USER MANUAL

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KEENAN

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TO THE OWNER

The Keenan Easi-feeder is a diet feeder with a difference.

Designed to combine total reliability with optimum performance, the Easi-feeder is the heart of a successful complete diet feeding system.

Not only does it provide fast, efficient mixing and feed-out, it can also be used for pre-mixing concentrates and for treating cereals.

High mechanical efficiency means the Easi-feeder can be used with relatively low horsepower tractors and a minimum of moving parts ensures genuine long life.

At Keenan we realise our customers are our strength. As a Keenan user not only are you entitled to our full nutritional management services whenever you need them, you are also assured of our prompt and full attention to any problem at all times.

Simple routine maintenance and correct operation will ensure you get the very best from your Easi-feeder.

This manual has been designed to cover all the information you need to know, but if you require any further assistance please do not hesitate to get in touch with us.

CONTENTS

1. THE EASI-FEEDER PRINCIPLE

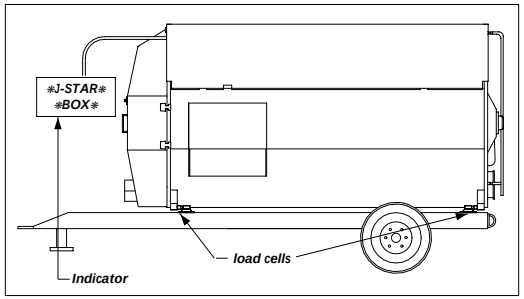
The Easi-feeder's main operating functions are weighing, mixing and feeding out.

WEIGHING

The Easi-feeder's electronic weighing system allows exactly the required amounts of individual materials to be loaded into the mixing chamber to provide accurate rationing.

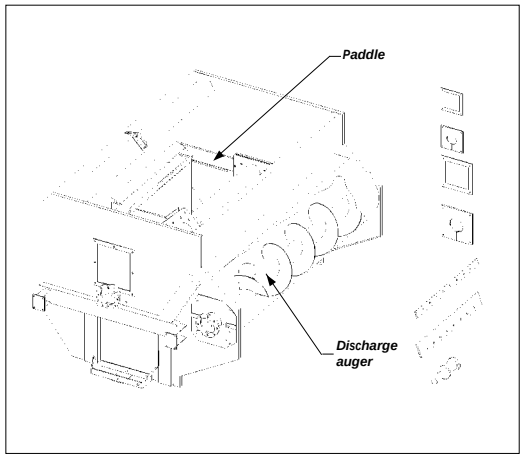
The system is based on robust load cells mounted between chassis and mixing chamber which send electronic signals to the control box mounted on the front of the feeder. These signals are converted into units of weight which are then displayed on an easily-read digital display.

Individual loads can be weighed or successive loads can be accumulated to give total weight of feed in the feeder.



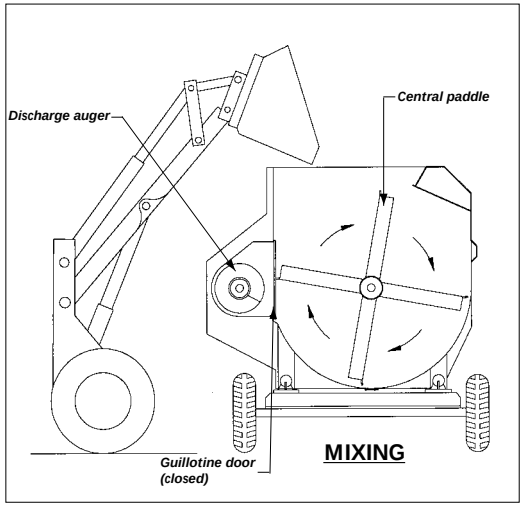
MIXING

Mixing is carried out by a centrally-mounted paddle revolving at just 10rpm.



The paddle imparts a shearing action on the feed ingredients and produces a consistent and thorough mix with all types of material including coarse, wet silage and liquids.

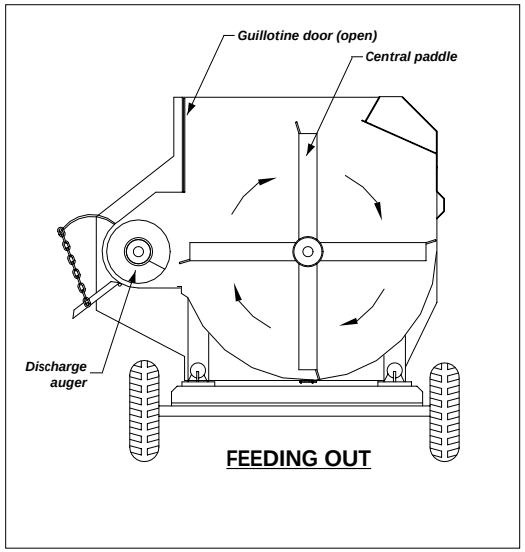
When mixing, a simple guillotine door separates the mixing chamber from the unloading auger.



FEEDING OUT

When mixing is complete the PTO is disengaged and the guillotine door between the mixing chamber and the discharge auger is lifted. The auger rotates in the same direction as the paddles and runs the entire length of the mixing chamber.

When the door is lifted, the PTO is engaged and material is pushed onto the auger and discharged at the front of the machine. Feed-out is even, rapid and in full view of the operator.



FEEDING OUT

2. SAFETY

The Easi-feeder has many safety features built into its design but its ultimate safe operation is down to the individual and his understanding of potential safety problems.

The Easi-feeder is designed to be used as a mixer wagon for mixing animal feeds. It should not be used for any other purpose which will affect its performance or safety.

The following points are guidelines only, please be vigilant at all times.

1. Use only a PTO shaft with a properly fitted safety guard and shear bolt.
2. Do not permit any passengers on the feeder.
3. Always connect the PTO shaft with the shear bolt end to the tractor.
4. Always make sure that all covers/guards are fitted and locked closed with the keys provided.
5. Ensure all trailing leads, hoses etc are well clear of the PTO.
6. Ensure the feeder and the immediate area surrounding it are clear of people, especially children, before commencing operation.
7. Never remove chain guards or get into the feeder when it is connected to a tractor.
8. Regularly inspect all chains, sprockets and moving parts for wear and check all nuts and bolts for tightness.
9. Load only from the side indicated.
10. Do not exceed 15km/hr (10mph) when travelling.
11. Exercise extreme caution when turning right.
12. Always park the feeder on level ground and apply hand brake when not in use.
13. The ladder on the rear of the feeder is only 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.

SODA GRAIN WARNING!

Before treating grain with Caustic Soda, read carefully the instructions provided by KEENAN paying particular attention to the Safety Warnings.

When finished treating grain, clean out any treated grain remaining in the Mixing and/or Auger chambers. Remember that this grain should not be fed to animals for at least 4 days after treating.

