorporated | Herbicides: Pre-Emergence | Herbicides: Post-Emergence Contact | Herbicides: Post-Emergence Systemic | Fungicides: Contact | Fungicides: Systemic | Insecticides: Contact | Insecticides: Systemic |
|---|---|---|---|---|---|---|---|---|---|
| Broadcast Nozzles | XR Teejet (2-4 bar) | | | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD |
| | XR Teejet (1-2 bar) | GOOD | GOOD | GOOD | VERY GOOD | GOOD | VERY GOOD | GOOD | VERY GOOD |
| | XRC Teejet (2-4 bar) | | | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD |
| | XRC Teejet (1-2 bar) | GOOD | GOOD | GOOD | VERY GOOD | GOOD | VERY GOOD | GOOD | VERY GOOD |
| | Turbo Teejet (2-6 bar) | | | VERY GOOD | VERY GOOD | VERY GOOD | VERY GOOD | VERY GOOD | VERY GOOD |
| | Turbo Teejet (1-2 bar) | GOOD | GOOD | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT |
| | AI Teejet | VERY GOOD | VERY GOOD | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT |
| | AIC Teejet | VERY GOOD | VERY GOOD | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT |
| | DG Teejet | VERY GOOD | VERY GOOD | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT |
| | Twinjet | | | EXCELLENT | | EXCELLENT | | EXCELLENT | |
| | Turbo FloodJet | EXCELLENT | EXCELLENT | | GOOD | | GOOD | | GOOD |
| | TurfJet | EXCELLENT | EXCELLENT | | VERY GOOD | | VERY GOOD | | VERY GOOD |
| Blending Nozzles | AI Teejet Even | | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT |
| | Teejet Even | | GOOD | VERY GOOD | GOOD | VERY GOOD | GOOD | VERY GOOD | GOOD |
| | Twinjet Even | | | EXCELLENT | | EXCELLENT | | EXCELLENT | |
| Cone Nozzles | Conejet | | | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD |
| | Disc-Core | | | EXCELLENT | GOOD | EXCELLENT | GOOD | EXCELLENT | GOOD |

*Nozzle selection chart- coTeejet.*

## b) Calculate Required Nozzle Flow Rate

If you know:

- the application rate required (eg 50 l/ha),
- speed of travel (eg 12km/hr),
- swath width (eg 18m), &
- the number of nozzles on the boom (eg 36).

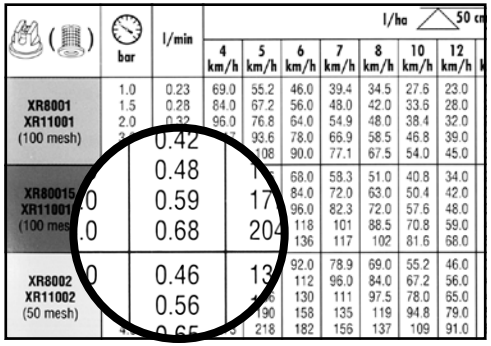
The following formula can be used to establish required flow rate per nozzle:

**Nozzle Flow Rate (l/min) =**

**Speed (km/hr) x Swath Width (m) x Application Rate (l/ha) ÷ 600 ÷ Number of nozzles**

eg, [(12 x 18 x 50) ÷ 600] ÷ 36

= 0.5 l/min for each nozzle



| | bar | l/min | l/ha 50 cm: 4 km/h | 5 km/h | 6 km/h | 7 km/h | 8 km/h | 10 km/h | 12 km/h |
|---|---|---|---|---|---|---|---|---|---|
| XR8001 XR11001 (100 mesh) | 1.0 | 0.23 | 69.0 | 55.2 | 46.0 | 39.4 | 34.5 | 27.6 | 23.0 |
| | 1.5 | 0.28 | 84.0 | 67.2 | 56.0 | 48.0 | 42.0 | 33.6 | 28.0 |
| | 2.0 | 0.32 | 96.0 | 76.8 | 64.0 | 54.9 | 48.0 | 38.4 | 32.0 |
| | | 0.42 | | 93.6 | 78.0 | 66.9 | 58.5 | 46.8 | 39.0 |
| XR8001 5 XR11001 (100 mes | .0 | 0.48 | | 108 | 90.0 | 77.1 | 67.5 | 54.0 | 45.0 |
| | .0 | 0.59 | 17 | | | 68.0 | 58.3 | 51.0 | 40.8 | 34.0 |
| | .0 | 0.68 | 204 | | | 84.0 | 72.0 | 63.0 | 50.4 | 42.0 |
| | | | | | | 96.0 | 82.3 | 72.0 | 57.6 | 48.0 |
| | | | | | | 118 | 101 | 88.5 | 70.8 | 59.0 |
| | | | | | | 136 | 117 | 102 | 81.6 | 68.0 |
| XR8002 XR11002 (50 mesh) | 0 | 0.46 | 13 | | | 92.0 | 78.9 | 69.0 | 55.2 | 46.0 |
| | | 0.56 | | | | 112 | 96.0 | 84.0 | 67.2 | 56.0 |
| | | | | | | 130 | 111 | 97.5 | 78.0 | 65.0 |
| | | | | | | 190 | 158 | 135 | 119 | 94.8 | 79.0 |
| | | | | | | 218 | 182 | 156 | 137 | 109 | 91.0 |

*L/min column on nozzle chart - courtesy of Teejet.*

An alternative formula is:

**Nozzle Flow Rate (l/min) =**

**Speed (km) x Nozzle Spacing (cm) x Application Rate (l/ha) ÷ 60,000**

eg, [12 x 50 x 50] ÷ 60,000

= 0.5 l/min

Now using the nozzle chart look down the nozzle capacity column (l/min) and select a nozzle to suit the output (eg 0.5 l/min). Refer to pages 4.9 to 4.11 for nozzle charts.

> ***NOTE***
>
> ***Always use Actual Speed of Travel for speed in the above formula.***

## Step 5

## Fit the Selected Nozzles to the Boom

Fit the selected nozzles to the boom as per the nozzle manufacturers specifications.

> ***NOTE***
>
> ***Remember when selecting nozzle outputs that higher pressures and wider spray angles usually give finer droplet sizes than lower pressures and narrower spray angles.***

*Test the actual output of the nozzles.*

## Step 6 (Recommended)

## Check Nozzle Accuracy & Determine Nozzle Output

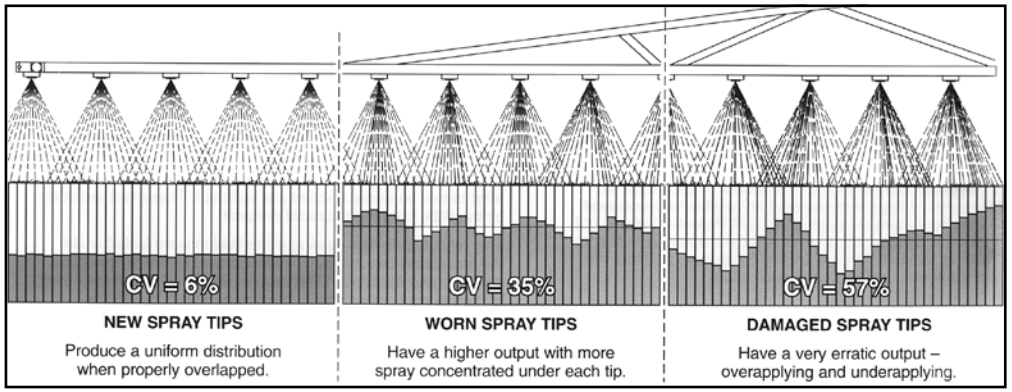
Test the actual output of the nozzles using the following procedure:

a) Ensure there is adequate water in the tank.

**IMPORTANT:** Do not use mixed pesticides for testing.

b) Start the sprayer and set the spray Controller master switch into MANUAL position and adjust the operating pressure (PTO to continue instructions).

> ***WARNING***
>
> ***Do not use mixed pesticides for testing. Use only clean water.***
>
> ***Use of pesticides when testing is hazardous to your health.***




*Spray tip wear - courtesy of Teejet.*

c) Collect and measure the volume of spray from one nozzle and adjust pressure so that the nozzle gives the specified output (eg 0.5 l/min).

**IMPORTANT:**
Do not use a worn nozzle to set the pressure setting and nozzle rates.

If the boom is not fitted with new nozzles, fit one new nozzle and use it to set the flow rate and pressure setting.

This sets the standard flow rate, pressure setting and spray pattern with which to test the performance of other nozzles.

d) When the pressure is set to give a specified nozzle output (using a new nozzle), collect and measure the volume of spray from each nozzle for one minute in a collection jar or calibrating jug.

Specially designed nozzle testing equipment such as nozzle calibrating jugs can be used to simplify nozzle calibration.

e) Visually check nozzle spray patterns and spray angle for accuracy and, if necessary, replace any faulty nozzles.

f) Discard and replace any nozzle that deviates more than 10% from the specified output (eg with a 0.5 l/min specification- discard any nozzles 0.45 l/min and under or 0.55 l/min and over).

g) Check replacement nozzles by collecting and measuring output from each replacement.

h) Record the output of each nozzle on the boom. Add the outputs together and divide by the number of nozzles to get the required output of each nozzles in one minute.

eg, Total spray output 18 l/min ÷ 36 nozzles = 0.5 l/min per nozzle.

> ⚠ ***CAUTION***
>
> ***Do not use a worn nozzles to set the pressure setting and nozzle rates, otherwise inaccurate calibration will occur.***

## Step 7
## Calculate Application Rate

When operating the spray controller, the controller automatically calculates and shows the rate of application.

**Application Rate (l/ha) =**

**Spray Output (l/min) x 600 ÷ Speed (km/hr) x Swath Width (m)**

eg, [18 x 600] ÷ [12 x 18]

= 50 l/ha


*+/- keys.*

## Step 8

## If tested application is not satisfactory:

**a) In Auto mode -** if application rate is not being achieved:

i) Operating pressure will climb if nozzles are too small or blocked or speed is too slow.

Likewise, if your pressure filter is blocked (even partially), you may experience excessive pressure at the pump.

Make adjustments accordingly.

ii) Operating pressure will fall if nozzles are too large or speed is too slow. Make adjustments accordingly.

**b) In Manual mode -** the Controller application rate can be altered by:

i) Adjusting pressure up or down to increase or decrease rate of application (use +/- keys).

ii) Adjusting spraying speed up or down to decrease or increase rate of application.

iii) Changing to a different nozzle capacity.

Repeat necessary testing procedures and calculation of application rate if adjustments or changes are made.

***NOTE***

*Full instructions of controller operation are contained in your separate Controller Manual.*

***NOTE***

*All nozzles have a pressure and flow rate range to achieve the best results. Ensure you have selected the nozzle which best suits your application to avoid any problems.*

## Step 9

## Add The Correct Amount Of Chemical To The Tank

**a) For land area rates** (litres or kg per hectare), use the following formula:

**Chemical Required (litres) =**

**Tank Volume (litres) x Recommended Chemical Rate (l/ha) ÷ Spray Application Rate (l/ha)**

eg, [2000 x 2.0] ÷ 50

= 80 litres

**b) If chemical recommendation is given in water volume rates use the following formula:**

**Chemical Required (litres) =**

**Tank Volume (litres) x Recommended Chemical Rate (l/100 litres) ÷ 100**

eg, [2000 x 4] ÷ 100

= 80 litres

**c) For land area covered,** use the formula:

**Area Covered (ha) =**

**Tank Volume (litres) ÷ Spray Application Rate (l/ha)**

eg, 2000 ÷ 50

= 40 hectares

**d) For tank volume required,** use the formula:

**Tank Volume Required (litres) =**

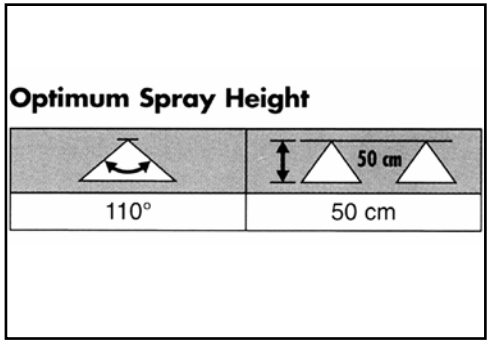
**Area (ha) x Spray Application Rate (l/ha)**

eg, 20 x 50

= 1000 litres

***NOTE***

***Mix only the amount required. Avoid wastage and the problem of needless chemical disposal.***




*Boom height - courtesy of Teejet.*

## Step 10
## Adjust Boom Height

Boom height should be adjusted to suit the type of nozzle used, terrain and crop or soil being sprayed.

Minimum boom height recommendations depend on the nozzle spray angle and nozzle spacing.

Refer to Nozzle chart recommendations.

## Step 11
## Record All Data For Future Reference

Record all your calibration data on the work sheets given at the end of this section.

Photocopy the work sheets to obtain the number of work sheets required.

[ XR = Extended Range ]
[ AI = Air Induction ]

# XR & AI TeeJet Nozzle Chart

| Nozzle (filter) | Bar | l/min | Litres/ha @ 500mm nozzle spacing | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 4km/h | 5km/h | 6km/h | 7km/h | 8km/h | 10km/h | 12km/h | 16km/h | 18km/h | 20km/h | 25km/h | 30km/h | 35km/h |
| **XR11001 AI11001 (100 mesh)** | 1.0 | 0.23 | 69.0 | 55.2 | 46.0 | 39.4 | 34.5 | 27.6 | 23.0 | 17.3 | 15.3 | 13.8 | 11.0 | 9.2 | 7.9 |
| | 1.5 | 0.28 | 84.0 | 67.2 | 56.0 | 48.0 | 42.0 | 33.6 | 28.0 | 21.0 | 18.7 | 16.8 | 13.4 | 11.2 | 9.6 |
| | 2.0 | 0.32 | 96.0 | 76.8 | 64.0 | 54.9 | 48.0 | 38.4 | 32.0 | 24.0 | 21.3 | 19.2 | 15.4 | 12.8 | 11.0 |
| | 3.0 | 0.39 | 117 | 93.6 | 78.0 | 66.9 | 58.5 | 46.8 | 39.0 | 29.3 | 26.0 | 23.4 | 18.7 | 15.6 | 13.4 |
| | 4.0 | 0.45 | 135 | 108 | 90.0 | 77.1 | 67.5 | 54.0 | 45.0 | 33.8 | 30.0 | 27.0 | 21.6 | 18.0 | 15.4 |
| **XR110015 AI110015 (100 mesh)** | 1.0 | 0.34 | 102 | 81.6 | 68.0 | 48.3 | 51.0 | 40.8 | 34.0 | 25.5 | 22.7 | 20.4 | 16.3 | 13.6 | 11.7 |
| | 1.5 | 0.42 | 126 | 101 | 84.0 | 72.0 | 63.0 | 50.4 | 42.0 | 31.5 | 28.0 | 25.2 | 20.2 | 16.8 | 14.4 |
| | 2.0 | 0.48 | 144 | 115 | 96.0 | 82.3 | 72.0 | 57.6 | 48.0 | 36.0 | 32.0 | 28.8 | 23.0 | 19.2 | 16.5 |
| | 3.0 | 0.59 | 177 | 142 | 118 | 101 | 88.5 | 70.8 | 59.0 | 44.3 | 39.3 | 35.4 | 28.3 | 23.6 | 20.2 |
| | 4.0 | 0.68 | 204 | 163 | 136 | 117 | 102 | 81.6 | 68.0 | 51.0 | 45.3 | 40.8 | 32.6 | 27.2 | 23.3 |
| **XR11002 AI11002 (50 mesh)** | 1.0 | 0.46 | 138 | 110 | 92.0 | 78.9 | 69.0 | 55.2 | 46.0 | 34.5 | 30.7 | 27.6 | 22.1 | 18.4 | 15.8 |
| | 1.5 | 0.56 | 168 | 134 | 112 | 96.0 | 84.0 | 67.2 | 56.0 | 42.0 | 37.3 | 33.6 | 26.9 | 22.4 | 19.2 |
| | 2.0 | 0.65 | 195 | 156 | 130 | 111 | 97.5 | 78.0 | 65.0 | 48.8 | 43.3 | 29.0 | 31.2 | 26.0 | 22.3 |
| | 3.0 | 0.79 | 237 | 190 | 158 | 135 | 119 | 94.8 | 79.0 | 59.3 | 52.7 | 47.4 | 37.9 | 31.6 | 27.1 |
| | 4.0 | 0.91 | 273 | 218 | 182 | 156 | 137 | 109 | 91.0 | 68.3 | 60.7 | 54.6 | 43.7 | 36.4 | 31.2 |
| **XR11003 AI11003 (50 mesh)** | 1.0 | 0.68 | 204 | 163 | 136 | 117 | 102 | 81.6 | 68.0 | 51.0 | 45.3 | 40.8 | 32.6 | 27.2 | 23.3 |
| | 1.5 | 0.83 | 249 | 199 | 166 | 142 | 125 | 100 | 83.0 | 62.3 | 55.3 | 49.8 | 39.8 | 33.2 | 28.5 |
| | 2.0 | 0.96 | 288 | 230 | 192 | 165 | 144 | 115 | 96.0 | 72.0 | 64.0 | 57.6 | 46.1 | 38.4 | 32.9 |
| | 3.0 | 1.18 | 354 | 283 | 236 | 202 | 177 | 142 | 118 | 88.5 | 78.7 | 70.8 | 56.6 | 47.2 | 40.5 |
| | 4.0 | 1.36 | 408 | 326 | 272 | 233 | 204 | 163 | 136 | 102 | 90.7 | 81.6 | 65.3 | 54.4 | 46.6 |
| **XR11004 AI11004 (50 mesh)** | 1.0 | 0.91 | 273 | 218 | 182 | 156 | 137 | 109 | 91.0 | 68.3 | 60.7 | 54.6 | 43.7 | 36.4 | 31.2 |
| | 1.5 | 1.12 | 336 | 269 | 224 | 192 | 168 | 134 | 112 | 84.0 | 74.7 | 67.2 | 53.8 | 44.8 | 38.4 |
| | 2.0 | 1.29 | 387 | 310 | 258 | 221 | 194 | 155 | 129 | 96.8 | 86.0 | 77.4 | 61.9 | 51.6 | 44.2 |
| | 3.0 | 1.58 | 474 | 379 | 316 | 271 | 237 | 190 | 158 | 119 | 105 | 94.8 | 75.8 | 63.2 | 54.2 |
| | 4.0 | 1.82 | 546 | 437 | 364 | 312 | 273 | 218 | 182 | 137 | 121 | 109 | 87.4 | 72.8 | 62.4 |
| **XR11005 AI11005 (50 mesh)** | 1.0 | 1.14 | 342 | 274 | 228 | 195 | 171 | 137 | 114 | 85.5 | 76.0 | 68.4 | 54.7 | 45.6 | 39.1 |
| | 1.5 | 1.39 | 417 | 334 | 278 | 238 | 209 | 167 | 139 | 104 | 92.7 | 83.4 | 66.7 | 55.6 | 47.7 |
| | 2.0 | 1.61 | 483 | 386 | 322 | 276 | 242 | 193 | 161 | 121 | 107 | 96.6 | 77.3 | 64.4 | 55.2 |
| | 3.0 | 1.97 | 591 | 473 | 394 | 338 | 296 | 236 | 197 | 148 | 131 | 118 | 94.6 | 78.8 | 67.5 |
| | 4.0 | 2.27 | 681 | 545 | 454 | 389 | 341 | 272 | 227 | 170 | 151 | 136 | 109 | 90.8 | 77.8 |

# Air-Mix & Turbodrop® Nozzle Chart



| Nozzle | Bar | l/min | Litres/ha @ 500mm nozzle spacing | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5km/h | 6km/h | 7km/h | 8km/h | 10km/h | 12km/h | 16km/h | 20km/h | 25km/h | 30km/h | 35km/h | | |
| **TDAM015 TD015 (Green)** | 1 | 0,346 | 83 | 69 | 59 | 52 | 42 | 35 | 26 | 21 | | | | | |
| | 2 | 0,490 | 118 | 98 | 84 | 74 | 59 | 49 | 36 | 29 | | | | | |
| | 3 | 0,600 | 144 | 120 | 103 | 90 | 72 | 60 | 45 | 36 | | | | | |
| | 4 | 0,693 | 166 | 139 | 119 | 104 | 83 | 69 | 52 | 42 | | | | | |
| | 5 | 0,775 | 186 | 155 | 133 | 116 | 93 | 77 | 58 | 47 | | | | | |
| | 6 | 0,849 | 204 | 170 | 146 | 127 | 102 | 85 | 64 | 51 | | | | | |
| | 7 | 0,917 | 220 | 183 | 157 | 138 | 110 | 92 | 69 | 55 | | | | | |
| | 8 | 0,980 | 235 | 196 | 168 | 147 | 118 | 98 | 74 | 59 | | | | | |
| | 9 | 1,039 | 249 | 208 | 178 | 156 | 125 | 104 | 78 | 63 | | | | | |
| | 10 | 1,095 | 263 | 219 | 188 | 164 | 132 | 109 | 82 | 66 | | | | | |
| **TDAM02 TD02 (Yellow)** | 1 | 0,462 | 111 | 92 | 79 | 69 | 55 | 46 | 35 | 28 | | | | | |
| | 2 | 0,653 | 157 | 131 | 112 | 98 | 78 | 65 | 49 | 39 | | | | | |
| | 3 | 0,800 | 192 | 160 | 137 | 120 | 96 | 80 | 60 | 48 | | | | | |
| | 4 | 0,924 | 222 | 185 | 159 | 139 | 111 | 92 | 69 | 56 | | | | | |
| | 5 | 1,033 | 248 | 207 | 177 | 155 | 124 | 103 | 77 | 62 | | | | | |
| | 6 | 1,131 | 271 | 226 | 94 | 170 | 136 | 113 | 85 | 68 | | | | | |
| | 7 | 1,222 | 293 | 244 | 209 | 183 | 147 | 122 | 92 | 73 | | | | | |
| | 8 | 1,306 | 313 | 261 | 224 | 196 | 157 | 131 | 98 | 78 | | | | | |
| | 9 | 1,386 | 332 | 277 | 237 | 208 | 166 | 139 | 104 | 83 | | | | | |
| | 10 | 1,460 | 350 | 292 | 250 | 219 | 175 | 146 | 110 | 88 | | | | | |
| **TDAM025 TD025 (Lilac)** | 1 | 0,577 | 138 | 115 | 99 | 87 | 69 | 58 | 43 | 35 | | | | | |
| | 2 | 0,816 | 196 | 163 | 140 | 122 | 98 | 82 | 61 | 49 | | | | | |
| | 3 | 1,000 | 240 | 200 | 171 | 150 | 120 | 100 | 75 | 60 | | | | | |
| | 4 | 1,154 | 278 | 231 | 199 | 174 | 139 | 115 | 86 | 70 | | | | | |
| | 5 | 1,291 | 310 | 259 | 221 | 194 | 155 | 129 | 96 | 78 | | | | | |
| | 6 | 1,414 | 339 | 283 | 243 | 213 | 170 | 141 | 106 | 85 | | | | | |
| | 7 | 1,528 | 366 | 305 | 261 | 229 | 184 | 153 | 115 | 92 | | | | | |
| | 8 | 1,632 | 391 | 326 | 280 | 245 | 196 | 163 | 122 | 98 | | | | | |
| | 9 | 1,732 | 415 | 346 | 296 | 260 | 208 | 174 | 130 | 104 | | | | | |
| | 10 | 1,826 | 438 | 365 | 313 | 274 | 219 | 183 | 138 | 110 | | | | | |
| **TDAM03 TD03 (Blue)** | 1 | 0,693 | 166 | 139 | 119 | 104 | 83 | 69 | 52 | 42 | | | | | |
| | 2 | 0,980 | 234 | 196 | 168 | 147 | 118 | 98 | 74 | 59 | | | | | |
| | 3 | 1,200 | 288 | 240 | 206 | 180 | 144 | 120 | 90 | 72 | | | | | |
| | 4 | 1,385 | 333 | 278 | 238 | 208 | 166 | 138 | 104 | 84 | | | | | |
| | 5 | 1,549 | 372 | 310 | 266 | 232 | 186 | 154 | 116 | 94 | | | | | |
| | 6 | 1,697 | 408 | 340 | 292 | 254 | 204 | 170 | 128 | 102 | | | | | |
| | 7 | 1,833 | 440 | 366 | 314 | 276 | 220 | 184 | 138 | 110 | | | | | |
| | 8 | 1,960 | 460 | 392 | 336 | 294 | 236 | 196 | 148 | 118 | | | | | |
| | 9 | 2,078 | 498 | 416 | 356 | 312 | 250 | 208 | 156 | 126 | | | | | |
| | 10 | 2,191 | 526 | 438 | 376 | 328 | 264 | 218 | 164 | 132 | | | | | |

# Air-Mix & Turbodrop® Nozzle Chart

| Nozzle | Bar | l/min | Litres/ha @ 500mm nozzle spacing | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5km/h | 6km/h | 7km/h | 8km/h | 10km/h | 12km/h | 16km/h | 20km/h | 25km/h | 30km/h | 35km/h | |
| **TDAM04 TD04 (Red)** | 1 | 0,924 | 222 | 185 | 158 | 139 | 111 | 92 | 69 | 55 | | | | |
| | 2 | 1,306 | 313 | 261 | 224 | 196 | 157 | 131 | 98 | 78 | | | | |
| | 3 | 1,600 | 384 | 320 | 274 | 240 | 192 | 160 | 120 | 96 | | | | |
| | 4 | 1,847 | 444 | 370 | 318 | 278 | 222 | 184 | 138 | 112 | | | | |
| | 5 | 2,066 | 496 | 414 | 354 | 310 | 248 | 206 | 154 | 124 | | | | |
| | 6 | 2,263 | 542 | 452 | 388 | 340 | 272 | 226 | 170 | 136 | | | | |
| | 7 | 2,444 | 586 | 488 | 418 | 366 | 294 | 244 | 184 | 146 | | | | |
| | 8 | 2,612 | 626 | 522 | 448 | 392 | 314 | 260 | 196 | 156 | | | | |
| | 9 | 2,771 | 664 | 554 | 474 | 416 | 332 | 278 | 208 | 166 | | | | |
| | 10 | 2,921 | 700 | 584 | 500 | 438 | 350 | 292 | 220 | 176 | | | | |
| **TDAM05 TD05 (Brown)** | 1 | 1,155 | 277 | 231 | 198 | 173 | 139 | 116 | 87 | 69 | | | | |
| | 2 | 1,633 | 392 | 327 | 280 | 245 | 196 | 163 | 122 | 98 | | | | |
| | 3 | 2,000 | 480 | 400 | 342 | 300 | 240 | 200 | 150 | 120 | | | | |
| | 4 | 2,309 | 556 | 462 | 398 | 348 | 278 | 230 | 172 | 140 | | | | |
| | 5 | 2,582 | 620 | 518 | 442 | 388 | 310 | 258 | 192 | 156 | | | | |
| | 6 | 2,828 | 678 | 566 | 486 | 426 | 340 | 282 | 212 | 170 | | | | |
| | 7 | 3,055 | 732 | 610 | 522 | 458 | 368 | 306 | 230 | 184 | | | | |
| | 8 | 3,264 | 682 | 652 | 560 | 490 | 392 | 326 | 245 | 196 | | | | |
| | 9 | 3,464 | 830 | 692 | 592 | 520 | 416 | 346 | 260 | 208 | | | | |
| | 10 | 3,651 | 876 | 730 | 626 | 548 | 438 | 366 | 276 | 219 | | | | |
| **TDAM06 TD06 (Grey)** | 1 | 1,386 | 333 | 277 | 238 | 208 | 166 | 139 | 104 | 83 | | | | |
| | 2 | 1,960 | 470 | 392 | 336 | 294 | 235 | 196 | 147 | 118 | | | | |
| | 3 | 2,400 | 576 | 480 | 412 | 360 | 288 | 240 | 180 | 144 | | | | |
| | 4 | 2,771 | 666 | 556 | 476 | 416 | 332 | 276 | 208 | 168 | | | | |
| | 5 | 3,098 | 744 | 620 | 532 | 464 | 372 | 308 | 232 | 188 | | | | |
| | 6 | 3,394 | 816 | 680 | 584 | 508 | 408 | 340 | 256 | 204 | | | | |
| | 7 | 3,666 | 880 | 732 | 628 | 552 | 440 | 368 | 276 | 220 | | | | |
| | 8 | 3,919 | 940 | 784 | 672 | 588 | 475 | 392 | 296 | 236 | | | | |
| | 9 | 4,157 | 996 | 832 | 712 | 624 | 500 | 416 | 312 | 252 | | | | |
| | 10 | 4,382 | 1052 | 876 | 752 | 656 | 528 | 436 | 328 | 264 | | | | |

# Calibration Work Sheet



**Step 1**

**Check the Sprayer is in Good Working Order**

**Step 2**

**Determine Actual Speed of Travel**

Follow Instructions on page 4.2 (Pegasus Calibration page).

| | |
|---|---|
| Tractor model | |
| Gear | |
| Range | |
| Dual power | |
| Engine RPM | |
| Speed in Km/h | |

**Step 3**

**Measure Boom Widths**

Boom section 1: .....

Boom section 2: .....

Boom section 3: .....

Boom section 4: .....

Boom section 5: .....

Boom section 6: .....

Boom section 7: .....

**Step 4**

**Select Nozzle Type & Size**

- **Chemical:** .....
- **Type of Nozzle:** .....
- **Pressure Setting:** .....
- **Travel speed** (km/hr): .....
- **Total number of nozzles** to be used .....

**Nozzle Flow Rate (l/min)**

**=**

**Speed (km/hr) x Swath Width (m) x Application Rate (l/ha) ÷ 600 ÷ Number of nozzles**

..... x ..... x ..... ÷ 600 ÷ .....

= ..... l/min for each nozzle

**Step 5**

**Fit Selected Nozzles to Boom**

**Nozzle Type:** .....

**Nozzle Size:** .....

**Nozzle Colour:** .....

**Step 6**

**Check Nozzle Accuracy & Determine Nozzle Output**

Thoroughly check nozzles & test the actual output of each nozzle.

- **Pressure Setting:** .....
- **Individual Nozzle Outputs:** .....

.....

.....

- **Sum of Nozzle Outputs:** .....

**Step 7**

**Calculate Application Rate**

The spray Controller automatically calculates and shows the rate of application.

**Application Rate (l/ha)**

**=**

**Spray Output (l/min) x 600 ÷ Speed (km/hr) x Swath Width (m)**

[..... x 600] ÷ [..... x .....]

= .....

**Step 8**

**If Tested Application is Not Satisfactory - Make Changes & Repeat Procedure**

.....

.....

**Step 9**

**Add Correct Amount of Chemical**

- **Chemical:** .....
- **Water Quantity:** .....
- **Chemical Added:** .....

**Step 10**

**Boom Height**

.....

**Step 11**

**Record Data**

| | |
|---|---|
| Date | |
| Farm location | |
| Crop to be sprayed | |
| Spray Volume litres/ha | |
| Nozzle type | |
| Nozzle size &colour | |
| No. of nozzles used | |
| Nozzle pressure | |
| Tested Output in l/min | |
| Actual Litres/Hectare | |
| | |
| | |
| | |
| | |

# Calibration Work Sheet

**Step 1**
**Check the Sprayer is in Good Working Order**

**Step 2**
**Determine Actual Speed of Travel**
Follow Instructions on page 4.2 (Pegasus Calibration page).

| | |
|---|---|
| Tractor model | |
| Gear | |
| Range | |
| Dual power | |
| Engine RPM | |
| Speed in Km/h | |

**Step 3**
**Measure Boom Widths**

Boom section 1: .....
Boom section 2: .....
Boom section 3: .....
Boom section 4: .....
Boom section 5: .....
Boom section 6: .....
Boom section 7: .....

**Step 4**
**Select Nozzle Type & Size**

- **Chemical:** .....
- **Type of Nozzle:** .....
- **Pressure Setting:** .....
- **Travel speed** (km/hr): .....
- **Total number of nozzles** to be used .....

**Nozzle Flow Rate (l/min)**
**=**
**Speed (km/hr) x Swath Width (m) x Application Rate (l/ha) ÷ 600 ÷ Number of nozzles**

..... x ..... x ..... ÷ 600 ÷ .....

= ..... l/min for each nozzle

**Step 5**
**Fit Selected Nozzles to Boom**

**Nozzle Type:** .....
**Nozzle Size:** .....
**Nozzle Colour:** .....

**Step 6**
**Check Nozzle Accuracy & Determine Nozzle Output**
Thoroughly check nozzles & test the actual output of each nozzle.

- **Pressure Setting:** .....
- **Individual Nozzle Outputs:** .....

.....

.....

- **Sum of Nozzle Outputs:** .....

**Step 7**
**Calculate Application Rate**
The spray Controller automatically calculates and shows the rate of application.

**Application Rate (l/ha)**
**=**
**Spray Output (l/min) x 600 ÷ Speed (km/hr) x Swath Width (m)**

[..... x 600] ÷ [..... x .....]

= .....

**Step 8**
**If Tested Application is Not Satisfactory - Make Changes & Repeat Procedure**

.....
.....

**Step 9**
**Add Correct Amount of Chemical**

- **Chemical:** .....
- **Water Quantity:** .....
- **Chemical Added:** .....

**Step 10**
**Boom Height**

.....

**Step 11**
**Record Data**

| | |
|---|---|
| Date | |
| Farm location | |
| Crop to be sprayed | |
| Spray Volume litres/ha | |
| Nozzle type | |
| Nozzle size &colour | |
| No. of nozzles used | |
| Nozzle pressure | |
| Tested Output in l/min | |
| Actual Litres/Hectare | |
| | |
| | |
| | |
| | |

# Calibration Work Sheet

**Step 1**
**Check the Sprayer is in Good Working Order**

**Step 2**
**Determine Actual Speed of Travel**
Follow Instructions on page 4.2 (Pegasus Calibration page).

| | |
|---|---|
| Tractor model | |
| Gear | |
| Range | |
| Dual power | |
| Engine RPM | |
| Speed in Km/h | |

**Step 3**
**Measure Boom Widths**

Boom section 1: .....
Boom section 2: .....
Boom section 3: .....
Boom section 4: .....
Boom section 5: .....
Boom section 6: .....
Boom section 7: .....

**Step 4**
**Select Nozzle Type & Size**

- **Chemical:** .....
- **Type of Nozzle:** .....
- **Pressure Setting:** .....
- **Travel speed** (km/hr): .....
- **Total number of nozzles** to be used .....

**Nozzle Flow Rate (l/min)**
**=**
**Speed (km/hr) x Swath Width (m) x Application Rate (l/ha) ÷ 600 ÷ Number of nozzles**

..... x ..... x ..... ÷ 600 ÷ .....

= ..... l/min for each nozzle

**Step 5**
**Fit Selected Nozzles to Boom**

**Nozzle Type:** .....
**Nozzle Size:** .....
**Nozzle Colour:** .....

**Step 6**
**Check Nozzle Accuracy & Determine Nozzle Output**
Thoroughly check nozzles & test the actual output of each nozzle.

- **Pressure Setting:** .....
- **Individual Nozzle Outputs:** .....

.....

.....

- **Sum of Nozzle Outputs:** .....

**Step 7**
**Calculate Application Rate**
The spray Controller automatically calculates and shows the rate of application.

**Application Rate (l/ha)**
**=**
**Spray Output (l/min) x 600 ÷ Speed (km/hr) x Swath Width (m)**

[..... x 600] ÷ [..... x .....]

= .....

**Step 8**
**If Tested Application is Not Satisfactory - Make Changes & Repeat Procedure**

.....
.....

**Step 9**
**Add Correct Amount of Chemical**

- **Chemical:** .....
- **Water Quantity:** .....
- **Chemical Added:** .....

**Step 10**
**Boom Height**

.....

**Step 11**
**Record Data**

| | |
|---|---|
| Date | |
| Farm location | |
| Crop to be sprayed | |
| Spray Volume litres/ha | |
| Nozzle type | |
| Nozzle size &colour | |
| No. of nozzles used | |
| Nozzle pressure | |
| Tested Output in l/min | |
| Actual Litres/Hectare | |
| | |
| | |
| | |
| | |

# SECTION 5
## LUBRICATION & MAINTENANCE

## Greasing & Service Procedures

1. Clean suction line filter with each tank load.
2. Clean bottom-fill line filter after each tank fill if necessary.
3. Clean pressure line filter.
4. Check nozzle filters.
5. Check tyre pressure (350kPa), and check wheel nuts.
6. Check flush tank straps and tighten if necessary.
7. Clean Rapid-check flowmeter.
8. Grease tractor to sprayer PTO universal joints every 8 hours.

   Grease lightly until grease becomes firm in seals. Over greasing will break seals and allow dust and moisture to penetrate - increasing wear.
9. Grease PTO inner tubes every 8 hours.

   To lubricate the inner tube, slide PTO shaft apart, clean the telescopic tubes, grease and reassemble.
10. Grease the PTO covers every 20 hours.
11. Check pump air chamber pressure on a regular basis. As a general guideline it should be 10%-20% of operating pressure (70-100 kPa [10-15 psi]).
12. To ensure trouble free spraying, flush the sprayer with fresh water thoroughly each day, and before changing chemicals.

    Dispose of tank wash according to chemical manufacturers instructions.
13. Grease **all boom joints, height adjuster points and other grease points.**

***NOTE***

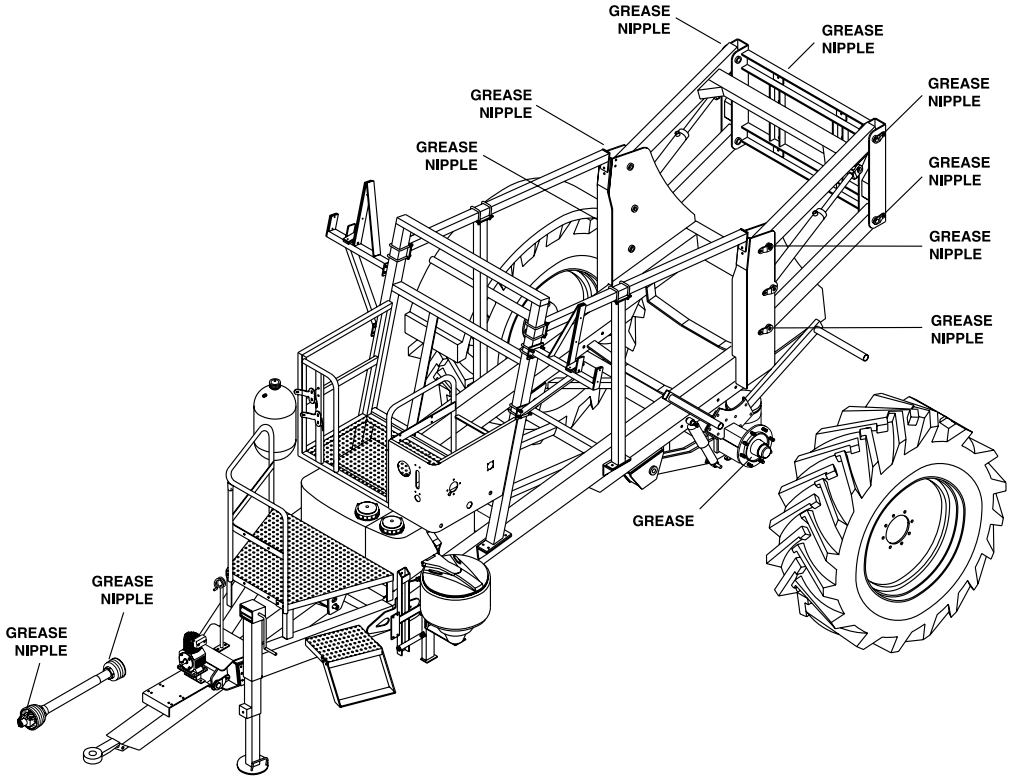
***Ensure the sliding inner tubes of the PTO are greased every 8 hours (working around the clock equals 3 times/day), especially when doing a lot of tight turning***

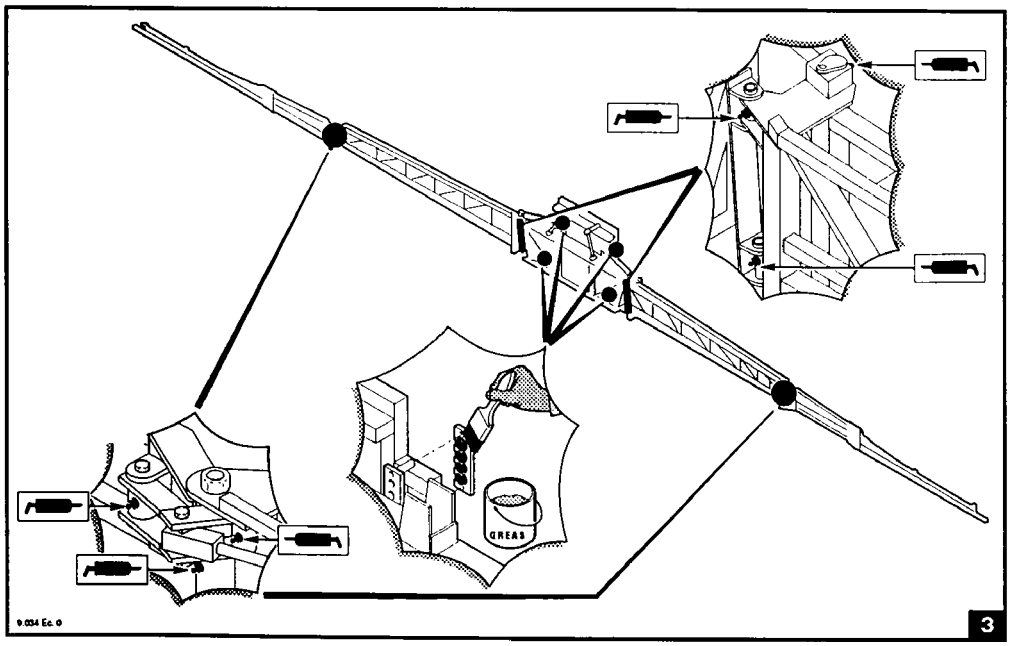
## Every 200 Hours or 6 Months - Whichever comes sooner

1. Lubricate quick release lock pins on PTO shaft.
2. Re-pack wheel bearings with grease.
3. Inspect air-axle (if fitted) and adjust if necessary.
4. Change air filter for foam marker.
5. Fully flush foam marker.
6. Grease all tank lid seals with vaseline.

# Grease Point Diagrams

## Chassis & PTO Grease Points




## Boom Grease Points

# Diaphragm Pump Maintenance

Annovi & Reverberi (A&R) pumps are of the piston-diaphragm type. All parts in contact with the spray liquid, which are subject to corrosion, are protected, making them ideal for spraying (herbicides, insecticides, fungicides, fertilisers, etc.), disinfection and washing.

## Daily Before Starting the Pump

1. Check that oil is visible in sight glass (half way up) and top up if necessary with good clean motor oil 20W/30 or 20W/40.
2. Clean all sprayer filters. Blocked or semi blocked filters place extra stress on diaphragms.
3. Start with zero pressure and the pump will self prime immediately and clear air locks in suction line.

## Daily after Use

1. Flush pump with clean water.
2. Drain filters and clean. A high percentage of pump failures are due to blocked filters.

**⚠ *CAUTION***

***Running a diaphragm pump faster than specified will not improve performance, but will damage and wear out moving parts.***

***Warranty will be made void by speeds in excess of those indicated on the pump name plate.***

## Every 50 Hours

Check surge chamber pressure and adjust as follows:

- Air pressure 70-100kPa (10- 15psi) [Should be 10-20% of operating pressure].

Vibration of the delivery hose usually indicates that the air pressure in the surge chamber is incorrect.

The main cause of surge chamber diaphragm fracture is low pressure in this chamber.

Surge chamber pressure can be checked with an ordinary tyre gauge.

The above pressure range is a guide to the correct pressure.

However, if difficulties recur, adjust the pressure until an even flow is obtained from the pump (no pulsing of liquid at operating RPM). The pressure is best increased with a bicycle pump.

## Every 250 hours or Every Season - Whichever Comes Sooner

1. Change oil and refill with 20W/30 oil.

   Attention should be made to remove trapped air behind the diaphragms by rocking from side to side as instructed.

   It is also good practise to run the pump for 10 minutes without pressure, and then, top up with oil before working the pump.
2. When changing the pump oil, check diaphragms and replace them if they are showing signs of wear.

   This is normally a pre-season maintenance procedure which can be done easily as no special tools are required.

   You can avoid unnecessary down time in spraying seasons by carrying out the proper maintenance.
3. Also check inlet and outlet valves and replace if worn. Worn valves not only reduce the output of the pump, but may reduce the life of **the diaphragms.**

## Excessive Diaphragm Failure

If you have excessive diaphragm failure check the following points. These will cause failure of diaphragms due to added stress or chemical attack.

1. Most Important - Pump not being flushed out daily with clean water after use.
2. Oil level too low allowing air between piston and diaphragm.
3. Air leaks in suction line.
4. Restricted suction line.
5. Restriction through suction filter.
6. Not cleaning suction filter regularly.
7. Worn suction and discharge valves.
8. Bypass line too small to carry full capacity of pump.
9. In cold climates - frozen suction/ discharge lines or water remaining in the pump after flushing.
10. Incorrect air setting or no air in air chamber.
11. Agitator excessively restricting bypass from pump.
12. Diaphragm material construction incorrect for chemical or solution being pumped.
13. Chemicals containing toluene or other aggressive solvents may require viton diaphragms - particularly if the pump is not properly flushed after use.

## Pre-Season Servicing

For thorough pre-season servicing - check all aspects of the Pegasus and its operating components as outlined in the pre-delivery check list.

## Pump Storage and Corrosion Protection

1. **Warm Climates**
   If you operate in a warm climate with no chance of frost in the winter, you will not have any problems with frost damage.

   If you are storing your sprayer between seasons, ensure your pump has been thoroughly flushed with clean water. A good idea is to run a mixture of 1% solution of summer mineral spraying oil through the pump and plumbing system. Summer spraying oil is water-soluble oil such as DC-Tron. This will coat and protect all internal pump parts. Ensure this mixture is flushed out before spraying commences in the new season.

2. **Cold Climates**
   For prolonged storage, an anti-freeze mixture can be flushed through the pump. Ensure this is thoroughly flushed out prior to the commencement of spraying again.

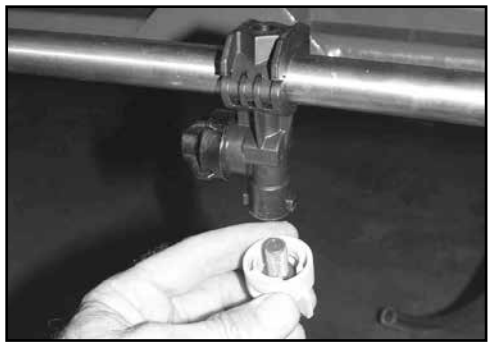
   If the pump is being stored overnight and a risk of freezing is imminent, drain all liquid from the pump and lines, including boom lines.

# Filters

*Remove outer screw & bowl of suction filter.*

*Remove & clean the filter element & components.*

*Reassemble & tighten outer screw of suction filter.*



*Regularly check and clean nozzle filters.*

## Filter Maintenance

Clean filters ensure that no solids enter the spraying system to block or damage pump or nozzles.

All filters should be cleaned regularly or after each spraying period.

## Suction Filter

The suction filter should be cleaned regularly, or after each spray tank has been emptied.

See cleaning instructions.

## Bottom-Fill Filter

The bottom-fill filter should be cleaned regularly, or after each spray tank has been filled.

See cleaning instructions.

## Pressure Filters

The pressure filters should be cleaned regularly, or after each spray tank has been emptied.

See cleaning instructions.

## Nozzle Filters

Nozzle filters should be cleaned regularly to avoid nozzle blockages.

See cleaning instructions.

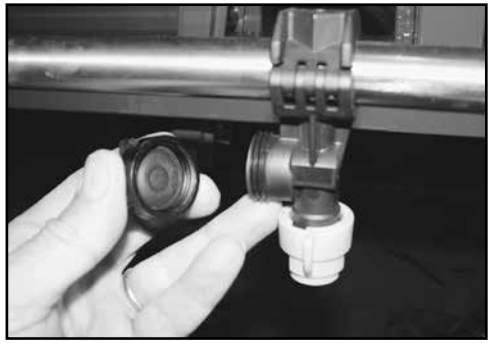
If leaking occurs from the nozzle cap, check caps are correctly fitted with seals &/or the condition of the seals. Replace if necessary.

## Foam Marker Filter

The foam marker filter should be cleaned regularly or after each tank of foam has been emptied.

See cleaning instructions.

# Diaphragms, Straps & Foam Markers



*Remove & clean non-drip diaphragms regularly.*

## Non-Drip Diaphragms

Non-drip diaphragms should be cleaned regularly to prevent dripping from nozzles.

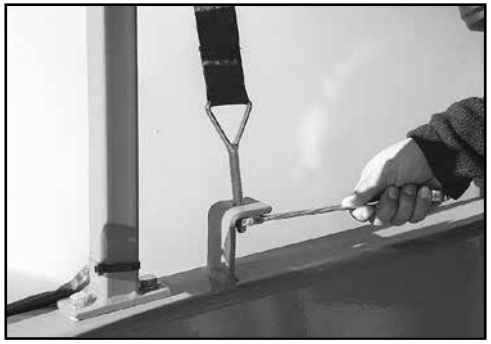
To clean the non-drip diaphragms:

1. Completely stop all sprayer functions.
2. Unscrew and remove the diaphragm cap.
3. Remove and clean any sediment Off the diaphragm membrane.

   Replace the diaphragm membrane if damaged.
4. Refit the diaphragm.
5. Refit the diaphragm cap and carefully tighten.

**NOTE**

***Do not over tighten the diaphragm cap. Over tightening the cap may impede flow through the diaphragm.***



*Regularly check that tank straps are tight.*

## Tank Straps

The tank straps of the flush tank should be kept tight so that the tank does not slide.

Tank clamps should be checked two or three times a day when the sprayer is new and the tank and frame are bedding-in.

Thereafter the tank clamps should be checked regularly.

*Remove the Outback cabinet.*

## Foam Marker Maintenance

### Air Pump Filter

The air pump filter should be inspected and cleaned weekly in normal operating conditions. More often in very dusty conditions. Otherwise, clean as often as experience dictates.

### Foam Marker Cabinet

It's also a good idea to use an air hose to blow out the cabinet and air pump motor cavity after each 50 hours of operation. (Or more often in very dusty conditions.)

### Tank

Keep dirt and debris out of the tank at all times.

The foam marker is protected by:

- A 50 mesh filter under the cabinet, &
- A 100 mesh filter located in the line before the liquid orifice.

These may need cleaning periodically, depending on cleanliness of operations.

*Use an air hose clean out the cabinet area.*

### Off-Season Storage

To prepare the foam marker for storage, following these steps:

1. Drain the tank by removing the filter bowl.
2. Clean filter and replace filter bowl.
3. Add approximately 10 litres of weak foam solution mixture to the tank.
4. Using an air hose, blow the cabinet clean.
5. Clean the inlet air-filter.
6. Protect unplugged connectors from the weather.

**NOTE**

***Do not drain the tank & plumbing for storage as it is better to store the unit wet rather than dry.***

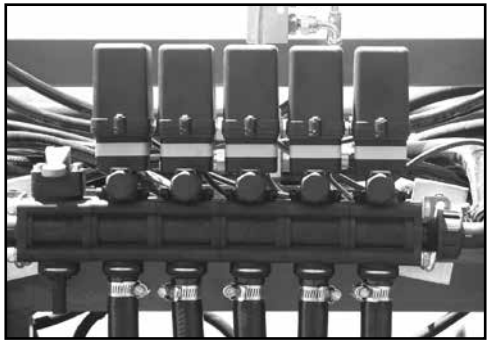
**NOTE**

***If you experience freezing temperatures during the Off season, use an anti-freeze solution rather than a weak foam solution in the above steps.***

# Foam Markers, Motor Valves

*Regularly clean the air filter.*

*Regularly clean the foam marker filter.*



*5-bank motor valves pictured.*

## Air Cleaner

The air cleaner, located on the frame as shown should be cleaned weekly. In extremely dusty conditions, it should be cleaned more frequently.

To clean the air filter:

1. Remove the wing nut on top of the air filter and remove the cover.
2. Remove the filter element and clean using warm water with a mild detergent.
3. Rinse thoroughly and dry.
4. Replace filter and cover.
5. Replace wing nut and tighten.

> ⚠ ***CAUTION***
>
> ***Do not use compressed air when cleaning the air filter as it may damage the air filter element.***

## Liquid Filter

The liquid filter, located on the bottom of the foamer box, should be cleaned weekly. If water contains high amount of sediment and sand, it should be cleaned more frequently.

