INSTRUCTION AND PARTS MANUAL AU

sam MACHINERY

Strong. Simple. Smart.

3.8, 5 AND 6 TONNE COMBO SPREADERS
800mm wide floor-belt

All models from 2015

6 TONNE SINGLE AXLE (AUS)

3.8 TONNE SINGLE AXLE (AUS)

www.samfarmmachinery.com

MODELS

This Instruction and Parts Manual covers all Australian 3.8, 5 and 6 Tonne SAM Combo Spreaders fitted with an 800mm floor-belt manufactured since 2015.

For all other SAM Machinery Instruction Manuals please visit www.samfarmmachinery.com

SERIAL NUMBER

All SAM Machinery products are identified with a unique serial number located on the front of the machine (e.g. '15 S 1234'). Please include this number with all parts and servicing enquiries so we can provide you with fast and accurate assistance.

sam MACHINERY

Serial Number:

18S1234

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Visit www.sammachinery.co.nz
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HQ Maeroa Road, Hamilton, New Zealand

INTRODUCTION

Coombridge & Alexander have created SAM Fertiliser Spreaders from over 70 years' experience making agricultural machinery. SAM Spreaders are the gold standard for spreading techniques throughout Australasia. Strong, simple and smart, each machine is handcrafted from the very best materials and componentry we can find. They are known for their practical design and easy to use operation.

A family-owned and operated company, Coombridge & Alexander control the complete manufacturing process of the iconic SAM range: Fertiliser Spreaders, Combo Spreaders, Orchard Spreaders, Feed Wagons, Hydraulic Trailers and Quick Hitches.

We stand by the quality of all of our products - our team have put the hard work in so you can expect a long working life out of your gear. All the best with your new SAM. We trust you will love it.

For all parts, servicing or support enquiries please contact your local dealership.

www.samfarmmachinery.com
instagram / @sammachinery
facebook / @newsfromSAM

MODEL DETAILS

MODEL	
SERIAL NUMBER	

QUALITY GUARANTEE

SAM Machinery products are guaranteed against any defects in either material or manufacture for a period of 24 months from delivery date provided that the equipment has not been subject to abuse or misuse, operated incorrectly, over loaded or used for purposes other than for which the equipment is designed or is not maintained correctly or if fitted with other than genuine parts.

Claims are only valid when approved by the manufacturer. No person or agent is authorised to assume any liability.

As the use of the equipment is outside our control we can only guarantee quality. No liability for loss, direct expenses incurred from the use of this equipment or from any other cause of in respect of performance etc. can be accepted.

Defective parts must be returned freight paid to the distributor or available to be inspected as directed. Should such parts prove to the manufacturers satisfaction to be faulty - repair of - replacement of defective parts shall constitute fulfillment of guarantee obligations. Parts destroyed, lost or tampered with nullify guarantee.

WARRANTY

SAM Machinery products as designed and supplied by Coombridge & Alexander Ltd, are warranted against faulty workmanship and defective materials for a period of 24 months from date of purchase. Such warranty is subject to the following conditions:

1. That the basic maintenance (as noted in p5) is followed.
2. This warranty covers the repair or replacement of parts or machinery sold by Coombridge & Alexander Ltd and damaged as a result of faulty workmanship or faulty materials.
   It does not extend to any other loss or damage including consequential loss or damage to other property or persons.
3. No responsibility will be accepted for repairs made other than by Coombridge & Alexander Ltd without prior authorisation by Coombridge & Alexander Ltd.
   a. Without limiting the generality of paragraph 1. above, this warranty does not cover the following;
   b. Losses sustained through delay in delivery
   c. Travel expenses
   d. Damage caused by accident, misuse or abuse
4. Damage to any goods which have been altered or modified by someone other than Coombridge & Alexander Ltd or its authorised dealers.
5. Procedure for recovery under warranty;
   1. No loss or damage will be covered under warranty unless the following procedure is followed by the purchaser.
      1. If the purchaser is an authorised dealer -
         a. PFG Australia Ltd must first be advised of details of the goods concerned, the loss or damage sustained and the circumstances in which the loss or damage arose.
         b. After consultation with Coombridge & Alexander Ltd they will then decide if such loss or damage is within the terms of warranty and shall advise the dealer as to how the loss or damage is to be repaired.
      2. If the purchase is not an authorised dealer -
         a. The loss or damage should be reported directly to PFG Australia Ltd who will consult with Coombridge & Alexander Ltd, PFG Australia will advise whether it is covered by the warranty and direct the purchaser accordingly as to what action is to be taken.

BASIC SAFETY

Many agricultural machines have potentially dangerous moving parts, which can cause serious or fatal injuries. Remember;

1. Read ALL warning labels on the machine and ensure you understand operating instructions
2. Turn off the tractor before removing any guards, blockages or servicing the machine
3. Never use your hands or fingers to check for hydraulic oil leaks
4. Keep at least 15 metres distance from the spinner discs when operating
5. Do not use the machine in steep areas where there is a high-risk of rollover occurring.

