

OPERATORS manual

MODELS:

Klassik	80, 100, 115, 140, 170, 200
Klassik Bale Handler	100, 140, 170, 200



WARNING NOTES

Most sections of the manual apply to both the Keenan Klassik and the Keenan Klassik Bale Handler machines and all models. Sections which do not apply to both machines will be clearly stated in the heading and the text.

Notes:

There are 3 different types of notes.



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 Klassik. Failure to observe the information contained in a caution may invalidate your warranty.

Note:

Texts with this heading give general information which improve the operation or efficiency of your Keenan Klassik.

The Keenan Klassik and the Keenan Klassik Bale Handler machines are subject to International patents including the following:

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



WARNING:

Read the safety section (section 3) before attempting to operate the machine.

THE KEENAN

**KLASSIK AND KLASSIK
BALE HANDLER**

introduction

The Keenan Klassik 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 horse power requirements. The Keenan Klassik 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 System, delivering improved efficiency and profitability on the farm. More recently, the Bale Handler 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 resolution.

This manual has been designed to present the information you need to operate and maintain your machine. If you require further assistance or information, please contact your System Specialist. Telephone numbers are listed on the back cover of this manual.

The Keenan Klassik is the cornerstone of the Keenan System, delivering improved efficiency and profitability on the farm.

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1. WARNING SIGNS

warning signs



Read Operators Manual
Before using machine



Danger from flying objects
Keep a safe distance from this machine



Stay clear of sharp blade



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



Shut off engine and remove key before performing maintenance or repair work



Never reach into Rotating auger



Do not ride on platform or ladder



Danger, blades inside mixer



Do not stand between tractor and mixer-wagon while in operation

2. OPERATING PRINCIPLES

weighing

The Klassik's main operating functions are weighing, chopping / mixing and feeding out.

WEIGHING

The Klassik 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 4 and the readout manual for more detailed information.

CHOPPING / MIXING

Load ingredients in sequence recommended by your Keenan system specialist, or as detailed in Section 5 (Operating procedures).

For non bale handler models, ensure bales are broken up prior to loading. For bale handlers, wait until bale is 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.

Mixing is carried out by a centrally-mounted rotor fitted with 6 angled paddles revolving at 5 - 10rpm. The 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, straw, roots and liquids.



CAUTION:

For bale handler models, do not load more than one bale at a time.



CAUTION:

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

chopping



feeding out

2. OPERATING PRINCIPLES

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.

Mixing time will be determined by the required chop length. Follow procedures contained in this manual or consult your Keenan TMR specialist for further information.

Root crops can be washed in machines fitted with a 'beet grid' by adding water to the load. When the process is complete, the grid can be opened and the water drained away.

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 feedout chamber contains an auger which runs the entire length of the machine.

When mixing/ chopping is complete, the feed out door and tray should be set in 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 opened partially at first. As soon as 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 to allow an even feed out rate.



CAUTION:

The VFC door should only be opened when the PTO is engaged (paddles turning)

2. OPERATING PRINCIPLES

MAINTENANCE

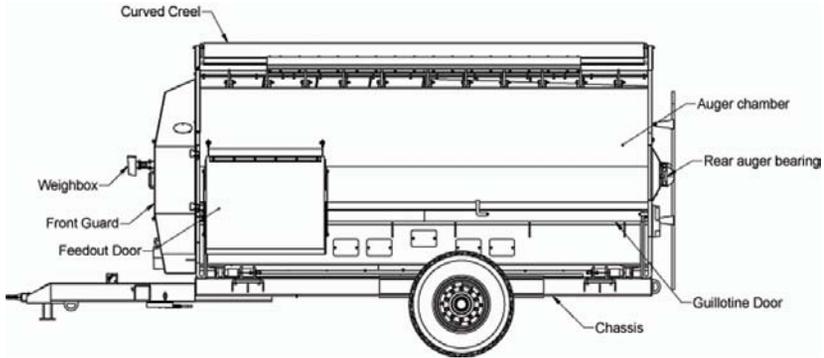


Figure 1

A properly operated and maintained Keenan mixer will give years of trouble free operation. **Regular maintenance of the machine is essential both for long machine life and to meet warranty requirements.** Refer to instructions in maintenance section of this manual. Weekly cleaning of machine is advised to prevent corrosion to the mixer body from old feed.

SAFETY

The Keenan has 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 safety section (section 3) before attempting to operate machine.

3. SAFETY



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. There is no noise significant emission from the feeder, as the noise emission will be much lower than the tractor noise emission.

The Klassik 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 Klassik 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.

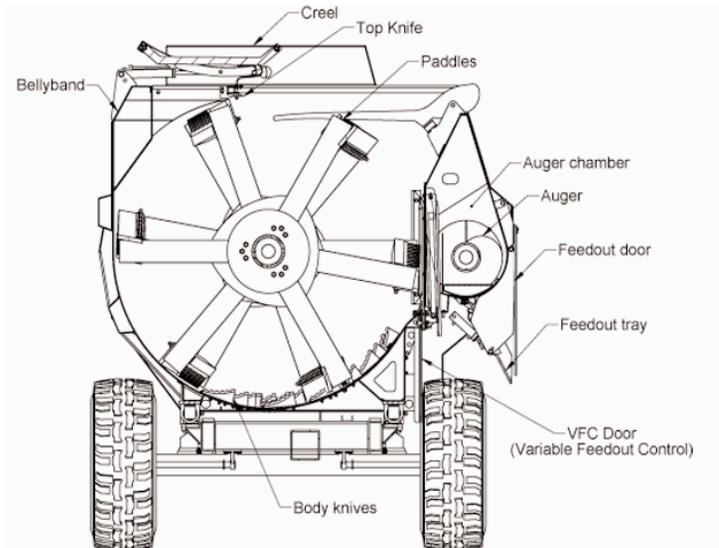


Figure 2.

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.

3. SAFETY

safety

- a. Always park the feeder on level ground and apply the handbrake when not in use.
- b. Do not exceed 15km/hr (10mph) when in transit. Local road traffic laws will apply when machine is in transit on public road.
- c. Exercise extreme caution when on the road for other road users.
- d. Do not stand on the ladder whilst feeder is in transit and the feeder should never be used for the transport of people, animals or objects.
- e. Do not stand between tractor and feeder during use.
- f. Use only a PTO shaft with a properly fitted safety guard and shear bolt.
- g. Always connect the PTO shaft with the shear bolt end to the mixer-wagon. 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 safety covers in good condition.
- h. Ensure all trailing leads, hoses etc are well clear of the PTO.
- i. **Do not operate PTO in "ground speed mode".**
- j. Make sure all covers/guards are fitted and locked closed with the keys provided. Never remove guards when the feeder is connected to a tractor. Ensure that the engine of the tractor is stopped and PTO shaft disconnected before carrying out service or maintenance work - especially when removing trapped objects from the machine.
- k. Ensure the feeder 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 operator to see both sides of the machine in operation.

