SUMO

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C U L T I V A T O R

Operator Manual

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Melbourne, York YO42 4RG.
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Introduction

Thank you for purchasing your new Sumo machine. We at Sumo pride ourselves in our ability to produce compact, heavy duty and quality machinery. We hope you enjoy our products and that it helps improve your productivity in every way. For any further enquiries about additional products, optional extras or spares, please contact your local dealership/representative, or alternatively contact us directly using the contact details given on the cover page.

This Operators Manual is a comprehensive formulation of the directives and obligations necessary to be undertaken before and after any operation is performed, including maintenance and storage. It is important that each operator reads and understands this manual completely before trying to use the associated machine. This will reduce the chance of injury to both the user and persons around the machine, as well as reducing the likelihood of machine misuse which could result in part failure and/or significantly reduce the service life of the machine. Sumo will not accept liability for any injuries or damage caused from negligence, use in extreme conditions, or failing to comply with the instructions within this manual.

These machines have been designed to take Sumo manufactured spares; non-genuine parts/accessories/modifications may damage the machine as they are untested and not recommended for use with the Sumo machine. Sumo will not honour warranty claims if deemed to be caused using non-genuine parts or accessories. Conversions of/ or modifications to the machine may only be carried out after consultation with Sumo.

As well as reading the instructions of operation contained within this manual, a trained technician or dealer should also instruct you on the correct and safe use of the machine and maintenance of the machine to ensure a long service life.

Training by Sumo is required for the following operations; loading for truck transportation, commissioning of new machines, advanced troubleshooting and repair. Any repair work to structural components of the machine must be carried out by Sumo or a workshop approved by Sumo, otherwise the warranty will be invalidated.

Please note, specifications, descriptions and illustrations in this manual are accurate, at the time of publication but may be subject to change. If you notice any discrepancy and are in need of clarification, please contact us using the details given previously.

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1. Safety

The following warnings and safety instructions apply to all sections of these operating manual and should be read/considered in conjunction. The machine has been designed and manufactured to meet all the relevant safety regulations. These regulations along with the instructions provided within this manual are designed to help minimise the risk of injury to yourself and others around the machine at all times. Failure to comply with the safety obligations herein can result in any claims for failed machines/components, warranty, or damages being made void.

Please read **ALL** these safety instructions prior to the use of the machine to prevent safety issues or potential machine damage through incorrect use.

The designations “left”, “right”, “front” and “rear” refer to the direction of travel, as seen in the direction of travel, as the operator is sat in the driving seat looking forward.

1.1 Qualification & Training

Use of the machine by untrained operators can lead to injury or even death. To prevent accidents occurring ensure that operators have been trained by a Sumo dealer or technician. The following requirements must be met:

- Personnel must be of statutory minimum age in the country of operation.
- Ensure only reliable, authorised persons operate or work on the maintenance of the machine.
- Employ only trained or instructed staff; the individual responsibilities of the personnel concerning operation, setting up, maintenance and repair must be clearly established.
- Persons undergoing training or instruction or taking part in a general training course should not be allowed to work on or with the machine unless they are under the constant supervision of an experienced person.
- The person has read and understood these instructions in full.
- The person is fully competent/legally licensed in operating the machine towing the equipment.
- All Local traffic laws are understood and abided by.
- A person being instructed on the use of the machine must be done so under the instruction of a trained individual.

It is the sole responsibility of the owner of the machine to ensure all requirements are met by any individual intended to use/maintain/repair/transport the machine, including official training by an authorised trainer, having read and understood this manual in full, their area of responsibility, and Local Laws, Legislation & Regulations Standards.

Training by Sumo is required for the following operations; loading for truck transportation, commissioning of new machines, advanced troubleshooting and repair.

Any repair work to structural components of the machine must be carried out by a workshop approved by Sumo, otherwise the warranty will be invalidated.

1.2 General Safety

It is the responsibility of the owner/user to ensure a safe working environment, not only for themselves, but those around them. The following instructions are advised to help ensure this is made possible.

Due to the nature of Sumo machines, the entire machine and surrounding area is classified as a **Danger Zone**, and the following instructions must be followed:

- Warning signs and other notices on the machine provide important information for safe operation. Observing and following them will serve your safety. Ensure they are clean, undamaged and clearly visible at all times.
- To avoid serious injury, ensure tractor keys are removed before making any adjustments or maintenance.
- With the drive still running/turned off, machine parts may fall, rotate or swing out. Ensure to stay clear of any risk area.
- Never allow anyone to stand, beside or behind the stationary machine, or whilst attached to a tractor, unless it is fully secured against rolling away by means of parking brake and/or wheel chocks. Even then all safety precautions herein must be followed.
- Before starting work, make yourself familiar with all the equipment and controls as well as their functions.
- The user should wear all necessary PPE as described in the PPE section of this manual.
- Adhere to all maintenance instructions given within this manual.
- Avoid any finger traps.
- Keep the machine and the bearings clean to avoid risk of fire.
- Maintain the upkeep of any electronics. Defective, incorrectly fastened electric lines, exposed wires can cause electric shocks.
- Remain vigilant around the machine at all times, hydraulically raised machine parts can lower slowly and unnoticed.
- It is expressly **Forbidden** for anyone to ride on our machines at any time.
- Never stand under the machine or lifted loads. Lower to the ground first.
- Machines should never be parked, folded or unfolded, or accessed in the presence of overhead power lines or pylons to ensure no flashover is possible. Special care should also be taken when manoeuvring nearby, folding or unfolding to ensure no contact is made.

- Instruct persons to leave the danger zone around the machine and tractor.
- Before working in the danger zone of the machine or between machine and tractor: **Shut down the tractor!** This also applies for short-term inspection work. Many accidents happen because of carelessness and running machines!
- Accidental operation of the hydraulic system can trigger dangerous movements of the machine.
- Failing to pay attention to the danger zone can result in severe or even fatal physical injuries.
- Check around the machine before moving off or starting up (Watch out for children or animals!). Make sure you have adequate all-round visibility.
- Always match your speed to the local conditions. Avoid any sudden acceleration or turning manoeuvres when driving uphill or downhill or when travelling across a slope.
- Consider the length, the wide overhang, the folded height and the sideways force acting on the machine when turning or negotiating curves.
- Ensure all transportation guidelines are followed within this manual.
- Ensure Sumo machines are only used for their intended use as outlined in this manual.

Young persons are less able to react to danger and are unlikely to have enough experience to react to situations and therefore should be kept well clear of the operating zone of the machine. Children should **Not** be left in/on the tractor/machine even when the machine has been shut down as hydraulics can still be operated if they are a mechanical spool. The minimum age of children riding on agricultural equipment locally in the country of operation must be adhered to. Sumo does not permit **Anyone** to ride its machines at any point, trained or untrained.

1.3 Personal Protective Equipment (PPE)

To protect the user and persons surrounding the machine during operation/maintenance suitable PPE must be worn:

- Tight fitting clothes or overalls, ensuring no loose clothing is able to get caught in the machine while it is in operation, this includes long hair, which should be tied up or placed in a hair net.
- Suitable footwear, steel toe capped shoes/boots, especially during the lowering, detachment or adjustment of any machine/feature.
- Eye protection such as safety glasses or goggles during general usage and especially when changing wearing components as these may be under pressure and can release suddenly, and when working with hydraulic components as the pressure may not have been released properly and could release suddenly.
- Jewellery such as rings, necklaces, bracelets and watches should not be worn while operating/maintaining this machine as it can get caught and cause further injury.
- Suitable hand protection, specifically during adjustment, maintenance, and when attaching the machine to a tractor as hydraulic oil can cause injury if it is under pressure as it can pierce the skin and cause serious health problems if it enters the blood stream.

As a general rule, Sumo advise all PPE to be worn at all times, just to be safe.

1.4 Warning Symbols

Warning/Safety stickers have been positioned on the machine to warn of dangerous points and are an important part of the safety equipment of the machine. Missing safety stickers increase the risk of severe or even fatal physical injuries. It is crucial that all operators and spectators abide and understand them.

Before any operation, and a standard maintenance regime, ensure all warning/sticks are clean, undamaged and clearly visible.

The following is a general pictorial and description key for each warning/sticker typically used by Sumo. If there are any warning/stickers you are unsure of, or you think maybe be missing, either on the machine or in this manual, make sure to contact Sumo or a local dealership before taking any further action.

Warning/Safety Labels:

Stop Engine!

Consult Operation Manual Before Continuing.

Risk of falling.

No riding on machines

Risk of crush.

Stay clear of unfolding and/or swinging elements

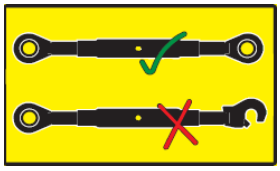
Warning!

Ensure rear discs are in down and clear of tyres position before folding and unfolding

Never reach in to working parts. Risk of crush

Grease Daily.

Failure to do so may diminish the life service of the machine or cause faults.



Closed top link only.

Do not use Open Top Link.

Never reach in to working parts. Risk of crush injury.

Shear Pin Machines Only!

Advance new replacement shear pin through two extra positions on this leg

Keep Fingers Clear!
Change leg depth from underneath.

Stay clear of machine while manoeuvring, stationary but unsupported, and/or working.

Caution!
Read manual carefully.

Warning!
Ensure stands are raised and safety link is removed before unfolding. Failure to do so will result in damage to the wings.

2. Product Summary & Machine Identification

This section of the manual is designed to outline the basic machine range summary's, intend use outline, and machine variants/identification. This information is accurate, as known, at the point of publication but is also subject to change at Sumo's discretion.

For a more detailed descriptions, specifications & technical details - see www.sumo1.com, or consult the correlating Machine Manual & Parts Book.

2.1 Summary Description

The following are brief summaries for each machine type, outlining the design concept and intended use.

Trio - The Trio is a one pass seed bed preparation machine, designed to alleviate sub-surface compaction and mix stubble and soil, leaving a level surface ready for seeding.

Quatro - The Quatro is a versatile, one pass, minimum tillage cultivator with four elements that can be fine-tuned to adapt to a variety of conditions.

Vaxio - The Vaxio is a versatile high-speed cultivator which combines surface cultivation and loosening to a depth with even levelling and consolidation in one pass.

