



GROWING WITH YOU

DEEP TILLAGE SEEDER

2023 Mounted Range (DTS)



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Introduction

Before reading this Machine Manual & Parts Book, please read the Drills 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 need clarification, please contact us on the details given previously.

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1 Machine Range Summary

The Sumo Deep Tillage Seeder (DTS) drill is based on a concept known as ‘strip till drilling’, a method of only loosening and preparing a band of soil where the seed is to be placed and leaving the soil in-between rows undisturbed, and therefore not working ground unnecessarily.

The DTS, a uniquely versatile drill capable of direct drilling, min-till drilling and conventional plough-based drilling. Designed and manufactured in Britain, the DTS features an auger (Sumo patent name “Orga”) metering unit capable of dispensing wide range of seeds and fertilizers and widely varying rates.

The DTS patented coulter system works in three stages:

Stages One – Disc & Tine

An 18” straight serrated leading disc initiates a rip line for the following tine, ensuring a clean entry, substantially reducing surface disturbance and stopping the germination of unwanted grassweeds. The disc also cuts trash and allows previous crop residues to pass through the machine adding more organic matter to the undisturbed areas of soil. This method reduces the reliance on chemical treatments that are leached into watercourses. By removing competition, young crops can establish more vigorously.

The tine produces incredibly targeted tillage to a single strip and provides just enough soil movement to create the perfect conditions for seed placement. Depth can be adjusted down to 250mm for deep-rooting crops, leaving a seeding zone with a good tilth and a rooting zone free from compaction, with good drainage and aeration.

Stage Two – Seed Coulter & Fertiliser

Low draft, single or double row seeding boots place seed in perfect contact with newly tilled soil. They boast wear resistant tungsten for good soil penetration and a shallow wing angle for low draft pulling. DTS owners have the option to add many different fertiliser options on Grain & Fertiliser models.

Stage Three – Covering Discs & Consolidation

Covering discs channel loosened soil over the seed before independent, air-filled press wheels perform unparalleled reconsolidation for perfect seed to soil contact by firming the soil around the seed and eliminating any potential air pockets.

Note: These stages descriptions are based on our standard offering but will change depending on selected options. Consult the Drills Operators manual for more information.

2 Product Specifications

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

DTS Mounted Range

Code	DTS3
Working Width	3.0m
Transport Width	3.0m
Hopper Capacity	1900 Litres
Row Spacing	333mm
Rows	9
Double Seed Row	As Standard
Seed Row Width	120mm

Available Options

Code	Option Code	Description	Specifications
DTS3	DTS3.DM	Wing Markers	-
	DTS3.TRAMLINING.KIT	Tramlining Shut Off	Tramlines spacing 1998mm (Other Spacing available upon request)
	DTS3.SK	Seeder Fitting Kit	Turbojet i-CON 8 / 10
	DTS3.WT	Weight Transfer Kit	
	DTS3.OPTION.AUX.FERT. UPSTACK	Auxiliary Fertiliser Up-Stack	9 Outlet Distribution Head. 101mm or 89mm Transfer Ducting Interface
	DTS3.OPTION.AUX.FERT . UPSTACK.TRAMLINING	Auxiliary Fertiliser Up-Stack with Tramlining	9 Outlet Distribution Head. 101mm or 89mm Transfer Ducting Interface Includes 2 Row Shut Off Units for Tramlining
	SWB1075	Variable Seed Rate	Unlock code for RDS System

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 Drills Operators Manual thoroughly.

Mounted DTS

Due to the mounted and adjustable nature of the DTS machines, they do not have a set transport position, but it is advised that: All coulters are retracted/lifted to ensure they do not contact the ground and the legs are pinned in the shallowest depth (Highest pinnable position). Ensure all Markers are fully retracted and securely locked into place. Ensure rear lights and reflectors are suitably angled down. Turn off all working lights so as not to dazzle others.

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.

Mounted Machines (Excluding Options)

Code	Length	Width	Height
DTS3	3300	3000	2550

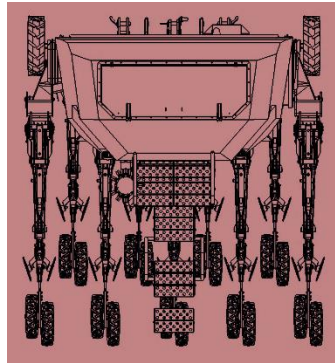
Mounted Machines (Including Options)

Code	Length	Width	Height
DTS3.DM	-	-	-
DTS3.TRAMLINING.KIT	-	-	-
DTS3.SK	-	-	-
DTS3.WT	-	-	-
DTS3.OPTION.AUX.FERT.UPSTACK	-	-	-
DTS3.OPTION.AUX.FERT.UPSTACK.TRAMLINING	-	-	-
SWB1075	-	-	-

4 Danger Zone

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

Mounted DTS



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 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 Drills Operators Manual.

5 Risk Assessments

Model: Mounted DTS

Notes: Ensure the most recent Drills Operators Manual, & Machine Manual are read and fully understood.

Purpose of machine: Primarily designed to direct drill into stubble, minimum tillage, or plough-based systems.

Description of machine: A three-point-linkage mounted farm implement consisting of multiple elements:

1. A row of hydraulically actuated coulter legs, consisting of a front cutting disc, a leading leg, a seeding leg, closing discs and compression wheels.
2. A pressurised grain tank with access stairs and lid.
3. An auger metering unit connected to an electrically controlled application rate system.
4. A hydraulically powered pneumatic transfer and distribution system.
5. A hydraulically powered ground pressure system.

All the above is arranged in a 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 & 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 stickers, maintain safe distance from moving parts, wear gloves. Clear excess soil (weight) from legs before attempting to adjust legs.
Risk of crushing: - When coupling a tractor to the Sumo implements. - When changing points. - Rotating parts	Operator	4 Mid – High	Warnings, Maintenance Stands	Take extreme care when working on legs, changing depth, replacing parts etc, make sure the machine is on a suitably 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 Sumo implements.

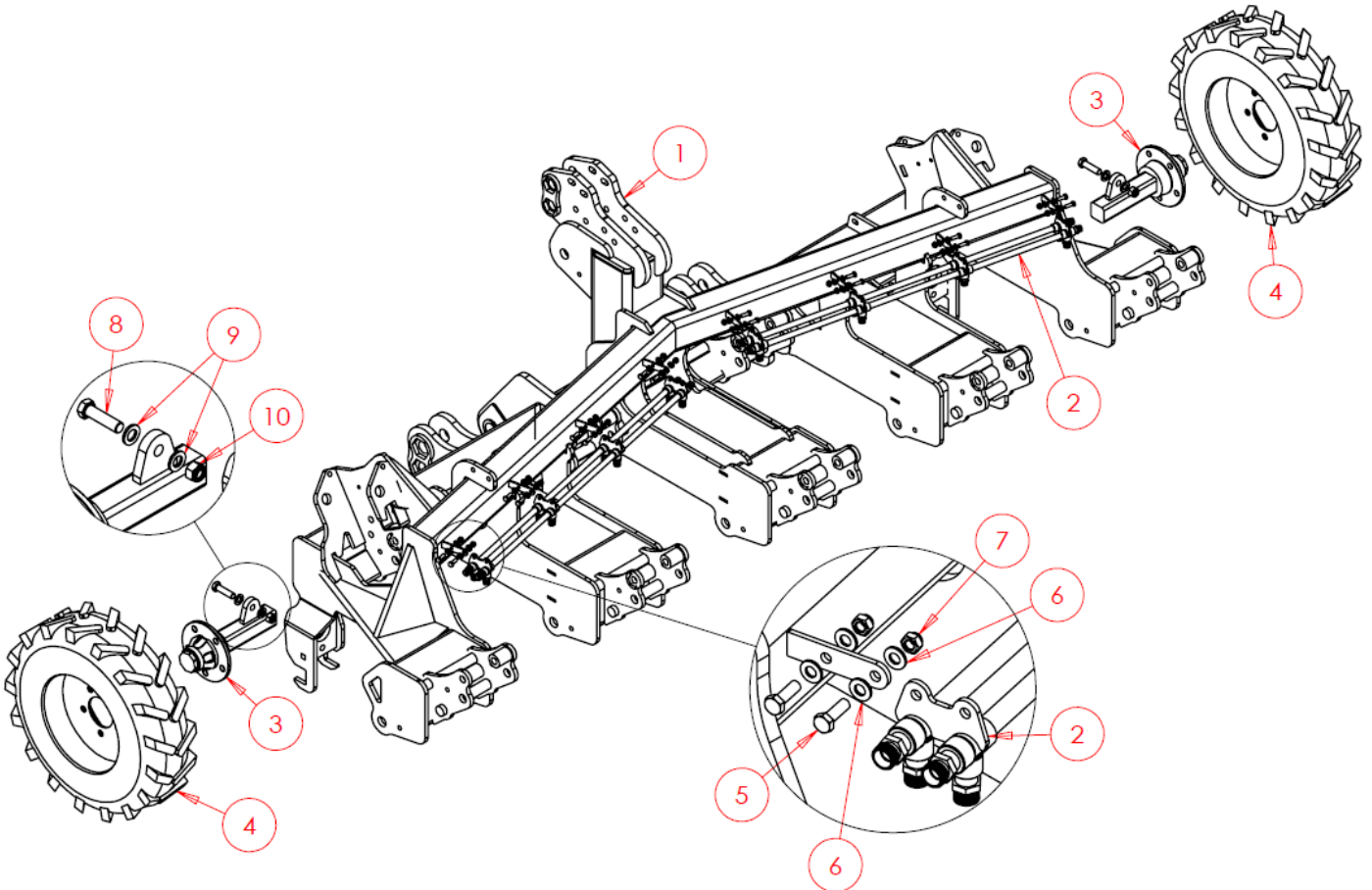
5 Risk Assessments - Continued

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. For access to the grain tank, use steps and headrails provided.	Lower the machine to the floor to allow access for greasing discs, checking bearings etc...
Pressurised oil/ Burst hoses	Operator	4 Mid - High	Warning stickers	Always wear appropriate PPE. Do not remove hoses whilst pressurised. Do not feel for leaks. If contact with oil is made, wash affected area immediately. Do not inhale or consume.

6 Parts Book Index

For older machines, please see Manuals & Part Books available on the Sumo website.

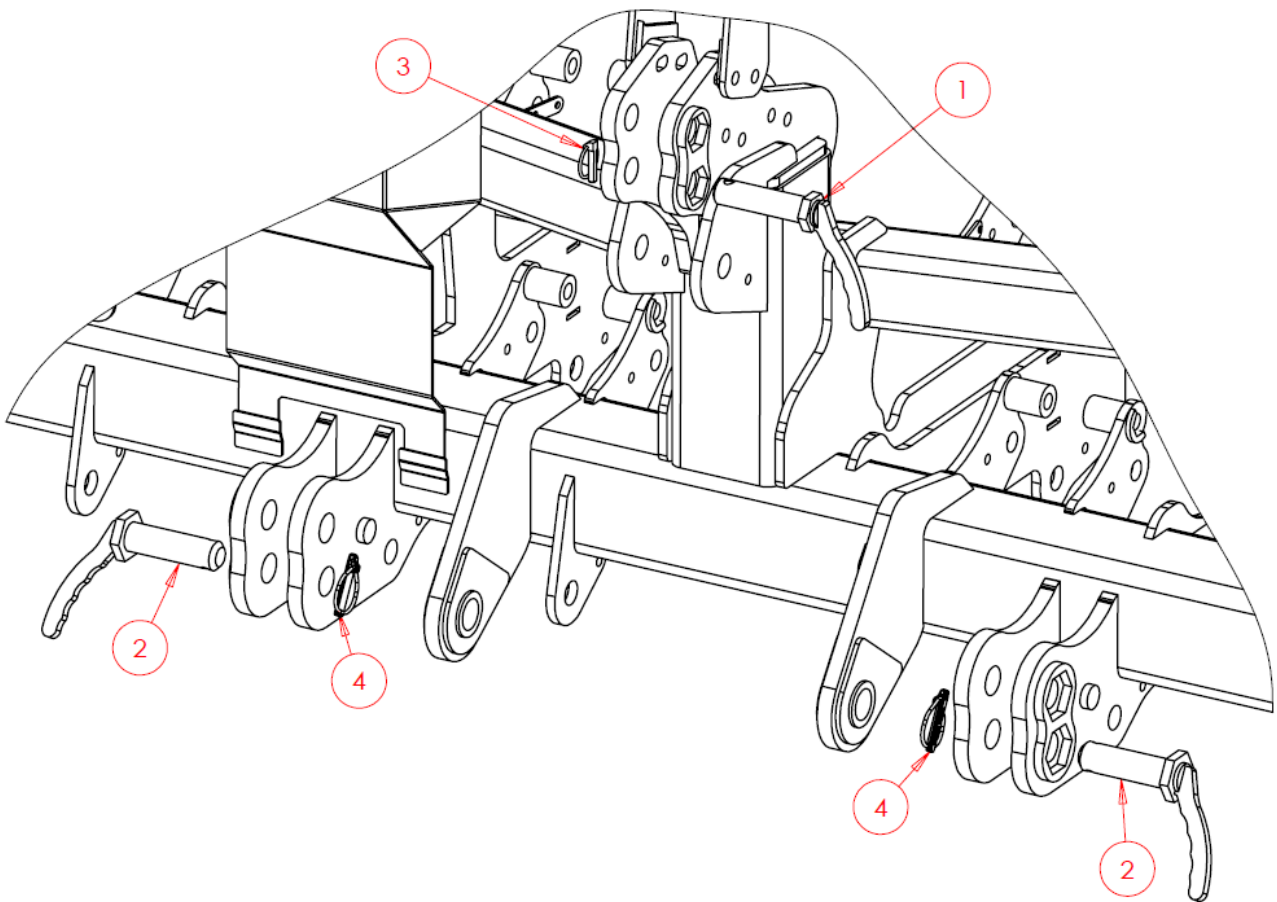
6.1 DTS3 Base Machine



Item No.	Part Number	Description	Qty
1	SW2386	Main Frame	1
2	SW3312	Manifold	2
3	SW3075	Axle	2
4	SWB530	Wheel	2
5	SWM825	M8x25 Screw	16
6	SWM8001	M8 Washer - Flat	32
7	SWM8004	M8 Nut - Nylock	16
8	SWM1660	M16x60 Bolt	2
9	SWM16001	M16 Washer - Flat	4
10	SWM16004	M16 Nut - Nylock	2