OPERATIONAL CHECK

Before you start work with a machine there are a few basic checks that can be carried out. Ask yourself:

1. Is the machine you intend to use suitable for the job e.g. in good working order and safe to use?
2. Are all safety devices such as guards in place and working correctly?
3. Are there any known mechanical defects – pay particular attention to items such as wheels and tyres, and moving parts?
4. Are you (or the operator) properly trained to do this job/use this machine?
5. Has the instruction manual for the machine been provided, read and understood?
6. Is the right personal protective equipment (PPE) available and worn?
7. Has a risk assessment been carried out?
8. Has the work been properly planned and communicated to those who may be at risk?
9. Is the machine operator competent to do the job safely?
10. Hitching and attachment points for trailed machinery, check that it has been safely attached to the towing vehicle such as a tractor. Pay attention to the condition of drawbar/pick-up hitch, and hitch rings, pins, clips etc.
11. Carry out any pre-use checks as specified in the operator's manual.

HEALTH & SAFETY RISK ASSESSMENT

A hazard identification, assessment and control procedure has been conducted on a representative SAM Fertiliser Spreader and where necessary appropriate risk control measures have been outlined below;

HAZARD	HARM	CONTROLS
Contact, impact or entanglement from moving parts/ loose objects inc. gears, chains, sprockets, spinner shafts and discs, and wheels.	1. Deep cuts or amputation 2. Bruising 3. Fractures	Avoid wearing loose clothing, jewelery or gloves - they increase the risk of entanglement. Stand a safe distance from the machine when under operation.
Leaking hydraulic hoses and/or couplings.	1. Leaking oil may get into skin 2. Skin and eye irritation 3. Breathing difficulties	Apply a programme preventive maintenance (hydraulic hoses and hydraulic hose couplings). Leaking oil, or bulging or abraded hose walls, must have faulty parts replaced. Never use hands or fingers to detect leaks. Wear appropriate PPE (personal protective equipment).
Tractor and/or Fertiliser Spreader roll-over due to instability under varying conditions and terrain.	1. Serious injury 2. Fatality	DO NOT use the machine in steep areas, or on unstable ground.

To keep your SAM Spreader in excellent working condition, please follow these basic maintenance procedures as you go.

1. Keep your machine fairly clean and very well greased.

2. Before each use; check the hydraulic system for signs of oil leaks or wear. Check there is no play in the spinner bearings by lifting up on the spinner discs. Tension the spinner bearings by tightening the large nyloc nut at the top of the spinner shaft (this can be adjusted by undoing the grub screws).

3. After every five hours of operation grease all nipples on the front and back floor shafts, and the four spinner shaft bearings should be well greased.

4. After every ten hours of operation check all bolts are tight, including the wheel nuts, joiners and spinner discs and vanes. Check all nipples and grease points on the front floor adjusters slides, drawbar jack, clutch pivot bearings, back door jack, hubs and tandem axle pivot points.

5. The floor-belt should be tensioned with a 40mm sag below the middle of the chassis, with an even curve/sag from front to back. Adjust when necessary.

6. All roller chains should be kept well oiled, particularly during long periods of storage.

7. Check the couplings above the spinner tubes stay approximately 2mm between the top and bottom halves.

8. Keep conveyor greased and belt tracking in the centre of the rollers (by adjusting at the non-drive end).

9. Check your linkage/tow pins.

10. Always ensure tractor oils are kept in excellent condition. Beware when changing a Spreader between different tractors. Pump oil out of the hoses unless they use the same hydraulic oil.

11. If you have load cells, please make sure the bolts are regularly tightened.

12. Avoid high pressure hosing/waterblasting around your load cells, sensors and monitor if you have them.

13. Disconnect electronics when welding on this machine. Welding may destroy electronics.

Please keep these checks up for the lifetime of your SAM.

Before starting work with your SAM Combo Spreader please read the following application and set-up instructions to ensure safe and productive operation.

SPREAD RATE SETTING

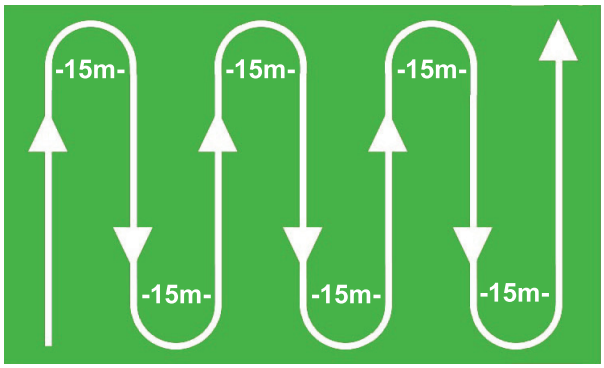
The required fertiliser application rate can be set by adjusting the back door jack and viewing the spread rate sticker to achieve the desired rate per hectare. The floor-belt speed is ground-driven from the wheel ensuring the application rate at the desired back door setting will remain constant regardless of tractor speed.

