CROPLANDS

OPERATORS MANUAL
SONIC BROADACRE
7000, 10000, 13000 MODELS

WWW.CROPLANDS.COM.AU

STOP

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

BT-OMSONICBA-A

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

SECTION 1
IMPORTANT INFORMATION

ABOUT THIS MANUAL

This manual provides assembly, setting up, operating and maintenance instructions for the Croplands Sonic 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-OMSONICBA-A, was published in November 2023. Sustainable print update; Nov 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.

NOTE

To convey useful operating information.

WARNING

To stress potential dangers and the importance of personal safety.

CAUTION

To highlight potential injury or machinery damage.

DANGER

Probability of death or serious injury if an accident occurs

BEFORE OPERATING YOUR SPRAYER

1. 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.

2. Read and follow instructions on chemical manufacturers' labels.
3. Always wear applicable protective clothing.

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.

SECTION 1
IMPORTANT INFORMATION

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.

SECTION 2
SAFETY

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 website, or for printed versions contact Croplands customer support and ask for part number GP-SAFE-A (or later version if available).

SONIC CONTENTS

INTRODUCTION

Congratulations on your purchase of a Croplands SONIC Boomspray.

Croplands SONIC is a well known Australian manufacturer of premium quality boomsprays and has gained an enviable reputation for quality and reliability of its products, gained from years of contracting, listening and acting on the feed back from our customers.

Croplands SONIC sprayers are well known for their structural integrity, ease of use and extremely long life.

Croplands SONIC is dedicated to on-going research and development and to this end welcome any comments from the users of this product. Please examine the machine completely on receipt and report any damage or missing parts to your Croplands SONIC dealer as soon as possible. Every care has been taken with the assembly of this product, however due to transport, machine error or human error during assembly, problems can occur.
This machine has been water tested at the factory and every effort has been made to eliminate any water leaks. With proper care and maintenance this machine will give you many years of trouble free service.

***NOTE:** Specifications may change due to on-going development.*

Intended Use:

Sonic Boomsprays are designed to be used for multipurpose spraying of herbicides, pesticides and fertilizers.
They are not to be used for pumping or spraying flammable materials.

SAFETY REQUIREMENTS

BOOMSPRAY OPERATION

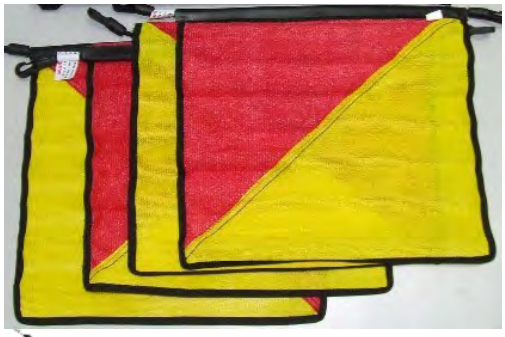
1) Read your operator's manual thoroughly before operating the sprayer.
2) Do not under any circumstance ride on or allow anyone else on sprayer at any time.
3) Ensure boom is secured in the transport position before transporting on public roads.
4) Always ensure tank lid is closed before moving off **or** before tank rinse is operated.
5) Inspect hose fittings and jets daily for signs of wear.
6) Do NOT couple or uncouple Hydraulic connectors under pressure. **If hydraulic fluid enters skin seek medical attention immediately as gangrene can occur.**
6) Always read chemical manufactures labels before use (**READ THE LABEL, HEED THE LABEL**).
7) Always observe all warnings on chemical containers. Always dispose of chemical containers and mixed chemicals in accordance with local and State laws.
8) Do not disconnect hoses, jets or filters while sprayer is operating.
9) Never under any circumstance enter the main tank without the appropriate safety equipment.
10) Always keep chemicals in a safe place out of the reach of children.
11) Do not contaminate dams, rivers or streams with spray or chemical containers. Fish and bees are particularly susceptible to chemical poisoning.
12) Some local community groups operate container-recycling services, **it is advisable to take advantage of these.**
13) Always **triple rinse** containers and **do not** burn them.

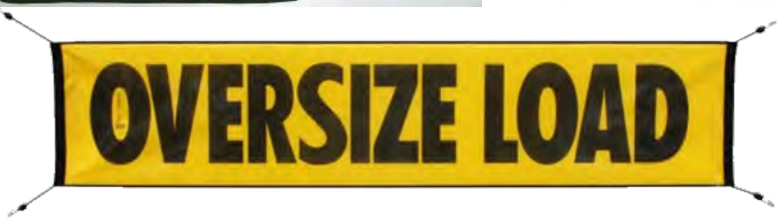
ROAD LAWS COMPLIANCE

Some models of Sonic Boomsprays will exceed legal dimension limits and will require the following to be towed on public roads:

- A pilot
- Oversize signs
- Flashing lights
- Flags

Sonic Boomsprays are not designed to exceed 40kph when towed or driven on a public road.





CHEMICAL SAFETY AND HANDLING

WEAR YOUR PPE EQUIPMENT

Personal Protection Equipment

A basic Personal Protection Equipment kit has been provided for the operator in the equipment tool box located at the front hitch. Please wear this equipment when handling or dealing with chemicals, pesticides etc.

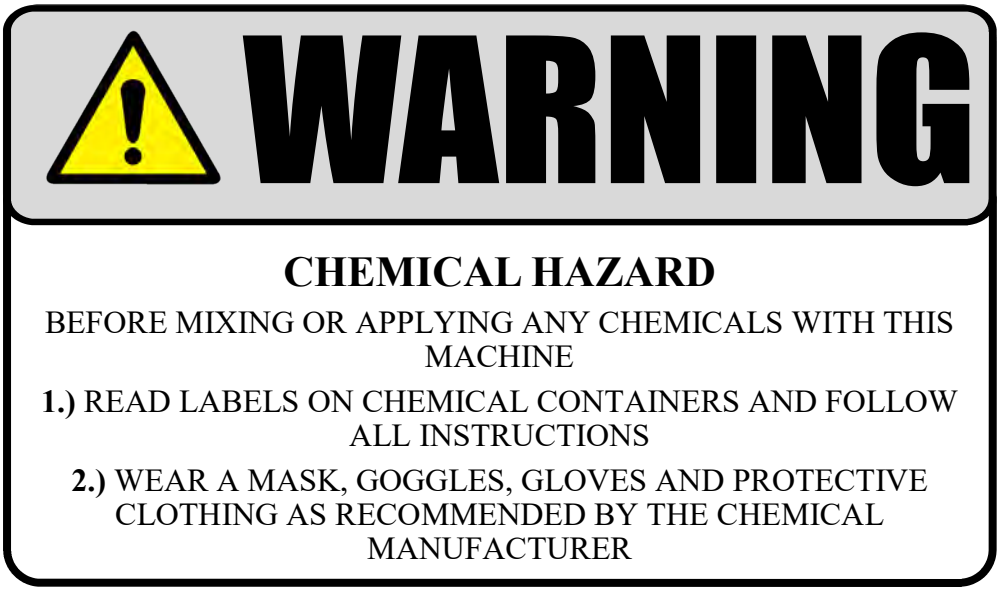
PPE equipment should be kept in good working order:

- Inspect regularly; equipment should be fit for purpose, no holes, no liquid penetration etc.
- Change respirator filters as recommended by safety equipment manufacturer.
- Contaminated equipment should be replaced

SONIC Safety kit contains:

1x Disposable coverall (XL)
1x Safety goggles anti-fog (Clear)
1x Eye wash bottle
1x Nitrile gloves, long (XL) / pair
1x Half face respirator with twin chemical filters

SAFETY



CHEMICAL SAFETY AND HANDLING

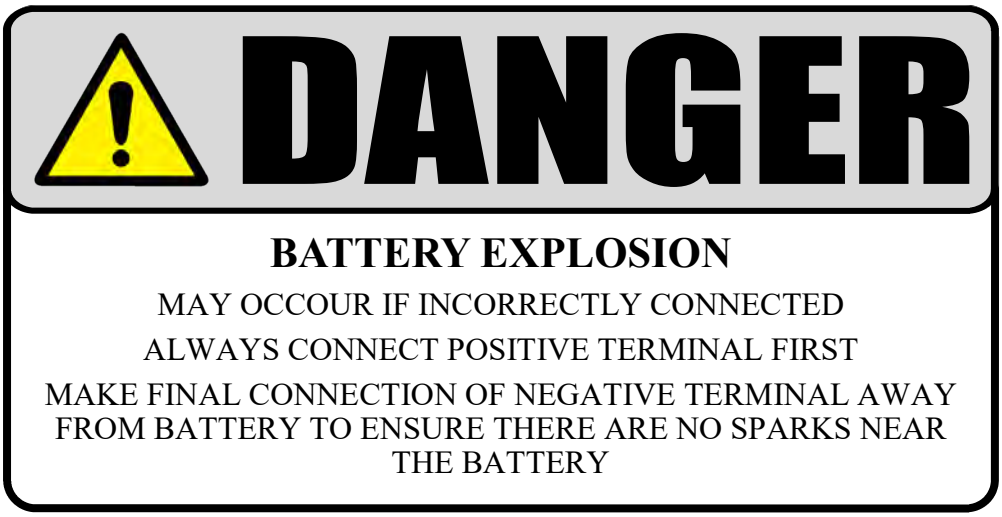
- All chemicals and pesticides are dangerous when handled incorrectly or carelessly.
- They can be a danger to humans, crops and animals.
- The safe handling and application of chemicals and pesticides is of the utmost importance to the operator and the rest of the farming community.
- You are legally required to obtain Material Safety Data Sheets (MSDS) for hazardous mate-rials and make them available to the people using the material
- Read the MSDS sheet and the container label and follow all instructions.
- Be aware of its effect on adjacent crops (chemical drift) and or animals (bees, fish) or humans.
- Does it have a withholding period?
- Use the appropriate safety clothing for the chemicals being used. "**The operator is at the greatest risk when handling the concentrate**".
- Triple rinse all containers before disposal. "**It makes sense to use all the chemical, you paid for it**".
- Dispose of containers at a designated disposal site.
- Do not mix more chemicals than is necessary. "**It is a costly waste**".
- Always wash as soon as possible after spraying.
- Wash before eating or drinking.
- **Always** have clean water on hand in case of contamination in the field.
- Always keep chemicals in a safe place and away from children.
- Use activated charcoal cabin filters where available and appropriate.
- Do not enter cabins wearing contaminated safety clothing

Safety Gear is available from your **SONIC** dealer or reputable chemical resellers and safety equipment suppliers.

EMERGENCY PROCEDURES

Read the MSDS sheets to determine emergency procedures for all materials, and ensure that the emergency facilities specified are always available.

MACHINE SET UP



Fitting of Computer
Always fit computer first before setting up any other part of Machine.
Power wire for computer must be connected to battery.
Please refer to computer manual for this set up.
All electrics are 12 Volt DC and negative earth.

Programming of Computer
Programming of computer is set from factory.
The following should be checked: (if factory fitted computer)

Wheel Calibration _____

Flow Calibration _____

Section Width Calibration

Section 1 _____ Section 6 _____

Section 2 _____ Section 7 _____

Section 3 _____ Section 8 _____

Section 4 _____ Section 9 _____

Section 5 _____ Section 10 _____

MACHINE SET UP

- **Connecting Hydraulics:** The hydraulic hoses for boom functions are colour coded for easy identification, Refer to Page 13 for colour coding.
  Note: The Hypro pump should have it's Return line connected to a **Motor Return port** on the trac-tor, please refer to recommendations on Page 14.
- **Unfolding Boom:** Make sure machine is in an open area with enough space to fold the wings in and out safely and ensure all people and vehicles are at a safe distance.
- Lift wings upwards out of cradle by using either the wing tilt or rear mast lift
- Operate the control valve very carefully to ascertain which way the booms move.
- If required swap the hoses around to suit operators preference for the remote switches in the tractor cab.
- Carefully and Slowly unfold booms to the fully open position
- If booms move too fast, adjust the hydraulic flow rate in the tractor remote settings.
- If the tractor is not fitted with a hydraulic flow control valve, use the flow control valves that can be supplied by Sonic Boomsprays (Fig.1). Adjust valve to smooth folding speed then lock off valve with allen key grub screw fitted.

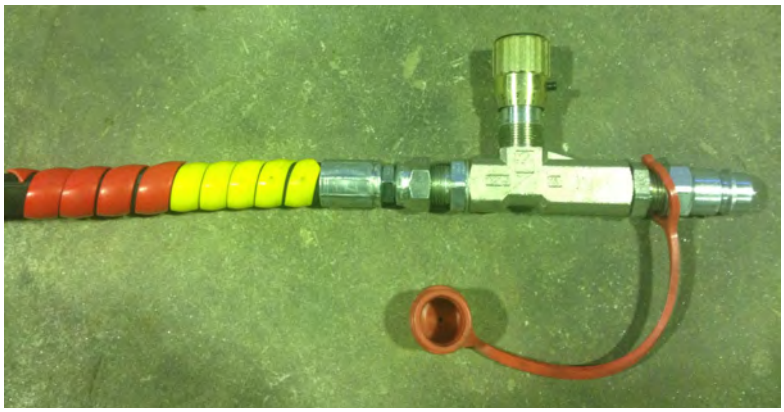
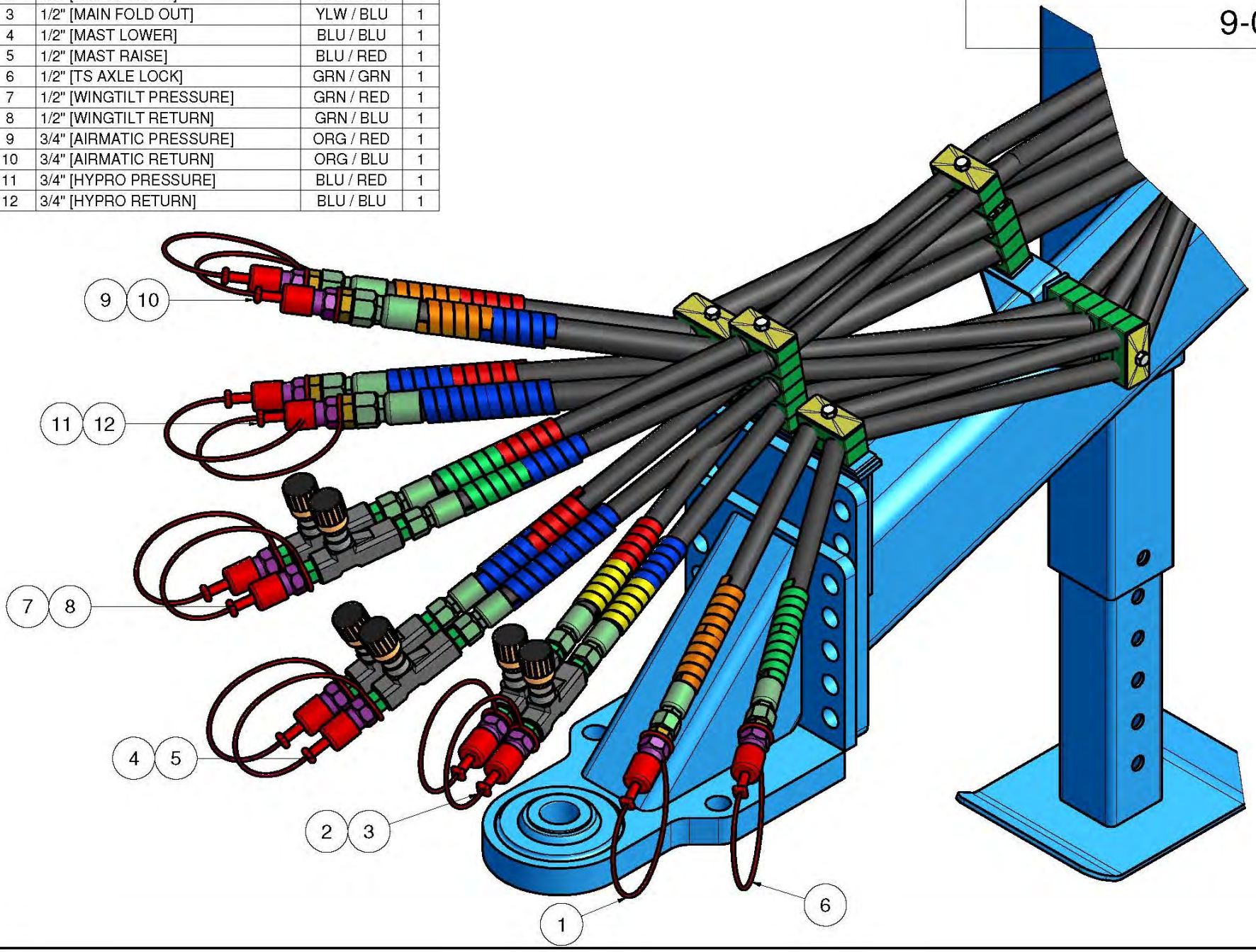


Fig.1 **Hydraulic Flow Control Valve**

HYD. HOSE COLOUR CODES

9-02-HC-00

ITEM	DESCRIPTION	NOTES	QTY
1	1/2" [AIRMATIC CASE DRAIN]	ORG / ORG	1
2	1/2" [MAIN FOLD IN]	YLW / RED	1
3	1/2" [MAIN FOLD OUT]	YLW / BLU	1
4	1/2" [MAST LOWER]	BLU / BLU	1
5	1/2" [MAST RAISE]	BLU / RED	1
6	1/2" [TS AXLE LOCK]	GRN / GRN	1
7	1/2" [WINGTILT PRESSURE]	GRN / RED	1
8	1/2" [WINGTILT RETURN]	GRN / BLU	1
9	3/4" [AIRMATIC PRESSURE]	ORG / RED	1
10	3/4" [AIRMATIC RETURN]	ORG / BLU	1
11	3/4" [HYPRO PRESSURE]	BLU / RED	1
12	3/4" [HYPRO RETURN]	BLU / BLU	1



HYPRO HYDRAULIC MOTOR

IMPORTANT: LOW PRESSURE RETURN (Motor Return)

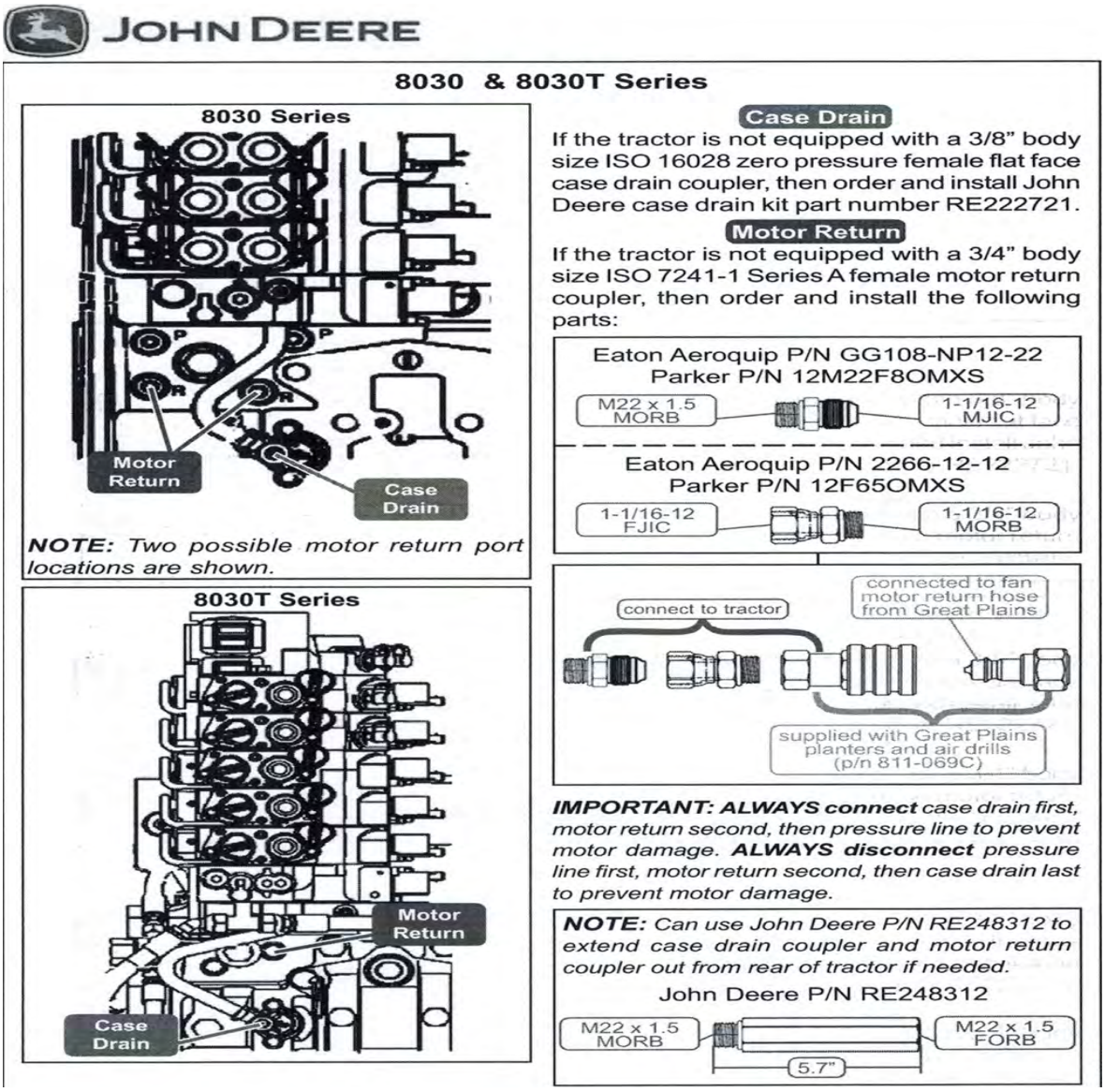
Hypro recommend that the return pressure line uses a low pressure return (Motor Return) for the return of oil. Low pressure return ports (Motor Return) vary from tractor to tractor.

- Return line must go to a low pressure return port (Motor Return) - (Not straight back to remote or case drain line). Call Sonic Boomsprays/Dealer if you want help with individual tractors
- Return hoses should be installed first then pressure line when connecting the pump to the tractor and this order should be reversed when unplugging hoses. (This avoids pressure spikes).
- When turning the pump off you must us the float decent. If you don't have the correct fittings please contact Sonicboomsprays/Dealer with your tractor details for correct fittings.

Hydro Motor R.P.M. Setup:

The best way to do this is to have all spray lines and control valve open. Adjust hydraulic speed of pump until you have a pressure read out of between 400kpa - 700kpa on pressure gauges, situated at the front of the boom. This will give maximum speed necessary for all spraying conditions.

Example:



MACHINE SET UP

Fold Around Mudguard Models:
To access Sprayer work area, un-clip transport safety chains and fold booms out slightly. Lift booms to full height.

Fold Over Mudguard Models:
If sprayer is fold over the mudguard model, booms will already be at full height and you will be able to access the work area.

Note: Check engine oil and fuel levels before operating machine.

- On initial operation it is strongly suggested that you re-tension your wheel nuts and thereafter check at regular intervals (Page 17).
- Check all tyre pressures and make necessary correction (Page 17).
- After first tank load, check all U bolts, turnbuckles, dee shackles, bolts, nuts and hose clamps.
- Grease all pivot and suspension points. (Refer to Lubrication section)
- Check main tank suction filter, as a range of foreign particles can be present in the system, although all care is taken during assembly.

SONIC CONTROLLER

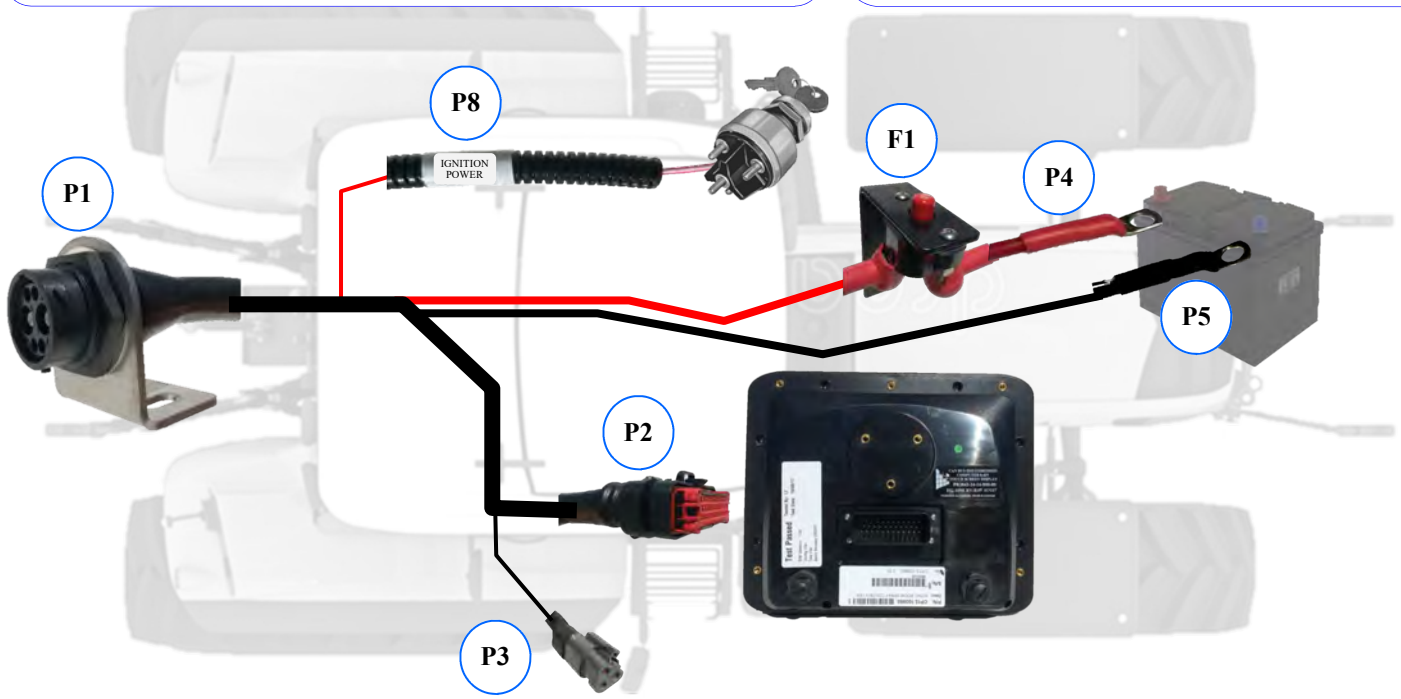
SONIC Controller (CP13.100850)
Touch screen control
Functions:

- **SPRAYING LIGHTS:** Spray lights ON/OFF
- **ENGINE STOP:** Turns OFF petrol driven liquid pump (If optioned)
- **SPRAY:** Switches Flush On The Go valve, draw liquid from the Main Spray tank (Optional Extra)
- **FLUSH:** Switches Flush On The Go valve, draw liquid from the Flush tank (Optional Extra)
- **STROBE:** Flasher ON/OFF
- **AGITATE:** Switches ON/OFF electric agitation (Optional extra)
- **LINE FLUSH:** Open/Close self contained flushing system or use to prime spray lines (Optional extra)
- **FENCE JET LEFT:** Turn L/H fence jet ON/OFF (Optional extra)
- **FENCE JET RIGHT:** Turn R/H fence jet solenoid ON/OFF (Optional extra)
- **TILT LEFT:** Isolate tilt hydraulics to tilt left hand wing assembly then press the corresponding TILT button UP/DOWN on your tractor remotes (Optional extra)
- **TILT RIGHT:** Isolate tilt hydraulics to tilt right hand wing assembly then press the corresponding TILT button UP/DOWN on your tractor remotes (Optional extra)
- **TANK DRAIN:** Open/Close Tank drain valve (Optional extra)
- **SPLIT FOLD:** Isolates small wings, fold out main wings only, Refer to Pg. 31 (Optional extra)
- **FULL FOLD:** Fold out complete wing assembly, Main wing and Small wing together. (Hydraulic chain fold option only)
- **SPARE #1:** Spare switch function
- **SPARE #2:** Spare switch function

SONIC Tractor Harness (WL13.100853)
Suit SONIC controller:

- **P1:** Main charge line and CAN plug, bolt at rear of tractor using mount provided.
- **P2:** Main CAN functions, plug into rear of SONIC controller screen
- **P3:** Diagnostic plug, SONIC Technician use only
- **P4:** Positive terminal for charge line, connect to +12v Tractor battery
- **P5:** Negative terminal for charge line, connect to -12v Tractor battery
- **P8:** Ignition power, connect to an ignition terminal so the SONIC controller turns ON/OFF in conjunction with the tractor key. Consult your Tractor dealer for a suitable connection point.
- **F1:** Main circuit breaker (60A, push red button to reset)

For more detailed information reference: Wiring diagram section.



WHEEL & TYRE MAINTANENCE

RECOMMENDATIONS FOR TORQUE SETTINGS & INSPECTION INTERVALS

Minimum recommended tension intervals for agricultural wheels:

INITIAL FITMENT

Re-tension at : 4 hours of operation
8 hours of operation
16 hours of operation
24 hours of operation
48 hours of operation

Alternatively, after the first 50km and subsequently every 100kms, the stud bolt nuts are to be tightened by means of a tension wrench and with the torque values listed below.
Ongoing inspection and re-tensioning should be done in accordance with daily wheel/tire inspection procedures. These inspection periods may vary depending on the vehicle operating conditions.

METRIC		
STUD SIZE	**TORQUE (Foot Pounds)**	**TORQUE (Newton Meters)**
M12	55ft.lbs	74Nm
M14	88ft.lbs	118Nm
M16	135ft.lbs	182Nm
M18	200ft.lbs	270Nm
M20	250ft.lbs	337Nm
M22	250ft.lbs	337Nm
M24	250ft.lbs	337Nm

IMPERIAL		
STUD SIZE	**TORQUE (Foot Pounds)**	**TORQUE (Newton Meters)**
7/16”	55ft.lbs	74Nm
1/2”	55ft.lbs	74Nm
9/16”	88ft.lbs	118Nm
5/8”	135ft.lbs	182Nm
3/4”	200ft.lbs	270Nm
7/8”	250ft.lbs	337Nm

TYRE PRESSURES

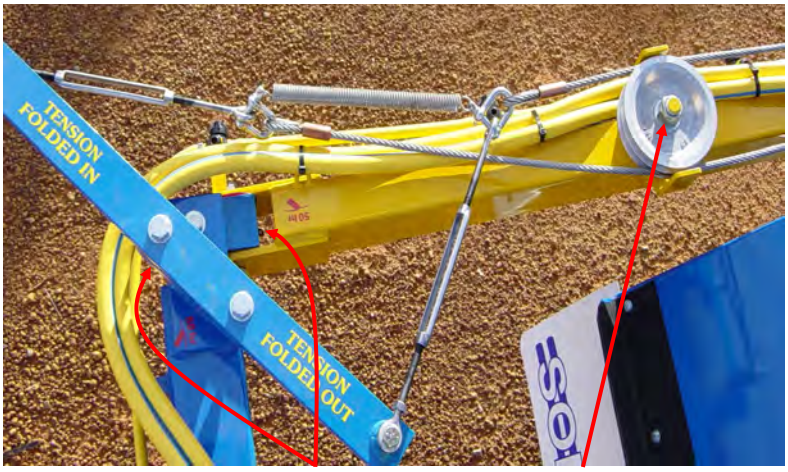
TYRE	MIN – MAX PRESSURE	LOAD INDEX - SPEED SYMBOL	SPEED RATING PER TYRE
24 x 32 TT (BKT)	30-35 PSI	163A6	4,875Kg @ 30Kph
20.8 x 42 TT (BKT)	30-35 PSI	(12 Ply) 157A6	4,125Kg @ 30Kph
540/65 R34 TT (OZKA)	35-40 PSI	152D/155A8	3,875Kg @ 40Kph
540/65 R28 TT (BKT)	35-40 PSI	149D/152A8	3,550Kg @ 40Kph
18.4 x 28 IL (BKT)	35-40 PSI	157A8	4,125Kg @ 40Kph
16.9 x 28 IL (BKT)	35-40 PSI	152A8	3,550Kg @ 40Kph
15.5 x 24 TT (BKT)	65-70 PSI	163A8	4,875Kg @ 40Kph
6.0 x 9.0 (J/WHEEL)	25-32 PSI	N/A	N/A

Tyre pressure has a direct effect on the tyres load rating and speed capacity

LUBRICATION

1) All petrol engines are 20w50 engine oil. This should be changed after the first 50 hours and then every 100 hours thereafter.
2) Grease all nipples according to grease schedule on grease point.
3) Do not ignore if grease does not penetrate bush in suspension. (Remove pin/bush, clean and re-assemble or suspension failure may result)

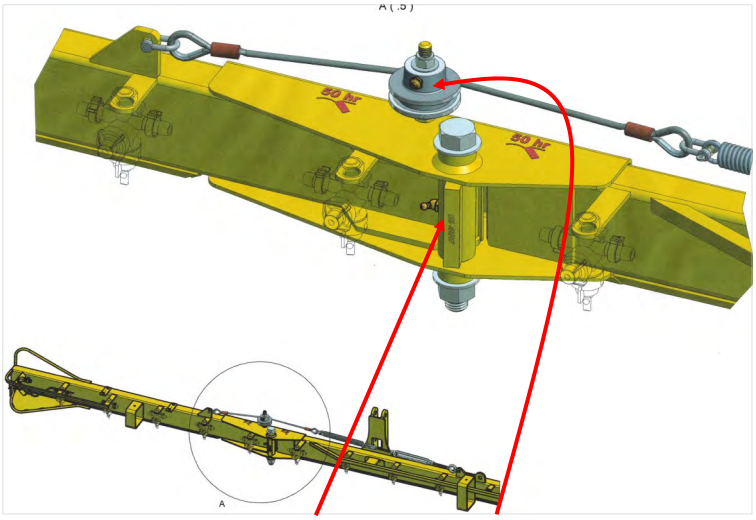
Grease Points:



Main Wing Pivot(2) & Fold Pulley(1): 50 Hours

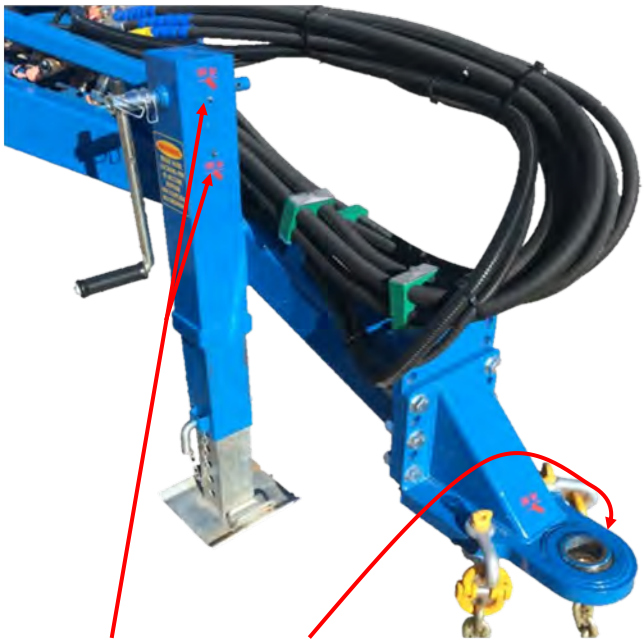
Outer Fold Pulley(1): 50 Hours

Fold pivot(2) & Outer pivot(2): 50 Hours



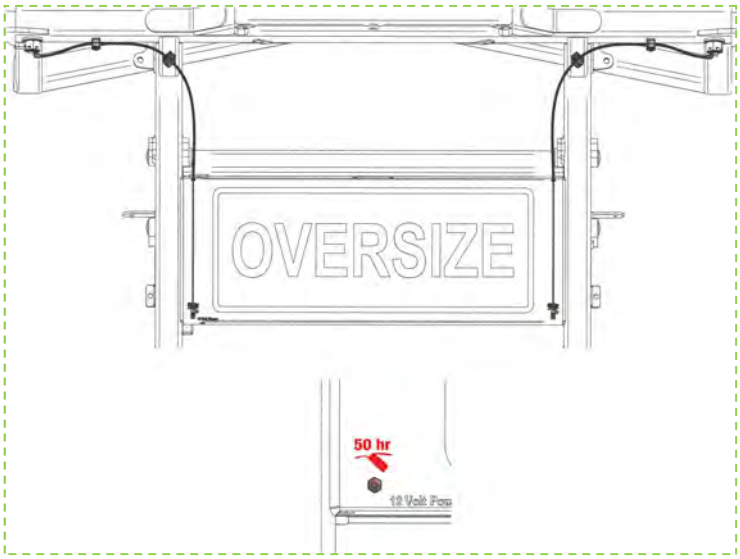
Break Away pivot (2) & Pully(2): 50 Hours