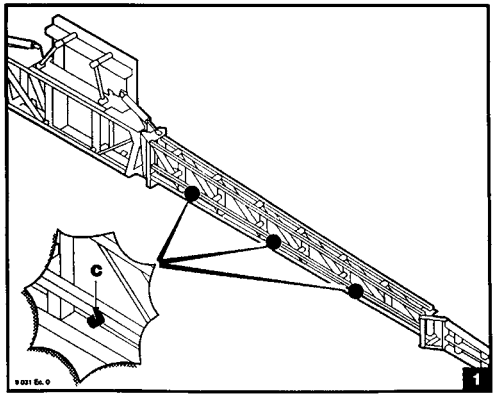
To clean the liquid filter:

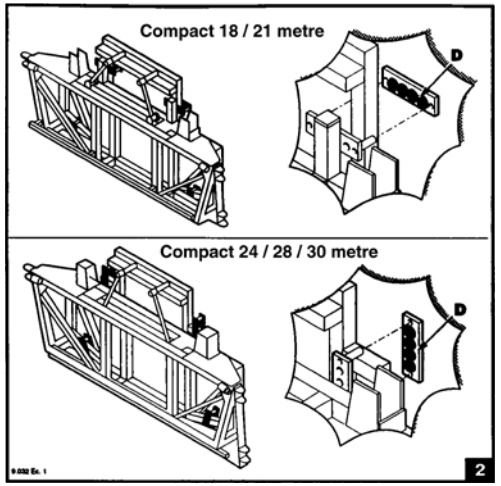
1. Turn “off” the shut-off valve located beside the filter.
2. Remove the filter bowl - you should be able to unscrew by hand.

   Be careful not to lose the gasket.
3. Remove the filter screen.
4. Wash the screen with clean water, if necessary a mild detergent can be used. Rinse thoroughly.
5. Replace screen in filter bowl.
6. Replace the filter bowl and tighten by hand.
7. Turn “On” the shut Off valve.

## Electric Motor-Valve Maintenance

1. Flush system with clean water after each day’s use, especially when using wettable powders.
2. Clean and drain the system for storage.
3. Do not apply lubricating oils or other petroleum products to the valves, as this may cause swelling of the rubber parts.
4. Check with the chemical manufacturer to be sure chemicals being used are compatible with the valve parts.
5. Check the ON/OFF operation of the valves periodically, especially if nozzles cannot be seen while operating.
6. Visually check electrical connections to ensure they are clean and secure.




# Boom Maintenance

Careful and regular maintenance will ensure good, long operational life.

## Daily Maintenance

Clean the boom at the end of each working day or whenever the equipment is stopped for a period of time exceeding on hour. Rinse the plumbing lines and let clean water flow from the nozzles. Clean external surface with a water jet.

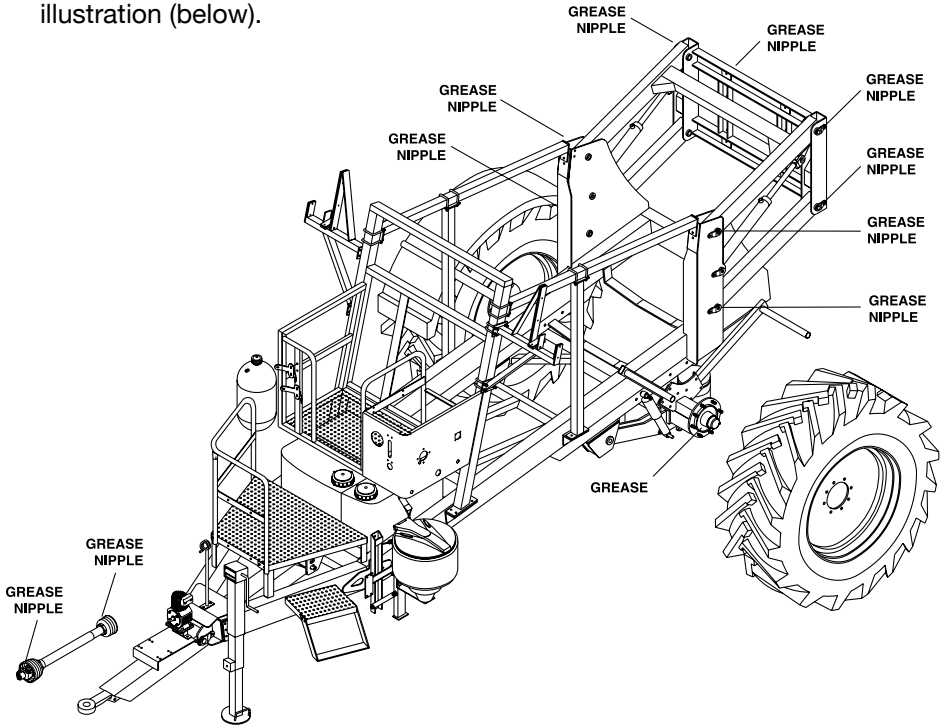
Ensure nozzles and nozzle bodies are correctly fixed and sealed when operating. also ensure non-drip mechanism are working.

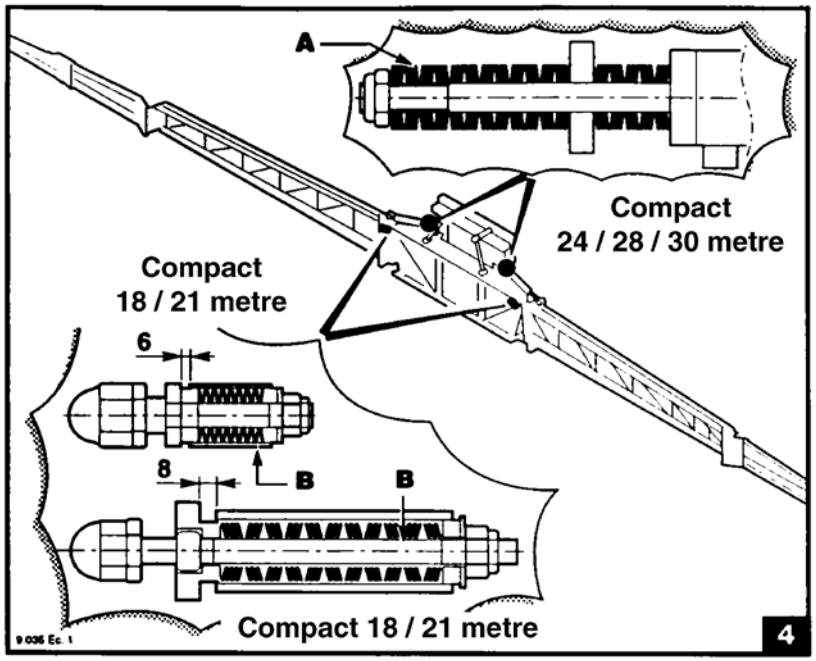
Grease all grease-points as indicated on these pages.

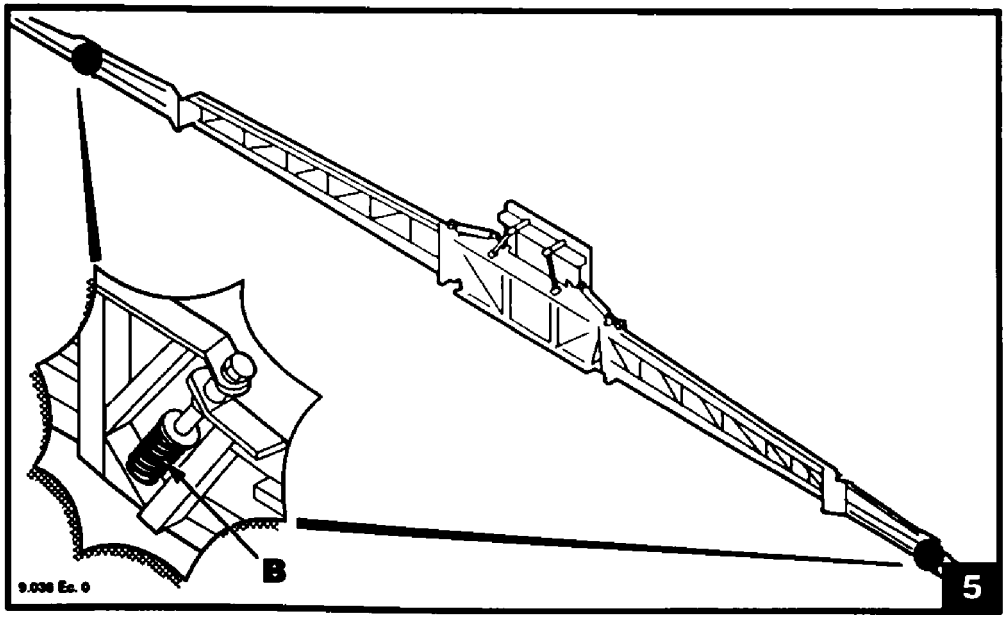
## Every 50 Hours Maintenance

Carry out the following maintenance procedures every 50 hours:

1. Make sure screws of all boom components are intact and tightened.
2. Retouch damage painted parts.
3. Check stop plugs (C), shown in figure 1 (above). Replace them if **necessary.**
4. Check wear of sliding shoes (D), shown in figure 2 (above).
5. Grease the boom, as shown in the illustration (below).
6. Grease the boom parallelogram lift & suspension pivot points.






## Periodical Maintenance

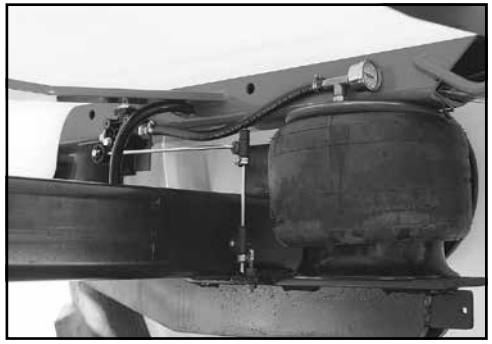
1. Check springs(A) [New SF only] and B) shown in figure 4 above; replace them if flattened or damaged.
2. Check springs (B) shown in figure 5 above; replace them if yielded.
3. Periodically check all hydraulic hoses and fittings for wear and replace if necessary.

## End of Season Maintenance

1. Before storage clean all equipment thoroughly.
2. If necessary protect sprayer plumbing components with anti-freeze fluid to avoid damage in severe temperatures.

***NOTE***

***For boom alignment & adjustment refer to page 3.14.***



*Airbag suspension system.*

## Trailing Arm Front Hinge

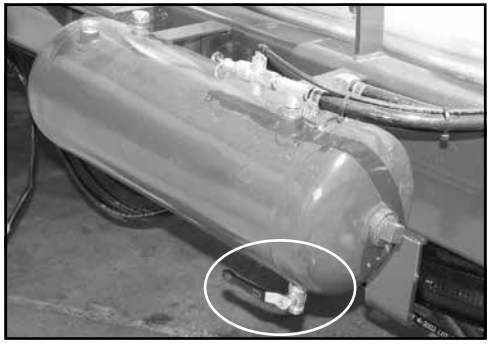
The bush of the Trailing Arm Front Hinge assembly can be replaced when worn.

To remove and replace the steel/rubber bush:

1. Remove the shock absorbers.
2. Disconnect the air level rods.
3. Undo and remove the 30mm bolt in each front hinge.
4. Remove and replace the rubber/ steel bush of the front hinge.

   A specially designed puller/pusher tool to move and replace the bush is available.
5. Re-assemble and replace the 30mm hinge bolts.

   The 30mm nut must be tightened when the trailing arm is an approximate working position.
6. Re-connect the air level rods.
7. Refit the shock absorbers.



*Air chamber drain valve/tap.*

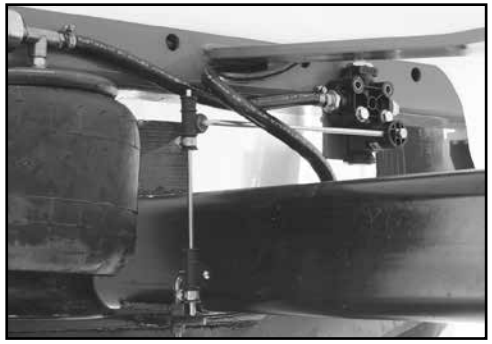
## Air Chamber Drain Valve

The air chamber features a drain valve located at the bottom of the air reservoir.

The valve should be used regularly to remove any moisture from the chamber.

To remove moisture from the chamber:

1. Disengage the PTO/pump drive.
2. Open the drain valve until all moisture is removed.
3. Close the drain valve.
4. Engage the PTO/pump/compressor to recharge the chamber.

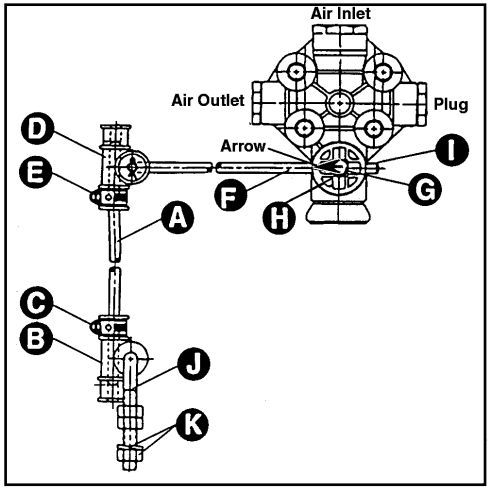


*Air levelling valve with adjustable linkage.*

## Adjustable Linkage Assembly

*To assemble the adjustable linkage of the air levelling valve:*

1. *Insert the ¼" straight rod (A) into the rubber damperner link (B) and tighten the clamp (C).*
2. *Insert the lever arm (F - ¼" rod with 90° bind) into the valve making sure the centre punch on the cam face (I) is pointing toward the vertical linkage.*
3. *Tighten the cap screw (G) to 5 ft/lbs.*
4. *Attach the rubber dampener (D) and clamp (E). Snug the clamp but do not tighten until installation is complete.*




*Linkage assembly illustration.*

Note: To select the right or left hand position, hold the valve and rotate the lever (F) to the desired position.

The Pegasus airbag suspension uses a variable length lever arm. The recommended length is 7" to 13".

Tuning the valve to your suspension is done by increasing or decreasing to obtain optimum performance when the lever arm approaches 45° maximum up or down from a neutral horizontal position.

# SECTION 6
## TROUBLESHOOTING

# Diaphragm Pump Problems



| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| **A Pump does not draw or deliver liquid. Pressure gauge fluctuates badly.** | 1 One or more valves are not seating properly.<br>2 The pump is sucking in air through suction line.<br>3 Air has not been entirely evacuated from the pump.<br>4 Blocked suction filter.<br>5 Damaged or worn suction valves. | 1 Clean valve seating.<br>2 Examine the suction hose and ensure it is firmly secured.<br>3 Rotate the pump with outlet hose and taps open.<br>4 Clean suction filter.<br>5 Replace suction valves. |
| **B Liquid flow is irregular (Also check items under A)** | 1 The air in the air chamber of the pump is incorrectly set.<br>2 Diaphragm split.<br>3 Damaged or worn valves.<br>4 Foreign matter holding valves open. | 1 Check pressure in air chamber of pump. Set at 210-280Kpa (30-40 psi).<br>2 Replace diaphragm.<br>3 Replace valves.<br>4 Clean valves. |
| **C Pump delivers insufficient pressure** | 1 Regulating valve:<br>• Sticking open<br>• Not set for pressure.<br>• Damaged or worn seat or spring.<br>2 Cylinder diaphragm ruptured.<br>3 Pump valves blocked, worn or damaged.<br>4 Spray nozzles worn, missing or exceed pump capacity. | 1 Fix the regulator:<br>• Unstick the valves.<br>• Set the pressure.<br>• Replace the spring.<br>2 Replace diaphragms.<br>3 Unblock valves and or replace.<br>4 Replace spray nozzles with appropriate size. |
| **D Output drops & pump is noisy.** | 1 Oil level is too low. | 1 Top up with oil to correct level (1/2 way up the sump sight glass). |

# Diaphragm Pump Problems

| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| **E Oil being discharged through delivery line or discoloured oil in sight glass of pump.** | 1 One or more diaphragms split or ruptured. | 1 Immediately drain oil from pump and flush to remove all spray residues from sump. Remove pump heads & fit new diaphragms.<br>Fill to correct level with motor oil 20W/30. |
| | **SUCTION SIDE OF PUMP** | |
| **F Suction hose vibration.** | 1 Air getting into suction. | 1 Seal all joints securely with tape or stag. Firm up clamps. |
| **G Pump valves hammering.** | 1 Suction tap partly turned off.<br>2 Suction strainer(s) blocked. | 1 Turn tap fully on.<br>2 Clean filters. |
| **H No water flow on suction hose.** | 1 Obstruction in tank or suction line. | 1 Clean foreign material from tank & suction line. |
| | **DISCHARGE SIDE OF PUMP** | |
| **I Pressure gauge pointer swings violently.** | 1 Pressure control valve spindle doesn't move easily. | 1 Lubricate with light oil or C.R.C. |
| **J AR control valve leaking from spindle.** | 1 Split diaphragm or O-rings. | 1 Remove 4 body set screws, replace diaphragm and O-rings. |
| **K Pressure gauge showing correct working pressure no pressure at nozzle.** | 1 Burst discharge line.<br>2 Blocked discharge filter where fitted.<br>3 O-ring(s) jamming flow in discharge line.<br>4 Ants, wasps build nests in discharge line or nozzles. | 1 Replace discharge line.<br>2 Clean discharge filter.<br>3 Clean discharge line of foreign materials.<br>4 Clean nozzles of foreign materials with tooth brush |

# General Sprayer Problems



| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| **1 No spray when turned on.** | 1 Filter on the inlet side of the pump blocked.<br>2 Faulty pump. | 1 Dismantle, clean & re-assemble.<br>2 Change pump. |
| **2 Sprays for short time only.** | 1 Air inlet to tank blocked.<br>2 Filter on suction side of pump blocking or blocked. | 1 Clean air vent.<br>2 Dismantle, clean & re-assemble the filter. If filter problem persists, clean out the tank & start again. |
| **3 Spray is uneven around the boom.** | 1 Some nozzle filters or tips are blocked.<br>2 Nozzle tips worn.<br>3 Different pressure along the boom. | 1 Remove, clean & check. Check output & for streaks.<br>2 Check nozzle output, replace worn nozzles.<br>3 Remove a nozzle in each boom section & check that flow rate is the same. If different, check for blockages. |
| **4 Pressure going up - output going down.** | 1 Nozzle filters blocking. | 1 Dismantle, clean & refit. Check pressure returns to normal. Check all filters and spray mixture. |
| **5 Pressure falling.** | 1 Filter on suction side blocked.<br>2 Nozzle tips worn.<br>3 Pressure gauge faulty.<br>4 Pump worn. | 1 Dismantle & clean the filter.<br>2 Check nozzle output, replace worn nozzles.<br>3 Check with new pressure gauge.<br>4 Repair or replace the pump. |
| **6 Spray pattern narrow.** | 1 Pressure too low.<br>2 Pressure too low & spluttering. | 1 Check that the correct nozzles are being used.<br>2 Check that the tank is not empty. If not, there is an air leak between the pump & tank or in the pump. Check plumbing & repair. |
| **7 Foam in the tank.** | 1 Too much agitation. | 1 Check that the return line is at the bottom of the tank. Partly close agitation and valve |
| **8 Spray pattern streaky.** | 1 Nozzle partly blocked. | 1 Remove & clean. If it continues, the nozzle is damaged. Replace with same size tip, check flow rate of replacement nozzle. |

# Hydraulic Pump Drive Problems

| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| **A Hydraulic system overheating** | 1 Improper hydraulic motor size.<br>2 Bypass adjustment screw set to bypass too much oil.<br>3 Insufficient hydraulic hose size. | 1 Refer to pump selection guide to determine proper size for your system.<br>2 Close adjustment screw on side of hydraulic motor to lessen the amount of bypassing oil.<br>3 Check hydraulic hose size. Hose should be at least ½". For large open-centre systems ¾". |
| | | |

# Foam Marker Problems



| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| **A Marker doesn't run at all** | 1 Harness plug not plugged in or<br>2 Circuit breaker popped or fuse blown. | 1 Check all wiring plugs and connections.<br>2 Check breaker/fuse and reset/replace if necessary. |
| **B Air pump runs – nothing coming out – no pressure showing on gauge** | 1 Liquid pump shut Off or not primed.<br><br>(**Hint:** When working on liquid pump, it is helpful to unplug the air pump so you can hear the liquid pump running. Remove the two black wires form the air pump and clamp them together). | 1 Turn liquid control knob clockwise as far as it will go. This will run the pump at full speed to aid in priming. Allow a minute or two to prime.<br>If it still won't prime, find the liquid orifice assembly near the discharge of the pump & uncouple briefly to allow air pressure to be relieved.<br>If it still doesn't prime, either the tank strainer/ outlet is completely plugged or the pump needs service or replacement. |
| | 2 Electronic speed control failed causing liquid pump not to run.<br><br>(**Hint:** When working on liquid pump, it is helpful to unplug the air pump so you can hear the liquid pump running) | 2 Check this component by feeling and listening to the motor while you turn the knob up & down. If it speeds up & slows down, the control & pump motor are OK. If not,unplug the liquid pump from the speed control. Using jumper wires, apply 12 Volts DC directly to the liquid pump. It should run full speed indicating the pump is OK & the Speed Control is not working.<br>Check polarity of wires to power supply. speed control will not operate in reverse polarity. If you're absolutely sure it is correct, replace the electronic speed control. |
| | 3 Liquid pump valves or diaphragm have failed. | 3 If the liquid pump appears to run normally as described above, but can't prime or pump the liquid, it may need a new diaphragm, or valve cartridge. We suggest replacing both. |
| | 4 Liquid pump motor failed. | 4 If you've determined in the above step the liquid pump did not work when 12 Volts was applied, replace pump motor or whole pump. |
| **C Nothing coming out – high pressure showing** | 1 Liquid orifice plugged. | 1 Find liquid orifice assembly near outlet of liquid pump. Unplug orifice and clean orifice strainer. |

# Foam Marker Problems

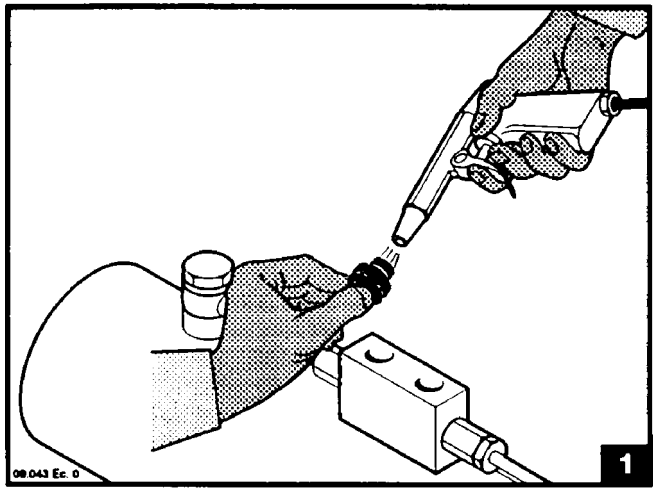
| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| **D Discharges almost all water - Air Flow Restricted** | 1 Air On/Off solenoid valve doesn't operate.<br>2 Pressure regulator incorrectly adjusted.<br>3 Pressure regulator damaged.<br>4 Air discharge plugged. | 1 Check for 12V to solenoid. If not, check for electrical issues. If so, replace air ON/Off solenoid valve.<br>2 Set pressure regulator to 28 psi.<br>3 Replace pressure regulator.<br>4 Inspect air check valve located near solenoid discharge for proper operation. |
| **E Discharge foamy but very watery** | 1 Concentrate weak or water too hard.<br>2 Liquid pressure too high.<br>3 Air supply not operating or plugged. | 1 Strengthen concentrate mixture or add water conditioner. If this doesn't work, try a different water supply.<br>2 Reduce liquid pressure to under 40 psi.<br>3 See air pump remedies above. Service air cleaner. |
| **F Not enough foam** | 1 Foam quality poor or weak air supply. | 1 Measure the output by catching in a bucket. If output exceeds 20 litres/min, the marker is working at full capacity. If not, make sure foam quality is good as described above. Also, low output can be related to poor air supply performance. See description above. |
| **G Foam goes to wrong side** | 1 Left-Right hoses hooked up backwards. | 1 Reverse hoses on Directo-Valve. |
| **H Foam won't switch sides** | 1 No power to valve.<br>2 Valve failure. | 1 Check electrical connection to the valve<br>2 Replace valve. |
| **I Foam comes out both sides at the same time** | 1 Valve Failure | 1 Replace valve. |

# Airbag Suspension Problems



| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| **A Air compressor runs constantly.** | 1 Air leakage in the system. | 1 Find the air leak.<br>Test by using full air pressure and applying soapy water. Fix any air leaks.<br>Use Loctite 569 on all air threads. |
| **B Airbags lose pressure (when left standing for less than a week).** | 1 Air leakage in the system.<br>2 Uneven valve settings.<br>3 Leaky/dirty valve. | 1 Find the air leak by using soapy water to test. Fix any air leaks.<br>2 Adjust the valve settings.<br>3 Drain air chamber. Clean/replace the valve. |
| **C Airbags not responsive** | 1 Worn linkage grommets.<br>2 Hard, non-pliable grommets.<br>3 Grommets loose on rods. | 1 Replace worn grommets.<br>2 Replace new pliable grommets.<br>3 Tighten loose grommets. |
| | | |

# Boom Problems




**Problem:**

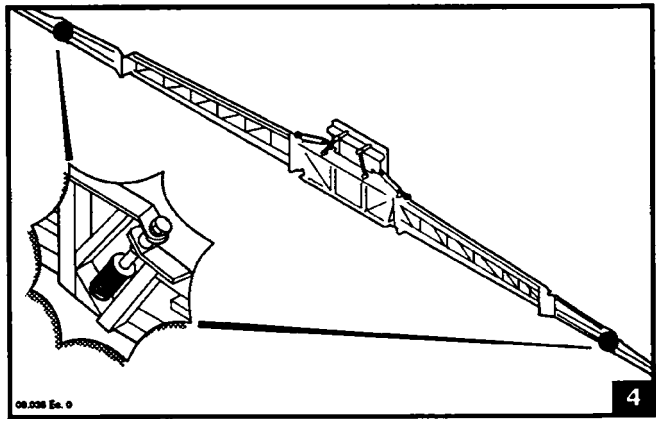
The boom unfolds halfway and then stops.

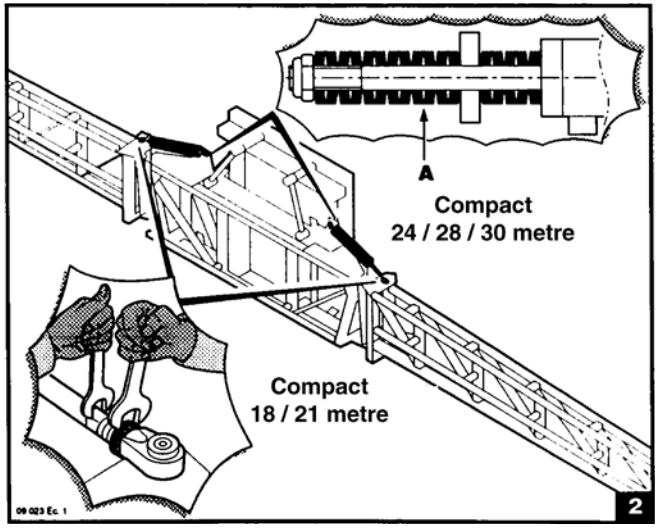
**Probable Cause:**

Impurity in calibrated joint during assembly of cylinders.

**Remedy:**

Disassemble joints and clean, shown in figure 1




**Problem:**

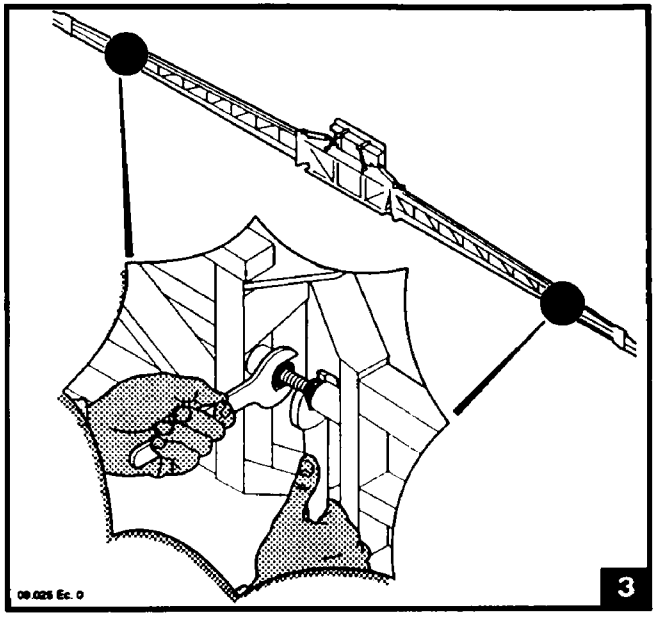
The boom does not align when unfolding.

**Probable Cause:**

1. Ball joint of the unfolding cylinder not adjusted.
2. Shock absorber springs (A) not adjusted or damaged.

**Remedy:**

1. Adjust the joint according to the “Wing Alignment” instructions on page 3.14.
2. Check the springs; replace them if damaged see figure 2.




**Problem:**

The wing extensions do not align when folding.

**Probable Cause:**

Stop bolt not adjusted.

**Remedy:**

Adjust the screw to obtain alignment, as shown in figure 3.

**Problem:**

The ball joint of the wing extension moves during the unfolding and folding operation.

**Probable Cause:**

Loose joint.

**Remedy:**

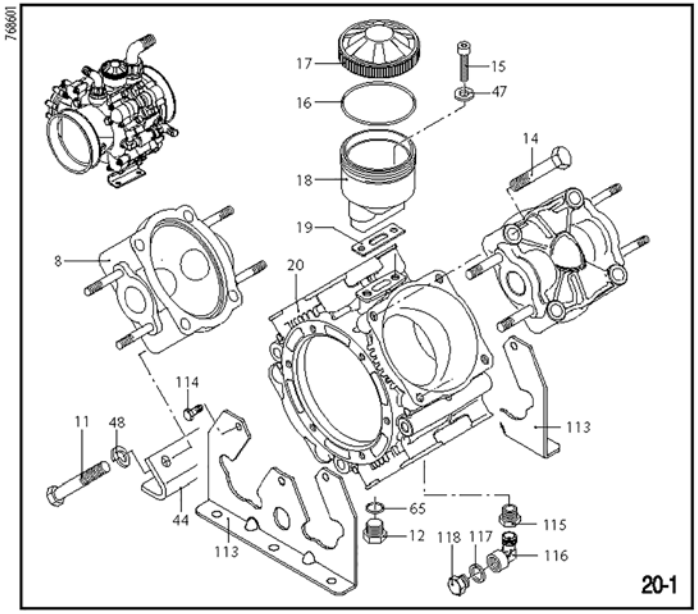
Compress the spring, as shown in figure 4 (left).

# Motor Valve Problems

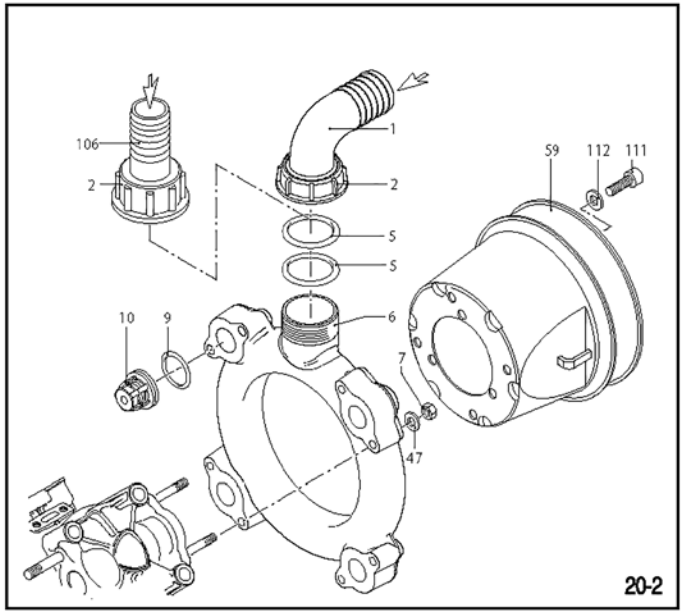


| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| **A Boom line valve opens when it should be closed and closes when it should be open.** | 1 Wiring incorrect. | 1 Reverse polarity of valve by changing wires at the valve cap. |
| **B Water leaks past valve when valve is shut.** | 1 Worn seat. | 1 Replace seat/hosetail and/or valve system if necessary. |
| **C Valve won't operate.** | 1 No power to valve.<br>2 Motor failure.<br>3 Valve clogged. | 1 Check all connections, supply - loom.<br>2 Replace motor.<br>3 Clean internals of valve and/or put a new valve kit in the valve. |
| **D Servo valve not regulating flow.** | 1 Valve jamming.<br>2 No power.<br>3 Valve clogged. | 1 Clean our valve or replace.<br>2 Check all power leads and supply, or replace motor.<br>3 Clean out valve and/or put a new valve kit in the valve. |
| **E Dump valve not releasing pressure in system on shut-off.** | 1 No power to valve.<br>2 Valve motor failed.<br>3 Dump-line blocked. | 1 Check power supply and all connections.<br>2 Check motor and replace if required.<br>3 Clean valve and return line. |
| | | |

# SECTION 7
## ASSEMBLY DRAWINGS & PARTS LISTINGS




SL00209-AU

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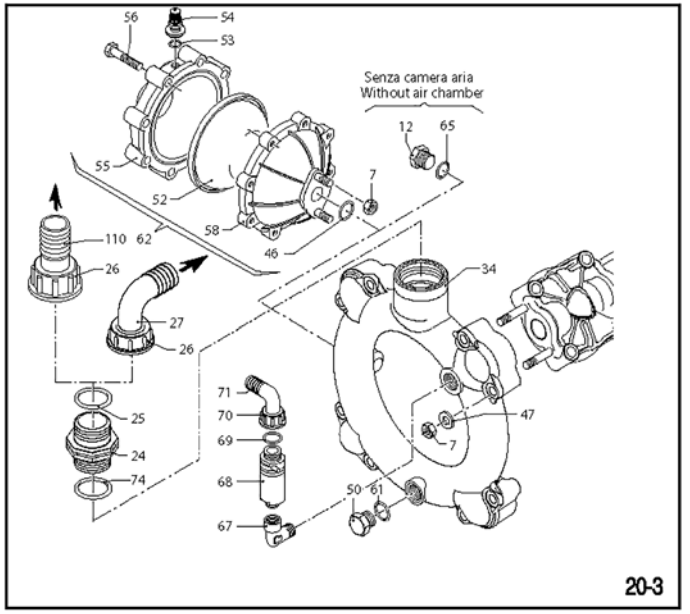
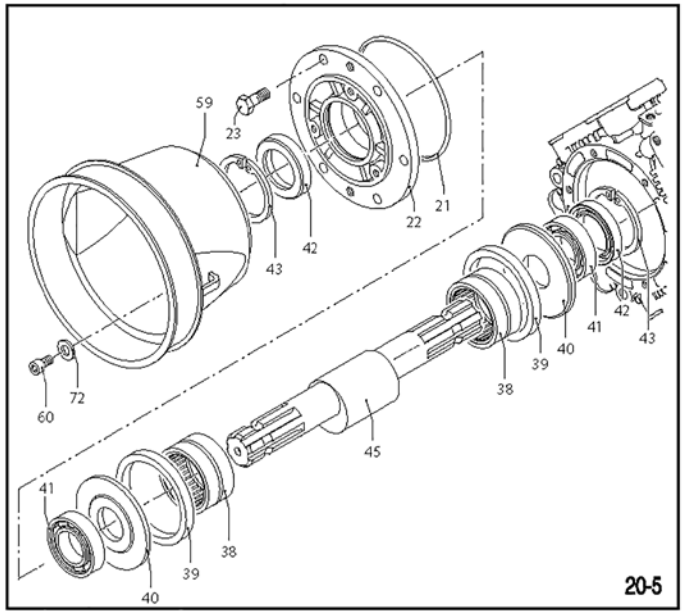
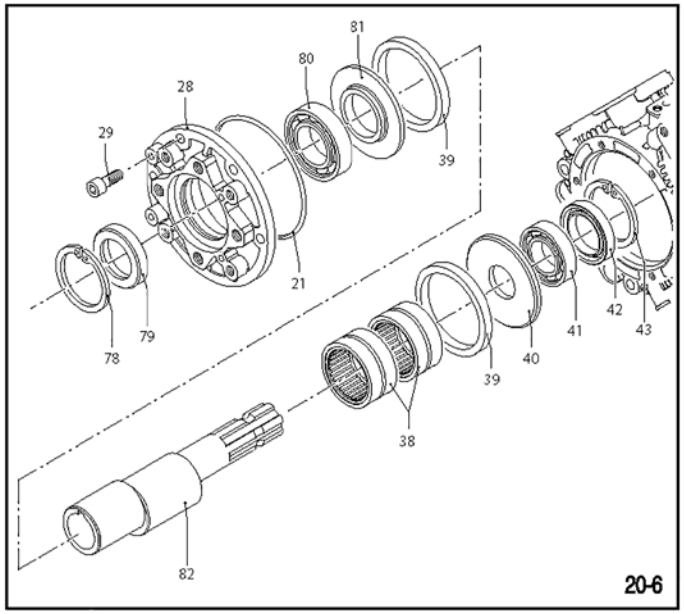
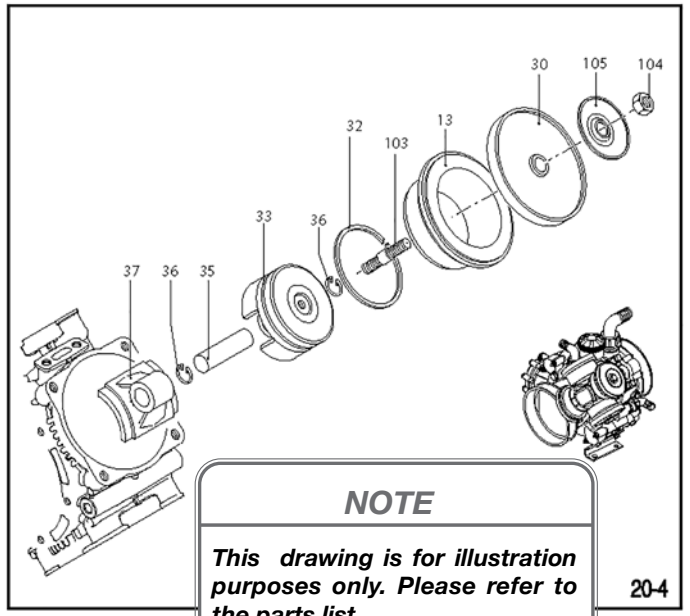



SL000155-DV




**NOTE**

***This drawing is for illustration purposes only. Please refer to the parts list.***

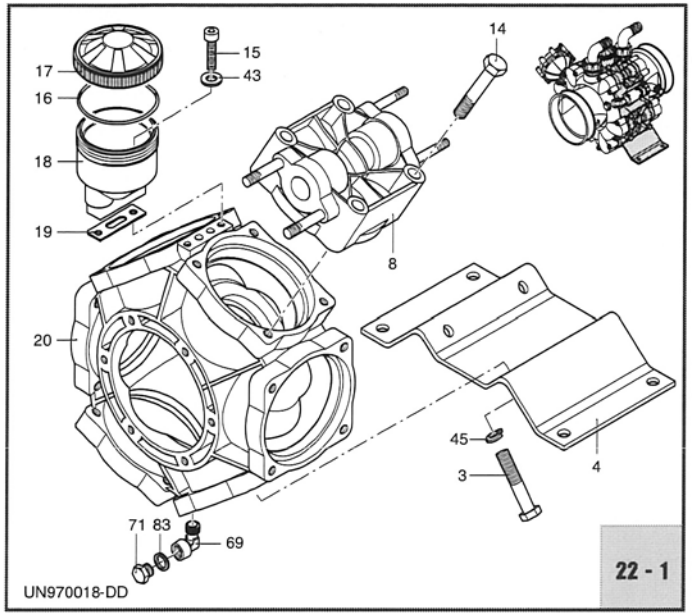
SL000208-AU

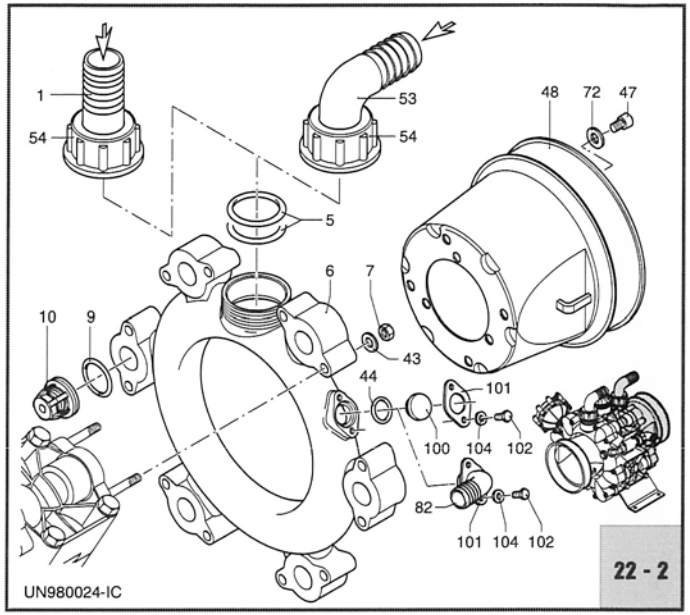
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | AR3040430 | Ø 40 Elbow - AR 160 bp | 1 |
| | AR3040440 | Ø 50 Elbow - AR 185 bp | 1 |
| 2 | AR3040450 | 2" G Ring nut | 1 |
| 5 | AR3040470 | OR Ø 39.3 x 2.6 O-ring | 2 |
| 6 | AR760750 | Line | 1 |
| 7 | AR380242 | M8 Nut - Geomet C 20 | 18 |
| | AR380244 | M8 Nut - Inox C 20 | 18 |
| 8 | AR751350 | Head | 4 |
| | AR751352 | Head | 4 |
| 9 | AR680070 | OR Ø 31.5 x 4.25 O-ring | 8 |
| 10 | AR759051 | Valve | 8 |
| 11 | AR750071 | TE M12 x 70 Screw - Geomet C 50 | 4 |
| | AR750072 | TE M12 x 70 Screw | 4 |
| 12 | AR880530 | 3/8" G Plug - C 20 | 2 |
| | AR2340350 | 3/8" G Plug - Inox C 20 | 2 |
| 13 | AR750110 | Sleeve - AR 160 bp | 4 |
| | AR750115 | Sleeve - AR 185 bp | 4 |
| 14 | AR750061 | TE M12 x 65 Screw - Geomet C 50 | 12 |
| | AR750062 | TE M12 x 65 Screw - Inox C 50 | 12 |
| 15 | AR680350 | TCEI M8 x 35 Screw | 2 |
| 16 | AR1040060 | Ø 72.69 x 2.62 O-ring | 1 |
| 17 | AR750057 | Plug - AR 160 bp | 1 |
| | AR750052 | Plug - AR 185 bp | 1 |
| 18 | AR750030 | Tank | 1 |
| 19 | AR750040 | Gasket | 1 |
| 20 | AR761010 | Pump body | 1 |
| 21 | AR851360 | Ø 120.32 x 2.62 O-ring | 1 |
| 22 | AR680020 | Support | 1 |
| 23 | AR160672 | TE M10 x 25 Screw - Geomet C 40 | 6 |
| | AR160673 | TE M10 x 25 Screw - Inox C 40 | 6 |
| 24 | AR751130 | 1"1/2 G M-M Fitting | 1 |
| 25 | AR390290 | Ø 29x3 O-ring | 1 |
| 26 | AR750670 | 1" 1/2 G Ring nut | 1 |
| 27 | AR760930 | Ø 25 Elbow - AR 160 bp | 1 |
| | AR3040160 | Ø 35 Elbow - AR 185 bp | 1 |
| 28 | AR2420181 | Support | 1 |
| 29 | AR650640 | TCEI M10 x 25 Screw - Geomet C 40 | 6 |
| | AR650642 | TCEI M10 x 25 Screw - Inox C 40 | 6 |
| 30 | AR550080 | Diaphragm - NBR | 4 |
| | AR550084 | Diaphragm - Viton | 4 |
| | AR550085 | Diaphragm - Desmopan | 4 |
| | AR550086 | Diaphragm - HPDS | 4 |
| 32 | AR500260 | Piston ring | 4 |
| 33 | AR750122 | Ø 80 Piston | 4 |
| 34 | AR760760 | Line | 1 |
| 35 | AR160700 | Pin | 4 |
| 36 | AR160691 | Øi 18 Ring | 8 |
| 37 | AR760140 | Connecting-rod | 4 |
| 38 | AR750090 | Bearing | 2 |
| 39 | AR750130 | Ring | 2 |
| 40 | AR540040 | Plate | 2 |
| 41 | AR230350 | Bearing | 2 |
| 42 | AR160740 | Ring | 2 |
| 43 | AR200390 | Øi 62 Ring | 2 |
| 44 | AR760201 | Foot | 2 |
| 45 | AR750170 | C/C m-AU Shaft - AR 160 bp | 1 |
| | AR750174 | C/C m-AV Shaft - AR 185 bp | 1 |

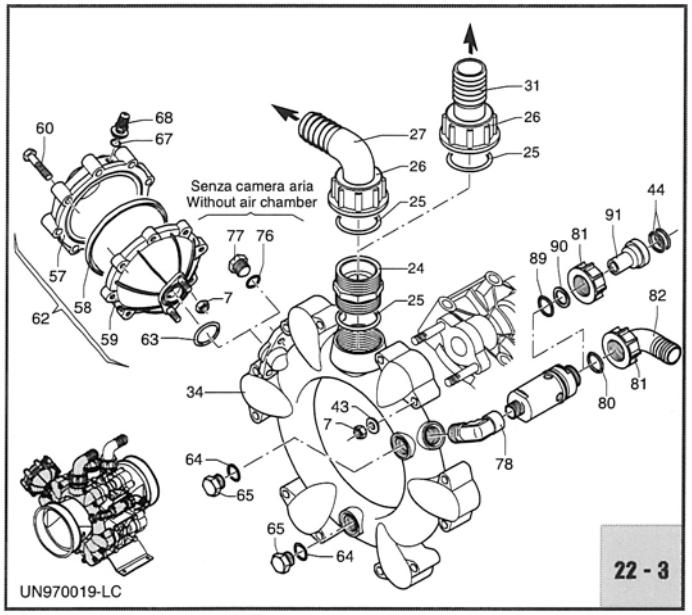
**NOTE**

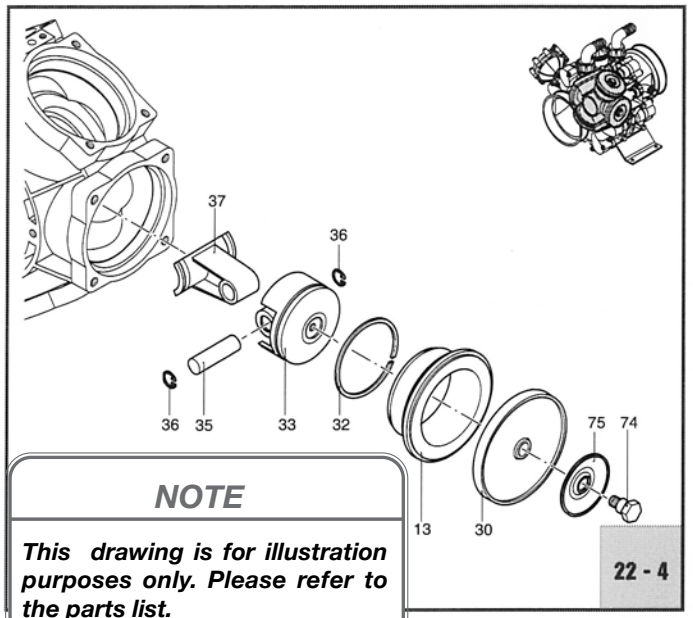
***Parts in Italics are non-stocked items and may need to be ordered.***

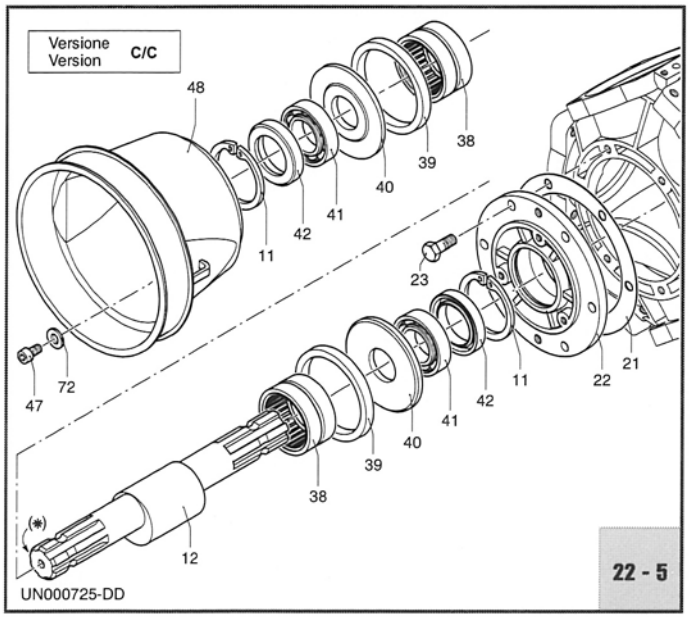
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 46 | AR390290 | Ø 29x3 O-ring | 1 |
| 47 | AR380243 | Washer - Geomet | 18 |
| | AR390315 | Washer - Inox | 18 |
| 48 | AR250143 | Washer - Geomet | 4 |
| | AR250144 | Washer - Inox | 4 |
| 50 | AR330173 | 1/2" G Plug - Geomet C 20 | 1 |
| | AR330174 | 1/2" G Plug - Inox C 20 | 1 |
| 52 | AR550190 | Semi air chamber - NBR | 1 |
| | AR550191 | Semi air chamber - Saturflon | 1 |
| | AR550192 | Semi air chamber - Viton | 1 |
| | AR550193 | Semi air chamber - HPDS | 1 |
| 53 | AR650542 | Gasket | 1 |
| 54 | AR180020 | Air valve | 1 |
| 55 | AR620232 | Semi air chamber | 1 |
| 56 | AR621781 | TE M8 x 40 Screw | 8 |
| 62 | AR1782 | TE M8 x 40 Screw | 8 |
| 58 | AR680180 | Halfball | 1 |
| 59 | AR1500470 | Cardan protection | 2 |
| 60 | AR850251 | M8 x 12 Screw | 3 |
| | AR850252 | TCEI M8 x 12 Screw | 3 |
| 61 | AR180101 | Ø 17.5 x 2 O-ring | 1 |
| 62 | AR1552 | Air chamber | 1 |
| 65 | AR740290 | Ø 14 x 1.78 O-ring 2 | |
| 67 | AR881560 | 1/2" G M-F Fitting 1 | |
| 68 | AR1609000 | Safety valve | 1 |
| 69 | AR880831 | Ø 15.54 x 2.62 O-ring - Viton | 1 |
| 70 | AR550450 | 3/4" G Ring nut | 1 |
| 71 | AR550460 | Ø 18 Elbow | 1 |
| 72 | AR390314 | Washer - Geomet | 3 |
| | AR390315 | Washer - Inox | 3 |
| 74 | AR751140 | Ø 47.22 x 3.53 O-ring | 1 |
| 78 | AR620330 | Øi 65 Ring | 1 |
| 79 | AR1800090 | Ring | 1 |
| 80 | AR230310 | Bearing | 1 |
| 81 | AR760510 | Plate | 1 |
| 82 | AR760450 | C/F Ø25 m-BX Shaft - AR 160 bp | 1 |
| | AR760520 | C/F Ø32 m-BS Shaft - AR 160 bp | 1 |
| | AR760460 | C/F Ø25 m-BZ Shaft - AR 185 bp | 1 |
| | AR760530 | C/F Ø32 m-BT Shaft - AR 185 bp | 1 |
| 103 | AR2240100 | Hub pin | 4 |
| 104 | AR2240110 | M10 Nut | 4 |
| 105 | AR751250 | Wobble plate | 4 |
| 106 | AR760950 | Ø 40 Hose tail - AR 160 bp | 1 |
| | AR760570 | Ø 50 Hose tail - AR 1854 bp | 1 |
| 110 | AR760920 | Ø 25 Hose tail - AR 160 bp | 1 |
| | AR760940 | Ø 35 Hose tail - AR 185 bp | 1 |
| 111 | AR820673 | TCEI M10 x 16 Screw - Geomet | 3 |
| | AR820672 | TCEI M10 x 16 Screw - Inox | 3 |
| 112 | AR320621 | Washer 3 Geomet | |
| | AR320622 | 10.5 x 21x 2 Washer - Inox | 3 |
| 113 | AR761030 | Foot | 2 |
| 114 | AR160672 | TE M10 x 25 Screw - Geomet C 20 | 6 |
| | AR160673 | TE M10 x 25 Screw - Inox C 20 | 6 |
| 115 | AR1040491 | 3/8" M-F Fitting | 1 |
| 116 | AR900210 | 3/8" G M-F Fitting | 1 |
| 117 | AR2260200 | Washer | 1 |
| 118 | AR2281270 | 3/8" G Plug | 1 |