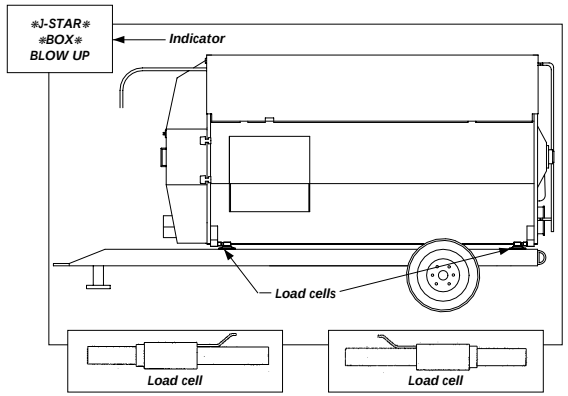
Caution is the key word at all times.

3. HOW TO USE THE WEIGHING SYSTEM

The weighing system has been designed to be simple to operate, accurate and robust.

The weighing system is made up of four load cells and an indicator unit at the front of the machine. Each of the load cells is connected to the indicator unit.

Note: The 20 cubic weighing system has Weightonix load cells and indicator. Refer to seperate manual for the EF200. The system described below refers to the J-star indicator which is common to all models except the EF200.



The system uses 12 volt DC power from the tractor which is connected to the indicator unit. The indicator unit therefore has two leads entering it, one from the load cells and one from the tractor.

The indicator unit is mounted on a swinging arm to allow it to be placed in the best position possible for ease of operation and visibility.

Weights of loads are displayed in kilograms with increments of 5kg being used. The unit is capable of measuring up to 20 tonnes.

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.

WEIGHING – INSTALLATION REQUIREMENTS:

Indicator Mounting:

The indicator is easily attached to the Indicator Mounting Bracket by hooking the top over the plate and securing the bottom with two (2) bolts and nuts.

Power Connection:

The power cable should be connected directly to a vehicle battery or regulated power supply. The scale end of the power cable is attached to the **"POWER"** connector located on the bottom panel of the scale. Connect the **RED** wire from the power cable to +12 VDC and the **BLACK** wire to **GROUND.**

The indicator is fused internally at 4 amps. The FUSE on the bottom panel of the indicator is for the ALARM ONLY.

Power Cable Connections:

Wire Colour	Wire Function
RED	Battery (+12 VDC)
BLACK	GROUND
ORANGE	Remote Alarm Out +
BLUE	Remote Input

Remote Alarm Connection:

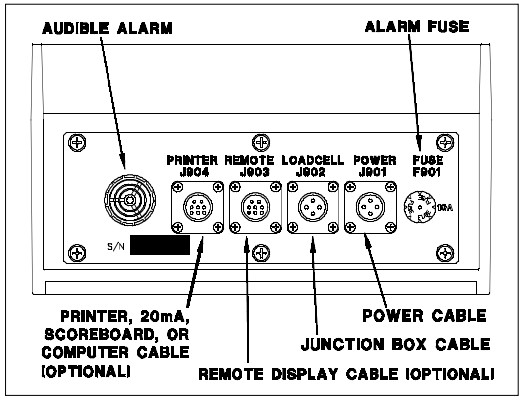
If a remote 12 VDC alarm is to be used, connect the +12 VDC side of the alarm to the power cable orange wire and the GROUND side of the alarm to the frame. The alarm output is fused for a maximum drain of 10 amps.

Remote Input Connection:

If the Remote Input Connection is to be used, connect one side of a 'Normally Opened' switch or relay contact to the BLUE wire of the POWER cable, and the other side to the frame or other GROUND connection. Closing the switch or relay is the equivalent of pressing the (TARE) key on the indicator i.e. gives a 'Temporary' 'Zero' point.

HOW TO USE THE WEIGHING SYSTEM

SCALE BOTTOM PANEL CABLE CONNECTIONS:



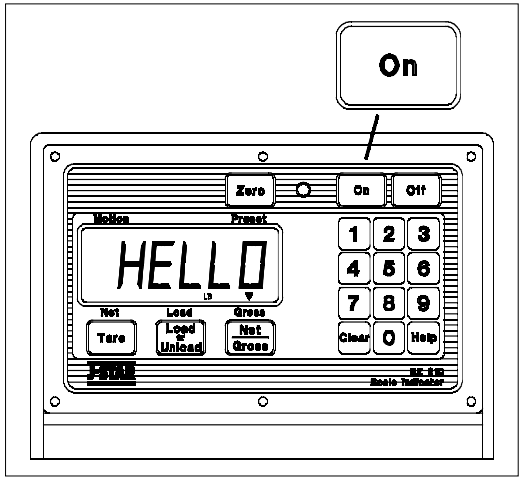
Load Cell Connection:

The indicator is designed to operate with strain gauge load cells. To connect the load cells, attach the junction box cable to the "LOADCELL" connector on the bottom panel of the scale.

Weighing – System Operation:

Turning ON the Scale:

Step 1) Press [ON].



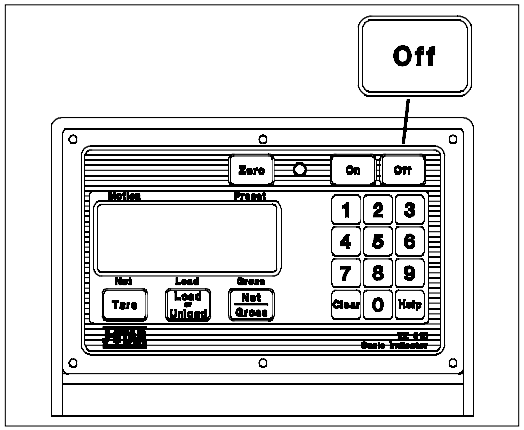
A brief message will be displayed ("HELLO"). The scale then selects the GROSS weighing mode.

GROSS mode displays the weight change since the unit was last ZERO/BALANCED.

Pressing [ON] a second time during normal system operation starts the self test.

Turning OFF the Scale:

Step 1) Press [OFF].

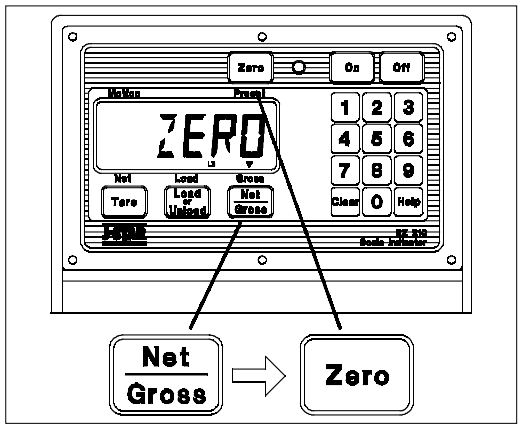


Loss of power does not affect the "set-up/calibration" values.

To Zero-Balance the Scale:

Step 1) Press the [NET/GROSS] key and within three seconds,

Step 2) press the [ZERO] key.



HOW TO USE THE WEIGHING SYSTEM

The **ZERO/BALANCE** will "balance off" feeder weight.

"ZERO" is displayed to show completion of the step and the scale is then placed in the GROSS mode.

