

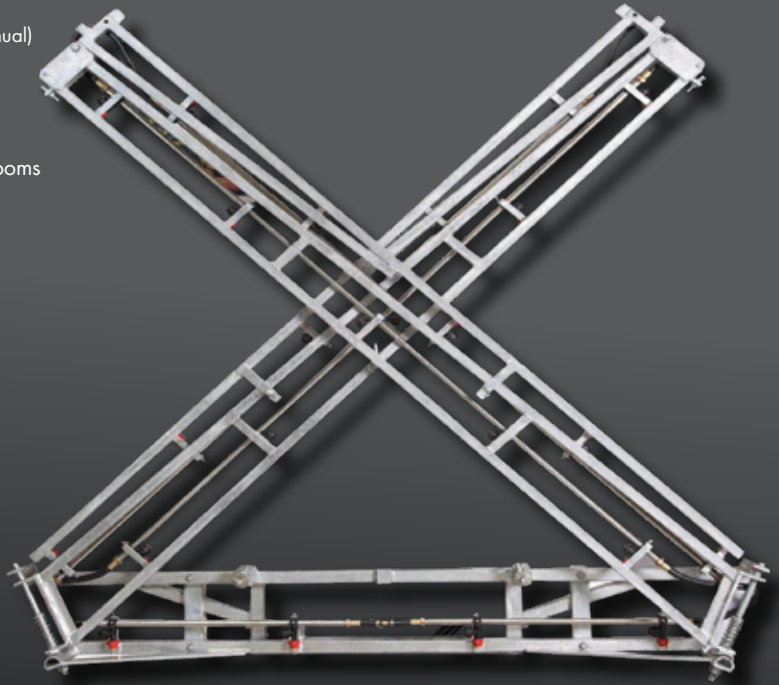
**CROPLANDS**

**OPERATORS MANUAL**  
**CROPLANDS**  
**SPRAY BOOMS**

**WWW.CROPLANDS.COM.AU**

**MODELS:**

- MB02 boom
- MBX Series booms
- MAX Series booms
- GEX Series booms
- MHL 12 & 15 (refer separate manual)
- MC6 firebreak boom
- ATV Boomless Nozzle kit
- MSO under-tree boom
- MSC and MSCL-2 Covered booms
- Vertiboom
- Wheely Boom



8/10/2020  
GP-OMOB00M-A



CROPLANDS IS CONTRIBUTING TO A SUSTAINABLE FUTURE



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

Dear Customer

Congratulations on the purchase of your new spray boom 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 spray boom. 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 spray boom and the level of support - our goal is to be your preferred spraying solutions partner from this point onwards.

Yours Sincerely

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



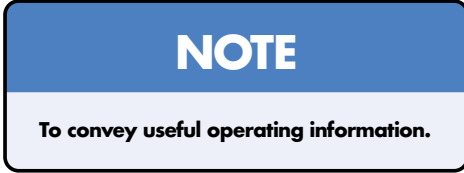
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Croplands has taken steps to ensure this operator's manual is as current and as accurate as possible. Due to the ever changing markets of cropping and farming, Croplands is constantly striving to be at the forefront of innovation and technology. While the information in this manual is considered accurate at the time of writing, Croplands reserves the right to change this information without notice. Croplands will not accept liability for any inaccuracy in this publication, or changes forthwith.

## Terminology

These terms/symbols used throughout this manual:



## About This Manual

This manual provides assembly, setting up, operating and maintenance instructions for the spray booms of the Croplands Optima boom range. All types of the Croplands Optima range of spray booms are in the Identification and/or in the Specification Chapter. Some model types also have different options available. Some features explained in this manual may not be applicable to your boom.

**Please pass on this manual with the sprayer or boom at the time of resale for use by the new owner.**

## 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: WARRANTY POLICY

### NOTE

**For full conditions of warranty & warranty policy, please see the Warranty & Pre-Delivery booklet provided with this boom or sprayer (if included as a part of the sprayer).**

**Refer to your Croplands Warranty and Pre-delivery Booklet supplied with your spray boom. Always make contact with your Croplands Dealer first and foremost for warranty matters.**



## SECTION 2: FOREWORD

Croplands Equipment is a subsidiary of Nufarm Australia Ltd and operates as Croplands Equipment Pty Ltd in Australia and Croplands Equipment Ltd in New Zealand. Croplands are a leading manufacturer and supplier of spraying equipment.

This operator's manual covers the Croplands' Optima range of spraying booms from 2 metres width to 12 metres width and includes the GEX series Hydraulic folding booms. Croplands Optima spray booms are commonly fitted to our Linkage AgriPak sprayers, trailed 12-volt sprayers, Traymount sprayers and larger Pony trailed sprayers.

The Hydralink MHL boom (sometimes referred to as the BDX boom) is supplied with a separate manual for the BDX boom. See page 28 for more details.

Manufactured to a high standard for use in Agriculture and Horticulture, every effort has been made to include all information needed for the correct use of your spray boom.

As the owner of a Croplands product, please read this manual thoroughly to fully familiarise yourself with all aspects of the safe and correct operation of your boom. Maintenance information and useful tips have been included. We trust you will use these tips to get the best from your boom.



### WARNING

**Read and understand this operators' manual before operating the spray boom.**

## SECTION 3: 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).



**SAFETY SIGNS AND DECALS**

All signs and decals for sprayer safety and operation must be maintained in good order and replaced if damaged or missing. Most Croplands labels have a part number printed on the decal to aid identification and replacement. Some examples are shown below.

## WARNING

### SAFETY INSTRUCTIONS

1. Read your operators manual thoroughly before operating the sprayer.
2. Inspect hoses, connections and nozzles daily.
3. Clean filters regularly.
4. Always follow correct maintenance schedules outlined in operator's manuals.
5. Always read chemical manufacturers labels before use.
6. Always observe all warnings on chemical products.
7. Regularly check all nuts and bolts are tight.
8. Always wear rubber gloves and wash sprayer down before doing any repair or maintenance work.
9. Do not ride on sprayer when moving.
10. Keep clear of moving parts when sprayer is operating.
11. Always keep guards in place when sprayer is operating.
12. Be sure tank lid is closed before operating basket mixing facility.
13. Stand well clear of sprayer when operating.
14. Do not disconnect hoses, nozzles or filters while sprayer is operating.

**FAILURE TO FOLLOW THE ABOVE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR DEATH.**

Croplands Equipment Pty Ltd XD-123WAS

Part No: XD - 123

**DANGER**

**KEEP CLEAR OF POWERLINES WHILE OPERATING SPRAYER.**

Never use the folding/unfolding functions near areas with overhead power lines.

Croplands Equipment Pty Ltd XD-181

Part No: XD-181

## WARNING

**BEWARE OF MOVING PARTS**

Failure to operate correctly may result in serious injury or death!

Part No: XD-182

## WARNING

**ALWAYS CONNECT SPRAYER TO TRACTOR BEFORE OPERATING THE BOOM**

Failure to operate correctly may result in serious injury or death!