6.2 Standard Assemblies

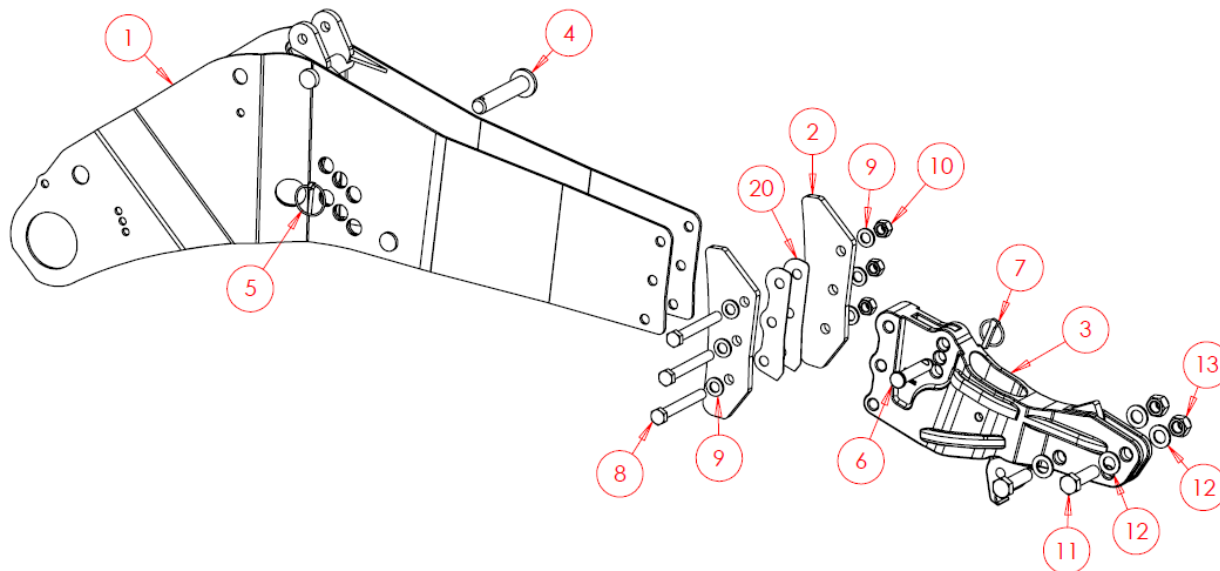
6.2.1 Three Point Linkage Pins



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

6.2.2 Coulter System

6.2.2.1 Main Body

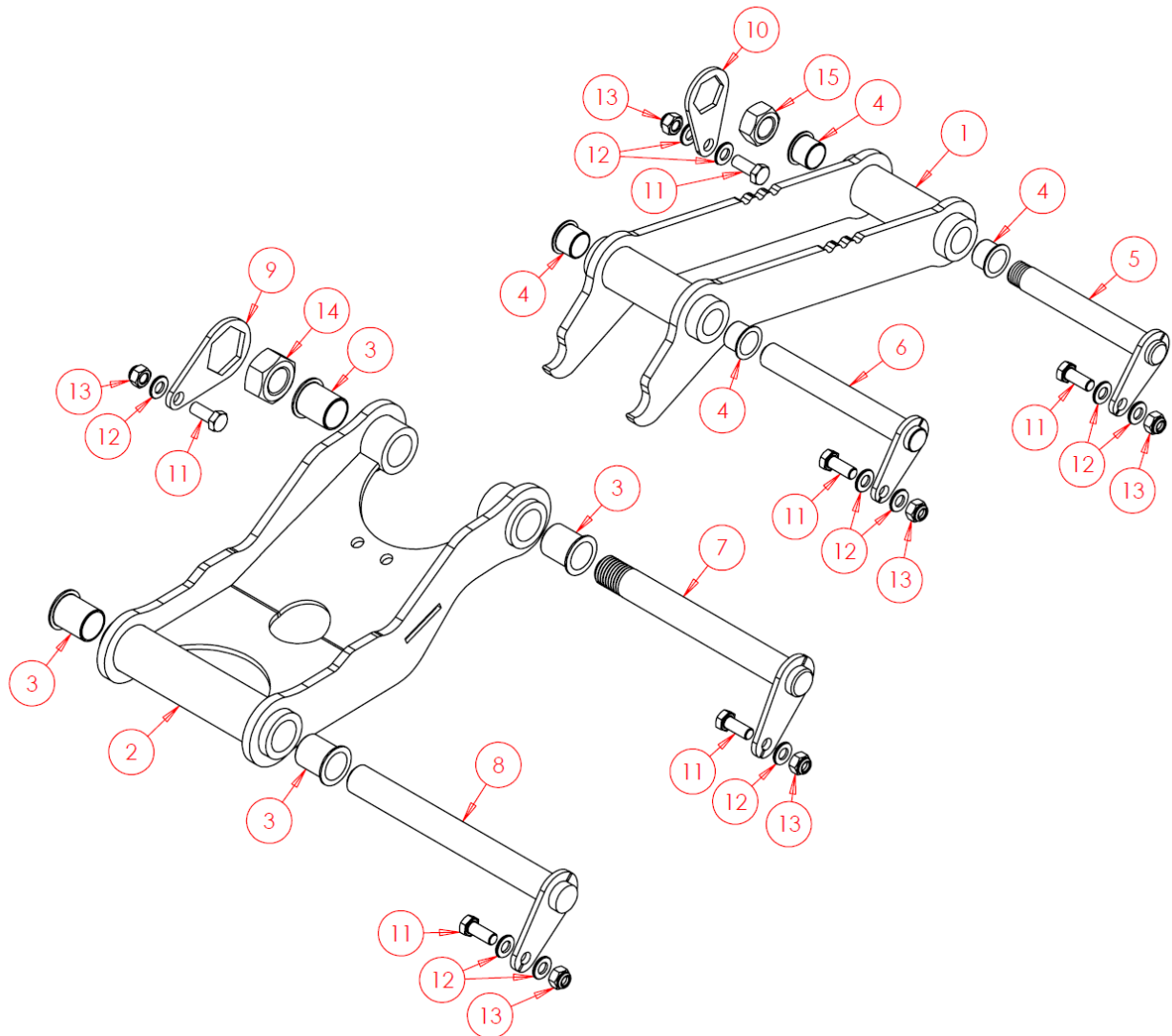


Item No.	Part Number	Description	Qty
1	SW2234	Coulter Body	1
2	SW3120	Anti-Twist Brackets	2
3	SWB532	Coulter Socket	1
4	SW1255	Leading Leg Depth Pin	1
5	SWB691	Lynch Pin	1
6	SW1256	Pin	1
7	SWB105	Lynch Pin	1
8	SWM16130	M16x130 Bolt	3
9	SWM16001	M16 Washer - Flat	6
10	SWM16004	M16 Nut - Nylock	3
11	SWM2070	M20x70 Bolt	2
12	SWM20001	M20 Washer - Flat	4
13	SWM20004	M20 Nut - Nylock	2

Item No.	Part Number	Description	Qty
20	SWS23807	Anti-Twist Shims - 1.5mm	N/A

Anti-Twist Shims are available/used to widen the gap between the anti-twist brackets, preventing binding on the leading leg during use. These are not typically fitted as standard on all products and may only appear on occasional legs.

6.2.2.2 Standard Parallel Arms



Complete Assembly - SWA2698

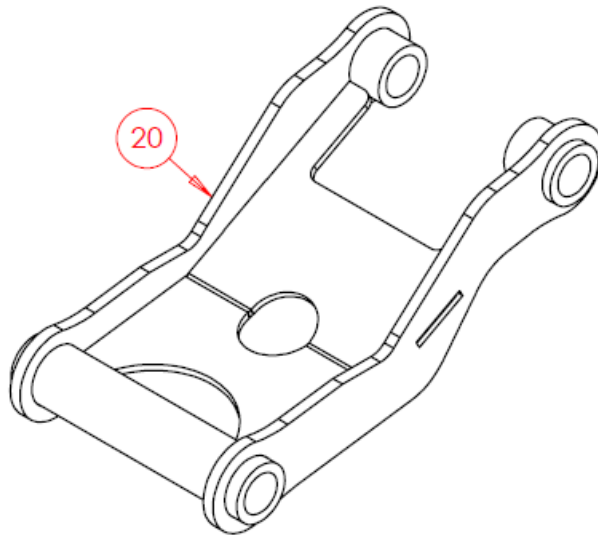
Item No.	Part Number	Description	Qty
1	SW1401	Parallel Arm - Top	1
2	SW1246	Parallel Arm - Bottom	1
3	SWB197	Top Hat Bush (30 mm)	8
4	SWB492	Top Hat Bush (25 mm)	4
5	SWP25X185T	Pin - Threaded	1
6	SWP25X195	Pin	1
7	SWP30X260T	Pin - Threaded	1
8	SWP30X275	Pin	1
9	SW2236	Nut Retainer - 46mm	1
10	SW2237	Nut Retainer - 36mm	1
11	SWM1230	M12x30 Screw	6
12	SWM12001	M12 Washer - Flat	10
13	SWM12004	M12 Nut - Nylock	6

6.2.2.2 Standard Parallel Arms -Continued

Complete Assembly – SWA2698 (Continued)			
Item No.	Part Number	Description	Qty
14	SWM30004	M30 Nut – Nylock	1
15	SWM24004	M24 Nut – Nylock	1

6.2.2.3 Tramline Bottom Parallel Arm

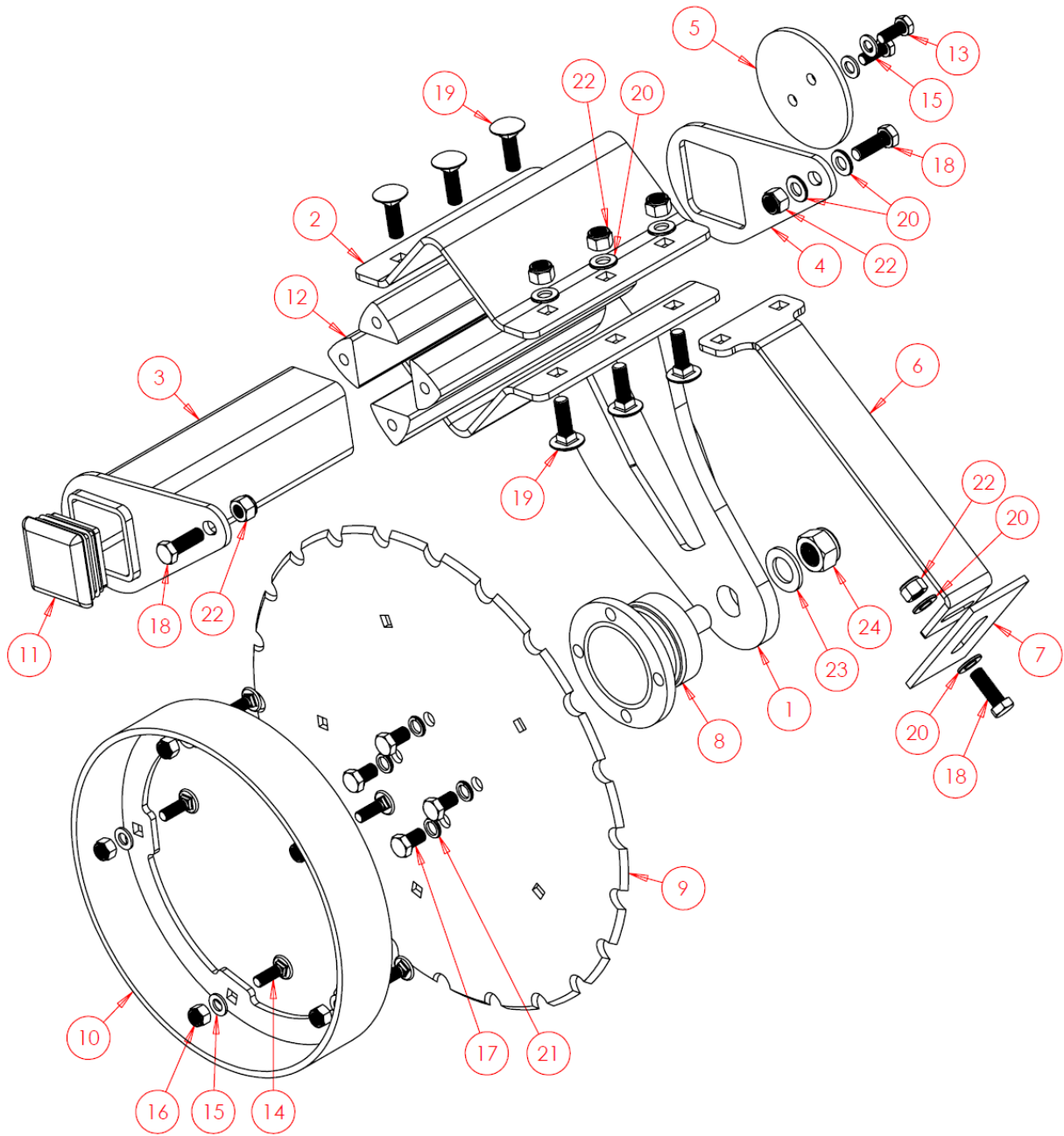
For any tramline coultter, the bottom parallel arm changes to the below, however, all other details remain the same.



Item No.	Part Number	Description	Qty
20	SW3998	Parallel Arm – Bottom (Tramline Only)	2*

*Quantity per Machine

6.2.2.4 Straight Leading Disc



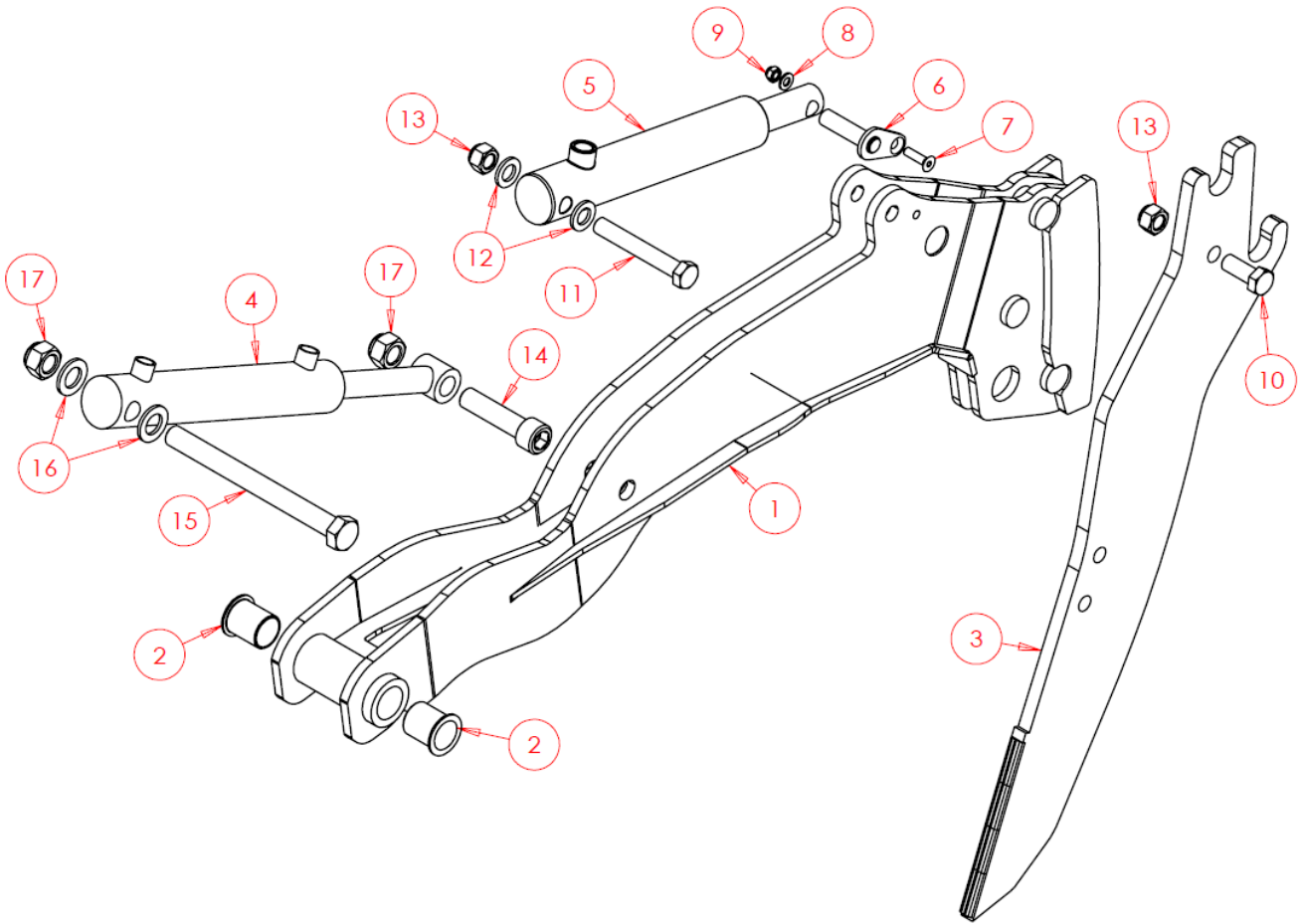
Left and right-hand versions of Disc Hangers are required but all other details remain the same. Left-hand version shown. Ensure to specify required hand when ordering.

6.2.2.4 Straight Leading Disc – Continued

Quantities are per sub assembly and not per machine.

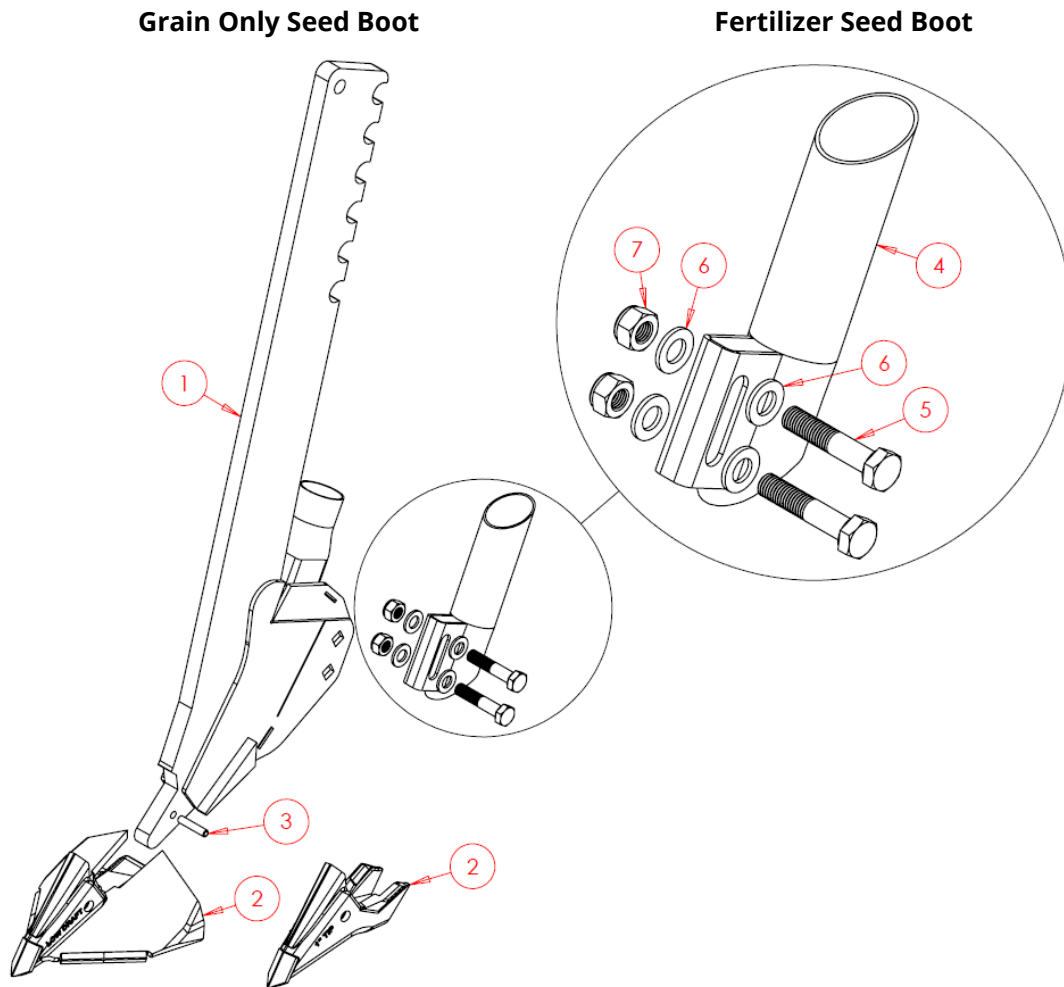
Complete Assembly – SWA1041			
Item No.	Part Number	Description	Qty
1	SW1227L	Disc Hanger – Left Hand	1
1	SW1227R	Disc Hanger – Right Hand (Not Shown)	N/A
2	SW1800	Clamping Plate	1
3	SW1269	Disc Adjustment Beam	1
4	SWS8726	Disc Adjuster	1
5	SW1270	End Plate	1
6	SW1229	Scraper Hanger	1
7	SW1228	Scraper	1
8	SWB399	SKF Bearing	1
9	SWB442	450mm Disc	1
10	SW1226	Depth Ring	1
11	SWB1216	Plastic Bung	1
12	SWB866	Rubber Triangles	4
13	SWM1025	M10x25 Screw	2
14	SWM1030CHSQ	M10x30 Screw – Cup Head Square	5
15	SWM10001	M10 Washer – Flat	7
16	SWM10004	M10 Nut – Nylock	5
17	SWM1220FP	M12x20 Screw – Fine Thread	4
18	SWM1235	M12x35 Screw	3
19	SWM1240CHSQ	M12x40 Screw – Cup Head Square	6
20	SWM12001	M12 Washer – Flat	10
21	SWM12002	M12 Washer – Spring	4
22	SWM12004	M12 Nut – Nylock	9
23	SWM22001	M22 Washer – Flat	1
24	SWM22004FP	M22 Nut – Fine Tread Nylock	1