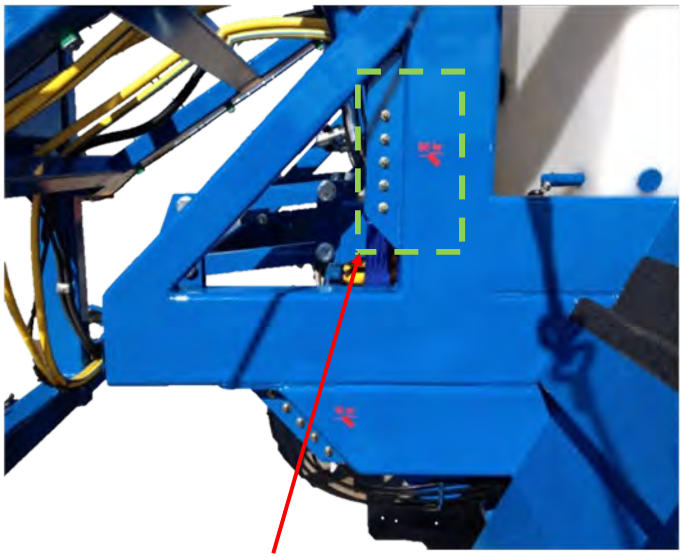
LUBRICATION



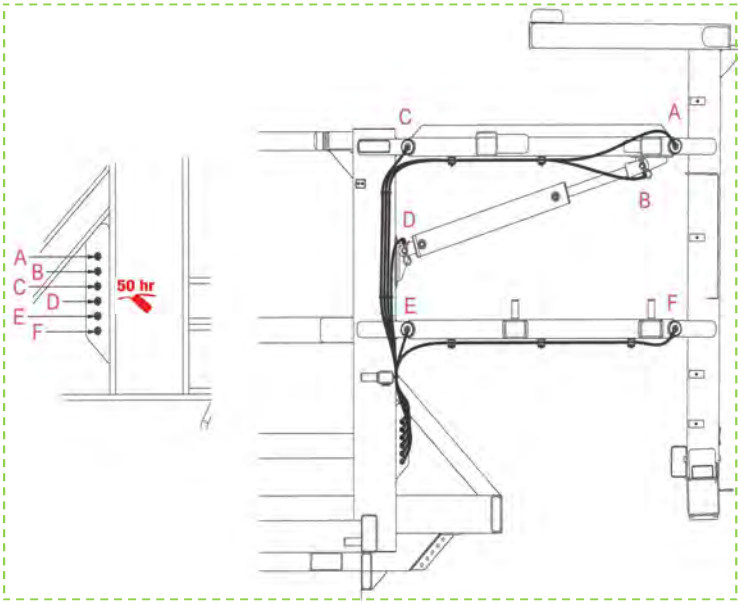
Jack (2) & Hitch (1): 50 Hours

Top Arms (2): 50 Hours

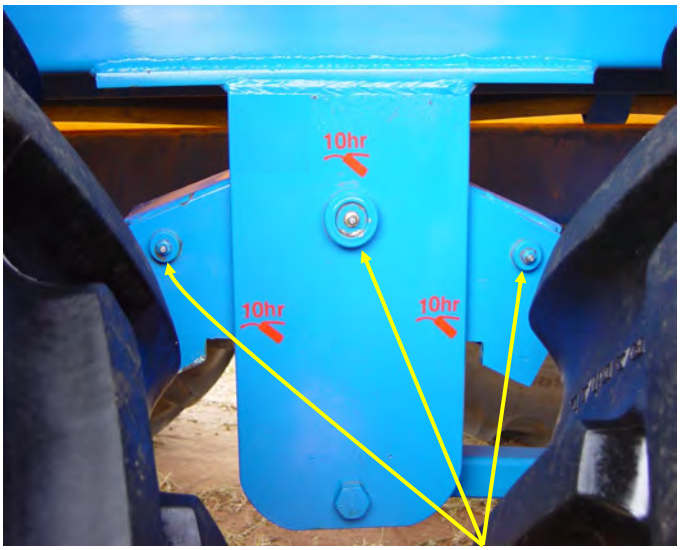




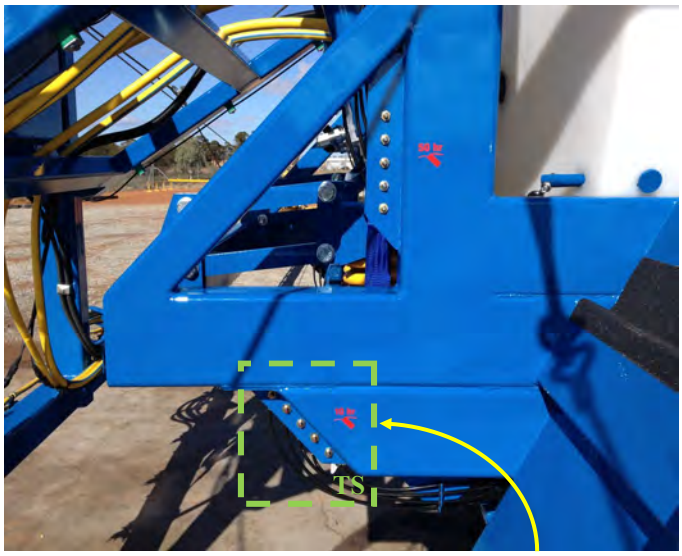
Parallel Arms (12): 50 Hours



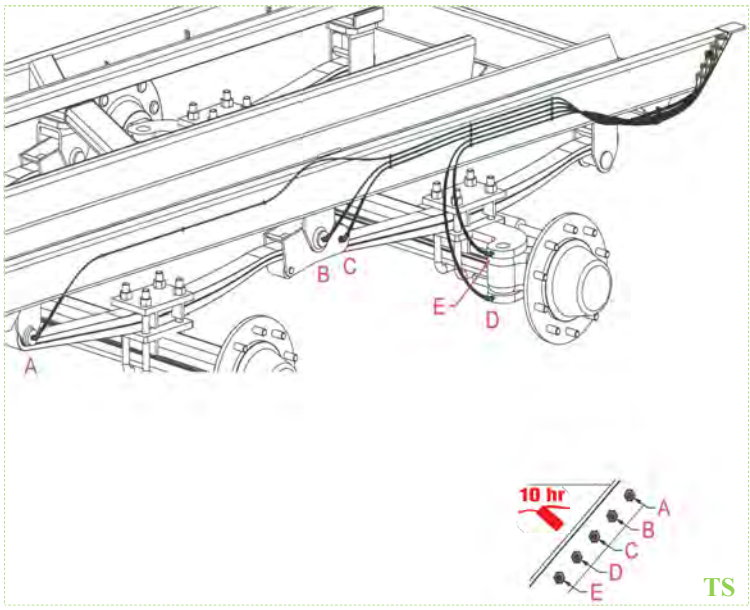
AXLE & SUSPENSION LUBRICATION

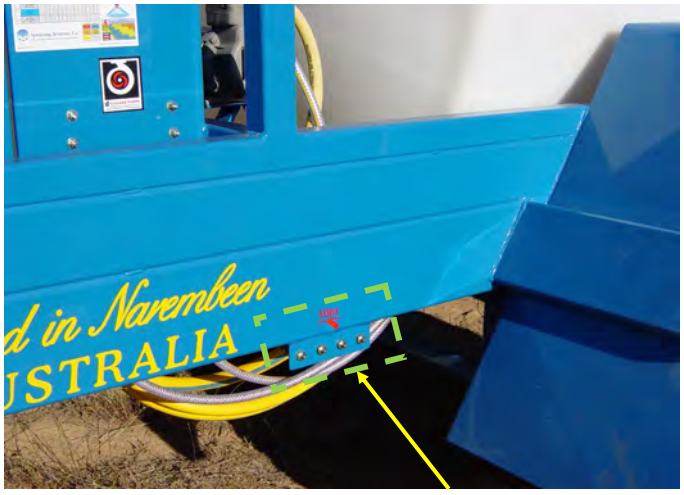


Tandem Suspension Rocker (6): 10 Hours

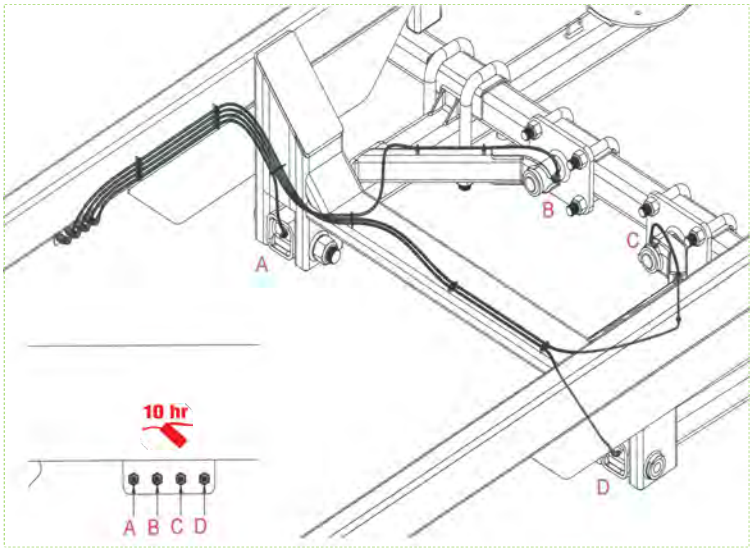


Tandem Steer Axle/Suspension (10): 10 Hours





Single & Tandem Air Bag (4): 10 Hours



GENERAL MAINTENANCE

1) Check and clean engine air filter on a weekly basis - Daily in dusty conditions.
2) Check and clean all spray filters daily or more often in adverse chemical conditions. Clean filters with a tooth brush and water.
   DO NOT use pressure cleaners on filters. Check for splits and tears.
3) Flush boom out with clean water at the end of each day. Use boom clean if necessary. Flowables and granules can settle out of suspension. Agitate properly before rinsing out.
4) Wash boom down thoroughly with clean water at the end of each day.

Good Housekeeping is paramount with chemical and liquid fertilizers

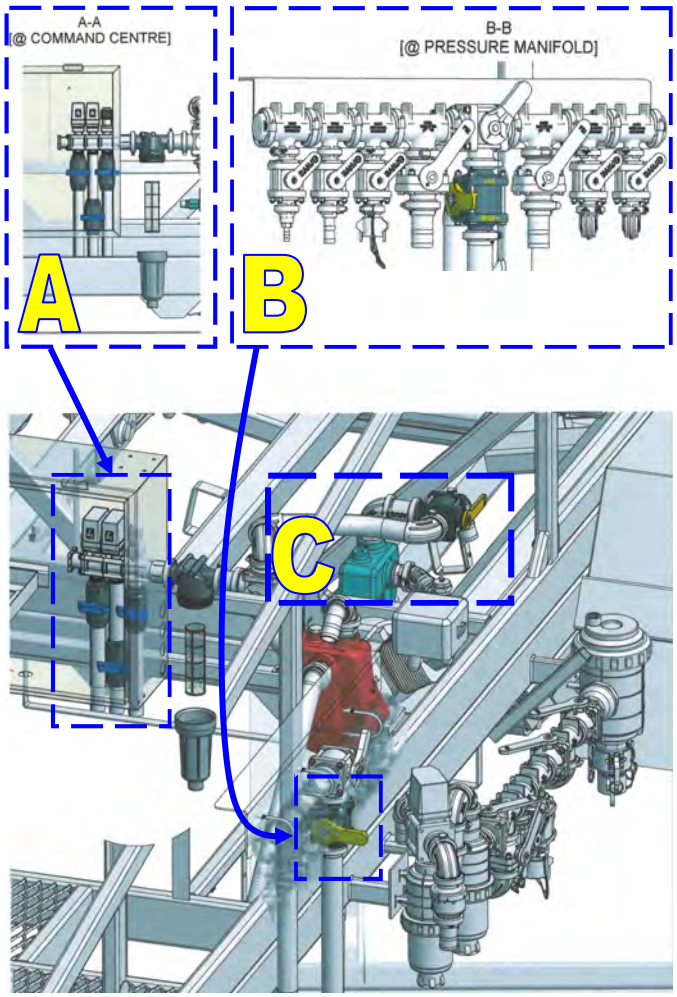
PRESSURE FILTER MAINTENANCE

Step 1: Isolate filter by turning taps as shown:

TAP to OFF: A (COMM BOX **x3**)

TAP to FILL: B (STALKER **x1**)

C (HYPRO **x1**)



Step 2: Locate Pressure Filter near Com Box

Step 3: Remove bottom cap to drain liquid

Step 4: Remove filter bowl, clean filter element & Re-Assemble

- Reset taps to original position

SUCTION FILTER MAINTENANCE

2” Suction Filters

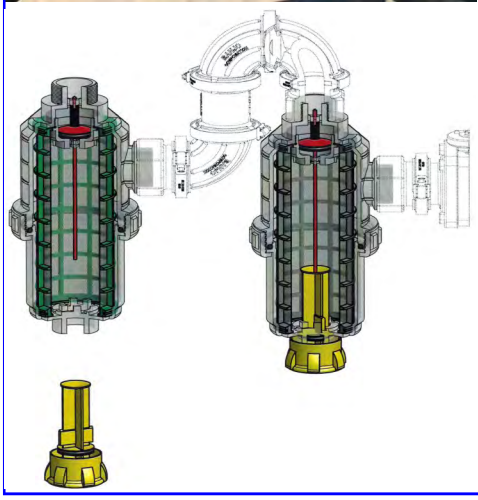
Step 1: Isolate filters

TAP to OFF: A

Step 2: Remove yellow check valve to stop liquid flow from top:

- Push up on yellow handle
- Then twist Anti Clockwise until it stops and pull down
  Note: (Liquid flow should stop after a few seconds)

Step 3: Remove bowl retaining ring, then remove bowl & clean filters



Step 4: Re-fit filters,

Please note:

- Filters go in **Flat side up**
- Bowl must be fitted next (**without** yellow valve)
- Fit **yellow valve last** ensuring it goes in straight. (**must align** with internal plunger rod)
- Turn tap back on: A

3” Suction Filters

Step 1: Isolate filter

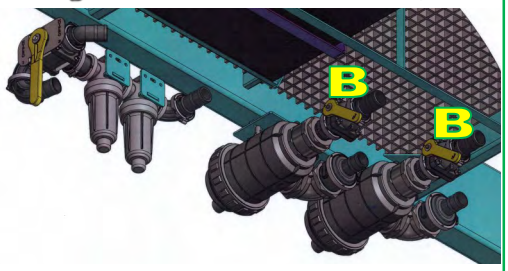
TAP to OFF: B

- Remove Camlock to drain remaining liquid

Step 2: Remove bowl retaining ring, then remove bowl & clean filter

Step 4: Re-fit in reverse and open tap

FILTER MAINTENANCE



Step 1: Isolate filter

TAP to **OFF**: B

- Open tap (Red handle) to drain excess liquid from pump suction hose

Step 2: Remove bowl retaining ring, then remove bowl & clean filter

Step 4: Re-fit in reverse and open taps

Step 1: Isolate filters

TAP to **OFF**: A

Step 2: Remove bottom cap to drain liquid

Step 3: Remove filter bowl, clean filter element & Re-Assemble

- Reset taps to original position

126 Series - PRESSURE FILTER

Pressure Filters 126 Series

- 1.1/2" BSPT (F) threads **or** 75 Series Flange
- Cartridge Ø 57 x 201mm
- Filtering capacity 291 l/min with 5 PSI pressure drop
- VITON® gaskets

FILTER CODE	INLET & OUTLETS	SCREEN TYPE	DESCRIPTION
AA126ML-6-100	1.1/2" (F) BSP	Inox **100** Mesh	FILTER – 126 Series 1.1/2" INLINE (**100#**)
AA126ML-6-120	1.1/2" (F) BSP	Inox **120** Mesh	FILTER – 126 Series 1.1/2" INLINE (**120#**)
AA126ML-F75-100	FLANGED 75 Series	Inox **100** Mesh	FILTER – 126 Series 75 FLANGE (**100#**)
AA126ML-F75-120	FLANGED 75 Series	Inox **120** Mesh	FILTER – 126 Series 75 FLANGE (**120#**)

SCREEN CODE	SCREEN TYPE suit 126 Series (57 x 201mm)
CP15941-2-SSPP	Inox **32** Mesh
CP15941-3-SSPP	Inox **50** Mesh
CP15941-4-SSPP	Inox **80** Mesh
CP15941-5-SSPP	Inox **100** Mesh
CP15941-6-SSPP	Inox **120**Mesh

Please note: Fully Stainless steel SCREENS are available on request:
80 Mesh = CP12290-4-SS
100 Mesh = CP12290-8-SS

Colour ISO coding

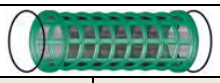
Please note: 120 Mesh is not covered under ISO standard

317 Series - 2" SUCTION FILTER

Suction filters 317 Series with valve

- 2" BSP threads
- Filtering capacity 200-260 l/min
- Automatic shut-off valve to clean filter
- Cartridge Ø 108 x 286mm
- VITON® gaskets

FILTER CODE	F (BSP)	SCREEN TYPE	h (mm)	DESCRIPTION
317 22474	2"	Inox **100/32** Mesh	20	FILTER - 2" SUCTION (**100/32#**) COMPLETE [YEL] C/VALVE
317 22050	2"	Inox **120/32** Mesh		FILTER - 2" SUCTION (**120/32#**) COMPLETE [YEL] C/VALVE



SCREEN CODE	SCREEN TYPE suit 2" (108 x 286mm)
317 2002.030	Inox **32** Mesh
317 2003.030	Inox **50** Mesh
317 20035.030	Inox **80** Mesh
317 2004.030	Inox **100** Mesh
317 2204.030	Inox **100/32** Mesh
317 2205.030	Inox **120/32** Mesh

Colour ISO coding

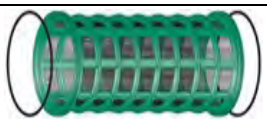
Please note: 120 Mesh is not covered under ISO standard

319 Series - 3" SUCTION FILTER

Suction filters 319 Series

- 3" BSP threads
- Filtering capacity 400-800 l/min
- Cartridge Ø 145 x 320mm
- VITON® gaskets

FILTER CODE	F (BSP)	SCREEN TYPE	h (mm)	DESCRIPTION
319 0935	3"	Inox **80** Mesh	35	FILTER - 3" SUCTION (**80#**) COMPLETE: BOLT ON

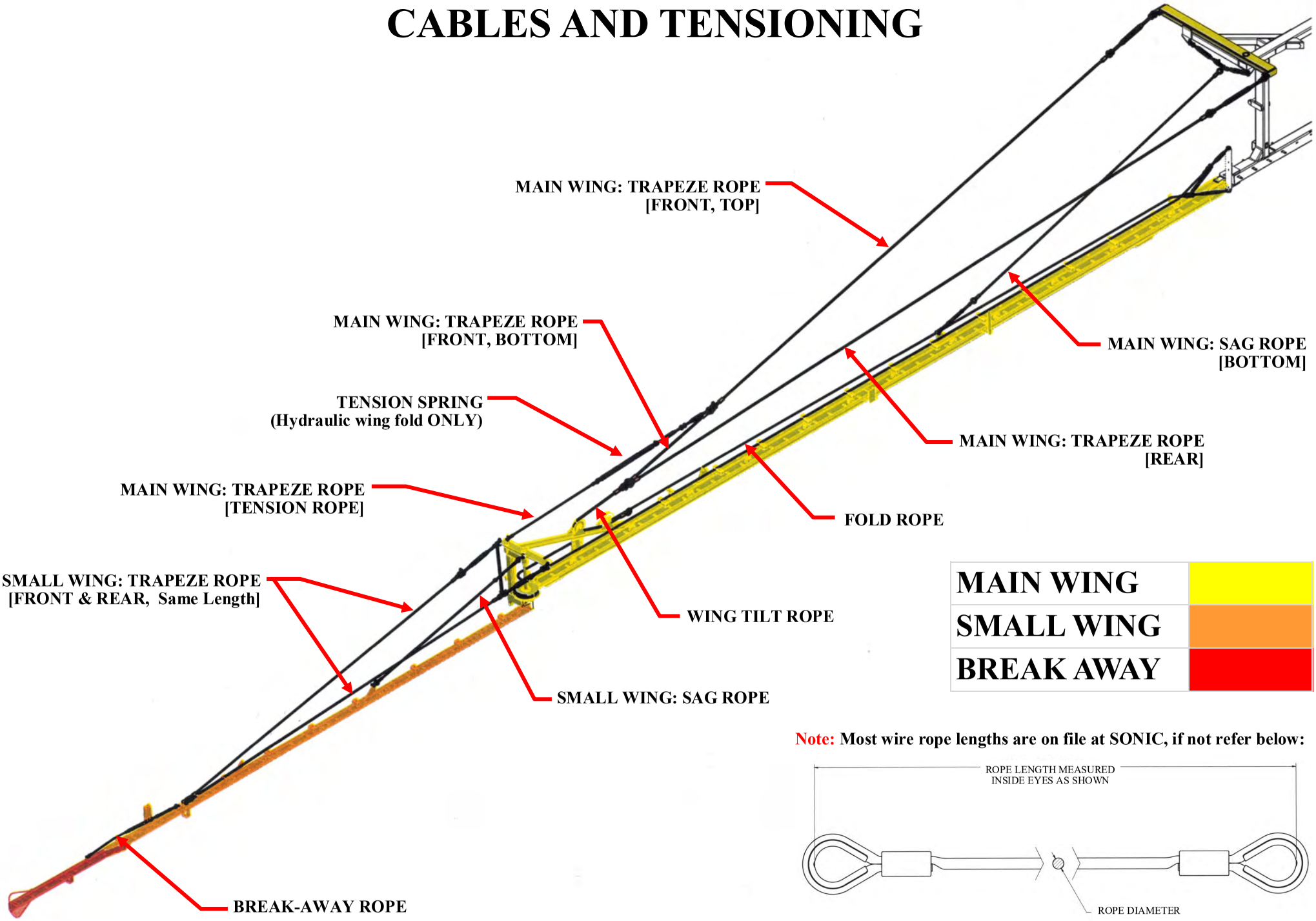


SCREEN CODE	SCREEN TYPE suit 3" (145 x 320mm)
335 2002.030	Inox **32** Mesh
335 2003.030	Inox **50** Mesh
335 20035.030	Inox **80** Mesh
335 2204.030	Inox **100/32** Mesh

Colour ISO coding

Please note: 120 Mesh is not covered under ISO standard

CABLES AND TENSIONING



MAIN WING	
SMALL WING	
BREAK AWAY	

Note: Most wire rope lengths are on file at SONIC, if not refer below:

CABLES AND TENSIONING

It is very important that all cables are adjusted correctly for optimum performance. All cables are adjusted by turnbuckles which all have a locking nut. To adjust, undo locking nut, adjust to correct tension and reset locking nut.

MAIN WING

MAIN WING how to level

The aim is to have the wing beam supported by all the wire cables when in transport position and also when in the spray position. To check levelness of boom:

1) Park the machine on level ground where possible, this will help when eyeballing wing level
2) Fold out the wing assembly completely, then lift boom until jockey wheels are not touching the ground.
3) The wings should be level with the mast's lower beam, known as the CENTRE BEAM, Ref. Page. 28.

To adjust UP or DOWN:

If the Main wing is slopping down or up too high:

1) Take all the weight off the cables and turnbuckles by lifting the end of main wing up until main support cables become loose.
2) Adjust the main wing trapeze turnbuckles: Tighten to go up & loosen to go down.
   Please Note: Adjust both turnbuckles evenly (E.g. If you adjust the Front turnbuckle = 3 turns then adjust the Rear turnbuckle = 3 turns)
3) Lower the main wing to check the adjustment made.
4) Stand at end of wing and make sure Main wing is in line with main upright (Centre beam).
5) If still slopping down repeat procedure, adjusting as required, until main wing becomes parallel with the centre beam arm on the parallel lift.
6) Adjust as required and tighten up the locknuts. Also refer to Pages 26-28 for images

To adjust FRONT to BACK:

The front to back adjustment should be done in conjunction with the up and down adjustments when possible. It is acceptable if wing is slightly bias towards the front of the machine and slightly up.

1) Repeat steps 1-3 above when adjusting
2) To adjust the wing Forward: Tighten the front turnbuckle while loosening the rear turnbuckle to compensate for boom level
3) To adjust the wing Backward: Tighten the rear turnbuckle while loosening the front turnbuckle to compensate for boom level
4) Repeat steps 4 & 6 above until wing is in the desired position

SAG ROPE

The main wing should not be bowing up in the centre (**NO** Sad smile), if you can't get them dead straight, it is acceptable for the wing to be slightly bowed down in the middle (Happy smile). This keeps the weight focused on the Main trapeze cables as its designed to be.

1) **Transport Position:** Adjust the bottom turnbuckle (No. 5) on the main wing centre support cable, whilst the boom is in the FOLDED IN position. This turnbuckle should be adjusted until the centre of main wing is straight and level. Refer to Page 28-29.
2) **Spray Position:** Adjust the top turnbuckle (No.6) on the main wing centre support cable, near the mast whilst the boom is in the FOLDED OUT position. This turnbuckle should be adjusted until the centre of main wing is straight and level. Refer to Page 28-29.
3) Fold the boom IN and OUT a few times to check your adjustments look correct.
4) Adjust as required and tighten up the locknuts.

SMALL WING how to level

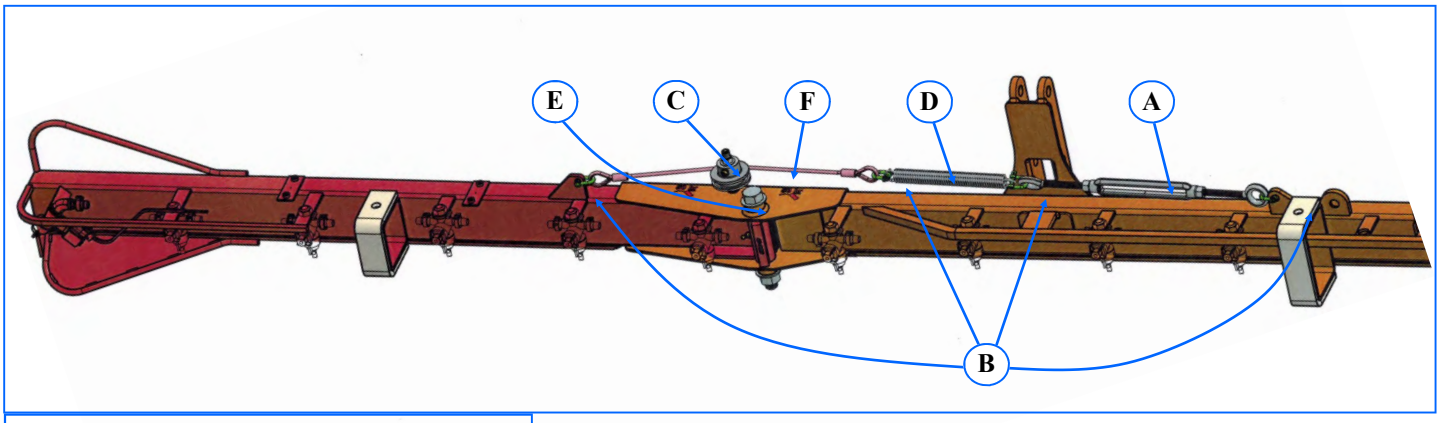
SMALL WING

If the outer (Small wings) need adjusting, use the same procedure as with the main wing shown above.

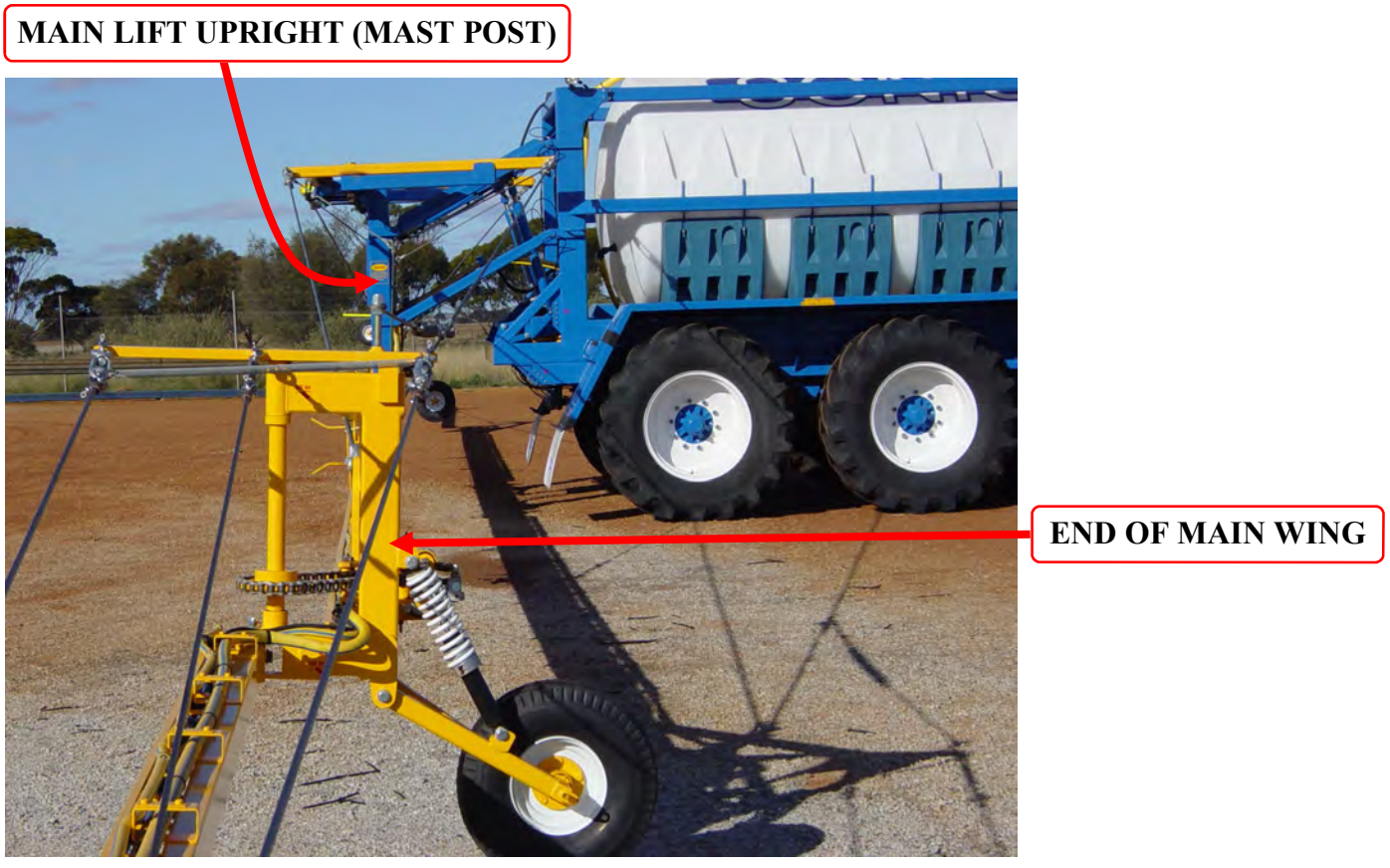
CABLES AND TENSIONING

BREAK AWAY

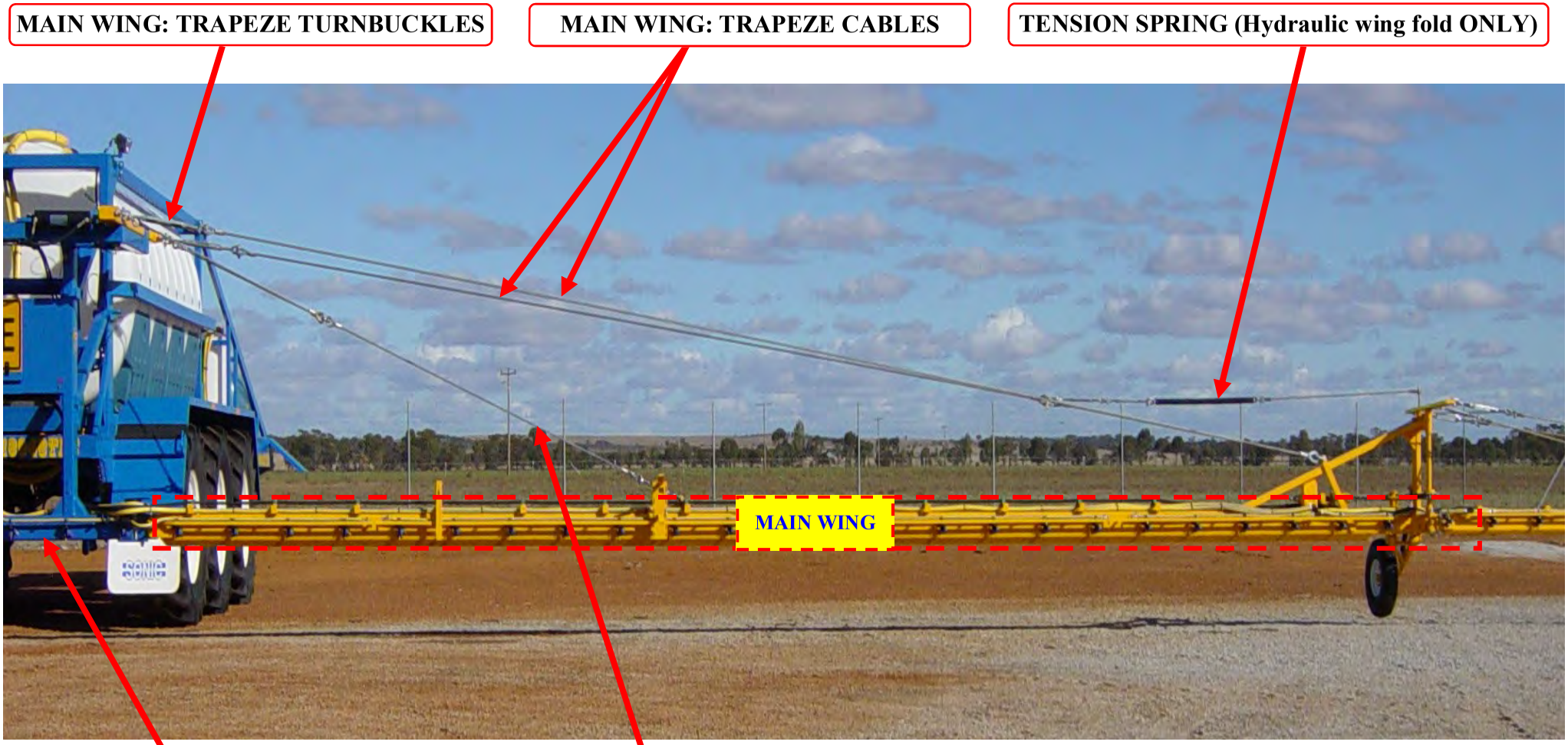
BREAKAWAY adjustment
If the breakaway does not return completely, tighten turnbuckle to suit. Do not over tighten. Adjust the tension just enough so that the breakaway returns softly. If the breakaway still isn't returning correctly, check that the bolt has sufficient grease and moves freely. Possibly replace spring if it looks fatigued or over extended.

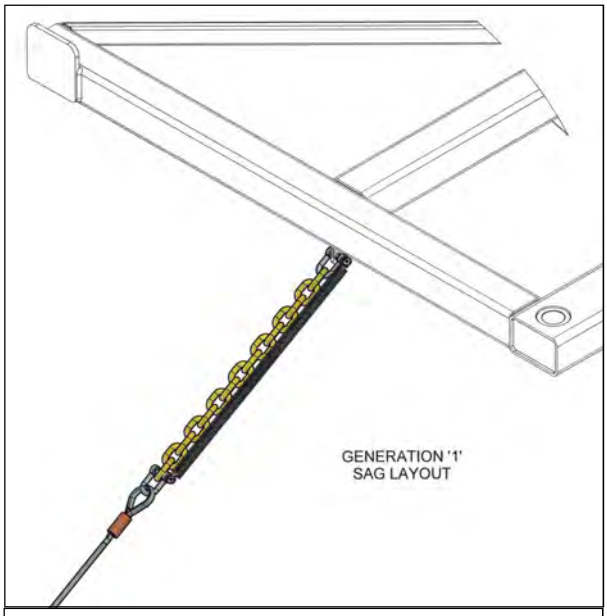


Parts:
A) 12mm Stainless Turnbuckle (Eye/Eye)
B) 6mm Stainless Dee
C) 70mm Alloy pulley
D) Break Away Spring (S/S) (QA74840)
E) Bolt H/T (7/8" UNC x 7.1/2")
F) Break away wire rope (530mm or 755mm)

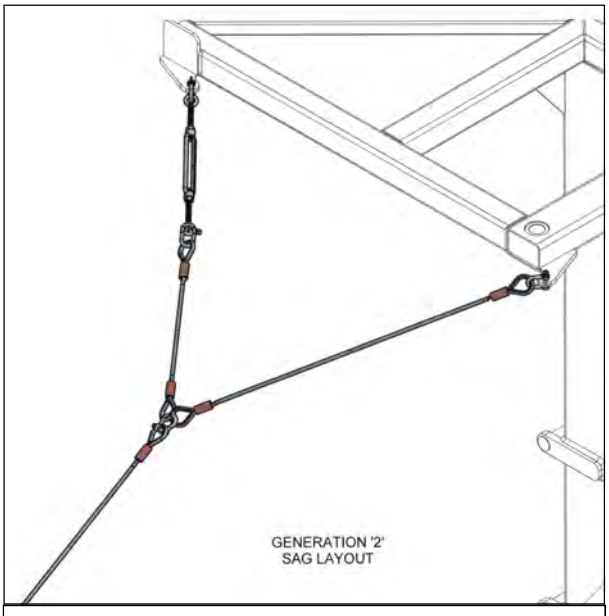


CABLES AND TENSIONING

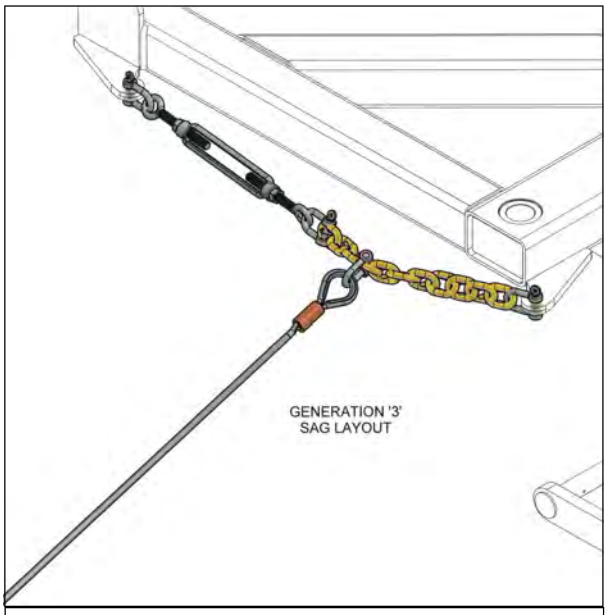




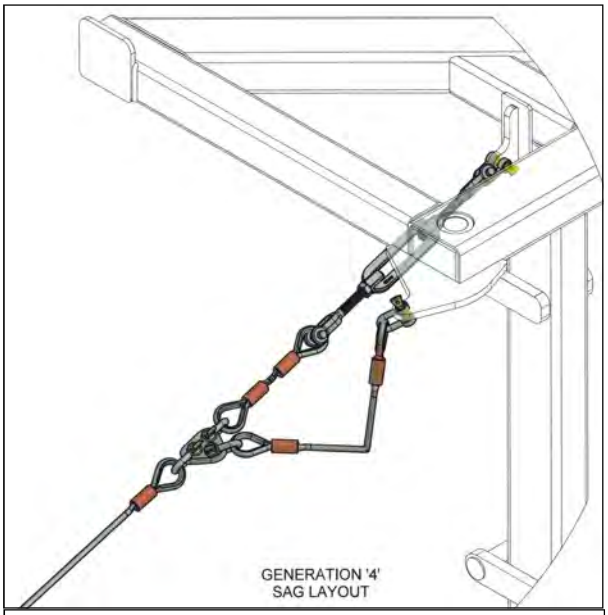
Folded IN = Not under tension, slack
Folded OUT = Under tension



Folded IN = Under slight tension, mostly slack
Folded OUT = Under tension



Folded IN = Under tension
Folded OUT = Under tension



Folded IN = Under tension
Folded OUT = Under tension

TOP: Turnbuckle No.6

BOTTOM: Turnbuckle No.5

CABLES AND TENSIONING

Fold Cable Adjustment

When adjusting the fold cable, the aim is to have the secondary wing (**Small wing**) inline with the main wing when the wings are open and the operator is spraying. So the small wings shouldn't be hanging back while driving down the paddock.

When the wings are folded into transport position, the secondary wing (**Small wing**) should be sitting tight against the crash pad.

To Adjust:

1) Open your wings completely to the spray position
2) Loosen both adjustment turnbuckles so they are fully open (Fig. 1)
3) Loosen the wire rope clamps on the outside drum (Fig.2) and adjust the rope so the Folded **Out** side is tight and all the slack is on the Folded **In** side back at the adjustment turnbuckles (Fig.1)
4) Once your happy the cables are good, tighten the cable clamps on the drum (Fig.2)
5) Tighten the **Folded Out** turnbuckle until the small wing is inline with the main wing, tension should be good and tight.
6) Fold the boom back into transport position
7) Tighten the **Folded In** turnbuckle until the small wing is touching the crash pad (Fig.3), also shown on the previous page **A**. Tension should be firm but not too tight.
8) Fold the wings fully in and fully out, adjust tension turnbuckles as required.
9) Close off the lock nuts on the turnbuckles and check that the pins on the Dee shackles are tight.