Part No: XD-190

## SECTION 4: PRODUCT IDENTIFICATION & SPECIFICATIONS

Always use the serial number of the Optima boom when requesting service information or when ordering parts. Where a serial plate is not provided, please use the part number from the bar code affixed to this manual or the Warranty & Pre-Delivery booklet. Early models or later models may use different parts, or it may be necessary to use a different procedure for specific service operations.

Where the boom is supplied as a part of a complete sprayer including boom, please use the serial number attached to the sprayer when requesting service information.



### NOTE

For further information on Croplands Sprayers & booms, see [www.croplands.com.au](http://www.croplands.com.au)

### Boom Models

1. MB02, MBX03, MBX04 & MBX06
2. MAX08, MAX10, MAX12L and Leveling device
3. GEX6H, GEX8H, GEX10H
4. Boomless nozzle kits
5. Specialty booms - Under-Tree, Firebreak, Shrouded boom, Vertiboom & Wheely boom
6. MHL12 & MHL15 Hydralink booms
7. Optional Extras (nozzles, suspension kits etc)



### WARNING

Ensure your vehicle is rated for the weight of the sprayer and/or boom when full of liquid. Failure to do this may cause instability & serious injury.



AirMix low drift air-induction nozzles fitted standard to Croplands booms



**1. MB02 boom**



- » Single stainless steel tube with end cap one end, inlet with hosetail on opposite end
- » Non-drip nozzle bodies fitted to boom tube at 500mm spacing
- » AirMix® low-drift nozzles and caps fitted to nozzle bodies with nozzle filters under each cap
- » Clamps with u-bolts supplied
- » Typically fitted to ATV bikes and small trailed sprayers for small areas

**MBX03**

- » 3 metre galvanised boom; 6 non-drip nozzles at 500mm spacings. 1.25 metres folded width; 0.85 metres folded height. Dry Weight - 25kg.

**MBX04**

- » 4 metre galvanised boom; 8 non-drip nozzles at 500mm spacings. 1.25 metres folded width; 0.85 metres folded height. Dry Weight - 28 kg.

**MBX06**

- » 6 metre galvanised boom; 12 non-drip nozzles at 500mm spacing. 1.95 metres folded width; 1.15 metres folded height. Dry Weight - 36 kg.

MBX booms are plumbed standard as single section. Easily changed to 3 section (left, centre, right) via kit part no. KM-001

**MBX Series Manual Cross-fold Booms**

- » Galvanised steel construction with stainless steel boom tubes
- » Nozzles are protected being placed above the boom rail
- » Non-drip nozzle bodies with AirMix® low-drift nozzles fitted
- » Adjustable tension spring breakaway for each boom arm to ensure the arm returns to position
- » Folds neatly behind the sprayer or vehicle
  - typically used on small 3-point linkage sprayers, Traymount units, RTV & utility vehicles & small trailed sprayers



Product update, all MBX and MAX booms now use forked hose fittings.



## 2. MAX Series Manual Cross-fold Booms



- » Rugged galvanized steel construction with stainless steel boom tubes
- » Nozzles are protected being placed above the boom rail
- » Non-drip nozzle bodies with AirMix® low-drift nozzles fitted
- » Adjustable tension spring breakaway for each boom arm to ensure the arm returns to position
- » Folds neatly behind the sprayer or vehicle
  - typically used on larger linkage sprayers, Traymount sprayers, utility vehicles & larger trailed sprayers to 2000 litres

Product update, all MBX and MAX booms now use forked hose fittings.



### Models:

#### MAX08

- » 8 metre galvanized boom; 16 non-drip nozzles at 500mm spacings. 2.07 metres folded width; 1.8 metres folded height. Dry Weight - 82kg.

#### MAX10

- » 10 metre galvanized boom; 20 non-drip nozzles at 500mm spacings. 2.07 metres folded width; 1.8 metres folded height. Dry Weight - 90 kg.

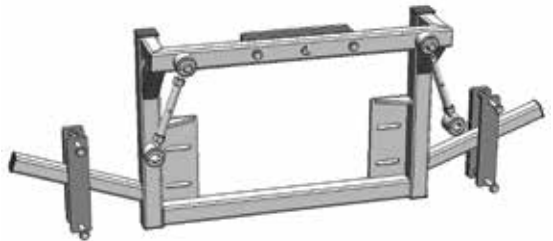
#### MAX12L

- » 12 metre galvanized boom plus leveler; 24 non-drip nozzles at 500mm spacings. 2.07 metres folded width; 2.1 metres folded height. Dry Weight - 130 kg.

MAX booms are plumbed standard as single section. Available to order as 3 or 5 sections.

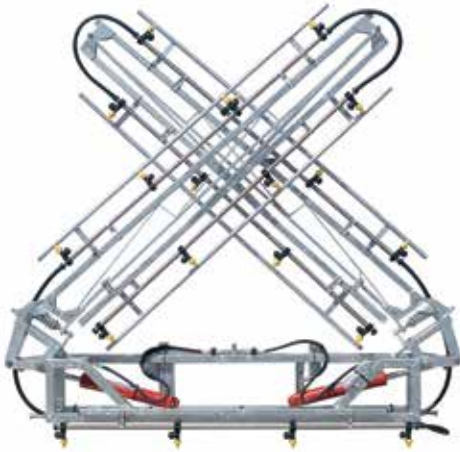
#### SELF-LEVELER

- » Optional Leveling device (standard on 12 metre boom) - allows boom to self-level on undulating ground. An ideal option for rougher country or where ground is undulating and uneven. Weight - 28 kg.



Self Leveller

### 3. Hydraulic Folding GEX Boom models



## NOTE

The 8 and 10 metre models have a manual flip-over outer section which needs to be manually secured in the folded position prior to folding the boom for transport.

### Models:

#### GEX6H

- » 6 metre galvanised hydraulic folding boom; 12 non-drip nozzle bodies, 2 rams for folding, hydraulically plumbed to fold together.
- » 2.06 metres folded width; 1.55 metre folded height. Dry Weight - 87kg.

#### GEX8H

- » 8 metre galvanised hydraulic folding boom; 16 non-drip nozzle bodies, 2 rams for folding, hydraulically plumbed to fold together. 1 metre of each end is manually unfolded to make the boom 8 metres.
- » 2.06 metres folded width; 1.55 metres folded height. Dry Weight - 93kg.

#### GEX10H

- » 10 metre galvanised hydraulic folding boom; 20 non-drip nozzle bodies, 2 rams for folding, hydraulically plumbed to fold together. 2 metres of each end is manually unfolded to make the boom 10 metres.
- » 2.06 metres folded width; 1.55 metres folded height. Dry Weight - 96kg.

#### MHL12-2-KIT

- » Second set of hydraulic hoses to allow left/right individual fold of GEX boom

#### General Information

- » Boom folds hydraulically in a cross-fold style.
- » Ideal boom for small row-cropping situations or vegetables.

\* Plumbed 3 sections, (left, centre, right).

#### 4. XP Boomkit



- » XP BOOMKIT Kit to mount 2 XP BoomJets\* for a sprayed width of approximately 6 metres. Clamps supplied for fitting to rear carrier of most quad bikes.

\* Minimum pump flow required 6.4 L/min at 2 bar pressure.