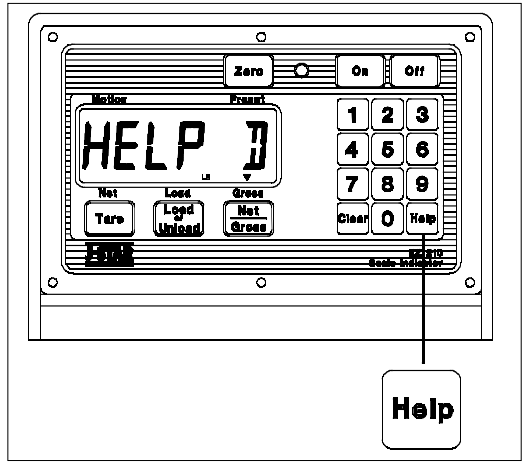
Pressing only the [ZERO] key will cause the message "TO ZERO/BALANCE PRESS NET/GROSS – THEN ZERO" to be displayed.

If the supply power is below the "low battery threshold" (10.5 Volts), the message "INDICATOR CANNOT BE ZERO/BALANCED – LOW BATTERY VOLTAGE" is displayed. The message "LO BAT" will be periodically shown on the display (approx. every five seconds) to alert the operator of the low battery condition.

Using the Help Key:

The [HELP] key provides additional information about the weighing modes, setup/calibration, and keypad entries.

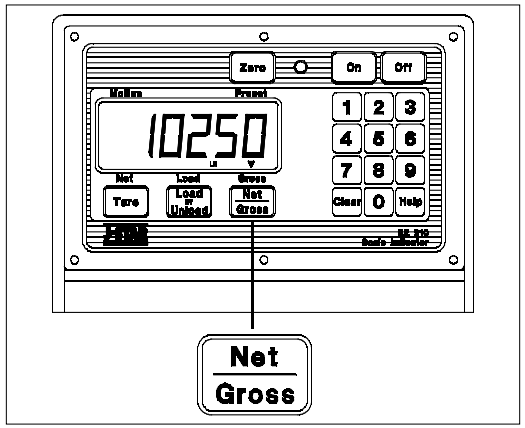
Step 1) Pressing [HELP] while displaying weight will display information about the last key pressed.



To Select Gross Mode:

GROSS mode displays the weight change since the unit was LAST ZERO/BALANCED.

Step 1) Press [NET/GROSS]



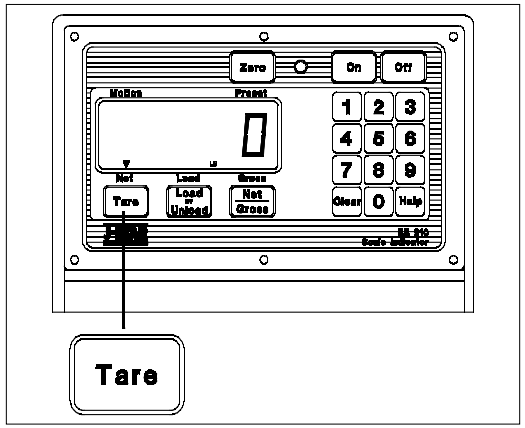
Press the [NET /GROSS] key if in the NET or LOAD/UNLOAD mode.

NOTE: The scale is in GROSS mode if there is a flashing arrow pointing toward the GROSS text above the [NET/GROSS] key.

To Select Net Mode:

NET mode displays the weight change after a TARE has been performed. TARE is <u>temporary</u> "zero" point.

Step 1) If the scale "TARE" weight has not been entered, press [TARE] to acquire a "zero".



or

Step 2) If in Gross mode, press [NET/GROSS]. The [NET/GROSS] key is an alternating action key. If the scale is in the GROSS mode, pressing the [NET/GROSS] key will place it in the NET mode. If the scale is in the NET mode, pressing the [NET/GROSS] key will place it in the GROSS mode. If in LOAD-UNLOAD mode, press [NET/GROSS] two (2) times.

If the "TARE" function has not been previously performed, the unit will stay in the Gross mode and the message "FOR NET MODE PRESS TARE" will scroll across the display.

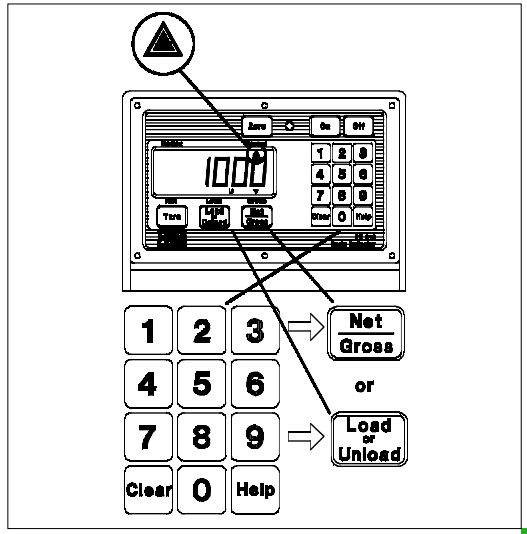
NOTE: The scale is in NET mode if there is a flashing arrow pointing toward the NET text just above the [TARE] key.

To Enter a Preset:

Step 1) Use the numeric keypad to enter the desired preset weight.

Step 2) Press either [NET/GROSS] or [LOAD/UNLOAD] to enter the preset value and select the "display mode".

The 'PRESET' annunciator outer triangle will turn ON when the preset amount is entered.



Once the preset has been entered, the display can show the weight data in three (3) different "display modes".

The three display modes are:

"GROSS MODE" The gross weight is displayed by pressing the [NET/GROSS] key. As ingredients are loaded, the weight display will count upward toward the preset value. As ingredients are unloaded the weight display will count down to the preset value.

"LOAD/UNLOAD MODE" Press the [LOAD/UNLOAD] key to display the amount remaining to be loaded or unloaded. As ingredients are loaded OR unloaded, the display will count down from the entered preset weight until it reaches zero.

"NET MODE" The weight added since the preset has been entered is displayed by pressing the [NET/GROSS] key two (2) times if in the PRESET LOAD/UNLOAD MODE, one (1) time if in the PRESET GROSS MODE. As ingredients are loaded, the weight display will count upward, as they are unloaded the weight display will count down.

Switching between these display modes is possible at any time by simply pushing the appropriate keys.

Before the preset weight is reached, the pre-alarm is activated. This causes the preset display annunciator, the front panel alarm light, the output relay, and the alarm horn all to pulse in sequence with the alarm light.

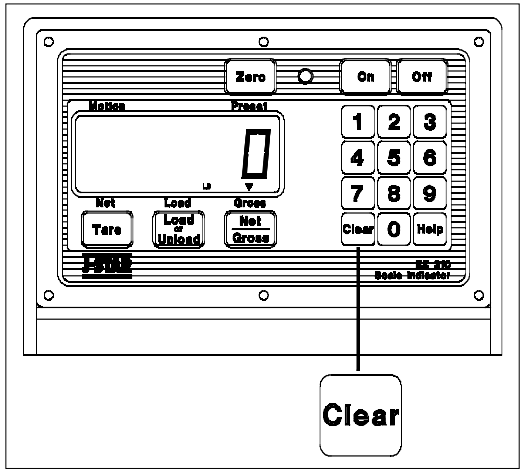
Set the pre-alarm value to"0" to prevent the alarm output from pulsing.

