In-Ex Agribooms 6m and 8m

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SAFETY PRECAUTIONS

In-Ex Agribooms 6m and 8m

AN IMPORTANT MESSAGE FOR OWNERS & OPERATORS OF In-Ex ATTACHMENTS/ACCESSORIES

Be warned of the dangers of loading your vehicle in excess of its carrying capacity.
It is important to understand that any loads or attachments whether fastened to or placed on a vehicle will alter the stability or handling characteristics of that vehicle.
Spray tanks or other equipment must be filled only to a level where the gross weight is within the load limit of the vehicle.

Safety is a primary concern in the design, manufacture, sale, and use of spray tanks and other equipment. As manufacturers of spray tanks and other equipment we want to confirm to you, our customers, our concern for safety. We take this opportunity to remind you about the simple, basic and common sense rules of safety when using spray tanks and other equipment. Failure to follow these rules can result in severe injury or death to operators and bystanders.

It is essential that everyone involved in the assembly, operation, transport, maintenance and storage of this equipment be aware, concerned, prudent and properly trained in safety.

This also applies to equipment that is loaned or rented to someone who has not read the owner's manual and is not familiar with the operation of application equipment.

- NEVER EXCEED THE LOAD LIMIT CAPACITY OF THE TRACTOR OR OTHER VEHICLE.
- ALL TRACTOR AND TRAILED EQUIPMENT TYRES SHOULD BE INFLATED TO MANUFACTURERS RECOMMENDED OPERATING PRESSURES.
- PLEASE NOTE THAT FILLING THE SPRAY TANK OR OTHER EQUIPMENT COMPLETELY AND OR THE ATTACHMENT OF ADDITIONAL EQUIPMENT TO THE TRACTOR MAY EXCEED THE TRACTOR'S MAXIMUM LOAD CAPACITY, AND ADVERSELY AFFECT THE STABILITY OF THE TRACTOR OR OTHER VEHICLE.
- CARGO SHOULD BE PROPERLY DISTRIBUTED AND SECURELY ATTACHED.
- REDUCE SPEED WHEN CARRYING CARGO OR PULLING A TRAILER OR TRAILED APPLICATION EQUIPMENT AND ALLOW GREATER DISTANCE FOR BRAKING.
- NEVER ALLOW ANYONE TO RIDE ON YOUR SPRAYER OR OTHER EQUIPMENT.
- ALWAYS FOLLOW THE INSTRUCTIONS IN THE OWNER'S VEHICLE MANUAL FOR CARRYING CARGO OR PULLING A TRAILER.
- PROPER MAINTENANCE IN LINE WITH MANUFACTURER'S RECOMMENDED MAINTENANCE PROCEDURES IS ESSENTIAL.
- BEFORE APPLYING CHEMICALS, READ THE LABEL OF THE CHEMICAL MANUFACTURER OR SUPPLIER FOR PERSONAL PROTECTIVE EQUIPMENT AND OPERATE AS RECOMMENDED.

THE SAFETY OF ALL CHEMICALS USED IN AGRICULTURE IS UNDER THE JURISDICTION OF A GOVERNMENT AGENCY, IE N.Z. MINISTRY FOR THE ENVIRONMENT.

CAUTIONS, WARNINGS and NOTES

Throughout this document, text has been highlighted as warnings, cautions and notes.

Warnings are mandatory instructions. Failure to comply with these instructions may result in injury or damage.

Cautions are advisory. Failure to comply may result in poor operation or premature failure.

Notes are to assist with convenient operation of the equipment.

SAFETY

Before attempting to install or operate the equipment, read and understand the manual thoroughly. Failure to comply with this instruction constitutes improper use and will invalidate the warranty.

Before using your pesticide, STOP, Read The Label

Mixing pesticides is a most dangerous time as it involves handling the concentrated material. For toxic compounds, use protective clothing such as overalls, hat, gloves, boots and respirator.

When using concentrated sprays, full protection is necessary.

When using diluted sprays, wear a hat, long-sleeved cotton overalls, and boots. If you use pesticides regularly, it is a good idea to always wear a respirator to avoid cumulative effect.

Other protection may be required. Check the label. It may have specific directions for the particular chemical.

Protective clothing should be properly cared for. Rinse heavily contaminated clothes in the open before washing in the laundry.

Wash and dry protective clothing every day, but keep them separate from other washing.

Respirators need special care. Clean your respirator after spraying. Use soapy water then rinse and allow drying completely before storing in a clean plastic bag. Replace canisters in respirator after eight hours use.