### NOTE

XP BoomJets must be purchased separately & output matched to your pump flow. See page 27 for further details.



**XP Boom Kit shown with XP BoomJets fitted and in use. Ensure you talk to your Croplands Dealer to select the right XP BoomJet for your XP Boom kit to suit your application. For more information, see section 5, point number 6.**

#### 5. Firebreak Boom – model MC6



- » Ideal for the back of utes, RTV vehicles or small trailing sprayers for spraying firebreaks, farm tracks, contours, ditches and fencelines.
- » 1.5 metre wide with offset nozzles on adjustable swivel nozzle bodies on each end for additional 1.5 metre spray each side

#### Under-Tree Boom – Model MSO



- » MSO Treeline boom with breakaway and 2 nozzles with manual-tap shut-off
- » MSO boom is galvanized with extendable outer section which can be lifted up for transport & secured with the chain system
- » Perfect for spraying under trees or hedgerows
- » An electric shut of system can be installed – talk to your Croplands Sprayshop or Dealer as this is not a factory installed option

**Covered Booms – models MSC (single sided) and MSCL (double sided)**



- » For spraying under sensitive crops such as grapes and other tree crops
- » Weight - 18kg (double sided)

**MCSL**

- » Single sided light covered boom with breakaway and 2 nozzles under spray shield

**MSCL-2**

- » Double sided light covered boom with left/right shielded booms with breakaways, adjustable width, and a 600mm wide uncovered centre section with 2 nozzles

**Wheely Boom – Model MW02**



- » 2 metre width boom with frame and wheels, shut-off trigger and gauge
- » Suitable for greens, golf courses and turf applications
- » Handle includes a shut-off trigger and gauge for the operator to control the application as required
- » Ideal to hook up to an existing spray pump for spraying greens.

**Vertiboom – Models MVB4-4 and MVB5-5; 4 and 5 nozzles per side**



- » Vertiboom can be fitted using a motorised pump (AR30-5H) for supplying adequate pressure & flow to the nozzles.
- » Typically used for Horticultural applications to spray trellis crops and row crops such as grapes, tomatoes and berries
- » Usually mounted on a 3-point linkage or small trailed sprayer

**NOTE**

For boom drawings and parts information refer to [www.croplands.com.au](http://www.croplands.com.au)

## 6. Hydraulic MHL Hydralink Booms – 12 & 15 metre models



- » Heavy duty galvanised steel construction with stainless steel boom tubes with nondrip nozzles bodies and AirMix® lowdrift nozzles fitted
- » Nozzle protection fitted to protect nozzles and nozzle bodies from damage
- » Adjustable tension breakaway on outer sections
- » Self-leveling centre section standard
- » Boom folds sequentially in a cross-fold style for transport - using the left/right hydraulic kit option, each side can be lifted independently which also automatically locks the self-leveling system. Ideal for lifting over fences at the headland or irrigation sprinklers
- » Ideal boom for row-cropping, pasture spraying, vegetables or undulating farm country.

The MHL boom will be supplied with a separate manual covering the Bargam / BDx Book.

### MHL12

- » Heavy duty galvanised 12 metre hydraulic folding boom with 24 nozzles, twin ram with auto folding tips, hydraulically plumbed to fold both sides together. Central self-locking self-leveller standard. Dry weight - 240 kg.

### MHL15

- » Heavy duty galvanised 15 metre hydraulic folding boom with 30 nozzles, twin ram with auto folding tips, hydraulically plumbed to fold both sides together. Central self-locking self-leveller standard. Dry weight - 265 kg.

### MHL12-2-KIT

- » Second set of hydraulic hoses to allow left/right individual fold of MHL boom.



## 7. Optional extras

### Airbag suspension



Available as an option, the parallelogram airbag suspension device is very useful for protecting the spray boom in rougher conditions. This is normally sold only as a fitted option to the Croplands range of 3-point Linkage sprayers and is seldom sold separately.

It is recommended this be fitted by your Authorised Croplands Dealer to ensure correct fitting & operation.

Suitable for use with MAX series, GEX series and MHL series booms only.

For more information, please visit [www.croplands.com.au](http://www.croplands.com.au) for instructions and more details.

If fitted to your sprayer, a separate parts list will be supplied.

### Hydraulic Accumulator suspension device



Available as an option, the hydraulic accumulator suspension kit is very useful for protecting the spray boom in rougher conditions.

It is recommended this be fitted by your Authorised Croplands Dealer to ensure correct fitting & operation.

Suitable for MHL and MAX booms only on certain models of Croplands Linkage sprayers.

For more information, please visit [www.croplands.com.au](http://www.croplands.com.au) for instructions and more details.

If fitted to your sprayer, a separate parts list will be supplied.

## Hydraulic lift devices



Available as an option, the hydraulic boom lift device allows lifting of the boom hydraulically. This is normally sold only as a fitted option to Croplands's range of 3-point Linkage sprayers and is seldom sold separately. However, if purchased separately at a later date for fitting to an existing Croplands sprayer, a basic instruction sheet and parts list will be supplied.

It is recommended this be fitted by your Authorised Croplands Dealer to ensure correct fitting & operation.

For more information, please visit [www.croplands.com.au](http://www.croplands.com.au) for instructions and more details.

If fitted to your sprayer, a separate parts list will be supplied.

## Hydraulic fold hose kits



Available as an option, individual hose kits for hydraulic fold of GEX and MHL Hydralink boom are usually supplied with the boom when purchased, or as a fitted option to a Croplands sprayer.

It is recommended this be fitted by your Authorised Croplands Dealer to ensure correct fitting & operation.

If purchased with your spray boom, an instruction sheet and basic parts list will be provided.

For more information, please visit [www.croplands.com.au](http://www.croplands.com.au) for instructions and more details.



## Nozzles



**Albuz Ceramic CVI nozzle example**



**Off-centre AirMix nozzle option for boom-end**

Alternatively, you can purchase a copy of the Nufarm Spraywise Application Handbook, available from Croplands and their dealers throughout New Zealand and Australia.

For specific applications, there are a number of specialty nozzles available in Croplands range.

It is highly recommended you use your local Agronomist or Authorised Croplands Dealer for advice on what nozzles to use for specific applications.



**TurboDrop nozzle sample for ultra low drift situations**

## NOTE

For boom drawings and parts information refer to [www.croplands.com.au](http://www.croplands.com.au)

## SECTION 5: BOOM ASSEMBLY & INSTALLATION

### MBX boom series assembly instructions

To assemble the boom (more information on next page):

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. Assemble the boom arms to the centre section
3. Connect the hoses from each section to the boom tubes
4. Mount the boom to your sprayer. Note – standard clamps and brackets are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate brackets to suit. The cost of any fabrication, or modification of the brackets supplied, will be the responsibility of the purchaser
5. Connect the hoses to the boom tubes for the number of sections required
6. Check all worm-drive clips for tightness (if applicable)
7. Grease the boom arm breakaway knuckles and pins.
8. When ready, start the spray pump and check all nozzle bodies and hose connections for leaks & make necessary adjustments and/or tighten fittings. Take care not to over tighten & break fittings or nozzle bodies.