Parts:

A. 12mm Stainless Turnbuckle (Eye/Eye)
B. 10mm Stainless Dee
C. 10mm (S/S) Wire rope clamp
D. Fold Spring (S/S) (QA99153)
E. Alloy wire rope guide, double eye
F. Poly hose clamp 22mm, double eye
G. Poly hose clamp 22mm, single eye
H. 6" Alloy pulley
I. 8" or 9" Alloy pulley

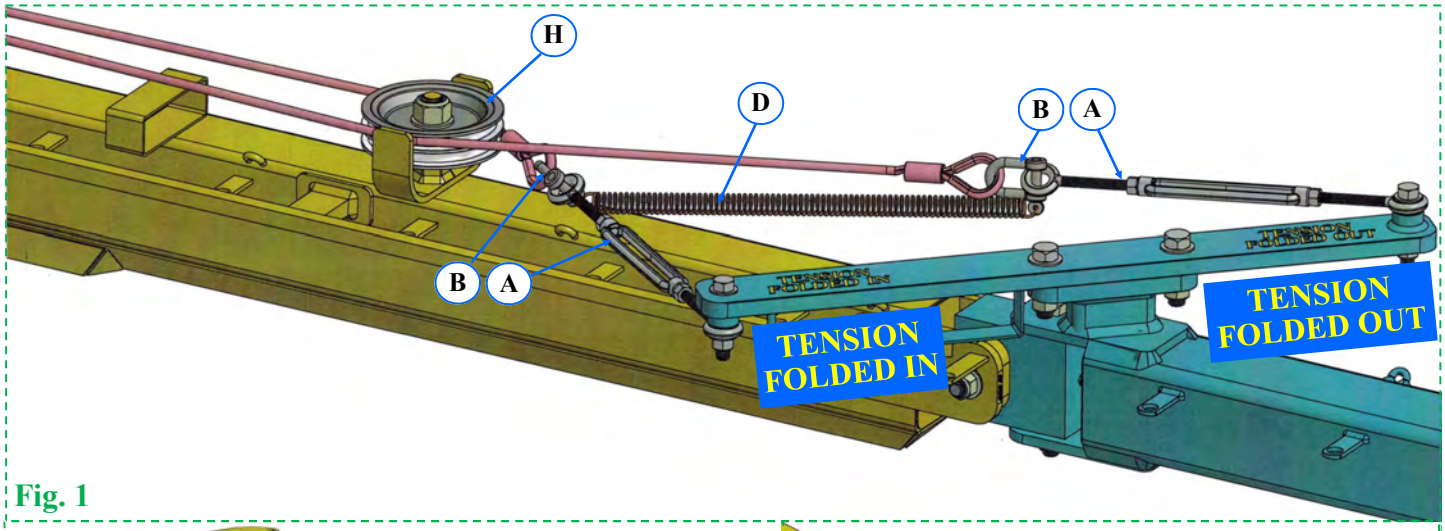


Fig. 1

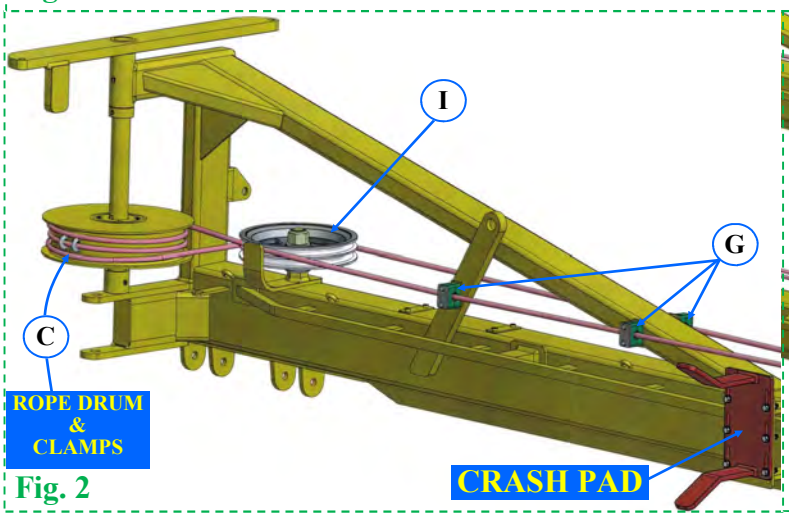


Fig. 2

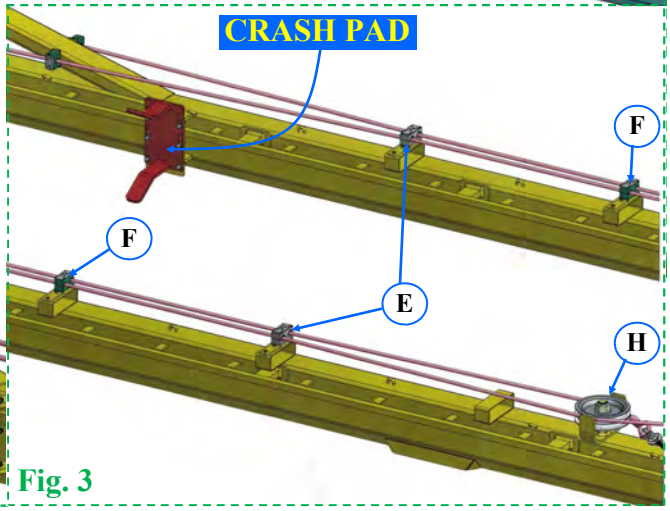


Fig. 3

HYDRAULIC END WING FOLD

The sonic hydraulic end wing fold is an Optional extra and gives you the ability to spray with the Small wing folded in, effectively shrinking your wing span for those tighter sections in a paddock. This is achieved through a series of valves and re-phasing rams.

FULL Fold

1) To spray in the normal fully open position select FULL FOLD on Sonic controller
2) Press and hold the corresponding FOLD OUT Hydraulic remote switch in your tractor, until the wings are fully un-folded.

SPLIT Fold

You should only select the split fold function when the boom is **folded IN fully**

1) To spray with the Small wings folded IN, select SPLIT FOLD on Sonic controller, this isolates the hy-draulics for the small wing so the Main wings will open but NOT the Small wings.
2) Press and hold the corresponding FOLD OUT Hydraulic remote switch in your tractor, until the wings are fully un-folded.

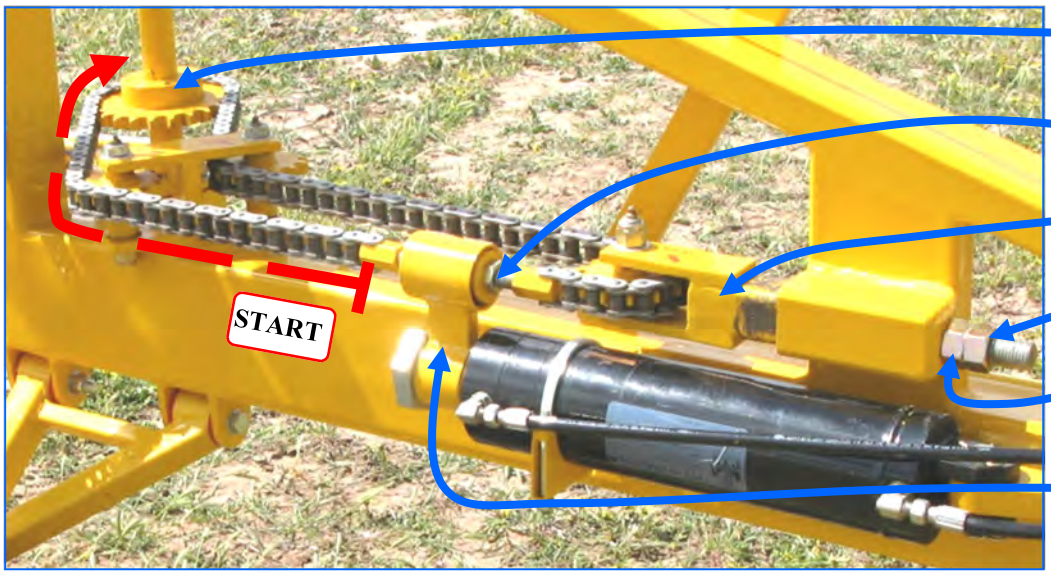
SPLIT Fold while spraying

You **must Fold IN** the wings completely to select or un-select the Split fold function so:

1) Fold in your wings completely by holding the corresponding FOLD IN Hydraulic remote switch in your tractor.
2) Press the SPLIT FOLD function on the sonic controller, this isolates the hydraulics for the small wing so the Main wings will open but NOT the Small wings.
3) Press and hold the corresponding FOLD OUT Hydraulic remote switch in your tractor, until the wings are fully un-folded.

Adjusting the chain:

1) Starting in the fully Folded OUT position
2) Undo lock nuts fully on the chain equalizer and loosen chain.
3) Centre the all thread on the Equalizer and loosely tighten the lock nuts to hold it in position
4) Hold the Small wing in place so its fully open and in-line (Parallel) with your main wing
5) Starting at the Equalizer (Ref. Start): Adjust the chain links around the Large sprocket (Ref. Red Line) so the chain is taught on that side, adjust the Equalizer slightly to align with the sprocket teeth, if re-quired, while keeping it central as possible
6) Undo lock nut on chain tensioner and Tension the rest of the chain by winding in the inside adjustment nut. Chain should be quite firm, about 3-5mm movement at the most.
7) Lock off all lock nuts and check that everything is moving correctly by folding in and out.



LARGE SPROKET

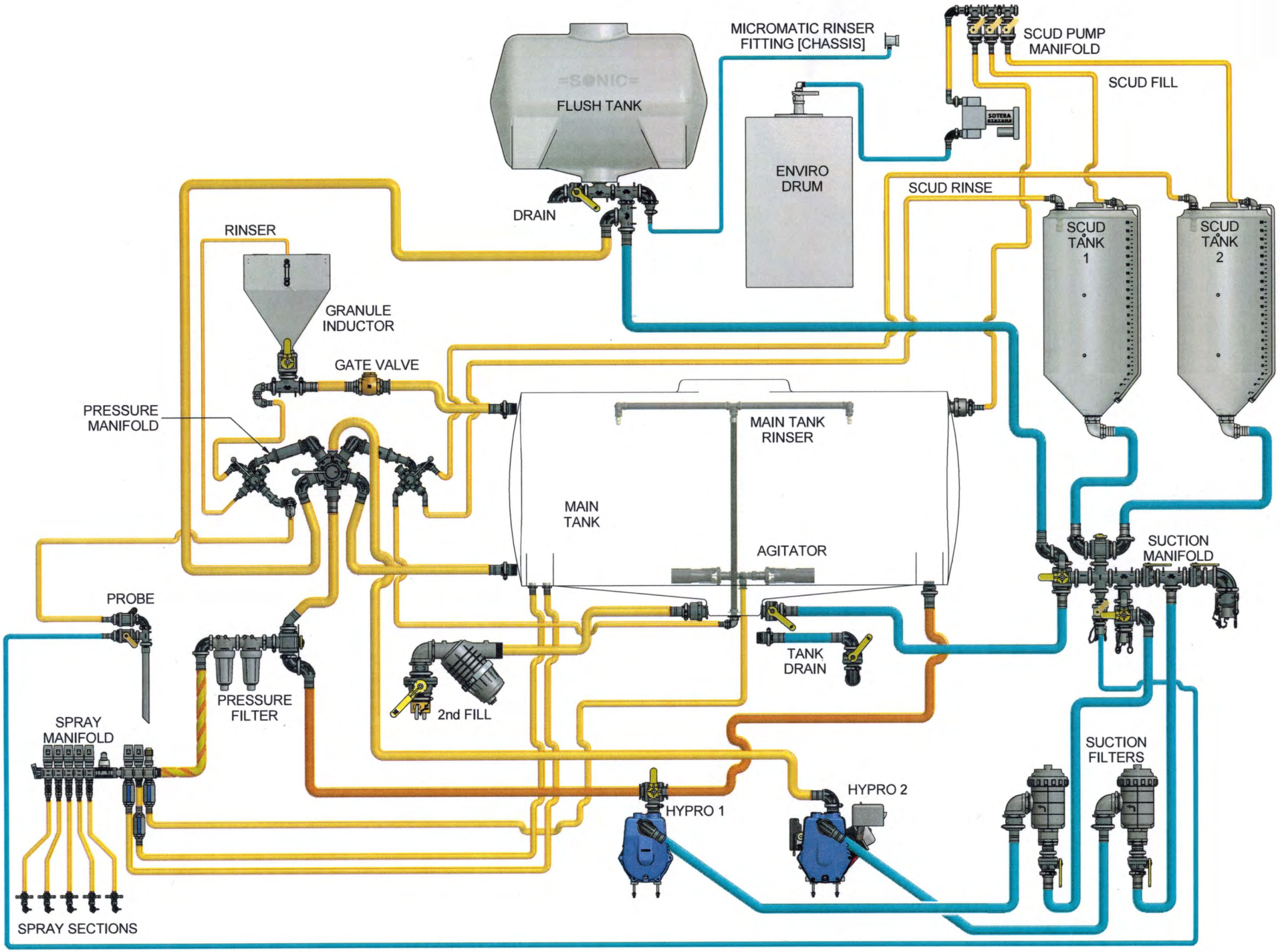
CHAIN DRIVE: EQUALIZER & LOCK NUTS

CHAIN DRIVE: TENSIONER

TENSIONER: LOCK NUT

TENSIONER: ADJUSTMENT NUT

CHAIN DRIVE: LOAD ARM


MICROMATIC RINSER FITTING [CHASSIS]
SCUD PUMP MANIFOLD
SCUD FILL
FLUSH TANK
ENVIRO DRUM
SCUD RINSE
DRAIN
RINSER
SCUD TANK 1
SCUD TANK 2
GRANULE INDUCTOR
GATE VALVE
PRESSURE MANIFOLD
MAIN TANK RINSER
MAIN TANK
AGITATOR
SUCTION MANIFOLD
PROBE
TANK DRAIN
PRESSURE FILTER
2nd FILL
SPRAY MANIFOLD
SUCTION FILTERS
HYPRO 2
HYPRO 1
SPRAY SECTIONS

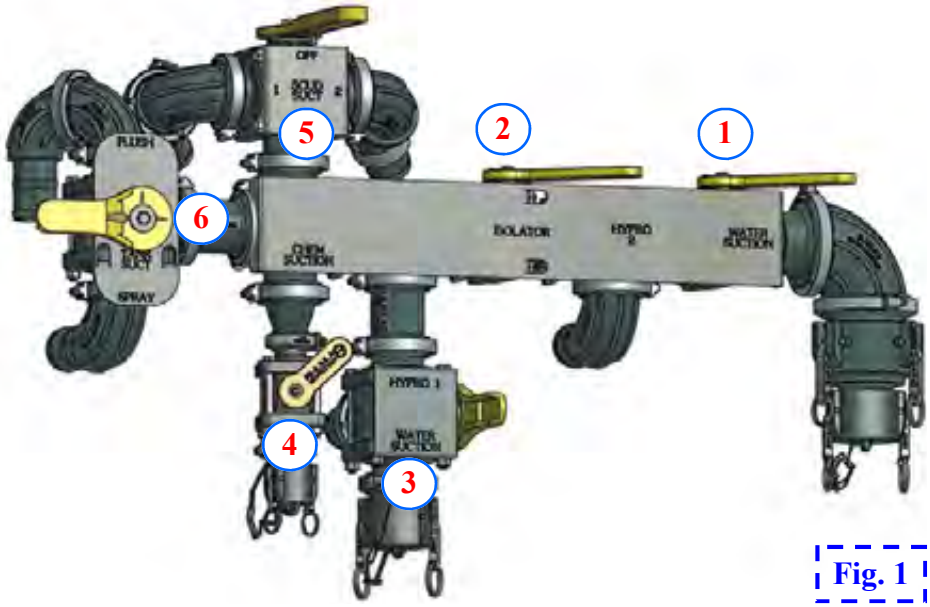


Fig. 1

Suction Manifold:
The suction manifold is used by the operator to get fluid too the pumps, weather it's spraying or filling.
Valve functions:

- ◊ (1) WATER SUCTION (Used to fill fresh water into boom from an external source)
- ◊ (2) ISOLATOR (Isolates right side of the manifold from the left)
- ◊ (3) HYPRO 1 (Suction point for Hypro 1, turn tap to suck fluid from an external source)
- ◊ (4) CHEM SUCTION (Can use either pump to suck chemical from an external source)
- ◊ (5) SCUD SUCT, 1 or 2 (Can use either pump to suck chemical from scud tanks, turn tap to select tank source)
- ◊ (6) TANK SUCT, Spray or Flush tank (Turn to select fluid source from either Flush Tank or Main Spray tank)

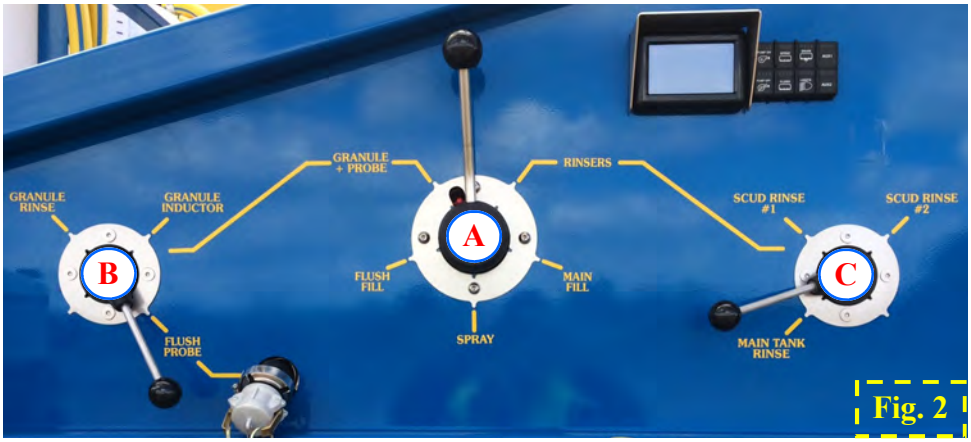


Fig. 2

Pressure Manifold:
The multi directional rotary valves on the pressure manifold (Fig.2) are a simple operating platform. Basically get the fluid from the pump to the manifold and turn the handle so the arrow is pointing at the function you want to perform.

A) **6-Way Tap Functions:**
◊ Feed IN (From behind) — SPRAY — Fill MAIN TANK — Fill FLUSH TANK — Pressure to GRANULE INTUCTOR + PROBE (Tap B) — Pressure to RINSERS (Tap C)

B) **5-Way Tap Functions:**
◊ Feed IN (From behind) — Pressure to GRANULE INDUCTOR VENTURY — Rinse GRANULE INDUCTOR HOPPER — Pressure to FLUSH PROBE (Eg. Rinse chemical drums or pressure to external hose reel)

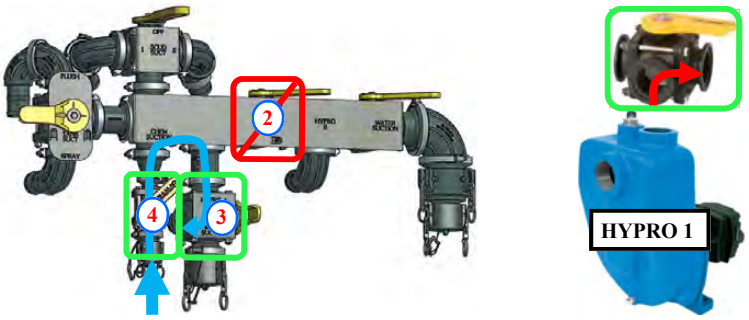
C) **5-Way Tap Functions:**
◊ Feed IN (From behind) — Rinse SCUD TANK No.1 — Rinse SCUD TANK No.2 — Rinse MAIN TANK

FILL Main Tank from external source using **Hypro1:**

1) Switch the 3-way tap on top of the pump to FILL (Hypro1)
2) Switch the 3-way (3) tap on the Suction manifold to FILL
3) Remove the dust cap, connect up your hose and activate pump

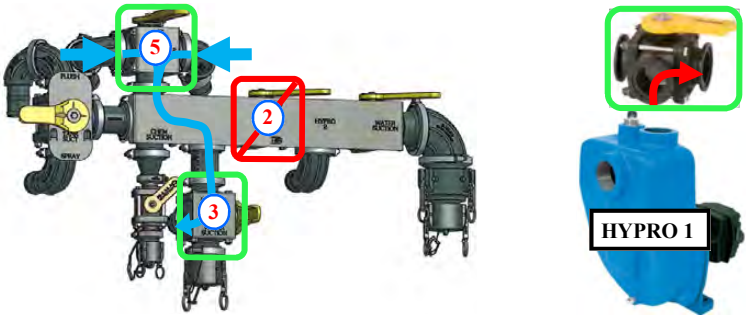
FILL Chemical directly to main tank with **Hypro1:**

1) Switch the 3-way tap on top of the pump to FILL (Hypro1)
2) Switch the 3-way (3) tap on the Suction manifold to SPRAY
3) Turn **OFF** the ISO- (2) LATOR tap on the Suction manifold
4) Remove the dust cap on the CHEM SUCTION tap
5) Turn **ON** the CHEM SUCTION tap (4) and activate pump



EMPTY Scud Tanks directly to main tank using **Hypro1**:

1) Switch the 3-way tap on top of the pump to FILL (Hypro1)
2) Switch the 3-way (3) tap on the Suction manifold to SPRAY
3) Turn **OFF** the ISO- (2) LATOR tap on the Suction manifold
4) Switch the 3-way SCUD (5) SUCT tap on the Suction manifold to whichever tank you wish to empty (Scud 1 or 2)



SPRAY using **Hypro1:**

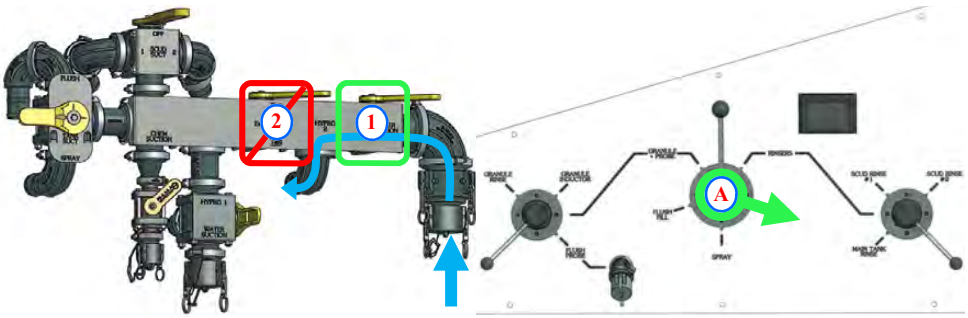
1) Switch the 3-way tap on top of the pump to SPRAY (Hypro1)
2) Switch the 3-way ③ tap on the Suction manifold to SPRAY
3) Switch the 3-way ⑥ tap on the Suction manifold to SPRAY
4) Switch the 3-way tap @ pressure filters to HYPRO 1
5) Activate your pump & use GPS controller to set application rate, pressure etc. and start spraying

FLUSH using **Hypro1:**

1) Switch the 3-way tap on top of the pump to SPRAY (Hypro1)
2) Switch the 3-way ③ tap on the Suction manifold to SPRAY
3) Switch the 3-way ⑥ tap on the Suction manifold to FLUSH
4) Switch the 3-way tap @ pressure filters to HYPRO 1
5) Activate your pump, use GPS controller to activate section valves etc, open section flush taps on wings and flush your lines as required

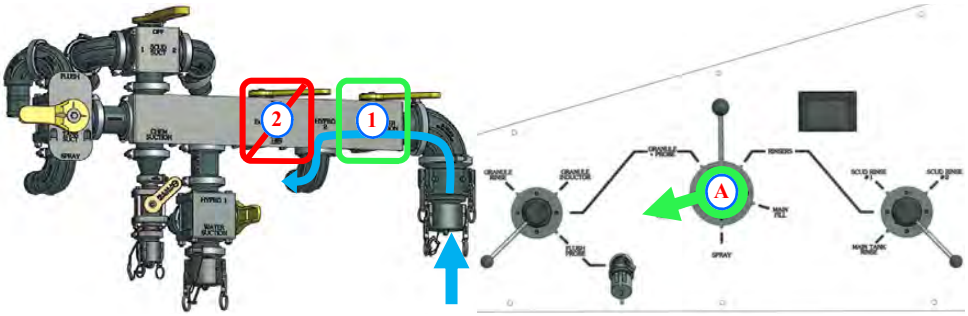
FILL Main Tank from external source using **Hypro2:**

1) Switch the 6-way (A) tap on the Pressure manifold to MAIN FILL
2) Turn **OFF** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **ON** the WATER SUC- (1) TION tap on the Suction manifold



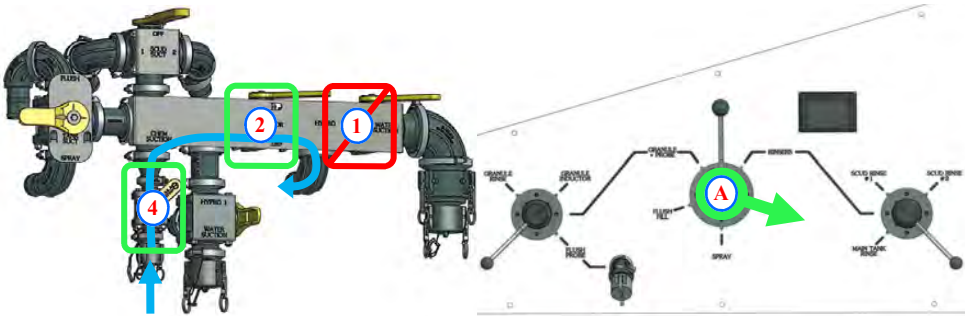
FILL Flush Tank from external source using **Hypro2:**

1) Switch the 6-way tap (A) on the Pressure manifold to FLUSH FILL
2) Turn **OFF** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **ON** the WATER SUC- (1) TION tap on the Suction manifold



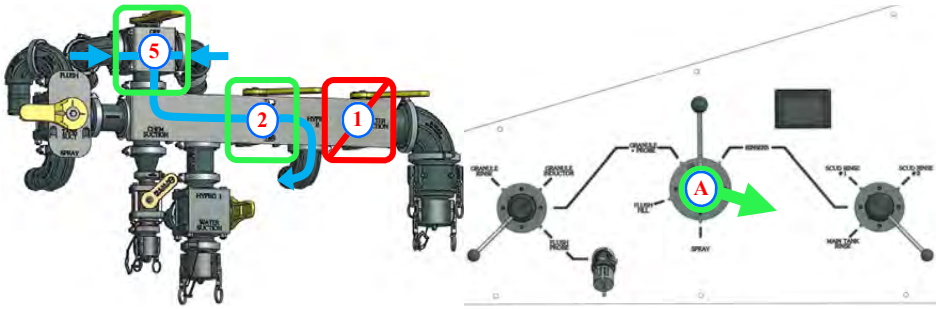
FILL Chemical directly to main tank with **Hypro2:**

1) Switch the 6-way (A) tap on the pressure manifold to MAIN FILL
2) Turn **ON** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **OFF** the WATER (1) SUCTION tap on the suction manifold
4) Remove the dust cap on the CHEM (4) SUCTION tap



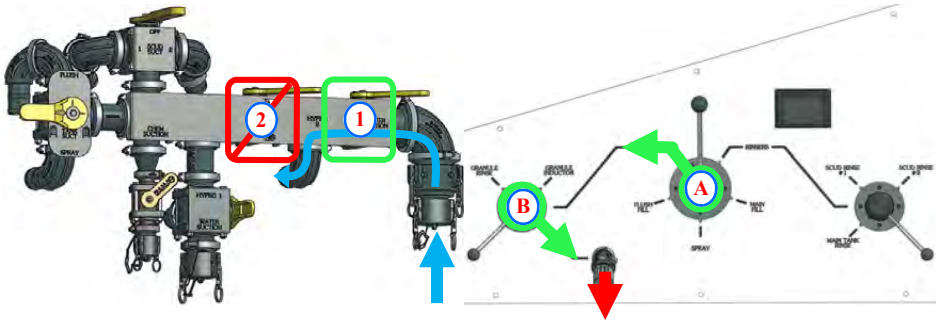
EMPTY Scud Tanks directly to main tank using **Hypro2**:

1) Switch the 6-way (A) tap on the pressure manifold to MAIN FILL
2) Turn **ON** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **OFF** the WATER (1) SUCTION tap on the Suction manifold
4) Switch the 3-way SCUD SUCT tap (5) on the Suction manifold to



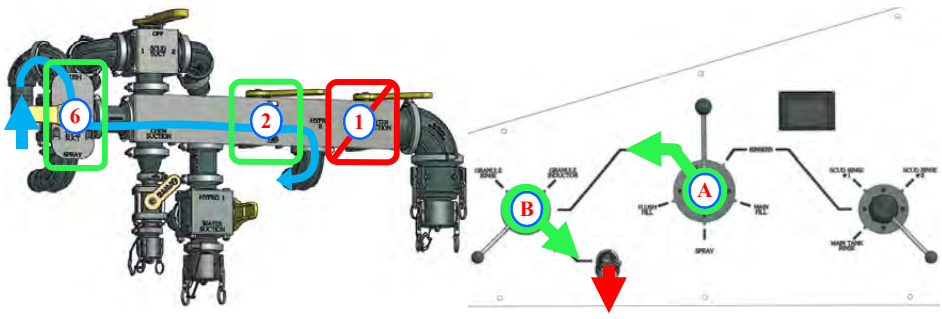
RUN Flush Probe using external water source with **Hypro2:**

1) Turn **OFF** the ISOLATOR (2) tap on the suction manifold
2) Remove the dust cap @ WATER SUCTION, connect up your hose
3) Turn **ON** the WATER SUCTION tap (1) on the Suction manifold
4) Remove the dust cap @ FLUSH PROBE, connect up your hose
5) Switch the 6-way (A) tap on the pressure manifold to GRANULE + PROBE
6) Switch the 5-way (B) tap on the pressure manifold to FLUSH PROBE



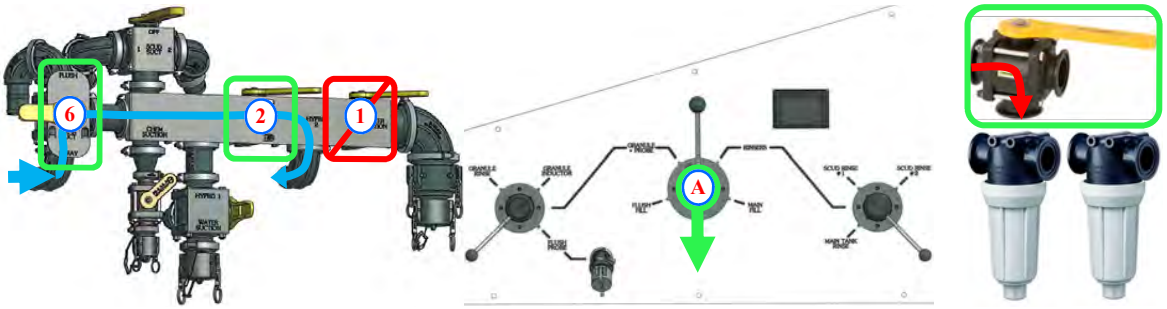
RUN Flush Probe using Flush tank as water source with **Hypro2:**

1) Turn **OFF** the WATER SUCTION (1) tap on the suction manifold
2) Turn **ON** the ISOLATOR (2) tap on the Suction manifold
3) Switch the 3-way TANK SUCTION (6) tap on the Suction manifold to FLUSH
4) Remove the dust cap @ FLUSH PROBE, connect up your hose
5) Switch the 6-way (A) tap on the pressure manifold to GRANULE + PROBE
6) Switch the 5-way (B) tap on the pressure manifold to FLUSH PROBE



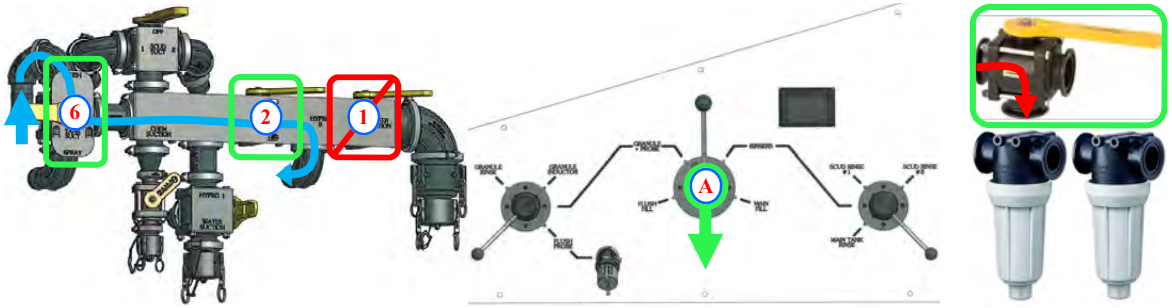
SPRAY with **Hypro2:**

1) Switch the 6-way (A) tap on the pressure manifold to SPRAY
2) Turn **ON** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **OFF** the WATER (1) SUCTION tap on the suction manifold
4) Switch the 3-way (6) tap on the Suction manifold to SPRAY
5) Switch the 3-way tap @ pressure filters to HYPRO 2
6) Activate your pump & use GPS controller to set application rate,



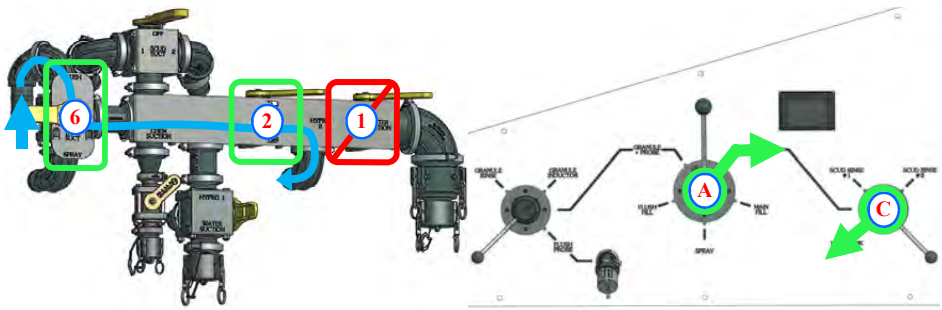
FLUSH with **Hypro2:**

1) Switch the 6-way (A) tap on the pressure manifold to SPRAY
2) Turn **ON** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **OFF** the WATER (1) SUCTION tap on the suction manifold
4) Switch the 3-way (6) tap on the Suction manifold to FLUSH
5) Switch the 3-way tap @ pressure filters to HYPRO 2
6) Activate your pump, use GPS controller to activate section valves etc,



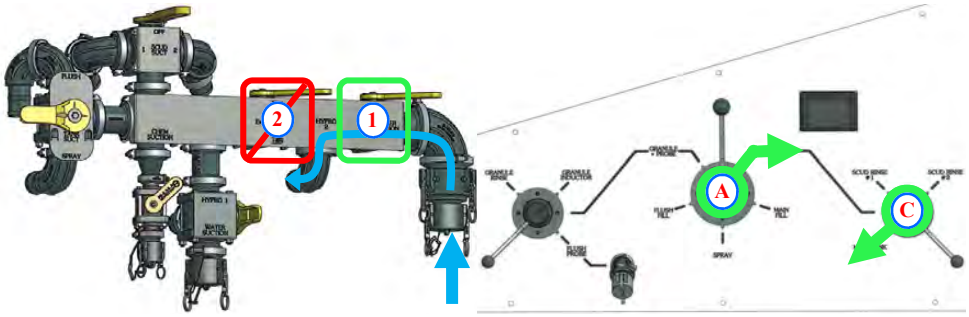
RINSE Main tank using Flush tank water source with **Hypro2:**

1) Switch the 6-way (A) tap on the pressure manifold to RINSERS
2) Turn **ON** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **OFF** the WATER (1) SUCTION tap on the suction manifold
4) Switch the 3-way (6) tap on the Suction manifold to FLUSH
5) Switch the 5-way (C) tap on the pressure manifold to MAIN TANK



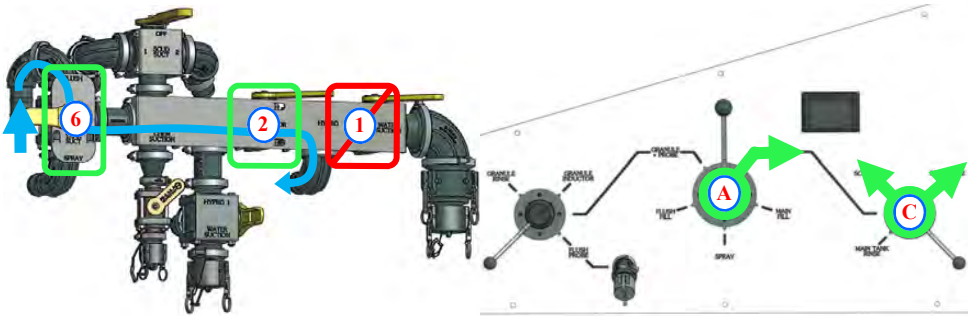
RINSE Main tank using external water source with **Hypro2:**

1) Switch the 6-way (A) tap on the pressure manifold to RINSERS
2) Turn **OFF** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **ON** the WATER SUC- (1) TION tap on the suction manifold
4) Switch the 5-way tap (C) on the pres- sure manifold to MAIN TANK RINSE



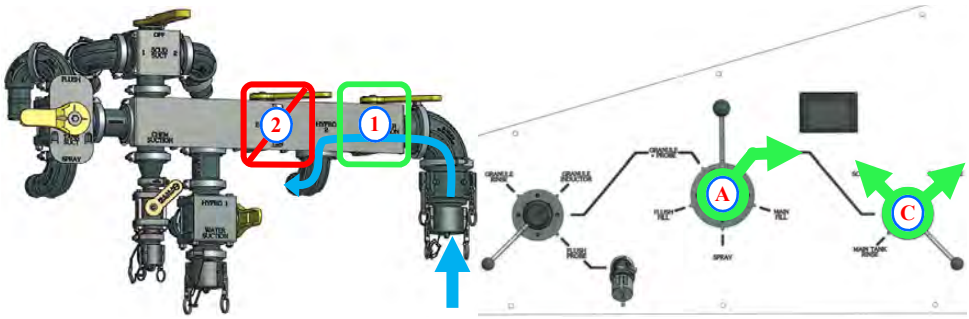
RINSE Scud tanks using Flush tank water source with **Hypro2:**

1) Switch the 6-way (A) tap on the pressure manifold to RINSERS
2) Turn **ON** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **OFF** the WATER (1) SUCTION tap on the suction manifold
4) Switch the 3-way (6) tap on the Suction manifold to FLUSH
5) Switch the 5-way (C) tap on the pressure manifold to SCUD RINSE 1 or



RINSE Scud tanks using external water source with **Hypro2:**

1) Switch the 6-way (A) tap on the pressure manifold to RINSERS
2) Turn **OFF** the ISO- (2) LATOR tap on the Suction manifold
3) Turn **ON** the WATER SUC- (1) TION tap on the suction manifold
4) Switch the 5-way (B) tap on the pressure manifold to SCUD RINSE 1 or 2

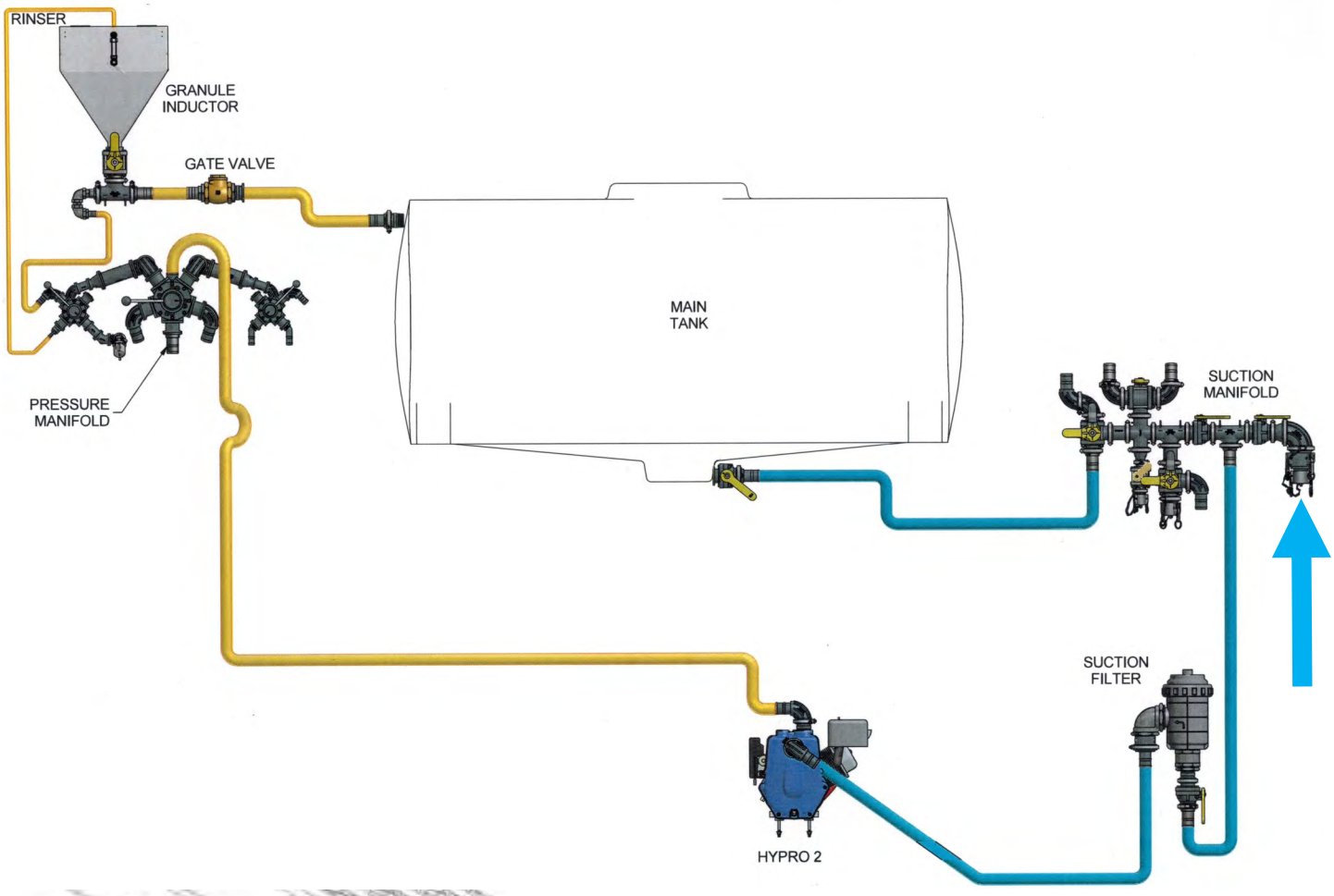


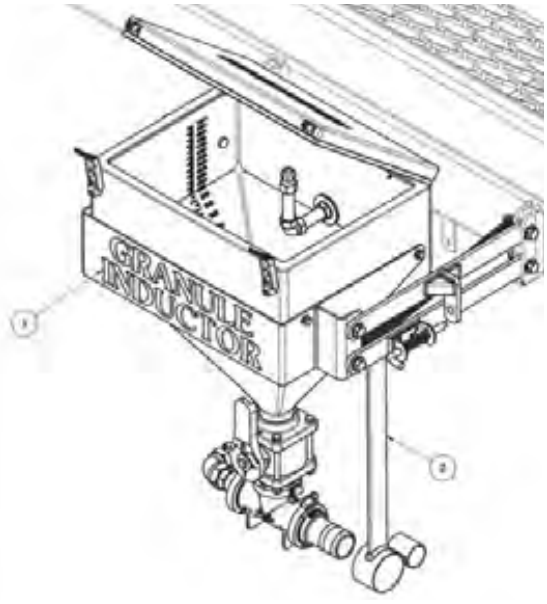
GRANULE INDUCTOR

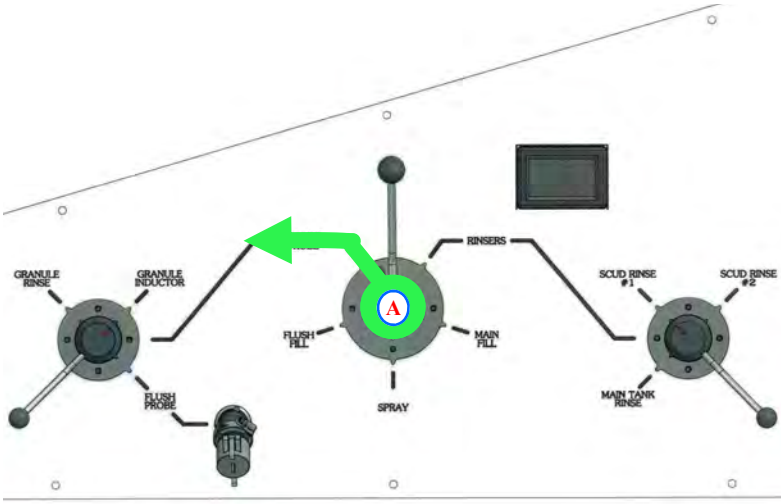
The SONIC Granule Inductor is a venturi type, dry hopper. It is suitable for loading: Granules, liquids and powders.