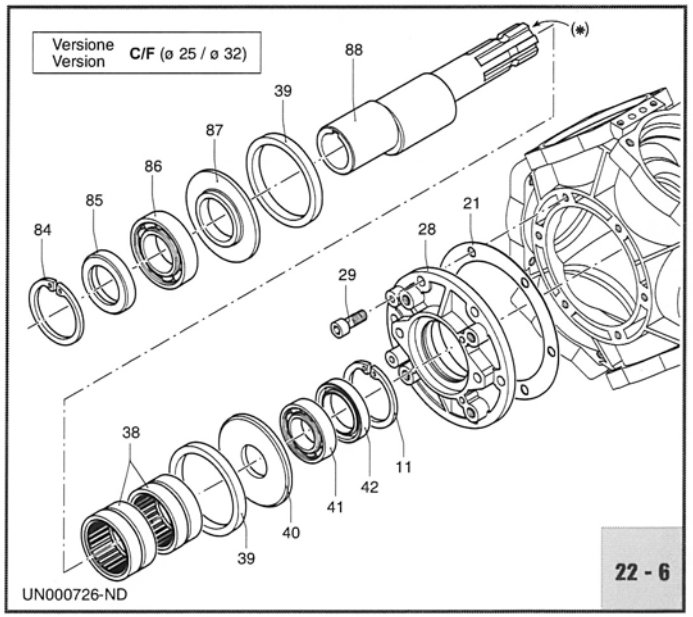



**NOTE**

***This drawing is for illustration purposes only. Please refer to the parts list.***

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *1* | *AR750870* | *ø 50 Hose tail* | *1* |
| | *AR750730* | *ø 60 Hose tail* | *1* |
| *3* | *AR750071* | *M12 x 70 Bolt* | *4* |
| 4 | AR750200 | Base plate | 1 |
| 5 | AR750740 | 74 x 3.53 O-Ring | 2 |
| 6 | AR750860 | Suction manifold | 1 |
| *7* | *AR380242* | *Nut* | *26* |
| 8 | AR750100 | Head | 6 |
| 9 | AR680070 | O-Ring | 12 |
| 10 | AR759051 | Complete valve | 12 |
| 11 | AR200390 | Circlip | 2 |
| *12* | AR750170 | Crankshaft AR 250 bp (AU) | 1 |
| *13* | *AR750110* | *Sleeve AR 250 bp* | *6* |
| *14* | *AR750061* | *M 12x65 Bolt* | *20* |
| 15 | AR680350 | M8 x 35 Bolt | 2 |
| 16 | AR1040060 | O-Ring | 1 |
| *17* | *AR750057* | *Black oil tank cap AR 250 bp* | *1* |
| 18 | AR750030 | Oil tank | 1 |
| 19 | AR750040 | Gasket | 1 |
| 20 | AR750010 | Pump body | 1 |
| 21 | AR680250 | Gasket | 1 |
| *22* | *AR680020* | *Shaft support* | *1* |
| *23* | *AR160672* | *M 10x25 Bolt* | *6* |
| 24 | AR540530 | 1”1/4-1”3/4 G (M) Threaded adapter | 1 |
| 25 | AR250310 | O-Ring | 2 |
| 26 | AR540540 | 1”3/4 G Ring nut | 1 |
| 27 | AR392130 | ø 35 Elbow | 1 |
| *28* | *AR2420180* | *Shaft support* | *1* |
| *29* | *AR621500* | *M10 x 25 Bolt* | *6* |
| *30* | *AR550084* | *Diaphragm - VITON* | *6* |
| | AR550086 | Diaphragm - HPDS (Recommended) | 6 |
| *31* | *AR391930* | *ø 35 Hose tail Optional* | *1* |
| 32 | AR500260 | Piston ring | 6 |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 33 | AR750122 | Piston 80mm | 6 |
| 34 | AR750420 | Manifold | 1 |
| 35 | AR160700 | Pin | 6 |
| 36 | AR160691 | Pin circlip | 12 |
| *37* | *AR750140* | *Connecting rod* | *6* |
| 38 | AR750090 | Roller bearing | 2 |
| 39 | AR750130 | Con rod ring | 2 |
| *40* | *AR540040* | *Spacer washer* | *2* |
| 41 | AR230350 | Bearing | 2 |
| 42 | AR160740 | Seal Ring 35 x 52 x 12mm | 2 |
| *43* | *AR380243* | *Washer* | *26* |
| 44 | AR480440 | O-Ring | 3 |
| *45* | *AR250143* | *Washer* | *4* |
| *47* | *AR850251* | *M8 x 12 Bolt* | *6* |
| 48 | AR1500350 | Shaft guard | 2 |
| 53 | AR750850 | ø 50 Elbow AR 250 bp | 1 |
| 54 | AR750710 | 2”1/2 G Ring nut | 1 |
| *57* | *AR620232* | *Upper air chamber* | *1* |
| 58 | AR550190 | Semi air chamber - RUBBER | 1 |
| | *AR550192* | *Semi air chamber - VITON* | *1* |
| | *AR550193* | *Semi air chamber - HPDS* | *1* |
| 59 | AR680180 | Lower air chamber | 1 |
| *60* | *AR621781* | *M8 x 40 Bolt* | *8* |
| 62 | AR1552 | Complete air chamber | 1 |
| 63 | AR390290 | O-Ring | 1 |
| 64 | AR180101 | O-Ring | 2 |
| *65* | *AR330173* | *1/2” G Plug* | *2* |
| 67 | AR650542 | Gasket | 1 |
| 68 | AR180020 | Air valve | 1 |

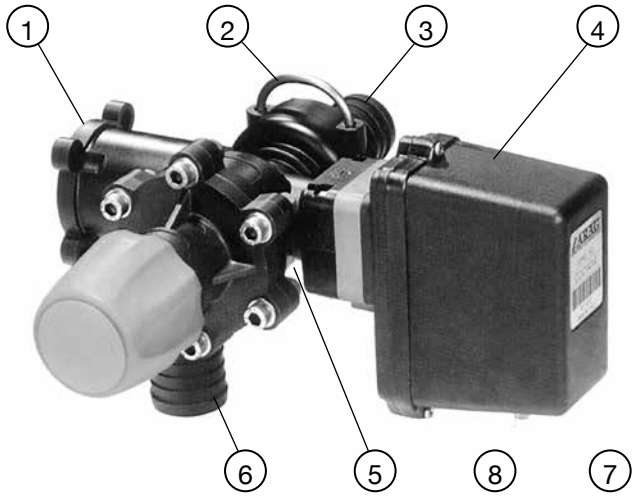
**NOTE**

***Parts in Italics are non-stocked items and may need to be ordered.***

# Electric Pressure Dump Valve, Manual Pressure Relief Valve, Electric Regulating Valve (Servo) and Flowmeter for AR185 Pumps

Liquid Control System - Complete Valve Assembly **(Part No:** A471CCRO01**)**

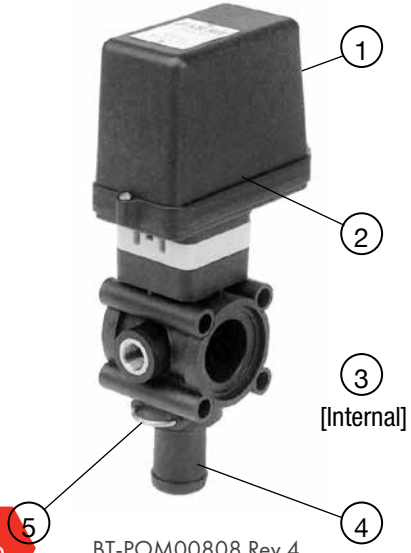
## Manual Regulator-Dump Valve Assembly




{ Repair Kits }

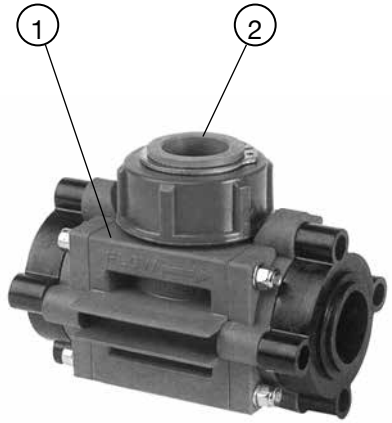
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A471502 | Complete Regulator | 1 |
| 2 | A010005 | Clip | 1 |
| 3 | A471202.A32 | Bypass Tail | 1 |
| 4 | A4653920S | Valve Motor | 1 |
| 5 | A010003 | Clip | 1 |
| 6 | A473001.A32 | Inlet Tail | 1 |
| 7 | A471502.550 | Dump Valve kit | 1 |
| 8 | A471502.180 | Regulator kit | 1 |

## Electric Regulating Valve




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A463024S | Complete Valve | 1 |
| 2 | A4653925S | Motor | 1 |
| 3 | A473020.130 | Regulator Stem Kit | 1 |
| 4 | A473001.A25 | Tail/Seat | 1 |
| 5 | A010002 | Clip | 1 |

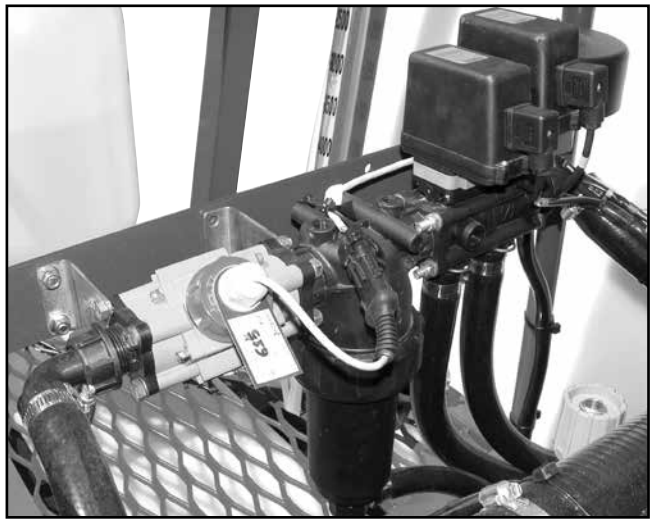
## Flowmeter Assembly





| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | POL00375908A | Complete Valve | 1 |
| 2 | POL41316399 | Rapid Check Turbine Assembly | 1 |
| 3 | POL413003AK.CR | Sensor with Plug | 1 |

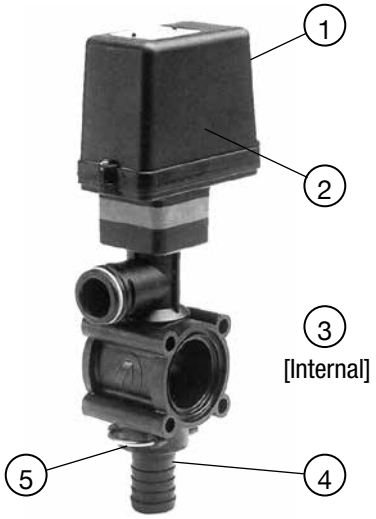
# Electric Pressure-Dump Valve, Electric Regulating Valve (Servo), Manual Pressure Relief Valve and Flowmeter for AR250/280 Pumps



Liquid Control System - Complete Valve Assembly **(Part No:** A473CCRO01**)**

## Manual PRV


## Dump Valve



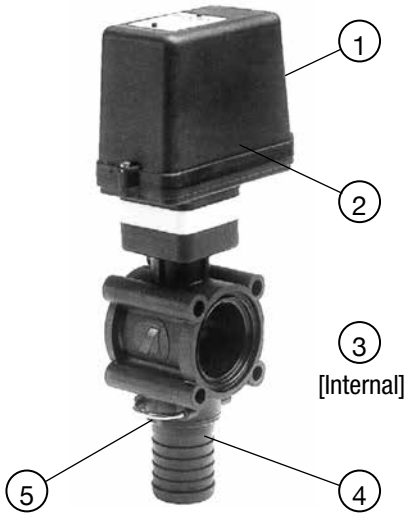

## Dump Valve Parts

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A473001 | Complete Valve | 1 |
| 2 | A4653920S | Motor | 1 |
| 3 | A473011.550 | Regulator Stem Kit | 1 |
| 4 | A473001.A25 | Tail/Seat | 1 |
| 5 | A010003 | Clip | 1 |

## Manual PRV Parts

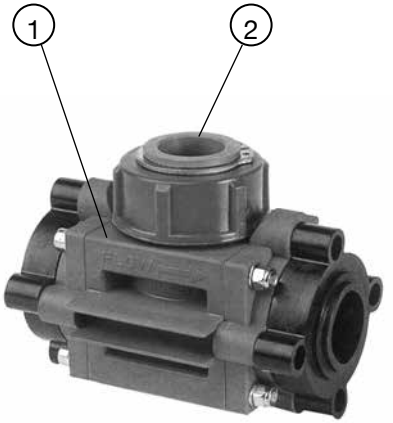
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A465522 | Complete Regulator | 1 |
| 2 | A465005.180 | Regulator kit | 1 |

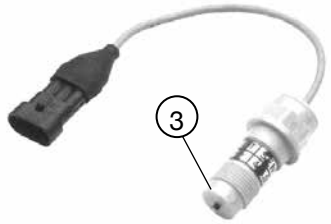
## Electric Regulating Valve



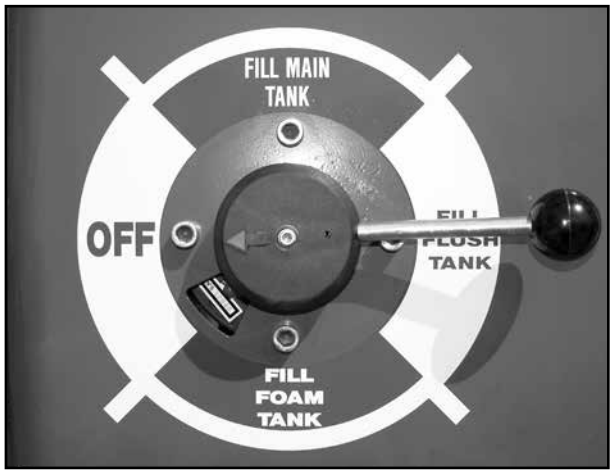

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A473020S | Complete Valve | 1 |
| 2 | A4653925S | Motor | 1 |
| 3 | A473020.130 | Regulator Stem Kit | 1 |
| 4 | A473001.A25 | Tail/Seat | 1 |
| 5 | A010003 | Clip | 1 |

## Flowmeter Assembly




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | POL00375908A | Complete Valve | 1 |
| 2 | POL41316399 | Rapid Check Turbine Assembly | 1 |
| 3 | POL413003AK.CR | Sensor with Plug | 1 |

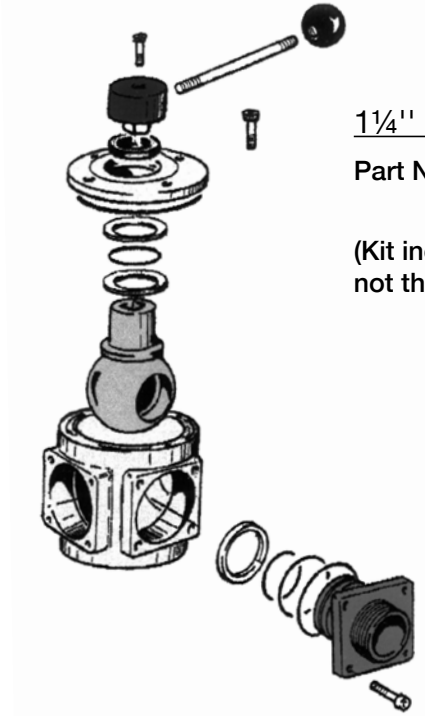




2'' Rotary Valve

**Part No:** POL10405899.
Seal Kit (5 pieces).

**(Kit includes seals & O-rings, but not the ball, body or fittings).**



1¼'' Rotary Valve

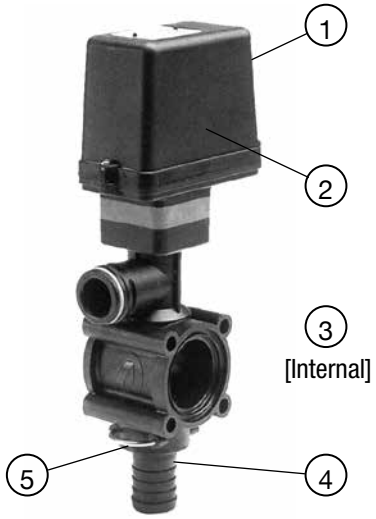
**Part No:** POL10424399
Seal Kit (5 pieces).

**(Kit includes seals & O-rings, but not the ball, body or fittings).**

# Boom Shut-Off Valves, Pressure Gauge & Control Valve/Taps

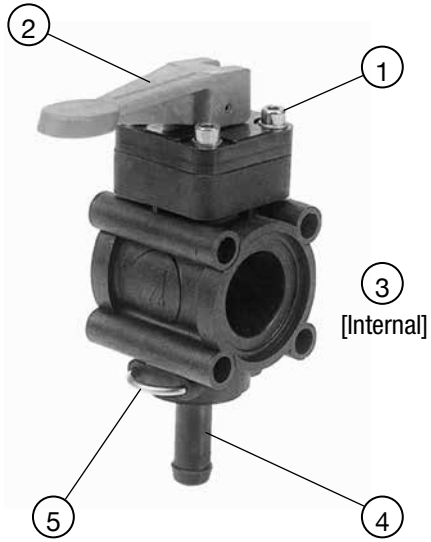
Boom Shut-Off Valves

Boom Shut-Off Valve (each)



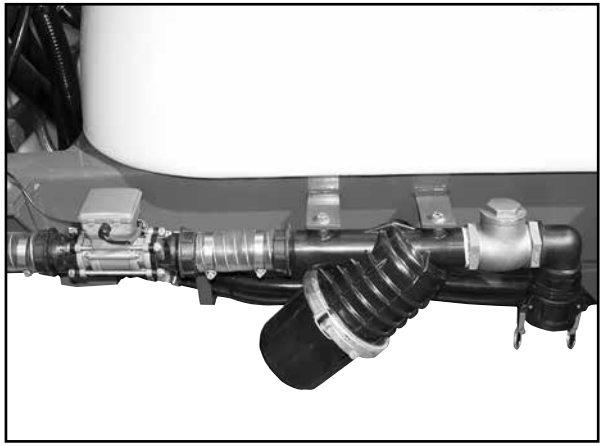

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A463011ST | Complete Valve | 1 |
| 2 | A4653920S | Motor | 1 |
| 3 | A473011.550 | Regulator Stem Kit | 1 |
| 4 | A473001.125 | Tail/Seat | 1 |
| 5 | A010003 | Clip | 1 |


Shut-Off Taps - Tank Rinse, Probe Rinse & Agitators




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A463051 | Complete Valve | 1 |
| 2 | A463051.140 | Handle | 1 |
| 3 | A463051.550 | Regulator Stem Kit | 1 |
| 4 | A463001.A13 | Tail | 1 |
| 5 | A010002 | Clip | 1 |

Pressure Gauge: L-G 1611



Filling System with Camlok

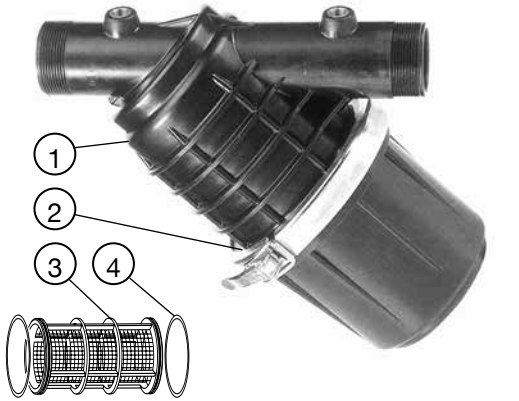
## Orion Filling Flow-meter


| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A4622BA61717 | Orion Complete | 1 |

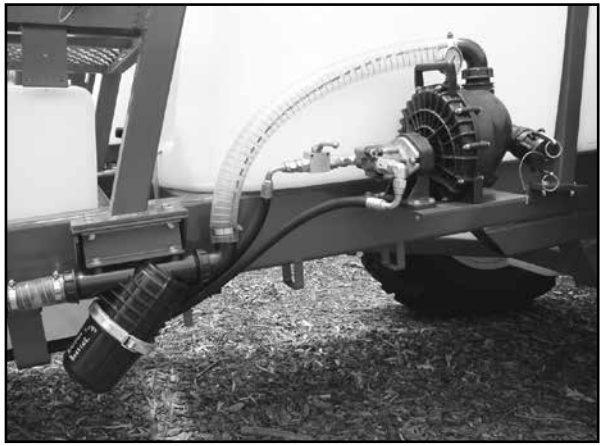
## Non-Return Valve 2"


| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-112A | Valve complete | 1 |

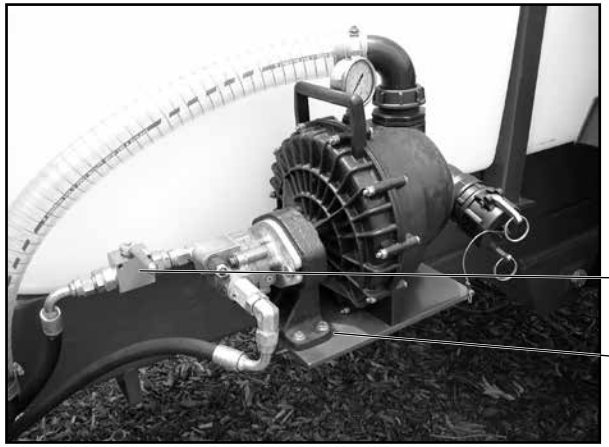
## Filter




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A333072 | Filter Complete | 1 |
| 2 | A333000.050 | Main Seal O-Ring | 1 |
| 3 | A317003.030 | Screen - internal | 1 |
| 4 | A316300.060 | Filter O-Rings | 2 |



Filling System with Filling Pump



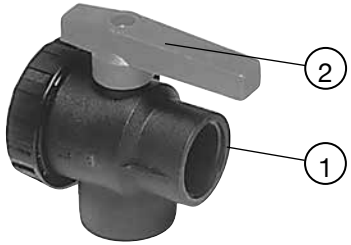

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | 200PHY | Pump & Hydraulic Motor Complete | 1 |
| 2 | BP-626S | Hydraulic Hose & Tap Kit (short drawbar) | 1 |
| | BP-626L | Hydraulic Hose & Tap Kit (long drawbar) | 1 |
| 3 | HY1003 | Hydraulic Repair Kit | 1 |

# Valves - Transfer Kit


## Drain Valve 2"

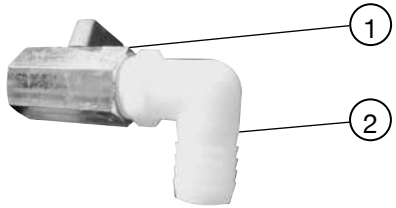

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A454137 | Valve Complete | 1 |
| 2 | A454236.050 | Tap Handle | 1 |
| 3 | A-EL200 | Tail | 1 |


## Spray/Off/Flush Valve 1½"



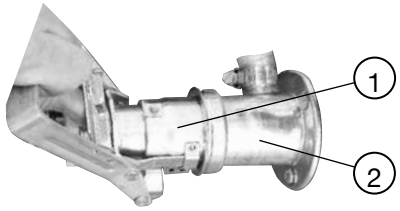

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A454236 | Valve Complete | 1 |
| 2 | A454236.050 | Tap Handle | 1 |

## Boom Flushing Tap



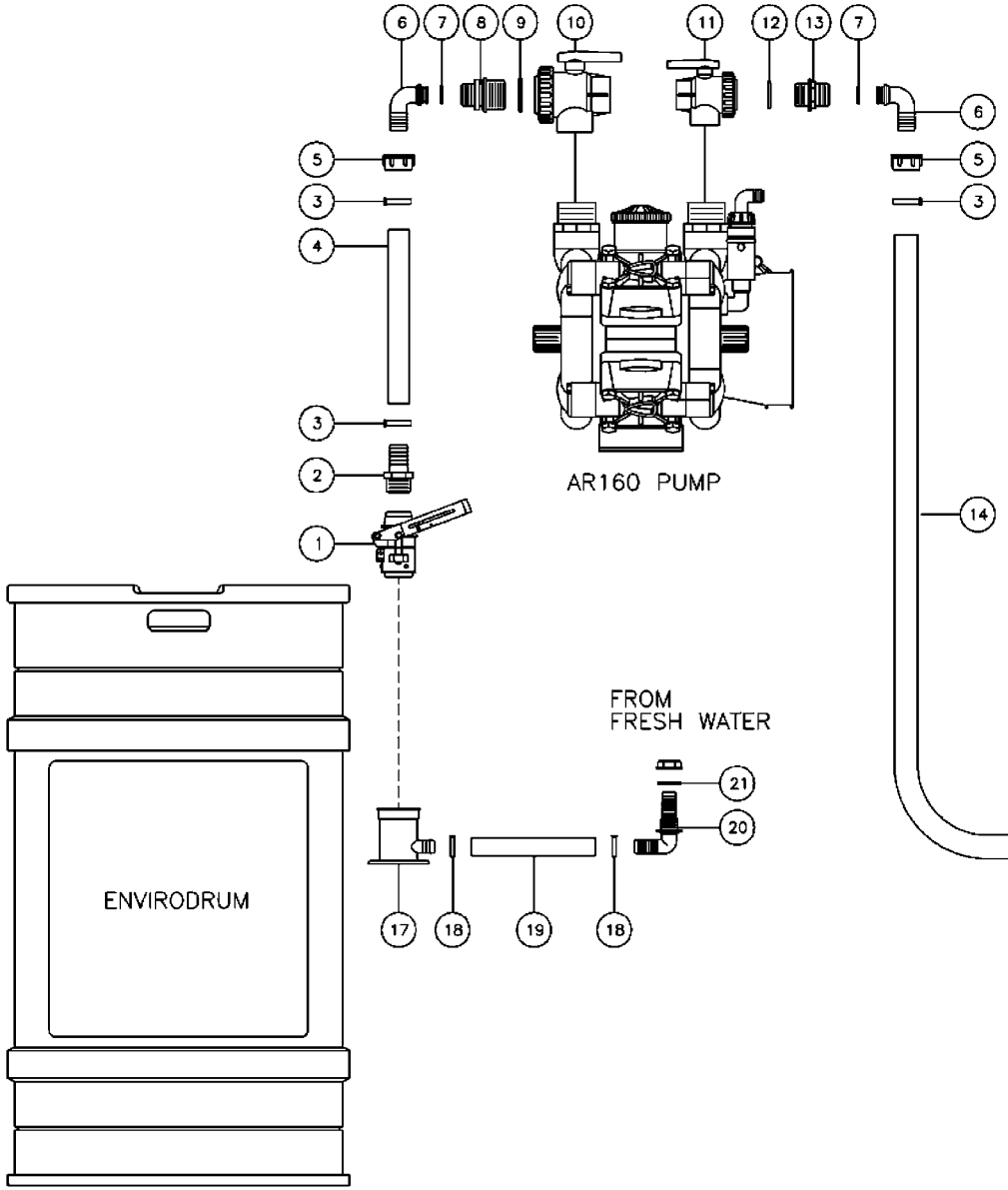

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BALL12F2M | Valve Complete | 1 |
| 2 | BJHB050/075-90 | Elbow | 1 |

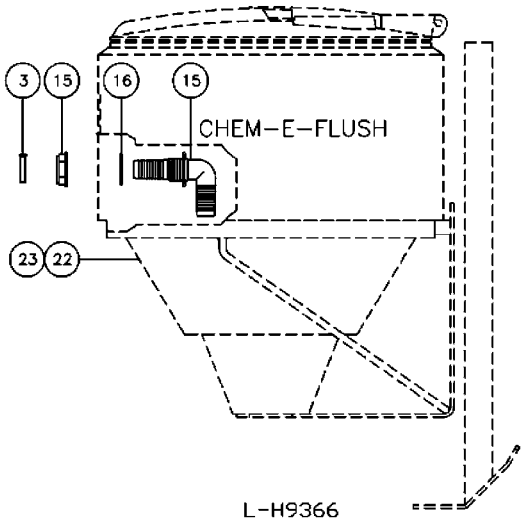
## Enviro-Transfer Taps (if fitted)




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | L-H9562 | Male Coupler | 1 |
| 2 | L-H9556 | Female Rinsing Socket | 1 |

Part No: L-H9366/250




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | L-H9562 | COUPLER 3 PIN VITON | 1 |
| 2 | A-A1010 | HOSEBARB 1" THREAD (M) X 1" HOSE | 1 |
| 3 | TR1HC | HOSE CLAMP 25mm | 4 |
| *4* | *HEP25* | *SUCTION HOSE 25mm* | *3 m* |
| 5 | A200010 | FLY NUT 1" | 2 |
| 6 | A116425 | ELBOW 0.25 FOR FLY NUT | 2 |
| 7 | AG10041 | O-RING | 2 |
| 8 | A250050 | NIPPLE 1" - 1¼" REDUCING | 1 |
| 9 | AG10071 | O-RING VITON | 1 |
| 10 | A454235H | VALVE, BALL POLY 1¼" 3 WAY | 1 |
| 11 | BJV200BL | VALVE, BALL POLY 2" 3 WAY | 1 |
| 12 | A54235.090 | O-RING (BALL VALVE) | 1 |
| 13 | A2502070 | NIPPLE 2" | 1 |
| 14 | HPW25 | PRESSURE HOSE 25mm | 3 m |
| 15 | A118426 | PIPE 1" X 1" SINGLE PIPE 90 DEGREE | 1 |
| 16 | AG40004 | FLAT SEAL 1" EPDM | 1 |
| 17 | L-H9556 | RINSING SOCKET | 1 |
| 18 | TR34HC | HOSE CLAMP | 2 |
| 19 | HSC20 | SUCTION HOSE 20mm | 2 m |
| 20 | A118319 | PIPE 1" X 1" SINGLE PIPE 90 DEGREE | 1 |
| 21 | AG40003 | O-RING | 1 |
| *22* | | *60 LITRE CHEMEFLUSH (NOT SUPPLIED)* | *1* |
| *23* | | *DROP DOWN BRACKET (NOT SUPPLIED)* | *1* |

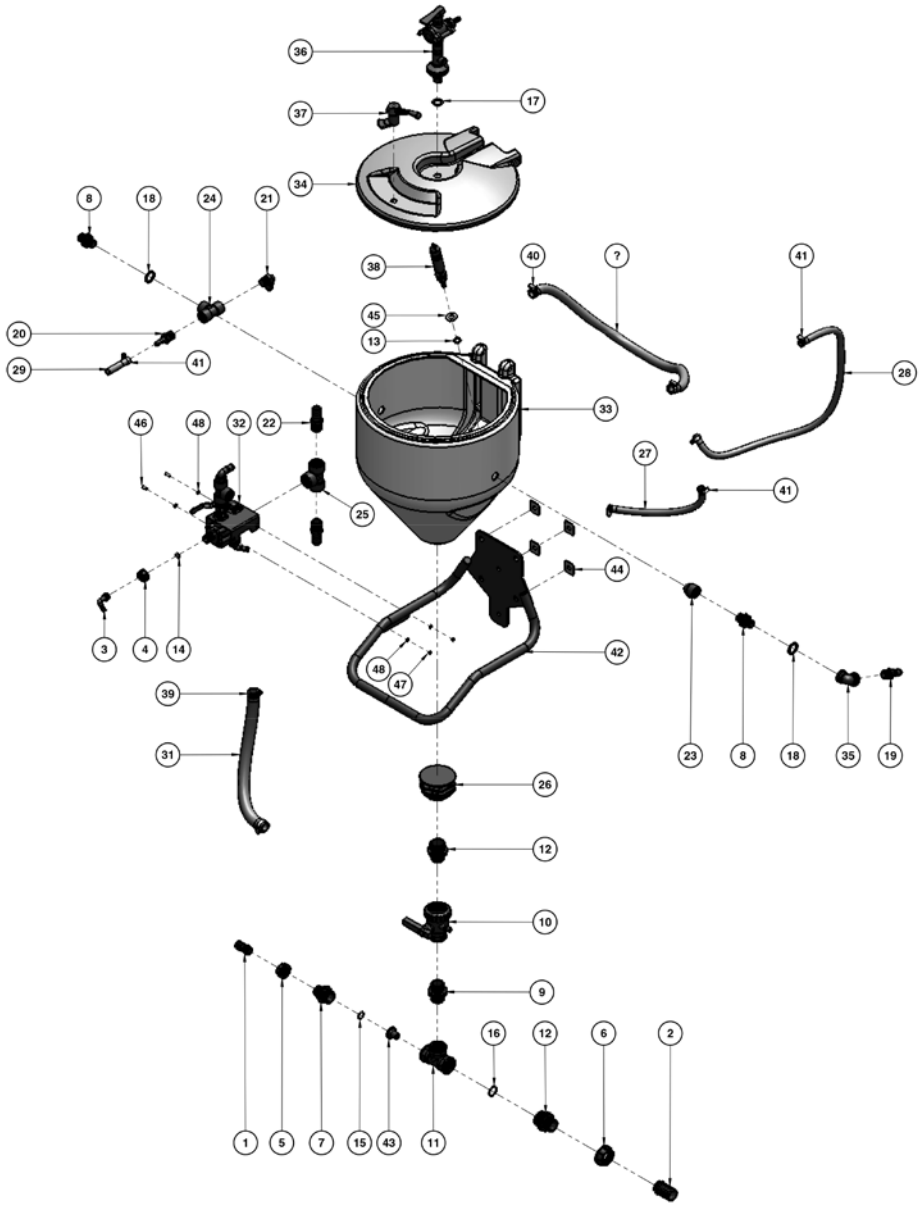
**NOTE**

***Parts in Italics are non-stocked items and may need to be ordered.***

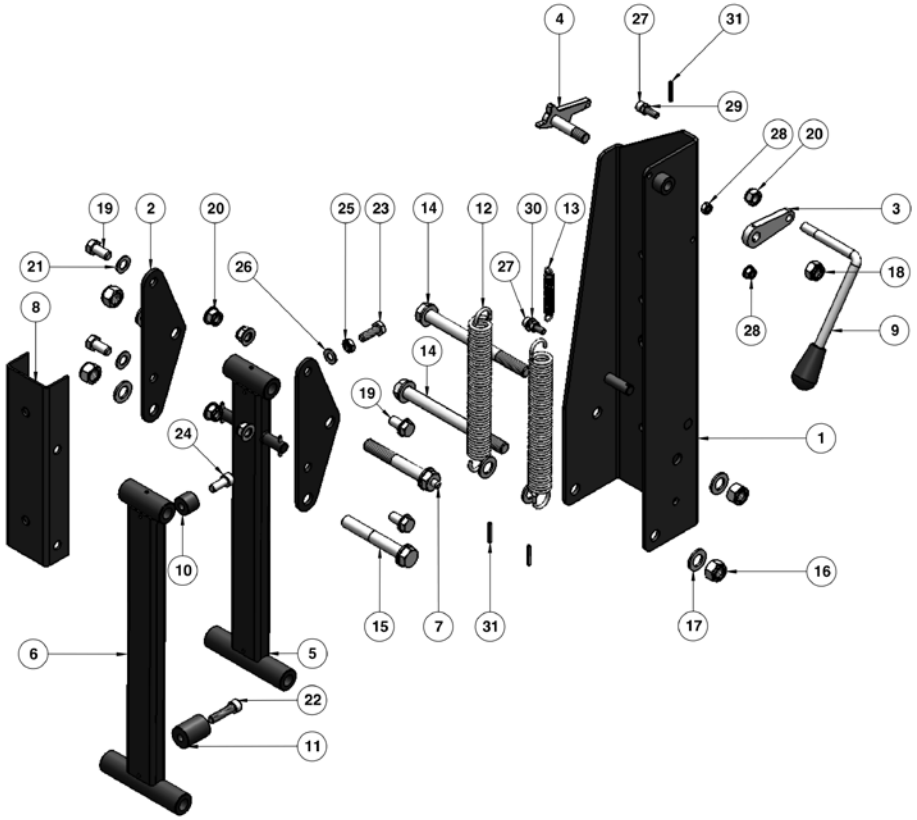
PLEASE TURN TO THE NEXT PAGE

# Chem E Flush Assembly

## 60 litre ChemeFlush **Part No:** L-H9351A




## Drop Down Assembly **Part No:** L-H9355A



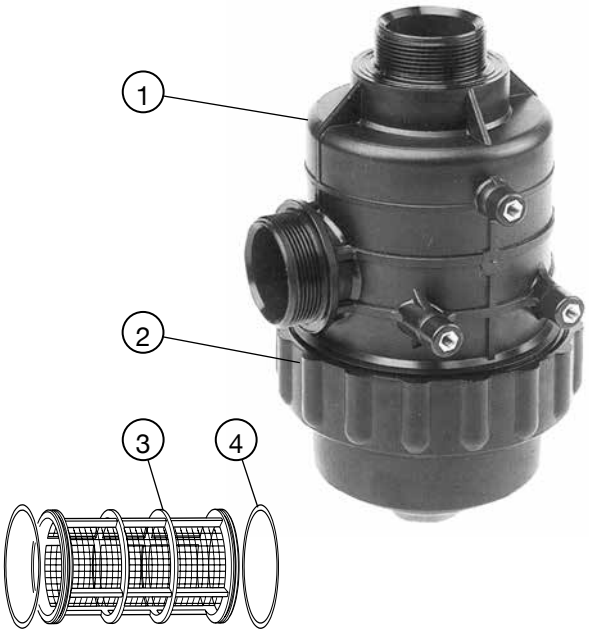
# Chem E Flush Assembly

| Pos | Part No | Description | Qty |
|---|---|---|---|
| | **L-H9351A** | **60 litre ChemeFlush** | |
| 1 | A106425 | TAIL 1” TO 25MM | 1 |
| 2 | A106640 | TAIL 1 1/2” TO 40MM | 1 |
| 3 | A116313 | ELBOW D13 FOR FLY NUT 3/4” | 1 |
| 4 | A200030 | FLY NUT 3/4” | 1 |
| 5 | A200040 | FLY NUT 1” | 1 |
| 6 | A200060 | FLY NUT 1 1/2” | 1 |
| 7 | A240045 | NIPPLE 1”-1 1/4” REDUCING | 1 |
| 8 | A250030 | NIPPLE 3/4” | 2 |
| 9 | A250050 | NIPPLE 1 1/4” | 1 |
| 10 | A454135 | BALL VALVE POLY 1 1/4” 2 WAY | 1 |
| 11 | A1302050 | TEE 1 1/4” | 1 |
| 12 | A2402065 | REDUCER NIPPLE 1 1/2”-1 1/4” | 2 |
| 13 | AG4000B | FLAT SEAL 5/8” EPDM | 1 |
| 14 | AG10031 | O RING 3/4” | 1 |
| 15 | AG10041 | O RING 1” | 1 |
| 16 | AG10061 | O RING 1 1/2” | 1 |
| 17 | AG40002 | FLAT SEAL 1/2” EPDM | 1 |
| 18 | AG40003 | FLAT SEAL 3/4” EPDM | 2 |
| 19 | BJHB075 | HOSEBARB 3/4” NPT X 3/4” BARB | 1 |
| 20 | BJHB075-050 | HOSEBARB 3/4” NPT X 1/2” BARB | 1 |
| 21 | BJHB075-90 | ELBOW 3/4” NPT X 3/4” BARB | 1 |
| 22 | BJHB100 | HOSEBARB 1”NPT X 1” BARB | 2 |
| 23 | BJSL075-90 | ELBOW 3/4” MALE FEMALE | 1 |
| 24 | BJTEE075 | TEE 3/4” FEMALE | 1 |
| 25 | BJTEE100 | TEE FEMALE THREADED 1” NPT | 1 |
| 26 | BJTF150AV | ANTI VORTEX FITTING 1 1/2” | 1 |
| 27 | HPW12 12MM | HOSE | 1 |
| 28 | HPW12 12MM | HOSE | 1 |
| 29 | HPW12 12MM | HOSE | 1 |
| 30 | HPW20 20MM | HOSE | 1 |
| 31 | HPW25 25MM | HOSE | 1 |
| 32 | KB-1003A-1 60LT | CHEM-E-FLUSH MANIFOLD | 1 |
| 33 | P60C-1 60LT | CHEMIFLUSH TANK | 1 |
| 34 | P60C-2 | LID | 1 |
| 35 | PH4622 | ELBOW 3/4” FEMALE | 1 |
| 36 | POL6340839P.CRO | RINSING NOZZLE WITH 1/2” TAIL | 1 |
| 37 | POL63402999 | LEVER HANDLE CHEM-E--FLUSH | 1 |
| 38 | POL63408499 | RINSING NOZZLE | 1 |
| 39 | TR1HC | HOSE CLAMP 25MM 1” WORM DRIVE | 2 |
| 40 | TR34HC | HOSE CLAMP 20MM 3/4” WORM DRIVE | 2 |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 41 | TR12HC | HOSE CLAMP 20MM 1/2” WORM DRIVE | 5 |
| 42 | UP-105AB | CHEM-E-FLUSH MOUNTING BRKT SERIES 2 | 1 |
| 43 | UP-116 | NOZZLE 8.5 VENTURI CHEM E PLUS | 1 |
| 44 | 40SQWASHER | 40MM SQUARE WASHER | 4 |
| 45 | .75SSWASHER | 3/4” STAINLESS STEEL WASHER | 1 |
| 46 | M6X16 M6 X 16 | BOLT HT ZP | 2 |
| 47 | M6NNUT | M6 NYLOC NUT | 2 |
| 48 | M6FWASHER | M6 FLAT WASHER ZP | 4 |
| | **L-H9355A** | **Drop Down Assembly** | |
| 1 | L-H9355A-1 | MAIN FRAME | 1 |
| 2 | L-H9355A-2 | HINGE PLATE | 2 |
| 3 | L-H9355A-3 | LEVER | 1 |
| 4 | L-H9355A-4 | LOCK PLATE | 1 |
| 5 | L-H9355A-5 | ARM, INNER | 1 |
| 6 | L-H9355A-6 | ARM, OUTER | 1 |
| 7 | L-H9355A-7 | LOCK PIN | 1 |
| 8 | L-H9355A-8 | BOLTING CHANNEL | 1 |
| 9 | L-H9355A-9 | LOCK HANDLE | 1 |
| 10 | L-H9355A-10 | STOPPER, TOP | 1 |
| 11 | L-H9355A-11 | STOPPER, BOTTOM | 1 |
| 12 | L-H9355A-12 | SPRING 4.5 X 210 45 COILS | 2 |
| 13 | L-H9355A-13 | SPRING 1.4 X 60 38 COILS | 1 |
| 14 | M16X180 | M16 X 180 BOLT HT ZP | 2 |
| 15 | M16X110 | M16 X 110 BOLT HT ZP | 1 |
| 16 | M16NNUT | M16 NYLOC NUT HT ZP | 4 |
| 17 | M16FWASHER | M16 FLAT WASHER ZP | 10 |
| 18 | M14NNUT | M14 NYLOC NUT HT ZP | 1 |
| 19 | M12X25 | M12 X 25 SET SCREW HT ZP | 4 |
| 20 | M12NNUT | M12 NYLOC NUT HT ZP | 5 |
| 21 | M12FWASHER | M12 FLAT WASHER ZP | 8 |
| 22 | M10X40HEADSCREW | M10 X 40 ALLEN HEAD SCREW HT ZP | 1 |
| 23 | M10X30 | M10 X 30 HEX HEAD BOLT HT ZP | 1 |
| 24 | M10X25HEADSCREW | M10 X 25 ALLEN HEAD SCREW HT ZP | 1 |
| 25 | M10HHNUT | M10 HEX HALF NUT HT ZP | 1 |
| 26 | M10FWASHER | M10 FLAT WASHER ZP | 1 |
| 27 | M8X25HEADSCREW | M8 X 25 ALLEN HEAD SCREW HT ZP | 2 |
| 28 | M8NNUT | M8 NYLOC NUT HT ZP | 2 |
| 29 | M8HHNUT | M8 HEX HALF NUT HT ZP | 2 |
| 30 | M8FWASHER | M8 FLAT WASHER ZP | 2 |
| 31 | ROLLPIN4 | ROLL PIN DIAMETER 4 | 5 |


Suction Filter
**(shown above on sprayer)**

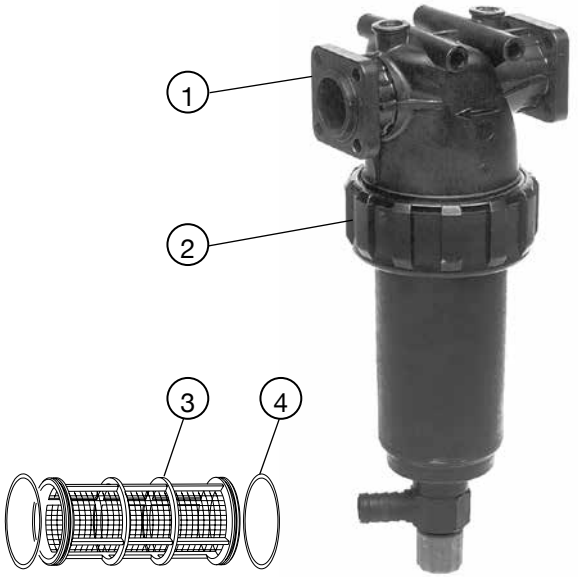
## Suction Filter




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A316 173 | Filter Complete | 1 |
| 2 | A316000.050 | Main Seal | 1 |
| 3 | A316003.030 | Screen - internal | 1 |
| 4 | A316300.60 | Screen O-Rings | 2 |

Pressure Filter
**(shown above on sprayer)**

## Pressure Filter




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A32621135 | Filter Complete | 1 |
| 2 | AG10090 | Main Seal | 1 |
| 3 | A3260035.030 | Screen - internal | 1 |
| 4 | AG10052 | Screen O-Rings | 2 |

# Lids, Venturis & Tank Rinse Jet

*Lid on top of tank, basket inside.*

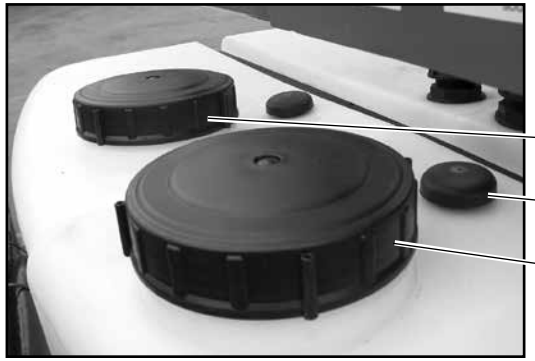
Tank Lid & Basket

## Tank Lid

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A356060 | Lid Complete | 1 |
| 2 | A356660.02 | Seal Ring | 1 |

## Basket

**Part No: A300.0134**




Foam & Rinse Tank Lids and Breathers

## Foam & Rinse Tank Lids

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A354010 | Foam Tank Lid | 1 |
| 2 | A354010 | Water Tank Lid | 1 |
| 3 | A504203 | Breather | 1 |

## Breather

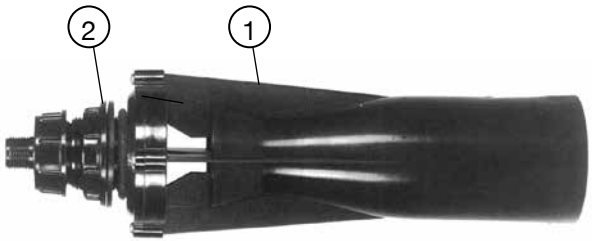
**Part No: A504 203**

Tank Rinsing Jet & Agitator

## Tank Rinse Jet

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | POL63408399 | Tank Rinsing Jet | 1 |

## Agitator

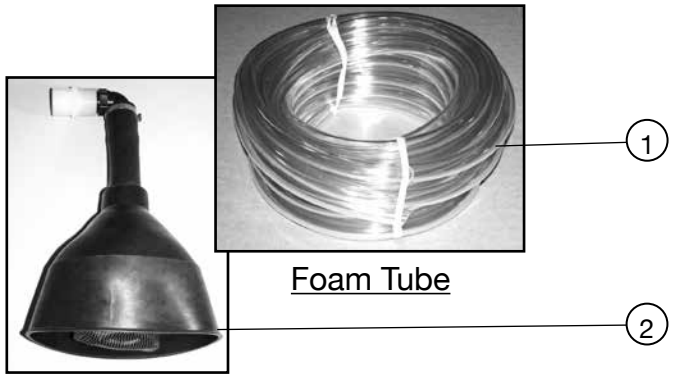



| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | A502163 | Agitator Complete | 1 |
| 2 | A200050 | Fly nut 1¼" | 1 |

# Foam Marker Components

Assembly Drawings & Parts Listings

## Foam Boot & Foam Tubing

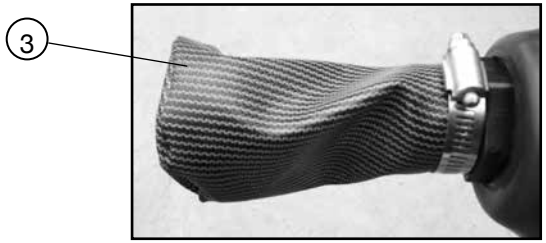



Foam Tube

Boot

## Foam Boot, Foam Tubing & Salamander Boost

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | HCVT20 | Foam Tube | 20m |
| 2 | RHAA120 | Foam Boot Complete | 2 |
| 3 | RHSJ000 | Foam Bag | 2 |

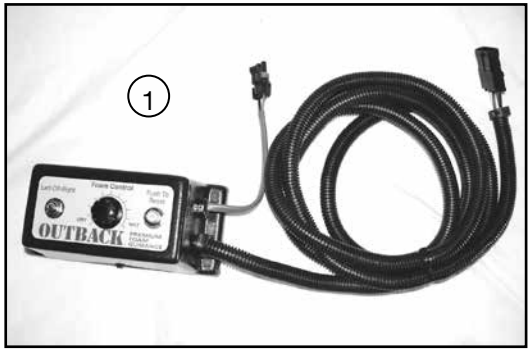



Foam Bag

## Foam Tube Kits

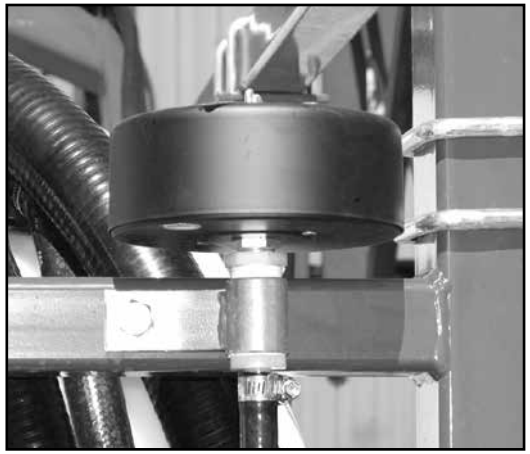
**Note: Standard length 20m coil, see Part # 1 (at left)**

## In-Cab Control

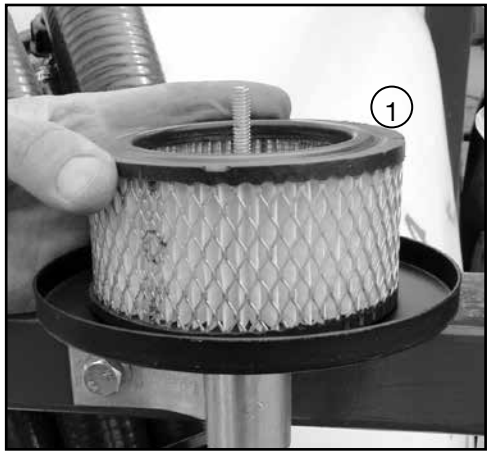



| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | RHAB371 | In-Cab Control | 1 |

## Air Filter Location

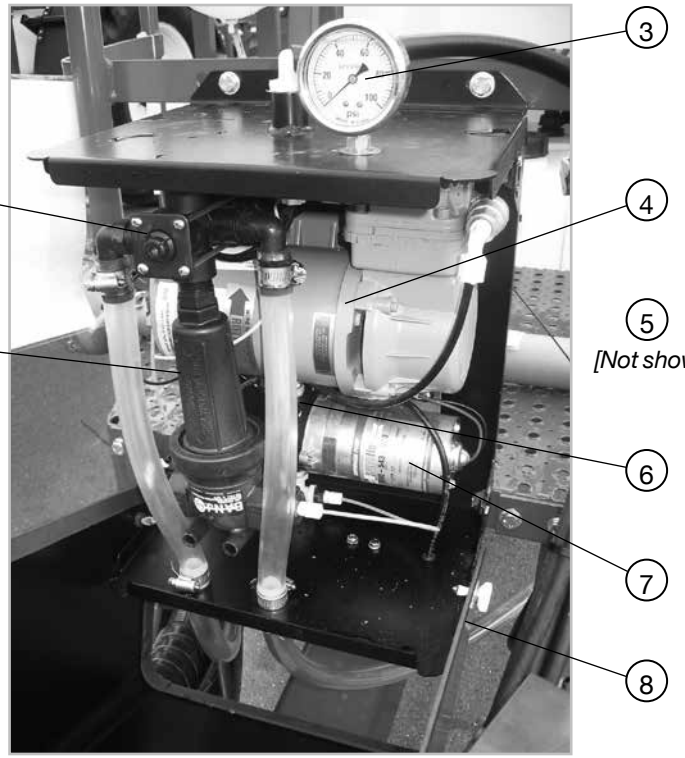


## Air Filter Cartridge




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | RH69540 | Air Filter Cartridge | 1 |

