THIS MANUAL COVERS THE FOLLOWING RANGE OF 
AGMECH LINKAGE FEEDERS:

DOUBLE CURVE
  RS1
SINGLE SHREDDER
TWIN SHREDDER
TROUGH FEEDER

OPERATION AND SAFETY MANUAL
PARTS MANUAL

Agmech Ltd
PO BOX 16 590, HORNBY
CHRISTCHURCH
NEW ZEALAND

PHONE  ++64 (03) 344 1322
FAX     ++64 (03) 344 5659
1. Introduction ............................................................................................................. 3
  1.1. Double curve ..................................................................................................... 5
  1.2. RS .................................................................................................................... 5
  1.3. Trough feeder ................................................................................................... 6
  1.4. Single shredder ................................................................................................. 6
  1.5. Twin shredder .................................................................................................. 7
2. Safety ...................................................................................................................... 8
  2.1. General Safety Precautions: ............................................................................. 8
  2.2. Specific safety hazards: ..................................................................................... 9
3. Road use ................................................................................................................. 11
  3.1. Over dimensional requirements ....................................................................... 11
  3.2. Signage ............................................................................................................ 11
  3.3. Lights ............................................................................................................... 13
  3.4. Brakes .............................................................................................................. 13
  3.5. Towing ............................................................................................................. 14
4. Operating your feeder ............................................................................................ 15
  4.1. Selecting a tractor ........................................................................................... 15
  4.2. Connecting up the feeder ................................................................................ 16
4.3. Loading the feeder ............................................................................................. 17
4.4. Feeding out ........................................................................................................ 19
  4.4.1. Round bales ................................................................................................. 19
  4.4.2. Square bales ............................................................................................... 19
  4.4.3. Troughs ...................................................................................................... 20
5. Maintenance .......................................................................................................... 21
  5.1. Before daily operation ...................................................................................... 21
  5.2. Every 40 hours of operation ............................................................................ 22
  5.3. Every six months or before storage .................................................................. 25
  5.4. Adjusting the floor chains .............................................................................. 26
      5.4.1. Double curve, single shredder and RS1 ...................................................... 26
      5.4.2. Twin shredder and trough feeder ............................................................. 27
6. Spare Parts ............................................................................................................ 28
  6.1. Hydraulic hoses ............................................................................................... 29
  6.2. Floor chain ...................................................................................................... 30
  6.3. Drive covers ..................................................................................................... 30
  6.4. Linkage pins .................................................................................................... 30
  6.5. Locking catch .................................................................................................. 31
  6.6. Drive chain ...................................................................................................... 32
  6.7. Hydraulic drive coupling ................................................................................ 33
  6.8. Input coupling .................................................................................................. 34
  6.9. Bearing arrangement ....................................................................................... 35
  6.10. Slide adjuster ................................................................................................. 36
  6.11. Teaser tines ................................................................................................... 37
  6.12. Shredder comb ............................................................................................... 38
  6.13. Loading tines .................................................................................................. 39
7. Troubleshooting ..................................................................................................... 40
8. Terms and conditions of manufacture and supply ............................................... 42
1. Introduction

Thank you for considering this Agmech feeder for your feed-out requirements, this is one of an extensive range of tried and tested machines sold throughout New Zealand offered to you by Agmech. Our linkage feeder range is by far the biggest range offered by any manufacturer as we endeavour to offer solutions to problems that you face every day when feeding out bales that change continuously.

These feeders have developed out of years of working with both farmers and our engineers, so you can rest assured knowing you have invested in the best there is to offer. What we have aimed to achieve is:

- a functional machine that exceeds your expectation in the field.
- that the engineering, design and ascetics of the machine prove to give you maximum longevity
- that the price ensures that the unit is competitive whilst considering spec for spec
- that the optional equipment ensures all customers requirements are covered.

Agmech 3 point Linkage range:

- Linkage Double-curve - ideal for chopped round bales.
- Linkage RS1 - ideal for round bales and square bales.
- Linkage Single shredder - ideal for chopped and tight bales.
- Linkage Twin shredder - ideal for tight long chopped bales.
- Linkage Trough feeder - specialist feeder for feeding into troughs.

