



GROWING WITH YOU

# STRAKE

## 2023 Mounted Range (S)

Machine Manual & Parts Book

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Sumo UK LTD, Redgates,  
Melbourne, York YO42 4RG

info@sumo1.com  
01759 319 900

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## 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 Strake is a versatile machine which offers a multitude of benefits. The even distribution of chaff and straw combined with mixing with soil is essential when encouraging the growth of unwanted seeds including black grass.

The 15mm carbide tips, combined with powerful spring tines prove an ideal combination when wanting to achieve a shallow tilth. This disturbance will provide the ideal conditions for the rouge seeds to chit.

The superior frame build quality and tine design allows forward speeds of 10 – 25 kmh giving unrivalled performance even in the hardest ground.

The Sumo Strake prepares the stubble for the next pass which makes drilling, cultivating or ploughing easier due to even trash distribution.

Note: This stage description is based on our standard offering but will change depending on implements 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.

### Strake Mounted Range

Spec	Strake 6m	Strake 8m
Code	S6	S8
Tines	80	107
Tine Spacing	75-150mm	75-150mm
Tine Adjustment	Hydraulic	Hydraulic
Machine Type	Folding	Folding

### Available Options

Code	Option Code	Description	Specifications
S6	S6.SFK	Seeder Fitting Kit	Turbojet i-CON 8 - 8 Outlets
S8	S8.SFK	Seeder Fitting Kit	Turbojet i-CON 8 - 8 Outlets

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 may 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 Strake

Due to the mounted and adjustable nature of the Strake machines, they do not have a set transport position, but it is advised that: All legs are retracted/lifted to ensure that they do not contact the ground. Ensure all stands are fully lifted and securely pinned. 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/axle 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.

#### Machines (Excluding Options)

Code	Length	Width	Height
S6	2965	2871	3141
S8	2965	2871	4188

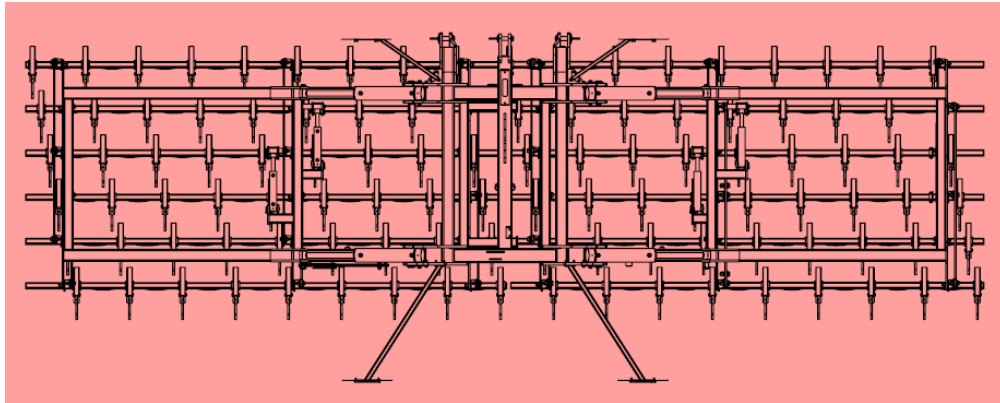
#### Machines (Including Options)

Code	Length	Width	Height
S6.SFK	-	-	-
S8.SFK	-	-	-

## 4. Danger Zone

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

### Mounted Strake



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 Strake

**Notes:** Ensure the Cultivator Operators Manual, & Machine Manual are read and fully understood.

**Purpose of machine:** Primarily designed to distribute and mix straw/chaff and improve soil structure with minimal surface disturbance.

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

1. A bank of hydraulically controlled sprung tines.

All the above is arranged in a 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.
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.



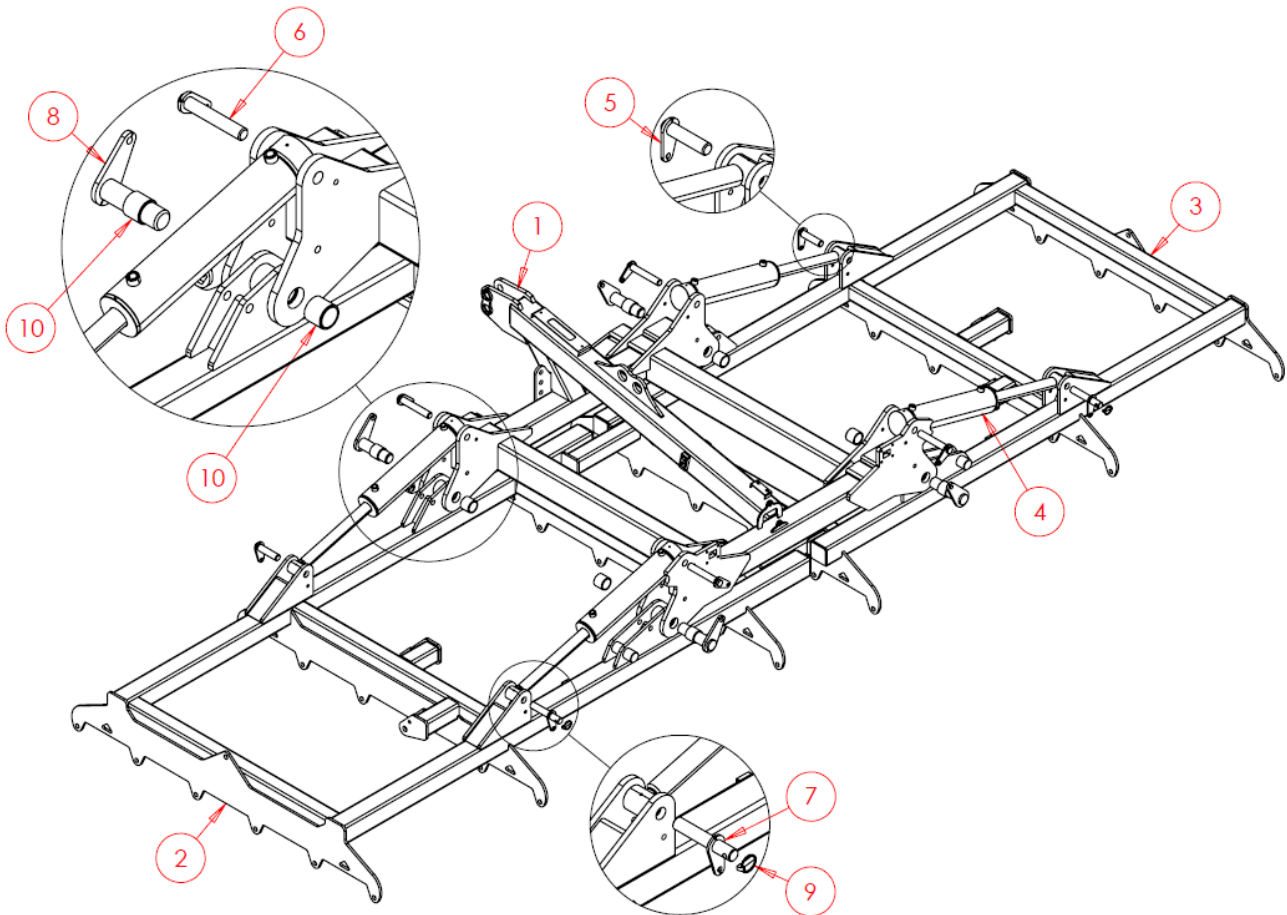
## 5 Risk Assessments - Continued

Hazard Identified in Using Machine	Who Might Be Harmed	Risk Evaluation /Level (1-5)	Precautions In Place	Further Action Required
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 wear 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 use wooden chocks etc.

## 6. Parts Book Index

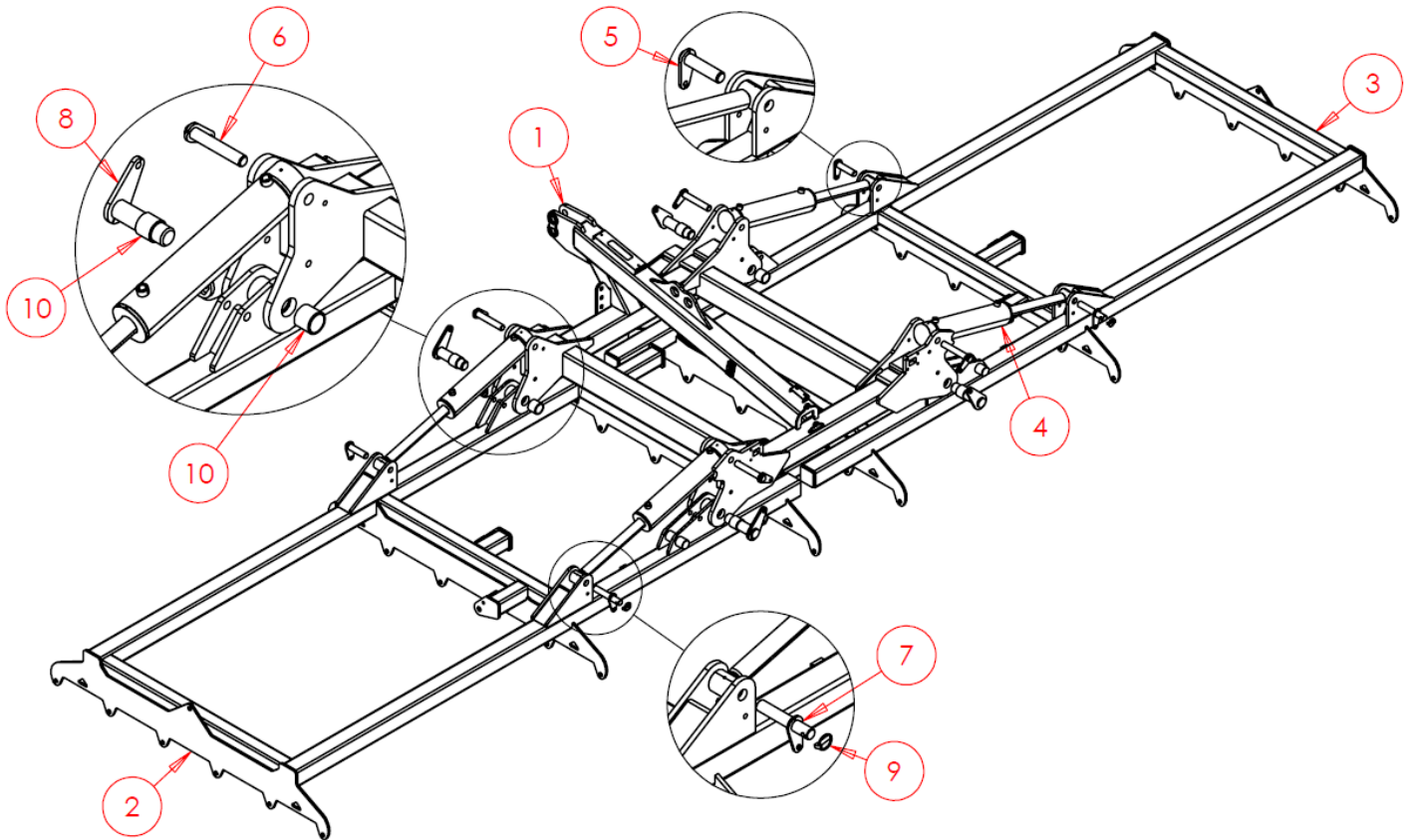
For older machines, see manuals & parts book available on the Sumo website.

