Instruction Manual

Product Manual & Specification

AG Dispenser models

AG Maxi

Garnett Farms Engineering Limited

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SAFETY INSTRUCTION

EEC Directives and British Standards

To effect the correct application of the safety requirements stated in the EEC Directives and the British Standards, the following standards and/ or technical specification have been used.

- **BS EN ISO 4254-1:2005** – Agricultural machinery – Safety and General Requirements.
- **BS EN 292-1:1991** – Safety of machinery and Basic concepts and general principles for design – Basic terminology, methodology.
- **BS EN 292-2:1991** – Safety of machinery – Basic concepts, general principles for design – Technical principles and specifications.
- **BS EN 294:1992** – Safety of machinery – Safety distances to prevent danger zones being reached by the upper limbs.
- **BS 5401:1990** – Guide to information content and presentation of operators' manuals provided for tractors and machinery for agricultural and forestry.

Serial number_____

Date_____

Issue no 2, 11/04/2010

Part no - 1071

AG Maxi

IMPORTANT
This manual list should be used in conjunction with the operator's manual. Before starting, removing any parts packed, read the Operators manual.

PRE-DELIVERY CHECK LIST, TO BE COMPLETED BY THE MANUFACTURER AND THE DEALER MANUFACTURER P-D-I

1	Control on/off switch rear cover fitted	
2	Signs and safety stickers labelled.	
3	Overall machine free from oil, rust and in clean condition	
4	Machined groove for wheel retaining cir-clip	
5	Agitator shaft shoulder	
6	Agitator motor screws tight	
7	Agitator correct clearance to bottom and sides of drum	
8	Drum fitting guides to main frame	
9	EVA foam on upper handle	
10	40 A relay on motor circuits	
11	4 gussets on main frame	
12	All nuts and bolts checked before packing	
13	Serial plate holes on drum and serial plate fitted	
14	Motor has matching serial number to serial number on serial plate	
15	Shutter fitted with rubber washer underneath double nut	
16	Shutter stay system	
17	Shutter not in contact with drum	
18	Position 1 – off	
19	Position 2 – conveyer on	
20	Position 3 – conveyer and agitator on	
21	Operating noise level minimal (no load)	
22	Charger female socket wiring polarity checked (+ve centre)	
23	Charging system operates correctly, page 6 + 7	
24	Agitator, handle inserts, wheels, cir-clip+ washer & hub caps packed	

Manufacturer P-D-I _____
Date_____

DELIVERY INSPECTION (Dealer)

1	Machine delivered without transport damage	
2	Ensure all pictograms are in place	
3	Machine delivered as per specification by the dealer c/w manual	

PRE-INSTALLATION INSPECTION (Dealer)

1	Check wheels are fitted correctly	
2	Ensure machine operates correctly	
3	Ensue the circuit control box works correctly on the main handle	
4	Ensure the handles are fitted correctly and are in the lowest position	
5	Ensure all guards are all fitted and secure	
6	Run machine and check for smooth operation	
7	Ensure the charging circuit operates correctly, as illustrated on pages 6 + 7	
8	Ensure the charging plug and socket fit correctly	
9	Ensure the green light illuminates, illustrating 'Soft start'	
10	Ensure the red light illuminates to show full charging	
11	Instruct the operator on using the machine and the charging cycle	
12	Ensure the operator fully understands the charging cycle	
13	Ensure the pulley's and timing belt are tight and the correct tension on timing belt	
14	Ensure all conveyor bolts are tight	

This machine must not be released for delivery until the inspector has performed the pre-delivery inspection in accordance with the above requirements.

Dealer branch _____

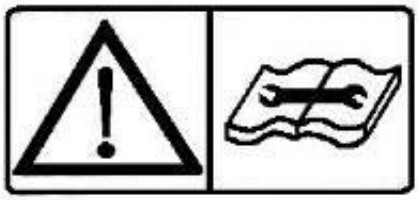
Dealer P-D-I inspector _____

AG thanks you for the purchase and we wish you a safe and productive use of this machine.

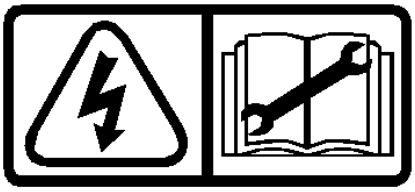
Safety rules and pictogram / label identification

Wherever possible, warning pictograms (labels with no words), or warning labels are used on the machine near the area of danger and / or in the product manual near the relevant instructions.

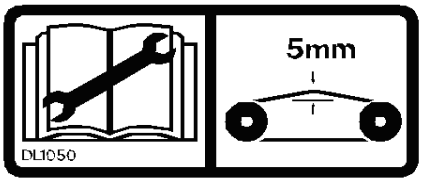
Pictogram to indicate 'ALERT.



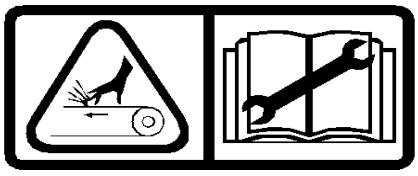
Pictogram to indicate 'read product manual'



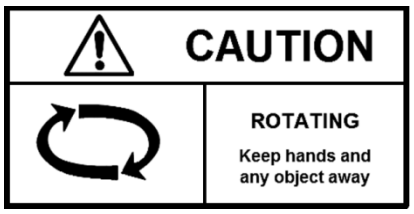
Pictogram to indicate 'read electronic safety' from users manual.



Pictogram to indicate 'read V-belt tension requirements'.



Pictogram indicates 'read safety manual' i.e. caution of fingers touching moving conveyor.



Pictogram to indicate 'Caution- Rotating
Mechanism- Do not put limbs inside mechanism

Pictogram to indicate 'keep clear of the conveyer, product been thrown'

Ensure that safety goggles are worn during use of AG MAXI and MINI.