When the preset weight is reached, the front panel alarm light, the output relay, the 'PRESET' annunciator, and the alarm horn will all be held ON.

HOW TO USE THE WEIGHING SYSTEM

To Clear the Preset & Alarm:

Step 1) Press the [CLEAR] key.



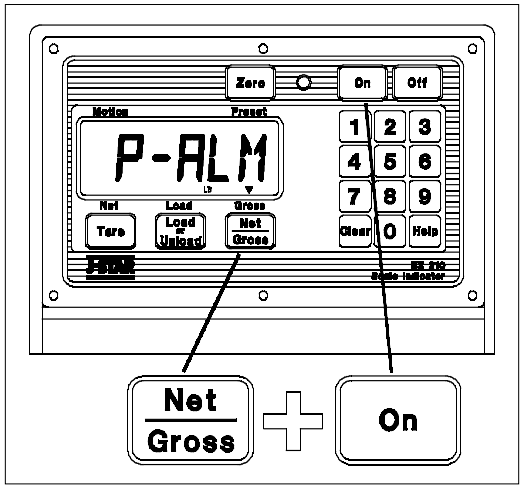
At this time, a new preset can be entered or by pressing the [CLEAR] key a second time (with a flashing zero "0" shown on the display) the scale will return to weighing.

Using the Pre-Alarm:

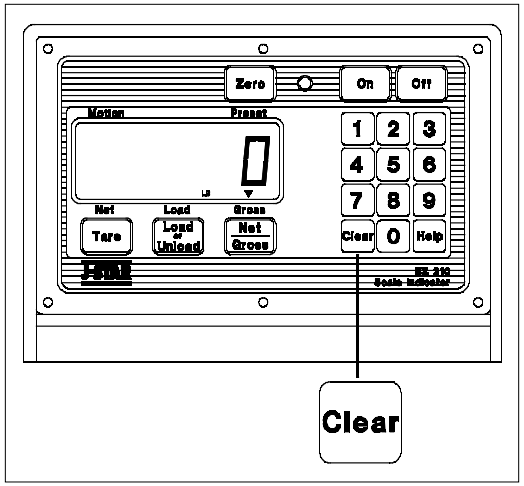
The Pre-Alarm feature is an "early warning" for the preset. For example, if the Pre-Alarm is set to 100 and the preset is 1000, the preset alarms will flash during the last 100 kgs of the preset. The alarms are continuous once the preset is active. This allows more accuracy in reaching the preset.

Change the Pre-Alarm Weight:

Step 1) Press and hold the [NET/GROSS] key, then press the [ON] key. Continue holding both keys until the indicator beeps and displays the message "P-ALM". The 'CAL' annunciator will be flashing and the current pre-alarm weight is displayed.

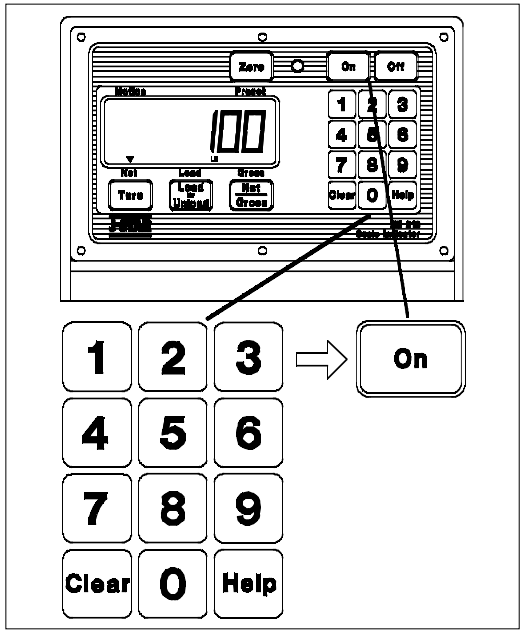


Step 2) Press the [CLEAR] key to erase the current weight value.



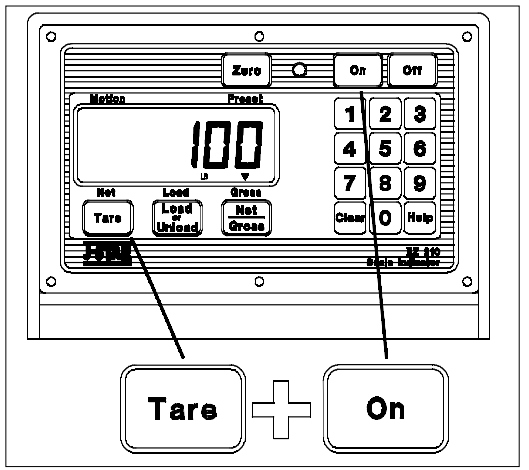
HOW
TO USE
THE
WEIGHING
SYSTEM

Step 3) Use the numeric keypad to select a pre-alarm weight.



Step 4) Press the [ON] key. The display will advance to the next setup value.

Step 5) To exit setup and return to weighing, press and hold the [TARE] key, then press the [ON] key.



TROUBLESHOOTING

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.

1. Disconnect the Display Cable (Junction Box to Indicator). 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.
2. Remove the cover from the Junction Box and check for any loose wiring or dampness. Again dry off any dampness and rectify any loose or bad wiring.
3. 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.

HOW TO USE THE WEIGHING SYSTEM

System Weighing Innacurately

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 (⅜" x 3½") 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

If the Indicator will not switch ON the most likely cause of the problem is a faulty Power Cable or bad connection at the Power point on the tractor. Check the Power cable thoroughly for breaks and also make 100% sure that you are getting Power from the tractor. Note that the Indicator is **Fused Internally** and that the Fuse located on the bottom panel of the Indicator is for an External Alarm. If these checks do not solve the problem, contact KEENAN SERVICE.

4. OPERATING THE EASI-FEEDER

The Easi-feeder is designed for ease-of-use and low power requirement. For maximum performance it is recommended that the feeder be used with a tractor in the 75-80hp range.

Until the full capabilties of the Easi-feeder are understood by new operators, it is recommended that smaller quantities are used **and that overloading is avoided.**

HITCHING UP

1. After ensuring the Easi-feeder is parked on level ground hitch-up the feeder to the tractor towbar.
2. The PTO shaft should be attached with its shear bolt end coupled to the tractor's output not to the feeder's drive box. Make sure that the PTO guard is in good condition and well secured.
3. Connect the hydraulic line from the guillotine door mechanism to a **double-acting spool valve** and the line from the brakes to a single acting valve.
4. Ensure the power lead from the weighing system is connected to the tractor battery via a direct fused line (see section 3).

LOADING/MIXING

1. If the feeder has been transported to a new area, again check it is on level ground. This will ensure all feedstuffs are distributed evenly for accurate weighing and thorough mixing.
2. Make sure the guillotine door is closed and that hydraulic pressure is applied. With tractor engine speed at approx 1500rpm, engage the PTO. As a general rule engine speed during loading should be as low as possible without the risk of stalling.