# Foam Marker - Outback 10




*[Not shown]*

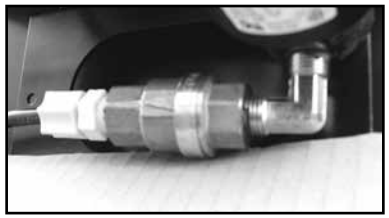
**1 Directional Solenoid Valve**
**P/N: AA144P-1-3**

**2 Foam Chamber Assembly**
**P/N: LST075-HB**

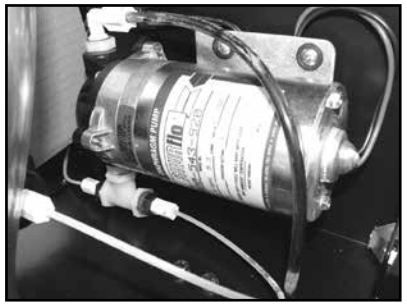
**3 Gauge**
**P/N: RHGF60**
(0-100 kpa)

**4 AR Pump**
**P/N: RHFU001**


**5 Cab Mounted Switch Box**
**P/N: RHAB371**



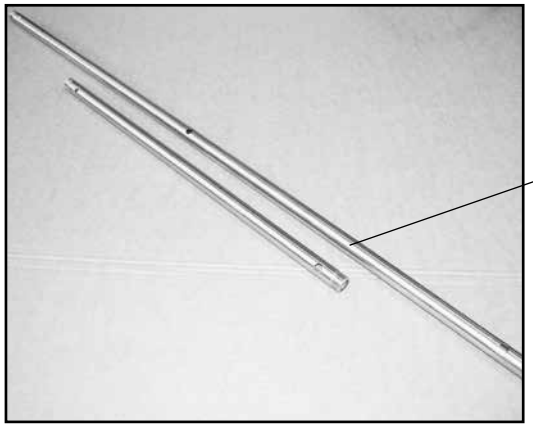
**6 Check Valve**
**P/N: RH69541**



**7 Liquid Pump Assembly**
**P/N: RHSU 005E**
(Includes all fittings)

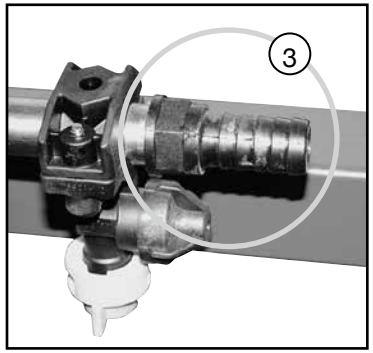
**8 Liquid Filter**
**P/N: AAB122ML-12-P50**

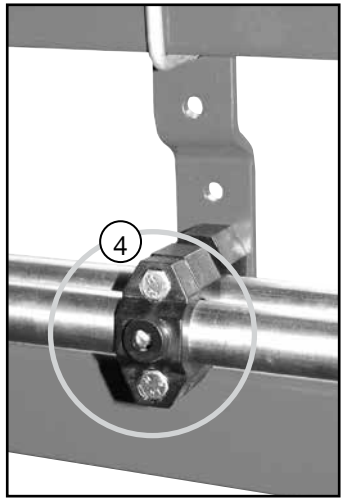
# Boom Fittings



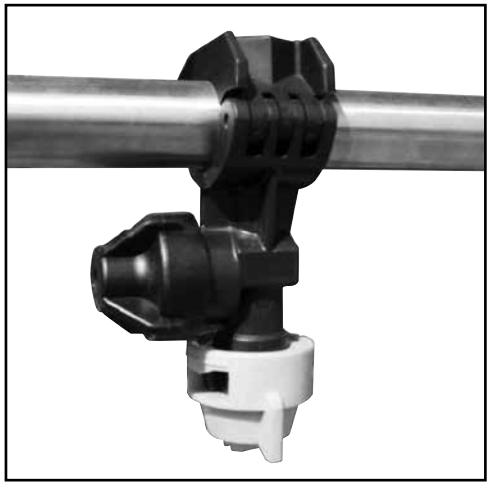

Boom Tube

## Boom Fittings




| | | |
|---|---|---|
| **1** | **Boom Tube:** | |
| | **a) 2-hole** | **Part No: GB550200500** |
| | **b) 3-hole** | **Part No: GB550300500** |
| | **c) 4-hole** | **Part No: GB550400500** |
| | **d) 5-hole** | **Part No: GB550500500** |
| | **e) 6-hole** | **Part No: GB550600500** |
| | **f) 7-hole** | **Part No: GB550700500** |
| **2** | **See page 7.11** | **Boom flush tap (not shown)** |
| **3** | **Hosetail** | **Part No: A100219** |
| **4** | **Clamp** | **Part No: A425130** |



Single Non-Drip Nozzle Body

## Single Nozzle Body

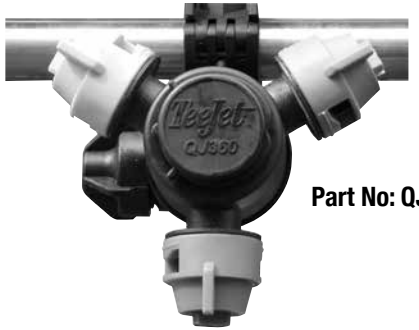
**Part No: QJ17560A-½-NYB**

**(For Cap & Seal see next page)**

# Nozzles & Nozzle Bodies

Triplex Nozzle Body

Triplex Nozzle Complete



**Part No: QJ363B-¼-NYB (does not include caps & seals)**

Cap & Seal

Cap & Seal

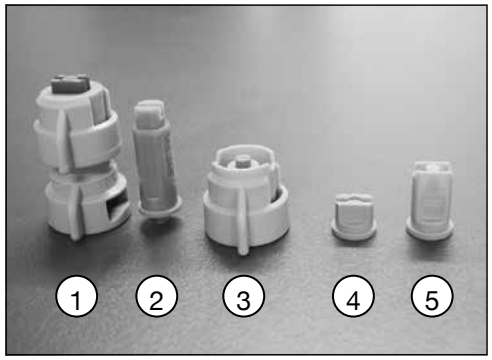
**1 Cap & Seal for XR Teejets**
**Part No: 25612-*3-NYR**

**2 Cap & Seal for AI Teejets**
**Part No: 25298-*3-NYR**

*

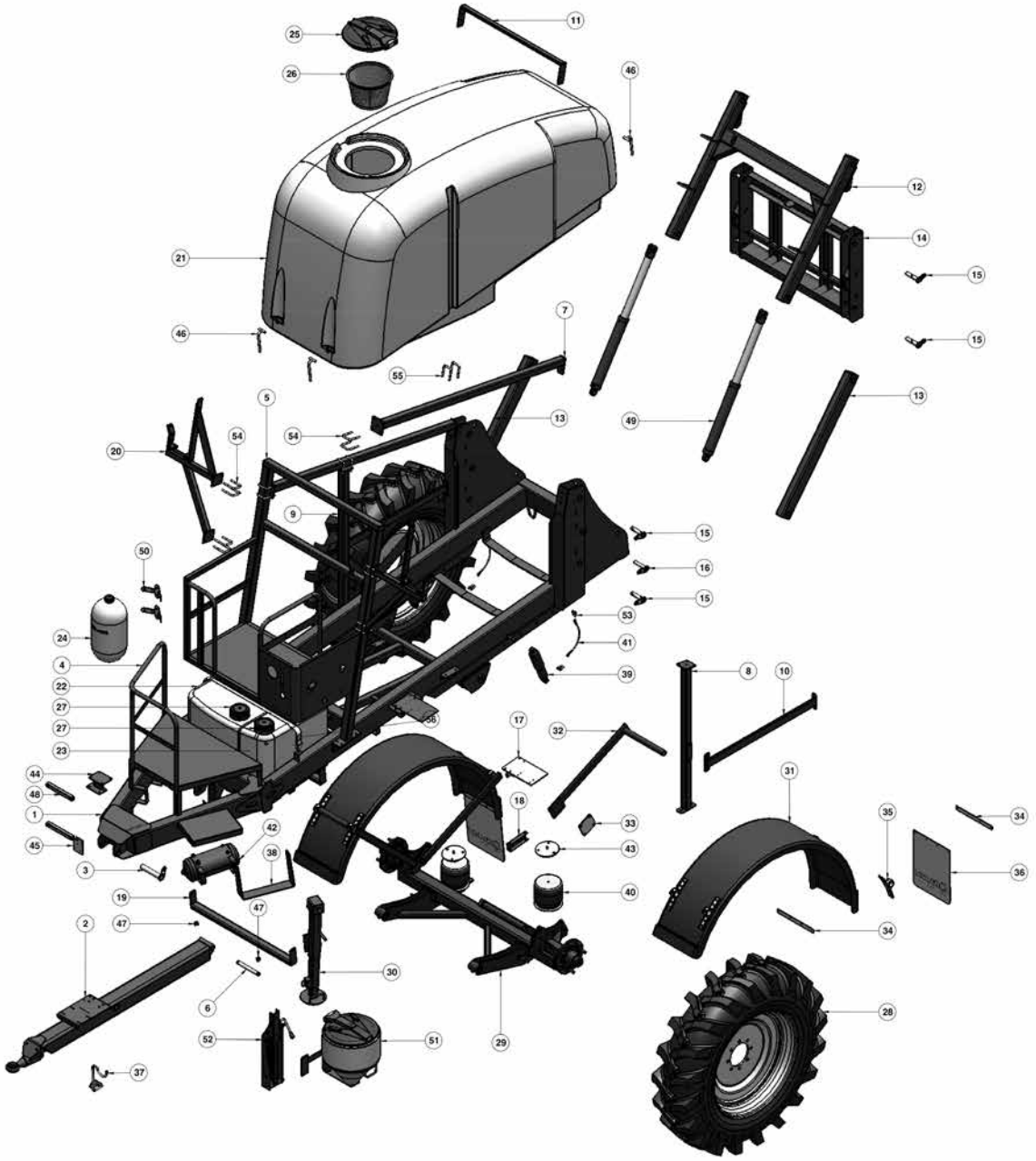
| Colors of Quick TeeJet Caps | Color Code |
|---|---|
| Black | 1 |
| White | 2 |
| Red | 3 |
| Blue | 4 |
| Green | 5 |
| Yellow | 6 |
| Brown | 7 |
| Orange | 8 |

Nozzle Jet Selection




| Pos | Part No | Description |
|---|---|---|
| 1 | **TDCFFC1100*** (*1.5, 2, 3, 4, 5) | **Turbodrop Nozzle** |
| 2 | **AI1100* - VS** (*1.5, 2, 3, 4, 5) | **Teejet AI Nozzle** |
| 3 | **TCC1100*** (*1.5, 2, 3, 4, 5) | **Tip Cap (Ceramic)** |
| 4 | **XR1100*-VK** (*1.5, 2, 3, 4, 5) | **Standard Ceramic Teejet** |
| 5 | **TDAM - 1100*** (*1.5, 2, 3, 4, 5) | **Air Mix Nozzle** |

*(numbers in brackets denote code for size)*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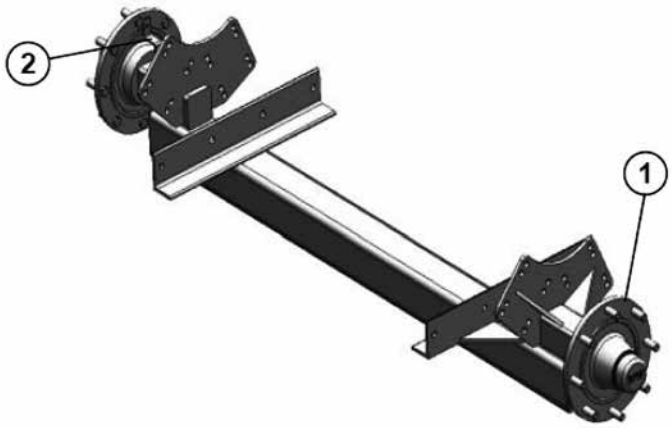
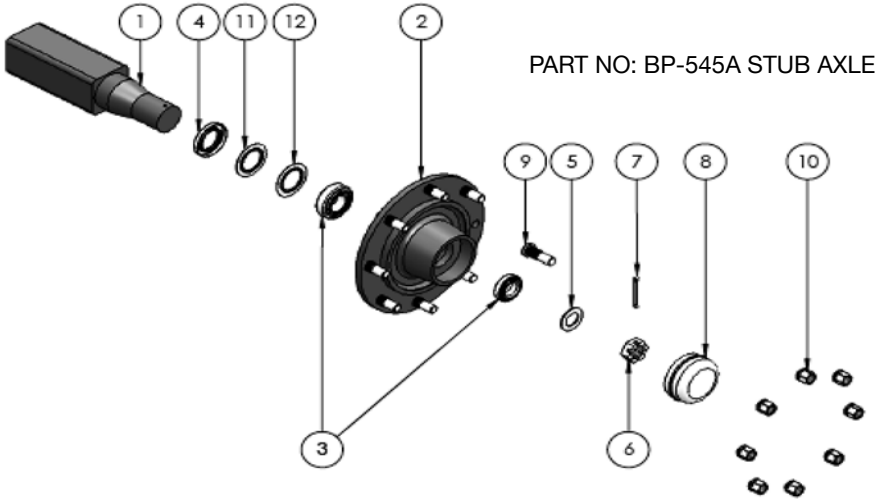
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-700A | CHASSIS PEGASUS 4000/5000LT | 1 |
| | BP-700B | CHASSIS PEGASUS (6000LT only) | 1 |
| 2 | BP-700A-1 | PEGASUS DRAWBAR 4000/5000LT | 1 |
| | BP-700B-1 | PEGASUS DRAWBAR (6000LT only) | 1 |
| 3 | BP-700A-2A | DRAWBAR PIN 4000/5000LT HAYLITE | 1 |
| 4 | BP-700A-3 | HANDRAIL LOWER PLATFORM PEGASUS | 1 |
| 5 | BP-700-3 | MAIN PLATFORM ASSEMBLY 4000/5000LT | 1 |
| | BP-700B-3 | MAIN PLATFORM ASSEMBLY (6000LT only) | 1 |
| 6 | BP-601-3 | HITCH PIN PINTO & STALLION | 1 |
| 7 | BP-700A-4A | PLATFORM SUPPORT RAIL HAYLITE | 2 |
| | BP-700B-12LA | PLATFORM SUPPORT L.H. 6000LT HAYLITE (6000LT only) | 1 |
| | BP-700B-12RA | PLATFORM SUPPORT R.H. 6000LT HAYLITE (6000LT only) | 1 |
| 8 | BP-700A-5ALA | SUPPORT POST L.H. 5000LT HAYLITE | 1 |
| 9 | BP-700A-5ARA | SUPPORT POST R.H. 5000LT HAYLITE (5000LT only) | 1 |
| | BP-700A-5LA | SUPPORT POST L.H. 4000LT HAYLITE (4000LT only) | 1 |
| | BP-700A-5RA | SUPPORT POST R.H. 4000LT HAYLITE (4000LT only) | 1 |
| | BP-700B-5LA | SUPPORT POST L.H. 6000LT HAYLITE (6000LT only) | 1 |
| | BP-700B-5RA | SUPPORT POST R.H. 6000LT HAYLITE (6000LT only) | 1 |
| 10 | BP-700A-6A | SIDE SUPPORT RAIL 4000/5000LT HAYLITE | 2 |
| | BP-700B-4LA | SIDE RAIL L.H. PEGASUS 6000LT HAYLITE (6000LT only) | 1 |
| | BP-700B-4RA | SIDE RAIL R.H. PEGASUS 6000LT HAYLITE (6000LT only) | 1 |
| 11 | BP-700A-7A | UPPER SUPPORT BRACKET 4000/5000LT HAYLITE | 1 |
| 12 | BP-700-8A | UPPER PARALLELOGRAM ARM PEGASUS | 1 |
| 13 | BP-700-8B | LOWER PARALLELOGRAM ARM PEGASUS | 2 |
| 14 | BP-700-8C | REAR PARALLELOGRAM SECTION PEGASUS | 1 |
| 15 | BP-700-9AA | PIN 30MM X 155MM HAYLITE | 8 |
| 16 | BP-700-9BA | PIN 1” DIA X 155MM HAYLITE | 2 |
| 17 | BP-700-10 | FILL PUMP MOUNT PLATE PEGASUS | 1 |
| 18 | BP-700-11 | FILL FILTER MOUNT BRACKET PEGASUS | 1 |
| 19 | BP-700-12A | FLUSH TANK SUPPORT HAYLITE | 2 |
| 20 | BP-601-1A | BOOM PARKING BRACKET 21-28m | 2 |
| | BP-601-1BL | BOOM PARKING BRACKET 30m LH | 1 |
| | BP-601-1BR | BOOM PARKING BRACKET 30m LR | 1 |
| | BP-700-13AL | BOOM PARKING BRACKET 36m LH V2 | 1 |
| | BP-700-13AR | BOOM PARKING BRACKET 36m LR V2 | 1 |
| 21 | P5000-RAW | TANK POLY RAW PEGASUS 5000LT | 1 |
| | P4000A-RAW | TANK POLY RAW PEGASUS 4000LT (4000LT only) | 1 |
| | P6000-RAW | TANK POLT RAW PEGASUS (6000LT only) | 1 |
| 22 | P340-RAW | TANK POLY 340LT PEGASUS | 1 |
| 23 | P130-RAW | TANK POLY 130LT PEGASUS | 1 |
| 24 | P30 | TANK POLY 30LT C/W LID & OUTLET | 1 |
| | P30CAP | CAP 30LT FM TANK C/W O RING | 1 |
| 25 | A356060 | LID HINGED 180 DEGREE 455MM | 1 |
| 26 | A300130 | FILTER BASKET LARGE 254MM DEEP | 1 |
| 27 | A354010 | LID 6” C/W SPRING BREATHER & OUTLET | 2 |
| 28 | BP-508A | TYRE & WHEEL ASSY 18.4 X 38” 14PLY | 2 |
| | BP-539 | TYRE & WHEEL ASSY 20.8 X 42” (6000LT only) | 2 |
| 29 | BP-509E | AXLE AIR RIDE FIXED 8 STUD PEGASUS (4000LT/5000LT only) | 1 |
| | BP-509D | AXLE FIX SINGLE PEGASUS (4000LT only) | 1 |
| | BP-509G | AXLE SUSPENSION 10 STUD PEGASUS (5000LT/6000LT only) | 1 |
| | BP-509F | ADJUSTABLE AXLE 10 STUD AIR RIDE (6000LT only) | 1 |
| | BP-509H | ADJUSTABLE AXLE 8 STUD AIR RIDE (OPTION) | 1 |
| 30 | BP-525A | JACKING LEG PEGASUS | 1 |
| 31 | BP-526A | MUDGUARD POLY 1000MM RADIUS | 2 |
| | BP-526C | MUDGUARD POLY 1100MM RADIUS (OPTION) | 2 |
| 32 | BP-528B | BRACKET, MUDGUARD PEGASUS TO SUIT BP-526A | 4 |
| | BP-528B-1 | BRACKET MUDGUARD PEGASUS TO SUIT BP-526C (6000LT only) | 4 |
| 33 | BP-528D | MUDGUARD BRACKET SPACER (6000LT only) | 4 |
| 34 | BP-180 | MUDFLAP PLATE | 4 |
| 35 | BP-531A | MUDGUARD MOUNTING BRACKET | 8 |
| 36 | BP-542 | MUDFLAP WHITE | 2 |
| 37 | BP-548 | PTO HOLDER PEGASUS | 1 |
| 38 | BP-601-4A | BOLT ON STEP HAYLITE | 1 |
| 39 | BP-607 | SHOCK ABSORBER AIR RIDE P126 | 2 |
| 40 | BP-608B | AIRBAG SPRING S-21208 | 2 |
| 41 | BP-617A | LIMIT ROPE 6.3MM X 420LG | 2 |
| 42 | BP-620A | AIR TANK HK JADE | 1 |
| 43 | BP-628 | ADAPTOR PLATE AIRBAG | 2 |
| 44 | BP-629 | COMPRESSOR MOUNTING BRACKET PEGASUS | 1 |
| 45 | BP-631 | ENVIRODRUM PLATE | 1 |
| 46 | BP-701 | TIE DOWN BRACKET PEGASUS | 4 |
| | BP-701B | TIE DOWN BRACKET PEGASUS (6000LT only) | 4 |
| 47 | B0006 | BARE LINCH PIN 7/16” DIAMETER | 2 |
| 48 | FM-404 | FOAM MARKER SPACER | 2 |
| 49 | HP-019B | PTE HYDRAULIC DISPLACEMENT CYLINDER 3.0 X 20 | 2 |
| 50 | LP-132A | TANK BRACKET 30LT BOTTLE VERSION 2 | 2 |
| 51 | L-H9351A | CHEMICAL MIXING UNIT MK2 | 1 |
| 52 | L-H9355A | DROPDOWN MOUNTING BRACKET VERSION 2 | 1 |
| 53 | MP-564 | DEE SHACKLE SIZE 10 | 4 |
| 54 | XBMBB75 | U-BOLT 75MM X 10 | 12 |
| 55 | XBMBB65 | U-BOLT 65MM X 10 | 4 |
| 56 | XSTRAP1475 | TANK STRAP 1475MM | 1 |

## PART NO: BP-509D PEGASUS 4000/5000L FIXED AXLE 8 STUD




PART NO: BP-545A STUB AXLE

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-545A | STUB AXLE 90mm 8/275 PCD | 2 |
| 2 | MT10013 | SPEED SENSOR MOUNTING BRACKET | 1 |

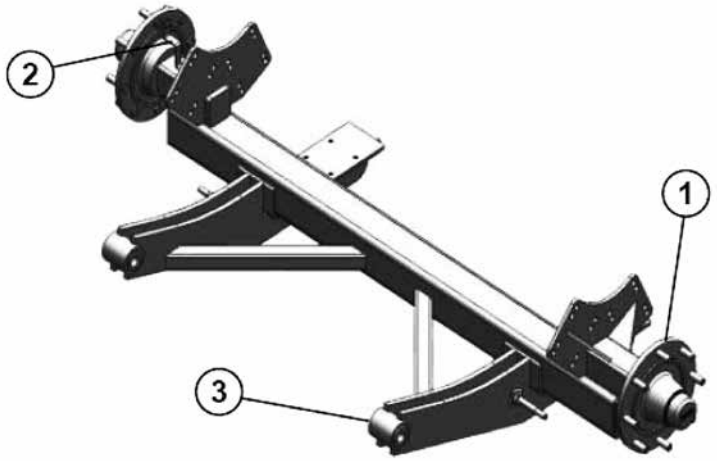
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-532-1 | STUB AXLE 90SQ x 538 LONG | |
| 2 | BP-545A-2 | WHEELHUB 8/275 PCD | |
| 3 | BP-532-3 | BEARING KIt 30311/32216 | |
| 4 | BP-532-4 | TRIPLE LIP SEAL 140 x 100 x 12mm | |
| 5 | BP-532-5 | WASHER 1¾" GR.8 | |
| 6 | BP-532-6 | SLOTTED/CASTLE NUT M45 x 2 | |
| 7 | BP-532-7 | SPLIT PIN 80 x 8MM | |
| 8 | BP-532-8 | DUST CAP 120mm *(4 screws needed items 13 & 14)* | |
| 9 | HP-199F-7 | WHEEL STUD M18 x 1.5 x 65 | |
| 10 | HP-199F-8 | WHEEL NUT M18 x 1.5 | |
| 11 | BP-532-11 | SEAL RING 100.5 x 82 x 16mm | |
| 12 | BP-532-12 | WEAR RING *(to suit triple lip seal)* | |
| 13 | BP-532-13 | SOCKET HEAD CAP SCREW M6 x 20 *(not shown)* | |
| 14 | BP-532-14 | M6 RIB LOCK WASHER *(not shown)* | |

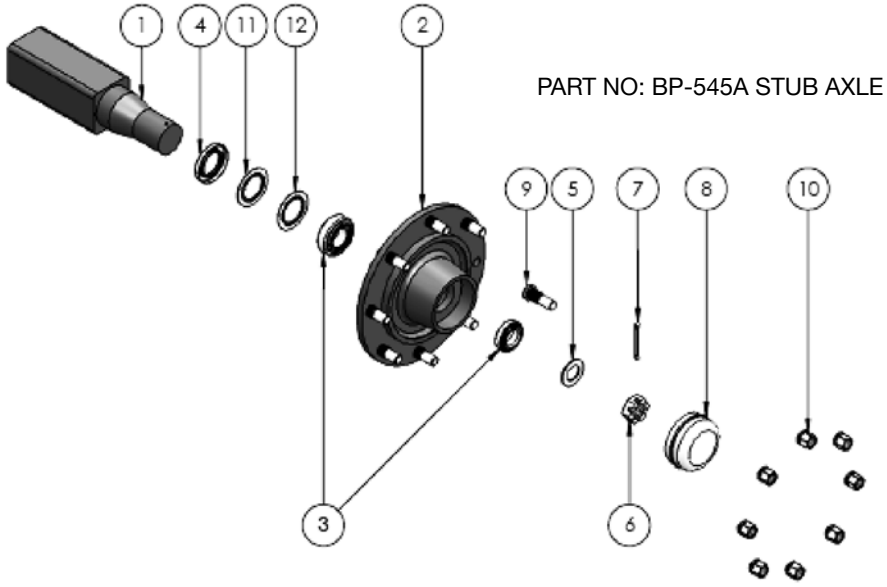
***NOTE***

***Drawing are for illustration purposes only.***

***Please refer to the parts list.***

## PART NO: BP-509E PEGASUS 4000/5000L AIRRIDE FIXED AXLE 8 STUD




PART NO: BP-545A STUB AXLE

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-545A | STUB AXLE 90mm 8/275 PCD | 2 |
| 2 | MT10013 | SPEED SENSOR MOUNTING BRACKET | 1 |
| 3 | BP-809-4 | FLEXIBLE BUSH AIRRIDE SUSPENSION | 2 |
| 4 | WT1234 | AIRRIDE AXLE BOLT M30 x 190 *(not shown)* | 2 |
| 5 | WT1235NL | AIRRIDE AXLE NYLO NUT M30 *(not shown)* | 2 |

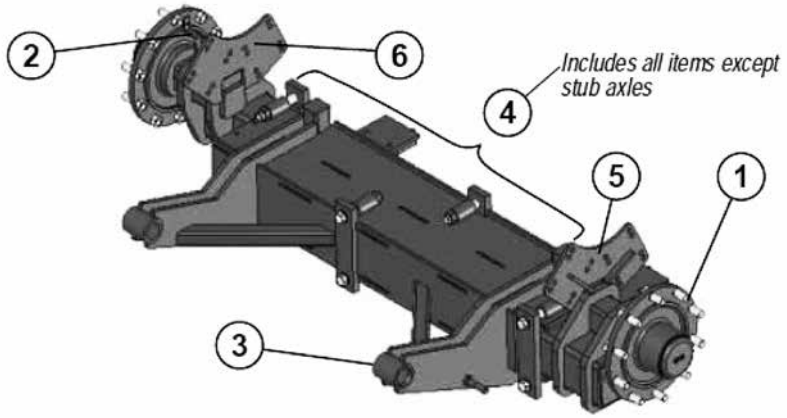
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-532-1 | STUB AXLE 90SQ x 538 LONG | |
| 2 | BP-545A-2 | WHEELHUB 8/275 PCD | |
| 3 | BP-532-3 | BEARING KIT 30311/32216 | |
| 4 | BP-532-4 | TRIPLE LIP SEAL 140 x 100 x 12mm | |
| 5 | BP-532-5 | WASHER 1¾" GR.8 | |
| 6 | BP-532-6 | SLOTTED/CASTLE NUT M45 x 2 | |
| 7 | BP-532-7 | SPLIT PIN 80 x 8MM | |
| 8 | BP-532-8 | DUST CAP 120mm *(4 screws needed items 13 & 14)* | |
| 9 | HP-199F-7 | WHEEL STUD M18 x 1.5 x 65 | |
| 10 | HP-199F-8 | WHEEL NUT M18 x 1.5 | |
| 11 | BP-532-11 | SEAL RING 100.5 x 82 x 16mm | |
| 12 | BP-532-12 | WEAR RING *(to suit triple lip seal)* | |
| 13 | BP-532-13 | SOCKET HEAD CAP SCREW M6 x 20 *(not shown)* | |
| 14 | BP-532-14 | M6 RIB LOCK WASHER *(not shown)* | |

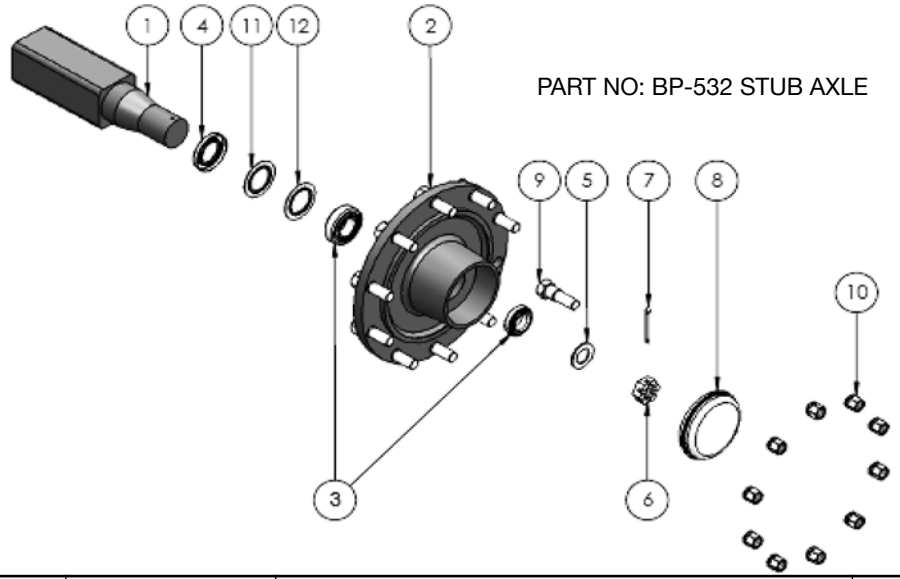
***NOTE***

***Drawing are for illustration purposes only.***

***Please refer to the parts list.***

## PART NO: BP-509F PEGASUS 6000L ADJUSTABLE AIRRIDE AXLE 10 STUD




PART NO: BP-532 STUB AXLE

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-532 | STUB AXLE 90SQ 10/335PCD | 2 |
| 2 | MT10013 | SPEED SENSOR MOUNTING BRACKET | 1 |
| 3 | BP-809-4 | FLEXIBLE BUSH AIRRIDE SUSPENSION | 2 |
| 4 | BP-509F-2 | AXLE HOUSING & TRAILING ARM ASSEMBLY | 1 |
| 5 | BP-509F-3L | AXLE BP-509F 10 STUD LH | 1 |
| 6 | BP-509F-3R | AXLE BP-509F 10 STUD RH | 1 |
| 7 | WT1234 | AIRRIDE AXLE BOLT M30 x 190 *(not shown)* | 2 |
| 8 | WT1235NL | AIRRIDE AXLE NYLOC NUT M30 *(not shown)* | 2 |

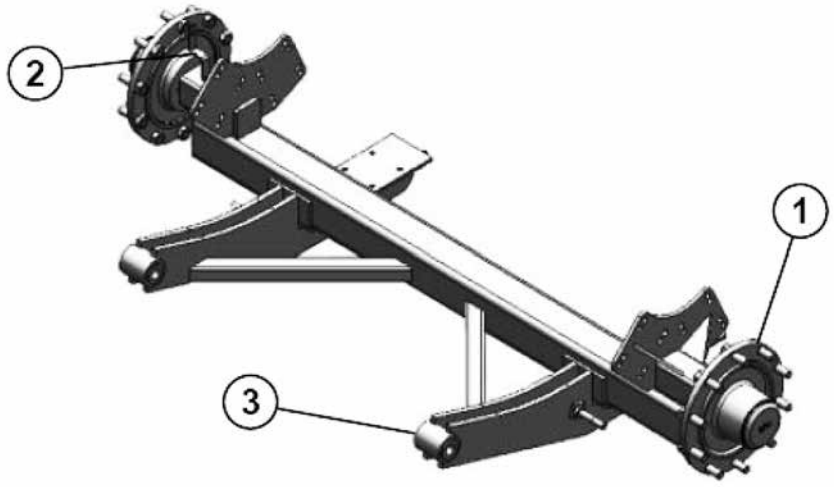
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-532-1A | STUB AXLE 90SQ x 390 LONG | |
| 2 | BP-532-2 | WHEELHUB 10/335 PCD | |
| 3 | BP-532-3 | BEARING KIt 30311/32216 | |
| 4 | BP-532-4 | TRIPLE LIP SEAL 140 x 100 x 12mm | |
| 5 | BP-532-5 | WASHER 1¾" GR.8 | |
| 6 | BP-532-6 | SLOTTED/CASTLE NUT M45 x 2 | |
| 7 | BP-532-7 | SPLIT PIN 80 x 8MM | |
| 8 | BP-532-8 | DUST CAP 120mm *(4 screws items 13 & 14)* | |
| 9 | BP-532-9 | WHEEL STUD M22 x 1.5 x 85 | |
| 10 | BP-532-10 | WHEEL NUT M22 x 1.5 | |
| 11 | BP-532-11 | SEAL RING 100.5 x 82 x 16mm | |
| 12 | BP-532-12 | WEAR RING *(to suit triple lip seal)* | |
| 13 | BP-532-13 | SOCKET HEAD CAP SCREW M6 x 20 *(not shown)* | |
| 14 | BP-532-14 | M6 RIB LOCK WASHER *(not shown)* | |

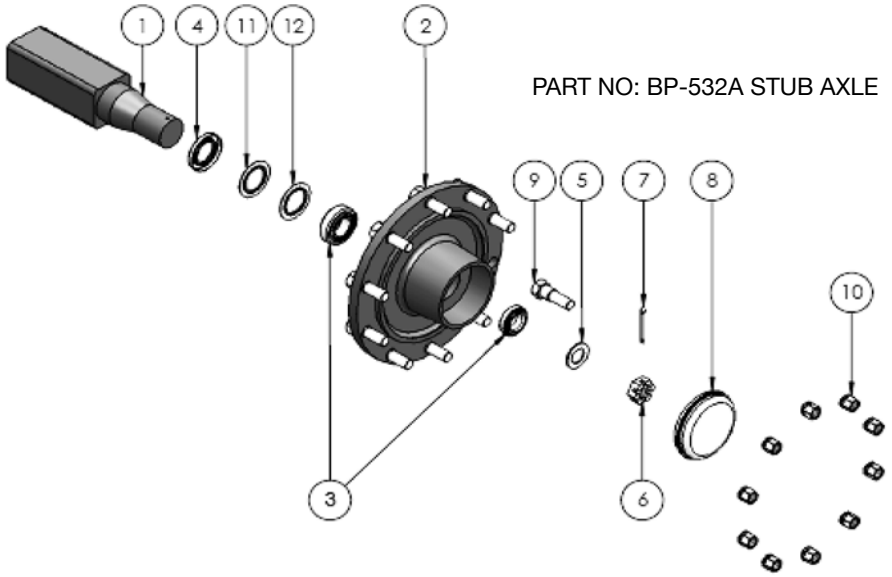
***NOTE***

***Drawing are for illustration purposes only.***

***Please refer to the parts list.***

## PART NO: BP-509G PEGASUS 6000L AIRRIDE FIXED AXLE 10 STUD




PART NO: BP-532A STUB AXLE

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-532A | STUB AXLE 90mm 10/335PCD 538LG | 2 |
| 2 | MT10013 | SPEED SENSOR MOUNTING BRACKET | 1 |
| 3 | BP-809-4 | FLEXIBLE BUSH AIRRIDE SUSPENSION | 2 |
| 4 | WT1234 | AIRRIDE AXLE BOLT M30 x 190 *(not shown)* | 2 |
| 5 | WT1235NL | AIRRIDE AXLE NYLOC NUT M30 *(not shown)* | 2 |

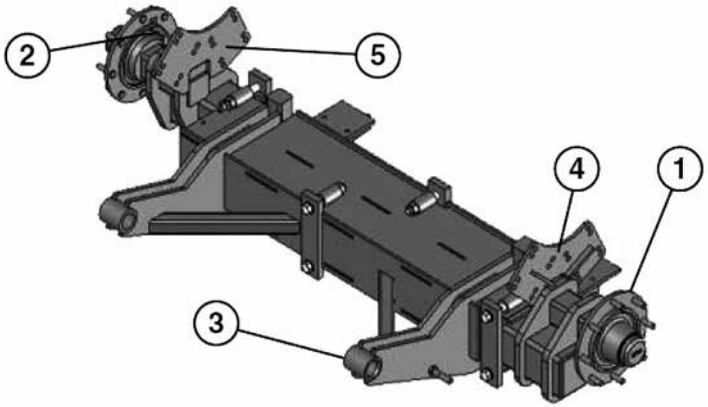
**NOTE**

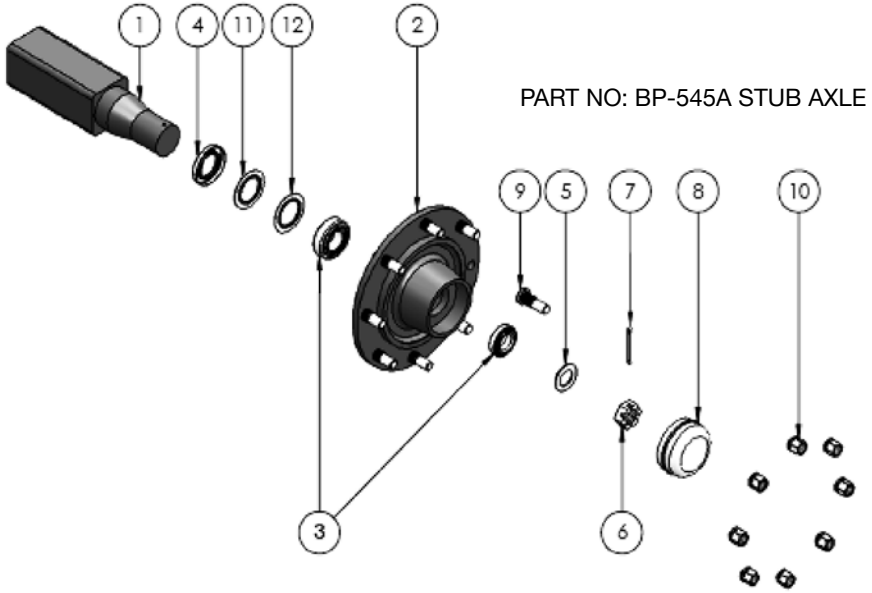
***Drawing are for illustration purposes only.***

***Please refer to the parts list.***

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-532-1 | STUB AXLE 90SQ x 538 LONG | |
| 2 | BP-532-2 | WHEELHUB 10/335 PCD | |
| 3 | BP-532-3 | BEARING KIt 30311/32216 | |
| 4 | BP-532-4 | TRIPLE LIP SEAL 140 x 100 x 12mm | |
| 5 | BP-532-5 | WASHER 1¾" GR.8 | |
| 6 | BP-532-6 | SLOTTED/CASTLE NUT M45 x 2 | |
| 7 | BP-532-7 | SPLIT PIN 80 x 8MM | |
| 8 | BP-532-8 | DUST CAP 120mm *(4 screws items 13 & 14)* | |
| 9 | BP-532-9 | WHEEL STUD M22 x 1.5 x 85 | |
| 10 | BP-532-10 | WHEEL NUT M22 x 1.5 | |
| 11 | BP-532-11 | SEAL RING 100.5 x 82 x 16mm | |
| 12 | BP-532-12 | WEAR RING *(to suit triple lip seal)* | |
| 13 | BP-532-13 | SOCKET HEAD CAP SCREW M6 x 20 *(not shown)* | |
| 14 | BP-532-14 | M6 RIB LOCK WASHER *(not shown)* | |

## PART NO: BP-509H PEGASUS 4000/5000L AJUSTABLE AIRRIDE AXLE 8 STUD




PART NO: BP-545A STUB AXLE

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-545A | STUB AXLE 90mm 8/275 PCD | 2 |
| 2 | MT10013 | SPEED SENSOR MOUNTING BRACKET | 1 |
| 3 | BP-809-4 | FLEXIBLE BUSH AIRRIDE SUSPENSION | 2 |
| 4 | BP-509H-3L | AXLE BP-509F 10 STUD LH | 1 |
| 5 | BP-509H-3R | AXLE BP-509F 10 STUD RH | 1 |
| 6 | WT1234 | AIRRIDE AXLE BOLT M30 x 190 *(not shown)* | 2 |
| 7 | WT1235NL | AIRRIDE AXLE NYLOC NUT M30 *(not shown)* | 2 |

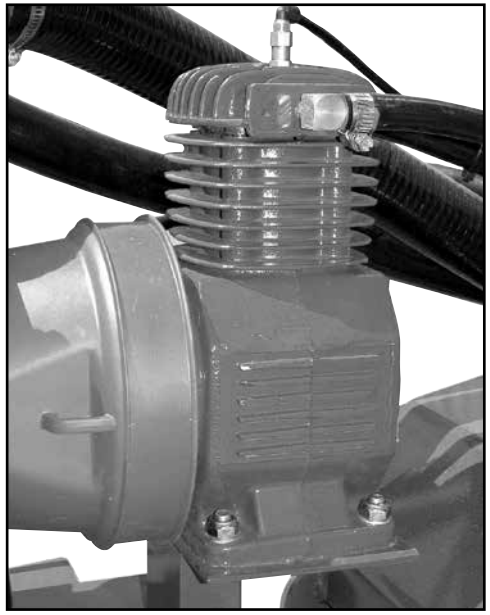
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-532-1 | STUB AXLE 90SQ x 538 LONG | |
| 2 | BP-545A-2 | WHEELHUB 8/275 PCD | |
| 3 | BP-532-3 | BEARING KIt 30311/32216 | |
| 4 | BP-532-4 | TRIPLE LIP SEAL 140 x 100 x 12mm | |
| 5 | BP-532-5 | WASHER 1¾" GR.8 | |
| 6 | BP-532-6 | SLOTTED/CASTLE NUT M45 x 2 | |
| 7 | BP-532-7 | SPLIT PIN 80 x 8MM | |
| 8 | BP-532-8 | DUST CAP 120mm *(4 screws needed items 13 & 14)* | |
| 9 | HP-199F-7 | WHEEL STUD M18 x 1.5 x 65 | |
| 10 | HP-199F-8 | WHEEL NUT M18 x 1.5 | |
| 11 | BP-532-11 | SEAL RING 100.5 x 82 x 16mm | |
| 12 | BP-532-12 | WEAR RING *(to suit triple lip seal)* | |
| 13 | BP-532-13 | SOCKET HEAD CAP SCREW M6 x 20 *(not shown)* | |
| 14 | BP-532-14 | M6 RIB LOCK WASHER *(not shown)* | |

***NOTE***

***Drawing are for illustration purposes only.***

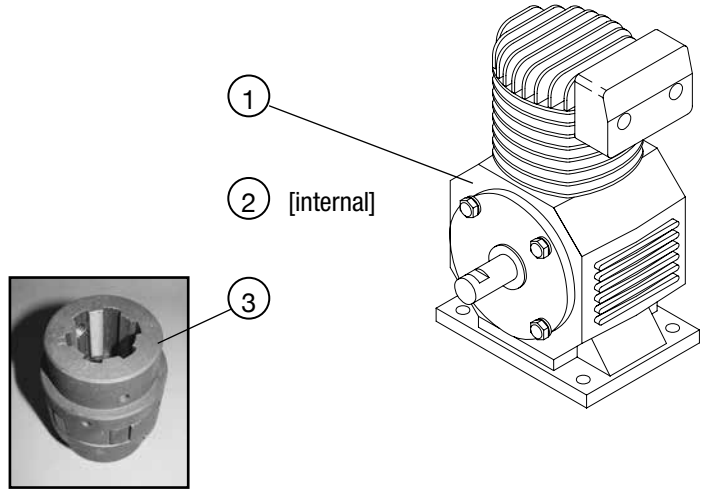
***Please refer to the parts list.***

# Compressor & Air Tank



Compressor

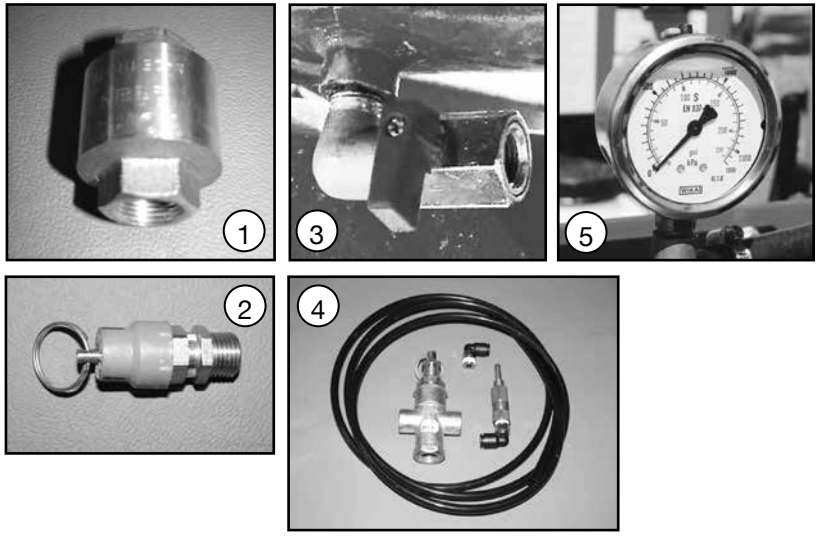
## Compressor



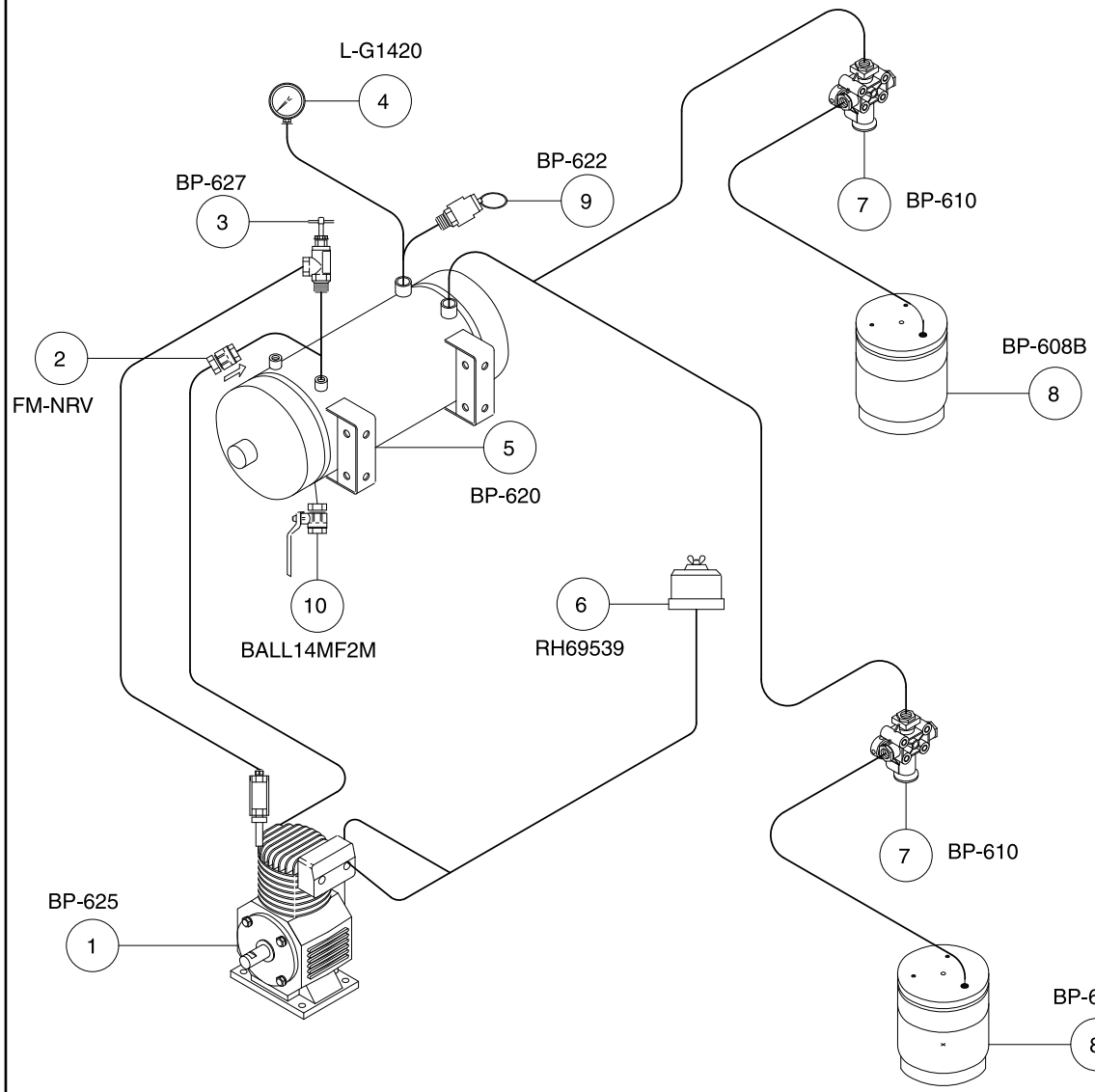

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-625 | Compressor Complete | 1 |
| 2 | BP-625KIT | Kit | 1 |
| 3 | BP-624 | Coupler | 1 |

Air Tank

## Air Tank




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | FM-NRV | Non-return Valve | 1 |
| 2 | BP-622 | Air Relief Valve Ass | 1 |
| 3 | BALL14MF2M | Exhaust/drain tap | 1 |
| | TFEL144MF | Brass Elbow | 1 |
| 4 | BP-627 | Pilot Operated Relief Assembly | 1 |
| 5 | L-G1420 | Gauge | 1 |



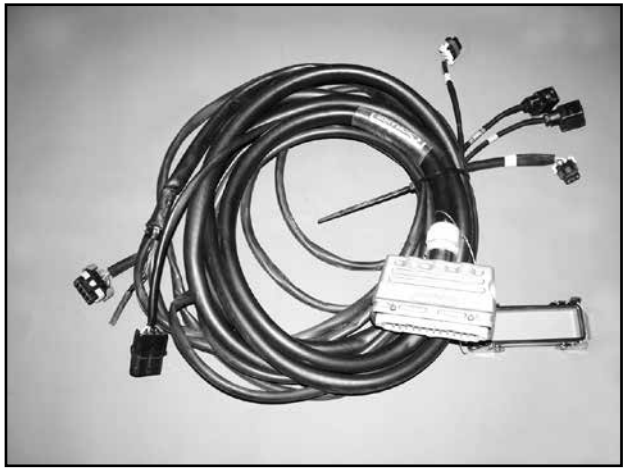

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | BP-625 | AIR COMPRESSOR PTO DRIVE | 1 |
| 2 | FM-NRV | NON RETURN VALVE | 1 |
| 3 | BP-627 | UNLOADER KIT | 1 |
| 4 | L-G1420 | GAUGE | 1 |
| 5 | BP-620 | AIR TANK | 1 |
| 6 | RH-69539 | LEVELLING VALVE | 2 |
| 7 | BP-610 | RELIEF VALVE | 2 |
| 8 | BP-608B | AIR BAG SPRING | 1 |
| 9 | BALL14MF2M | BALL VALVE DRAIN | 1 |
| 10 | TFEL1414MF | BRAS ELBOW ¼" MALE-FEMALE | 1 |

## MT9000 / 3 PIN BALL VALVES

## WIRING CONFIGURATION FOR 24 PIN MT9000 BULKHEAD LOOM

**4/12/2003**
**ALL WIRE 3mm**
**USO**

| CONSOLE CONNECTION | CONSOLE PIN ID | MT90LOOM/2 WIRE COLOUR | 24 PIN CONNECTOR | 24 PIN WIRE COLOUR | APPLIANCE | M.T. WIRE COLOUR | MT90LOOM/1 WIRE COLOUR | MT90LOOM/1 REAR CONNECTOR | ID COLOUR | CONNECTOR ID | MT90LOOM/3 REAR CONNECTOR | ID COLOUR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| 3 PIN | A | YELLOW 2.5mm | 21 | YELLOW 2.5mm | SPEED | RED | YELLOW 2.5mm | 3 PIN | YELLOW | A | pulse | |
| 3 PIN | B | GREEN 2.5mm | 2 | GREEN 2.5mm | SPEED | WHITE | GREEN 2.5mm | 3 PIN | YELLOW | B | 12v+ | |
| 3 PIN | C | BLUE 2.5mm | 11 | BLUE 2.5mm | SPEED | BLACK | BLUE 2.5mm | 3 PIN | YELLOW | C | 12v- | |
| 10 PIN | A | GREEN/PURPLE | 18 | GREEN/PURPLE | FLOW | BROWN | GREEN/PURPLE | 3 PIN | GREEN | A | pulse | |
| 10 PIN | B | RED 2.5mm | 16 | RED 2.5mm | FLOW | RED | (RED)BLUE/ BLACK | 3 PIN | GREEN | B | 12v+ | RED NOT CONTD |
| 10 PIN | C | ORANGE | 9 | ORANGE | FLOW | ORANGE | ORANGE | 3 PIN | GREEN | C | 12v- | |
| 10 PIN | D | GREY | 1 | GREY | SERVO | YELLOW | GREY | mPm PLUG | GREY | 1 | | |
| 10 PIN | E | VIOLET | 3 | VIOLET | SERVO | GREEN | VIOLET | mPm PLUG | GREY | 2 | | |
| 10 PIN | F | BLUE/WHITE | 5 | BLUE/WHITE | BOOM 6 | BLUE | BLUE/WHITE | 10 PIN | | H | mPm PLUG | BLUE #6 |
| 10 PIN | G | BROWN/YELLOW | 19 | BROWN/YELLOW | RELIEF | VIOLET | BROWN/YELLOW | 4 PIN M | NOT CONNECTED | A | FILL FLOW | BROWN + |
| 10 PIN | H | BLACK 2.5mm | 4 | BLACK 2.5mm | HOLD | GREY | BLACK | 4 PIN M | NOT CONNECTED | B | FILL FLOW | BLUE - |
| 10 PIN | J | BLUE/BLACK | 13 | BLUE/BLACK | PSI | WHITE | BLUE/BLACK | 4 PIN M | NOT CONNECTED | C | FENCELINE | R H |
| 10 PIN | K | BLACK/RED | 8 | BLACK/RED | PSI | BLACK | BLACK/RED | 4 PIN M | NOT CONNECTED | D | FENCELINE | L H |
| 7 PIN | A | WHITE 2.5mm | 20 | WHITE 2.5mm | BOOM 1 | YELLOW | WHITE 2.5mm | 10 PIN | | A | mPm PLUG | YELLOW #1 |
| 7 PIN | B | ORANGE/BLUE | 7 | ORANGE/BLUE | BOOM 2 | BROWN | ORANGE/BLUE | 10 PIN | | B | mPm PLUG | BROWN #2 |
| 7 PIN | C | BLUE/YELLOW | 17 | BLUE/YELLOW | BOOM 3 | GREY | BLUE/YELLOW | 10 PIN | | C | mPm PLUG | GREY #3 |
| 7 PIN | D | PINK | 14 | PINK | BOOM 4 | BLACK | PINK | 10 PIN | | D | mPm PLUG | BLACK #4 |
| 7 PIN | E | RED 6mm | 12 | ORANGE 4mm (10a FUSE) | POWER +ve | ORANGE | RED 4mm | 10 PIN | | F | mPm PLUG #1 | |
| 7 PIN | F | BROWN 2.5mm | 10 | BROWN 2.5mm | BOOM 5 | RED | BROWN 2.5mm | 10 PIN | | E | mPm PLUG | RED #5 |
| 7 PIN | G | BLACK 6mm | 24 | GREEN 4mm | POWER -ve | BLUE | BLACK 4mm | 10 PIN | | G | mPm PLUG #2 | |
| | | | | To MT90LOOM/6 Relay | | 25 | BLUE/BLACK | 10 PIN | | J | | |
| | | | | To MT90LOOM/6 Relay | | 26 | BLACK/RED | 10 PIN | | K | | |
| | | | | From MT90LOOM/6 Relay | | 25 | BLUE/BLACK | mPm PLUG | BLUE | 2 | | |
| | | | | From MT90LOOM/6 Relay | | 26 | BLACK/RED | mPm PLUG | BLUE | 1 | | |
| 4 PIN | A | RED 4mm | 22 | RED 4mm | FOAM MARKER | WHITE | RED 4mm | 4 PIN FM | | A | | |
| 4 PIN | B | BLACK 4mm | 15 | BLACK 4mm | FOAM MARKER | RED | BLACK 4mm | 4 PIN FM | | B | | |
| 4 PIN | C | BLUE 4mm | 6 | BLUE 4mm | FOAM MARKER | GREEN | BLUE 4mm | 4 PIN FM | | C | | |
| 4 PIN | D | WHITE 4mm | 23 | WHITE 4mm | FOAM MARKER | BLACK | WHITE 4mm | 4 PIN FM | | D | | |



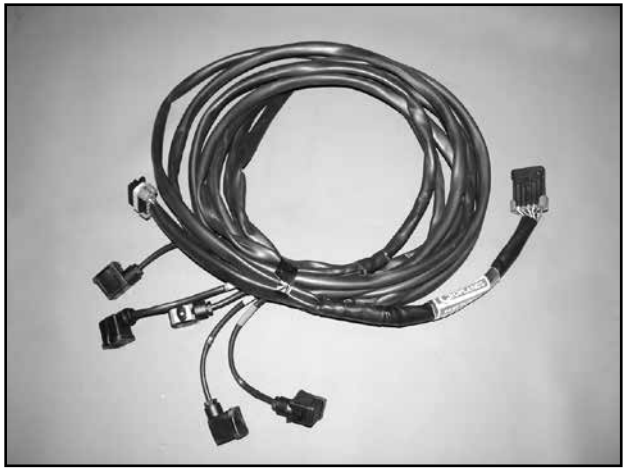
**MT90LOOM/1**

Main loom from rear of tractor to the sprayer, connects to control valves, foam marker etc & connects to MT90LOOM/2, MT90LOOM/3 &

MT90LOOM/6.

