



ABB-T2000
BALE FEEDER
Operators Manual



Reese Engineering Ltd

Palmerston North, New Zealand
Telephone: +64 6 357 9323
Facsimile: +64 6 354 3155
www.reeseagri.com



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BaleBug[™] is a copyright design



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**Please read and understand this manual before attempting to operate the
BaleBug[™]**



Owner Information

Congratulations on the purchase of your new AGRISPRED™.

The AGRISPRED™ range of fertiliser spreaders and bale feeders has been designed and manufactured with the discerning farmer in mind. Having regarded ever-increasing costs of farm machinery today, our company has attempted to provide long-term durability by using the finest materials in the construction of the spreaders and bale feeders.

This manual deals with the assembly, operation and maintenance of the BaleBug™ bale feeder. Read it thoroughly before attempting to use your bale feeder. If you are still unsure about any aspect of the BaleBug™ ask the dealer who supplied the machine to explain any unclear points.

Your AGRISPRED™ Dealer is:

Name í í í í í í í í í í í í í í í í í í í í í í í

Address í í í í í í í í í í í í í í í í í í í í í í í í í

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Phone No í í í í í í í í í í í í í í í í í í í í í í í í í

Date Machine Purchased í í í í í í í í í í í í í í í í í í í í í í í

Model No í í í í í í í í í í í í í í í í í í í í í í í í í

Serial No



Product Description

Model	ABB-T2000
Engine	Kohler 14hp petrol electric start
Capacity	2 Bales/ up to 2 Ton total
Drive	Hydraulic
Hydraulic oil capacity	22 litres
Control	PLC unit & wireless remote
Height	1.9m (with forks up)
Width	2.2m
Length	3.3m (with forks up)
Tare Weight	670kg
Finish	Galvanized

Feeds Out: All round hay and silage bales up to 1 ton max per bale

***Tow Vehicle:** Any Vehicle with an adequate towing capacity, please refer to your vehicle's towing specs including maximum towing capacity and maximum drawbar weight.

Ordering Spare Parts

Always order spare parts for your BaleBug[™] through your authorised Agrispred[™] dealer using the Agrispred[™] part number and descriptions given in the parts manual.

Please include:

- Quantity required
- Model number
- Machine serial number

The serial number can be found on the plate attached to your BaleBug[™] base frame.

Receiving Delivery

Carefully check for any damage that may have occurred during transit, and if necessary, ensure that a claim is lodged with the common carrier concerned prior to accepting delivery.

*Reese Agri, Agrispred or its associated companies and employees accept no liability in regard to use of any tow vehicle that is not suited to the task of operating this implement.

The operator and his/her employees must take full responsibility for their tow vehicle of choice and completely understand the factory towing specifications of that vehicle.



Safety Precautions

Be aware of your ATV / UTV or other farm vehicles load carrying capacity, excess weight whether attached or placed on an ATV or farm vehicle can dramatically change the handling characteristics.

- Make sure all persons are well clear of the BaleBugtm whenever it is to be operated.
- Ensure the operator is the only person with access to the remote control, as it will function from a distance of up to 70m.
- Make sure that the tow vehicle is up to the task as bales can weigh in excess of 800kg and the BaleBugtm is 670kg so it is recommended that a 4x4 or ute is used if 2 bales are to be carried.
- Never exceed 20 kph even when no bales are loaded.
- Ensure that all moving parts are kept free from feed build-up as this can affect the overall performance of the machine.
- The remote control should remain in or on the tow vehicle rather than the operator's pocket to avoid accidental button pressing when the motor is running.
- Check tire pressure regularly, should be inflated to a pressure of 20-22psi (137-152 kpa)
- Under no circumstances should any person ever ride on the machine
- The BaleBugtm is intended for farm use only and should never be towed on any public road.
- Under no circumstances should any load be placed or attached to the front engine cover
- Do not overload the forks or use for any task other than lifting and loading bales
- Ensure that if any work, maintenance or cleaning is to take place that the BaleBugtm is shut down and fully stopped; this should include removal of ignition key.

The user of this Agrispredtm BaleBugtm is fully responsible at all times for the safety of any persons that may be in the vicinity of the implement. Use of the BaleBugtm implies that the operator has read and fully understands the safe operation of this implement. Other conditions that may affect safe operation include but are not limited to: weather, ground conditions, land contour, visibility, bale weight and size, towing vehicle and tow hitch, operator skill/experience.



Safety First

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your AGRISPRED™ dealer.

OPERATE YOUR MACHINE SAFELY

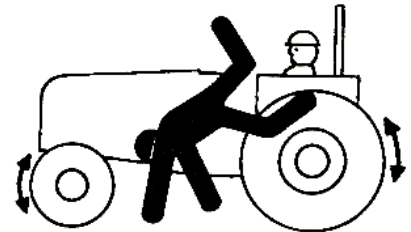
Be careful when operating machine to avoid injury.

Serious injury or death can result from contact with electric lines. Use care when moving or operating the machine near electric lines to avoid contact.



Be careful when operating on hillsides, tractors/ATVs can tip sideways if it strikes a hole, ditch or other irregularity.

Permit only one person, the operator, on tractor/ATV platform while tractor/ATV is in operation. Keep riders off. They are subject to injury such as being struck by foreign object and being thrown off the machine. They also obstruct the operators view.



WEAR PROTECTIVE GEAR

Wear close fitting clothes and safety equipment appropriate to the job.

Wear suitable hearing protective device as prolonged exposure to loud noise can cause impairment or loss of hearing.



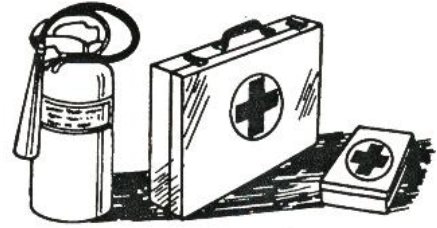
Wear safety gloves when working with any machinery, as there can be sharp edges.

Operating equipment safely requires the full attention of the operator. Do not wear radio headphones while operating machine.



BE SAFE WITH CHEMICALS

Direct exposure to agricultural and hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with AGRISPRED™ equipment include such items as lubricants, coolants, fertilizer, paint and adhesives. If in doubt, contact your local AGRISPRED™ dealer for information about chemical safety and first aid procedures.



Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Remove paint before welding or heating. Avoid potentially toxic fumes and dust when sanding, repainting or welding. Do all work outside in a well-ventilated area. Dispose of paint and solvent properly.



Avoid heating near pressurized fluid lines or other flammable materials. Pressurized lines can be accidentally cut when heat goes beyond the immediate flame, which could result in severe burns to yourself and bystanders.

Avoid high-pressure fluids. Escaping fluid under pressure can cause injury. Relieve pressure before disconnecting hydraulic or other lines.

DISPOSE OF WASTE PROPERLY

Improper disposing of waste can threaten the environment and ecology. Use leak-proof equipment when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.