Multipress - The Multipress is a versatile machine designed for tilling, levelling and pressing on a wide variety of conditions.

Mixidisc - The Mixidisc is a high-speed multipurpose cultivator designed for tilling, levelling and incorporating large volumes of crop and residue.

LDS - The Low Disturbance Subsoiler (LDS) alleviates compaction with minimal surface disturbance.

GLS - The Grassland Subsoiler (GLS) improves and revitalises compacted grassland that is suffering from the effects of continual heavy machinery, livestock and rainfall.

Subsoiler - The Subsoiler is a heavy-duty, robust machine which enables the loosening and consolidation of compact soil conditions.

Rippa - The Rippa is a heavy-duty deep cultivation tool designed to rip up the land, aiding aeration of the soil.

Strake - The Strake is a high-speed straw rake used for creating a stale seed bed. An essential machine for effective use of minimum tilling and direct drilling.

Front Multipacka - The Front Multipacka is a heavy-duty machine that breaks up the soil and creates an even consolidation, as well as having the benefit of acting like a front weight.

CCT - The Close Coupled Toolbar alleviates compaction with minimal surface disturbance, whilst seated between a tractor a rear mounted implement / machine.

T-Press - The T-Press is a versatile machine designed for tilling, levelling and pressing on a wide variety of conditions.

2.2 Intended Use

Based off the Summary Descriptions previous, Sumo machines are intended to be used for normal soil cultivation in agricultural practices associated with those requirements only.

Any use outside of the intended use/summary description of the machine can lead to injury to persons operating or within the area of the machine and can also lead to the warranty being invalidating. Sumo accepts no liability for the actions or use of any operative not employed by Sumo UK Ltd.

Any faults with the machine should be rectified prior to use. Faults can cause safety issues and can also cause the machine to work in an unsatisfactory manner.

Only qualified persons, as outlined in the Qualifications and Training section of the manual, may operate this machine.

2.3 Machine Identification

The following is a blank picture of the serial plate attached to the front of every machine:

To identify your machine, find your serial plate and cross-reference the details with the Technical Data that follows.

Note: It is important when talking to a Sumo representative that you provide the year of manufacture in order to ensure clarity of the machine being discussed, as different years may have slight or major design variations.

2.4 Technical Data

The following collection of tables denote the different machines available in each range of Sumo products, and include the basic collection of technical data applicable to those machines. For a more detailed technical data, see the correlating Machine Manual & Parts Book.

Note: All dimensions hereafter are approximate and in metric. Length, width and height dimensions refer specifically to the machine whilst in its required transport positions, see Machine Manual & Part Books. All weights are based on standard machines without any additions, modifications or loads. All machines are subject to fabrication and assembly tolerances and could vary slightly from values given. Lengths and Height have been omitted from all Mounted machines as the value is entirely dependent on the connected tractor.

Machine Type Key:

Mounted = Machine mounted directly to a Tractor.

Rigid = Trailed Machine that does not fold.

Folding = Trailed/Mounted Machine that hydraulically folds.

Trio Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
TR2.5SP	Mounted	2.4	-	2.55	-	2468
TR2.5AR	Mounted	2.4	-	2.55	-	2515
TR3SP	Mounted	2.9	-	3	-	2795
TR3AR	Mounted	2.9	-	3	-	2855
TR3.5AR	Mounted	3.4	-	3.5	-	3070
TTR3AR	Rigid	3	7.6	3.25	2.2	4220
TTR3.5AR	Rigid	3.5	7.6	3.75	2.2	4706
TRF4.5AR	Folding	4.5	8	2.9	2.64	8631
TRF5.5AR	Folding	5.5	8	2.9	3.14	9101
TRF6.5AR	Folding	6.5	8	2.9	3.64	10025

Quatro Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
Q3	Rigid	3	9.05	3.25	2.17	5930
Q4	Folding	4	10.4	3	3.56	10210
Q5	Folding	5	10.4	3	3.94	11965
Q6	Folding	6	10.4	3	3.96	12958

Vaxio Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
V4	Folding	4	8.76	3	3.27	7380
V5	Folding	5	8.76	3	3.77	8352
V6	Folding	6	8.76	3	3.94	9224

Multipress Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
MUL3	Mounted	3	-	3	-	2440
MUL5	Folding	5	7.91	3	3.35	6950
MUL6	Folding	6	7.91	3	3.59	7770

Mixidisc Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
MIX3	Mounted	3	-	3	-	2010
MIX4	Folding	4	-	2.8	-	3220
TMIX5	Folding	5	7.7	3	3.36	6860
TMIX6	Folding	6	7.7	3	3.86	7985
TMIX7	Folding	7	7.7	3	4	9005

LDS Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
LDS3FAR	Mounted	3	-	3.1	-	2170
LDS3RAR	Mounted	3	-	3.1	-	2450
LDS3MAR	Mounted	3	-	3.1	-	2450
LDS4FAR	Folding	4	-	2.9	-	3085
LDS4RAR	Folding	4	-	2.9	-	3315
LDS4MAR	Folding	4	-	2.9	-	3315
LDS5FAR	Folding	5	-	2.9	-	3645
LDS5RAR	Folding	5	-	2.9	-	3990
LDS5MAR	Folding	5	-	2.9	-	3990
LDS5TM	Folding	5	7.47	3	2.9	10300
LDS6TM	Folding	6	7.47	3	3.3	11150

Note: Based on the packer bought: FAR = Flat, RAR = Rings, MAR = Multipacka. TM = Trailed Multipacka. See Packer section of this manual for more details.

GLS Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
GLS3AR	Mounted	2.3	-	2.5	-	1490
GLS4AR	Folding	2.3	-	2.5	-	1625
GLS5AR	Folding	2.3	-	2.9	-	1875

Subsoiler Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
S3SP	Mounted	2.7	-	3	-	2200
S3AR	Mounted	2.7	-	3	-	2480
S4SP	Folding	2.8	-	3	-	2360
S4AR	Folding	2.8	-	3	-	2575
S5SP	Folding	3.4	-	3.6	-	3000
S5AR	Folding	3.4	-	3.6	-	3250
SF7SP	Folding	4.7	8.7	2.9	2.9	7204
SF7AR	Folding	4.7	8.7	2.9	2.9	8014
SF9SP	Folding	5.9	9.1	2.9	3.3	8248
SF9AR	Folding	5.9	9.1	2.9	3.3	8818

Note: SP = Shear Pin, AR = Auto Reset. See adjustments section of this manual for more details.

Rippa Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
R3	Mounted	3	-	3	-	1425
R4F	Folding	4	-	3	-	2820
R6F	Folding	6	-	3	-	3240

Strake Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
S6	Folding	6.1	-	2.8	-	2435
S8	Folding	8.1	-	2.8	-	3100
S12	Folding	12.1		3		7950

CCT Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
CCT3	Mounted	3	-	2.83	-	1410
CCT4	Mounted	4	-	3.15	-	1870
CCT6	Mounted	6	-	3.15	-	2650

T-Press Range

Code	Machine Type	Working Width (m)	Length (m)	Width (m)	Height (m)	Weight (kg)
TPS4	Folding	4	7.1	2.8	2.85	6400
TPS6	Folding	6	7.1	2.8	3.84	7700

3. Preparation & Set Up

The following statements apply to the full range of Sumo cultivators. For an overview of your specific machine, see associated Machine Manual and Parts Book in conjunction with these instructions.

3.1 Pre-Check & System Overview

Before performing any other action on a Sumo machine, always check the following:

- Check the machine for worn or loose parts, mechanical and structural integrity, hydraulic leaks, exposed or corroded wires, warning label cleanliness and clarity.
- Maintenance programme carried out in line with schedule.

Faulty equipment can lead to damage to the machine or injury to persons. Always be diligent and ensure the machine is in perfect condition before use.

3.2 Hitching & Tractor Connection

Faulty hitching up of the machine to the tractor causes dangers, which could result in severe accidents. Hitching and unhitching of the machine should only take place on a secure and level surface with chocks placed under the wheels of trailed machines to prevent the machine from rolling away.

General Safety

Familiarise yourself with the machine and all safety guidelines/regulations given in this manual, industrial standards, and safe work practices, before attempting any hitching of Sumo Machines.

Never allow anyone to stand between the tractor and the Sumo machine whilst the tractor is manoeuvring into position. Only once the tractor is in position and secured against rolling away, by means of parking brake and/or wheel chocks, can the operator/third party secure the machine to the tractor.

Ensure the wings are either in the fully up ‘transport’ position or fully down in the “work” position before uncoupling from the tractor. The machine should always remain secured to the tractor when the wings are anywhere between fully up and fully down.

Always ensure tractor hydraulics are depressurised before attempting hydraulic connection.

Types of Hitch

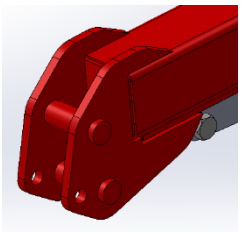
Sumo machines come with a variety of hitch types; fixed, adjustable, bolted. The tractor's hitch must be suited/adapted to match the machines requirements.

Fixed hitches generally refer to either a fixed position drawbar for trailed machines, or three-point linkage for mounted machines.

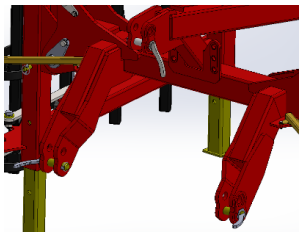
Adjustable hitches are single point connections that allow the hitch height to be adjusted to suit tractor requirements.

Bolted hitches generally refer to an externally supplied, pre-rated and approved hitches which can be purchased separately or selected during the consultancy period (Note: These may not be available on all machines). For more information contact your local dealership or Sumo representative directly.