Unique features:
The Agmech range of linkage feeders are able to offer you a solution to any bale feed-out problem. Whether spending a lot or a little we cater for all requirements. Rest assured that all machines are robust and built to last with an expectation that will see your feeder here for the long haul.

All Agmech Linkage feeders have the ability to feed both ways, this is ideal especially for sheep & deer. The 2” pitch chain with welded RHS floor bar not only facilitates bi-directional feed, it also allows for a constant centre of gravity.

All Agmech Linkage feeders have unique self loading forks that are bolted into the headstock of the feeder. Permanently fitted to the tractor, the fork frame becomes an all-round attachment for the tractor and can be used for other tasks. Once a bale has been impaled by the tines the plastic and wrap can then be removed (over the feeder on chopped bales) and the bale is then lowered into place whilst the forks are returned to the chassis where they lock
in place and the self mesh dogs marry together, easy!! You don’t even have to get off the seat...

All drives consist of 40mm bearings and shafts, whilst the fully welded chassis is the basis of the heavy duty construction. The full steel floor complements the design as do features such as, 2 wire hoses and high torque hydraulic motor. The tease shredders (if fitted) are specially designed to run at 25% faster so they naturally accelerate the material into a well presented air-rated row. These rotas are fitted with a special anti blocking comb that sweeps the rota clean as it turns.

With a model for every bale type is pays to choose Agmech, we can show you how to buy smart, work well and give you piece of mind and longevity with the added investment of an excellent trade in value if your circumstances change and you need to trade up to an alternative feeder type.
1.1. **Double curve**

This is our base line model, with high curves on both sides of the feed out chamber, ideal for chopped round bales. The feeder allows for bi-directional feeding to suit any requirements.

![Double curve diagram](image)

1.2. **RS**

This model is similar to the double curve, with a set of additional teaser tines fitted on adjustable frames to allow square bales to be feed easily with the ability to feed round bales also.

![RS diagram](image)
1.3. Trough feeder

The trough feeder has an extension specifically for feeding into troughs. The trough feeder can be fitted with either a high curve or single shredder to meet any feed requirements or bale types. The trough feeder is available with a fixed extension or a hydraulically folding extension to reduce the transport width of the feeder.

1.4. Single shredder

This model has an additional tease rotor in place of the high curve on one side of the feeder. The shredder is designed to run at 25% faster than the floor chains to tease tight bales apart, giving a fluffy feed row which allows a good flow of air through the material. The combination of the high curve and single shredder allows both tight and chopped bales to be feed with ease. The additional sweeper comb on the shredder cleans the rotor, preventing a build up of material.
1.5. Twin shredder

The twin shredder has two tease rotors fitted for feeding tight long chopped bales which tend to bind together. The shredder is designed to run at 25% faster than the floor chains to tease tight bales apart, giving a fluffy feed row which allows a good flow of air through the material.
2. Safety

Before operation of this machine, please ensure yourself and all additional operators are trained in the correct operating procedures and aware of all safety requirements and potential hazards.

2.1. General Safety Precautions:

2.1.1. Take all practical steps to ensure the safety of yourself and others.

2.1.2. Where possible, read and understand the applicable Health and Safety regulations for your area.

2.1.3. Before attempting to operate the machine the operator must be fully trained and familiar with the safe working limits, controls and operator instructions as detailed in this manual.

2.1.4. Ensure all guards remain in place during operation.

2.1.5. Keep clear of all moving parts and be aware of pinch points.

2.1.6. Do not perform any maintenance or repairs without shutting off the tractor beforehand.

2.1.7. You must eliminate if practicable, or otherwise isolate or minimise all significant hazards and report to your Safety Officer or Supervisor IMMEDIATELY every hazard or safety problem that you notice.

2.1.8. If you witness an accident or incident where someone was or could have been injured, you MUST report it as soon as you can.

2.1.9. For serious accidents the entire accident scene must not be interfered with until authorised by an inspector from the appropriate Health and Safety Authority, unless absolutely necessary to save life, property, etc.