Do not pour waste onto the ground, down a drain, or into any water source. Use the manufactures directions on the correct way to recycle or dispose of waste



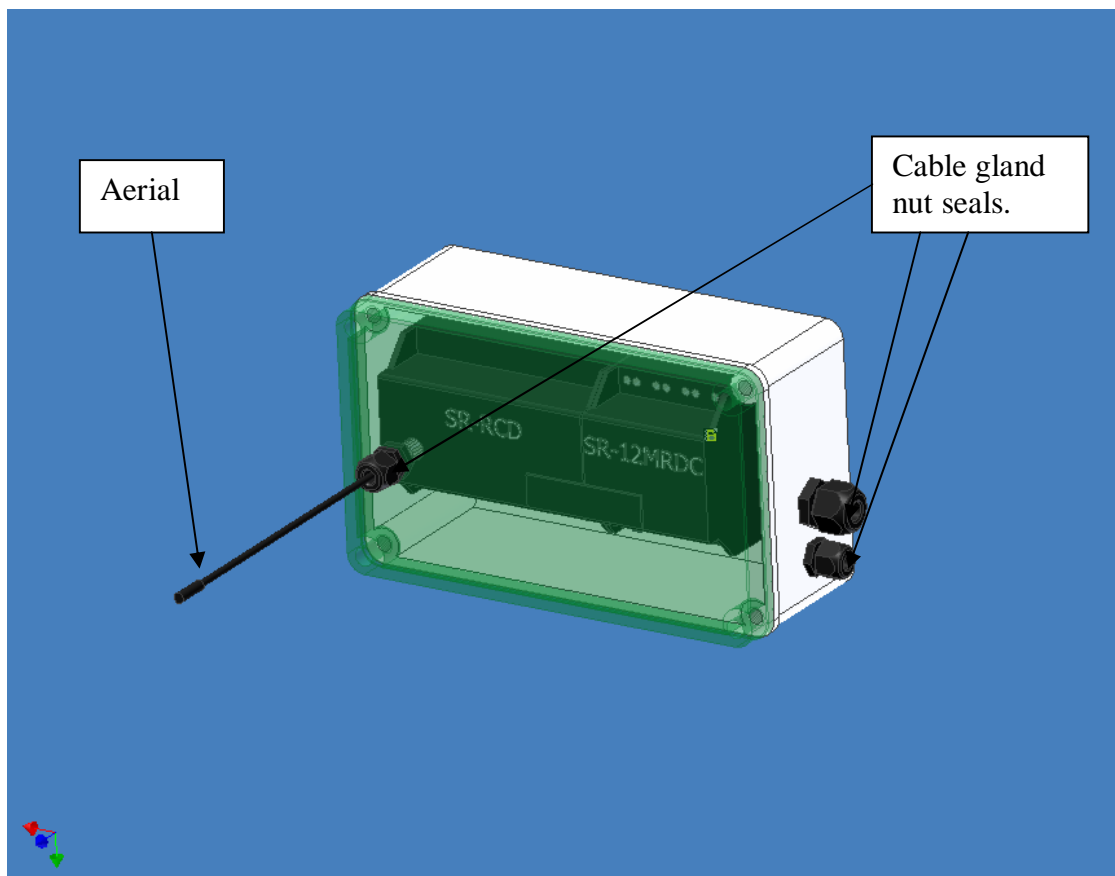
Operation and Maintenance

PLC unit

The PLC (Programmable Logic Controller) is the heart of the BaleBugtm and controls all hydraulic functions of the machine with the help of a remote receiving module, this unit is sealed in a water resistant box but care should always be taken when washing around this area especially at high pressure as water may find its way into seals and/or plugs.

It is also very important not to bend the aerial as it may be damaged thus affecting the range of the remote control and the overall performance.

The PLC unit has an on/off switch, which is located above the ignition key and should only be turned on after the engine is started to avoid voltage fluctuations. The unit **MUST** be switched off when not in use to avoid battery discharge.





Operation and Maintenance

Kohler CH440 Engine

The Kohler engine should be maintained and operated as the manufacturer specified in the separate Kohler engine manual provided. This manual should remain with the BaleBugtm even if sold.

Conveyor Drive Chains

The conveyor drive chains should be trouble free as they are of heavy construction (12000 lb rated) and also have a corrosion resistant coating but may require some oil from time to time if squeaking is heard or if the BaleBugtm is to be left outside for extended periods.

Note: when new the conveyor chains may be noisy for the first few hours this is normal and is the bedding in period.

Hydraulic system

The hydraulic system has a built-in filter and should be trouble free but a regular check of the filter and oil level is recommended to ensure the long-term performance of the machine. Reese Agri recommends the hydraulic oil be changed every 3years or 2000 hours.

Bearings and grease points

The sprocket shaft bearings will require regular greasing but it is very important not to over grease as this can be damaging. The fork assembly and grab table assembly has 6 grease points at the pivots and should also be regularly lubricated.

The **Grub Screws** securing the bearings to the sprocket shaft will require checking after the first 5 hours operation and tightening if necessary.

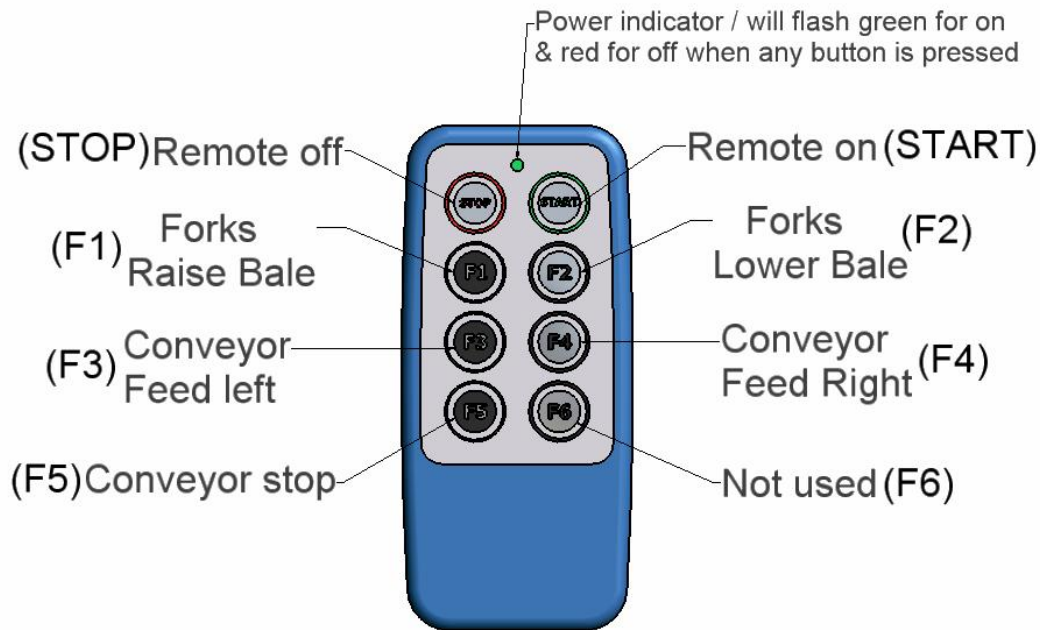
Battery

The battery should be maintained in the same manner as a normal car battery with regular acid level checks and terminal cleaning when required, as with any battery sitting for long periods discharged shortens their life so it is very important to never leave the PLC unit turn on when the BaleBugtm is not in use.



Remote Control Operation

As noted in safety precautions on page 5 it is VERY important that the operator is the only person with access to the remote at all times to avoid accidental start-up of the conveyor or operation of bale lift forks.



