KEENAN®

an Alltech company

Operator's Manual
MechFiber345
MechFiber365

KEENAN MechFiber345 & MechFiber365 OM

Effective from models
MF345I100 & MF365I130

Publication Date A04 July 2018 EN

CONTENTS

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SECTION		CONTENTS	PAGE
		Foreword	4
1		Introduction	5
	1.1	Purpose of this Manual	5
	1.2	Intended use of the machine	5
	1.3	Ordering this Manual	5
	1.4	Reference and version of this manual	5
	1.5	Description and warning terms	6
2		Identification	6
	2.1	General view of the machine	6
	2.2	Identification Plates	8
	2.3	Machine identification	10
	2.4	Specifications	10
3		Warranty	11
	3.1	KEENAN Warranty policy	11
	3.2	Product changes and improvements	11
4		Safety	12
	4.1	Safety instructions	12
	4.2	Safety signs & Locations	15
5		Operation	17
	5.1	SET-UP	17
	5.2	Weighing system	19
	5.3	Hitch height adjustment	19
	5.4	Mixer wagon capacity	20
	5.5	Loading & mixing	21
	5.6	Feeding out	23
	5.7	Operating the KEENAN mechfiber mixer wagon	24
	5.8	Operating the KEENAN mechfiber BaleBlend	25
	5.9	Specific instructions for BaleBlend models	26
	5.10	Washing and chopping root crops	27
	5.11	Lifting Hooks & anchoring points	27
6		Maintenance	28
	6.1	Maintenance advice	28
	6.2	Maintenance Checklist	29
	6.3	Chains	30
	6.4	Oil level	32
	6.5	Chain tensioning	32
	6.6	Greasing	35
	6.7	Blade Maintenance	38
	6.8	Maintenance for baleblend models	38
	6.9	Shear bolts	40
	6.10	Nuts and bolts	40
	6.11	Tyres	41
	6.12	Wheels	41
	6.13	Rear feedout elevator (where fitted)	42
	6.14	Side & stub feedout elevator (where fitted)	42
	6.15	Axle maintenance	44
	6.16	Machine storage	45
7		Troubleshooting	46
	7.1	General troubleshooting	46
	7.2	Weighing troubleshooting	48
8		Parts List	49
	8.1	Hydraulic system parts	49
	8.2	Chassis parts	50
	8.3	Front cover parts	52
	8.4	Standard feedout tray parts	54
	8.5	Fold down tray parts (optional extra option)	56
	8.6	Rear parts	60
	8.7	Weighing system	61
	8.8	VFC-Door parts	62
	8.9	VFC-Door indicator parts	63
	8.10	Driveline parts	64
	8.11	Rotor & paddle parts	69
	8.12	Auger parts	70
	8.13	Body sealing parts	71
	8.14	Body blade parts	72
	8.15	BaleBlend parts	73
	8.16	Axles	78
	8.17	Ancillary parts	79
9		Annexes	80
	9.1	EC Declaration of Conformity	80
	9.2	International Patents	80
10		Contact Details	81

Foreword

KEENAN MechFiber Mixer Wagon and KEENAN MechFiber BaleBlend

Thank you for purchasing a KEENAN product. The KEENAN MechFiber Mixer Wagon is a TMR feeder with a difference. The original KEENAN mixer wagon became a market leader due to its reliability and durability, founded on simplicity, fast efficient mixing and feed out and low horsepower requirements. The KEENAN MechFiber Mixer Wagon has built on these capabilities by adding the ability to chop and present in a consistent fashion, time and time again. This ability is the cornerstone of the KEENAN MechFiber System, delivering improved efficiency and profitability on the farm. More recently, the BaleBlend models have introduced the ability to handle bales of all sizes and types.

The minimum moving parts ensure a robust machine with high mechanical efficiency. Simple routine maintenance and correct operation will deliver many years of service. However in the event of unforeseen problems, KEENAN's world class service means you can be assured of a prompt solution.

The KEENAN MechFiber Mixer Wagon is the cornerstone of the KEENAN MechFiber System delivering improved efficiency and profitability on the farm.

1. Introduction

1.1 Purpose Of This Manual

This manual has been designed to present the information you need to operate and maintain your machine. Most sections of the manual apply to both the KEENAN MechFiber Mixer Wagon and the KEENAN MechFiber BaleBlend machines. Sections which do not apply to both machines will be clearly stated in the heading and the text.

1.2 Intended Use Of The Machine

The KEENAN MechFiber Mixer Wagon's range are exclusively designed for professional use, in accordance with the rules of agricultural practice. The operating functions are weighing, chopping/mixing and feeding out.
The KEENAN MechFiber Mixer Wagon`s should only be used, maintained and repaired by people who have perfect knowledge of the machine and are aware of the possible risks.
Proper use requires strict adherence to the instructions in the operators' manual. It is up to the user and the owner to comply with the instructions for accident prevention as well as general rules on safety, occupational health and road legislation.

1.3 Ordering This Manual

You can order this operators manual by sending a request to:

Alltech Farming Solutions Ltd
Borris
Co Carlow
Ireland
Tel: +353 (0)59 977120
Email: KEENANinfo@alltech.com

1.4 Reference And Version Of This Manual

The version of this manual is displayed on the cover page and is composed as follows.

Example: Mechfiber345 & Mechfiber365 OM Revision A04 July 2018

- OM: Abbreviation describing the type of document: Operators Manual
- MF345 & MF365: type (s) of machine concerned
- A04: Manual version
- EN: English Language

The cover page also shows the date of publication of this document.

1.5 Description And Warning Terms

Please read this manual carefully before operating your new machine, paying particular attention to the warning notes, explained here.

There are 3 different types of notes, as follows:

△ **WARNING:**
Texts with this symbol contain safety information. They warn you of serious dangers, possibly involving accident or injury.

○ **CAUTION:**
Texts with this symbol draw your attention to a possible risk of damage to your KEENAN MechFiber Mixer Wagon. Failure to observe the information contained in a caution may invalidate your warranty.

Note:
Texts with this heading give general information which improves the operation efficiency of your KEENAN MechFiber Mixer Wagon.

2. Identification

2.1 General View Of The Machine

Figure 1

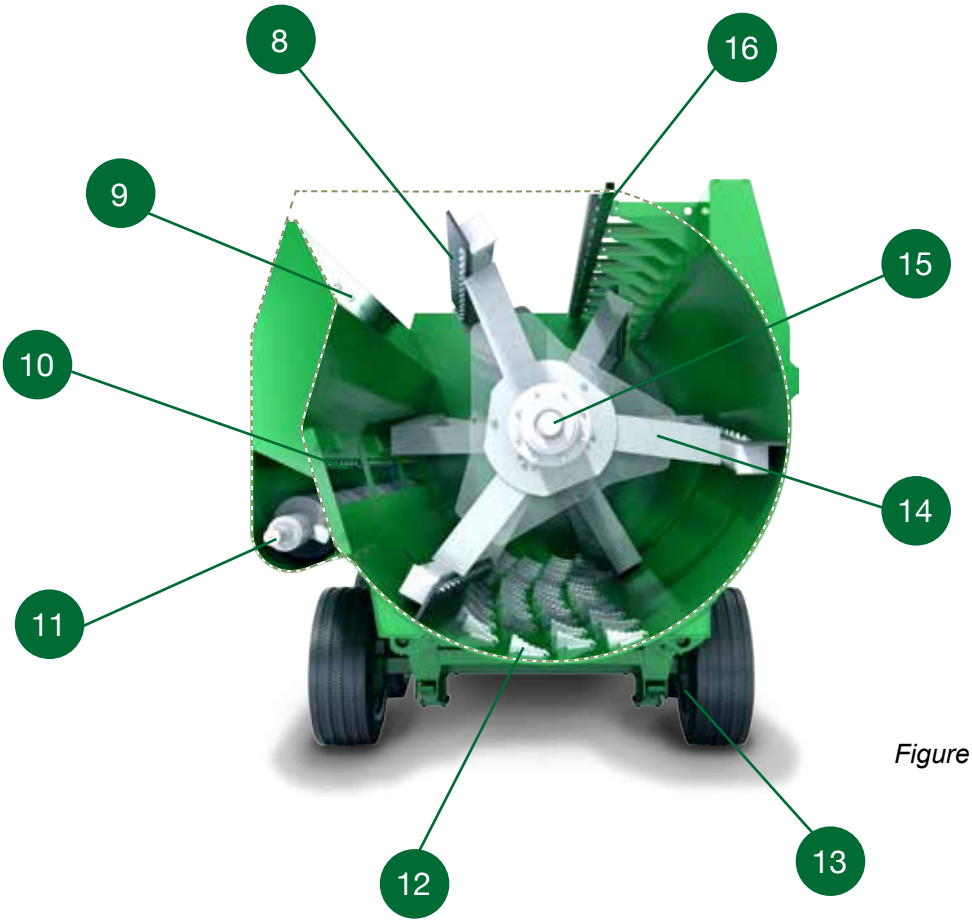


Figure 2

Reference	Description:
1	Weigh box
2	Drive system covers
3	Drawbar
4	Stands
5	Feed out tray
6	Lighting
7	Load bumper (optional)
8	Top knife
9	Bale Blender cradle arm (optional)
10	VFC-door
11	Auger
12	Body blades
13	Chassis & wheels
14	Paddle
15	Rotor
16	BaleBlend (optional)

Table 1

2.2 Identification Plates

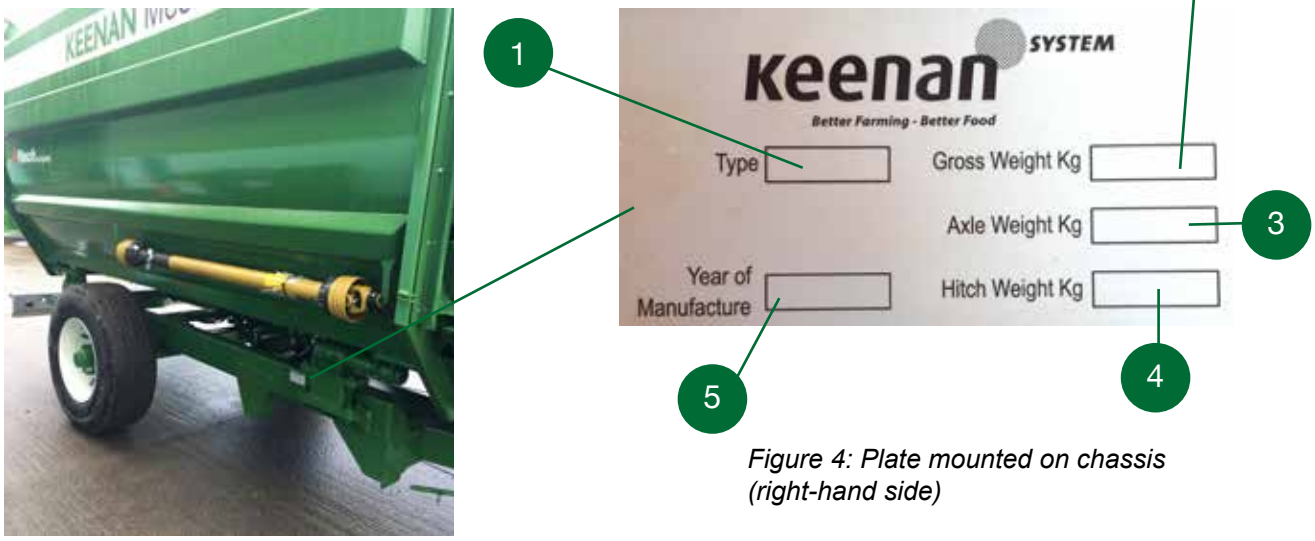


Figure 3

Figure 4: Plate mounted on chassis (right-hand side)

Figure 5

Figure 6: Serial number plate is located on the front left-hand drive system cover

Reference	Description:
1	Machine type / version
2	Gross vehicle weight in Kilo Grams
3	Axle weight in Kilo Grams
4	Hitch weight in Kilo Grams
5	Year of Manufacture
6	Machine serial number

Table 2

Axle Identification Plate Type 1

Figure 7

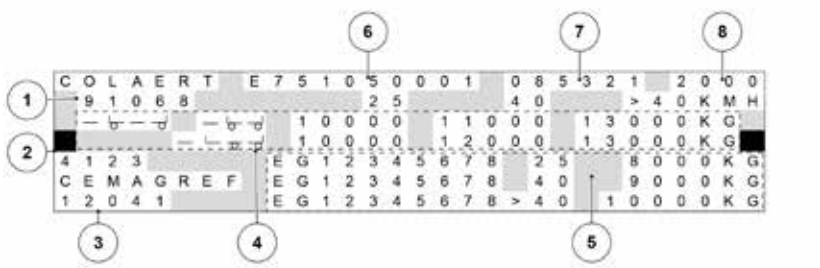


Figure 8

Reference	Description:
1	Axle type
2	Brake Type
3	Homologation number CEMAGREF
4	Loads
5	Homologation number TUV-Speed-load
6	Axle code
7	Order Number
8	Identification plate number

Table 3

Axle Identification Plate Type 2

Figure 9

2.3 Machine Identification

When receiving the machine, please enter the corresponding data below.
This document must remain within this user manual.

Information	Complete the column with the requested information
Machine Type	
Serial Number	
Year of Manufacture	
Options	
Date of First use	
Dealer name	
Dealer Address	
Dealer Telephone number	

2.4 Specifications

Model		MechFiber345		MechFiber365	
		Single Axle	Tandem Axle	Single Axle	Tandem Axle
Unladen	kgs	8,450	9,850	10,200	10,950
	lbs	20,062	21,715	22,481	24,134
Payload	kgs	6,000		6,000	8,000
	lbs	13,224		14,326	17,632
Gross	kgs	15,100	15,850	16,700	18,950
	lbs	33,280	34,933	36,807	41,766

Table 4: Machine weights

1: Weights given include BaleBlend option.
2: Weights may vary depending on exact specifications.
4: MechFiber365 payload is restricted to a maximum of 5,500kg when fitted with 445/45R 19.5 wheels/tyres on a single axle.

3. Warranty

3.1 KEENAN Warranty Policy

Alltech Farming Solutions Limited, trading as “KEENAN”, (the “Company”) shall undertake to correct by repair or replacement only at the Company‘s option, any defect of material or workmanship, which occurs in any of its products as listed herein within the following warranty period. This Warranty is for the benefit of the initial owner as notified to the Company. This Warranty shall also apply to new and unused Goods being resold by authorised dealers and or distributors of the Supplier. The Warranty period from date of commissioning is twelve (12) Months for new equipment and such shorter periods as may be agreed from time to time in writing for other products. This Warranty shall cease to apply on any resale or alteration or incorrect usage of the equipment by the initial owner.

The Warranty shall not apply to:
A) Any machine used by a third party, who has not had instruction in the correct use of the machine by an official representative of KEENAN.
B) Any machine which has sustained damage through general wear and tear or neglect or use for which the machines were not intended to be used by the Company.
C) Bearings, sprockets, chains and other wearing parts unless clear evidence of immediate working failure which is directly attributable to such parts can be furnished. Wearing parts include paddle rubbers, chains, jockeys, wheels and tyres.
D) Any consumable or perishable parts such as knives, blades, rubbers seals, hydraulic components, shear-bolts, brake liners, electric components and running gear, unless clear evidence of immediate working failure which is directly attributable to such parts can be furnished.
E) Any machine on which the identification marks have been removed or altered.
F) Any machine that has not received effective routine maintenance using recommended KEENAN products as laid down in the operator’s manual.
G) Any machine that has received repairs or modifications by a person unauthorised by KEENAN.
H) Any machine fitted with spurious or non-genuine spare parts and attachments, or spare parts or attachments not approved by the Company.
I) Any machine damaged in transit whilst being loaded or unloaded on premises other than those owned by the Company.
J) Parts which may be defective or which may have failed and which are not retained on site pending further investigation by the Company. Such parts may need to be inspected in situ by a Company representative.
K) Any machine damaged or any damage incurred prior to the machine being commissioned by an authorised representative of the Company.
L) Any machine not used in accordance with the instructions for use of the machine.
M) Any machine which has been altered or tampered with in a manner not approved by the Company.

The sole and exclusive claim against the Company made by the person specified above shall be for the repair or replacement of defective parts without prejudice to any rights pursuant to the Liability for Defective Products Act, 1991. No other claim, including, but not limited to, for incidental, direct or indirect or consequential damages or for lost profits, lost sales, lost business, lost savings, loss of goodwill or loss of reputation or any other loss of whatever nature however sustained shall be available. This Warranty constitutes the only warranty made by the Company and supersedes and overrides all oral and written statements or representations made by any Company representative or dealer or any other agreement, arrangement, practice, custom or understanding between the parties. Any claim under the Warranty must be promptly notified to the Company in writing at the address on the invoice.

This Warranty shall be construed in accordance with Irish law and shall be subject to the exclusive jurisdiction of the Irish Courts.

3.2 Product changes and improvements

Due to our policy of continuous improvement, Alltech Farming Solutions Ltd reserve the right to make changes in design, to add improvements or to otherwise modify any of its products without incurring any obligation on products previously supplied.

4. Safety

4.1 Safety Instructions

The KEENAN MechFiber Mixer Wagon has many safety features built into its design but ultimately, safe operation requires the vigilance of the operator and an understanding of potential safety hazards. The machine is designed to be used as a mixer/chopper wagon for mixing animal feeds. It should not be used for any other purpose which will affect its performance or safety.
The following safety points are general guidelines. Given the wide variety of possible operating conditions other safety risks may exist which are not captured in the list over.

a) Always park the mixer wagon on level ground and apply the handbrake when not in use.

b) Do not exceed 15 km/h (10 mph) when in use/transit. Local road traffic laws will apply when machine is in transit on public road, on which the maximum permissible speed is 25 km/h. Exceeding this speed will compromise the life and safety of major components such as the hitch, axle, wheels and chassis.

c) Ensure the VFC-door is closed and all Feed-Out Trays / Elevators are in the closed & transport position prior to using on the public road.

d) Exercise extreme caution for possible overtaking traffic at either side when turning.

e) Do not stand on the ladder whilst the feeder is in transit. The mixer wagon should never be used for the transport of people, animals or objects.

f) Do not stand between the tractor and mixer wagon while it is in use.

g) Use only a PTO shaft with a properly fitted safety guard and correct shear bolt.

h) Always connect the PTO shaft with the shear bolt end to the machine. The operating speed of the PTO is 540 rpm and the direction of rotation is marked on the front cover. Always use a well maintained PTO shaft and keep the safety covers in good condition.

i) Ensure all trailing leads, hoses, etc. are well clear of the PTO.

j) **Never operate the PTO in “ground speed mode” or drive the PTO in reverse.**

k) Make sure all covers/guards are fitted and closed correctly. Never remove guards when the mixer wagon is connected to the tractor.

l) Ensure the mixer wagon and the immediate area surrounding it is clear of people, especially children, before commencing operation. Ensure that there is sufficient visibility for the operator to observe all danger zones and that the tractor is equipped with mirrors to enable the operator to see both sides of the machine while it is in operation.

m) When connecting the tractor to the mixer wagon only connect using the ring hitch/hitch on the mixer wagon to ensure safe coupling. Ensure that the hitch is connected properly to the tractor and that all pins and clips are properly installed. Then connect the PTO shaft in the correct fashion. Connect the hydraulic hoses ensuring that the functions match the indicated valve on the tractor.

n) When disconnecting always ensure that a stand or jack is used to secure the mixer wagon in the park position and ensure that the hand brake is properly applied. Before driving the tractor away from the mixer wagon ensure that all hoses and cables are disconnected.

o) Load only from the side indicated – see figure 23 (auger chamber side), using suitable equipment.

p) Standing level with or above the machine in order to load manually is not permitted. Loading should only be carried out with suitable equipment.

q) Regularly inspect all chains (at least weekly), sprockets and moving parts for wear and check all nuts and bolts for tightness.

r) The ladder on the rear of the mixer wagon is to be used as a viewing point for the mixing chamber. It should not be used as a means of access to the mixing chamber nor onto the body of the machine. It is strictly forbidden to climb on the upper brim of the machine body. The height of the machine presents a potential fall hazard during entry and exit.

s) The noise emission level of the MechFiber345 & MechFiber365 has been recorded at 89.4dB. Noise emission levels above 90dB would require the wearing of suitable ear protection.

t) The Breakaway Safety Brake device should be attached to the tractor at all times. Cable ties fix the wire rope along the handbrake handle in place. Cable tie the wire rope to the drawbar (see figure 11). Fix the other end of the wire rope to a solid location on the back of the tractor e.g.: using the top link pin. In the event that the Breakaway Safety Brake device has been activated or damaged, it is recommended that KEENAN Service are contacted for directions to reset.

u) Routine cleaning may be carried out using a power washer. Isolate any power sources before beginning. If washing the inside the Mixing Chamber, open the drain bung underneath the body to allow water escape. Always disconnect PTO shaft from the tractor & stand on suitably safe ladder or platform. Do not to climb on top of machine or into the Mixing Chamber.

v) **It is recommended that only KEENAN trained and qualified maintenance personnel enter the mixing chamber.**

In the case of an untrained person entering the mixing chamber, at the very minimum, the following precautionary safety guidelines should be strictly adhered at all times.

1. Ensure the PTO and hydraulic hoses are disconnected
2. Apply the mixer wagon handbrake and disconnect the tractor from the machine on level ground
3. Use suitable PPE such as protective footwear, eye wear & gloves
4. Personnel should make themselves familiar with the location of all potential hazards before entering the machine, in particular the location of the top knife and body blades.
5. Be aware that sharp components may be hidden in or under material within the mixing chamber
6. The top knife should always be fitted with the supplied guard (Figure 12) before entering the machine. Begin by fitting the first 500mm of guard from the rear of the machine. Then as you enter continue to fit the guard along the full length of the Top Knife.
   Note: the machine is supplied with a top knife guard which can be found inside the driveline covers of the mixer wagon

7. Use a suitable & secure ladder for access to and from the mixer wagon. *Note: The ladder at the rear of the machine is provided as a means of viewing the ration only and should not be used as a means of access the mixing chamber.*
8. Always maintain 3 points of contact while entering, exiting & moving within the mixing chamber of the machine
9. When entering the base of the body, it is recommended to cover the body blades in the vicinity of where work is to be carried out.
10. When removing trapped objects, be aware that some machine components may move unexpectedly when cleared.
11. Take extreme care when moving around inside the body as surfaces may be slippy.

SODAGRAIN: Additional safety instructions and warnings are available and covered in a soda grain leaflet which should be read carefully before soda treating grain. When finished treating grain, clean out any remaining material in the mixing and/or auger chamber by loading in 200-300 kg of silage or 50 kg of straw and allow the machine to mix before unloading in the normal manner. *Note that when mixing soda grain, the maximum gross load that can be mixed in the KEENAN MechFiber345 is 5,000 kg and for the KEENAN MechFiber365 is 6,000 kg.*
The soda grain process can be completed using a KEENAN mixer but before treatment on your farm make sure you are adhering to local animal feed legislation and health and safety guidelines involving the treatment of grain.

Figure 10: Body blade and blade cover

Figure 11: Breakaway Safety Brake

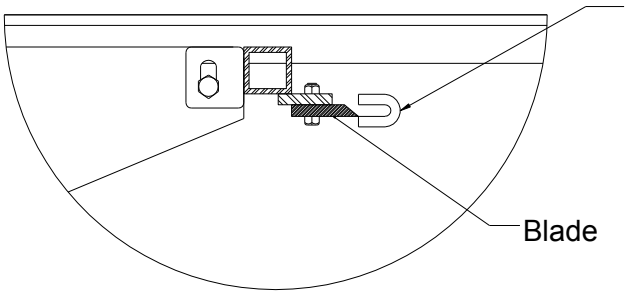


Figure 12: Top knife Protection

△ **WARNING:**
Failure to follow the safety guidelines above may lead to accident or injury.

KEENAN mixer wagons have been designed to reduce risk to a minimum. However, as with any machine, careful observation of safety procedures is necessary to prevent accidents.
See inside for further details on each section. If you have any further questions please contact your local KEENAN centre for advice.

WARNING:
Read the following safety section (section 4) before attempting to operate the machine.

WARNING:
The operator is responsible for the safe operation of the machine at all times. This machine should only be operated by one person at all times. The machine should never be left unattended during operation.

WARNING:
The Breakaway Safety Brake Device should be attached to the tractor at all times.

4.2 Safety Signs & Locations

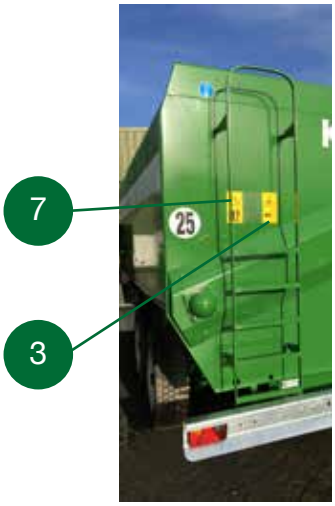


Figure 13

Figure 14

Figure 15

Figure 16

Figure 17

1

Read the operators manual before using the machine.

2

Danger of flying objects. Keep a safe distance from the machine.

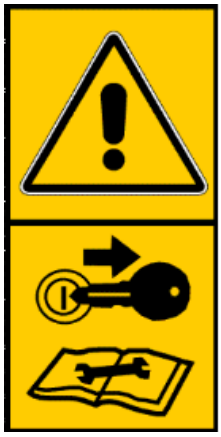
3

Stay clear of sharp blades.

4

Do not open or remove safety guards while the machine is connected to the tractor.

5



Shut off the engine and remove the key before performing maintenance or repair work on the machine.

6

Never reach into the rotating auger. Danger of entrapment.

7

Do not ride on the platform or ladder.

8

Look out for overhead power lines.

9

Do not stand between the tractor and mixer wagon while it is in operation.

10

Apply the handbrake when parked.

5. Operation

5.1 Set-Up

The simplicity of the KEENAN MechFiber Mixer Wagon design is reflected in its low power requirement. The power required varies, depending on the mix used, the dry matter, and the amount of chopping required.

If a tractor is at its limit during mixing, this will translate into extra strain on moving parts as there will be surges in power as the engine recovers during certain periods of the mix.

A tractor that has sufficient power will provide a much smoother drive to the mixer wagon during all stages of operation.

CAUTION:
Do not operate the PTO in “ground speed” mode. Reversing the drive on your machine will cause serious damage.

- Connect the hydraulic hoses (see table 5) from the machine to double and single acting spool valves on the tractor, as appropriate.

- Examine the mixing chamber to ensure that:
  - All blade covers have been removed, where fitted.
  - All spare parts and foreign objects have been removed.
  - No damage has occurred during transport.

- Check the weighbox and ensure the power lead from the weighing system is either connected to the tractor battery via a direct fused line, 7 pin plug or to a 12v battery located in the side box of the feeder. To zero the weighbox press and hold the ‘zero’ and ‘minus’ keys together and hold until ‘end’ appears on the screen then release the buttons. If the power is supplied through a 7 pin lights connection, the tractor lights will need to be switched on to provide power to the weighbox. If you stand on the ladder, at rear of the machine, you can check the reading on the weighbox against your known weight, this may require assistance.

- With the tractor running, check that the VFC-door opens fully and closes completely. Similarly check the movement of the feed out tray. Engage the PTO and check the turning of the paddles. The initial turning of the paddle rubbers against the side of the KEENAN MechFiber Mixer Wagon will generate noise but this will decrease as the paddle rubbers become more pliable.

Hydraulic and brake hoses	
Operation	**Colour**
VFC Door	Red & yellow
Feed-out Tray	Blue
BaleBlend Creel	Green
Brakes	White
Beet-grid	Black

Table 5: Hydraulic and brake hoses

Note:

A: The design life of hydraulic hoses is subject to the level of wear and tear/ usage and also factors like harsh climate. It is recommended that they be reviewed periodically (yearly) and typically replaced after ten years of operation if necessary.

B: The maximum oil pressure of the hydraulic system is 3000 psi.

C: If there is a **valve chest** fit to the MechFiber machine, it is very important to connect the valve chest hydraulic feed and return pipes correctly. The return pipe is not designed to take the hydraulic pressure normally seen in the valve chest feed pipe, and so seals and/or the valve chest itself may be damaged if oil flows in the wrong direction through the chest. Typically the hydraulic return pipe on the valve chest is fit with a one-way flow valve to prevent oil being fed to the valve chest in the wrong direction. This is identifiable as a steel connection on the end of the pipe with an arrow stamped on its side to indicate the direction of oil flow through it. Oil flows into the valve chest through holes marked P (Pressure) and out through holes marked T (Tank), see Figure 18 below.

(The valve chest is set up for open centre hydraulics. If the tractor has an alternative hydraulic system (other than open centre) then contact should be made with the tractor agent. To alter to closed centre hydraulics, there is a plug that can be fitted to the spool valve block and is available from KEENAN Service on request.)