When connecting the tractor to the feeder only connect using the ring hitch on the feeder 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 and then connect the hydraulic hoses ensuring that the functions match the indicated valve on the tractor.

When disconnecting always ensure that the stand or jack is used to secure the machine in the park position and ensure that the handbrake is properly applied before driving tractor away from the feeder. Ensure that all hoses and cables are disconnected before driving away.

3. SAFETY

- l. Load only from the side indicated (auger chamber side) using suitable equipment.
- m. **Standing level with or above the machine in order to load manually is not permitted.** Loading should be carried out with suitable equipment.
- n. Regularly inspect all chains (at least weekly), sprockets and moving parts for wear and check all nuts and bolts for tightness.
- o. The ladder on the rear of the feeder 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 or onto the body of the feeder. It is strictly forbidden to climb on the upper brim of the machine body.
- p. Routine cleaning should be carried out using a power hose, with the beet grid open eliminating any reason to climb into the mixing chamber.
- q. The top knife should always be fitted with the supplied guard before routine cleaning or maintenance is carried out. The machine is supplied with a top knife guard which should be removed and stored in the pocket of the front guard, before using the machine.

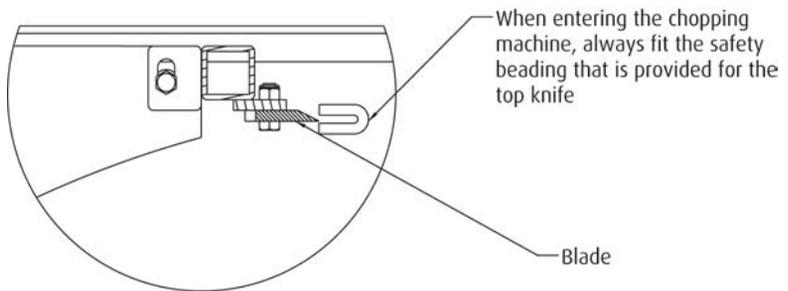


Figure 3. Top Knife Protection

3. SAFETY

safety

- r. **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 to at all times.
1. Ensure the PTO is removed.
 2. Apply the mixer wagon handbrake and disconnect the tractor on level ground.
 3. Use a suitable ladder for access to and from the mixer wagon.
Note: The viewing ladder is only used for viewing and not for access to the mixing chamber.
 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. Use suitable Personnel Protective Equipment.

If the person intending to enter and work within the machine is not confident about doing so safely, then they should contact a Keenan Service Person to complete the work.

- s. **SODAGRAIN.** Additional safety instructions and warnings are included in the sodagrain 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 unloading in the normal manner.



WARNING:

Failure to follow the safety guidelines above may lead to the risk of accident or injury.



safety

4. WEIGHING SYSTEM

The weighing system is designed to be simple to operate, accurate and robust. It consists of four load cells connected to an indicator unit (readout box) at the front of the machine. The system uses 12 volt DC power from the tractor. The indicator unit can be rotated for visibility during loading and from the tractor cab. Loads are displayed in kilograms or lbs with scale increments of 5kg/10lbs. The unit is capable of measuring up to 20 tonnes (44000lbs). 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 indicator unit may vary with model and region. A separate manual is supplied for your indicator unit, which you should refer to for specific operating instruction.

**INSTRUCTIONS FOR ELECTRONIC READOUT BOX ARE CONTAINED
IN A SEPARATE MANUAL**



CAUTION:

Although the weigh-box and connections are sealed against moisture, it is advised to protect or remove the weigh-box and the weigh-bar plugs when power washing the mixer wagon.

5. OPERATION

set-up

The simplicity of the Klassik 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 parts of the mix.

A tractor that has sufficient power will provide a much smoother drive to the mixer-wagon during all stages of operation. Machines fitted with a planetary/reduction gearbox will reduce the power requirements accordingly.

5.1 SET-UP

- I. Ensure machine is level when hitched up.
- II. The PTO shaft should be attached with the shear bolt end coupled to the mixer-wagon. Make sure that the PTO guard is in good condition and well secured.



CAUTION:

Do not operate PTO in "ground speed" mode. Reversing the drive on your machine will cause serious damage.

- III. Connect the following hydraulic lines from the machine to double acting spool valves, using the colour coding as indicated on the front of the machine.
 - Variable feed control door
 - Feed out tray / door
 - Wash gate (if fitted)
 - Bale handler Creel (if fitted)
- IV. Connect the line from the brakes to a single acting valve.

5. OPERATION

set-up

- V. Examine the mixing chamber to ensure that;
 - All blade covers have been removed
 - All spare parts and foreign objects have been removed
 - No damage has taken place during transport.

- VI. Fit the weigh-box to the plate on the swinging arm and attach the display cable from the junction box. Ensure the power lead from the weighing system is connected to the tractor battery via a direct fused line or place a 12v battery in the side box and connect with crocodile clips. Test by switching on the weigh box, then zero the scales. Stand on the back of the ladder and check the display with your known weight.



Figure 4. Photograph illustrates a well mixed ration showing consistent fibre length and integration of forages and grains

5. OPERATION

set-up

- VII.** With the tractor running, check that the VFC door opens fully and closes completely. Similarly check the movement of the feedout tray. Engage the PTO and check the turning of the paddles. The initial turning of the paddle rubbers against the side of the Klassik will generate a lot of initial noise but this will decrease as the paddle rubbers become more pliable.

As a general rule engine speed during loading should be as low as possible without the risk of stalling the tractor. See guidelines on loading and mixing procedures.

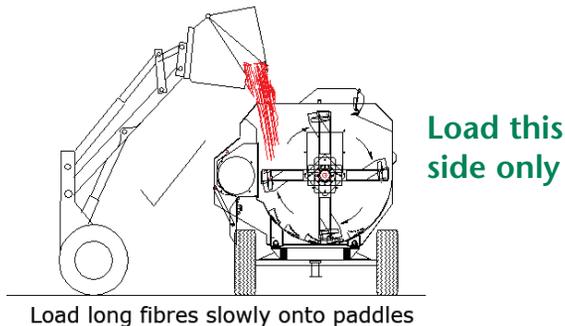


Figure 5. Loading of baled material (non bale handler models)

5. OPERATION

5.2 MIXER WAGON CAPACITY

Due to the diversity of the materials available for feed purposes and the Klassik'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), so you don't get the maximum benefit 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 long before the shear bolt breaks. Therefore not breaking 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.

