

# **RIPPA** 2023 Mounted Range (R)

Machine Manual & Parts Book @Copyright 2023











## Introduction

Before reading this Machine Manual & Parts Book, please read the Cultivators Operator Manual in Full. This manual contains information specific to the machine/range but does not include all the general safety guidelines and practices necessary to understand and correctly use the machine. It is required that both manuals be read and understood before using any Sumo machine. For more information contact your local dealership/Sumo directly.

Please note, specifications, descriptions and illustrations in this manual are accurate, as known, 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 on the details given previously.



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### 1. Machine Range Summary

The Sumo Rippa is a useful tool ideally suited to the potato grower, used primarily after ploughing to mix and aerate the soil ahead of bed formers or tillers. It can also be used for primary cultivation post-harvest and can work down to 14-16in to remove plough pan compaction.

Note: This stage description is based on our standard offering but will change depending on packer selected. Consult the Cultivation Operators manual for more information.



# 2. Product Specifications

For standard machine dimensions and weight, see Cultivator Operators Manual. Note: Weights is described as the maximum laden mass but will increase with optional extras and attachments.

Ripp	a Mounted Rai	nge		
Spec	Rippa 3m	Rippa 4m	Rippa 5m	Rippa 6m
Code	R3	R4F	R5F	R6F
Leg Qty	11	15	19	23
Leg Spacing	270mm	270mm	270mm	270mm
Leg Depth	400mm	400mm	400mm	400mm
Leg Length	700mm	700mm	700mm	700mm
Machine Type	Rigid	Folding	Folding	Folding

Other options may be available – See Sumo website / Contact your local dealer.



### 3. Transport Positions & Dimensions

The following transport positions must be followed before taking the specified Sumo machine on any public road. Failure to do so many mean the machine is no longer considered road legal. It is the sole responsibility of the owner/operator to ensure the machine is correctly positioned prior to transport and complies with all local laws and regulations.

For all Sumo guidelines and safety protocols, read the related Sumo Cultivator Operators Manual thoroughly.

#### Mounted Rippa's

Due to mounted and adjustable nature of the Rippa machines, they do not have a set transport position, but it is advised that: All legs and depth wheels are lifted to ensure they do not contact the ground. All wings must be fully folded in and secured using provided safety equipment. Ensure rear lights and reflectors are suitably angled down.

#### **Transport Dimensions (Approximate)**

Note: Due to the fabricated and assembled construction of Sumo machines dimensions may vary and should only be used for reference.

Shown dimensions are of maximum extremities (Excluding assembly/fabrication tolerances) but can be reduced/increased by adjusting implement positions, chassis height/angle, and reversing pins with handles. It is solely the owner/operator's responsibility to ensure they transport the machine within local legislation & laws.

	•	<b>U</b> I <i>i</i>	
Code	Length	Width	Height
R3	1880	3124	1412
R4F	2046	2715	2000
R5F	2046	2715	2610
R6F	2046	2715	3255

#### Machines (Excluding Options)



### 4. Danger Zone

The area marked red indicates the Danger Zone of the machine. This refers to both folded & unfolded states.

#### Mounted Rigid Rippa

### **Mounted Folding Rippa**





The danger zone around the machine poses the following endangerments:

- Accidental operation of the hydraulic system can trigger dangerous movements of the machine.
- Defective or not correctly fastened electric lines can cause electric shocks.
- With the drive still running, machine parts may rotate or swing out.
- Hydraulically raised machine parts can lower slowly and unnoticed.

Failing to pay attention to the danger zone can result in severe or even fatal physical injuries.

- Do not stand under lifted loads. Lower such loads to the ground first.
- 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!
- Follow all safety guidelines and procedures as outlined within the Cultivator Operators Manual.



### 5. Risk Assessments

- **Model:** Mounted Rippa's
- **Notes:** Ensure the Cultivator Operators Manual, & Machine Manual are read and fully understood.
- **Purpose of machine:** Primarily designed to rip up land, aiding aeration of the soil.

**Description of machine:** A three-point-linkage mounted farm implement consisting of 1 major element.

1. A collection of shear pin protected heavy-duty deep cultivation subsoiler legs.

All the above is arranged in a rigid chassis/hydraulically folding heavy-duty fabricated steel framework. The machine is designed to couple to a suitably powered tractor.

Hazard Identified in Using Machine	Who Might Be Harmed	Risk Evaluation /Level (1-5)	Precautions In Place	Further Action Required
Machine collision while in transport.	Operator, Members of The Public	2 Low - Mid	Tail Lights, Side Lights & Indicator, reflectors.	Take care when using in both field and road situations. Maintain good visibility at all times.
Trapped fingers during leg depth position change.	Operator	1 Low	Warning Stickers	Observe warning signs, maintain safe distance from moving parts, wear gloves. Ensure both of the stands are down. Clear excess soil (weight) from points before attempting to adjust legs.