Figure 18: Valve Chest

5.2 Weighing System

The KEENAN MechFiber Mixer Wagon's electronic weighing system allows the exact quantity of individual materials to be loaded into the mixing chamber for accurate rationing. Individual loads can be weighed or successive loads accumulated to give total weight of feed. See Section 6 (Weighing System) and the Readout Manual for more detailed information.
The weighing system is designed to be simple to operate, accurate and robust. It consists of four load cells connected to a weigh box unit (readout box) at the front of the machine. The system uses 12-volt DC power from the tractor, or battery if fitted. The weigh box unit can be rotated for visibility during loading and from the tractor cab but should be folded out of the line of the tractor wheel for road work. Loads are displayed in kilograms or lbs with scale increments of 5 kg/10 lb. The unit is capable of measuring up to 18,140 kg (39,999 lbs) with the appropriate weight bars. The system is maintenance-free, being fully electronic with no moving parts. All components are sealed against moisture and dust and are resistant to frost and corrosion. The unit should, however, not be directly exposed to a high-pressure water jet. The weigh box unit may vary from model to model and region to region. A separate manual is supplied for your weigh box unit, which you should refer to for specific operating instructions.

INSTRUCTIONS FOR ELECTRONIC READOUT BOX ARE CONTAINED IN A SEPARATE MANUAL

5.3 Hitch Height Adjustment

The KEENAN MechFiber345 & KEENAN MechFiber365 hitch has been designed to allow for a number of various hitch height options with same components used, the hitch height is normally selected for the application and set at the factory per the options below.

The main standard hitch assembly is a bolt on assembly and once the main setting is completed at the factory, it may also be adjusted on farm by moving the assembly up or down within the bolt holes, or turning the complete hitch over, as it is suitable to operate facing either way up.

Notes:
1: *: A minimum of four M20 x 100mm **Grade 8.8** bolts must be used to secure the Swivel Ring Hitch & the Clevis Hitch to the drawbar.*
2: Care must be taken, when adjusting the hitch height, so that there is adequate PTO clearance and that there is enough ground clearance below the stand.

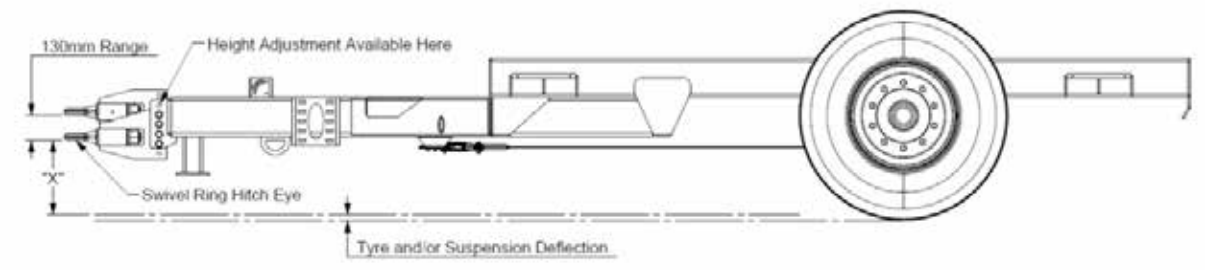


Figure 19: Standard Hitch Adjustment

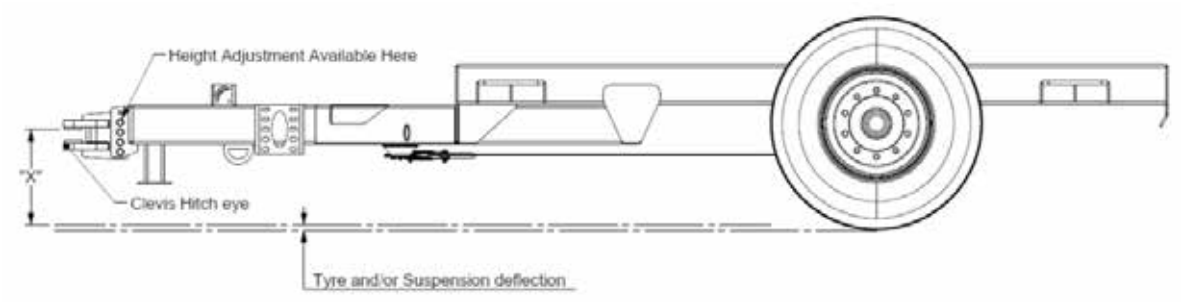


Figure 20: Clevis Hitch Adjustment

5.4 Mixer Wagon Capacity

Due to the diversity of the materials available for feeding and the KEENAN MechFiber's ability to incorporate a wide range of feed types into the ration the capacity of the machine will vary. Ensure that overloading is avoided at all times as mix quality will be seriously affected and potential machine damage may result.

Overloading must be avoided because:

• The mix will not be homogenous (evenly mixed), preventing the maximum benefit being gained from the machine.

• Mechanical failure will result. Due to the nature of the loading this may occur at load levels below that necessary to break the shear bolt.

CAUTION:
The machine can be overloaded, before the shear bolt breaks. Therefore not breaking a shear bolt is not an indication that the machine is not being overloaded.

The overall amount of material that can be chopped/mixed in one load depends on the following:

• Machine size.
• Overall dry matter of the TMR.
• The chop length and quality of the material added.
• The loading procedure and loading order of the materials used (this has a major effect on machine capacity, e.g. the addition of straw first or last).
• Tractor H.P. rating.

Figure 21: Photograph illustrates a well-mixed ration showing consistent fibre length and integration of forages and grains.

5.5 Loading & Mixing

Load ingredients in sequence recommended by your KEENAN Physical Nutritionist, or as suggested in Section 5.7
For non BaleBlend models, ensure bales are broken up prior to loading. For BaleBlend models, wait until the bale has been taken in completely before adding further bales. As a general rule, material should be tumbling freely when mixing. If not, then the machine is overloaded and will not achieve the desired mix quality. Mixing is carried out by a centrally-mounted rotor fitted with 6 angled paddles revolving at 5-6rpm. Each paddle imparts a shearing action, sweeping the feed ingredients onto the strategically placed knives to produce a consistent and thorough mix with all types of materials, including baled silage, hay or straw, roots and liquids.

The angled paddles help mixing by sweeping the material from end to end. The placement of the blades ensures the materials reach optimum size/length, without grinding it down and destroying the all-important 'scratch factor' of the forages producing a MechFiber mix.

Mixing time will be determined by the required chop length. Follow procedures contained in this manual or consult your KEENAN Physical Nutritionist for further information.

CAUTION:
For BaleBlend models, do not load a complete 6x4 round bale, or more than one 5x4 or 4x4 round bale onto the machine at any one time. Overloading the machine may seriously affect the safe operation and life of the machine and will invalidate the warranty.

For BaleBlend models, do not load a complete 6x4 round bale onto the machine as it may potentially be unstable, possibly falling off and causing injury. 6x4 round bales should be first broken up and then loaded onto the machine in sections; alternatively, the bale may be held in place by the loader until sufficiently chopped down, 1/3 to 1/2 way, to allow it safely complete chopping on the top of the machine. If in doubt consult your local KEENAN representative for the recommended safe operation of the machine to suit your particular application.

Note: The unique tumbling action of the machine is what carries out the mixing. If the machine is overloaded or loaded in an incorrect order, or insufficient time is allowed for proper chopping, this tumbling action will not take place correctly. In addition to reducing mix quality, it increases the horsepower requirements and reduces the life of the machine.

CAUTION:
Overloading will seriously affect machine performance and life, and will invalidate your warranty.

The effectiveness and speed of chop is determined by:

- The number of effective (sharp and intact) blades.
- The dry matter of the material to be added.
- The amount of pre-chopping of material.
- The loading sequence.
- The total amount of material to be chopped.
- The density of the bale.

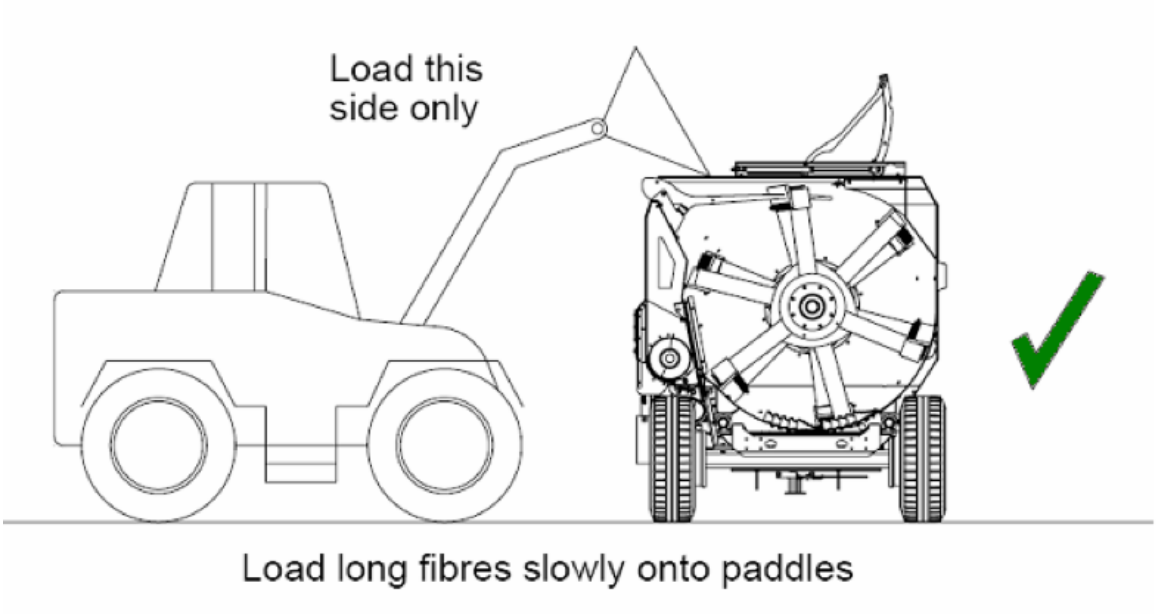


Figure 22: Loading the KEENAN MechFiber mixer wagon

5.6 Feeding Out

During mixing, the mixing chamber is separated from the feed out chamber by a Variable Feed Control (VFC) or guillotine door, thus ensuring complete mixing. The feed out chamber contains an auger which runs the entire length of the machine.

When chopping/mixing is complete, the feed out tray should be set to the required position, and the VFC door dropped, allowing the material to be swept up by the paddles and pushed onto the auger – see figure 2. The VFC door should be partially opened at first, ¼ ways, and when feed is seen discharging then 15-20 seconds should be allowed before opening the VFC door fully. Door position and ground speed should be set/used to allow an even feed out rate.

CAUTION:
The VFC door should only be opened or closed when the PTO is engaged (paddles turning) when material is in the machine.

1. Ensure that the VFC door is still closed.
2. Re-engage the tractor PTO at idle, increasing engine revs to between 1,400 and 1,600 rpm to achieve a paddle running speed of 6-8 rpm. Allow the TMR to loosen and tumble for 15-20 seconds.
3. Slowly open the VFC door to maximum of ½ way then allow at least 1 minute before opening the door fully.
4. Select a ground speed to feed out at an even rate along the feed area.
5. When feed out is complete, close the VFC door, run the machine for 10 - 20 seconds to empty auger chamber, then disengage the PTO before turning out of shed.

CAUTION:
Never open VFC door before engaging PTO - serious damage may be caused as a result of sudden load being put on the auger. Disengage the PTO before turning corners.

5.7 Operating The KEENAN Mechfiber Mixer Wagon

LOADING THE KEENAN MECHFIBER MIXER WAGON

GENERAL

- Park on level ground.
- Ensure the variable feed control door (VFC) (guillotine door) is closed.
- **Do not start PTO when VFC door is open.**

LOADING AND MIXING SEQUENCE

- Load feed as close as possible to the loading side of the unit.
- Load concentrate feeds along the length of the machine.
- Load forages to the front, back and centre of the unit in alternate grabs during the mixing.
- Remove all twine, wrap or polythene from bales.
- Round or square bales should be split or broken into 4 pieces **minimum**. Use front grab or forks as required.
- Stop PTO before moving to feed out area.
- Mixing time will depend on chop length required.

Below is a guide to the correct loading order. Consult your local InTouch office / nutritionist for best loading order for your ingredients.

Order Speed	Feed Ingredients	Paddle RPM	Tractor Engine
1st	Straw, Hay	All at 6-8 RPM	1400-1600 RPM
2nd	Water, Liquid Feeds		
3rd	Minerals, Concentrates, Protein meals, Pulps, Cereal Grains		
4th	Grass silage		
5th	Maize silage		

Table 6: Loading the KEENAN MechFiber Mixer Wagon

5.8 Operating The KEENAN Mechfiber Baleblend

LOADING THE KEENAN MECHFIBER BALEBLEND

GENERAL

- Park on level ground.
- Ensure variable feed control door (VFC) is closed.
- **Do not start PTO when VFC door is open.**

LOADING AND MIXING SEQUENCE

- Set paddles running at 6-8 RPM for **all** bale types. **Note:** *When chopping straw, higher revs can be used.*
- Load round bales to the centre of the unit with the flat end towards the top knife.
- Allow minimum of 2 minutes for previous bale to chop down before adding another.

CAUTION:
Do not load more than one bale at a time.

- Stop PTO before moving to feed out area.
- Mixing time will depend on chop length required.

Below is a guide to the correct loading order. Consult your local InTouch office / nutritionist for best loading order for your ingredients.

Order Speed	Feed Ingredients	Paddle RPM	Tractor Engine
1st	Straw, Hay	All at 6-8 RPM	1400-1600 RPM
2nd	Water, Liquid Feeds		
3rd	Minerals, Concentrates, Protein meals, Pulps, Cereal Grains		
4th	Grass silage		
5th	Maize Silage		

Table 7: Loading the KEENAN MechFiber BaleBlend

5.9 Specific Instructions For Baleblend Models

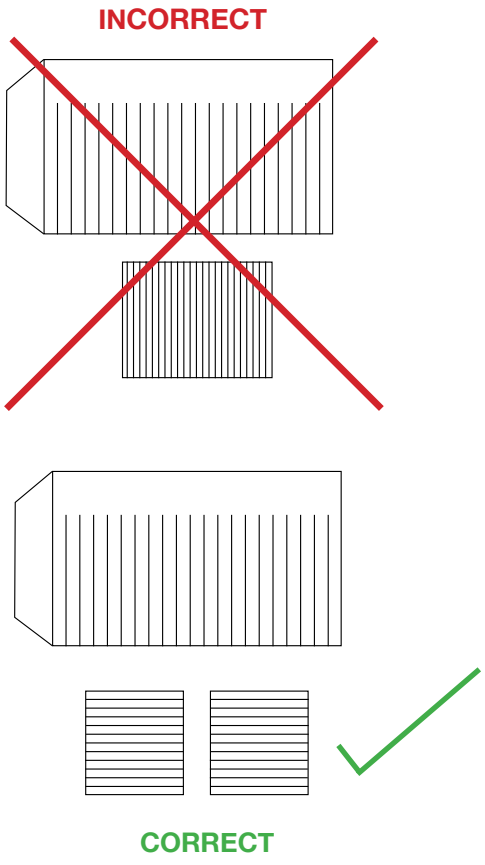
1. The creel should be raised before loading bales.
2. The bale (round bales) should always be loaded in the centre of the machine so that it gets the maximum agitation from the 6 paddles.
3. The bale should be gently lowered in the centre of the machine onto the tines. The BaleBlend will then begin its cutting action, with the tines working in conjunction with the top knife, body blades and six paddles to evenly chop the bale material in a timely manner. The bale should be chopped evenly throughout this process which will avoid large lumps of the bale entering the mixer at any time. This will result in a better mix quality and more even chopping action.
4. After the bale has been fully chopped and entered into the machine the next bale can be added to the mix in the same manner as above.
5. The standard chopping times for different materials of round 4' x 4' (120 cm) bales are as follows:

Bale:	Time:
Straw	6-8 minutes (140 kg)
Hay	4-6 minutes (300 kg)
Wet silage (up to 20% DM)	2-4 minutes (700 kg)
Dry silage (20-30% DM)	4-5 minutes (500 kg)
Very dry silage (over 35%)	4-6 minutes (400 kg)

Table 8

Note: Heavy bales must be loaded gently on to the BaleBlend, not dropped from a height, or damage may occur.

6. These times are achievable if the bale is loaded in the correct position and the loading method, as described above, is followed. These times may vary slightly depending on the tightness of the bale and the behaviour of the bale when it is being chopped.
7. When loading large square bales the method is to load the bale so that the sections lie across the tines so as to prevent the sections falling through the gap in the tines (see diagram to the right: sections of large square bale loaded perpendicular to the tines). The easiest way to do this is to load the bale in two halves on the loader (one half in each side of the bucket, if wide enough) and flick the sections out onto the tines. In this way the sections will remain up on the tines and rings for longer and get a better chop against the top knife. If loaded the opposite way the sections will tend to fall through the tines, not get chopped and cause additional stress on the chopping mechanism.
8. The key to the successful operation of the BaleBlend is that the bale remains on top of the tines long enough to allow the pre-chopping to take place against the serrated top knife. This ensures that the amount of further chopping within the mixing chamber is reduced, and though it may take longer for the bale to be taken in, during this time the material that has already been cut from the bale is being processed within the chamber.



5.10 Washing And Chopping Root Crops

With the machine stopped add the root material to be washed and chopped. Ensure that there are no stones or foreign objects hidden in the roots.

1. Add water at approximately 300 kg (660 pounds) per tonne of material to be chopped. Rotate the machine for 1-2 minutes at 6 rpm.
2. Park the machine on an incline, open the wash gate and allow the water to drain off.
3. It may be necessary to repeat this if materials being chopped are particularly dirty.
4. Chop the materials by running the machine at 8+ revs.

For low usage, best results are achieved by chopping sufficient material for 2 days.

5.11 Lifting Hooks & Anchoring Points

Figure 23

Figure 24

Front Anchor points for lifting

For lifting weights refer to specifications

Rear Anchor points for lifting

Figure 25

CAUTION:
Lifting and support equipment accessories must be compliant and controlled in accordance with the regulations in force.

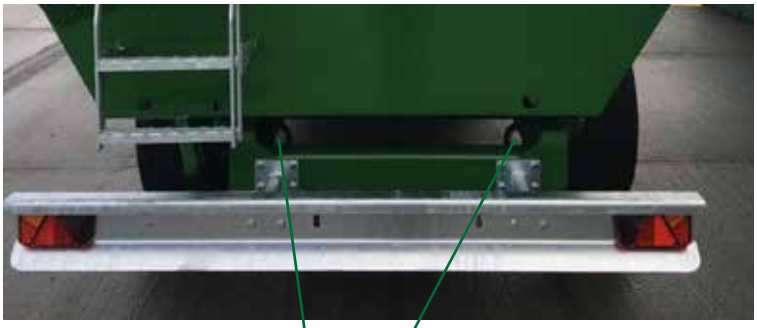


Figure 26

Figure 27

Front Anchor point for transport

6. Maintenance

6.1 Maintenance Advice

A properly operated and maintained KEENAN mixer wagon will give years of trouble free operation. **Regular maintenance of the machine is essential both for long machine life and also to meet the warranty requirements.** Refer to instructions in maintenance section of this manual. Weekly cleaning of the machine is recommended to prevent corrosion to the mixer body from old feed. **The level of cleaning required will depend on the material being mixed, but any material which sits or lodges on the machine may both adversely affect the operation of the machine and affect the quality of the mix if it subsequently falls into the feeder during mixing. It is therefore essential that routine cleaning and washing down of the feeder is completed.**

The KEENAN MechFiber Mixer Wagon has been designed for optimum performance with a minimum of maintenance. Chains, bearings and grease points have been kept to a minimum without compromising function. All components are of high quality and provide excellent durability. Regular routine maintenance will ensure your KEENAN MechFiber Mixer Wagon gives you the best results with a minimum of problems.

△ **WARNING:**
Prior to carrying out any maintenance on the machine, always ensure tractor engine is stopped and disconnect the P.T.O. and hydraulic hoses from the tractor. Observe safety precautions at all times when working on machine, read Section 4 on safety before attempting to work on machine.

The recommended operating pressure in the hydraulic circuit is 170 bar and a flow rate of 40 litres per min. Replacement hoses should comply with DIN EN 853. When replacing hydraulic hoses, always wear suitable protective equipment.

6.2 Maintenance Checklist

Daily	
Cleaning:	Clean all old feed from around the body to prevent corrosion and damage to paint.
VFC-door:	Before using the machine, check that the door opens and shuts fully and operates smoothly.
Wheel nuts:	Check torque settings.
Oil Sump:	Check the oil level and replenish with Total/Finol Chainac MP oil as required.
Weekly (40 hrs)	
PTO input shaft:	Grease the universal joints (2 nipples) and the sliding half shafts (smear grease on surfaces). For further information, please refer to the PTO Maintenance Booklet supplied with the PTO.
Drive (gear) box:	Grease the drive input-shaft bearings (2 nipples).
Rotor bearings:	Grease the front and rear rotor bearings (2 nipples).
Feed discharge auger:	Grease the front and rear auger bearings (2 nipples).
Idler shaft:	Grease the front and rear idler shaft bearings (2 nipples).
Drive chains:	Check the condition of primary and secondary chains
Chain tensioners:	Grease the pivot points on the primary and secondary chain tensioner mechanisms
VFC door:	Grease the door's hydraulic cylinders (4 nipples) and the slide plates (smear food grade grease on surfaces). The recommended grease is "Ceran FG" supplied by TOTAL Lubricants, or similar food and feed industry grade grease.
Chassis:	Grease the hitch pivot tube (where swivel hitch is fitted).
Single axle:	Grease all 6 pivot points listed below: 2 on each brake rod (4 in total) 1 on each brake arm (2 in total)
Tandem axle (where fitted):	Grease all 14 pivot points listed below: 2 on each brake rod (8 in total) 1 on each brake arm (4 in total) 1 on each spring bogie pivot pin (2 in total)
Axle U-bolts:	Check axle U-bolt torque settings (tandem only).
Tyres:	Check that tyres are inflated to the recommended pressures and make sure the wheel nuts are tight.
Monthly	
BaleBlend:	Grease each Tine pivot & check the Tines for looseness.
Tine buffer:	Check for cracks, splits or degradation.
Yearly (end of season or 450 Hrs)	
Drive System:	Open oil bath drain bung and drain off existing oil. Wash off all dirt and old oil, using paraffin, then dry. Refill bath with new oil to required level (see section 6.4) and run machine for 5-10 minutes to ensure all chains have been lubricated.
Overall Machine:	Before storage, wash the complete machine, then grease or oil all weekly lubrication points as above. Open the drain bung in the mixing hopper. Check tyre pressures. Store the machine under cover or under a tarpaulin, if possible.
Electronic weighbox:	If the machine is to be stored, remove the weighbox unit from the machine and keep in a dry place. Lightly grease the load cell cable connector end and place it into a plastic bag.
Wheels:	Remove and inspect wheel hub. Replace worn parts, redress and re-fit.
Blades:	Blades need to be kept sharpened. This will have to be done without taking the temper (over heating) from the blades. If the machine is operated with blunt blades it will cause major stress on the drive system. Blades may have to be replaced when it is not practical to sharpen them.

Table 9

WARNING:
Due to hazards involved in entering the mixing chamber it is recommended that all blade replacement is carried out by a KEENAN authorized service agent who is specially trained to do this. Contact your local agent (see back cover for details).

6.3 Chains

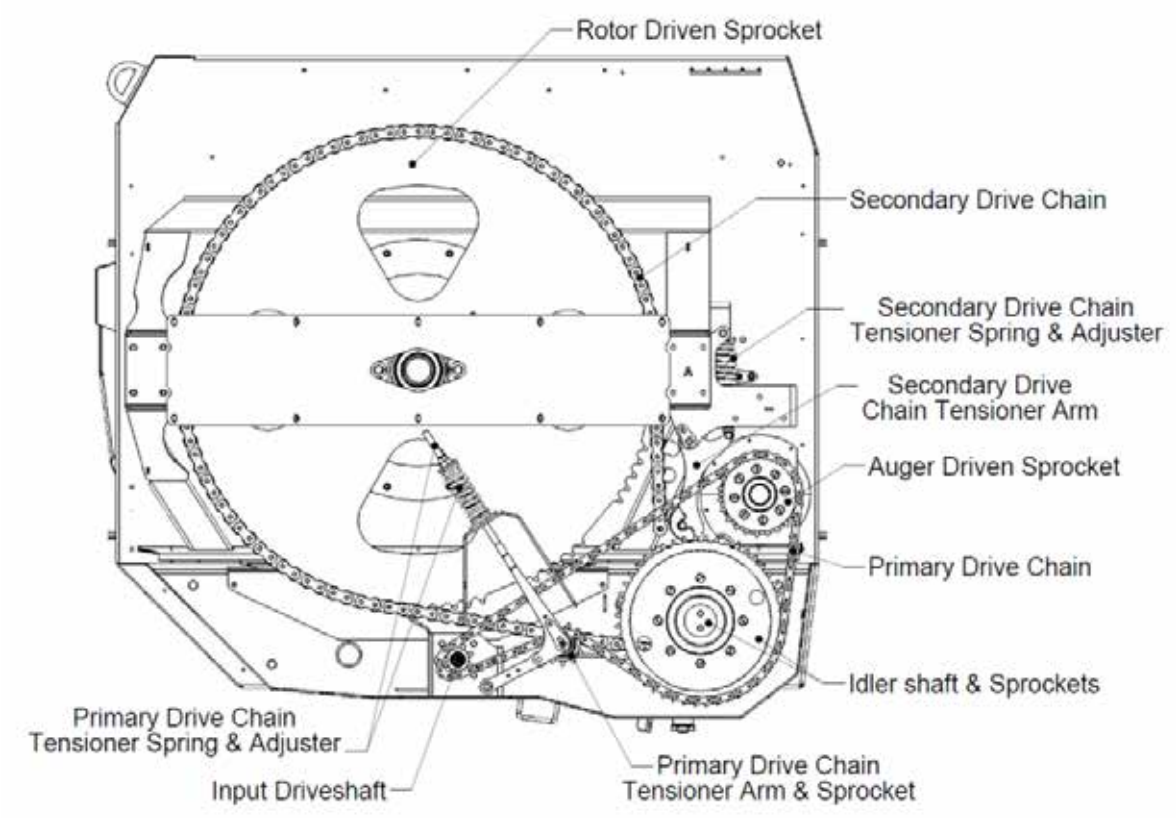


Figure 28: Drive System overview

Each week check the condition of the chain tension arms and adjust as required. There are two chains used on the KEENAN MechFiber345 & MechFiber365 models. The primary drive chain (ASA120) drives the idler shaft and the auger shaft from the input shaft (see figure 28) and the secondary chain (ASA160SH) drives the rotor. Both chains are tensioned by spring assemblies on the slack side of the chain.

Primary Drive Chain	ASA120
Links	92 (inc. joiner)
Pitch (mm)	38.1
Pitch (inches)	1.5”
Chain length (mm)	3,505
Chain length (inches)	138
Rotor drive chain	**ASA 160**
Links	120 (inc. joiner)
Pitch (mm)	50.8
Pitch (inches)	2”
Chain length (mm)	6,096
Chain length (inches)	240

Table 10: MechFiber345 & MechFiber365 drive chains

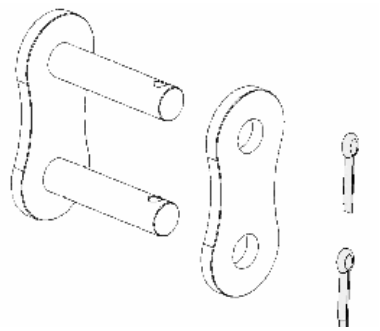


Figure 29: Chain joiner link

Note: ASA120 chain uses split pins in the joiner link as shown while the ASA160SH chain uses roll pins due to the high loads involved.

CAUTION:
Failure to maintain oil on the chains may reduce the working life by 90%. Chain damage is not covered by factory warranty. See warranty section for more details.

It is also essential to monitor and maintain the required chain tension. Chain tension is adjustable for the primary chain. (See next section)

CAUTION:
For the first month of ownership, i.e. during the chain bedding-in period, it is recommended to check chain tension daily. (See next section)

6.4 Oil Level

The oil reservoir (sump) is located on the left side of the drive system. Each day check the level of the oil reservoir. Before checking the oil level, ensure that the machine is sitting level (front to rear & left to right). An Oil Level Viewing Window has been fitted to the front panel of the drive system & can be viewed through a recess in the lower face of the left side front cover. The recommended oil level should be midway along this window. This represents 20 litres of oil in the sump. The minimum level is -15mm from the centre, which represents an oil level of 14 litres in the sump. The maximum level is +15mm from the centre, which represents an oil level of 26 litres in the sump.

If the oil level is low, top it up with chain-bar oil (the properties of which allow it cling to the chains longer).
Use Total/Finol Chainac MP if available or a suitable equivalent – Volumetric mass of 879 kg/m3 @ 15°C and Viscosity rating of 150mm2/s @ 40°C.
Do not use grease on the chains, as it is unsuitable for the application and will not allow lubrication of the vital internal parts of the chain.