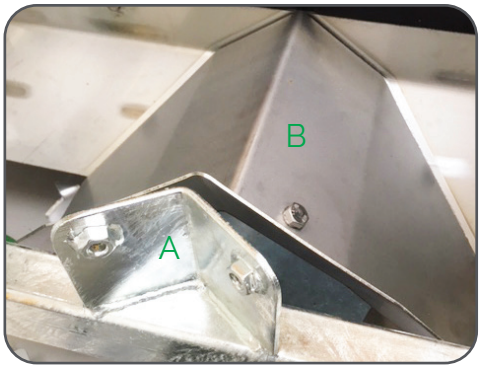
The back door settings on the spread rate sticker are a guide only. Note, various fertiliser products will flow differently. We recommend applying the the first bin load of product onto a measured paddock/area and carefully checking application rates to ensure spread rate accuracy.

We have included a more comprehensive spread rate chart, that includes product densities for a selection of known fertiliser products within this manual for your reference. The spread rate (back door settings) are typically very similar for fertiliser products of the same density and granule type.

SPREADING CENTRES

We recommend spreading at 15 metre centres for granulated fertiliser products and 10 metre centres for powered or fine granulated products such as Lime. Within the included spread rate chart we have also included spreading rates at 17.5 and 20 metre centres if required. For fertiliser application rates over 500kg per hectare we suggest selecting closer spreading centres with a lower back door setting.





SPREADING ORGANIC MATERIAL

When spreading organic material we recommend removing the Vee Divider (marked A above) and bolting this onto the holder marked B (above). When spreading chemical fertilisers the Vee Divider must always be fitted in the original position (and not bolted to the holder).

If an internal mesh is fitted, we recommend removing it from inside the polyethelene bin when spreading organic material, lime or urea.

GROUND DRIVE

The SAM Combo Spreader has one ground drive speed.

HYDRAULICS

Standard SAM Fertiliser Spreaders are fitted with two OMP50 hydraulic motors running in series, requiring an external oil flow of 50 litres/minute.

It is very important that you adjust the hydraulic oil flow from the tractor back to 50 litres/minute if possible (or 70 litres/minute maximum). Two OMP50 hydraulic motors can be run in series with hydraulic oil

flows over 70 litres/minute. Note, the higher the bypass oil flow, the higher the pressure in the Fertiliser Spreader's hydraulic system.

COUPLING THE HYDRAULICS

The live hose (red) must be coupled to a high pressure outlet point on the tractors external hydraulic system. This take off point can be fitted to an existing double acting valve already fitted for farm machinery, or a new fitting can be installed.

The return hose (yellow) must be coupled into the same double acting bank using the quick release coupling supplied.

HYDRAULIC OPERATION

The floor-belt has an in/out clutch (including a double acting clutch ram) that is activated automatically from the tractor seat when the hydraulic spinners are started.

To start the hydraulic spinners and engage the clutch, pressurise the live (red) hose, this will place the clutch into gear and subsequently start the hydraulic spinners turning.

To stop the hydraulic spinners and place the clutch out of gear, move the hydraulic lever to pressurise the return (yellow) hose for one second then place the lever to neutral.

The hydraulic spinners and valve control must be coupled to the tractors hydraulic system to ensure safe operation. Please contact your local dealership or Coombridge & Alexander directly if there is any doubt. Note, the adjustable control valve on the hydraulic valve block (controlling the spinner speed) is pre-set in the factory and should not be altered.

VALVE CONTROL SETTINGS (PRESET)

Danfoss OMP 50 Motor - running in Series = With the valve completely closed open anti-clockwise 1 7/8 turns out for 850 RPM (then set the lock nut)