### 6.1 S6 Base Machine



Item No.	Part Number	Description	Qty
1	SWA1832	Headstock	1
2	SWA1835	Wing LH	1
3	SWA1842	Wing RH	1
4	SWH132	Hydraulic Cylinder	4
5	SWP30X115	Pin	2
6	SWP30X180	Pin	4
7	SWP30X180DB	Pin - Dog Bone	2
8	SWP50X175	Pin	4
9	SWB105	Lynch Pin	2
10	SWB1046	Bush	8

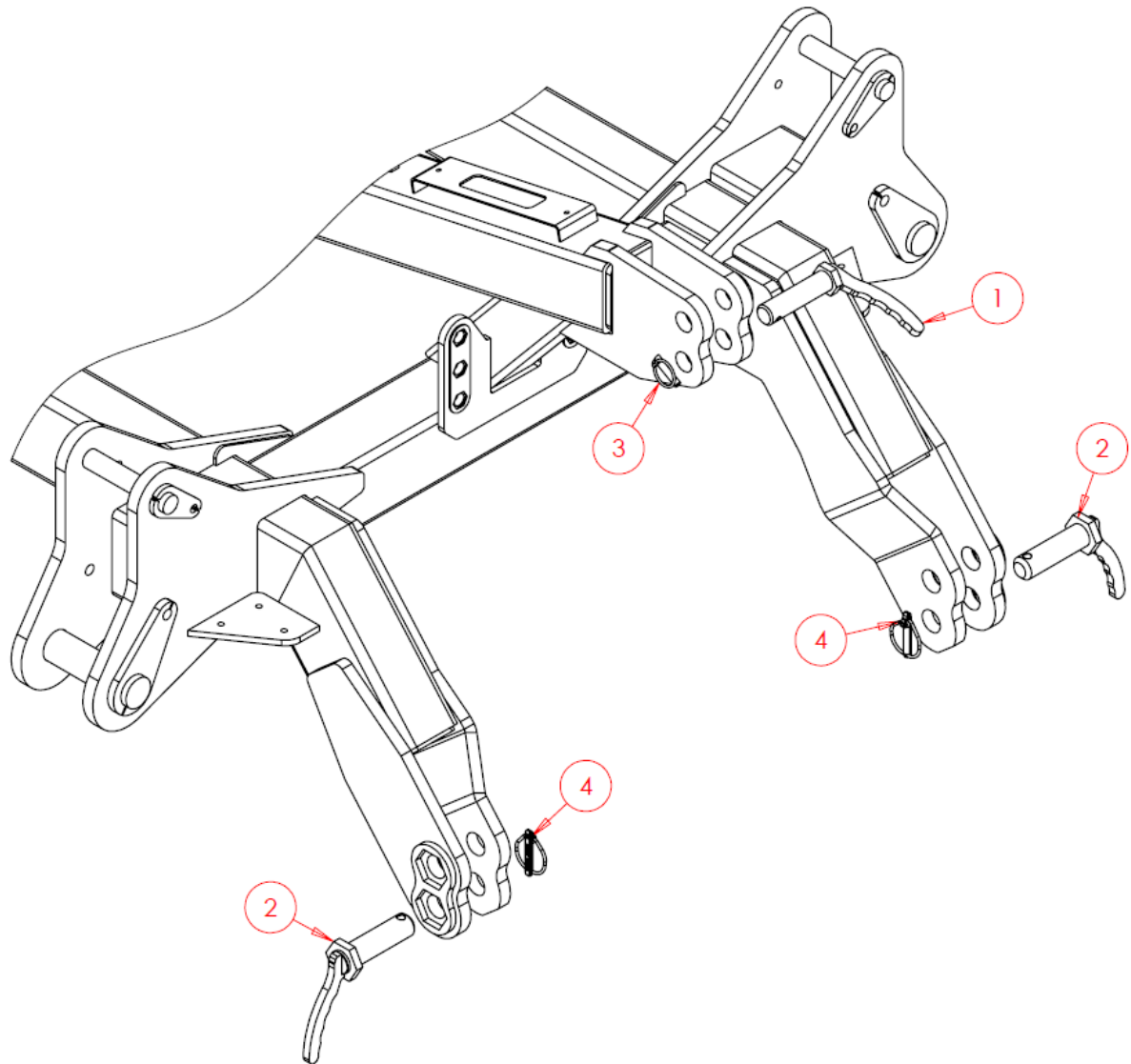
## 6.2 S8 Base Machine



Item No.	Part Number	Description	Qty
1	SWA1832	Headstock	1
2	SWA2035	Wing LH	1
3	SWA2038	Wing RH	1
4	SWH132	Hydraulic Cylinder	4
5	SWP30X115	Pin	2
6	SWP30X180	Pin	4
7	SWP30X180DB	Pin - Dog Bone	2
8	SWP50X175	Pin	4
9	SWB105	Lynch Pin	2
10	SWB1046	Bush	8

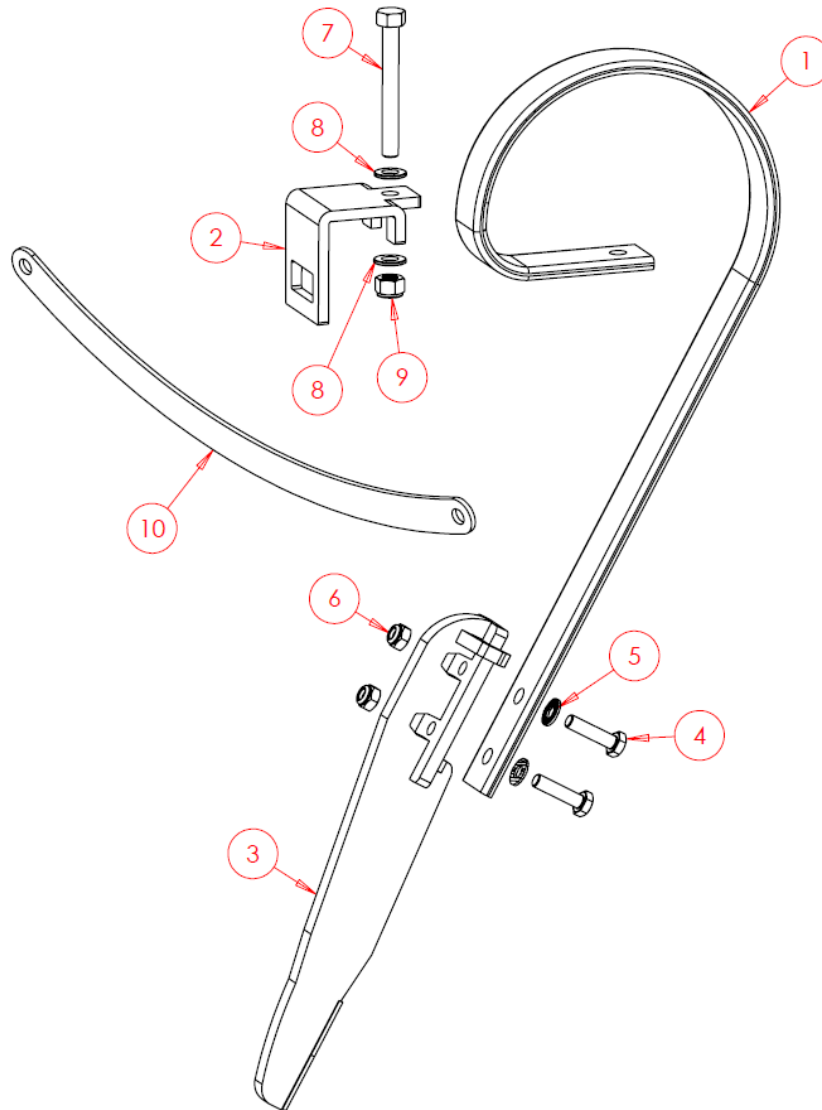
## 6.3 Standard Assemblies

### 6.3.1 Three Point Linkage Pins



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

### 6.3.2 Standard Tine Assembly

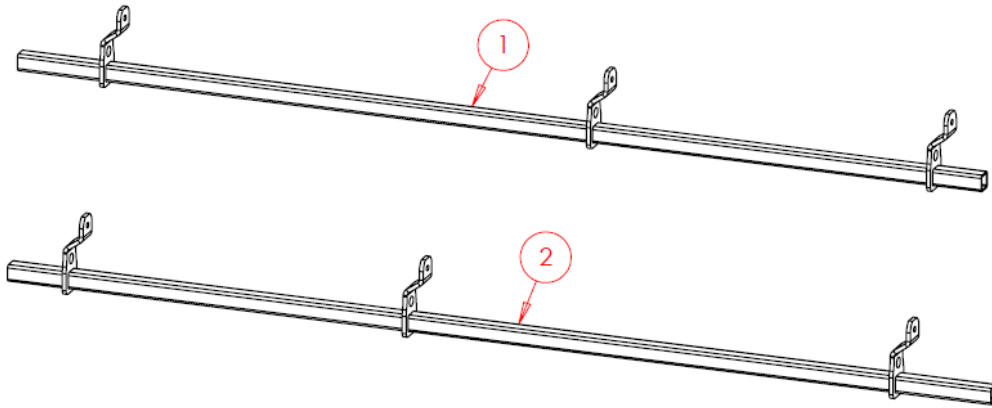


**Complete Assembly – SWA1881**

Item No.	Part Number	Description	Qty
1	SWB272	Spring Tine	1
2	SWB453	Clamp Plate	1
3	SW2111	Point	1
4	SWM1040-10.9	M10x40 Bolt Grade 10.9	2
5	SWM10001-AV	M12 Washer – Anti Vibration	2
6	SWM10004-10.9	M10 Nylock Nut Grade 10.9	2
7	SWM12100	M12x100 Bolt	1
8	SWM12001	M12 Washer – Plain	2
9	SWM12004	M12 Nut – Nylock	1
10	SWS21440	Spacer Plate	-