**MT90LOOM/2**

Main loom from Spray controller to the rear of the cab. Carries plugs to connect controller & foam



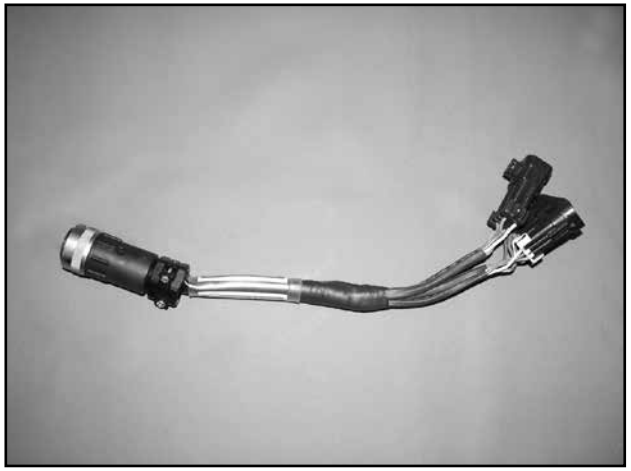
marker. Connects to MT90LOOM/1.

**MT90LOOM/3**

Extension loom that runs from front of sprayer,

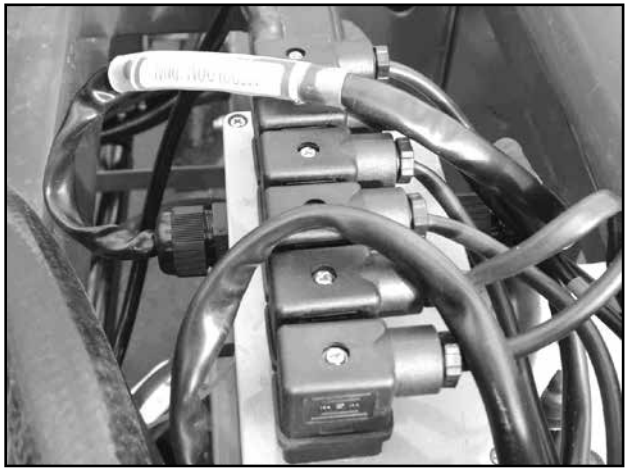

connected to MT90LOOM/1 to boom section control valves at rear of sprayer.

**MT90LOOM/6**



Relay box fitted on front of chassis under the working platform. Operates Dump valve from Controller.

**MT90LOOM/854**

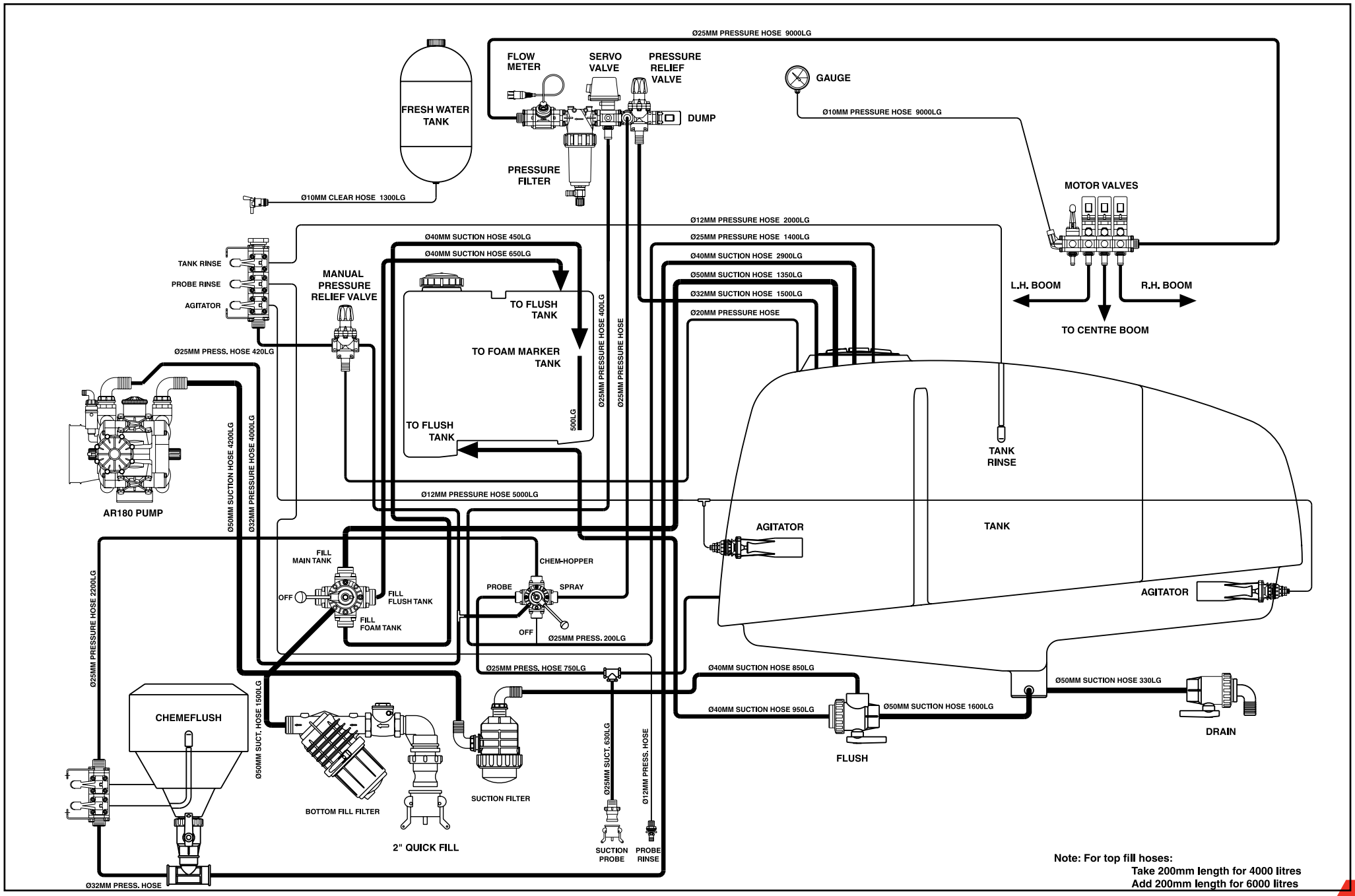


Conversion connector to allow MT90LOOM/2 to connect to the Teejet 854 Controller.

**MT90LOOM/DUAL**

Relay box fitted to rear of sprayer, located on the centre section. Only used if dual lines are fitted. Allows all valves to be operated correctly.

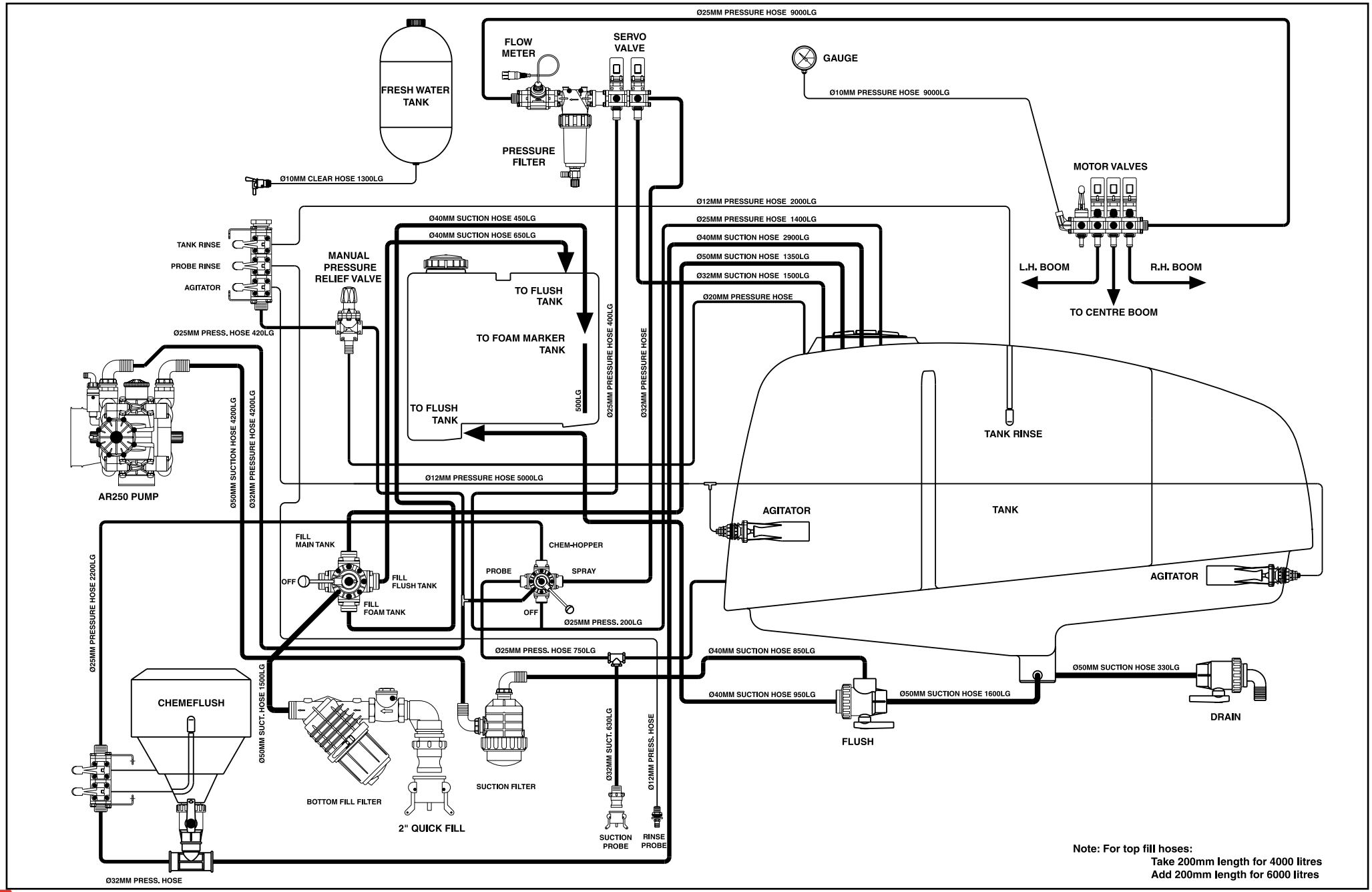
# Plumbing Diagram AR180



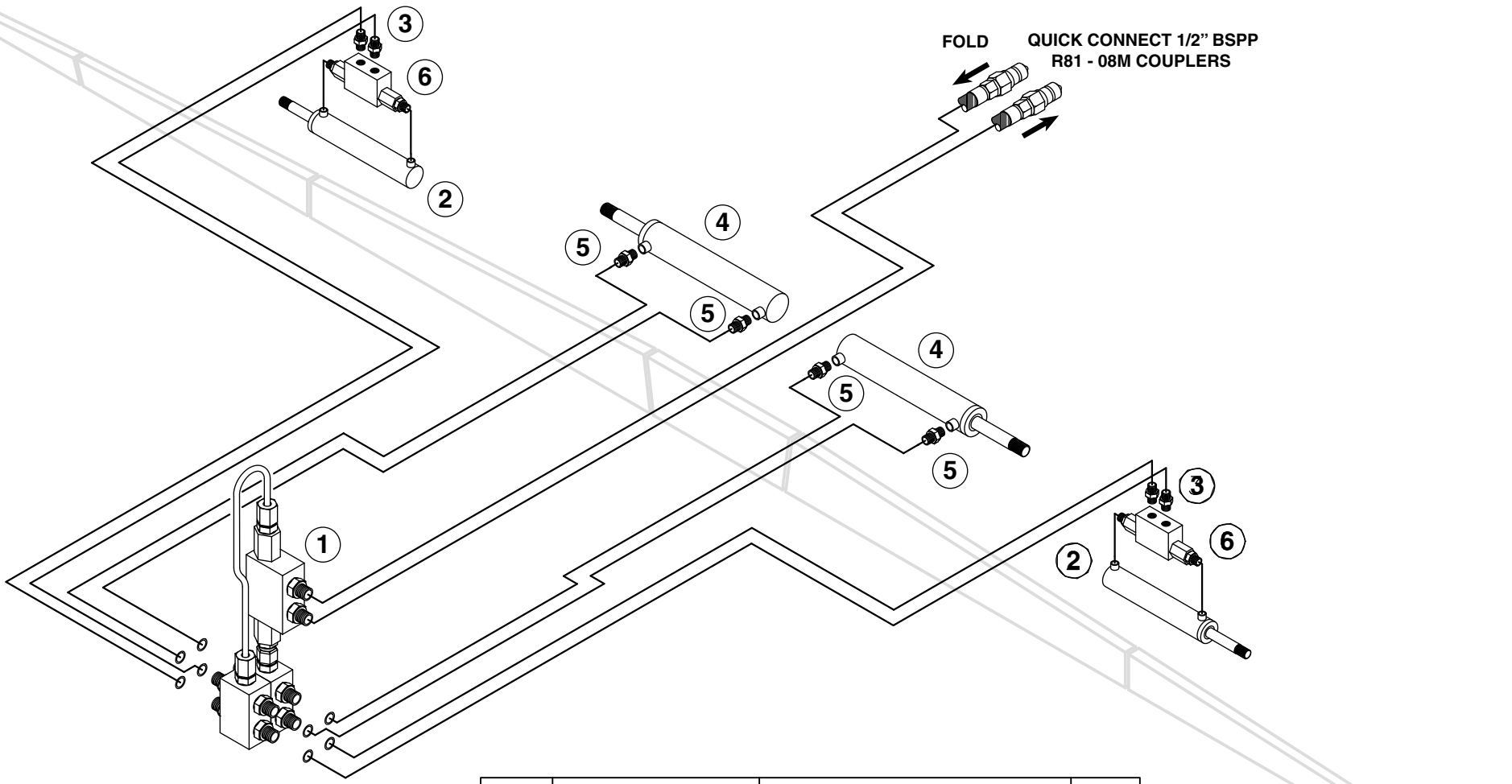

**Note: For top fill hoses:**
**Take 200mm length for 4000 litres**
**Add 200mm length for 6000 litres**

# Plumbing Diagram AR250/280

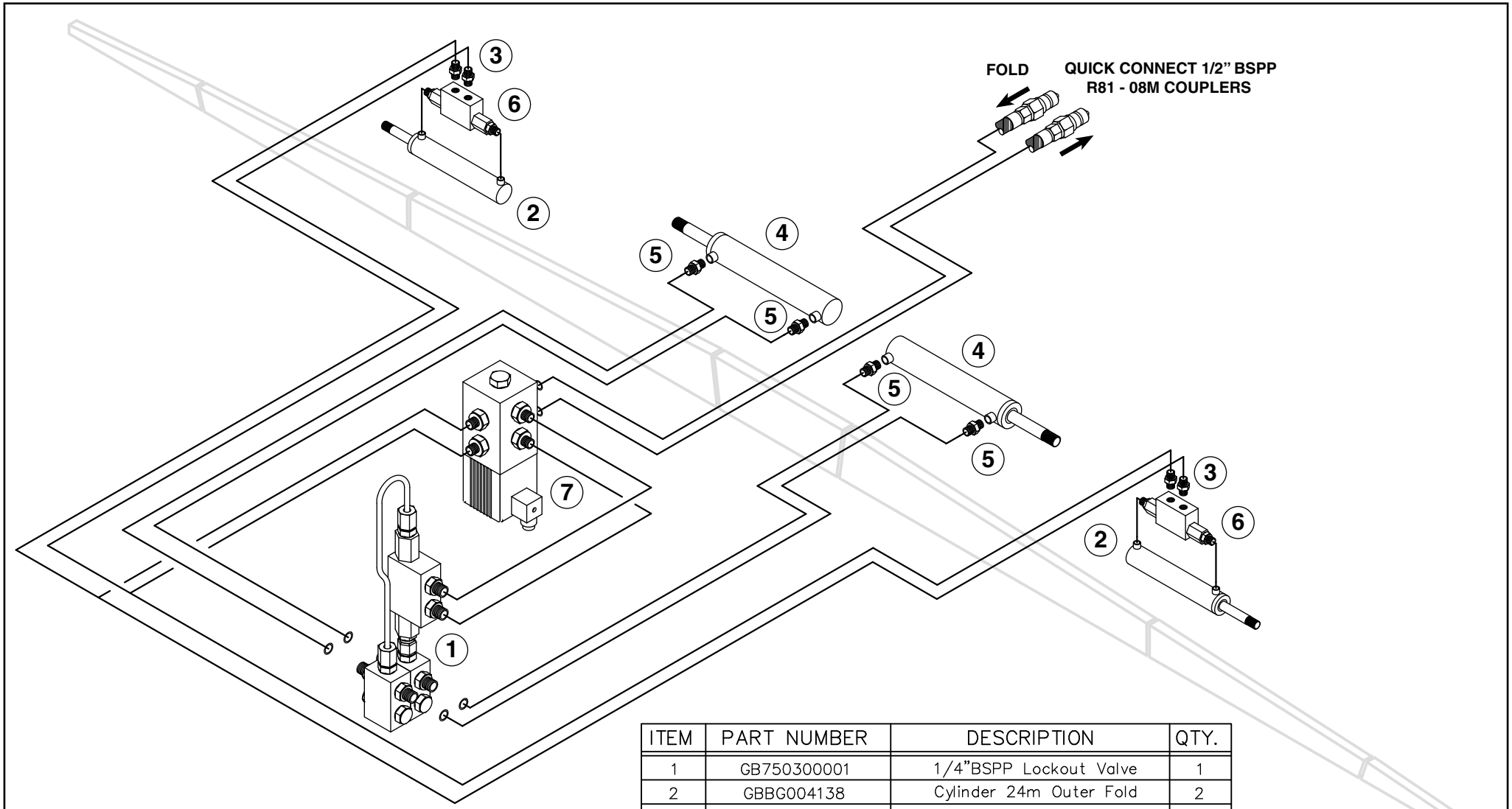




# Hydraulic Plumbing Diagram - 24m Standard Fold

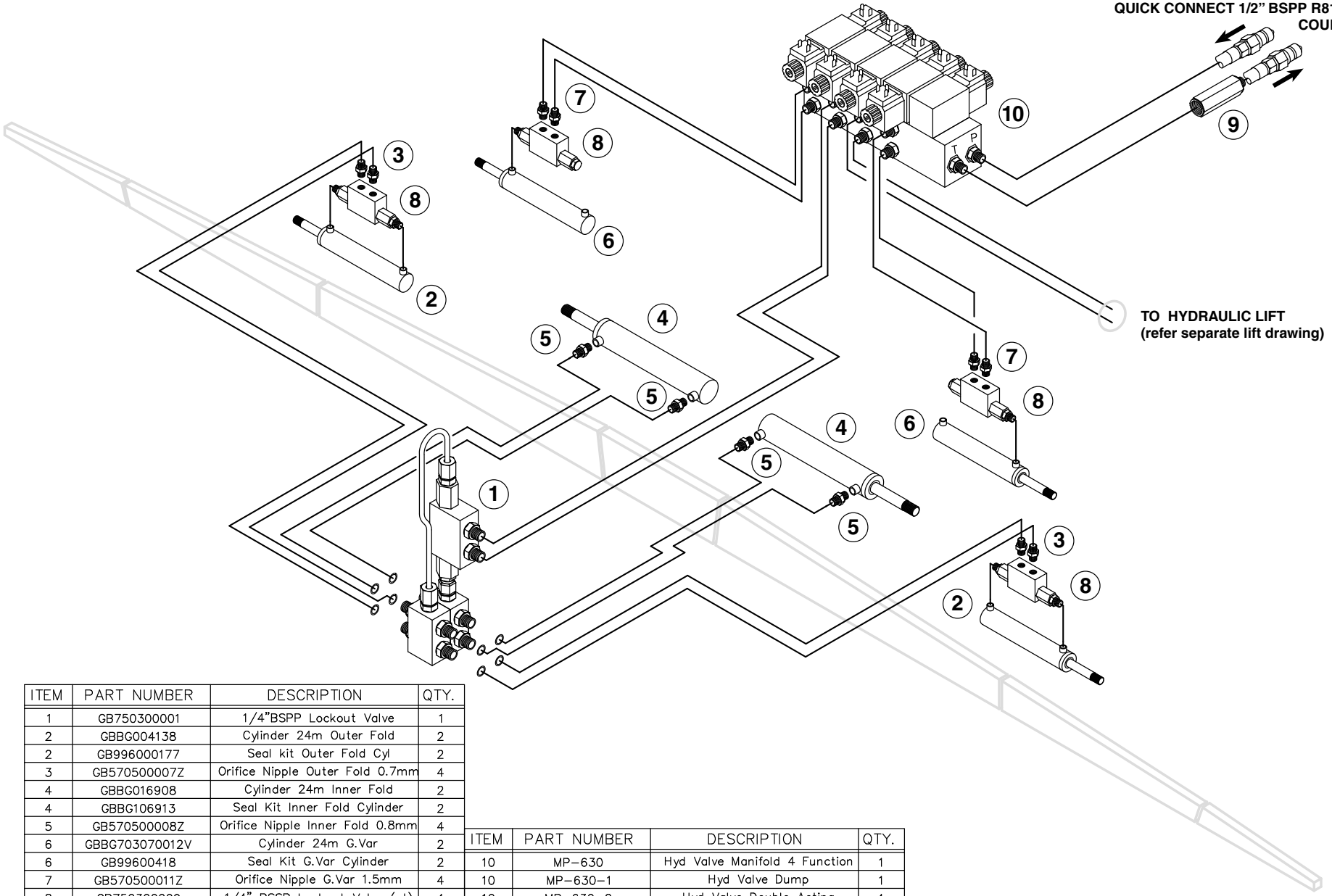



| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 3 |
| 2 | GBBG004138 | Cylinder 24m Outer Fold | 2 |
| 2 | GB996000177 | Seal Kit 24m Outer Fold Cyl | 2 |
| 3 | GB570500007Z | Orifice Nipple 0.7mm | 4 |
| 4 | GBBG016908 | Cylinder 24m Inner Fold | 4 |
| 4 | GBBG016913 | Seal Kit 24m Inner Fold Cyl | 4 |
| 5 | GB570500008Z | Orifice Nipple 0.8mm | 2 |
| 6 | GB750300009 | 1/4" BSPP Lockout Valve (ST) | 2 |



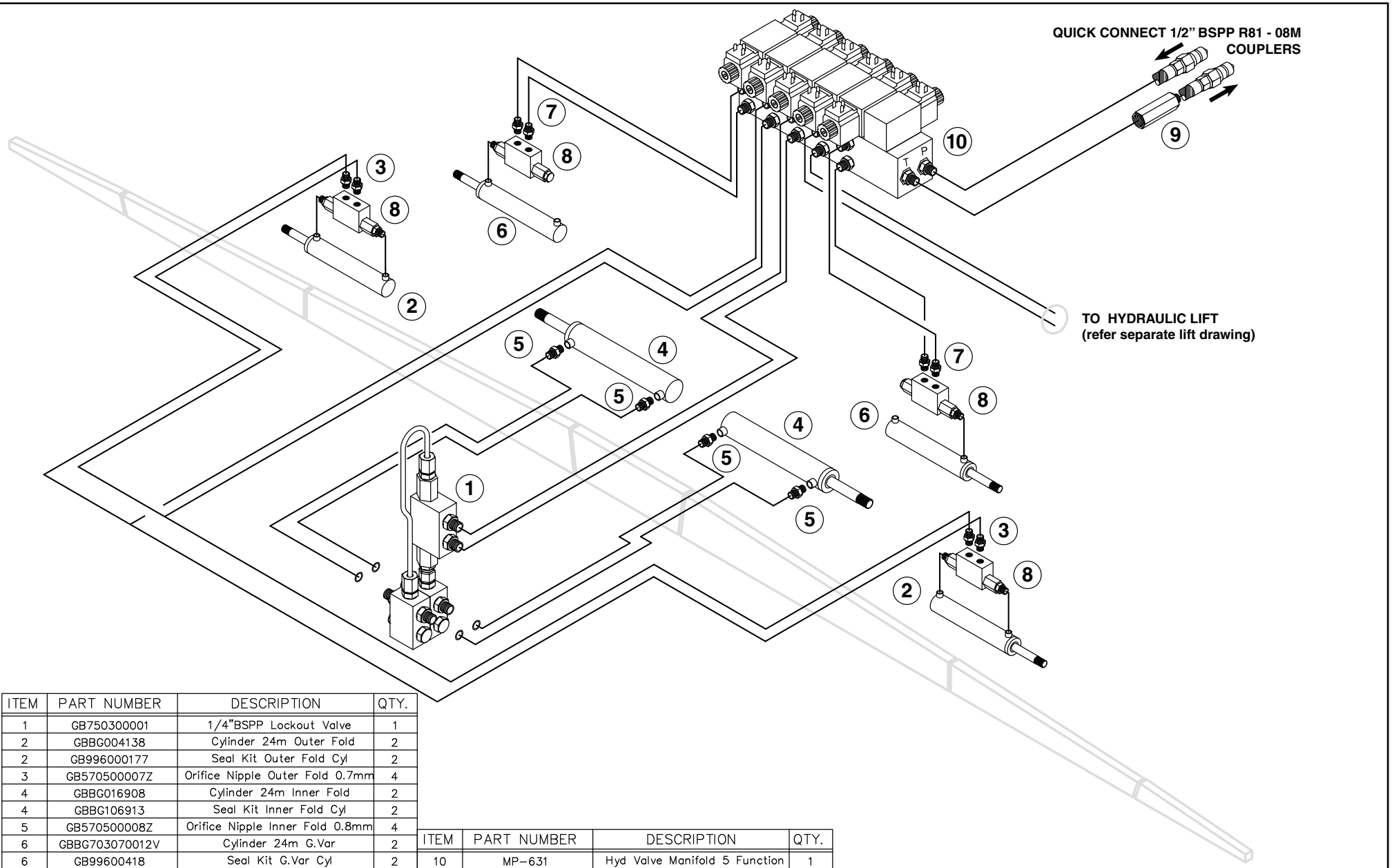

| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GBBG004138 | Cylinder 24m Outer Fold | 2 |
| 2 | GB996000177 | Seal Kit Outer Fold Cyl | 2 |
| 3 | GB570500007Z | Orifice Nipple 0.7mm | 4 |
| 4 | GBBG016908 | Cylinder 24m Inner Fold | 2 |
| 4 | GBBG016913 | Seal Kit Inner Fold Cyl | 2 |
| 5 | GB570500008Z | Orifice Nipple 0.8mm | 4 |
| 6 | GB750300009 | 1/4" BSPP Lockout Valve (ST) | 2 |
| 7 | MP-608B | 2 Function Divertor Valve | 1 |

# Hydraulic Plumbing Diagram - 24m Gvar




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GBBG004138 | Cylinder 24m Outer Fold | 2 |
| 2 | GB996000177 | Seal kit Outer Fold Cyl | 2 |
| 3 | GB570500007Z | Orifice Nipple Outer Fold 0.7mm | 4 |
| 4 | GBBG016908 | Cylinder 24m Inner Fold | 2 |
| 4 | GBBG106913 | Seal Kit Inner Fold Cylinder | 2 |
| 5 | GB570500008Z | Orifice Nipple Inner Fold 0.8mm | 4 |
| 6 | GBBG703070012V | Cylinder 24m G.Var | 2 |
| 6 | GB99600418 | Seal Kit G.Var Cylinder | 2 |
| 7 | GB570500011Z | Orifice Nipple G.Var 1.5mm | 4 |
| 8 | GB750300009 | 1/4" BSSP Lockout Valve (st) | 4 |
| 9 | RCV-0808 | 1/2"BSPP Inline Check Valve | 1 |

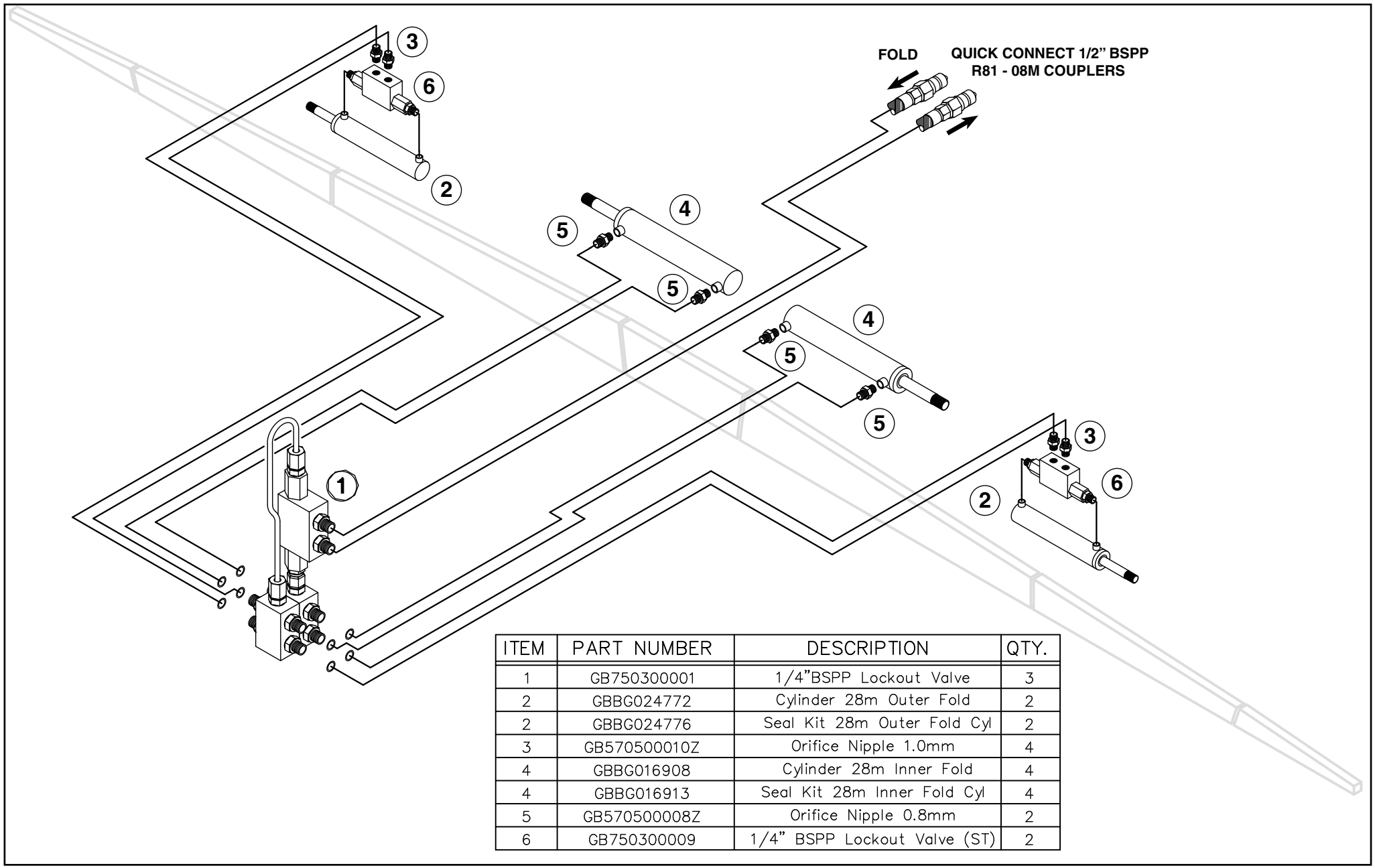
| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 10 | MP-630 | Hyd Valve Manifold 4 Function | 1 |
| 10 | MP-630-1 | Hyd Valve Dump | 1 |
| 10 | MP-630-2 | Hyd Valve Double Acting | 4 |
| 10 | MP-630-3 | Valve Coil 12v | 9 |




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GBBG004138 | Cylinder 24m Outer Fold | 2 |
| 2 | GB996000177 | Seal Kit Outer Fold Cyl | 2 |
| 3 | GB570500007Z | Orifice Nipple Outer Fold 0.7mm | 4 |
| 4 | GBBG016908 | Cylinder 24m Inner Fold | 2 |
| 4 | GBBG106913 | Seal Kit Inner Fold Cyl | 2 |
| 5 | GB570500008Z | Orifice Nipple Inner Fold 0.8mm | 4 |
| 6 | GBBG703070012V | Cylinder 24m G.Var | 2 |
| 6 | GB99600418 | Seal Kit G.Var Cyl | 2 |
| 7 | GB570500011Z | Orifice Nipple G.Var 1.5mm | 4 |
| 6 | GB750300009 | 1/4"BSPP Lockout Valve (st) | 4 |
| 9 | RCV-0808 | 1/2"BSPP Inline Check Valve | 1 |

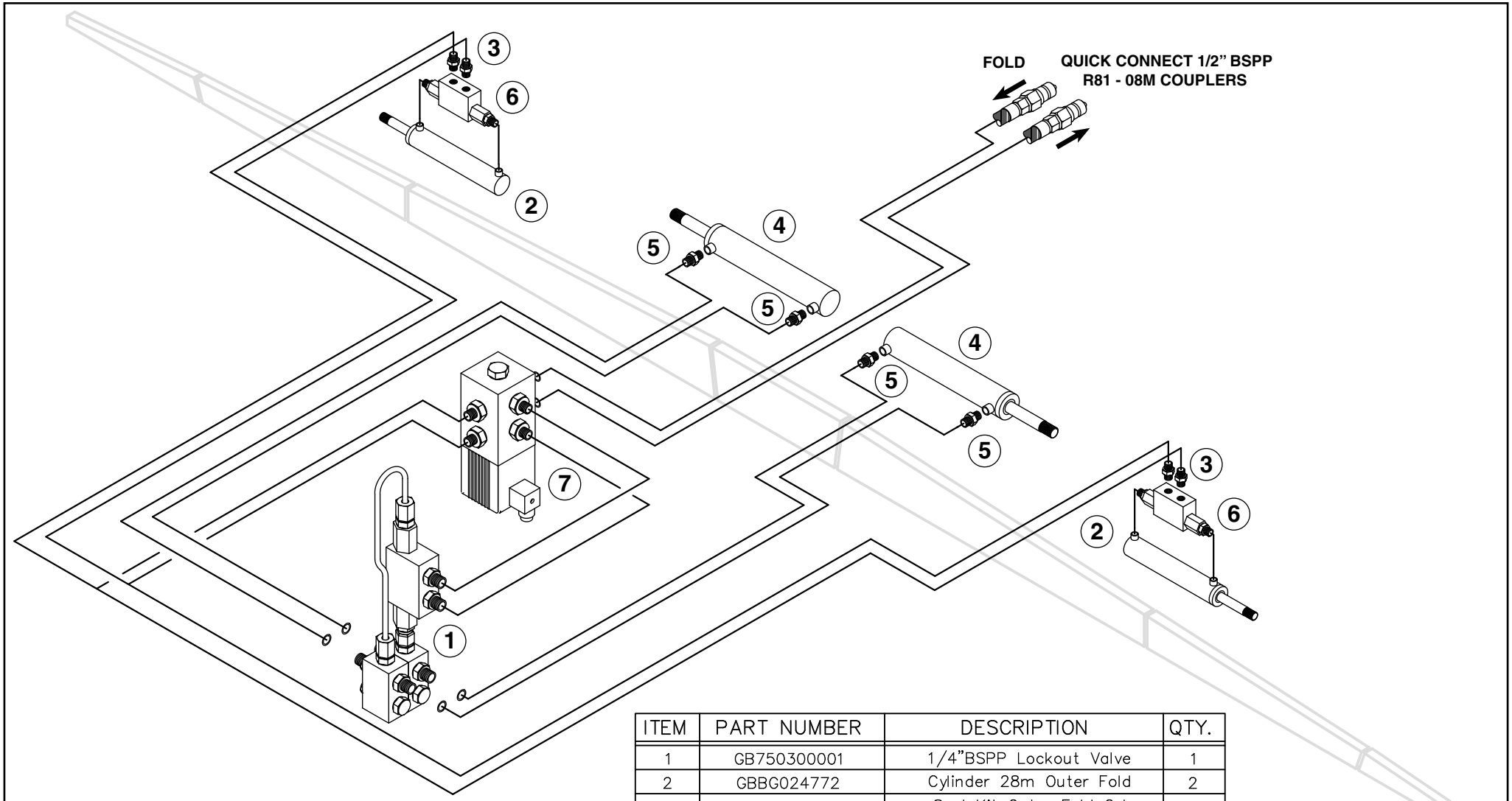
| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 10 | MP-631 | Hyd Valve Manifold 5 Function | 1 |
| 10 | MP-630-1 | Hyd Valve Dump | 1 |
| 10 | MP-630-2 | Hyd Valve Double Acting | 5 |
| 10 | MP-630-3 | Valve Coil 12V | 11 |

# Hydraulic Plumbing Diagram - 28m Standard Fold



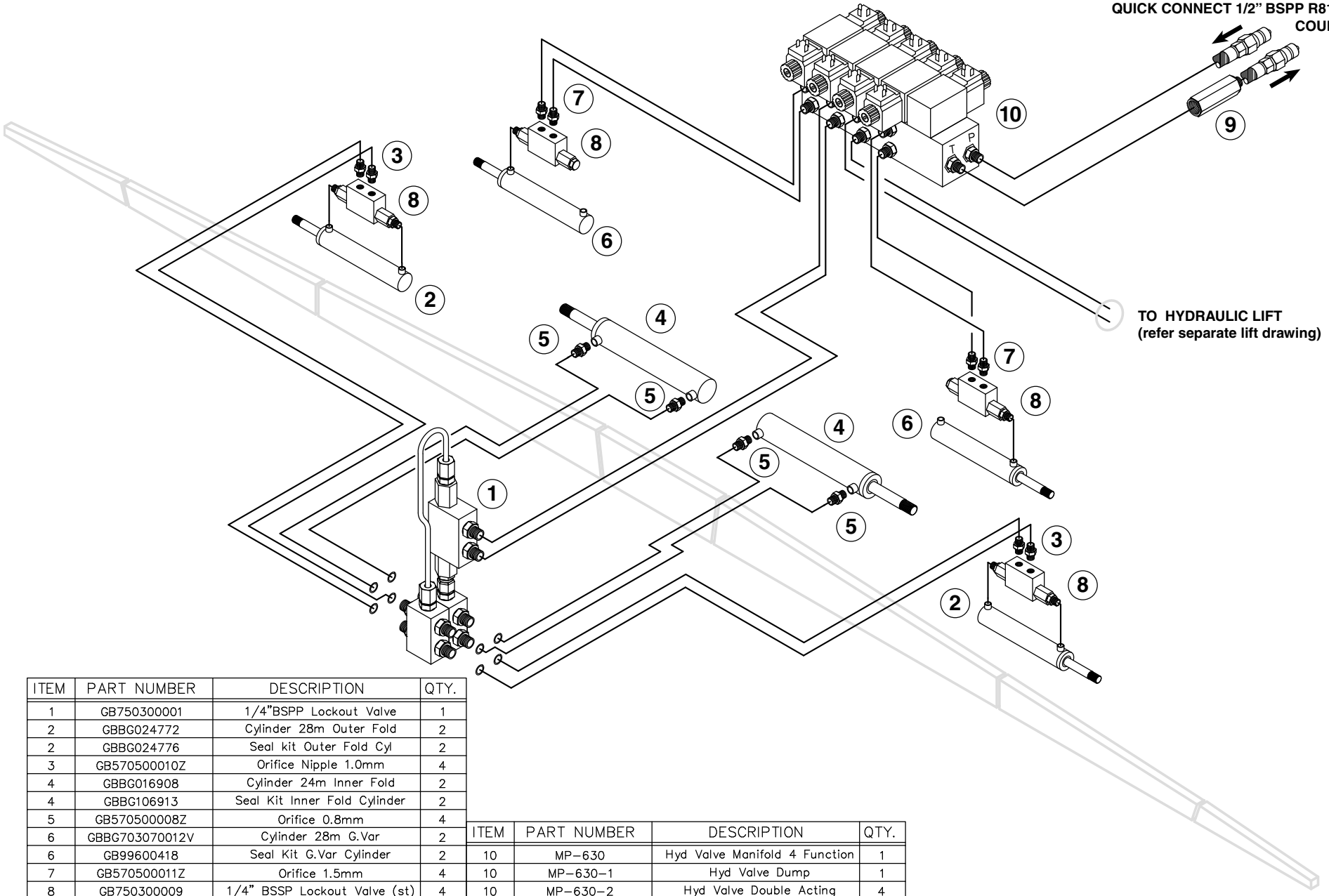

| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 3 |
| 2 | GBBG024772 | Cylinder 28m Outer Fold | 2 |
| 2 | GBBG024776 | Seal Kit 28m Outer Fold Cyl | 2 |
| 3 | GB570500010Z | Orifice Nipple 1.0mm | 4 |
| 4 | GBBG016908 | Cylinder 28m Inner Fold | 4 |
| 4 | GBBG016913 | Seal Kit 28m Inner Fold Cyl | 4 |
| 5 | GB570500008Z | Orifice Nipple 0.8mm | 2 |
| 6 | GB750300009 | 1/4" BSPP Lockout Valve (ST) | 2 |

# Hydraulic Plumbing Diagram - 28m OWF Assembly Drawings & Parts Listings




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GBBG024772 | Cylinder 28m Outer Fold | 2 |
| 2 | GBBG024776 | Seal Kit Outer Fold Cyl | 2 |
| 3 | GB570500010Z | Orifice Nipple 1.0mm | 4 |
| 4 | GBBG016908 | Cylinder 28m Inner Fold | 2 |
| 4 | GBBG016913 | Seal Kit Inner Fold Cyl | 2 |
| 5 | GB570500008Z | Orifice Nipple 0.8mm | 4 |
| 6 | GB750300009 | 1/4" BSPP Lockout Valve (ST) | 2 |
| 7 | MP-608B | 2 Function Divertor Valve | 1 |

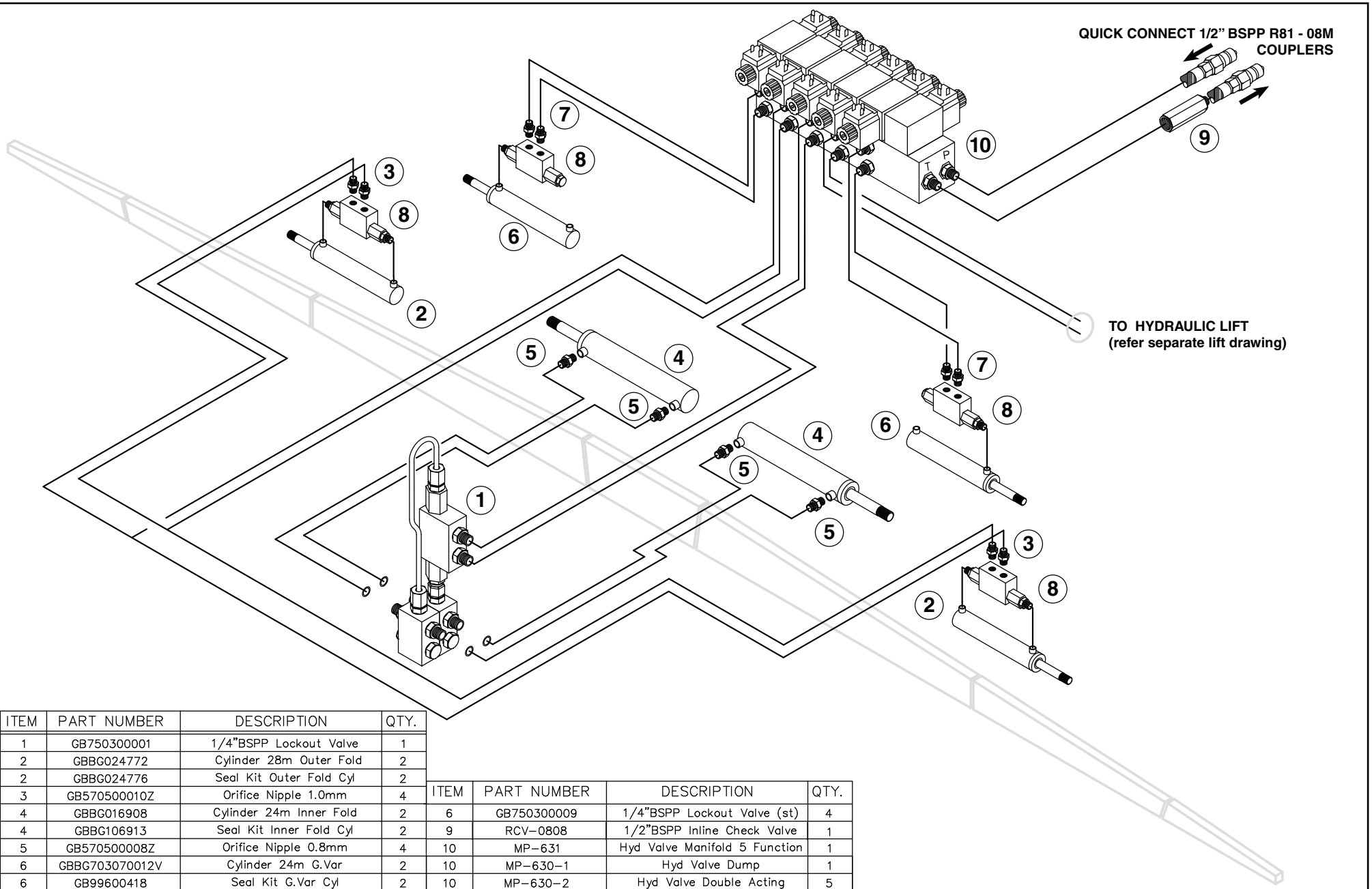
# Hydraulic Plumbing Diagram - 28m Gvar




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GBBG024772 | Cylinder 28m Outer Fold | 2 |
| 2 | GBBG024776 | Seal kit Outer Fold Cyl | 2 |
| 3 | GB570500010Z | Orifice Nipple 1.0mm | 4 |
| 4 | GBBG016908 | Cylinder 24m Inner Fold | 2 |
| 4 | GBBG106913 | Seal Kit Inner Fold Cylinder | 2 |
| 5 | GB570500008Z | Orifice 0.8mm | 4 |
| 6 | GBBG703070012V | Cylinder 28m G.Var | 2 |
| 6 | GB99600418 | Seal Kit G.Var Cylinder | 2 |
| 7 | GB570500011Z | Orifice 1.5mm | 4 |
| 8 | GB750300009 | 1/4" BSSP Lockout Valve (st) | 4 |
| 9 | RCV-0808 | 1/2"BSPP Inline Check Valve | 1 |

| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 10 | MP-630 | Hyd Valve Manifold 4 Function | 1 |
| 10 | MP-630-1 | Hyd Valve Dump | 1 |
| 10 | MP-630-2 | Hyd Valve Double Acting | 4 |
| 10 | MP-630-3 | Valve Coil 12v | 9 |