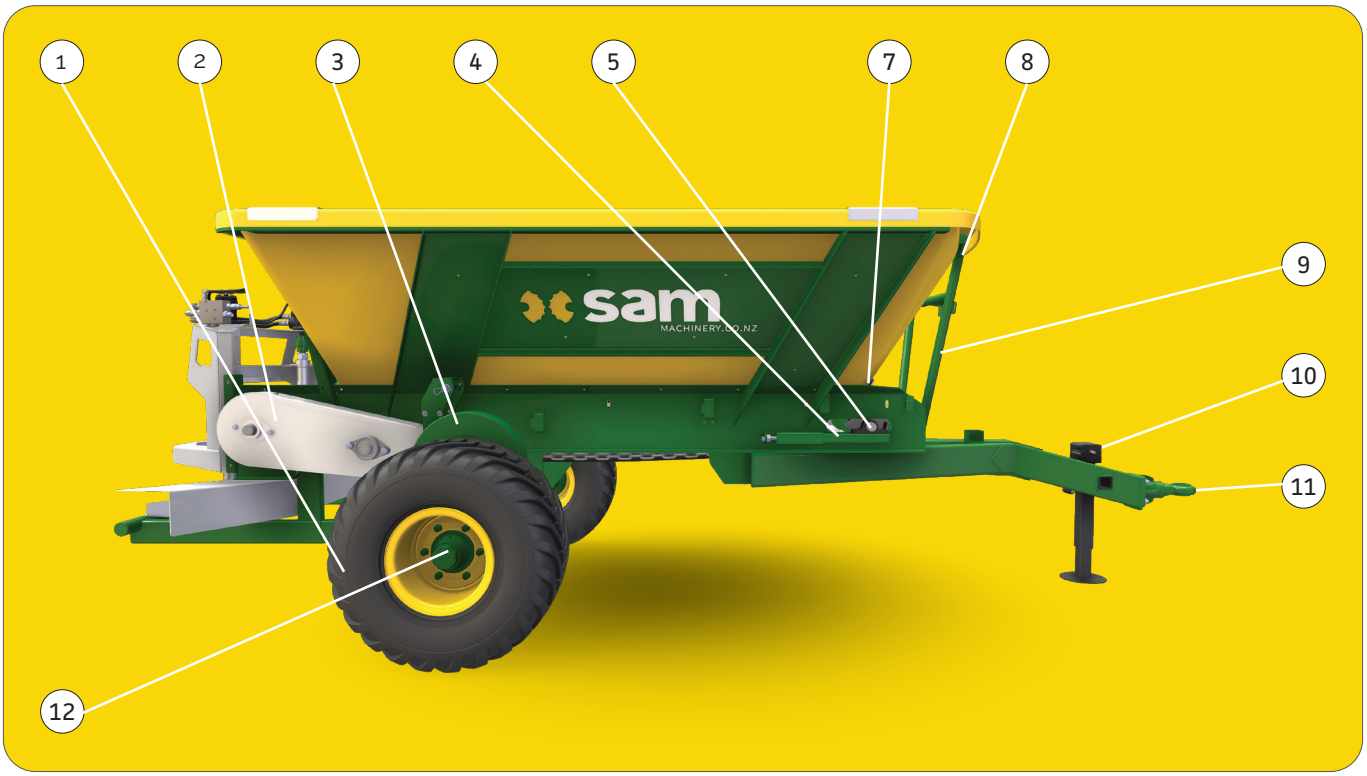
ALWAYS ensure tractor oils are kept in excellent condition. Beware when changing a Fertiliser Spreader between different tractors, pump oil out of the hoses unless they use the same hydraulic oil.

Please contact your local dealership directly for operational support.

MACHINE SIDE-VIEW

REFERENCE	PART NUMBER	DESCRIPTION	QTY.
1*	3103	Wheel & Tyre - 11.5/80 x 15.3 (12ply)	2-4
	3107	Wheel & Tyre - 400/60 X 15.5 (TR Tread)	
	3948	Wheel & Tyre - 550/60 x 22.5 (16ply)	
2	P250	Chain & Sprocket - Drive Housing S/S (see Ground Drive diagram)	1
3	-	Ground Drive - Gear Assembly (see Ground Drive diagram)	1
4	P4697	Belt & Floor Chain Tension Adjusters - Left/Right	2
5	P4826	Front Shaft (Complete) 1.5” - (inc. Sprockets + Spacer Ring)	1
7	6535	Front Bin Skirt Rubber	1
8	1609	Serial Number Plate	1
9	3796	Hose Kit - D200	1
10	P1402	Jack Stand (70sq) - DG701	1
11*	P3145D	Fixed Tow Hitch (16mm Mounting Plate) - 50mm Donut Eye	1
	P3145	Fixed Tow Hitch (16mm Mounting Plate) - 37mm Ball Eye	
	P3557B	Swivel Tow Hitch (16mm Mounting Plate) - 37mm Ball Eye	
	P3557	Swivel Tow Hitch (16mm Mounting Plate) - 50mm Ball Eye	
	P2102	Swivel Tow Hitch (20mm Mounting Plate) - Ball/No Ball	
12*	-	Hub & Stub	2-4