6.2.2.5 Hydraulic Leading Leg



Item No.	Part Number	Description	Qty
1	SW2233	Leading Leg Frame	1
2	SWB197	Top Hat Bush	2
3	SW2734	Leading Leg	1
4	SWH102	Hydraulic Ram	1
5	SWH393	Hydraulic Ram	1
6	SWP16X60	Pin	1
7	SWM830CSK	M8x30 Countersink Screw	1
8	SWM8001	M8 Washer - Flat	1
9	SWM8004	M8 Nut - Nylock	1
10	SWM1640	M16x40 Screw	1
11	SWM16110	M16x110 Bolt	1
12	SWM16001	M16 Washer - Flat	2
13	SWM16004	M16 Nut - Nylock	2
14	SWM2080AKH	M20x80 Socket Head Bolt	1
15	SWM20220	M20x220 Bolt	1
16	SWM20001	M20 Washer - Flat	2
17	SWM20004	M20 Nut - Nylock	2

6.2.2.6 Seed Boot Leg

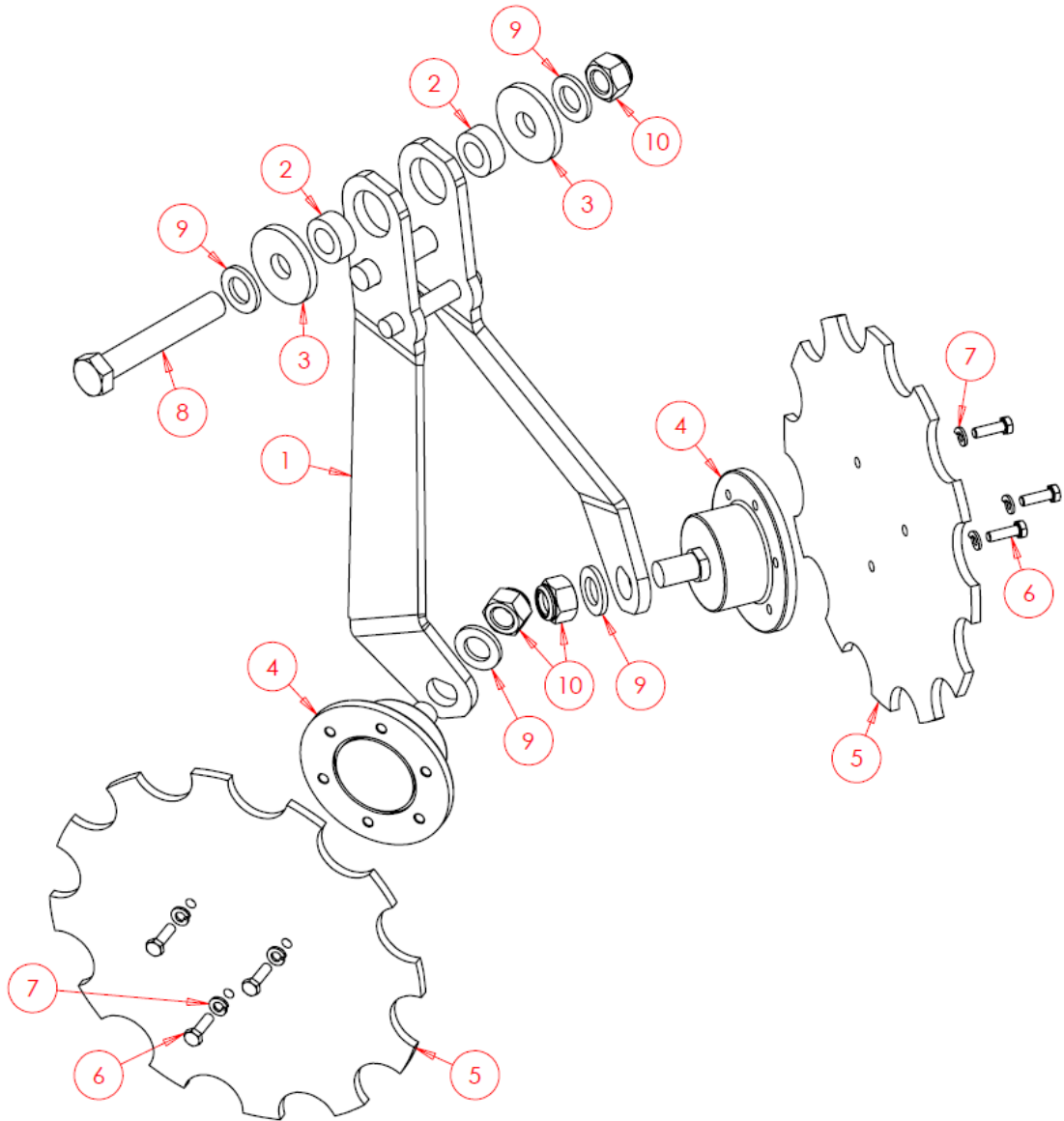


Grain Only Seed Boot			
Item No.	Part Number	Description	Qty
1	SW1225	Seed Boot Leg	1
2	SWB443	5" Twin Band Opener Point *	1
2	SWB657	5" Open Bottom Opener Point *	1
2	SWB444	1" Single Row Opener Point *	1
3	SWB243	Split Roll Pin	1

Fertilizer Seed Boot			
Item No.	Part Number	Description	Qty
4	SW2307	Fertilizer Boot	1
5	SWM1050	M10x50 Bolt	2
6	SWM10001	M10 Washer - Flat	4
7	SWM10004	M10 Nut - Nylock	2

* Other options are available, contact your local dealer.

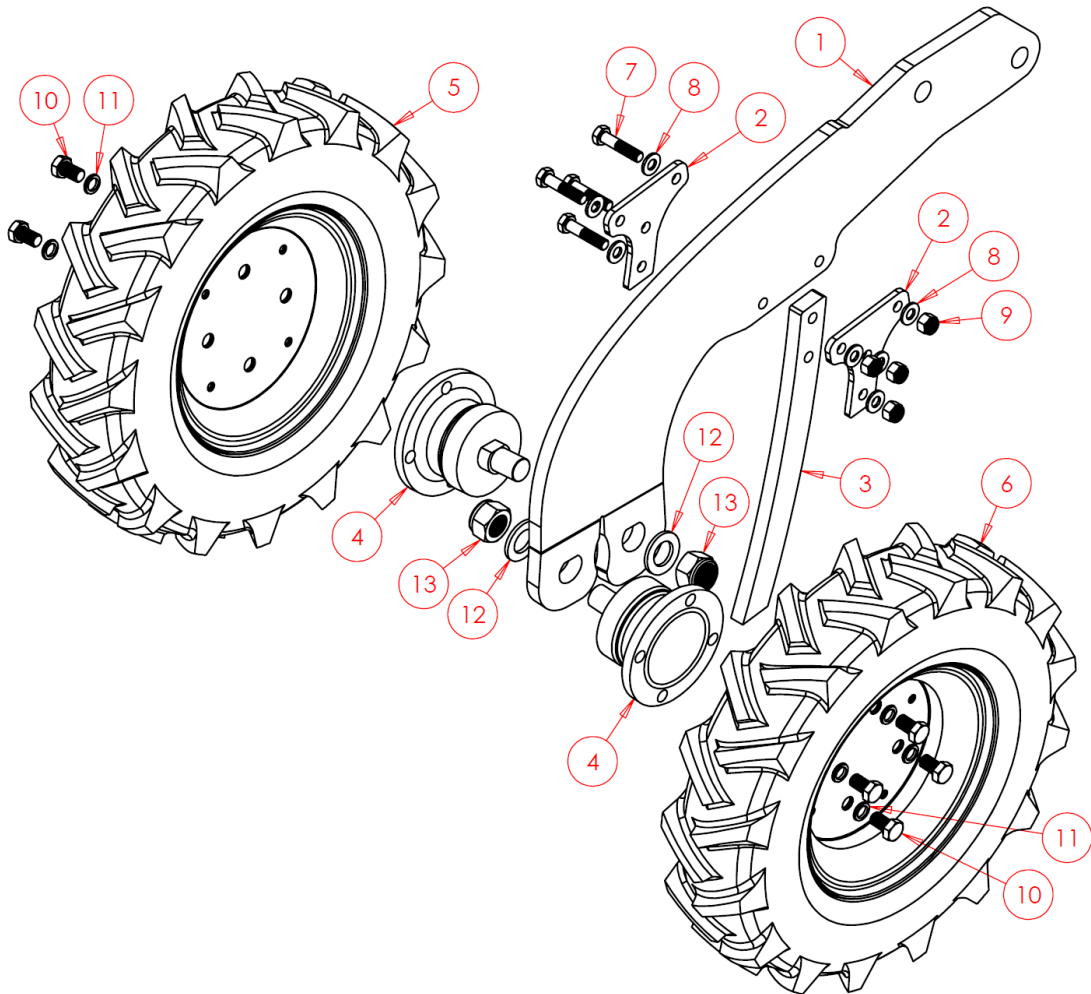
6.2.2.7 Covering Discs



Complete Assembly - SWA1360

Item No.	Part Number	Description	Qty
1	SW3772	Covering Disc Frame	1
2	SW3199	Spacer	2
3	SW1259	Spacer	2
4	SWB952	Bearing	2
5	SW1268S	Disc	2
6	SWM620FP	M6x20 Fine Thread Screw	6
7	SWM6002	M6 Spring Washer	6
8	SWM16100	M16x100 Bolt	1
9	SWM16001	M16 Washer - Flat	4
10	SWM16004	M16 Nut - Nylock	3

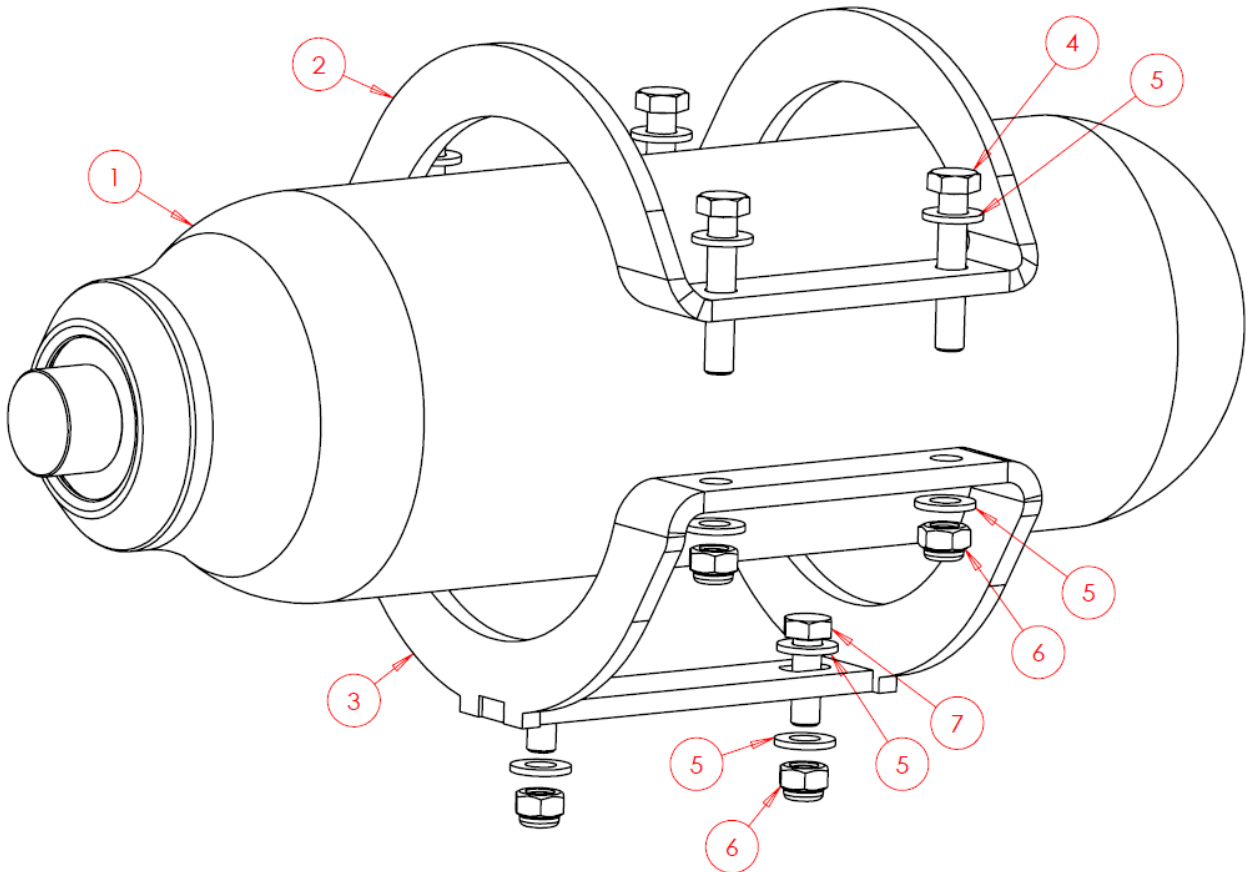
6.2.2.8 Press Wheels & Stone Deflector



Complete Assembly – SWA1040

Item No.	Part Number	Description	Qty
1	SWS19636	Press Arm	1
2	SW1402	Stone Deflector Mounting Bracket	2
3	SW1230	Stone Deflector	1
4	SWB399	SKF Bering	2
5	SWB452PU-L	Press Tyre – Resin Filled – Left	1
6	SWB452PU-R	Press Tyre – Resin Filled – Right	1
7	SWM1045	M10x45 Bolt	4
8	SWM10001	M10 Washer – Flat	8
9	SWM10004	M10 Nut – Nylock	4
10	SWM1220FP	M12x20 Fine Thread Screw	8
11	SWM12002	M12 Washer – Spring	8
12	SWM22001	M22 Washer – Flat	2
13	SWM22004FP	M22 Nut – Fine Thread Nylock	2

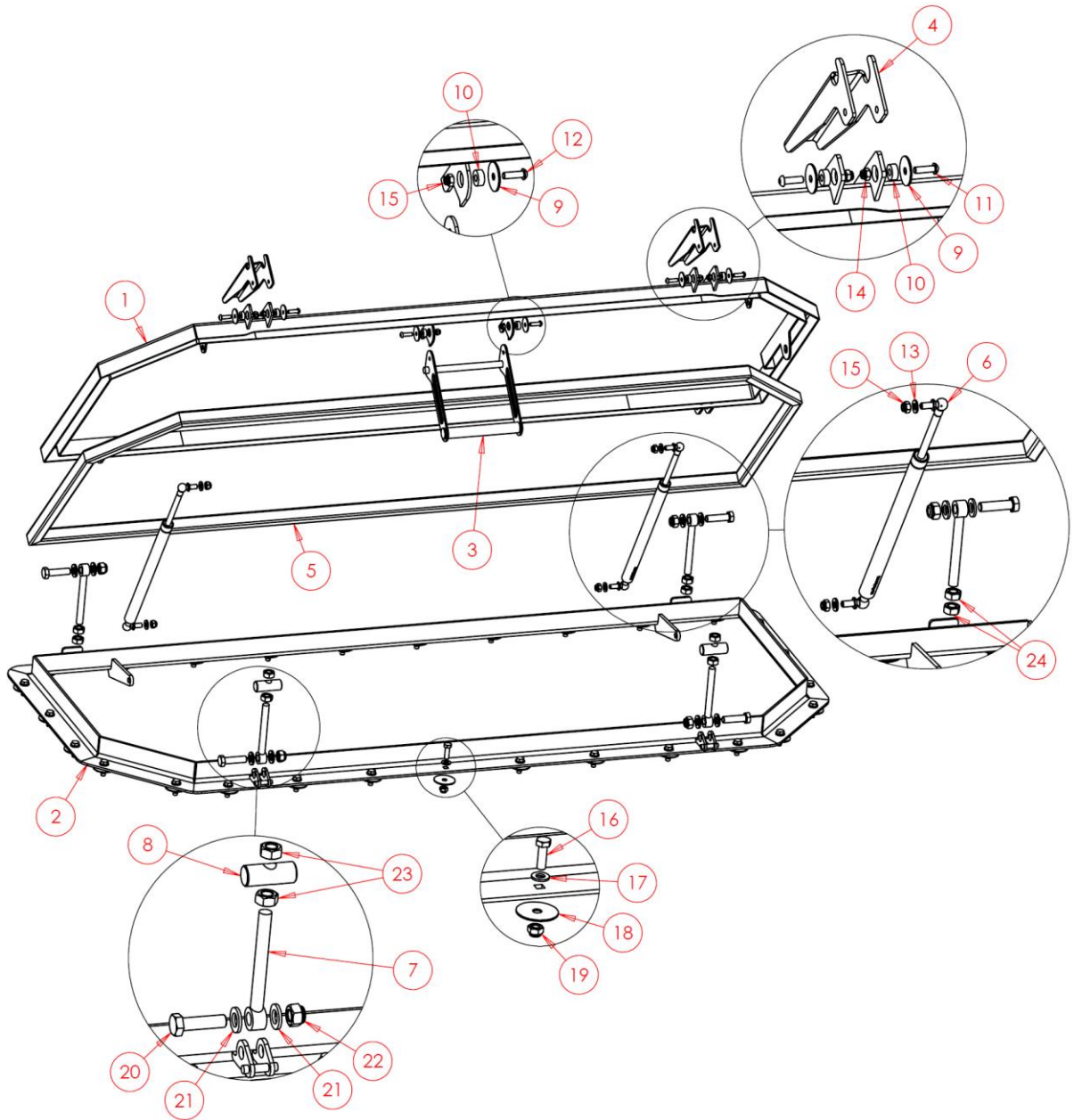
6.2.3 2.8 Litre Membrane Accumulator



Complete Assembly - SWA2153

Item No.	Part Number	Description	Qty
1	SWH686	2.8 Litre Membrane Accumulator	1
2	SW1510	Top Bracket	1
3	SW1511	Base Bracket	1
4	SWM845	M8x45 Bolt	4
5	SWM8001	M8 Washer - Flat	12
6	SWM8004	M8 Nut - Nylock	6
7	SWM825	M8x25 Screw	2