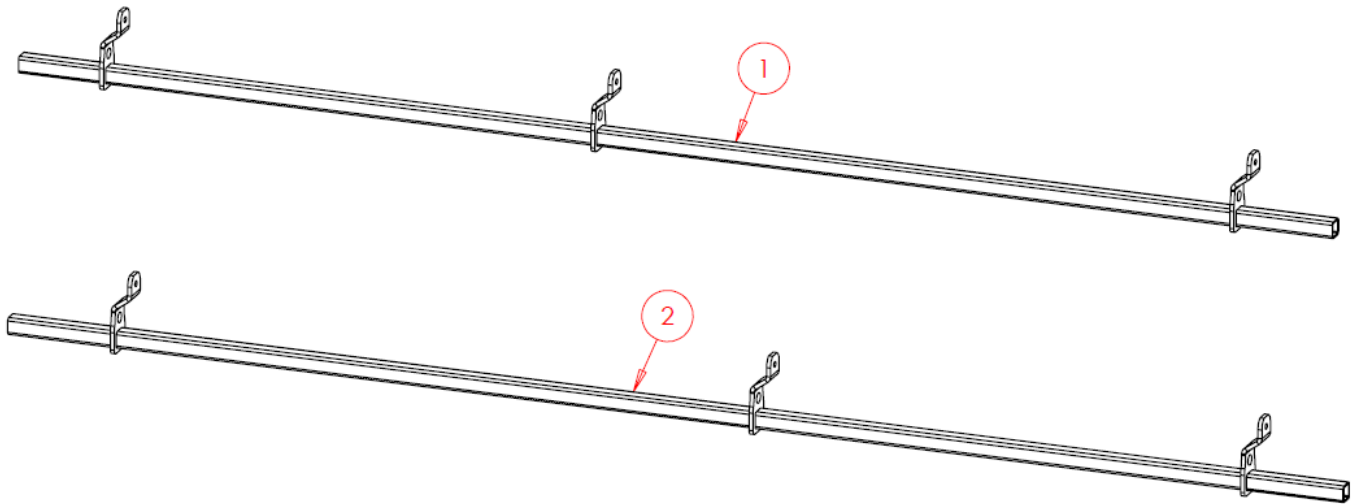
### 6.3.3 Tine Rails

#### 6.3.3.1 Tine Rails – S6 Only



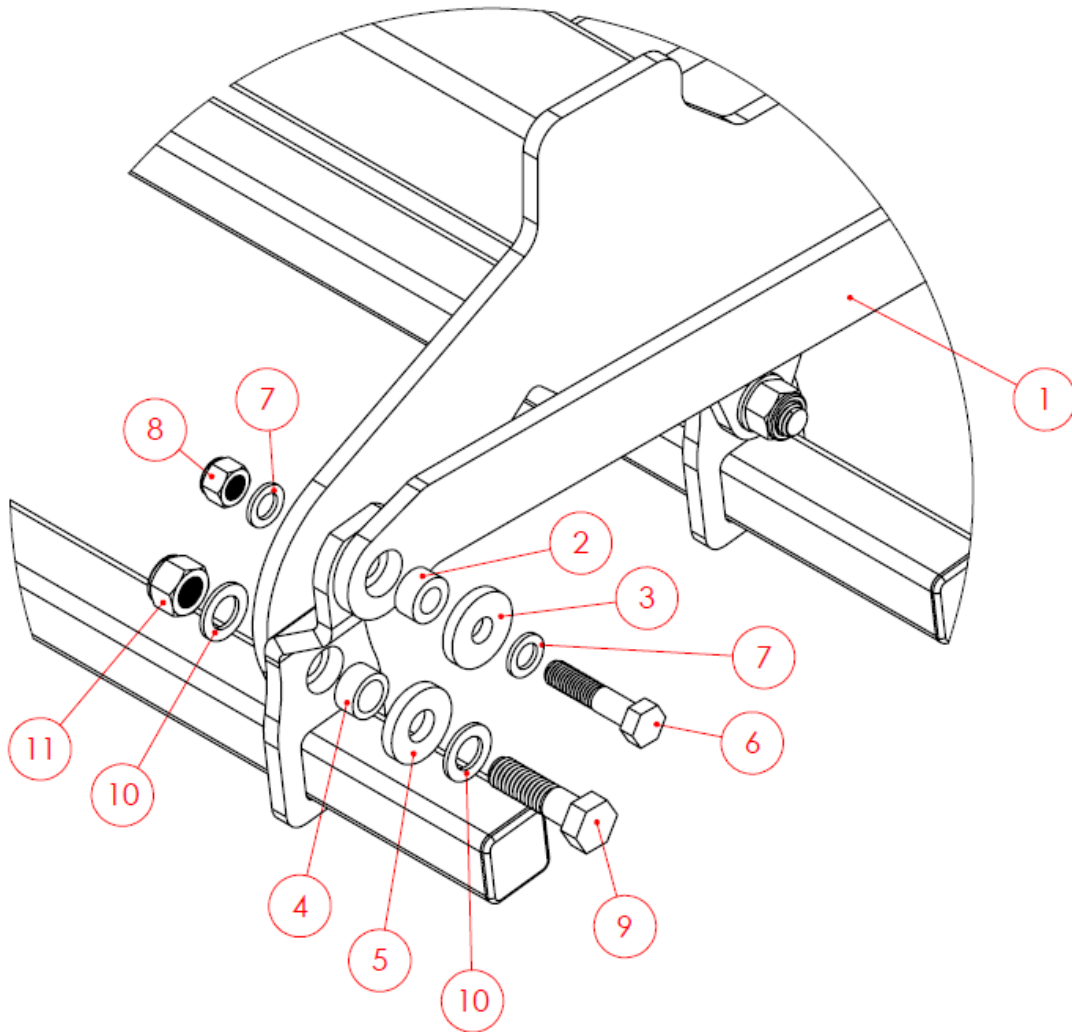
Item No.	Part Number	Description	Qty
1	SWA1837	Tine Rail - LH Row 1,3,5 - RH Row 2,4,6	6
2	SWA1838	Tine Rail - LH Row 2,4,6 - RH Row 1,3,5	6

#### 6.3.3.2 Tine Rails – S8 Only



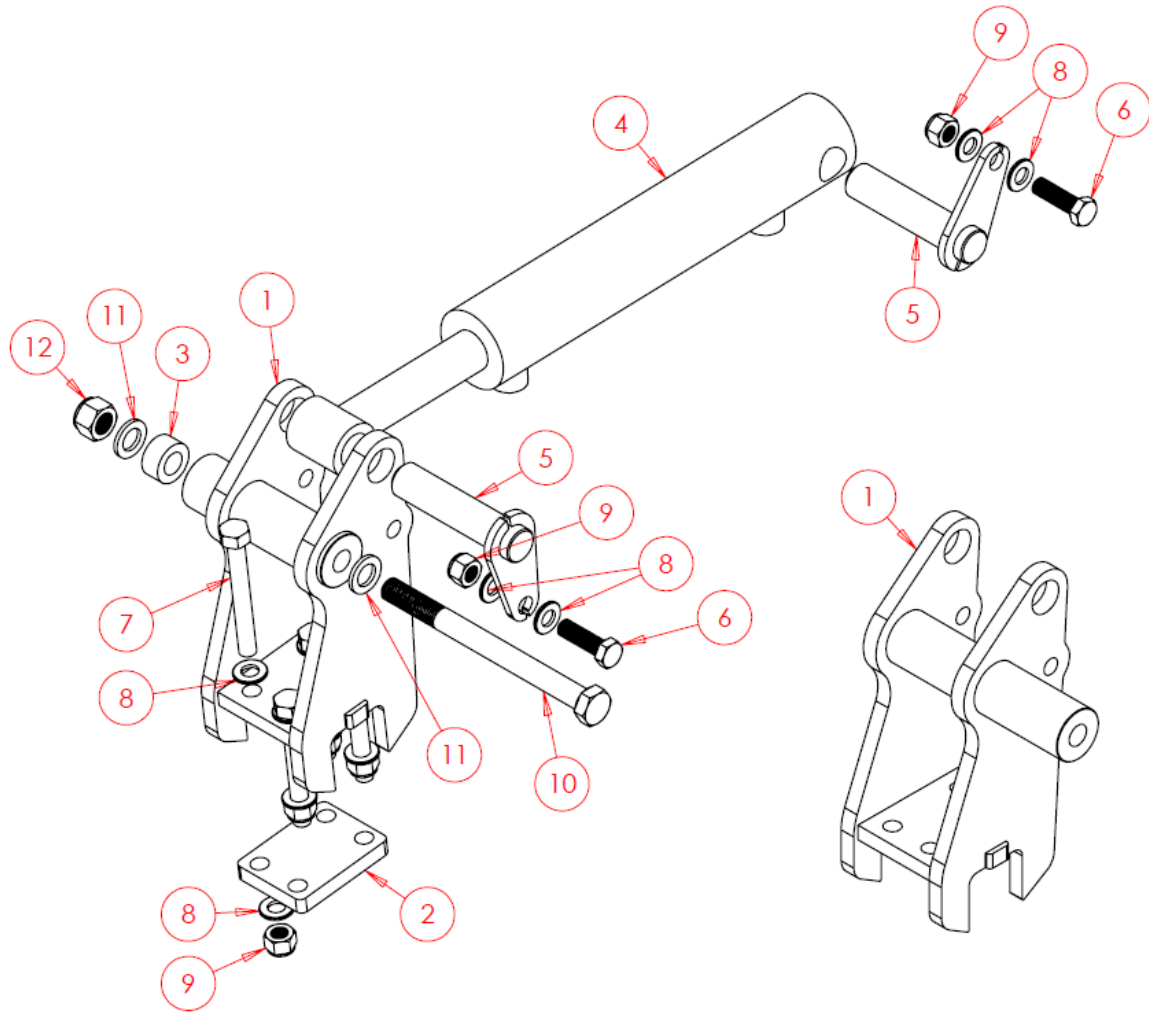
Item No.	Part Number	Description	Qty
1	SWA2040	Tine Rail - LH Row 1,3,5 - RH Row 2,4,6	6
2	SWA2041	Tine Rail - LH Row 2,4,6 - RH Row 1,3,5	6