Always comply with safety rules as set out in the pictograms, and detailed in this product manual.

Identification of the machine

The AG MAXI is identified by the Serial Plate, showing – Product, Year of Manufacture, Serial number and Weight.

CE

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Product AG Maxi

Year	2009		**Dry Weight**	50	**kgs**
Serial No.	CPSMA 9999		**Capacity**	250	**ltrs**
					m^3
Voltage	12	**DC**	**Charge**	26	**AH**
Pressure		**Bars**	**Volume**		**LPM**

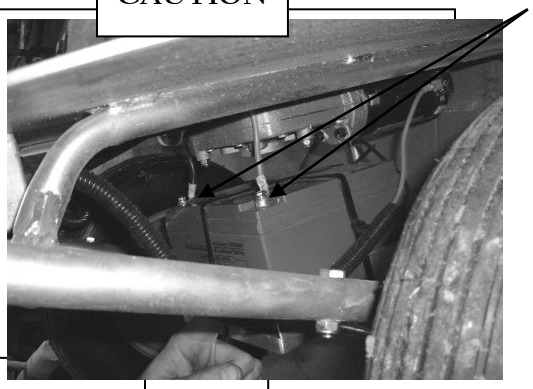
Assembly of the AG Maxi
SPECIFICATION

Assembly of the AG Maxi

! Practice workshop safety at all times !

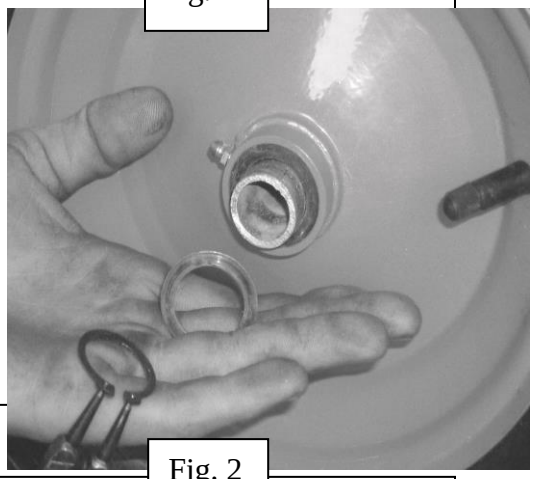
1) – Ensure the AG MAXI is placed on the ground in a stable condition.
2) – Ensure all guards are fitted correctly before use.

CAUTION



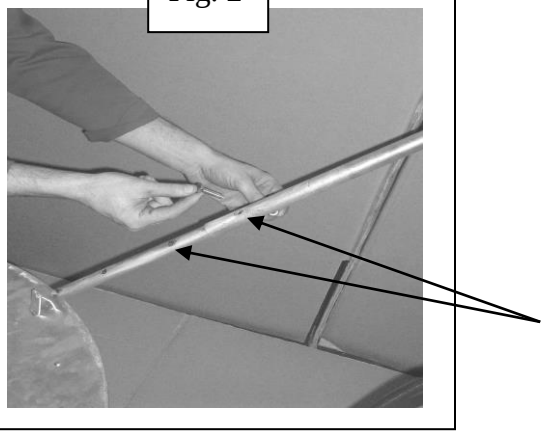
DISCONNECT BATTERY TERMINALS, SHOWN BY THE ARROWS!!!!!!!

Fig. 1



Place the wheel onto the base frame of the machine and then secure by placing the washer and external Cir clip in the order shown. (Fig. 1)

Fig. 2

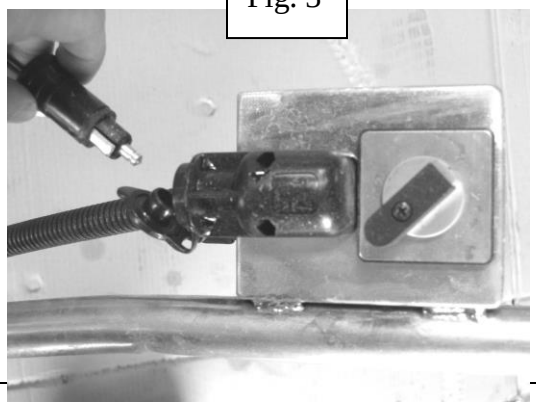


Fit the handle to the main body and fasten using nuts and bolts supplied. Adjustable height of the handle can be achieved by placing the nut in a hole which suits the height of the user. (Shown by the arrows in Fig. 2)

Charging the AG Maxi

Read charger manual provided in the charger box**.**

Fig. 3



1) - Ensure switch is in position 1.
2) - The Maxi will now require a complete charge before use. Plug in Male jack plug into female. (Fig. 3 and Fig.1)
3) - The red light should now illuminate on the charger.
4) - When the green light illuminates the battery is fully charged and will continue to "float charge"
5) - The charger can be left on float charge continuously.

Position 1 - OFF
Position 2 – CONVEYOR ON
Position 3 – CONVEYOR AND AGITATOR ON

- Never charge when switch is in any position other than position 1.
- Never charge the AG MAXI with any other charger than the unit supplied.
- Never charge in the rain or wet conditions.
- Never leave the battery flat, always charge the battery after use.
- No damage will occur if left on “float charge” i.e. green light.
- Damage may occur very quickly if left flat**.**

General instructions for the 3 stage battery charger

1) Plug the charger in and switch on.
2) During start up the charger will determine battery status and depending on the result will switch to either **bulk** charge mode (red indicator ON) OR **float** charge mode (green indicator ON) NOTE, when the charger enters float charge mode the battery is 100% fully charged.
3) If neither of the indicators illuminate then unplug the charger, check the fuse in the plug, replace if necessary, plug back in and switch ON.