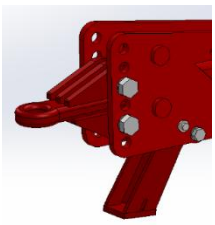
Fixed (1)



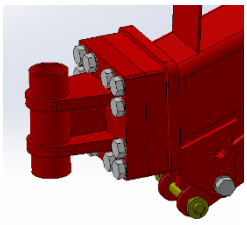
Fixed (3)



Adjustable

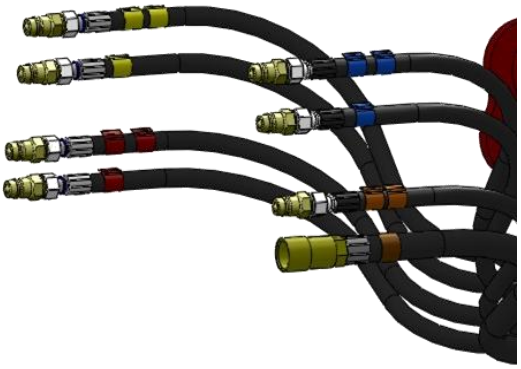


Bolted



Standard Hydraulic Connections – Colour Code

Sumo's colour coding is done through a sequence of cable ties attached to the individual hydraulic hoses, as seen in this picture. Before connection, ensure all connections are cleaned to reduce the risk of contamination.



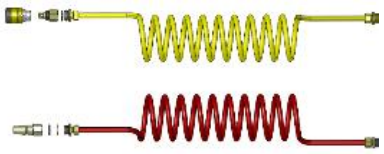
One cable tie = Return
Two cable ties = Pressure

🟡	**Yellow**	=	Drawbar
🟠	**Orange**	=	Fan – Front Hopper Only Folding Axle
🔵	**Blue**	=	Legs
🩷	**Pink**	=	Rear Discs
🔴	**Red**	=	Wings
🟣	**Purple**	=	Auxiliary
🟢	**Green**	=	Front Discs Paddles

Air Brake Connections

The air brake hoses are colour coded as follows:

- **Yellow** = Service Line
- **Red** = Emergency Line



Hydraulic Brake Connections

Hydraulic Brake hose connections are not colour coded; however, the connection socket is shaped so that it cannot be mistaken or interchanged with any other connection. Ensure hose is depressurised before coupling/uncoupling.

3.2.1 Mounted Machines

Due to the physical nature and weight distribution of some Sumo machines a category three enclosed ball top link is highly recommended. Due to the exaggerated loads experienced during normal working conditions, the top link pin is considered as a consumable part and should be checked for wear on a regular basis.

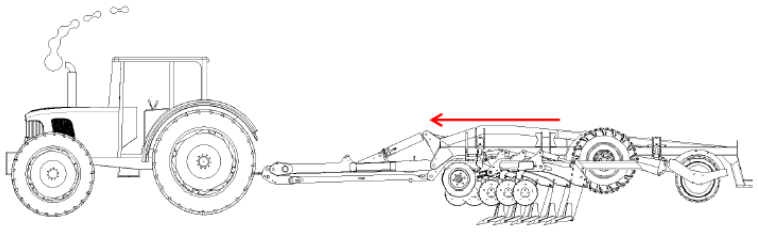
When hitching the Sumo machines three-point linkage to the tractor, ensure the linkage arms are correctly angled so that the lower arm is horizontal and top arm linkage is diagonally aligned with the tractor's front axle. This will ensure a strong, stable weight distribution and connection. Top & Bottom linkage arms should never be parallel. Having them parallel will reduce the tractors drive wheel grip and may cause damage to both the tractor and the linkages.

Steps:

- Attach lower linkage points first, then attach the top linkage, ensuring a permanent and secure fix.
- Turn tractor off, float hydraulic systems, then safely connect hydraulic & electric connections.
- Lift machine just enough to clear the ground of any parking feature/working instruments.
- Remove parking features/position them in the transport/working positions.
- Perform all necessary tests as outline within this manual.
- Turn tractor back on.

3.2.2 Trailed Machines

Trailed machines come in two variants, rigid & hydraulic drawbar, depending on the design. Both follow the same hitching process, although hydraulic drawbars can be positioned to better suit the tractor hitch point, if necessary.



Steps:

- Slowly back tractor up to machine.
- Release pick-up hitch in a low position, extend outwards if required.
- Reverse carefully up to hitch and locate hitch onto machine towing eye.
- Retract hitch if it has been extended.
- Raise hitch until locking pin is secured.
- Lower three-point linkage to release upward pressure on pick up hitch.
- Turn tractor off, float hydraulic systems, then safely connect hydraulic & electric connections.
- Lift machine just enough to clear the ground of any parking feature/working instruments.
- Remove parking features/position them in the transport/working positions.
- Perform all necessary tests as outline within this manual.
- Turn tractor back on.

3.3 Electronics Connection & Testing

Plug all electronic equipment in. Walk around the machine and ensure all lights are functional. Visually inspect wiring looms for any exposed wires, breakages or damage. If the system shows any sign of issue, see the troubleshooting section of this manual. If you have any additional Sumo electronic equipment, see the Optional Extras/Attachments section in this manual.

3.4 Hydraulics Testing

Check general hoses condition, abrasion, kinks etc. Visually inspect for leaks or damaged connections. Do not touch with hands or get close enough to inhale any vapours. Check cylinder condition and cleanliness. Run each system individually i.e. wings up and down, drawbar up and down. If the system shows any sign of issue, see the troubleshooting section of this manual.

3.5 Uncoupling Of Tractor

Never uncouple on an uneven or unstable surface. Ensure both the tractor and the Sumo machines are on level, solid ground and put them in a secured configuration, by use of handbrakes, chocks and any other movement prevention systems available. Tractor must be fully immobilized with the key removed from the ignition. Obey all other relevant safety practices outlined within this manual, including but not exclusive to, the machine in general, hydraulics and electrics, and environmental awareness.

Locate machine on the provided stands, or parking elements (see parking section of this manual), Depressurise all hydraulics before disconnection, and ensure all electrics are detached and safely tied back. Only once the machine is fully stabilised and clear of the tractor linkage should the tractor be driven slowly away, remaining vigilant to not drag or knock the machine.

4. Transportation

When the machine is being transported on the road the local road regulations must be adhered to, regulations such as transport length, width and height, escort vehicles & loading.

Due to the length and design of many Sumo machines, the transportation wheels are often to the rearmost of the machine meaning it will cut corners. Care must be taken to ensure a wide swing and reasonable turning arc is maintained to avoid any fouling of other vehicles or road markings/obstacles.

Note: Training by Sumo is required for loading any machine for truck transportation.

General Road Safety

- Always consult and abide by your local highway code.
- Observe the respective regulations when using public roads and ensure the machine is in the legal transport position before proceeding.
- Check around the machine before moving off or starting up (Watch out for children or animals!). Make sure you have adequate all-round visibility.
- Always match your speed to the local conditions. Avoid any sudden acceleration or turning manoeuvres when driving uphill or downhill or when travelling across a slope.
- Consider the length, the wide overhang, the folded height and the sideways force acting on the machine when turning or negotiating curves.
- Ensure all electronics are connected and fully functional.
- Ensure all markings and signage are clean and fully visible.
- Empty all machines of grain and/or fertiliser, and any additional loads before commencement of journey to minimise burden weight.
- Clean shoes of any debris or mud to ensure clean, non-slip contact with pedals.
- Removed any gloves that may have grease on them, and clean hands to ensure a good grip.
- Never operate hydraulic systems whilst the machine is on public roads. All hydraulics should be disconnected and strapped down to avoid any accidental unfolding.
- Ensure all parking features are fully retracted and in the correct transport position.

- Ensure all hitch points are firmly secured and pins are prevented from being unsecured.
- Check no parts are loose, damaged or broken, especially after being in work.
- Check for hydraulic leaks or damage that might cause them to fail. Do not take on the road if there are any signs of issue.
- Check tyre pressure and wheel nut torque are adequate.
- Mounted machines: Ensure all legs are well clear of the ground.
- Ensure dog bone/wing latch is firmly applied.

4.1 Transport Preparation & Positions

When transporting the machine on the highway it **MUST** be folded into the correct transportation position in order to maintain the values given in the Technical Data section of this manual, see corresponding Machine Manual & Parts Book for Transportation Positions. Any machines failing to be in these positions whilst being driven on the road will likely exceed your local road legislation and regulations, and run risk of causing potentially fatal damage to other road users. It is the sole responsibility of the operator to ensure they comply with all local road laws and Sumo accepts no liability for negligence or carelessness.

4.2 Transport Guidelines & Route Planning

The route planned should also be considered to ensure that the machine will not incur any difficult or extreme manoeuvres. The following is a list of basic guidelines design to encourage safe journeys.

- Avoid low bridges or over passes. Sumo machine heights may vary, especially when mounted directly to tractors. Care must be taken to ensure adequate clearance.
- Avoid narrow gaps. Sumo machine widths may vary. Ensure wings are folded fully, and ensure adequate clearance from any obstacle.
- Avoid weight restricted roads and ensure Sumo machines are not over-burdened with any additional weights, such as mass mud collection, stored grain or fertiliser.
- Avoid any steep inclines or drastic turns that may cause the tractor and/or machine to roll back or tip over.

4.3 Parking

The following Parking options represent the generic options available, but actual features are dependent upon machine type and spec purchased. Consult Machine Manual & Parts Book for more details.

Always check Brakes daily before use to determine if the braking is fully functional. Any adjustments or modifications to the braking system should be carried out by or under the instruction/supervision of Sumo UK.

4.3.1 Stands

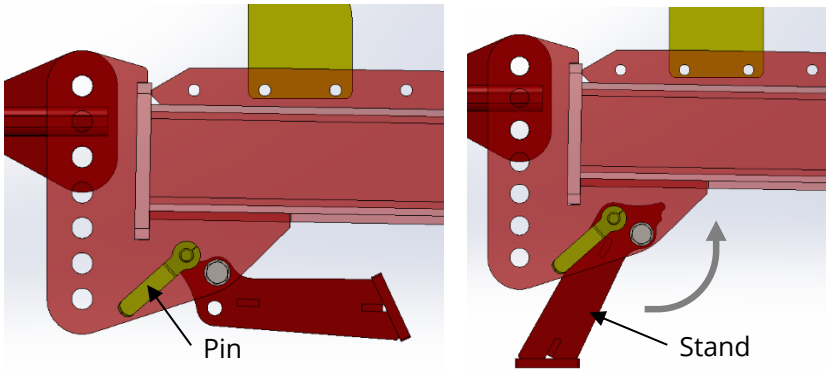
Parking stands come in three primary models, Slide Out (Primarily Mounted Machines where the depth of machine features is adjustable), Fixed (Primarily Trailed Machines), and Adjustable Jack.