### 6.3.4 Standard Push Bar Arrangement



Item No.	Part Number	Description	Qty
1	SWS23222	Push Bar	1
2	SW2971	Small Bearing	1
3	SW2972	Extra Large Washer	1
4	SW2973	Large Bearing	1
5	SW2974	Extra Large Washer	1
6	SWM1670	M16x70 Bolt	1
7	SWM16001	M16 Washer - Flat	2
8	SWM16004	M16 Nut - Nylock	1
9	SWM2070	M20x70 Bolt	1
10	SWM20001	M20 Washer - Flat	2
11	SWM20004	M20 Nut - Nylock	1

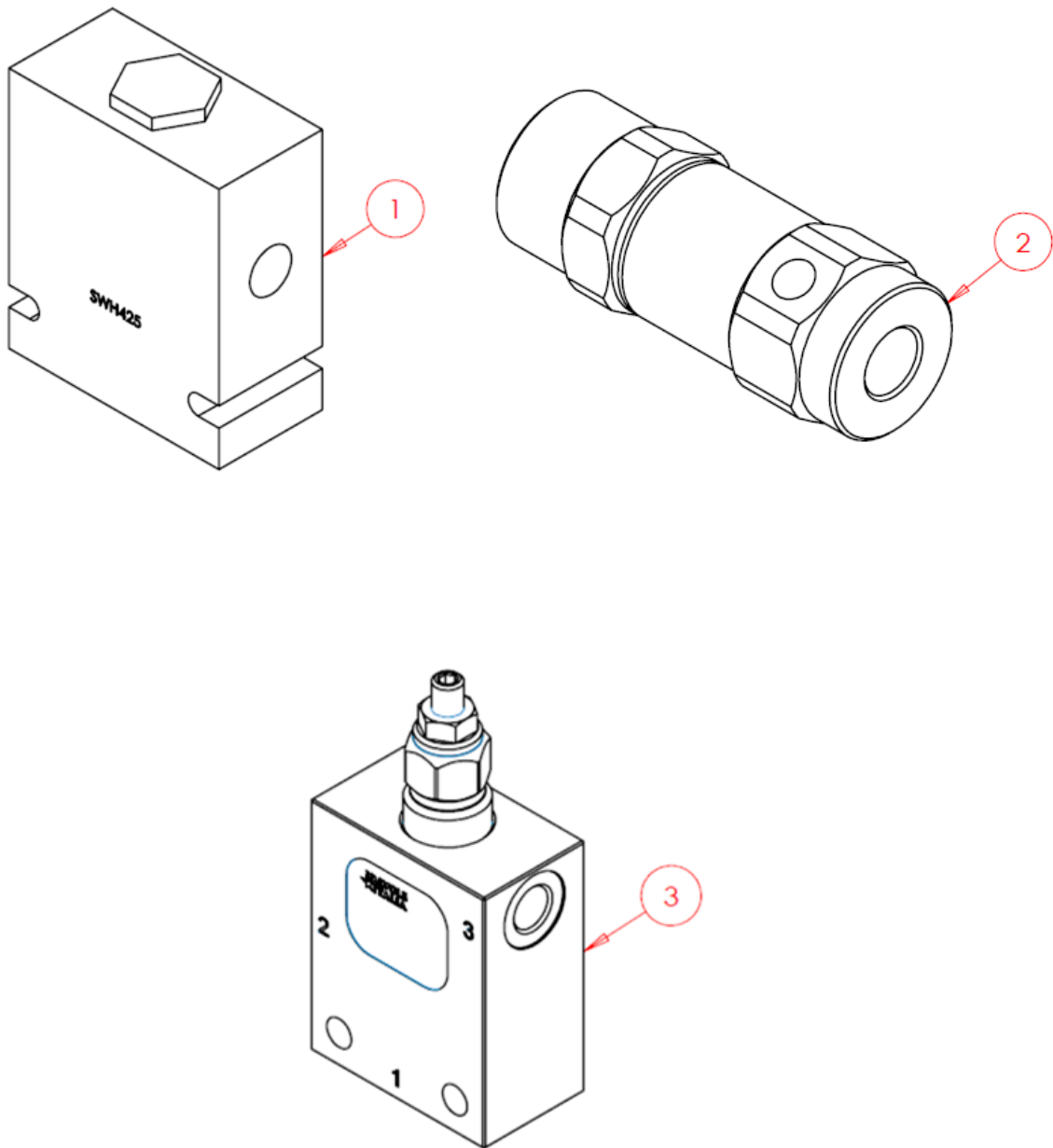
### 6.3.5 Push Clamps & Rail Hydraulics Arrangements



Item No.	Part Number	Description	Qty
1	SWA2419	Push Clamps - Short	1
1	SWA2418	Push Clamps - Long	1
2	SWS21436	Clamp Plate	1
3	SW2971	Bearing	1
4	SWH107	Hydraulic Cylinder	1
5	SWP25X100	Pin	2
6	SWM1240	M12x40 Screw	2
7	SWM12100	M12x100 Screw	4
8	SWM12001	M12 Washer - Flat	12
9	SWM12004	M12 Nut - Nylock	6
10	SWM1670	M16x70 Bolt	1
10	SWM16240	M16x240 Bolt	1
11	SWM16001	M16 Washer - Flat	2
12	SWM16004	M16 Nut - Nylock	1



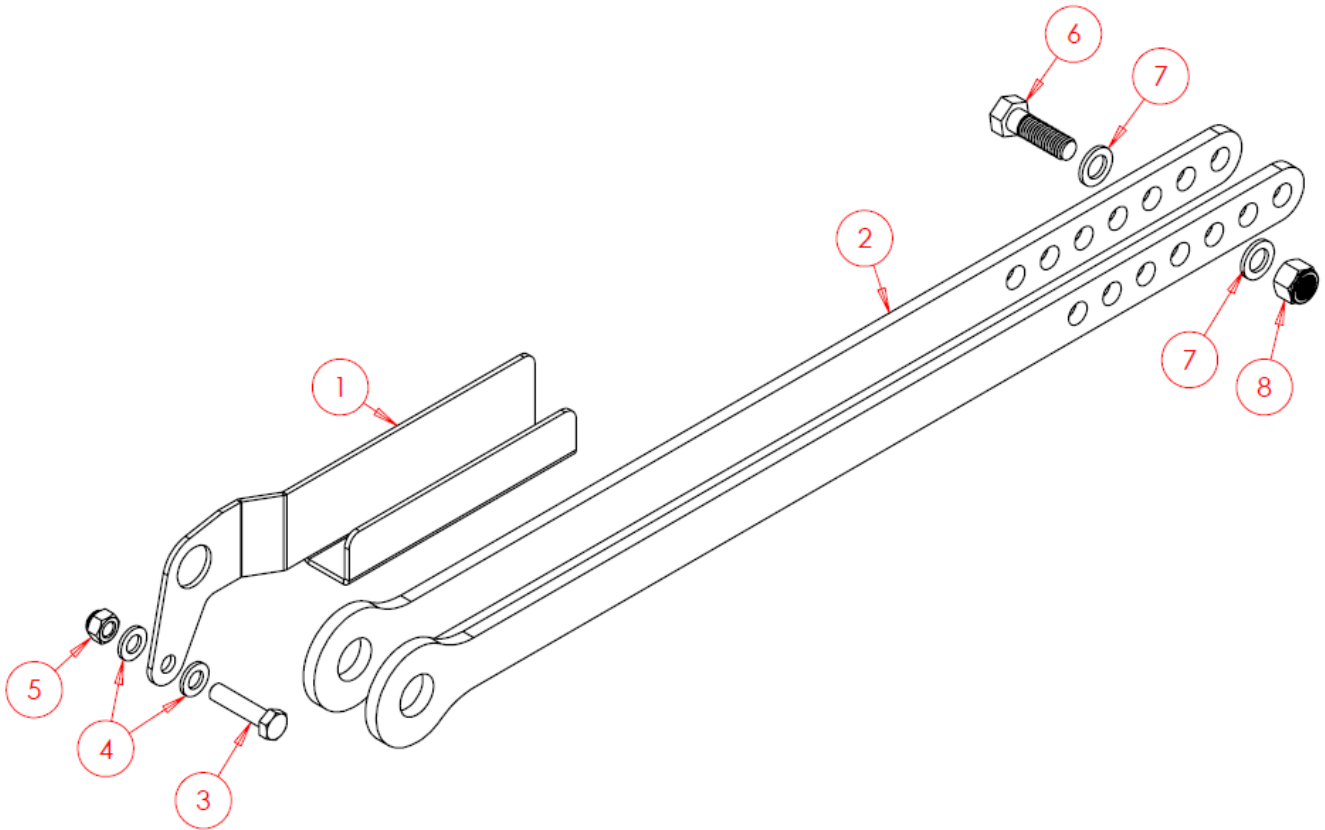
## 6.3.6 Wing Equalizer, Lock & Load Holding Valves



Quantities below are per hydraulic cylinder, not per machine.