Note : Remote will turn off automatically so the start button may need pressing before any operation.

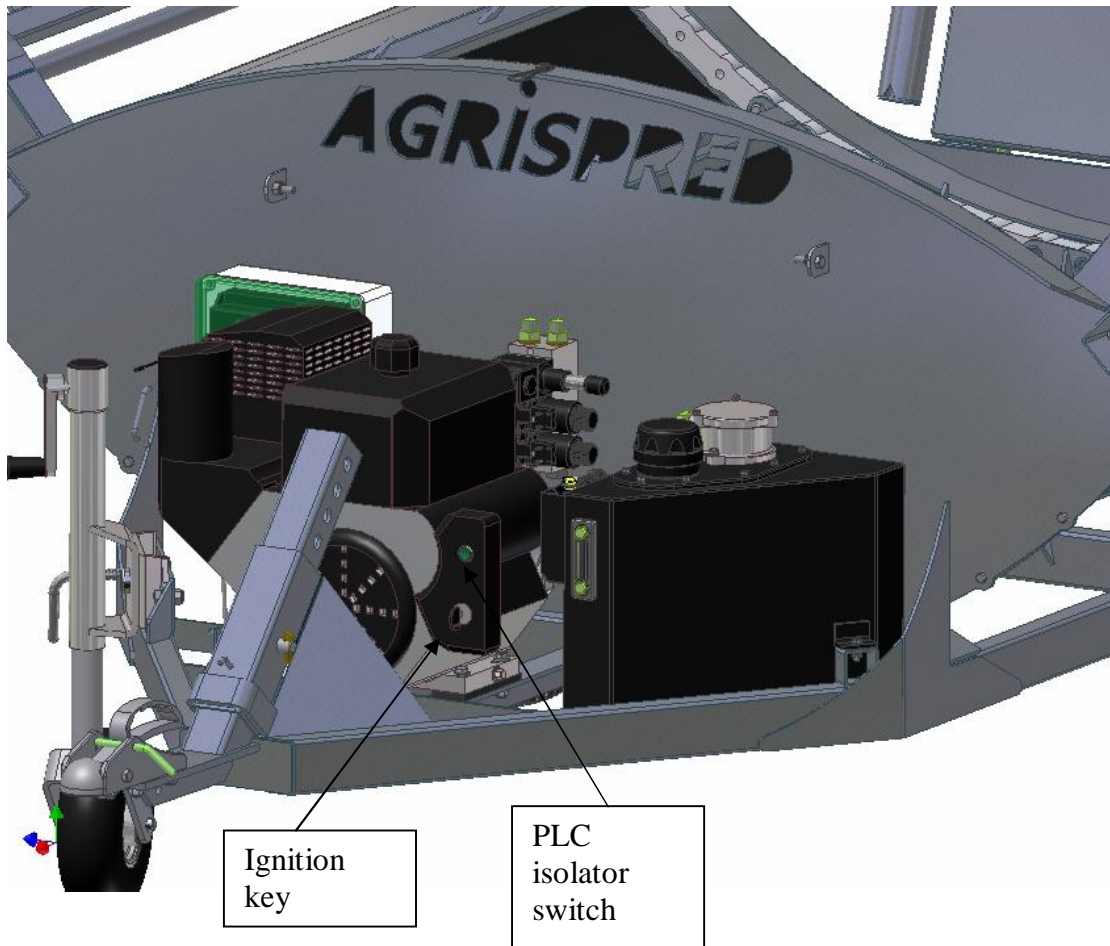
Although the remote is weatherproof it is recommended that it be kept in the case it was supplied in or a similar waterproof cell phone case, and should always be kept clean and dry.

Note: If the original remote is lost or damaged a replacement one unique to your machine can be purchased through any AGRISPREDtm dealer, the machines serial number will be required.

Note: If the second replacement remote is lost or damaged it may take up to 10 days to receive a third replacement.



Engine Start up



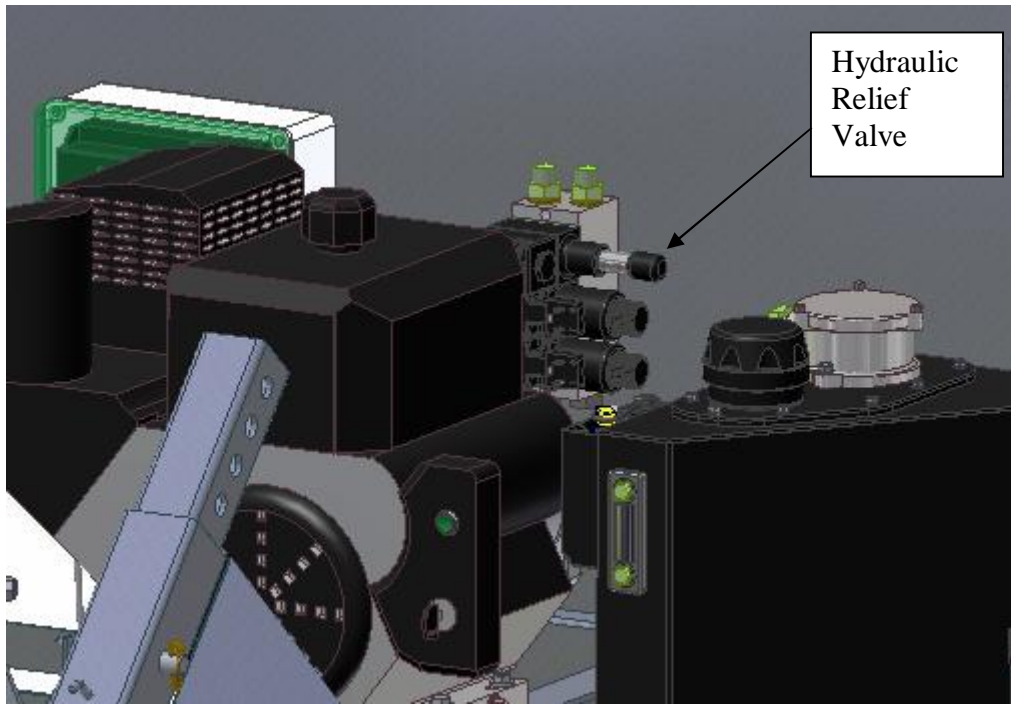
When starting the BaleBug[™] the PLC isolator switch must be switched off (not illuminated) this will protect the PLC from voltage fluctuations. Refer to the separate Kohler CH440 engine manual for correct operation and engine start up procedures.

When the engine is running smoothly the PLC should be switched on, the switch will illuminate and the BaleBug[™] is ready for operation.

When the BaleBug[™] is to be shut down the PLC isolator switch must be off to avoid battery discharge, this can be done with or without the engine running.



Hydraulic Relief Valve



The Hydraulic Relief Valve is located on the top of the solenoid valve bank this should be factory set, but if bales are not lifting easily with the engine at a mid range rpm (refer to Kohler engine manual) then it should be screwed in clockwise until the bale lifts, half a turn at a time.