6.2.4 Tank Lid



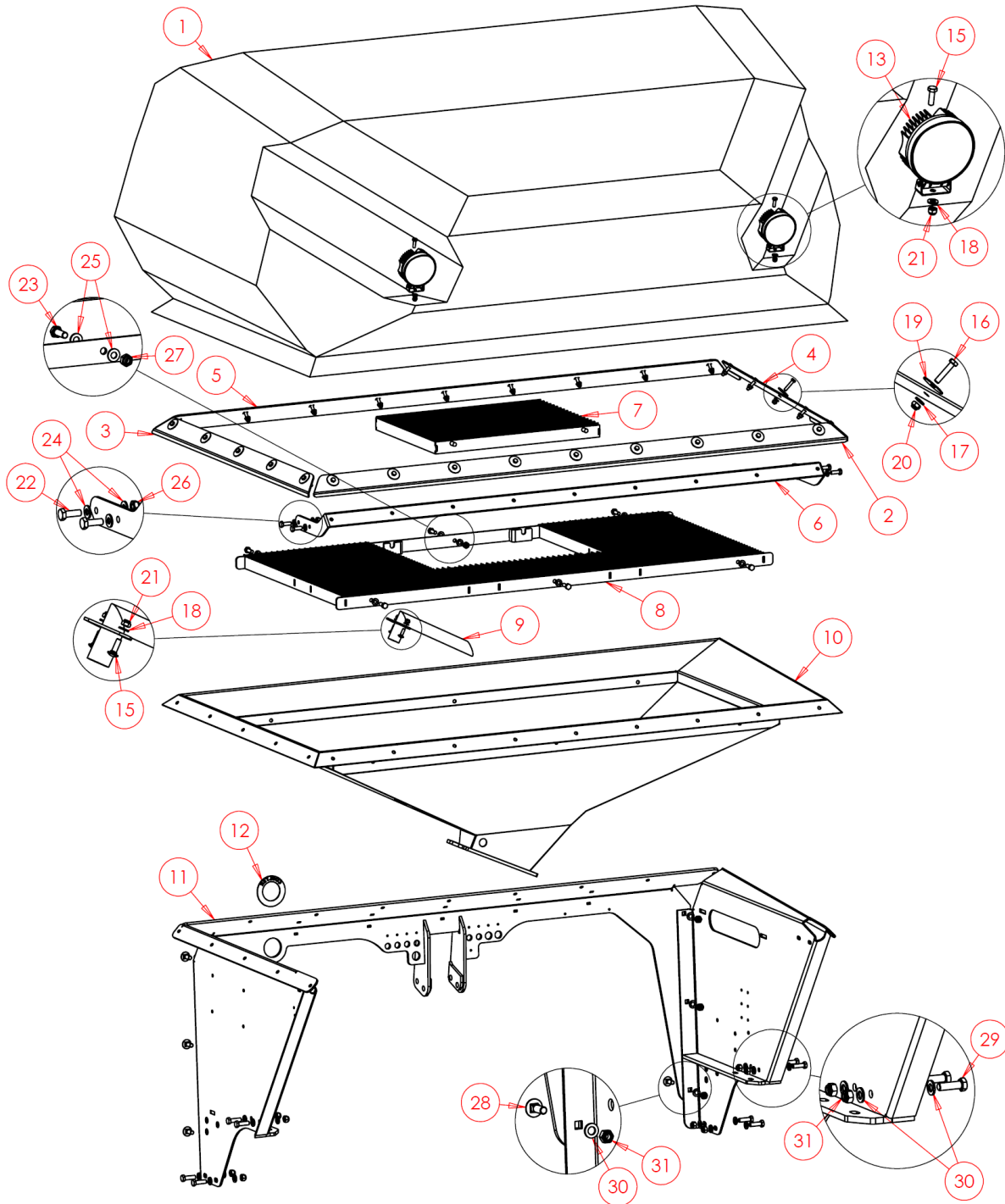


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6.2.4 Tank Lid -Continued

Complete Assembly - SWA2802			
Item No.	Part Number	Description	Qty
1	SW6349	Lid	1
2	SW6348	Frame	1
3	SWA3027	Handle	1
4	SW2392	Clamp Handle	2
5	SWB845	Gasket	1
6	SWB998	Gas Strut	2
7	SWB838	M12 Eye Bolt	4
8	SW2393	Trunnion Nut	2
9	SW3046	Extra Large Washer	6
10	SW3047	Spacer	6
11	SWM620BTH	M6x20 Button Head Screw	4
12	SWM620BTHST	M6x20 Stainless Button Head Screw	2
13	SWM6001ST	M6 Stainless Washer - Flat	4
14	SWM6004	M6 Nut - Nylock	4
15	SWM6004ST	M6 Stainless Nut - Nylock	6
16	SWM825ST	M8x25 Stainless Screw	28
17	SWM8001ST	M8 Stainless Washer - Flat	28
18	SWM8001XLST	M8 Stainless Extra-Large Washer - Flat	28
19	SWM8004ST	M8 Stainless Nut - Nylock	28
20	SWM1245	M12x45 Bolt	4
21	SWM12001	M12 Washer - Flat	8
22	SWM12004	M12 Nut - Nylock	4
23	SWM12003	M12 Nut - Plain	4
24	SWM12003ST	M12 Stainless Nut - Plain	4

6.2.5 Tank & Lower Hopper



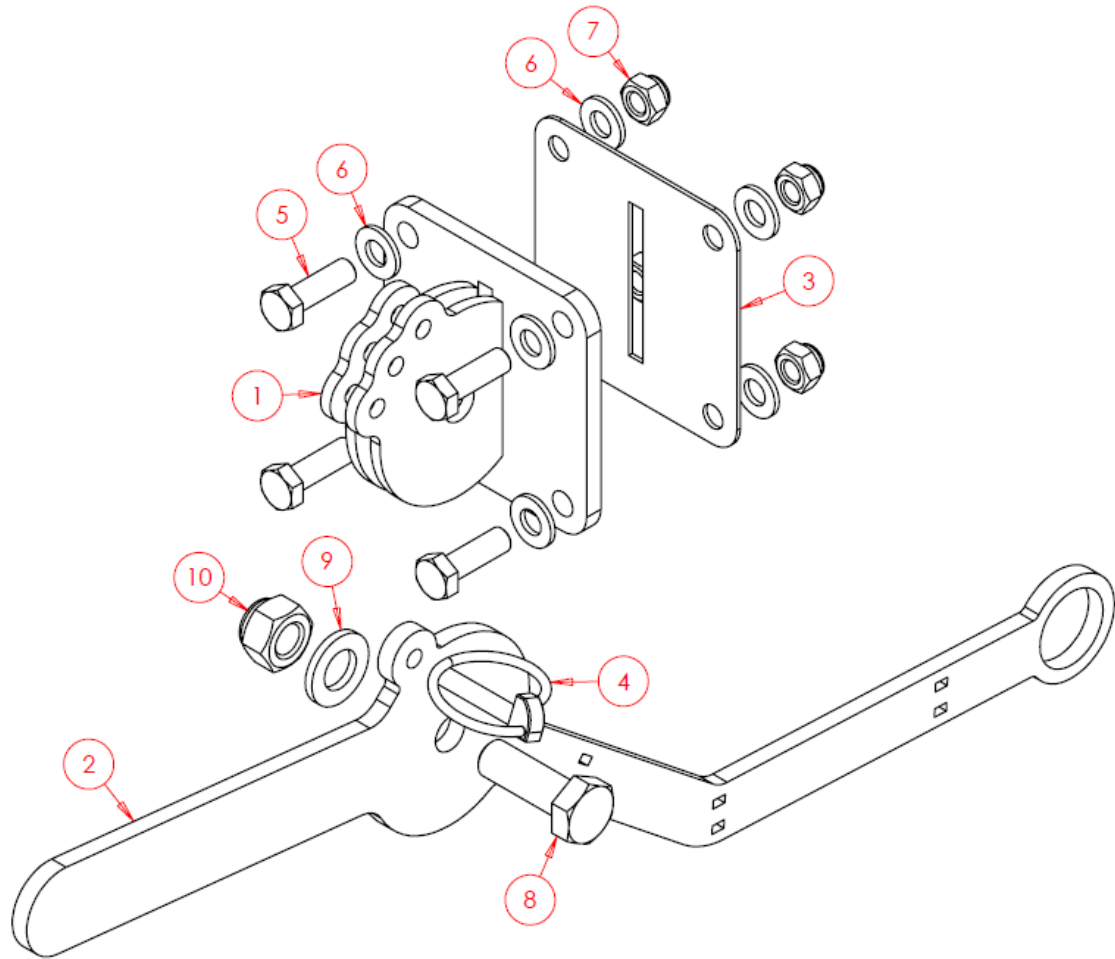


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6.2.5 Tank & Lower Hopper - Continued

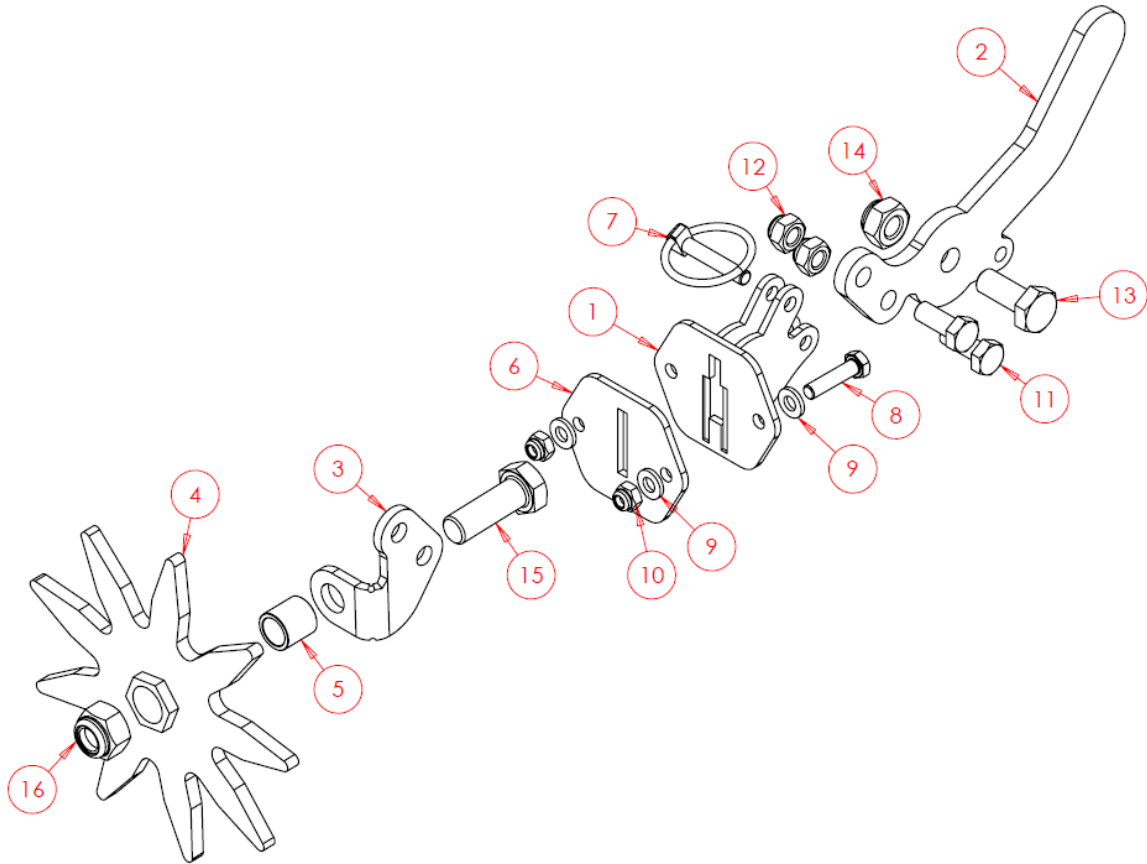
Complete Assembly - SWA2802			
Item No.	Part Number	Description	Qty
1	SWB1284	Tank	1
2	SW3057	Skirt Rear	1
3	SW3058	Skirt Side LH	1
4	SW3059	Skirt Side RH	1
5	SW3060	Skirt Front	1
6	SW2702	Skirt Reinforcement Beam	1
7	SWA1851	Grate Door	1
8	SWA2123	Grate	1
9	SWA1872	Breather Pipe	1
10	SW2700	Lower Hopper	1
11	SW2699	Lower Hopper Base Frame	1
12	SW3072	Coulter Pressure Ring	1
13	SWB446	Working Lights	2
14	SWM825CHSQST	M8x25 Stainless Cup Head Square Screw	2
15	SWM825ST	M8x25 Stainless Screw	2
16	SWM840ST	M8x40 Screw	28
17	SWM8001ST	M8 Washer - Flat	28
18	SWM8001ST	M8 Stainless Washer - Flat	4
19	SWM8001XL	M8 Extra Large Washer - Flat	28
20	SWM8004	M8 Nut - Nylock	28
21	SWM8004ST	M8 Stainless Nut - Nylock	4
22	SWM1030	M10x30 Screw	4
23	SWM1030ST	M10x30 Stainless Screw	6
24	SWM10001	M10 Washer - Flat	8
25	SWM10001ST	M10 Stainless Washer - Flat	12
26	SWM10004	M10 Nut - Nylock	4
27	SWM10004ST	M10 Stainless Nut - Nylock	6
28	SWM1235CHSQ	M12x35 Cup Head Square Screw	6
29	SWM1240	M12x40 Bolt	8
30	SWM12001	M12 Washer - Flat	22
31	SWM12004	M12 Nut - Nylock	14

6.2.6 Hopper Level Sensor



Complete Assembly - SWA035			
Item No.	Part Number	Description	Qty
1	SWA1814	Adjustable Hopper level Bracket	1
2	SW3068	Sensor Arm	1
3	SWB846	Gasket	1
4	SWB1391	Lynch Pin	1
5	SWM825ST	M8x25 Stainless Screw	4
6	SWM8001ST	M8 Stainless Washer - Flat	8
7	SWM8004ST	M8 Stainless Nut - Nylock	4
8	SWM1235	M12x35 Screw	1
9	SWM12001	M12 Washer - Flat	2
10	SWM12004	M12 Nut - Nylock	1

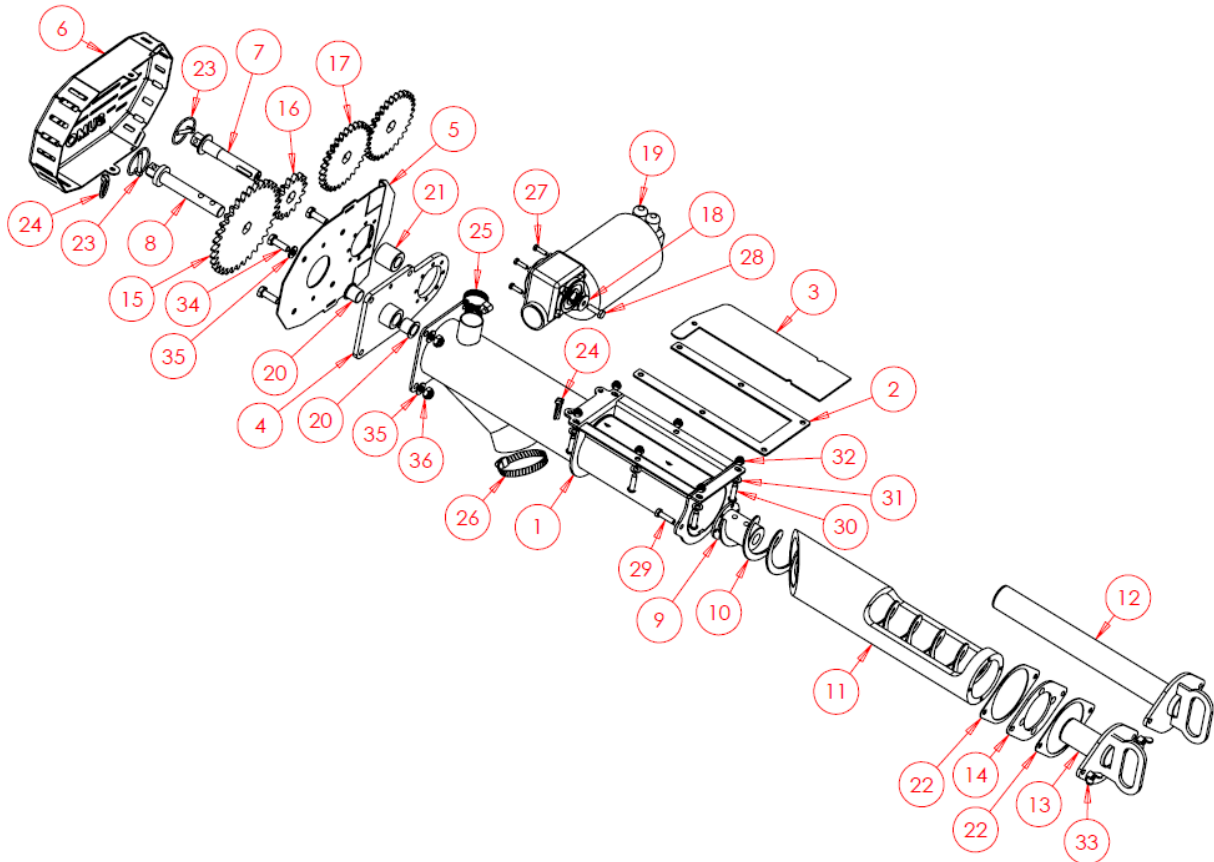
6.2.7 Hopper Agitator



Complete Assembly – SWA028

Item No.	Part Number	Description	Qty
1	SW2740	Adjustable Agitator Bracket	1
2	SW2221	Lever Arm	1
3	SW2222	Agitator Mounting Bracket (Left Hand Shown)	1
3	SW2223	Agitator Mounting Bracket (Right Hand Not Shown)	N/A
4	SW6305	Agitator	1
5	SWB652	Bush	1
6	SWB856	Gasket	1
7	SWB1391	Lynch Pin	1
8	SWM625ST	M6x25 Stainless Screw	2
9	SWM6001ST	M6 Stainless Washer – Flat	4
10	SWM6004ST	M6 Stainless Nut – Nylock	2
11	SWM820ST	M8x20 Stainless Screw	2
12	SWM8004ST	M8 Stainless Nut – Nylock	2
13	SWM1025	M10x25 Screw	1
14	SWM10004	M10 Nut – Nylock	1
15	SWM1235ST	M12x35 Screw	1
16	SWM12004ST	M12 Nut – Nylock	1

6.2.8 Orga Metering Unit



Complete Assembly – SWA2804

Item No.	Part Number	Description	Qty
1	SW1801	Main Body	1
2	SW1807	Slide Guide	1
3	SW1806	Slide	1
4	SWA1816	Motor Mounting Plate	1
5	SWS21380	Gears Mounting Plate (LH Shown) *	1
6	SW3048	Gear Guard	1
7	SW1803	Motor Shaft	1
8	SW1804	Orga Shaft	1
9	SW1811	Orga Flight Coupling Boss	1
10	SW2220	Orga Flight	1
11	SW2238	Plastic Insert	1
12	SW1814	Stainless Insert – Long	1
13	SW1812	Stainless Insert – Short	1