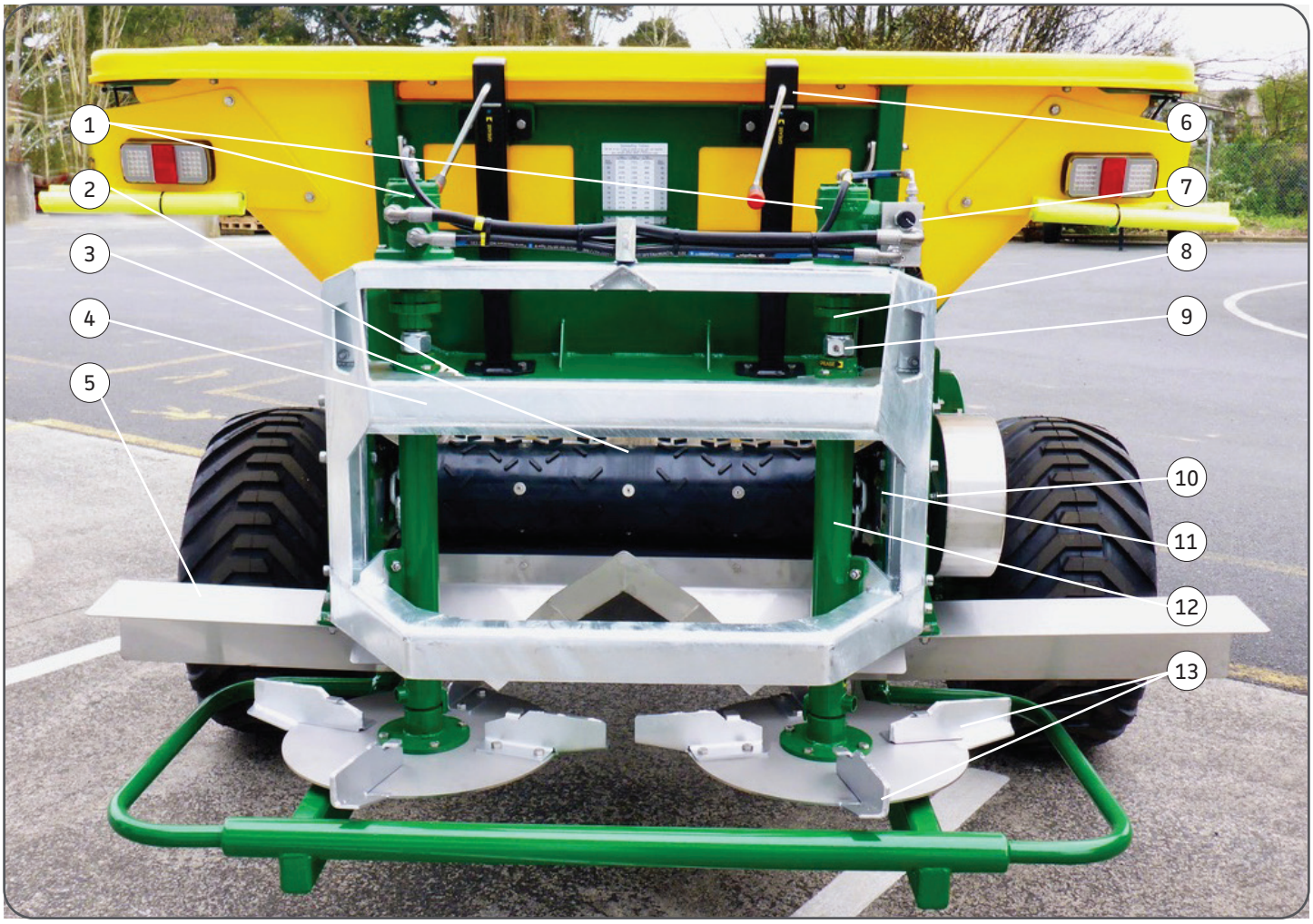
* Wheel & Tyre, Tow Hitch and Hub & Stub set-up varies depending on machine model, size and year of manufacture. Please include the machine serial number with all parts and servicing enquiries.



MACHINE REAR-VIEW - SPINNER SET-UP

REFERENCE	PART NUMBER	DESCRIPTION	QTY.
1	P4751	Danfoss OMP32/8 Hydraulic Motor	2
2*	P3040	Skirt Pressing (S/S) - (inc. Rubber + Rivets) - Left/Right	2
	P4686	Skirt Rubber & Rivet Set - x2 (2.77 x 80mm) + 34 Rivets	1
3*	P3067	Floor-belt and Chain (Complete)	1
4	P4882	Spinner Tube Mounting Frame	1
5	P4857	Deflector + Divider S/S Panel (Complete)	1
6	P2101	Back Door Jack - Combo	1
7	P4810	Hydraulic Flow Control Valve - HCV 2197	1
8	P440	Flexi Coupling CA90 - 25mm/1”	2
9	3424	UNF Nyloc Nut 1 1/4” & Grubscrew 3/8”	2
10	P4695	Mollybush Bearing and Housing - Long/Short	2
11	P4683	Back Shaft - 50mm (Complete inc. 5T Sprockets)	2
12	P20H	Spinner Tube - Complete	1
13	P2103	Spinner Vanes - Set 5CR12 Vanes	
	P4684	Spinner Vanes - Set 5CR12 Vanes + Welded Bis Inserts	1