3. Loading of the feeder can now start. Loading should be carried out only from the side indicated to avoid the risk of catching loading shovels/silage grabs in the revolving paddles.
4. Use the weigher system to ensure the right amounts of ingredients are being added in line with the desired rations (see section 3).
5. Where liquids are being used, these should be loaded first followed by other concentrates and then other ingredients which form smaller fractions of the total mix.
6. Last of all add the feed ingredient which forms the largest part of the ration. This allows lesser constituents to be thoroughly mixed together before the addition of the main bulk of the ration and ensures they are evenly spread throughout the mix.
7. Allow the mixture to circulate in the feeder until all loading is complete. Disengage the PTO and transport the feeder to unloading point.

Note: As a rule mixing is complete as soon as the last ingredient is loaded.
When mixing cereal pre-mixes and meal-only diets, set the engine speed to about 1800-2000rpm and do not mix more than 2.5 tonnes at any one time. For best results, leave the feeder running for three to four minutes after the last ingredient has been added to ensure a thorough mix.
When using straw in the ration, it is advisable to leave the feeder mixing for a further 2-3 minutes after loading is complete.

UNLOADING

1. Position the feeder discharge chute over the start of the feeding trough and open the guillotine door to its full height.
2. Engage the PTO and set the engine speed to 1800-2000rpm. Select and engage a low ratio forward gear and the feed-mixture will be discharged.
3. Discharge time depends on materials used and the total load, but moderate loads of silage-based rations will take in the region of two minutes to fully unload.
4. If a run of trough space is finished before the feeder is fully unloaded, disengage the PTO and turn around before going back down the passage or moving to a new trough. Engaging the PTO will commence the feed-out procedure once more.

Warning - If you need to lower the guillotine door because of height restrictions when manoeuvering, allow the door to descend slowly under its own weight rather than forcing it down with hydraulics. Disengage the tractor hydraulics and operate the lever. Before engaging the PTO again ensure hydraulics are reconnected and guillotine door is fully open.

Remember . . .

Always use the lowest gear possible as this will ensure maximum power is delivered to the unloading mechanism.

The guillotine door should never be used as a metering device. In operation it should be used only in one of two positions - fully opened (unloading) or fully closed (mixing).

Warning - Always disengage the PTO before attempting to turn any corner once the Easi-feeder is hitched up.

5. EXAMPLE MIXING SEQUENCES

INGREDIENTS	SEQUENCE
Dairy Ration (1)	
Molasses	1
Ruminant Fishmeal	2
Brazilian Soya	3
Caustic Treated Wheat	4
Distillers Grains	5
Barley Straw	6
Silage	7
Dairy Ration (2)	
Brewers Grains	1
Sugar Beet Pulp	2
Ruminant Fishmeal	3
Brazilian Soya	4
Caustic Treated Wheat	5
Barley Straw	6
Silage	7
Beef Ration (1)	
Molasses	1
Minerals	2
Maize Gluten	3
Barley Straw	4
Silage	5
Beef Ration (2)	
Minerals	1
Distillers Grains	2
Fodder Beet	3
Brazilian Soya	4
Caustic Treated Barley	5
Barley Straw	6
Silage	7

Remember, as a general rule the sequence is as follows :
1) Liquids. 2) Smallest Quantities.
3) Grain and Nut Textures. 4) Fibre. 5) Silage
In the case of chopping machines, load as follows: Liquids, then material to be chopped. Allow time for chopping to take place. Add remainder of materials as in sequence above. Where liquids are not used the material needing chopping should go in first with a small quantity of wet forage added.

6. MAINTENANCE

The Easi-feeder has been designed for optimum performance with a minimum of maintenance.

Chains and bearings have been kept to a minimum without compromising function and there are only eleven grease points on the entire machine. All components are of high quality and provide excellent durability.

Regular routine maintenance will ensure your Easi-feeder gives you the best results with a minimum of problems.

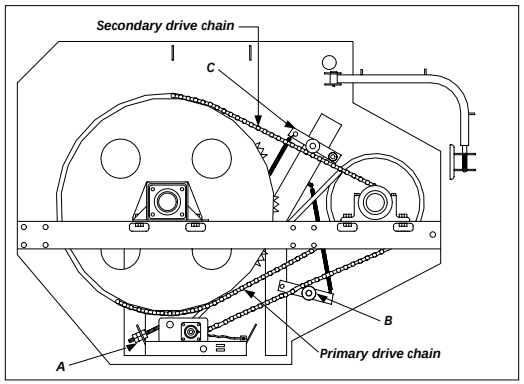
Prior to carrying out any maintenance on the machine, always disconnect the P.T.O. and hydraulic hoses from the tractor.

CHAINS

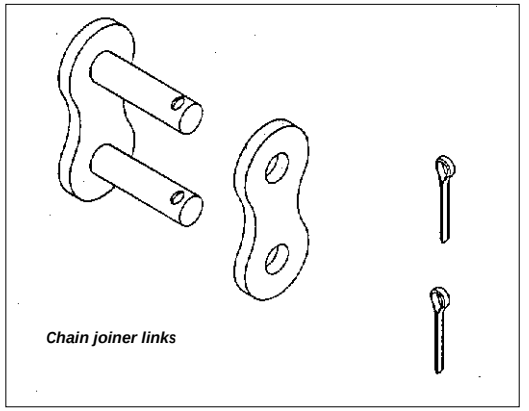
1. Each week check the chains and adjust tension accordingly.

   Primary drive chain is adjusted by turning the drive gearbox adjuster nut (A) to remove excess slackness and tension by turning chain tensioning jockey arm (B).

   Secondary drive chain is adjusted by turning the jockey arm (C).
   Both chains should be adjusted to prevent sagging or whipping when under load. Do not overtighten or damage to the bearings will result.
2. Each week apply universal oil liberally to both drive chains.



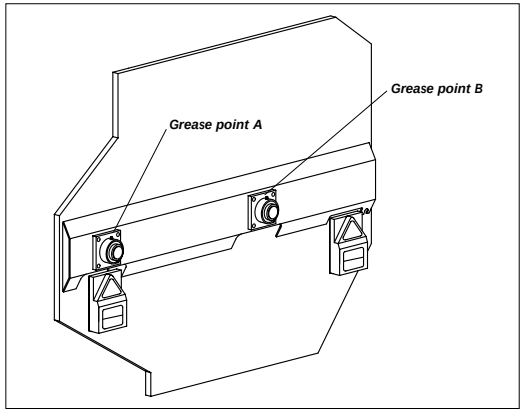
3. After each season remove both chains by removing the joiner links - see diagram - and wash off all dirt and oil using paraffin. Dry the chains before soaking overnight in oil. Refit.