### NOTE

Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.



### WARNING

Only use water when testing the boom for leaks.



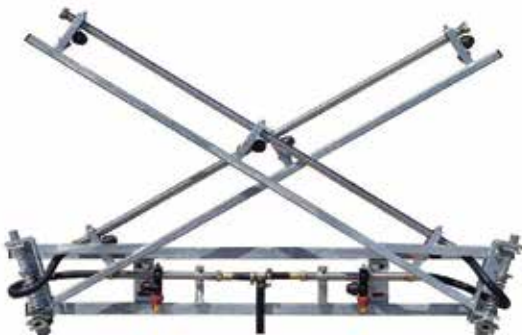
**Mount the centre section to your sprayer using the bolts & brackets supplied.**



**Bolt the left & right outer wings to the centre section.**



**Attach hoses to the boom tubes**



**The MBX boom will look like this fully assembled**



**Product update, all MBX and MAX booms now use forked hose fittings.**

## MAX boom series assembly instructions

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The Max Series booms will be supplied fully assembled from the factory. Note – standard clamps and brackets are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate brackets to suit. The cost of any fabrication, or modification of the brackets supplied, will be the responsibility of the purchaser.
3. When mounting the boom, ensure a suitable crane or block & tackle lifting device is used to support the boom.



**Ensure a suitable lifting device is used to support the MAX Boom when fitting**

4. Once mounted, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying.
5. Ensure all hinge points and leveller slides (if applicable) are greased (also see boom maintenance in section 9)

## NOTE

**Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.**



## WARNING

**Only use water when testing the boom for leaks.**



## WARNING

**Do not attempt to mount the boom without the use of approved lifting equipment. Injury may result if the boom is lifted without the correct method being used.**

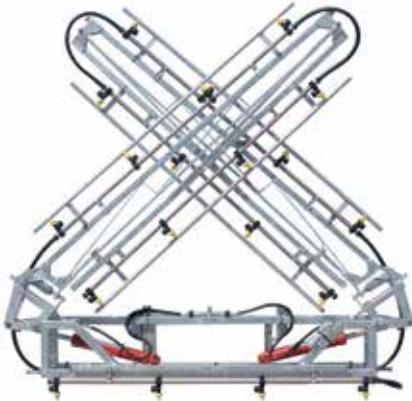
## GEX boom series assembly instructions

To assemble the boom:

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The GEX Series booms will be supplied fully assembled from the factory. Note – standard clamps and brackets are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate brackets to suit. The cost of any fabrication, or modification of the brackets supplied, will be the responsibility of the purchaser.



The GEX boom comes standard with the hydraulic rams plumbed together so the boom folds all together.



3. When mounting the boom, ensure a suitable crane or block & tackle lifting device is used to support the boom.
4. Once mounted, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying.
5. Ensure all hinge points are greased (also see boom maintenance in section 9)

### NOTE

Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.



### WARNING

Only use water when testing the boom for leaks.

### NOTE

For boom drawings and parts information refer to [www.croplands.com.au](http://www.croplands.com.au)

## MC6 Firebreak boom assembly instructions

To assemble the boom:

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The MC6 boom will be supplied partially assembled from the factory.

### NOTE

Standard clamps and brackets are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate brackets to suit. The cost of any fabrication, or modification of the brackets supplied, will be the responsibility of the purchaser.

3. Once mounted, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying.

### NOTE

Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.



### WARNING

Only use water when testing the boom for leaks.



**MSO boom assembly instructions**

To assemble the boom:

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The MSO boom will be supplied partially assembled from the factory.

**NOTE**

Standard clamps and brackets are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate brackets to suit. The cost of any fabrication, or modification of the brackets supplied, will be the responsibility of the purchaser.

3. Once mounted, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying.

**NOTE**

Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.

**WARNING**

Only use water when testing the boom for leaks.



## MSC & MSCL boom assembly instructions

To assemble the boom:

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The MSC & MSCL booms will be supplied partially assembled from the factory.

### NOTE

Standard clamps and brackets are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate brackets to suit. The cost of any fabrication, or modification of the brackets supplied, will be the responsibility of the purchaser.

3. Once mounted, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying..

### NOTE

Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.



### WARNING

Only use water when testing the boom for leaks.



Use the u-bolts supplied to secure the MSCL2 centre section. You may need to have a bracket made by your Croplands dealer to suit your sprayer or application.



Your MSCL2 has 3 sections – centre, left & right. Connect the hoses to your spray controller. Individual sections can be joined if you plan to run the boom all together.



### Wheely boom assembly instructions

To assemble the boom:

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The Wheely boom will be supplied partially disassembled from the factory. The spray tube will have been removed for transport. This will need to be reconnected to the frame using the four allen-head screws supplied.
3. Once reassembled, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying.
4. Attach the inlet spray hose to you spray pump and check your pressure and operation

## NOTE

Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.



## WARNING

Only use water when testing the boom for leaks.



Wheely boom fully assembled



Pressure gauge for setting operating pressure during spraying



Connect your inlet spray hose to the fitting on the back of the trigger shut-off assembly

## XP Boom Kit assembly instructions

To assemble the XP boom kit:

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The XP boom kit is supplied with a bracket with U-bolts supplied, two nozzle bodies assembled on a spray tube and an inlet fitting.

### NOTE

**Standard clamps and brackets are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate brackets to suit. The cost of any fabrication, or modification of the brackets supplied, will be the responsibility of the purchaser.**

3. Ensure your pump has adequate flow to supply enough pressure and flow to the XP nozzles you have chosen for your application. See the section "Use of the XP Boom Kit" for more information.
4. Once mounted, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying.

### NOTE

**The XP boom kit is NOT supplied with nozzles. The kit is for use with the B1 / 4 XP boomless nozzles from the TeeJet® range. You should ensure you choose the specific left & right XP Boomjets to suit your application and fit to your kit. For more information, talk to your Agronomist, Croplands Dealer or talk to Croplands Customer support.**

### NOTE

**Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.**



### WARNING

**Only use water when testing the boom for leaks.**



**VERTIBOOM assembly instructions**

To assemble the boom:

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The Vertiboom will be supplied partially assembled from the factory.

**NOTE**

The standard clamp and U-bolts are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate bracket to suit. The cost of any fabrication, or modification of the bracket supplied, will be the responsibility of the purchaser.

3. Once mounted, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying. As this boom is designed for higher pressure applications, ensure your pump has suitable pressure & flow to achieve atomization of the droplets. See the section "Use of the Vertiboom" for more information.



**Brackets for boom tubes**



**Main mount bracket with boom tube brackets fitted**



**Boom tube with nozzle holders and hose tail fitted for liquid input**



**Nozzles assembled in this order and attached to boom tubes**



**WARNING**

Only use water when testing the boom for leaks.

## MHL boom series assembly instructions

To assemble the boom:

1. Unpack the unit and check that nothing is missing or has been damaged in transit.
2. The MHL boom will be supplied with a separate instruction and set up manual with a BLUE cover. Refer to this manual for full set up and installation information.
3. The MHL Series booms will be supplied fully assembled from the factory.
4. Being a heavy boom with hydraulic functions, it is highly recommended the installation be done by your Authorised Croplands Dealer.
5. When mounting the boom, ensure a suitable crane or block & tackle lifting device is used to support the boom.