5. OPERATION

loading & mixing

5.3 LOADING & MIXING

Note: The unique tumbling action of the machine is what carries out the mixing. If the machine is overloaded or loaded in the wrong order, or insufficient time is allowed for proper chopping, then this tumbling action will not take place. 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 in the Klassik.
- 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.

5. OPERATING THE KLASSIK

loading your klassik

LOADING YOUR KEENAN KLASSIK

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

- Load feed as close as possible to the loading side of the unit.
- Load concentrate feeds in the centre.
- Load forages to the front, back and centre of the unit in alternate grabs during the mixing process.
- Remove all twine, wrap or polythene from bales.
- Round or square bales should be spilt or broken into 4 pieces **minimum**. Use front grab or forks as required.
- Load in the order shown below.

Feed Ingredients	Load Order	Paddle RPM	Tractor Engine Speed RPM
Water, liquid feeds	1st	All at 6-8 RPM	1200-1400 RPM
Straw	2nd		
Minerals, Protein meals, Pulps, Cereal grains	3rd		
Grass silage	4th		
Maize silage, cereal silage	5th		

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

Loading your Keenan Klassik Decal

5. OPERATING THE KLASSIK BALE HANDLER

loading your klassik bale handler

LOADING YOUR KEENAN KLASSIK BALE HANDLER

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 **5-6 RPM** for **all** bale types.
- Load round bales to the centre of the unit with the flat end towards the top knife.
- Allow sufficient time for previous bale to clear before adding more.
- Add ingredients in order shown below:



CAUTION:

Do not load more than one bale at a time.

Feed Ingredients	Load Order	Paddle RPM	Tractor Engine Speed RPM
Round or square bales of silage, hay or straw	1st	All at 5-6 RPM	1100-1300RPM
Water, Liquid feeds	2nd		
Minerals, Protein meals, Pulps, Cereal grains, Moist feeds	3rd		
Grass silage	4th		
Maize silage, cereal silage	5th		

- Mixing time will depend on chop length required.
- Stop the PTO and move to the feed out area.

Loading your Keenan Klassik Bale Handler Decal

5. OPERATING THE KLASSIK BALE HANDLER

Specific instructions for bale handler models

1. The creel should be raised before loading the bales.
2. The bale 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 loaded against the creel, effectively the bottom of the bale should be sitting on top of the top knife. This is the recommended procedure, but for certain materials used, this procedure may be altered at the point of commission or service by Keenan personnel to achieve the optimum performance.
4. The bale should be held in this position and gently dropped to rest on the tines so that as the bale is being loaded, the paddles are hitting it and cutting some sections off the bale. The idea is the bottom of the bale is cut off so that the bale sits flat on tines and prevents the light density bales from rolling to either end of machine and also decreases intake time
5. After 15-20 seconds the bale can be released and the loader moved away taking care not to pull the bale away from the knife. The loader can be withdrawn back to the loading side rubber and left there.
6. After the paddle has sliced away some of the bottom of the bale, the bale itself will be turned over by the paddles and the process of loosening the bale will begin. If the bale is tightly wound then this part of the process will take longer than if the bale is loose.
7. As the bale loosens up the paddle will start to take in sections of material by cutting it against the top knife. Once the bale has turned over and started to fall apart the loader can be removed and the next bale fetched and the wrapping removed.
8. If the bale shows signs of being hard to break up or is not getting enough agitation by the paddles do not press the bale down with the loader. A gentle lift of the bale and reposition is all that is required.

5. OPERATING THE KLASSIK BALE HANDLER

Specific instructions for bale handler models

9. The standard chopping times for different materials for a round 4x4 (120 cm) bale are as follows:

Straw	6-8 minutes (140 kg)
Hay	4-6 minutes (300 kg)
Wet silage (up to 20% DM)	2 minutes (700 kg)
Dry silage (20- 30% DM)	2-4 minutes (500 kg)
Very dry silage (over 35 %)	4-6 minutes (400 kg)
10. 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 being chopped.
11. When loading big 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. The easiest way to do this is to load the bale in two halves in the loader (one half in each side of the bucket) and flick the sections out onto the tines. In this way the sections will remain up on the tines for longer and get a better chop against the top knife. If loaded the other way the sections will tend to fall through the tines and cause additional stress on the chopping mechanism.
12. The key to the successful operation is that the bale remains on top of the cradle for long enough for all 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 a while for the bale to be taken in during all this time the material that has already been cut from the bale is being processed within the chamber.



washing & chopping

5. OPERATION

5.4 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 300kg (650 pounds) per tonne of material to be chopped. Rotate the machine for 1-2 minutes at 6-8 revs.
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 No 2 if materials being chopped are particularly dirty.
4. Chop the materials by running the machine at 10+ revs.

If small quantities of material are to be washed and chopped best results are obtained by washing and chopping sufficient material to supply two days feed.

5.5 FEEDING OUT

1. Ensure that the VFC door is still closed.
2. Re-engage the tractor PTO and with paddles running at 6-8 rpm allow the TMR to loosen and tumble for 15-20 seconds.
3. Open the VFC door partially, once TMR is seen on the feedout tray **allow 15-20 secs before opening 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 guillotine door and always disengage the PTO before attempting to make right turns away from the shed.



CAUTION:

Never drop 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.

6. MAINTENANCE

The Klassik has been designed for optimum performance with a minimum of maintenance.

Chains and 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 Klassik gives you the best results with a minimum of problems.



WARNING:

Prior to carrying out any maintenance on the machine, always disconnect the P.T.O. and hydraulic hoses from the tractor. Observe safety precautions at all times, read Section 3 on safety before attempting to work on the machine. The maximum allowable pressure in the hydraulic circuit is 170 bar and flow rates of 40 litres/min are used. Replacement hoses should comply with DIN EN 853. When replacing hydraulic hoses wear suitable protective equipment.

6.1 CHAINS

1. Each week check the chains and adjust the tension accordingly. The primary drive chain is adjusted by turning the adjuster nut on the drive gearbox to remove excess slack, and to prevent sagging or whipping when under loaded. The final adjustment is applied by adjusting the tensioner spring on the chain links attached to the body. 35mm (1.5") deflection from a straight line is advised.

Do not over tighten, or damage to the bearings will result. The secondary drive chain is adjusted automatically.

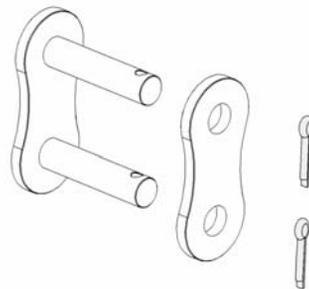


Figure 6. Chain Joiner Link

6. MAINTENANCE

2. Each week liberally apply 445 synthetic grade oil to both drive chains (if not available use universal grade). **Do not use grease** as it is totally unsuitable for this application (it does not lubricate the vital internal parts of the chain).
3. After each season remove both chains by removing the joiner links - see diagram - and wash off all dirt and oil using paraffin. Dry the chains before soaking overnight in oil. Refit.