To operate:

1) Connect up your water source to run the inductor.
2) Set pump so it's running at 3/4 throttle.
3) Preferably have your Main tank 1/4 to 1/3rd full before running granule inductor to minimise foaming and= to reduce chances of granules settling.
4) Follow steps on the following Page 41:





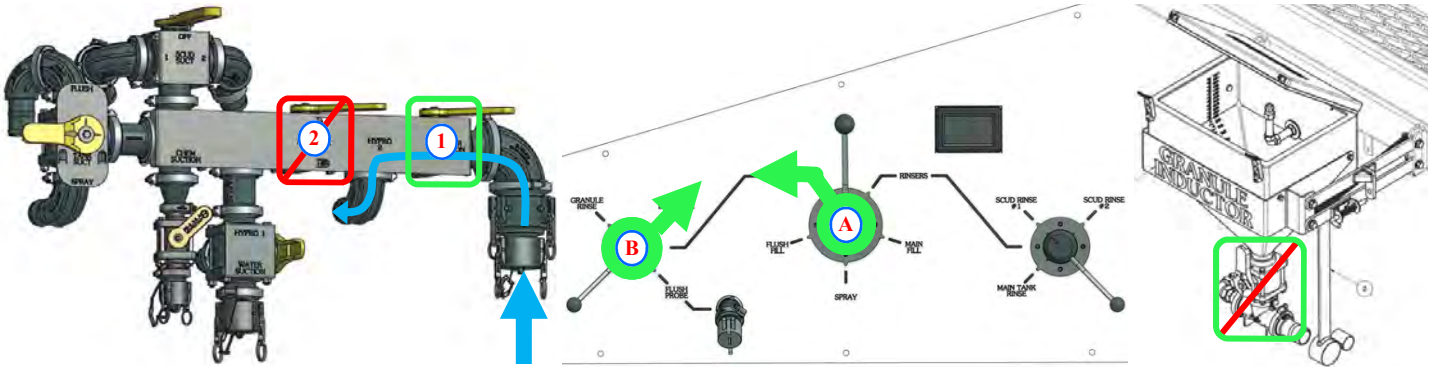


GRANULE INDUCTOR

RUN Granule Inductor using external water source with **Hypro2:**

1) Turn **OFF** the ISOLATOR tap (2) on the suction manifold
2) Turn **ON** the WATER SUC- (1) TION tap on the suction manifold
3) Remove the dust cap, connect up your hose and activate pump
4) Open the lid on the Granule inductor and pour in your liquids or granules
5) Switch the 6-way tap (A) on the pressure manifold to GRANULE + PROBE
6) Switch the 5-way tap (B) on the pressure manifold to GRANULE INDUCTOR to get the Venturi at the base of the hopper going
7) Open the tap at the bottom of the hopper until the hopper is empty

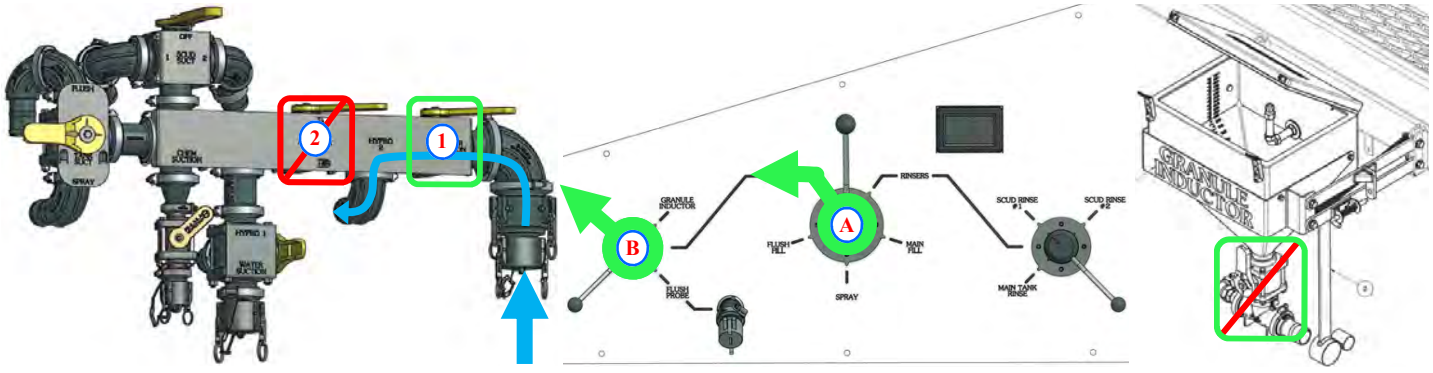
   Please Note. Make sure the lid stays open, a closed lid will create a vacuum and you'll struggle to open it again
8) Close the tap at the bottom of the hopper 1st, then close the lid



RINSE Granule Inductor using external water source with **Hypro2:**

1) Turn **OFF** the ISOLATOR (2) tap on the suction manifold
2) Turn **ON** the WATER SUC- (1) TION tap on the suction manifold
3) Remove the dust cap, connect up your hose and activate pump
4) Switch the 6-way (A) tap on the pressure manifold to GRANULE + PROBE
5) CLOSE the lid on the hopper
6) Switch the 5-way (B) tap on the pressure manifold to GRANULE RINSE
7) When finished rinsing, Switch the 5-way (B) tap on the pressure manifold to GRANULE INDUCTOR
8) OPEN the lid 1st, then open the tap at the base of hopper to empty

   Please Note. Make sure the lid stays open, a closed lid will create a vacuum and you'll struggle to open it again
9) Once empty CLOSE the bottom tap 1st, then the lid
10) Move on to the next task, turn taps as required



SONIC SCUD
CHEMICAL TRANSFER

Intro

The SCUD chemical metering unit is quick, clean and safe. The chemical is transferred from the Envirodrum to the boom tank in a closed system, which protects the operator from toxic chemical fumes and chemical splash. The SCUD system includes a 200ltr SCUD tank fitted to the boom enabling large quantities of chemical to stored and transported for remote filling stations. An electric Sotera double diaphragm SCUD pump is fitted as standard when a scud kit is optioned and is capable of shifting up to 50 ltrs of chemical per minute allowing chemical to be transferred in a short time frame, which is ideal for chemicals with rates upwards of 1 ltr/ha. The SCUD system is a proven product. Response from farmers has been excellent, it's simplicity and safety give it the edge over any other system on the market.

The SCUD system is very simple to use, so once it's mounted onto your boom there is no more set up required. Have your Envirodrums set up so that when you arrive at your water fill-up point the Micromatic coupler hose will reach the Envirodrums. Ensure the main spray system is in agitate mode before filling and follow the instructions to follow.

To operate:

1) After connecting water supply to fill the Main tank, remove the Micromatic male coupler from Micromatic female rinser and connect to Envirodrum, by turning clockwise (similar to a light bulb fitting).
2) Push down the handle of Micromatic male coupler to open the Micromatic drum valve (Note: It should click down into place). The system is now open and ready for the SCUD pump to be turned on. (Note: Before switching the SCUD pump on always check to make sure SCUD tank is empty)
3) Open the corresponding tap on the scud manifold to fill relevant SCUD tank.
4) Lift the metal lever on the right hand side of the SCUD pump to switch the pump on. You should see the chemical start filling into the bottom of the SCUD tank. If it's not filling then make sure the Micromatic coupler is connected properly and that the handle is pushed down all the way. If this does not solve the problem try another Envirodrum, in case the first one was faulty. If this fails check your SCUD pump.
4) When chemical fills to the required amount of litres (E.g. Read off the side of the calibrated SCUD tank), switch off SCUD pump. You can also stop the flow by releasing the Micromatic male coupler from the Envirodrum.
5) When you are satisfied that you have the right amount of chemical, remove the Micromatic male coupler from the Envirodrum (Unclick and turn anti-clockwise).
6) Re-connect the handpiece to the Micromatic female rinser (turn clockwise) and engage the handle of the male coupler until it clicks down into place (similar to step 2).

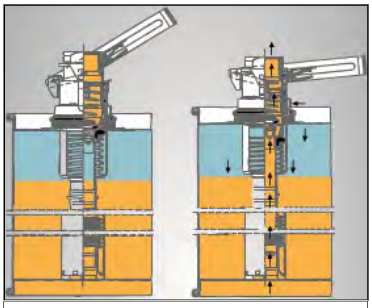
To Rinse:

1) Turn SCUD pump on again (for approximately 10 seconds), this will allow fresh water to flow from the Micromatic female rinser through the Micromatic male coupler into the SCUD pump and then into the SCUD tank. This flushes the chemical out of the system so you always have clean water left in the system.

Note: Once you've finished rinsing the SCUD system. Be aware that if you leave the handle fully engaged the system will be open. **Disengage** the handle to stop liquid flow. Head pressure from the flush tank could cause liquid to flow through the pump into your scud tank, giving you a false reading in the scale.

Micro Matic
(Male) Coupler

Micro Matic
Rinser



Handle UP = **NO FLOW**
Handle DOWN = **FLOW**

SWITCH
ON - **OFF**

SCUD INSTRUCTIONS

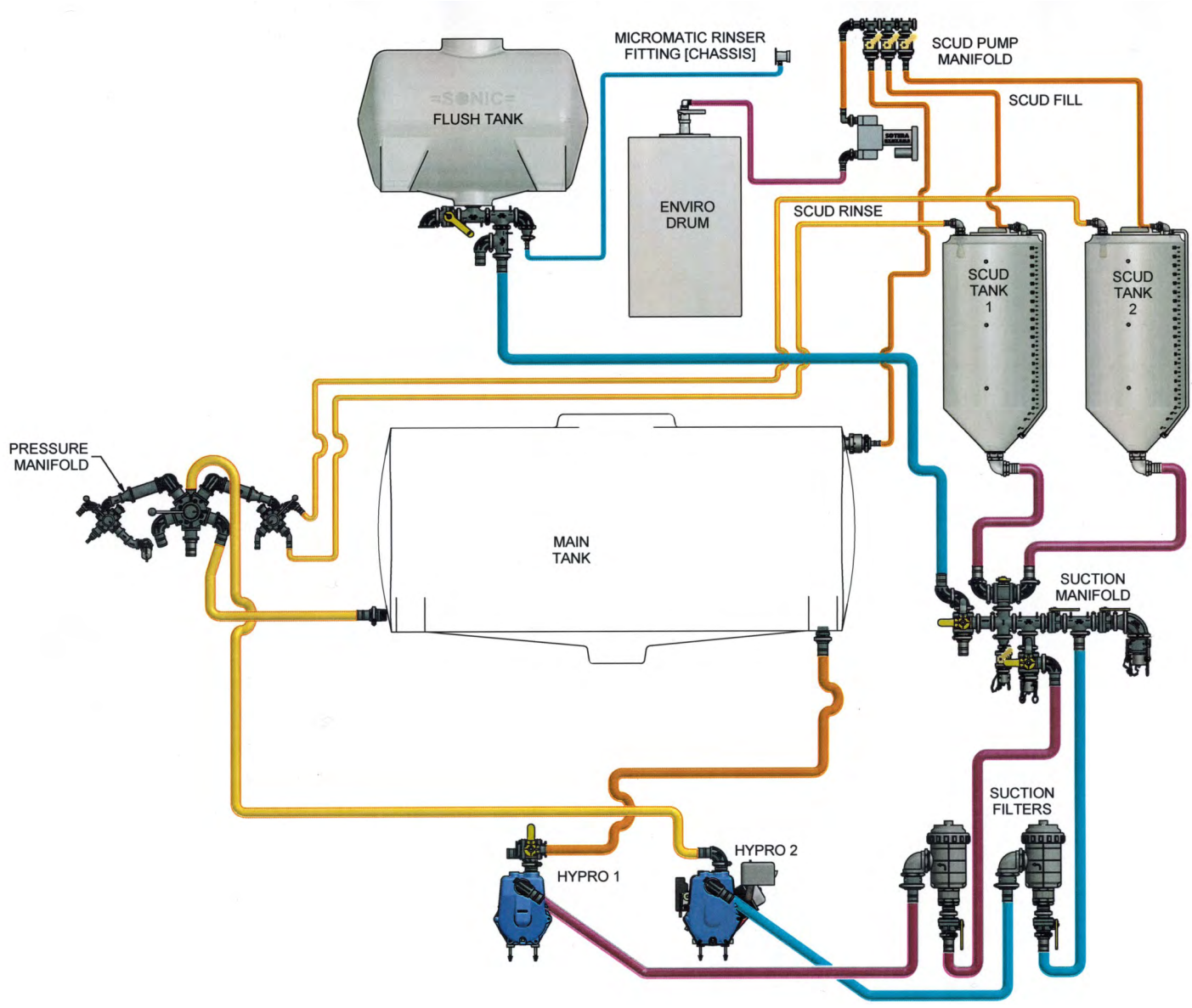
FILL Main Tank directly using **SCUD Pump:**

1) Connect up your suction hose to the chemical drum, so the Micromatic handle is locked down as described on previous page.
2) Open the corresponding tap for your MAIN TANK.
3) Switch on the pump until desired amount has been loaded into the tank.
4) Turn off the pump and disconnect your Micromatic male coupler from chemical drum.
5) Connect the Micromatic male coupler to the Female Rinser and engage handle.
6) Turn pump back on long enough to flush fresh water through the system.
7) When system is clean, Turn off and disengage handle to cut off the flow.
8) If you have another chemical going into the same batch repeat steps above.

SERVICING

Check oil level periodically. The oil level should be level with the bottom edge of the sight caps located on the front of the pump body. Replace oil annually with approximately 500 mls of automotive grade SAE 30W (or 15w40) through one of the site cap holes.

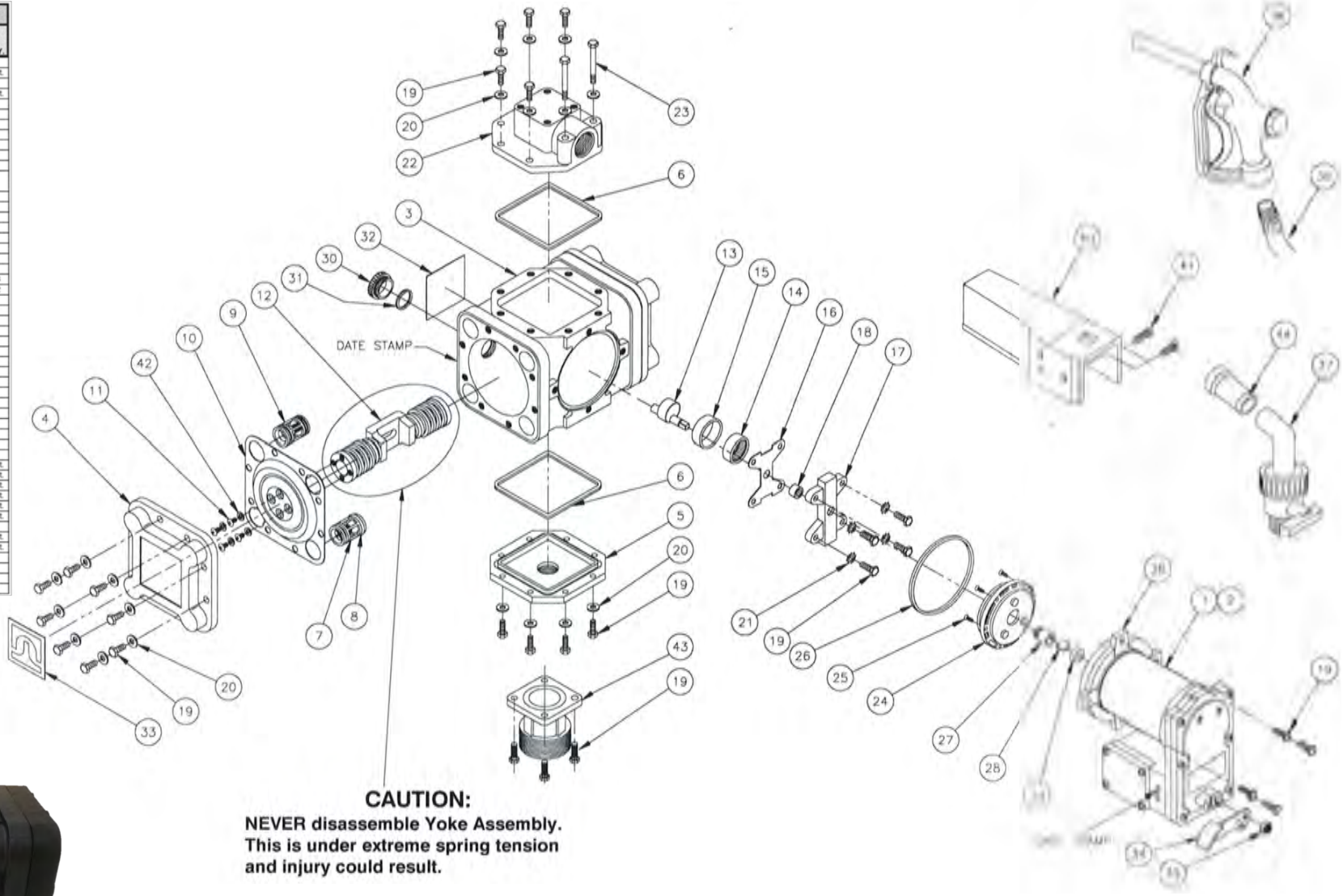
For more detailed service and parts information consult the Sotera Owner's Operation & Safety Manual (as supplied).



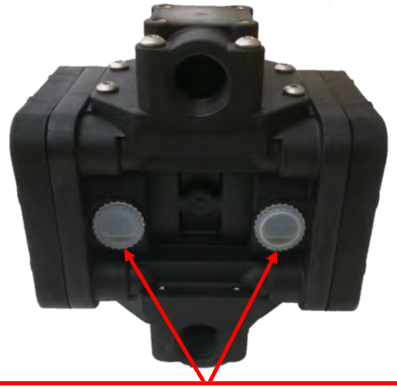
SERIES 400 PUMP PARTS LIST					
ITM. NO.	NEW PART NO. †	PART NO.	OLD PART NO. *	DESCRIPTION	QTY.
1	400F6846	F6846	F6846	Motor Assembly - 12 VDC	1
	200F6797	F6797	F6797	Motor Assembly - 24 VDC	Opt.
2	400F7351	400F7351	F7351	Motor Assembly - 115 VAC	1
	400G7186	400G7186	G7186	Motor Assembly - 230 VAC	Opt.
3	400F6567	F6567	F6567	Pump Body	1
4	400F6568	F6568	F6568	Pump Cover	2
5	400F6569	F6569	F6569	Flange	1
6	400F6924	F6924	F6924	L-C Gasket (-247)	2
7	400F6571	F6571	F6571	Check Valve - Inlet	4
8	35F6588	F6588	F6588	O-ring (-117) (Included w/Item 7)	4
9	400F6589	F6589	F6589	Check Valve - Outlet	4
10	400F6917	F6917	F6917	Diaphragm Assembly - Santoprene™ (Includes Items 7, 8, 9)	2
11	400F6795	F6795	F6795	#10-24 x 1/2 THMS	8
12	400F6781	F6781	F6781	Yoke Assembly	1
13	400F6800	F6800	F6800	Drive Shaft	1
14	400F6819	F6819	F6819	Camp Bearing (B-168)	1
15	400F6827	F6827	F6827	Bearing Ring	1
16	400F6880	F6880	F6880	Thrust Plate	1
17	400F6579	F6579	F6579	Bearing Plate	1
18	400F6693	F6693	F6693	Shaft Bearing (B-66)	1
19	400F6792	F6792	F6792	1/4-20 x 3/4 HHMS	38
20	400F6793	F6793	F6793	.281 X .625 x .065 Washer	32
21	702F3300	F3300	702-19	1/4 External Lockwasher	4
22	400F6679	F6679	F6679	90° Flange	1
23	400F6817	F6817	F6817	1/4-20 x 2-1/4 HHMS	2
24	400F6557	F6557	F6557	Gear Assembly (Included w/Item 1 or 2)	1
25	400F6794	F6794	F6794	#6-32 x 1/2 FHMS (Incl. w/Item 1 or 2)	6
26	400F6692	F6692	F6692	L-C Gasket (-241)	1
27	400F6563	F6563	F6563	Drive Gear (Included w/Item 1 or 2)	1
28	1200F6440	F6440	1200-9	Drive Key (Included w/Item 1 or 2)	1
29	400F6707	F6707	F6707	Shaft Seal (Included w/Item 1 or 2)	1
30	400F6818	F6818	F6818	Sight Cap, Polypropylene	2
31	400F6813	F6813	F6813	O-ring Gasket (-022)	2
32	400F8517	F8517	F8517	Nameplate	1
33	400F6758	F6758	F6758	Logo Plate	2
34	1200F6620	F6620	1200-45	Switch Lever	1
35	700F2950	F2950	700-27	5/16-18 Locknut	1
36	400F6566	F6566	F6566	Gear Housing (Included w/Item 1 or 2)	1
37	400K1F6593	F6593	F6593	Ball Valve Nozzle, 1"	Opt.
39	700F3123	F3123	700-64	1" x 12' EPDM Hose	Opt.
	410F3140	F3140	F3140	1" x 12' Nyall Hose	Opt.
40	700F6748	F6748	F6748	Nozzle Cover	Opt.
41	600F2220	F2220	600-109	5/16-18 x 3/4 HHCS	Opt.
	400F1855	F1855	F1855	Suction Pipe	Opt.
42	800F4191	F4191	800-97V	O-Ring, Viton (106)	8
43	400F6483	F6483	400F6483	Bung Adapter	Opt.
44	400F0237	F0237	F0237	Anti-Drip Spout	Opt.
	1200F7207	F7207	F7207	Cable 15 feet (DC Only) (Not Shown)	1
	400F7320	F7320	F7320	Power Cord (115 VAC Only) (Not Shown)	1
	400G7185	G7185	400G7185	Power Cord (230 VAC Only) (Not Shown)	1
	1200F7321	F7321	F7321	Cable Connector (Not Shown)	1

† Effective 2/1/99
* Prior to 2/1/99

400KTF6953	Diaphragm Repair Kit (Includes Items 8, 10, 24-26, & 42)



CAUTION:
NEVER disassemble Yoke Assembly. This is under extreme spring tension and injury could result.



Check oil level regularly: SAE 30w or 15w40

12v ELECTRIC SCUD PUMP — SOTERA 400 Series

HIGH FLOW SCUD
CHEMICAL TRANSFER

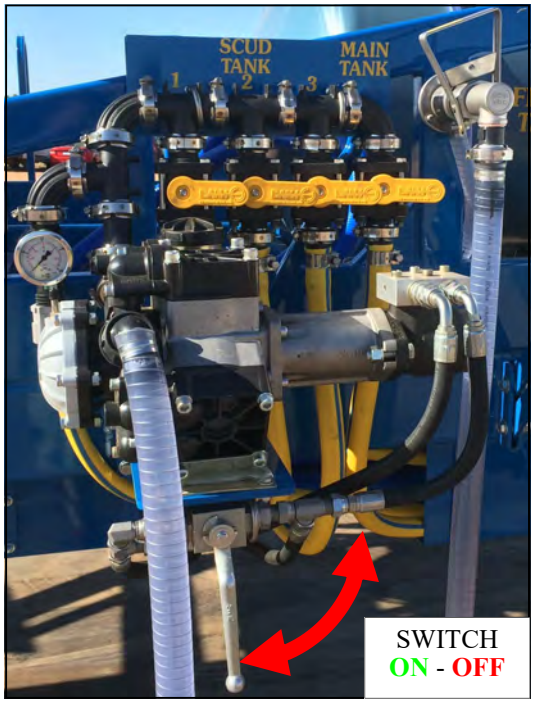
INRO

The high flow SCUD chemical transfer unit is quick, clean and safe. This pumping system is capable of higher flows than the electric driven unit, with a potential of up 110 l/min compared to the 50 l/min potential of the electric setup (Note: Fittings and couplers used may restrict full flow). There are two options for driving the pump. The pump can be fitted with either a Hydraulic driven or a Petrol driven motor. Procedures for filling and flushing are the same as described for the electric unit on previous pages, only difference being how the motor is switched on and off. The Hydraulic motor can be switched off via the hy-draulic ball valve under the motor. The Honda motor can be switched off via the standard ON-OFF switch on the motor. (Note: Max RPM is 550rpm for these diaphragm pumps: Pre-set at SONIC factory)

SERVICING

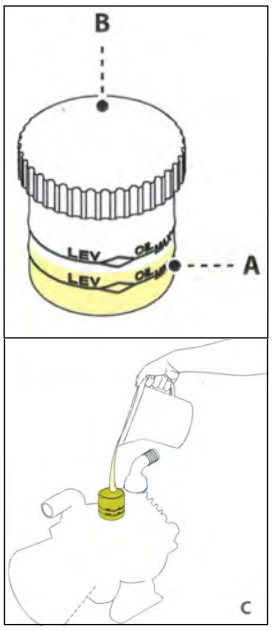
- Check oil level periodically. The pump should be level and cold when checking and the oil level should be between the marked MAX-MIN markings on the reservoir bottle.
- If necessary, top up the oil, using the recommended oil from your pump user manual.
- Replace oil annually as per user manual provided.
- Check Diaphragm pressure periodically

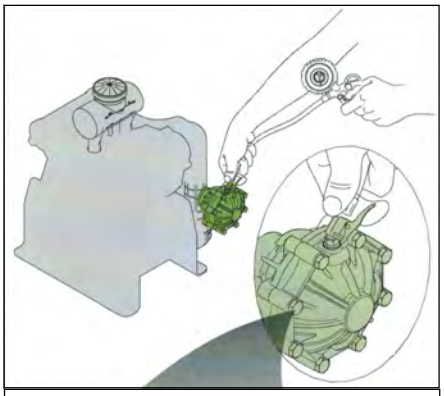
For more detailed service and parts information consult the Manufacturers Owner's Operation & Safety Manual (as supplied).



D113– D123 {Imovilli} Pump Data

ℓ/1' MAX	USGPM MAX	RPM MIN	RPM MAX	BAR MAX	PSI MAX	Kg	OIL SAE 40 ℓ	HP	KW	Pompa Pump
110	29	350	550	20	290	12,5	0,740	5,7	4,2	D113
120	31,7	350	550	20	290	12,5	0,800	6,5	4,8	D123





Checking the inflation pressure
If the pump has a pressure accumulator, check its level of inflation with the pump at a stand-still, using an tyre inflation gun with a pressure gauge. The accumulator is inflated by the manu-facturer to the maximum pump pressure. Refer to the table below for desired pressure setting.

D113– D123 {Imovilli} Pressure Accumulator

BAR	PSI	BAR	PSI
20	290	8	115
15	215	7	100
10	145	5	70
5	70	3	40

HIGH FLOW SCUD PUMP — IMOVILLI D113 & D123 Series

D 113 - D 123

TAV. D113-D123/2006.10

CODICE			DESCRIZIONE	N° PEZZI
27.001			Anello spallamento A.	1
27.007			Anello spallamento B.	2
30.008			Accumulatore sup. D 113	1
30.012			Accumulatore sup. D 123	1
32.016			Albero pompa D 123 cardano	1
32.044			Albero pompa D 113 cardano	1
32.045			Albero pompa D 113 cono	1
34.013			Anello unione	2
35.005			Accumulatore inf.	1
39.004			Anello arresto Ø 16	6
41.007	♦	■	Anello radiale Ø 30 x 47 x 7	1
41.008	♦	■	Anello radiale Ø 35 x 47 x 7	1
106.012			Base pompa SX	1
106.013			Base pompa DX	1
117.002			Biella	3
201.025			Carter D 123	1
201.029			Carter D 113	1
202.008	♦		Camera aria gomma	1
202.011			Camera aria desmopan	1
205.003			Collettore aspirazione	1
207.010			Cilindro D 123	3
207.034			Cilindro D 113	3
234.005			Coperchio cuscinetto	1
239.001			Coperchio coll.asp	1
248.004			Cuscinetto a sfere 6007	1
248.008			Cuscinetto a sfere 6206	1
249.008			Cuscinetto a rullini HK 20/30	1
249.009			Cuscinetto a rullini HK 40/16	2
321.003			Dado es. M 8 UNI 5587	6
321.006			Dado es. M10 UNI 5587	1
603.012	♦	■	Guarn. coperchio cuscinetto	1
604.004	♦	■	Guarn. valvola A-M	6
604.009	♦	■	Guarn. Ø 23 x 32 x 2 D 113	1
609.012			Girello Ø 1" RS	1
609.028			Girello Ø 1"1/2 RS	1
627.003	♦	■	Guarn. OR 109	1
627.017	♦	■	Guarn. OR 3075 D 123	1
627.018	♦	■	Guarn. OR 3081	1
627.022	♦	■	Guarn. OR 3137	1

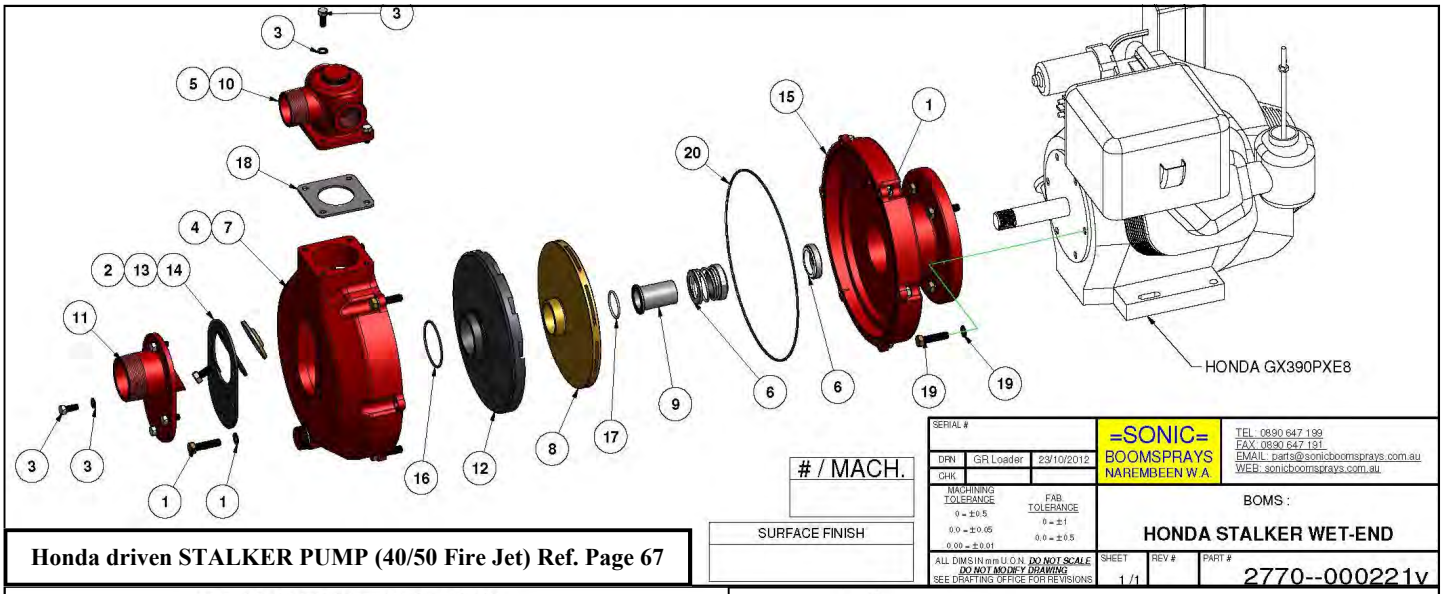
CODICE			DESCRIZIONE	N° PEZZI
627.035	♦	■	Guarn. OR Ø 12 x 6 x 3	1
627.042	♦	■	Guarn. OR 109104	2
627.058	♦	■	Guarn. OR Ø 25 x 31 x 3	6
627.064	♦	■	Guarn. OR 3087 D 113	1
627.092	♦	■	Guarn. OR 3131	1
627.103	♦	■	Guarn. OR Ø 38,5 x 32,5 x 3	2
802.002			Linguetta 8 x 7 x 25 UNI 6604	1
904.001	♦	■	Membrana polmone olio D 123	1
904.010	♦		Membrana gomma	3
904.020			Membrana desmopan	3
1203.031			Pistone	3
1205.004			Portagomma curvo Ø 25 x 1"	1
1205.028			Portagomma curvo Ø 40 x 1"1/2 D 123	1
1205.029			Portagomma curvo Ø 30 x 1"1/2 D 113	1
1224.003			Perno bloccaggio membrana	3
1402.015			Rondella richiamo membrana	3
1403.004			Rondella Bis. Ø 8 UNI 1750	12
1403.006			Rondella Bis. Ø 10 UNI 1750	9
1415.011			Raccordo collettore	2
1415.012			Raccordo collettore con tappo	1
1504.003			Spinotto Ø 16 x 60	3
1505.006			Serbatoio olio D 113	1
1505.007			Serbatoio olio D 123	1
1603.020			Testata	3
1606.002			Tappo serbatoio olio D 113	1
1606.004			Tappo serbatoio olio D 123	1
1812.002			Valvola aria	1
1813.011			Vite TE M8 x 20 - 8.8 UNI 5739	4
1814.007			Vite TE M8 x 40 - 8.8 UNI 5737	6
1815.015			Vite TCEI M8 x 35 - 8.8 UNI 5931	2
1815.016			Vite TCEI M8 x 40 - 8.8 UNI 5931	3
1815.019			Vite TCEI M8 x 60 - 8.8 UNI 5931	6
1815.030			Vite TCEI M10 x 65 - 8.8 UNI 5931	12
1817.001			Vite prigioniera inox	1
2010.011			Set guarnizioni ♦	1
2010.211			Set guarnizioni desmopan ■	1
2013.022			Gruppo valvola A-M	6
2013.522			Kit valvola A-M	6

SPRAY PUMPS

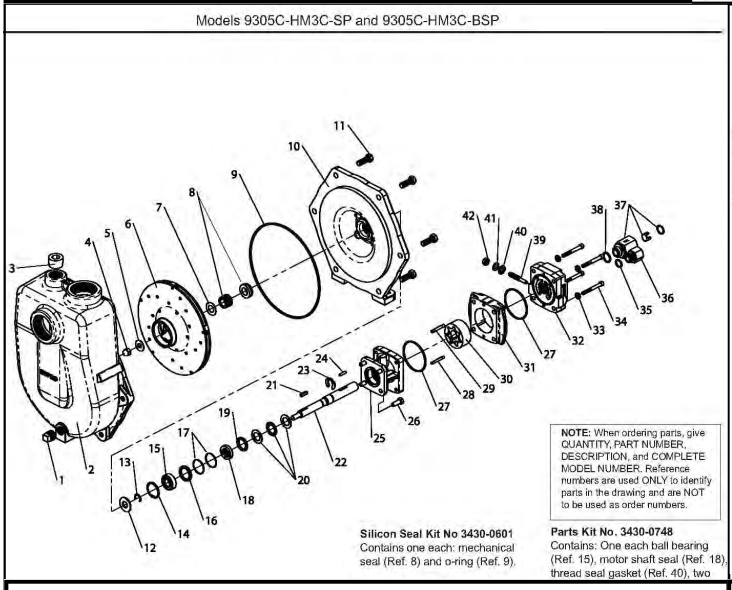
Flush pump with fresh water on completion of each days spraying. This will pro-long the life of the pump. Running the pump dry can lead to premature seal failure. If the seal should leak, liquid will emerge between the motor and the pump housing. Should this occur it is recommended that the shaft seal (Mechanical seal) in the pump be replaced. In some cases liquid can penetrate engine seal and cause complete engine failure.