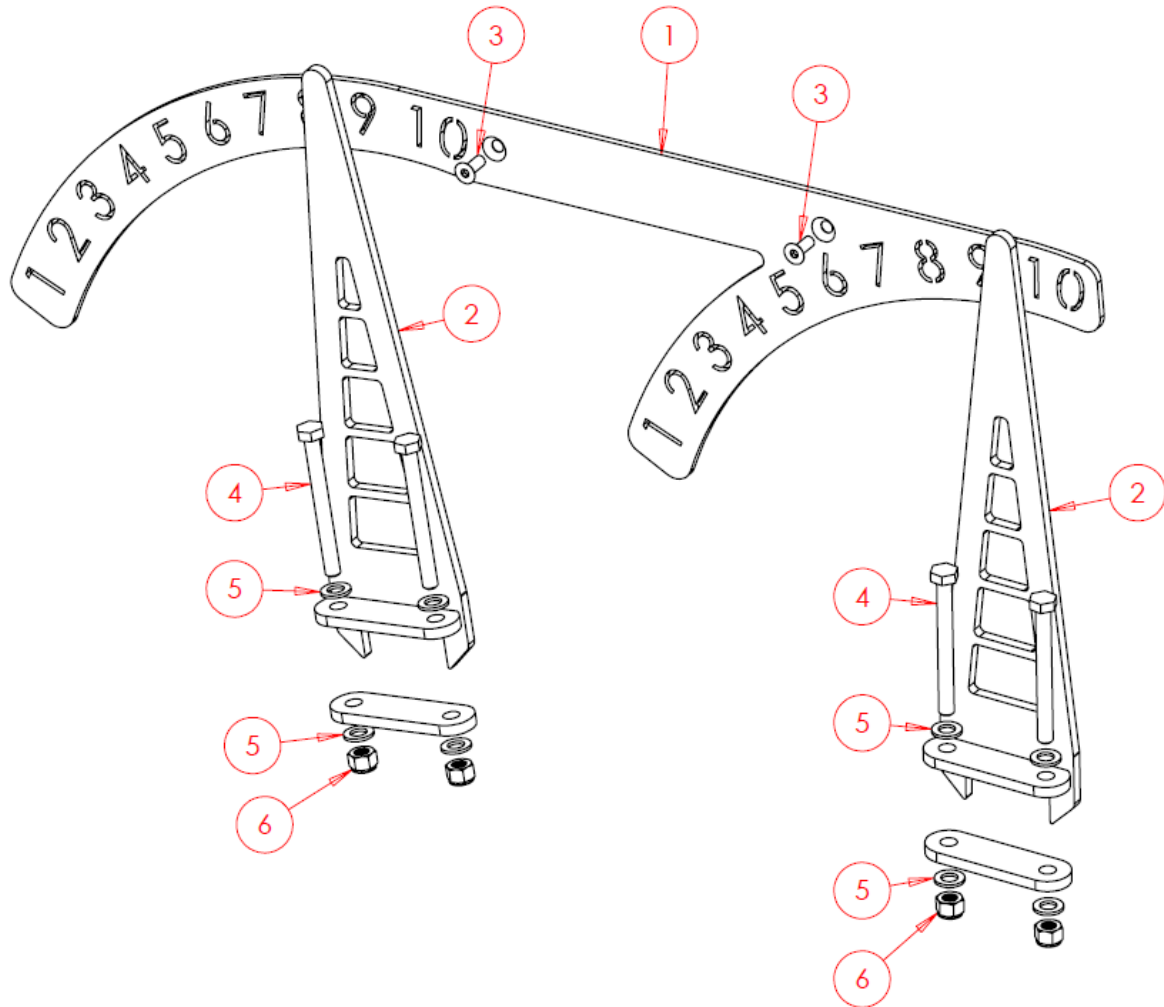
Item No.	Part Number	Description	Qty
1	SWH425	Wing Equalizer – Flow Divider	N/A
2	SWB1308	Wing Lock – Pilot Operated Check Valve	1
3	SWH749	Load Holding Valve – Counterbalance Valve	1

## 6.3.7 Dog Bone Assembly



Complete Assembly – SWA2024			
Item No.	Part Number	Description	Qty
1	SWS21488	Holder	1
2	SWS21487	Dog Bone	2
3	SWM1250	M12x50 Bolt	1
4	SWM12001	M12 Washer – Plain	2
5	SWM12004	M12 Nut – Nylock	1
6	SWM1650	M16x50 Bolt	1
7	SWM16001	M16 Washer – Plain	2
8	SWM16004	M16 Nut – Nylock	1

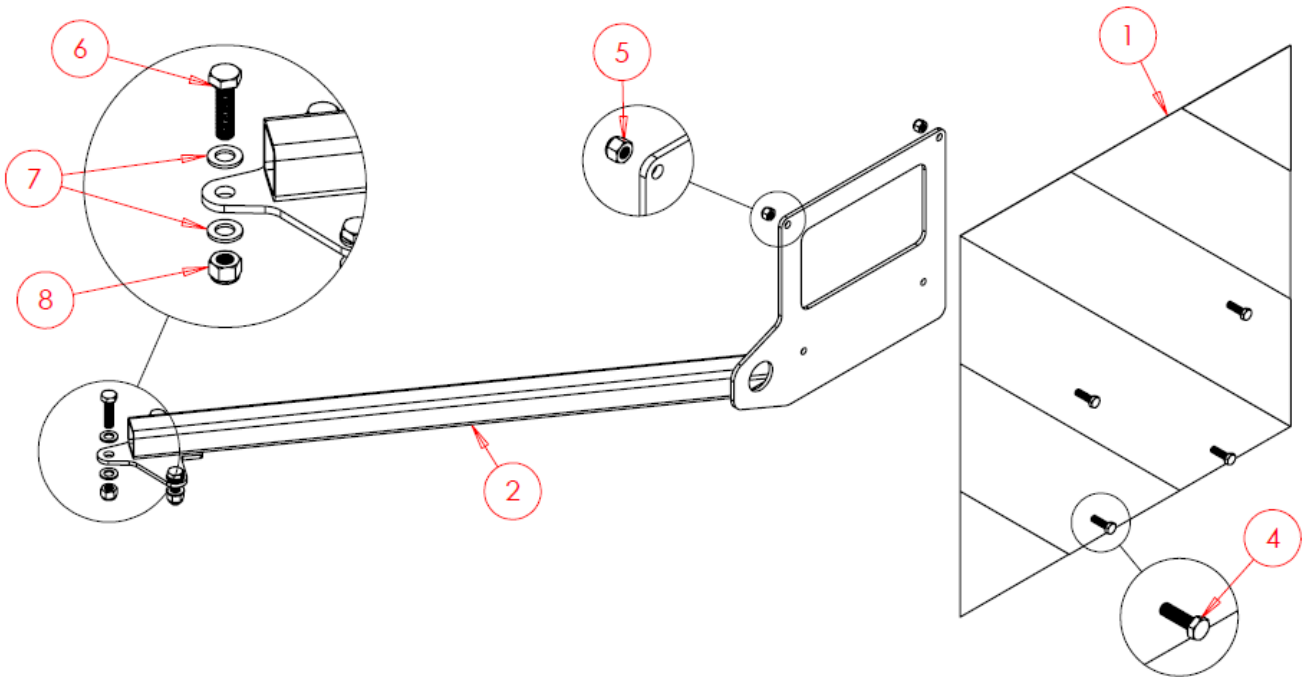
## 6.3.8 Depth Gauge & Indicator



Item No.	Part Number	Description	Qty
1	SWS21452	Depth Gauge	1
2	SWS21453	Depth Indicator	2
3	SWM616CSK	C/Sink Bolt	2
4	SWM880	M8x80 Bolt	4
5	SWM8001	M8 Washer - Flat	8
6	SWM8004	M8 Nut - Nylock	4