Note: Always try to locate the machine on a flat, rigid surface to avoid additional strain, slip or sinking of the stand. This action should only be performed when the full weight of the machine is supported by a tractor. Once stand is positioned, slowly lower machine back down until it is supported, ensuring to keep fingers well clear of any finger traps. Some stands may be heavy so be careful weight is not burdensome before trying to lift or lower it.

Fixed Stands

Fixed Stands generally consist of a welded bracket, a bolted joint and a pin, offering two positions: In Work and Retracted. Simply remove pin, rotate the bracket until in retracted or in work position and re-insert pin. Pins must always be secured with an additional lynch pin. Never lift stands from the front or back; always position them from the side so the stand pivots to the left or right of you.

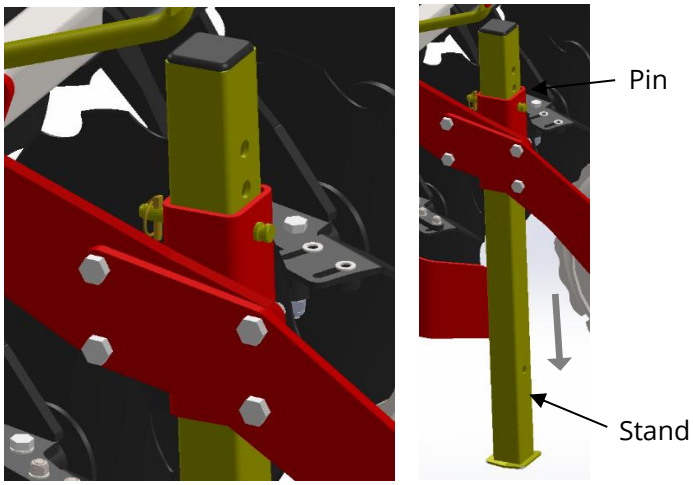
Example:



Slide Out Stands

Slide out stands are primarily used on machines with legs or other features that have a variable depth/seating position. Slide out stands generally consists of a sliding foot which can be pinned in multiple positions. To avoid damage to either the machine or yourself, ensure stand is fully supported before removing the pin, be careful not to allow it to slip or plummet suddenly, and pin once it is situated as desired before letting go. Always ensure to keep feet and other body parts away from the drop zone to ensure they are not crushed.

Example:

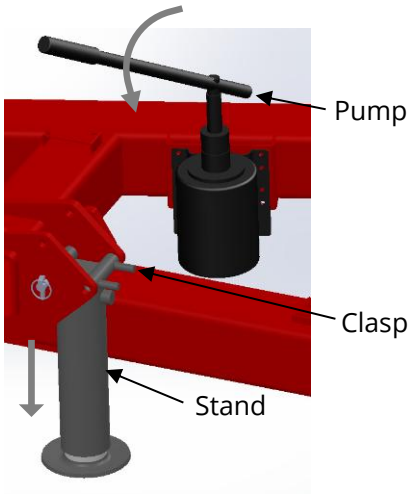


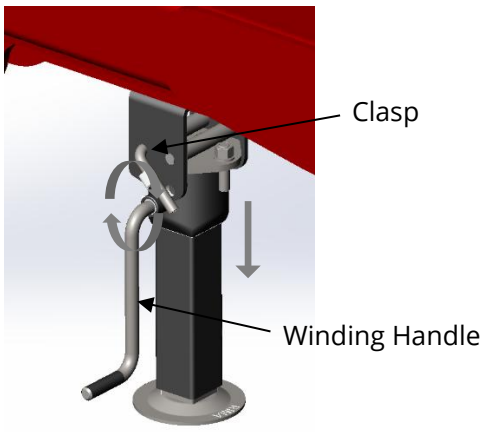
Adjustable Jack Stands:

Adjustable jack stands generally consist of winding or lever systems allowing for a much slower and measured movement, whilst also providing greater support, or assistance with hitching/unhitching. To position an adjustable jack stand, support stand with one hand and pinch the two clasp levers together with your other hand until clear of holes, then lower slowly pivot and lower the unit down until in next set of holes. Be careful these stands can be heavy. To determine height, apply reasonable pressure to the movement mechanism until desirably situated. Try not to jack the machine up any higher than is absolutely necessary as this might have a destabilising effect.

To release pressure on lever systems, locate the pressure relief tap and open slowly ensuring nothing is above you or about to descend.

Examples:

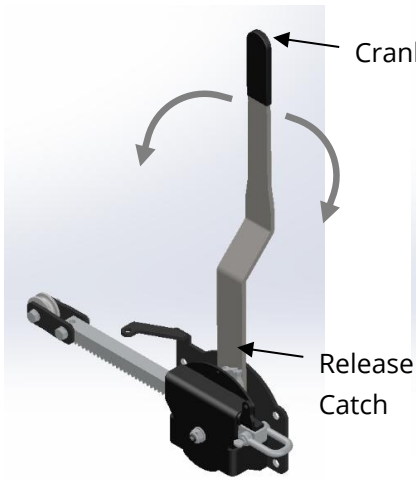


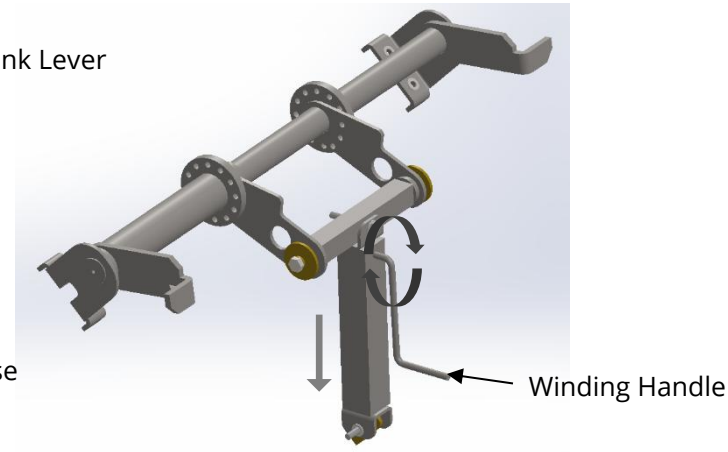


4.3.2 Handbrakes

Handbrakes are tailored to match each machines construction, but generally operated from a single crank lever or winding handle, usually positioned at the front or rear of the machine. Before operating the handbrake ensure the machine is fully supported by the Tractors handbrake. Fully apply handbrake by pivoting/turning the lever in the required direction and ensure machine hold. Before unhitching the tractor, ensure any stands are down and positioned suitably. On winding handbrakes make sure to put securing cable to the handle to ensure handbrake is not activated during travelling.

Examples:

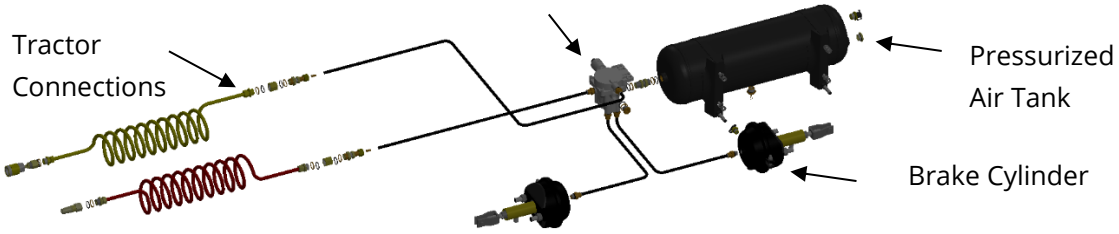




4.3.3 Pneumatic Brakes

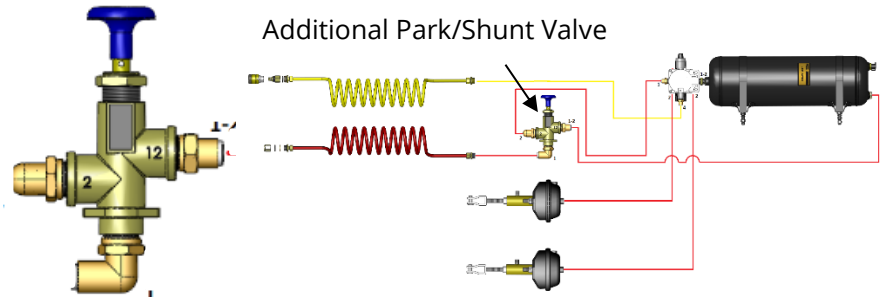
Pneumatic brakes generally consist of two brake cylinders (one per wheel), a pressurised air tank, a set of configured brake levers (Both usually located at the rear of the machine closest the axle/wheels), and an REV (Typically located near the front of the machine). For connection details, see Hitching and tractor connections section of this manual.

Example System:



Our Homologated Pneumatic brake systems also include a Park/Shunt Valve normally located at the front of the machine for temporary release of machine brakes for shunting, if no tractor is available/connected. Press once only to release brakes. Make certain to have a clear environment before release and keep well clear of machine just in case it slides/moves unexpectedly. Never use when machine is on an incline. Note: Brakes will lock if Park/Shunt Valve is pressed twice.

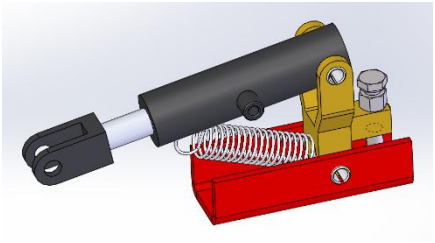
Example System:



4.3.4 Hydraulic Brakes

Hydraulic brakes generally consist of two hydraulic cylinders attached directly to the axle brake levers, typically located at the rear of the machine/mid-machine axle. For connection details, see Hitching and tractor connections section of this manual.

Example:



5. Operation & Adjustment

Before using any Sumo machine, you must ensure you are qualified and trained to use the machine in the safest possible manner. Familiarise yourself with both the machine and this manual and follow its instructions. Sumo will accept no liability for any persons trained/untrained using the machine inappropriately.

The material within this section is correct, as known at the time of publication, but may be subject to change. If in doubt, ask your local dealership/Sumo representative.

5.1 Operations

Before Start

Ensure machine is correctly hitched as described in the Hitching section of this manual, and ensure all securing mechanisms such as dog bones and/or wing locks are fully detached/disengaged.