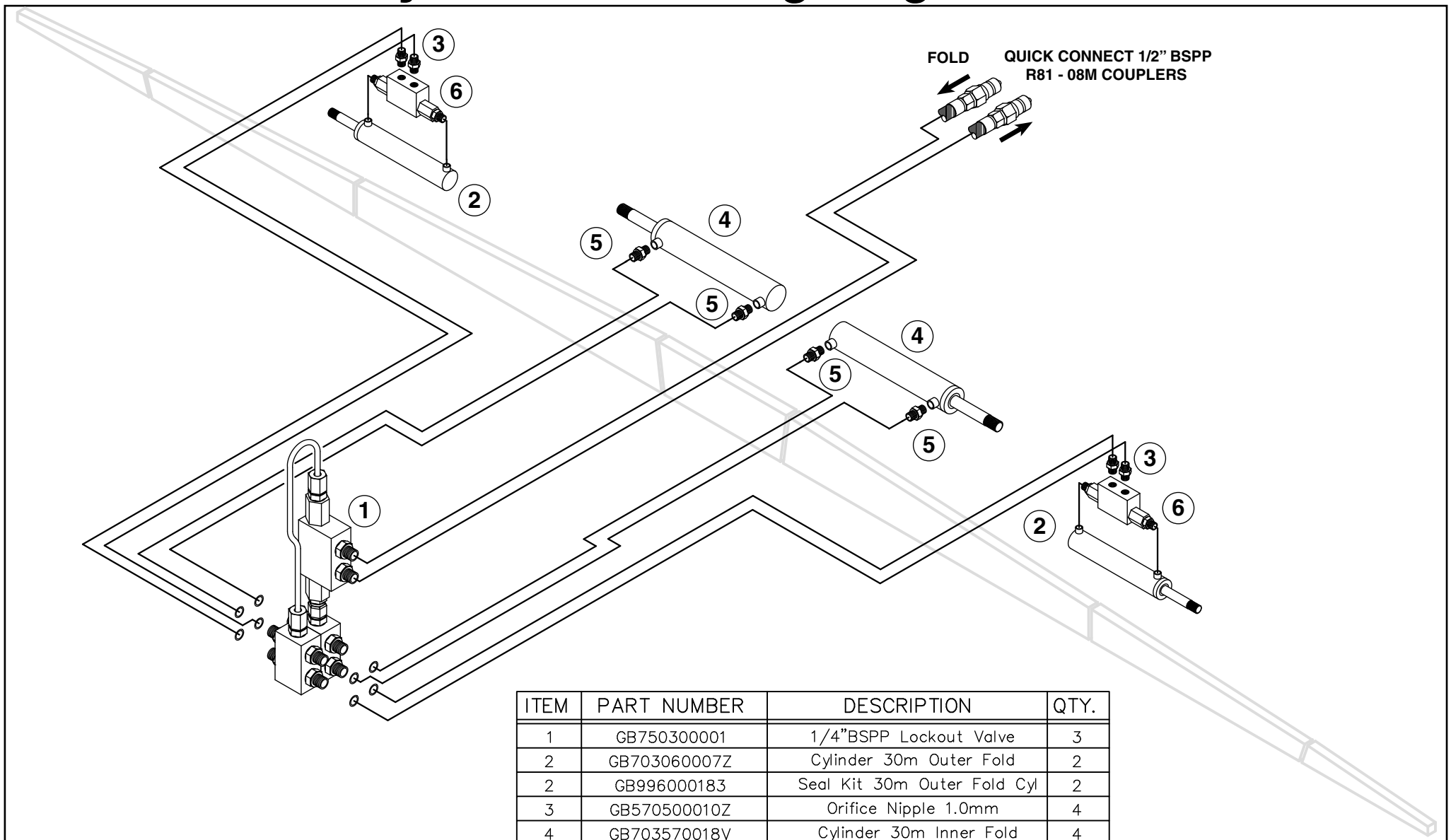
# Hydraulic Plumbing Diagram - 28m Gvar & OWF




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GBBG024772 | Cylinder 28m Outer Fold | 2 |
| 2 | GBBG024776 | Seal Kit Outer Fold Cyl | 2 |
| 3 | GB570500010Z | Orifice Nipple 1.0mm | 4 |
| 4 | GBBG016908 | Cylinder 24m Inner Fold | 2 |
| 4 | GBBG106913 | Seal Kit Inner Fold Cyl | 2 |
| 5 | GB570500008Z | Orifice Nipple 0.8mm | 4 |
| 6 | GBBG703070012V | Cylinder 24m G.Var | 2 |
| 6 | GB99600418 | Seal Kit G.Var Cyl | 2 |
| 7 | GB570500011Z | Orifice Nipple 1.5mm | 4 |

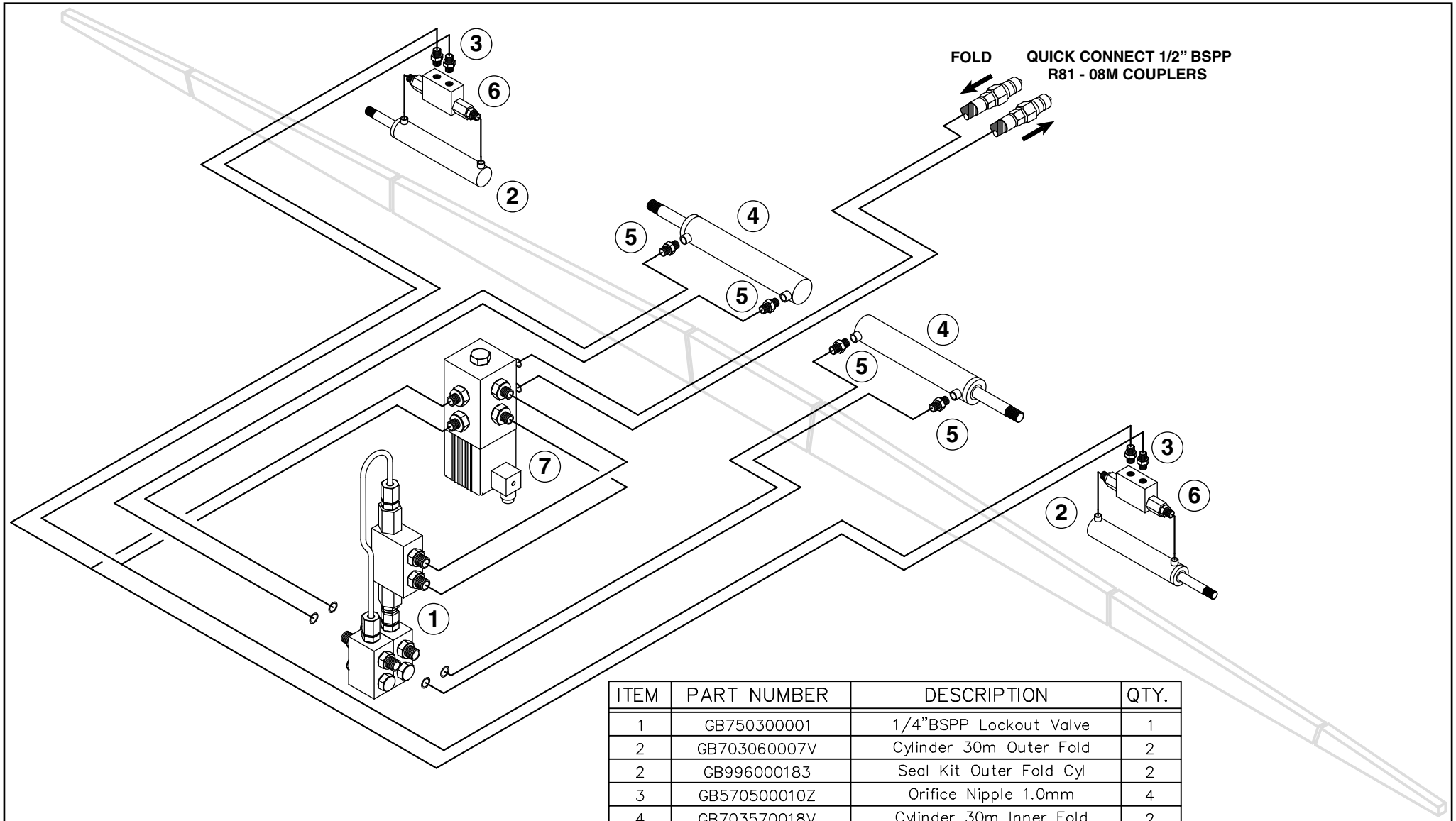
| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 6 | GB750300009 | 1/4"BSPP Lockout Valve (st) | 4 |
| 9 | RCV-0808 | 1/2"BSPP Inline Check Valve | 1 |
| 10 | MP-631 | Hyd Valve Manifold 5 Function | 1 |
| 10 | MP-630-1 | Hyd Valve Dump | 1 |
| 10 | MP-630-2 | Hyd Valve Double Acting | 5 |
| 10 | MP-630-3 | Valve Coil 12V | 11 |

# Hydraulic Plumbing Diagram - 30m Standard Fold



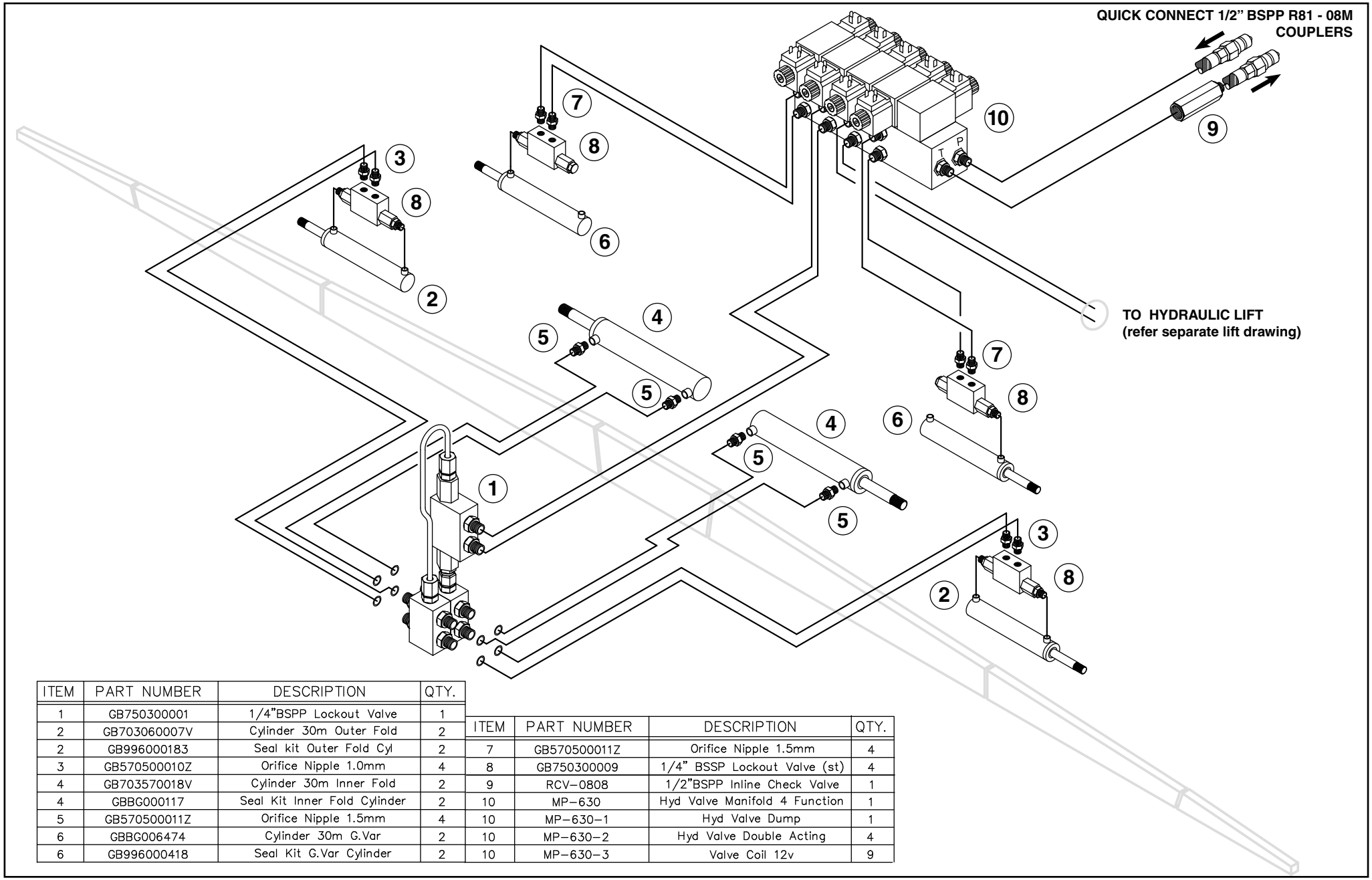

| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 3 |
| 2 | GB703060007Z | Cylinder 30m Outer Fold | 2 |
| 2 | GB996000183 | Seal Kit 30m Outer Fold Cyl | 2 |
| 3 | GB570500010Z | Orifice Nipple 1.0mm | 4 |
| 4 | GB703570018V | Cylinder 30m Inner Fold | 4 |
| 4 | GBBG000117 | Seal Kit 30m Inner Fold Cyl | 4 |
| 5 | GB570500011Z | Orifice Nipple 1.5mm | 2 |
| 6 | GB750300009 | 1/4" BSPP Lockout Valve (ST) | 2 |

# Hydraulic Plumbing Diagram - 30m OWF




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GB703060007V | Cylinder 30m Outer Fold | 2 |
| 2 | GB996000183 | Seal Kit Outer Fold Cyl | 2 |
| 3 | GB570500010Z | Orifice Nipple 1.0mm | 4 |
| 4 | GB703570018V | Cylinder 30m Inner Fold | 2 |
| 4 | GBBG000117 | Seal Kit Inner Fold Cyl | 2 |
| 5 | GB570500011Z | Orifice Nipple 1.5mm | 4 |
| 6 | GB750300009 | 1/4" BSPP Lockout Valve (ST) | 2 |
| 7 | MP-608B | 2 Function Divertor Valve | 1 |

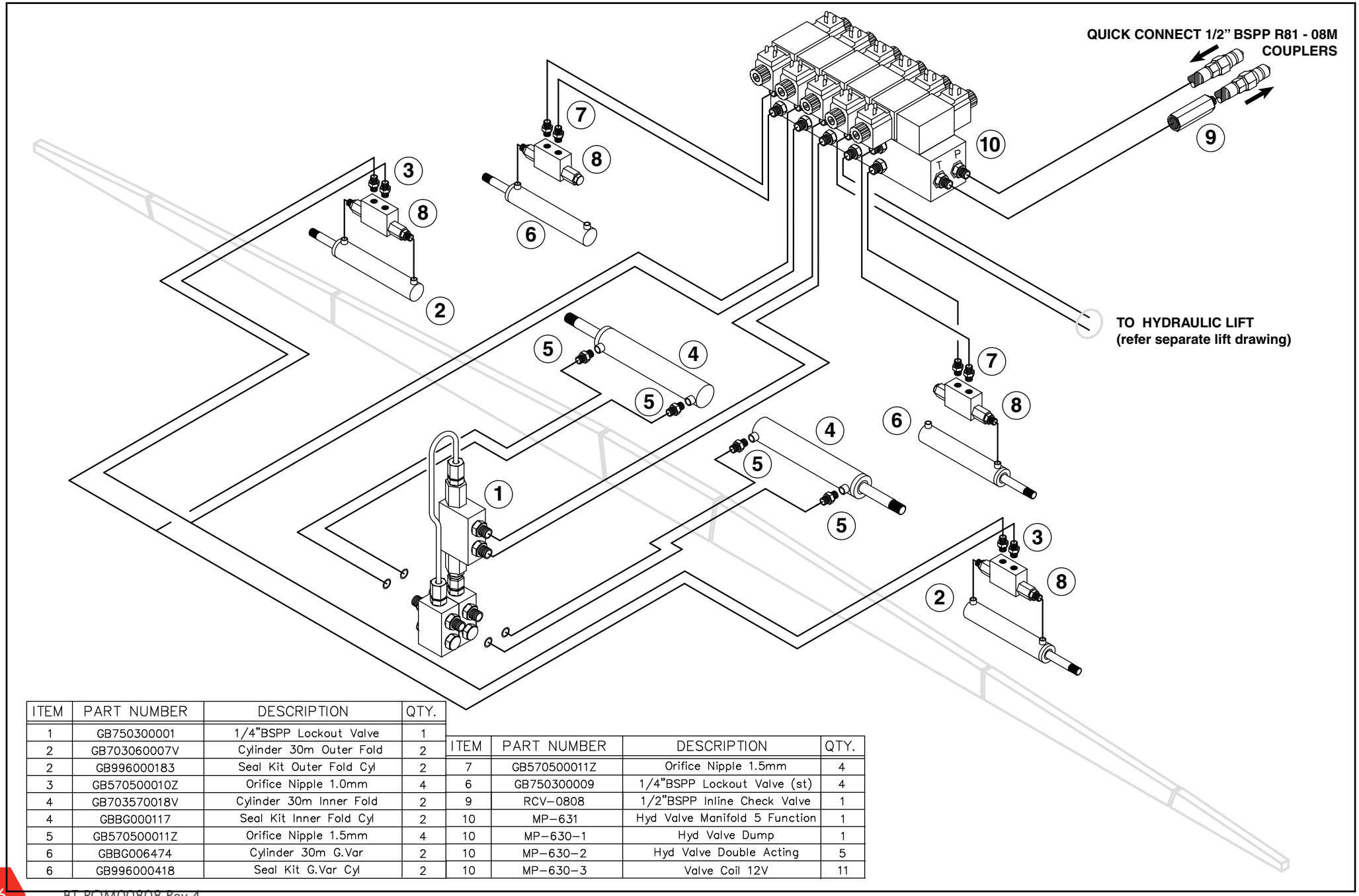
# Hydraulic Plumbing Diagram - 30m Gvar




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GB703060007V | Cylinder 30m Outer Fold | 2 |
| 2 | GB996000183 | Seal kit Outer Fold Cyl | 2 |
| 3 | GB570500010Z | Orifice Nipple 1.0mm | 4 |
| 4 | GB703570018V | Cylinder 30m Inner Fold | 2 |
| 4 | GBBG000117 | Seal Kit Inner Fold Cylinder | 2 |
| 5 | GB570500011Z | Orifice Nipple 1.5mm | 4 |
| 6 | GBBG006474 | Cylinder 30m G.Var | 2 |
| 6 | GB996000418 | Seal Kit G.Var Cylinder | 2 |

| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 7 | GB570500011Z | Orifice Nipple 1.5mm | 4 |
| 8 | GB750300009 | 1/4" BSSP Lockout Valve (st) | 4 |
| 9 | RCV-0808 | 1/2"BSPP Inline Check Valve | 1 |
| 10 | MP-630 | Hyd Valve Manifold 4 Function | 1 |
| 10 | MP-630-1 | Hyd Valve Dump | 1 |
| 10 | MP-630-2 | Hyd Valve Double Acting | 4 |
| 10 | MP-630-3 | Valve Coil 12v | 9 |

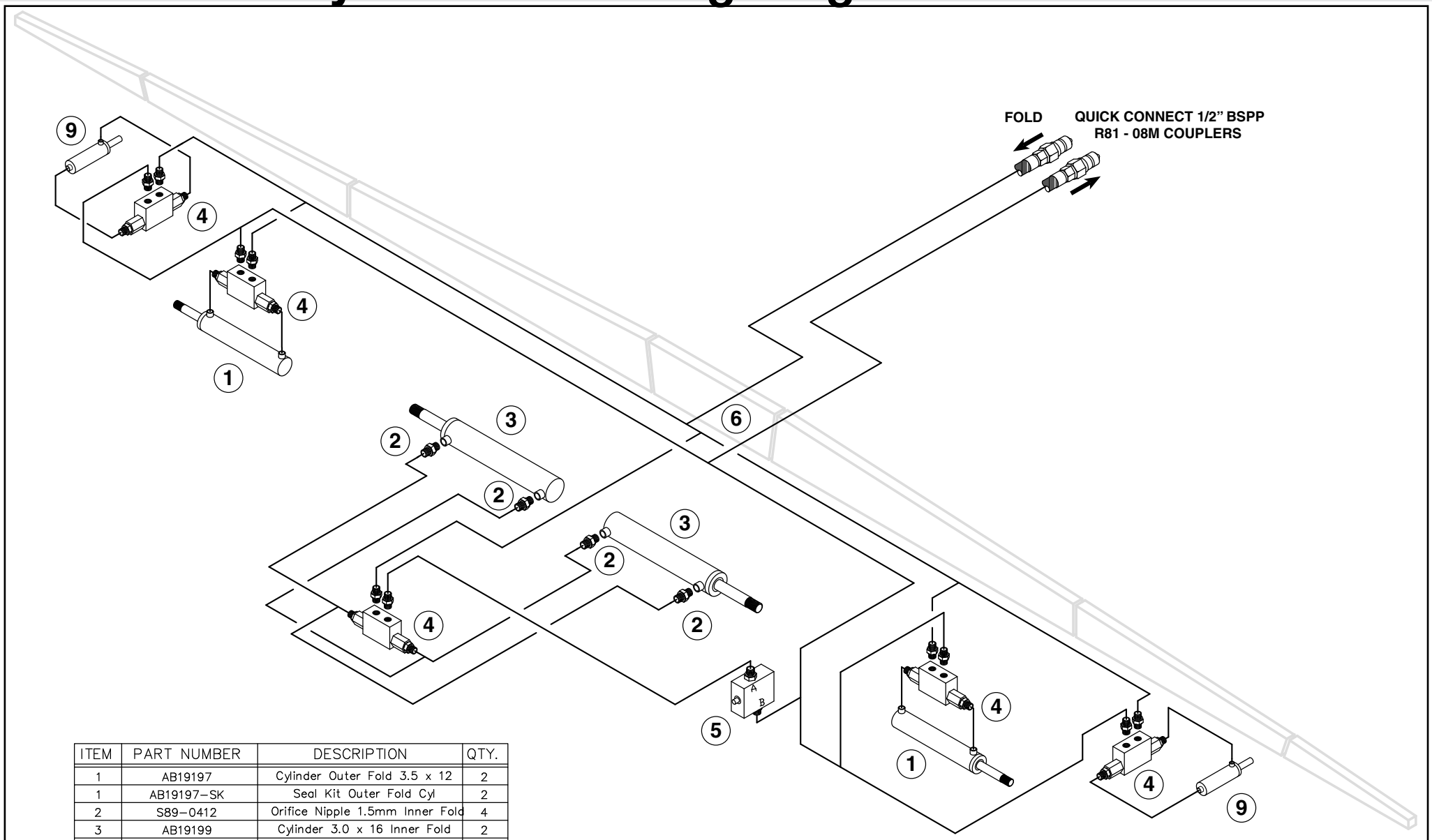
# Hydraulic Plumbing Diagram - 30m Gvar & OWF




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | GB750300001 | 1/4"BSPP Lockout Valve | 1 |
| 2 | GB703060007V | Cylinder 30m Outer Fold | 2 |
| 2 | GB996000183 | Seal Kit Outer Fold Cyl | 2 |
| 3 | GB570500010Z | Orifice Nipple 1.0mm | 4 |
| 4 | GB703570018V | Cylinder 30m Inner Fold | 2 |
| 4 | GBBG000117 | Seal Kit Inner Fold Cyl | 2 |
| 5 | GB570500011Z | Orifice Nipple 1.5mm | 4 |
| 6 | GBBG006474 | Cylinder 30m G.Var | 2 |
| 6 | GB996000418 | Seal Kit G.Var Cyl | 2 |

| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 7 | GB570500011Z | Orifice Nipple 1.5mm | 4 |
| 6 | GB750300009 | 1/4"BSPP Lockout Valve (st) | 4 |
| 9 | RCV-0808 | 1/2"BSPP Inline Check Valve | 1 |
| 10 | MP-631 | Hyd Valve Manifold 5 Function | 1 |
| 10 | MP-630-1 | Hyd Valve Dump | 1 |
| 10 | MP-630-2 | Hyd Valve Double Acting | 5 |
| 10 | MP-630-3 | Valve Coil 12V | 11 |

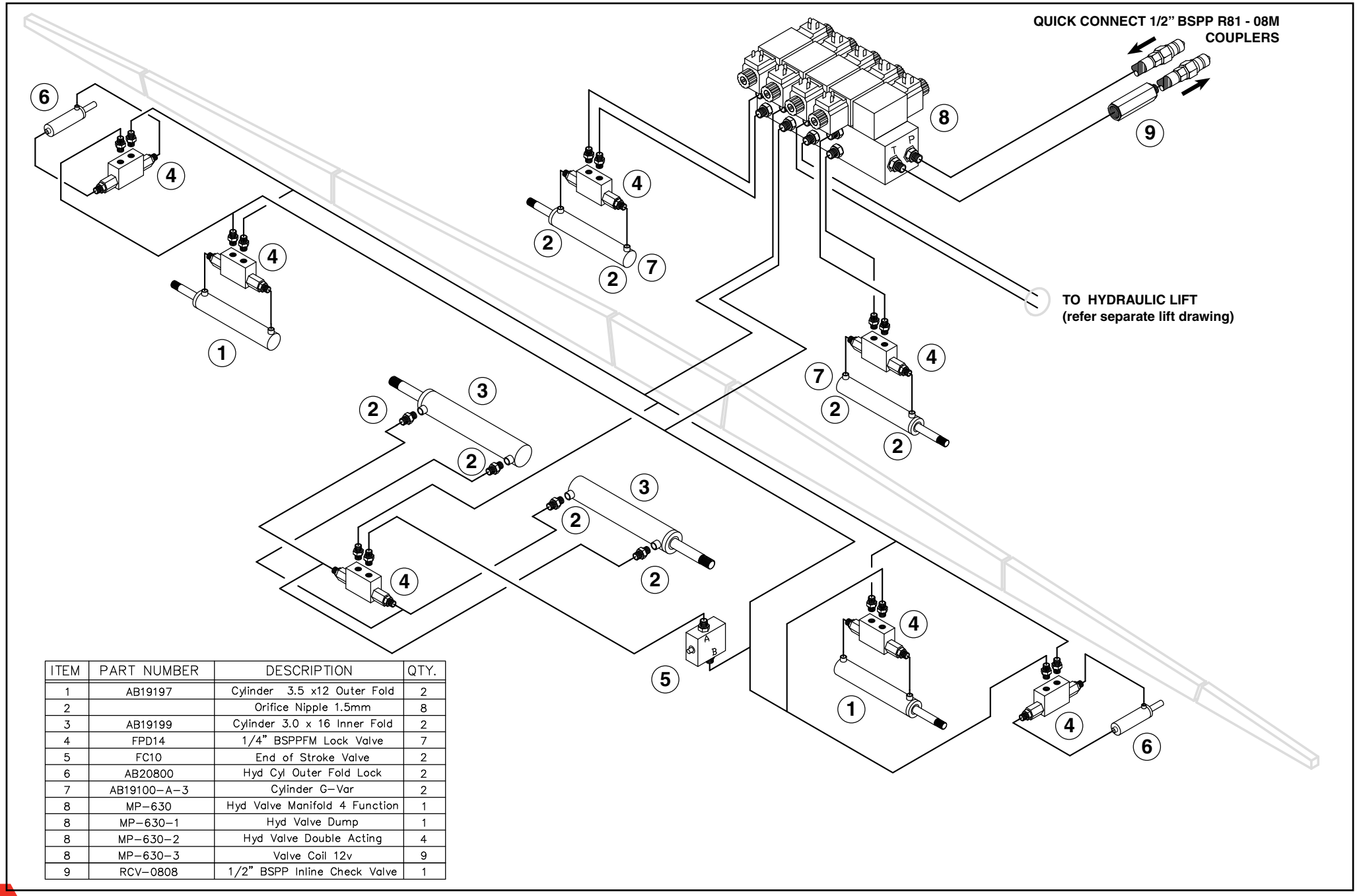
# Hydraulic Plumbing Diagram - 33/36m Standard Fold




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | AB19197 | Cylinder Outer Fold 3.5 x 12 | 2 |
| 1 | AB19197-SK | Seal Kit Outer Fold Cyl | 2 |
| 2 | S89-0412 | Orifice Nipple 1.5mm Inner Fold | 4 |
| 3 | AB19199 | Cylinder 3.0 x 16 Inner Fold | 2 |
| 3 | AB19199-SK | Seak Kit Inner Fold Cyl | 2 |
| 4 | FPD14 | 1/4"BSPPFM Lock Valve | 5 |
| 5 | FC10 | End of Stroke Valve | 1 |
| 6 | S44-0606 | Bulkhead Nipple | 2 |
| 7 | AB20800 | Hyd Cylinder Outer Fold Lock | 2 |

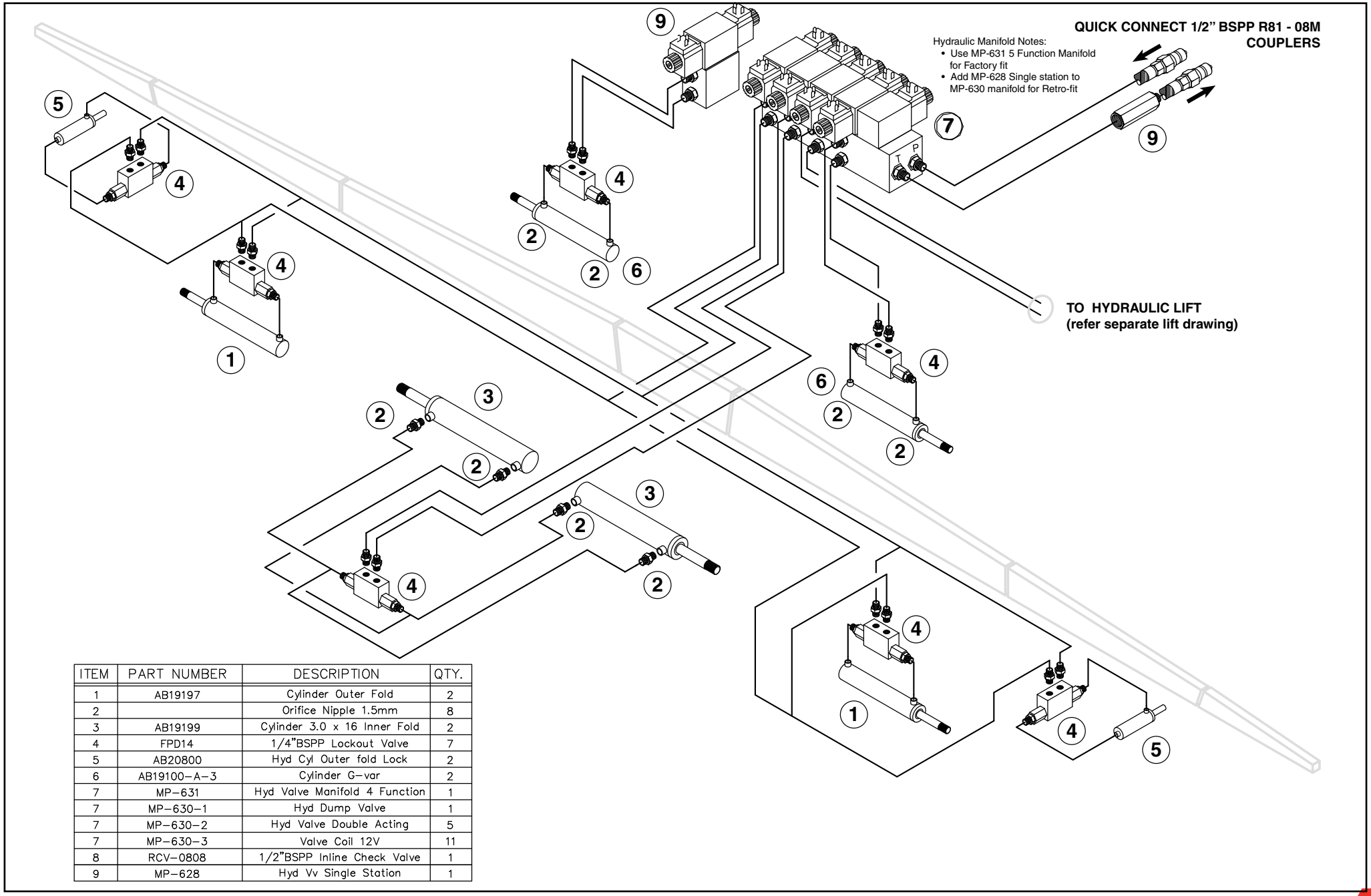
# Hydraulic Plumbing Diagram - 33/36m Gvar



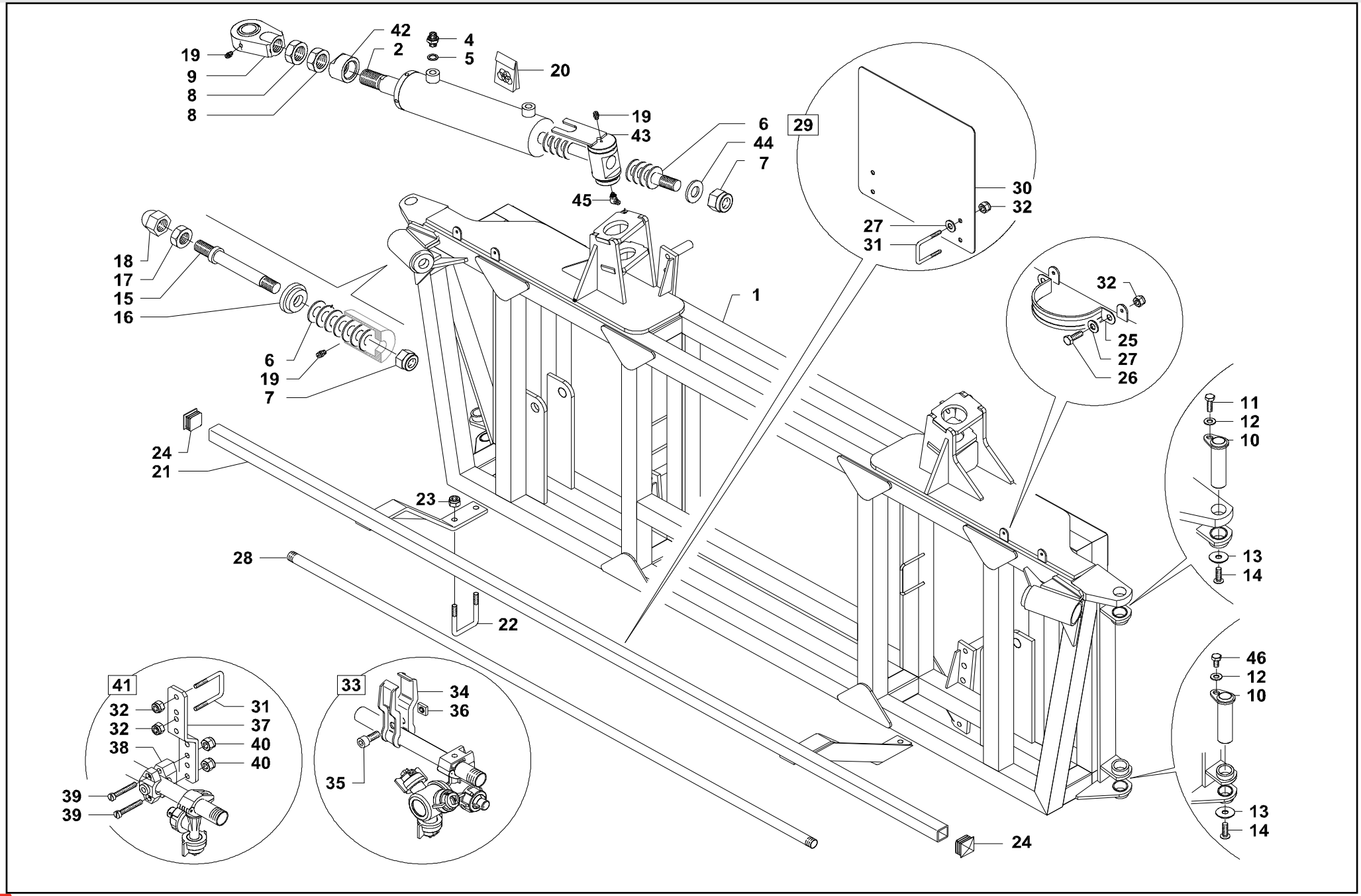



| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | AB19197 | Cylinder 3.5 x12 Outer Fold | 2 |
| 2 | | Orifice Nipple 1.5mm | 8 |
| 3 | AB19199 | Cylinder 3.0 x 16 Inner Fold | 2 |
| 4 | FPD14 | 1/4" BSPPFM Lock Valve | 7 |
| 5 | FC10 | End of Stroke Valve | 2 |
| 6 | AB20800 | Hyd Cyl Outer Fold Lock | 2 |
| 7 | AB19100-A-3 | Cylinder G-Var | 2 |
| 8 | MP-630 | Hyd Valve Manifold 4 Function | 1 |
| 8 | MP-630-1 | Hyd Valve Dump | 1 |
| 8 | MP-630-2 | Hyd Valve Double Acting | 4 |
| 8 | MP-630-3 | Valve Coil 12v | 9 |
| 9 | RCV-0808 | 1/2" BSPP Inline Check Valve | 1 |

# Hydraulic Plumbing Diagram - 33/36m Gvar & OWF




| ITEM | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | AB19197 | Cylinder Outer Fold | 2 |
| 2 | | Orifice Nipple 1.5mm | 8 |
| 3 | AB19199 | Cylinder 3.0 x 16 Inner Fold | 2 |
| 4 | FPD14 | 1/4"BSPP Lockout Valve | 7 |
| 5 | AB20800 | Hyd Cyl Outer fold Lock | 2 |
| 6 | AB19100-A-3 | Cylinder G-var | 2 |
| 7 | MP-631 | Hyd Valve Manifold 4 Function | 1 |
| 7 | MP-630-1 | Hyd Dump Valve | 1 |
| 7 | MP-630-2 | Hyd Valve Double Acting | 5 |
| 7 | MP-630-3 | Valve Coil 12V | 11 |
| 8 | RCV-0808 | 1/2"BSPP Inline Check Valve | 1 |
| 9 | MP-628 | Hyd Vv Single Station | 1 |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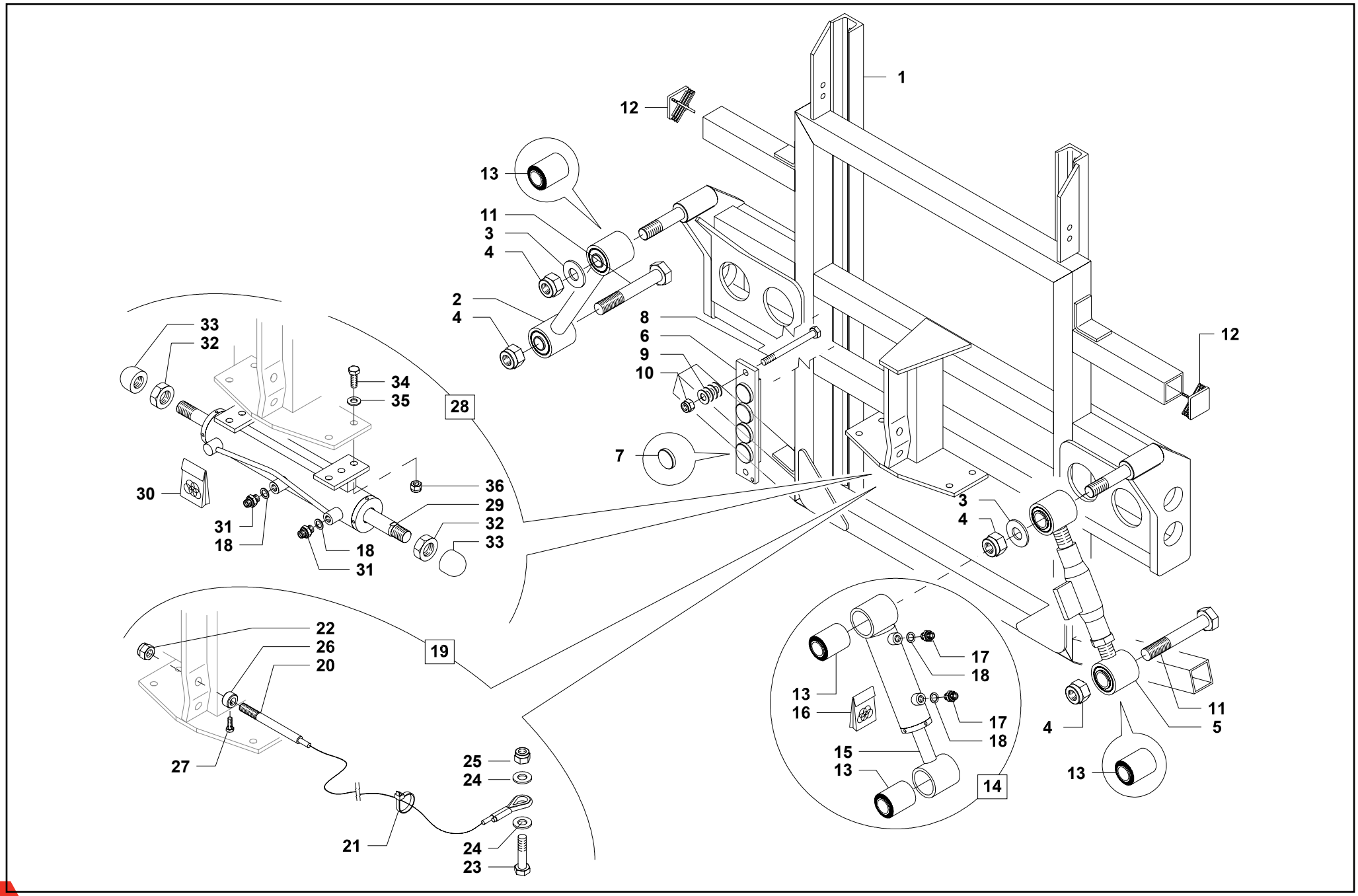
# GBCOMPL-24/28CA - Centre Section 24/28m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *1* | *GBBG027334* | *24/28m CENTRE SECTION* | *1* |
| 2 | GBBG016908 | Inner Fold Ram 24/28m | 2 |
| 4 | GB570500008Z | 1/4" NIPPLE 0.8 ORIFICE | 4 |
| *5* | *GBBG50243113* | *COPPER WASHER* | *4* |
| 6 | GB912550B30 | BELLVILLE WASHER 25mm | 156 |
| 7 | GB905400024 | M24 NYLOC NUT (ZINC) | 4 |
| 8 | GB905220027Z | M27 PLAIN NUT (ZINC) | 2 |
| 9 | GB920100043Z | M27 BALL JOINT | 2 |
| 10 | GBBG000024 | PIN | 4 |
| 11 | GB900110025Z | M10 x 20mm BOLT (ZINC) | 4 |
| 12 | GB907200010Z | 10mm SPRING WASHER | 4 |
| 13 | GB500400004Z | COUNTERSUNK WASHER | 4 |
| 14 | GB900710025Z | COUNTERSUNK SCREW | 4 |
| 15 | GB500100060Z | DAMPNER SHAFT | 2 |
| 16 | GB500400009Z | DAMPNER RETAINER WASHER | 2 |
| 17 | GB905200024Z | M24 PLAIN NUT (ZINC) | 2 |
| 18 | MP-599 | M24 DOME NUT | 2 |
| *19* | *GB919800020* | *GREASE NIPPLE* | *4* |
| 20 | GBBG016913 | SEAL KIT | 2 |
| 21 | GB201800415V | C/SEC RAIL MOUNT BRACKET | 1 |
| 22 | GB500500002Z | U BOLT | 2 |
| *23* | *GB905300010* | *M10 NYLOC NUT (ZINC)* | *4* |
| 24 | GB950130030 | END CAP | 2 |
| *25* | *GB950200059* | *CABLE RETAINER* | *2* |
| *26* | *GB900106016Z* | *M6 x 16mm BOLT (ZINC) 8.8* | *2* |
| *27* | *GB907106018Z* | *M6 x 18mm WASHER (ZINC)* | *10* |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 28 | GB550500500 | 5 HOLE SPRAY RAIL | 1 |
| *29* | *GB999900467* | *WARNING LABEL PLATE KIT* | *1* |
| *30* | *GB201800065V* | *WARNING PLATE* | *1* |
| *31* | *GB50050004Z* | *M6 U BOLT* | *5* |
| *32* | *GB905300006* | *M6 NYLOC NUT (ZINC)* | *18* |
| 33 | N/A | | |
| 34 | N/A | | |
| 35 | N/A | | |
| 36 | N/A | | |
| *37* | *GB201800418V* | *SPRAY TUBE BRACKET* | *3* |
| 38 | A425130 | SPRAY TUBE 2 PIECE CLAMP | 3 |
| *39* | *GB904506040X* | *M6 x 40mm SCREW STAINLESS* | *6* |
| *40* | *GB905400006X* | *M6 NYLOC NUT STAINLESS* | |
| 41 | GB999900100 | SPRAY TUBE MOUNTING KIT | 3 |
| 42 | GB500300030V | Spacer Nut | 2 |
| 43 | GBB027333 | Cylinder Swivel Mount | 2 |
| 44 | GB907025044Z | Washer | 2 |
| 45 | GB919800023 | Grease Nipple 45 degree | 2 |
| 46 | GB900110014Z | Stud M10 | 2 |

**NOTE**

***Parts in italics are non-stock items and may need to be ordered.***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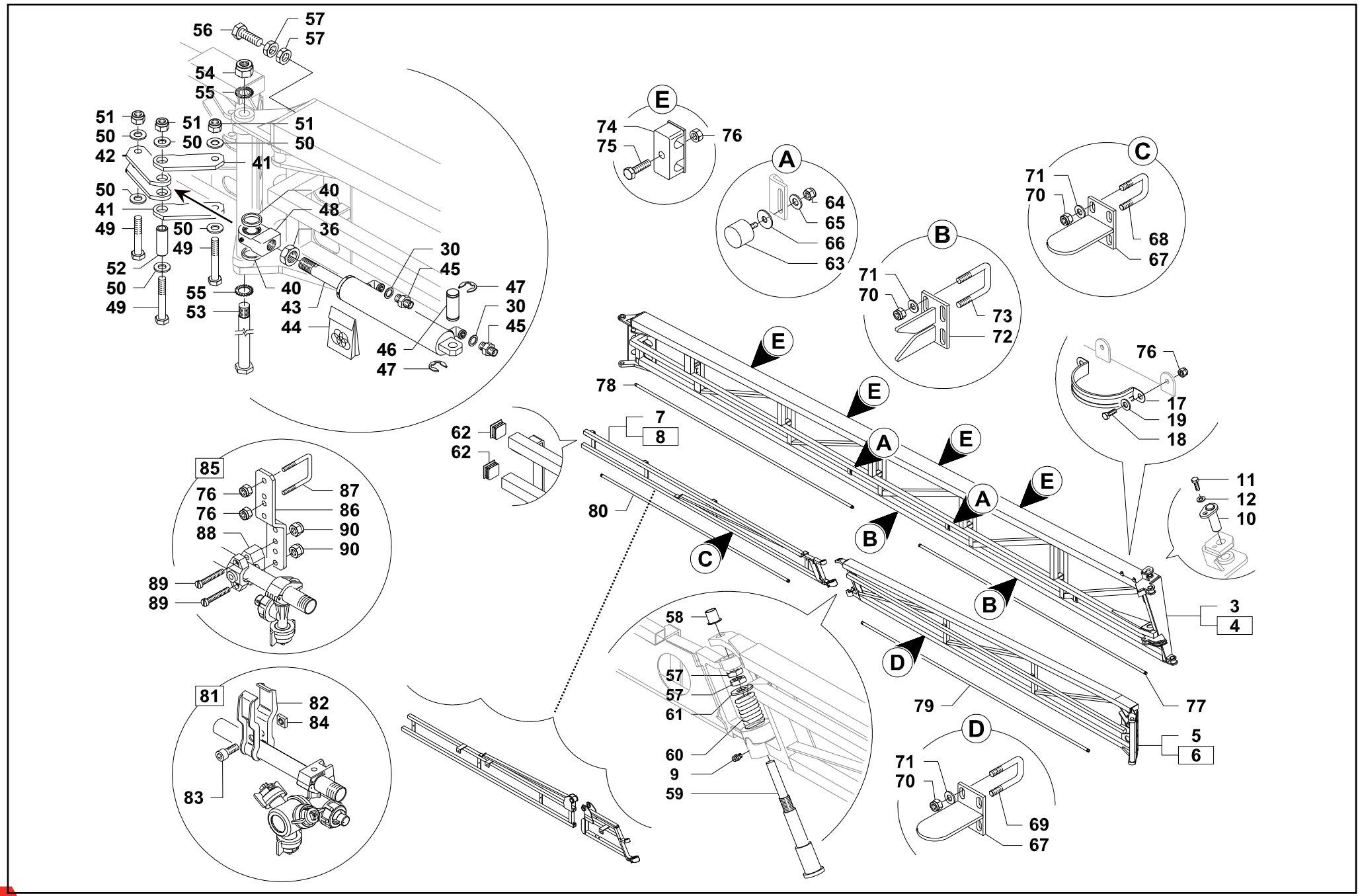
# GBCOMPL-24/28CA - Centre Section 24/28m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | GB382000023V | MAIN LEVELLING FRAME | 1 |
| 2 | GB993806001V | TIE ROD ASSY. | 1 |
| 3 | GB500400019Z | M24 WASHER (ZINC) | 2 |
| 4 | GB905400024 | M24 NYLOC NUT (ZINC) | 4 |
| 5 | GB993806002Z | TIE ROD ADJUSTABLE ASSY. | 1 |
| 6 | GB993806003V | WEAR PAD ASSY. | 8 |
| 7 | GB950200020 | NYLON WEAR DISC | 32 |
| *8* | *GB900312100Z* | *M12 x 90mm BOLT (ZINC) 8.8* | *4* |
| *9* | *GB911225915* | *M12 WASHER (ZINC)* | *12* |
| *10* | *GB905400012* | *M12 NYLOC NUT (ZINC)* | *4* |
| *11* | *GB900324130Z* | *M24 x 130mm BOLT (ZINC) 8.8* | *2* |
| *12* | *GB950150050* | *END CAP* | *4* |
| 13 | GB950300004 | FLEXIBLE BUSH | 4 |
| 14 | GB907000015 | TILT RAM ASSY. KIT | 1 |
| 15 | GB702550031V | TILT RAM | 1 |
| *16* | *GB996000192* | *SEAL KIT* | *1* |
| 17 | GB570500007Z | 1/4” NIPPLE 0.7 ORIFICE | 2 |
| 18 | GB600500001 | COPPER WASHER 1/4” | 4 |
| *19* | *GB993802005* | *STRAINER CABLE ASSY. KIT* | *2* |
| 20 | GB500700069 | STRAINER CABLE | 2 |
| *21* | *GB919700120* | *CABLE TIE* | *2* |
| *22* | *GB905415014* | *M14 NUT FINE THREAD (x1.5)* | *2* |
| *23* | *GB900314060Z* | *M14 x 60mm BOLT (ZINC) 8.8* | *2* |
| 24 | GB907014028Z | M14 WASHER (ZINC) | 4 |
| *25* | *GB905300014* | *M14 NYLOC NUT (ZINC)* | *2* |
| *26* | *GB919800061Z* | *LOCKING COLLAR* | *2* |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *27* | *GB900106010Z* | *M6 x 20 BOLT (ZINC)* | *2* |
| 28 | GB997000018 | LOCK RAM ASSY COMPLETE | 1 |
| *29* | *GB702550023V* | *LOCKING RAM* | *1* |
| *30* | *GB996000179* | *SEAL KIT* | *1* |
| 31 | GB570500011Z | 1/4” NIPPLE 1.5 ORIFICE | 2 |
| 32 | GB905200022Z | M22 NUT | 2 |
| 33 | GB501100007 | LOCKING RAM END PIECE | 2 |
| *34* | *GB905100035Z* | *M12 x 35mm BOLT (ZINC) 8.8* | *4* |
| *35* | *GB907010021Z* | *M12 WASHER (ZINC)* | *8* |
| *36* | *GBBG002074* | *M12 NYLOC NUT (ZINC)* | *4* |

**NOTE**

***Parts in italics are non-stock items and may need to be ordered.***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# GBCOMPL-245-LH or RH - Boom Non Gvar 24m