Pump can remain on machine to replace seal.

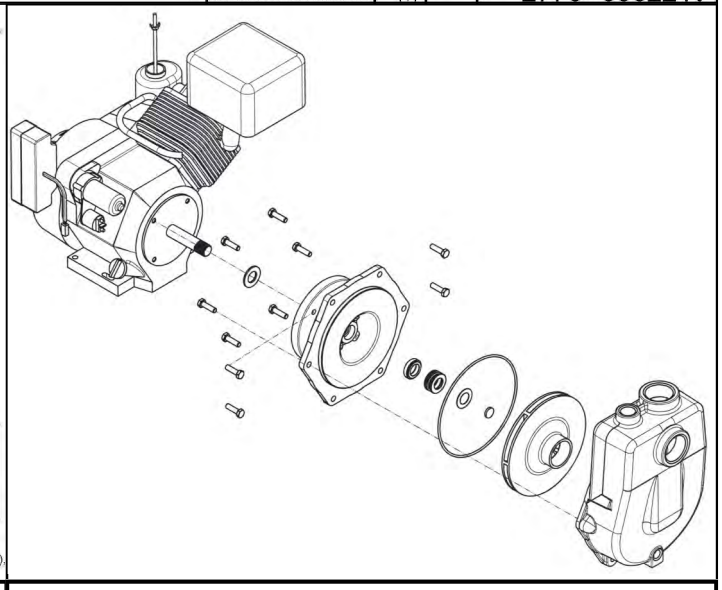
- If possible flush pump with fresh water, then drain all liquid out of pump.
- Remove all bolts from pump housing
- Prise housing apart.
- Remove diffuser from impeller. (Stalker only)
- Remove impeller (Refer pump owners manual).
- Prise the spring loaded side of the seal off the shaft with a screwdriver.
- Prise Ceramic ring (White) out of the back plate
- Clean pump housing where seal is seated and lubricate.
- Replace new seal, making sure that the two hard surfaces face each other.
- Bed Ceramic seal into housing - take care not to scratch, chip or crack, a little lubrication helps.
- Replace impeller and tighten (Use thread lock on the nut where applicable: Hydraulic driven Hypro).
- Replace housing and take care to line up evenly to ensure that the O-ring seals don't get pinched.
- Prime pump and run with some fresh water to check for leaks.



Honda driven STALKER PUMP (40/50 Fire Jet) Ref. Page 67



Hydraulic driven HYPRO PUMP (9305C-HM3C) Ref. Page 64



Honda driven HYPRO PUMP (1551-SP) Ref. Page 63

PRE SEASON MAINTENANCE

1. Lift and unfold machine to ensure booms fold out and outriggers perform correctly.
2. Check all turnbuckles for defects or deformities, are pins in place, adjust as necessary & tighten lock nuts.
3. Check all Dee shackles are in place, inspect for defects, tighten pins
4. Check all cable clamps are tight and that the cables are not frayed.
5. Put some water in all tanks and operate machine in a stationary position to make sure there are no leaks.
   Note. It is common for O-rings and rubber washers to contract when the unit is not used for a long period. Most of these recover their shape quickly but sometimes they may need attention.
6. Open and close all motorised valves to check they are functioning correctly (Eg. Sections, control valves, dump valves, Flush On The Go valve, Tank Drain etc.)
7. Grease suspension and all pivot points. (Pg. 18-20)
8. Change oil in motors
9. Clean air filters
10. Remove and check all chemical filters on unit and make sure they are clean.
11. Check all nozzles and make sure they are clean.
12. Check all tyre pressures. (Pg.17)
13. Jack up all tyres and check wheel bearings for excess movement - there should very minimal play in the bearings.
14. Most monitors require maintenance and possible updates. Depending on monitor used, it is a good idea to contact the manufacturer to see what you should do.
15. Re-calibrate Wheel Sensor. (Refer to Controller Owners Manual)
16. Re-calibrate Flowmeter. (Refer to Controller Owners Manual)

END OF SEASON MAINTENANCE

1. Thoroughly decontaminate Boomspray with a suitable cleaning agent.
2. Flush several times with clean water.
3. Clean and decontaminate all filters.
4. Wash down entire Boomspray.
5. Lubricate all grease points.
6. Check manufacturer recommendation for off-season storage of engines.
7. Store out of direct sunlight.

FLUSHING & DECONTAMINATION

"A CLEAN MACHINE IS A SAFE MACHINE"

Boomspray should be washed down and the boom plumbing flushed out with clean water at the end of each day and at the end of every season. Use boom clean if necessary. Flowables and granules can settle out of suspension. Agitate properly before rinsing out. This includes cleaning filters, tanks, lines, pumps, jets and jet filters. **It should also be thoroughly cleaned between different chemical groups, using an approved cleaning agent to avoid crop damage and or antagonism.**

Good Housekeeping is paramount with chemical and liquid fertilizers

A fresh water tank (Flush tank) is fitted to facilitate the flushing of the Boomspray while away from a water source.

De-Contaminating the system:

Flush the system with fresh water regularly and boom clean periodically

1) Select your fresh water source and the pump you wish to use.
2) Drain the Main tank to remove any residuals by opening the manual drain valve or (If optioned) press and hold the button for 3 seconds to activate the remote electric drain valve.
3) Close the drain valve once empty.
4) Switch pump to spray mode and switch to flush mode on your controller .
5) Switch all sections to ON, on your controller and activate master switch.
6) Open the flush taps at the ends of each section on the wings for 2-3mins to flush the lines.
7) Close the flush taps again and leave the fresh water flush through the jets for another 2-3mins.
8) Turn OFF you master switch.
9) Remove the mesh screens completely from your all your Filters and repeat steps 4-7, to flush the filter bodies and don't re-fit the mesh screens until the rest of the boom has been flushed.
10) With the master switch OFF and all your section valves OFF, open the dump valve and control valve to flush those lines back to main tank for 1-2mins.
11) Switch pump to Fill mode and turn relevant taps to fill Main tank to flush that fill line for 1-2mins.
12) Switch pump to Spray mode, switch pressure manifold tap to run Granule inductor only, this will flush fresh water through that bottom hose up into the main tank. Ensure the Granny pots drain tap is closed. Ref. Granule Inductor section.
13) Drain the main tank again, follow step 2.
14) With the drain valve still open Turn on the Main Tank Rinse until the liquid runs clear.
15) Close the drain valve.
16) Flush your spray lines and jets again by repeating steps 4-8 until liquid runs clear.
17) Repeat steps above for both pumps if required.
18) Clean all the Filter MESH SCREENS thoroughly and re-fit.

SCUD System:

Flush the system with fresh water regularly and boom clean periodically

1) Connect and engage the Micromatic Male coupler with the Female rinser. Refer to Pg.42-43 for more de-tailed instructions.
2) Rinse line back to main tank for 1-2mins.
3) Rinse line to Scud tanks for 1-2mins.
4) Fill scud tank to around half way with fresh water.
5) Drain the scud tank again to flush the suction lines.
6) Run the Scud tank Rinser for 1-2mins and drain the residual once finished.

Boom cleaner can be added through the suction probe at the Pressure manifold or through the granule inductor: **Note.** When adding boom cleaning agent, follow the instructions on the label and procedures outlined by the cleaning agent manufacturer.
Once boom clean has been added, repeat the flushing procedure, as above.

"Ensure spray residues and rinsing solution are disposed of in accordance with local shire and state laws."

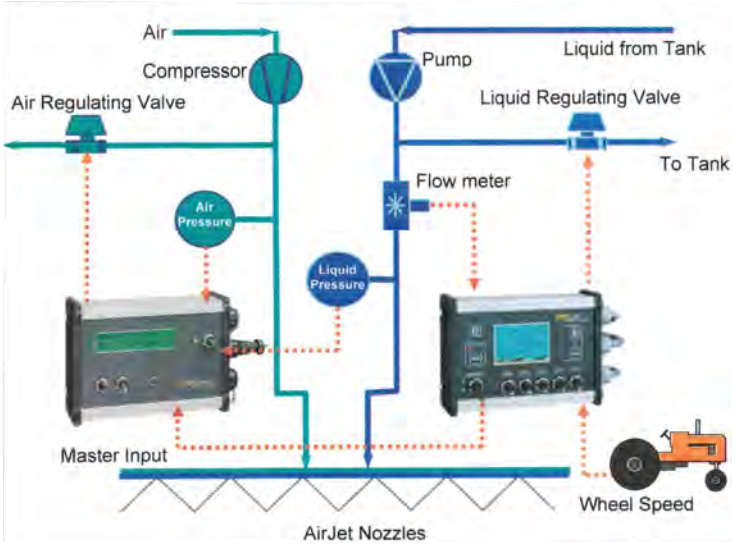
AIRMATIC

Airmatic system:
This unique system is an optional extra and allows for complete control of the droplet size, thus allowing the operator to select the droplet size on the go, to suit the target or the conditions. The system then maintains this droplet size regardless of changes in sprayer speed or system pressure. This makes for worry free application and gives confidence to the operator that the best possible application is being done. The bi-fluid nozzle is able to produce the droplet size required for any application independent of the spray volume needed.

Airmatic controller:
The Airmatic controller regulates the flow of air to the AirJet nozzle by sensing the changes in the liquid pressure and adjusting accordingly. This enables the system to maintain a constant droplet size when the ground speed and/or liquid pressure changes. The Airmatic controller has pre-programed maximum and minimum limits for liquid and air pressure determined by the target droplet size selected. The system will alert the operator to vary the spraying speed accordingly.

Six droplet size settings - Choose among six industry standard drop size categories of Very fine (VF), Fine (F), Medium (M), Coarse (C), Very Coarse (VC) and Extremely Coarse (XC).
Alarm mode - When the system detects a variation in liquid pressure that is beyond the set pressure-to-air relationship, a flashing message on the display alerts the operator to “Drive Slower” or “Drive Faster.” Likewise “Increase RPM” message will flash if the air compressor is working too slowly. This warning system helps ensure maximum reliability.
Wind Measurement - An optional anemometer measures wind velocity before spraying and advises the operator on which droplet size to use. A display message alerts the operator when it’s too windy to spray.
Full Compatibility - The Airmatic controller can be used in combination with your GPS controller.
Constant droplet size - Droplets remain a consistent size over a wide range of spray volumes, speeds and pressures.

Complete operator control - With a simple touch of the finger the Airmatic controller can be adjusted to any of the six droplet categories. This can be done on-the-go when approaching drift sensitive areas.
Reduce liquid carrier volumes - Replacing much of the water or other carriers with air, allows the operator to use spray volumes at the lower end of the pesticide label requirements. This means less time spent hauling water and filling the sprayer.
One size fits all - The same size nozzle can be used for widely varying applications. For example, an AirJet can be used to apply both fungicides at high pressures and herbicides at low pressures in drift sensitive areas.



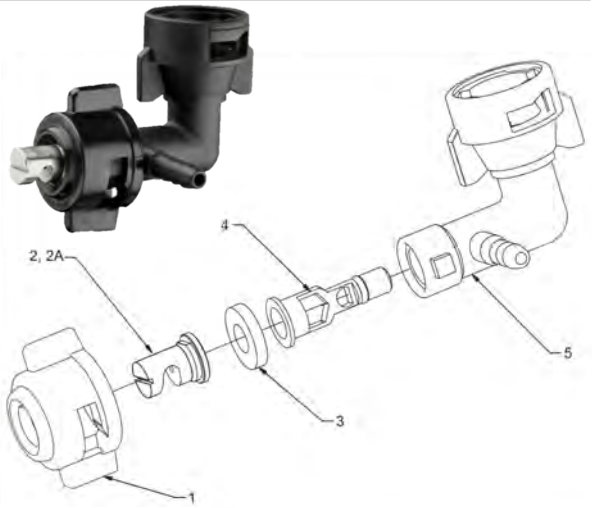
How it works:

- The liquid system delivers the spray solution to the AirJet nozzle mounted on the boom through conventional lines and hoses.
- An on-board air compressor delivers a regulated volume of air to each AirJet nozzle on the boom through a separate air handling system.
- The AirJet nozzle mixes the incoming air and liquid spray solution. This mixing causes atomization of the liquid and air then delivers the droplets to the target. This bi-fluid technology of the AirJet makes for easy control of the droplet size.
- The air pressure and liquid pressure are monitored and adjusted automatically by the Airmatic controller to maintain the selected droplet size.
- The Airmatic system is also divided and synced into sections with the same spacing as the liquid system. So when the liquid sections switch off the air sections switch off at the same time for even more accuracy.

Consult the Airmatic operators manual for more detailed info regarding controller setup

How the AirJet Nozzle works:

- A metering insert controls the liquid flow and air is feed into the nozzle through an opening perpendicular to the liquid stream. Six sizes of the metering insert are available (031, 035, 042, 052, 062, 100) to accommodate a wide variety of volume rates.
- By adjusting both the air and liquid inputs, you can control the droplet size over a broad range of pressures with the same nozzle.
- A specially designed Floodjet® spray tip is used to create a uniform spray pattern. When the air and droplet mixture exit the nozzle body they are deflected off the FloodJet® outlet surface and produce a typical flat spray pattern.



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	CP22198-1-CE	Quick TeeJet Cap, Celcon (Black)
2	1	50678-10-SS	FloodJet Tip, Stainless Steel (Standard)
2A	1	50678-10E-SS	FloodJet Tip, Stainless Steel (End of boom)
3	1	CP19438-VI	Seat Washer, Viton
4	1	23209-1-*	Sub-Assembly, Consists of O-Ring,Viton & Orifice Insert (31, 35, 42, 52 or 62) Nylon (Black)
5	1	CP49881-NYB	Body, Nylon (Black)
How to order: 49880A-*-05-NYB AirJet Assembly fitted with standard spray tip 49880E-*-05-NYB AirJet Assembly fitted with end of boom spray tip			
* Specify Orifice Insert Size - 31, 35, 42, 52 or 62			

AIR BAGS

Introduction:
A 12-volt stand-alone air compressor supplies air for the air bags. The air compressor has a pressure switch to maintain constant air pressure in the tank which switch's on the compressor automatically once the pressure goes below a pre-set range. The pressure for the air bags is pre-set from the factory at 80 PSI and should not need to be changed. If a change needs to be made, adjust the regulating valve on the air tank.

Points to note:

- Air bags can be used when deflated but this should be avoided or minimised.
- Air tank pressure should never exceed 155 PSI
- The 12v Condor switch (Fig.1 & 3) should be turned OFF when boom not in use for extended period. If an air leak occurs it will keep turning the compressor on until the battery goes flat.
- Ride level has been Pre-set from factory and shouldn't need adjusting (300mm Base Plate to Top Plate).
- If the ride height does need to be adjusted, this can be done by adjusting the ride height valve (Fig.2). Open the screw and move the rubber clamp up or down the rod to get desired result.

Fig. 1

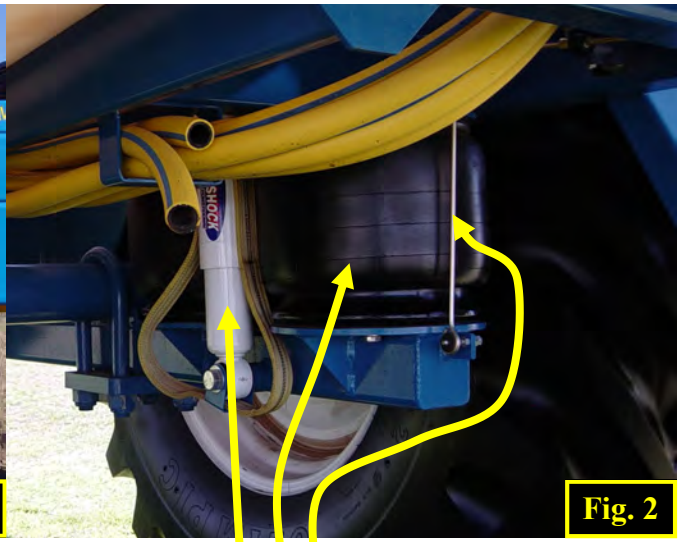


Fig. 2

TANK PRESSURE REGULATOR
12v CONDOR SWITCH (Auto)

AIR BAG PRESSURE REGULATOR
(Adjust manually if required)

RIDE HEIGHT ADJUSTER

AIR BAG

SHOCK ABSORBER

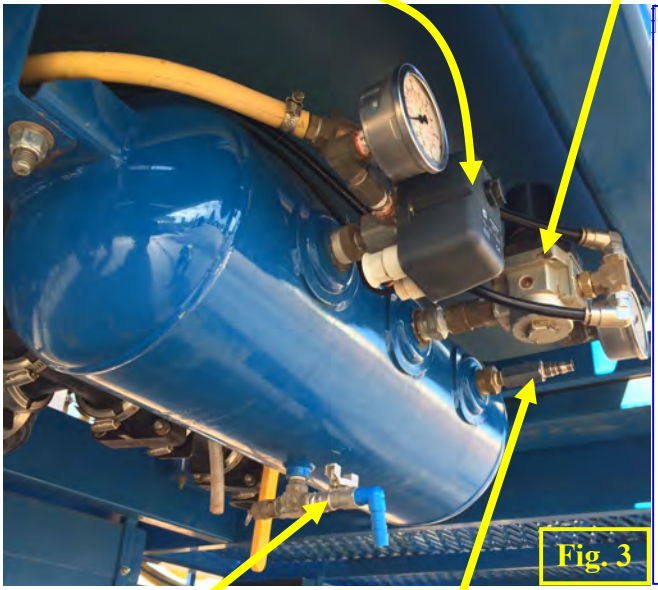


Fig. 3

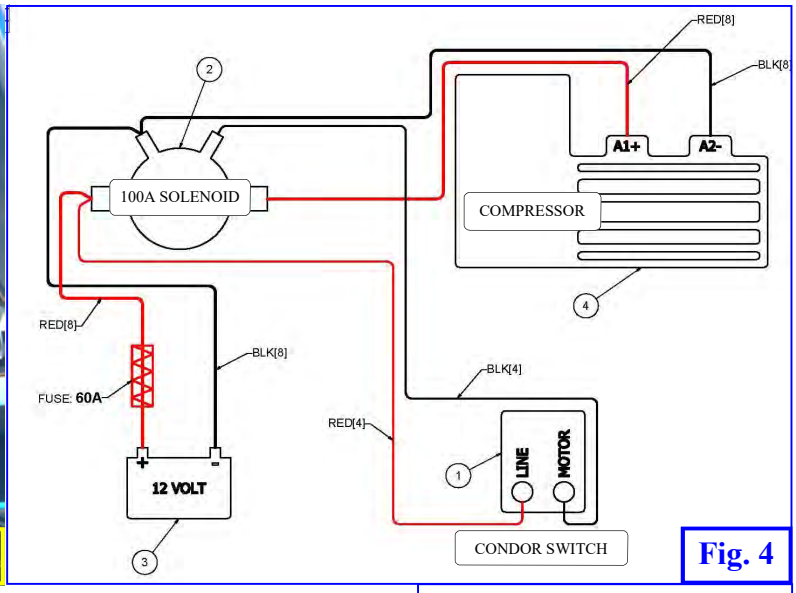


Fig. 4

LARGER WIRING DIAGRAM
Refer to Pg. 60

TANK DRAIN

OPTIONAL AUXILIARY AIR CONNECTION

TROUBLE SHOOTING

PRESSURE PROBLEMS:
Most pressure problems whether it is high pressure or low pressure will be caused by blocked filters

Check Filters

1) Shut down and isolate filters by closing appropriate taps.
2) Check for damage and clean filters

Pressure Low

1) Determine where pressure problem is by checking the manual pressure gauges on front of sprayer.
2) If getting a low pressure reading this means there is a problem on the pump side of the pressure take offs which are located in the command center under section valves (Black tubes).

Pressure High

If high pressure reading high, this means there is a problem between the pressure take offs and the jets.

Check that controller has been programmed correctly and that calibration settings have not been altered.

Inconsistent pressures across boom sections will be caused by one of the following: Blocked jets, blocked thimble filters, broken T body, broken jet or split hose.

Ensure all taps are correctly positioned.

Low pressure can also be caused by 2nd spray line coming on too early.

Intermittent or no pressure reading on computer.

Check flow meter.

- Turn off the taps below the Control, Dump & Prop valves in the Command center, to isolate the mani-fold.
- Turn off the liquid feed from the pump side @ (Pressure filters).
- Remove flow meter and service.
- Check for any obstructions where the turbine spins.
- Blow on the turbine to get it spinning: The Turbine should spin quickly and quietly for around 20-30 seconds. A worn turbine will sound rattily and loose speed very quickly, stopping in 5-10 seconds.
- Replace the turbine if worn.

If the turbine isn't worn or has been recently replaced it's possible the sensor is faulty, so if the issue persists after accessing the turbine.

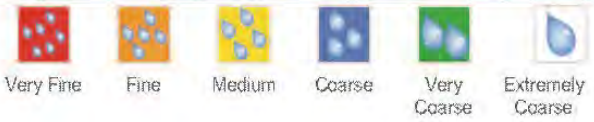
- Check that the wires, plugs and pins have a good connection and check for damage or corrosion.
- If all the above is ok, replace the sensor.

Billericay Farm Services
Air Bubble Jets

Masters of Spray management

VMDs µm AT PRESSURES FROM 2.0 TO 7 BAR

NOZZLE	2.0 BAR	3.0 BAR	4.0 BAR	5.0 BAR	6.0 BAR	7.0 BAR
01	360	302	267	241	226	213
015	391	335	299	276	246	242
02	308	261	231	210	194	181
025	408	337	294	267	245	229
03	365	324	295	275	259	247
035	386	326	291	265	246	230
04	351	313	283	262	247	234
05	367	323	293	273	256	245
06	376	324	289	268	251	238



Droplet sizing for Air Bubble Jets, Malvern Analyzer, using water, BfS Laboratory

Very Fine	under 100 Micron
Fine	100-175 Micron
Medium	175-250 Micron
Coarse	250-575 Micron
Very Coarse	375-450 Micron
Extra Coarse	above 450 Micron

As per asae standards

Suitable for all summer, in-crop and pasture spraying

Reduce Drift and increase chemical efficacy for all year round spraying.

Nozzle Calculator

Please go to www.bfs.uk.co, follow the link to application technology then click on nozzle calculator. This will enable you to put in your speed and volume and you will then give you a selection of nozzles to choose from with the droplet size being produced and % of driftables.

It is suggested that you choose a nozzle that will operate the majority of time between 3 and 4.5 bar, do not spray under two bar and do not be frightened to go to 7 bar if conditions suit.

Controlling Spray Drift Notes

Professor Paul Miller, from the Chemical Application Group, Silsoe Research Institute, United Kingdom, urges growers and spray applicators to use a range of techniques to manage spray drift.
These include new air induction nozzle technology and keeping boom heights at minimum acceptable heights. He stressed that Air Induction Nozzles of the same specification can give a wide variation in performance in terms of droplet size and velocity distributions.
"Air induction nozzle designs giving a relatively small droplet size give good levels of efficacy with many product types and represent a good option for achieving drift control and improving product efficacy in a wide range of conditions", he said.
"We now recommend that air induction nozzles be used for all applications to UK cereal crops. This includes all fungicide applications and late season herbicide applications".
"High levels of spray drift control and chemical efficacy can be achieved when using boom sprayers fitted with the correct air induction nozzles".

Air Induction Nozzles that produce large droplets are known to perform consistently poorly at a range of volumes with certain chemical groups.
Air Induction Nozzles that produce small droplets (BfS) achieve similar results [chemical efficacy] to conventional flat fan nozzles but promote significantly better drift control.

Studies have shown that the Billericay Air Bubble Jet is capable of achieving drift reductions of more than 75%. LERAP, UK, 2003.

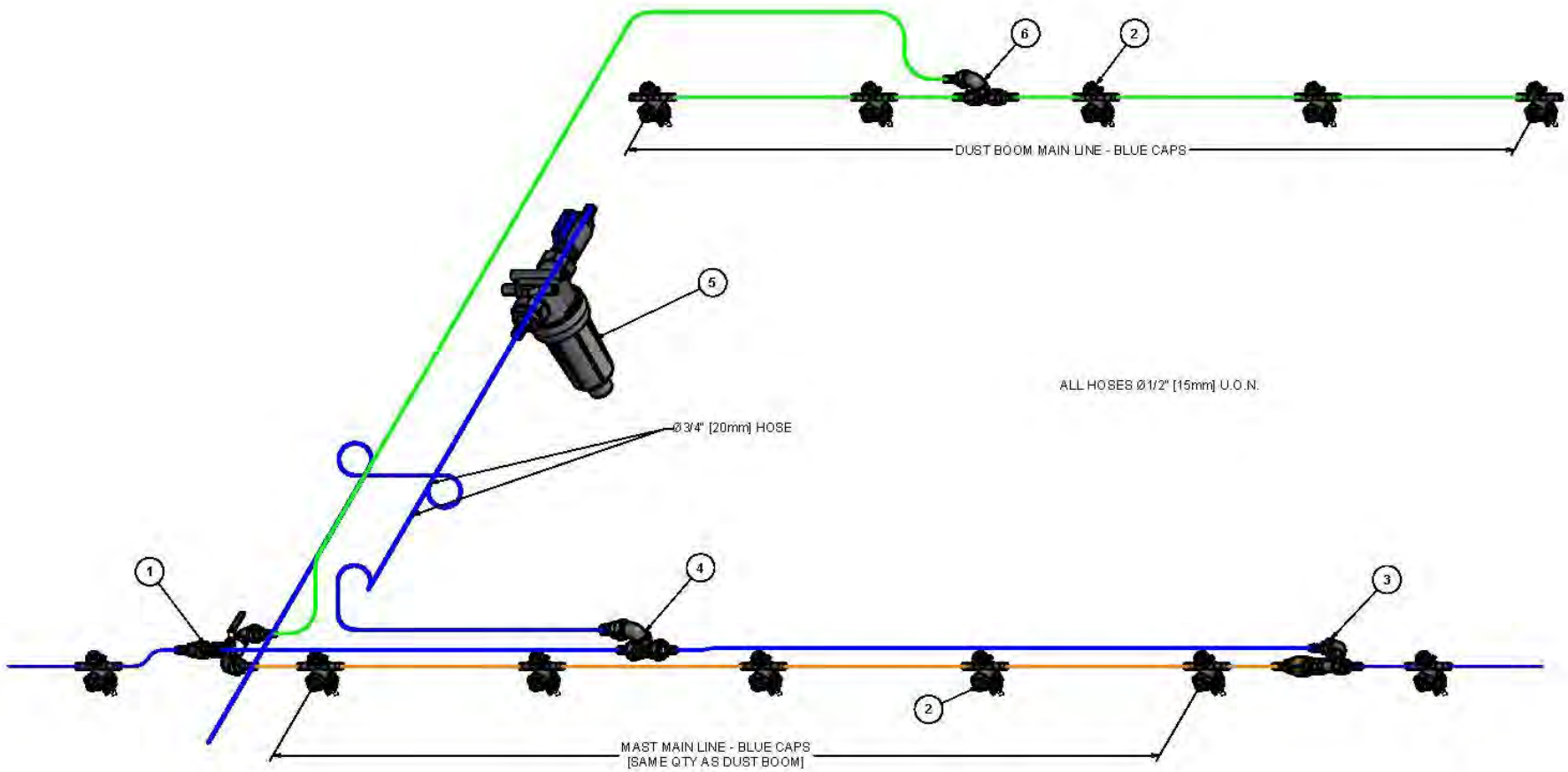
Tom Robinson application specialist at Syngenta says "Timeliness of application is still the single most important factor in yield maximization".

The BfS Air Bubble Jet, unlike some Air Induction Nozzles, produces differing sized droplet spectrums simply by altering operating pressures. This enables the spray applicator to choose a droplet size which is the most efficient at hitting the target and is best suited for the chemical product to be used and the prevailing weather conditions.
To increase herbicide contact with small targets, raising the inline pressure from 3bar to 6bar, will increases droplet numbers by 30%.

BFS JET CHART

	Nozzle Pressure (bar)	Flow (l/min)	LITRES PER HECTARE Speed (kph) at 50cm nozzle spacing 6	8	10	12	14	16	18	20
ORANGE 01	2	0.33	65	49	39	33	28	24	22	20
	3	0.40	80	60	48	40	34	30	27	24
	4	0.46	92	69	55	46	40	35	31	28
	5	0.52	103	77	62	52	44	39	34	31
GREEN 015	2	0.49	98	73	59	49	42	37	33	29
	3	0.60	120	90	72	60	51	45	40	36
	4	0.69	139	104	83	69	59	52	46	42
	5	0.77	155	116	93	77	66	58	52	46
YELLOW 02	2	0.66	132	99	79	66	57	50	44	40
	3	0.80	162	121	97	81	69	61	54	49
	4	0.93	187	140	112	93	80	70	62	56
	5	1.04	209	157	125	104	89	78	70	63
LILAC 025	2	0.82	163	123	98	82	70	61	55	49
	3	1.00	200	151	121	100	86	75	67	60
	4	1.15	231	174	139	116	99	87	77	70
	5	1.30	259	194	156	130	111	97	86	78
BLUE 03	2	0.98	196	147	118	98	84	74	65	59
	3	1.20	240	180	144	120	103	90	80	72
	4	1.39	277	208	166	139	119	104	92	83
	5	1.55	310	232	186	155	133	116	103	93
BROWN RED 035	2	1.14	229	172	137	114	98	86	76	69
	3	1.40	280	210	168	140	120	105	93	84
	4	1.62	324	243	194	162	139	121	108	97
	5	1.81	362	272	217	181	155	136	121	109
RED 04	2	1.31	261	196	157	131	112	98	87	79
	3	1.60	320	241	193	160	138	120	107	96
	4	1.85	370	278	222	185	159	139	124	111
	5	2.07	414	311	249	207	178	155	138	124
BROWN 05	2	1.63	327	245	196	163	140	122	109	98
	3	2.00	400	299	240	200	171	150	133	120
	4	2.31	462	346	277	231	198	173	154	138
	5	2.58	515	387	309	258	221	193	172	155
GREY 06	2	1.96	392	294	235	196	168	147	131	118
	3	2.40	480	360	288	240	206	180	160	144
	4	2.77	554	416	333	277	238	208	185	166
	5	3.10	620	465	372	310	266	232	207	186
WHITE 08	2	2.61	523	392	314	261	224	196	174	157
	3	3.20	640	480	384	320	274	240	213	192
	4	3.70	739	554	443	370	317	277	246	222
	5	4.13	826	620	496	413	354	310	275	248

ITEM	PART NUMBER	DESCRIPTION	STOCK NUMBER	SIZE	BC1	C W	BC2	NOTES	QTY	ITEM	PART NUMBER	DESCRIPTION	STOCK NUMBER	SIZE	BC1	C W	BC2	NOTES	QTY
1	SB1124	DUST BOOM BREAK IN [LRG]	SB1124						1	4	SB1003	TEE, BREAK-IN - WING [15/20/15]	SB1003						1
2	SB1011	TEEJET BODY [BLUE]	SB1011-xxxyy						0	5	SB1048	SECTION FILTER [20mm]	SB1048						1
3	SB1125	DUST BOOM BREAK IN [SML]	SB1125						1	6	SB1004	TEE, BREAK-IN [15/15/15]	SB1004						1



SERIAL#

DRN G.R.LOADER 15/05/2007

CHK

MACHINING TOLERANCE
0 = ±0.5
0.0 = ±0.05
0.00 = ±0.01

FAB. TOLERANCE
0 = ±1
0.0 = ±0.5

ALL DIMS in mm U.O.N. DO NOT SCALE DO NOT MODIFY DRAWING
SEE DRAFTING OFFICE FOR REVISIONS

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NAREMBEEN W.A.