5.1.1 Straights

Lower working implements into the ground and accelerate slowly to ensure the machine does not endure any immediate jolts of pressure. This will help extend the life of the product and reduce any damage/wear to wearing parts.

Adjust hydraulic systems gradually and do not overburden the system with constant heavy/excessive pressure. This may damage the system and instruments. Some machine elements such as Tines are designed to be flexible and absorb moderate amounts of strain, but excessive/ prolonged amounts may cause them to snap, so always be gentle but assertive with the machinery.

Advisable speed for any Sumo cultivator is 5 mph/8 km.

5.1.2 Turning

Depending on the machine purchased, some Sumo machines can have large turning circles. Ensure there is enough of a berth before initiating any turn. Raise all implements fully out of the ground. Move slowly so the weight of the machine does not shunt drastically over to one side and topple the tractor. Avoid turning on any slopes or unstable ground.

When turning on headlands the machine should be lifted clear of the ground and can be run on just the packer to prevent excessive compaction of headlands rather than running on the wheels.

5.1.3 Hydraulics

Folding/Unfolding

Always ensure a safe working environment as described within this manual when folding/unfolding wings. Perform movements slow and safely paying special attention to weight distribution, equality of descent, machine balance & stability, environmental influences and neighbouring features/obstacles.

Drawbars should always be fully raised before the folding in of wings to ensure adequate clearance from the ground to packer and other working instruments.

For more info, see machine manual & parts books for transportation positions.

Manual Change-Over Valves (MCOV)

Sumo use MCOV's to isolate different hydraulic systems from one another. Depending on the system required, simply pivot the lever to the desire direction. Always operate hydraulic systems slowly to ensure the correct system has been selected.

Accumulators

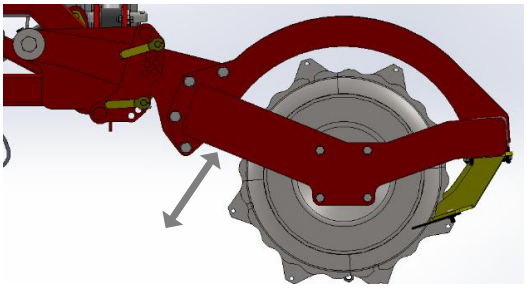
Sumo hydraulic systems use high pressure accumulators, which can present a danger if tampered with or misused. This includes drilling, welding or any other process that could compromise the safety of the accumulator. It is expressly forbidden for an operator, or any third party to dismantle or adjust the accumulator in any way. Doing so will invalidate any existing warranty. If the accumulator fails it should be changed under the supervision/instruction of Sumo UK.

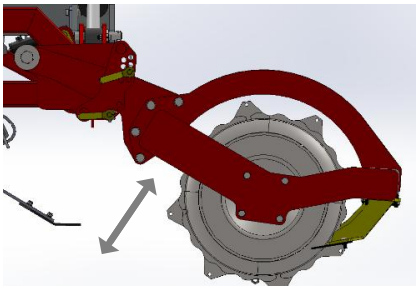
5.2 Adjustments

Always ensure you wear the correct PPE as described previously, before attempting to make any of the following adjustments, and watch out for any finger traps/potential crushing.

5.2.1 Packer Depth

The machine will operate at its optimum and create maximum lift and cultivation effect when the machine is set up so the wing frame/s runs parallel to the ground. This is achieved by setting the machine working depth via the pin adjustment on the packer. To do this the machine must be lifted completely clear of the ground using the drawbar. The packer will then be sat up against the shallowest depth pin and the desired depth setting can be set. For dual pin packers, lower packer onto the deepest pin, then reposition the upper pin just above pack to lock it in position.

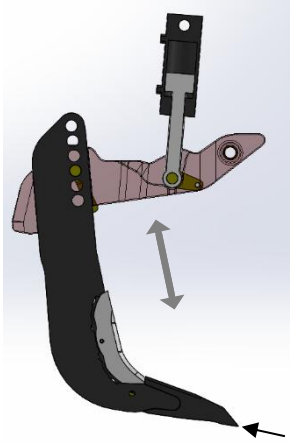




This will set the working depth for any related elements. The machine should then be levelled/limited through the use of the cylinder shim holder, see Shim holders' section. For trailed machines, the retractable wheel axle can now be retracted.

5.2.2 Leg Depth

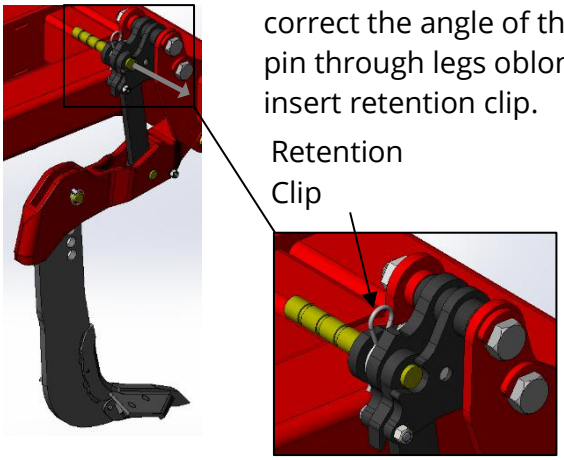
It is advised that the soil is assessed prior to working to determine the level of compaction within the soil profile and the depth this compaction is at. The legs should then be adjusted to work just below this level in the soil by removing the handled pin holding the leg in place in the cast socket and moving the leg up or down as required.



The leg should always be moved up and down by holding onto the bottom of the leg where the point is as opposed to the top or through the holes that may be exposed through the top of the cast socket as this can lead to fingers getting trapped or seriously injured. Note; some leg profiles are quite heavy due to the nature of their use, so ensure good posture before trying to handle alone.

5.2.3 Shear Pin (SP)

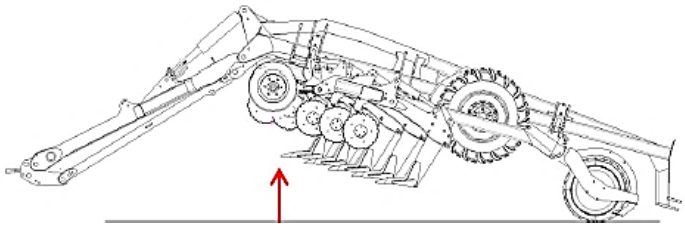
Shear pins only need adjusting once the shear pin has sheared off. Simply remove the retention clip, correct the angle of the leg and advance the shear pin through legs oblong hole to the next stage, re-insert retention clip.



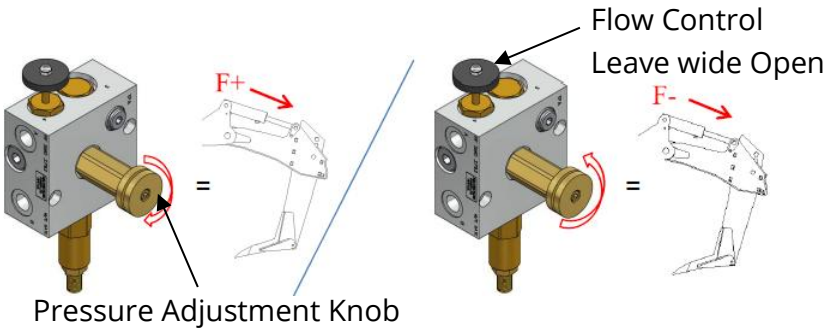
Always check to ensure the retention bolts acting as the pivot and stopper, are in good condition and do not show signs of wear. Continued pressure /movement, after the shear pin has sheared can cause damage.

5.2.4 Auto Reset Legs (AR)

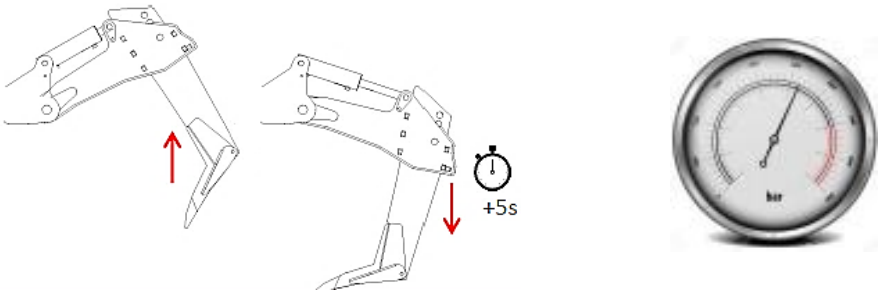
To adjust the AR, raise the machine so the legs are clear of the ground.



To adjust the pressure, release the lock ring and rotate the knob in the desired direction (Clockwise to Increase pressure, Anti-Clockwise to Reduce pressure). Secure lock ring once completed.



Lift and lower the legs to introduce the new pressure setting. Keep pumping down for 5 seconds after last leg stops moving. Observe the new pressure displayed on the gauge (Range 80 – 120 bar). It can be adjusted up to a maximum of 120 bar, exceeding this pressure may result in serious damage to the machine. The higher the pressure in the system, the greater the resistance against the legs tripping, but increasing the risk of damage to the machine due to underground obstacles.

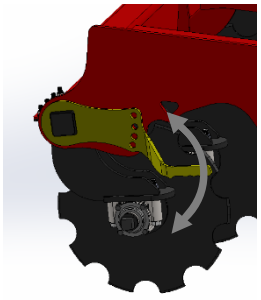


Even though the pressure is locked in the circuit, this system does remain active in that the legs can be raised up out of work. The tractor hydraulics should be returned to float to relieve any back pressure before commencing work at the new pressure

Note: It is advised that on a machine fitted with auto reset legs the double acting feature is used in road transport to retract the legs and reduce the overall width of the machine on the road and move the sharp points to well within the vehicle's width.

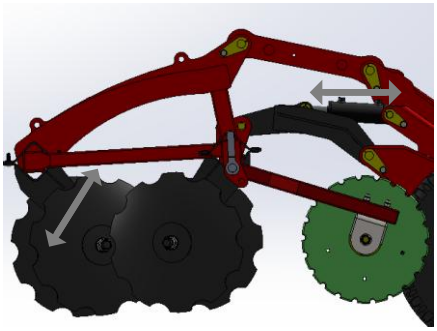
5.2.5 Discs

Discs are set in one of three ways: a tilt mechanism, hinge racks operated by hydraulic cylinders, and by setting packer depth which automatically sets the disc depth.