Operation

First stage – constant current mode. Visual indication: **Red LED ON, Green LED off.**
Second stage – constant voltage mode. Visual indication: As above.
Third stage – float charge mode. The battery will be maintained 100% charged. Visual indication: **Green LED ON, Red LED OFF.**

Note, On power up the charger will appear to be in "float" mode for a short period of time. This is to complete all checks as described in the feature "soft start".

Features

"Soft start" – On power up the system will enter a "soft start" mode. This facility checks for possible faults i.e. reverse battery connection, short circuit etc, before offering maximum charge current.
"Reverse polarity protection" – Prevents damage to the charger if the battery is accidentally connected in reverse, visual indication is by a continuous flashing red indicator.

LED Protocol

Charger status	LED status
Bulk charge mode	Red – static – ON
Float charge mode (charge complete)	Green – static ON
Battery reversal detected	Red – flashing
High temperature detected	Red + Green light flashing simultaneously
Short circuit	Red + Green light flashing alternately
Open circuit	Red + Green static simultaneously.

OPERATION

Operation and safe use of the of AG Maxi

IMPORTANT: SAFETY FIRST: Before loading the machine, ensure it is correctly constructed and all guards are in place and secured. DO NOT operate the machine with bystanders present.

The AG MAXI has been designed to bed cubicles with ease and speed, following some simple guidelines in this booklet will ensure the AG machine is reliable and satisfactory.

DO NOT OVERLOAD THE MACHINE.

DO NOT USE ANY MATERIAL IN THE MACHINE OTHER THAN IS SPECIFIED BY THE MANUFACTURE.

DO NOT ALLOW STONES AND ROCKS TO ENTER THE MACHINE WHEN FILLING.

NO BYSTANDERS ALLOWED IN THE WORKING AREA.

ONLY THE OPERATOR MUST OPERATE THE AG MAXI.

NEVER LEAVE THE MATERIAL YOU ARE SPREADING IN THE MAXI WHEN NOT IN USE.

NEVER USE THE MAXI TO CARRY ANY ADDITIONAL OBJECTS i.e.

ALWAYS CLEAR THE MATERIAL OUT OF THE BARREL AFTER USE.

Correct use of application lever

Fig. 4

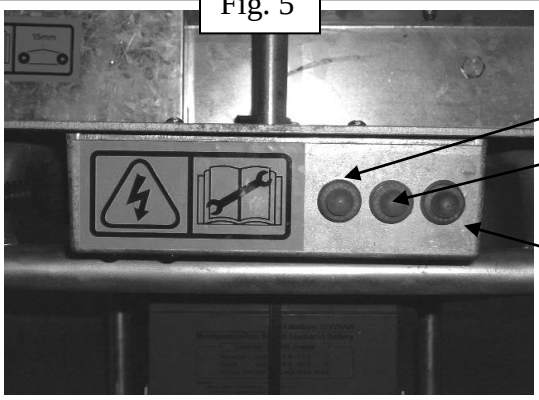
Before filling and operating the Maxi put the application lever in the closed position, then adjust the lever to the position that suits the appllication amount. Ensure machine is switched off before adjusting.

Shutter Position
Open ⟷ **Close**
CLOSE before operating

CAUTION: THE MACHINE MUST BE VERTICAL WHEN OPERATING.

Circuit breakers

Fig. 5



1) Conveyor circuit breaker
2) Agitator circuit breaker
3) Charging circuit breaker

IMPORTANT: Machine blockage: In the unlikely event of machine blockage. ALWAYS ensure the MAXI is switched off and the battery is disconnected. Never attempt to clear blockages by hand; always use a tool of some kind.

Maintenance

Out of season storage -

- Clean the machine thoroughly
- Leave fully charged
- Light coating of oil

PLEASE STORE UNDERCOVER!

DO NOT FILL AND LEAVE OVER NIGHT!

Removal of drum

When servicing the AG Maxi, the following steps may wish to be followed. These steps, if followed, will ensure that the AG Maxi is running to its full potential.

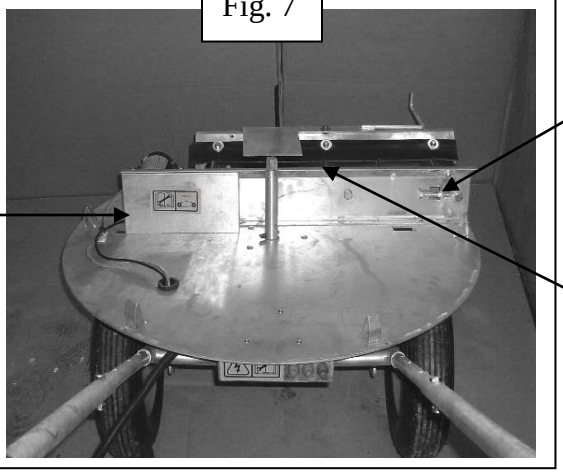
Fig. 6

Remove the nuts from around the exterior edge of the barrel. (Shown by the arrows)

The removal of the handle will increase the manoeuvrability of theAG Maxi, during maintenance work.

Removal of timing belt cover

Fig. 7



Remove the safety guard, which is covering the timing belt. (C)

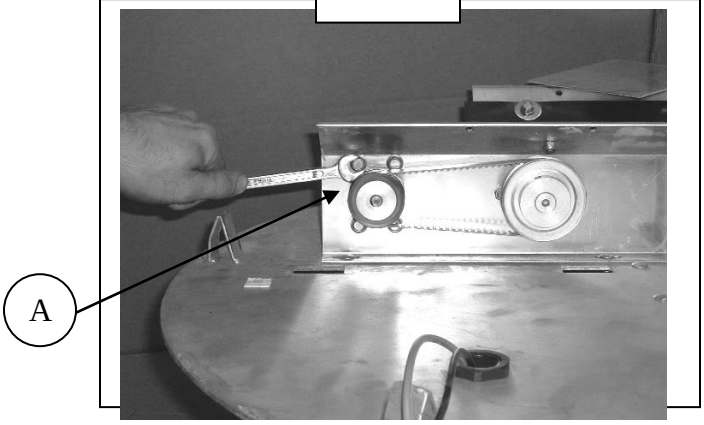
Tensioning nut. (B) Fig. 10

Conveyor (A)

Caution! EXCESSIVE V-BELT TENSION WILL VOID ANY WARRANTY.