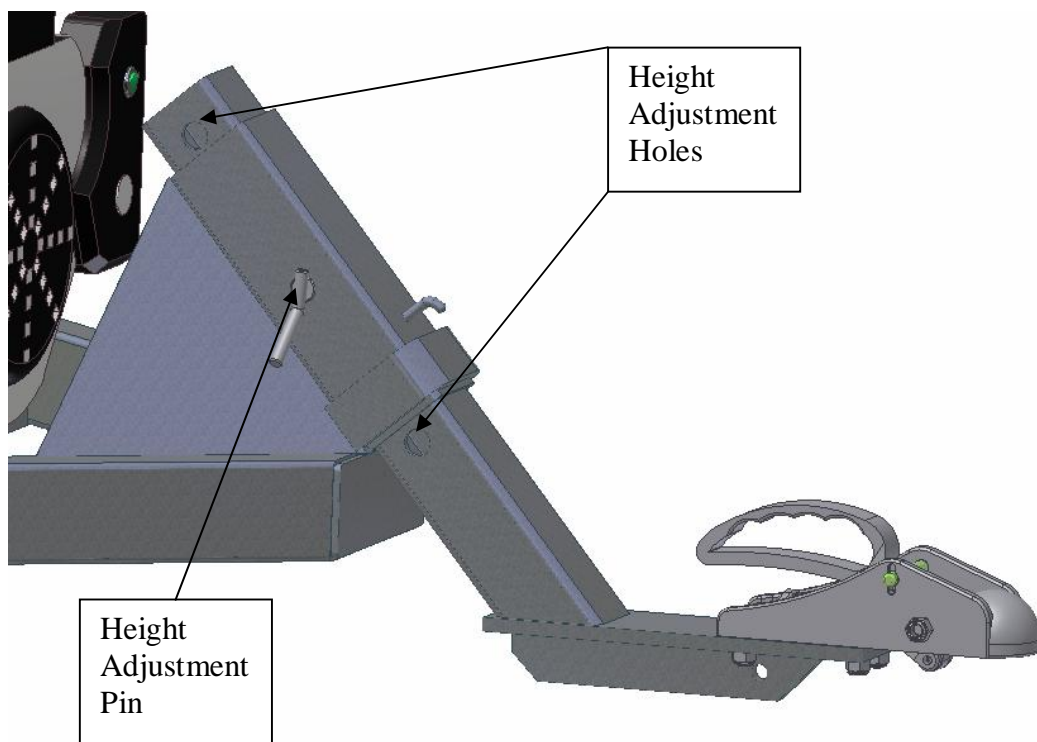
It is important to never screw the relief valve all the way in as damage may occur to the hydraulic pump.



Setup

The BaleBug™ is designed to be level during operation, this will encourage the bale being fed out to remain in the centre of the conveyor bed and maximize performance, also aiding in easy bale loading, as the bale loading forks will be positioned perfectly when lowered.

This is achieved by selecting the appropriate height for the drawbar to suit the tow vehicle, using one of the eight adjustment holes on the drawbar slider.