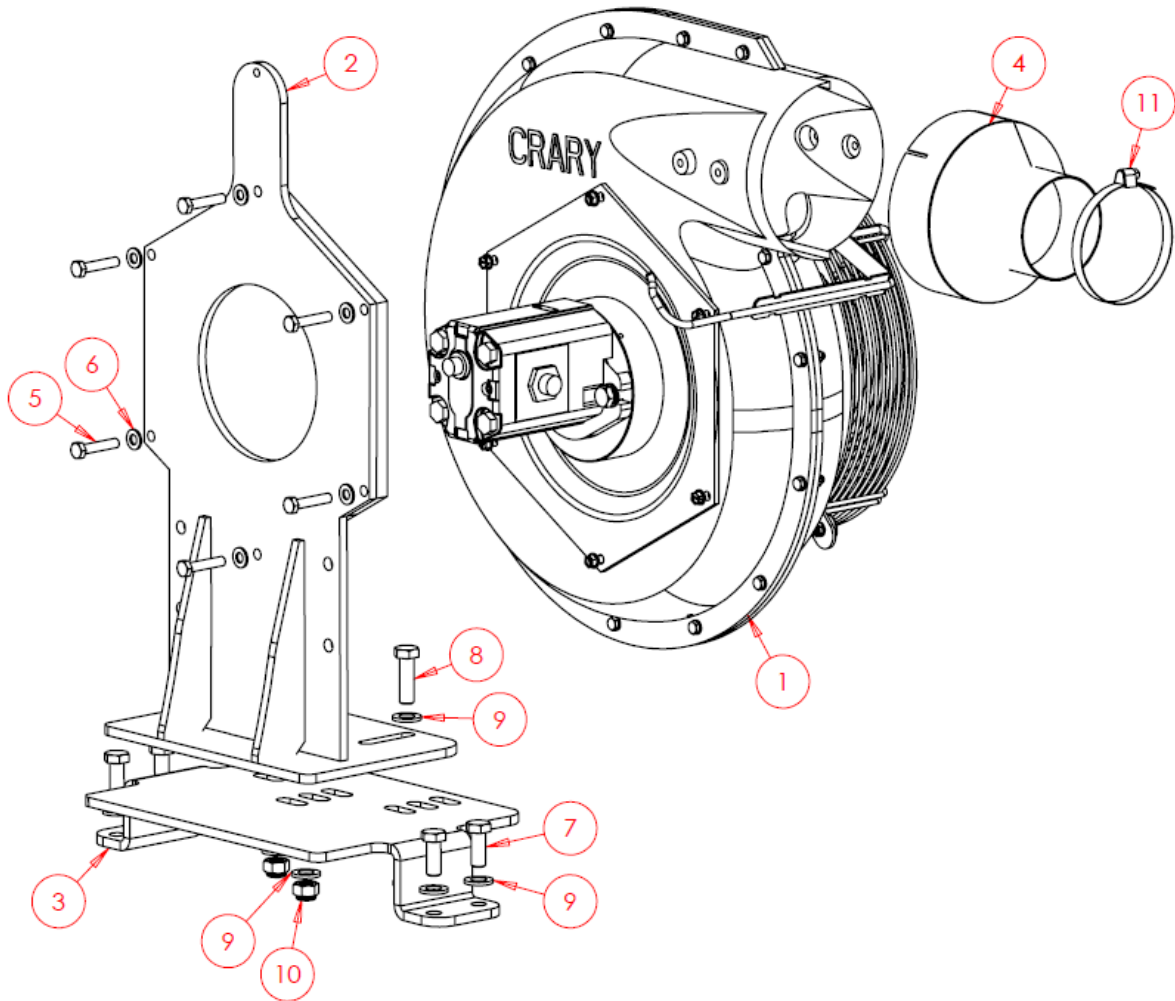
6.2.8 Orga Metering Unit – Continued

Complete Assembly – SWA2804 (Continued)			
Item No.	Part Number	Description	Qty
14	SWS14178	Insert Flange	1
15	SW1809	Gear 2.2:1 – Large	1
16	SW1810	Gear 2.2:1 – Small	1
17	SW3002	Gear 1:1	2
18	SW3045	Washer	1
19	SWB1247	Motor	1
20	SWB650	Top Hat Bush	2
21	SWB855	Gear Spacer Bush	1
22	SWB847	Gasket	2
23	SWB691	Lynch Pin	2
24	SWB1391	Lynch Pin	3
25	SWB496	Stainless Jubilee Clip – 50mm	1
26	SWB738	Stainless Jubilee Clip – 80mm	1
27	SWM620AKH	M6x20 Socket Head Stainless Screw	4
28	SWM825ST	M8x25 Stainless Screw	1
29	SWM830ST	M8x30 Stainless Screw	2
30	SWM830BTH	M8x30 Button Socket Head Screw	6
31	SWM8001ST	M8 Stainless Washer – Flat	6
32	SWM8004ST	M8 Stainless Nut – Nylock	6
33	SWM8003WNS	M8 Stainless Nut – Wing	2
34	SWM1030ST	M10x30 Stainless Screw	4
35	SWM10001ST	M10 Stainless Washer – Flat	8
36	SWM10004ST	M10 Stainless Nut – Nylock	4
37	SWB470	38mm Hose **	1
38	SWB648	76mm Hose **	1

* Handed part. Ensure to specify which hand is required.

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

6.2.9 Fan Assembly



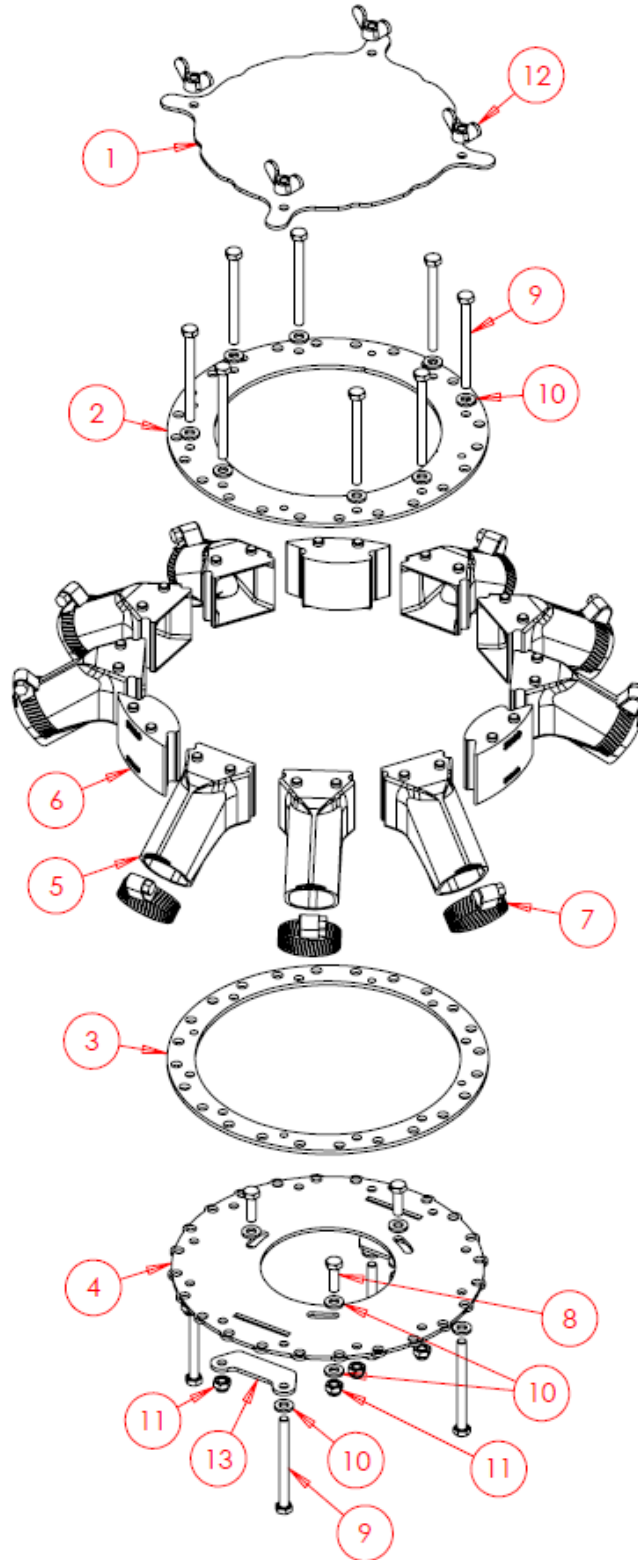
Complete Assembly - SWA2806

Item No.	Part Number	Description	Qty
1	SWB1288	Fan Unit	1
2	SWA2692	Fan Bracket	1
3	SWS23700	Base Bracket	1
4	SW2254	Reducer	1
5	SWM840	M8x40 Screw	6
6	SWM8001	M8 Washer - Flat	6
7	SWM1230	M12x30 Screw	4
8	SWM1240	M12x40 Screw	3
9	SWM12001	M12 Washer - Flat	10
10	SWM12004	M12 Nut - Nylock	3
11	SWB497	Stainless Jubilee Clip - 100mm	1
12	SWB458	89mm Hose *	1

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

6.2.10 Distribution Head & Transfer Pipes

6.2.10.1 Nine Outlet Modular Distribution Head Assembly



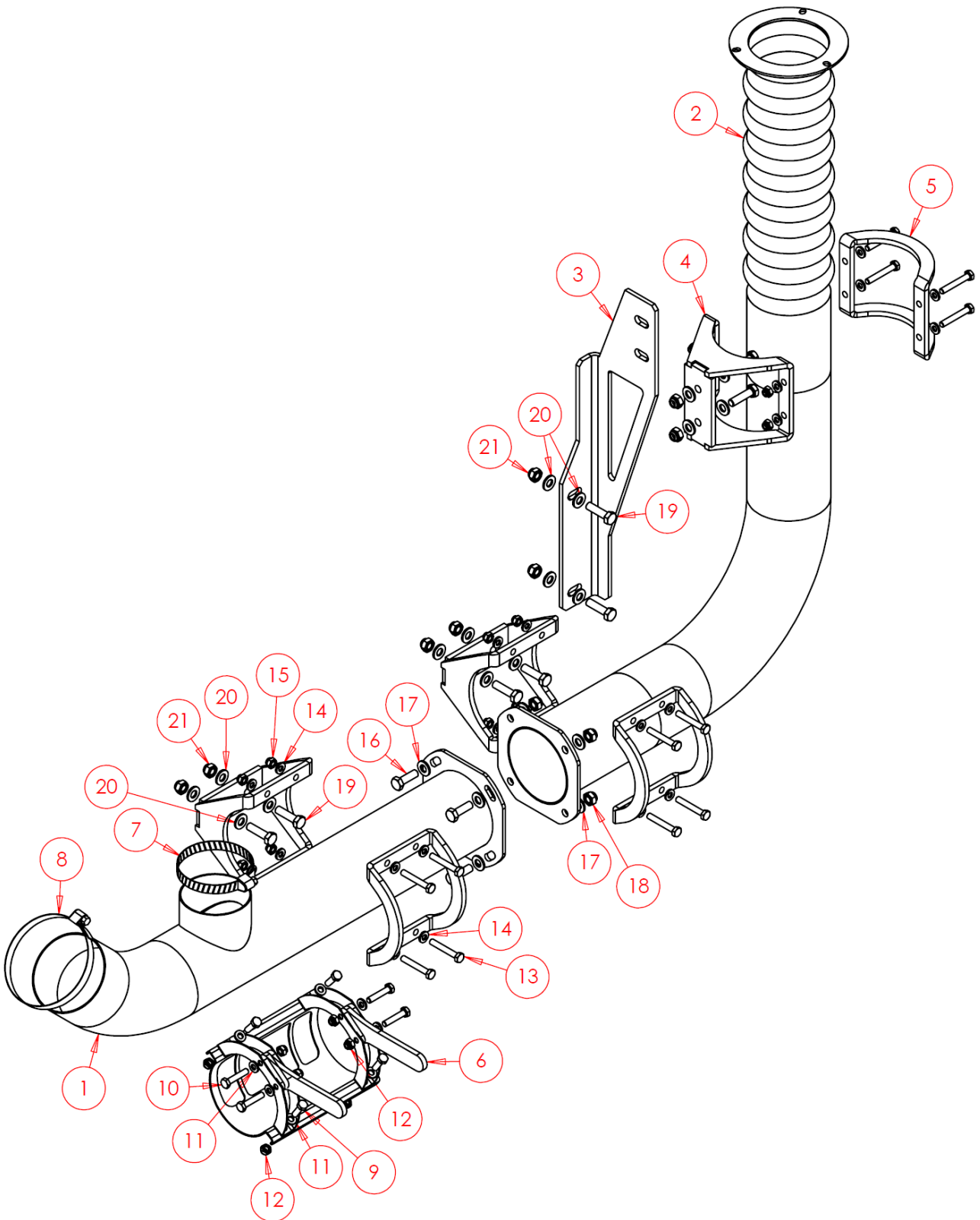
6.2.10.1 Nine Outlet Modular Distribution Head Assembly – Continued

Complete Assembly – SWA451			
Item No.	Part Number	Description	Qty
1	SW1842	Lid	1
2	SW1841	Top Ring	1
3	SWS21755	Bottom Ring	1
4	SW1840	Mounting Plate	1
5	SWB667	38mm Moulded Outlet	9
6	SWB658	38mm Head Blocker	3
7	SWB496	Jubilee Clip – 50mm	9
8	SWM620ST	M6x20 Stainless Screw	3
9	SWM670ST	M6x70 Stainless Bolt	12
10	SWM6001ST	M6 Stainless Washer – Flat	18
11	SWM6004ST	M6 Stainless Nut – Nylock	11
12	SWM6003WNS	M6 Stainless Nut – Wing	4
13	SWS24777	Tramline Blanking Plate *	2
13	SW3195	Tramline Open Plate *	2
**	SWB470	38mm Seed Hose	N/A

* Tramline blanking plates are only provided when tramlines are not fitted. If tramlines are fitted, tramline Open plates are provided.