Timing-belt tension

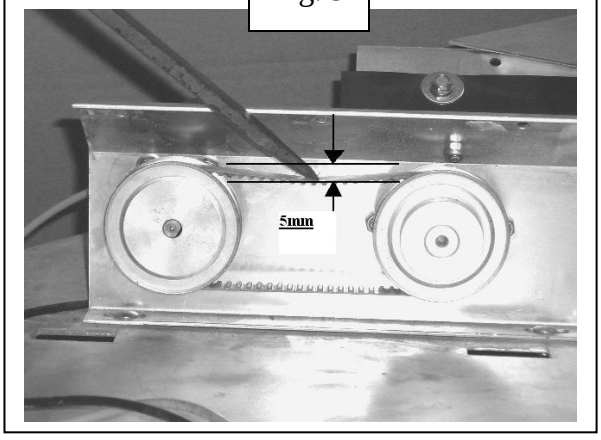
Fig. 8



Altering the nuts (A), will allow the timing belt to be altered to the amount show in |Fig. 9.

To remove the pulley shown in Fig. 9, use heat on the pulley and then slide of shaft.

Fig. 9

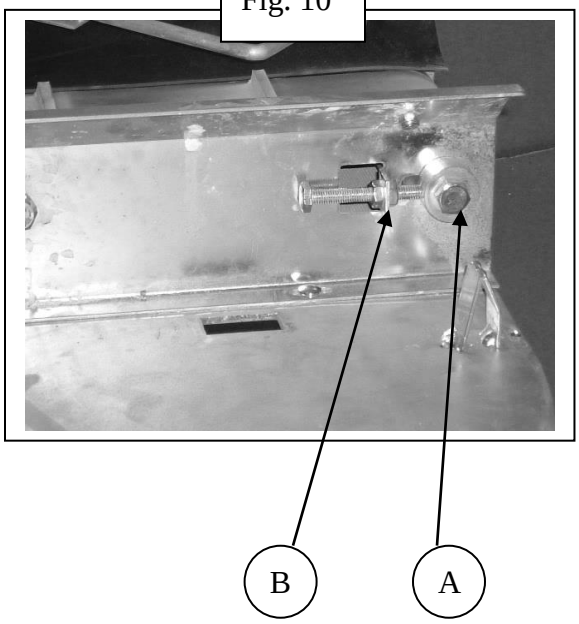


After the guard is removed (shown in Fig. 7C), the pulleys and Timing belt are then shown. Tension on the Timing belt must be set at 5mm, as shown in Fig. 9. Excessive belt tension will cause an undue motor wear, resulting in loss of power on the conveyor belt.

! DO NOT PULL THE AG MAXI OVER STEPS!

Conveyor belt tension

Fig. 10



The tensioning nut shown in Fig. 10, will, when tightened or slackened, alter the belt to the desired amount. If belt is slipping when fully loaded, alter to the nut position until the belt will hold grip to the motor. See Fig 11 and 12, for the correct adjustment of the nut.

1) – Slacken nut A
2) – Alter tension bolt B

! DISCONNECT THE BATTERY BEFORE ANY MAINTEINANCE WORK OCCURS!

Adjustment of side skirts

! RUN CONVEYOR WITH SIDE SKIRTS FITTED TO CHECK ALIGNMENT!

Fig. 11

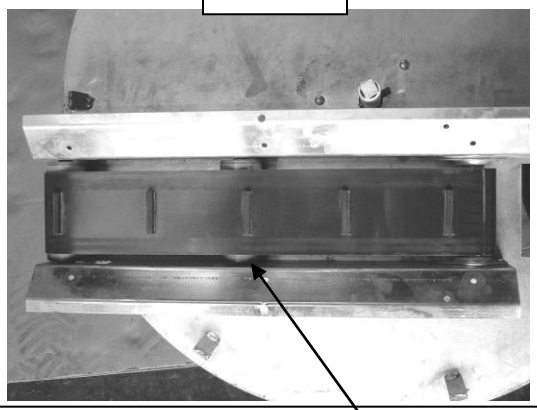


Fig. 12

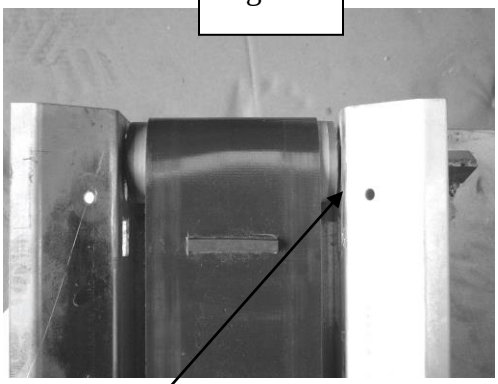
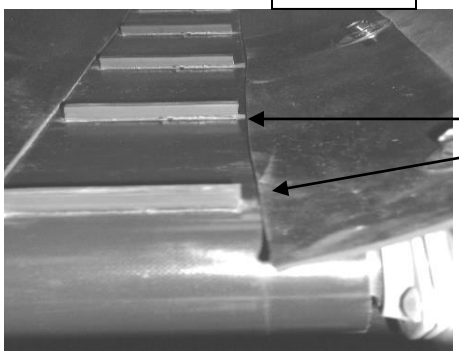


Fig. 11 and 12 show the gap that is required for the conveyor to run without interference with the side skirts removed, which have been removed in these figures, but they are shown in Fig. 13. In order for the gaps to be adjusted, adjust the nut shown in Fig. 10, then spin the conveyor manually, to see if the conveyor stays aligned. If conveyor gap changes, adjust the bolt in the necessary direction. There is also another identical bolt tensioning system on the other side of the conveyor, which can also be used to alter the conveyor gap.