GREASE POINTS

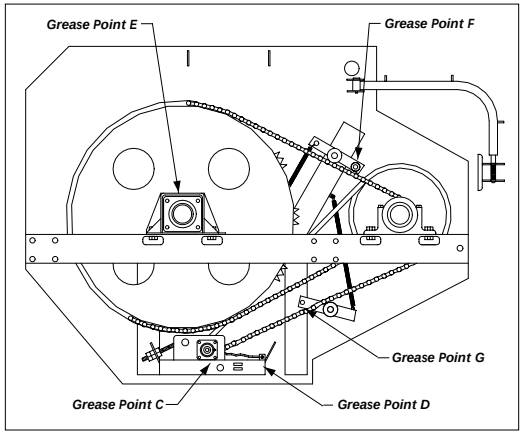
1. Bearings - Each week apply grease to the five bearings with nipples. The five bearings are as follows;

   Two main bearings at the rear of the Easi-feeder (A + B)



Two main bearings on the front and rear of the gearbox drive shaft (C + D)

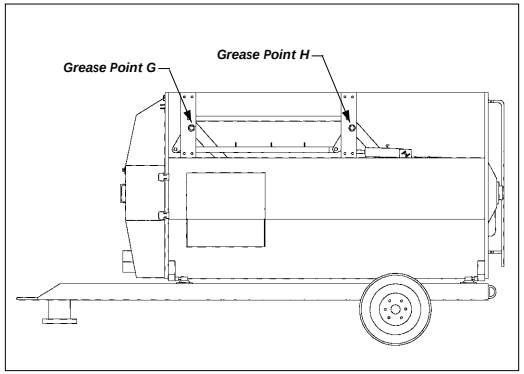
One bearing on the front of the main rotor shaft (E)



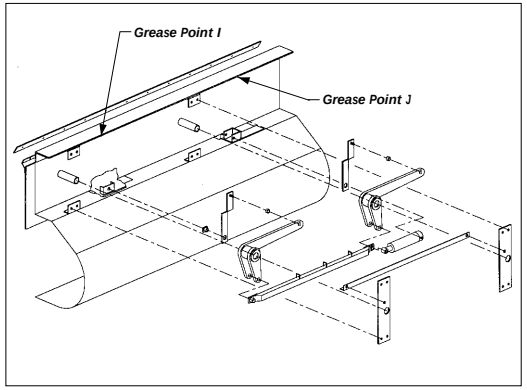
2. Bushes - Each week apply grease to the four bushes with grease nipples. The four bushes are as follows;

   Two bushes on the jockey sprockets (F + G)

   Two bushes on the guillotine door lift arms (G + H)



3. Slides - Each week apply grease to the two slide plates on the guillotine door (I + J)



Note: Check the guillotine door is able to move freely each day and grease as appropriate.

NUTS AND BOLTS

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

TYRES

1. Each week check the tyres for wear and damage.
2. Each week check tyre pressures. Optimum tyre pressures are as follows;

PLEASE CHECK WHEEL NUTS AT REGULAR INTERVALS

Torque

Stud Type	LB/FT	N.M.
M18	250	337
M20	300	405
M22	400	540

Maximum inflation pressures: **Pressure**

Tyre	Bar	PSI
30 – 11.5 – 14.5	7	101
12.5/80 – 15.3	5.3	76
12.0 – 18	5	72
40 – 14	7	101
15/70 – 18	5	72
16/70 – 20	5.45	79
15 x 22.5 (385/65R – 22.5)	5	72
18 x 22.5 (445/65R – 22.5)	6	87
(285/70R – 19.5)	8	116
(275/70R – 22.5)	8	116
(400/60 – 15.5)	5	72

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.

THIS INFORMATION IS GIVEN AS GUIDANCE. IF IN DOUBT PLEASE CONTACT KEENAN SERVICE.

WHEELS

1. Each season, lever off hub cap, remove split pin and castle nut and remove 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 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 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.

Note: At the end of the season wash the machine down thoroughly preferably using a power washer. Grease or oil all lubrication points and open the draincock.

7. MAINTENANCE CHECKLIST

DAILY

Guillotine 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).

Mixing paddle door: Grease the front and rear mixer-paddle shaft end-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 checked annually for wear).

Guillotine door: Grease the door lift-arm pivot bushes (2 nipples) and the slide plates (smear grease on surfaces).

Drive chains: Apply universal-type oil liberally. Check both chain tensioners are adjusted correctly (see text).

Tyres: Check that tyres are inflated at the recommended pressures.

YEARLY (END OF SEASON)

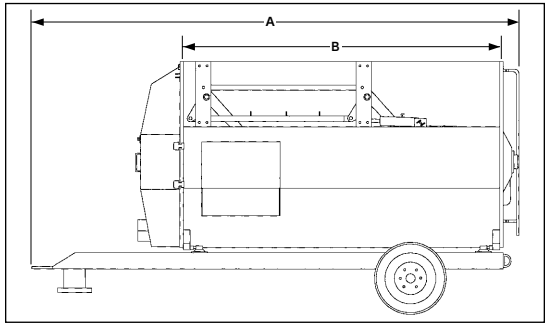
Drive chains: Remove both chains; wash off all dirt and old oil, using paraffin, then dry. Soak both chains in oil overnight; or longer, if possible.

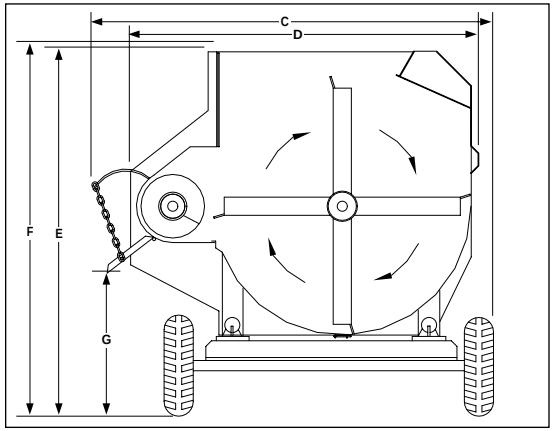
Machine: Before storage, wash the complete machine, then grease or oil all weekly lubrication points as above. Open the draincock in the mixing hopper. Check tyre pressures. Store the machine under cover or under a tarpaulin, if possible.

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.

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

8. SPECIFICATIONS

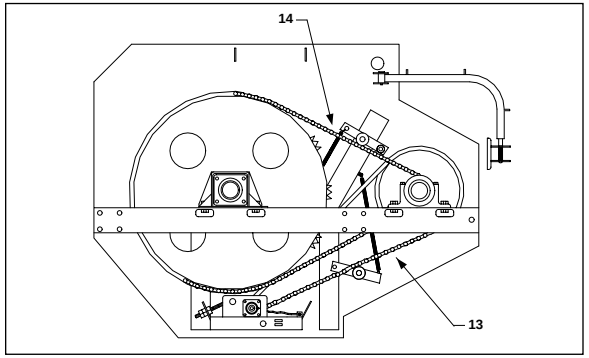


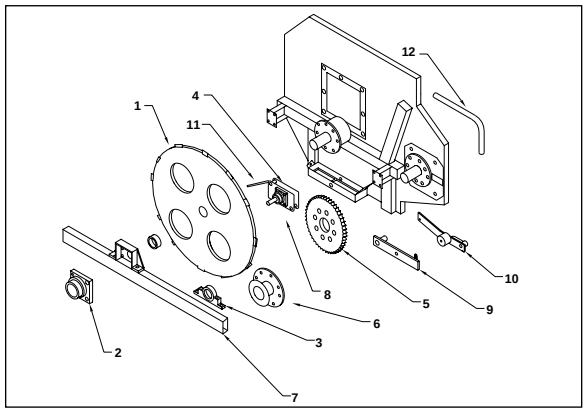


Model	70	80	90
A	4.89	4.85m	5.89m
B	3.00m	3.00m	4.00m
C	2.33m	2.70m	2.33m
D	2.12m	2.30m	2.10m
E	2.30m	2.43m	2.30m
F	2.47m	2.60m	2.47m
G	0.96m	1.10m	0.96m
Capacity	7m3	8m3	9m3
Wheels	(12 x 18) 14 Ply 6 Stud	(12 x 18) 14 Ply 6 Stud	(12 x 18) 14 Ply 6 Stud
Weigher resolution	5Kg	5Kg	5Kg
Discharge	Side Auger		