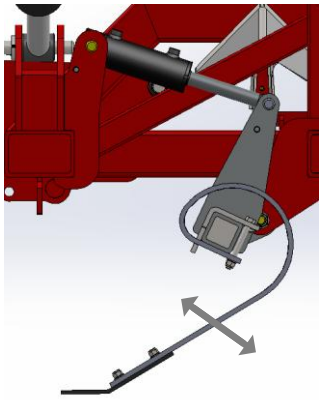
Tilt mechanisms are most commonly used on our Leading Disc. Simply remove the pin/bolt, tilt to desired angle and reinsert pin/bolt.

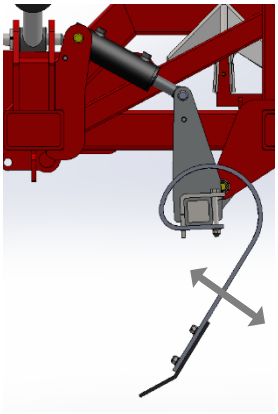
Do not Invert/switch over handles or tilt at a greater angle than facilitated in order to achieve a leg depth beyond the specified scope of the machine. Doing so may cause damage to the chassis and will invalidate your warranty.



Hinged disc arrangements operate simply from a sequence of hydraulic cylinders. To lower or raise, simply adjust the hydraulic pressure.

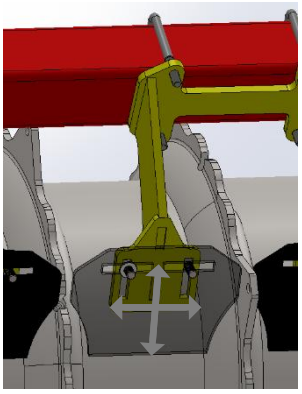
5.2.6 Paddles





Paddle arrangements operate using a simply tilt mechanism linked to a sequence of hydraulic cylinders. To lower or raise, simply adjust the hydraulic pressure, see hydraulic connections section of this manual.

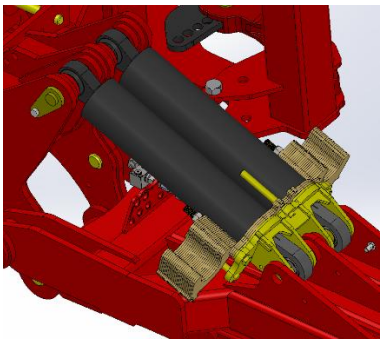
5.2.7 Scrapers

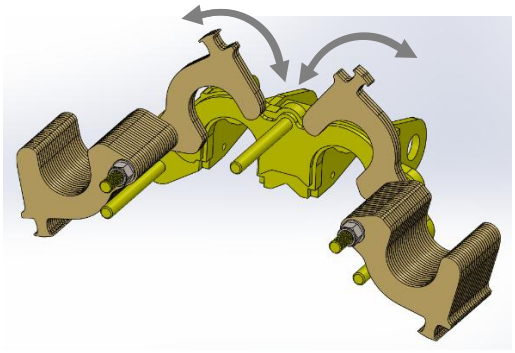


Scrapers come in an assortment of brackets and profiles, depending on the packer type & frame requirements, but all function in the same way. To adjust the wearing pads distance from the packer, simply loosen the bolts and slide the pad forwards. The dual slot design also allows for the pad to slide left or right to better centralise upon the packer and avoid any unwanted side wearing. It is advised that these pads are inspected before and after every use.

5.2.8 Shim Holders

Shim holders come in two variants to suit single and double-cylinder systems. To adjust, simply retract cylinder until clear of shims, pivot shim quantity in/out. Do not stand near shim holders when cylinders are making contact.

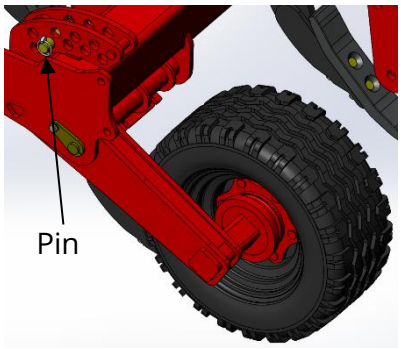




For double cylinder systems, try to ensure both cylinders contact the shim holder on a symmetrical, level platform of shims. Failure to do so may cause damage to the shim holder/cylinders.

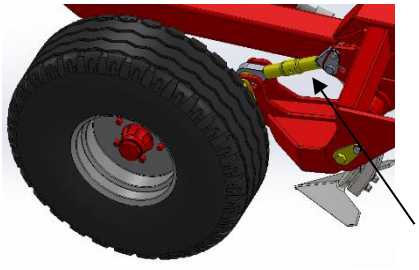
5.2.9 Depth Wheel

Depth wheels come in a variety of different forms, but generally work either on a simple pin or top link system.



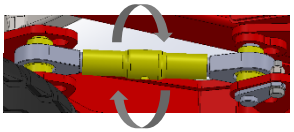
For Pin Systems, simply remove the pin, raise and lower the depth wheel to the desire specification and reinsert the pin. Ensure any lynch pins are in place so that the pin cannot slip out during use.

Note: This is only an example system intended for indication purposes only, and may not exactly visually match your machine.

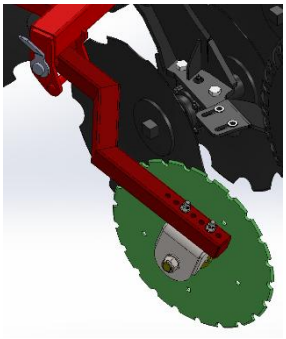


For Top Link Systems, simply loosen locking plate on both sides of main body, wind main body until desired distance is achieved, then tighten locking plates back onto main body.

Top Link



5.2.10 Soil Retention Disc



Soil retention discs can be adjusted by relocating the bearing bracket into one of the other pre-set hole positions via two bolts. It is advised that the Nylock nuts are replaced after loosening.

5.2.11 4-Way Control Box

The 4-Way Control Box is an easy system with 4 control settings. Simply flip the black toggle up or down to turn the box on or off, then press the colour button that represents the system you wish to use. Note; This system is only available on select machines.

- Green = Front Gang
- Red = Rear Gang
- Yellow = Legs
- Purple = Wings

If green light is not on, check Box is plugged in correctly, turn it on and off again, if still no green light, check 20A fuse, replace if faulty, if not faulty, replace LED.

5.3 Parts Replacement

For a list of the replaceable parts for your machine, see the relative Machine Manual & Parts Book. For any parts not covered in these documents, contact Sumo directly, as they may be relevant to a set period of manufacture. Sumo do not sanction the use of any products/parts not produced and managed by Sumo. Using external products will invalidate your warranty. When ordering replacement parts please have your serial number, part numbers and quantities at hand.

When tightening points to legged machines, do **NOT** use an air rachets, or over tighten with spanners. Excessive tightening will result in points cracking. Use standard ISO torque values for the fasteners suggested by the Parts Books, unless otherwise specified.

6. Maintenance & Storage Program

In general Sumo advise that you should visually check over the machine before each operation and transport to ensure there are no visible defects, loose parts or risk to either the operator or the public. Maintaining a thorough regimented maintenance schedule will help to prolong the life of your machine.

Wherever possible stand on flat, clear platforms and **NEVER** on rotating, breakable, or adjustable elements such as the packer, points, disc etc. Avoid all cables and hoses. Be mindful of your footing and an environmental element that may cause additional movement. As the machines are mostly painted surfaces can be slippery. All wings and foldable elements must be full folded out before approaching the machine. **NEVER** stand on a folded machine, or under its foldable features. **NEVER** stand on the machine when it is connected to an active tractor. Follow all advised parking guidance given within this manual.

Wheel studs on trailed machines should be checked for tightness after the first 10 hours of operation and then again at regular weekly intervals. Tyre pressures should also be checked at regular intervals, more so during continued use. For torque values and tyre pressures, see the relative Machine Manual & Parts Book.

The condition of the packer scrapers should also be observed routinely in order to prevent soil building up on the packer. Ensure the scrapers are adjusted up tight, but not touching the packer though as this will increase rolling resistance and cause premature wear of the packer and scrapers.

Some Sumo parts are intended to be wearable due to the nature of their design and use. For best results, check routinely and replace as required. This will help prevent loss/destruction of implements during work.

Check and re-tighten all fasteners every 24 hours. Tighten to standard ISO values, unless otherwise stated. If removed, all Nylock and/or Aero-tight nuts must be replaced, otherwise they lose their effectiveness.

6.1 Lubrication & Greasing

Lubrication and greases can be harmful to both the user and the environment. Avoid contact with skin/eyes. Make sure to clean up any unwanted spillage, and always wear the correct PPE for these activities. Sumo advise using sustainable, biodegradable oils, unless otherwise stated. Avoid mixing substances, otherwise you risk causing a chemical reaction. Do not use pneumatic grease guns as the pressure can cause damage to bearings. Always wash your hands thoroughly and other contacted areas immediately after contact.

Hydraulic Cylinders Inc Auto-Reset - Grease points requiring one pump every 50 hours are located on all rams, wing hinge bushes, axle hinge bushes, drawbar hinge bushes front and back on both top and bottom elements. Exposed chrome ram rods should also be greased weekly to prevent these valuable parts from rusting and causing costly oil leaks.

Packer Bearings - The packer bearings should be greased with one pump of grease, every 8 hours and after the machine has been washed off to force out any water that may have impregnated the bearing.

Disc Bearings - The disc bearings should be greased until old grease is forced out once a week when in normal use and after washing the machine off to expel any water in the bearing.

6.2 Cleaning

High pressure washers can be used to clean Sumo machines, however for elements such as bearings which are greased and have oil seals, try to avoid direct contact. This may cause damage.

Sumo machines also have a variety of electrical equipment and cables running across the machine. To avoid electrocution do not touch the machines whilst cleaning it, and observe/repair any damaged electrical circuits.

For best results, clean the machine regularly and remove any build-up of dirt/mud which might solidify and later cause bungs. A clean machine is a safe machine, exposed to less pressure during working and transport, and will therefore serve you better and longer.