CAUTION:

Failure to oil the chain will reduce working life by 90%. Chain damage is not covered by factory warranty. See warranty section for more details.

Model	80	100	115	140	170	200
Primary Drive Chain	ASA100	ASA100	ASA100	ASA100	ASA120	ASA120
Links	53.5	59	53.5	59	59.5	59.5
Pitch (mm)	31.75	31.75	31.75	31.75	38.1	38.1
Pitch (inches)	1.25	1.25	1.25	1.25	1.5	1.5
Chain Length (mm)	3397.25	3746.5	3397.25	3746.5	4533.9	4533.9
Chain Length (inches)	133.75	147.5	133.75	147.5	178.5	178.5
Secondary Drive Chain	ASA140	ASA140	ASA140	ASA140	ASA160	ASA160
Links	53	57.5	53	57.5	59.5	59.5
Pitch (mm)	44.45	44.45	44.45	44.45	50.8	50.8
Pitch (inches)	1.75	1.75	1.75	1.75	2	2
Chain Length (mm)	4711.7	5111.75	4711.7	5111.75	6045.2	6045.2
Chain Length (inch)	185.5	201.25	185.5	201.25	238	238

Table. 1

6. MAINTENANCE

greasing

6.2 GREASING

1. **Bearings** - Each week apply grease to the five bearings with nipples. The five bearings are as follows;
 - a. Two main bearings at the rear of the Keenan Klassik (A + B).
 - b. Two main bearings on the front and rear of the gearbox drive shaft (C + D).
 - c. One bearing on the front of the main rotor shaft (E).

2. **Grease Nipples** - Each week apply grease to all points with grease nipples (up to 14). The points are as follows;
 - a. 2 bushes on the jockey sprockets (F & G).
 - b. 4 bushes on the guillotine door lifting rams.
 - c. 4 nipples on the tandem axle (2 on each side) if fitted.
 - d. 4 nipples on the elevator arms, if fitted.
 - e. See section 6.2 point 5 on bale handler.
 - f. Single axle brake levers at the back of the brake drum (both sides).
 - g. Grease pivot points on sprung axle.

3. **Front auger bearing** – (Point H) - each year remove top cover and pack with grease.

4. **VFC door** - Check the VFC door is able to move freely each day and grease as appropriate. The recommended grease is “Ceran FG” supplied by TOTAL Lubricants, or similar food and feed industry grade grease.

6. MAINTENANCE

greasing

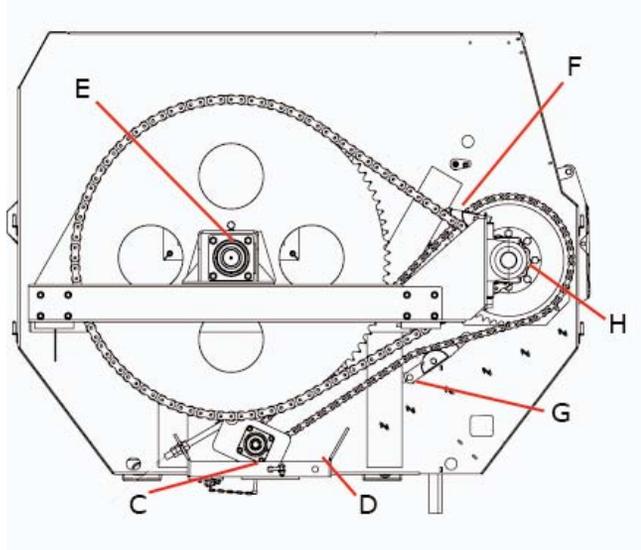


Figure 7.

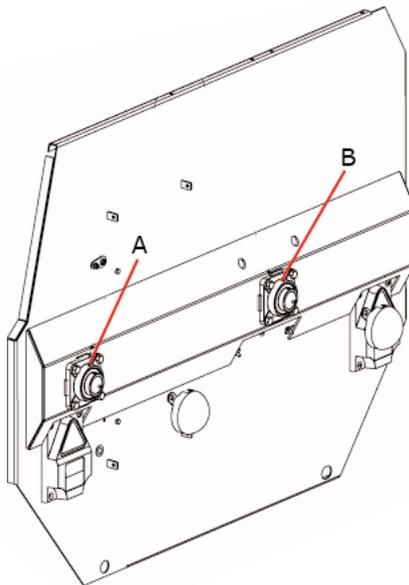


Figure 8.

6. MAINTENANCE

greasing

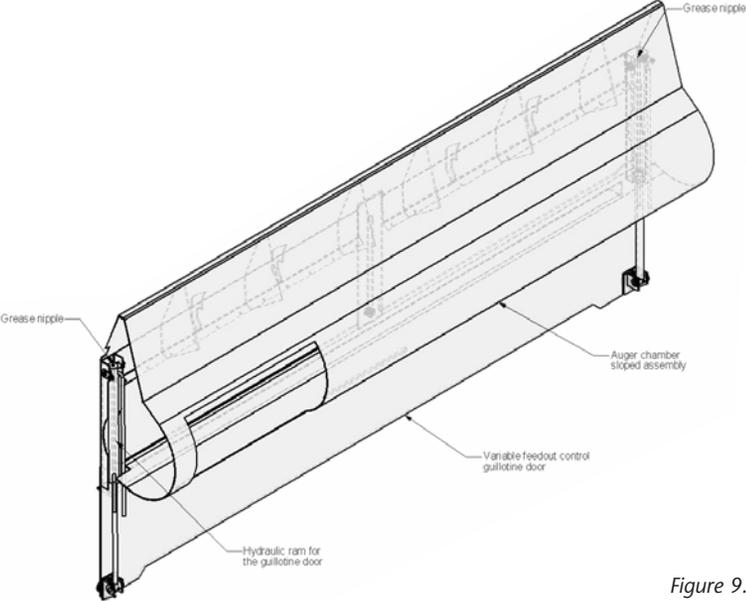


Figure 9.

6. MAINTENANCE FOR BALE HANDLER

5. Bale Handler

There are no grease points fitted to the bale handler attachment. The simplicity of design and the use of self lubricating bushes removes the need for weekly greasing. However, on a monthly basis, check the rubber buffer for signs of damage or cracks which may affect shock absorption.

Ensure the tine pivot bolts are kept tight to prevent premature wear of the self lubricating bushes. The tines should be tightened such that they just drop under their own weight and there is no sideways movement. This should be checked weekly.