2.1.10. If you received an injury while at work it MUST be reported immediately to your Supervisor or Safety Officer. The accident will be recorded on either a form for Record of Accident/Serious Harm or a form for Minor Accident or Near Miss Report. If a work injury is not reported on the day the injury occurs it may not be accepted as a work related injury and which could affect your work accident insurance.
2.2. **Specific safety hazards:**

Failure to comply with the following safety requirements could result in serious personal injury or loss of life.

2.2.1. When attaching the feeder to the tractor, nobody must be in the area between the tractor and the feeder unless the tractor is in neutral with the park brake securely on.

2.2.2. Do not put fingers through or near any of the lifting points unless the tractor engine has been shut off.

2.2.3. Under no circumstance shall a person be underneath a bale or feeder without suitable supports to prevent unintended lowering of the feeder.

2.2.4. No person may be permitted to ride on the machine.

2.2.5. The guards on each drive chain and the drive dog must remain in place at all times during operation of the feeder. The feeder must not be operated without these guards in place.

2.2.6. Keep clear of the drive and floor chains at all times during operation. Shut the tractor engine off before making any adjustments to the feeder.

2.2.7. Keep clear of shredder rotors (if fitted) at all times during operation.

2.2.8. Keep clear of hydraulic ram and folding extension on trough feeder.
Maintain a safe distance (1-2m) from the feeder at all times during feed out operation.

Do not climb under feeder without suitable supports under the chassis.

Keep clear of sprockets and floor chains, unless tractor engine has been shut off.

Keep clear of this area when attaching feeder to tractor.

Do not operate feeder without guards in place.

No person shall be present in this area at any time.

Keep clear of this area when tractor is reversing.

Do not operate without all guards in place.
3. Road use
With the increasing size of farms and the greater frequency with which tractors are operated on roads, we here at Agmech feel it is necessary for you to be aware of the basic legislation surrounding the operation of your tractor(s) on public highways. The current legislation is constantly changing with sometimes many interpretations of the rules so the following is an overview of the requirements. This overview is in no way complete and for more precise information you should contact the New Zealand Transport Agency.

3.1. Over dimensional requirements
If the vehicle width exceeds the standard maximum width of 2.5m it is classified as an over dimensional vehicle.

3.1.1. Vehicle width no greater than 3.1m

**Day travel**
3.1.1.1. Must have flags or panels fitted on each side at the front and rear.
3.1.1.2. Must have headlights on low beam

**Night travel**
3.1.1.3. Must have hazard panels fitted on each side at the front and rear.
3.1.1.4. Must have amber beacon.

3.1.2. Vehicle width greater than 3.1m
3.1.2.1. Must display OVERSIZE sign front and rear.
3.1.2.2. Must have one class 2 pilot if travelling at night, a pilot may also be required for day time travel depending on the vehicle.

3.2. Signage
3.2.1. Flags
3.2.1.1. Must be fluorescent yellow flags 400mm long x 300mm wide.
3.2.1.2. Should not be used at night, better to use hazard panels.
3.2.1.3. Must only be used if the vehicle is overdimension- take the flag off if the vehicle or load is no longer overdimension.
3.2.1.4. Should be fitted in a way that highlights the widest section of the vehicle.

3.2.2. Hazard panels
3.2.2.1. Must be reflective yellow-green with a reflective orange diagonal stripe.
3.2.2.2. Are preferred over flags as the panels are more visible during both day and night.
3.2.2.3. Only the New Zealand style hazard panels are allowed because the law requires these. Red and white hazard panels must be replaced.

3.2.2.4. Only use hazard panels when required to, do not leave them displayed on the vehicle when the vehicle is only standard size.

3.2.2.5. Try to fit the hazard panels in a location which highlights the excess dimensions to other road users.

3.2.3. OVERSIZE signs

3.2.3.1. Must be black lettering on yellow-green background

3.2.3.2. May be in two parts: OVER and SIZE

3.2.3.3. Must be visible to both the front and the rear

3.2.3.4. Only use oversize signs when required to. Do not leave them displayed on the vehicle when the vehicle does not require them.