WARNING

To reduce the chance of VEHICLE instability, exercise EXTREME care while spraying on a slope or hillside.

DESCRIPTION

The In-Ex Agriboom is a light-weight crossover folding boom suitable for flatdeck, trailed or 3 point linkage mounting available in 6m and 8m variations (6Li, 8Li). The booms are manufactured of sturdy steel construction, have breakaway protection and are finished with zinc plated steel components and high pressure PVC gaspipe boom lines. All booms are fitted with flat fan nozzle tips and single non-drip check valve nozzle bodies as standard.

ORDER INFORMATION

Agriboom suitable for mounting to flat surfaces

Order	6Li	Pt.No. 1037
	8Li	Pt.No. 1038

WARRANTY

1 WARRANTY AND LIABILITY

Use of the equipment

1.1 You must satisfy yourself as to the suitability of the equipment for your intended use(s) of the equipment.

Your relationship with the retailer

1.2 Where you consider you have a warranty claim (or any other claim) in relation to the equipment, you must contact the retailer who sold you the equipment, not C-Dax directly. The retailer is responsible for liaising with C-Dax in respect of your claim.

Warranty

1.3 C-Dax warrants to the original purchaser that the equipment is sold free from defects in materials and workmanship for a period of 12 months from date of first retail sale (6 months from date of first retail sale if the equipment is sold in the U.K.) subject to the terms set out below.

1.4 C-Dax will at its option repair or replace the defective equipment (or part of the equipment) or notify the retailer of the equipment to refund the purchase price for such defective equipment to you in the event of a breach of this warranty, subject to the terms set out below.

Liability

1.5 Except for the warranty set out in clause 1.2 above, all warranties and representations (including those expressed or implied by law) in respect of the equipment or advice relating to the equipment provided to you by C-Dax are excluded to the extent permitted by law.

1.6 Notwithstanding anything else in this manual, C-Dax's maximum liability to you (in the event that such liability exists) in respect of any breach of warranty, any matter set out in this manual, or for defective equipment or advice relating to the equipment provided is limited at C-Dax's option to:

(a) repairing or replacing the equipment (or part of the equipment); or

(b) notifying the retailer of the equipment to refund the price for the equipment paid by you.

1.7 Notwithstanding anything else in this manual, in no event will C-Dax be liable, whether in contract, tort (including negligence) or otherwise:

(a) where you have altered or modified the equipment, misused or misapplied the equipment, or the equipment has been subjected to any unusual, excessive or non-recommended use, service or handling (including as set out in this manual);

(b) where the equipment is not transported, stored, handled or used in accordance with any directions given by C-Dax (or the retailer) to you (including as set out in this manual);

(c) where the equipment:

(i) has been subject to neglect, accident or hireage, or the damage arises from fair wear and tear, battery damage or chemical attack;

(ii) has been built to a customer's specifications; or

(iii) has been dismantled, repaired or serviced other than by an authorised service agent of C-Dax;

(d) for loss or damage caused by any factors beyond C-Dax's control; or

(e) for any loss of profit or revenue, or for any special, indirect, incidental or consequential damage, loss or injury of any kind suffered by you.

1.8 Where C-Dax elects to repair or replace the equipment it will use reasonable endeavours to do so as soon as practicable but will not be liable for any delay in doing so.

1.9 You agree that the transactions entered into between you and the retailer (and C-Dax) are for the purposes of trade and that, having regard to all relevant circumstances of the transactions, it is fair and reasonable that the provisions of the Consumer Guarantees Act 1993 (NZ) do not apply to those transactions to the fullest extent permitted by law.

BOOM INSTALLATION

Fit boom spacer brackets to rear of sprayer frame. Fit boom to spacer brackets. Secure all brackets using fasteners provided.

Boom Height
Minimum recommended boom height above the **target** is 50cm for 110^0 nozzles (standard). Test the evenness of distribution by spraying an area of dry concrete with clean water. The surface must dry evenly. If the target is above ground level, raise the boom height accordingly.

Plumbing
Connect the boom delivery line to a spare outlet port on the sprayer pressure regulator, secure with hose clamps provided.

THEORY OF OPERATION

Spray fluid is placed in the tank where it is drawn through a suction filter and pumped to a control valve. The excess flow from the valve is returned to the tank via the bypass hose. Fluid at a pressure of 1-4 bar (nominally) is pumped to the spray tips via nozzle tip strainers. At the spray tip, fluid is atomized at the spraying pressure and the fluid is propelled toward the target at the tip angle (110° nominally). Droplet size is controlled by the spraying pressure.