## 6.3.9 Hazard Boards

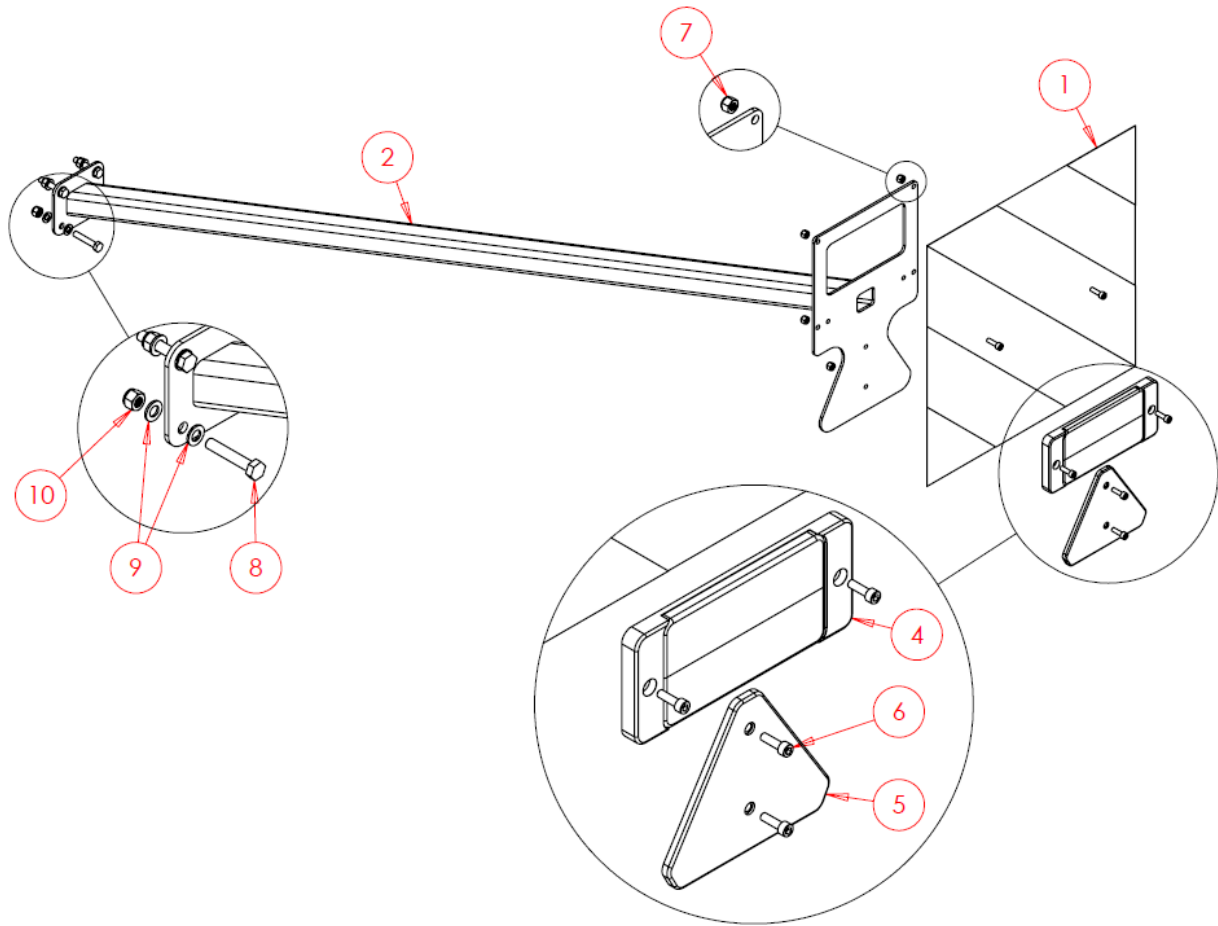
### 6.3.9.1 Front Hazard Boards



Quantities below are per machine, not per individual light bracket. Only Left hand Shown.

Item No.	Part Number	Description	Qty
1	SWB651	Hazard Board	2
2	SWA2018	Front Bracket RH	1
3	SWA2016	Front Bracket LH (Not Shown)	1
4	SWM620	M6x20 Bolt	8
5	SWM6004	M6 Nut - Nylock	8
6	SWM830	M8x30 Screw	6
7	SWM8001	M8 Washer - Flat	12
8	SWM8004	M8 Nut - Nylock	6

### 6.3.9.2 Rear Hazard Boards



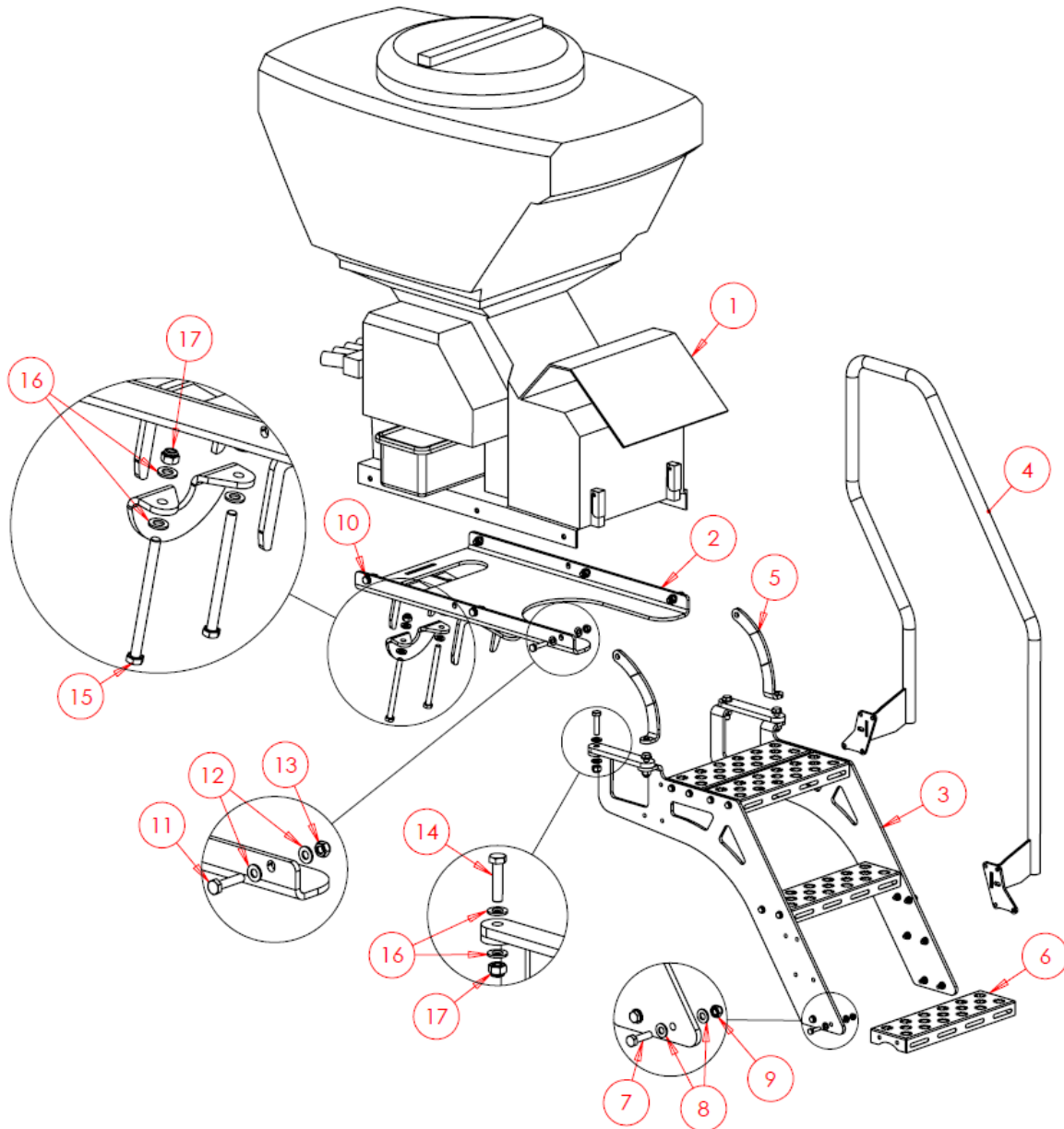
Quantities below are per machine, not per individual light bracket. Only Right hand Shown.

Item No.	Part Number	Description	Qty
1	SWB651	Hazard Board	2
2	SWA2018	Rear Light Bracket RH	1
3	SWA2016	Rear Light Bracket LH (Not Shown)	1
4	SWB715	Rear Stop/Indicator Light	2
5	SWB162	Reflector - Red Triangular	2
6	SWM620AK	M6x20 Socket Head Bolt	12
7	SWM6004	M6 Nut - Nylock	12
8	SWM845	M8x45 Screw	8
9	SWM8001	M8 Washer - Flat	16
10	SWM8004	M8 Nut - Nylock	8

## 6.4 Optional Extras/Attachments

### 6.4.1 Seeder Fitting Kit Arrangement

#### 6.4.1.1 Seeder Mounting Arrangement



**Complete Assembly - SW3177**

Item No.	Part Number	Description	Qty
1	Turbojet8	Turbojet i-CON 8	1
2	SWA2997	Seeder Mount	1
3	SWA2996	Steps Brackets	1
4	SW1101	Handrail	1
5	SWS24586	Support Plate	2

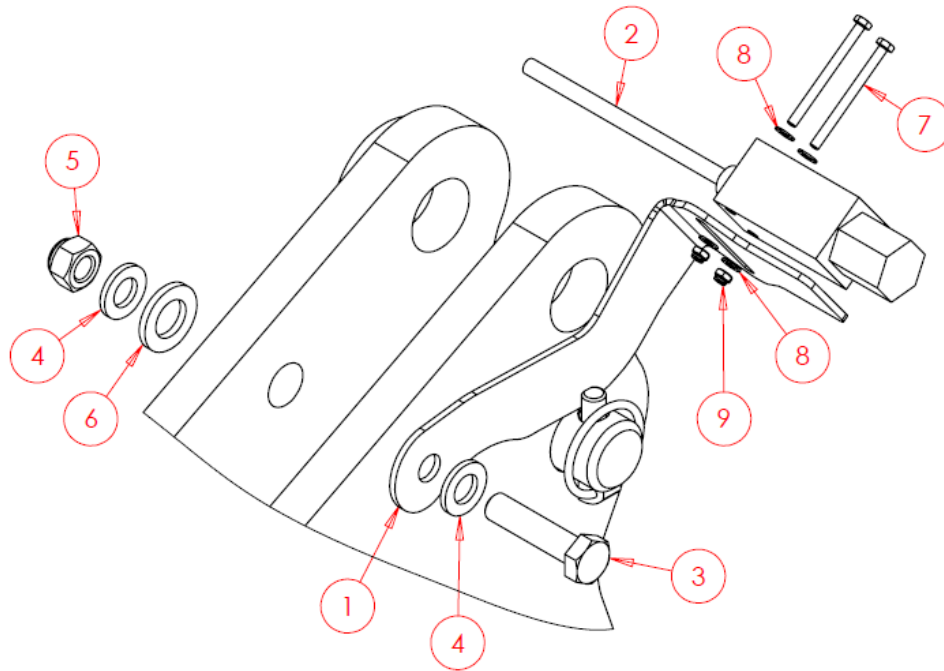


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6	SW1290	Galvanised Step	4
7	SWM830	M8x30 Bolt	23
8	SWM8001	M8 Washer – Plain	46
9	SWM8004	M8 Nut – Nylock	23
10	SWM1035	M10x35 Bolt	4
11	SWM1040	M10x40 Bolt	2
12	SWM10001	M10 Washer – Plain	12
13	SWM10004	M10 Nut – Nylock	6
14	SWM1250	M12x50 Bolt	4
15	SWM12160	M12x160 Bolt	2
16	SWM12001	M12 Washer – Plain	12
17	SWM12004	M12 Nut – Nylock	6