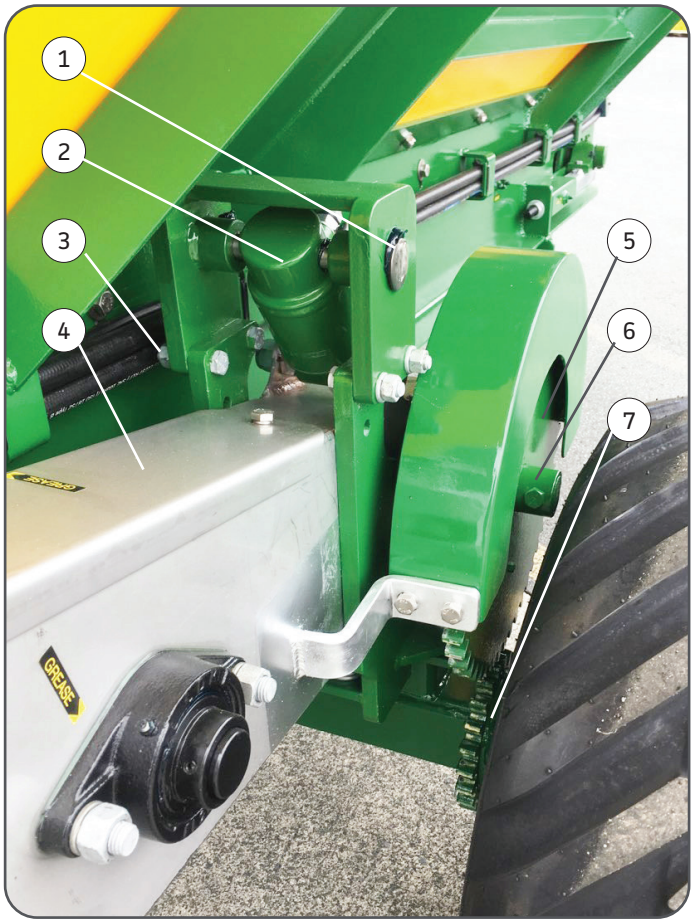
* Floor-Belt and Chain, Skirt Pressings, Couplings and Back/Front Shafts vary depending on machine model, size and year of manufacture. Please include the machine serial number with all parts and servicing enquiries.



GROUND DRIVE

REFERENCE	PART NUMBER	DESCRIPTION	QTY.
1	P4704	3/4” Stainless Steel Ram Pin & S10 R Clip	1
2	4282	Clutch RAM - 2.5” D/A - 5 and 6T Combo	1
3	4011 & 4012	Bolt 3/4”x5”UNC & Nyloc Nut 3/4”UNC	1
4 (Enclosed)	P0424	Chain 16B (1” Pitch) - 46 Outer Links + Joiner	1
	3694	Sprocket 30T - 50mm Bore, 1/2” Keyway	1
	P4689	Mollybush Bearings - Gearbox	2
	2824 or 4074	Sprocket 11T or 15T, 1.5” Bore, 3/8” Keyway	1
5	P4668	Drive Gear 48T - 20mm Bisalloy	1
6	P1005	Shear Plate Assembly Complete with 1.5” ID Boss	1
7	P4670	Drive Gear 22T - Bisalloy - 140mm Bore - 13C - (20mm)	1

* Ground-drive set-up varies depending on machine model, size and year of manufacture. Please include the machine serial number with all parts and servicing enquiries.



COMMON BEARING SIZES AND DIMENSIONS

BEARING SIZES BY HUB MAKE / MODEL

HUB MAKE / MODEL	HUB SIZE	BEARINGS	SEAL	HUB CAP
ADR Mk2	60sq	30211 / 30208	100 x 57 x10 Mk2	80mm
ADR Mk3	60sq	30211 / 30208	100 x 56 x 10 Mk3	80mm
ADR Mk3	70sq	30213 / 32210	120 x 67 x 10 Mk3	90mm
ADR Braked	70sq Braked	30213 / 32210	120 x 67 Mk1	90mm
ADR Mk3	80sq	32215 / 32212	130 x 77 x10 Mk3	110mm
ADR Mk5	60sq	30211 / 30208	100 x 73 x 13 Mk5	80mm
ADR Mk5	70sq	30213 / 32210	120 x 93 x 13 Mk5	90mm
ADR Mk6	60sq	30211 / 30208	100 x 56 Mk6	82mm - Screw on
ADR Mk6	70sq	30213 / 32210	120 x 67 Mk6	92mm - Screw on
ADR Mk6	80sq	32215 / 32212	130 x 77 Mk6	124mm (+ Cap Screws)
ADR Mk7	60sq	30211 / 30208	80 x 100 x 8	82mm - Screw on
ADR Mk7	70sq	30213 / 32210	100 x 120 x 8	Screw on
ADR Mk7	80sq	32215 / 32212	110 x 130 x 8	124mm (+ Cap Screws)
FAD	60sq	30211 / 30208	100 x 70 x 10 100 x 65 x 10 100 x 60 x 10	80mm
FAD	70sq	30213 / 30210	120 x 80 x 12	90mm
FAD	80sq	32215 / 32211	130 x 90 x12	100mm
TVS	60sq	30211 / 30208	100 x 80 x12	80mm
TVS	70sq	32213 / 32210	120 x 90 x12	90mm
TVS Braked	70sq & 80sq	Check	Check	90mm & 110mm
TVS	80sq	32215 / 32212	130 x100 x14	110mm
Monroc	60sq	30211 / 30207	105 x 72 x10	73.5mm - Screw on
Monroc	80sq	30215 / 32211	135 x 95 x 14	101.5mm - Screw on