Model	100	115	140	200
A	4.99m	5.85m	5.90m	6.90m
B	3.00m	4.00m	4.00m	5.00m
C	2.95m	2.70m	3.00m	3.25m
D	2.54m	2.30m	2.54m	2.83m
E	2.59m	2.48m	2.73m	2.90m
F	2.76m	2.65m	2.90m	—
G	1.13m	1.10m	1.24m	1.27m
Capacity	10m3	11.5m3	14m3	20m^3
Wheels	(12 x 18) 14Ply 6 Stud	(12 x 18) 14Ply 6 Stud	(15R 22.5) 8 Stud	(12 x 18) 14 Ply 6 Stud
Weigher resolution	5Kg	5Kg	5Kg	5Kg
Discharge	Side Auger			

9. PART NUMBERS

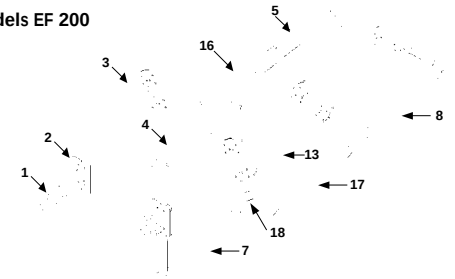




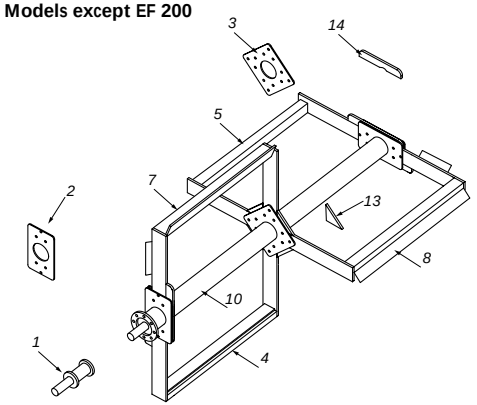
Item & Description	70	80	90
1 Main Sprocket	EF707/34	EF807/34	EF707/34
2 Bearing (rotor front)	P501	P501	P501
3 Bearing (auger front)	P503	P503	P503
4 Sprocket & Shaft gear/box	EF1018/11	EF1018/11	EF1018/11
5 Sprocket (auger feed)	P556	P559/1	P556
6 Sprocket (auger supply)	EF109/29	EF109/29	EF709/29
7 Front Cross Member	EF7017	EF8017	EF7017
8 Gearbox (Unit)	EF1018	EF1018	EF1018
9 Bottom Jockey (complete unit)	EF1015	EF1015	EF1015
10 Top Jockey (complete unit)	EF7014	EF1014	EF7014
11 Gearbox Adjuster (Unit)	EF1018/15	EF1018/15	EF1018/15
12 Read Out Arm (unit)	EF102/60	EF102/60	EF102/60
13 Chain	P703	P703	P703
14 Chain	P701	P701	P701

Item & Description	100	115	140	200
1 Main Sprocket	EF107/34	EF807/34	EF107/34	P561
2 Bearing (rotor front)	P501	P501	P501	P517
3 Bearing (auger front)	P503	P503	P503	P516
4 Sprocket & Spline Shaft	–	–	–	EF2018/16
5 Sprocket (auger feed)	P555	P559/1	P555	EF209/32
6 Sprocket (auger supply)	EF109/29	EF109/29	EF109/29	EF209/29
7 Front Cross Member	EF1017	EF8017	EF1017	EF2017
8 Gearbox (Unit)	EF1018	EF1018	EF1018	EF2018
9 Bottom Jockey (complete unit)	EF1015	EF1015	EF1015	EF1015
10 Top Jockey (complete unit)	EF1014	EF1014	EF1014	EF1014
11 Gearbox Adjuster (Unit)	EF1018/15	EF1018/15	EF1018/15	EF2018/15
12 Read Out Arm (unit)	EF102/60	EF102/60	EF102/60	EF102/60
13 Chain	P703	P703	P703	P702
14 Chain	P701	P701	P701	P708

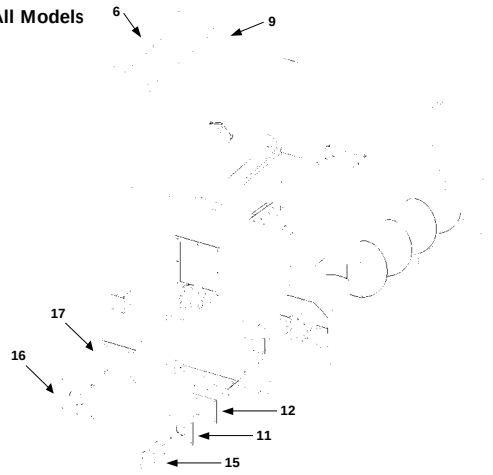
Models EF 200



All Models except EF 200



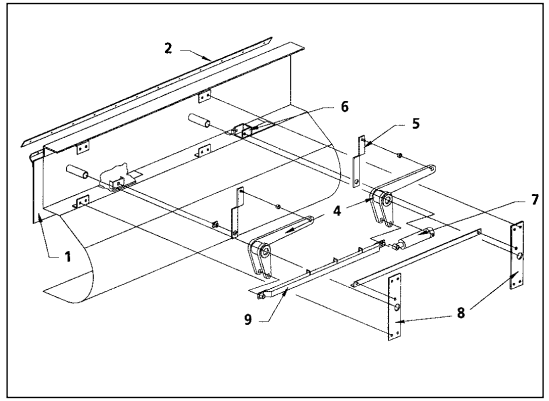
All Models



Item & Description	70	80	90
1 Rotor Stub Shaft	EF107/7	EF107/3	EF107/7
2 Paddle Flange (outer)	EF107/3	EF107/3	EF107/3
3 Paddle Flange (inner)	EF107/2	EF107/2	EF107/2
4 Paddles (front)	EF708/33	EF808/33	EF908/33