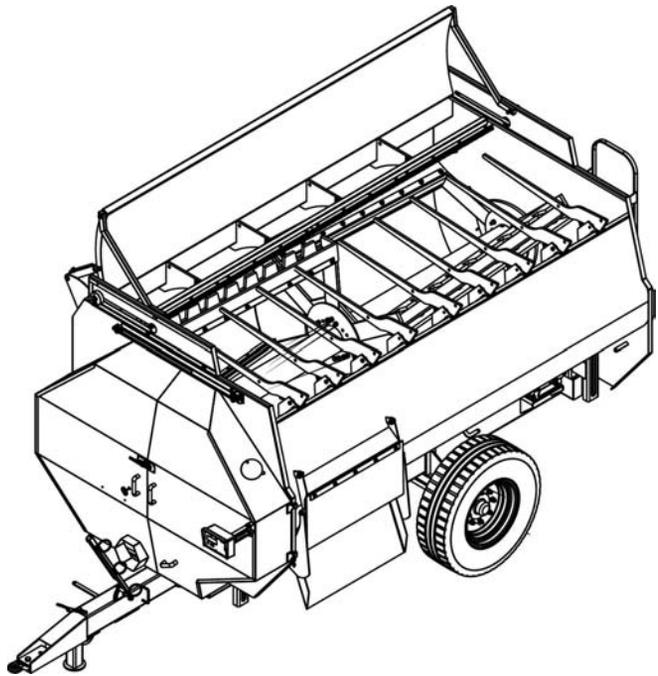


Figure 10.

6. MAINTENANCE

elevators

6.3 ELEVATORS

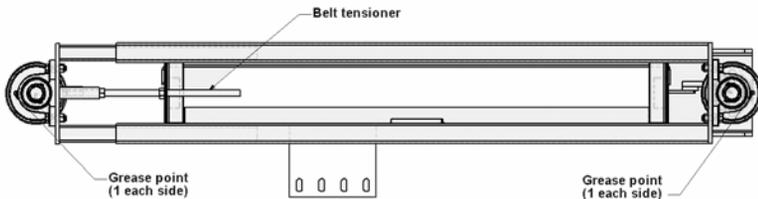
An elevator system requires regular maintenance in order to achieve optimum performance. Every week the elevator needs to be checked to make sure that the belt is running straight and not wearing unevenly on one side. If the belt is not running straight then adjust the tension by tightening the tensioner 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 all the bearings are greased as per sketch.

Ensure that the elevator is free moving in each direction sideways and there is no feed caught in the slideways.

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



FRONT VIEW OF ELEVATOR

Figure 11.

6.4 SHEAR BOLT

The following are the recommended shear bolts to be used with the Klassik machine - See Table 3. To avoid confusion all shearbolts are colour coded as per Table 2 below.

Grade	Colour
4.6	Green
6.8	Yellow
8.8	Red

Table. 2

Note: When using a reduction gearbox always use a T50 PTO shaft with a M8 x 55 x 4.6 shear bolt for all machines to prevent damage to the gearbox.

shear bolt



shear bolt

nuts & bolts

6. MAINTENANCE

Machine type	Shaft	Shear Bolt
FP80, 100, 115	T50	M8 x 65 x 8.8
FP140	T60	M10 x 65 x 6.8
17S, 17L, 200	T60	M10 x 65 x 8.8
Planetary Box	T50	M8 x 55 x 4.6

Table. 3



CAUTION:

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

6.5 NUTS AND BOLTS

1. After the first day, and regularly thereafter, inspect the wheel nuts.
2. After the first week, and each week thereafter, check all nuts and bolts, including the bearing nuts for tightness.

General Torque

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

Table. 4

6. MAINTENANCE

tyres

6.6 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 4.

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
30 x 11.5 - 14.5	8.0	118
305 / 55 R 22.5	7.5	110
245 / 70 R 19.5	8.5	125
285 / 70 R 19.5	8.5	125
400 / 60 - 15.5	4.7	70
385 / 55 R 22.5	9.0	132
385 / 65 R 22.5 (6 & 8 stud)	5.5	81
385 / 65 R 22.5 (10 stud)	9.0	132
445 / 65 R 22.5	6.0	88

Table. 5

6. MAINTENANCE

wheels

6.7 WHEELS

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

Note: When re-fitting wheels, screw crown nut until resistance is felt (do not overtighten). Turn hub for several revolutions to ensure it is completely bedded. Release crown nut $\frac{1}{6}$ of a revolution, check for movement in hub, and if none, re-fit split pin. For non standard wheels or any not specified on this list please contact Keenan for details of pressures.

Changing a Wheel:

Park the feeder on level ground and apply the handbrake.

Fit chocks to the opposite wheel to prevent machine movement during the operation.

Loosen the wheel nuts with a wrench but do not remove the nuts at this stage. Jack the machine 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 the wheel nuts.

Lower the machine again, and tighten the nuts to the recommended torque using suitable equipment.

Check the wheel nuts again for tightness after 1 hour of use and again on a weekly basis.

7. CHECKLIST

maintenance checklist

DAILY

Cleaning: Clean all old feed from around body to prevent damage to paint and corrosion.

VFC door: Before using the machine, check that the door opens and shuts fully and operates smoothly.

Weekly (40 hrs)

PTO input shaft: Grease the universal joints (2 nipples) and the sliding half shafts (smear grease on surfaces).

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 auger's rear shaft end-bearing (1 nipple). (**NB.** the auger shaft's front end-bearing is sealed and does not need routine lubrication but should be repacked annually).

Tandem Axles: All tandem and bogie axles and suspension (including steering axles) are fitted with grease nipples on pivots and bushes. These must be greased weekly.

Elevator: Each week grease the bearings at each end of the elevator belts. There are 2 on each side of the elevator - See figure 11 page 28, (4 nipples in total) and check elevator belt for cracks or tears and tension. Grease all pivots.

Guillotine door: Grease the door hydraulic cylinders (4 nipples) and the slide plates (smear grease on surfaces with a food and feed industry type grease).

Drive chains: Apply universal-type oil liberally. Check both chain tensioners are adjusted correctly. See maintenance section on pages 22 and 23.

Wheels and Tyres: Check that tyres are inflated at the recommended pressures and wheel nuts are tight.

7. CHECKLIST

Monthly

Bale Handler tine buffer: Check for cracks, splits or degradation.

Blades: Blades must 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.