OPERATION

With water in the spray tank, fold the boom out. Open the dump valve on regulator. Turn on the pump and ensure hoses and lines are free of kinks and blockages. Close the dump valve on the regulator and allow time for the air to be expelled from the hoses and lines. With the pump still on, set the pressure in the spray line to approximately 30 psi (2 bar), by turning the pressure adjustment knob on the control unit. Water should flow evenly out of the spray tips. The nozzles will form droplets thus creating the spray, drive forward at the required operating speed across target area.

CALIBRATING YOUR PRESSURE NOZZLE BOOM

Metric Version (litres, metres, kph)
(*Standard nozzle spacing 0.5 metres)

You will need to calibrate your sprayer to ensure the accurate application of chemical or liquid fertilizer. If too much chemical or liquid fertilizer is applied you will be wasting money! If too little is applied you may need to repeat the spraying, which will be wasting your money and time!

Chemicals are expensive. Repeat calibration frequently during the seasons to avoid disappointment.

To calibrate your sprayer you will need:

a) nozzle calibrator or an accurate measuring flask
b) watch or clock with seconds, or a stopwatch
c) tape-measure
d) calculator

NOTE: “Chemical “ also refers to liquid fertilizers.

1. Measure time taken to travel 100m at the speed used for spraying

NOTE
Maximum Recommended Spraying Speed is 12 Kph.

2. Run Sprayer and record output from each nozzle (in mls) for the same time it took to travel 100m.

   Calculate average flow per nozzle.
   Ie. Add individual nozzle output and divide by number of nozzles.

NOTE
Check any nozzle tip that is out by ± 5%
Discard any nozzle tip that is out by ± 10%

3. Litres/ha = $\frac{\text{Average Nozzle output (ml/nozzle) x 100}}{\text{500 nozzle spacing (mm)}}$

4. Chemical to add to tank

$$\text{Litres of Chemical} = \frac{\text{Water in Tank (L) x Label chemical rate/ha}}{\text{L/ha (application Rate)}}$$

HINT: If you want to spray one hectare, but a tank load covers two, then simply put in half the amount of chemical and water in the tank. Similarly if you want to spray half a hectare and a tank load covers two, then quarter the amount of chemical and water in the tank, and so on.

For future reference enter your sprayer details in the calibration table on the following page.

CALIBRATION CHART

NOTES (chemical / field etc)	STEP 1 Application Rate of Chemical (litre/kilo per hectare)	STEP 2 Tank Volume (litres)	STEP 3 Forward Speed (KPH)	STEP 4 Average Nozzle Flow Rate (litres per minute)	STEP 5 Area Covered Per Tank (hectares)	STEP 6 Chemical Per Tank Load (litres/kilograms)	STEP 7 Application Rate of Spray (litres per hectare)
EXAMPLE 1	1	600	8	.95	4.2	4.2	142
EXAMPLE 2	2	1000	10	.7	11.9	23.8	84
EXAMPLE 3	4	1000	12	0.1	10	40	100

Select Tip Size

There are several size tips available depending on the type of spray pattern required and the amount of spray fluid required to be applied. All spray tips supplied by In-Ex conform to an international standard for tip size and colour coding. Use the spray tip chart on the following page to select the required tip size for your application.

SPRAY TIP CALIBRATION TABLE

Tip Ref Code	Pressure Bar	Flow L/min	6kph	8kph	10kph	12kph	14kph	16kph	18kph
110-SF-01 Orange	2.0	0.33	66	50	40	33	28	25	22
	2.5	0.37	74	56	44	37	32	28	25
	3.0	0.40	80	60	48	40	34	30	27
	3.5	0.43	86	65	52	43	37	32	29
	4.0	0.46	92	69	55	46	39	35	31
110-SF-015 Green	2.0	0.49	98	74	59	49	42	37	33
	2.5	0.55	110	83	66	55	47	41	37
	3.0	0.60	120	90	72	60	51	45	40
	3.5	0.65	130	98	78	65	56	49	43
	4.0	0.69	138	104	83	69	59	52	46
110-SF-02 Yellow	2.0	0.65	130	98	78	65	56	49	43
	2.5	0.73	146	110	88	73	63	55	49
	3.0	0.80	160	120	96	80	69	60	53
	3.5	0.86	172	129	103	86	74	65	57
	4.0	0.92	184	138	110	92	79	69	61
110-SF-03 Blue	2.0	0.98	196	147	118	98	84	74	65
	2.5	1.10	220	165	132	110	94	83	73
	3.0	1.20	240	180	144	120	103	90	80
	3.5	1.30	260	195	156	130	111	98	87
	4.0	1.39	278	209	167	139	119	104	93
110-SF-04 Red	2.0	1.31	262	197	157	131	112	98	87
	2.5	1.46	292	219	175	146	125	110	97
	3.0	1.60	320	240	192	160	137	120	107
	3.5	1.73	346	260	208	173	148	130	115
	4.0	1.85	370	278	222	185	159	139	123
110-SF-05 Brown	2.0	1.63	326	245	196	163	140	122	109
	2.5	1.83	366	275	220	183	157	137	122
	3.0	2.0	400	300	240	200	171	150	133
	3.5	2.16	432	324	259	216	185	162	144
	4.0	2.31	462	347	277	231	198	173	154