3.2.3.5. The oversize sign must be displayed on the oversize vehicle itself.
3.3. **Lights**

If the vehicle is to be used on the road at any time it is highly recommended that a set of road lights are fitted during production.

3.3.1. **Head lights**: Must have one pair of dipped beam headlamps that illuminate the road in front for 50m.

3.3.2. **Beacons**: Optional but may be fitted to warn road users to the presence of the vehicle.

3.3.3. **Direction indicator lamps**: Must have two direction indicators at the rear.

3.3.4. **Stop lamps**: Must have one or two pairs of stop lamps at the rear, visible from 100m.

3.3.5. **Rear reflectors**: Must have at least two red rear reflectors.

3.3.6. **Registration plate lamps**: Must have at least one lamp sufficient to illuminate the registration plate.

3.3.7. **Forward facing position lamps**: Must have two if the vehicle is wider than 1.5m, visible from 200m.

3.3.8. **Rearward facing position lamps**: Must have one to four lamps, if one it must be to the right of the centre line.

3.3.9. **Work lamps**: Must not be switched on when travelling on the road.

3.3.10. **Obstructed lamps**: If a part of the vehicle, an attachment, a trailer or load obscures a lamp that must be fitted on a vehicle, such as a rear stop lamp, you must fit a replacement lamp in a position where it can be seen by other road users.

3.3.11. **Dirty lamps**: Having a dirty lamp is the same as having no lamp so before operating on the road ensure all lamps are clearly visible and working.

3.4. **Brakes**

3.4.1. While it is not currently a requirement to have brakes fitted to towed agricultural vehicles, with the increasing size of vehicles it is highly recommended.

3.4.2. An agricultural vehicle and any trailer(s) towed must be able to stop within a distance of 7m from a speed of 30km/h.

3.4.3. Make sure the left and right brake pedals are locked together when operating on the road.
3.5. Towing

3.5.1. Towing connection
3.5.1.1. The drawbar pin must be of a diameter which is appropriate for the tractor or trailer coupling, whichever has the smaller diameter hole.
3.5.1.2. The size of the drawbar pin must not be less than 75% of the larger coupling hole, a spacer bush can be supplied to fit the toweye if necessary.
3.5.1.3. The drawbar pin must be securely retained in place at all times.
3.5.1.4. Drawbar pins must not be repaired or welded and must be replaced if damaged, deformed, fractured or worn at any one point to below 90% of the original diameter or the manufacturers wear limit, which ever is less.
3.5.1.5. Tow-eyes must not be repaired and must be replaced if worn at any one point beyond 10% of the original diameter or the manufacturers wear limit, which ever is less, or if it is damaged, deformed or fractured.

3.5.2. Safety chains
3.5.2.1. A safety chain must be fitted between the tractor and any towed trailers/implements.
3.5.2.2. Implements carried on a three-point linkage are excluded from this requirement.
3.5.2.3. Safety chain tensile strength (load at which it breaks) must be equal to or greater than the gross mass towed.
3.5.2.4. Chain length must be adjustable to eliminate a tight or loose chain and where practicable the chain must be attached to the chassis of the tractor, not the hitch. The tensile strength of the chain must be displayed on the chain via a plate or similar method.
3.5.2.5. Although a single safety chain is the minimum requirement the best practice is to fit two cross over safety chains. Each safety chain must have a tensile strength equal to or higher than the gross mass towed as the chains will not share the load evenly.
4. Operating your feeder

4.1. Selecting a tractor

Once the contents of this manual have been read and understood, familiarise yourself with the feeder and each of the components before selecting a tractor.