Fig. 13

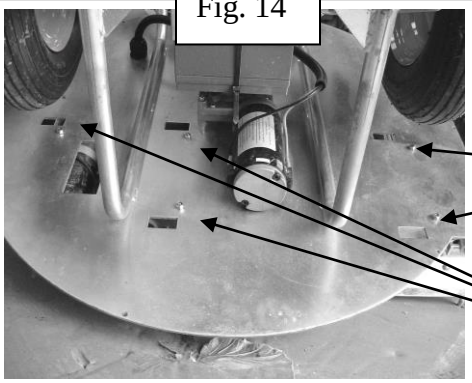


The conveyor teeth need clearance of the side skirts. (Shown in Fig. 13), Insufficient clearance/gap, will cause undue wear on the conveyor belt and will void warranty.

! SIDE SKIRTS TO BE REPLACED EVERY TWO YEARS!

Removing the conveyor from the base of the AG MAXI

Fig. 14



Removing the five nuts shown in Fig. 14, shown by the arrows, then enables the conveyor to be removed.

Optional extras for the AG MAXI

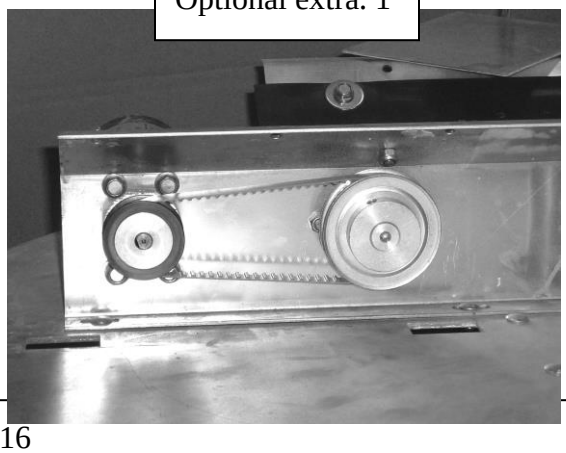
In addition to the AG MAXI, there are optional extras, which are designed to enhance the performance, and make it possible to adapt the AG MAXI to suit your working requirements and environment.

Changing the pulley

Kit – BT5/420/10 25T5–15 + S09
PART NO. CDVMA-1049

- Reduces the distance of material thrown onto the bedding area.