### NOTE

The standard clamp and U-bolts are supplied, however if being mounted to a sprayer other than a Croplands model, you or your Croplands dealer may need to fabricate bracket to suit. The cost of any fabrication, or modification of the bracket supplied, will be the responsibility of the purchaser.

6. Once mounted, ensure all boom hose connections are fully sealed and then tested using water to check for any leaks. Also check the nozzle bodies and caps for leaks before using the boom for spraying.
7. Ensure all hydraulic connections are thoroughly checked and tightened before using the hydraulic controls to operate the boom fold
8. Ensure all hinge points are greased (also see boom maintenance in section 10)

### NOTE

Whilst all precautions are taken in assembly and testing, it is possible that debris will remain in boom lines. This debris will collect in the nozzle filters (see picture below) and should be cleaned after your first testing of the boom using water.



### WARNING

Only use water when testing the boom for leaks.



## SECTION 6: PRECAUTIONS & INSTRUCTIONS DURING INSTALLATION & USE

### 1. MB02, MBX, MC6, MSC & MSCL, MSO series, Wheely boom, Vertiboom & XP Boom kits – installation & use

General safety advice during boom operation or mounting:-

The booms & boomless nozzle kits listed above are not heavy, therefore mounting, operating and doing height adjustments are not particularly dangerous. However, some basic rules should be followed when assembling the booms listed above:

1. More than one person should assist during mounting of the MBX, MC6 and MSO booms or making height adjustments to these booms. Lifting can result in injury if not carried out correctly. One person will not be able to lift, hold and tighten the boom brackets and bolts for the models mentioned.
2. There are pinch points on the folding MBX booms, MSCL/MSO and MSO booms; these are at the fold point as shown in fig. 1. (Example of MAX boom shown).
3. General spraying safety is covered on Section 3 – please ensure these rules are followed for safe spraying practice.
4. Always ensure there is no residual pressure remaining in the spray lines before undoing or checking hoses, nozzles, nozzle bodies or when flushing the boom



## WARNING

Always ensure there is no residual pressure remaining in the spray lines before undoing or checking hoses, nozzles, nozzle bodies or when flushing the boom.



**Folding point - keep hands well clear as this is a pinch point - injury could occur.**

## 2. MAX, GEX and MHL series manual fold booms – installation & use

These booms listed above are heavy, and in the case of the GEX and MHL Hydraulic fold booms, danger exists at the crush points where the hydraulic fold occurs.

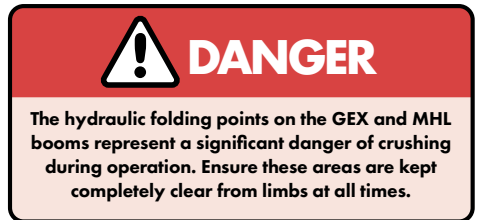
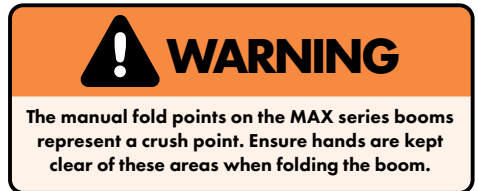
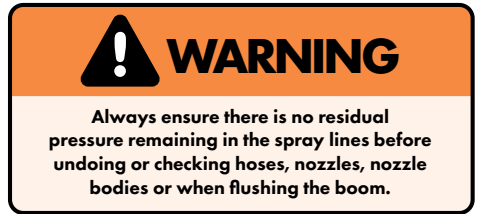
1. A crane or other suitable lifting device must be used to lift the hold the boom in place for mounting. It is highly recommended more than one person assist when mounting these booms to avoid lifting or crushing injuries.
2. There are crush points on the folding areas and the breakaway points as pictured in figs 1, 2, and 3.
3. The hydraulic fold points are a major crush point risk. Ensure these areas are kept completely clear during folding or unfolding operations.
4. General spraying safety is covered on Section 3 – please ensure these rules are followed for safe spraying practice.
5. Always ensure there is no residual pressure remaining in the spray lines before undoing or checking hoses, nozzles, nozzle bodies or when flushing the boom.



**Fig 1: MAX boom breakaway - crush point.**



**Fig 2: GEX boom fold point - keep hands clear during folding**



**Fig 3: Hydraulic fold points are dangerous crush points. Keep hands clear at all times**

### 3. Boom Self-levelling Device and operation & adjustment

For the MAX series boom, the self-leveling device is standard on the 12 metre, and optional on the 8 and 10 metre MAX booms.

The function of the self-leveling device is to allow the boom to remain parallel to the ground in areas where the tractor is riding over an undulating surface. This is common on rougher ground, pasture and fields where ruts, contours or dips exist or where humps and hollows are encountered during spraying. On smoother fields, the self-leveler may not be required. On side slopes, the self-leveler can be locked so that the boom follows the same angle as the tractor.

The self-leveler is a simple device, using two "hanging points" to allow the boom to swing off these points and therefore keeping the boom level.



**Fig:1 Shows the self-lever with the adjustable struts in place of the hanging points.**



**Fig 2: Shows a side view of the channel the boom runs in and the adjustable guides that keep the boom in the correct plane during operation.**



**Fig 3: Shows the locking pin for use on sloping ground.**

To adjust the hanging struts to ensure the boom is level on flat ground once your boom is mounted on your sprayer: (note – if your boom is factory fitted, this will have been done at the factory)



**Fig 4: Undo the locking nut on the lower end of the strut.**



**Fig 5: Rotate the adjustment sleeve with through-pin to adjust the strut either longer or shorter to level the boom.**



**Fig 6: Lock the adjustment sleeve in place with the lock nut.**



To adjust the free play in the boom guides if they wear (note, these will be factory set from new):



**Fig 7: Undo the nuts on each side of the guide.**



**Fig 8: Adjust the gap accordingly – ensure the guides do not “bind” the boom. Ideal clearance is around 1mm.**



**Fig 9: Do up the nuts to hold your new setting in place.**

**Grease all slides and hinge points.**

#### **4. Hydraulic Fold Operations – GEX and MHL booms, installation & use**

Each hydraulic fold GEX or MHL Hydralink boom will be supplied with hydraulic hoses with standard connections for tractor remote hydraulic input & output.

These are more often described by the tractor manufacturers as double acting spool valves with quick couplings. We will call them “tractor hydraulic remotes” for the purpose of describing their use for this manual.



**Fig 1: hydraulic hose connections to the tractor**

Standard, the boom will be supplied with one set of hydraulic hoses to allow the boom to fold all together. An option, if selected, will be to have 2 sets of hoses supplied to allow the boom to fold each arm individually.

This will have been selected as an option at the time you purchased your boom and/or Croplands sprayer.

For operation of the hydraulic fold function:

1. Ensure your tractor has the right number of hydraulic remotes for the number of fold and/or lift hoses and functions you have chosen.
2. Ensure your tractor remotes are clean and in good working order
3. Plug the boom fitting into the tractor remotes (see fig 1) ensuring the right pressure & return connection is selected. The hydraulic lines are colour coded to assist identifying which remote each hose should be plugged into.