6.3 Storage

It is generally advised to store Sumo machines in their folded positions to minimise the exposure of unpainted rams, and lessen the impact on tools/wearable components. Follow all parking guidance given within this manual. Wherever possible, try to find a sheltered environment. If not possible cover with tarpaulin. This will better protect the machine and slow the degradation of paint and materials, as well as prolonging the effectiveness of greased areas.

When machines are to be parked up for the winter period, correct storage techniques are an important part of protecting the machine to ensuring a hassle-free season. When the machine has finished work it should be cleaned down and washed off to remove all traces of soil. Following washing off, all lubrication and greasing should be performed until old substances are forced out. To avoid delays next season, check machines for worn parts and get them replaced asap.

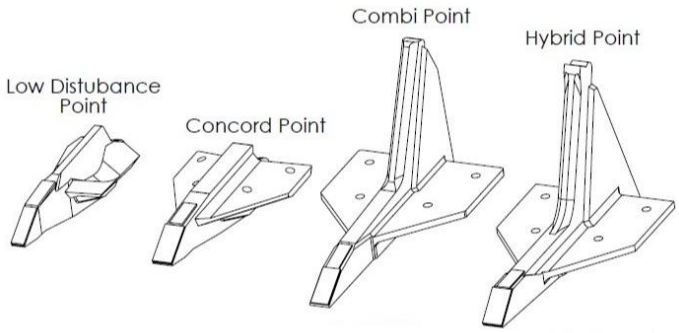
7. Optional Extras/Attachments

A variety of machines come with the options for multiple extras or attachments. For a list of available options, please consult your Sumo catalogue, contact your local dealership or Sumo directly, or search online – www.sumo1.com.

The following is a general overview of the Standard available options, there intended use, and any special safety measures associated with that part/assembly. Consult your Sumo representative before requesting any replacement parts/additional purchases, as some designs may not be compatible with your machine, and are also subject to change. For a more detailed outline, consult your Machine Manual & Parts Book.

7.1 Point Variations

Sumo machines come with multiple point options for a variety of different circumstances, with or without tungsten tips. Note: Depending on machine age, some points require a new/old leg be purchased.



Low Disturbance – Intended to be used for minimal disturbance of soil.

Concord – Intended to be used for some surface disturbance and provides some elements of mixing trash and surface residue.

Combi – Intended to be used for highest surface disturbance.

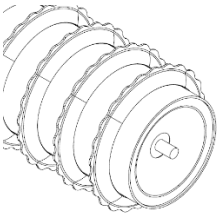
Hybrid – Intended to be used for highest surface disturbance.

GLS Points are also available for multiple machines and are design for a less intensive disturbance. Contact your local dealership/Sumo directly for more details.

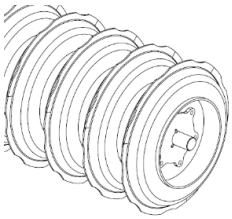
7.2 Packer Options

Sumo machines offer a variety of packer options, depending on machine type, that can be used for a variety of applications. Depending on the machine, packer options either come as single drum assemblies to be bolted directly into existing packer frames, or with fully fabricated frames designed to maximise their potential.

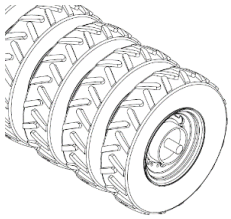
Multipacka



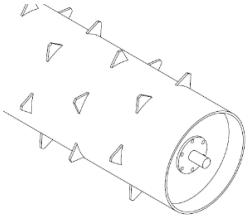
Diamond



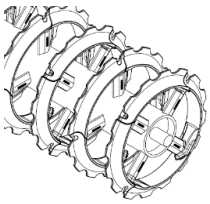
Tyre



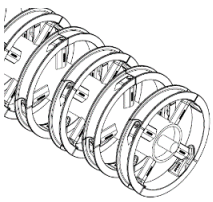
Flat



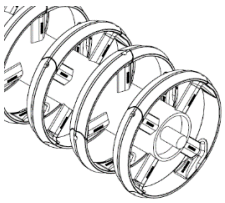
Sharp



Channel



Roller



Multipacka - Intended to provide and even consolidation of soil.

Diamond – Intended for maximum consolidation to depth whilst leaving a weather-proof finish.

Tyre - Intended to provide a concentrated consolidation across the full width of the machine

Flat - Intended to provide an aerated, consolidated level finish.

Sharp - Is most suited to heavy soils. Intended to slice and crack clods.

Channel - Is most suited to shallow cultivation and soil to soil consolidation.

Roller Is most suited to intensive consolidation of varying soil types.

7.3 Sumo Seeder & Seeder Fitting Kit (SFK)

The Sumo Seeder is the perfect addition for the decerning customer wishing to optimise their primary-activity output and productivity. These fit a wide variety of machines and can be bought in isolation or with specific fitting kits designed specifically to match your machine. For best results, combine with one of our SDO systems.

Sumo Seeder **MUST** be transported empty to prevent unnecessary damage.

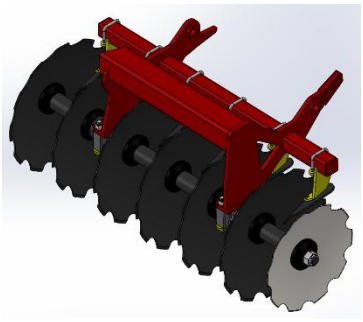
For all other details about the Sumo Seeder, see the Sumo Seeder Manual.

For SFK units, see the correlating Machine Manual & Parts Book.

7.4 Trailing Kit

Pre-2012 machines only. Trailing Kits offer our customers the unique opportunity to transform their old mounted trio into a trailed machine complete with a front drawbar and rear axle, allowing for better ground control and easier transportation. Trailing kits are adjusted in the same way as the regular trailed machines. See Operations & Adjustments section of this manual.

7.5 Front Discs

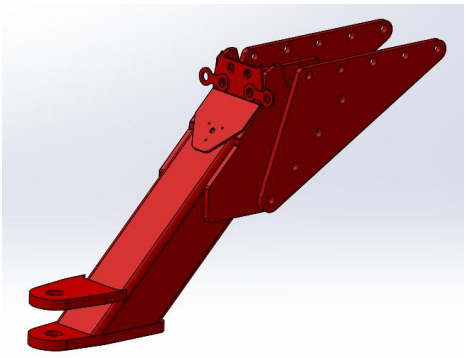


Specific to our Trio range (3m & 3.5m), Front discs offer our customers the opportunity to break up surface compaction and trash before the legs takes action, enabling a much smoother transition.

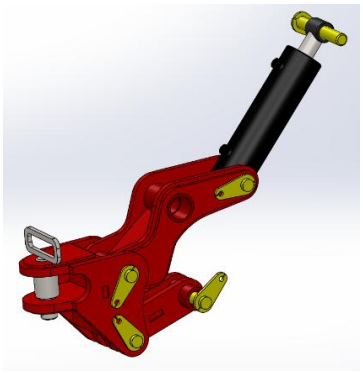
7.6 Rear Drawbar

Rear drawbars come in two designs, rigid & hydraulic, and allows the machine to tow an additional piece of equipment behind your standard Sumo product. Note: Due to the added length of the rear drawbar, machine length & weight will vary from the standard table provided previously.

Rigid



Hydraulic



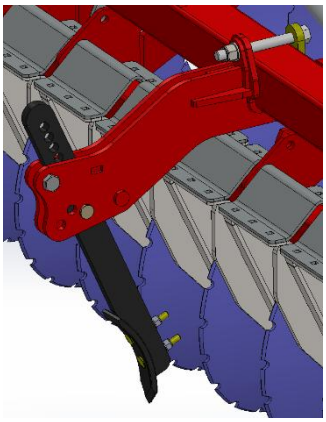
Adjustments:

Rigid drawbars have no adjustment, but for hydraulic variants see the Hydraulics Section of Operations and Adjustments section of this manual.

7.7 Air Brake

Some machines can be fitted with air brake systems, or air brake kits can be provided separately. For details on available products contact your local dealership, or consult www.sumo1.com. For system details, see Pneumatics brake in the transport section of this manual.

7.8 Wheel Eradicators

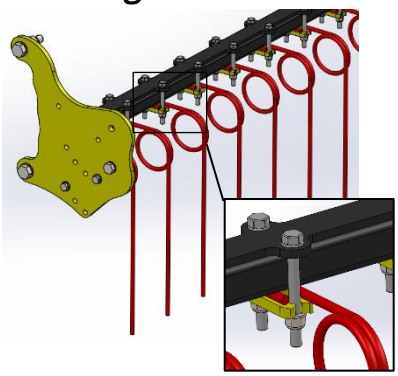


Sumo Wheel eradicators are designed to disrupt the compaction created by the tractor's tyres using shear pin technology, and are very easily adjusted due to the handy bolt design, facilitating multiple tractor axle widths.

Adjustment:

Simply loosen the clamp bolts joint and slide to match wheel base, then re-tighten. For details on shear pin and leg adjustment, see Operations & Adjustments section.

7.9 Following Harrow



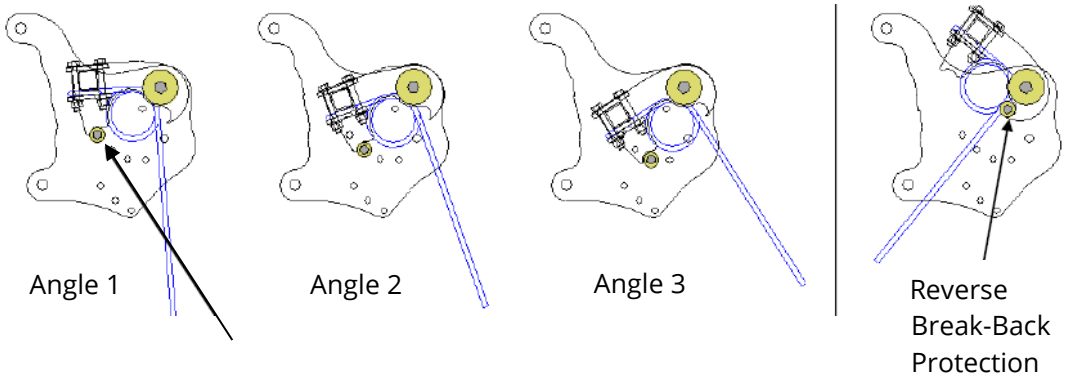
Following Harrows are designed to break up and aerate top soil, whilst severing and dislodging weeds.