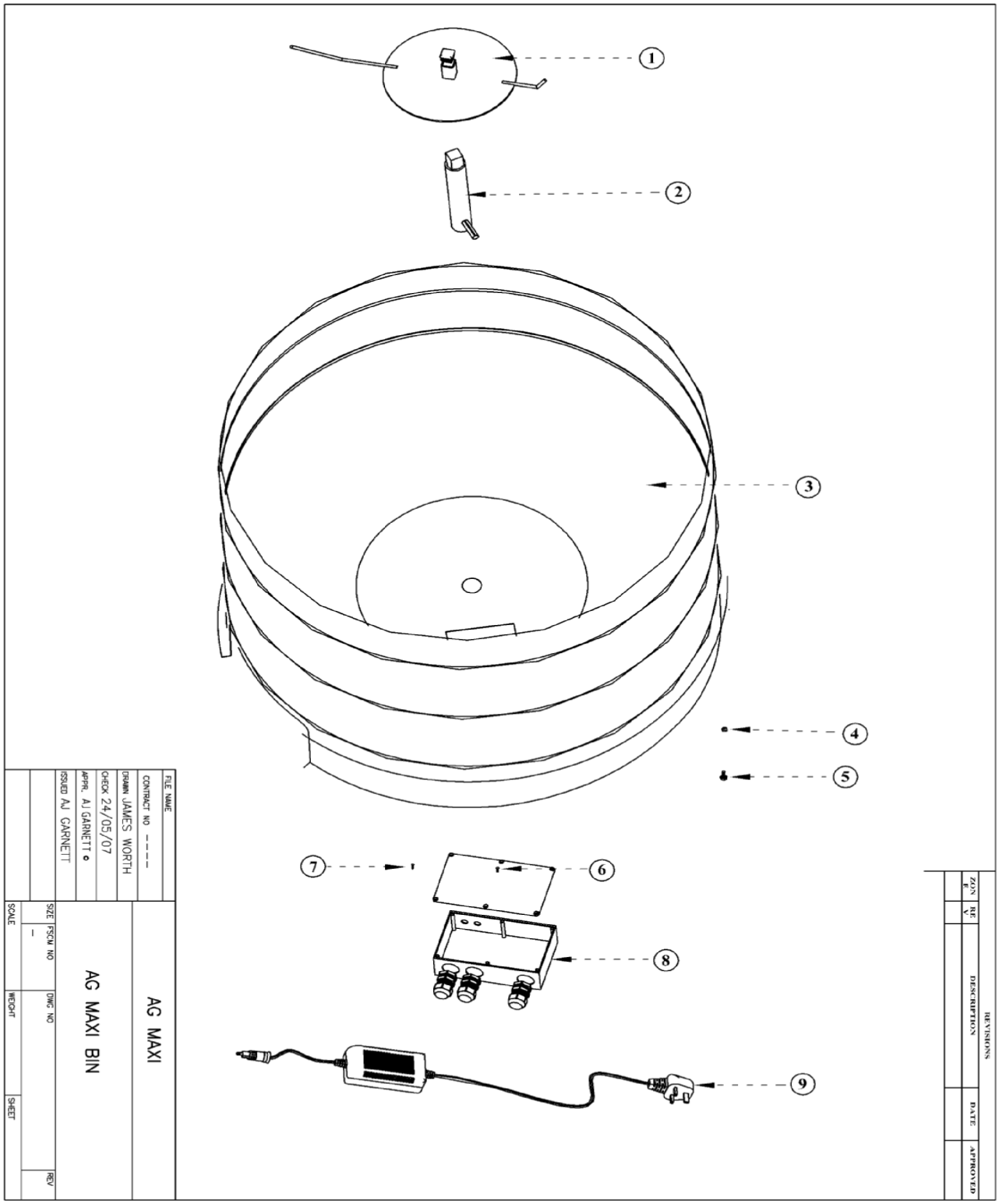
Optional extra. 1

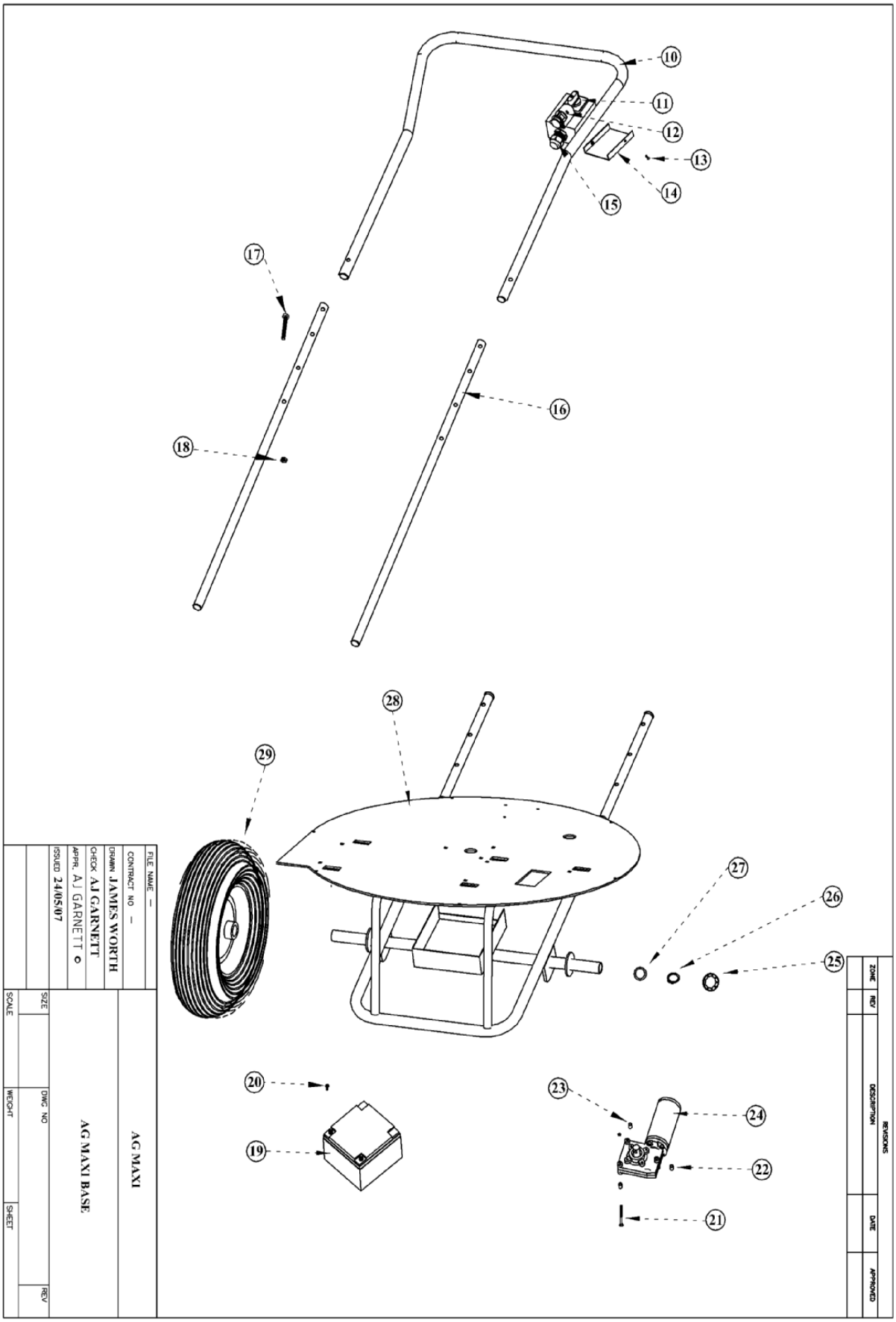


As an additional optional extra to the normal AG Maxi pulley setup, there is also the option shown to the left. To remove the previous larger pulley (Fig,8) use heat, then re fit the new smaller pulley and V-belt. This will then alter the rate at which the conveyor