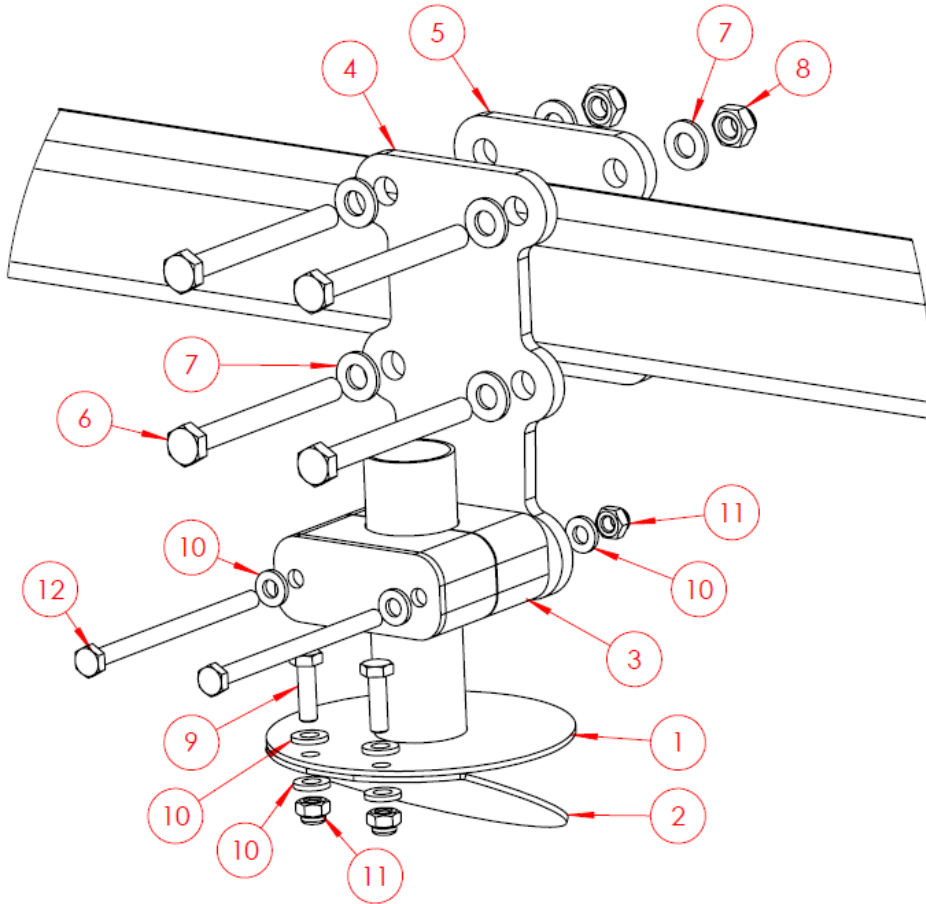
## 6.4.1.2 Finger Switch Assembly



Item No.	Part Number	Description	Qty
1	SW1176	Bracket	1
2	SWB850	Finger Switch	1
3	SWM1250	M12x50 Bolt	1
4	SWM12001	M12 Washer - Flat	2
5	SWM12004	M12 Nut - Nylock	1
6	SWM16001	M16 Washer - Flat	1
7	SWM450	M4x50 Screw	2
8	SWM4001	M4 Washer - Flat	4
9	SWM4004	M4 Nut - Nylock	2



## 6.4.1.3 Seeder Outlet



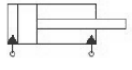

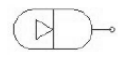
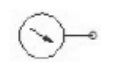

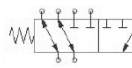

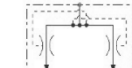
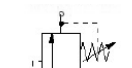
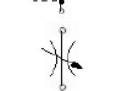
Item No.	Part Number	Description	Qty*
1	SWA2607	Seeder Outlet	1
2	SW6357	Splash Plate	1
3	SWB1385	32mm Stauff Clamp	1
4	SW6413	Outlet Mounting Clamp – Front	1
5	SW6509	Outlet Mounting Clamp – Rear	1
6	SWM880	M8x80 Bolt	4
7	SWM8001	M8 Washer – Flat	8
8	SWM8004	M8 Nut – Nylock	4
9	SWM620	M6x20 Screw	2
10	SWM6001	M6 Washer – Flat	8
11	SWM6004	M6 Nut – Nylock	4
12	SWM690	M6x90 Bolt	2
**	SWB344	Seed Hose	-

\* Quantities above are per outlet, NOT per machine.

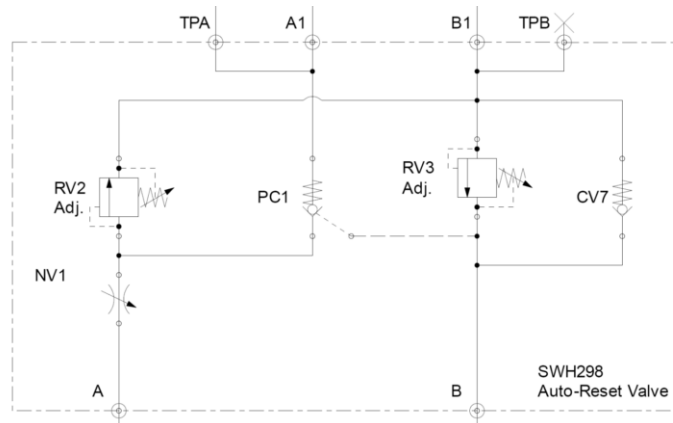
\*\* Hose is typically sold in metres, provide desired cut length when requesting.

## 7. Hydraulic Function Diagrams

### Standard Symbols Key:

	=	Double Acting Cylinder
	=	Single Acting Cylinder
	=	Accumulator
	=	Pressure Gauge
	=	Quick Release/Check Valve
	=	Six Way Changeover Valve
	=	Ball Valve
	=	Flow Divider/Combiner
	=	Pilot Operated Relief Valve
	=	Flow Restrictor