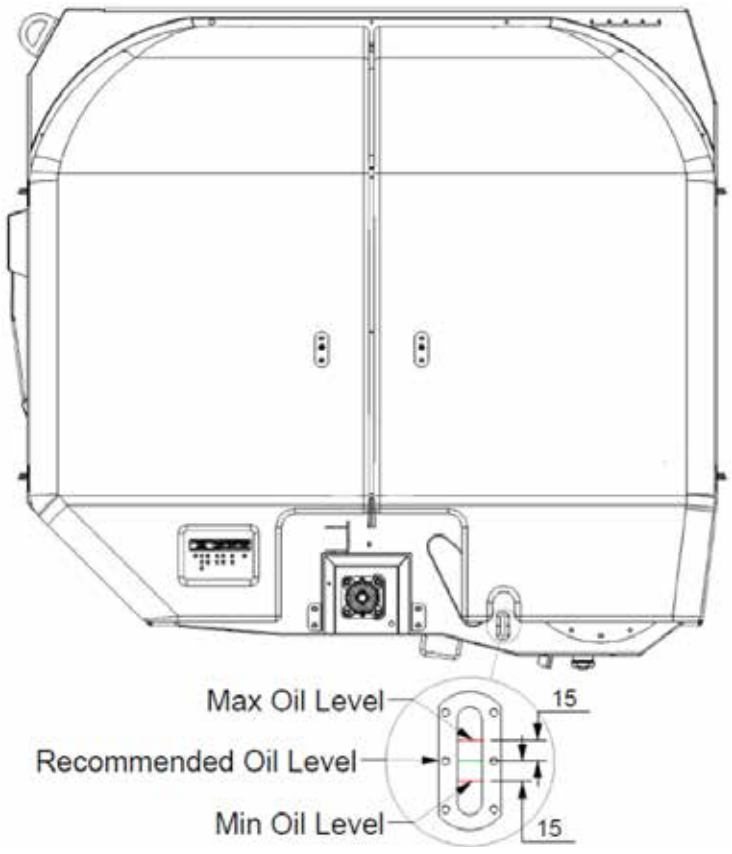


Figure 30: MechFiber345 & MechFiber365 Oil Level

6.5 Chain Tensioning

With use, the drive chains will extend slightly over time. To compensate for this, all KEENAN MechFiber machines are fitted with a tensioner mechanism on the slack side of the chain.
The Primary Chain Tensioner comprises of a linear tension arm which is held in position with a lower connecting arm. A pull rod at the top of the tensioner arm passes through a shoulder plate on the drive system housing. Tension is achieved by use of a compression spring seated above the shoulder plate. The preload can be adjusted using the threaded upper spring seat.
The Rotor Chain Tensioner comprises of a pivoting tension arm connected to a compression spring strut. The preload can be adjusted using the threaded upper spring seat.
In order to prevent the chain jumping and premature wear the chain must be held at the correct preload tension at all times and should be checked weekly.

1. Setting Tension on Primary Chain

The Primary Chain Preload tension is set by adjusting the upper spring seat above the tensioner arm. The spring assembly is fitted with an adjustment indicator which uses the upper edge of the spring as its marker. When it aligns with the green or “OK” portion of the decal then the tension is set correct and does not require adjustment. But if the upper edge of the spring is outside this section, in the red, then adjustment is required. The decal arrow indicates the direction in which to adjust.
The Upper spring seat is an internally threaded sleeve which sits on guide shaft. It has a shoulder for the spring to seat against and a 40mm A/F hexagon section at the top for adjustment. A standard M20 nut is used to lock the seat in position.
To adjust first remove the 2 wrenches from their storage location on the front right face of the drive system reduction gearbox. (see Figure 31).
Swing the tensioner indicator downwards to allow full access to the spring seat nuts. Using the 40mm wrench & a 30mm wrench open the locknut (top nut) and screw clear of the spring seat. The spring seat can now be adjusted up or down to set the compressed length to 165mm (Its free length is 200mm). The upper edge of the spring should now be positioned in the centre of the green section of the indicator. This provides the correct tension of approx. 70kg to the chain.
To lock the setting, hold the spring seat in position with the 40mm wrench and tighten the locknut against it with the 30mm wrench.

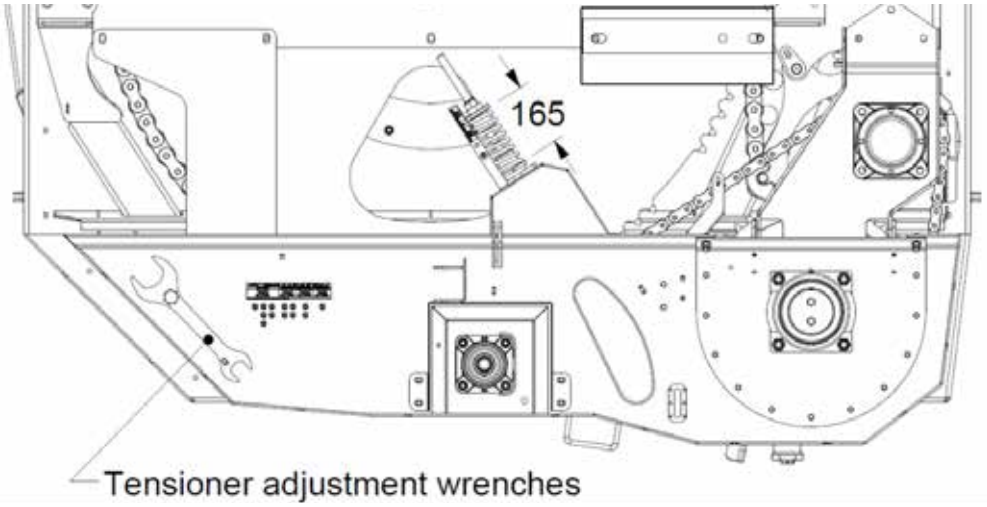


Figure 31: Storage position of Tensioner Adjustment Wrenches & Primary Chain Tensioner Spring setting

2. Setting Tension on Secondary Chain (Rotor Chain)

The tension is set by adjusting the upper spring seat above the tensioner arm. The spring assembly is fitted with an adjustment indicator which uses the upper edge of the spring as its marker. When it aligns with the green or “OK” portion of the decal then the tension is set correct and does not require adjustment. But if the upper edge of the spring is outside this section, in the red, then adjustment is required. The decal arrow indicates the direction in which to adjust.

The upper spring seat is an internally threaded sleeve which sits on guide shaft. It has a shoulder for the spring to seat against and a hexagon section at the top for adjustment. A similar sized hexagon nut is used to lock the seat in position. To adjust first remove the 2 wrenches from their storage location on the front right face of the drive system reduction gearbox. (see Figure 31).
Swing the tensioner indicator downwards to allow full access to the spring seat nuts. Using the wrenches open the locknut (upper nut) and screw clear of the spring seat. The spring seat can now be adjusted up or down to set the compressed length to 250mm (Its free length is 280mm). The upper edge of the spring should now be positioned in the centre of the green section of the indicator. This provides the correct tension of approx. 360kg to the chain. To lock the setting, hold the spring seat in position with one of the wrenches and tighten the locknut against it with the other.
It is recommended to check the tension weekly in the first few weeks of operation as the chain, sprockets and tensioner "beds in" and may need to be adjusted.

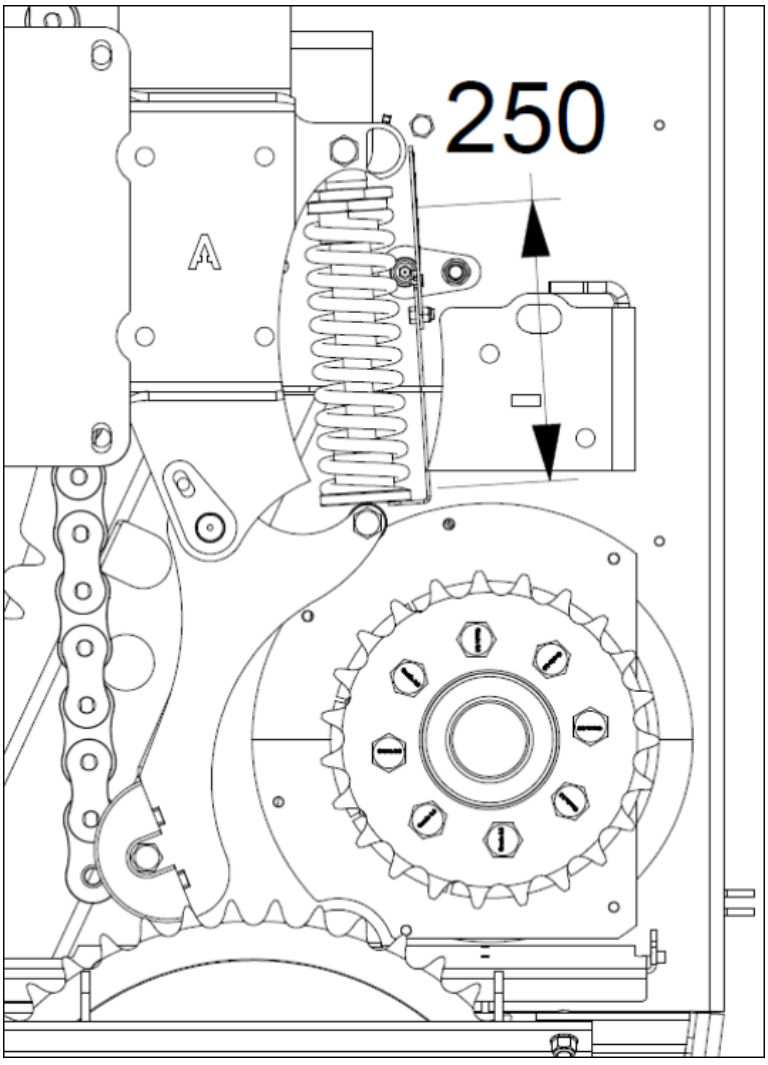


Figure 32: Secondary Chain Tensioner Spring setting

6.6 Greasing

The KEENAN MechFiber345 & MechFiber365 are fitted with a 13-port central greasing manifold as standard, located at the right side of the machine, inside front cover. It allows greasing of all the inaccessible grease points of the drive system of the machine from that one location.

An instruction decal is fitted above the manifold detailing the greasing interval (40 hours) and the amount of grease to be applied to each point (see below). All other bearings & pivot points not serviced by this manifold should receive 3cc (5g/0.175oz) of grease at the same 40 hour intervals.

APPLY GREASE AT 40 HOUR INTERVALS			
PIVOT POINTS 3 pumps / 3 cc 5 grams / 0.175 oz	LARGE BEARINGS 4 pumps / 4 cc 7.2 grams / 0.26 oz	MEDIUM BEARINGS 3 pumps / 3 cc 5 grams / 0.175 oz	SMALL BEARINGS 1 pump / 1 cc 2 grams / 0.035oz.
Note 1 pump/stroke of manual grease gun typically produces 1cc of grease			

Figure 33: Central greasing manifold instruction decal

1. Bearings

After every 40 hours of operation apply grease to all bearings through grease fittings. These are as follows:

Grease point 1	Input shaft bearing (front)	see figure 34 & 35
Grease point 2	Input shaft bearing (rear)	see figure 34 & 35
Grease point 3	Idler shaft bearing (front)	see figure 34 & 35
Grease point 4	Idler shaft bearing (rear)	see figure 34 & 35
Grease point 5	Auger bearing (front)	see figure 34 & 35
Grease point 6	Rotor bearing (front)	see figure 34 & 35
Grease point 7	Primary drive tensioner sprocket	see figure 34 & 35
Grease point 15	Rotor bearing (rear)	see figure 36
Grease point 14	Auger bearing (rear)	see figure 36

2. Pivot points

After every 40 hours of operation apply grease to the following pivot points through grease fittings.

Grease point 8	Primary chain tensioner compression spring seat	see figure 34 & 35
Grease point 9	Rotor drive tensioner arm pivot	see figure 34 & 35
Grease point 10	Rotor drive chain tensioner strut lower pivot bush	see figure 34 & 35
Grease point 11	Rotor drive chain tensioner strut Upper pivot bush	see figure 34 & 35
Grease point 12	Rotor drive chain tensioner spring seat shaft	see figure 34 & 35
Grease point 13	VFC door ram top pin (front)	see figure 34 & 35
Grease point 16	VFC door ram top pin (rear)	see figure 36
Grease point 17	VFC door ram lower pin (rear)	see figure 36
Grease point 18	VFC door ram lower pin (front)	see figure 36

3. VFC Door

Check the VFC door is able to move freely each day and grease as appropriate.

4. PTO drive shaft

Refer to PTO operator's manual for greasing instructions and recommendations

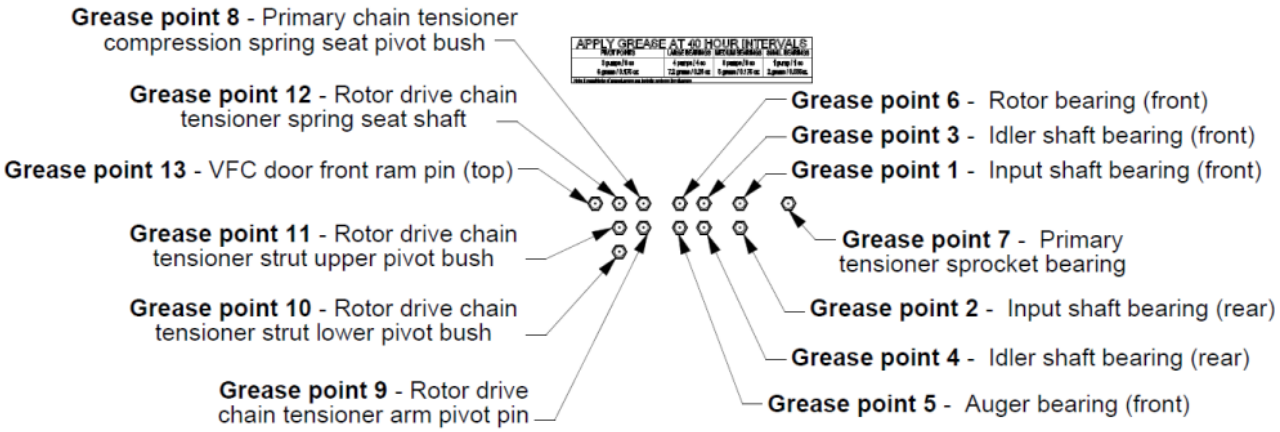


Figure 34: Grease points on central greasing manifold

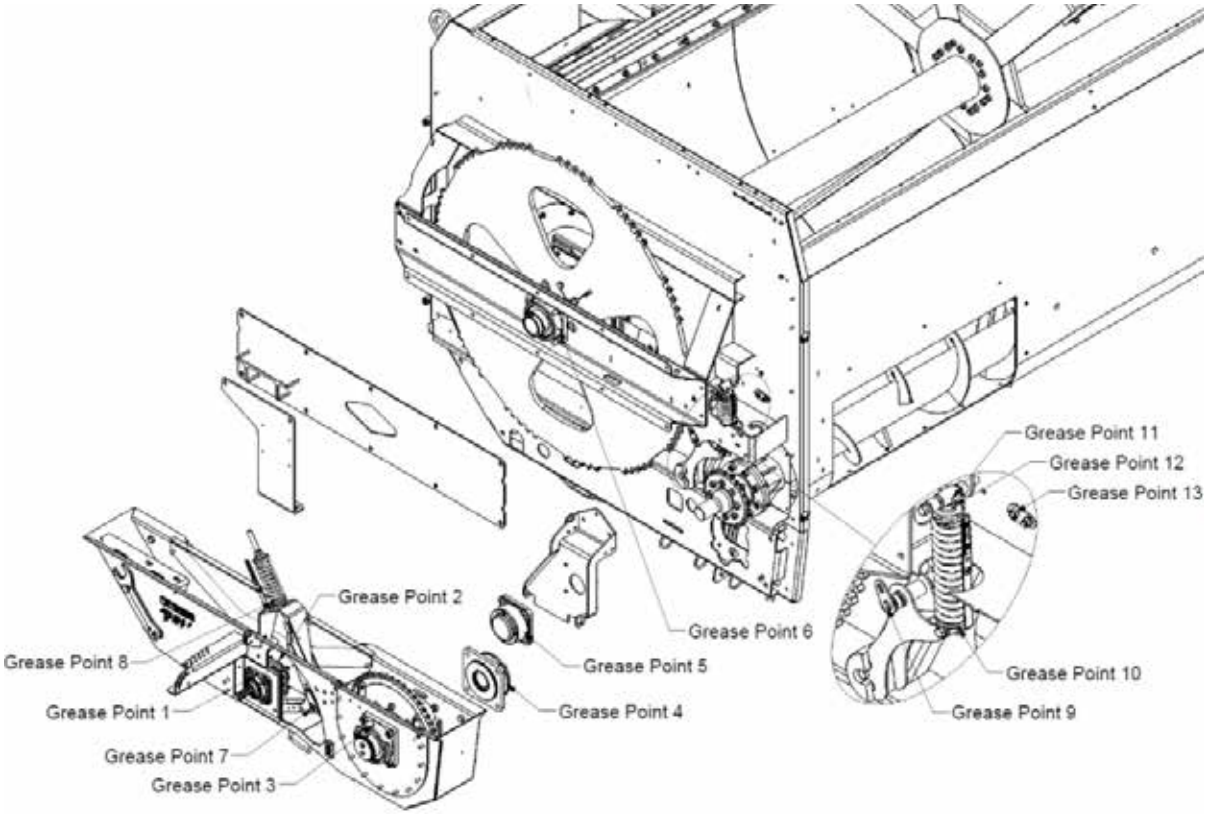


Figure 35: Drive system bearings & pivot grease points

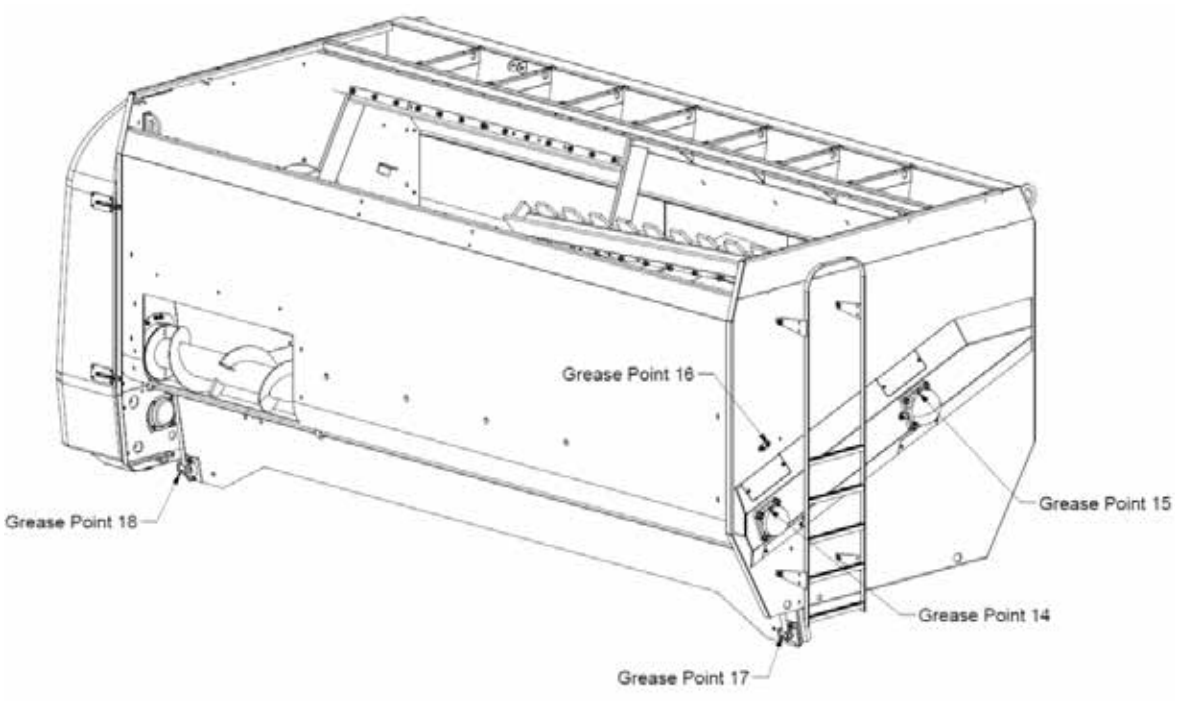


Figure 36: Rear bearings & VFC Door pivot grease points

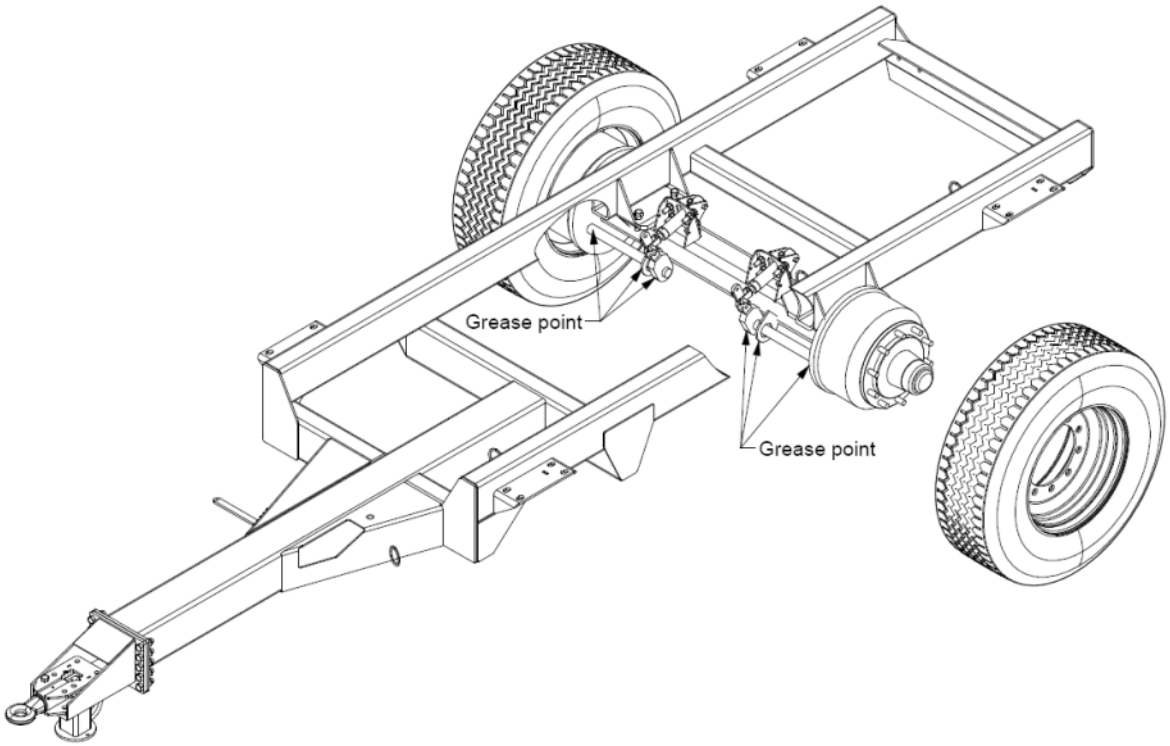


Figure 37: Single axle chassis grease points

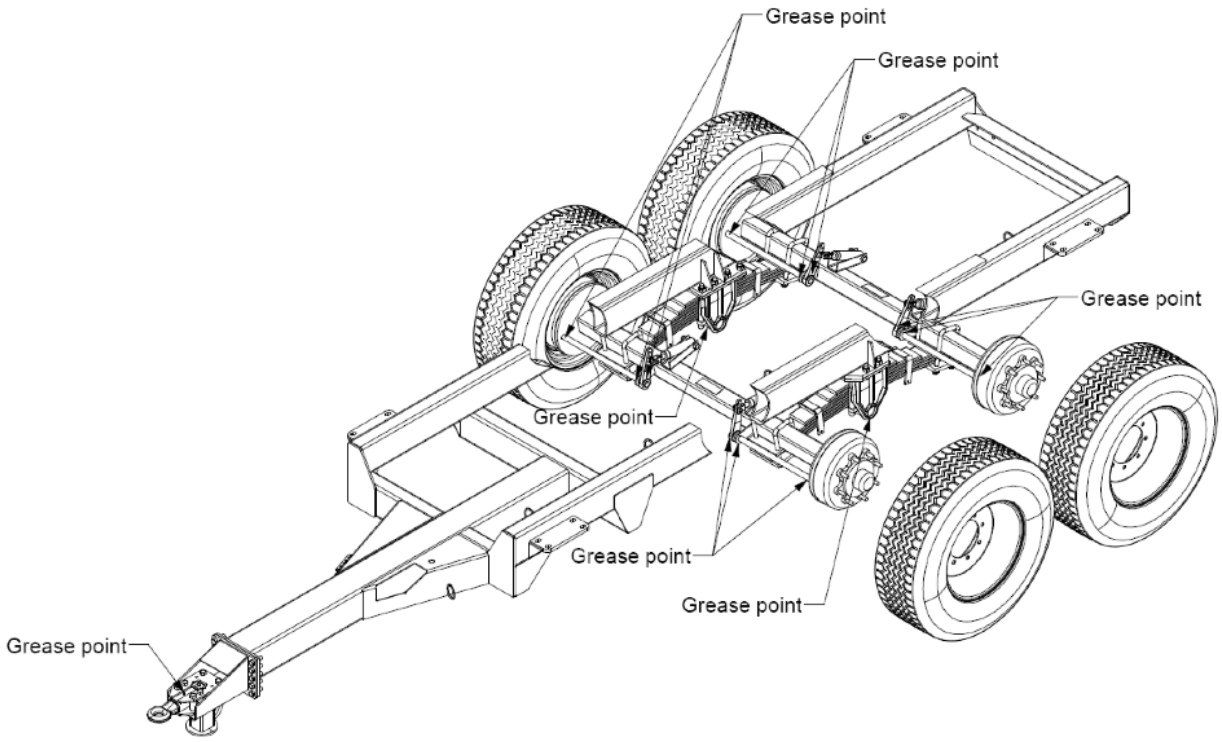


Figure 38: Tandem axle chassis grease points

6.7 Blade Maintenance

Blade Sharpening and/or Replacement, it is recommended that only KEENAN Trained and/or qualified maintenance personnel should perform this task.

Blades need to be kept sharp. Blunt blades will increase power requirements. Sharpening must be done without taking the temper from the blades (without overheating). Blades can be sharpened many times but when they reach the point where this is no longer practical, they must be replaced.

6.8 Maintenance For BaleBlend Models

There is a grease nipple fitted at the pivot point of each BaleBlend tine on the auger chamber side of the machine, the grease nipple is fitted to the head of each M24 tine bolt. The following maintenance points should be checked on a monthly basis:

1. Apply grease to each of the Tine Bolt grease points individually.

2: The M24 tine bolt lock nuts should be checked for tightness, they should be tight enough to prevent the tine from having any side movement, but allow it fall under its own weight when let drop.

3: The rubber buffer should also be checked for wear or signs of damage which may affect its shock absorption. Optimum tine to top knife gap is **235mm ± 10mm** (see Figure 40), but may vary depending on application and the design of tine fitted. Please consult your local Service Centre for settings.

4: Check that the operation of the creel both up and down, is smooth and unobstructed.

5: Check the creel rubber is in place, undamaged and lowering and raising with the creel.