PARTS LIST

AG Maxi parts drawing

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DRAWN JAMES WORTH
CHECK AJ GARNETT
APPR. AJ GARNETT
ISSUED 24/05/07
SIZE
SCALE
WEIGHT
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SHEET
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AG MAXI
AG MAXI BASE
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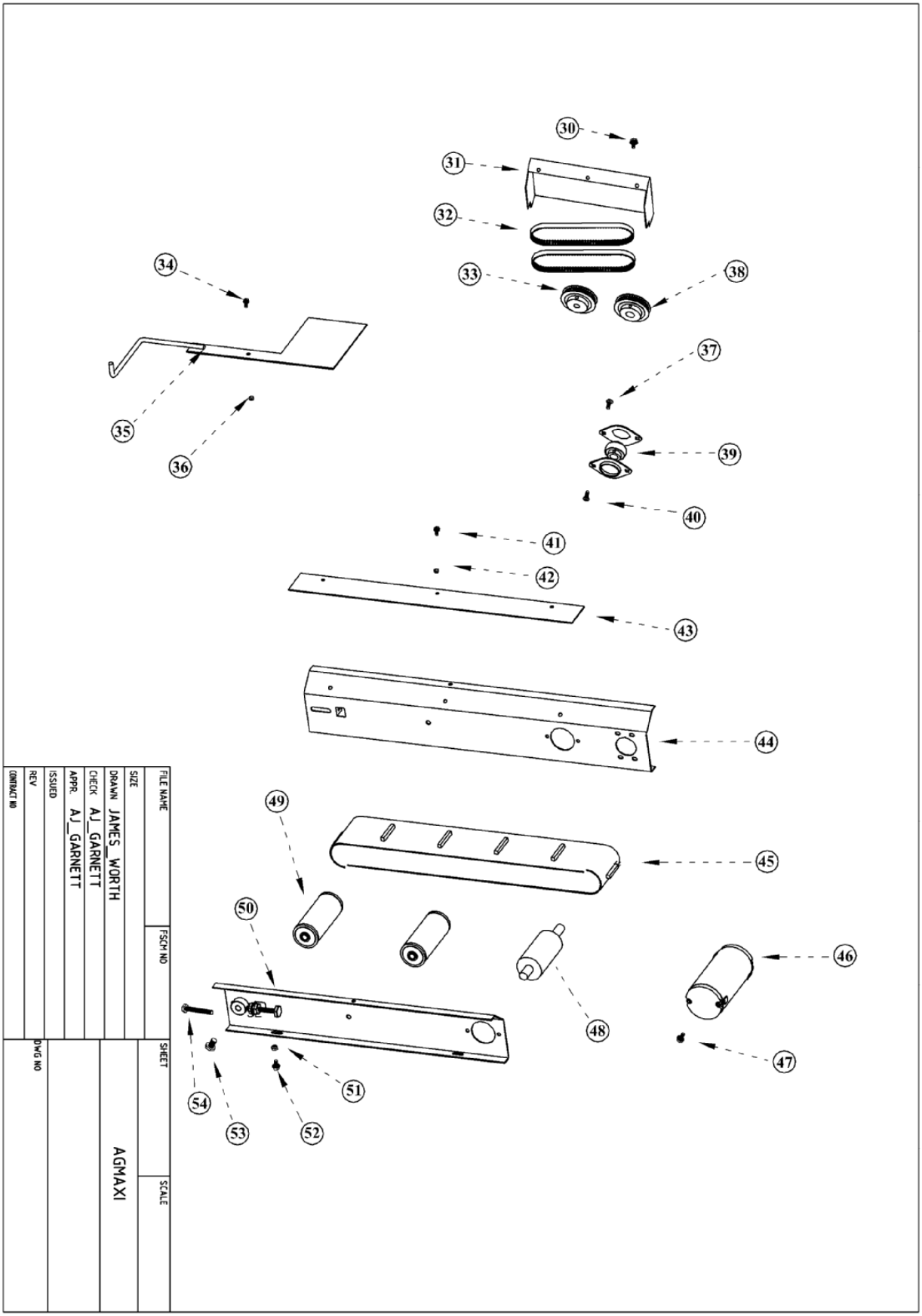
DESCRIPTION
DATE
APPROVED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FILE NAME
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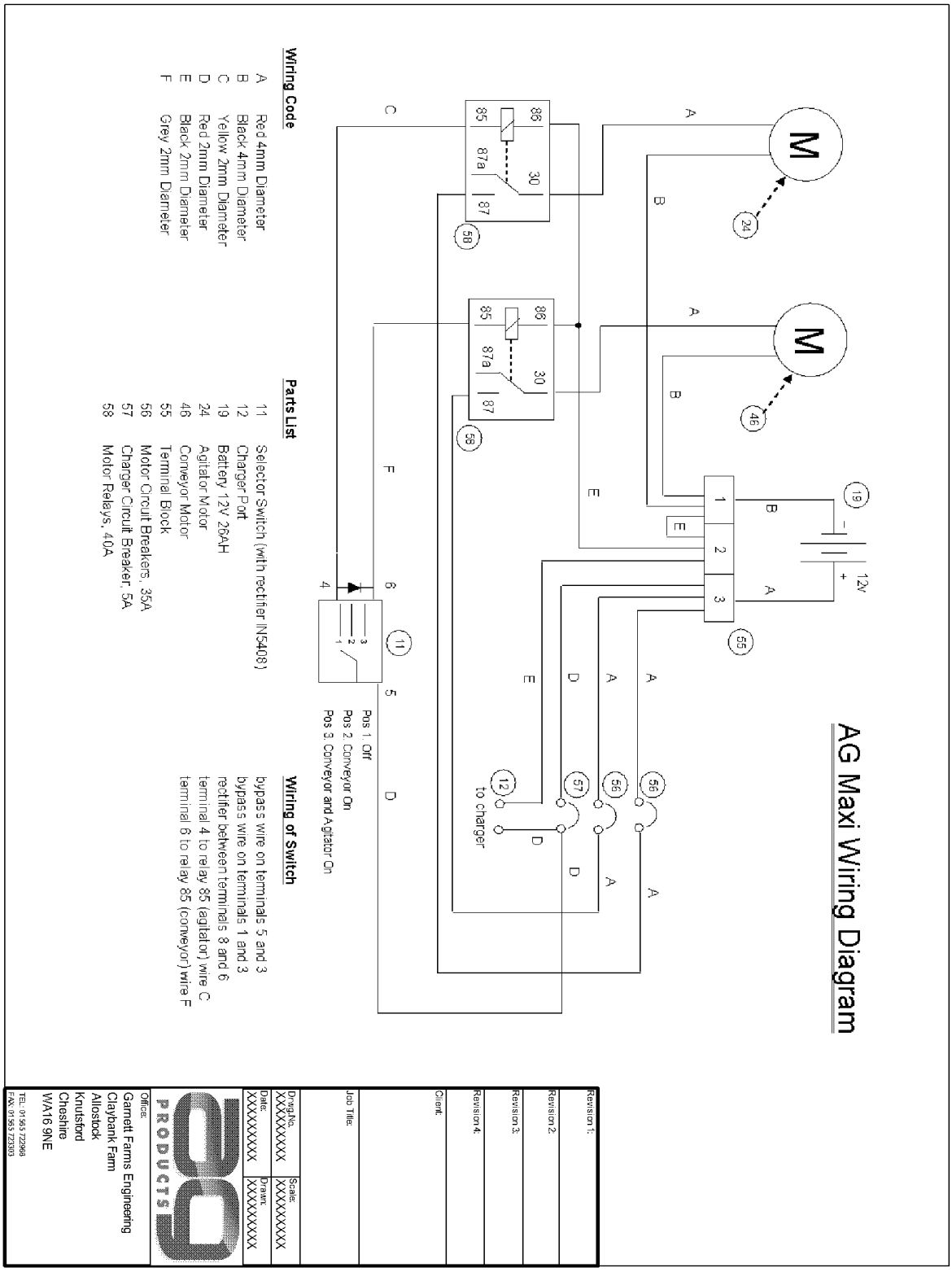
Maxi electrical drawing