When selecting a tractor to operate the feeder please consider the following;

4.1.1. The terrain and conditions you will be operating in.
4.1.2. The tare weight of the feeder you are using

<table>
<thead>
<tr>
<th>Linkage Type</th>
<th>Tare Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linkage double curve</td>
<td>540kgs</td>
</tr>
<tr>
<td>Linkage RS1</td>
<td>570kgs</td>
</tr>
<tr>
<td>Linkage single shredder</td>
<td>620kgs</td>
</tr>
<tr>
<td>Linkage twin shredder</td>
<td>710kgs</td>
</tr>
<tr>
<td>Linkage trough feeder</td>
<td>850kgs</td>
</tr>
</tbody>
</table>

4.1.3. The weight of the bales you are about to feed out

- Approximate payload:
  - 800-1000kgs per silage bale
  - 500kgs per hay bale

4.1.4. The lift capacity of the three point linkage for the tractor.
4.1.5. The availability of a single set of double acting hydraulic remotes, two remotes are required for hydraulic folding trough feeder.
4.1.6. The tare weight of the tractor.
4.1.7. The front axle weight and whether additional weight may be required to counteract the weight of the loaded feeder.
4.1.8. Whether you will be travelling on a public highway and therefore the local regulations you will be required to follow.

**Important:** Always consider the climatic conditions of operation, in dry conditions optimum performance can be achieved, whereas in wet conditions the feeder is capable of pushing even big tractors sideways! Always drive to the conditions especially when negotiating hills.

All of the above factors are relevant to ensure safe and successful operation of the feeder.
4.2. Connecting up the feeder

The feeder is designed to accommodate a standard category II three point linkage setup available on most medium sized tractors.

To attach the linkage feeder to the tractor;

4.2.1. Slide the tractor’s drawbar to the side and secure in place to prevent damage to either the tractor or feeder.

4.2.2. Set the two lower linkage arms to the width of the lifting points on the feeder, ensuring each arm is approximately the same distance either side of the centreline of the tractor (Top link or drawbar provides a good reference)

4.2.3. Remove the lower linkage pins from the feeder before carefully reversing the tractor up to the feeder, positioning each of the linkage arms centrally between the lifting plates on each side of the feeder.

4.2.4. Adjust the height of the linkage arms to meet the holes in the lower linkage points before fitting the pins, ensuring each is secured with the correct lynch pins.

4.2.5. Adjust the top link to fit the desired attachment point, before securing in place with the correct pin. The top link should be adjusted to ensure the feeder sits level when placed on the ground.

4.2.6. Secure the release rope for the locking latch to a point on the tractor which is easy to reach from the seat, ensuring it is free from moving parts and not tight at any point when the feeder is raised or lowered.

4.2.7. Connect the hydraulic hoses to the remotes on the tractor, ensuring each coupling is clean.
4.3. Loading the feeder

The linkage feeder is fitted with a set of forks to enable a bale to be loaded into the feeder cradle without the need for an additional tractor or front end loader.

To load the feeder;
4.3.1. Lower the feeder onto an area of flat ground close to the loading zone.
4.3.2. Pull the release rope to disengage the locking latch before driving the tractor forward.

4.3.3. Remove the silage plastic and net wrap from the bale whilst it is on the ground, disposing of the plastic responsibly. The net wrap can be removed above the feeder cradle to minimise wastage for chopped bales. The twine can be removed from square bales once loaded.

4.3.4. Spike the bale with the tines 200-300mm above the ground.
4.3.5. Position the bale in the feeder cradle before driving forward to slide tines from bale.

4.3.6. Lower the tines and slide into the feeder chassis, ensuring the locking latch re-engages.
4.3.7. Lift linkage arms and commence feeding out.
4.4. Feeding out

All Agmech bale feeders offer the ability to feed out either side, to meet any specific feed out requirements. The feed out operation is controlled by the single hydraulic outlet, which can be set in detent for continuous feeding or alternatively controlled by the operator for a start – stop operation.

**Important:** it is advised that any net wrap or baler twine is removed prior to feed out as it can find its way into bearing seals and sprockets causing damage.

### 4.4.1. Round bales

1. **4.4.1.1.** For dense row feeding- feed the bale out the same way it was rolled up, which can be determined by either looking at the bale before loading or once feeding has commenced.
2. **4.4.1.2.** For light row feeding-feed the bale against the way it was rolled up to give wafers of material.
3. **4.4.1.3.** The size of the feed row can be controlled using the first hydraulic outlet- the lever fully back with high tractor revs will give a heavy feed row meanwhile if the tractor revs are low and the hydraulic lever is only partially back you will achieve a light feed row.
4. **4.4.1.4.** The tease shredders (if fitted) accelerate the material to provide a row which sits above the ground, allowing a good flow of air through the material, making it more appealing for livestock.
5. **4.4.1.5.** Staggered feeding -can is achieved by alternating the feeding pattern from left to right. This is ideal for sheep as it prevents them from running on the crop as they will now tend to circle.