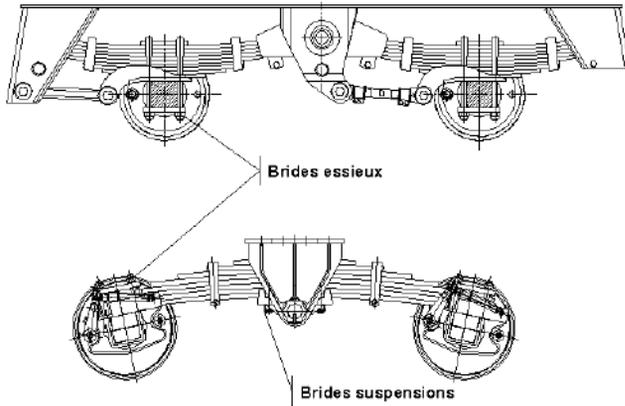
Tandems and Steering Axles: After the first use and at six monthly intervals thereafter, suspension and axle U-bolts should be torqued to the specified table, see Table 6. Steering axles should also be examined for wear and condition. Further information is available from Keenan Service on request.

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

Table. 6

7. CHECKLIST

Monthly (continued)



U Bolt Position On Axles - Figure 12.



WARNING:

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



maintenance checklist

7. CHECKLIST

6 Monthly

Wheels and Hubs: Remove and inspect the hub units. Replace worn parts, regrease and re-fit.

Yearly (end of season)

Drive chains: Remove both chains; wash off all dirt and old oil, using paraffin, then dry. Soak both chains in oil overnight; or longer, if possible.

Auger Shaft Front Bearing: Remove and pack with grease.

Machine: Before storage, wash the complete machine, then grease or oil all weekly lubrication points as above. Open the drain bung in the mixing chamber. Check the tyre pressures. Store the machine under cover or under a tarpaulin, if possible.

Electronic indicator: If the machine is to be stored, remove the indicator unit from the machine and keep in a dry place. Lightly grease the load cell cable connector end, then protect it with a plastic bag or tape.



CAUTION:

Although the weigh-box and connections are sealed against moisture, it is advised to protect or remove the weigh-box and the weigh-bar plugs when power washing the mixer wagon.

8. SPECIFICATIONS

specifications

Standard Specifications

MODEL		80	100	115	140		170		200	
					S/Axle	Tandem	S/Axle	Tandem	S/Axle	Tandem
Unladen weight	kgs.	4,550	5,220	5,520	6,750	7,150	8,530	8,930	10,130	11,230
	lbs.	10,022	11,498	12,159	14,868	15,749	18,789	19,670	22,313	24,736
Payload	kgs.	2,500	3,000	2,750	3,800	3,800	5,500	5,500	6,500	8,000
	lbs.	5,507	6,608	6,057	8,370	8,370	12,115	12,115	14,317	17,621
Max Gross weight	kgs.	7,050	8,220	8,270	10,550	10,950	14,030	14,430	16,630	19,230
	lbs.	15,529	18,106	18,216	23,238	24,119	30,903	31,784	36,630	42,357

9. PARTS LIST

Item and Description:

Item and Description:

1 Main Drive Sprocket	24 Centre Paddle Block
2 Front Rotor Bearing	26 End Creel
3 Front Auger Bearing	27 Main Creel
4 Input Spline Shaft	28 Top Knife Assembly
5 Auger Drive Sprocket	29 Auger Seal Rubber
6 Auger Stub Shaft including 11 Tooth Sprocket	30 Auger Seal Retainer
	31 Rubber Seal For Body
7 Front Box Assembly	32 Rubber Seal Retainer for Body
8 Gearbox (unit)	33 Rubber Seal for Auger top and bottom
9 Bottom Jockey Arm (Complete unit)	
10 Top Jockey Arm (Complete unit)	34 Rubber seal Retainer for Auger Top and bottom
11 Gearbox Adjuster (Unit)	
12 Primary Chain Tensioner	35 Front and Rear VFC End Slide Seals
13 Primary Chain	36 V.F.C. Door Bottom Ram Pin
14 Secondary Chain	37 Front V.F.C. Door Ram (Small)
15 Front Rotor Stub Shaft	38 Rear V.F.C. Door Ram (Big)
16 End Paddle Flange for Rotor	39 Body Blades (Front)
17 Centre Paddle Flange for Rotor	40 Body Blades (Rear)
18 Paddle Rubber	41 V.F.C. Door (Guillotine door)
19 Paddle Rubber Retainer	42 Bolt On Bottom Ram Bracket, Front
20 Rotor Unit	43 Angled Paddle for FP (front)
21 Rotor Seal Rubber (Braided)	44 Angled Paddle for FP (rear)
21a Rotor Seal Retainer	46 Front & Rear VFC Slide Seal Retainer
22 Rotor Seal Rubber	47 Bolt On Bottom Ram Bracket, Rear
23 End Paddle Block	48 Rear Rotor and Auger Bearing



parts list

9. PARTS LIST

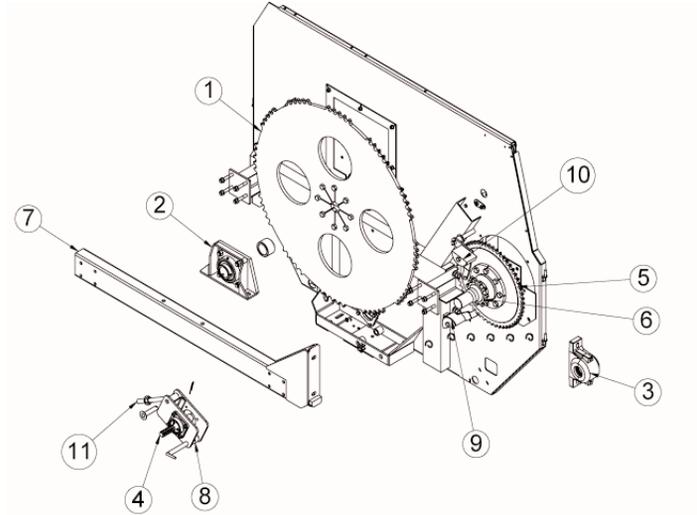


Figure 13.

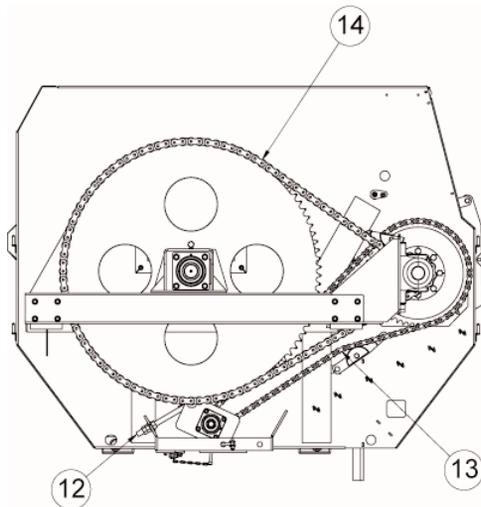


Figure 14.