Note: *The creel rubber is fitted to prevent material sitting on the top knife of the machine, preventing a build up of material getting under the creel and damaging it as it is lowered. To prevent damage to this rubber do not drop material on it from a height when loading material onto BaleBlend arms.*

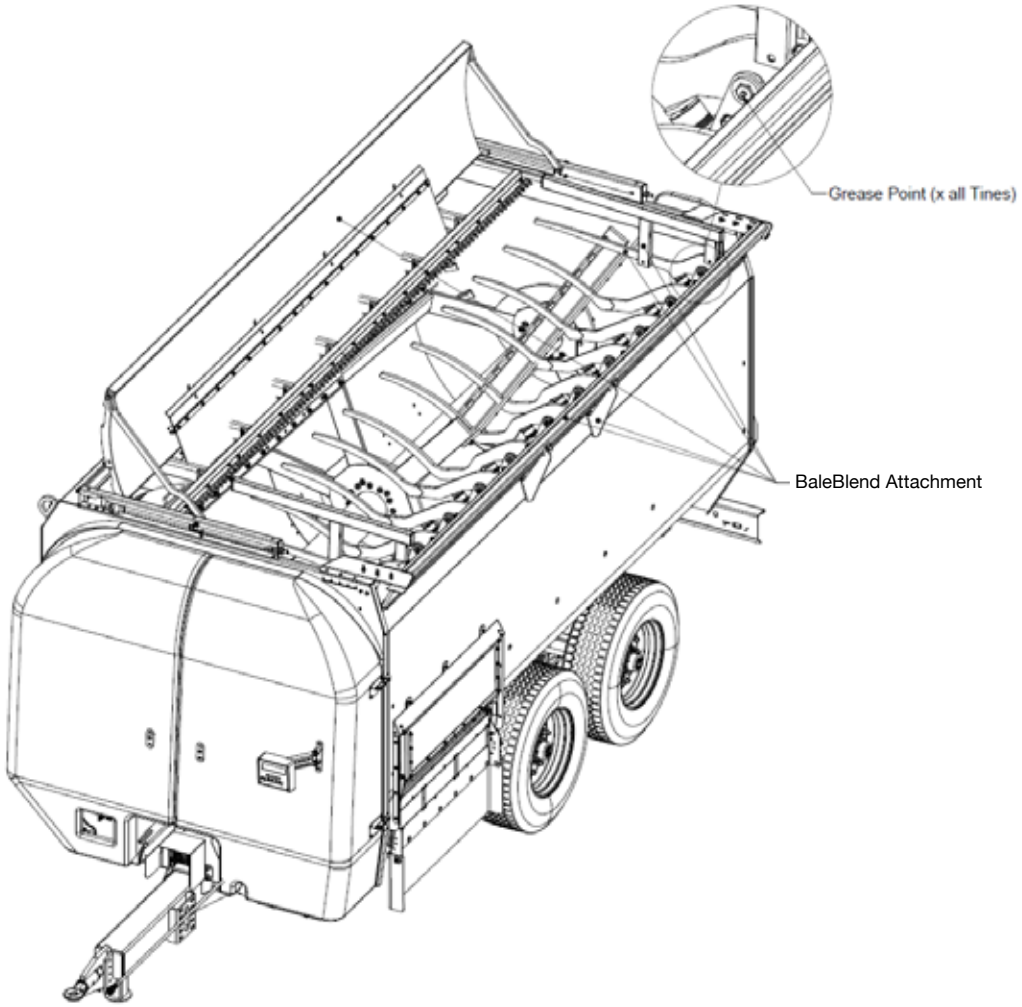


Figure 39: BaleBlend grease points

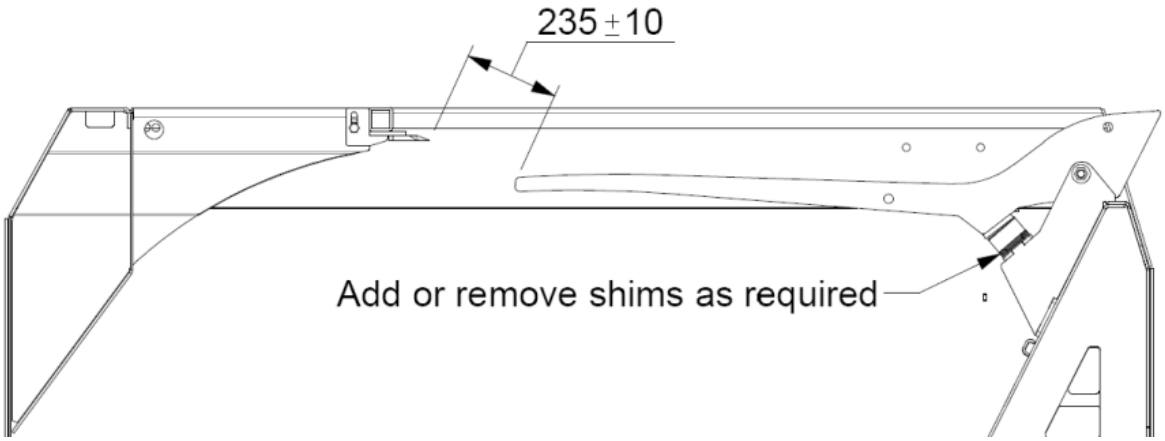


Figure 40: BaleBlend tine to top knife setting

6.9 Shear Bolts

The following are the recommended shear bolts to be used with the KEENAN MechFiber345 & MechFiber365.

Machine type	PTO Shaft	Shear Bolt	Colour Code
540rpm input	T60	M10 x 60 x 8.8	Red
1000rpm input	T50	M8 x 55 x 4.6	Green
Heavy Duty PTO Option (540rpm)	T80	M12 x 75 x 4.6	Red

Table 11: Shear bolt size & grade

CAUTION:
Failure to use the correct grade of shear bolt can result in overload failure of the machine and will invalidate your warranty.

6.10 Nuts And Bolts

1. After the first day, and regularly thereafter, inspect wheel nuts and tandem axle U-bolts (where fitted).
2. After the first week, and each week thereafter, check all nuts and bolts, including bearing nuts, for tightness.

General Torque

Stud/Bolt type	FT/LB	N.M
M22	335	450
M20	260	350
M18	200	270

Table 12: General torque for wheel studs

U-Bolt Diameter (mm)	Tightening Torque (Nm)
18	230
22	450
24	500
27	600

Table 13: Recommended torque for U-bolts for tandem axles (where fitted)

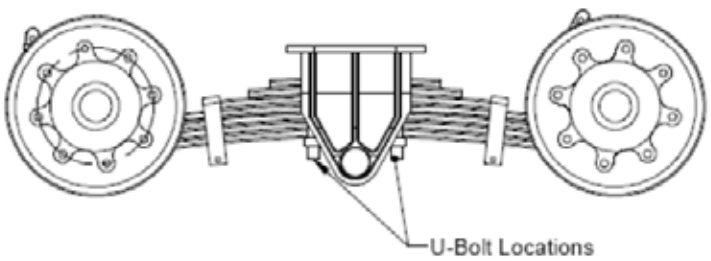


Figure 41: U-Bolt Position on Bogie

6.11 Tyres

1. Each week check the tyres for wear and damage.
2. Each week check the tyre pressures. Optimum tyre pressures are shown in Table 14.

This information is given as guidance. If in doubt please contact KEENAN service.

> △ **WARNING:**
> When refitting and re-inflating tyre/wheel assemblies, a safety cage should be used to prevent possible injury. Incorrectly fitted tyres are dangerous. Please make sure tyre repairs are carried out by experienced tyre fitters.

Type	Bar	PSI
305 / 55 R 22.5	7.0	110
285 / 70 R 19.5	8.5	125
385 / 55 R 22.5	9.0	132
385 / 65 R 22.5 (8 stud)	5.5	81
385 / 65 R 22.5 (10 stud)	9.0	132
445 / 45 R 19.5	9.0	132
445 / 65 R 22.5	9.0	132

Table 14: Tyre Pressure

6.12 Wheels

1. Each year lever off the hub cap, remove the split pin and castle nut and remove the hub.
2. Check seals, bearings, brake shoes, springs, studs, and all other internal parts.
3. Replace worn parts, re-grease and refit.

Note:
When re-fitting the wheels, tighten the castle nut until resistance is felt (do not over tighten). Release the castle nut 1/6 of a revolution, check for movement in the hub, and if none, re-fit the split pin.

Changing a wheel

- Park the mixer wagon on level ground and apply the handbrake.
- Fit chocks to opposite wheels to prevent machine movement during the operation. Loosen the wheel nuts with a wrench but do not remove the nuts at this stage.
- Jack up the mixer wagon underneath the axle until the bottom of the wheel is off the ground. Remove the nuts completely and slide off the wheel.
- Refit the wheel ensuring that the centre of the wheel is properly located on the hub and hand tighten wheel nuts.
- Lower the machine and tighten the nuts to the recommended torque using suitable equipment.
- Check the wheel nuts for tightness after 1 hour of use, repeating on a weekly basis.

6.13 Rear Feedout Elevator (Where Fitted)

An elevator system requires regular maintenance in order to achieve optimum performance. Every week the elevator needs to be checked to make sure that the belt is running straight and not wearing unevenly on one side. If the belt is not running straight then adjust the tension by adjusting the tensioner nut on the side and run again to check.

The elevator surface needs to be kept clean at all times in order to avoid feed building up and falling into the rollers during operation. Do not allow old feed to build up on the sides of the belt.

Each week ensure that the bearings are greased as per figure 42 below. Ensure that the elevator is free moving in each direction and there is no feed caught in the slideways. Replace belts and side rubbers when they become worn otherwise elevator will not function properly. Refer to the Rear Feedout Operator Manual Supplement for spare parts, maintenance and operation.

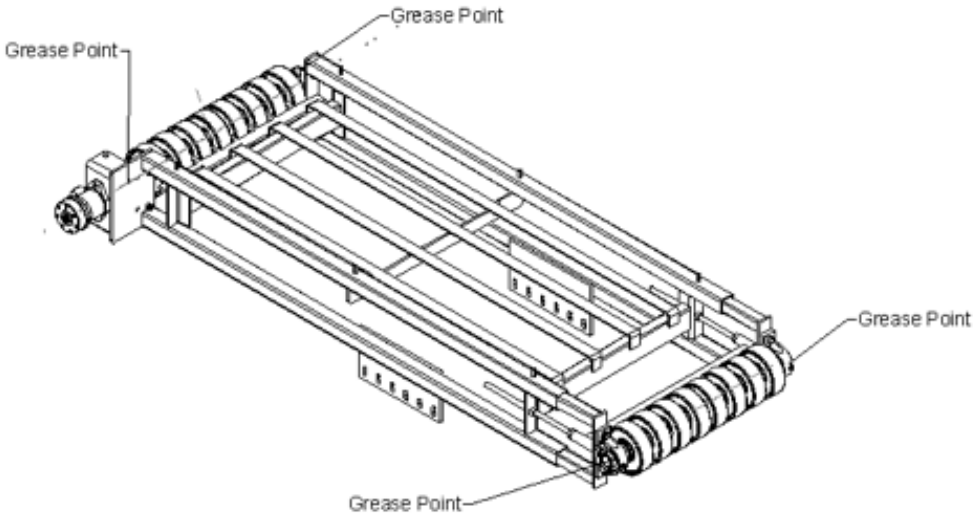


Figure 42: Rear feed out elevator grease point

6.14 Side & Stub Feedout Elevator (Where Fitted)

An elevator system requires regular maintenance in order to achieve optimum performance. Every week the elevator needs to be checked to make sure that the belt is running straight and not wearing unevenly on one side. If the belt is not running straight then adjust the tension by adjusting the tensioner nut on the side and run again to check.

The elevator surface needs to be kept clean at all times in order to avoid feed building up and falling into the rollers during operation. Do not allow old feed to build up on the sides of the belt.

Each week ensure that the bearings are greased as per figure 43 & 44 below. Ensure that the elevator is free moving in each direction and there is no feed caught in the slide ways.

Replace belts and side rubbers when they become worn otherwise elevator will not function properly.

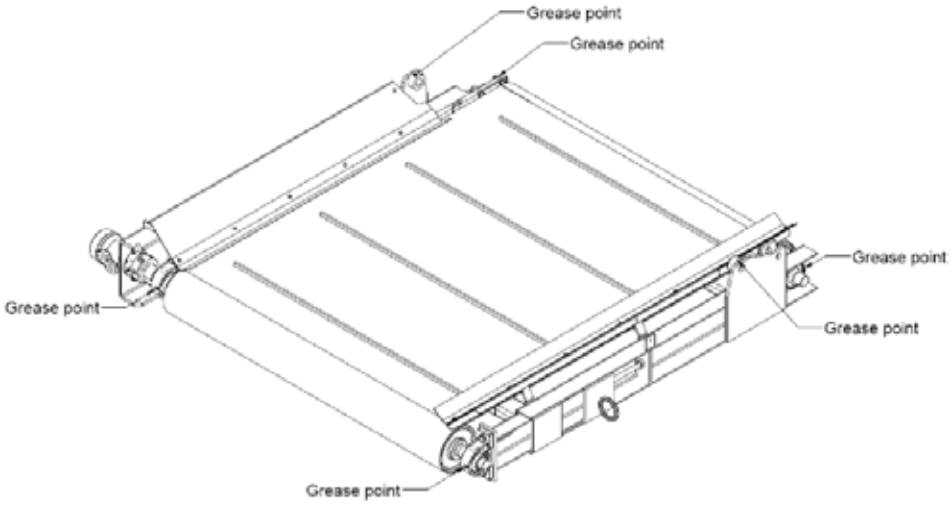


Figure 43: Side Elevator greasing points

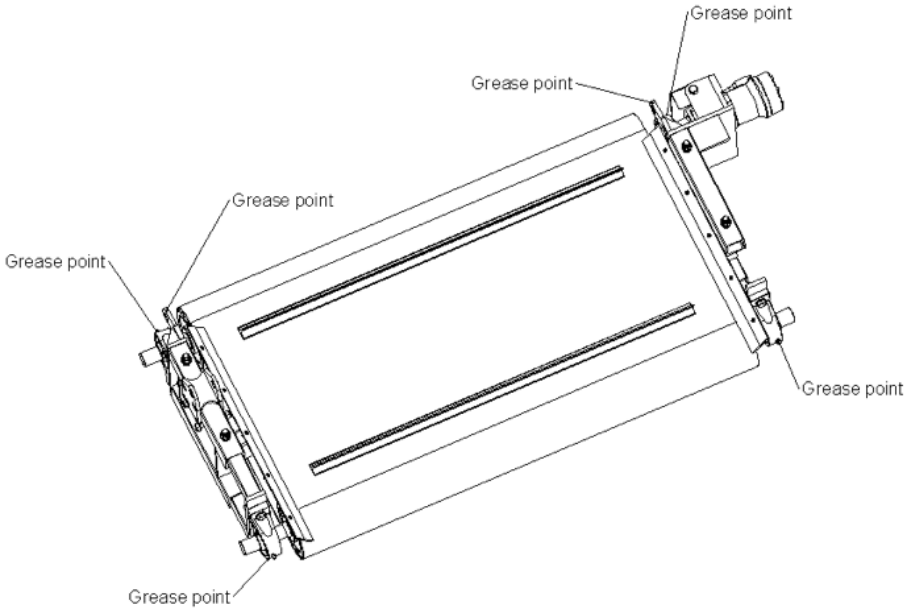


Figure 44: Stub Elevator greasing points

6.15 Axle Maintenance

Tightening and retightening wheel nuts

The following points should be followed for tightening and retightening of wheel nuts:

1. Impact wrenches should not be used as the impact torque maybe excessive.
2. Wheel nuts should be tightened diagonally every time in conjunction with a torque wrench.
3. In the case that power tools are only available, they must be set to the correct torque (check heading 6.10), as it may cause damage or breakage to occur due to over tightening.

The following periodical intervals should be taken to ensure nuts are correctly tightened after:

1. The first time of use.
2. The first laden journey.
3. The first 1000km.
4. Every six months thereafter or every 25,000km respectively.
5. Repeat every time a wheel is changed or removed (check how to safely remove a wheel heading 6.11)

Hubcap Maintenance

Hubcaps that become missing or damaged must be replaced immediately to avoid dirt penetrating into the hub, which can cause damage to the bearings.

Check hub caps are always in place, and that they are in a good condition.

If the hubcaps are a press fit, check visually they are fully home.
If the hubcaps are attached using screws, fit a new gasket if needed once the hubcap is removed.
Retighten the screws regularly every 6 months.

Bearing Play

The bearing play should be checked after

1. First 1,000km.
2. Before intensive use every 6 months or 25,000km.

Wheel bearings are subject to wear. Conditions which determine this are:

1. Operating conditions
2. The load
3. The Speed
4. Adjustment and lubrication.

Wheel bearings should be checked by:

1. Lift the wheel off the ground, and turn it slowly to check for any rough points or friction.
2. Turn it at a high speed to check for unusual noises such as grating or knocking.

If it is seen that there is damage or signs that the bearings are worn, both the bearings and the seals should all be replaced.

6.16 Machine Storage

At the end of the feeding season follow the steps below for machine storage: wash the machine down thoroughly preferably using a power washer. Grease or oil all lubrication points and open the drain bung on the bottom of the machine to evacuate any water inside the mixer.

1- Position the machine on a flat, solid and stable ground
2- Wash the machine down thoroughly preferably using a power washer
3- Retract the cylinder rods to protect them from moisture.
4- Repaint the areas where the paint is no longer present.
5- Lubricate according to the maintenance plan given in this manual
6- Place the machine onto axle stands to relieve the tires. Use standard support stand systems and secure to prevent any risk of accident due to unstable rigging.

CAUTION:
Lifting and support equipment accessories must be compliant and controlled in accordance with the regulations in force.

7. Troubleshooting

7.1 General Troubleshooting

PROBLEM:	SOLUTION:
1. Weighing display won't work properly	Check section 7.2 on weighing.
2. VFC door does not move	Check hydraulic hoses and that valves are open. Check tractor hydraulic oil level. Check ram condition and pins are secure.
3. VFC door drops during mixing	Insufficient hydraulic pressure – check spool valve on tractor or fit non return valve in line. Check ram for signs of leakage.
4. VFC door closes unevenly/sticks	Rams operating out of sequence – operate door to fully open position and hold level to allow oil by-pass the ram when fully open and level door – Repeat on fully closed, until door is even.
5. Excessive shear bolt breakage	Machine overloaded. Driving chain too loose – check condition and adjust idler springs. Feed out too fast – open feed out door slowly at first then open fully. Turn paddle a few turns before opening the feed-out door to avoid huge load on machine, especially after feed has settled in body of machine. Run machine slower. For non-BaleBlend models never load bales directly down on paddle in one go – always chop up into at least 4 pieces.
6. Noisy operation	Check drive system oil level Check & adjust chain tension Grease all tensioner pivot points Check chain alignment.
7. Feed is not mixed properly	Insufficient mixing time. Loading materials in wrong order. Not enough time given for chopping. Overloading of machine.
8. Feed out is too slow	Check condition of paddle rubbers. Slow down tractor ground speed. Reduce engine revs to give paddle more time to push material into auger. Ensure material is fully chopped before unloading.
9. Horsepower requirement is too high	Check body blades and top knife sharpness. Machine overloaded. BaleBlend tines may be set too low.
10. Machine is not chopping	Blades blunt. Not enough material in body – not heavy enough – try adding more material or in case of hay/straw add water or a fork of silage to weigh it down. Machine overloaded.

PROBLEM:	SOLUTION:
11: Machine breaks ASA160 link	Check chain alignment of large sprocket, Tolerance +/- 2 mm. Check chamfer on edge. Check roll pins used in joiner link. Check idler tension.
12: Bale goes in too quickly	If the bale goes into the machine too quickly, it may place unnecessary load on the tractor and drive line, as well as slowing overall mixing time as the body blades aren't as efficient at chopping long fibrous material as the top knife. Check tine buffers and tine to top knife gap.
13: Excessive hitch wear	If excess hitch wear is noted check: -Speed of use, hitch rated for 25 km/h maximum. -Hitch is level on tractor. -Fit of hitch & lubrication. -Wear on tractor hitch. -Check brake operation matches tractor brakes. -Excessive movement – not tight on pin/hitch.
14: Leaking valve chest (where fitted)	Check oil is only flowing from pressure "P" side to tank "T" side. Reverse pressuring the valve check will damage the seals. The addition of a one way valve on the return pipe will prevent this.
15: Blockage at top knife	On non-BaleBlend models, load smaller sections of material into machine On BaleBlend models check tine height settings Ensure all feed materials are free from foreign objects before loading into machine In the unlikely event of a large blockage occurring which prevents the machine from restarting using the tractor, it may be necessary to enter the mixing chamber to manually clear the blockage. Please refer to Section 4 – Safety, in particular point "u"
16: Blockage at auger	Use VFC door to meter material intake into auger Refer to section 5.6 – Feeding Out for correct operation of VFC door In the unlikely event of a large blockage occurring which prevents the machine from restarting using the tractor, it may be necessary to enter the mixing chamber to manually clear the blockage. Please refer to Section 4 – Safety, in particular points "u"
17: Blockage at Rear Feed-out conveyor	Use VFC door to meter material intake into auger Refer to section 5.6 – Feeding Out for correct operation of VFC door Ensure the conveyor belt rotates as VFC is opened Check setting of priority flow valve (if fitted) In the unlikely event of a large blockage occurring which prevents the machine from restarting using the tractor, it may be necessary to enter the mixing chamber or gain access to the discharge auger chamber to manually clear the blockage. Please refer to Section 4 – Safety, in particular point "u"

7.2 Weighing Troubleshooting

KEENAN troubleshooting tips on weighing

If you experience problems in the operation of the Weighing System, read through this Troubleshooting section first before contacting KEENAN Service.

Reading Drifting

If the reading on the weighbox is drifting or does not stay steady, the most likely cause of the problem is dampness/moisture in or around the weighbox or cables. Please follow these steps to locate and correct the problem.

- Disconnect the cables on the weighbox. Ensure they are labelled correctly for reconnection. Check both the plug on the cable and the connector on the weighbox for dampness and/or corrosion of the terminals. If any dampness is found dry it off thoroughly with a hair drier. If corrosion is found on the terminals then clean thoroughly with electrical cleaner & dry. Reconnect cable and test.

- Check for loose wiring or dampness. Some machines are fitted with a junction box. The procedure as detailed above applies.

- Check weighcell plugs for dampness and also check weighcell cables for any breaks and/or dampness.

If the above measures do not rectify the problem then contact KEENAN Service for further assistance.

System Weighing Inaccurately

If the machine is new or the weighbox has been replaced it is possible that the weighbox may have the incorrect calibration code for the model. Contact KEENAN service who can go through the procedure to check (or alter) the code.

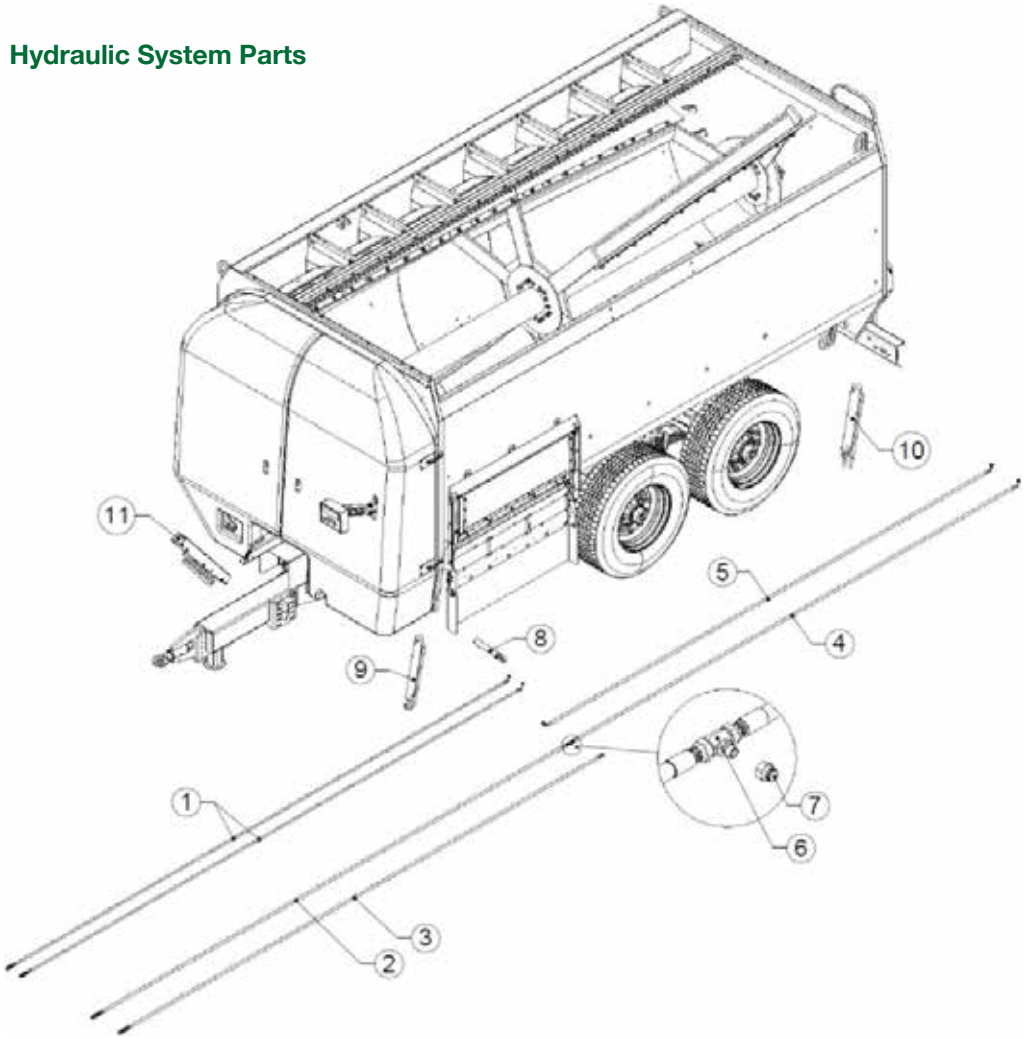
If you suspect that the system is weighing inaccurately, check all four weighcells to make sure that they are mounted correctly. If the bolt through the weighcell has come loose or broken, the weigh cell can rotate resulting in that weighcell giving an inaccurate reading. To check that the system is weighing correctly, get some known weight (e.g. a bag of fertilizer) and place it on each corner of the machine in turn. You should get the same reading for each corner. If one corner returns a significantly different reading from the other three then this points to a faulty weighcell on that corner. Also, if receiving a negative reading, it would indicate that the weighcell is upside down – rotate it 180° and repeat the test.

Weighbox will not switch ON

Check the power cable thoroughly and make certain that you are getting power from the tractor to the display. Unscrew the power cable from the weighbox and ensure there is a good 10 to 13 volt supply across the internal pins of the cable. If the negative (-) and positive (+) are wired the wrong way around, the weighbox will not switch on [Dinamica Generale weighboxes power cable - white (+) & black (-)].