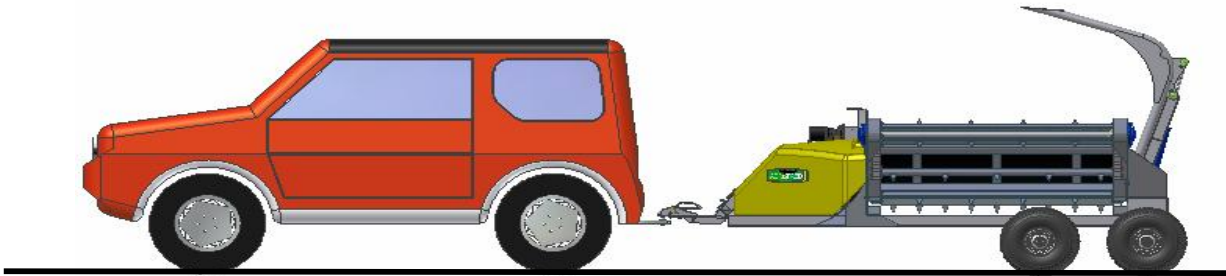




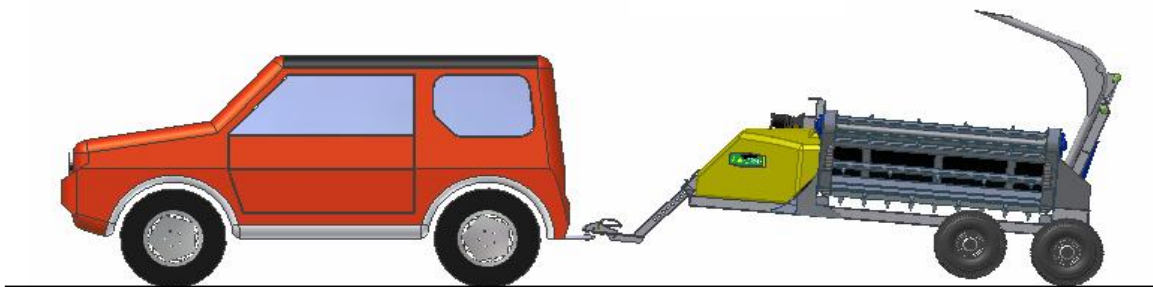
Setup



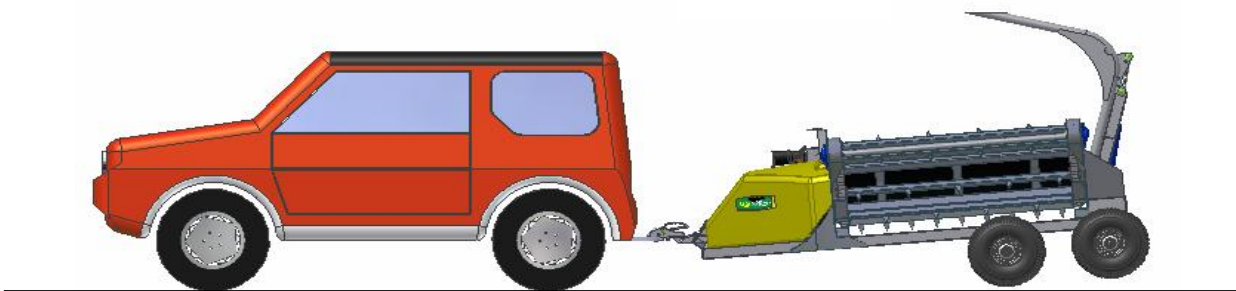
Correct setup
BaleBug™ sitting
level



BaleBug™
leaning to
far back

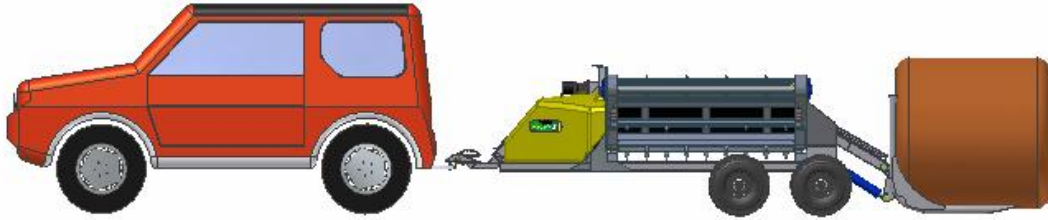


BaleBug™
leaning to
far forward

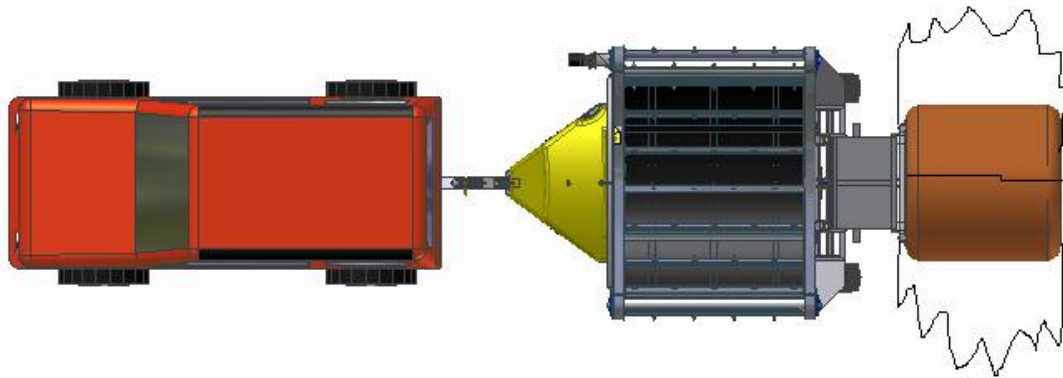




Loading Bales

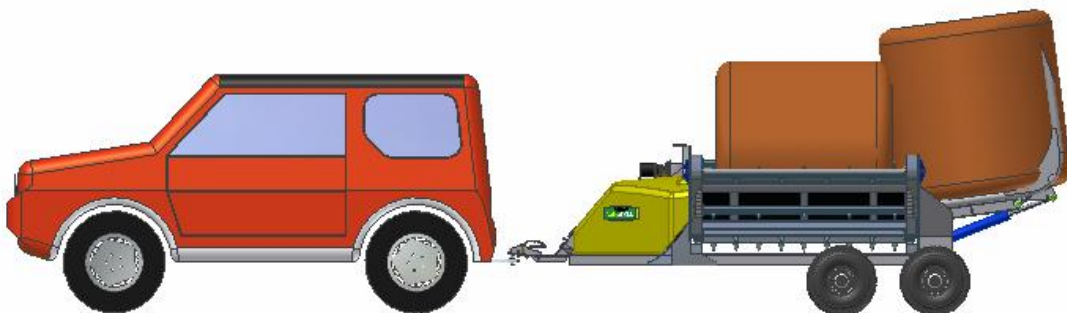


Lower the forks, drive forks under bale until uprights are in contact with the bale, now the bale is ready for lifting.



If using wrapped bales the wrap can be removed as soon as the bale is clear of the ground.

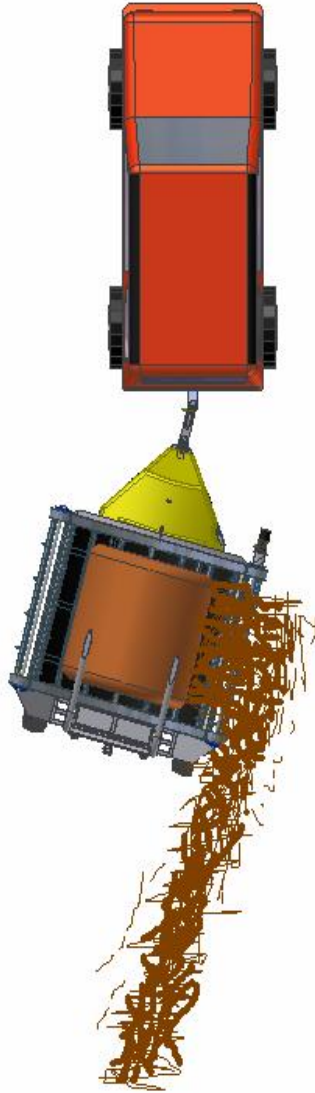
Note: If the bale is very soft and falling apart unwrap just before loading onto conveyor table (be sure to remove all wrap and string before feeding out).



If 2 bales are to be carried the second must be lifted up to touch the other when transporting to the desired paddock or feed pad to maximize stability and spread the load evenly.



Feeding Out



Note: When setup correctly (Level) the bale will naturally sit in the middle of the conveyor table, which will aide in the smooth and even delivery of the feed, this is also important for the overall stability and performance of the BaleBugtm.

The speed of the tow vehicle and revs of the Kohler engine will determine the width of the feed out line which will be a matter of personal preference but about 5kph would be a good starting point.

It is normal for a small amount of feed to make contact with the wheels especially with heavier sticky bales; this can be kept to a minimum by feeding the bale the way it wants to unroll rather than shredding it.



Trouble Shooting

Kohler engine is running but BaleBugtm won't operate

Suggestions:

- PLC isolator switch is off.
- PLC isolator switch was on during engine start causing memory loss (with engine running turn off then on again to fix)
- Remote is off (should flash green light when operating)
- Remote batteries are flat.
- Remote is damaged.
- Hydraulic oil is low.

The BaleBugtm is operating but won't lift some bales

Suggestions:

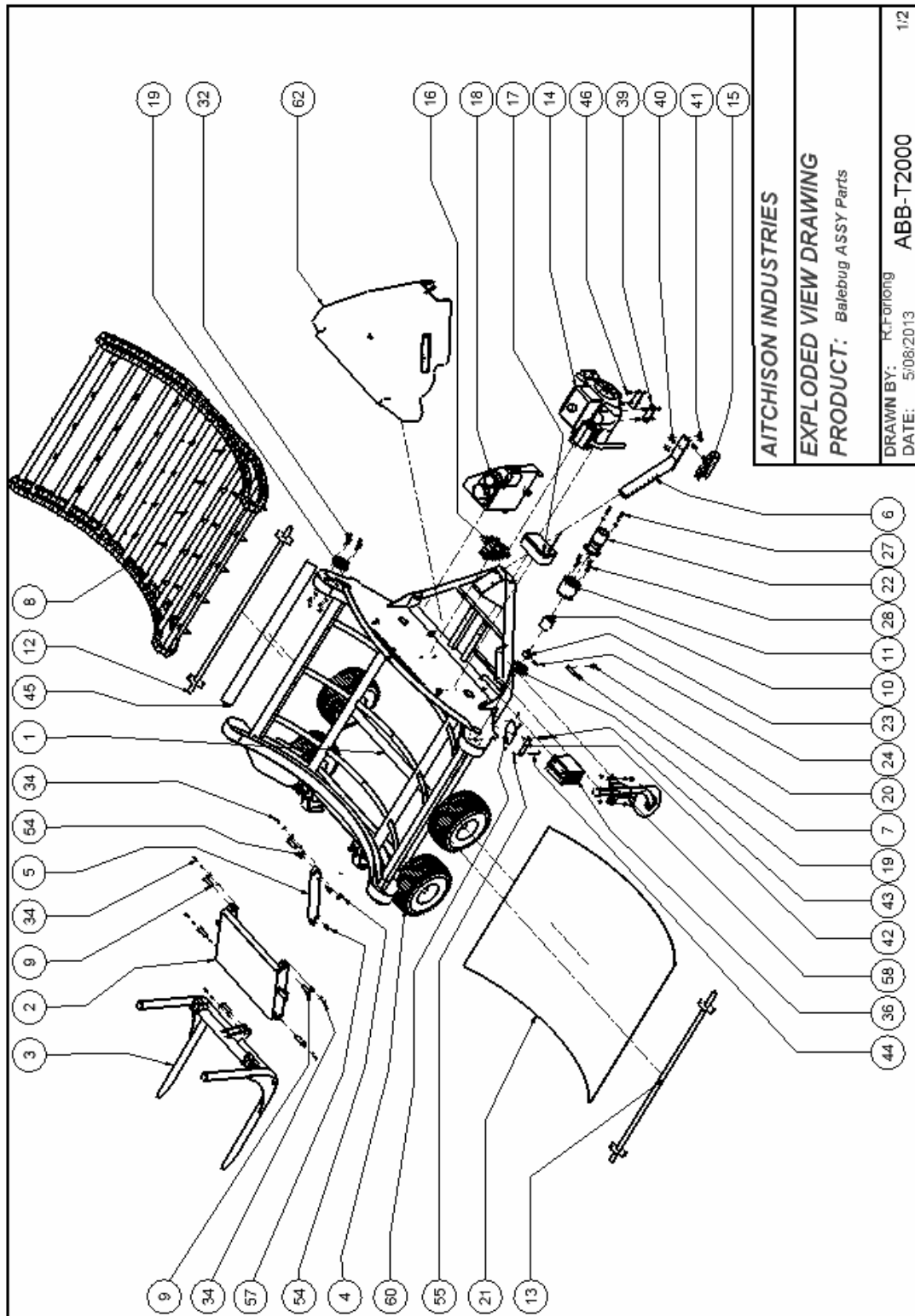
- The relief valve is set to low on the valve bank. (Turn clockwise until bale will lift) **important: do not screw all the way in as damage may occur to pump.**
- Kohler engine needs to be at a higher RPM. (Refer to Kohler CH440 engine operators manual)
- Forks may be hooking on an obstruction under the bale.