### Auto Reset Valve:



## 7.1 Tine Adjustment Hydraulic Circuit - Odd Rows

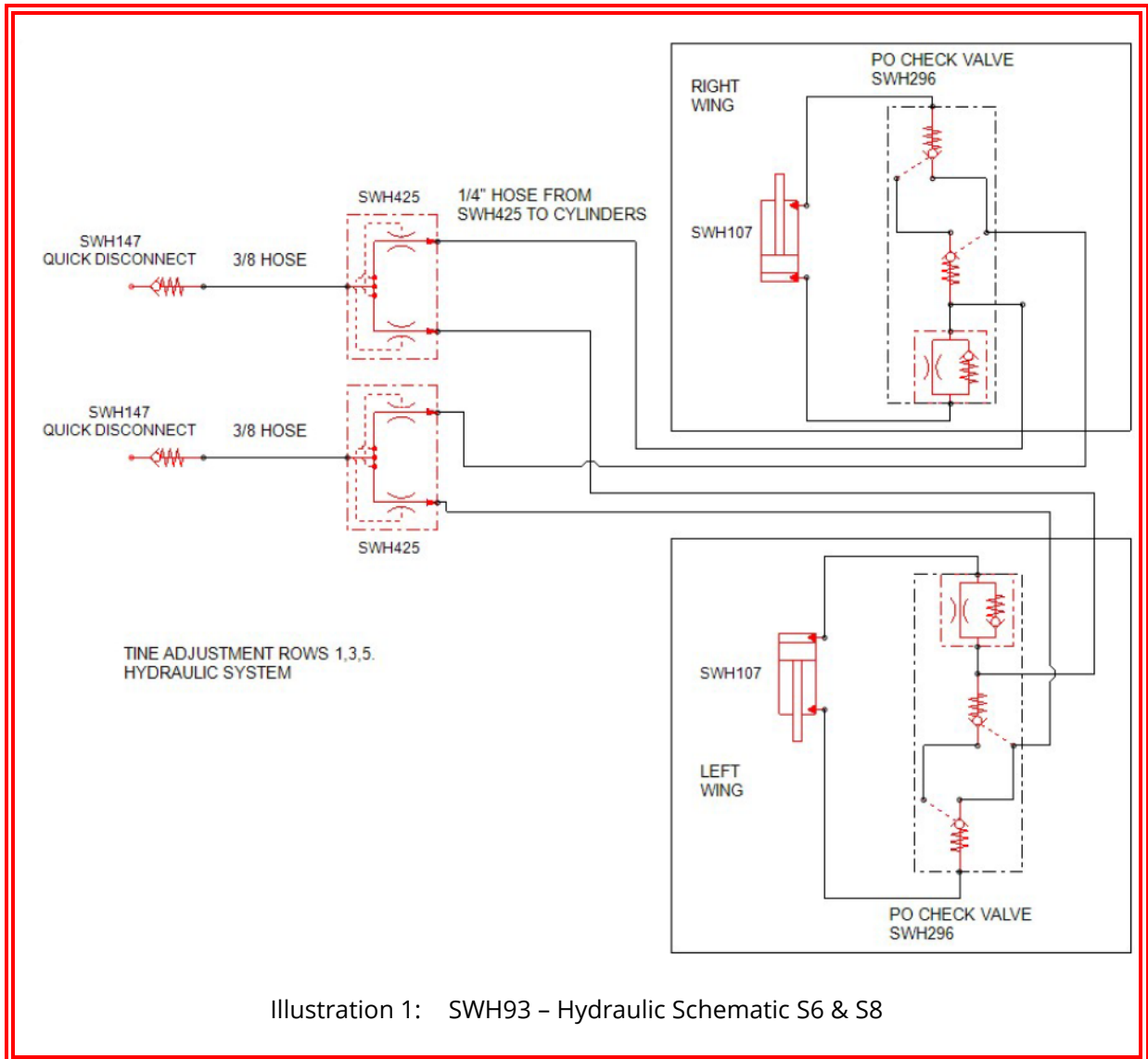
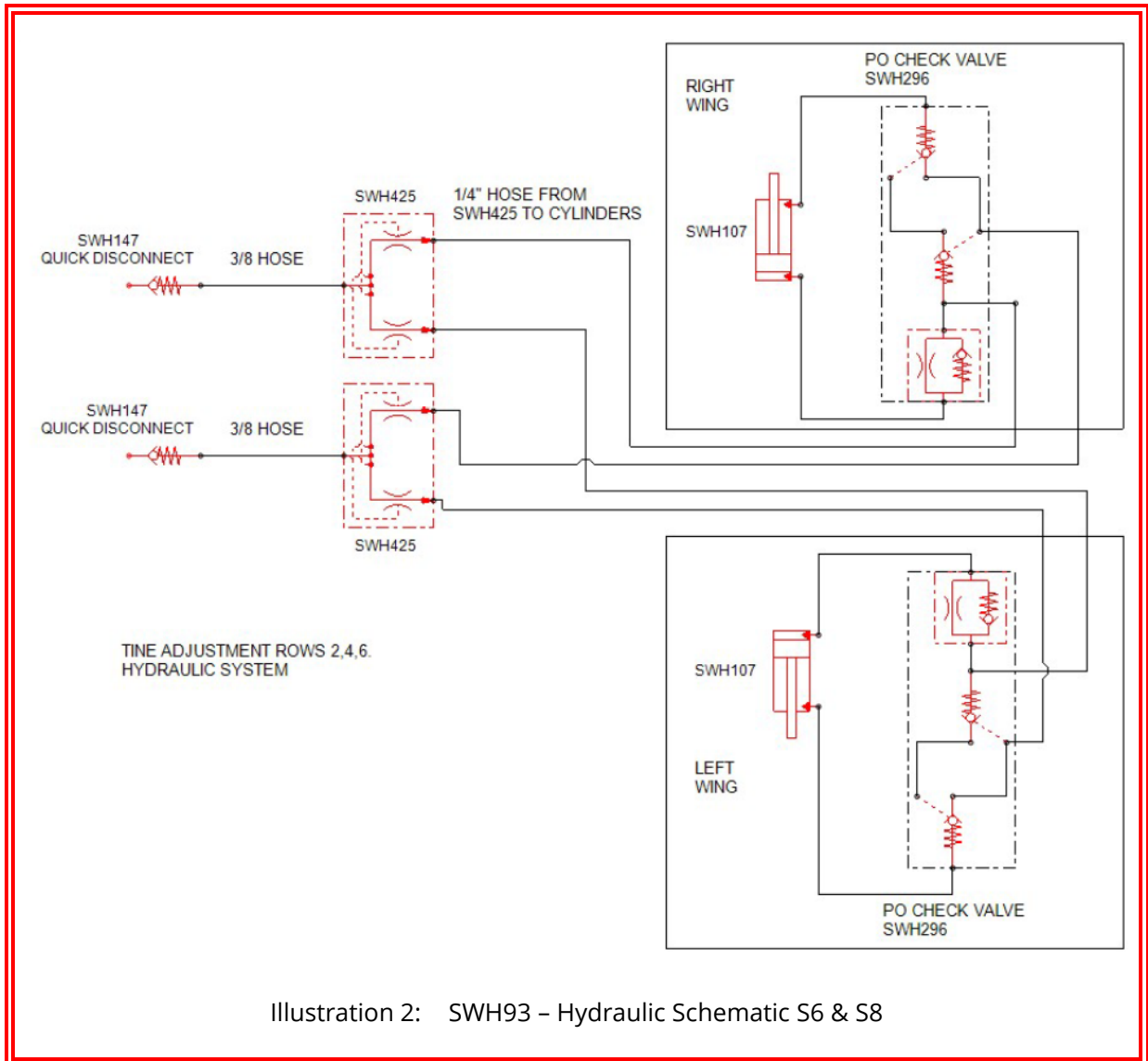
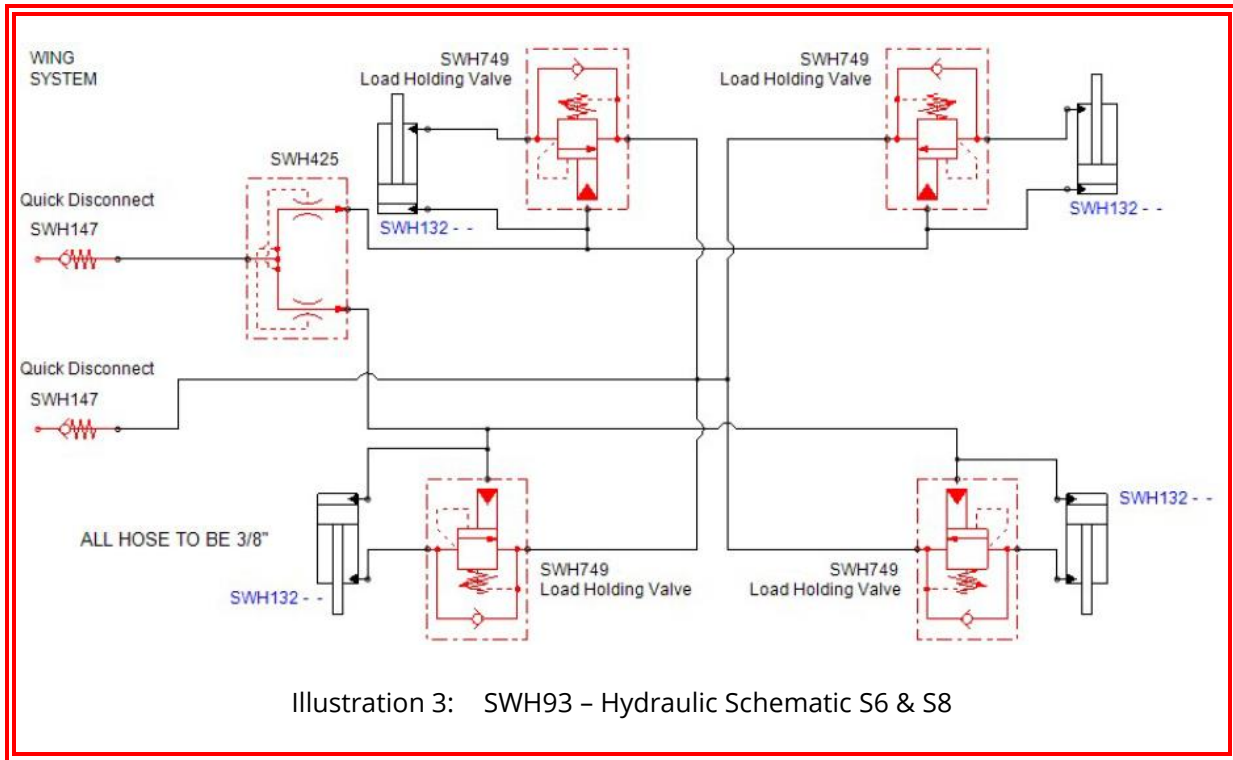


Illustration 1: SWH93 - Hydraulic Schematic S6 & S8

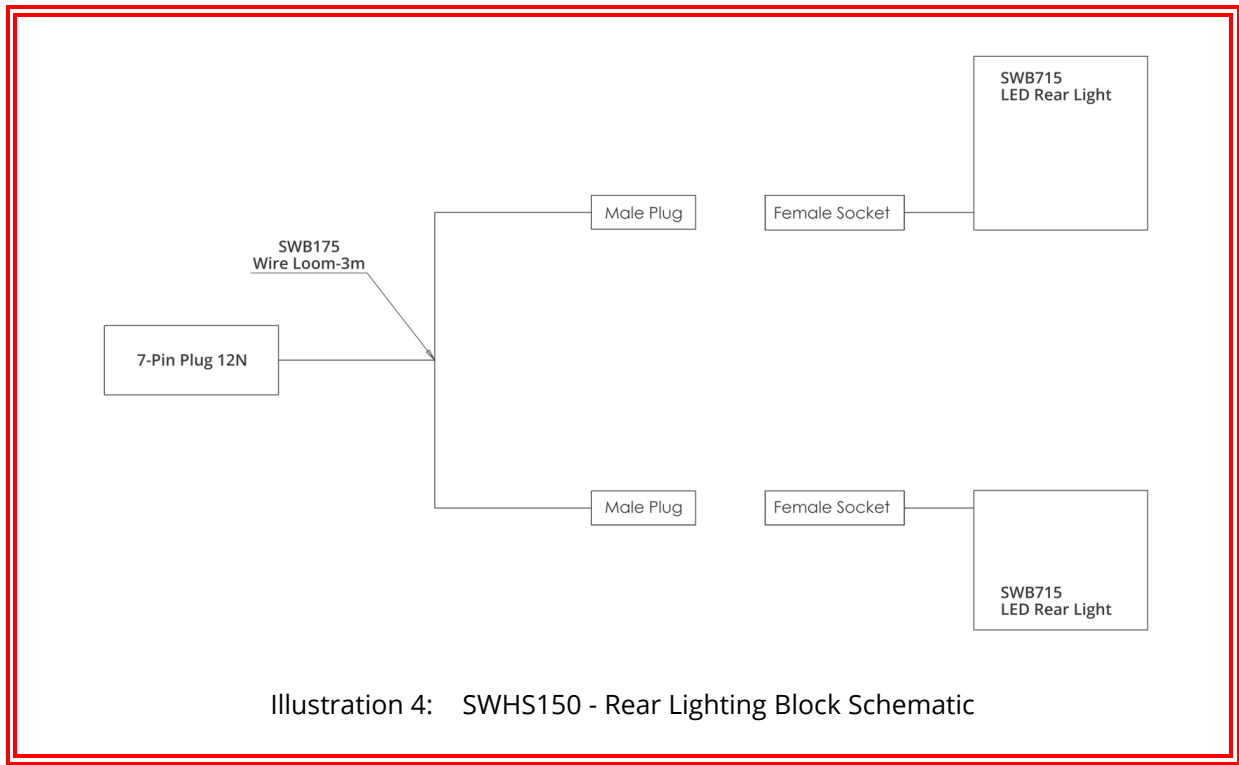
## 7.2 Tine Adjustment Hydraulic Circuit - Even Rows



## 7.3 Wing System Hydraulic Circuit



## 8. Electrical Schematics



## 9. Standard Torque Values

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

<b>Standard Toque Values (Nm)</b> (Unless Otherwise Stated)			
<b>Thread</b>	<b>Grade 8.8</b>	<b>Grade 10.9</b>	<b>Stainless Steel</b>
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](#)