4. Once firmly in place, read the tractor operating instructions on how to safely use the hydraulic functions and how to adjust the speed of the oil supply. Ensure any cable ties holding the boom closed are first removed (these may have been used to keep the boom closed for shipping).
5. Start the tractor and use the hydraulic controls of your tractor to unfold the boom. ENSURE your working area is clear before starting this process.
6. If the boom unfold/fold function is too fast or too slow, use your tractor instructions to speed up or slow down the hydraulic oil flow. Not all tractors will have this adjustment, however most modern tractors do. If your tractor does not, it may be the lever used for the hydraulic remote function may have to be carefully operated with incremental hand adjustments to get the fold/unfold speed to a satisfactory level. Note – if the boom is folded or unfolded too quickly, damage to the boom may result.

## NOTE

Folding or unfolding the boom too quickly may damage your boom.



## WARNING

Ensure the working area is clear before attempting to fold or unfold the boom!



## DANGER

NEVER fold or unfold the boom when near power lines. Fatal injury could result!



Use pins supplied on GEX boom to secure manual-fold outer wings



Outer wing pin in place to ensure outer arms are secure



When folding up outer arms, ensure the pins are used to secure the outer arm in the folded position


Your Hydralink MHL boom comes with a separate manual with more in-depth instructions about installation, adjustment, set up, maintenance and use. Please refer to this manual before using your Hydralink MHL boom.

In most cases, the Hydralink MHL boom will come fitted to a Croplands linkage or trailed sprayer, or will be installed for you by your dealer.

## 5. GEX outer arm fold – installation & use

The GEX series booms in 8 and 10 metre sizes have a manual fold outer arm. The inner fold is hydraulic (as described in the section above – “Hydraulic fold operation – GEX and MHL booms”).

1. To use the outer wing fold and unfold, simply take out the pin as shown on page 33 and manually unfold the arm
2. Lock the arm in place using the same pin to ensure it is secure
3. Operate the boom in this position during spraying
4. Reverse steps 1 & 2 to fold the outer arm

 **WARNING**

**If the outer arm is left in the unfolded position and the inner arm is hydraulically folded, ensure the area is clear. The boom arms are designed to use in this way provided care is taken during the process of lifting the boom arm. The boom is NOT designed to be fully folded with the outer arm in the unfolded position.**

 **DANGER**

**NEVER fold or unfold the boom when near power lines. Fatal injury could result!**

## 6. Boom lift device operation – installation & use

If your sprayer has a hydraulic boom lift device fitted, follow the same procedure for connecting the hydraulic hoses to your tractor as those described in the hydraulic boom section:

1. Ensure your tractor has the right number of hydraulic remotes for the number of fold and/or lift hoses and functions you have chosen.
2. Ensure your tractor remotes are clean and in good working order
3. Plug the lift hose fittings into the tractor remotes (as pictured on page 32) ensuring the correct pressure and return lines are selected. The hydraulic lines are colour coded to assist identifying which remote each hose should be plugged into.
4. Once firmly in place, read the tractor operating instructions on how to safely use the hydraulic functions and how to adjust the speed of the oil supply.
5. Start the tractor and use the hydraulic controls of your tractor to operate the boom lift. ENSURE your working area is clear before starting this process.
6. If the boom lift function is too fast or too slow, use your tractor instructions to speed up or slow down the hydraulic oil flow. Not all tractors will have this adjustment, however most modern tractors do. If your tractor does not, it may be the lever used for the hydraulic remote function may have to be carefully operated with incremental hand adjustments to get the fold/unfold speed to a satisfactory level. Note – if the boom lifted or lowered too quickly, damage to the boom and/or lift device may result.

## 7. Under-Tree, Firebreak, Shrouded & Wheely Booms operation

The MSO under-tree boom, MSCL and MSCL-2 shrouded booms, and the wheely boom are all specialised booms for specific applications.

1. The MSO under-tree boom is, as the name suggests, designed for spraying under trees for weed control and comes complete. It will need to be mounted on your sprayer or tractor. It is recommended that this be done by your Croplands Dealer or Croplands Service agent. If you have a workshop or are confident to fit the boom up yourself, it is not difficult. Please ensure you follow these basic steps:
  - a. Mount the boom using the mounting plate supplied (attached to the boom) and use suitable bolts to attach it to your sprayer or tractor
  - b. Hook up a suitable spray hose from your spray control unit (usually a pressure relief valve/pressure adjust controller) so that you can use a tap to turn the spray on and off from your tractor seat
  - c. Consult your agronomist or advisor to select the correct nozzles for your operation. A good idea is to use anti-drift nozzles such as the Croplands AirMix® range to cut down drift potential and possible damage to your trees as a result of drift
  - d. Adjust the height of the boom so it can spray under the tree canopy successfully

The MSO under tree boom has a breakaway as part of the design to avoid breaking the boom should the boom come in contact with a tree trunk or post. Also featured is some adjustment of the boom length.



### WARNING

**As with any spray application, ensure you follow all the instructions for use of the chemicals for the spraying job being performed, and that the operator wears appropriate protective clothing. See section 3 for more information on safety.**

For more help, please feel free to contact Croplands Technical support or visit [www.croplands.com.au](http://www.croplands.com.au)

2. The MSCL and MSCL-2 shrouded booms are designed to cut down the likelihood of spray drift. The usual applications for these booms are narrower spaced trees, grapes and other trellis-type crops grown on narrower rows. It is recommended the boom be fitted to your sprayer or vehicle by your Croplands Dealer or Croplands Service agent. If you have a workshop or are confident to fit the boom up yourself, it is not difficult. Please ensure you follow these basic steps:
  - a. Mount the boom using suitable clamps or u-bolts to attach it to your sprayer or vehicle
  - b. Hook up a suitable spray hose (or hoses for the double-sided MSCL boom) from your spray control unit (usually a pressure relief valve/pressure adjust controller) so that you can use a tap/taps to turn the spray on and off from your tractor seat

- c. Consult your agronomist or advisor to select the correct nozzles for your operation. A good idea is to use anti-drift nozzles such as the Croplands AirMix® range to cut down drift potential and possible damage to you trees as a result of drift
- d. Adjust the height of the boom so it can spray under the crop canopy successfully
- e. Adjust the width to allow you to spray your desired herbicide strip

The MSCL and MSCL-2 booms have a breakaway as part of the design to avoid breaking the boom should the boom come in contact with a tree trunk or post. Also featured is some adjustment of the boom length.