BaleBugtm is not feeding the bale cleanly

Suggestions:

- Try feeding the bale the other way (the way it wants to naturally unroll)
- Insure the bale is sitting in the centre of the conveyor table (this is achieved by correctly levelling the machine by selecting the appropriate drawbar adjustment hole to suit the tow vehicle)

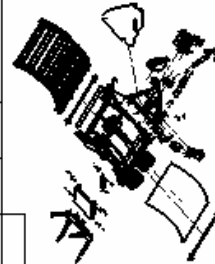
Assembly Parts





Assembly Part Numbers

Parts List				Parts List			
ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Balebug Chassis Complete ASSY	A4700-ASSY	35	14	M8 Nylock Nut	9105
2	1	Grab Table ASSY	A4701	36	1	Exide Endurance 43C Battery	9400
3	1	Splice ASSY	A4702	37	5	8mm Spring Washer	9030
4	4	20x10.00 - 8 Wheel	A4617	38	3	M8 Nut	9106
5	1	Bale Buggy Ram 17 Inch Stroke	A4700-02	39	2	Rubber Engine Mount	A4700-05
6	1	Drawbar ASSY	A4704	40	4	M10 x 30 Bolt	8415H
7	1	Height Adjustment Pin ASSY	A4705	41	10	M10 Nylock Nut	9142
8	1	Conveyor Assembly	A4706-ASSY	42	1	Battery Retainer	A4700-06
9	6	Ram Pin Assy	A4710	43	1	Battery Retainer Rod Long	A4700-07
10	1	Motor Drive	A4711	44	1	Battery Retainer Rod Short	A4700-08
11	1	Motor Mount ASSY	A4712	45	2	Plastic Bod Top Retaining Strip	A4700-09
12	1	Sprocket Shaft Non Drive Side ASSY	A4713	46	4	M10 x 55 Bolt	8427H
13	1	Sprocket Shaft Drive Side ASSY	A4714	47	4	10mm HD Flat Washer	9040
14	1	Kohler Engine With Pump ASSY	A4715-ASSY	48	2	M6 Nylock Nut	9109
15	1	V2002MK2 Coupling 1 7/8"	A4704-04	49	2	M8 x 30 Bolt	8301H
16	1	Bale Bug Hydraulic Valve Bank ASSY	A4716-ASSY	50	4	16mm Thick Flat Washer	9062
17	1	PLC & Water Proof Box ASSY	A4719-ASSY	51	4	M16 Nyloc Nut	16A
18	1	Hydraulic Tank Complete ASSY	A4720-ASSY	52	4	52mm Cap	A4623
19	4	UCF 207 Bearing / Housing	92261 / 92262	53	2	1/2BSPT to 1/2BSPP Male Nipple	H38101
20	1	8mm Linch Pin	9291	54	2	Ram Mount Spacer	A4700-10
21	1	Plastic Bed	A4700-03	55	2	M6 Stainless Wingnut	9108S
22	1	MTA OR400C Motor	A4704-05	56	1	Bale Bug Hydraulic Hose Kit	A4722
23	1	Motor Drive Inner	A4700-04	57	2	1/2BSPT to 3/8BSPP Male Nipple	H3217
24	1	10 x 50 Roll Pin	TO-204112	58	1	CP20SXHS Jockey Wheel Stand ASSY	A4723
25	20	12mm HD Flat Washer	9054	59	2	M12 x 30 Bolt	8623H
26	2	12mm Spring Washer	9052	60	4	Tire Protector Chain Guide	A4724
27	2	M12 x 35 Bolt	8510H	61	8	M8 x 20 Bolt	8311H
28	4	M12 x 45 Bolt	8504H	62	1	Bale Bug Plastic Engine Cover ASSY	A4725
29	18	M 12 Nylock Nut	9151	63	2	M10 x 35 Bolt	8402H
30	2	M10 x 60 Machine Screw	8230	64	1	Bungy Clip	A4628
31	2	M10 Nut	9141	65	16	4.8 x 12 SS Pop Rivet	9301
32	12	M12 x 40 Bolt	8503H	66	1	ARRAY Remote Control	A4718
33	9	8mm Flat Washer	9031	67	6	M6 Grease Nipple Straight	9323
34	9	M8 x 25 Bolt	8305H				