110-SF-06 Grey	2.0	1.96	392	294	235	196	168	147	131
	2.5	2.20	440	330	264	220	189	165	147
	3.0	2.40	480	360	288	240	206	180	160
	3.5	2.60	520	390	312	260	223	195	173
	4.0	2.80	560	420	336	280	240	210	187
110-SF-08 White	2.0	2.61	522	392	313	261	224	196	174
	2.5	2.92	584	438	350	292	250	219	195
	3.0	3.20	640	480	384	320	274	240	213
	3.5	3.46	692	519	415	346	297	259	231
	4.0	3.70	740	555	444	370	317	277	247

MAINTENANCE

After Use

At the end of spraying, flush the system three times with fresh water. Finish with a final rinse using a neutralizing rinse. Remove the strainer basket under the lid of the sprayer, rinse and refit. Remove the main filter element, clean and replace, ensuring that the filter bowl ‘O’ ring is in place, and the bowl nut is tight. Clean the outside of the sprayer to remove any spray residue. Remove and rinse the nozzle tip filters.

Routinely

Check the spray tip patterns for wear, replace if necessary. Calibrate the boom (every 100Ha). Lubricate any moving boom parts. Check spray hoses for kinks or damage, replace if necessary.

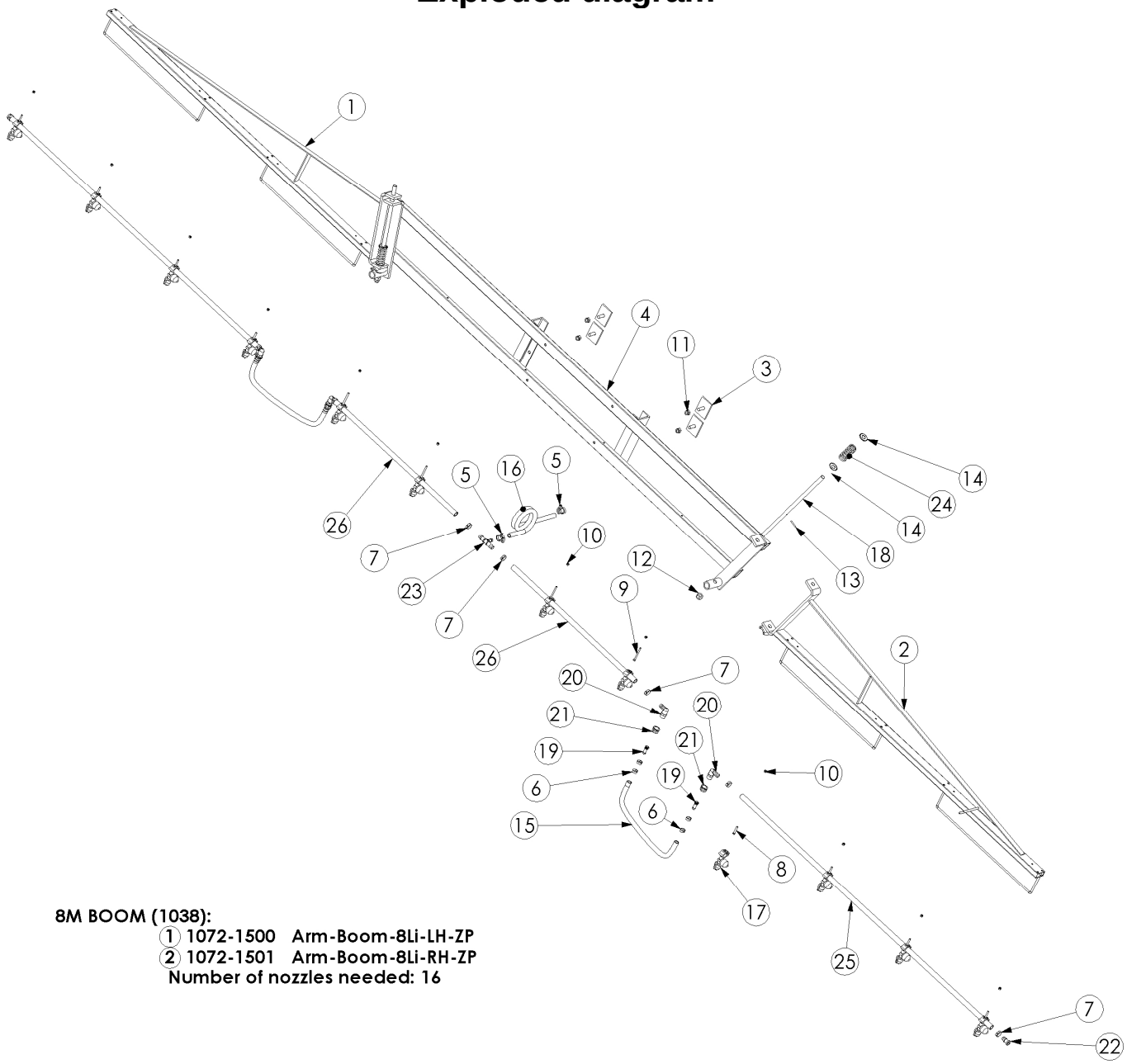
Annually

Replace spray tips. Lubricate the break away joints with good quality grease.

Filters

Check all filters after the first four hours of use, then at the end of each spraying session, more regularly depending on the water supply and chemicals used.

Exploded diagram



8M BOOM (1038):

1 1072-1500 Arm-Boom-8Li-LH-ZP

2 1072-1501 Arm-Boom-8Li-RH-ZP

Number of nozzles needed: 16

Parts List