9. PARTS LIST

parts list

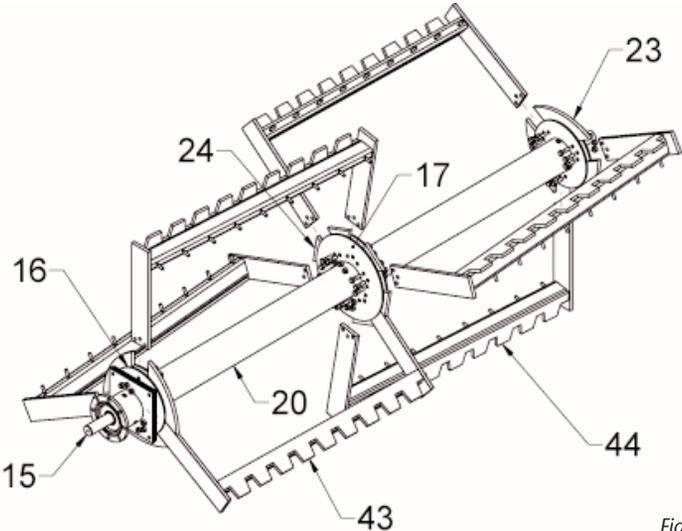


Figure 15.

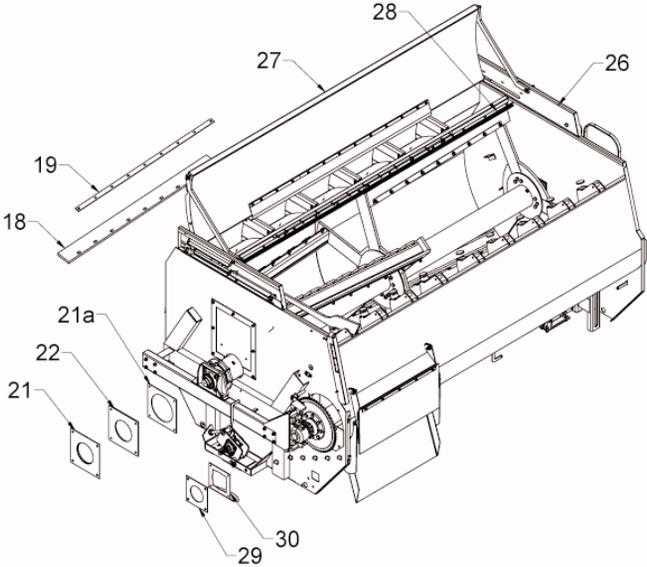


Figure 16.



parts list

9. PARTS LIST

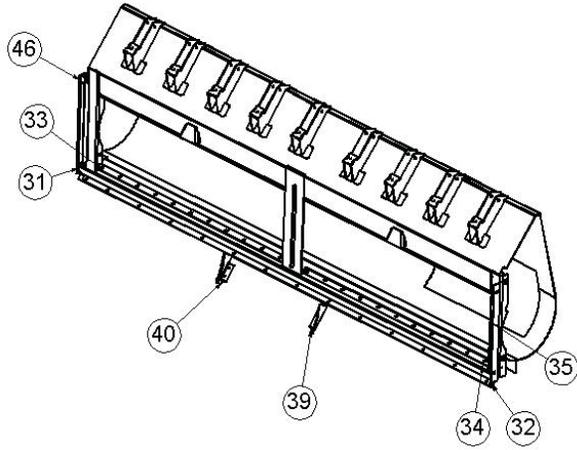


Figure 17.

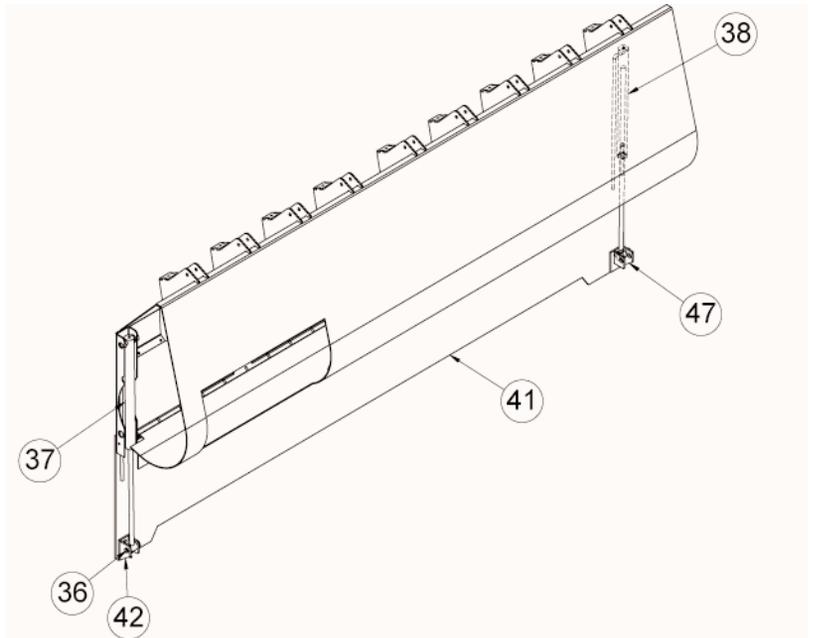


Figure 18.

9. PARTS LIST

parts list

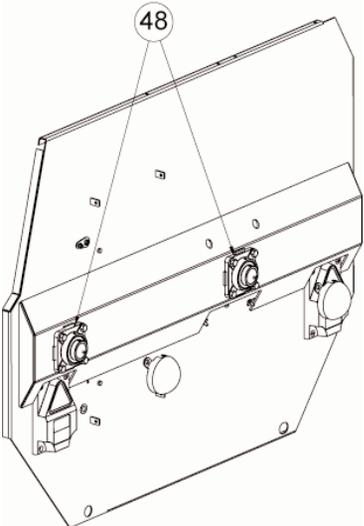


Figure 19.