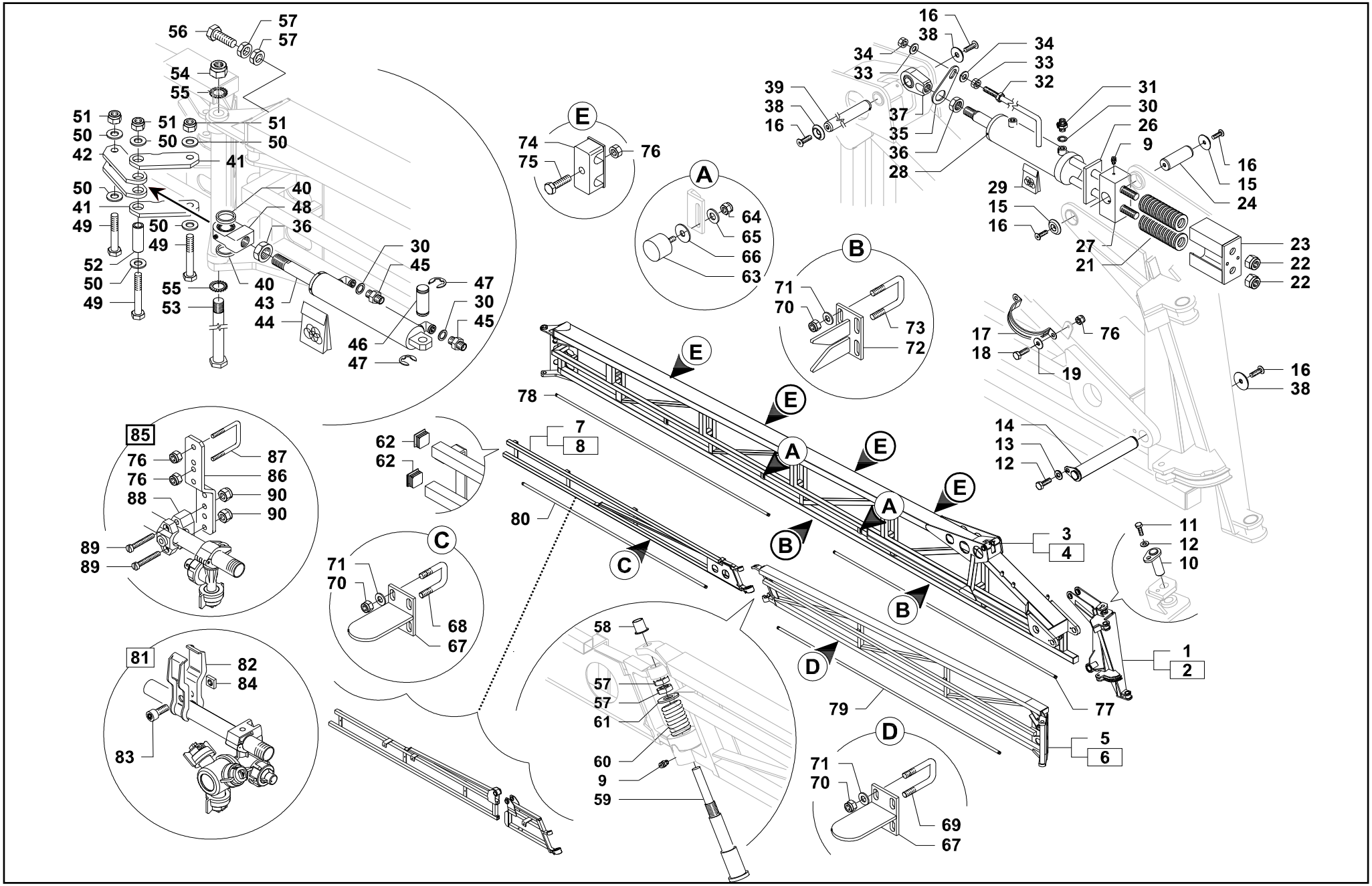
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 3 | GB022400030V | INNER BOOM ARM R/H | 1 |
| 4 | GB022400031V | INNER BOOM ARM L/H | 1 |
| 5 | GB022400050V | OUTER BOOM ARM R/H | 1 |
| 6 | GB022400051V | OUTER BOOM ARM L/H | 1 |
| 7 | GB201600470V | BREAKAWAY ARM R/H | 1 |
| 8 | GB201600471V | BREAKAWAY ARM L/H | 1 |
| *9* | *GB919800020* | *GREASE NIPPLE* | *2* |
| 10 | GB500100055V | PIN | 2 |
| 12 | GB900110025Z | M10 x 20mm BOLT (ZINC) 8.8 | 2 |
| 13 | GB907200010Z | 10mm SPRING WASHER | 2 |
| *17* | *GB950200059* | *N.A* | |
| *18* | *GB900106016Z* | *N.A* | |
| *19* | *GB907106018Z* | *N.A* | |
| 30 | GB600500001 | COPPER WASHER | 4 |
| 40 | GB500200029Z | SPACER | 4 |
| 41 | GB022800037V | LINK ARM ROD | 4 |
| 42 | GB022800036V | LINK ROD | 2 |
| 43 | GBBG004138 | CYLINDER OUTER FOLD | 2 |
| 44 | GB996000177 | SEAL KIT CYLINDER | 2 |
| 45 | GB570500007Z | NIPPLE 1/4” 0.7MM ORIFICE | 4 |
| 46 | GB500100014Z | PIN FOR CYLINDER | 2 |
| 47 | GB919800030 | CIRCLIP | 4 |
| 48 | GB920100053Z | BALL JOINT M27 | 2 |
| *49* | *GB500516095Z* | *BOLT* | *4* |
| 50 | GB907017030Z | WASHER | 12 |
| 51 | GB905400016 | LOCK NUT 16MM | 6 |
| 52 | GB500100081 | BUSHING | 2 |
| 53 | GB500100080Z | SHAFT ROD | 2 |
| 54 | GB905400024 | SELF-LOCKING NUT M24 | 6 |
| 55 | GB907302025Z | WASHER | 4 |
| 56 | GB900124050Z | SCREW | 2 |
| 57 | GB905200024Z | NUT M24 | 8 |
| 58 | GB500200049 | BUSH | 2 |
| 59 | GB500100111Z | SHAFT BREAKAWAY | 2 |
| 60 | GB919900023Z | SPRING BREAKAWAY | 2 |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 61 | GB500400019Z | WASHER | 2 |
| 62 | GB950130030 | BOOM END CAP | 18 |
| 63 | GB950200004 | BOOM STOPPER 20MM | 4 |
| 63 | GB950200001 | BOOM STOPPER 30MM | 2 |
| 64 | GB905400008 | SELF-LOCKING NUT | 6 |
| 65 | GB907108024Z | WASHER | 6 |
| *66* | *GB907110040Z* | *WASHER* | *6* |
| *67* | *GB022400053V* | *BOOM GUIDE TONGUE* | *2* |
| *68* | *GB500500003Z* | *U BOLT* | *2* |
| *69* | *GB500500001Z* | *UBOLT (LONG)* | *2* |
| *70* | *GB905400010* | *NUT* | *4* |
| *71* | *GB907010021Z* | *WASHER* | *4* |
| *72* | *GB022400054V* | *BOOM GUIDE* | *2* |
| 73 | GB500500002Z | UBOLT | 2 |
| 74 | UP-420 | HYD HOSE CLAMP | 16 |
| *75* | *GB900306035Z* | *BOLT* | *16* |
| *76* | *GB905300006* | *NUT* | *16* |
| 77 | GB550501500 | 5 HOLE SPRAY TUBE | 1 |
| 78 | GB550601500 | 6 HOLE SPRAY TUBE | 1 |
| 79 | GB550601500 | 6 HOLE SPRAY TUBE | 1 |
| 80 | GB550501500 | 5 HOLE SPRAY TUBE | 1 |
| *81* | *GB999900004Z* | *N.A* | |
| *82* | *GB500600002Z* | *N.A* | |
| *83* | *GB900508022Z* | *N.A* | |
| *84* | *GB906000008Z* | *N.A* | |
| 85 | GB999900100 | BOOM TUBE SUPPORT KIT | 24 |
| *86* | *GB201800418V* | *SUPPORT BRACKET* | *24* |
| *87* | *GB500500004Z* | *U BOLT* | *24* |
| 88 | A425130 | TUBE CLAMP | 24 |
| *89* | *GB904506040X* | *SCREW* | *24* |
| *90* | *GB905400006X* | *NUT* | *24* |

**NOTE**

***Parts in Italics are non-stocked items and may need to be ordered.***

# GBCOMPL-245-LH or RH - Boom Gvar 24m Assembly Drawings & Parts Listings



# GBCOMPL-245-LH or RH - Boom Gvar 24m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *1* | *GBBG026447* | *G-VAR PIVOT ARM R/H V2* | *1* |
| *2* | *GBBG026449* | *G-VAR PIVOT ARM L/H V2* | *1* |
| *3* | *GBBG026378* | *G-VAR INNER ARM R/H V2* | *1* |
| *4* | *GBBG026379* | *G-VAR INNER ARM L/H V2* | *1* |
| 5 | GB022400050V | OUTER BOOM ARM R/H | 1 |
| 6 | GB022400051V | OUTER BOOM ARM L/H | 1 |
| *7* | *GBBG020414* | *BREAKAWAY ARM R/H* | *1* |
| *8* | *GBBG020415* | *BREAKAWAY ARM L/H* | *1* |
| *9* | *GB919800020* | *GREASE NIPPLE* | *2* |
| 10 | GB500100055V | PIN | 2 |
| 12 | GB900110025Z | M10 x 20mm BOLT (ZINC) | 2 |
| 13 | GB907200010Z | 10mm SPRING WASHER | 2 |
| 14 | GBBG025153 | G-VAR BOTTOM PIN V2 | 2 |
| 15 | GB500400008Z | COUNTERSUNK WASHER | 4 |
| 16 | GB900710025Z | SCREW M10X25 | 10 |
| *17* | *GB950200059* | *CABLE RETAINER* | *4* |
| *18* | *GB900106016Z* | *M6 x 16mm BOLT (ZINC) 8.8* | *8* |
| *19* | *GB907106018Z* | *M6 x 18mm WASHER (ZINC)* | *8* |
| 21 | GB919900043V | G-VAR RAM SPRING (LARGE) | 4 |
| 22 | GB905400020 | M24 (FINE) NYLOC NUT (ZINC) | 2 |
| 23 | GB022400209V | SPRING RETAINER | 2 |
| 24 | GB500100125 | PIN 300X 95L | 2 |
| 26 | GB022400210 | RUBBER PAD | 2 |
| 27 | GB022400208Z | CLUTCH | 2 |
| 28 | GBBG000022 | HYDRAULIC RAM | 2 |
| 29 | GB996000418 | SEAL KIT | 2 |
| 30 | GB600500001 | COPPER WASHER | 4 |
| 31 | GB570500011Z | NIPPLE 1/4 BSP 1.2 ORIFICE | 2 |
| 32 | GB271600045V | BOOM LEVEL INDICATOR | 2 |
| *33* | *GB905100010Z* | *LOCKING NUT* | *4* |
| 34 | GB907010021Z | M10 WASHER (ZINC) | 4 |
| 35 | GB271600046V | INDICATOR LOCKING PLATE | 2 |
| *36* | *GB905220024Z* | *M24 NUT (ZINC)* | *2* |
| 37 | GB920100034Z | M24 BALL JOINT | 2 |
| 38 | GB500400004Z | COUNTERSUNK WASHER | 4 |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 39 | GB500100086 | PIN | 2 |
| 40 | GB500200029Z | SPACER | 4 |
| 41 | GB022800037V | LINK ARM ROD | 4 |
| 42 | GB022800036V | LINK ROD | 2 |
| 43 | GBBG004138 | CYLINDER OUTER FOLD | 2 |
| 44 | GB996000177 | SEAL KIT CYLINDER | 2 |
| 45 | GB570500007Z | NIPPLE 1/4” 0.7MM ORIFICE | 4 |
| 46 | GB500100014Z | PIN FOR CYLINDER | 2 |
| 47 | GB919800030 | CIRCLIP | 4 |
| 48 | GB920100053Z | BALL JOINT M27 | 2 |
| *49* | *GB500516095Z* | *BOLT* | *4* |
| 50 | GB907017030Z | WASHER | 12 |
| 51 | GB905400016 | LOCK NUT 16MM | 6 |
| 52 | GB500100081 | BUSHING | 2 |
| 53 | GB500100080Z | SHAFT ROD | 2 |
| 54 | GB905400024 | SELF-LOCKING NUT M24 | 6 |
| 55 | GB907302025Z | WASHER | 4 |
| 56 | GB900124050Z | SCREW | 2 |
| 57 | GB905200024Z | NUT M24 | 8 |
| 58 | GB500200049 | BUSH | 2 |
| 59 | GB500100111Z | SHAFT BREAKAWAY | 2 |
| 60 | GB919900023Z | SPRING BREAKAWAY | 2 |
| 61 | GB500400019Z | WASHER | 2 |
| 62 | GB950130030 | BOOM END CAP | 18 |
| 63 | GB950200004 | BOOM STOPPER 20MM | 4 |
| 63 | GB950200001 | BOOM STOPPER 30MM | 2 |
| 64 | GB905400008 | SELF-LOCKING NUT | 6 |
| 65 | GB907108024Z | WASHER | 6 |
| *66* | *GB907110040Z* | *WASHER* | *6* |
| *67* | *GB022400053V* | *BOOM GUIDE TONGUE* | *2* |
| *68* | *GB500500003Z* | *U BOLT* | *2* |
| *69* | *GB500500001Z* | *UBOLT (LONG)* | *2* |
| *70* | *GB905400010* | *NUT* | *4* |

**NOTE**

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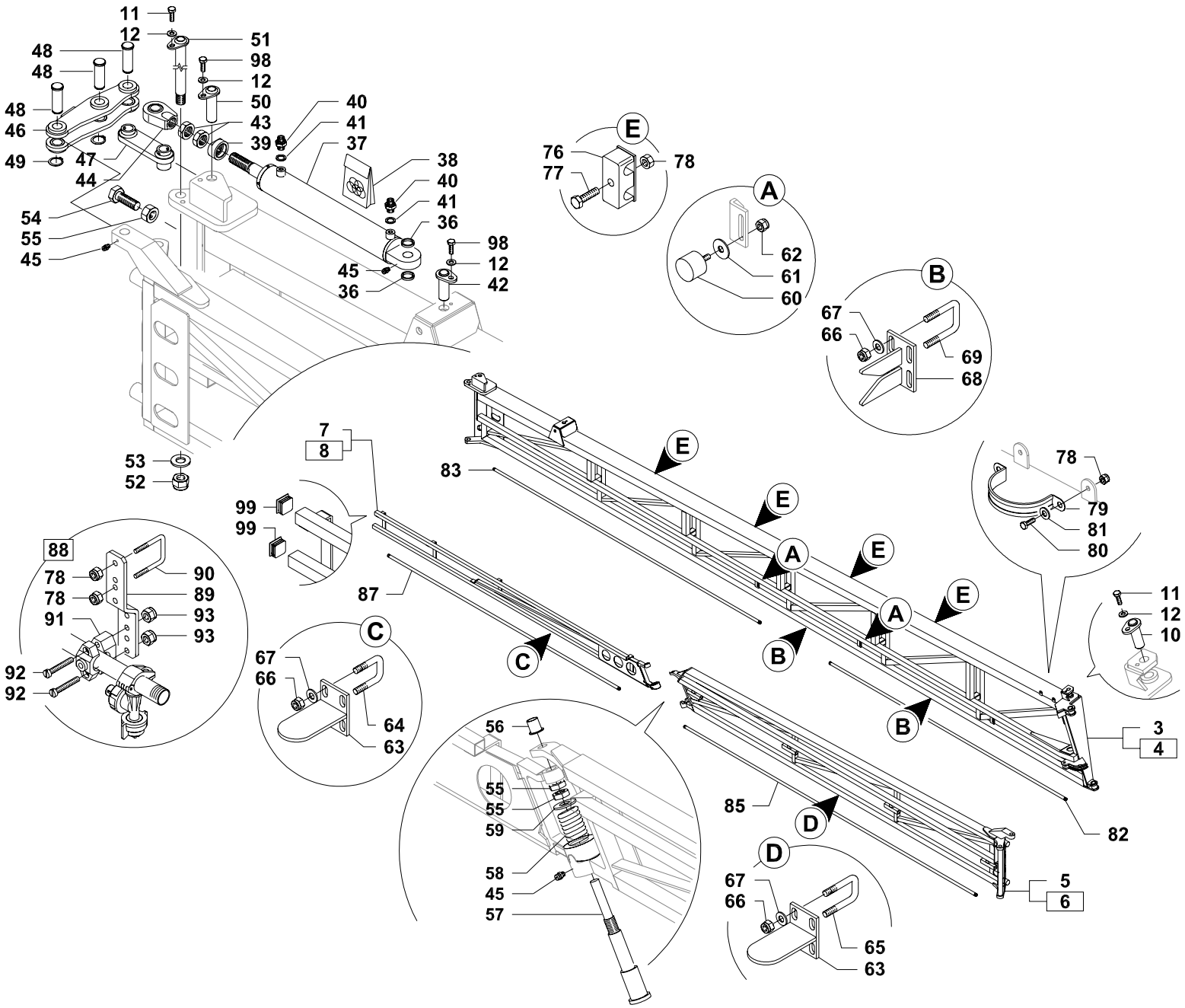
# GBCOMPL-285-LH or RH - Boom Non Gvar 28m



# GBCOMPL-285-LH or RH - Boom Non Gvar 28m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *3* | *GBBG002915* | *INNER BOOM ARM R/H* | *1* |
| 4 | GBBG002916 | INNER BOOM ARM L/H | 1 |
| 5 | GB022400050V | OUTER BOOM ARM R/H | 1 |
| 6 | GB022400051V | OUTER BOOM ARM L/H | 1 |
| *7* | *GB22800080V* | *BREAKAWAY ARM R/H* | *1* |
| *8* | *GB22800081V* | *BREAKAWAY ARM L/H* | *1* |
| 10 | GB500100055V | PIN | 2 |
| 11 | GB900110025Z | M10 x 20mm BOLT (ZINC) 8.8 | 2 |
| 12 | GB907200010Z | 10mm SPRING WASHER | 2 |
| 36 | GB500200028Z | SPACER | 4 |
| *37* | *GB024772* | *HYDRAULIC RAM* | *2* |
| *38* | *GB024776* | *SEAL KIT* | *2* |
| 39 | GB003273 | SPACER NUT M27 | 2 |
| 40 | GB570500010Z | NIPPLE 1/4 BSP 1.0 ORIFICE | 8 |
| *41* | *GB50243113* | *COPPER WASHER* | *8* |
| 42 | GB500100055V | PIN | 2 |
| 43 | GB905220027Z | M27 PLAIN NUT (ZINC) | 4 |
| 44 | GB920100043Z | M27 BALL JOINT | 4 |
| *45* | *GB919800020* | *GREASE NIPPLE* | *16* |
| 46 | GB006461 | LINK ARM OUTER FOLD | 4 |
| *47* | *GB023200216V* | *LINK ARM PIVOT* | *2* |
| 48 | GB006426 | PIN | 6 |
| 49 | GB000187 | CIRCLIP | 12 |
| 50 | GB500100110V | PIN | 2 |
| 51 | GB500100146V | PIN 28 2ND FOLD | 2 |
| 52 | GB905400024 | M24 NYLOC NUT (ZINC) | 2 |
| *53* | *GB907025044Z* | *M24 WASHER (ZINC)* | *2* |
| 54 | GB900124050Z | SCREW | 2 |
| 55 | GB905200024Z | M24 PLAIN NUT (ZINC) | 4 |
| 56 | GB500200049 | BUSH | 2 |
| 57 | GB500100111Z | BREAKAWAY SHAFT | 2 |
| 58 | GB919900023Z | BREAKAWAY SPRING | 2 |
| 59 | GB500400019Z | WASHER | 2 |
| 60 | GB950200004 | RUBBER STOPPER 20mm | 4 |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 60 | GB950200001 | RUBBER STOPPER 30mm | |
| 61 | GB907108024Z | M8 X 24mm WASHER | 4 |
| *62* | *GB905400008* | *M8 NYLOC NUT (ZINC)* | *4* |
| *63* | *GB022400053V* | *WING SUPPORT MALE* | *4* |
| 64 | XBMBB32 | 32mm U BOLT (M10) | 4 |
| 65 | XBMBB | 40mm U BOLT (M10) | 4 |
| *66* | *GB905400010* | *M10 NYLOC NUT (ZINC)* | *32* |
| *67* | *GB907010021Z* | *M10 WASHER (ZINC)* | *32* |
| *68* | *GB022400054V* | *WING SUPPORT FEMALE* | *4* |
| 69 | XBMBB50 | 50mm U BOLT (M10) | 8 |
| *76* | *GB950200058* | *CABLE RETAINER* | *12* |
| *77* | *GB900306035Z* | *M6 x 35mm BOLT (ZINC)* | *12* |
| *78* | *GB905300006* | *M6 NYLOC NUT (ZINC)* | *124* |
| *79* | *GB950200059* | *CABLE RETAINER* | *4* |
| *80* | *GB900106016Z* | *M6 x 35mm BOLT (ZINC)* | *8* |
| *81* | *GB907106018Z* | *6mm WASHER (ZINC)* | *8* |
| 82 | GB550700500 | 7 HOLE SPRAY TUBE | 2 |
| 83 | GB550600500 | 6 HOLE SPRAY TUBE | 2 |
| 85 | GB550700500 | 7 HOLE SPRAY TUBE | 2 |
| 87 | GB550600500 | 6 HOLE SPRAY TUBE | 2 |
| 88 | GB999900100 | SPRAY TUBE SUPPORT KIT | 26 |
| *89* | *GB2018000418V* | *SPRAY TUBE BRACKET* | *26* |
| *90* | *GB500500004Z* | *SPRAY TUBE U BOLT* | *26* |
| 91 | A425130 | SPRAY TUBE 2 PIECE CLAMP | 26 |
| *92* | *GB904506040X* | *M6 x 40mm SCREW STAINLESS* | *52* |
| *93* | *GB905400006X* | *M6 NYLOC NUT STAINLESS* | *52* |
| *98* | *GB900110020Z* | *M10 x 20mm BOLT (ZINC)* | *2* |
| 99 | GB950130030 | END CAP | |

**NOTE**

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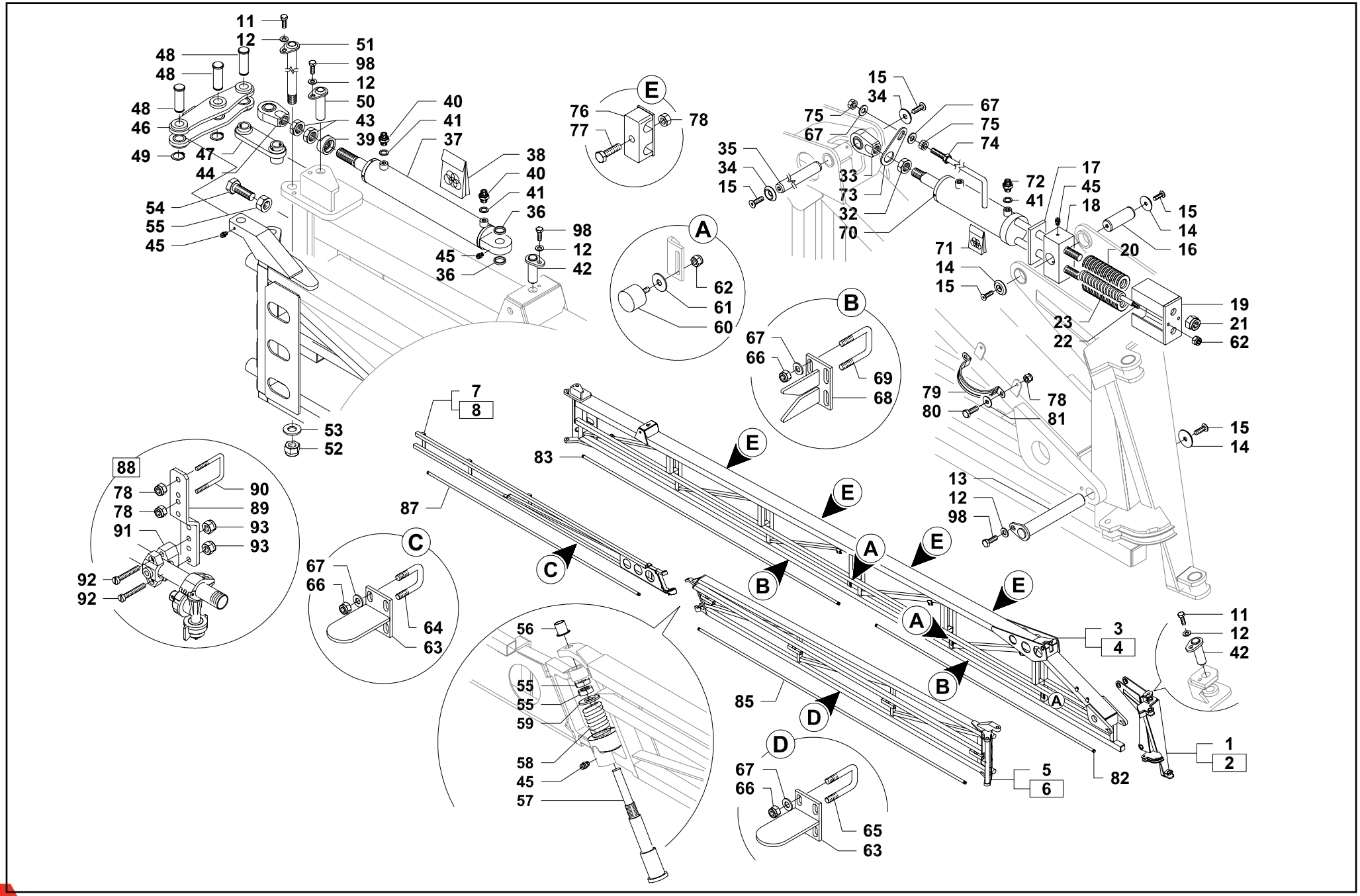
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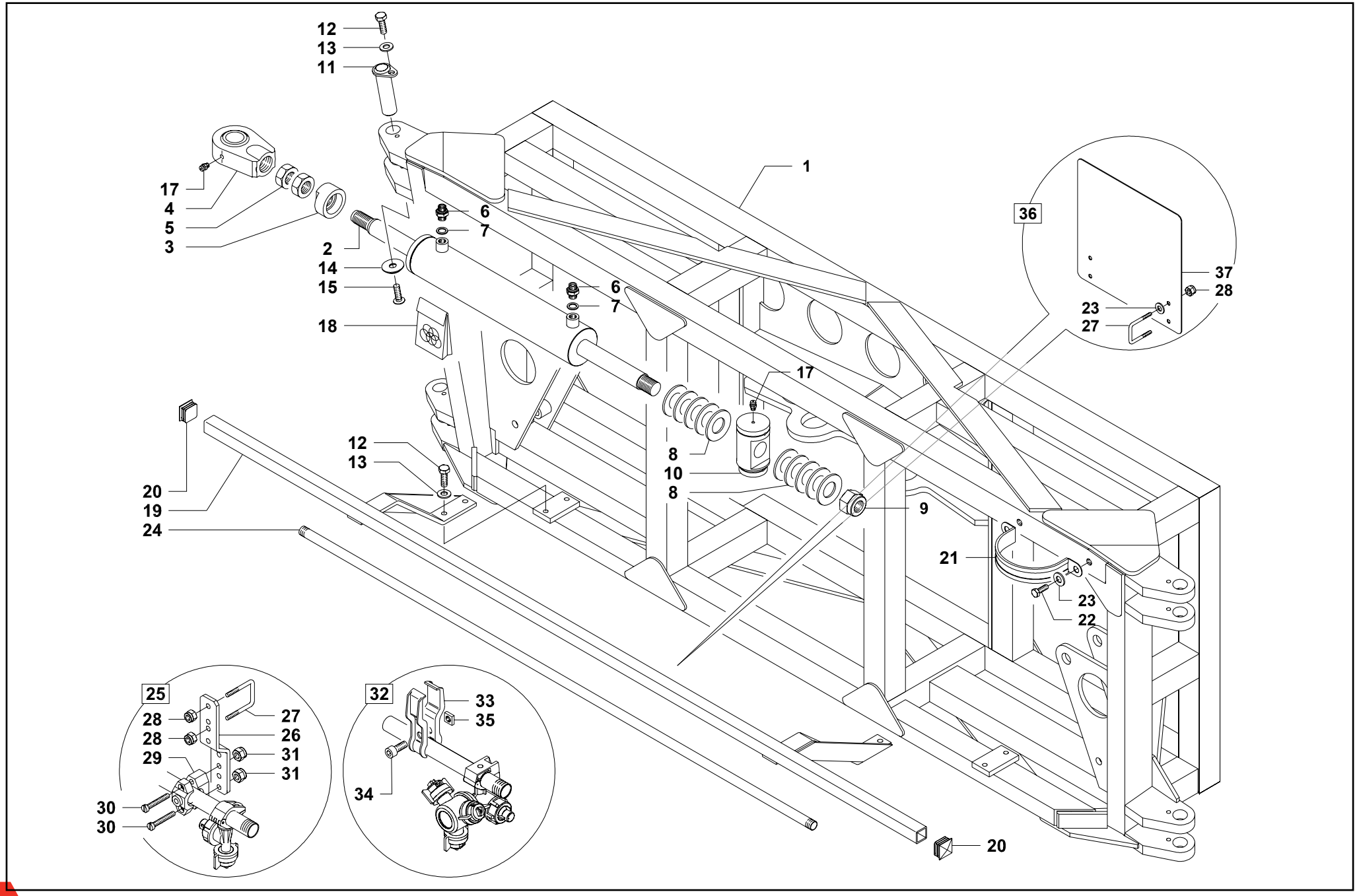
# GBCOMPL-285GV-LH or RH - Boom Gvar 28m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *1* | *GBBG026447* | *G-VAR PIVOT ARM R/H V2* | *1* |
| *2* | *GBBG026449* | *G-VAR PIVOT ARM L/H V2* | *1* |
| *3* | *GBBG026315* | *G-VAR INNER ARM R/H V2* | *1* |
| *4* | *GBBG026316* | *G-VAR INNER ARM L/H V2* | *1* |
| 5 | GB022400050V | OUTER BOOM ARM R/H | 1 |
| 6 | GB022400051V | OUTER BOOM ARM L/H | 1 |
| *7* | *GB22800080V* | *BREAKAWAY ARM R/H V2* | *1* |
| *8* | *GB22800081V* | *BREAKAWAY ARM L/H V2* | *1* |
| 10 | GB500100055V | PIN | 2 |
| 11 | GB900110025Z | M10 x 20mm BOLT (ZINC) | 2 |
| 12 | GB907200010Z | 10mm SPRING WASHER | 2 |
| *13* | *GBBG025153* | *G-VAR BOTTOM PIN V2* | *2* |
| 14 | GB500400008Z | COUNTERSUNK WASHER | 4 |
| 15 | GB900710025Z | SCREW M10X25 | 10 |
| 16 | GB500100125 | PIN 300X 95L | 2 |
| 17 | GB022400210 | RUBBER PAD | 2 |
| 18 | GB022400208Z | CLUTCH | 2 |
| 19 | GB022400209V | SPRING RETAINER | 2 |
| 20 | GB919900043V | G-VAR RAM SPRING (LARGE) | 4 |
| *21* | *GB905400020* | *M24 (FINE) NYLOC NUT (ZINC)* | *2* |
| 22 | GB500100131Z | ROD | 2 |
| *23* | *GBBG026447* | *G-VAR RAM SPRING (SMALL)* | *2* |
| *32* | *GB905220024Z* | *M24 NUT (ZINC)* | *2* |
| 33 | GB920100034Z | M24 BALL JOINT | 2 |
| 34 | GB500400004Z | COUNTERSUNK WASHER | 4 |
| 35 | GB500100086 | PIN | 2 |
| 36 | GB500200028Z | SPACER | 4 |
| *37* | *GBBG024772* | *HYDRAULIC RAM* | *2* |
| *38* | *GBBG024776* | *SEAL KIT* | *2* |
| 39 | GB003273 | SPACER NUT M27 | 2 |
| 40 | GB570500010Z | NIPPLE 1/4 BSP 1.0 ORIFICE | 8 |
| *41* | *GBBB50243113* | *COPPER WASHER* | *8* |
| 42 | GB500100055V | PIN | 2 |
| 43 | GB905220027Z | M27 PLAIN NUT (ZINC) | 4 |
| 44 | GB920100043Z | M27 BALL JOINT | 4 |
| *45* | *GB919800020* | *GREASE NIPPLE* | *16* |
| 46 | GB006461 | LINK ARM OUTER FOLD | 4 |
| *47* | *GB023200216V* | *LINK ARM PIVOT* | *2* |
| 48 | GB006426 | PIN | 6 |
| 49 | GB000187 | CIRCLIP | 12 |
| 50 | GB500100110V | PIN | 2 |
| 51 | GB500100146V | PIN 28 2ND FOLD | 2 |
| 52 | GB905400024 | M24 NYLOC NUT (ZINC) | 2 |
| *53* | *GB907025044Z* | *M24 WASHER (ZINC)* | *2* |
| 54 | GB900124050Z | SCREW | 2 |
| 55 | GB905200024Z | M24 PLAIN NUT (ZINC) | 4 |
| 56 | GB500200049 | BUSH | 2 |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 57 | GB500100111Z | BREAKAWAY SHAFT | 2 |
| 58 | GB919900023Z | BREAKAWAY SPRING | 2 |
| 59 | GB500400019Z | WASHER | 2 |
| 60 | GB950200004 | RUBBER STOPPER 20mm | 2 |
| 60 | GB950200001 | RUBBER STOPPER 30mm | 2 |
| 61 | GB907108024Z | M8 X 24mm WASHER | 4 |
| *62* | *GB905400008* | *M8 NYLOC NUT (ZINC)* | *4* |
| *63* | *GB022400053V* | *WING SUPPORT MALE* | *4* |
| 64 | XBMBB32 | 32mm U BOLT (M10) | 4 |
| 65 | XBMBB | 40mm U BOLT (M10) | 4 |
| *66* | *GB905400010* | *M10 NYLOC NUT (ZINC)* | *32* |
| *67* | *GB907010021Z* | *M10 WASHER (ZINC)* | *32* |
| *68* | *GB022400054V* | *WING SUPPORT FEMALE* | *4* |
| 69 | XBMBB50 | 50mm U BOLT (M10) | 8 |
| 70 | GBBG000022 | HYDRAULIC RAM | 2 |
| 71 | GB996000418 | SEAL KIT | 2 |
| 72 | GB570500011Z | NIPPLE | 2 |
| 73 | GB271600046V | INDICATOR LOCKING PLATE | 2 |
| 74 | GB271600045V | BOOM LEVEL INDICATOR | 2 |
| 75 | GB905100010Z | LOCKING NUT | 4 |
| *76* | *GB950200058* | *CABLE RETAINER* | *12* |
| *77* | *GB900306035Z* | *M6 x 35mm BOLT (ZINC)* | *12* |
| *78* | *GB905300006* | *M6 NYLOC NUT (ZINC)* | *124* |
| *79* | *GB950200059* | *CABLE RETAINER* | *4* |
| *80* | *GB900106016Z* | *M6 x 16mm BOLT (ZINC) 8.8* | *8* |
| *81* | *GB907106018Z* | *M6 x 18mm WASHER (ZINC)* | *8* |
| 82 | GB550700500 | 7 HOLE SPRAY TUBE | 2 |
| 83 | GB550600500 | 6 HOLE SPRAY TUBE | 2 |
| 85 | GB550700500 | 7 HOLE SPRAY TUBE | 2 |
| 87 | GB550600500 | 6 HOLE SPRAY TUBE | 2 |
| 88 | GB999900100 | SPRAY TUBE SUPPORT KIT | 26 |
| *89* | *GB2018000418V* | *SPRAY TUBE BRACKET* | *26* |
| *90* | *GB500500004Z* | *SPRAY TUBE U BOLT* | *26* |
| 91 | A425130 | SPRAY TUBE 2 PIECE CLAMP | 26 |
| *92* | *GB904506040X* | *M6 x 40mm SCREW STAINLESS* | *52* |
| *93* | *GB905400006X* | *M6 NYLOC NUT STAINLESS* | *52* |
| *98* | *GB900110020Z* | *M10 x 20mm BOLT (ZINC)* | *2* |
| *99* | *GBBG027432* | *BUSH* | *2* |

**NOTE**

***Parts in italics are non-stock items and may need to be ordered.***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# GBCOMPL-30C - Centre Section 30m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *1* | *GBBG001108* | *30m CENTRE SECTION* | *1* |
| 2 | GB703570018V | HYDRAULIC RAM | 2 |
| 3 | GB500300032V | M30 SPACER NUT | 2 |
| 4 | GBBG001752 | M30 BALL JOINT | 2 |
| 5 | GB905215028Z | M30 LOCK NUT | 4 |
| 6 | GB570500011Z | 1/4” NIPPLE 1.5 ORIFICE | 4 |
| 7 | GB600500001 | COPPER WASHER | 4 |
| 8 | GB913671040 | BELLVILLE WASHER | 152 |
| 9 | GB905420030 | M30 NYLOC NUT (ZINC) | 2 |
| *10* | *GB500100127Z* | *CYLINDER MOUNT* | *2* |
| 11 | GBBG000024 | PIN | 4 |
| 12 | GB900110025Z | M10 x 20mm BOLT (ZINC) | 8 |
| 13 | GB907200010Z | 10mm SPRING WASHER | 8 |
| 14 | GB500400004Z | COUNTERSUNK WASHER | 4 |
| 15 | GB900710025Z | COUNTERSUNK SCREW | 4 |
| *17* | *GB919800020* | *GREASE NIPPLE* | *4* |
| 18 | GB000117 | SEAL KIT | 1 |
| *19* | *GB201800415V* | *C/SEC RAIL MOUNT BRACKET* | *1* |
| 20 | GB950130030 | END CAP | 2 |
| *21* | *GB950200059* | *CABLE RETAINER* | *2* |
| *22* | *GB900100016Z* | *M6 x 16mm BOLT (ZINC) 8.8* | *8* |
| *23* | *GB907106018Z* | *M6 x 18mm WASHER (ZINC)* | *8* |
| 24 | GB550500500 | 5 HOLE SPRAY RAIL | 1 |
| 25 | GB999900100 | SPRAY RAIL MOUNT KIT | 3 |
| *26* | *GB201800418V* | *SPRAY RAIL MOUNT BRACKET* | *3* |
| *27* | *GB500500004Z* | *M6 U BOLT* | *3* |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *28* | *GB905300006* | *M6 NYLOC NUT (ZINC)* | *6* |
| 29 | A425130 | 2 PIECE RAIL CLAMP | 3 |
| *30* | *GB904506040X* | *M6 x 40mm SCREW STAINLESS* | *6* |
| *31* | *GB905400006X* | *M6 NYLOC NUT STAINLESS* | *6* |
| *36* | *GB999900467* | *WARNING LABEL PLATE KIT* | *1* |
| *37* | *GB201800065V* | *WARNING LABEL PLATE* | *1* |

***NOTE***

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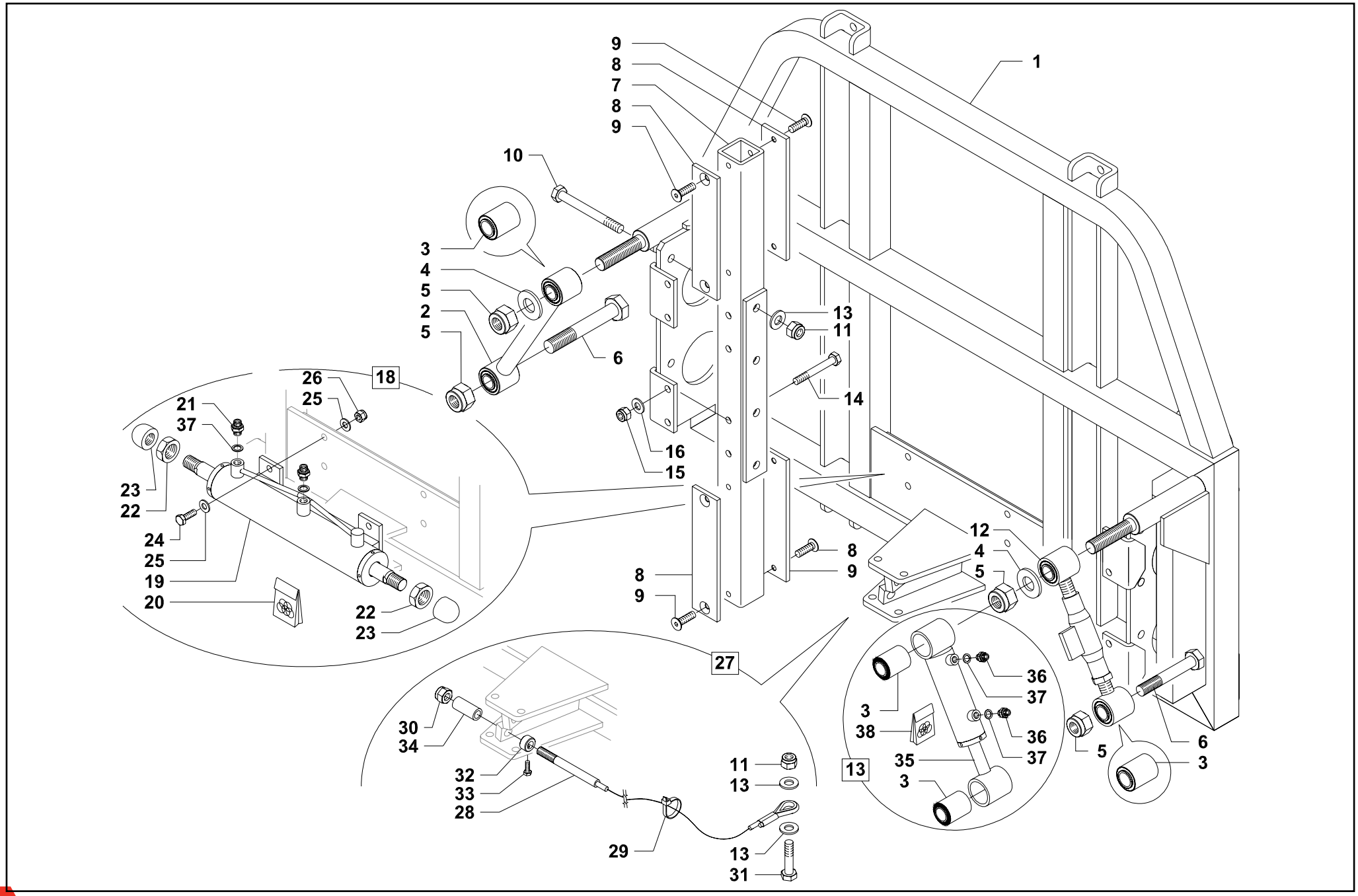
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# GBCOMPL-30C - Centre Section 30m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | GB382000050V | SELF LEVELLING FRAME | 1 |
| 2 | GB993806001V | TIE ROD ASSY. | 2 |
| 3 | GB950300004 | FLEXIBLE BUSH | 4 |
| 4 | GB500400019Z | M24 WASHER | 4 |
| 5 | GB905400024 | M24 NYLOC NUT | 4 |
| *6* | *GB900324130Z* | *M24 x130mm BOLT (ZINC) 8.8* | *2* |
| 7 | GB382000075V | WEAR PAD BRACE | 2 |
| 8 | GB382000078 | WEAR PAD | 8 |
| 9 | GB900710025Z | COUNTERSUNK SCREW | 16 |
| *10* | *GBBG001401* | *M14 x 100mm BOLT (ZINC) 8.8* | *8* |
| *11* | *GB905300014* | *M14 NYLOC NUT (ZINC)* | *12* |
| 12 | GB993806002Z | ADJUSTABLE TIE ROD ASSY. | 1 |
| 13 | GB907014028Z | M14 WASHER (ZINC) | 12 |
| *14* | *GB900312090Z* | *M12 x 90 BOLT (ZINC) 8.8* | *8* |
| *15* | *GB905300012* | *M12 NYLOC NUT (ZINC)* | *8* |
| 16 | GB907012025Z | M12 WASHER (ZINC) | 16 |
| 18 | GB997000018 | LOCK RAM KIT | 1 |
| *19* | *GB702550023V* | *LOCK RAM* | *1* |
| *20* | *GB996000179* | *SEAL KIT* | *1* |
| 21 | GB570500011Z | 1/4” NIPPLE 1.5 ORIFICE | 2 |
| 22 | GB905200022Z | M22 NUT | 2 |
| 23 | GB501100007 | LOCKING RAM END PIECE | 2 |
| *24* | *GB900510035Z* | *M10 x25mm BOLT (ZINC) 8.8* | *4* |
| *25* | *GB907010021Z* | *M10 WASHER (ZINC)* | *8* |
| *26* | *GB905300010* | *M10 NYLOC NUT (ZINC)* | *4* |
| *27* | *GBBG001395* | *STRAINER WIRE KIT* | *1* |
| *28* | *GB500700069* | *STRAINER WIRE* | *2* |
| *29* | | *CABLE TIE* | *8* |
| *30* | *GB905415014* | *M14 NUT FINE THREAD (1.5)* | *2* |
| *31* | *GB900314060Z* | *M14 x 60mm BOLT (ZINC) 8.8* | *2* |
| *32* | *GB919800061Z* | *LOCKING COLLAR* | *2* |
| *33* | *GB900106010Z* | *M6 x20mm BOLT (ZINC* | *2* |
| *34* | *GBBG001396* | *SPACER* | *2* |
| 35 | GB702550031V | TILT CYLINDER | 1 |
| 36 | GB570500007Z | 1/4” NIPPLE 0.7 ORIFICE | 2 |
| 37 | GB600500001 | COPPER WASHER | 4 |
| *38* | *GB996000192* | *SEAL KIT* | *1* |

***NOTE***

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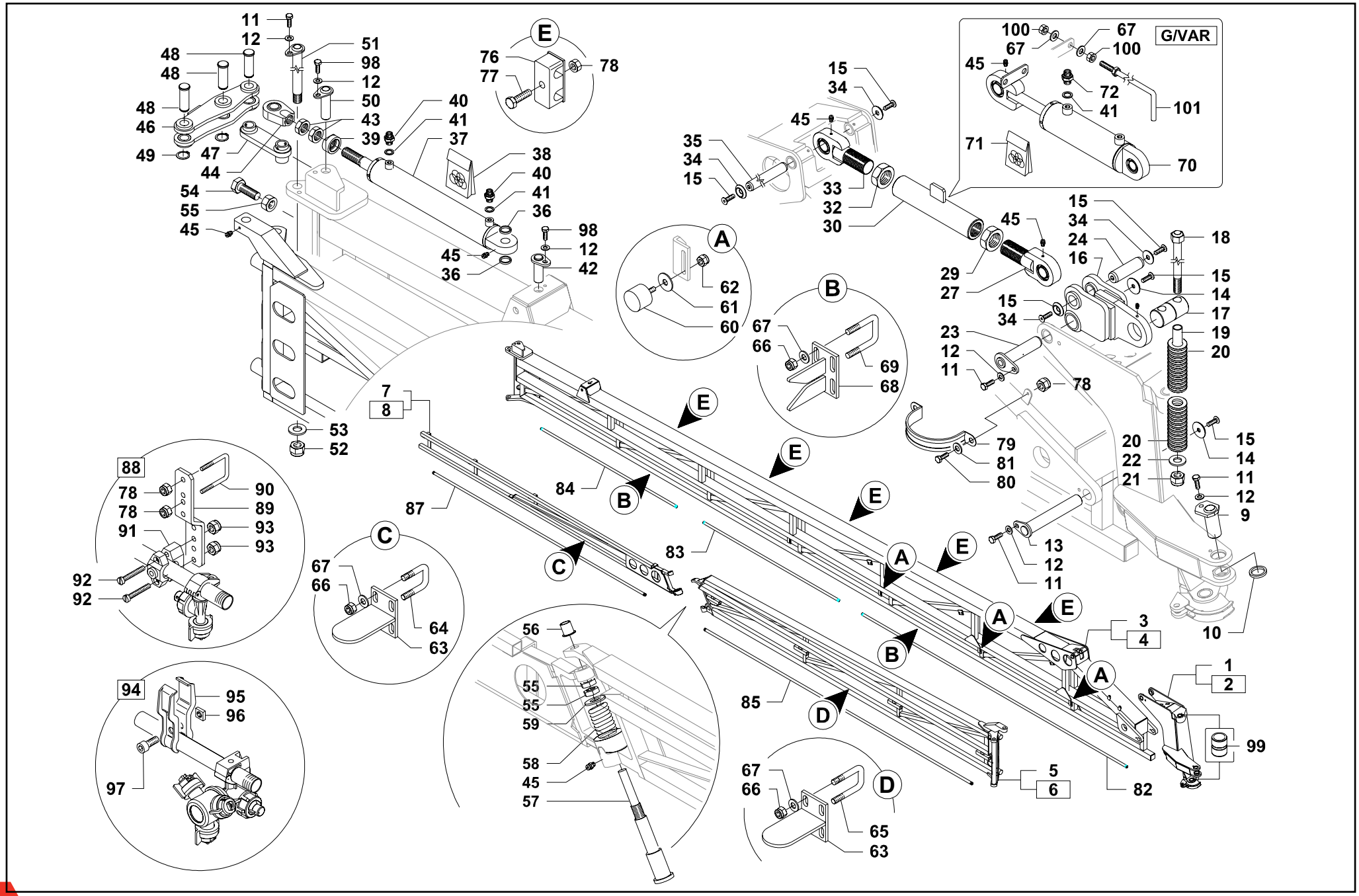
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# GBCOMPL-305-LHA or RHA - Boom Non Gvar & Gvar 30m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| *1* | *GBBG026414* | *INNER PIVOT R/H V2* | *1* |
| *2* | *GBBG026415* | *INNER PIVOT L/H V2* | *1* |
| *3* | *GBBG025150* | *INNER BOOM ARM R/H V2* | *1* |
| *4* | *GBBG025151* | *INNER BOOM ARM L/H V2* | *1* |
| 5 | GB023000050V | OUTER BOOM ARM R/H | 1 |
| 6 | GB023000051V | OUTER BOOM ARM L/H | 1 |
| 7 | GB022800080V | BREAKAWAY ARM R/H | 1 |
| 8 | GB022800081V | BREAKAWAY ARM L/H | 1 |
| 9 | GB392000330V | PIN | 2 |
| 10 | GB392000335Z | SPACER | 2 |
| 11 | GB900110025Z | M10 x 20mm BOLT (ZINC) 8.8 | 10 |
| 12 | GB907200010Z | 10mm SPRING WASHER | 12 |
| 13 | GB500100144VR | BOTTOM PIN | 2 |
| 14 | GB500400008Z | COUNTERSUNK WASHER | 4 |
| 15 | GB900710025Z | COUNTERSUNK SCREW | 12 |
| 16 | GBBG006429 | PIN HOUSING | 2 |
| *17* | *GB500100145Z* | *STRAINER PIN* | *2* |
| *18* | *GB023200209Z* | *STRAINING BOLT* | *2* |
| *19* | *GB500200037Z* | *SLEEVE* | *2* |
| 20 | GB919900043V | SPRING | 4 |
| *21* | *GB905400020* | *M30 NYLOC NUT (ZINC)* | *2* |
| *22* | *GB907120046Z* | *M30 WASHER (ZINC)* | *2* |
| 23 | GB500100058V | PIN | 2 |
| 24 | GB500100044 | PIN | 2 |
| 27 | GBBG017659 | L/H BALL JOINT | 2 |
| 29 | GBBG017662 | M30 NUT L/H THREAD | 2 |
| 30 | GBBG017657 | DUAL THREADED TURNBUCKLE | 2 |
| 32 | GBBG017660 | M30 NUT R/H THREAD | 2 |
| 33 | GBBG017658 | R/H BALL JOINT | 2 |
| 34 | GB500400004Z | COUNTERSUNK WASHER | 8 |
| 35 | GBBG006427 | PIN | 2 |
| 36 | GB500200029Z | SPACER | 4 |
| *37* | *GBBG024772* | *HYDRAULIC RAM* | *2* |
| *38* | *GBBG024776* | *SEAL KIT* | *2* |
| 39 | GB003273 | M27 SPACER LOCK NUT | 2 |
| 40 | GB570500010Z | 1/4” NIPPLE 1.0 ORIFICE | 4 |
| 41 | GB600500001 | COPPER WASHER | 6* |
| 42 | GB500100055V | PIN | 2 |
| 43 | GB905220027Z | M27 PLAIN NUT (ZINC) | 4 |
| 44 | GB920100043Z | BALL JOINT M27 | 2 |
| *45* | *GB919800020* | *GREASE NIPPLE* | *14** |
| 46 | GB006461 | LINK ARM | 4 |
| *47* | *GB023200216V* | *LINK PIVOT* | *2* |
| 48 | GB006426 | PIN | 6 |
| 49 | GB000187 | CIRCLIP | 6 |
| 50 | GB500100110V | PIN | 2 |
| 51 | GB500100146V | PIN | 2 |
| 52 | GB905400024 | M24 NYLOC NUT (ZINC) | 2 |
| *53* | *GB907025044Z* | *M24 WASHER (ZINC)* | *2* |