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

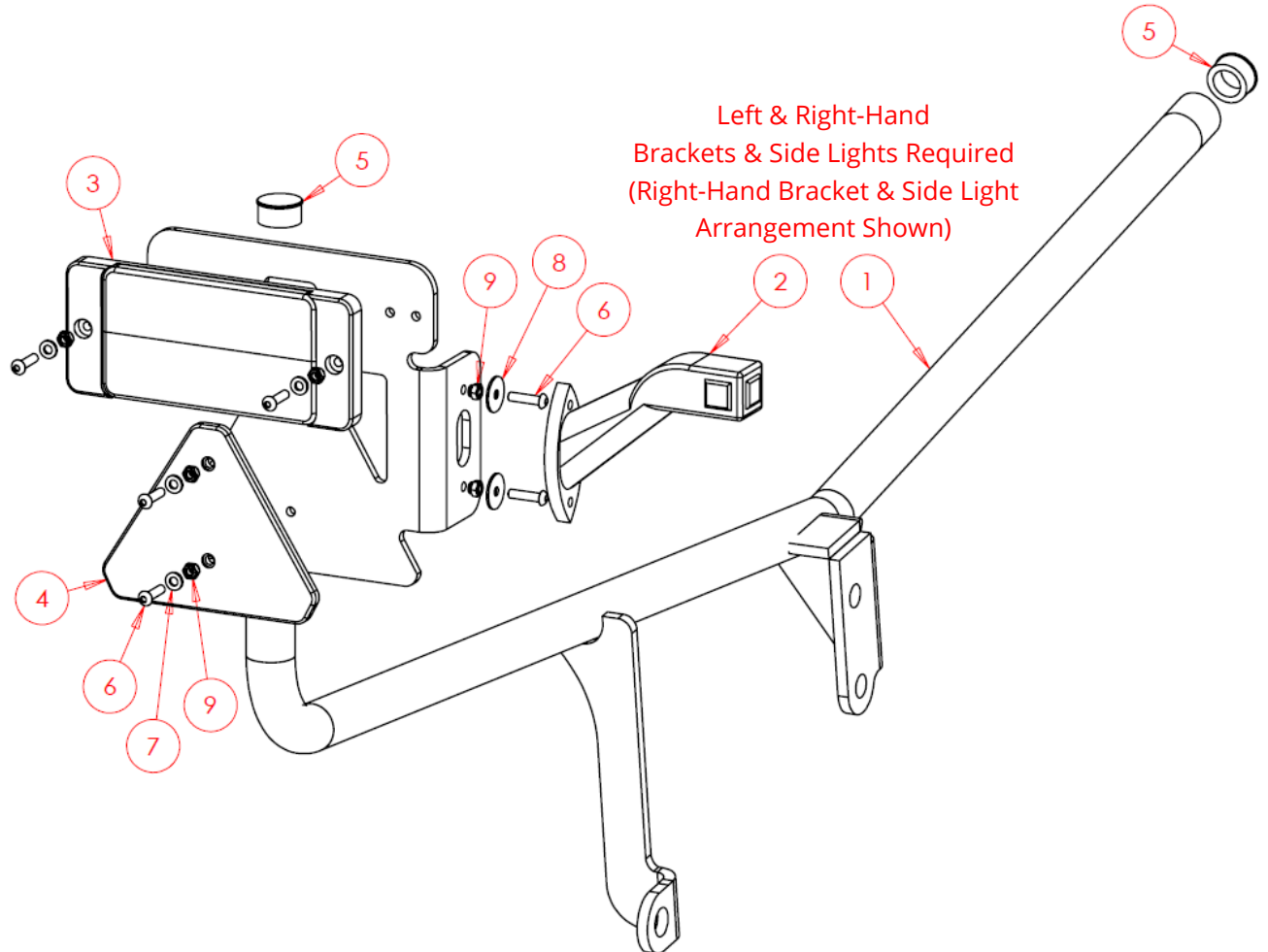
6.2.10.2 Transfer Pipe



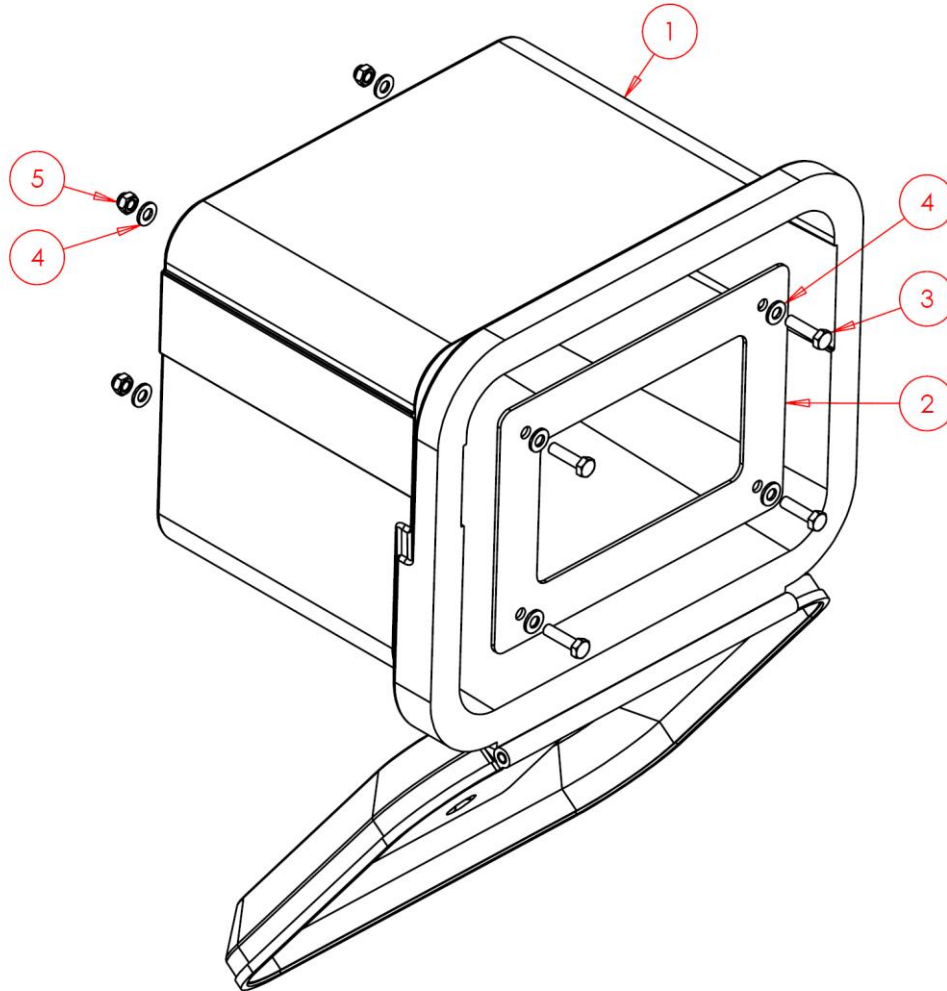
6.2.10.2 Transfer Pipe – Continued

Complete Assembly – SWA2805			
Item No.	Part Number	Description	Qty
1	SW6379	Calibration Tube	1
2	SW6572	Upstack	1
3	SWS24236	Bracket	1
4	SW3064	Mounting Bracket – Lower	3
5	SW3065	Mounting Bracket – Upper	3
6	SW1899	Calibration Slide	1
7	SWB738	Jubilee Clip – 80mm	1
8	SWB497	Jubilee Clip – 100mm	1
9	SWM620ST	M6x20 Stainless Bolt	4
10	SWM630ST	M6x30 Stainless Bolt	4
11	SWM6001ST	M6 Stainless Washer – Flat	8
12	SWM6004ST	M6 Stainless Nut – Nylock	8
13	SWM640	M6x40 Bolt	12
14	SWM6001	M6 Washer – Flat	24
15	SWM6004	M6 Nut – Nylock	12
16	SWM825ST	M8x25 Stainless Screw	4
17	SWM8001ST	M8 Stainless Washer – Flat	8
18	SWM8004ST	M8 Stainless Nut – Nylock	4
19	SWM830	M8x30 Screw	8
20	SWM8001	M8 Washer – Flat	16
21	SWM8004	M8 Nut – Nylock	8

6.2.11 Lights Bracket Assembly



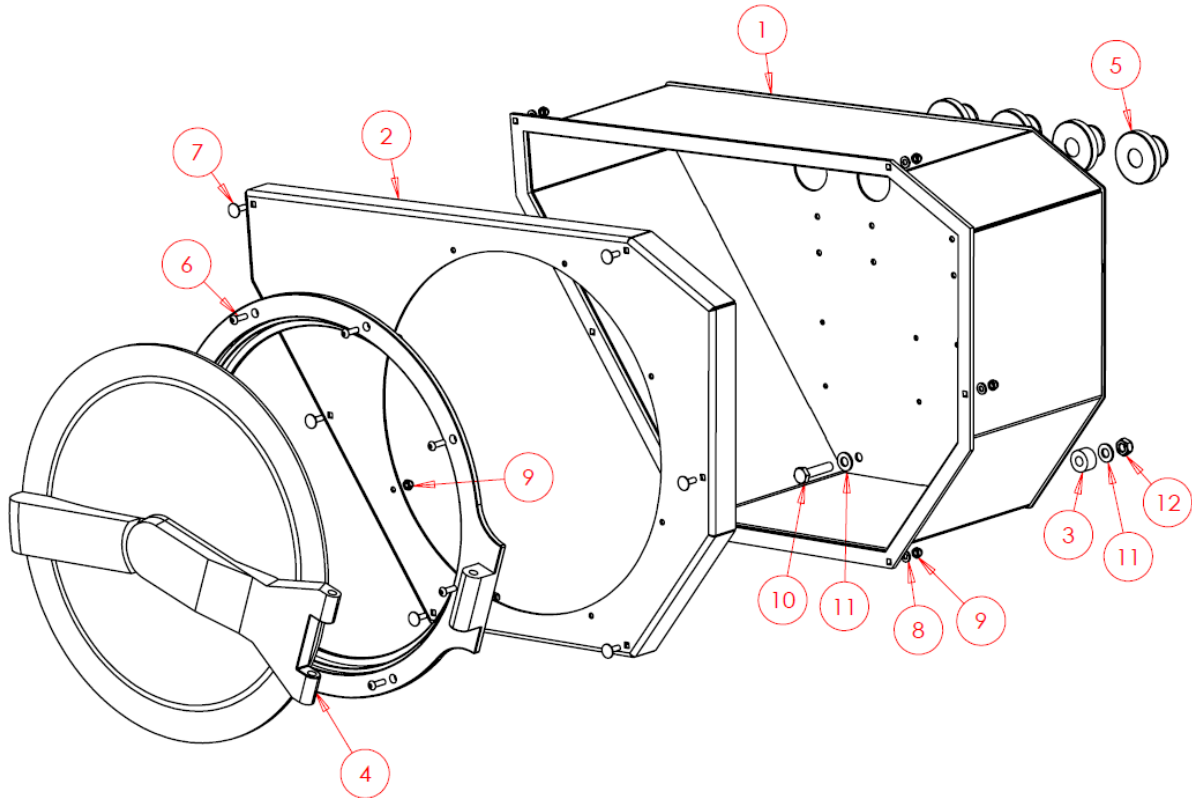
Item No.	Part Number	Description	Qty
1	SWA2189	Light Bracket RH	1
1	SWA2190	Light Bracket LH (Not Shown)	1
2	SWB172	Side Light RH	1
2	SWB173	Side Light LH (Not Shown)	1
3	SWB715	Rear Stop Light/Indicator	1
4	SWB162	Reflector – Red Triangle	1
5	SWB541	Plastic Bung	2
6	SWM625BTH	M6x25 Button Head Screw	6
7	SWM6001	M6 Washer – Flat	4
8	SWM6001XL	M6 Washer – Flat Extra Large	2
9	SWM6004	M6 Nut – Nylock	6

6.2.12 Toolbox

Item No.	Part Number	Description	Qty
1	SWB1302	Toolbox	1
2	SW6609	Sandwich Plate	1
3	SWM830	M8x30 Screw	4
4	SWM8001	M8 Washer - Flat	8
5	SWM8004	M8 Nut - Nylock	4

6.2.13 Electrical Box

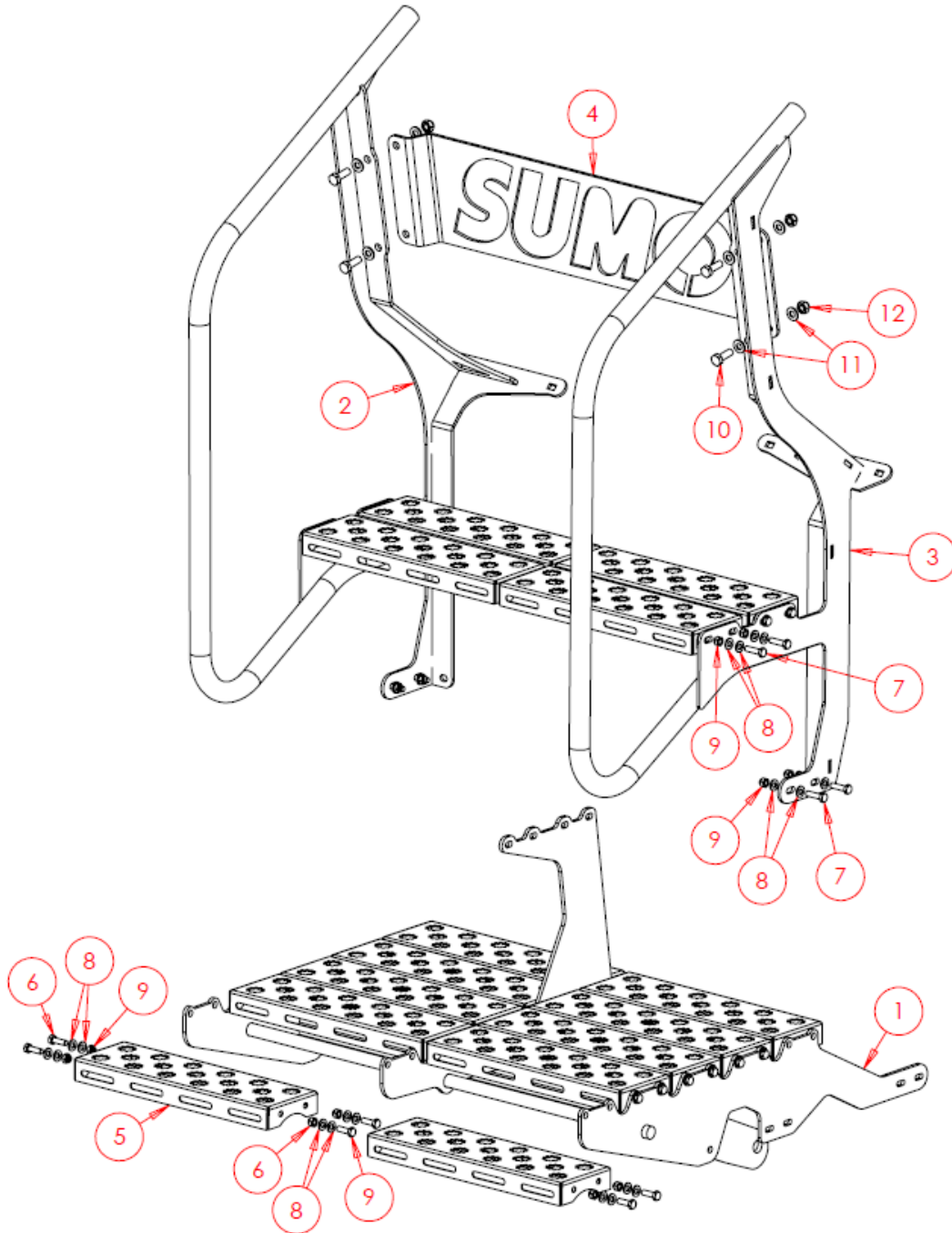
For RDS Topcon Metering System details, please see Manufacturers Manual.



Complete Assembly - SWA2378			
Item No.	Part Number	Description	Qty
1	SWA2377	Electrical Box	1
2	SWS21595	Lid	1
3	SWS23177	Spacer	2
4	SWB629	Door	1
5	SWB563	Gromet	4
6	SWM620BTH	M6x20 Button Head Screw	8
7	SWM625CHSQ	M6x25 Cup Head Square Screw	6
8	SWM6001	M6 Washer - Flat	6
9	SWM6004	M6 Nut - Nylock	14
10	SWM1045	M10x45 Bolt	2
11	SWM10001	M10 Washer - Flat	4
12	SWM10004	M10 Nut - Nylock	2

6.2.14 Steps

6.2.14.1 Steps Upper Section



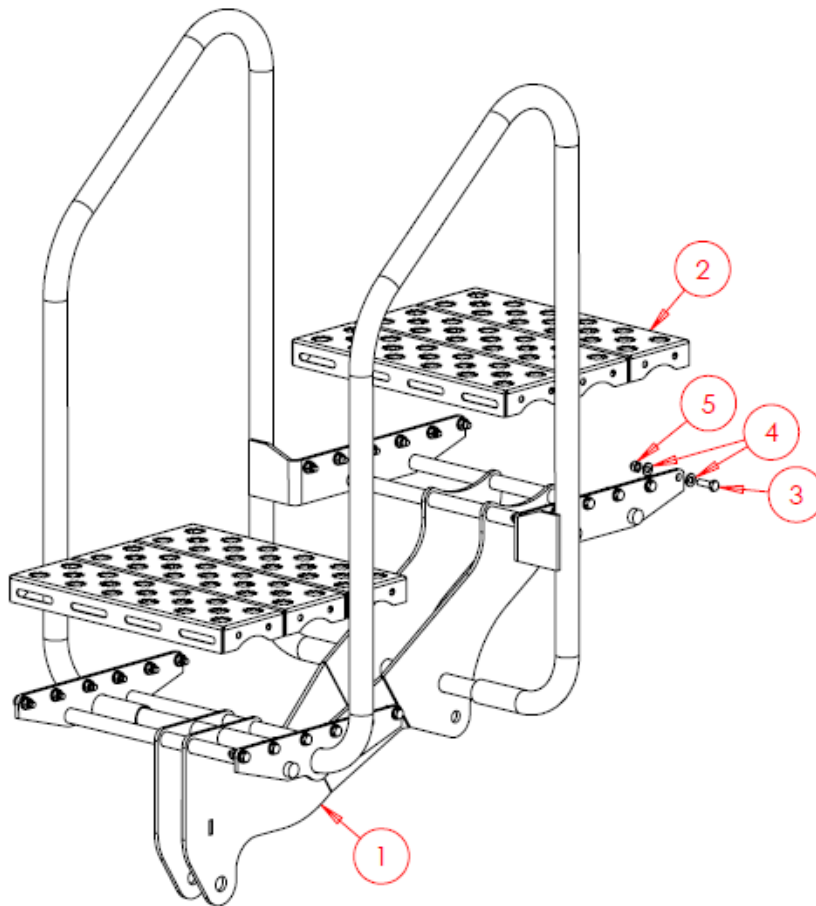
Complete Assembly - SWA2243

Item No.	Part Number	Description	Qty
1	SWA2185	Main Frame	1
2	SWA2182	Left Frame	1
3	SWA2183	Right Frame	1

6.2.14.1 Steps Upper Section - Continued

Complete Assembly - SWA2243 - Continued			
Item No.	Part Number	Description	Qty
4	SW3062	Sumo Linking Plate	1
5	SW1290	Step	14
6	SWM825	M8x25 Screw	30
7	SWM830	M8x30 Screw	12
8	SWM8001	M8 Washer - Flat	84
9	SWM8004	M8 Nut - Nylock	42
10	SWM1030	M10x30 Screw	4
11	SWM10001	M10 Washer - Flat	8
12	SWM10004	M10 Nut - Nylock	4

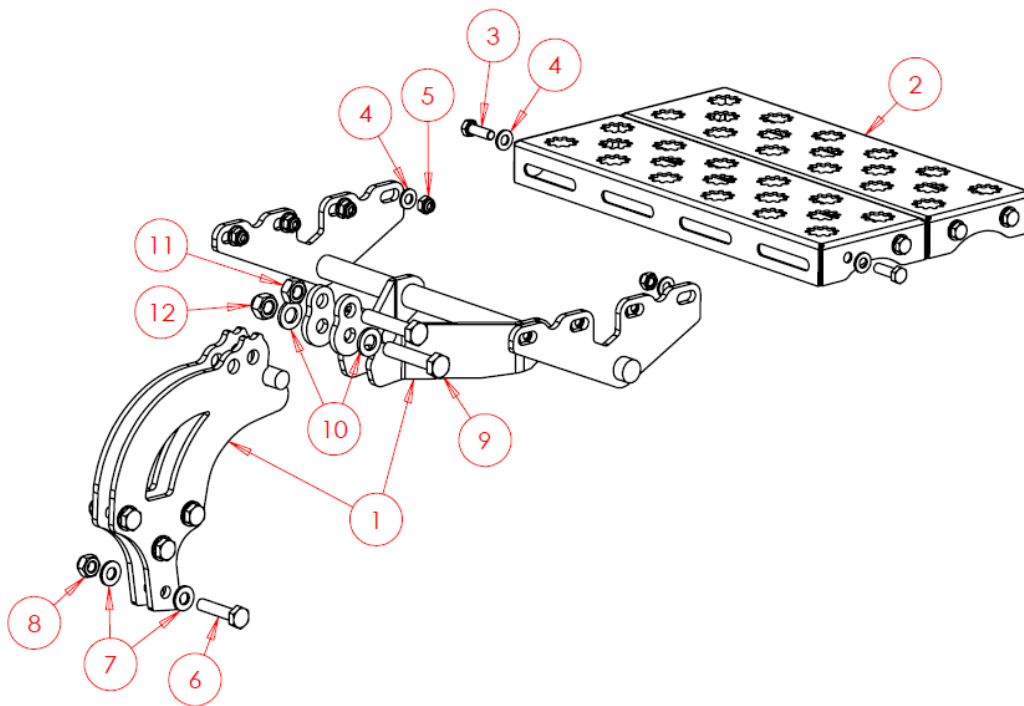
6.2.14.2 Steps Middle Section



6.2.14.2 Steps Middle Section - Continued

Complete Assembly - SWA2249			
Item No.	Part Number	Description	Qty
1	SWA2248	Main Frame	1
2	SW1290	Step	6
3	SWM825	M8x25 Screw	24
4	SWM8001	M8 Washer - Flat	48
5	SWM8004	M8 Nut - Nylock	24