8. Parts List

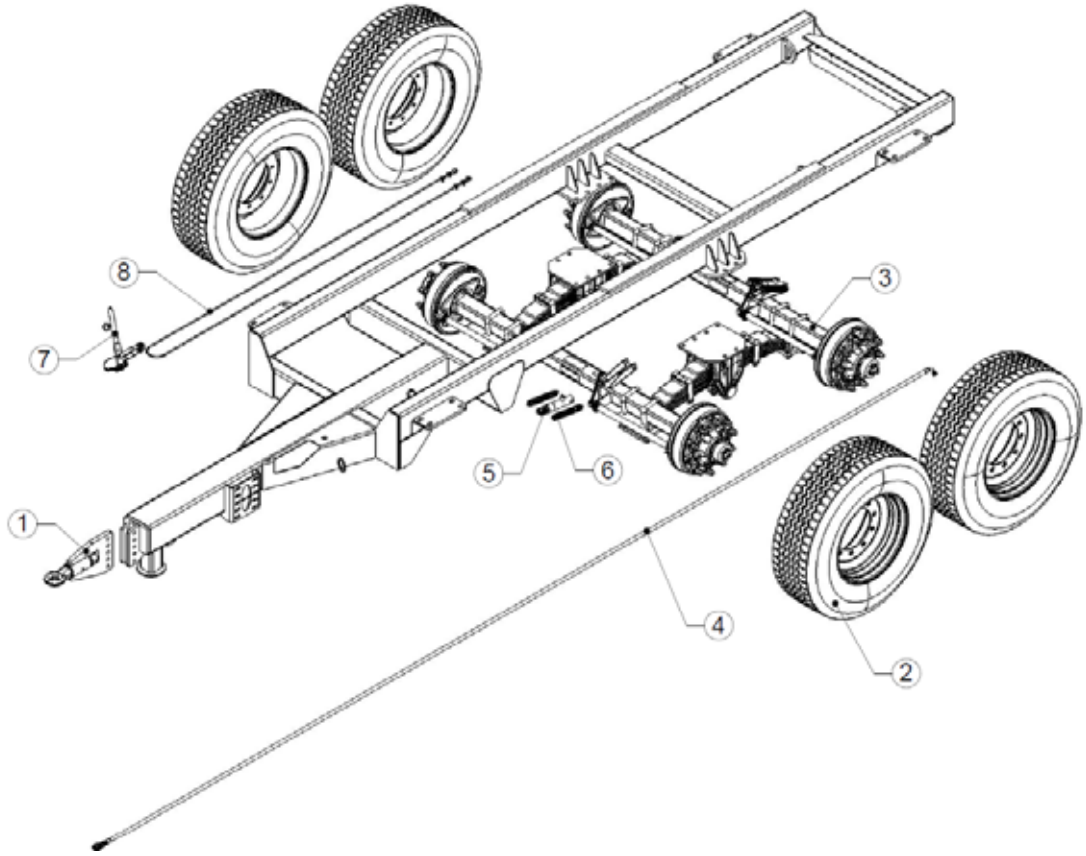
8.1 Hydraulic System Parts

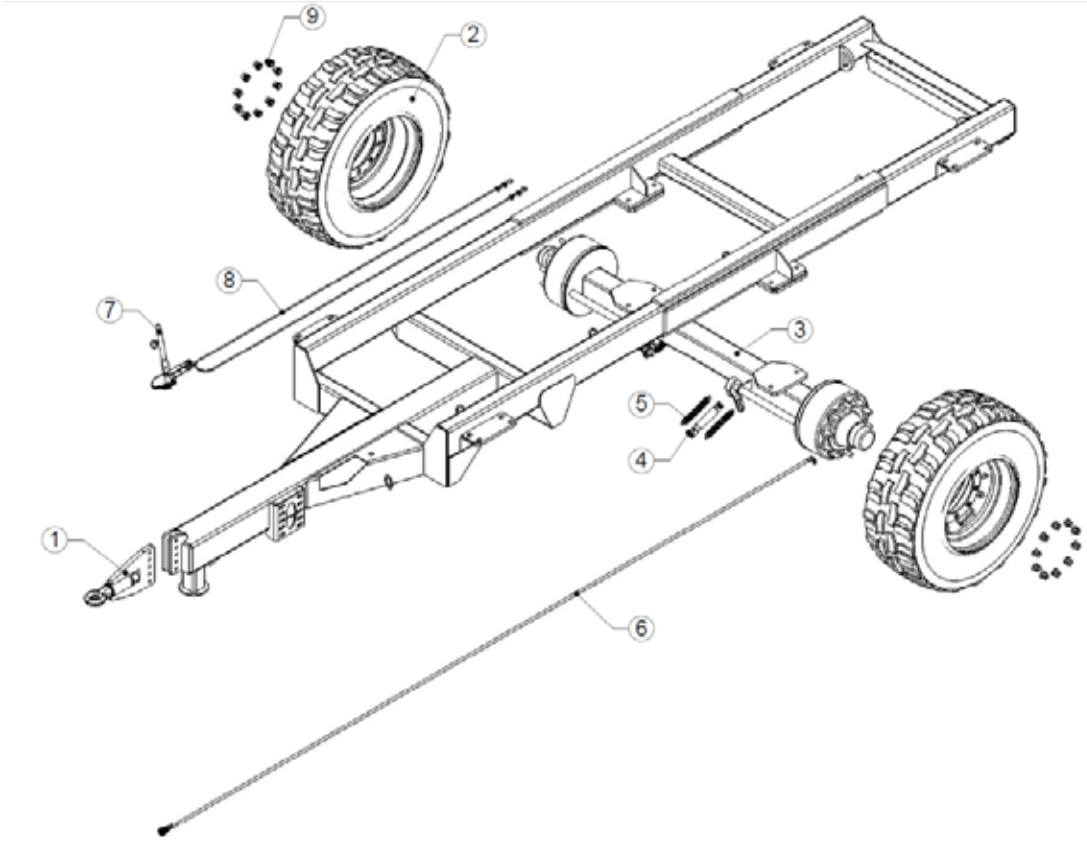


Item:	P/N:		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	702106	702106	2	Hydraulic feed-out tray hose assembly – 5502mm
2	704916	704916	1	Tractor to VFC door hydraulic hose assembly
3	705807	705807	1	Tractor to T-Connector hydraulic hose assembly
4	705808	705810	1	T-Connector to VFC door hydraulic hose assembly
5	701510	701513	1	VFC Door Ram to VFC door Ram hydraulic hose
6	705806	705806	1	T-Connector
7	705812	705812	1	1/4" BSP female hydraulic cap
8	703591	703591		Feed-out Tray Hydraulic Ram (Keen 63)
9	704955	704955		VFC Door Front Ram (Keen 52)
10	704954	704954		VFC Door Rear Ram (Keen 51)
11	FP160-001-0095	FP160-001-0095	1	Hydraulic hose holder assembly

Table 15: Hydraulic system

8.2 Chassis Parts





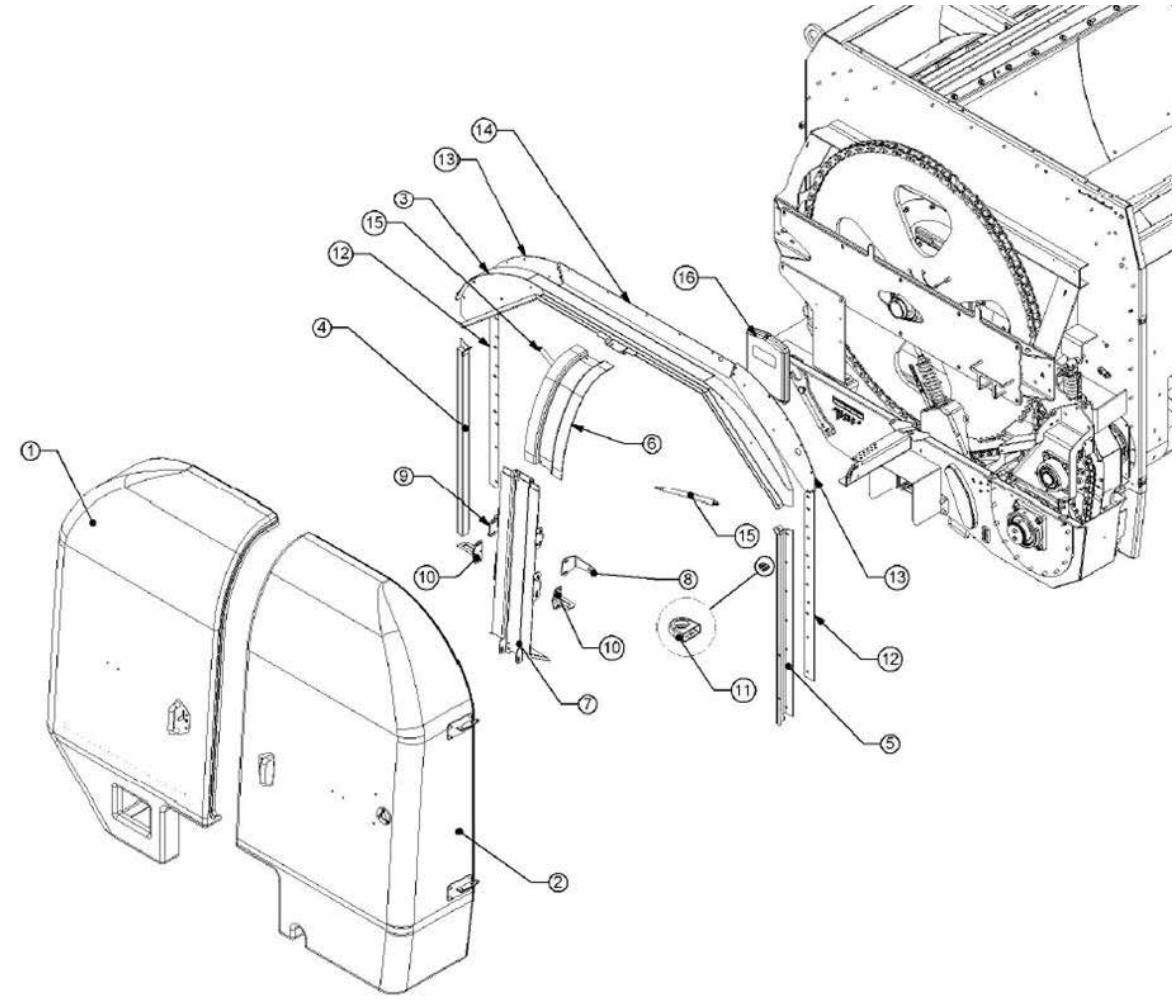
Item:	P/N:		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	FP170-001-0097	FP170-001-0097	2	Hitch Eye Assembly
2	701952	701952	1	385/65 R 22.5 Wheel & Tyre assembly
	703934	703934	1	385/55 R 22.5 Wheel & Tyre assembly
	704570	704570	1	305/55 R 22.5 Wheel & Tyre assembly
	702879	702879	1	285/70 R 19.5 Wheel & Tyre assembly
	703860	703860	1	445/65 R 22.5 Wheel & Tyre assembly
	702817	702817	1	445/45 R 22.5 Wheel & Tyre assembly
3	703718	703718	1	16.5T Bogie c/w 2200mm wide 10-Stud Axles
	N/A	703063	1	2250mm wide x 140mm straight single axle
	N/A	703667	1	2400mm wide x 140mm cranked single axle
4	702105	702105	1	Brake hose assembly
5	704584	704584	2/4	Brake ram assembly
6	704586	704586	2/4	Brake ram return spring
7	704441	704441	1	Handbrake ratchet assembly
8	702502	702502	1	Handbrake cable
9	700306	700306	20/40	M22 Wheel Nut

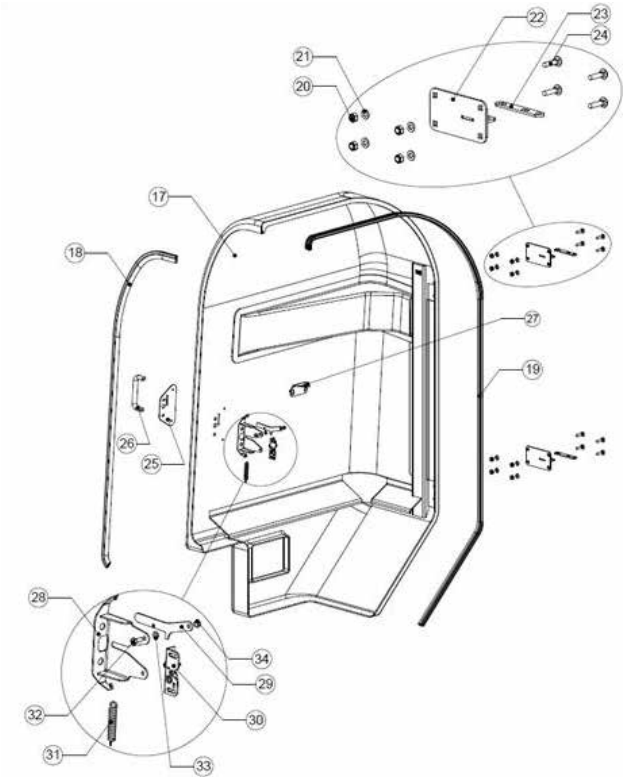
Table 16: Chassis

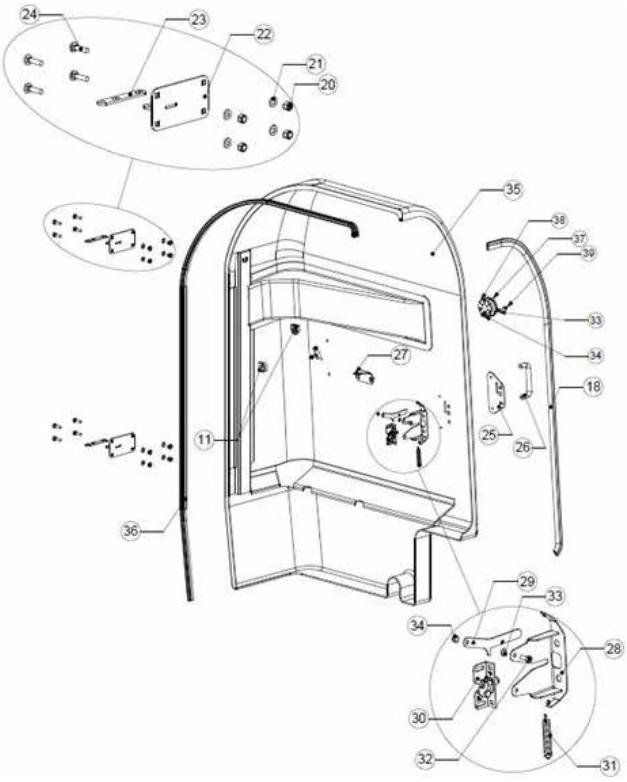
Optional Parts (Not Shown)			
Hydraulic Jacks	FP170-001-0006	1	Hydraulic Jack, Single Acting
	704289	1	Hydraulic Jack, Double Acting
	702044	1	Mechanical Jack, Side Winding, US Option. 10,000Lb
Hydraulic Jack Brackets	EF2033-12	1	Hydraulic Jack Mounting Bracket
	FP160-001-0070	1	Heavy Duty Hydraulic Jack Mounting Bracket
	FP160-001-0078	1	Low Option Hydraulic Jack Mounting Bracket
	704288-2	1	Double Acting Hydraulic Jack Mounting Bracket
	EF1033-14	1	Sidewinding Jack Mounting Bracket
Hitches	FP160-001-0119	1	Swivel Hitch Assembly (60mm offset)
	FP170-001-0197	1	Swivel Hitch Assembly (100mm offset)
	FP170-001-0171	1	Swivel Hitch Assembly (Additional Hole)
Bushes	704154	1	Towing Eye Bush, 32.5mm ID
	702324	1	Towing Eye Bush, 30mm ID

Table 17: Chassis Optional Parts

8.3 Front Cover Parts



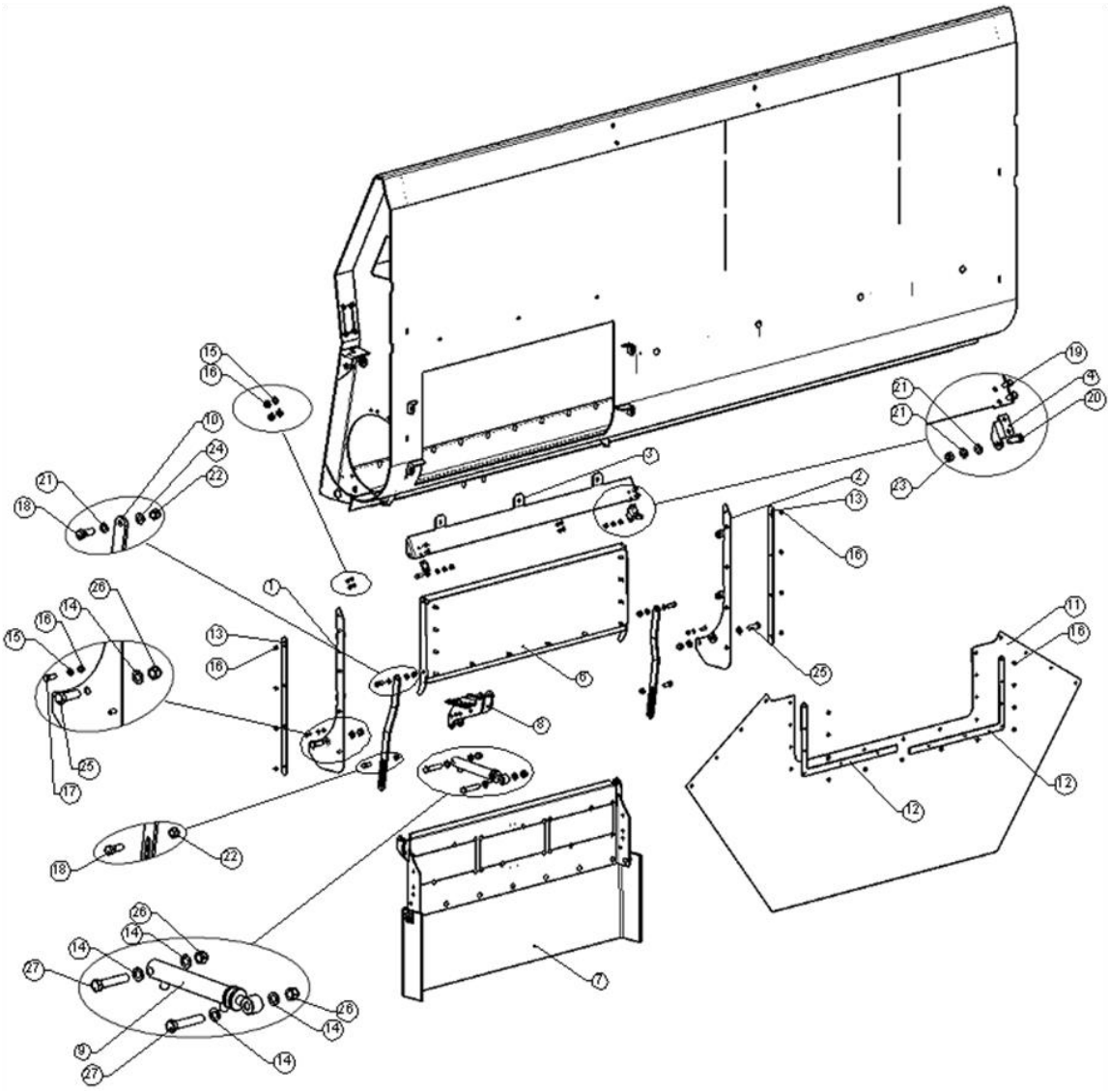


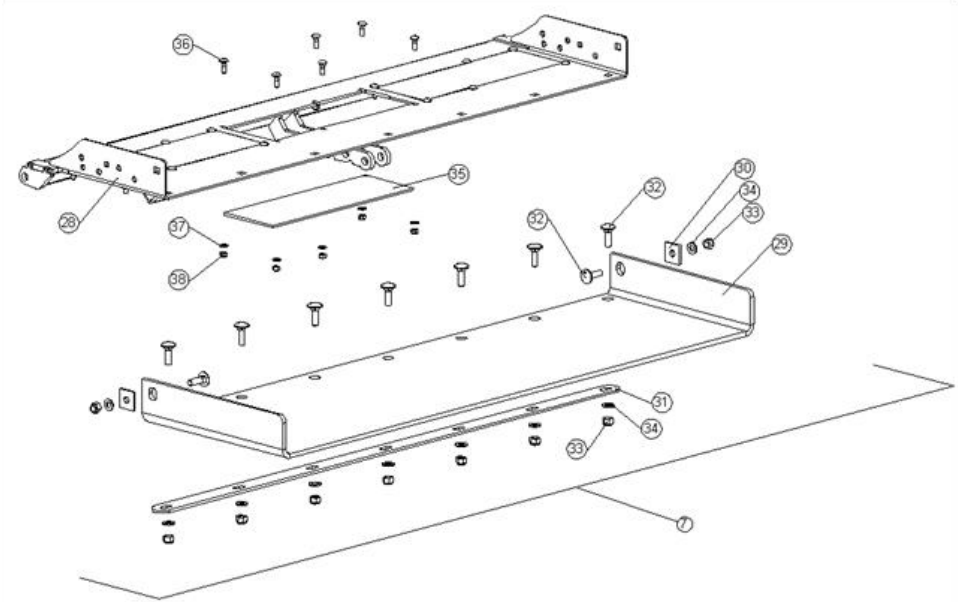


Item:	P/N:	Qty:	Description:
1	FP200-038-0033	1	Right Side Cover Assembly 2
2	FP200-037-0085	1	Left Side Cover Assembly 2
3	FP200-002-0137	1	Front panel curved rain channel assembly - top section
4	FP200-002-0099	1	Front panel rain channel assembly - right side
5	FP200-002-0100	1	Front panel rain channel assembly - left side
6	FP200-048-0284	1	Centre Channel Curved
7	FP200-048-0281	1	Front cover central channel assembly
8	FP200-048-0287	1	Front cover central channel left side brace plate
9	FP200-048-0286	1	Front cover central channel right side brace plate
10	FP200-048-0244	2	Camlock Striker Plate Assembly
11	705826	3	Adaptaflex Conduit clip 28mm
12	FP200-037-0100	2	Front Panel Vertical 3mm Rain Channel Gasket
13	FP200-037-0099	2	Front Panel Side Section 3mm Rain Channel Gasket
14	FP200-037-0101	1	Front Panel Horizontal 3mm Rain Channel Gasket
15	706101	2	Gas Strut CA102911 (600mm open, 200N, 250 Stroke)
16	706086	1	A4 Flat Document Box
17	FP200-038-0032	1	MF345/365 GRP front cover (Left side)
18	FP200-037-0097	2	MF345 & MF365 Front cover inner seal
19	FP200-038-0034	1	MF345 & MF365 Front cover outer seal (Right Side)
20	700241	16	M10 Locknut
21	700729	16	M10 flat washer
22	FP200-037-0064	4	Front cover hinge mount assembly
23	FP380-037-0057	4	GRP hinge adjustment plate
24	700251	16	M10 x 40 Cuphead bolt
25	FP200-037-0095	2	Camlock Outer Plate
26	701363	2	Handle
27	FP200-037-0113	2	Gas Strut Outer Mounting Bracket
28	FP200-037-0093	2	Camlock Mounting Bracket
29	FP200-037-0094	2	Secondary Fail Safe Latch
30	706015	2	Fibreglass Door Camlock Unit
31	701277	2	3" Spring
32	700208	2	M8 x 20mm Setscrew
33	700736	8	M8 flat washer
34	700223	5	M8 Locknut
35	FP200-037-0084	1	MF345/365 GRP front cover (Right side)
36	FP200-037-0096	1	MF345 & MF365 Front cover outer seal
37	FP200-037-0115	1	Weighing Cable Gland Seal Outer Retainer
38	FP200-037-0114	1	Weighing Cable Gland Seal (7 Hole)
39	700214	3	M8 x 40mm Setscrew (8.8 Grade)

Table 18: Front covers

8.4 Standard Feedout Tray Parts

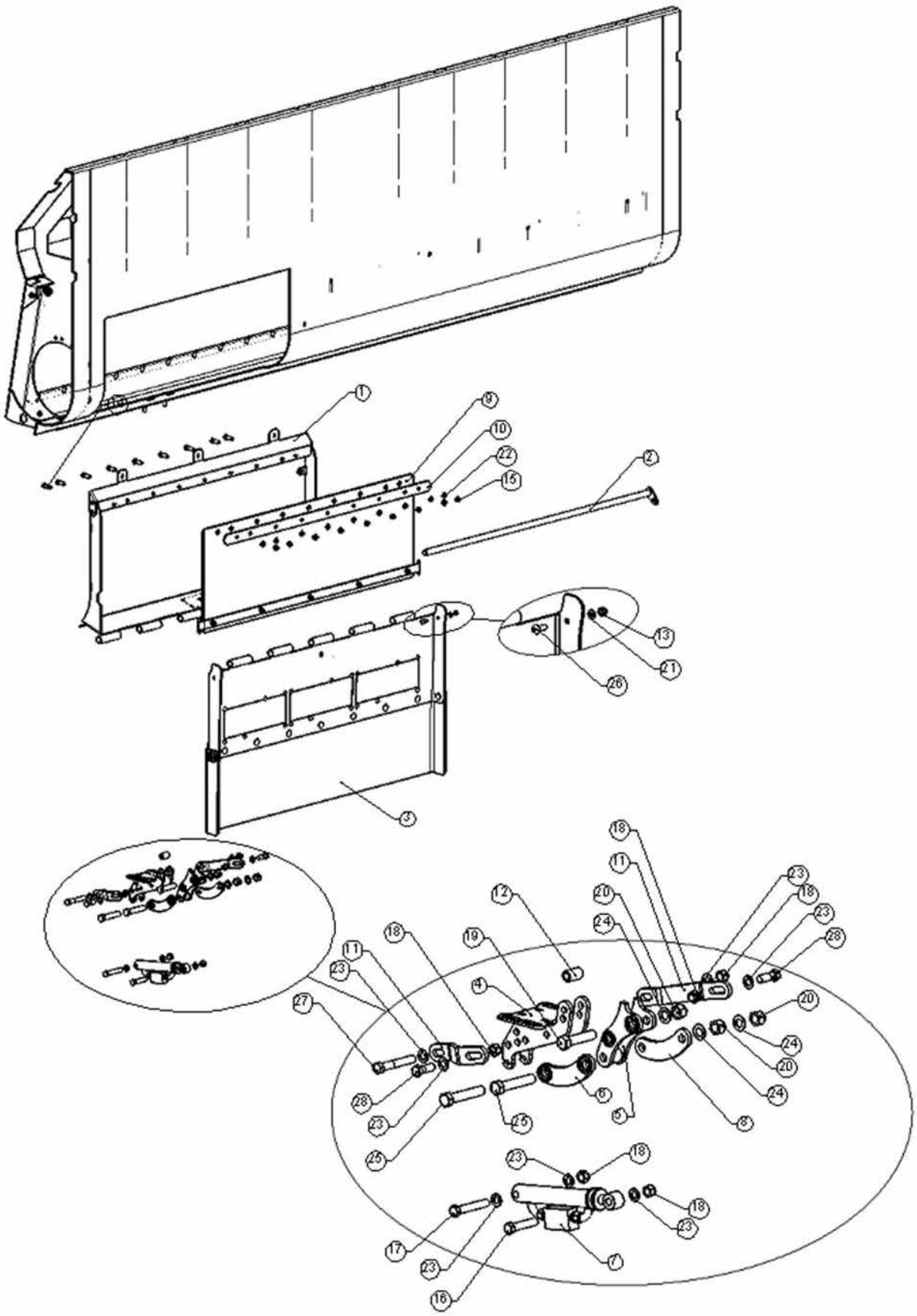


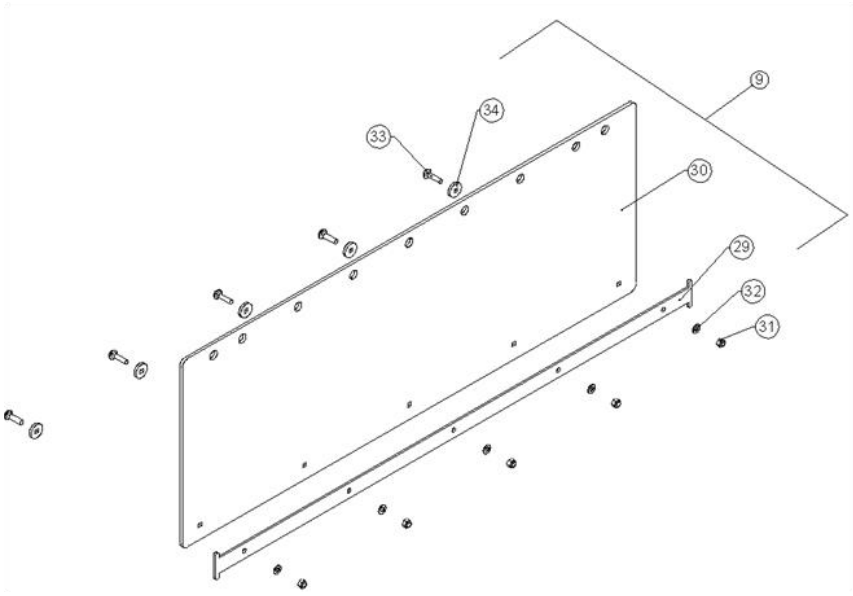


Item:	P/N:	Qty:	Description:
1	FP160-006-0429	1	Feed Out Shroud Front Side Plate Assembly
2	FP160-006-0430	1	Feed Out Shroud Rear Side Plate Assembly
3	FP160-006-0432	1	Feed Out Shroud Top Plate
4	FP160-006-0088	1	Hinge Bracket, Feed Out Door RHS
5	FP160-006-0087	1	Hinge Bracket, Feed Out Door LHS
6	FP160-006-0090	1	Feed Out Door Assembly
7	FP160-006-0123	1	Tray Assembly with Rubber Extension (Standard)
8	FP160-006-0044	1	Feed Out Tray Ram mounting plate assembly
9	703591	1	6” Stroke Hydraulic Ram (KEEN-63)
10	FP080-006-0012	2	Feed Out Door Link Arm
11	FP160-006-0072	1	Feed Out Rubber Shroud, Rubber Curtain
12	FP300-006-0095	2	Feed Out Door Shroud Retainer
13	FP300-006-0096	2	Feed Out Door Shroud Side Retainer
14	700732	7	M16 Flat Washer
15	700736	6	M8 Flat Washer
16	700223	26	M8 NyLock Nut
17	700210	2	M8 x 25 Set Screw (HT)
18	700249	4	M12 x 35 Set Screw
19	700208	4	M8 x 20 Set Screw
20	702111	2	M10 x 30 Set Screw
21	700729	6	M10 Flat Washer
22	700266	4	M12 Lock Nut
23	700241	2	M10 Lock Nut
24	700730	2	M12 Flat Washer
25	700275	2	M16 x 50 Bolt
26	700283	4	M16 Lock Nut
27	700281	2	M16 x 90 Bolt
28	FP160-006-0124	1	Feed-Out Tray Assembly (Standard)
29	701403	1	Feed Out Rubber Extension (Standard)
30	EF106-79	2	Feed Out Tray Side Rubber Retainer
31	FP160-006-0224	1	Rubber Retainer
32	705405	9	M12 x 40 Cup Head Bolt
33	700266	9	M12 Lock Nut
34	700730	9	M12 Flat Washer
35	FP160-006-0270	3	Tray Magnet Hole Blanking Plate (Standard)
35a	701366	3	Magnet Plate (OE)
36	702256	18	M8 x 25 Cup Head Bolt
37	700736	18	M8 Flat Washer
38	700223	18	M8 Nylock Nut

Table 19: Feed Out Tray details (Both MechFiber345 & MechFiber365)