COMMON BEARING SIZES AND DIMENSIONS

BEARING	INTERNAL DIAMETER (ID)	OUTSIDE DIAMETER (OD)	WIDTH
30208	40mm	80mm	19.75mm
30210	50mm	90mm	21.75mm
32210	50mm	90mm	24.75mm
30211	55mm	100mm	22.75mm
32211	55mm	100mm	26.75mm
32212	60mm	110mm	29.75mm
30213	65mm	120mm	24.75mm
32213	65mm	120mm	32.75mm
32215	75mm	130mm	33.25mm
67048 / 010	1.25”	2.328”	0.625”

If you are experiencing a problem or have a question that is not listed in the chart below, please contact your local dealer directly.

QUESTION / PROBLEM	SOLUTION
What is the spreader bin capacity?	3.8t Fertiliser Spreader = 3m3 of fertiliser 3.6t of Superphosphate (1.2t/m3 density) 4.8t of Lime (1.7t/m3 density) 2.3t of Urea (0.8t/m3 density) 5t Fertiliser Spreader = 4.25m3 of fertiliser 5t of Superphosphate (1.2t/m3 density) 6.8t of Lime (1.6t/m3 density) 3.2t of Urea (0.77t/m3 density) 6t Fertiliser Spreader = 5m3 of fertiliser 6t of Superphosphate (1.2t/m3 density) 8t of Lime (1.6t/m3 density) 3.8t of Urea (0.77t/m3 density)
How does the automatic clutch work?	As the hydraulic spinners are engaged (live hose pressurised) oil closes a hydraulic ram inside the clutch assembly engaging the two ground-drive gears to start the floor. When the hydraulic spinners are stopped (return hose pressurised) and the lever returned to neutral, the two ground-drive gears are disengaged stopping the floor-belt. The system can be engaged or disengaged while moving.
What is the life expectancy of the gears?	As the gears only engage at low pressure they should last many thousands of tonnes before requiring replacement.
What paint treatment does the chassis receive?	The chassis is firstly sand-blasted, then thermal-arc spray galvanised, primed, followed by a final two-pot epoxy top-coat.
Can I get different wheel/tyre options?	A variety of tyre options are available for each model. Please contact your local dealership directly for more information.
How do I prevent Urea blocking the back door exit?	A sheet of chicken wire with 1/2”/1.5cm gaps (or similar) can be fixed to the existing mesh grill inside the spreader bin to prevent larger clumps of product blocking the back door exit.

QUESTION / PROBLEM	SOLUTION
What hydraulic oil flow is required?	Standard SAM Fertiliser Spreaders are fitted with two OMP50 hydraulic motors running in series, requiring an external oil flow of 50 litres/minute.
What RPM should the spinner shaft turn at?	The spinner shaft should turn at approx. 850RPM at 50 litres/minute at 2000psi.
What direction do the spinner discs turn in?	When standing at the back of the machine, the right-hand spinner disc should turn clockwise and the left-hand spinner disc anti-clockwise.
How do I prevent fertiliser product falling out the sides and/or front of the spreader bin (e.g. striping)?	The side-skirts (running the length of the machine, inside the plastic bin) and front/rear bin scrapers will require regular adjustment, particularly when the machine is new. Both the side-skirts and front/rear bin scrapers are bolted (slotted holes) onto the machine - these bolts can be simply loosened and the skirt or scraper maneuvered to be flush with the floor-belt.
What tension should be on the floor-belt and chain assembly?	The floor-belt should be tensioned with a 40mm sag below the middle of the chassis, with an even curve/sag from front to back.
What are the minimum and maximum application rates for various fertiliser products?	From 45kg/hectare at 15m spreading centres for Urea (and similar products), and up to 3,000kg/ hectare at 10m spreading centres for Lime.
How accurate is the spread pattern?	Representative machines have been tested using the nationally recognised Spreadmark test for accuracy. Spread patterns are rated using Coefficient of Variation (CV), a measure of the percentage of fertiliser outside a perfect spread - 0% being a perfect spread pattern. Standards recognise a CV under 15% as acceptable for nitrogenous fertilisers (DAP, Urea, Nitroposka Blue etc.). SAM Fertiliser Spreaders have achieved a 7.1% CV for Urea and 8.1% CV for Superphosphate - well within industry standards.