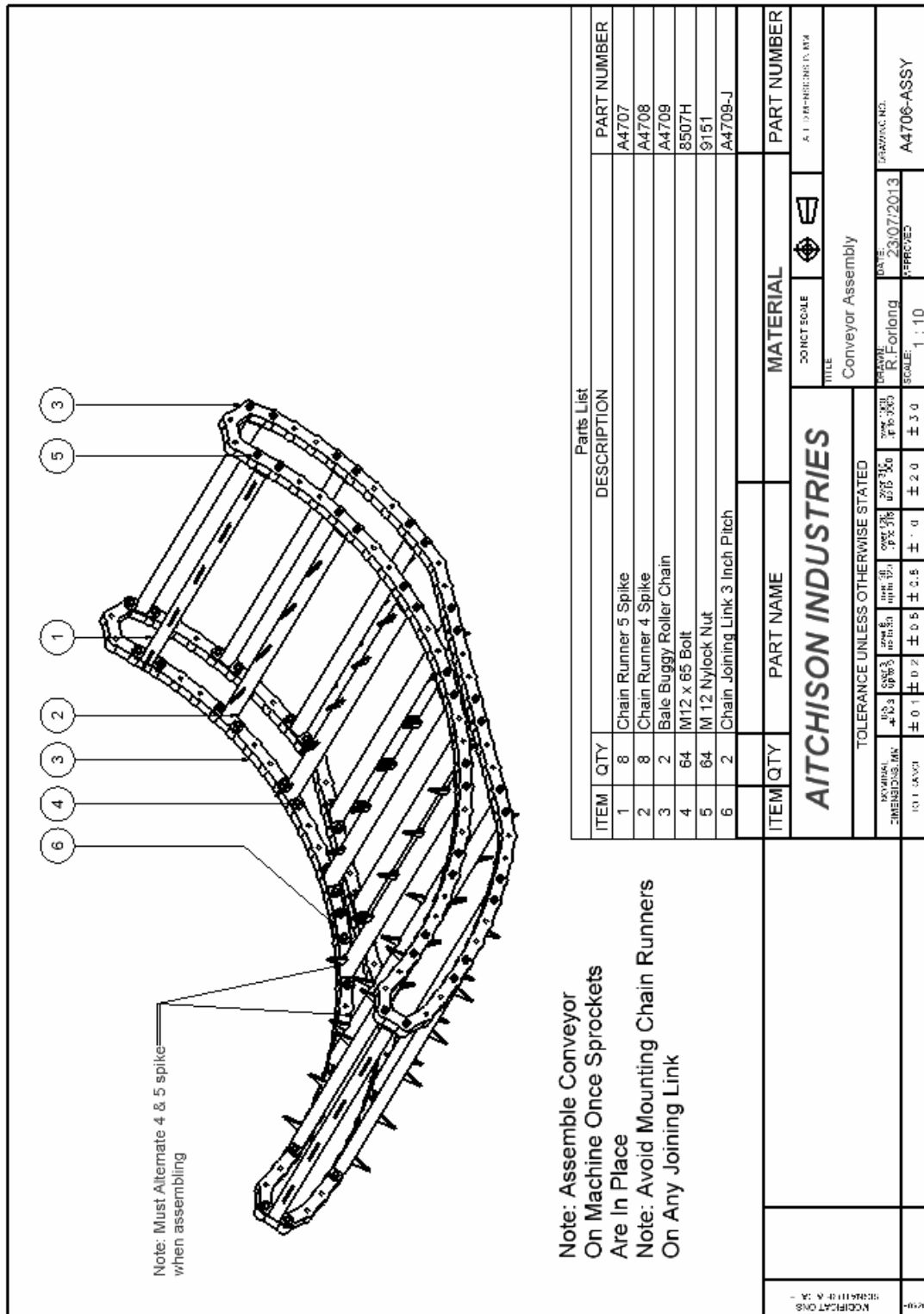
AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