8.5 Fold Down Tray Parts (Optional Extra Option)

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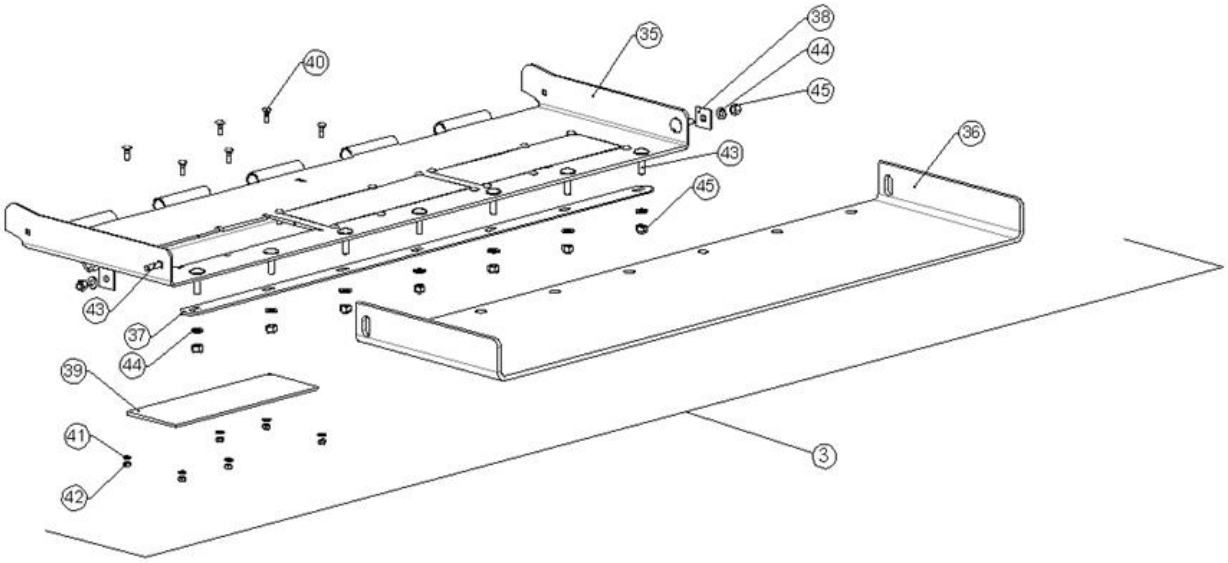
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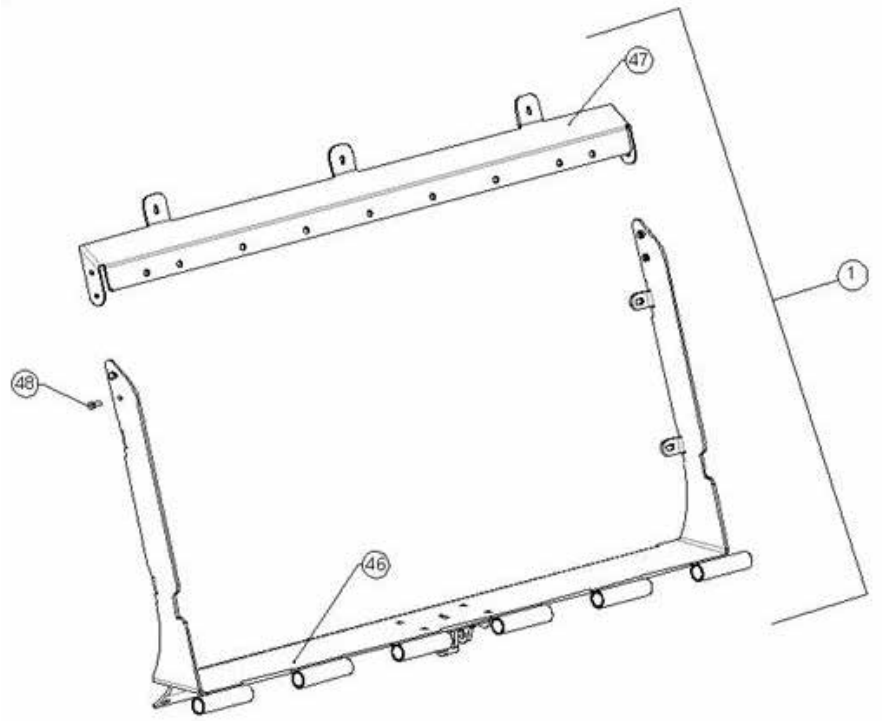
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Item:	P/N:	Qty:	Description:
1	FP160-006-0417	1	Fold Down Tray Shelf Assembly
2	FP170-006-0182	1	Fold Down Tray Hinge Bar Assembly
3	FP170-006-0191	1	Fold Down Tray Assembly & Rubber
4	FP160-006-0044	1	Fold Down Tray Mounting Plate Assembly
5	FP170-006-0162	1	Fold Down Tray Inner Link Arm Assembly
6	FP200-006-0340	1	Fold Down Tray Outer Link Arm Assembly
7	705268	1	6” Ram Assembly with Check Valve (KEEN-63SP)
8	FP200-006-0332	1	Fold Down Tray Outer Link Arm -127mm Centres
9	FP160-006-0427	1	Feed Out Shroud Rubber Assembly
10	FP160-006-0061	1	Rubber Retainer 1400mm Wide
11	FP160-006-0420	2	Fold Down Tray Shelf to Auger Chamber Tie Plate
12	FP170-006-0156	1	Feed Out Tray Ram Bracket Spacer Bush
13	700241	1	M10 Lock Nut
14	700250	9	M12 x 40 Set Screw
15	700266	9	M12 Lock Nut
16	700280	1	M16 x 80 Bolt
17	700268	1	M16 x 100 Bolt
18	700283	5	M16 Lock Nut
19	700302	1	M20 x 90 Bolt HT
20	700305	3	M20 Nylock Nut
21	700729	1	M12 Locknut
22	700730	18	M12 Flat Washer
23	700732	7	M16 Flat Washer
24	700733	3	M20 Flat Washer
25	701488	2	M20 x 110 Bolt HT
26	700226	1	M10 x 30 Cup Head Bolt
27	700269	1	M16 x 110 Bolt
28	700274	2	M16 x 45 Bolt
29	FP170-006-0187	1	Feed Out Shroud Rubber Lower Retainer Plate
30	FP160-006-0422	1	Feed Out Shroud Rubber
31	700241	5	M10 Lock Nut
32	700729	5	M10 Flat Washer
33	700251	5	M10 x 40 Cup Head Bolt
34	FP170-006-0188	5	Retainer Plate Washer
35	FP170-006-0178	1	Fold Down Tray Assembly
36	FP170-006-0186	1	Fold Down Tray Rubber Extension
37	FP160-006-0224	1	Rubber Retainer
38	EF106-79	2	Side Rubber Retainer Plate
39	FP160-006-0272	3	Tray Magnet Hole Blanking Plate (Standard)

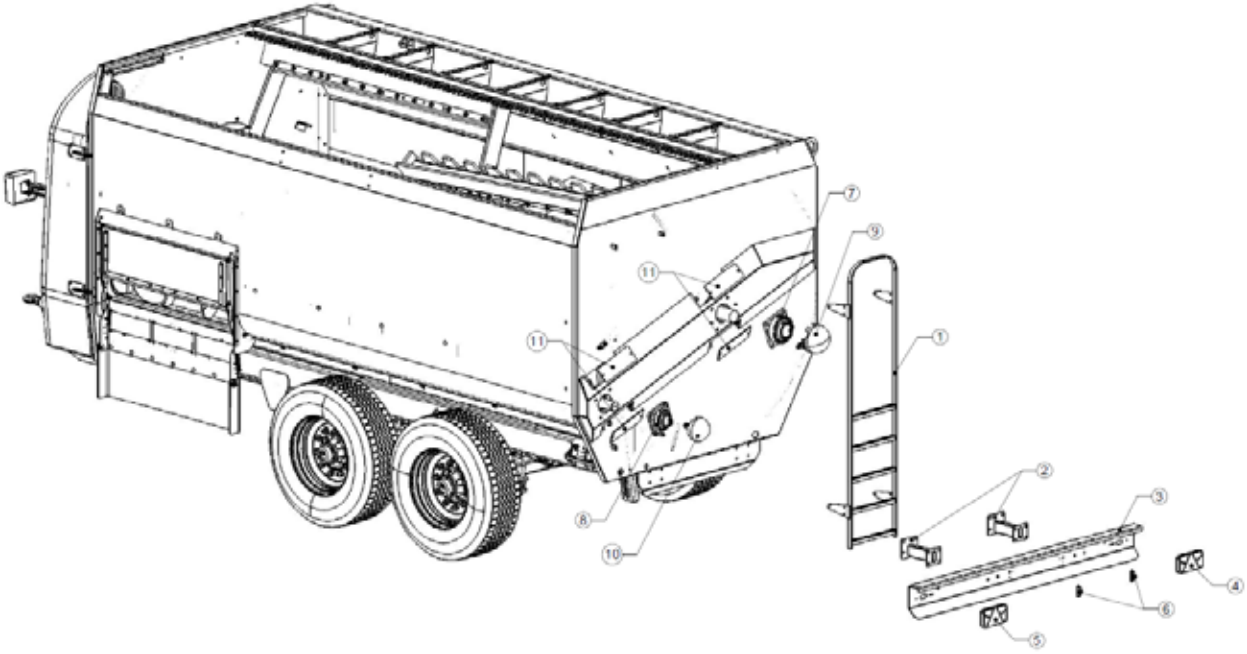
Item:	P/N:	Qty:	Description:
39a	701366	3	Magnet Plate (OE)
40	700212	18	M8 x 30 Bolt
41	700736	18	M8 Flat Washer
42	700223	18	M8 Nylock Nut
43	702500	9	M12 x 45 Cup Head Bolt
44	700730	9	M12 Flat Washer
45	700266	9	M12 Lock Nut
46	FP160-006-0418	1	Fold Down Tray Shelf Assembly
47	FP160-006-0421	1	Fold Down Tray Shelf Top Plate
48	700208	4	M8 x 20 Set Screw
49	700223	4	M8 Nylock Nut

Table 20: Feed Out Tray details (Both MechFiber345 & MechFiber365)

Note:
Complete Fold-Down-Tray Kit (Standard) P/N FP160-006-0416
Complete Fold-Down-Tray Kit (OE-100) P/N FP160-006-0423

Fold-Down-Tray can be supplied with the Magnet Assembly P/N FP170-006-0177

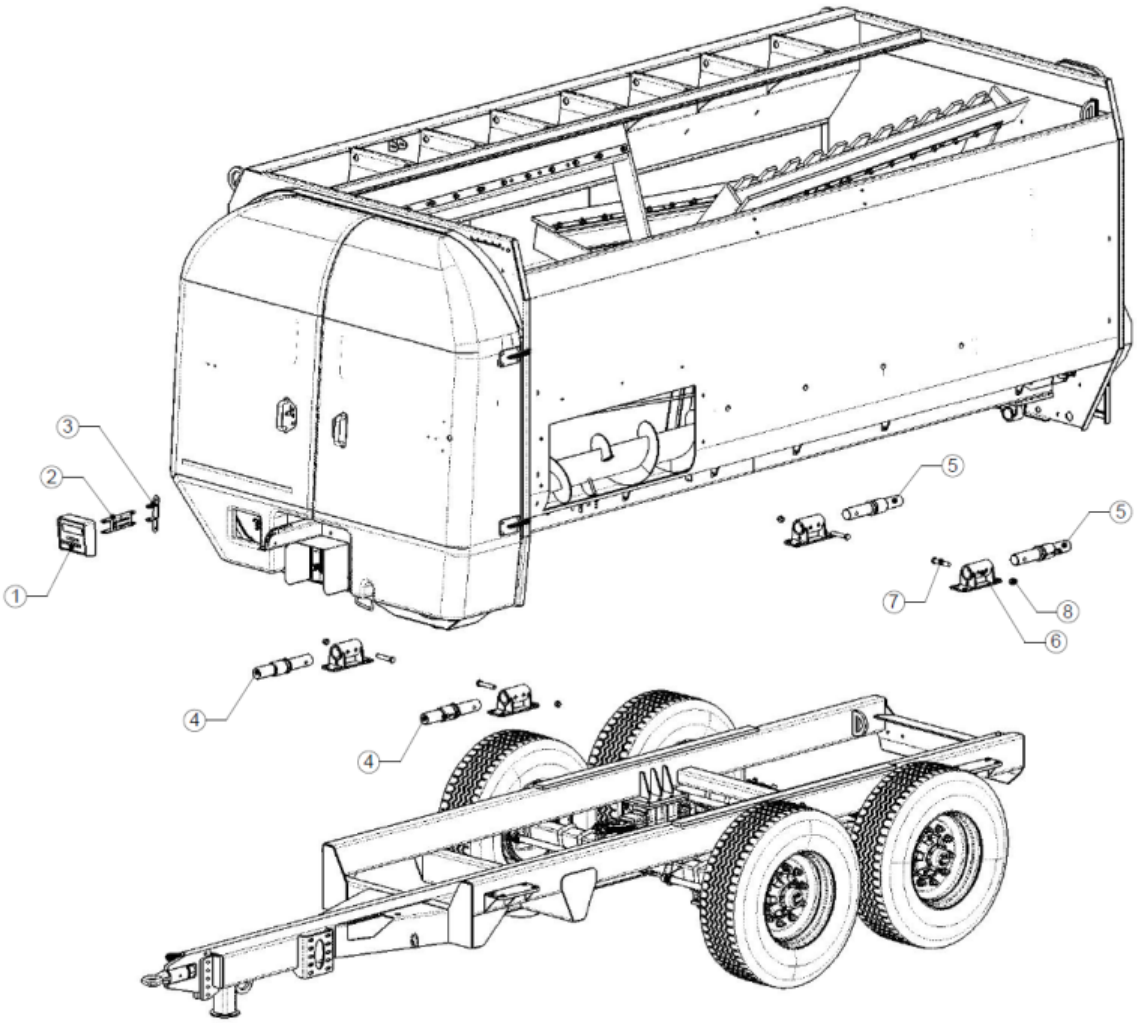
8.6 Rear Parts



Item:	P/N:	Qty:	Description:
1	FP160-013-0001	1	Viewing ladder
2	FP160-001-0326	2	Bumper bar mounting arm assembly
3	FP200-001-0324	1	Bumper bar
4	706006	1	Rear LED Light cluster (Right Side)
5	706005	1	Rear LED Light cluster (Left Side)
6	705879	2	LED Licence Plate Light
7	702294	1	UCF X18 90mm Bearing Assembly
8	700842	1	UCF X14 70mm Bearing Assembly
9	701274	1	Rear Rotor Bearing Cover
10	701273	1	Rear Auger Bearing Cover
11	FP160-003-0015	1	Rear bearing access slot cover plate

Table 21: Rear Parts

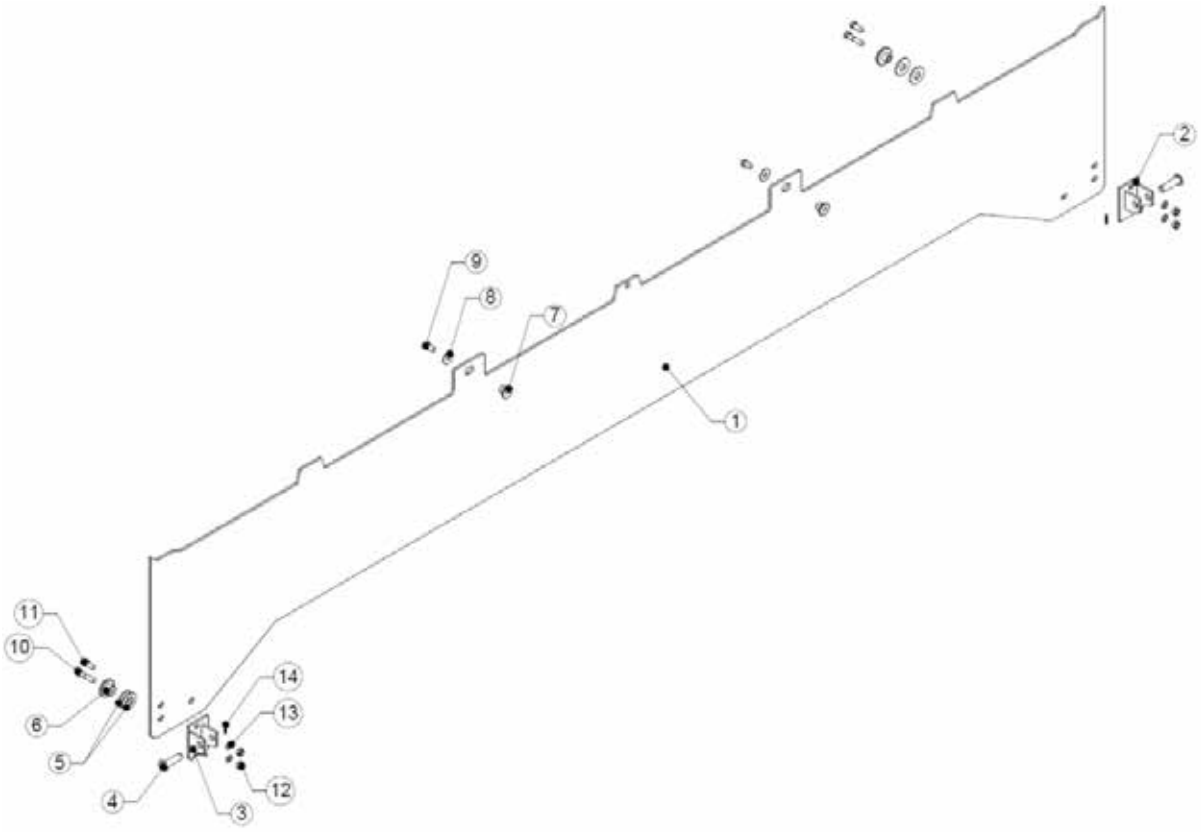
8.7 Weighing System



Item:	P/N:	Qty:	Description:
1	703353	1	Weight display box
2	EF102-115	1	Weight display box pivot arm
3	FP380-037-0082	1	Weight display box mounting bracket
4	704140	2	Weigh cell - 2 1/2" dia - 5.2m cable (DG 969-0076)
5	704141	2	Weigh cell - 2 1/2" dia – 10.7m cable (DG 969-0077)
6	EF201-12	4	Weighbar bracket assembly
7	701496	4	M20 x 120mm bolt (8.8 grade)
8	700305	4	M20 Locknut

Table 22: Weighing System

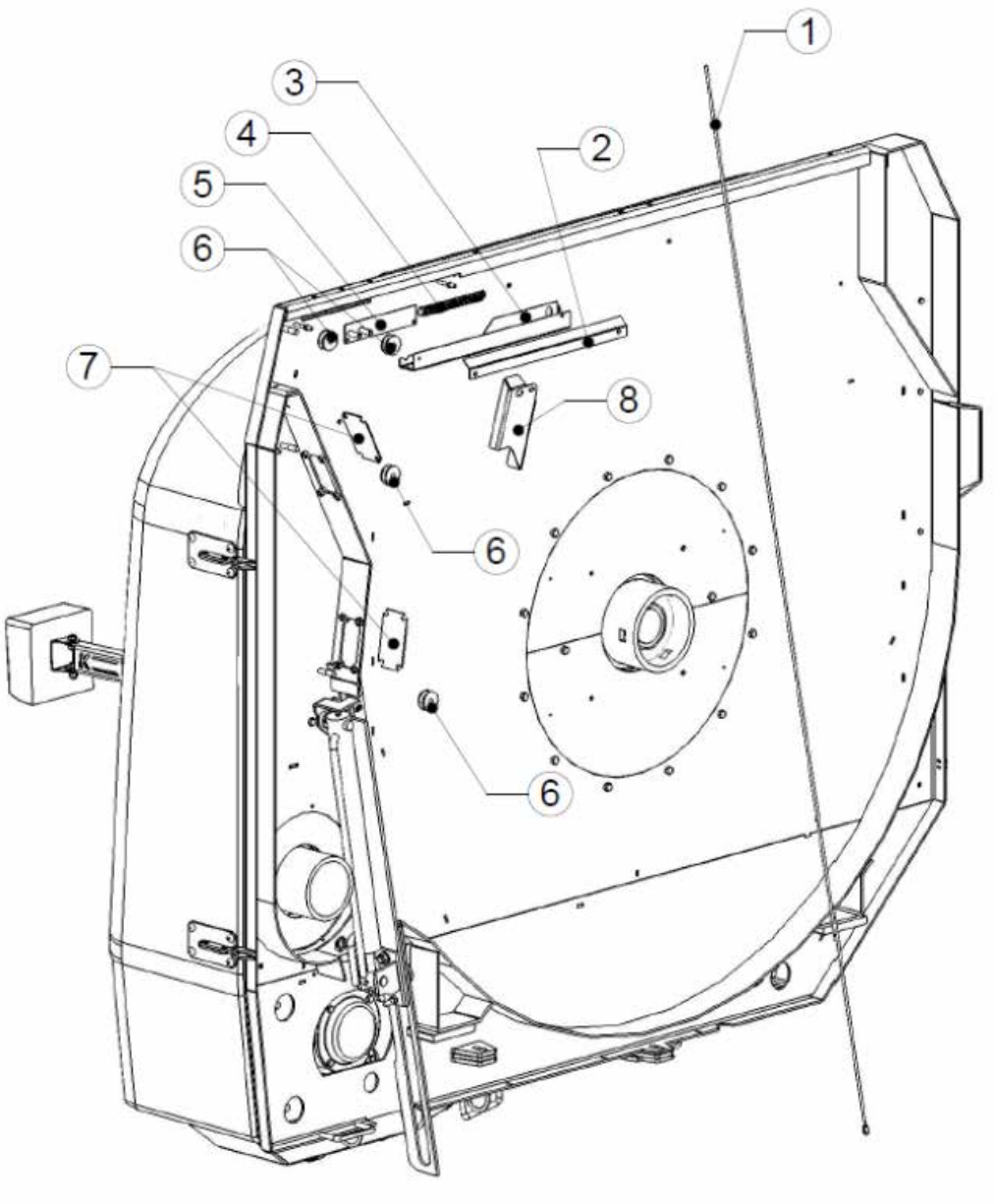
8.8 VFC-Door Parts



Item:	P/N:		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	FP160-010-0001	FP200-010-0102	1	VFC Door Plate
2	FP160-010-0006	FP160-010-0006	1	VFC Door rear ram bracket assembly
3	FP160-010-0005	FP160-010-0005	1	VFC Door rear ram bracket assembly
4	701591	701591	2	VFC Door Lower Ram Pin Assembly
5	FP160-010-0015	FP160-010-0015	4	VFC door front end guide collar wear washer
6	FP160-010-0014	FP160-010-0014	2	VFC door front end guide collar
7	701504	701504	2	VFC door centre stepped collar
8	702453	702453	2	17mm ID x 50mm OD x 4mm thick flat washer
9	701519	701519	2	M16 x 30mm setscrew
10	700279	700279	2	M16 x 75mm bolt
11	703148	703148	2	M16 x 40mm setscrew
12	700283	700283	4	M16 locknut
13	700732	700732	4	M16 flat washer
14	701111	701111	2	Split pin - 3/16” diameter x 1.5”

Table 23: VFC Door

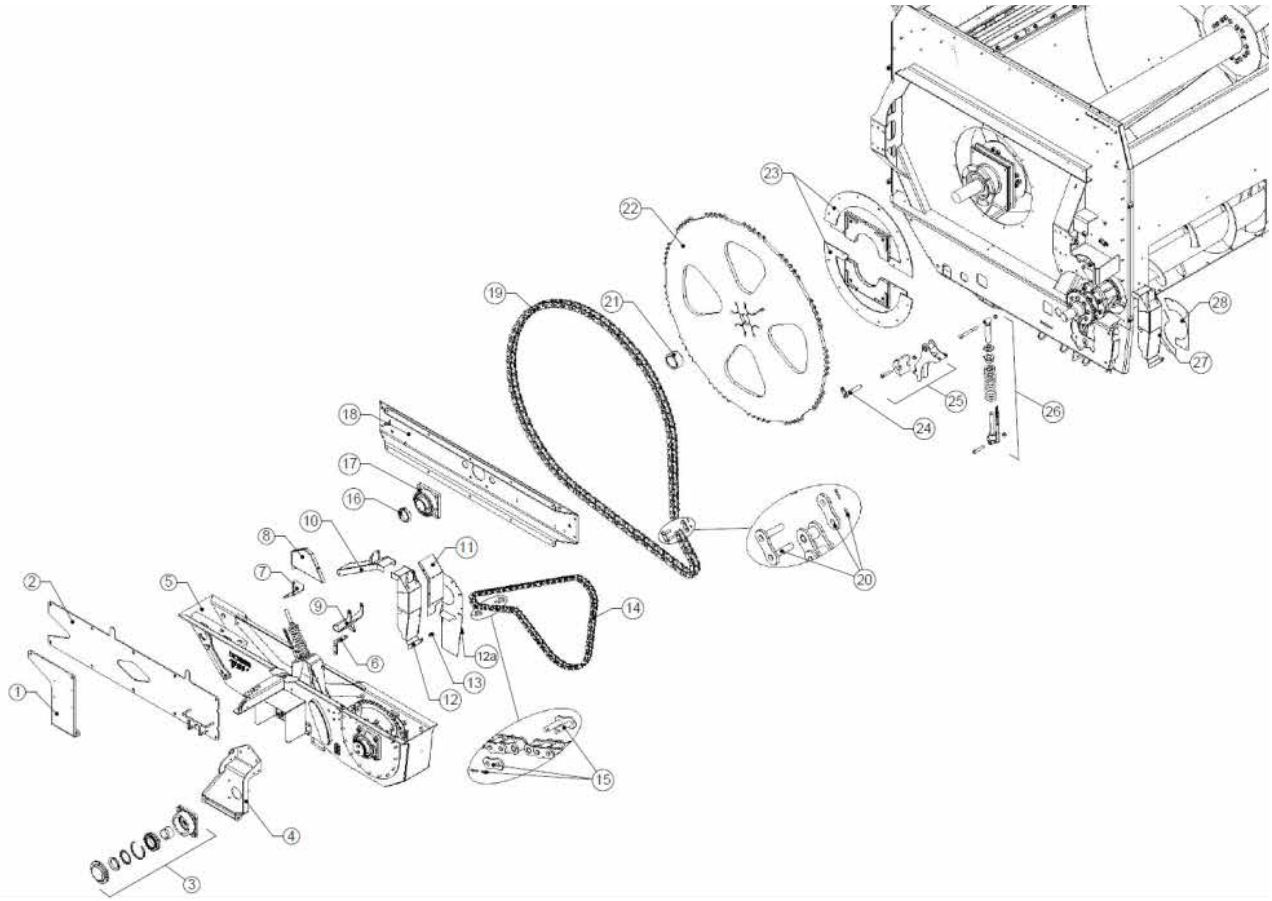
8.9 VFC-Door Indicator Parts

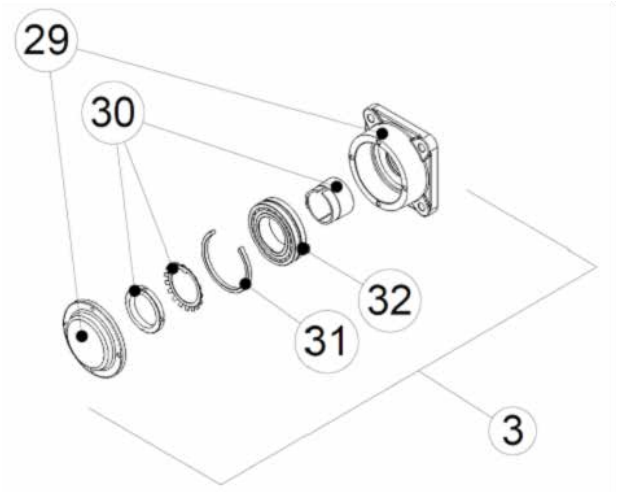


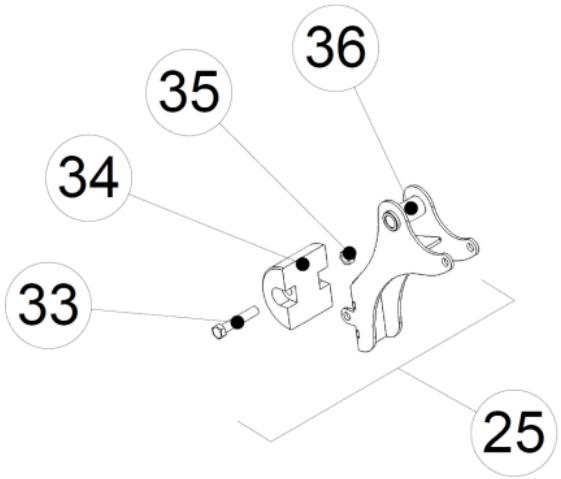
Item:	P/N:	Qty:	Description:
1	FP280-010-0022	1	VFC door indicator wire rope assembly (2970mm)
2	FP300-010-0011	1	VFC door indicator cover
3	FP300-010-0013	1	VFC door indicator cover
4	703625	1	8" Expansion spring, 22mm OD, 2mm wire diameter
5	RD8010-61	1	VFC door indicator slider assembly
6	701559	4	Pulley Wheel - 50mm OD x 20mm thick
7	FP280-006-0179	2	VFC door indicator cable access slot cover plate
8	FP200-006-0385	1	VFC door indicator cable cover plate