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SCHEMATICS : PLUMBING [SPRAY]

DUST BOOM MAIN LINE

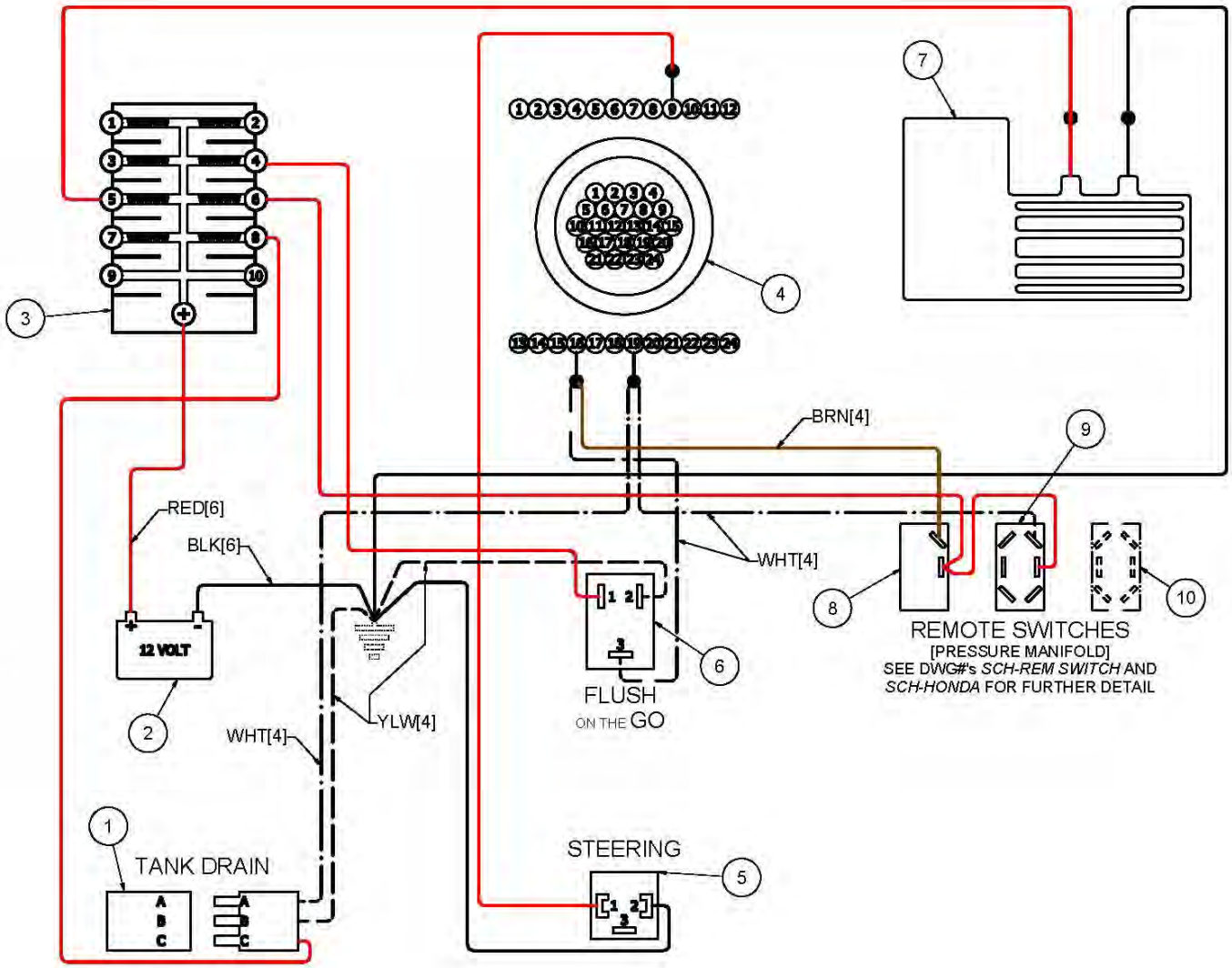
SHEET 1 /1

REV#

PART#
9-03-DB-CHEK

ITEM	PART NUMBER	DESCRIPTION	QT
1	CMP-PACK3	PACKARD PLUG - 3 PIN	1
2	MAXX-M47	12V BATTERY	1
3	NARVA-54434	10 WAY FUSE PANEL	1
4	P-246_24xAMP-F	LOOM- AC-2708/STD/IMP-01	1
5	PLUG-HIRSCH-SQ	HIRSCHMAN PLUG [SQUARE]	1
6	PLUG-HIRSCH-TL	HIRSCHMAN PLUG [TALL]	1
7	SOTERA-12V	SCUD PUMP	1
8	SRO-58027-01	ROCKER SWITCH - ON/OFF	1
9	SRO-58027-07	ROCKER SWITCH - ON/OFF/ON	1
10	SRO-58027-11	ROCKER SWITCH - MON/OFF/MON	1

FUSE PANEL			
PIN #	COLOUR	GUAGE	CONTROL
4	RED	4mm + 20A	FLUSH ON THE GO
5	RED	4mm + 30A	SCUD
6	RED	4mm + 20A	REMOTE SWITCHES
8	RED	4mm + 20A	ELECT. TANK DRAIN
+	RED	6mm	POWER [12V+]
LOOM: AC2708/STD/IMP-01			
PIN #	COLOUR	GUAGE	CONTROL
9	RED	4mm	STEERING
16	WHT, BRN	4mm, 4mm	FLUSH on the GO
19	WHT, WHT	4mm, 4mm	ELECT. TANK DRAIN
FLUSH on the GO			
PIN #	COLOUR	GUAGE	CONTROL
1	RED	4mm	POWER [12V+]
2	YELLOW	4mm	EARTH [-]
3	WHITE	4mm	TRIGGER - 2708-P16
ELECTRIC TANK DRAIN			
PIN #	COLOUR	GUAGE	CONTROL
A	WHITE	4mm	TRIGGER - 2708-P19
B	YELLOW	4mm	EARTH [-]
C	RED	4mm	POWER [12V+]



NOTE:
ALL EARTH LEADS RETURN TO
COMMAND CENTRE EARTH POINT

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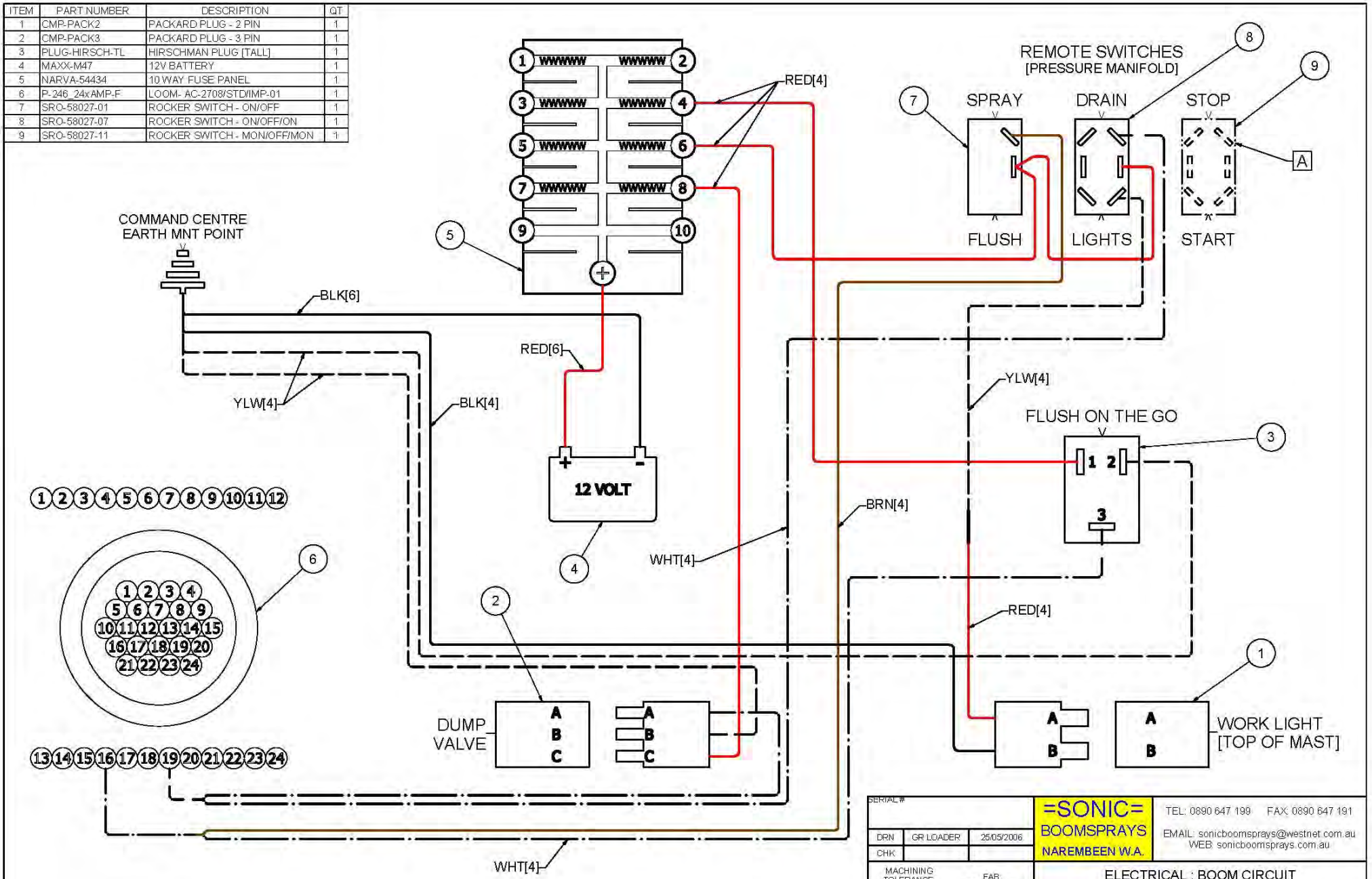
DRN	GR LOADER	30/05/2006			
CHK					
MACHINING TOLERANCE 0 = ± 0.5, 0.0 = ± 0.05, 0.00 = ± 0.01		FAB TOLERANCE 0 = ± 1, 0.0 = ± 0.5	ELECTRICAL : BOOM CIRCUIT		
			CHASSIS SCHEMATIC		
ALL DIMS IN mm U.O.N. ***DO NOT SCALE*** ***DO NOT MODIFY DRAWING*** SEE DRAFTING OFFICE FOR REVISIONS			SHEET 1 /1	REV # 0	PART # SCH-CHASSIS

ITEM	PART NUMBER	DESCRIPTION	QT
1	CMP-PACK2	PACKARD PLUG - 2 PIN	1
2	CMP-PACK3	PACKARD PLUG - 3 PIN	1
3	PLUG-HIRSCH-TL	HIRSCHMAN PLUG [TALL]	1
4	MAXX-M47	12V BATTERY	1
5	NARVA-54434	10 WAY FUSE PANEL	1
6	P-246_24xAMP-F	LOOM- AC-2708/STD/IMP-01	1
7	SRO-58027-01	ROCKER SWITCH - ON/OFF	1
8	SRO-58027-07	ROCKER SWITCH - ON/OFF/ON	1
9	SRO-58027-11	ROCKER SWITCH - MON/OFF/MON	1



NOTE	DESCRIPTION
A	REFER DWG# *SCH-HONDA* FOR CIRCUIT DETAIL

REFERENCE NOTES

SERIAL #

DRN	GR LOADER	25/05/2006
CHK		

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0.00 = ± 0.01

FAB TOLERANCE
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0.0 = ± 0.5

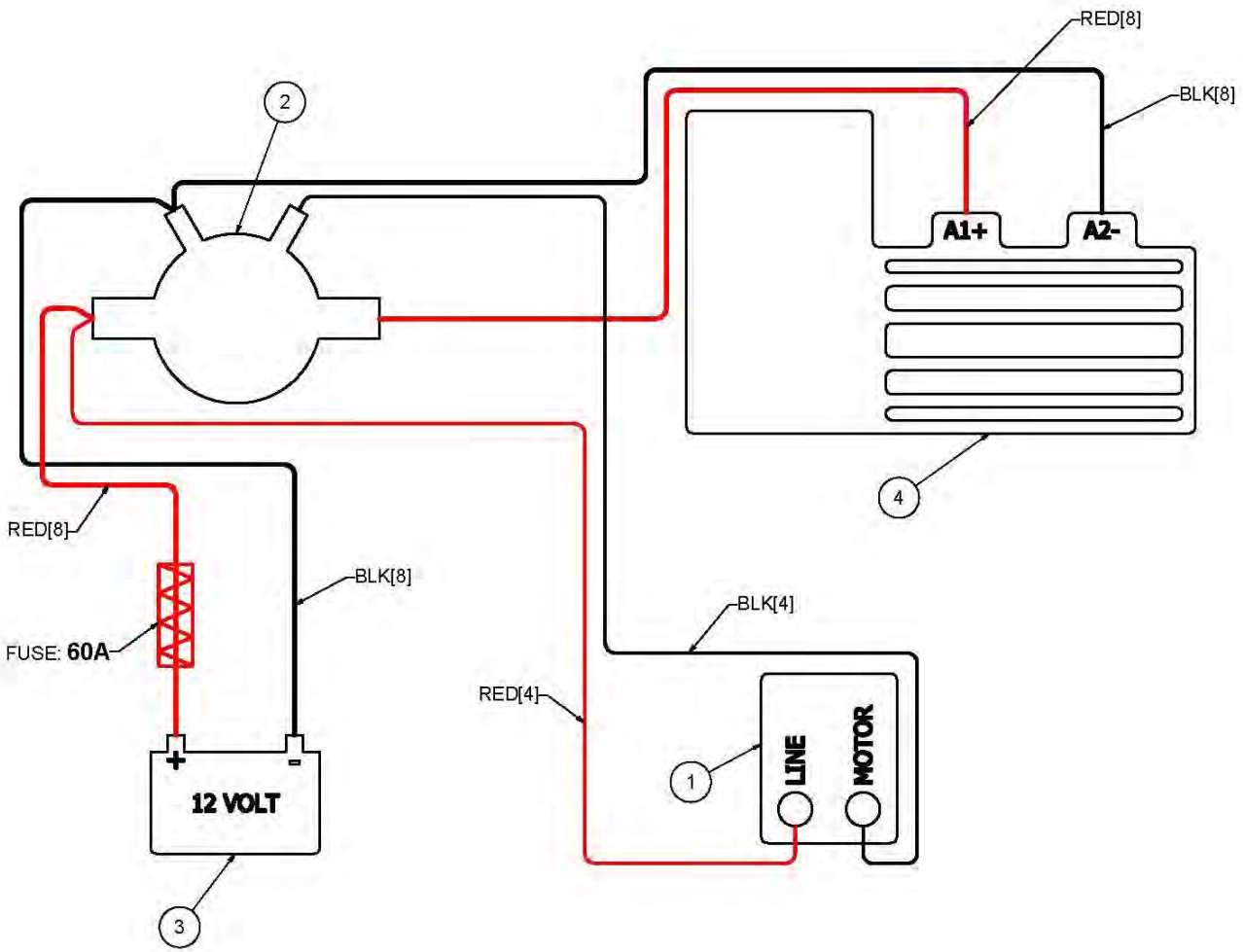
ELECTRICAL : BOOM CIRCUIT

REMOTE SWITCH SCHEMATIC

ALL DIMS IN mm U.O.N. ***DO NOT SCALE***
DO NOT MODIFY DRAWING
SEE DRAFTING OFFICE FOR REVISIONS

SHEET	REV #	PART #
2 /2	0	SCH-REM SWITCH

ITEM	PART NUMBER	DESCRIPTION	QT
1	AKEBA_1361	MDR2 CONDOR SWITCH	1
2	ALANCO_SOL-SS3212	12V100A CONT. DUTY SOLENOID	1
3	MAXX-M47	12V BATTERY	1
4	THOMIND_TA-4101-DC/12	COMPRESSOR [A/BAG]	1



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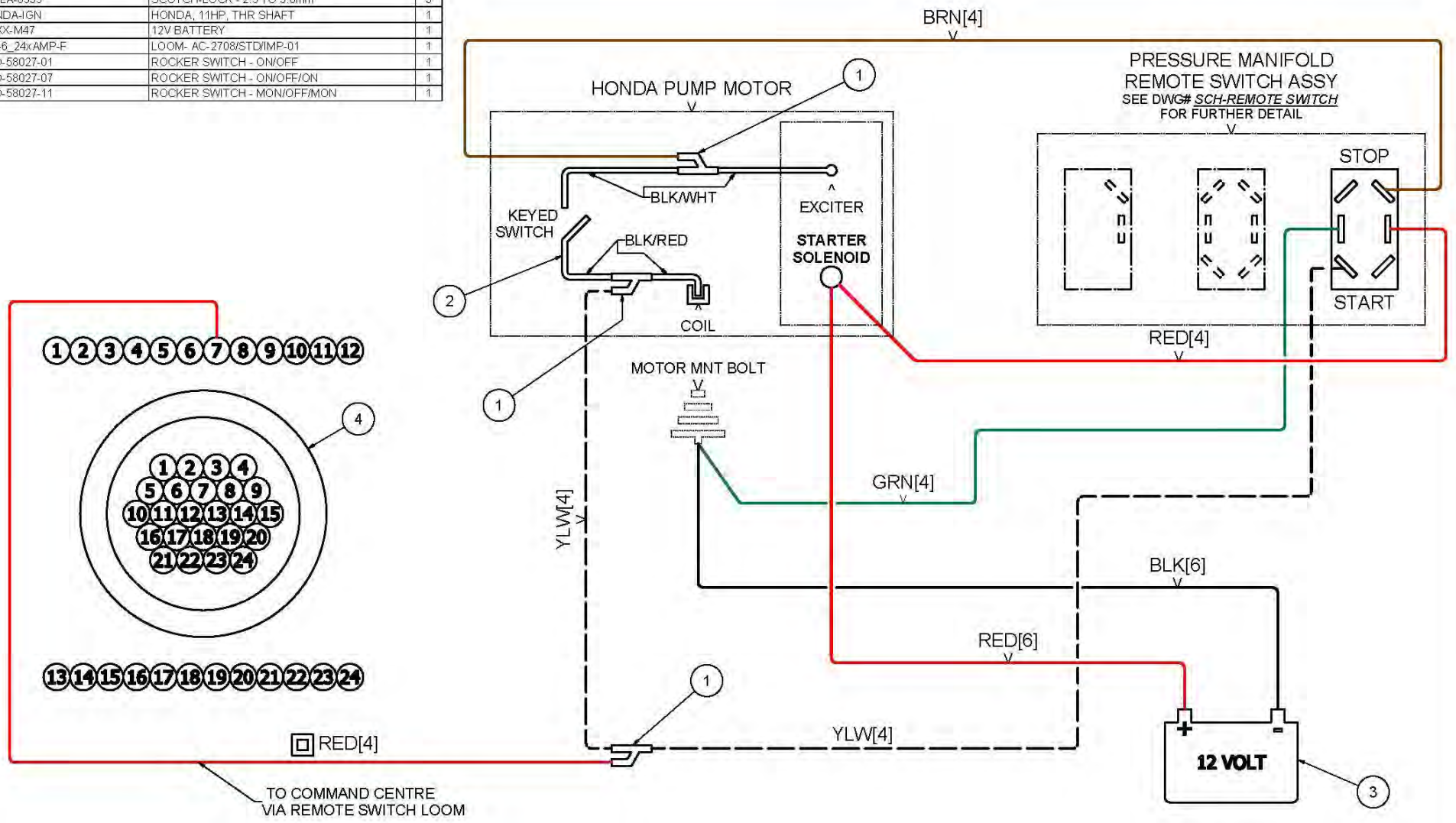
DRN	GR LOADER	31/05/2006		
CHK				
MACHINING TOLERANCE 0 = ± 0.5, 0.0 = ± 0.05, 0.00 = ± 0.01	FAB TOLERANCE 0 = ± 1, 0.0 = ± 0.5		ELECTRICAL : BOOM CIRCUIT	
			SCHEMATIC - AIRBAG	
ALL DIMS IN mm U.O.N. DO NOT SCALE DO NOT MODIFY DRAWING SEE DRAFTING OFFICE FOR REVISIONS	SHEET 1 /1	REV # 0	PART # SCH-AIRBAG	

ITEM	PART NUMBER	DESCRIPTION	QT
1	HELLA-8535	SCOTCH-LOCK - 2.5 TO 3.0mm	3
2	HONDA-IGN	HONDA, 11HP, THR SHAFT	1
3	MAXX-M47	12V BATTERY	1
4	P-246_24xAMP-F	LOOM- AC-2708/STD/IMP-01	1
5	SRO-58027-01	ROCKER SWITCH - ON/OFF	1
6	SRO-58027-07	ROCKER SWITCH - ON/OFF/ON	1
7	SRO-58027-11	ROCKER SWITCH - MON/OFF/MON	1



BLK/RED	BLACK with RED STRIPE	[AS SUPPLIED ON HONDA]
BLK/WHT	BLACK with WHITE STRIPE	[AS SUPPLIED ON HONDA]
BLK[4]	BLACK	4mm
BLK[6]	BLACK	6mm
BRN[4]	BROWN	4mm
GRN[4]	GREEN	4mm
RED[6]	RED	6mm
RED[4]	RED	4mm
YLW[4]	YELLOW	4mm
CODE	DEFINITION	GUAGE
TABLE		

SERIAL #

DRN	GR LOADER	24/05/2006
CHK		

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0.00 = ± 0.01

FAB TOLERANCE
0 = ± 1
0.0 = ± 0.5

ELECTRICAL : BOOM CIRCUIT

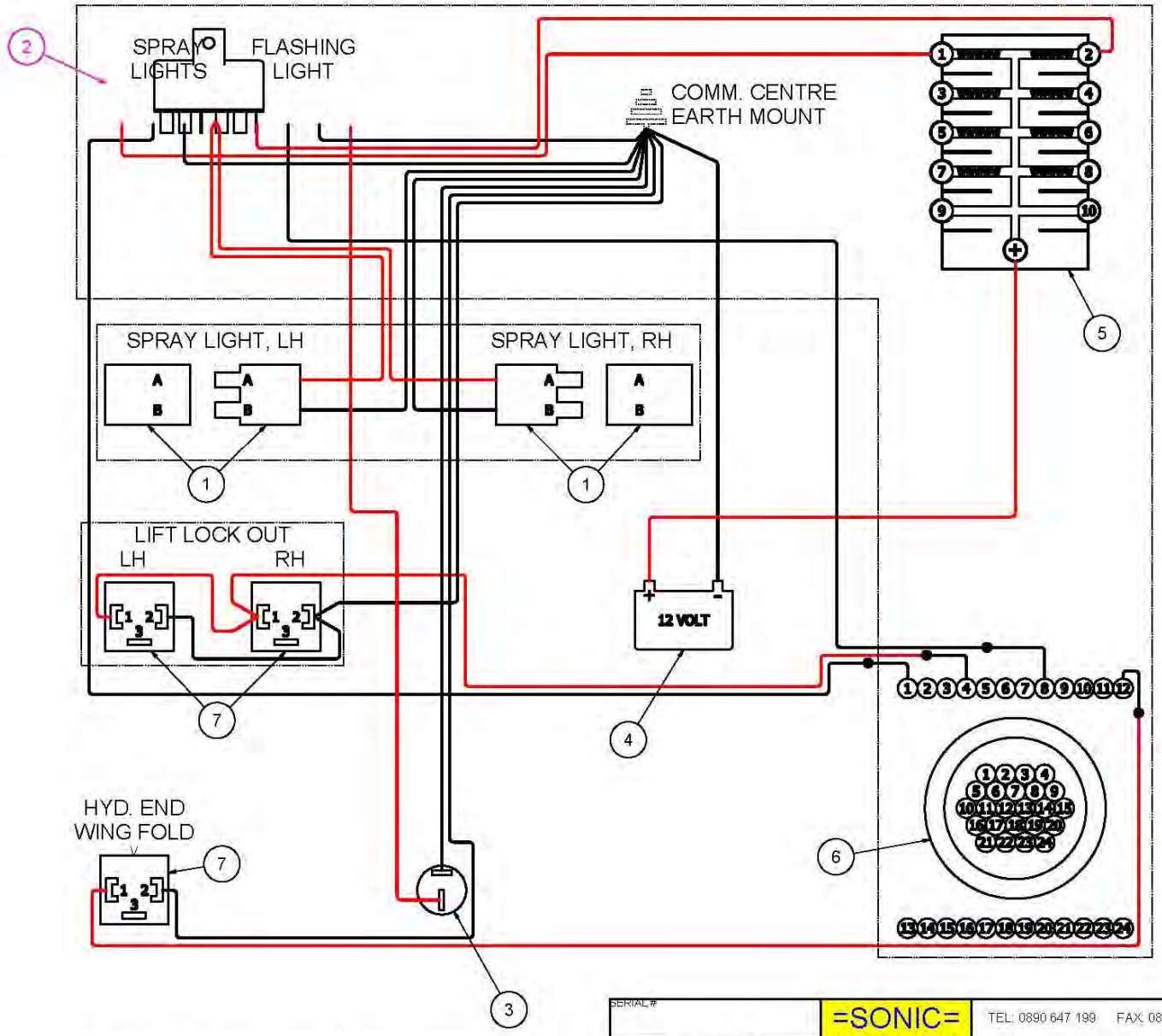
HONDA SCHEMATIC

ALL DIMS IN mm U.O.N. ***DO NOT SCALE***
DO NOT MODIFY DRAWING
SEE DRAFTING OFFICE FOR REVISIONS

SHEET 1 /1 | REV # 0 | PART # SCH-HONDA

ITEM	PART NUMBER	DESCRIPTION	QT
1	CMP-PACK2	PACKARD PLUG - 2 PIN	2
2	HELLA-3051	RELAY, 2x [12V30A]	1
3	HELLA-4918	12V AUX POWER SOCKET	1
4	MAXX-M47	12V BATTERY	1
5	NARVA-54434	10 WAY FUSE PANEL	1
6	P-246_24xAMP-F	LOOM- AC-2708/STD/IMP-01	1
7	PLUG-HIRSCH-SQ	HIRSCHMAN PLUG [SQUARE]	3

LOOM - AC-2708/STD/IMP-01			
PIN #	COLOUR	GUAGE	FUNCTION
1	BLACK	4mm	TRIGGER - SPRAY LIGHTS
4	RED	4mm	TRIGGER - LIFT LOCK-OUT
8	BLACK	4mm	TRIGGER - FLASHING LIGHT
12	RED	4mm	TRIGGER - HYD. END FOLD
FUSE PANEL			
PIN #	COLOUR	GUAGE	FUNCTION
+	RED	6mm	POWER SUPPLY [12V+]
2	RED	4mm + 15A	RELAY - FLASHING LIGHT
3	RED	4mm + 25A	RELAY - SPRAY LIGHTS
RELAY - FLASHING LIGHT			
PIN #	COLOUR	GUAGE	FUNCTION
30	RED	4mm	POWER [12V+]
85	BLACK	4mm	TRIGGER [2708-P08]
86	BLACK	4mm	EARTH [-]
87	RED	4mm	AUX 12V [FLASHING LIGHT]
RELAY - SPRAY LIGHTS			
PIN #	COLOUR	GUAGE	FUNCTION
30	RED	4mm	POWER [12V+]
85	BLACK	4mm	TRIGGER [2708-P01]
86	BLACK	4mm	EARTH [-]
87	RED	4mm	SPRAY LIGHTS
PLUG - SPRAY LIGHTS			
PIN #	COLOUR	GUAGE	FUNCTION
A	RED	4mm	POWER [12V+]
B	BLACK	4mm	EARTH [-]
PLUG - LIFT LOCK-OUTS			
PIN #	COLOUR	GUAGE	FUNCTION
1	RED	4mm	TRIGGER [2708-P04]
2	BLACK	4mm	EARTH [-]
PLUG - HYD. END WING FOLD			
PIN #	COLOUR	GUAGE	FUNCTION
1	RED	4mm	TRIGGER [2708-P12]
2	BLACK	4mm	EARTH [-]



ALL EARTH [-] WIRES RETURN TO COMMAND CENTRE EARTH MOUNT

SERIAL #

DRN	GR LOADER	26/05/2006
CHK		

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MACHINING TOLERANCE
0 = ± 0.5
0.0 = ± 0.05
0.00 = ± 0.01

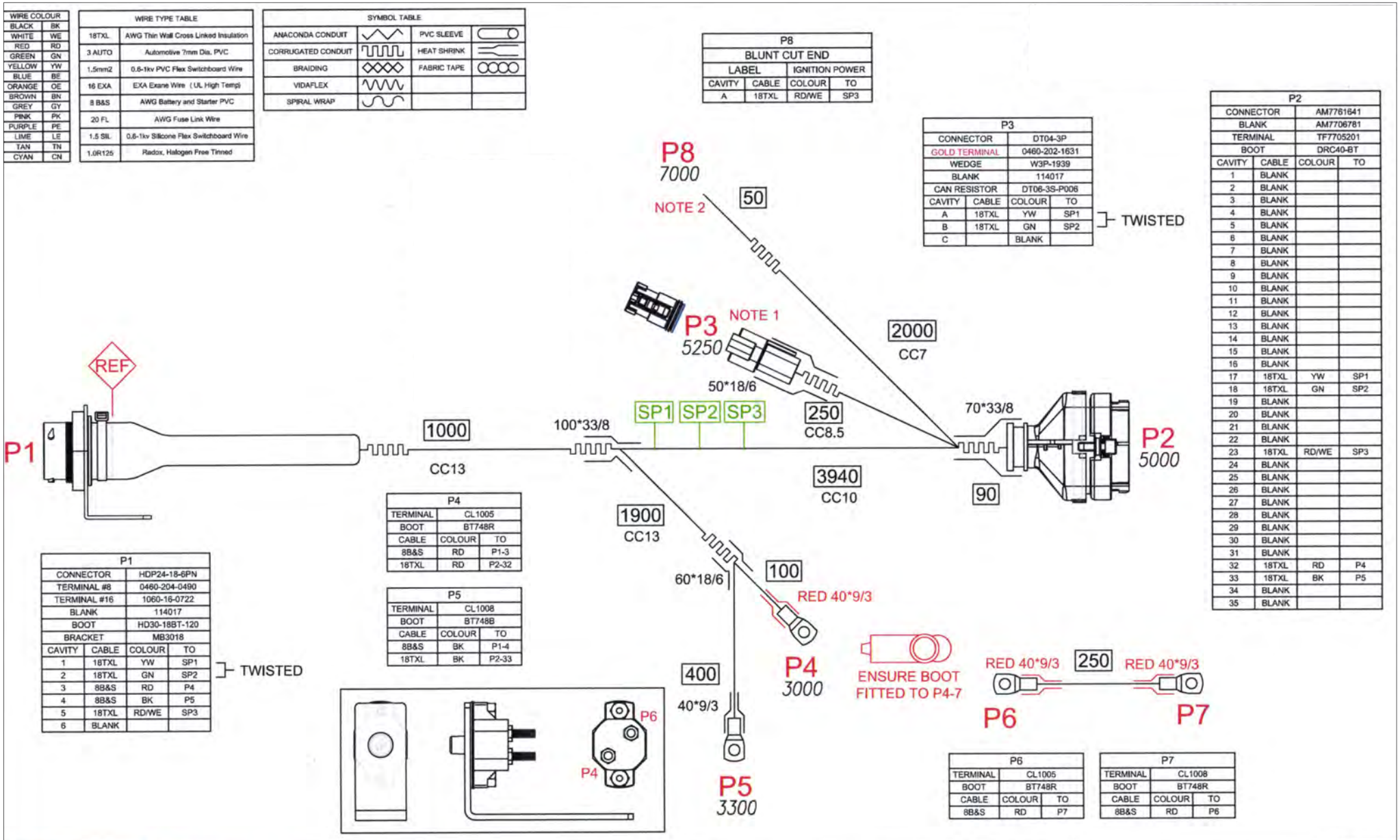
FAB TOLERANCE
0 = ± 1
0.0 = ± 0.5

ELECTRICAL : BOOM CIRCUIT

MAST / BACK END SCHEM.

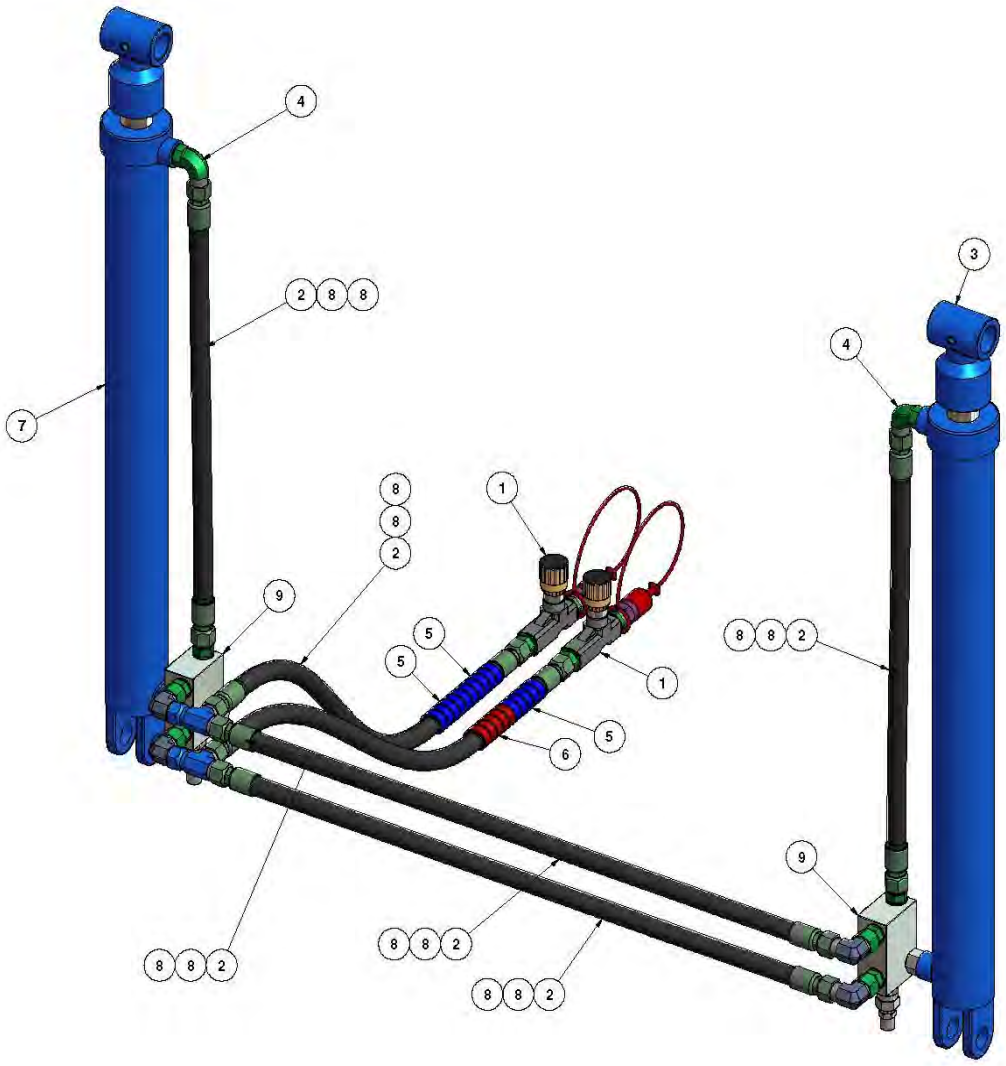
ALL DIMS IN mm U.O.N. ***DO NOT SCALE***
DO NOT MODIFY DRAWING
SEE DRAFTING OFFICE FOR REVISIONS

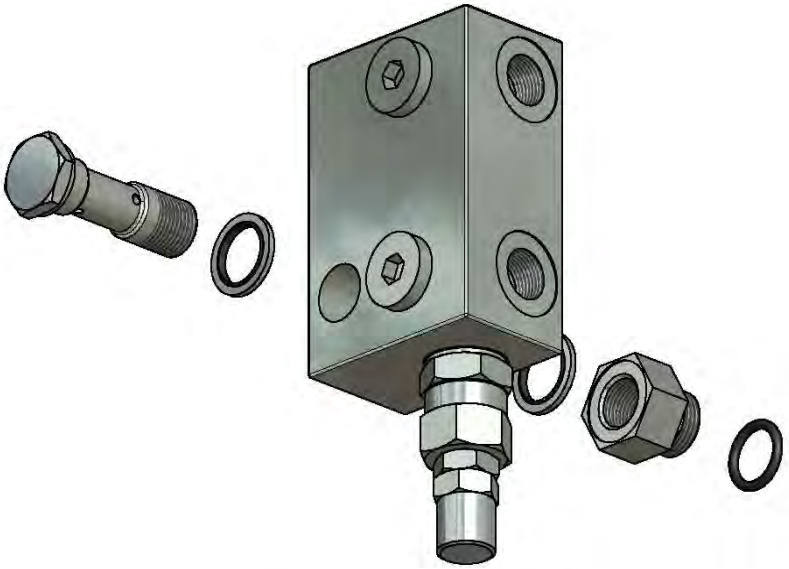
SHEET	REV #	PART #
1 /1	0	SCH-MAST



SONIC Controller: Tractor Harness (WL13.100853)

ITEM	STOCK NUMBER	QTY	DESCRIPTION	NOTES	MODEL REFERENCE
1	FT1251512	2	VALVE, RESTRICTOR - 1/2"		
2	H2WNS08	6	HOSE- 1/2" DOUBLE BRAID	LENGTH AS REQ.	
3	PP-3-01-03-00r1	2	PIN EYE [32mm]		
4	S89-0812	2	ELBOW- M3/4"UNOxM1/2"BSPT		
5	SG20-BLU	3	SPIRAL GUARD- 20mm BLUE		
6	SG20-RED	1	SPIRAL GUARD- 20mm RED		
7	SO600-06[B-PORT]	2	RAM - 2.500" x 24"[6" STR LIMIT]		
8	T202-0808	12	CRIMP [00']- F 1/2"BSP-SW x 1/2" HOSE		
9	WB-SE-38-FCB-TF	2	HYD. LOCK-OUT, MAST		



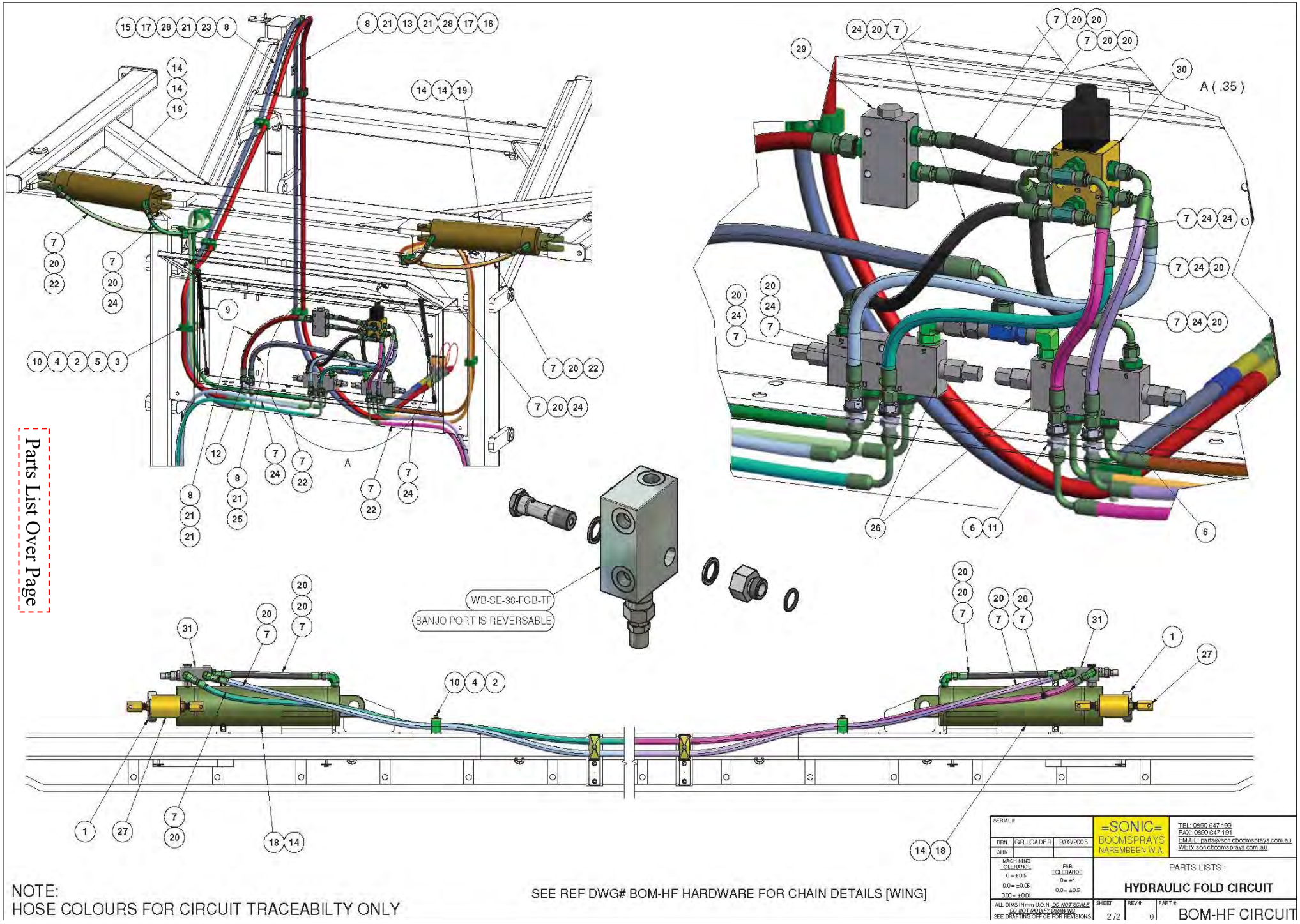


WB-SE-38-FCB-TF - ⅜" HYD LIFT LOCK

PARTS NOT AVAILABLE SEPARATELY

BANJO PORT REVERSABLE TO SUIT FITMENT

SERIAL #			=SONIC= BOOMSPRAYS NAREMBEEN W.A	TEL: 0890 647 199 FAX: 0890 647 191 EMAIL: parts@sonicboomsprays.com.au WEB: sonicboomsprays.com.au	
DRN	GR LOADER	30/06/2006			
CHK					
MACHINING TOLERANCE 0 = ±0.5 0.0 = ±0.05 0.00 = ±0.01		FAB. TOLERANCE 0 = ±1 0.0 = ±0.5	PARTS LISTS : **MAST LIFT HYD CIRCUIT**		
ALL DIMS IN mm U.O.N. DO NOT SCALE DO NOT MODIFY DRAWING SEE DRAFTING OFFICE FOR REVISIONS			SHEET 1 /1	REV # 0	PART # BOM-MAST LIFT


Parts List Over Page
WB-SE-38-FCB-TF
BANJO PORT IS REVERSABLE
A (.35)
NOTE:
HOSE COLOURS FOR CIRCUIT TRACEABILTY ONLY
SEE REF DWG# BOM-HF HARDWARE FOR CHAIN DETAILS [WING]
SERIAL #
DRN GR.LOADER 9/03/2005
CHK
MACHINING TOLERANCE
0 = ±0.5
0.0 = ±0.05
0.00 = ±0.01
FAB. TOLERANCE
0 = ±1
0.0 = ±0.5
ALL DIMS IN mm U.O.N. DO NOT SCALE
DO NOT MODIFY DRAWING
SEE DRAFTING OFFICE FOR REVISIONS
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NAREMBEEN W.A
TEL: 0890 647 199
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EMAIL: parts@sonicboomsprays.com.au
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PARTS LISTS :
HYDRAULIC FOLD CIRCUIT
SHEET 2 /2
REV # 0
PART #
BOM-HF CIRCUIT