PRODUCT: Balebug ASSY Part Numbers

DRAWN BY: R.Forlong
DATE: 5/08/2013
ABB-T2000

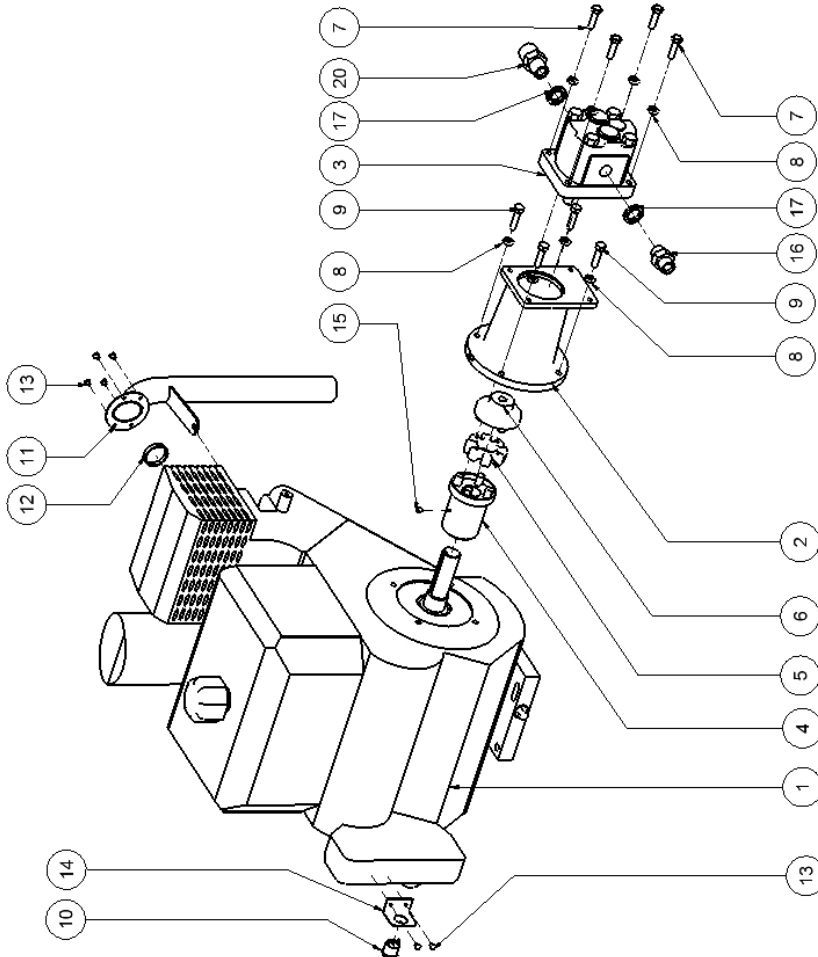
Conveyor Assembly



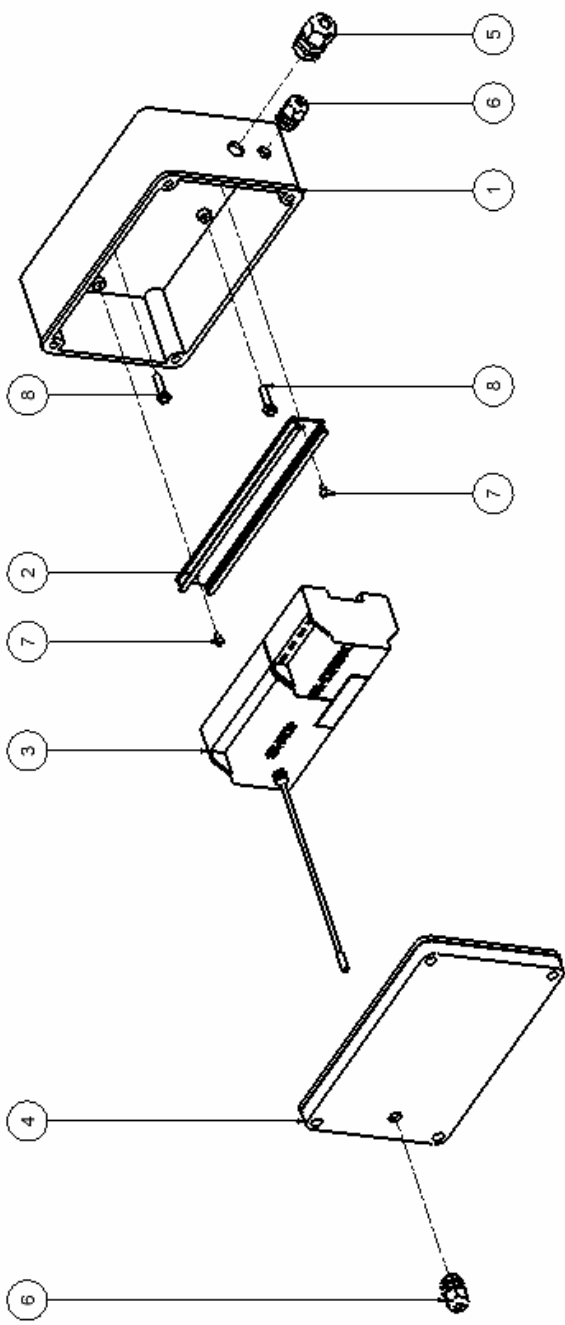


Engine & Pump Assembly

Parts List		
ITEM	QTY	DESCRIPTION
1	1	Kohler CH440-3031 Engine
2	1	Kohler Engine Bell Housing
3	1	LMH403
4	1	Gear Pump 6cc Group 2.
5	1	66.5mm Drive Coupling
6	1	HC-ND65MC35
7	1	HC-R62 Coupling Insert
8	1	65mm OD, 1:8 taper, 21.5mm Long Coupling
9	4	M8 x 30 Bolt
10	8	8mm Spring Washer
11	4	5/16 x 1.25 UNF Bolt
12	1	20mm Round Rocker Switch
13	1	Illuminated
14	1	Balebug Kohler Engine Exhaust Assy
15	1	Balebug Kohler Engine Exhaust Flange Seal
16	6	4.8 x 6 ZP Pop Rivet
17	1	20mm Round Rocker Switch Mount
18	1	M6 x 8 Grub Screw
19	1	1-2" BSPP To 1-2" BSPP Male Nipple
20	2	1/2" Dowty Washer
21	2	Hose Clamp 25 - 40 mm
22	1	Exhaust Header Wrap 1.5 Metres
23	1	3-4 BSPP to 1-2 BSPP Male Nipple
AITCHISON INDUSTRIES		
EXPLODED VIEW DRAWING		
PRODUCT: Kohler Engine With Pump		
DRAWN BY: R.Forlong DATE: 31/07/2013		
A4715-ASSY		



PLC & Box

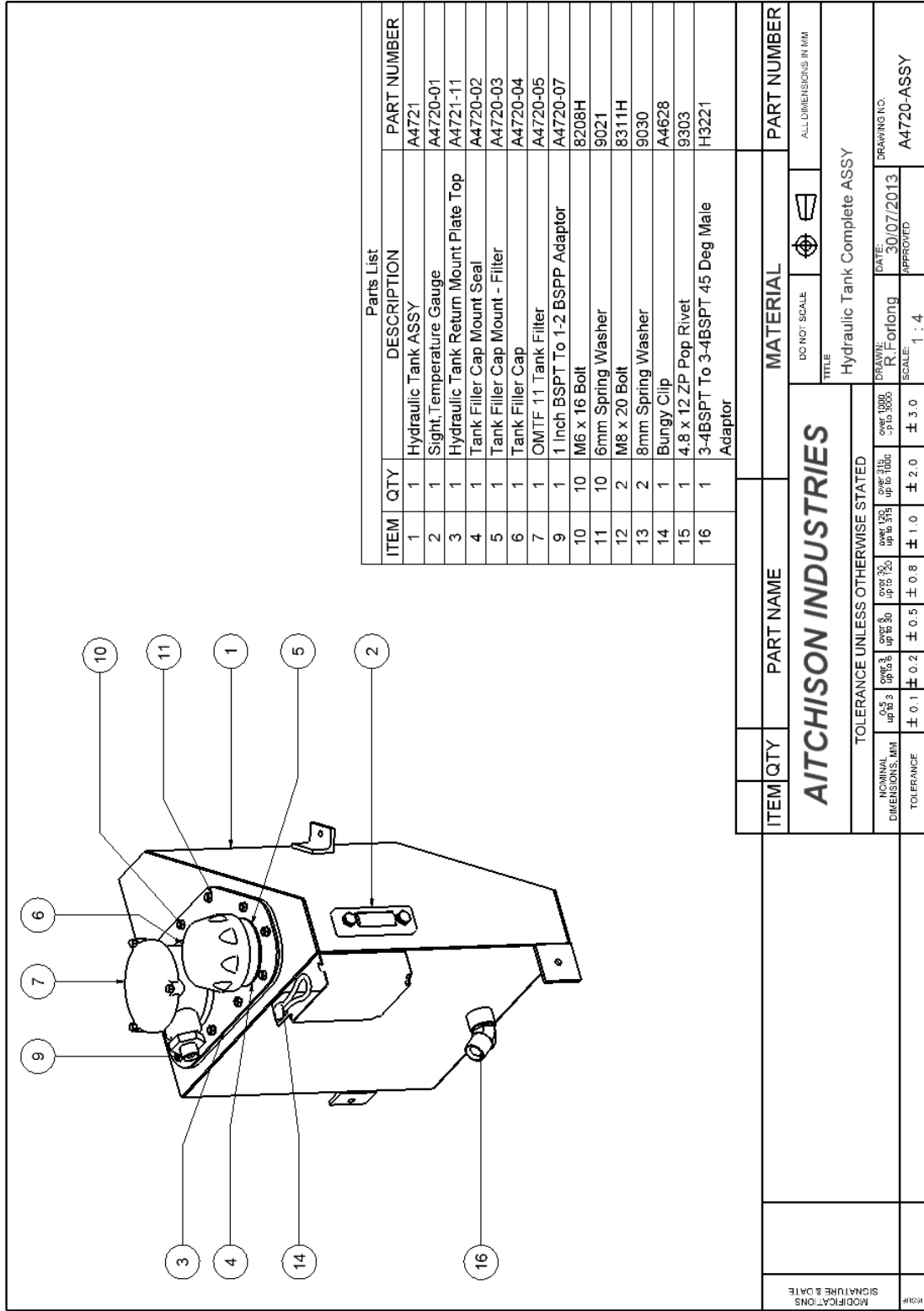


Parts List		
ITEM	QTY	DESCRIPTION
1	1	Electrical Enclosure 150 x 250 x 100 Box
2	1	DIN Rail
3	1	SR Mini PLC 4 Switch/SR-RCD Receiver
4	1	Electrical Enclosure 150 x 250 x 100 Lid
5	1	16mm Cable Gland Nut
6	2	12mm Cable Gland Nut
7	2	M4 x 8 Pozzi Head ZP
8	2	M6 x 25 Bolt

ITEM	QTY	PART NAME	MATERIAL	PART NUMBER
1				A4719-01
2				A4719-02
3				A4719-04
4				A4719-03
5				A4719-05
6				A4719-06
7				A4719-07
8				8213H

AITCHISON INDUSTRIES		PLC & Water Proof Box ASSY Parts	
TOLERANCE UNLESS OTHERWISE STATED		A 1:1 DIMENSIONS IN MM	
MAXIMUM DIMENSIONAL TOLERANCE	± 0.1	DATE 1/08/2013	DRAWN BY R. Forlong
MINIMUM DIMENSIONAL TOLERANCE	± 0.2	SCALE 1:1	DATE 1/08/2013
TOLERANCE		PART NUMBER A4719-ASSY	

Hydraulic Tank Assembly



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PLC to Valve Bank Wiring