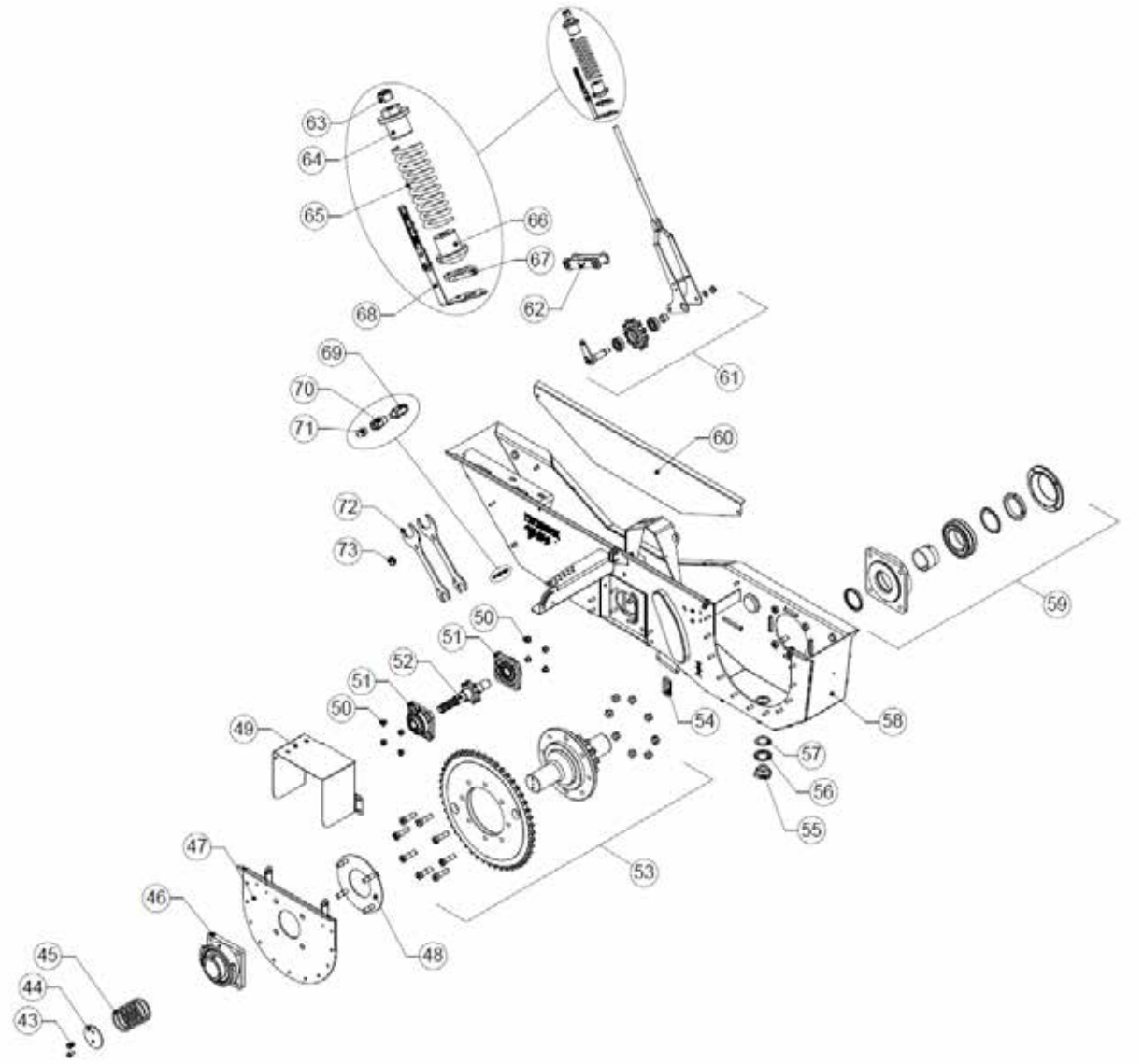
Table 24: VFC Door Indicator

8.10 Driveline Parts





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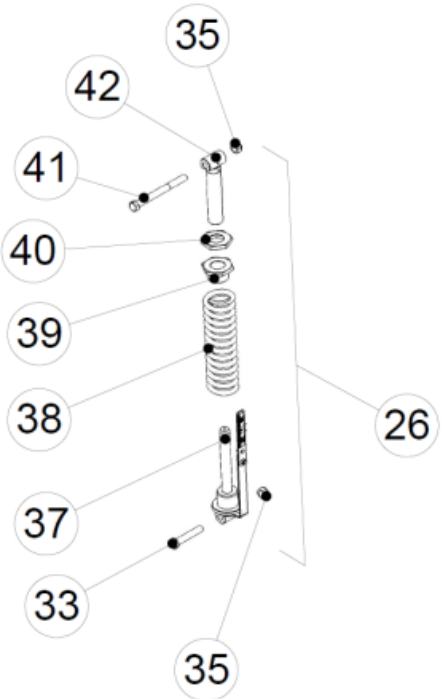
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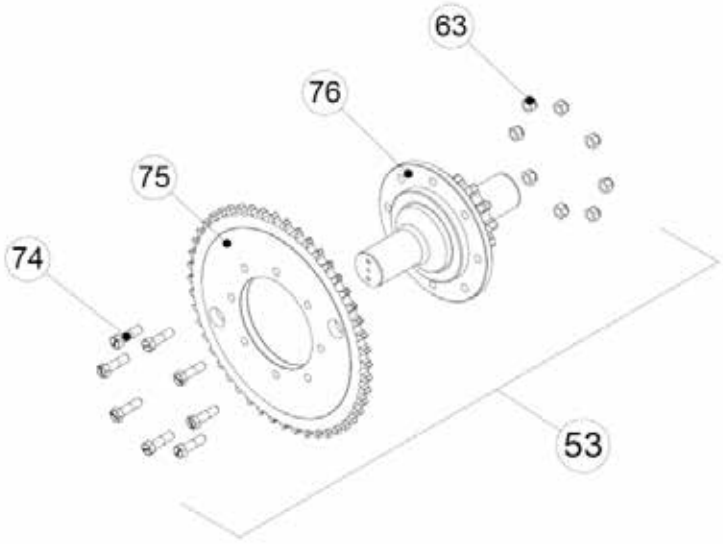
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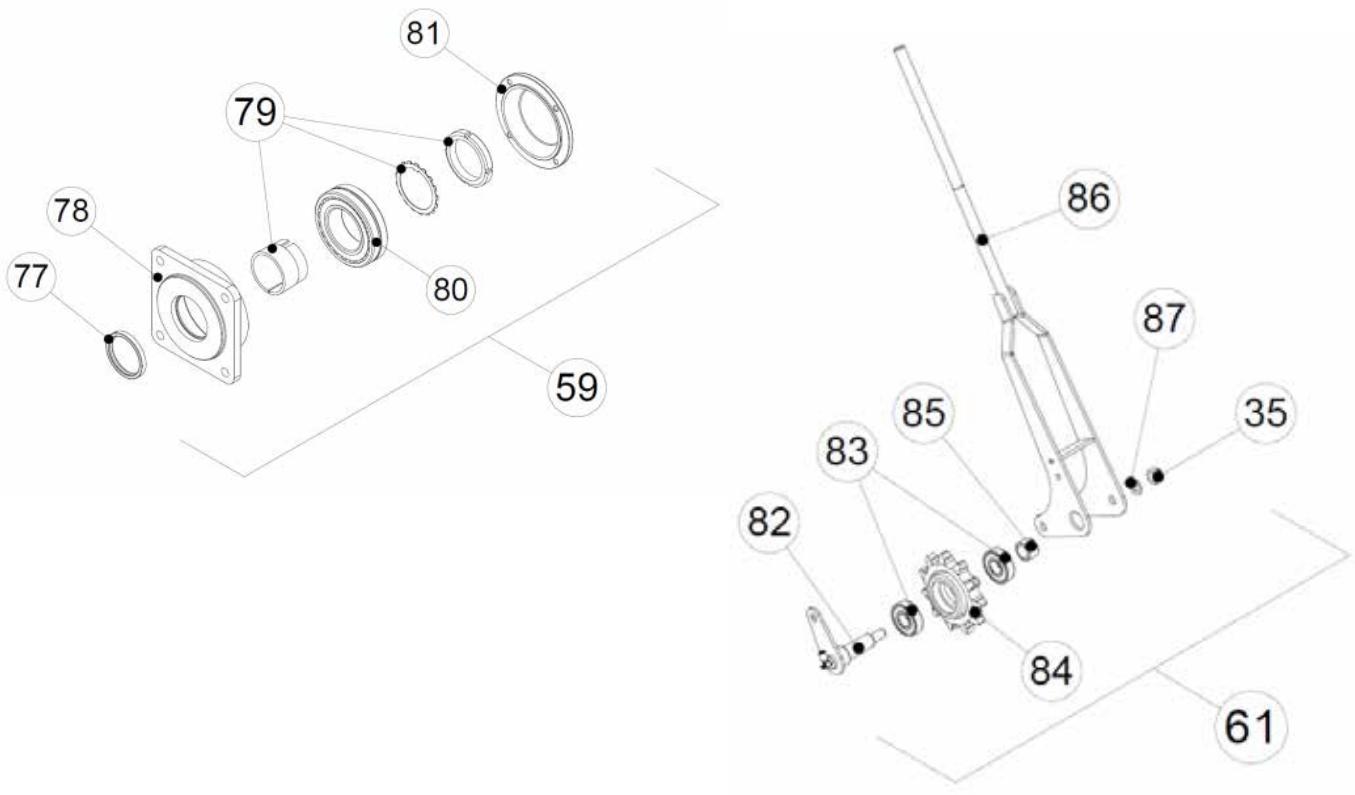


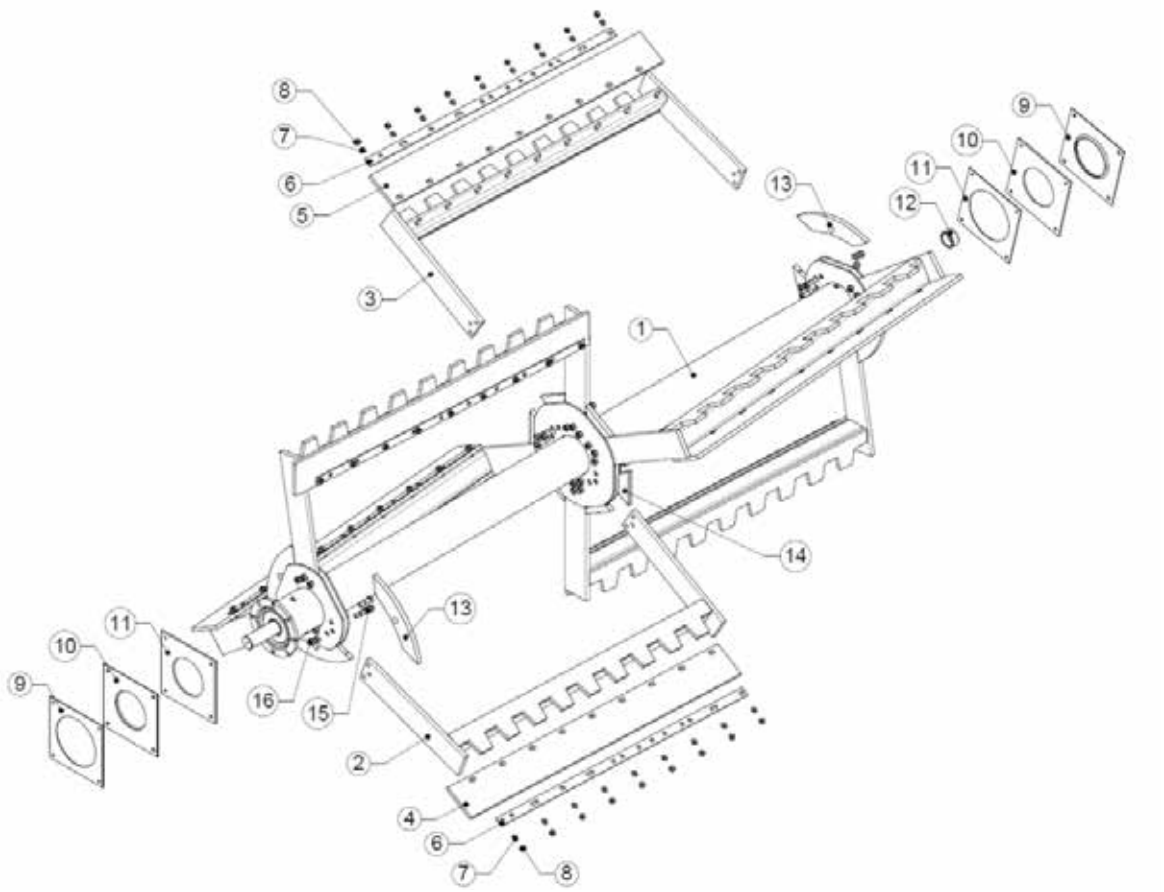
Item:	P/N:	Qty:	Description:
1	FP200-048-0142	1	Chain drive reduction gearbox assembly brace plate
2	FP200-048-0271	1	Rotor front bearing carrier cover plate assembly
3	FP160-009-0025	1	Bearing Assy, 70mm, 516 Taper Lock, Flange Mount
4	FP200-048-0159	1	Front auger bearing mounting plate assembly
5	FP200-048-0219	1	MechFiber345/365 drive system reduction gearbox assembly 2
6	FP200-048-0188	1	Drive chain oil collector tray mounting bracket
7	FP200-048-0182	1	Primary drive chain splined shaft oil baffle plate
8	FP200-048-0207	1	Primary drive chain tensioner mount oil baffle plate
9	FP200-048-0186	1	Drive chain oil collector tray assembly
10	FP200-048-0193	1	Primary drive chain inner oil baffle assembly
11	FP200-048-0245	1	Auger Flange Baffle Plate
12	FP200-048-0227	1	Primary drive chain outer oil baffle assembly
12a	FP200-048-0307	1	Primary Drive Chain outer oil baffle scraper plate assembly
13	FP200-048-0194	1	Primary drive chain outer oil baffle lower retaining washer
14	704188	1	Primary drive chain - ASA120 - 91 pitches + joiner link (Diamond)
	705018	1	Primary drive chain - ASA120 - 91 pitches + joiner link (Sapphire)
15	704097	1	Joiner link - ASA120 – 1 pitch - slip fit (Diamond)
	705027	1	Joiner link - ASA120 – 1 pitch - slip fit (Sapphire)
16	FP200-007-0006	1	Front rotor stub shaft thrust collar assembly
17	702294	1	UCF X18 - 90mm bearing assembly with steel housing
18	FP200-017-0004	1	Rotor front bearing carrier

Item:	P/N:	Qty:	Description:
19	705019	1	Rotor drive chain - ASA160SH, 119 pitches + joiner link (Sapphire)
	704189	1	Rotor drive chain - ASA160SH, 119 pitches + joiner link (Diamond)
20	705029	1	Joiner link - ASA160 – 1 pitch - slip fit (Sapphire)
	704099	1	Joiner link - ASA160 – 1 pitch - slip fit (Diamond)
21	FP160-007-0013	1	Front rotor spacer
22	EF207-34	1	Rotor Sprocket - 104-tooth ASA160
23	FP160-007-0037	2	Rotor front cover assembly (Auxiliary & square seal)
24	FP280-048-0445	1	Rotor chain tensioner pivot pin assembly
25	FP380-048-0046	1	Rotor chain tensioner arm assembly 2
26	FP200-048-0251	1	Rotor chain tensioner compression spring & seat assembly
27	FP200-009-0025	1	Auger front cover - Lower plate
28	FP200-009-0026	1	Auger front cover - Upper plate
29	703753	1	F516A bearing housing & cover
30	701457	1	H316, 70mm bore adaptor sleeve, ring nut & castellated washer
31	704122	1	Bearing spacer ring, SR140 x 10
32	700847	1	22216K bearing insert
33	700281	1	M16 x 90mm Bolt
34	FP280-048-0452	1	Rotor drive chain tensioner wear block
35	700283	3	M16 Lock nut
36	FP380-048-0043	1	Rotor chain tensioner arm assembly 1
37	FP200-048-0252	1	Rotor chain tensioner spring seat shaft assembly (345/365/380)
38	704196	1	Compression spring - 12mm wire, 80mm OD, 280mm long
39	FP160-048-0148	1	Chain tensioner lower spring seat
40	FP160-048-0147	1	Chain tensioner lower spring seat locking nut
41	705862	1	M16 x 175mm bolt
42	FP160-048-0145	1	Chain tensioner lower spring seat adjuster tube assembly
43	700246	2	M12 x 25mm setscrew
44	FP280-048-0395	1	Idler shaft thrust washer
45	FP280-048-0396	6	Idler shaft thrust shim (2mm)
46	FP200-048-0160	1	X18 steel housing bearing with bearing puller shoulder plate
47	FP200-048-0162	1	Idler shaft front bearing mounting plate assembly
48	FP280-048-0386	1	Front idler bearing bolt positioning ring assembly
49	FP200-037-0071	1	PTO guard – MF345/MF365
50	FP160-048-0194	8	Bearing bolt hole reducer & collar (FYH bearing)
51	705145	2	FYH UCF308 40mm bearing with cast 4-bolt flange housing
52	700628	1	Z6 Spline shaft with 8-tooth ASA120 Sprocket
53	FP200-048-0153	1	Idler shaft assembly 2
54	705828	1	Oil Level window

Item:	P/N:	Qty:	Description:
55	FP280-037-0200	1	Oil sump drain plug
56	FP280-037-0249	1	Oil sump drain plug seal washer
57	FP280-037-0202	1	Oil sump drain plug seal
58	FP200-048-0220	1	MF345/365 drive system reduction gearbox assembly 1
59	FP280-048-0723	1	90mm taper lock bearing assembly complete (steel housing)
60	FP200-048-0138	1	Drive system reduction gearbox rear cover plate
61	FP200-048-0144	1	Primary drive chain tensioner arm assembly 2
62	FP200-048-0156	1	Primary chain tensioner stabilising arm assembly
63	700305	8	M20 locknut
64	FP380-048-0101	1	Primary chain tensioner inner spring seat
65	704882	1	Compression spring - 9.53mm wire, 54mm ID, 200mm long
66	FP380-048-0024	1	Primary chain tensioner inner spring seat
67	FP200-048-0082	1	Primary chain tensioner inner spring seat socket
68	FP200-048-0249	1	MF345-365 Primary drive tension setting indicator assembly 2
69	704914	13	Grease tube connector - straight - M6 thread
70	704947	13	Adaptor - 1/8 BSP external to M6 internal to 1/8 BSP internal
71	701129	13	1/8 BSP grease nipple
72	FP160-048-0175	2	70mm & 40mm spring seat spanner
73	704439	1	M8 star control knob
74	700298	8	M20 x 70mm Bolt (Grade 8.8)
75	FP160-048-0064	1	48-tooth ASA120 idler sprocket
76	FP200-048-0154	1	Idler shaft assembly 1 (MF345/MF365)
77	705818	1	Oil seal - 90mm x 110mm x 13mm
78	FP280-048-0720	1	Idler shaft inner bearing housing assembly (steel)
79	701166	1	H520, 90mm bore adaptor sleeve, ring nut & castellated washer
80	700861	1	22220K bearing insert
81	705816	1	722520A bearing cap
82	FP280-048-0232	1	ASA120 chain tensioner sprocket axle assembly 2 (Oil bath)
83	704227	2	6305.2RS C3 deep groove ball bearing
84	FP280-048-0224	1	ASA120 chain tensioner sprocket assembly 1
85	FP200-048-0158	1	Primary chain tensioner axle spacer (Oil bath)
86	FP200-048-0145	1	Primary chain tension adjuster assembly 1
87	700283	1	M16 locknut

Table 25: Drive System

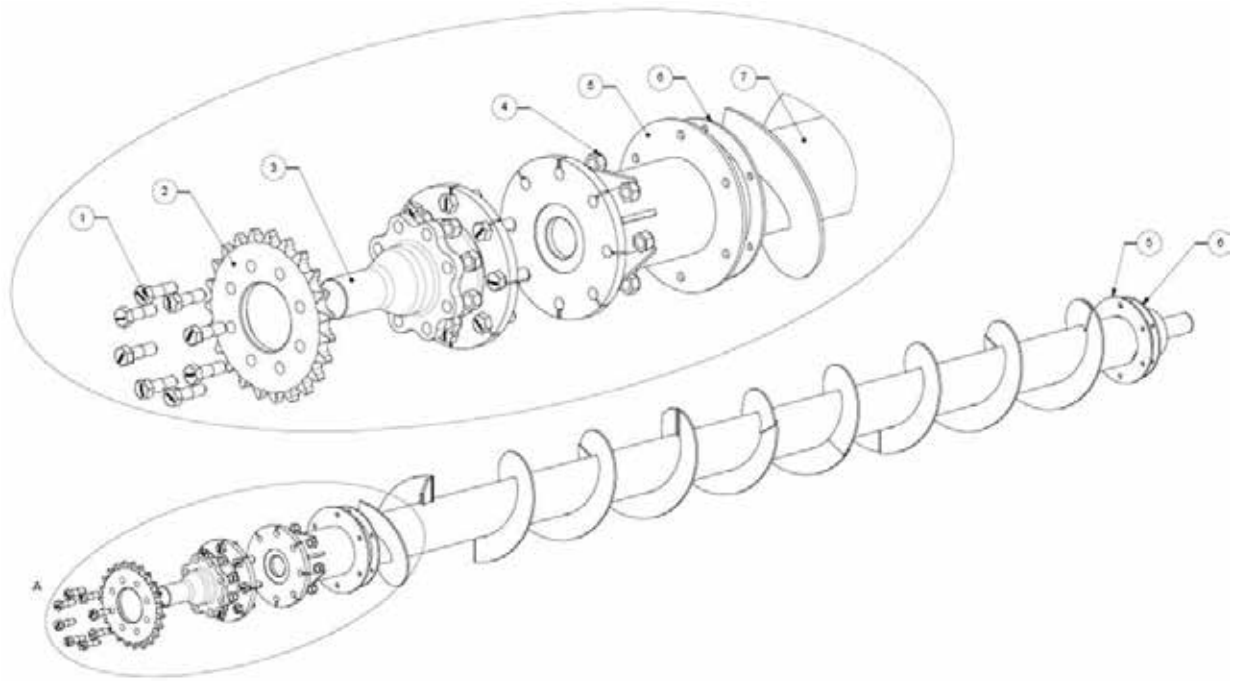
8.11 Rotor & Paddle Parts



Item:	P/N:		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	FP160-007-0049	FP200-007-0114	1	Rotor assembly
2	FP170-008-0003	FP200-008-0002	3	Front Paddle Assembly
3	FP170-008-0002	FP200-008-0003	3	Rear Paddle Assembly
4	702288	702289	3	Paddle rubber (Front)
5	702287	702290	3	Paddle rubber (Rear)
6	FP140-008-0009	FP140-008-0009	6	Paddle rubber retainer
	N/A	FP200-008-0010	6	Paddle rubber retainer
7	700732	700732	56/78	M16 flat washer
8	700283	700283	56/78	M16 Nylock nut
9	701822	701822	2	Rotor Lip Seal Rubber
10	FP140-007-0017	FP140-007-0017	2	Braided Rotor Seal, Rubber
11	FP140-007-0006	FP140-007-0006	2	Rotor Seal Retainer
12	701541	701541	1	Rotor Spacer (90mm ID x 120mm OD x 40mm long)
13	FP160-007-0026	FP160-007-0026	6	End paddle block
14	RDTP207	RDTP207	6	Centre paddle block
15	700298	700298	36	M20 x 70 Bolts
16	700305	700305	36	M20 Locknuts

Table 26: Rotor Assembly

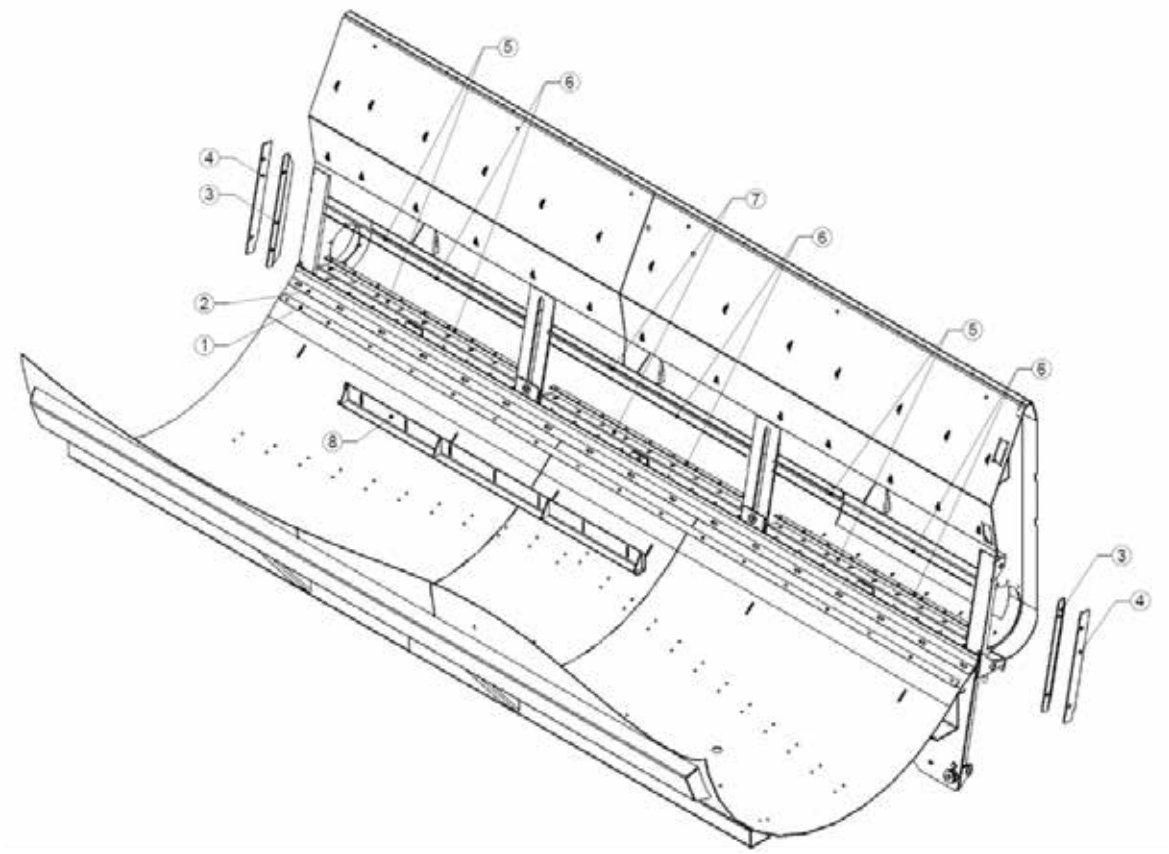
8.12 Auger Parts



Item:	P/N:		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	700297	700297	16	M20 x 65mm Bolts
2	FP160-009-0026	FP160-009-0026	1	23-tooth ASA120 auger driven sprocket
3	FP160-009-0024	FP160-009-0024	1	Auger stub shaft assembly (forged)
4	700305	700305	16	M20 Locknuts
5	FP280-009-0070	FP280-009-0070	2	Auger Seal Rubber
6	FP280-002-055	FP280-002-055	2	Auger Seal Retainer
7	N/A	FP200-009-0031	1	Auger Assembly

Table 27: Auger Assembly

8.13 Body Sealing Parts

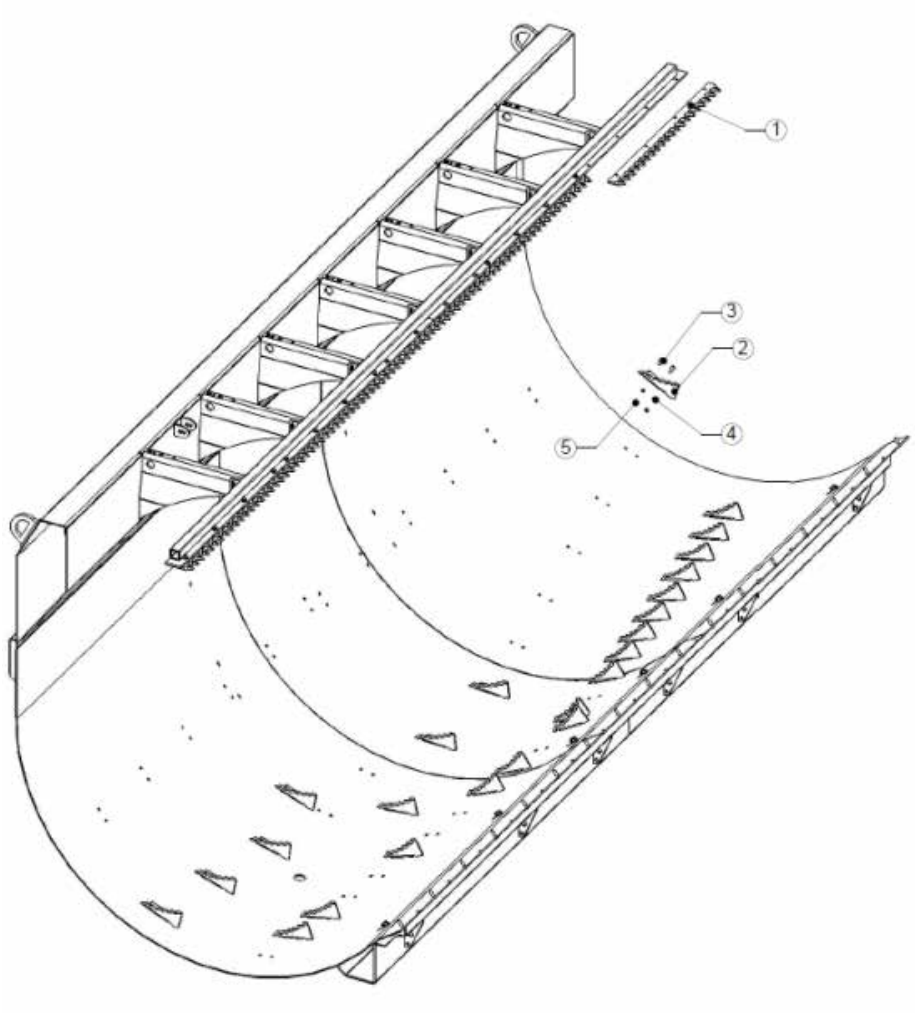


Item:	P/N:		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	FP140-004-0003	FP200-004-0028	1	VFC door inner seal retainer
2	701290	701293	1	VFC Door inner rubber seal – 5005mm
3	FP280-010-009	FP280-010-009	2	VFC door front and rear end retainer
4	704876	704876	2	VFC door front and rear end seal
5	N/A	704880	4	VFC door outer end seal rubber
6	FP140-006-0022	FP200-006-0076	6	VFC door shroud seal retaining flat
7	701195	701199	4/2	VFC door outer seal rubber
8	FP160-006-0093	FP160-006-0093	1	Auger chamber material deflector

Table 28: Body Seal

Note:
MechFiber365 uses 2 types of VFC-door outer seals, 701199 for the middle section of the auger chamber and 704880 (a shorter version) for either end.