ITEM	STOCK NUMBER	QTY	DESCRIPTION	NOTES	MODEL REFERENCE
1		2	NUT - 2"UNF HALF		
2	AD2 1818C	AS REQ	D18 DOUBLE CLAMP SHELL [GP2]		
3	AD3 2222C	AS REQ	D22 DOUBLE CLAMP SHELL [GP3]		
4	ADPS3 INOX	AS REQ	ADPIN3 COVER PLATE		
5	ADVTEA3	AS REQ	BOLT, STACK - M8x1.25 x 30, S/S		
6	CWG10	8	GROMMET - 16x25x28 [5/8-1-9/8]		
7	H2WNS06	18	HYD HOSE - 3/8" DOUBLE BRAID	LENGTHS AS REQ	
8	H2WNS08	4	HYD HOSE - 1/2" DOUBLE BRAID	LENGTHS AS REQ	
9	K505-18-215	2	GAS STRUT [COMBOX]		
10	M8-SS-GP3	AS REQ	BOLT, CLAMP - M8x1.25 x 45, S/S		
11	S44-0606	4	BULKHEAD NIPPLE - 3/8"BSP		
12	S44-0808	2	BULKHEAD NIPPLE - 1/2"BSP		
13	S82-0808	1	ELBOW- F1/2"BSPP-SW x M1/2"BSPT		
14	S89-0612	6	ELBOW- M3/4"UNO x M3/8"BSPT		
15	SG20-BLU	1	SPIRAL GUARD- 20mm BLUE		
16	SG20-RED	1	SPIRAL GUARD- 20mm RED		
17	SG20-YLW	2	SPIRAL GUARD- 20mm YLW		
18	SLP400122001250	2	HYD. RAM - 4.00" x 12" x 2" ROD		WING [HF ALL]
19	SLP425121381000	2	HYD. RAM - 4.25" x 12" x 1.3/8" ROD		MAST [RF RH, HF x2]
20	T202-0606	21	CRIMP [00']- F3/8"BSP-SW x 3/8" HOSE		
21	T202-0808	6	CRIMP [00']- F1/2"BSP-SW x 1/2" HOSE		
22	T221-0606	4	CRIMP [90']- F3/8"BSP-SW x 3/8" HOSE	[LONG SERIES]	
23	T221-0808	1	CRIMP [90']- F1/2"BSP-SW x 1/2" HOSE	[LONG SERIES]	
24	T226-0606	11	CRIMP [90']- F3/8"BSP-SW x 3/8" HOSE		
25	T226-0808	1	CRIMP [90']- F1/2"BSP-SW x 1/2" HOSE		
26	084404030335	2	OVERCENTRE VALVE		
27	5-02-07-D51P	2	LOAD ARM - 2"UNF [COMPLETE]		ALL HYD. FOLD
28	FT1251512	2	VALVE, RESTRICTOR - 1/2"		
29	MMU	1	DIVERTER BLOCK		
30	VS240F12DC	1	6-PORT SELECTOR BLOCK		
31	WB-SE-38-FCB-TF	2	VALVE, ANTI-CREEP		

SERIAL #

DRN | GR LOADER | 9/03/2005

CHK

MACHINING TOLERANCE
0 = ±0.5
0.0 = ±0.05
0.00 = ±0.01

FAB. TOLERANCE
0 = ±1
0.0 = ±0.5

ALL DIMS IN mm U.O.N. ***DO NOT SCALE***
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NAREMBEEN W A

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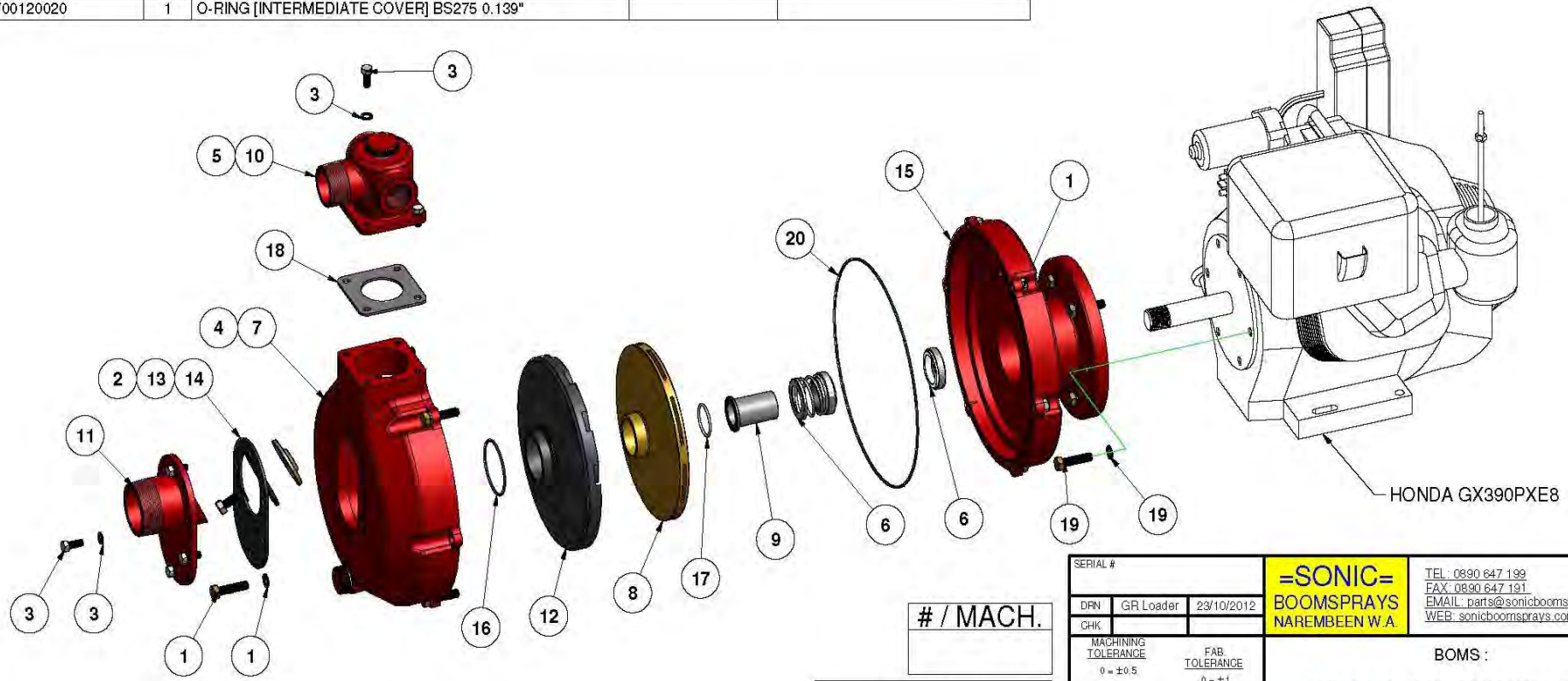
PARTS LISTS :

HYDRAULIC FOLD CIRCUIT

SHEET 1 /2 | REV # 0 | PART # BOM-HF CIRCUIT

ITEM	STOCK NUMBER	QTY	DESCRIPTION	NOTES	MODEL REFERENCE
1		6	BOLT SET [HD 3/8"BSW x 1-1/2", SPR WSHR, NYL NUT]		
2		1	BOLT SET [HD 3/8"BSW x 3/4", FLT WSHR]		
3		10	BOLT SET [HD 5/16"BSW x 3/4", SPR WSHR]		
4		1	PLUG, CASING DRAIN [3/4"BSP]		
5		1	PLUG- DISCH ADAPTER [1"BSP]		
6	004ECCV-X20	1	MECH. SEAL [1-1/4" TYPE 21 or 043]		
7	2700071001	1	VOLUTE CASING		
8	2700131002	1	IMPELLER [CLOSED]		
9	2700201006	1	SHAFT SLEEVE		
10	2700311001	1	DISCHARGE ADAPTER		
11	2700321001	1	SUCTION ADAPTER		
12	2700421001	1	DIFFUSER		
13	2700621002	1	CHECK VALVE WEIGHT		
14	2700621021	1	CHECK VALVE RUBBER [VITON]		
15	2769391001	1	INTERMEDIATE COVER		
16	BS229	1	O-RING [DIFFUSER] BS229 0.139"		
17	MISC 1	1	O-RING [SHAFT SLEEVE] BS124 0.103"		
18	MISC 2	1	GASKET [DISCHARGE ADAPTER]		
19	MISC 3	6	BOLT SET [HD 3/8"BSW x 1-1/2", SPR WSHR]		
20	2700120020	1	O-RING [INTERMEDIATE COVER] BS275 0.139"		



/ MACH.

SURFACE FINISH

SERIAL #

DRN GR Loader 23/10/2012

CHK

MACHINING TOLERANCE
0 = ±0.5
0.0 = ±0.05
0.00 = ±0.01

FAB. TOLERANCE
0 = ±1
0.0 = ±0.5

ALL DIMS IN mm U.O.N. ***DO NOT SCALE***
DO NOT MODIFY DRAWING
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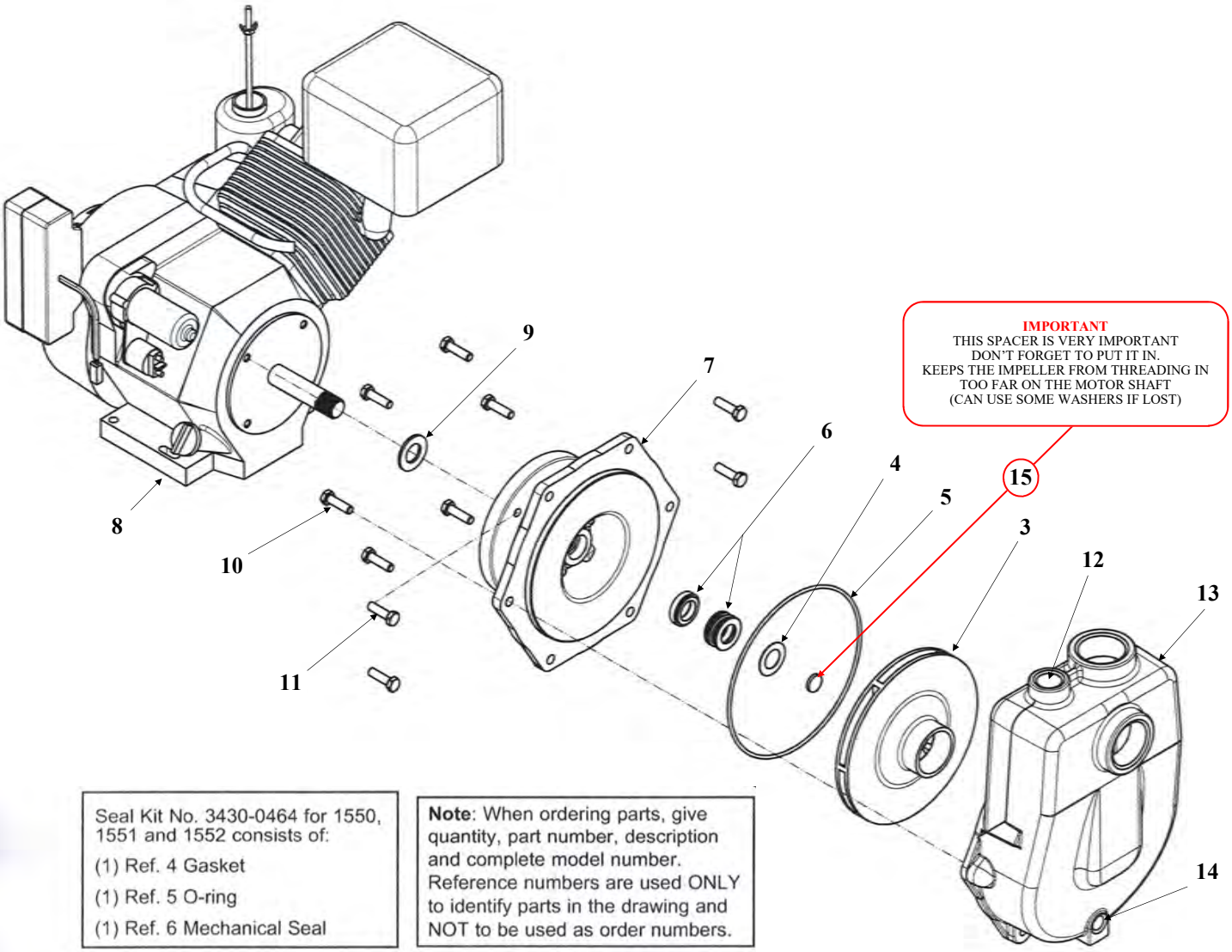
BOMS :

HONDA STALKER WET-END

SHEET 1 /1 | REV # | PART # 2770--000221v

Models 1550, 1550-SP, 1550-BSP, 1551, 1551-SP, 1551-BSP,1552C-130, 1552C-130E

L-0300AG-13
Rev. B



Seal Kit No. 3430-0464 for 1550, 1551 and 1552 consists of:

(1) Ref. 4 Gasket

(1) Ref. 5 O-ring

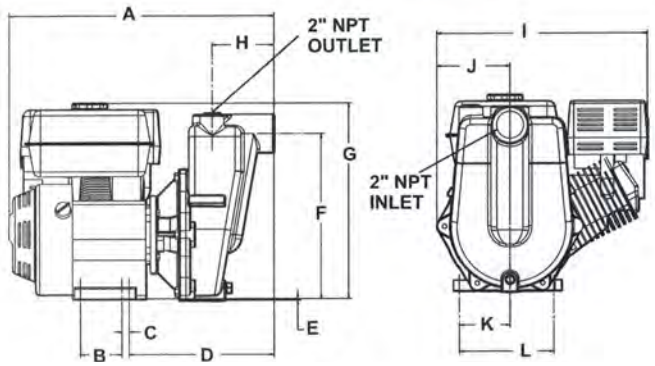
(1) Ref. 6 Mechanical Seal

Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Drain Plug
2	1	0153-9200C	Pump Casing (includes SS wear ring)
3	1	0404-9200P	Impeller (Nylon)
4	1	1700-0121	Gasket
5	1	1720-0180	O-ring
6	1	2120-0034	Mechnical Seal - Viton
7	1	0707-9200C	Flange
8	1	2541-0037	Honda engine (1550) (GX-270PA)*
8	1	2541-0050	13 HP PowerPro

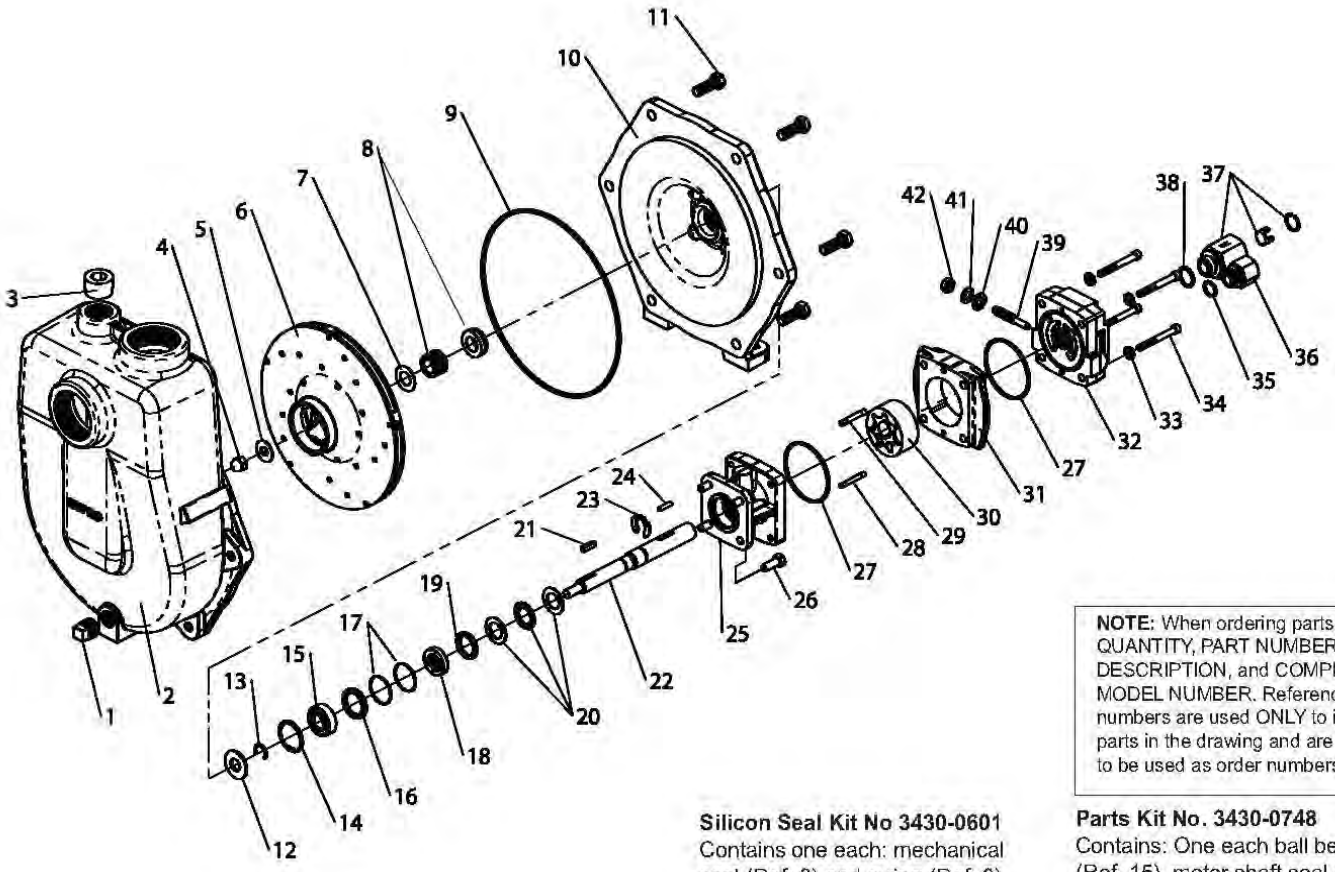
* Contact the Engine Manufacturer for this Product Number.

Ref. No.	Qty. Req'd.	Part No.	Description
8	1	2541-0051	13 HP PowerPro (Electric start)
9	1	1410-0091	Slinger Ring
10	6	2210-0086	Bolt
11	4	2210-0098	Bolt
12	1	2406-0034	Priming Port Plug (Standard)
12	1	2406-0036	Priming Port Plug (BSP)
13	1	0152-9075C	Pump Casing (Standard NPT)
13	1	0152-9075C1	Pump Casing (BSP)
14	1	2406-0002	Drain Plug
15	**1**	**LZR04-1-05-15-06**	**SHAFT SPACER (SONIC PART)**



1550SP

Dimensions	Inches	mm
A	21.69	550.9
B	3.41	86.6
C	0.59	15.0
D	11.87	301.5
E	0.13	3.3
F	13.56	344.4
G	16.05	407.7
H	5.06	128.5
I	17.30	65.0
J	6.00	152.4
K	4.14	105.2
L	7.75	196.9



NOTE: When ordering parts, give QUANTITY, PART NUMBER, DESCRIPTION, and COMPLETE MODEL NUMBER. Reference numbers are used ONLY to identify parts in the drawing and are NOT to be used as order numbers.

Silicon Seal Kit No 3430-0601
Contains one each: mechanical seal (Ref. 8) and o-ring (Ref. 9).

Repair Parts Kit No. 3430-0500
Contains one each: mechanical seal (Ref. 8), o-ring (Ref. 9), and rubber gasket (Ref. 7).

Parts Kit No. 3430-0748
Contains: One each ball bearing (Ref. 15), motor shaft seal (Ref. 18), thread seal gasket (Ref. 40), two cartridge o-rings (Ref. 17) and washer (Ref. 41); two each motor housing o-rings (Ref. 27), and port adapter o-rings (Ref. 35 & 38).

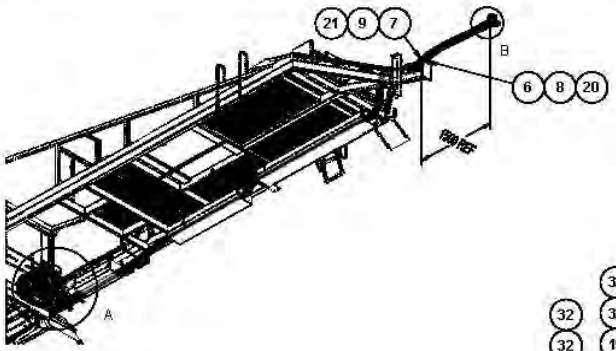
Hydraulic Motor Part No.
2500-0083C

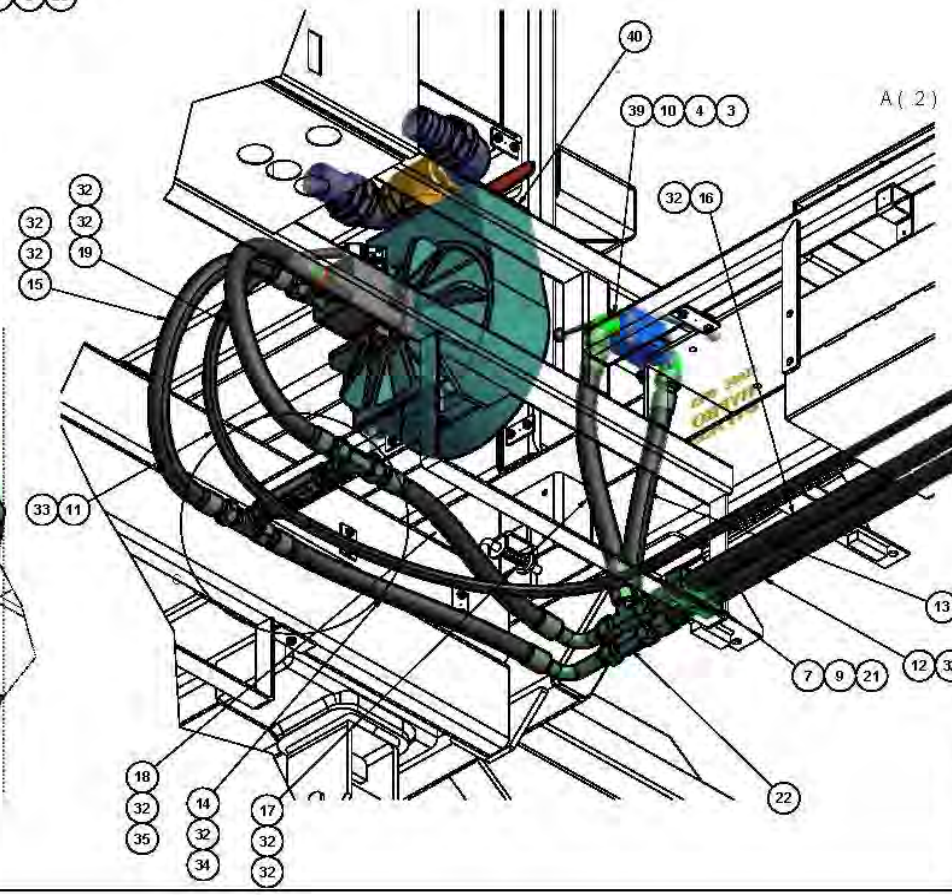
Qty. Req'd.	Part No.	Description
1	2406-0002	1/2" NPT Drain Plug (SP model only)
1	2406-0035	1/2" BSP Drain Plug (BSP model only)
1	3430-0481SP	Self Priming Chamber (SP model only) Includes a stainless wear ring, plugs, & o-ring
1	3430-0481BSP	Self Priming Chamber (BSP model only) Includes a stainless wear ring, plugs, & o-ring
1	2406-0034	1" NPT Prime Port Plug (SP model only)
1	2406-0036	1" BSP Prime Port Plug (BSP model only)
1	2253-0002	Impeller Nut
1	2270-0071	Washer
1	0403-9200P1	Impeller
1	1700-0100	Rubber Gasket
1	2120-0009	Mechanical Seal (Viton/Ceramic) (Std 9305C)
1	3430-0601	Mechanical Seal (Silicon Carbide) (Optional)
1	1720-0180	O-ring
1	0752-9200C	Mounting Flange
6	2210-0086	Hex Head Cap Screw
1	1410-0056	Slinger Ring
1	1810-0014	Snap Ring
1	1820-0013	Retaining Ring
1	2000-0010	Ball Bearing
1	1410-0131	Cartridge, Front
2	1720-0268	O-ring
1	2104-0010	Lip Seal
1	1410-0130	Seal Spacer
1	2029-0014	Thrust Bearing Assembly

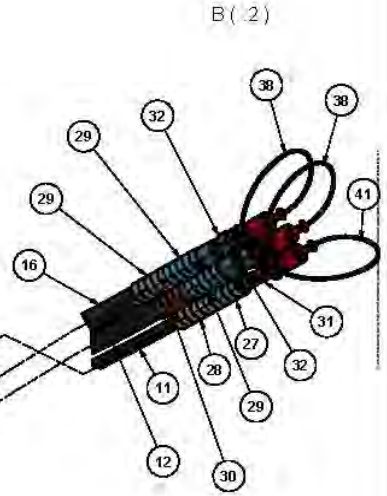
Ref. No.	Qty. Req'd.	Part No.	Description
21	1	1610-0053	Square Key
22	1	0537-2500	Shaft
23	1	1810-0026	Snap Ring
24	1	1610-0055	Roll Pin
25	1	0150-2500C	Motor Body (includes needle bearing)
26	4	2210-0005	Hex Head Cap Screw
27	2	1720-0110	O-ring
28	1	1600-0052	Dowel Pin
29	1	1600-0068	Dowel Pin
30	1	3900-0024	Gerotor
31	1	0702-2500C1	Gerotor Housing 1" wide
32	1	0254-2500C2	Motor End Plate (includes needle bearing)
33	4	2270-0039	Washer
34	4	2220-0044	Cap Screw
35	1	1720-0108	O-ring
36	1	3360-0021A	Pressure Port Adapter (includes o-ring)
37	1	3320-0051A	Tank Port Adapter (includes o-ring)
38	1	1720-0262	O-ring
39	1	3220-0029	Bypass Adjusting Screw
40	1	1700-0047	Gasket
41	1	2270-0027	Washer
42	1	2250-0038	Lock Nut

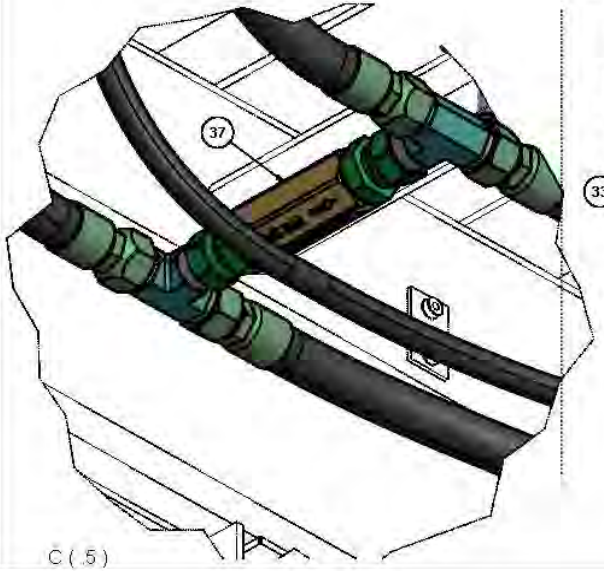
ITEM	PART NUMBER	DESCRIPTION	STOCK NUMBER	LENGTH	NOTES	QTY
1	F-BI10C-090	BOLT - 3/8"UNC x 3-1/2"				2
2	F-NI10C-NYL	NUT, NYLOC [10]- 3/8"UNC				2
3	F-NM08C-NYL	NUT, NYLOC - M8x1.25				4
4	F-WF-08	WASHER, FLAT [08]- 5/16"				4
5	F-WF-10	WASHER, FLAT [10]- 3/8"				4
6	AD2 1818C	D18 DOUBLE CLAMP SHELL [GP2]	AD2 1818C			8
7	AD4 2828C	HOSE CLAMP, SHELL - D28 DOUBLE [GP4]	AD4 2828C			8
8	ADPS3 INOX	ADPIN3 COVER PLATE	ADPS3 INOX			4
9	ADPS4 INOX	ADPIN4 COVER PLATE	ADPS4 INOX			4
10	F-UM08C-R046x065	U-BOLT - M8x1.25, 46Wx 65	F-UM08C-R046x065			2
11	HH-0502-09	HYD. HOSE - 3/8" DOUBLE BRAID	H2WNS06		LENGTH AS REQ	1
12	HH-0502-01	HYD. HOSE - 3/4" DOUBLE BRAID	H2WNS12		LENGTH AS REQ	1
13	HH-0502-02	HYD. HOSE - 3/4" DOUBLE BRAID	H2WNS12		LENGTH AS REQ	1
14	HH-0502-03	HYD. HOSE - 3/4" DOUBLE BRAID	H2WNS12		LENGTH AS REQ	1
15	HH-0502-04	HYD. HOSE - 3/4" DOUBLE BRAID	H2WNS12		LENGTH AS REQ	1
16	HH-0502-05	HYD. HOSE - 3/4" DOUBLE BRAID	H2WNS12		LENGTH AS REQ	1
17	HH-0502-06	HYD. HOSE - 3/4" DOUBLE BRAID	H2WNS12		LENGTH AS REQ	1
18	HH-0502-07	HYD. HOSE - 3/4" DOUBLE BRAID	H2WNS12		LENGTH AS REQ	1
19	HH-0502-08	HYD. HOSE - 3/4" DOUBLE BRAID	H2WNS12		LENGTH AS REQ	1
20	11015	BOLT, CLAMP - M8x1.25 x 45, S/S	M8-SS-GP3			4
21	1448	BOLT, CLAMP - M8x1.25 x 50, S/S	M8-SS-GP4			4

ITEM	PART NUMBER	DESCRIPTION	STOCK NUMBER	LENGTH	NOTES	QTY
22	S50-121212	TEE- MMM 3/4"BSPT	S50-121212			2
23	SD071	SPRAY [HYPRO PUMP]	SD071			1
24	SD072	FILL [HYPRO PUMP]	SD072			1
25	SD149a	HYPRO BYPASS	SD149a			1
26	SD149b	CLOSE OPEN [HYPRO B/P]	SD149b			1
27	SG20-BLU	SPIRAL GUARD - 20mm BLUE	SG20-BLU			1
28	SG20-ORG	SPIRAL GUARD - 20mm ORANGE	SG20-ORG			1
29	SG25-BLU	SPIRAL GUARD - 25mm BLUE	SG25-BLU			3
30	SG25-RED	SPIRAL GUARD - 25mm RED	SG25-RED			1
31	T202-0606	CRIMP [00°]- F3/8"BSP-SW x 3/8" HOSE	T202-0606			1
32	T202-1212	CRIMP [00°]- F3/4"BSP-SW x 3/4"HOSE	T202-1212			14
33	T205-0606	CRIMP [90°]- F3/8"BSP-SW x 3/8" HOSE	T205-0606			1
34	T221-1212	CRIMP [90°]- F3/4"BSP-SW x 3/4"HOSE	T221-1212		[LONG SERIES]	1
35	T226-1212	CRIMP[L]- F3/4"BSPP-SWx3/4"HOSE	T226-1212			1
36	SB1047-WD	TAP - 3-WAY [HYPRO]	SB1047-WD		PRE-ASSEMBLY	1
37	SB1051-B	RUN-DOWN VALVE [HYPRO, 60LPM]	SB1051-B60		PRE-ASSEMBLY	1
38	SB1089	HOSE END - 3/4BSP-M TO 1/2C LIK-M	SB1089			2
39	SB1141	HYPRO BYPASS TAP	SB1141		PRE-ASSEMBLY	1
40	SB1149	HYPRO G.A.	SB1149			1
41	SB1171	HOSE END - M3/8"BSP TO M1/2"CLIK	SB1171			1









SERIAL#

DRN: GR Loader 30/09/2011

CHK:

MACHINING TOLERANCE: 0 ± 0.5; 0.0 ± 0.05; 0.00 ± 0.01

TAB TOLERANCE: 0 ± 1; 0.0 ± 0.5

ALL DIMS IN mm U.O.N. DO NOT SCALE DO NOT MODIFY DRAWING SEE DRAFTING OFFICE FOR REVISIONS

=SONIC= BOOMSPRAYS NAREMBEEN W.A.

TEL: (08) 9 641 1199
FAX: (08) 9 641 1191
EMAIL: parts@sonicbroomsprays.com.au
WEB: sonicbroomsprays.com.au

ASSY PROCEDURES:

HYDRAULICS - HYPRO

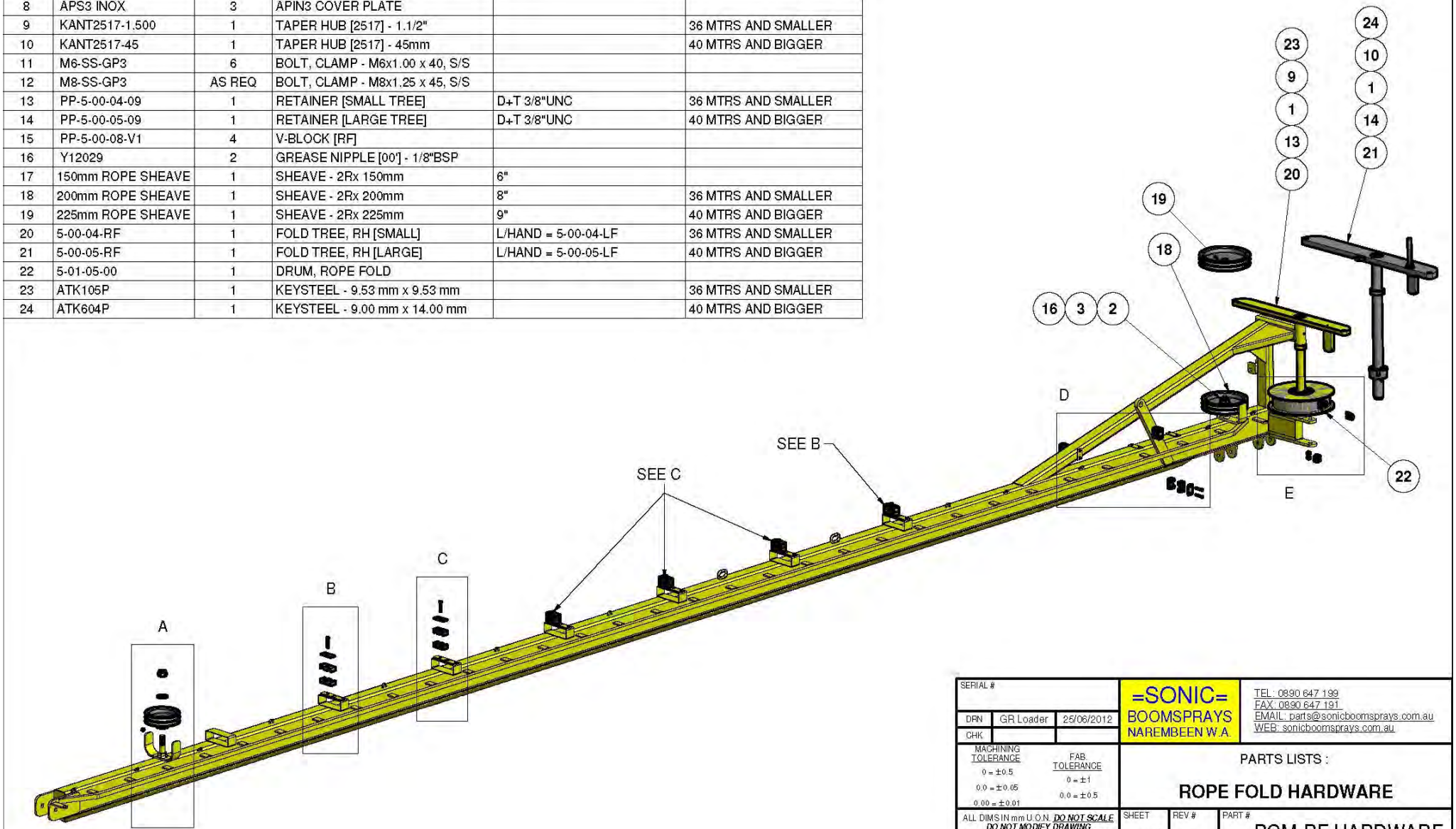
SHEET: 1 /2

REV #:

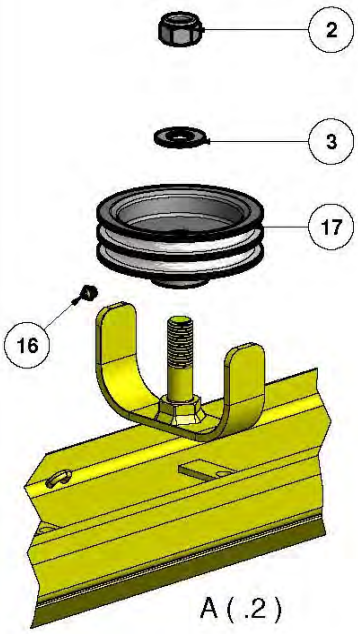
PART#: AP-05-02

ITEM	STOCK NUMBER	QTY	DESCRIPTION	NOTES	MODEL REFERENCE
1		1	GRUB SCREW - 3/8"UNC x 3/8"		
2		2	NUT, NYLOC - 1"UNC		
3		2	WASHER, FLAT - 1"		
4		2	WIRE ROPE CLAMP - 10mm S/S	TRIM 7mm OFF SADDLE PINS	
5	A3 22C	6	D22 SINGLE CLAMP SHELL [GP3]		
6	AD2 1818C	AS REQ	D18 DOUBLE CLAMP SHELL [GP2]		
7	ADPS3 INOX	AS REQ	ADPIN3 COVER PLATE		
8	APS3 INOX	3	APIN3 COVER PLATE		
9	KANT2517-1.500	1	TAPER HUB [2517] - 1.1/2"		36 MTRS AND SMALLER
10	KANT2517-45	1	TAPER HUB [2517] - 45mm		40 MTRS AND BIGGER
11	M6-SS-GP3	6	BOLT, CLAMP - M6x1.00 x 40, S/S		
12	M8-SS-GP3	AS REQ	BOLT, CLAMP - M8x1.25 x 45, S/S		
13	PP-5-00-04-09	1	RETAINER [SMALL TREE]	D+T 3/8"UNC	36 MTRS AND SMALLER
14	PP-5-00-05-09	1	RETAINER [LARGE TREE]	D+T 3/8"UNC	40 MTRS AND BIGGER
15	PP-5-00-08-V1	4	V-BLOCK [RF]		
16	Y12029	2	GREASE NIPPLE [00'] - 1/8"BSP		
17	150mm ROPE SHEAVE	1	SHEAVE - 2Rx 150mm	6"	
18	200mm ROPE SHEAVE	1	SHEAVE - 2Rx 200mm	8"	36 MTRS AND SMALLER
19	225mm ROPE SHEAVE	1	SHEAVE - 2Rx 225mm	9"	40 MTRS AND BIGGER
20	5-00-04-RF	1	FOLD TREE, RH [SMALL]	L/HAND = 5-00-04-LF	36 MTRS AND SMALLER
21	5-00-05-RF	1	FOLD TREE, RH [LARGE]	L/HAND = 5-00-05-LF	40 MTRS AND BIGGER
22	5-01-05-00	1	DRUM, ROPE FOLD		
23	ATK105P	1	KEYSTEEL - 9.53 mm x 9.53 mm		36 MTRS AND SMALLER
24	ATK604P	1	KEYSTEEL - 9.00 mm x 14.00 mm		40 MTRS AND BIGGER

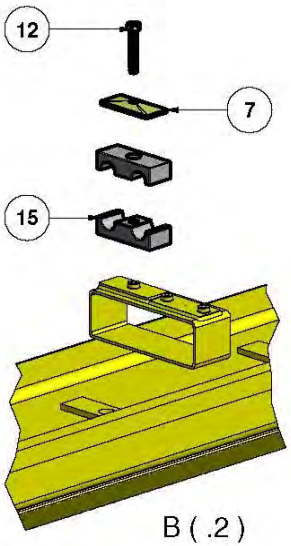
QUANTITIES SHOWN ARE PER WING



SERIAL #			=SONIC= BOOMSPRAYS NAREMBEEN W.A.	TEL: 0890 647 199 FAX: 0890 647 191 EMAIL: parts@sonicboomsprays.com.au WEB: sonicboomsprays.com.au	
DRN	GR Loader	25/06/2012			
CHK					
MACHINING TOLERANCE 0 = ±0.5 0.0 = ±0.05 0.00 = ±0.01		FAB. TOLERANCE 0 = ±1 0.0 = ±0.5	PARTS LISTS : ROPE FOLD HARDWARE		
ALL DIMS IN mm U.O.N. DO NOT SCALE DO NOT MODIFY DRAWING SEE DRAFTING OFFICE FOR REVISIONS			SHEET 1 /2	REV #	PART # BOM-RF HARDWARE