6.2.14.3 Steps Lower Section

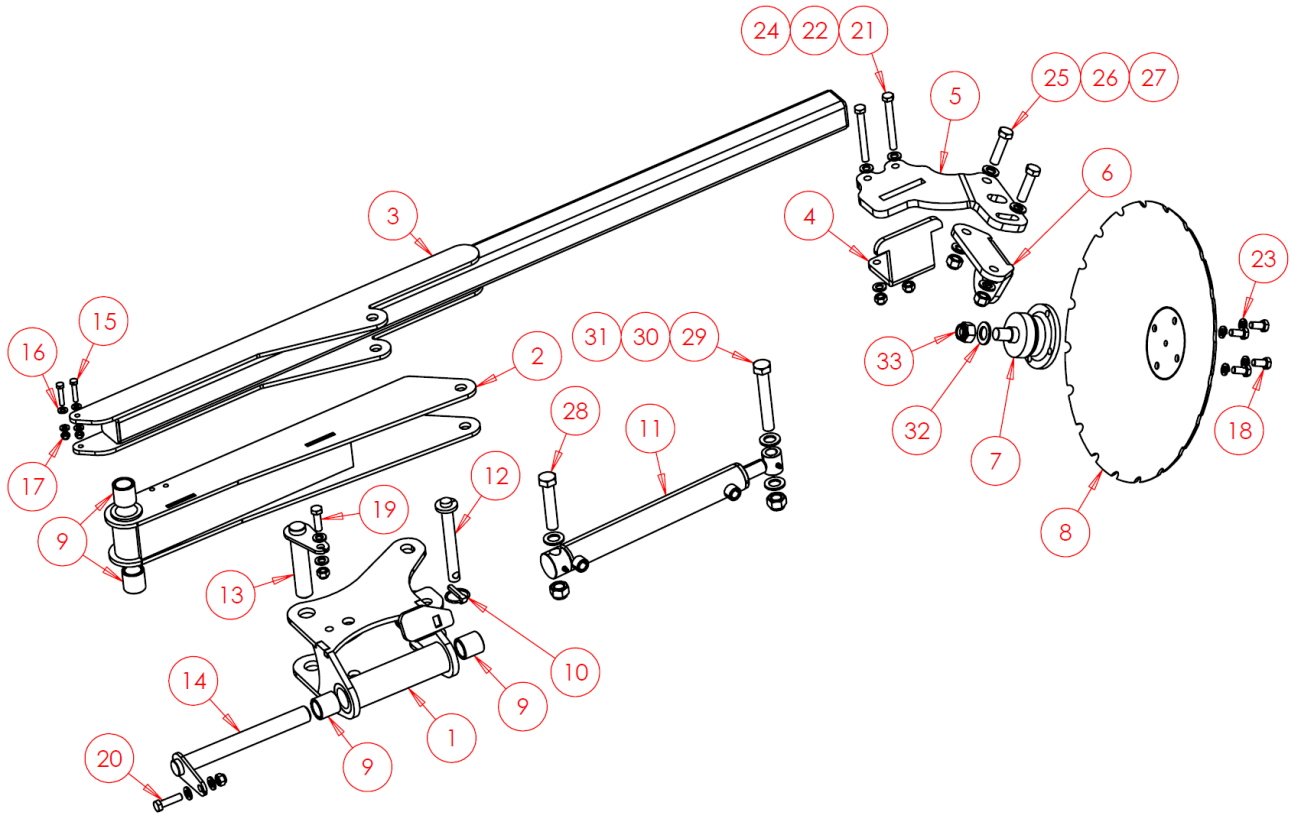


Item No.	Part Number	Description	Qty
1	SW2546	Main Frame	1
2	SW1290	Step	2
3	SWM825	M8x25 Screw	8
4	SWM8001	M8 Washer - Flat	16
5	SWM8004	M8 Nut - Nylock	8
6	SWM1045	M10x45 Screw	4
7	SWM10001	M10 Washer - Flat	8
8	SWM10004	M10 Nut - Nylock	4
9	SWM1260	M12x60 Screw	2
10	SWM12001	M12 Washer - Flat	2
11	SWM12003	M12 Nut - Plain	1
12	SWM12004	M12 Nut - Nylock	1

6.3 Optional Extras/Attachments

6.3.1 Markers

Left & Right-Hand marker arms required – Right-Hand version shown.



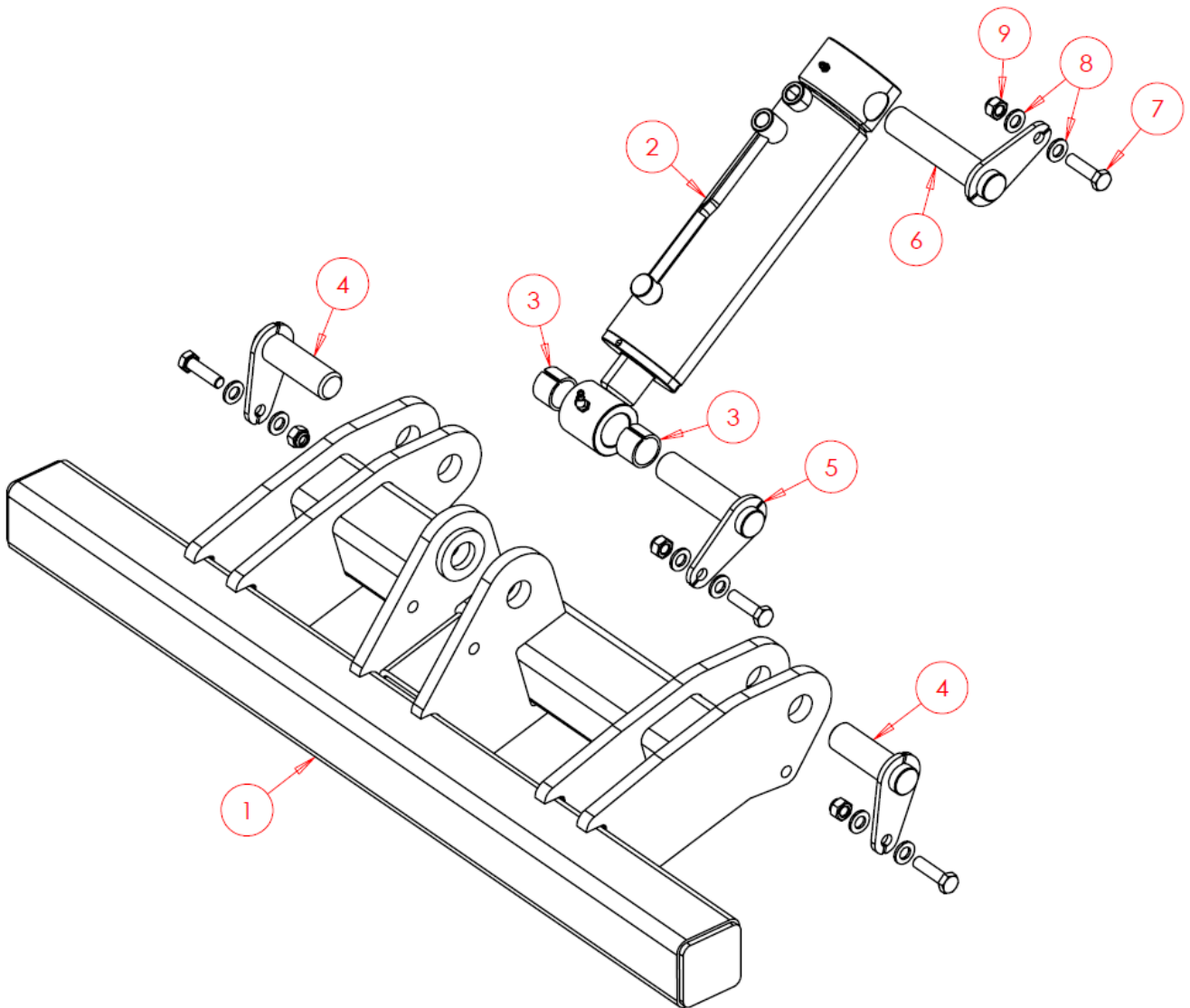
Quantities below are for both Left & Right-Hand marker arms combined.

Item No.	Part Number	Description	Qty
1	SW2808	Knuckle RH	1
1	SW2809	Knuckle LH (Not Shown)	1
2	SW2810	Arm Pivot	2
3	SW2812	Marker Arm	2
4	SW2524	Clamp	2
5	SW2523-R	Mount RH	1
5	SW2523-L	Mount LH (Not Shown)	1
6	SW2552	Bearing Mount	2
7	SWB399	Bearing	2
8	SWB863	Disc	2
9	SWB411	Oilite Bush	8
10	SWB105	Lynch Pin	2
11	SWH103	Hydraulic Cylinder	2
12	SWP20X140W	Pin	2

6.3.1 Markers - Continued

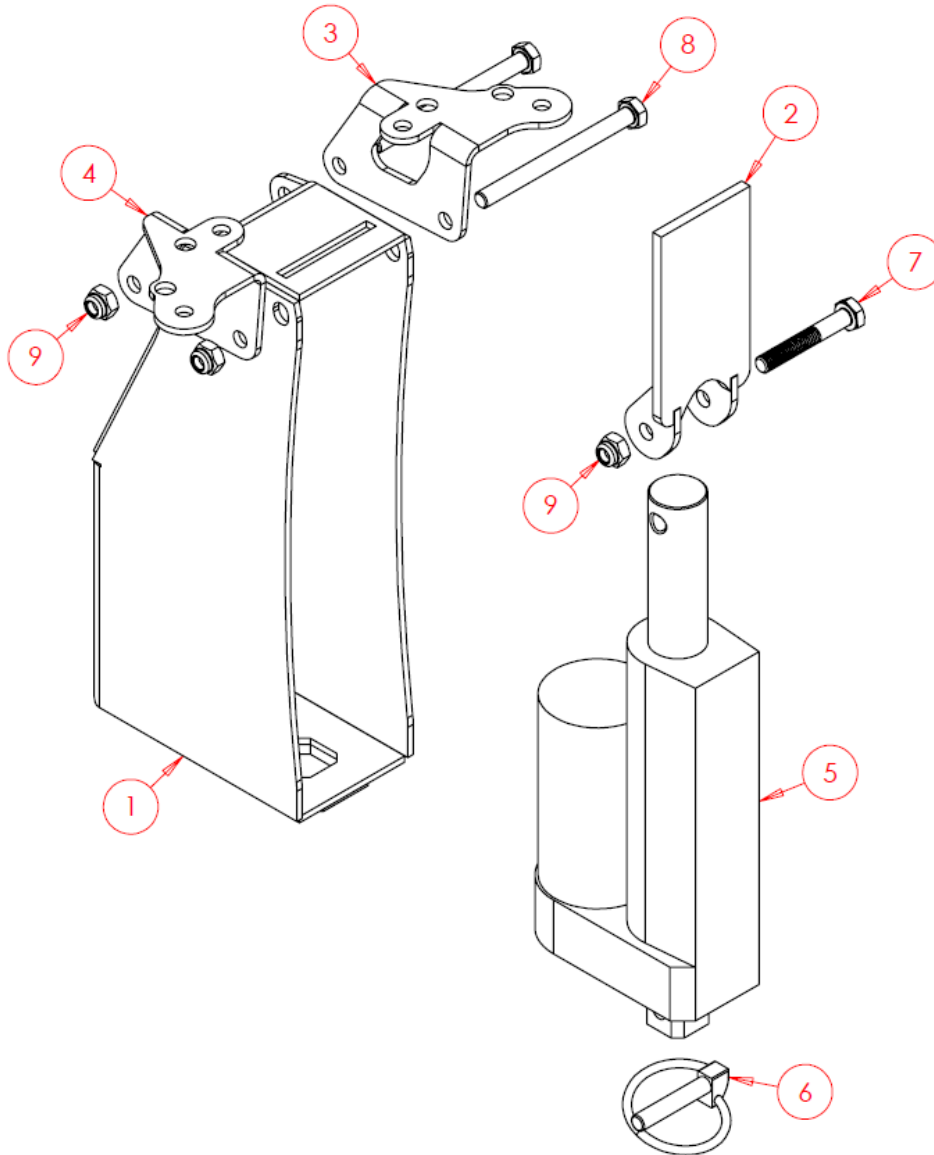
Item No.	Part Number	Description	Qty
13	SWP30X135	Pin	2
14	SWP30X265	Pin	2
15	SWM840	M8x40 Screw	4
16	SWM8001	M8 Washer - Flat	8
17	SWM8004	M8 Nut - Nylock	4
18	SWM1225FT	M12x25 Fine Thread Screw	8
19	SWM1240	M12x40 Screw	2
20	SWM1245	M12x45 Screw	2
21	SWM12110	M12x110 Screw	4
22	SWM12001	M12 Washer - Flat	16
23	SWM12002	M12 Washer - Spring	8
24	SWM12004	M12 Nut - Nylock	8
25	SWM1660	M16x60 Bolt	4
26	SWM16001	M16 Washer - Flat	8
27	SWM16004	M16 Nut - Nylock	4
28	SWM20100	M20x100 Bolt	2
29	SWM20130	M20x130 Bolt	2
30	SWM20001	M20 Washer - Flat	6
31	SWM20004	M20 Nut - Nylock	4
32	SWM22001	M22 Washer - Flat	2
33	SWM22004FT	M22 Fine Thread Nut - Nylock	2

6.3.2 Weight Transfer Unit



Complete Assembly - SWA3084			
Item No.	Part Number	Description	Qty
1	SW2379	Weight Transfer Frame	1
2	SWH125	Hydraulic Cylinder	1
3	SWB374	Split Tension Bush	2
4	SWP30X90	Pin	2
5	SWP30X120	Pin	1
6	SWP30X140	Pin	1
7	SWM1245	M12x45 Bolt	4
8	SWM12001	M12 Washer - Flat	8
9	SWM12004	M12 Nut - Nylock	4

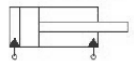

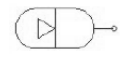

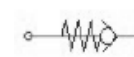
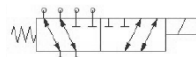



6.3.3 Tramline Shut Off



Complete Assembly – SWA3085			
Item No.	Part Number	Description	Qty
1	SW1836	Actuator Guard	1
2	SW1837	Tramline Shut Off Slide	1
3	SW1838	Bracket LH	1
4	SW1839	Bracket RH	1
5	SWB508	Actuator	1
6	SWB1391	Lynch Pin	1
7	SWM640ST	M6x40 Stainless Bolt	1
8	SWM670ST	M6x70 Stainless Bolt	2
9	SWM6004ST	M6 Stainless Nut – Nylock	3

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
	=	Pilot Operated Relief Valve
	=	Flow Restrictor