SPREADING TABLES

400 Wide Mat or Low Speed 800 Wide Mat — Spread Widths In Metres Centre to Centre

All Rates In Kilograms Per Hectare. — Door Settings 1 to 20 (Read from Ruler Level/Top of the Back Door). — Check Fertiliser Densities with Manufacturer

	Urea Density 0.77 t/cubic m			Sulphate of Ammonia Density 1.0 t/cubic m			DAP Nitrophoska Blue Density 1.1 t/cubic m			Superphosphate Triple Super/Salt Density 1.2 t/cubic m			Serpentine Super Density 1.3 t/cubic m			Dolomite Density 1.4 t/cubic m			React Rock (Sechura) Density 1.5 t/cubic m			Lime Density 1.6 t/cubic m		
	15	17.5	20	12.5	15	17.5	15	17.5	20	15	17.5	20	15	17.5	20	15	17.5	20	10		N/A	10	N/A	
	Spread Width in M			Spread Width in M			Spread Width in M			Spread Width in M			Spread Width in M			Spread Width in M			Spread Width in M			Spread Width in M		
20	905	776	679	1499	1249	1071	1374	1178	1030	1499	1285	1124	1624	1392	1218	1954	1675	1466	3141			3350		20
19	860	737	645	1424	1186	1017	1305	1119	979	1424	1220	1068	1542	1322	1157	1857	1591	1392	2984			3183		19
18	815	698	611	1349	1124	963	1236	1060	927	1349	1156	1012	1461	1253	1096	1759	1508	1319	2827			3015		18
17	769	659	577	1274	1062	910	1168	1001	876	1274	1092	955	1380	1183	1035	1661	1424	1246	2670			2848		17
16	724	621	543	1199	999	856	1099	942	824	1199	1028	899	1299	1113	974	1563	1340	1173	2513			2680		16
15	679	582	509	1124	937	803	1030	883	773	1124	963	843	1218	1044	913	1466	1256	1099	2356			2513		15
14	634	543	475	1049	874	749	962	824	721	1049	899	787	1137	974	852	1368	1173	1026	2198			2345		14
13	588	504	441	974	812	696	893	765	670	974	835	731	1055	905	792	1270	1089	953	2041			2178		13
12	543	465	407	899	749	642	824	707	618	899	771	674	974	835	731	1173	1005	879	1884			2010		12
11	498	427	373	824	687	589	756	648	567	824	707	618	893	765	670	1075	921	806	1727			1843		11
10	453	388	339	749	624	535	687	589	515	749	642	562	812	696	609	977	838	733	1570			1675		10
9	407	349	305	674	562	482	618	530	464	674	578	506	731	626	548	879	754	660	1413			1508		9
8	362	310	272	599	500	428	550	471	412	599	514	450	649	557	487	782	670	586	1256			1340		8
7	317	272	238	525	437	375	481	412	361	525	450	393	568	487	426	684	586	513	1099			1173		7
6	272	233	204	450	375	321	412	353	309	450	385	337	487	418	365	586	503	440	942			1005		6
5	226	194	170	375	312	268	343	294	258	375	321	281	406	348	304	489	419	366	785			838		5
4	181	155	136	300	250	214	275	236	206	300	257	225	325	278	244	391	335	293	628			670		4
3	136	116	102	225	187	161	206	177	155	225	193	169	244	209	183	293	251	220	471			503		3
2	91	78	68	150	125	107	137	118	103	150	128	112	162	139	122	195	168	147	314			335		2
1	45	39	34	75	62	54	69	59	52	75	64	56	81	70	61	98	84	73	157			168		1
Door Settings																								Door Settings

Door Setting Instructions

Step 1. Select the product to be spread at the top of the chart e.g. Superphosphate with a density of 1.2 tonnes per cubic metre

Step 2. Select the spread width for the product either 15,17.5, or 20 metre centres e.g. 15 metre centres

Step 3. Follow this column down to select spreading rate required in kilograms per hectare e.g. 300 kg/h

Step 4. Now Follow row across to find door height setting on left or right columns e.g. no. 4 Set door height

The spreading table below is fixed beside the back door of each SAM Fertiliser Spreader. The required fertiliser application rate can be set by adjusting the back door jack and viewing the spreading table sticker to achieve the desired rate per hectare - setting the top of the back door level with the selected box.

The 'DOOR HEIGHT' side scale (1-20cm) represents the opening space (in centimetres) between the floor-belt and the back door.

SPREADING TABLE

Set pointer to the centre of the box with the rate required.

Rates are in kg per hectare. Detailed spread tables are in your manual.

Door Height	Lime 10m Centres Density 1.6 t/cu.m	Super 15m Centres Density 1.1 t/cu.m	Urea 15m Centres Density .77 t/cu.m	Door Height
20	3350	1374	905	20
19	3183	1305	860	19
18	3015	1236	815	18
17	2848	1168	769	17
16	2680	1099	724	16
15	2513	1030	679	15
14	2345	962	634	14
13	2178	893	588	13
12	2010	824	543	12
11	1843	756	498	11
10	1675	687	453	10
9	1508	618	407	9
8	1340	550	362	8
7	1173	481	317	7
6	1005	412	272	6
5	838	343	226	5
4	670	275	181	4
3	503	206	136	3
2	335	137	91	2
1	168	69	45	1