A (.2)



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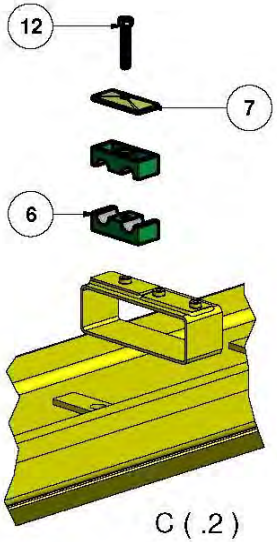
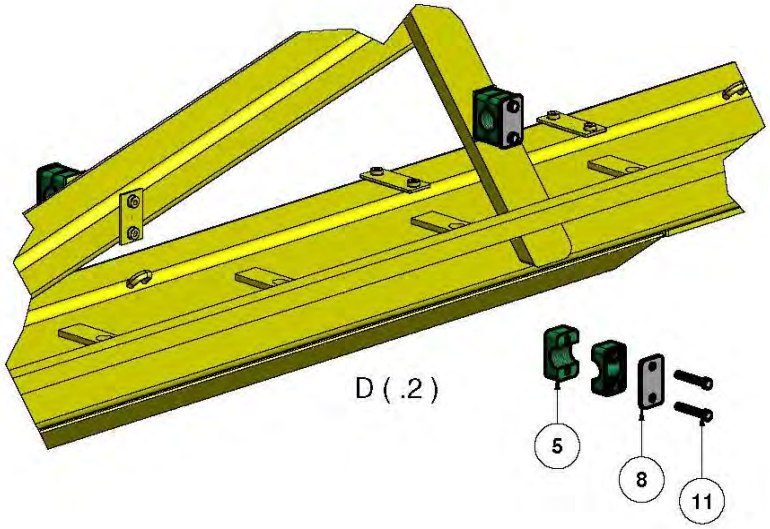


C (.2)



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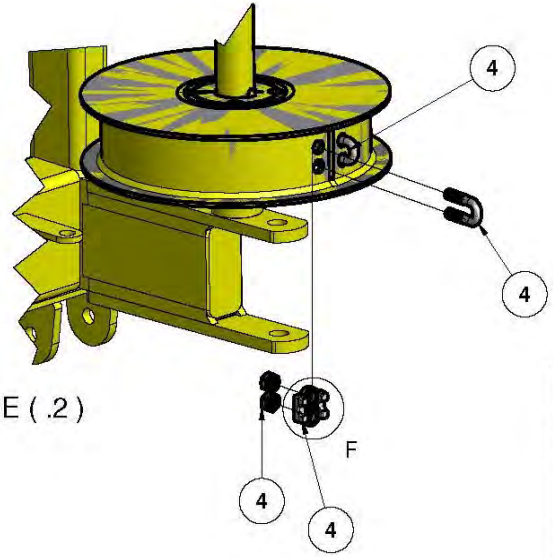
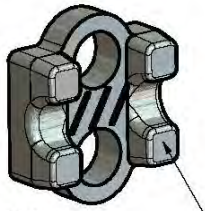


E (.2)

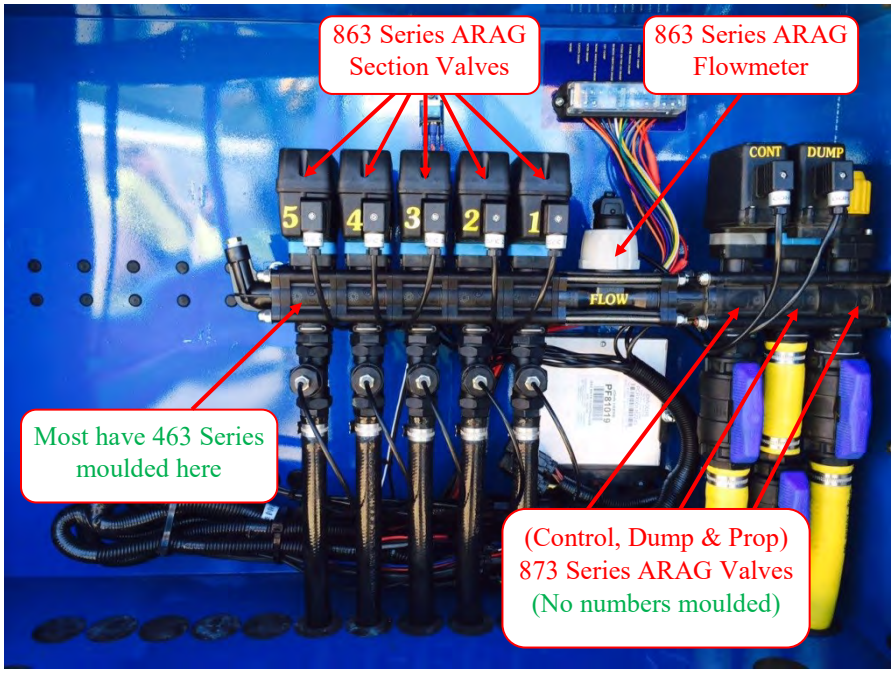


F (1)

TRIM THESE PIN FACES
DOWN APPROX. 7mm

SERIAL #			=SONIC= BOOMSPRAYS NAREMBEEN W.A.	TEL : 0890 647 199 FAX: 0890 647 191 EMAIL: parts@sonicboomsprays.com.au WEB: sonicboomsprays.com.au
DRN	GR Loader	25/06/2012		
CHK				
MACHINING TOLERANCE 0 = ±0.5 0.0 = ±0.05 0.00 = ±0.01	FAB. TOLERANCE 0 = ±1 0.0 = ±0.5		PARTS LISTS : **ROPE FOLD HARDWARE**	
ALL DIMS IN mm U.O.N. ***DO NOT SCALE*** ***DO NOT MODIFY DRAWING*** SEE DRAFTING OFFICE FOR REVISIONS	SHEET 2 /2	REV #	PART # BOM-RF HARDWARE	

BOOM SECTIONS & VALVE BANK INFO



FLOW METER:

Model: ARAG {WOLF}
Flow rate: 10-200 L/MIN
Fitment: ARAG 463 flanges

Associated parts:
FLOWMETER - FEEDING CABLE {WOLF}
FLOWMETER - PADDLE ONLY {WOLF}
FLOWMETER - SENSOR ONLY {WOLF}

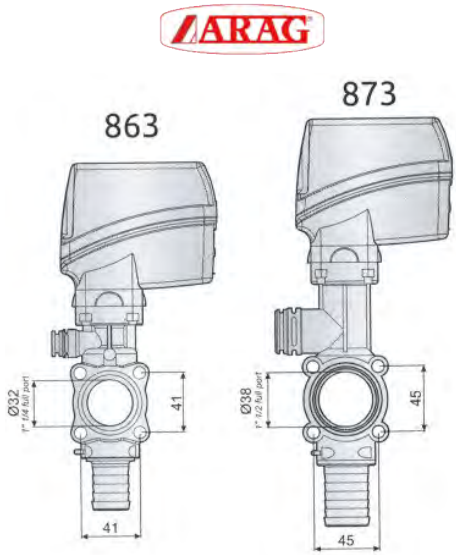
FLOW METER:

Model: POLMAC {RAPID CHECK}
Flow rate: 10-200 L/MIN
Fitment: ARAG 463 flanges

Associated parts:
FLOWMETER - TURBINE ASSY {RAPID CHECK}
FLOWMETER - SENSOR ASSY {RAPID CHECK}

PACKARD PLUG

FEMALE MALE

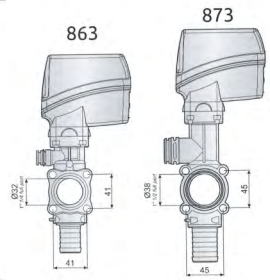


863 Series **SECTION** Valve
1.1/4" Through Port
(Spring on plunger)
3 Pin [**Blue Band**]

873 Series **CONTROL** Valve
1.1/2" Through Port
(Angle on plunger S/S)
3 Pin [**Grey Band**]

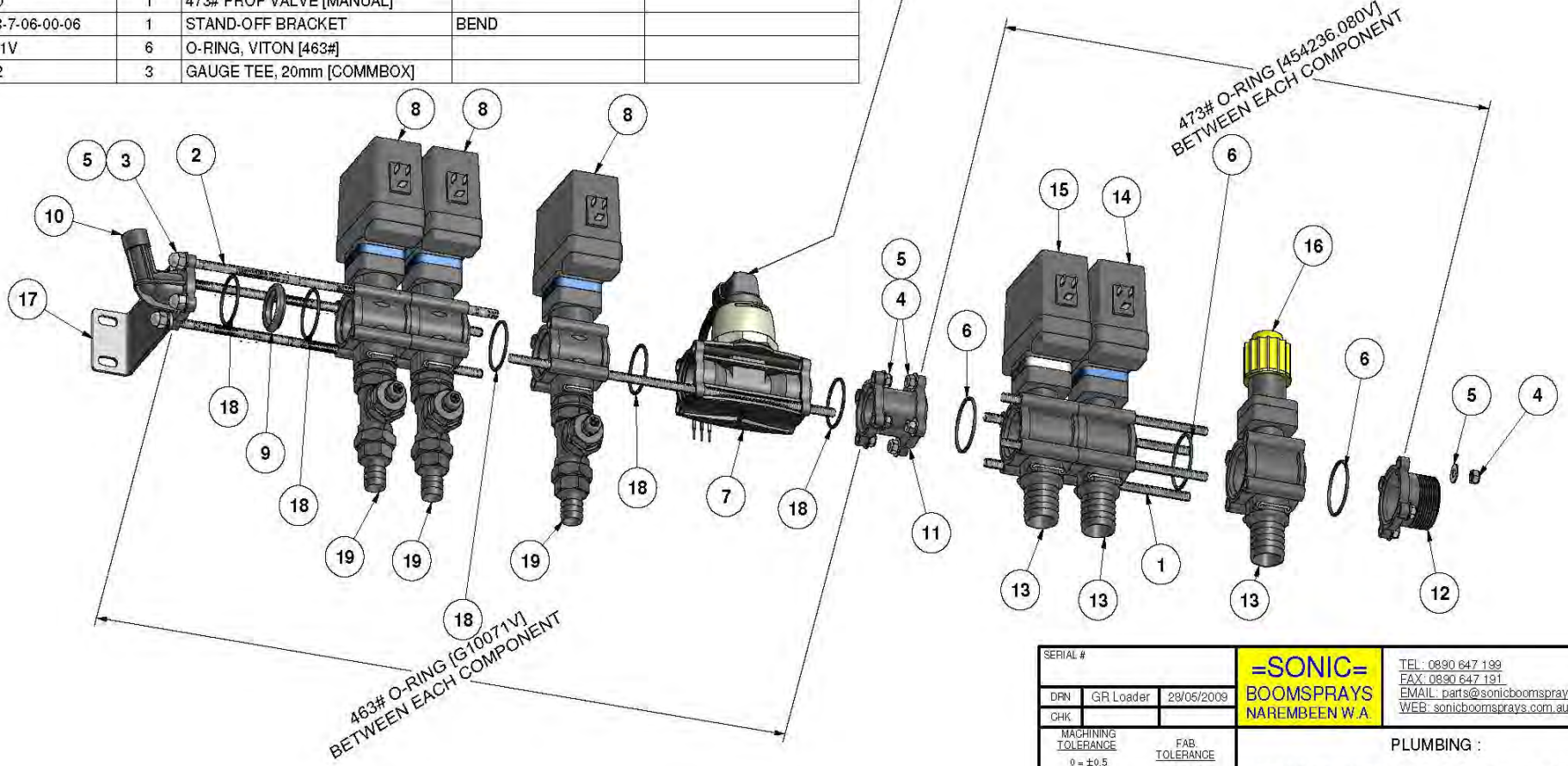
873 Series **DUMP** Valve
1.1/2" Through Port
(White plunger)
3 Pin [**Blue Band**]

ITEM	STOCK NUMBER	QTY	DESCRIPTION	NOTES	MODEL REFERENCE
1		4	ALLTHREAD- M8x1.25 @ 205 mm		ALL MODELS
2		4	ALLTHREAD- M8x1.25 @ 325 mm	154mm + 57mm/SECTION	3-SECTION BOOM
3		4	NUT, DOME - M8x1.25 SS		
4		12	NUT, NYLOC [08] - M 8x1.25		
5		16	WASHER, FLAT [08]- 5/16"		
6	454236.080V	4	O-RING, VITON [473#]		
7	462 64A0	1	FLOW METER [10-200 LPM]		
8	463001ST	3	463# SECTION VALVE		
9	463011.135	1	463# M-M ADAPTER		
10	463011N.130	1	ADAPTER, PRESS. GUAGE		
11	473000.010	1	473#M-463#F ADAPTER		
12	473000.160	1	1-1/2"BSP-M x 473# ARAG-F		
13	473001.A32	3	473# 32mm HOSETAIL		
14	473001T	1	473# SECTION VALVE		
15	473020.6S	1	473# PROP VALVE [ELEC]		
16	473070	1	473# PROP VALVE [MANUAL]		
17	BND03-7-06-00-06	1	STAND-OFF BRACKET	BEND	
18	G10071V	6	O-RING, VITON [463#]		
19	SB1052	3	GAUGE TEE, 20mm [COMMBOX]		



PLUG GENDER IS SPECIFIC TO CONTROLLER-
PLEASE SPECIFY WHEN REPLACING SENSOR

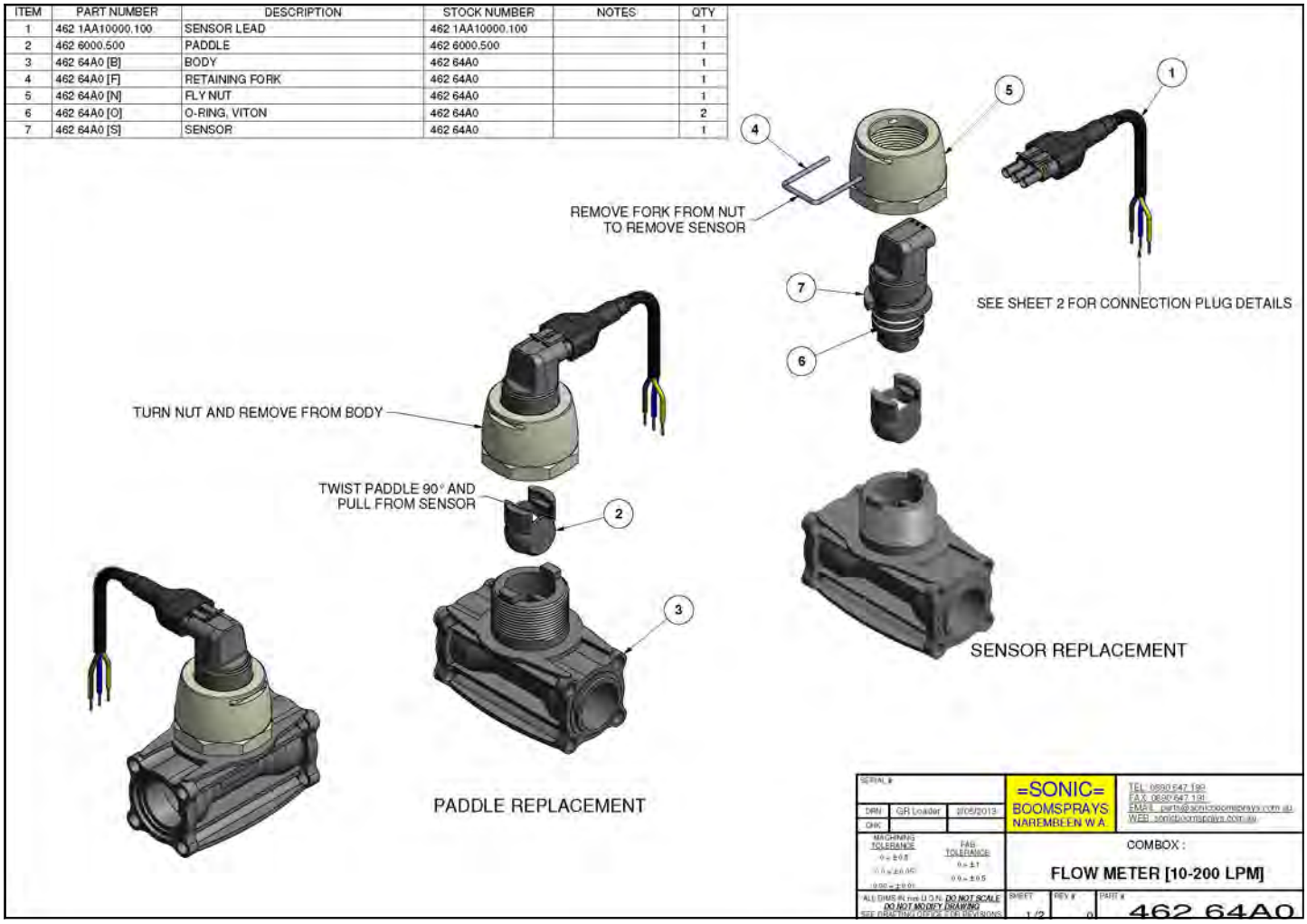
SEE DRAWING 'ARAG FLOWMETER' FOR MORE DETAIL



REV 1: ECO20130501: NEW FLOWMETER

SERIAL #		=SONIC= BOOMSPRAYS NAREMBEEN W.A.	TEL: 0890 647 199 FAX: 0890 647 191 EMAIL: parts@sonicboomsprays.com.au WEB: sonicboomsprays.com.au
DRN: GR Loader 29/05/2009			
CHK:			
MACHINING TOLERANCE: 0 = ±0.5, 0.0 = ±0.05, 0.00 = ±0.01	FAB. TOLERANCE: 0 = ±1, 0.0 = ±0.5	PLUMBING : VALVE BANK, T/PULL [3 SECTION]	
ALL DIMS IN mm U.O.N. DO NOT SCALE DO NOT MODIFY DRAWING SEE DRAFTING OFFICE FOR REVISIONS	SHEET 1 /1	REV # 1	PART # MANIFOLD - VALVE BANK [ARAG]

ITEM	PART NUMBER	DESCRIPTION	STOCK NUMBER	NOTES	QTY
1	462 1AA10000.100	SENSOR LEAD	462 1AA10000.100		1
2	462 6000.500	PADDLE	462 6000.500		1
3	462 64A0 [B]	BODY	462 64A0		1
4	462 64A0 [F]	RETAINING FORK	462 64A0		1
5	462 64A0 [N]	FLY NUT	462 64A0		1
6	462 64A0 [O]	O-RING, VITON	462 64A0		2
7	462 64A0 [S]	SENSOR	462 64A0		1

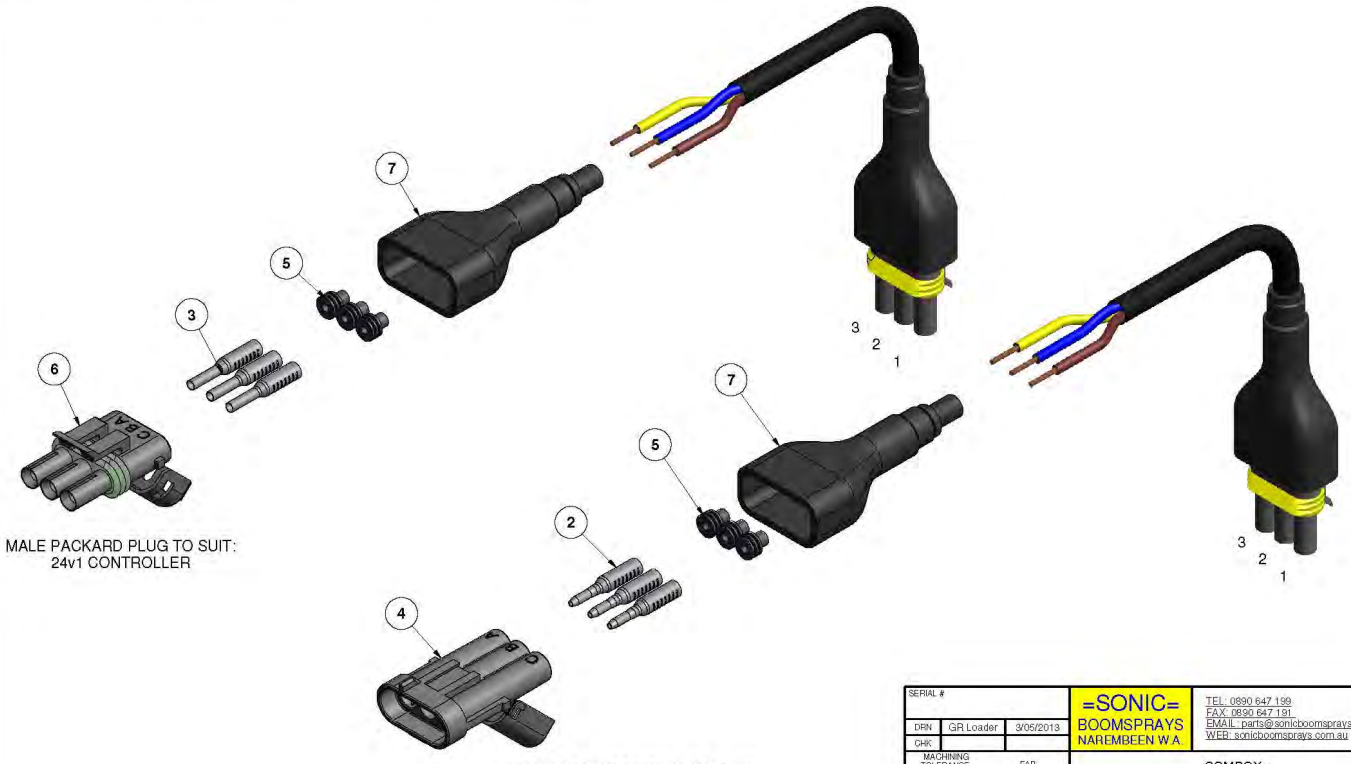


SERIAL #		=SONIC= BOOMSPRAYS NAREMBEEN W.A.	TEL: 0890 647 199 FAX: 0890 647 191 EMAIL: parts@sonicboomsprays.com.au WEB: sonicboomsprays.com.au
DRN: GR Loader 2/05/2013			
CHK:			
MACHINING TOLERANCE: 0 = ±0.5; 0.0 = ±0.05; 0.00 = ±0.01	FAB TOLERANCE: 0 = ±1; 0.0 = ±0.5	COMBOX : FLOW METER [10-200 LPM]	
ALL DIMS IN mm U.O.N. DO NOT SCALE DO NOT MODIFY DRAWING SEE DRAFTING OFFICE FOR REVISIONS		SHEET 1 /2	REV # 0
		PART # 462 64A0	

ITEM	PART NUMBER	DESCRIPTION	STOCK NUMBER	NOTES	QTY
1	462 1AA10000.100	SENSOR LEAD	462 1AA10000.100		2
2	WP3W-CONPIN3	PACK PLG CONN. PIN [3mm]	WP3W-KIT		3
3	WP3W-CONSKT3	PACK PLG CONN. SOCKET [3mm]	WP3W-KIT		3
4	WP3W-FCAS	PACKARD PLUG, FEMALE - 3 PIN	WP3W-KIT	c/w PINS AND SEALS	1
5	WP3W-GROMMET	CASING GROMMET SEAL [PACKARD]	WP3W-KIT		6
6	WP3W-MCAS	PACKARD PLUG, MALE - 3 PIN	WP3W-KIT	c/w PINS AND SEALS	1
7	Y703	BOOT [3P PACKARD]	Y703		2

GRN/YLW WIRE [PIN 3] TO PACKARD PIN A
BLUE WIRE [PIN 1] TO PACKARD PIN B
BROWN WIRE [PIN 2] TO PACKARD PIN C

PLEASE ADVISE WHICH CONTROLLER SYSTEM YOU ARE USING
AND / OR WHICH PLUG IS CURRENTLY ON YOUR FLOW METER



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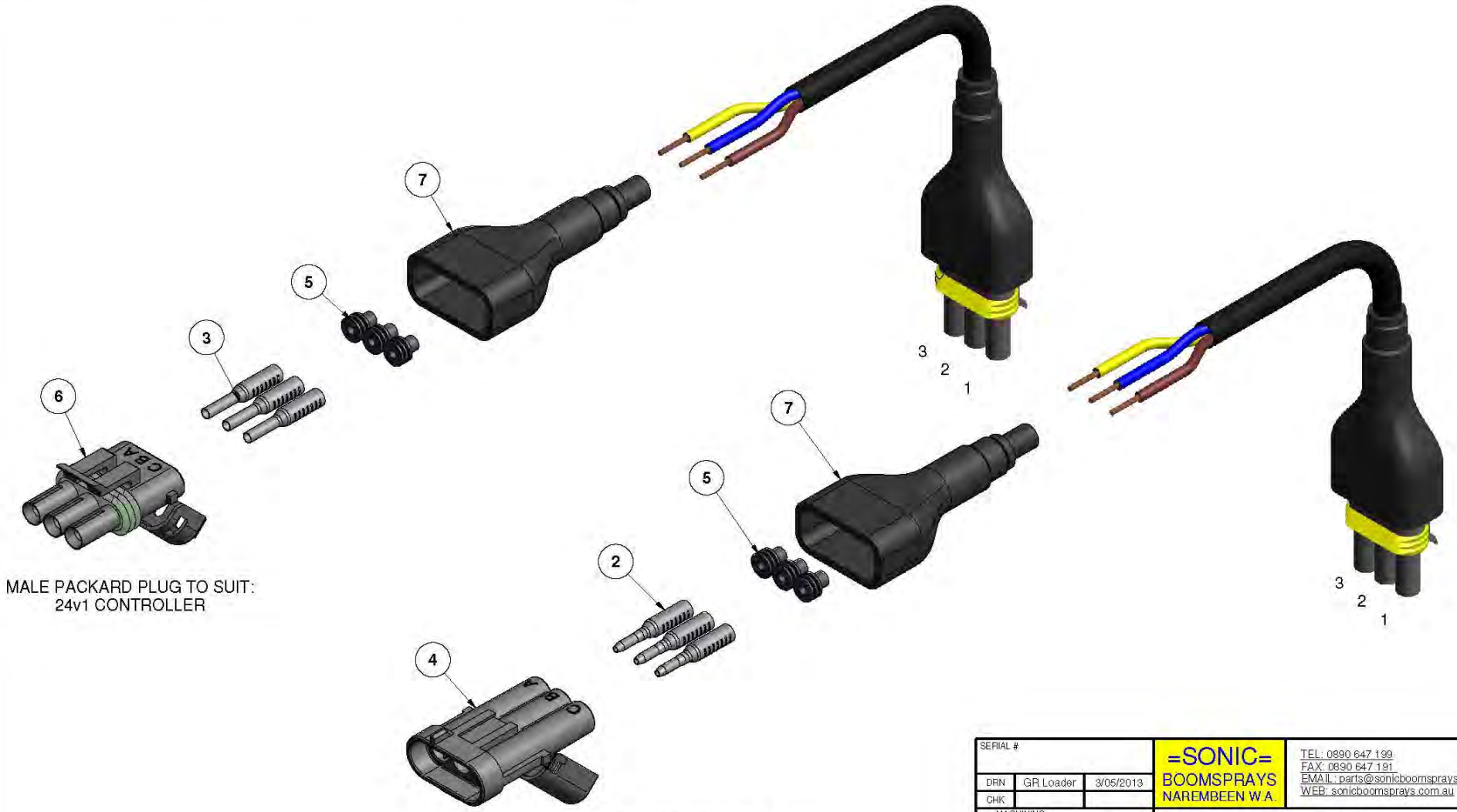
DRN: GR Loader 3/05/2013			
CHK:			
MACHINING TOLERANCE: 0 = ±0.5; 0.0 = ±0.05; 0.00 = ±0.01	FAB TOLERANCE: 0 = ±1; 0.0 = ±0.5	COMBOX : PLUG ASSEMBLY	
ALL DIMS IN mm U.O.N. DO NOT SCALE DO NOT MODIFY DRAWING SEE DRAFTING OFFICE FOR REVISIONS		SHEET 2 /2	REV # 0
		PART # 462 1AA10000.100	

ITEM	PART NUMBER	DESCRIPTION	STOCK NUMBER	NOTES	QTY
1	462 1AA10000.100	SENSOR LEAD	462 1AA10000.100		2
2	WP3W-CONPIN3	PACK PLG CONN. PIN [3mm]	WP3W-KIT		3
3	WP3W-CONSKT3	PACK PLG CONN. SOCKET [3mm]	WP3W-KIT		3
4	WP3W-FCAS	PACKARD PLUG, FEMALE - 3 PIN	WP3W-KIT	c/w PINS AND SEALS	1
5	WP3W-GROMMET	CASING GROMMET SEAL [PACKARD]	WP3W-KIT		6
6	WP3W-MCAS	PACKARD PLUG, MALE - 3 PIN	WP3W-KIT	c/w PINS AND SEALS	1
7	Y703	BOOT [3P PACKARD]	Y703		2

GRN/YLW WIRE [PIN 3] TO PACKARD PIN A
BLUE WIRE [PIN 1] TO PACKARD PIN B
BROWN WIRE [PIN 2] TO PACKARD PIN C

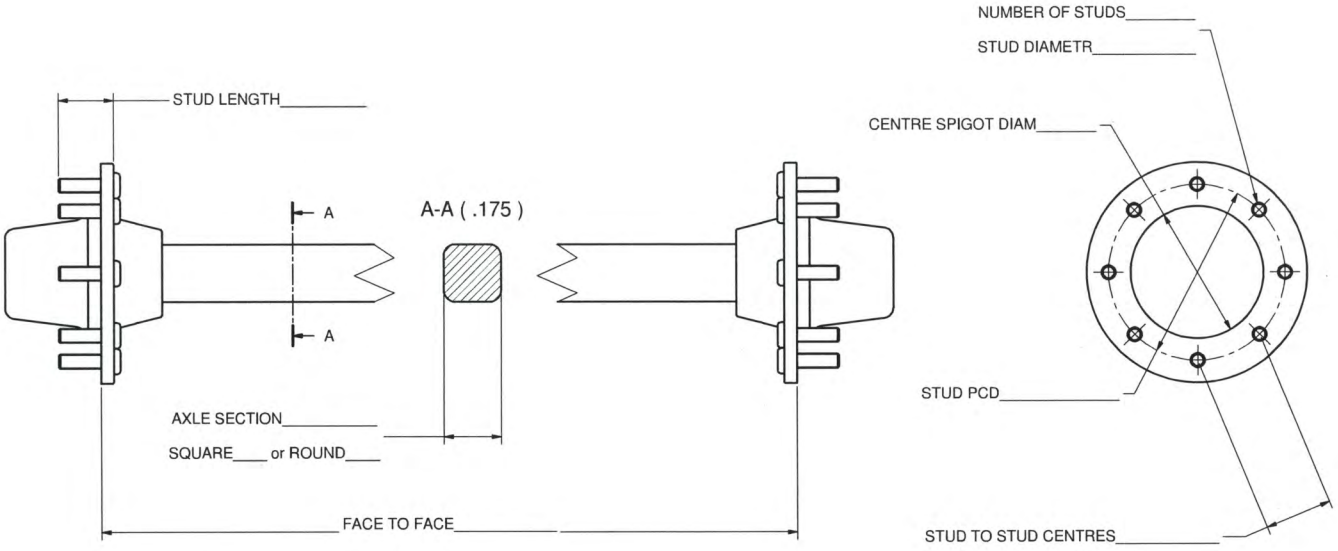
PLEASE ADVISE WHICH CONTROLLER SYSTEM YOU ARE USING
AND / OR WHICH PLUG IS CURRENTLY ON YOUR FLOW METER



SERIAL #		=SONIC= BOOMSPRAYS NAREMBEEN W.A.	TEL: 0890 647 199 FAX: 0890 647 191 EMAIL: parts@sonicboomsprays.com.au WEB: sonicboomsprays.com.au
DRN	GR Loader 3/05/2013		
CHK			
MACHINING TOLERANCE 0 = ±0.5 0.0 = ±0.05 0.00 = ±0.01	FAB. TOLERANCE 0 = ±1 0.0 = ±0.5	COMBOX : **PLUG ASSEMBLY**	
ALL DIMS IN mm U.O.N. ***DO NOT SCALE*** ***DO NOT MODIFY DRAWING*** SEE DRAFTING OFFICE FOR REVISIONS	SHEET 2 /2	REV # 0	PART # 462 1AA10000.100

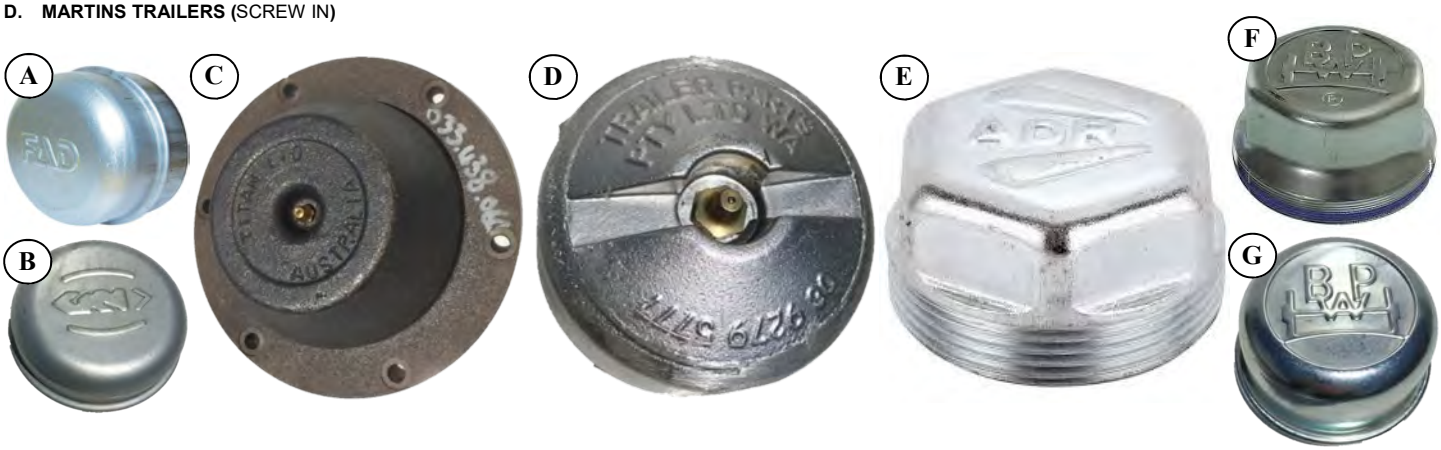
D:\D_SONIC\ASSEMBLY PROCEDURES\DWGS\A BAG FLOWMETER.dwg> D:\D_SONIC\00_SCHEMATICS\ELECTRICAL\FLWMTR PLUG.jpg

AXLE & HUB IDENTIFICATION



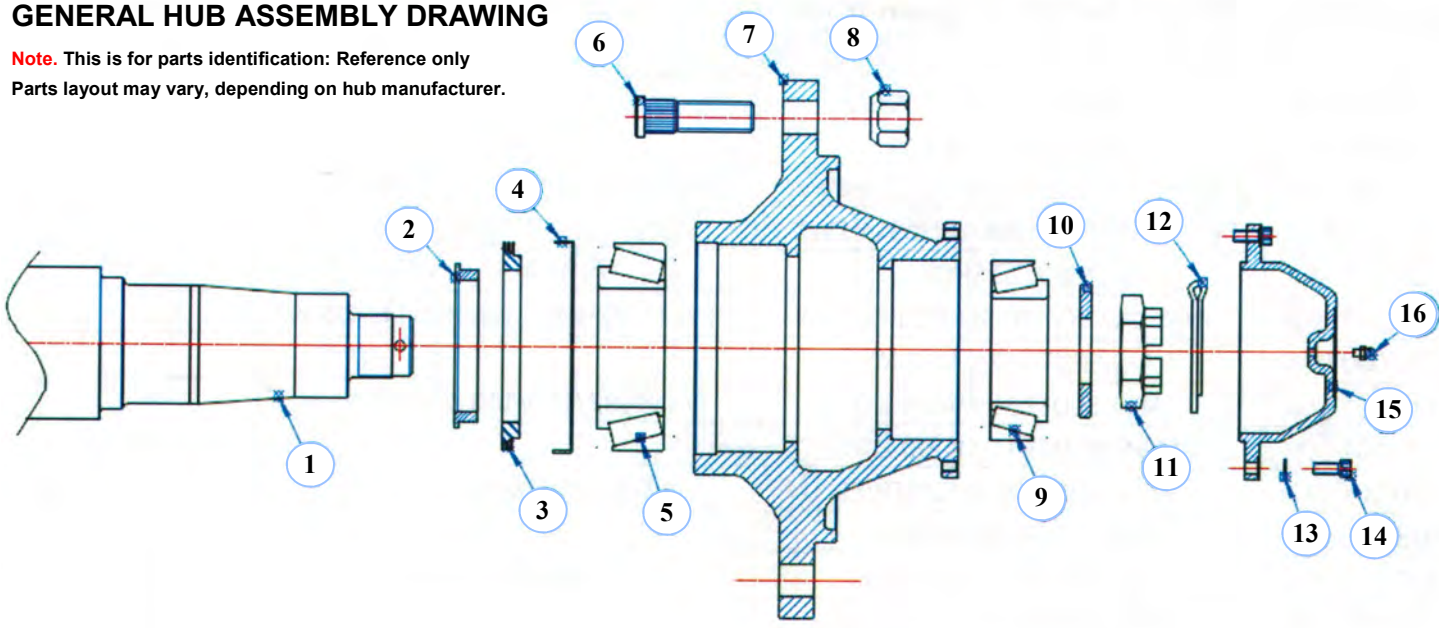
A. **FAD** (PUSH IN)
B. **FAD** (PUSH IN)
C. **TITAN or ANDI** (BOLT IN)
D. **MARTINS TRAILERS** (SCREW IN)
E. **ADR** (SCREW IN)
F. **BPW** (SCREW IN)
G. **BPW** (PUSH IN)

DUST CAP DETAILS:
SCREW IN _____ **or** PRESS IN _____ **or** BOLT IN _____
BRANDING: (FAD **or** TITAN **or** ANDI **or** MARTINS TRAILERS **or** ADR **or** BPW)



GENERAL HUB ASSEMBLY DRAWING

Note. **This is for parts identification: Reference only**
Parts layout may vary, depending on hub manufacturer.



1) **STUB**
2) **SEAL RING**
3) **SEAL**
4) **SEAL WEAR RING**
5) **INNER BEARING**
6) **WHEEL STUD**
7) **HUB**
8) **WHEEL NUT**
9) **OUTER BEARING**
10) **AXLE WASHER**
11) **SLOTTED NUT**
12) **SPLIT PIN**
13) **DUST CAP WASHER**
14) **SOCKET HEAD CAP SCREW**
15) **DUST CAP**
16) **GREASE NIPPLE**

CROPLANDS

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