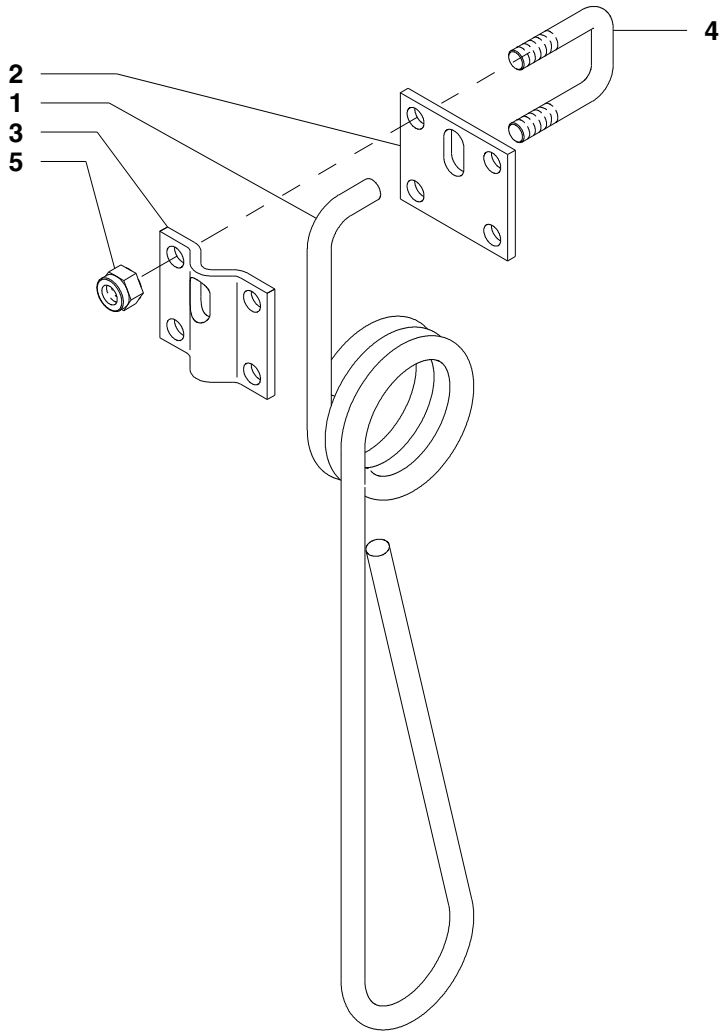
| Pos | Part No | Description | Qty |
|---|---|---|---|
| 54 | GB900124050Z | M24 BOLT | 2 |
| 55 | GB905200024Z | M24 PLAIN NUT (ZINC) | 6 |
| 56 | GB500200049 | CAP WASHER | 2 |
| 57 | GB500100111Z | BREAKAWAY PIN | 2 |
| 58 | GB919900023Z | BREAKAWAY SPRING | 2 |
| 59 | GB500400019Z | M24 WASHER (LARGE) | 2 |
| 60 | GB950200004 | RUBBER STOPPER 20mm | 4 |
| 60 | GB950200001 | RUBBER STOPPER 30mm | 2 |
| *61* | *GB90710824Z* | *M8 X 24mm WASHER* | *6* |
| *62* | *GB905400008* | *M8 NYLOC NUT (ZINC)* | *6* |
| *63* | *GB022400053V* | *WING SUPPORT MALE* | *2* |
| 64 | XBMBB32 | 32mm U BOLT | 4 |
| 65 | XBMBB | 40mm U BOLT | 4 |
| *66* | *GB905400010* | *M10 NYLOC NUT (ZINC)* | *16* |
| 67 | GB907010021Z | M10 WASHER (ZINC) | 18* |
| *68* | *GB022400054V* | *WING SUPPORT FEMALE* | *2* |
| 69 | XBMBB50 | 50mm U BOLT | 8 |
| 70 | GBBG006474 | GVAR RAM | 2 |
| 70 | MP-610/30-2 | LOCK VALVE KIT FOR GVAR RAM | 2 |
| 71 | GB996000418 | SEAL KIT | 2 |
| 72 | GB570500011Z | 1/4” NIPPLE 1.5 ORIFICE | 2 |
| 76 | GB950200058 | HOSE RETAINER | 10 |
| 77 | GB900306035Z | M6 x 35mm BOLT (ZINC) | 10 |
| *78* | *GB905300006* | *M6 NYLOC NUT (ZINC)* | *66* |
| *79* | *GB950200059* | *CABLE RETAINER* | *2* |
| *80* | *GB900106016Z* | *M6 x 35mm BOLT (ZINC)* | *4* |
| *81* | *GB907106018Z* | *M6 NYLOC NUT (ZINC)* | *4* |
| 82/83 | GB550400500 | 4 HOLE SPRAY RAIL | 4 |
| 84/85 | GB550700500 | 7 HOLE SPRAY RAIL | 4 |
| 87 | GB550600500 | 6 HOLE SPRAY RAIL | 2 |
| 88 | GB999900100 | SPRAY RAIL SUPPORT KIT | 26 |
| *89* | *GB201800418V* | *SPRAY RAIL BRACKET* | *26* |
| *90* | *GB500500004Z* | *M6 U BOLT* | *26* |
| 91 | A425130 | 2 PIECE RAIL CLAMP | 26 |
| *92* | *GB904506040X* | *M6 x 40mm SCREW STAINLESS* | *52* |
| *93* | *GB905400006X* | *M6 NYLOC NUT STAINLESS* | *52* |
| *98* | *GB900110020Z* | *BOLT* | *2* |
| 99 | GBBG000067 | BUSHING | 2 |
| *100* | *GB905100010Z* | *M10 PLAIN NUT (ZINC)* | *4* |
| *101* | *GB27160045V* | *LEVELLER SIGHT GAUGE* | *2* |

* Quantities may vary between Gvar and Standard Booms

**NOTE**

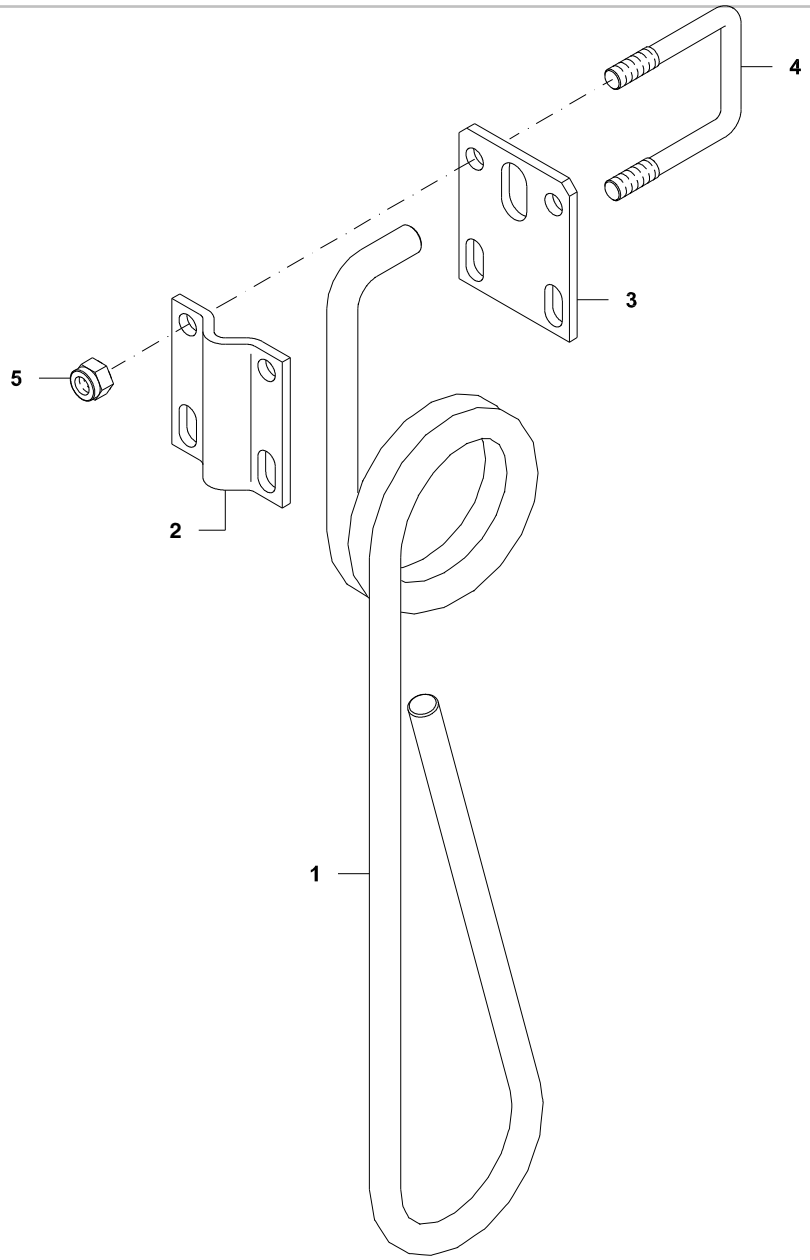
***Parts in italics are non-stock items and may need to be ordered.***

# GB990902501 - Skid Kit Pair 24m Assembly Drawings & Parts Listings

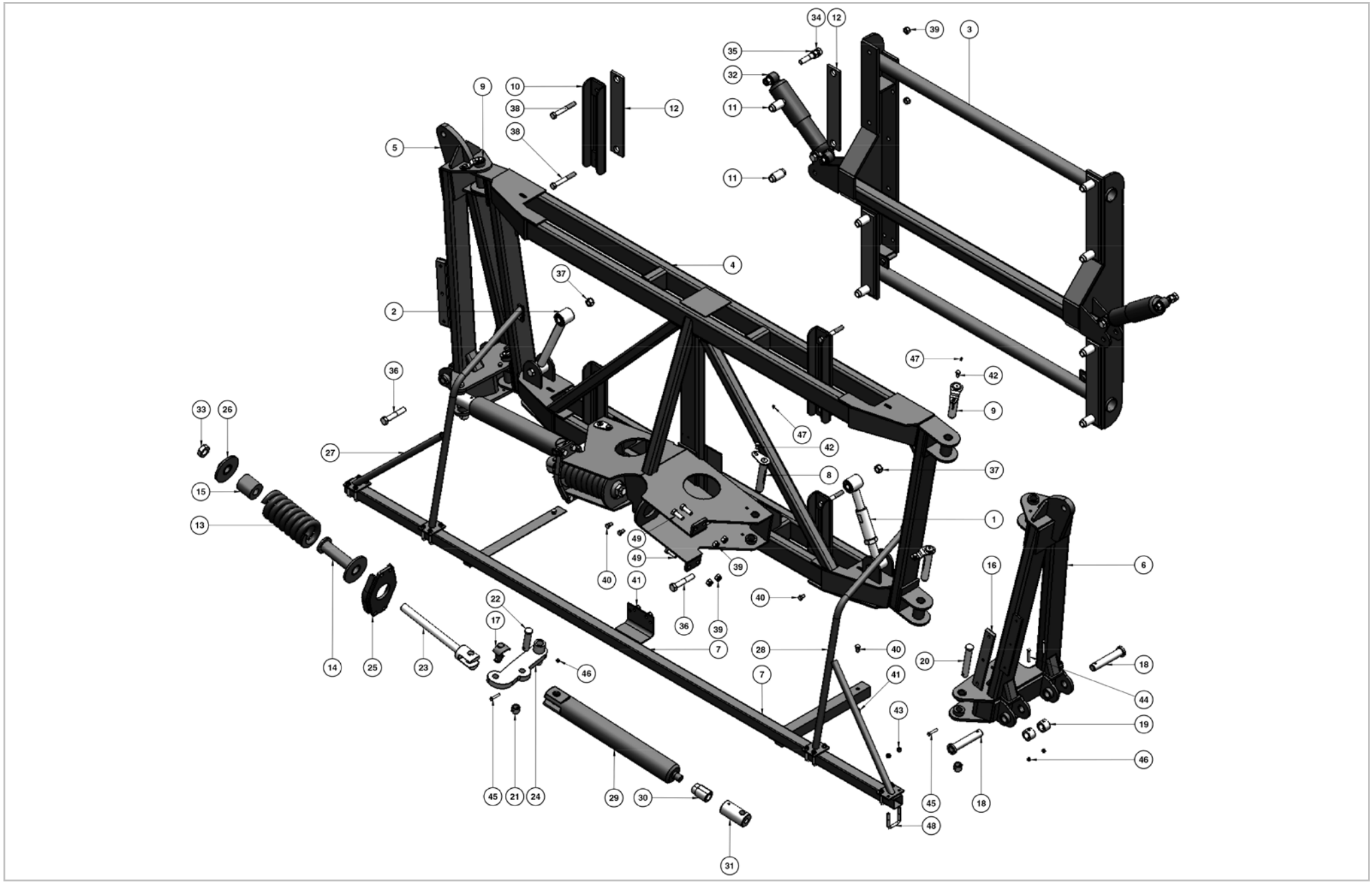



| Pos | Part No | Description | Qty |
|---|---|---|---|
| *1* | *GG919900030V* | | |
| *2* | *GG501100008V* | | |
| *3* | *GG501100009V* | | |
| *4* | *GG500500003Z* | | |

# GBBG016255 - Skid Kit Pair 28/30m




| Pos | Part No | Description | Qty |
|---|---|---|---|
| *1* | *BG016220* | | |
| *2* | *BG016280* | | |
| *3* | *BG016282* | | |
| *4* | *GG500500002Z* | | |
| *5* | *GG905400010* | | |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# AB19100-AA - 33/36m - Centre Section/Hanger V2

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | AB191-100 | SELF LEVELLER ADJUSTER | 1 |
| 2 | AB191-101 | SELF LEVELLER FIXED ARM | 1 |
| 3 | AB19101 | CENTRE SECTION HANGER | 1 |
| 4 | AB19102A | CENTRE SECTION MAIN FRAME | 1 |
| 5 | AB19103BL | INNER FOLD PIVOT L.H. | 1 |
| 6 | AB19103BR | INNER FOLD PIVOT R.H. | 1 |
| 7 | AB19108 | CENTRE SPRAY BAR SUPPORT | 1 |
| 8 | AB19120A | PIN Z BAR PIVOT | 2 |
| 9 | AB19120 | INNER FOLD PIVOT PIN | 4 |
| 10 | AB19121 | WEAR PAD SUPPORT | 4 |
| 11 | AB19122 | WEAR PAD SPACER | 8 |
| 12 | AB19123 | WEAR PAD SELF LEVELLER | 8 |
| 13 | AB19127 | SPRING YAW CENTRE FRAME | 2 |
| 14 | AB19131A | SPRING BUFFER HOLDER | 2 |
| 15 | AB19131A-1 | BUFFER POLY URETHANE | 2 |
| 16 | AB19143 | BOOM FOLD STOP PAD | 2 |
| 17 | AB19156C | CYLINDER CLEVIS BOOM PIN VER 2 | 2 |
| 18 | AB19183-130 | PIN FIRST ARM 164 X 30 | 4 |
| 19 | AB19183-2 | COLLAR DIA 30MM | 4 |
| 20 | AB19184-125 | PIN FOLD CYLINDER 155 X 25.4 | 2 |
| 21 | AB19184-2 | COLLAR DIA 25.4MM | 4 |
| 22 | AB19184-70 | PIN FOLD CYLINDER 100 X 25.4 | 2 |
| 23 | AB19191B | PIN YAW SPRING CLEVIS END | 2 |
| 24 | AB19192F | INNER FOLD Z BAR | 2 |
| 25 | AB19193 | YAW SPRING CLAMP | 2 |
| 26 | AB19194A | SPRING BUFFER HOLDER | 2 |
| 27 | AB19195L | BOOM PROTECTION L.H. | 1 |
| 28 | AB19195R | BOOM PROTECTION R.H. | 1 |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 29 | AB19199 | CYLINDER INNER FOLD 3” X 16” EZFIT | 2 |
| 30 | AB19199-M | ROD END MALE INNER FOLD CYLINDER | 2 |
| 31 | AB19199-F | ROD END FEMALE INNER FOLD CYLINDER | 2 |
| 32 | BP-607 | SHOCK ABSORBER AIR RIDE P126 | 2 |
| 33 | 1.25NNUTUNF | 1 1/4” UNF LOCK NUT | 2 |
| 34 | 0.75X100UNCBOLT | 3/4” X 4” UNC BOLT HT ZP | 4 |
| 35 | 0.75UNCNNUT | 3/4” UNC NYLOC NUT HT ZP | 6 |
| 36 | M20X110BOLT | M20 X 110 HEX HEAD BOLT HT ZP | 4 |
| 37 | M20NNUT | M20 NYLOC NUT HT ZP | 4 |
| 38 | M16X120BOLT | M16 X 120 HEX HEAD BOLT HT ZP | 8 |
| 39 | M16NNUT | M16 NYLOC NUT HT ZP 1 | 6 |
| 40 | M12X20 | M12 X 20 HEX HEAD SET SCREW HT ZP | 6 |
| 41 | M12NNUT | M12 NYLOC NUT HT ZP | 4 |
| 42 | M10X20 | M10 X 20 SET SCREW HT ZP | 6 |
| 43 | M10NNUT | M10 NYLOC NUT HT ZP 1 | 6 |
| 44 | M8X55BOLT | M8 X 55 HEX HEAD BOLT HT ZP | 4 |
| 45 | M8X45BOLT | M8 X 45 HEX HEAD BOLT HT ZP | 4 |
| 46 | M8NNUT | M8 NYLOC NUT HT ZP | 8 |
| 47 | M6GNIPPLE | M6 GREASE NIPPLE | 6 |
| 48 | XBMBB50 | U-BOLT 50MM X 10 | 8 |
| 49 | M16X45 | M16 X 45 HEX HEAD SET SCREW HT ZP | 8 |

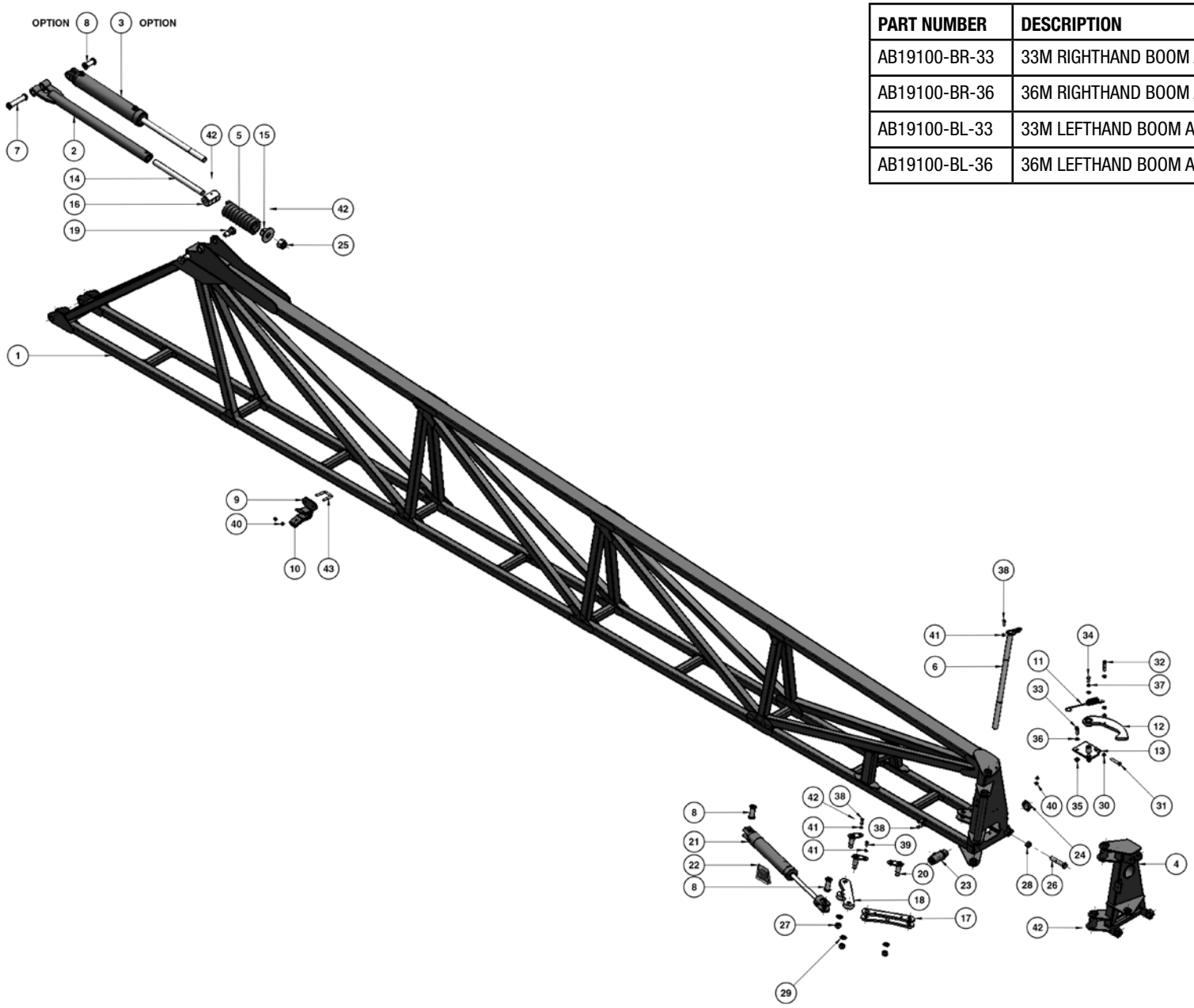
**NOTE**

***Parts in italics are non-stock items and may need to be ordered.***

# Complete Left/Right Boom Arm 33/36m

## Assembly Drawings & Parts Listings

| PART NUMBER | DESCRIPTION |
|---|---|
| AB19100-BR-33 | 33M RIGHTHAND BOOM ARM COMPLETE |
| AB19100-BR-36 | 36M RIGHTHAND BOOM ARM COMPLETE |
| AB19100-BL-33 | 33M LEFTHAND BOOM ARM COMPLETE |
| AB19100-BL-36 | 36M LEFTHAND BOOM ARM COMPLETE |



# Complete Left/Right Boom Arm 33/36m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | AB19107R | FIRST ARM R.H. 33/36M | 1 |
| | AB19107L | FIRST ARM L.H. 33/36M | 1 |
| 2 | AB19100-A-2 | FIXED WINGTIP ADJUSTMENT | 1 |
| 3 | AB19100-A-3 | HYDRAULIC WINGTIP ADJUSTMENT | 1 |
| 4 | AB19113CR | FOLD PIVOT OUTER R.H. | 1 |
| | AB19113CL | FOLD PIVOT OUTER L.H. | 1 |
| 5 | AB19135 | PIN 36M 1ST ARM TO 2ND | 1 |
| 6 | AB19150-130 | PIN 130 X 30 | 1 |
| 7 | AB19150-65 | PIN 65 X 25.4 | 3 |
| 8 | AB19157A | BRACKET OUTER BOOM | 1 |
| 9 | AB19157Apad | PAD OUTER BOOM SUPPORT | 1 |
| 10 | AB19159 | SPRING LOCK ARM | 1 |
| 11 | AB19160R | ARM HINGE LOCK R.H. | 1 |
| | AB19160L | ARM HINGE LOCK L.H. | 1 |
| 12 | AB19161R | PLATE HINGE LOCK RH | 1 |
| | AB19161L | PLATE HINGE LOCK L.H. | 1 |
| 13 | AB19163 | ROD G-FIX | 1 |
| 14 | AB19164 | SPRING RETAINER PLATE | 1 |
| 15 | AB19165 | PIVOT BLOCK | 1 |
| 16 | AB19178 | ARM FOLD PIVOT OUTER | 1 |
| 17 | AB19179 | LINK PLATE OUTER FOLD RAM | 1 |
| 18 | AB19180 | PIN PIVOT BLOCK | 2 |
| 19 | AB19181 | PIN OUTER FOLD SCISSOR JOINT | 3 |
| 20 | AB19197 | CYLINDER OUTER FOLD 3.5 X 12 | 1 |
| 21 | AB19197-SK | SEAL KIT HP-016 CYLINDER | 1 |
| 22 | AB20800 | CYLINDER FOLD LOCK 35 X 38.1 | 1 |
| 23 | AB20800-1 | LOCK NUT 1 1/4” BSP | 1 |
| 24 | 1.25UNFNNUT | 1 1/4” UNF NYLOC NUT | 1 |

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 25 | M20X100BOLT | M20 X 100 HEX HEAD BOLT HT ZP | 1 |
| 26 | M20NNUT | M20 NYLOC NUT HT ZP | 3 |
| 27 | M20HNUT | M20 HALF NUT ZP | 1 |
| 28 | M20FWASHER | M20 FLAT WASHER ZP | 3 |
| 29 | M12HNUT | M12 HEX NUT HT ZP | 2 |
| 30 | M12X70 | M12 X 70 SET SCREW HT ZP | 1 |
| 31 | M12X60BOLT | M12 X 60 BOLT HT ZP | 1 |
| 32 | M12X40 | M12 X 40 SET SCREW HT ZP | 3 |
| 33 | M12X25 | M12 X 25 SET SCREW HT ZP | 1 |
| 34 | M12NNUT | M12 NYLOC NUT HT ZP | 3 |
| 35 | M12FWASHER | M12 FLAT WASHER ZP | 12 |
| 36 | M12SWASHER | M12 SPRING WASHER ZP | 1 |
| 37 | M10X30 | M10 X 30 SET SCREW HT ZP | 4 |
| 38 | M10X20 | M10 X 20 SET SCREW HT ZP | 2 |
| 39 | M10NNUT | M10 NYLOC NUT HT ZP | 6 |
| 40 | M10FWASHER | M10 FLAT WASHER ZP | 8 |
| 41 | M6GNIPPLE | M6 GREASE NIPPLE | 11 |
| 42 | XBMBB50 | U-BOLT 50MM X 10 | 1 |

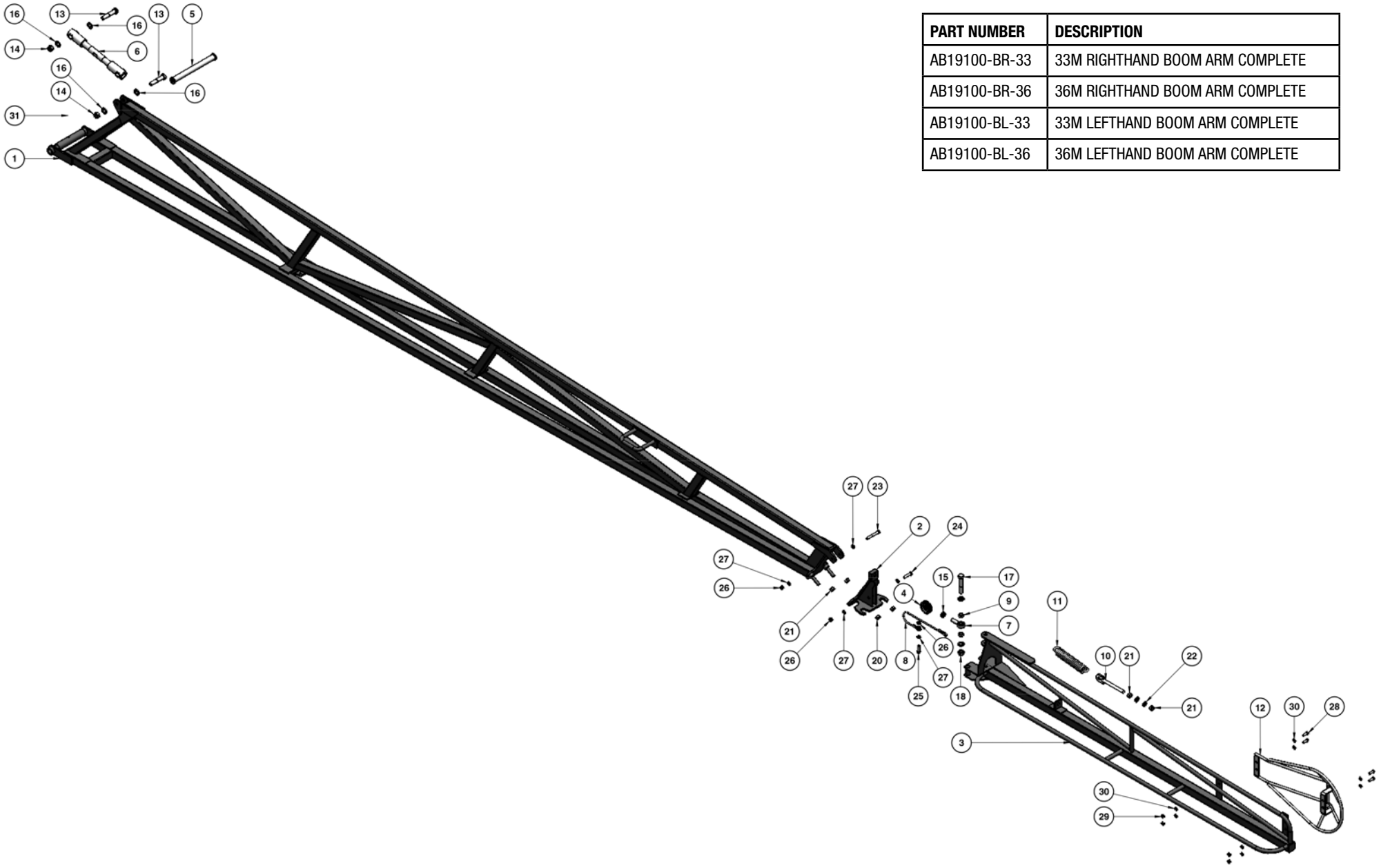
**NOTE**

***Parts in italics are non-stock items and may need to be ordered.***

# Complete Left/Right Boom Arm 33/36m

Assembly Drawings & Parts Listings

| PART NUMBER | DESCRIPTION |
|---|---|
| AB19100-BR-33 | 33M RIGHTHAND BOOM ARM COMPLETE |
| AB19100-BR-36 | 36M RIGHTHAND BOOM ARM COMPLETE |
| AB19100-BL-33 | 33M LEFTHAND BOOM ARM COMPLETE |
| AB19100-BL-36 | 36M LEFTHAND BOOM ARM COMPLETE |



# Complete Left/Right Boom Arm 33/36m

| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | AB19109AL | BOOM ARM OUTER LH 36M | 1 |
| | AB19109AR | BOOM ARM OUTER RH 36M | 1 |
| | AB19110L | BOOM ARM OUTER LH 33M | 1 |
| | AB19110R | BOOM ARM OUTER LH 33M | 1 |
| 2 | AB19111A | BREAK-AWAY HITCH | 1 |
| 3 | AB19106AL | BREAK-AWAY TIP | 1 |
| 4 | AB19126-5 | PULLEY | 1 |
| 5 | AB19152-330A | PIN OUTER BOOM SUPPORT | 1 |
| 6 | AB21200A | TOP LINK ADJUSTMENT | 1 |
| | AB21200A-1 | BUSH | 2 |
| 7 | AB19126-4 | MALE ROD END | 1 |
| 8 | AB19126-6 | CABLE, PULLEY | 1 |
| 9 | AB19126-7 | SPACER BUSH | 2 |
| 10 | MP-413 | ADJUSTABLE SPRING HITCH | 1 |
| 11 | MP-519 | SPRING | 1 |
| 12 | MP-598A | PROTECTION BRACKET FENCELINE V2 | 1 |
| 13 | 0.75X100UNCBOLT | 3/4” X 4” UNC BOLT HT ZP | 2 |
| 14 | 0.75UNCNNUT | 3/4” UNC NYLOC NUT HT ZP | 2 |
| 15 | 0.75UNFHHNUT | 3/4” UNF HEX HALF NUT | 1 |
| 16 | 0.75FWASHER | 3/4” FLAT WASHER ZP | 4 |
| 17 | M20X100BOLT | M20 X 100 HEX HEAD BOLT HT ZP | 1 |
| 18 | M20NNUT | M20 NYLOC NUT HT ZP | 1 |
| 19 | M20FWASHER | M20 FLAT WASHER ZP | 2 |
| 20 | M16NNUT | M16 NYLOC NUT HT ZP | 2 |
| 21 | M16HNUT | M16 HEX NUT HT ZP | 4 |
| 22 | M16FWASHER | M16 FLAT WASHER ZP | 2 |
| 23 | M12X90 | M12 X 90 BOLT HT ZP | 1 |
| 24 | M12X50 | M12 X 50 SET SCREW HT ZP | 1 |
| 25 | M12X40 | M12 X 40 HEX HEAD SET SCREW HT ZP | 1 |
| 26 | M12NNUT | M12 NYLOC NUT HT ZP | 3 |
| 27 | M12FWASHER | M12 FLAT WASHER ZP | 7 |
| 28 | M10X30 | M10 X 30 SET SCREW HT ZP | 4 |
| 29 | M10NNUT | M10 NYLOC NUT HT ZP | 4 |
| 30 | M10FWASHER | M10 FLAT WASHER ZP | 8 |
| 31 | M6GNIPPLE | M6 GREASE NIPPLE | 1 |

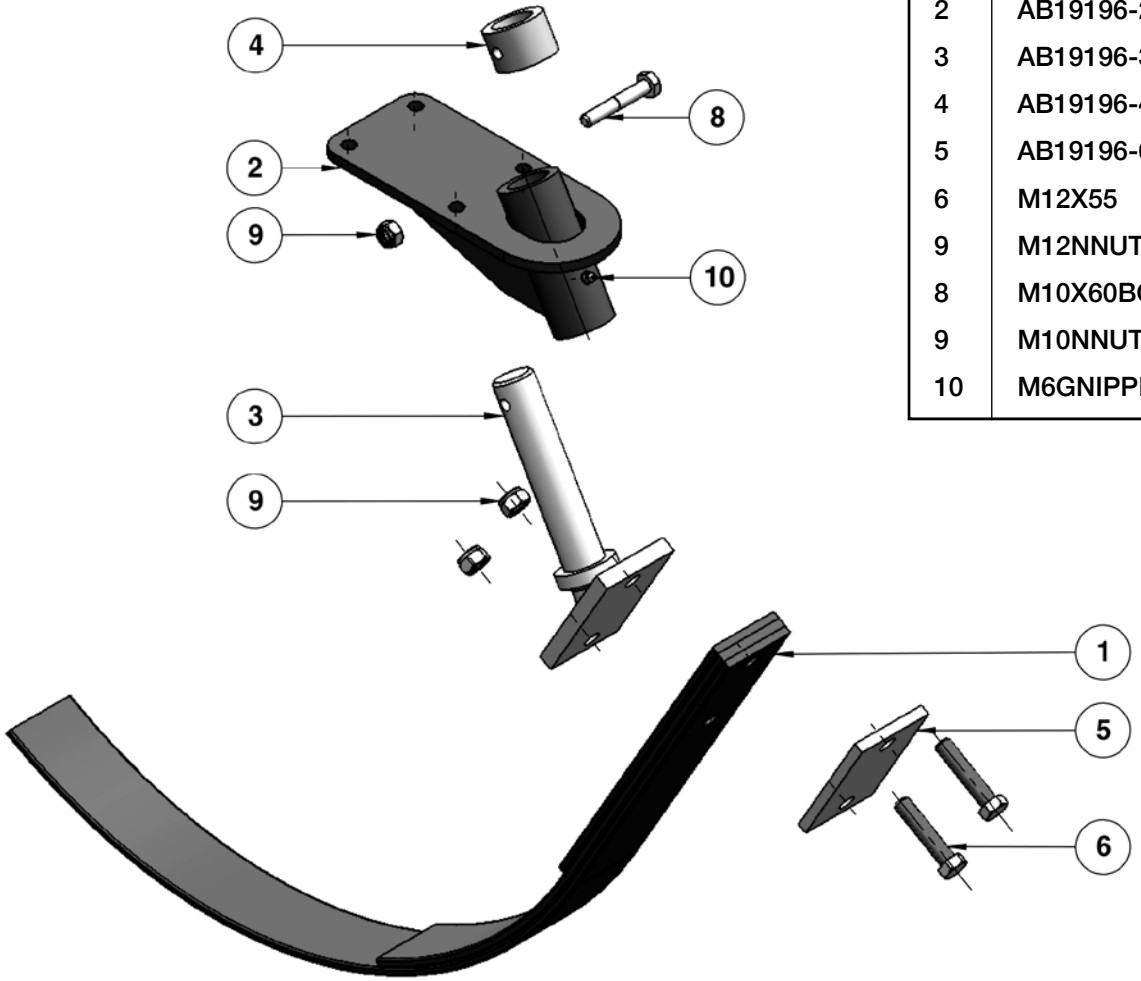
**NOTE**

***Parts in italics are non-stock items and may need to be ordered.***

## AB19106A-(L or R)-KIT - Complete Breakaway Assembly

| | | | |
|---|---|---|---|
| 2 | AB19111A | BREAK-AWAY HITCH | 1 |
| 3 | AB19106AL | BREAK-AWAY TIP | 1 |
| 4 | AB19126-5 | PULLEY | 1 |
| 7 | AB19126-4 | MALE ROD END | 1 |
| 8 | AB19126-6 | AB19126-6 CABLE, PULLEY | 1 |
| 9 | AB19126-7 | SPACER BUSH | 2 |
| 10 | MP-413 | ADJUSTABLE SPRING HITCH | 1 |
| 11 | MP-519 | SPRING | 1 |
| 15 | 0.75UNFHHNUT | 3/4” UNF HEX HALF NUT | 1 |
| 17 | M20X100BOLT | M20 X 100 HEX HEAD BOLT HT ZP | 1 |
| 18 | M20NNUT | M20 NYLOC NUT HT ZP | 1 |
| 20 | M16NNUT | M16 NYLOC NUT HT ZP | 2 |
| 21 | M16HNUT | M16 HEX NUT HT ZP | 4 |
| 22 | M16FWASHER | M16 FLAT WASHER ZP | 2 |
| 24 | M12X50 | M12 X 50 SET SCREW HT ZP | 1 |
| 25 | M12X40 | M12 X 40 HEX HEAD SET SCREW HT ZP | 1 |
| 26 | M12NNUT | M12 NYLOC NUT HT ZP | 3 |
| 27 | M12FWASHER | M12 FLAT WASHER ZP | 7 |
| 28 | M10X30 | M10 X 30 SET SCREW HT ZP | 4 |
| 29 | M10NNUT | M10 NYLOC NUT HT ZP | 4 |
| 30 | M10FWASHER | M10 FLAT WASHER ZP | 8 |

# AB19196 - 33/36m - Skid Complete Single Assembly Drawings & Parts Listings




| Pos | Part No | Description | Qty |
|---|---|---|---|
| 1 | AB19196-1 | SKID SET 3 PIECE | 1 |
| 2 | AB19196-2 | SKID MOUNT 36M BOOM FEMALE | 1 |
| 3 | AB19196-3 | SKID MOUNT SHAFT AB191 BOOM | 1 |
| 4 | AB19196-4 | COLLAR DIA 30MM | 1 |
| 5 | AB19196-6 | SKID LEAF CLAMP | 1 |
| 6 | M12X55 | M12 X 55 SET SCREW HT ZP | 2 |
| 9 | M12NNUT | M12 NYLOC NUT | 2 |
| 8 | M10X60BOLT | M10 X 60 BOLT HT ZP | 1 |
| 9 | M10NNUT | M10 NYLOC NUT HT ZP | 1 |
| 10 | M6GNIPPLE | M6 GREASE NIPPLE | 1 |

# SECTION 8
## BT-PRIME

### PRIME – RECIRCULATION - FLUSH

Pegasus models, BT-PRIME. This is an advanced plumbing system that features high volume

Boom Prime – Recirculation – Reverse Flush, for ....

- Improved spray efficiency (boom lines are always fully charged, ready to spray)
- Reduced lag times, wear and tear on the main pressure regulator (servo) valve
- Instant nozzle shut-off's

**Standard*** fitment for Pegasus 8000 & 7000 models

* Exceptions apply, see below.

**Optional** feature for Pegasus 6000 & 5000 models

* Exceptions apply, see below.

The BT-PRIME system is designed to aid agitation and ensure the boom is fully primed with fresh chemical from the very first headland spray hence increasing sprayer efficiency and productivity whilst also reducing product wastage and minimising environmental impact.

* Exceptions: BA7000 Controller doesn't support metering valves (fitted with bleeder valves only). Pegasus 8000's existing boom flush system (multiple boom flush taps) is replaced by a "flush to tank" or "flush to ground" ball valve (as use on all BT-Prime's).

### OVERVIEW

Wherever this system is installed, the plumbing system will utilise Metering and Bleeder valves fitted to the boom section valves.

**Metering devices** maintain a constant pressure when either turned on or off. Farmers using GPS Section Control will notice the rapid response turning nozzles on at the correct pressure for better application.

# SECTION 8
## BT-PRIME

(This system replaces the "conventional" controls whereby the pressure regulating (servo) valve slowly chases the pressure demands as sections turn on and off).

**Bleeder Valves** rapidly dump the residual boom line pressure trapped between the Boom Section valves and the 1.4 bar non-drip valves at the nozzle body (note this is 1.4 bar opening / 1.0 bar closing). Operators will notice fast boom section shut off with little dripping.

The 1.4 Bar Arag nozzle non-drip is identified by the grey coloured insert.

**1.4 Bar Nozzle non-drip valves** are fitted as standard to the BT-PRIME system, it might be Arag or TeeJet.

The 1.4 Bar Arag nozzle non-drip is identified by the grey coloured insert.


The 20 psi (1.38 bar) TeeJet nozzle non-drip is identified by the number "20" printed on the cap.

The 20 psi (1.38 bar) TeeJet nozzle non-drip is identified by the number "20" printed on the cap **(blue circle)**.

The system recirculates fluid from the outside of the boom towards the centre within seconds, ensuring the tank mix is correct from the very first spray.

Flushing the boom is safe and efficient with the system reverse flushing from the outside of the boom through the boom section valves, returning to the main tank ...

or

to ground via a single tap which is more efficient and safer (compared to a tap at the end of each boom section).

***Activation;*** the system is activated via the controller master switch being set to OFF in the tractor cab making it safe and efficient for the operator.

## OPERATION

1. **Setting the Metering valves** (constant pressure regulating valves).

   Having well-adjusted metering valves will significantly improve the main servo valve's functionality and life cycle. Generally, the metering will only require checking when making a major change in nozzle size.

   Setting up or testing is best done with fresh water in the main tank.

   a. Pump on. Turn all sections ON (in spray mode).

   b. Set the system pressure to slightly above expected operational pressures – say 4 or 5 Bar.

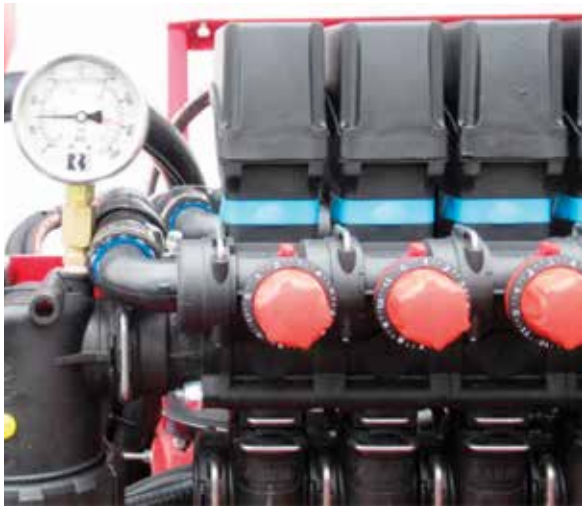
# SECTION 8
## BT-PRIME

c. The **"secret"** is to set each section one by one. Individually turn OFF each section and see what happens to the pressure. Adjust the metering valve (red knob) until the pressure comes back to chosen pressure (i.e. 5 bar). Once set, turn the section back on – the pressure shouldn't change.

- A pressure gauge connected to the filter / bank of section valves to make this process easier from the back of the sprayer. Flow goes back to tank.
- The actual number indicated on the metering valve is not important as can be seen below.

d. Continue this process for all sections, one at a time.

e. Once completed, perform a final check by turning section(s) on and off at random. The pressure should always stay the same.



2. The **PRIME** / Recirculation system is automatically operational once the pump is running, section valves off and the rate controller master switch is OFF.
3. **FLUSHING** (Quick **flush of nozzles** to ground).
   a. Select the fresh water source (Flushing tank).
   b. Perform a conventional boom flush – Master on, all boom sections on.
4. **REVERSE FLOW FLUSH** (Flush of lines)
   a. Turn sections valves OFF, turn Master OFF. The full reverse flow flush is now active, flushing to either the main tank or ground (as per images below).
   b. The BT-PRIME system has a Flushing ball valve located at the rear of the sprayer. Select either "flush to ground", or "flush (Prime / Recirc) to main (tank)", as required.
   c. Upon completion of reverse flushing, turn the flushing ball valve back to "Prime/Recirc to main tank". Note this is the normal ball valve position for a Quick flush of the nozzles to ground – as per point #3.



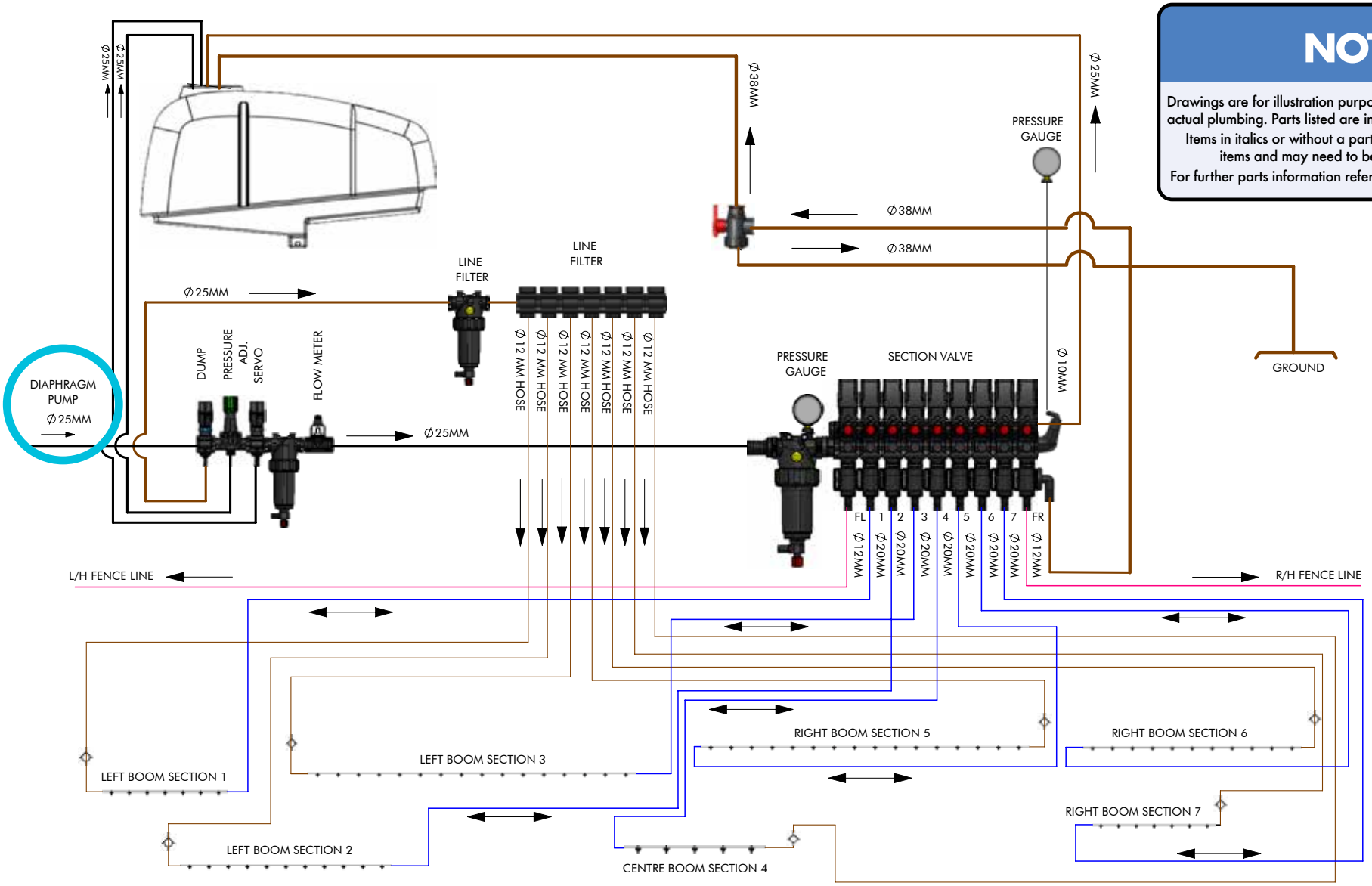
5. Refer to Operators manual for tank rinse, agitator rinse and tank draining functions.

NOTE: With the BT-Prime option, there are no individual boom flushing taps fitted to the boom (including Pegasus 8000). Clean filters regularly.

# SECTION 8

## BT-PRIME FOR PEGASUS

### DIAPHRAGM PUMP REV 2A




**NOTE**

Drawings are for illustration purpose only - refer to sprayer for actual plumbing. Parts listed are indicative of the sprayer type.
Items in italics or without a part number are non stocked items and may need to be specially ordered.
For further parts information refer to: www.croplands.com.au

PRIMING LINE SPRAY LINE

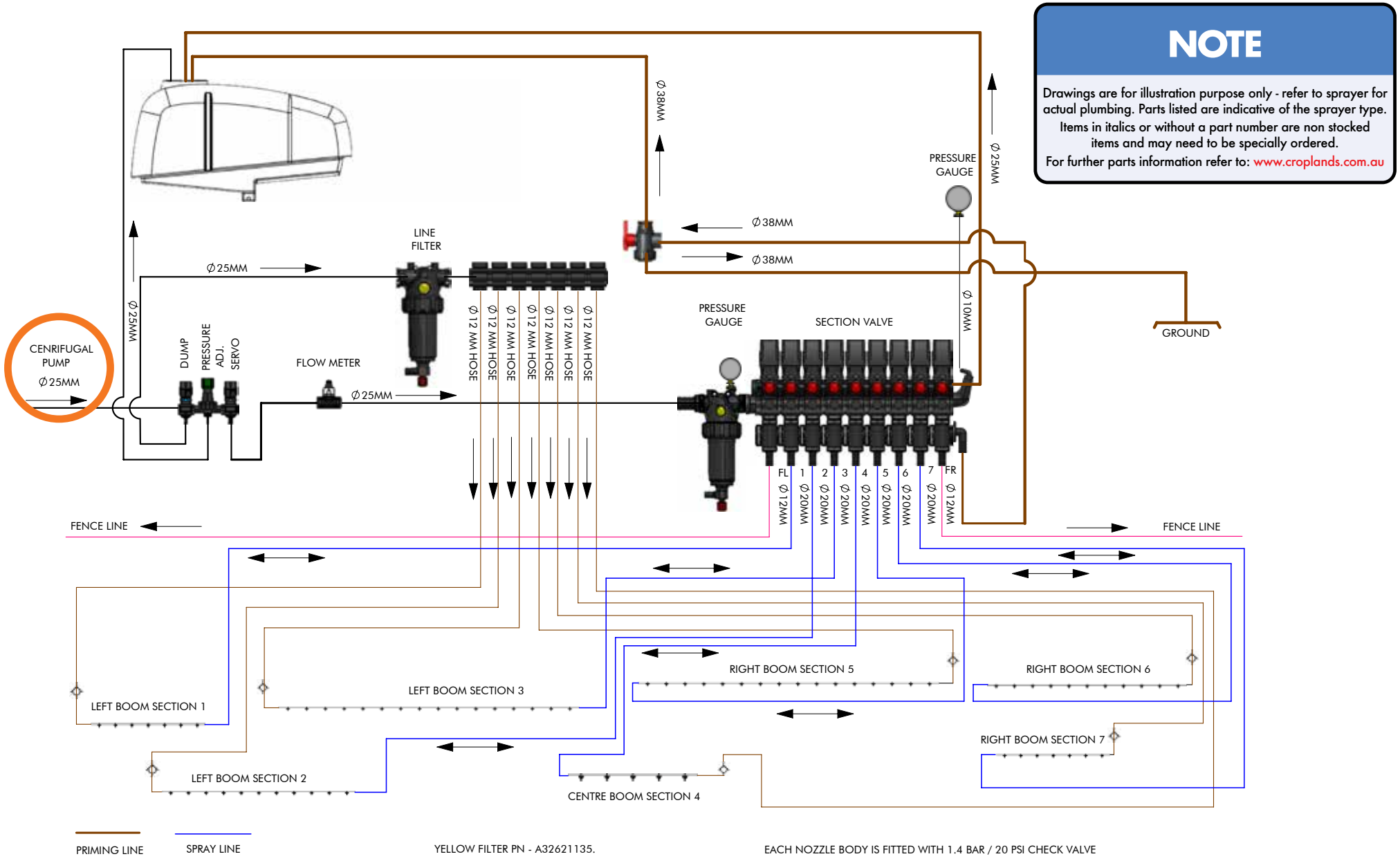
YELLOW FILTER PN - A32621135.

EACH NOZZLE BODY IS FITTED WITH 1.4 BAR / 20 PSI CHECK VALVE

# SECTION 8

## BT-PRIME FOR PEGASUS

### CENTRIFUGAL PUMP REV 2A



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