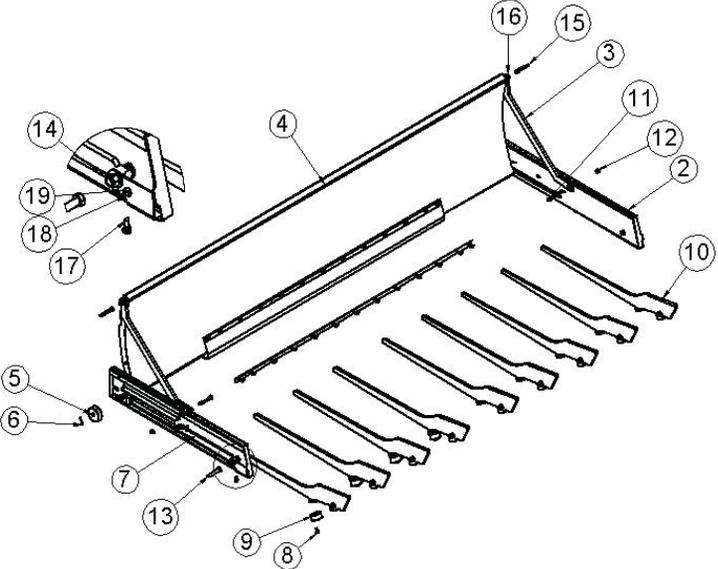


Figure 20. Bale Handler Parts List

9. PARTS LIST

Bale handler parts list:

Item No:	Qty:	Description:
1	1	Bale handler end creel plate, rear
2	1	Bale handler end creel plate, front
3	2	Bale handler creel guide arm
4	1	Bale handler creel curved plate assembly
5	2	Sliding creel guide holder
6	2	R-Clip
7	2	Bale handler curved creel ram
8	9	M12 x 25 bolts
9	9	Bale handler arm stopper
10	9	Bale handle arm
11	2	M16 x 110 bolts
12	2	M16 Locknuts
13	4	M20 x 110 bolts
14	4	M20 Locknuts
15	2	M16 x 120 bolts
16	2	M16 Locknuts
17	6	M10 x 30 Set Screws
18	6	M12 Flat Washers
19	6	M12 Locknuts
Not shown		
	1	Hydraulic hose kit
	2	Steel hose assembly
	4	Serrated 1 metre blade
	8	3/8" Rubber Hose Holder Clamp Block (double)
	5	12L Steel Hose Holder Clamp Block (double)
	2	3/8" male to 3/8" female hydraulic adaptor T-piece
	2	25mm Extra Long Rubber (front)
	2	25mm Extra Long Rubber (rear)

10. TROUBLESHOOTING

PROBLEM

- 1. Weigh display will not work properly**
- 2. VFC door does not move**
- 3. VFC door drops during mixing**
- 4. Excessive shearbolt breakage**

SOLUTION

- Check section on weighing, see pages 44 and 45.
- Check hydraulic hoses and that valves are open.
- Check tractor hydraulic oil level
- Check ram condition and pins are secure.
- Insufficient hydraulic pressure - check spool valve on tractor or fit non return valve in line.
- Check ram for signs of leakage.
- Machine overloaded.
- Driving chain too loose - check condition and adjust.
- VFC door is opened too fast - open feed out door slowly at first then open fully.
- Turn paddle a few turns before opening feedout door to avoid huge load on machine - especially after feed has settled in body of machine.
- Run machine slower.
- For non bale handler models - never load bales directly down on paddle in one go - always chop up into at least 4 pieces.
- For bale handler models tine height may be set too low or buffers may be damaged.

10. TROUBLESHOOTING

PROBLEM

- 5. **Noisy operation**

- 6. **Feed is not mixed properly.**

- 7. **Feedout is too slow.**

- 8. **Horsepower requirement is too high.**

- 9. **Machine is not chopping fast enough.**

SOLUTION

- Oil chains liberally - adjust tension on chains.
- Grease all nipples.

- Insufficient mixing time.
- Loading materials in wrong order.
- Not enough time given for chopping.
- Overloading of machine.

- Check condition of paddle rubbers.
- Slow down tractor ground speed.
- Reduce engine revs to give paddle more time to push material into auger.
- Material is not chopped enough.

- Check chopping blades and top knife for sharpness.
- Machine overloaded.

- 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.

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

- Disconnect the cables on the indicator box. Ensure they are labeled correctly for reconnection. Check both the plug on the cable and the connector on the Indicator 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. 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.

10. TROUBLESHOOTING

guide

System Weighing Inaccurately

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 weighcell can turn upside-down resulting in that weighcell giving an inaccurate reading. (As you face the back of the machine the cable should be to the Right Hand Side of each of the rear Weighcells. As you face the front of the machine the cable should be to the Right Hand Side of each of the front Weighcells.)

If a Weighcell is turned upside-down, remove the bolt M10 x 90 (for the FP170 and FP200 use M20 x 130) and turn the Weighcell.

To check that the system is weighing correctly, get some known weight (e.g. A bag of fertiliser) 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.

Indicator will not Switch ON

Check the power cable thoroughly and make certain that you are getting power from the tractor to the display. The fuse for the display is located inside the cabinet but do not disassemble display as to do so may cause serious damage. It is extremely rare for this fuse to be blown so if there is power feeding to the display and it is still not working contact your Keenan service agent. The fuse located at the bottom panel of the indicator is for the external alarm and nothing to do with the display.

11. WARRANTY

warranty

Richard Keenan & Co. Ltd. ("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. Standard Warranty period from date of commissioning is 12 months unless otherwise agreed in writing between the company and the owner. This Warranty shall cease to apply on any resale of the equipment by the initial owner.

The Warranty shall not apply to:

- A** Any machine used by a third party, who will not have had instruction in the correct use of the machine by an official representative of the Company.
- 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.
- D** Any consumable or perishable parts such as knives, blades, rubber 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 operators manual.
- G** Any machine that has received repairs or modifications by persons unauthorised by the Company.
- 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.



warranty

11. WARRANTY

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.

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 at the address on the invoice.

In the event of the machine being loaned to or hired by a third party warranty cover is not transferable unless given in writing and signed by a Director of Richard Keenan & Co.

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

PRODUCT CHANGES AND IMPROVEMENTS

Due to our policy of continuous improvement, Richard Keenan & Co. 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.

12. EC DECLARATION OF CONFORMITY

EC Declaration of Conformity.

In accordance with Directive 98/37/EC.



Manufacturer:

Richard Keenan & Co. Ltd.,
Borris,
Co. Carlow,
Ireland.

Certifies that the Keenan Klassik complies with the essential safety requirements of the Directive 98/37/EC.

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

EN ISO 12100-1, EN ISO 12100-2, EN294, EN 1152, EN349, EN703, EN1553 (MRL app. IIA), ISO 11684, ISO 12140

Date: 29th August 2003

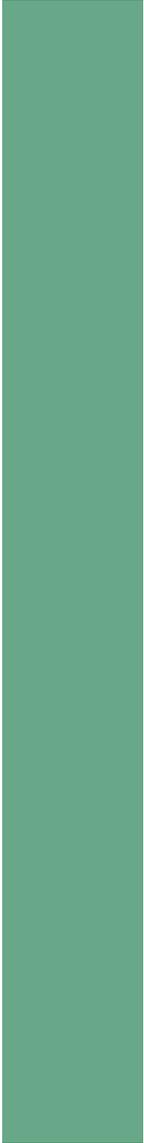
Signed: _____

James Greene, Managing Director

NOTES



NOTES



KeenanTM

Leading in nutrition management

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