Machine	ITEM NO.	QUANTITY REQURIED	PART NO.	DESCRIPTION
MAXI	1	1	MC2-18-1	AGITATOR
MAXI	2	1	MC2-17-1	AGITATOR SHAFT
MAXI	3	1	MC2-02	DRUM
MAXI	4	8	MC2-23	M5 NUT
MAXI	5	8	MC2-24-2	M5* 12mm BOLT
MAXI	6	6	MC3-01-3	M4 * 10mm SCREW
MAXI	7	3	MC3-01-4	Diameter 3* 16mm SCREW
MAXI	8	1	MC2-19	BREAKER BOX
MAXI	9	1	MC3-04-7	CHARGER YCB4A12
MAXI	10	1	MC2-04-1	UPPER HANDLE
MAXI	11	1	MC3-04-5	CAM SWITCH ASSEMBLY
MAXI	12	1	MC3-04-8	CHARGER PORT
MAXI	13	2	MC3-01-3	M4 * 10mm SCREW
MAXI	14	1	MC3-04-9	SWITCH GEAR COVER
MAXI	15	1	MC3-02-1	GROMMIT
MAXI	16	2	MC2-03	LOWER HANDLE
MAXI	17	2	MC3-01-5	M8* 60mm BOLT
MAXI	18	2	MC3-01-6	M8 NUT
MAXI	19	1	MC2-02-1	BATTERY NP2412R
MAXI	20	2	MC3-01-2	M5 * 12mm BOLT
MAXI	21	3	MC3-01-7	M6 * 70mm BOLT
MAXI	22	3	MC3-02-2	SPACER
MAXI	23	3	MC3-01-1	M6 NUT
MAXI	24	1	MC2-20	MOTOR (PM50-63-2-12V-GB:4 50:1) AGITATOR
MAXI	25	2	MC3-06-1	WHEEL CAP
MAXI	26	2	MC3-06-2	WHEEL CIR CLIP
MAXI	27	2	MC3-06-3	WHEEL WASHER
MAXI	28	1	MC2-01-1	MAIN FRAME
MAXI	29	2	MC3-06-4	WHEEL
MAXI	30	3	MC3-01-8	M6 * 12mm BOLT
MAXI	31	1	MC2-15	TIMING BELT COVER
MAXI	32	2	MC2-14	TIMING BELT (BT5/450/10)
MAXI	33	1	MC2-12	PULLEY (38T5-15-S16)
MAXI	34	1	MC3-01-2	M5 * 12mm BOLT
MAXI	35	1	MC2-16	ADJUSTER PLATE
MAXI	36	1	MC2-23	M5 NUT
MAXI	37	2	MC3-01-9	M6 * 16mm CUPSQUARE BOLT
MAXI	38	1	MC2-13	PULLEY (38T5-15-S09)
MAXI	39	2	MC2-09	BRG SLFE16
MAXI	40	2	MC3-01-9	M6 * 16mm CUPSQUARE BOLT
MAXI	41	6	MC3-01-8	M6 * 12mm BOLT
MAXI	42	6	MC3-01-1	M6 NUT
MAXI	43	2	MC2-11	SIDE SKIRT PLATE
MAXI	44	1	MC2-06-1	CONVEYOR DRIVE SIDE
MAXI	45	1	MC2-05	CONVEYOR BELT
MAXI	46	1	MC2-22	MOTOR PM50-63-2-12V CONVEYOR
MAXI	47	4	MC3-01-8	M6 * 12mm BOLT
MAXI	48	1	MC2-8	HEAD ROLLER
MAXI	49	2	MC2-7	IDLER ROLLER
MAXI	50	1	MC2-06-2	CON SIDE
MAXI	51	4	MC3-01-8	M6 * 12mm BOLT
MAXI	52	4	MC3-01-1	M6 NUT
MAXI	53	6	MC3-01-11	M10 * 16mm BOLT
MAXI	54	2	MC3-01-5	TENSIONER BOLT M8 * 60
MAXI	55	1	MC3-04-1	TERMINAL BLOCK
MAXI	56	2	MC3-04-3	CIRCUIT BREAKER MOTOR/AGITATOR (40 ampere)
MAXI	57	1	MC3-04-4	CHARGING BREAKER (5 ampere)
MAXI	58	2	MC3-04-6	RELAY 1 (40 ampere)
MAXI		1	MC3-05-1	PRODUCT MANUAL
MAXI		1	MC3-05-2	PULLEY - LIME 25T5-15+S09
MAXI		2	MC3-05-3	PULLEY V-BELT BT5/420/10
MAXI			MC3-05-5	TRI WHEELS