7.1 DTS3 - Hydraulic Function Schematic

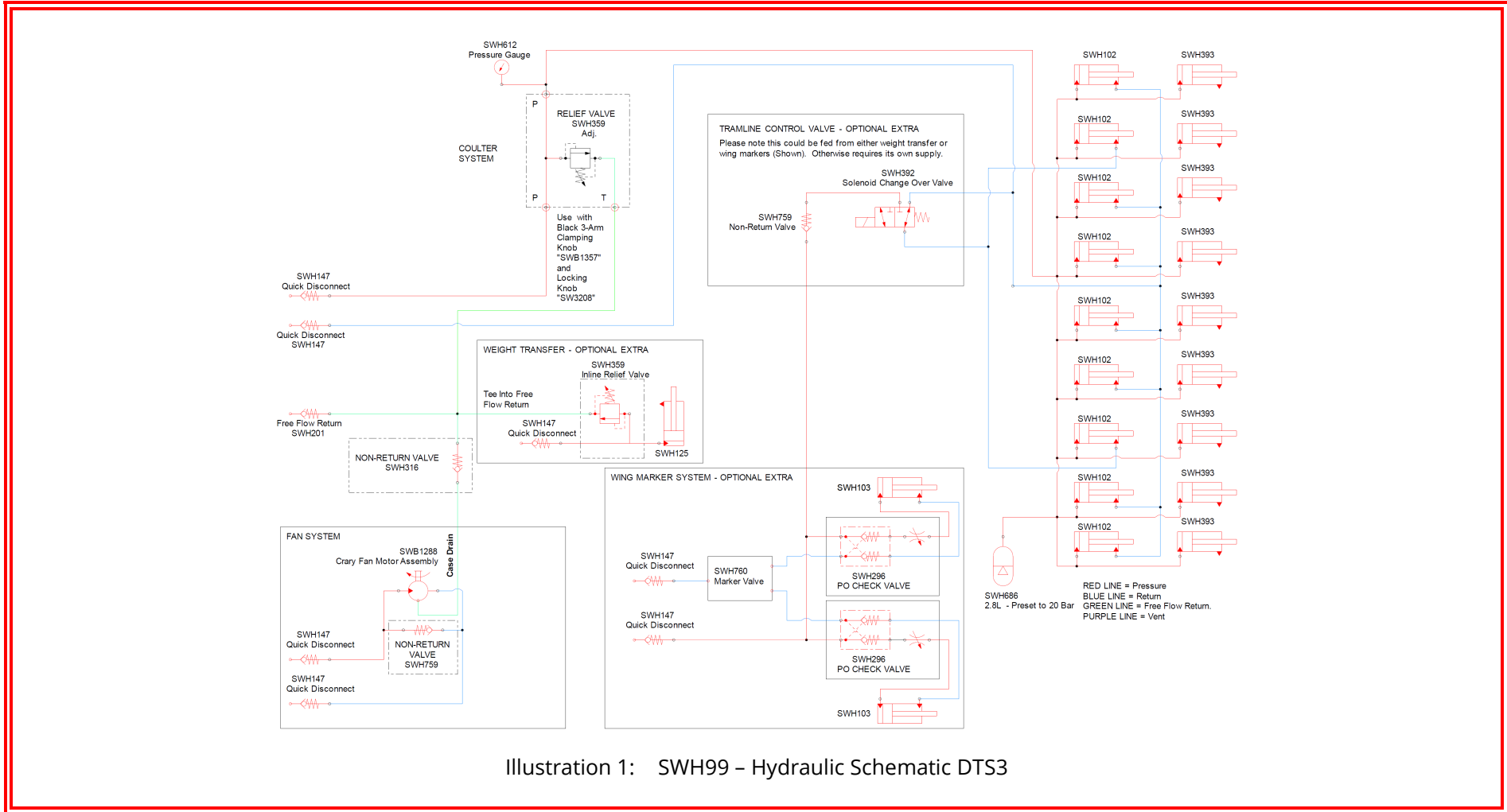
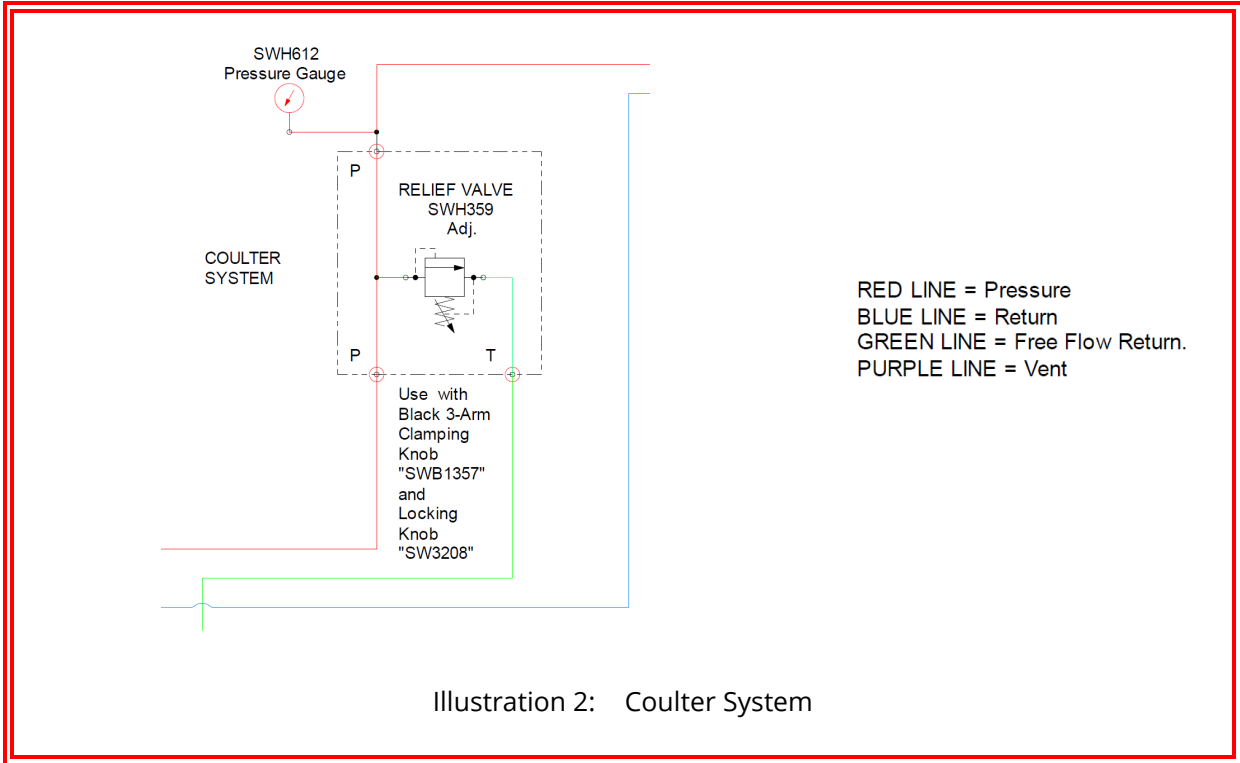
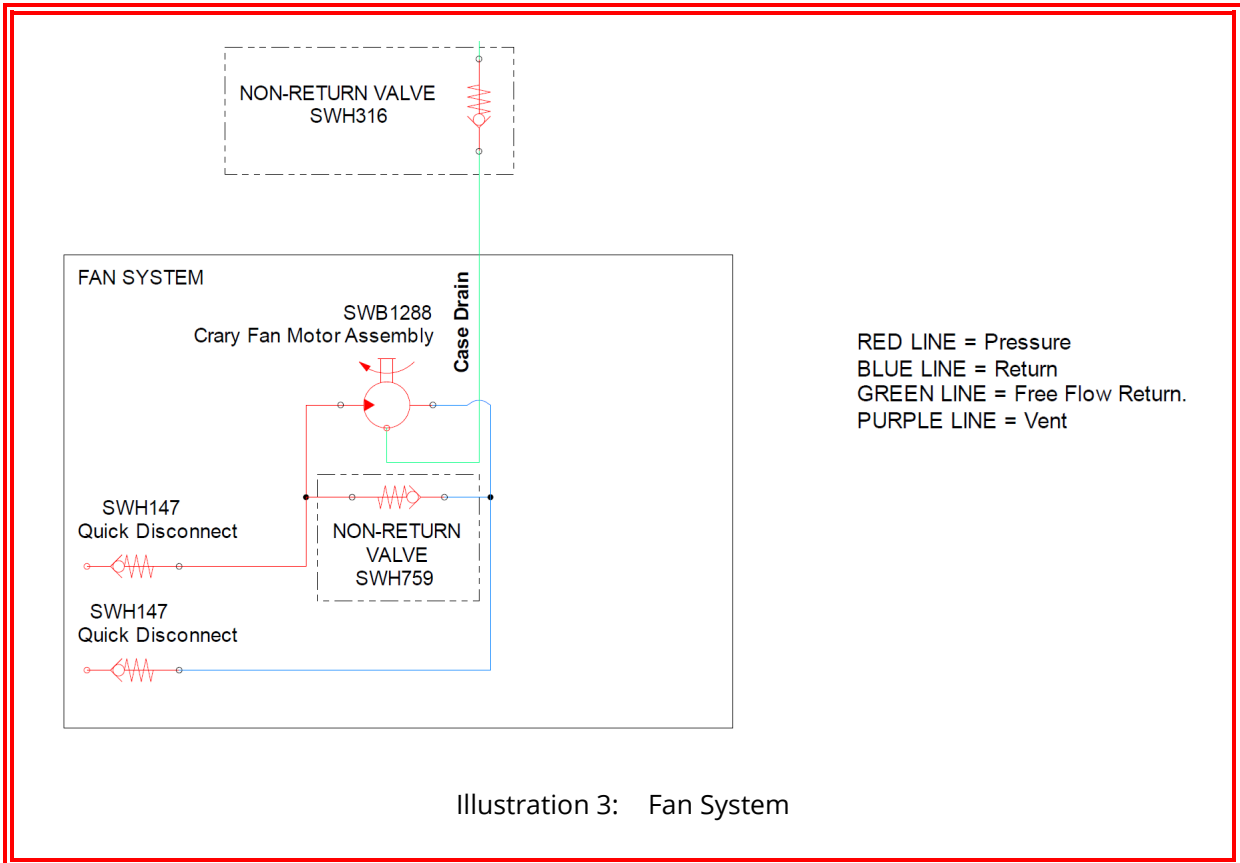


Illustration 1: SWH99 – Hydraulic Schematic DTS3

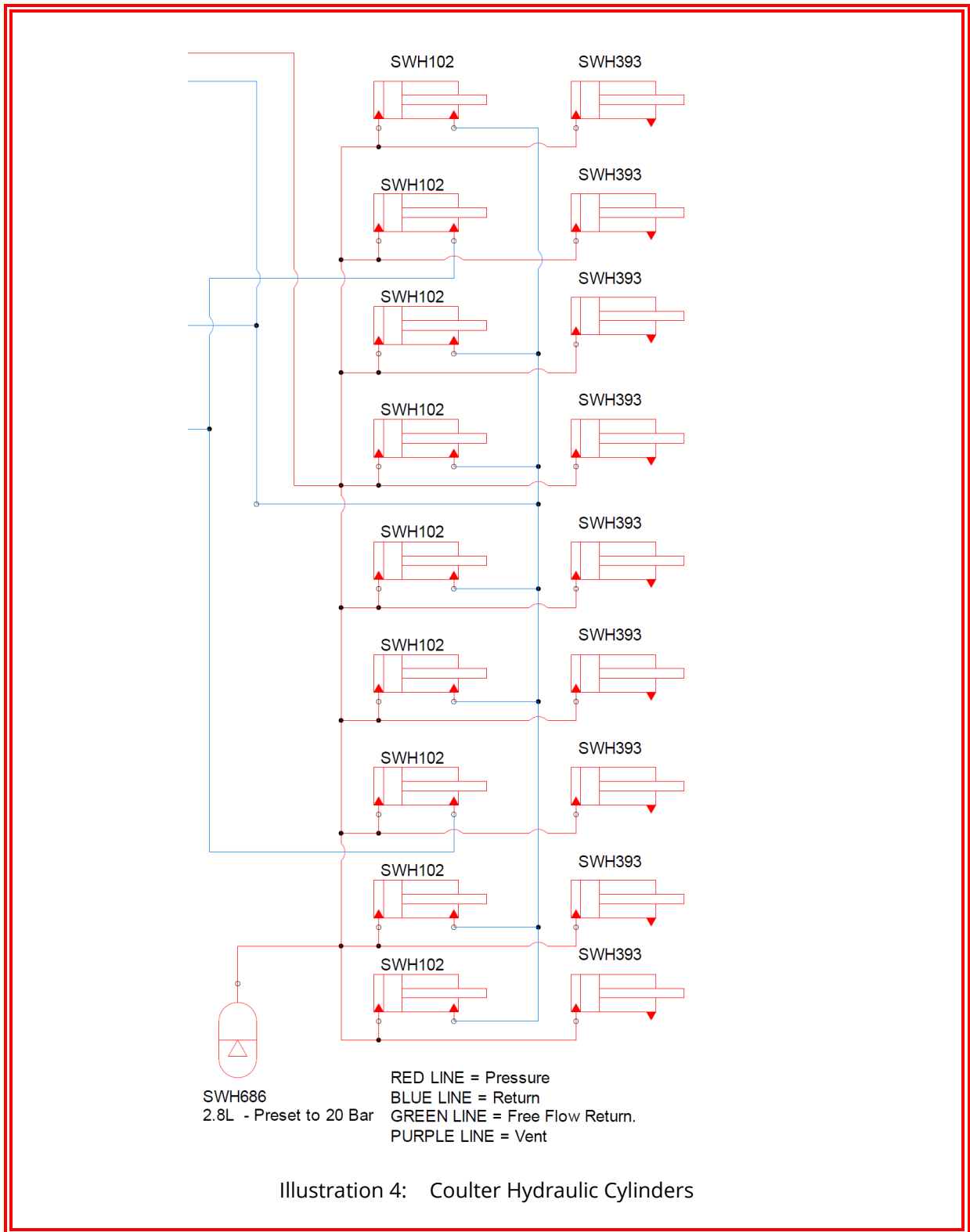
7.2 Coulter System Pressure Control



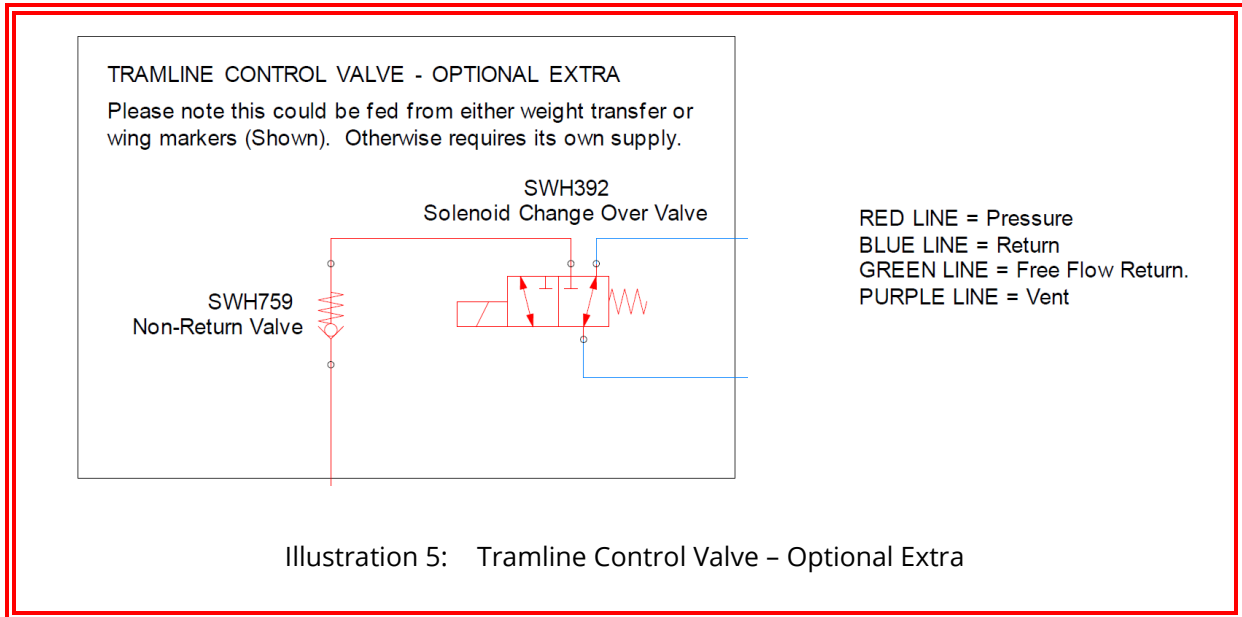
7.3 Fan System Circuit



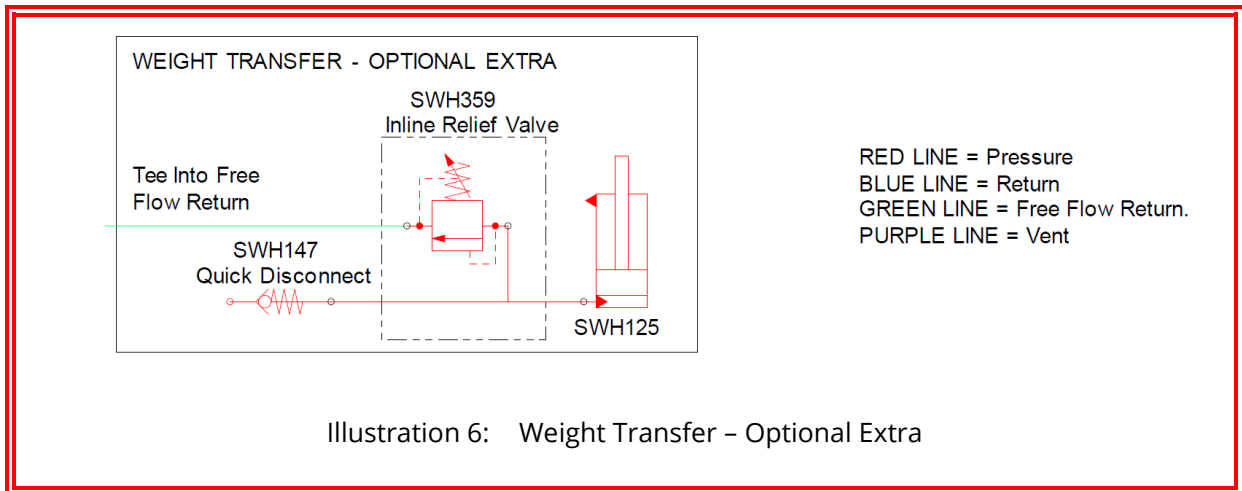
7.4 Coulter Hydraulic Cylinders Circuit



7.5 Tramline Control Valve (Optional Extra) Circuit

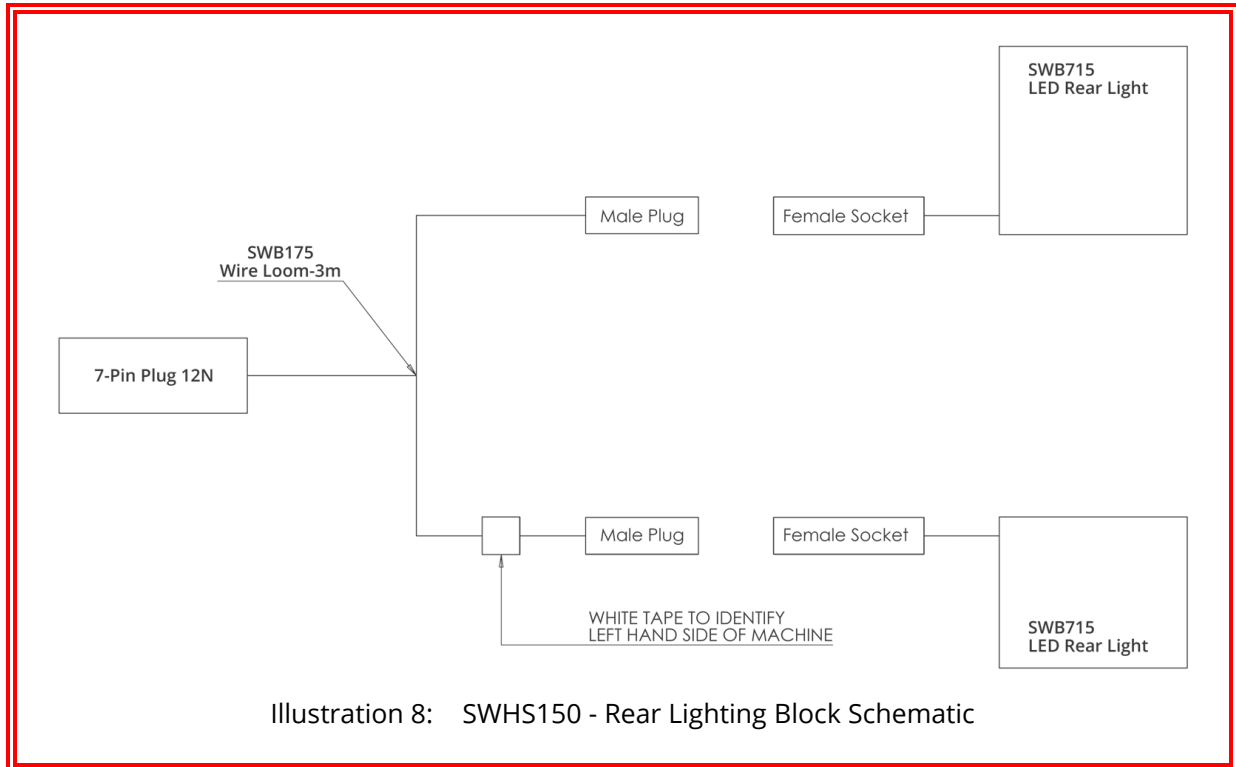


7.6 Weight Transfer (Optional Extra) Circuit



8 Electrical Schematics

8.1 Rear Road Lighting



8.2 Metering System

For RDS Topcon Metering System details, please see Manufacturers Manual.



GROWING WITH YOU

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](#)