For more help, please feel free to contact Croplands Technical support or visit [www.croplands.com.au](http://www.croplands.com.au)

3. The Wheely boom is designed for golf courses and turf applications – most often it will be used for spraying greens and small turf areas, or bowling greens where higher rates of spray application are needed. It will be shipped partially unassembled; your Croplands dealer or service agent will put this together for you. It is designed to have a spray delivery hose connected to the handle, which includes an off/off lever so you can turn the flow of spray off as required while using the boom. Operate as follows:

- a. Hook the Wheely boom up to your pump and spray control unit and ensure you have enough hose length to allow the operator to walk over the area to be sprayed
- b. Once the wheely boom is ready to go, check first with water to ensure there are no leaks or blocked nozzles
- c. Operate the wheely boom at the desired height from the turf and keep a steady walking speed

For more help, please feel free to contact Croplands Technical support or visit [www.croplands.com.au](http://www.croplands.com.au)

## 8. Boomless nozzle kit

The Croplands Boomless nozzle kit is ideal for small sprayers and/or ATV or RTV vehicles where a boom is not practical. Typically, a boom will provide a more accurate spray application result, however boomless nozzles have improved in recent years and provide a solution where the conditions are rough or tricky to use a spray boom successfully.

Examples of where your boomless nozzle kit will be most useful:

- » Spraying firebreaks to keep the vegetation to a minimum
- » Around buildings and fences
- » Farm tracks and races
- » Rougher conditions where a spray boom may end up hitting the ground
- » Forest areas where a small vehicle such as an ATV may be useful and where vegetation needs to be controlled

The kit will come with a mounting plate and u-bolts to allow it to be mounted on a square or round tube such as the tray on an ATV or similar.

It is recommended the kit be fitted to your sprayer or vehicle by your Croplands Dealer or Croplands Service agent. If you have a workshop or are confident to fit the kit up yourself, it is not difficult.

Please ensure you follow these basic steps:

- a. Mount the kit using suitable clamps or u-bolts to attach it to your sprayer or vehicle
- b. Hook up a suitable spray hose from your spray control unit (usually a pressure relief valve/pressure adjust controller) so that you can use a tap/taps to turn the spray on and off from your control unit.
- c. Note – the boomless nozzle kit DOES NOT come with nozzles, these must be selected for the purpose you will be using the boomless nozzle kit for. As a rule, the smallest (#10) boomless nozzles should be used if you are using a 12-volt pump to supply the pressure & flow to your boomless nozzles. The minimum pump flow will need to be approximately 15 litres per minute (open flow). Ensure your pump has the capacity to successfully operate the boomless nozzle kit. Consult your Croplands Dealer or Service Agent for help in choosing the correct nozzles to come with your boomless nozzle kit.
- d. Adjust the height of the boomless nozzle kit so it can spray the width you require. Consult the TeeJet boomless nozzle chart to get more information on sprayed width at varying heights and spray pressures.



## WARNING

**As with any spray application, ensure you follow all the instructions for use of the chemicals for the spraying job being performed, and that the operator wears appropriate protective clothing. See section 3 for more information on safety.**

For more help, please feel free to contact Croplands Technical support or visit [www.croplands.com.au](http://www.croplands.com.au)

## 9. Vertiboom

The Croplands Vertiboom is designed for small sprayers for spraying vertical targets such as trellis grown fruit, grapes, outdoor nurseries and small trees. The Vertiboom is also designed for use at medium to high pressure (10 to 30 bar) so that atomisation of the droplets is sufficient through the nozzles themselves. If the spray pressure is too low, the resulting droplet spectrum will not provide adequate spray coverage of penetration into the canopy.

The Vertiboom is designed for crop protection products such as fungicides and insecticides – NOT for herbicides.

The Vertiboom has two boom tubes (left & right), which can be connected to the spray control unit so that each side can be shut off independently. The nozzles are adjustable for angle and spray pattern. The boom mount itself also has some adjustment for angle and width.

It is recommended the Vertiboom be fitted to your sprayer by your Croplands Dealer or Croplands Service agent. If you have a workshop or are confident to fit the kit up yourself, it is not difficult. Please ensure you follow these basic steps:

- a. Mount the kit using suitable clamps or u-bolts to attach it to your sprayer
- b. Hook up a suitable high-pressure spray hose from your spray control unit (usually a pressure relief valve/pressure adjust controller) so that you can use a tap/taps to turn the spray on and off from your control unit
- c. Test the spray pattern using water the first time you use it
- d. Adjust the height and width, along with the nozzle angles, to ensure you provide the best coverage possible during your spraying operation. You can consult the Croplands Vertiboom nozzle chart to get more information on nozzle outputs and spray rates. This can be found on the Croplands website under Vertiboom information.



### WARNING

**As with any spray application, ensure you follow all the instructions for use of the chemicals for the spraying job being performed, and that the operator wears appropriate protective clothing. See section 3 for more information on safety.**

For more help, please feel free to contact Croplands Technical support or visit [www.croplands.com.au](http://www.croplands.com.au)



### NOTE

**For boom drawings and parts information refer to [www.croplands.com.au](http://www.croplands.com.au)**

## SECTION 7: LIQUID PLUMBING & NOZZLES

The following tips provide general information for hooking up a Croplands Spray boom to your sprayer. If you have purchased a Croplands sprayer with the boom already fitted, all the mounting, testing and basic set up will have been done and your Croplands Dealer or service agent will have checked your sprayer before delivery.

General tips:

- » Use high quality Croplands spray hose with the correct pressure rating. Croplands spray hose is made to strict quality specifications – there are plenty of cheap spray hose suppliers but beware poor quality. A burst hose is not only extremely dangerous for the operator, but can cause delays in getting your spraying done when you need to
- » Use high quality hose clamps. Poor clamps will not last, will quickly rust and cannot be relied on to seal the hose connection
- » Use high quality hose connections – contact Croplands to see the range of quality fittings we supply to the market
- » Your spray boom will have been supplied with low-drift air-induction AirMix® nozzles and non-drip nozzle bodies\*. The AirMix® range, made in Germany, is market-leading for safe application. Croplands is committed to supplying good quality nozzles for a perfect spray job. If the nozzles supplied standard with you boom are not the right size for your application, your Croplands Dealer or service agent can assist to change the nozzles for you.
- » The next section will explain the basics of calibration – read this carefully to ensure you get the best out of your Croplands sprayer and/or spray boom and get good results from your spray application



### WARNING

**As with any spray application, ensure you follow all the instructions for use of the chemicals for the spraying job being performed, and that the operator wears appropriate protective clothing. See section 3 for more information on safety.**



### CAUTION

**Use good quality spray components when fitting or using your Croplands spray boom.**

It is highly recommended that when changing or upgrading nozzles, or deciding on application rates and how to spray your crops, that you consult a reputable and certified agronomist.

\*The vertiboom does not use low-drift nozzles, it will be fitted with ceramic atomizing nozzles as these are required for good spray coverage in vertical targets. The boomless nozzle kit also uses specifically designed nozzles that are not classified and low-drift.



**Airmix nozzles are fitted standard on Cropland's Optima Booms**

## SECTION 8: BOOM SPRAYER CALIBRATION

Each Croplands boom is fitted standard with non-drip nozzle bodies so that when the liquid flow is switched off, the bodies will not drip. Supplied on all Croplands' booms are AirMix air-induction ultra-low drift nozzles - now an industry standard to reduce the likelihood of spray drift.

The liquid flow to the boom can be stopped & started as required (such as when turning at headlands or where the operator does not want to spray) by using the spray control unit provided on the sprayer.