8.14 Body Blade Parts



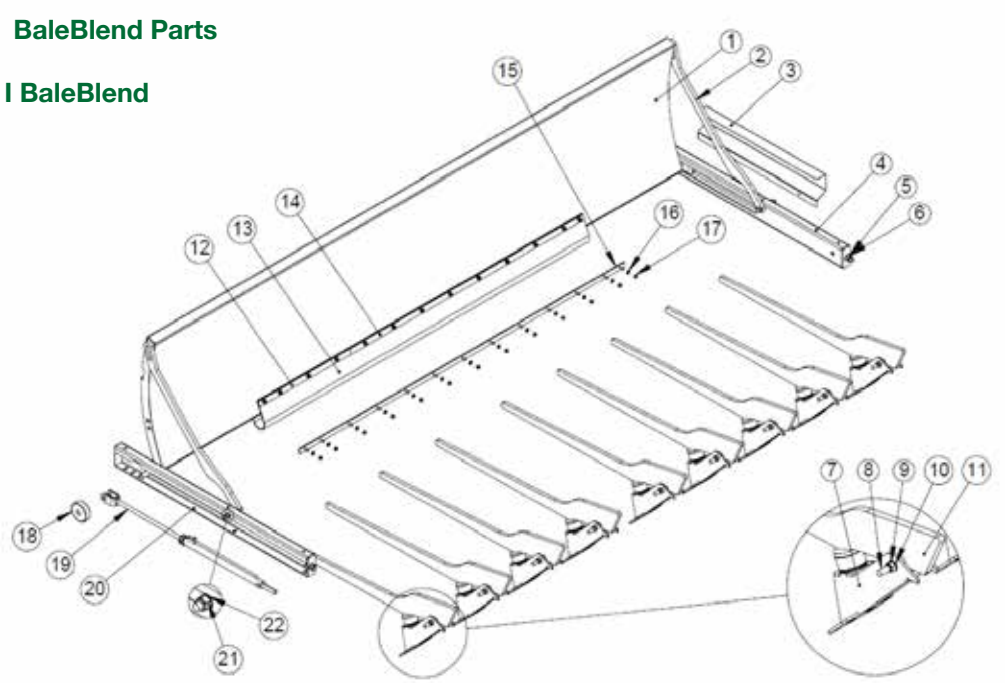
Item:	P/N:		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	701518	701518	4/5	Top Knife Blade - 990mm Long
	704229	704229	4/5	Top Knife Blade - 990mm Long – Deep Serrations
2	703955	703955	24/28*	Body Blade - 5mm thick
	703957	703957	24/28*	Body Blade – 6.25mm thick
3	700226	700226	48/56	M10 x 30mm Cuphead bolt (8.8 grade)
	705405**	705405**	48/56	M10 x 40mm Cuphead bolt (8.8 grade)
4	700241	700241	48/56	M10 hex nut
5	700737	700737	48/56	M10 Spring Washer

Table 29: Blades

*There are 24 blades used as standard on the MechFiber345 and 28 as standard on the MechFiber365. Extra blades may be added depending on machine specification.
**Used only in conjunction with body liner

8.15 BaleBlend Parts

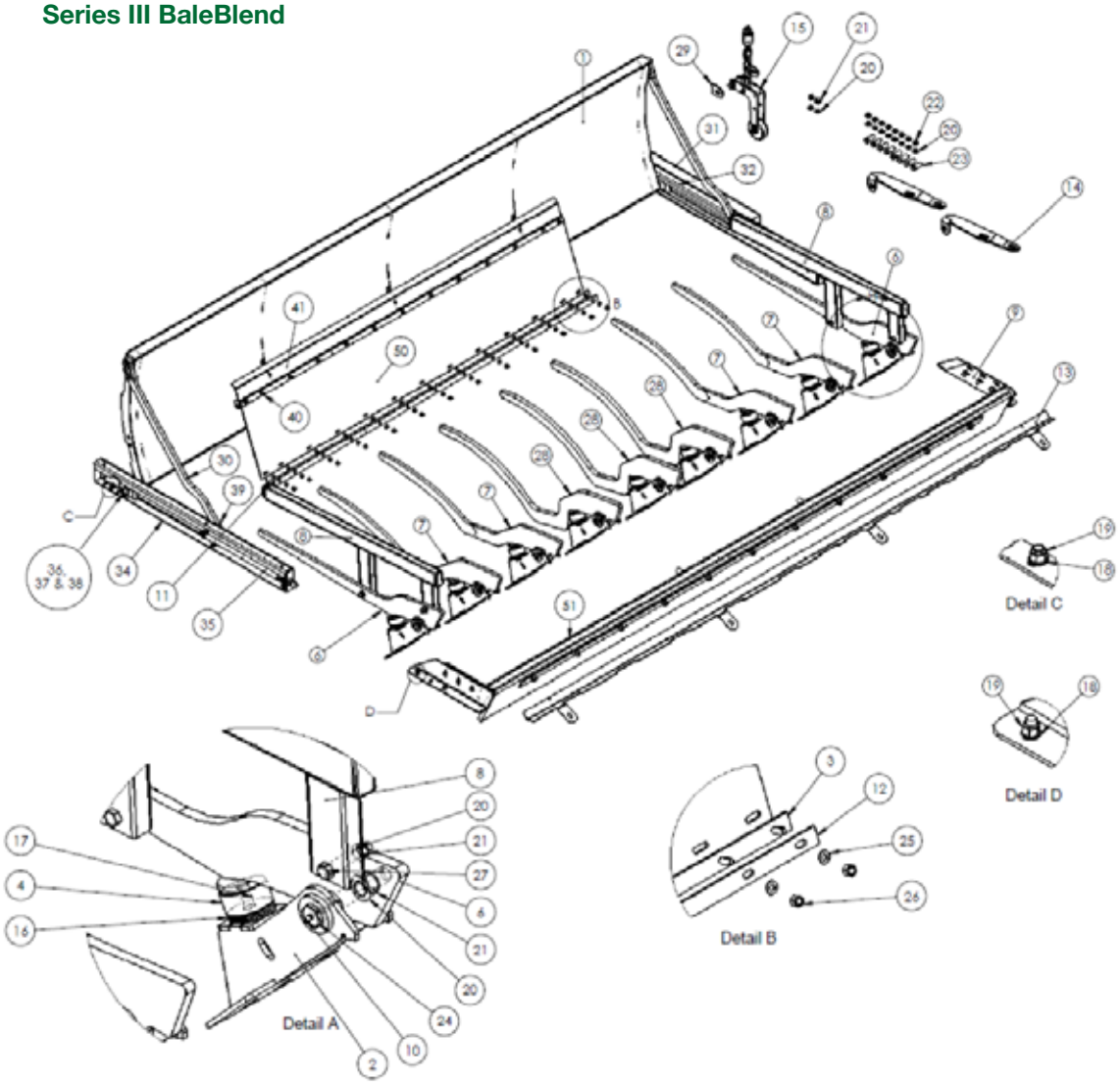
Series I BaleBlend



Item:	P/N		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	FP160-045-0083	FP280-045-0056	1	BaleBlend Creel Curved Plate Assembly
2	FP280-045-017	*same as 345*	2	BaleBlend Creel Guide Arm
3	FP160-045-0088	*same as 345*	1	Creel End Cover Plate
4	FP160-045-0003	*same as 345*	1	BaleBlend End Creel Assembly (Rear)
5	700733	*same as 345*	2	M20 Washer
6	700305	*same as 345*	2	M20 Locknut
7	FP200-045-0143	*same as 345*	9/11	BaleBlend Tine Bracket
8	FP140-045-0111	*same as 345*	9/11	M24 x 150mm Bolt with Grease Nipple (701127) Fitted
9	700318	*same as 345*	9/11	M24 Locknut
10	700316	*same as 345*	9/11	M24 Washer
11	FP200-045-0154	*same as 345*	9/11	Tine Arm Assembly
12	FP140-045-0004	*same as 345*	2/0	Retainer Strip, 5mm, for Rubber Apron (675mm Long)
13	FP140-045-0003	FP200-045-0003	1	Rubber Apron
14	FP200-045-0004	*same as 345*	2/4	Retainer Strip, 5mm, for Rubber Apron (1725mm Long)
15	FP140-045-0005	*same as 345*	1	Apron Rail & Stud Assembly
16	700729	*same as 345*	13	M10 Washer
17	700241	*same as 345*	13	M10 Locknut
18	FP280-045-010	*same as 345*	2	BaleBlend Nylon Guide Wheel
19	704040	*same as 345*	2	End Creel Ram Assembly
20	FP160-045-0002	*same as 345*	1	BaleBlend End Creel Assembly (Front)
21	700283	*same as 345*	2	M16 Locknut
22	700732	*same as 345*	2	M16 Washer

Table 30: Series 1 BaleBlend

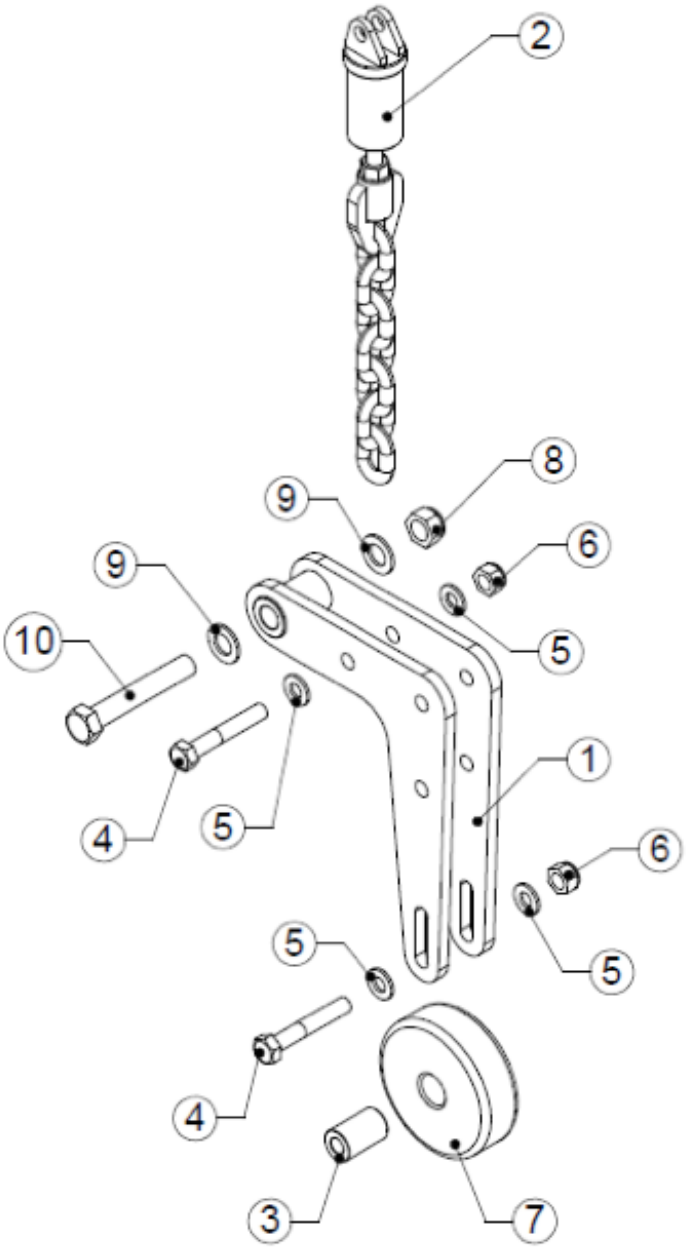
Series III BaleBlend



Item:	P/N		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	FP160-045-0083	FP280-045-0056	1	Curved creel panel assembly complete
2	FP200-045-0143	*same as 345*	9/11	Tine bracket assembly (weld on)
3	FP140-045-0005	*same as 345*	1	Apron rail & stud assembly
4	703943	*same as 345*	9/11	Rubber buffer, 75mm OD. M12 x 13mm deep thread
5	704925	*same as 345*	1	BaleBlend Hydraulic Hose Kit (Complete)
6	FP200-045-0146	*same as 345*	2	BaleBlend curved arm assembly (Cradle) M24 Bolt
7	FP200-045-0158	*same as 345*	4/6	BaleBlend tine assembly (Dropped) M24 Bolt
8	EF1745-65	*same as 345*	2	BaleBlend arm cradle assembly
9	FP140-050-006	*FP200-050-007*	1	Load bumper assembly 2 including rubber
10	701129	*same as 345*	9/11	Grease Nipple 1/8 BSP
11	FP140-045-0004	*same as 345*	2/0	Apron retainer strip
12	FP200-045-0004	*same as 345*	2/4	Retainer Strip, 5mm, for rubber apron, 1725mm long
13	FP160-006-0140	FP200-006-0144 (Fr) FP200-006-0145 (Rr)	1	Load bumper rubber seat plate

Item:	P/N		Qty:	Description:
14	FP160-006-0139	*same as 345*	2	Load bumper brace plate
15	FP160-045-0118	*same as 345*	1	BaleBlend kicker assembly – complete kit
16	FP140-045-0019	*same as 345*	As Req'd	Spacer Plate, 3mm, for BaleBlend Bracket
17	700247	*same as 345*	10/11	M12 x 30mm setscrew
18	700730	*same as 345*	10/11	M12 Flat washer
19	700266	*same as 345*	10/11	M12 Locknut
20	700732	*same as 345*	23	M16 Flat washer
21	700283	*same as 345*	15	M16 locknut
22	700739	*same as 345*	8	M16 spring washer
23	700275	*same as 345*	8	M16 x 50mm bolt
24	FP140-045-0111	*same as 345*	9/11	M24 x 150mm Bolt with Grease Nipple (701127)
25	700729	*same as 345*	13	M10 Flat washer
26	700241	*same as 345*	13	M10 Locknut
27	700281	*same as 345*	4	M16 x 90mm bolt
28	FP200-045-0162	*same as 345*	3	BaleBlend Tine Assembly (Extra Drop) M24 Bolt
29	FP160-045-0094	*same as 345*	2	B/H Kicker arm mounting bracket (weld on)
30	FP280-045-017	*same as 345*	2	BaleBlend Creel guide arm
31	FP160-045-0088	*same as 345*	1	Creel End Cover Plate
32	FP160-045-0003	*same as 345*	1	BaleBlend End Creel Assembly (Rear)
33	700733	*same as 345*	2	M20 Washer
34	FP160-045-0002	*same as 345*	1	BaleBlend End Creel Assembly (Front)
35	704040	*same as 345*	2	End Creel Ram Assembly
36	701112	*same as 345*	2	R Clip
37	700746	*same as 345*	2	M25 Flat washer
38	FP280-045-010	*same as 345*	2	BaleBlend Nylon Guide Wheel
39	700269	*same as 345*	2	M16 x 110mm Bolt
40	700228	*same as 345*	13	M10 x 35mm Bolt
41	FP160-045-0075	FP200-045-0103	1	Kicker Assembly, Rubber Mount Assembly
42	700247	*same as 345*	6	M12 x 30mm Bolt
43	700266	*same as 345*	6	M12 Locknut
44	700730	*same as 345*	6	M12 Washer
45	700732	*same as 345*	2	M16 Washer
46	700283	*same as 345*	2	M16 Locknut
47	700732	*same as 345*	9	M16 Washer
48	700283	*same as 345*	9	M16 Locknut
50	FP140-045-0003	FP200-045-0003	1	Rubber Apron
51	FP160-050-0003	FP200-050-0008	1	Load Bumper Rubber

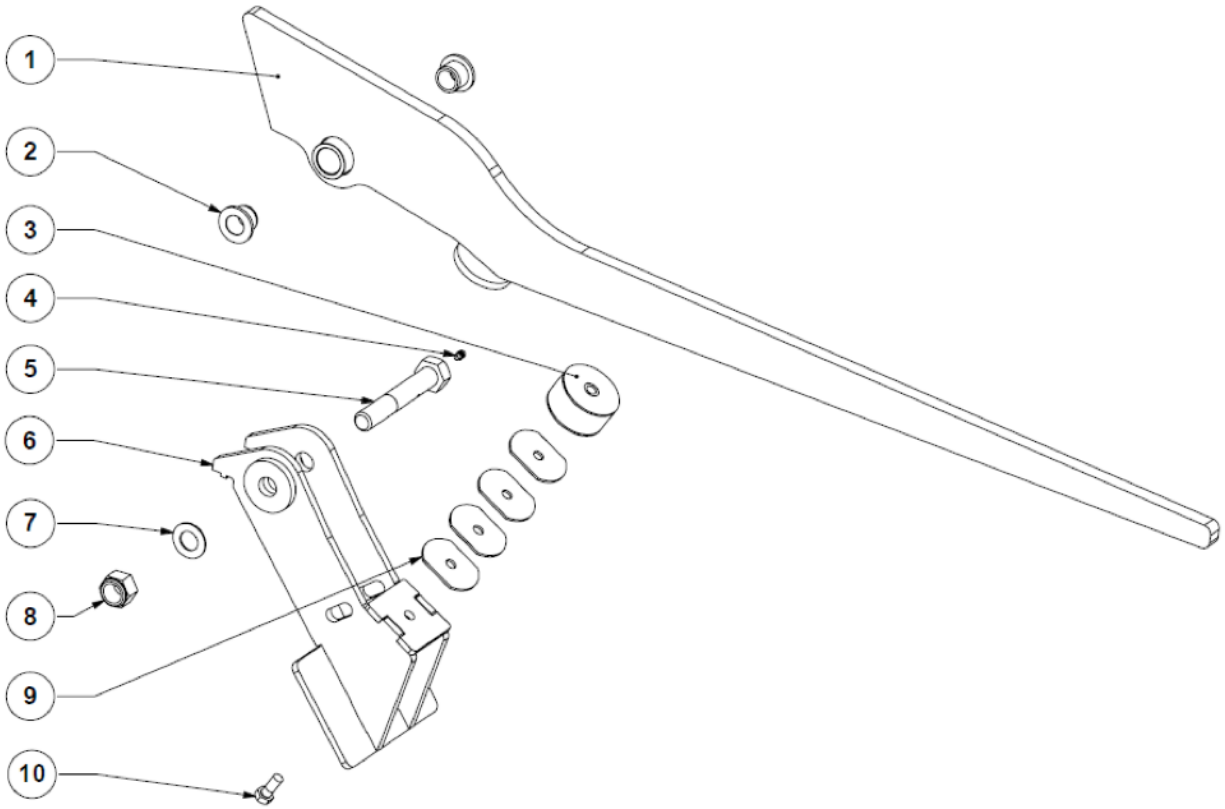
Table 31: Series III BaleBlend



Item:	P/N:	Qty:	Description:
1	FP160-045-0071	1	BaleBlend creel kicker arm assembly 1
2	FP160-045-0136	1	BaleBlend creel kicker spring kit
3	FP100-006-0021	1	Feed out tray mechanical adjuster roller pivot bush
4	700262	2	M12 x 75 Bolt
5	700730	4	M12 Washer
6	700266	2	M12 Locknut
7	FP280-045-010	1	Nylon Guide Wheel
8	700283	1	M16 Locknut
9	700732	2	M16 Washer
10	700268	1	M16 x 100mm Bolt

Table 32: Kicker Arm Assembly (Exploded View)

Tine Bracket & Tine Arm Assemblies



Item:	P/N		Qty:	Description:
	MechFiber345	**MechFiber365**		
1	See BaleBlend Parts List for specific tine reference	*same as 345*	9/11	BaleBlend Tine Assembly
2	705947	*same as 345*	18/22	Delrin Bush
3	703943	*same as 345*	9/11	Rubber Buffer 75mm O.D.
4	701129	*same as 345*	9/11	1/8 bsp Grease Nipple
5	FP140-045-0111	*same as 345*	9/11	M24 x 150mm Modified Bolt
6	FP200-045-0143	*same as 345*	9/11	BaleBlend Tine Bracket
7	700316	*same as 345*	9/11	M24 Flat Washer
8	700318	*same as 345*	9/11	M24 Locknut
9	FP140-045-0019	*same as 345*	9/11	Spacer Plate 3mm
10*	700247	*same as 345*	9/11	M12 x 30mm Bolt

Table 33: BaleBlend Tine & Bracket Assembly

* Longer M12 Bolt may be required, if additional spacers (item no. 9) are used.

8.16 Axles

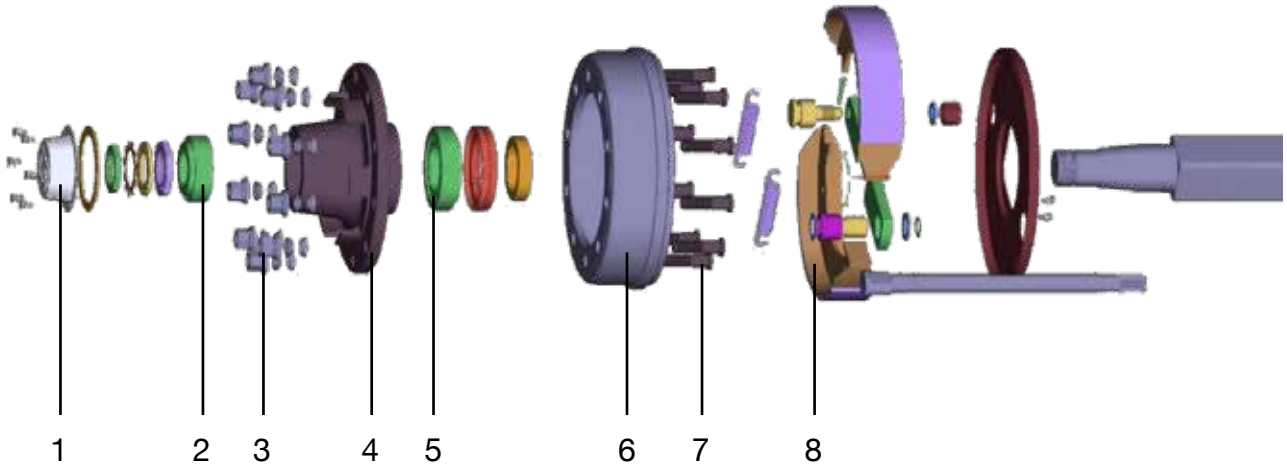


Figure 45: Typical Axle (Exploded View)

Axle Options

Axle Types			
Axle Application	**MechFiber345**	**MechFiber365**	**MechFiber345/365**
Axle Spec.	HS12A1-00	EUR1410 414S	EF1058/EF1050
Axle Type	Straight	Straight/Cranked	Tandem Bogie
Axle Width (mm)	2100	2250/2400	2200
Brake Type/Dimensions (Type/Dia. x Width, mm)	Series S, 420 x 180	414S, 406 x 140	408E, 400 x 80
No. Studs	10	10	8/10
Nut Size	M22 x 1.5	M22 x 1.5	M18 x 1.5/M22 x 1.5
Axle Spare Parts			
Item No:	**MechFiber345**	**MechFiber365**	**MechFiber345/365**
1. Hub Cap	704167	703994	703732
2. Outer Bearing	704176	704450*	702987
3. Nut	704166	702644	702992 / 702644
4. Hub	704171	704449	704453 / 704454
5. Inner Bearing	704177	704450*	700838
6. Brake Drum	704172	704451	702466 / 704455
7. Stud	704173	700307	702868 / 700307
8. Brake Shoes	704170*	704452*	704233*

Table 34: Axle Types and Axle Spare Parts
Note: *Supplied as a kit

8.17 Ancillary Parts

PTO Shaft		
P/N:	Qty:	Description:
700616	1	PTO, T60 Shaft, 1-3/8” Z6 x 1-3/8” Z6. M10 x 6.8 Shear Bolt
Planetary Gearbox		
P/N:	Qty:	Description:
FP160-031-0017	1	Planetary Gearbox Complete Kit
Grease Fittings		
P/N:	Qty:	Description:
704913	1	Grease Tube Swivel Connector - 90 Degree Bend - M6 Thread
704914	1	Grease Tube Connector - Straight - M6 Thread
704915	1	Grease Nipple Connector - Straight - 1/8" BSP to M6
704941	1	Grease Tube Connector - Straight - 6mm Thread
704942	1	Grease Tube Connector - Straight - 8mm Thread
704943	1	Grease Tube Connector - Straight - 1/8" BSP Thread
704944	1	Grease Tube Connector - 90 Degree Bend - 1/8" BSP Thread
704945	1	Grease Tube Connector - 90 Degree Bend - M6 Thread
704946	1	Grease Tube Swivel Connector - 90 Degree Bend - 1/8" BSP Thread
704947	1	Grease Nipple Connector - Straight - 1/8" BSP To M6
Spool Valve Parts		
P/N:	Qty:	Description:
701215	1	2 Bank with Detent
701216	1	2 Bank without Detent
701218	1	3 Bank with Detent
701219	1	3 Bank without Detent
702269	1	4 Bank with Detent
701208	1	4 Bank without Detent
702450	1	5 Bank with Detent
704447*	1	Electro-Hydraulic Spool Valve Kit, 4 Bank (contains 704445 & 704446)
704525	1	Electro-Hydraulic Spool Valve Kit, 5 Bank
Diverter Valve Parts (used on French machines)		
P/N:	Qty:	Description:
704139	1	Diverter Valve Kit (contains 703535 & 704394)
703894	1	Electro-Hydraulic Diverter Valve Kit (6 port)
Heavy Duty Top Knife (standard on all BaleBlends)		
704229	4/5	Top knife blade, 990mm long, deep serrations
Mechanical Adjuster		
FP160-006-0129	1	Mechanical Adjuster Complete Assembly

Table 35: Ancillary Parts

*4 Bank can be reduced to 3 Bank if required using the same part number.

9. Annexes

9.1 EC Declaration of Conformity

EC Declaration of Conformity.
In accordance with Directive 2006/42/EC.

Manufacturer:
Alltech Farming Solutions Ltd,
Borris,
Co. Carlow,
Ireland.

Certifies that the KEENAN MechFiber345 & KEENAN MechFiber365 complies with the essential safety requirements of the Directive 2006/42/EC.

To conform to these essential health and safety requirements, the provisions of the following harmonized standards were particularly considered.

BS EN ISO 12100, I.S. EN ISO 13857, I.S. EN ISO 5674, EN349, EN703, I.S. EN ISO 4254-1, ISO 11684, ISO 12140

Date: 26th Oct 2016

Signed: 

Robert Walker, CEO

9.2 International Patents

The KEENAN MechFiber Mixer Wagon and the KEENAN MechFiber BaleBlend machines are subject to International patents including the following:

Europe:	E0, 833,558	USA:	5,967,433
Japan:	Pending	Canada:	Pending
Australia:	691418	New Zealand:	305943
South Africa:	96/3148		

10. Contact Details

Head Office
Alltech Farming Solutions Limited (KEENAN)
Borris, Co. Carlow, R95 K223 Ireland.

Tel:	+353 (0) 59 9771200
Fax:	+353 (0) 59 9771227
Website:	keenansystem.com
Email:	keenaninfo@alltech.com

Alltech's Global Headquarters
3031 Catnip Hill Road, Nicholasville, KY 40356, United States of America

Tel:	859-885-9613
Email:	keenaninfo@alltech.com

Alltech Farming Solutions (UK) Limited (KEENAN)
Unit C3 Little Heath Industrial Estate, Old Church Road, Coventry, CV6 7ND

Tel. Administration:	0800 587 3296
24 hr Service:	0800 587 3296
Fax:	0844 358 3880
Email:	keenaninfo@alltech.com

Alltech KEENAN Australia
53 Pratts Park Road, Bendigo, East Bendigo Vic 3550, Australia

Sales, Service & Parts:	1800 KEENAN (1800 533 626)
Website:	keenansystem.com
Email:	keenaninfo@alltech.com

KEENAN New Zealand
A division of JK Engineering
50a Kereone Road, Morrinsville 3371, Waikato, New Zealand

Sales, Service & Parts:	1800 KEENAN (1800 533 626)
Website:	keenansystem.com
Email:	admin@keenannz.co.nz

Alltech Canada Inc.
20 Cutten Place, Guelph, Ontario N1G 4Z7, Canada

Tel:	519 763 3331
Fax:	519 763 5682
Email:	keenaninfo@alltech.com

Alltech Stellenbosch
C/O Koelenhof & Bottelary Road, Stellenbosch, South Africa

Tel:	+27 21 865 2669
Cell:	+27 76 157 6672
Email:	keenaninfo@alltech.com

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