Item No.	QTY.	e9 part no	e9 description
1	1	1072-1400	Arm-Boom-6Li-LH-ZP
2	1	1072-1401	Arm-Boom-6Li-RH-ZP
3	4	1300-1350	Bracket-Boom Attachment-60x80-ZP
4	1	1900-0500	Centre-Boom-Agriboom-ZP
5	2	2000-0018	Clamp-Hose-Herbi-H-Ratchet-18.1<>20.6mm-Black-Nylon
6	8	2000-2019	Clamp-Hose-Oetiker-Single Ear Stepless-19.4<>22.6mm-S/S
7	8	2000-2021	Clamp-Hose-Oetiker-Single Ear Stepless-20.9<>24.1mm-S/S
8	8	2840-0635	Fastener-Bolt-Hex-8.8 Grade-M6x35-ZP
9	4	2840-0665	Fastener-Bolt-Hex-8.8 Grade-M6x65-ZP
10	12	3170-0006	Fastener-Nut-Nyloc-M6-ZP
11	4	3170-0012	Fastener-Nut-Nyloc-M12-ZP
12	2	3170-0016	Fastener-Nut-Nyloc-M16-ZP
13	2	3205-0400	Fastener-Pin-Roll-3/16"x1 1/4"-Black Steel
14	4	3310-0016	Fastener-Washer-Cup-M16-Pressed-ZP
15	2	4100-0013	Hose-Spray-Delivery-40 Bar-13mm ID-Yellow (0.75m)
16	1	4100-0013	Hose-Spray-Delivery-40 Bar-13mm ID-Yellow (3m)
17	12	5300-1011	Nozzle Assembly-DCV-Quick connect-WITH TIP (Specify 03 when ordering)
18	2	6100-4010	Pin-Hinge-16x450mm-Agriboom-ZP
19	4	6200-1650	Pipe-Fitting-Connector-Straight-13 Shank-Incl 1/2BSPF Fly Nut-Brass
20	4	6200-2490	Pipe-Fitting-Elbow-16 Shankx1/2NPTM-Hose Shank-Nylon
21	4	6200-5485	Pipe-Fitting-Nut-Fly-1/2BSPF-Black-Plastic
22	2	6200-6250	Pipe-Fitting-Plug-Push In-Barbed Shank-16mm-Plastic-Black
23	1	6200-9190	Pipe-Fitting-Tee-16 Shankx13 Shankx16 Shank-Plastic
24	2	8250-1710	Spring-Compression-Boom-SL-ZP
25	2	8840-3715	Tube-Gas-Semi Rigid-15mm ID-Yellow-Polyethylene (1.6m)
26	2	8840-3715	Tube-Gas-Semi Rigid-15mm ID-Yellow-Polyethylene (0.8m)