### 4.4.2. Square bales

1. **4.4.2.1.** The teaser tines on each side of the bale feeder can be adjusted to suit the type of square bale.
2. **4.4.2.2.** The size of the row can be varied by adjusting the hydraulic flow delivered to the feeder.
3. **4.4.2.3.** Staggered feeding can be achieved by alternating the feeding pattern from left to right. This is ideal for sheep as it prevents them from running on the crop as they will now tend to circle.
4.4.3. Troughs

4.4.3.1. If fitted with the hydraulic folding extension, lower the extension fully down, using the hydraulic outlet the hoses from the ram are connected into.
4.4.3.2. Raise the feeder so the extension is clear of the trough.
4.4.3.3. For best results position the tractor so the end of the extension is above the centre of the trough.
4.4.3.4. Begin feeding, controlling the size of the feed row using the first hydraulic outlet - the lever fully back with high tractor revs will give a heavy feed row meanwhile if the tractor revs are low and the hydraulic lever is only partially back you will achieve a light feed row.
4.4.3.5. The size of the row can be varied by adjusting the hydraulic flow delivered to the feeder.
4.4.3.6. Drive forward at a constant speed, keeping parallel to the side of the trough.
4.4.3.7. Once finished feeding out, lift the extension up using the same hydraulic outlet used to lower.
5. Maintenance

The following guidelines if followed correctly will allow for many years of successful operation.

Please check all Nuts & bolts prior to use, then after 8 hours of use and finally after 100 hours of operation, this will ensure everything will remain tight. Then seasonal servicing will be sufficient to maintain the feeder.

Greasing intervals have been based on a standard hand lever grease gun. **Do not use an air powered grease gun.** General multipurpose grease is sufficient although the bearings would benefit from dedicated bearing grease.

5.1. Before daily operation

5.1.1. Visually inspect all parts of the feeder for wear or damage.

5.1.2. Make sure there is no build up of material around sprockets or bearings.
5.2. Every 40 hours of operation

5.2.1. Grease the main bearings in the feed out chamber. One pump per bearing is sufficient.

5.2.2. Lubricate the drive and floor chains with and 50:50 mix of oil and diesel, easily applied with a paint brush or a detergent bottle. The drive chains can be easily accessed by removing the plastic cover(s) on the rear of the feeder.

<table>
<thead>
<tr>
<th>Feeder model</th>
<th>Double curve</th>
<th>RS 1</th>
<th>Single shredder</th>
<th>Twin shredder</th>
<th>Trough feeder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of bearings</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>
5.2.3. Check the tension of the floor chains by measuring the clearance between the underside of the feeder floor and the floor chains. This should not be greater than 100 mm. Check the drive chains are under tension.

5.2.4. Check the loading tines are secure.
5.2.5. Check the hydraulic motor is tight on its housing and there are no leaks in the hoses.

5.2.6. Check the operation of the locking latch.
5.2.7. Folding trough feeder: Grease the pivot points on the hydraulic ram and the main pivot shaft for the extension. (4 grease nipples)
5.3. Every six months or before storage

5.3.1. Inspect and grease the main bearings in the feed out chamber. One pump per bearing is sufficient.

5.3.2. Lubricate the drive and floor chains with and 50:50 mix of oil and diesel, easily applied with a paint brush or detergent bottle. The drive chains can be easily accessed by removing the plastic cover(s) on the rear of the feeder.

5.3.3. Check the tension of the floor chains by measuring the clearance between the underside of the feeder floor and the floor chains. This should not be greater than 100 mm. Check the drive chains are under tension.