To ensure the right application of herbicide or crop protection product is applied to the target crop, the user should calibrate the AgriPak linkage sprayer to ensure the correct application rate is used for the chemical being used.

The information for the product to be applied (spray target rate and spray quality) is usually supplied by the chemical manufacturer on their product label. Alternatively, a trained agronomist should be consulted.

Part of the calibration process is to determine the flow required to meet the required target spray rate, and this information can be used to determine what speed of travel will best suit your application and what nozzle and spraying pressure to use.



### CAUTION

**Check the current Croplands Buyers Guide for Nozzle information, or purchase a copy of the Nufarm Spraywise™ Spray Application Guide.**



### WARNING

**Always only use clean water when calibrating or checking a sprayer. Never calibrate with chemical present in the tank. Failure to follow this instruction can lead to poisoning and serious illness.**

### Calibration

To accurately apply crop protection or herbicides through a spray boom, the following procedure should be undertaken.

1. Measure your speed of travel.
2. Check the nozzle spacing, and
3. Select an appropriate nozzle for the product being applied, and check nozzle output in Litres per minute (L/min), along with spraying pressure.



### CAUTION

**Do not operate a sprayer without calibration or before calibration has been completed. Failure to calibrate a sprayer before operating may result in ineffective or crop damaging spray application.**



## SECTION 9: MAINTENANCE

Maintaining your Croplands Spray boom is a simple process. Follow these basic guidelines.

### 1. For the “Cross-fold” MBX, MAX and GEX series booms:

- » Keep the fold and hinge points free of dirt and grease regularly to ensure they fold easily and provide the breakaway action should you hit any obstacles while spraying
- » Inspect the boom regularly for wear, cracks, rubbing hoses and any leaks
- » Replace any leaking nozzle bodies or fittings immediately to avoid issues with leaking chemicals
- » Check your nozzles for wear regularly. For smaller farms or agricultural holdings, an annual check will suffice. The calibration section provides some good reference for this
- » Flush your sprayer and spray boom after use. This will ensure the non-drip diaphragms in the nozzle bodies last longer and also that your fittings and boom tubes will not get a buildup of chemical residue
- » Periodically undo the boom tube blanking caps and flush the boom tubes. This will stop a buildup of residue in the boom tube ends
- » Drain the boom when not in use for any lengthy period. Liquid sitting in the tubes increases corrosion and if a frost occurs the boom tubes and fitting can split
- » Check that the boom mounts are tight periodically
- » Check and adjust the breakaway spring tension as required
- » Adjust the free-play in the self-leveling device if this is fitted to your boom
- » Clean and grease regularly
- » On the GEX boom, check the hydraulic fittings and hose periodically for signs of wear or corrosion

### 2. For the MSCL, MSCL-2, MC6 Firebreak and MSO under-tree booms & wheely boom:

- » Keep any fold and hinge points free of dirt and grease regularly to ensure they fold easily and provide the breakaway action should you hit any obstacles while spraying
- » Inspect the boom regularly for wear, cracks, rubbing hoses and any leaks
- » Replace any leaking nozzle bodies or fittings immediately to avoid issues with leaking chemicals
- » Check your nozzles for wear regularly. For smaller farms or agricultural holdings, an annual check will suffice. The calibration section provides some good reference for this
- » Flush your sprayer and spray boom after use. This will ensure the non-drip diaphragms in the nozzle bodies last longer and also that your fittings and boom tubes will not get a buildup of chemical residue
- » Periodically undo the boom tube blanking caps and flush the boom tubes. This will stop a buildup of residue in the boom tube ends
- » Drain the boom when not in use for any lengthy period. Liquid sitting in the tubes increases corrosion and if a frost occurs the boom tubes and fitting can split
- » Check that the boom mounts are tight periodically
- » Check and adjust the breakaway spring tension as required (if applicable)

### 3. For the Vertiboom:

- » Inspect the boom regularly for wear, cracks, rubbing hoses and any leaks
- » Check that the boom mounts are tight periodically
- » Flush your sprayer and spray boom after use

- » Drain the boom when not in use for any lengthy period. Liquid sitting in the tubes increases corrosion and if a frost occurs the boom tubes and fitting can split
- » Replace any leaking nozzle bodies or fittings immediately to avoid issues with leaking chemicals
- » Whilst the ceramic nozzles have excellent wear characteristics, fungicides and some insecticide formulations do wear nozzles more aggressively. It is recommended you check the nozzle flow against a nozzle chart on an annual basis to get an indication of the wear. If they are more than 10% out comparing to the nozzle chart, it will be time to replace the nozzles

#### 4. For the Boomless nozzle kit:

- » Inspect regularly for wear, rubbing hoses and any leaks
- » Replace any leaking nozzle bodies or fittings immediately to avoid issues with leaking chemicals
- » Check your nozzles for wear regularly. For smaller farms or agricultural holdings, an annual check will suffice. The calibration section provides some good reference for this
- » Flush your sprayer after use. This will ensure the non-drip diaphragms in the nozzle bodies last longer and also that your fittings and boom tubes will not get a buildup of chemical residue
- » Check that the boomless nozzle mounts are tight periodically

#### 5. For the MHL 12 and 15 metre Hydraulic fold boom:

- » Refer to the product specific manual provided.

### General Maintenance

For your Croplands spray boom, general maintenance is mostly common sense. Some areas to check regularly are shown below.



**For manual booms, check & grease breakaway hinge points during routine inspections.**



**For manual outer arm fold points, check free play and ensure these areas are cleaned and greased regularly.**



**For hydraulic fold booms, check grease points to keep fold pins lubricated check at least every 40 hours.**



Take the boom end caps off during regular maintenance to flush boom lines and ensure chemical does not build up.



Nozzle bodies should not leak, but if so check clamp screws and tighten if necessary.



Check areas where booms fold for rub points during regular inspections.



Check the diaphragm check valve on the non-drip nozzle bodies each spraying season. Unscrew and clean as required.



Check main boom mounts and tighten if necessary.



Check any hose to boom tube connections for leaking. Tighten if required.



Visually inspect hydraulic rams on hydraulic fold booms for leaking. Also inspect hoses for any rubbing or wear.

## NOTE

For boom drawings and parts information refer to [www.croplands.com.au](http://www.croplands.com.au)

# CROPLANDS

## **AUSTRALIA**

Croplands Equipment Pty Ltd  
ACN 006 450 184

PO Box 2441, Dry Creek  
50 Cavan Road, Dry Creek  
SA. 5094  
Australia

Freecall: 1800 999 162  
Freefax: 1800 623 778  
email: [sales@croplands.com.au](mailto:sales@croplands.com.au)  
website: [www.croplands.com.au](http://www.croplands.com.au)

## **NEW ZEALAND**

Croplands Equipment Ltd  
PO Box 2004,  
Storford Lodge, Hastings 4120

Location:  
1422 Omaha Road,  
Hastings 4120  
New Zealand

Freecall: 0800 106 898  
Freefax: 0800 117 711  
email: [sales@croplands.co.nz](mailto:sales@croplands.co.nz)  
website: [www.croplands.co.nz](http://www.croplands.co.nz)

Your nearest Croplands Dealer can be found in  
the dealer section on the Croplands website