# 5 Risk Assessments - Continued

Hazard Identified in Using Machine	Who Might Be Harmed	Risk Evaluation /Level (1-5)	Precautions In Place	Further Action Required
Risk of crushing: - When coupling a tractor to the Sumo implements. - When changing points. - Rotating parts - When folding/ unfolding - Machine tipping over	Operator	4 Mid - High	Warnings, Maintenance Stands	Take extreme care when working on legs, changing depth, replacing points etc, make sure stands are down and the machine is on a suitable firm piece of land. Ensure tractor hydraulics are in good working order. Ensure tractor is safely positioned and the parking brake is engaged when coupling up to the Sumo implements. Stay clear of any folding/unfolding elements. Lower wings slow and evenly to ensure the machine does not tip over. Be mindful of environmental factors.
Falling from machine	Operator	2 Low - Mid	Most alterations and maintenance do not require the operator the climb on the machine. If a seeder is fitted, then steps and a handrail will also be fitted to allow access.	Lower the machine to the floor to allow access for greasing discs, checking bearings etc
Pressurised oil/ Burst hoses	Operator	4 Mid - High	Warnings	Always were appropriate PPE. Do not remove hoses whilst pressurised, do not feel for leaks. If contact is made, wash affected area immediately. Do not inhale or consume.
Risk of crush during machine roll back	Operator, Members of The Public	4 Mid - High	Warnings, Parking stands and Features.	Always park correctly on a solid stable land and firmly apply brakes, stands and any other parking features. If the machine still seems unstable uses wooden chocks etc.



# 6. Parts Book Index

For older machines, see manuals & parts book available on the Sumo website.

#### 6.1 R3 Base Machine



ltem No.	Part Number	Description	Qty
1	SW272	Chassis	1

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### 6.2 R4F Base Machine



ltem No.	Part Number	Description	Qty
1	SW285	Chassis	1
2	SW287LH	Wing LH	1
3	SW279	Wing RH	1
4	SWH132	Hydraulic Cylinder	2
5	SWP30X165	Pin	2
6	SWP30X110DB	Pin – Dog Bone	2
7	SWP50X165	Pin	4
8	SWM1250	M12x50 Bolt	4
9	SWM12001	M12 Washer – Flat	8
10	SWM12004	M12 Nut – Nylock	4
11	SWM1660	M16x60 Bolt	4
12	SWM16001	M16 Washer – Flat	8
13	SWM16004	M16 Nut – Nylock	4
14	SWB105	Lynch Pin	2



### 6.3 R5F Base Machine



ltem No.	Part Number	Description	Qty
1	SW2596	Chassis	1
2	SW2594	Wing LH	1
3	SW2595	Wing RH	1
4	SWH132	Hydraulic Cylinder	2
5	SWP30X170	Pin	2
6	SWP30X110DB	Pin – Dog Bone	2
7	SWP50X190	Pin	4
8	SWM1250	M12x50 Bolt	4
9	SWM12001	M12 Washer – Flat	8
10	SWM12004	M12 Nut – Nylock	4
11	SWM1670	M16x70 Bolt	4
12	SWM16001	M16 Washer – Flat	8
13	SWM16004	M16 Nut – Nylock	4
14	SWB105	Lynch Pin	2



### 6.4 R6F Base Machine



ltem No.	Part Number	Description	Qty
1	SW2596	Chassis	1
2	SW289	Wing LH	1
3	SW281	Wing RH	1
4	SWH132	Hydraulic Cylinder	2
5	SWP30X170	Pin	2
6	SWP30X110DB	Pin – Dog Bone	2
7	SWP50X190	Pin	4
8	SWM1250	M12x50 Bolt	4
9	SWM12001	M12 Washer – Flat	8
10	SWM12004	M12 Nut – Nylock	4
11	SWM1670	M16x70 Bolt	4
12	SWM16001	M16 Washer – Flat	8
13	SWM16004	M16 Nut – Nylock	4
14	SWB105	Lynch Pin	2



### 6.5 Standard Assemblies

- 6.5.1 Three Point Linkage Arrangements
- 6.5.1.1 Three Point Linkage Arrangement R3 Only



ltem No.	Part Number	Description	Qty
1	SW626	Bottom Linkage Pin	2
2	SW627	Top Linkage Pin	1
3	SWB107	Lynch Pin	2
4	SWB105	Lynch Pin	1



### 6.5.1.2 Three Point Linkage Arrangement – R4 Only



ltem No.	Part Number	Description	Qty
1	SW626ext	Bottom Linkage Pin	2
2	SW627ext	Top Linkage Pin	1
3	SWB107	Lynch Pin	2
4	SWB105	Lynch Pin	1



#### 6.5.1.3 Three Point Linkage Arrangement – R5 & R6 Only



ltem No.	Part Number	Description	Qty
1	SW626ext	Bottom Linkage Pin	2
2	SW627ext	Top Linkage Pin	1
3	SWB107	Lynch Pin	2
4	SWB105	Lynch Pin	1
5	SWS3156	Spacer Plate	2
6	SWM3090	M30x90 Bolt	4
7	SWM30001	M30 Washer – Flat	8
8	SWM30004	M30 Nut – Nylock	4