Once purchased, the following harrow can easily be bolted to the rear of the packer frame on select machines. For more details, contact your local representative/dealership or Sumo Directly.

Adjustment:

To adjust the height or angle of the Following Harrow, simply reposition the bolts connected to the side plates and cross beam to an alternative position. Ensure adequate support to the beam before loosening to ensure it does not drop or fall on anything which could be damaged.

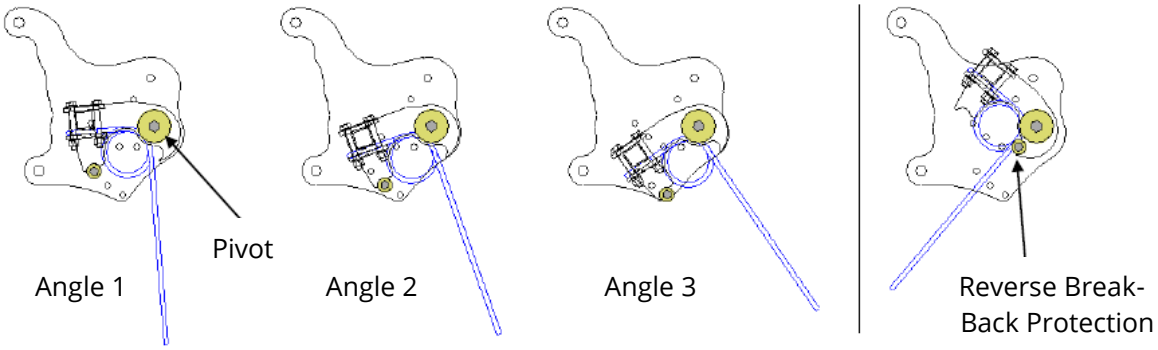
Angle Adjustment:



Changing this bolt position can allow the harrow to sit at three different angles of scarification.

Height Adjustment:

The entire harrow assembly can be moved to a lower position by moving the pivot to a lower hole. This can be particularly useful when the tines have worn down.



Break Back Protection:

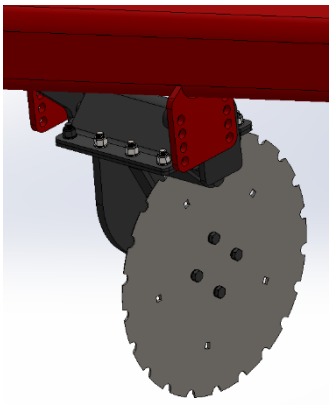
The harrow has break -back protection at each of the different height positions. This catches the harrow when reversing out of work.

Horizontal Tine Positions:

To adjust the harrows horizontal position, simply loosen the clamped joints and side over. Once positioned re-tighten bolts firmly.

Due to the nature of Nylock nuts, it is advised to **replace** nuts after being fully removed.

7.10 Straight Leading Disc



Specific to our subsoiler range, the straight leading discs cut through the ground to facilitate a smoother turnover of soil by the proceeding legs. Thanks to the bolted mounting arrangement, the disc can be raised or lowered easily to suit your requirements.

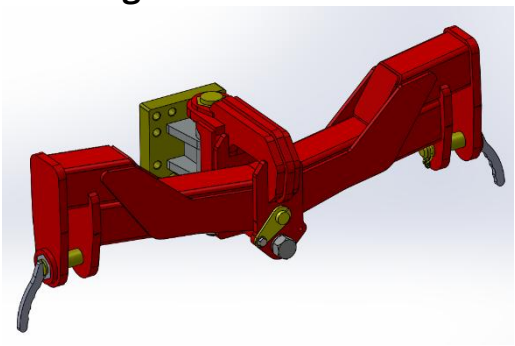
Adjustment:

Simple remove the bolts and raise/low disc arrangement to suit your requirements. Re-position and tighten bolts. Replaces bolts, washer, nuts if necessary.

7.11 Hydraulic Parking Stand

Depending on machine type, bolt on hydraulic parking stands may be available. For more details on how to adjust hydraulic parking stands, see the Parking Stands section of this manual.

7.12 Gull Wings

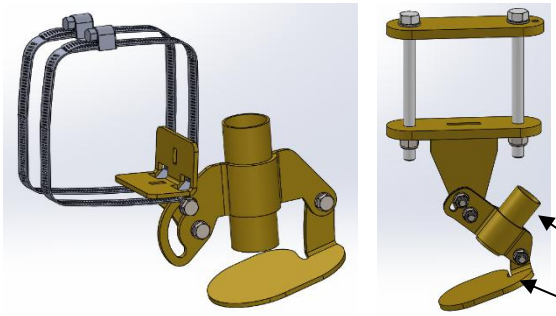


Gullwings are mounted to the machine via a single pinned joint through the pre-existing single point hitch. This allows the machine to be hitched up from a lower point and enable better machine manipulation and a tighter turning circle.

7.13 Single Disc Opener's (SDO's)

Sumo bolt on SDO's come in three forms; standard outlets, bolt on racks, or trailed folding racks, depending on the machine and desired use.

Standard Outlets



Our standard outlets come in a variety of shapes, depending on the machine, but all can easily be attached (Bolted or cable tied) to the packer frame to give a consistent, equal spread of seed.

Adjustment:

To adjust our standard SDO outlets, simply loosen bolts and pivot the outlet nozzle using the slot available, then re-tighten. To adjust the seed directional pad, simply loosen bolt, rotate and re-tighten.

Bolt-On Racks

	Sumo SDO racks are design to slice through the ground at a desired set height and seed directly after. For ease of assembly, Sumo SDO racks can be purchased, and attached to the rear of a packer frame via the use of two or three adjustable bolted clamps, allowing the SDO rack to lift and fold in accordance with the packer's movement.

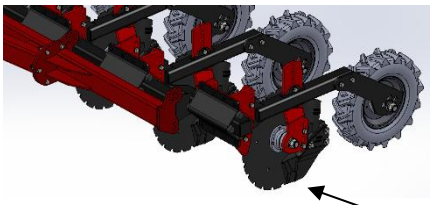
Adjustment:

Our SDO units come with a variety of adjustability. To adjust the height of the entire unit, simply loosen the main bodies bolt and drop/raise to the desired height, then re-tighten. To adjust the disc depth only, loosen the bolt and lower/lift the disc to the desired height, then re-tighten. To adjust only the wheel depth, angle, or offset, loosen bolt and reposition into one of the four available holes, then re-tighten.

Trailed Folding SDO Racks

Trailed SDO units are easily connected to the end of certain machines with a few bolts and a single hydraulic cylinder. This allows the machine to fold up when not in use, without widening the transport width.

As a bonus optional extra, some of our trailed SDO racks have been designed with the possibility of having an additional extension bolted on to increase the machine range from e.g. a 4.5 metre machine to a 6.5 metre. These can be bought separately along with an extended SDO rack and additional SDO units.

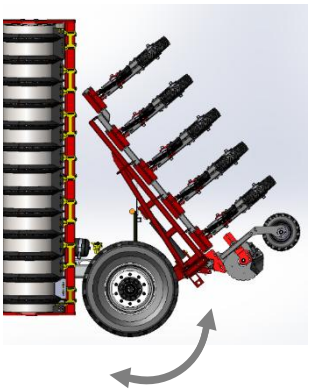


Bolt- On Extension

Adjustment:

Trailed SDO units can be adjusted in the same way as the Bolted-on Racks, see previous segment. For instructions on hydraulic adjustment, see Operations & Adjustment section of this manual. When folding the trailed SDO rack up, always do this first before the wings to ensure the rack is completely positioned, otherwise you may damage the machine.

Transport Position:



SDO's must only be lifted until well clear of the ground. Excess pressure, may damage hydraulic cylinders.

7.14 Homologation

We are happy to announce that we are now homologated on a variety of machines. Providing your machine is compatible, homologation kits may be available in the not-so-distant future. Check back with us if you are interested for availability.

8. Troubleshooting

For all the follow points, proper PPE and care must be taken. Read and follow the instructions given within this manual exactly. Anything un resolved must be needs to be brought to the attention of your dealer/sumo representative.

8.1 Mechanical Assemblies

Problem	Solution
Ceasing Parts	Inspect for rust/wear, grease daily or as guided by this manual, replace parts if necessary

8.2 Hydraulics

Problem	Solution
Leaking Cylinders	If under Warranty period, contact dealer. If not, tighten, if possible – Do NOT over tighten or you risk damage. Clean up excess/spilt oil – Do NOT expose skin to any fluids.
Leaking Hose Joints	Tighten, if possible – Do NOT over tighten or you risk damage. Clean up excess/spilt oil – Do NOT expose skin to any fluids.
Auto Reset - Loss of Pressure &/or Operation	Run adjustment check as per manual, if still not working Pressure valve may be faulty
Quick Release Valves Contamination	Keep clean, replace if necessary

8.3 Electrical Faults

Problem	***Solution***
Control Box 4-Way: No Green Light	Check Box is plugged in correctly, turn it on and off again, if no green light, check 20A fuse, replace if faulty, if not faulty, replace LED
Electric Wiring / Componentry	If under Warranty period contact dealer. Never manually feel for exposed wires etc

9. External Documentation

The following documents must be read and adhered to whilst using any piece of Sumo equipment. This is for your own safety and the safety of those around you.

9.1 List of Machine Manuals & Parts Book

A full list of Machine Manuals & Parts Books can be found at www.sumo1.com. Note: The manuals and machine parts books are relative to the time of purchase/date of manufacture and may not fully represent your machine. For any clarifications about discrepancies, contact Sumo directly. Machine Manuals & Parts Books contain critical information 'specific' to each machine/machine range. Ensure you have a copy of your machines corelating document and read it thoroughly in conjunction with this Operators Manual before using any Sumo machine. All documents are correct as known at the time of publication, but are also subject to change.

9.2 Associated Legislation & Compliances

Sumo machines have been designed and manufactured with safety and compliance in mind, but it is the sole responsibility of the owner/operator to ensure all local laws, legislations and compliances are met in regards to heavy agricultural machinery usage, safe working practices and environments, PPE, and Transportation.