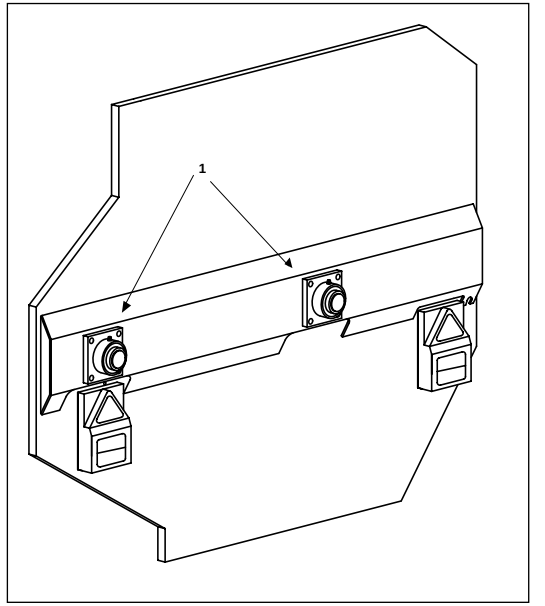
Item & Description	70	80	90
5 Paddles (rear)	EF708/31	EF808/31	EF908/31
6 Paddle Rubber	EF108/28	EF108/28	EF908/29
7 Paddle Front	EF708/34	EF808/34	EF908/34
8 Paddle Rear	EF708/32	EF808/32	EF908/32
9 Paddle Rubber Retainer	EF708/22	EF808/22	EF118/22
10 Rotor Unit	EF707	EF807	EF907
11 Rotor Seal Rubber	EF107/26	EF107/26	EF107/26
12 Rotor Seal Retainer	EF107/27	EF107/27	EF107/27
13 Paddle Block	EF107/16	EF107/16	EF107/16
14 Paddle Block	EF107/15	EF107/15	EF107/15
15 Auger Stub Shaft	EF109/10	EF109/10	EF109/10

Item & Description	100	115	140	200
1 Front Rotor Stub Shaft	EF107/7	EF107/7	EF147/7	EF207/7
2 Paddle Flange (outer)	EF107/3	EF107/3	EF147/3	EF147/3
3 Paddle Flange (inner)	EF107/2	EF107/2	EF147/2	EF147/2
4 Paddles (front) C/W Rub	EF108/33	EF118/33	EF148/33	EF208/33
5 Paddles (rear) C/W Rub	EF108/31	EF118/31	EF148/31	EF208/31
6 Paddle Rubber	EF108/28	EF118/28	EF148/30	EF208/28
7 Paddle Front straight	EF108/34	EF118/34	EF148/34	EF208/34
8 Paddle Rear straight	EF108/32	EF118/32	EF148/32	EF208/32
9 Paddle Rubber Retainer	EF108/22	EF118/22	EF148/22	EF208/22
10 Rotor Unit	EF107	EF117	EF147	EF207
11 Rotor Seal Rubber	EF107/26	EF107/26	EF147/26	EF147/26
12 Rotor Seal Retainer	EF107/27	EF107/27	EF107/27	EF107/27
13 Paddle Block	EF107/16	EF107/16	EF147/16	EF147/30
14 Paddle Block	EF107/15	EF107/15	EF147/15	EF147/40
15 Auger Stub Shaft	EF109/10	EF109/10	EF109/10	EF209/10
16 Middle Paddle c/w Rubber	–	–	–	EF208/35
17 Middle Paddle straight	–	–	–	EF208/36
18 Paddle Block	–	–	–	EF147/31



Item & Description	70	80	90
1 Guillotine Door	EF7010/1	EF8010/1	EF9010/1
2 Rubber Strip	P655	P655	P656
3 Retainer	EF1010/2	EF1010/2	EF1410/2
4 Door Lift Arm	EF8010/5	EF8010/5	EF8010/5
5 Link Arm	EF8010/13	EF8010/13	EF8010/13
6 Ram Bracket	EF1010/10	EF1010/10	EF1010/10
7 Hydraulic Ram	P800	P800	P800
8 Retainer Plate	EF8010/7	EF8010/7	EF8010/7
9 Lift Arm Link Bar	EF1010/29	EF1010/29	EF1010/29

Item & Description	100	115	140	200
1 Guillotine Door	EF1010	EF1110	EF1410	EF2010
2 Rubber Strip	P655	P656	P656	P656
3 Retainer	EF1010/2	EF1410/2	EF1410/2	EF2010/2
4 Door Lift Arm	EF1010/5	EF8010/5	EF1410/5	EF2010/5
5 Link Arm	EF1010/13	EF8010/13	EF1410/13	EF1410/13
6 Ram Bracket	EF1010/10	EF1010/10	EF1410/10	EF2010/10
7 Hydraulic Ram	P800	P800	P801	P812
8 Retainer Plate	EF1010/7	EF8010/7	EF1010/7	EF2010/7
9 Lift Arm Link Bar	EF1010/29	EF1010/29	EF1010/29	EF2010/29



Item & Description	70	80	90
1 Bearing	P506	P506	P506

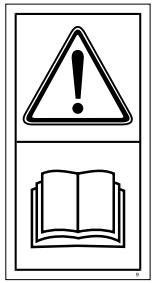
Item & Description	100	115	140	200
1 Bearing	P506	P506	P501	P517

10. PICTORIALS

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

Keep a safe distance from this machine

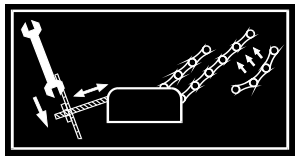
Stay clear of sharp blade



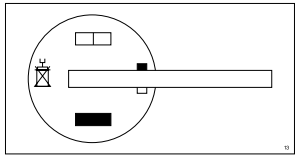
Read the operators manual

Do not stand on the ladder while the machine is working

Lift to open



Chain adjuster



Air brake positions

11. WARRANTY

Richard Keenan & Co. undertake to correct by repair or replacement, at the Company's option, any defect of material or workmanship, which occurs in any of its products within 12 months of delivery to the customer i.e. the first user (with the exception of commercial users when the warranty period is six months.)

The warranty shall not apply to:

a) Any machine which has been damaged by general wear & tear, neglect or improper use.

b) Any machine on which the identification mark has been altered or removed.

c) Any machine which has not received normal maintenance such as tightening of nuts, bolts and chains, normal lubrication and maintaining correct tyre pressures.

d) Any machine which is not used in accordance with the Company's recommendations.

e) Any machine that has been repaired or modified by person(s) not authorised by Richard Keenan & Co., which in the Company's judgement has affected the performance or reliability.

f) Any second hand machine which has not been factory refurbished.

The sole and exclusive claim against Richard Keenan & Co., made by the first or subsequent user, shall be for the repair or replacement of defective parts, and no other claim (including but not limited to incidental, indirect or consequential damages for lost profits, lost sales, injury or property, or any other loss) shall be available.

WARRANTY

Oral statements made by any person(s) (including Dealers and representatives of Richard Keenan & Co.) which are inconsistent or conflicting with these conditions, shall not constitute warranties unless given in writing and signed by a Director of Richard Keenan & Co.

PRODUCT CHANGES AND IMPROVEMENTS

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

EC DECLARATION OF CONFORMITY according to Directive 89/392/EEC as amended

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

Certifies that the Keenan Easi-feeder to which this declaration relates, corresponds to the essential safety requirements of the Directive 89/392/EEC as amended.

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

EN 292 - 1, 2, EN294, EN-16-T, EN 1152
BS 6792, ISO 11684.

Date: 22nd December 1994

Signed: 

Gerard Keenan,
Managing Director.