### 6.5.2 Standard Rippa Leg & Shear Pin Arrangement



ltem No.	Part Number	Description	Qty
1	SW271	Leg	1
2	SW195	Point	1
3	SWB179	Split Tension Bush	3
4	SWB180	Split Tension Bush	2
5	SWM1265PB	M12x65 Plough Bolt	1
6	SWM1290PB	M12x90 Plough Bolt	1
7	SWM12001	M12 Washer – Flat	2
8	SWM12004	M12 Nut – Nylock	2
9	SWM2090SB	M20x90 Shear Bolt	1
10	SWM2090	M20x90 Bolt	2
11	SWM20001	M20 Washer – Flat	6
12	SWM20004	M20 Nut – Nylock	3



#### 6.5.3 Depth Wheel Arrangement



Left & Right-hand version of the Depth Arm required. Left hand version shown.

ltem No.	Part Number	Description	Qty
1	SW585L	Depth Arm LH	1
1	SW585R	Depth Arm RH (Not Shown)	1
2	SWB411	Oilite Bush	2
3	SWB639	10/80 R12 Foam Filled Wheel & Tyre	1
4	SWB105	Lynch Pin	1
5	SWP30X105H	Pin – Handle	1
6	SWP30X435	Pin	1
7	SWM1240	M12x40 Bolt	1
8	SWM12001	M12 Washer – Flat	2
9	SWM12004	M12 Nut – Nylock	1
10	SWM20001	M20 Washer – Flat	
11	SWM20004	M20 Nut – Nylock	



#### 6.5.4 Rear Light Bracket Assemblies

#### 6.5.4.1 Rear Light Bracket Assembly – R3 Only



Left & Right-hand version of the light bracket required. Left hand version shown.

ltem No.	Part Number	Description	Qty
1	SW1554	Light Bracket LH	1
1	SW1555	Light Bracket RH (Not Shown)	1
2	SWB162	Reflector – Red Triangle	2
3	SWB715	Rear Light Stop Light / Indicator	2
4	SWM625AKH	M6x25 Cap Head Screw	8
5	SWM6001	M6 Washer – Flat	8
6	SWM6004	M6 Nut – Nylock	8
7	SWM1245	M12x45 Bolt	6
8	SWM12001	M12 Washer – Flat	12
9	SWM12004	M12 Nut – Nylock	6



#### 6.5.4.2 Rear Light Bracket Assembly – R4F, R5F & R6F Only



Left & Right-hand version of the light bracket required. Right hand version shown.

ltem No.	Part Number	Description	Qty
1	SW2598	Light Bracket RH	1
1	SW2597	Light Bracket LH (Not Shown)	1
2	SWB162	Reflector – Red Triangle	1
3	SWB715	Rear Light Stop Light / Indicator	1
4	SWM625AKH	M6x25 Cap Head Screw	4
5	SWM6001	M6 Washer – Flat	4
6	SWM6004	M6 Nut – Nylock	4
7	SWM1250	M12x50 Bolt	3
8	SWM12001	M12 Washer – Flat	6
9	SWM12004	M12 Nut – Nylock	3



#### 6.5.5 Side/Indicator Light Bracket Assembly

#### 6.5.5.1 Side/Indicator Light Bracket Assembly – R4F & R5F Only



Note: Left & Right-Hand version required. Left-Hand version shown.

ltem No.	Part Number	Description	Qty
1	SW2557	Side Light Bracket	2
2	SWB172	Side Light LH *	1
2	SWB173	Side Light RH (Not Shown) *	1
3	SWB440	Parabolic Bump Stop	2
4	SWM630	M6x30 Screw	4
5	SWM6001	M6 Washer – Flat	8
6	SWM6004	M6 Nut – Nylock	4
7	SWM8001	M8 Washer – Flat	2
8	SWM8004	M8 Nut – Nylock	2
9	SWM1290	M12x90 Screw	2
10	SWM12001	M12 Washer – Flat	4
11	SWM12004	M12 Nut – Nylock	2



### 6.5.6 Dog Bone Assembly



Complete Assembly – SWA1582				
ltem No.	Part Number	Description	Qty	
1	SWS21165	Holder	1	
2	SWS21126	Dog Bone	2	
3	SWM1250	M12x50 Bolt	1	
4	SWM12001	M12 Washer – Flat	2	
5	SWM12004	M12 Nut – Nylock	1	
6	SWM1650	M16x50 Bolt	1	
7	SWM16001	M16 Washer – Flat	2	
8	SWM16004	M16 Nut – Nylock	1	

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# 7. Hydraulic Function Diagrams

#### Standard Symbols Key:



#### **Auto Reset Valve:**





#### 7.1 R4F, R5F & R6F - Hydraulic Function Schematic



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# 8. Electrical Schematics





# 9. Standard Torque Values

Non-Standard torque values will appear in the parts book section of this document.

Standard Toque Values (Nm) (Unless Otherwise Stated)				
Thread	Grade 8.8	Grade 10.9	Stainless Steel	
M6	10	14	7	
M8	25	36	17	
M10	50	70	33	
M12	86	121	57	
M16	215	314	140	
M20	410	580	273	
M24	710	1000	472	
M30	1400	1450	930	

For any arrangement using Nord-Lock washers, see Nord-Lock website:

Torque Guide for Nord-Lock Washers - Nord-Lock Group