5.3.4. Check the loading tines are secure.

5.3.5. Visually inspect all parts of the feeder.

5.3.6. Check the hydraulic motor is tight on its housing and there are no leaks in the hoses.

5.3.7. Check the condition of the drive dogs.
5.4. Adjusting the floor chains

5.4.1. Double curve, single shredder and RS1

If the distance between the underside of the floor and the floor chains exceeds 80-100mm adjust the floor chains as follows.

5.4.1.1. Shut off tractor engine.
5.4.1.2. Release the two retaining nuts on bearing #1.
5.4.1.3. Release locking nut 3 on adjuster and turn back 3-4 full rotations.
5.4.1.4. Repeat steps 2 and 3 for second adjuster.
5.4.1.5. Adjust the chain tension by tightening locking nut 2 by 2-3 full rotations, making sure to adjust each side by the same amount.
5.4.1.6. Measure the clearance between the floor and the floor chains, repeat step 5 if necessary.
5.4.1.7. Tighten locking nut 3 and retaining nuts 1.
5.4.1.8. Run feeder empty and recheck tension.
5.4.1.9. When the chains have just been lubricated they will be running loose however during use they will tighten themselves. This needs to be taken into account when checking and adjusting the chain tension.
5.4.2. Twin shredder and trough feeder

If the distance between the underside of the floor and the floor chains exceeds 80-100mm adjust the floor chains as follows.

5.4.2.1. Shut off tractor engine.
5.4.2.2. Remove plastic cover on the left hand drive chain to access adjuster on twin shredder models.
5.4.2.3. Release the four retaining nuts on bearing #1.
5.4.2.4. Release locking nut 2 on adjuster and turn back 3-4 full rotations.
5.4.2.5. Repeat steps 3 and 4 for second adjuster.
5.4.2.6. Adjust the chain tension by tightening locking nut 3 by 2-3 full rotations, making sure to adjust each side by the same amount.
5.4.2.7. Measure the clearance between the floor and the floor chains, repeat step 4 if necessary.
5.4.2.8. Tighten locking nut 2 and retaining nuts 1.
5.4.2.9. Run feeder empty and recheck tension.
5.4.2.10. When the chains have just been lubricated they will be running loose however during use they will tighten themselves. This needs to be taken into account when checking and adjusting the chain tension.
6. Spare Parts

Before ordering any spare parts, determine the model and serial numbers together with the delivery date and include this information with all orders. The model and serial numbers can be found on the inside of the frame at the front of the machine.

YOUR MACHINE IS

MODEL

SERIAL No

DATE OF MANUFACTURE

DATE OF DELIVERY

FREE PHONE 0800 422 533

MODEL No.

SERIAL No.

Box 16590 Christchurch New Zealand
6.1. Hydraulic hoses

<table>
<thead>
<tr>
<th>Hose kit number</th>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hydraulic motor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hose ends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9916</td>
<td>Danfoss OMH 500</td>
<td>2m</td>
<td>2</td>
<td></td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>9911</td>
<td>Parker 405</td>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Danfoss hydraulic motor

Parker hydraulic motor
### 6.2. Floor chain

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double curve floor chain</td>
<td>2164</td>
</tr>
<tr>
<td>RS floor chain</td>
<td>2253</td>
</tr>
<tr>
<td>Single shredder floor chain</td>
<td>2168</td>
</tr>
<tr>
<td>Twin shredder floor chain</td>
<td>2166</td>
</tr>
</tbody>
</table>

### 6.3. Drive covers

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dog clutch</td>
<td>1000604</td>
<td><img src="image1.jpg" alt="Dog clutch Image" /></td>
</tr>
<tr>
<td>2</td>
<td>Drive chain</td>
<td>1004646</td>
<td><img src="image2.jpg" alt="Drive chain Image" /></td>
</tr>
</tbody>
</table>

### 6.4. Linkage pins

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Main pin</td>
<td>1402</td>
<td><img src="image3.jpg" alt="Main pin Image" /></td>
</tr>
<tr>
<td>2</td>
<td>Lynch pin</td>
<td>8mm</td>
<td><img src="image4.jpg" alt="Lynch pin Image" /></td>
</tr>
</tbody>
</table>
6.5. Locking catch

```
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Spring</td>
<td>1004329</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Catch</td>
<td>P_117</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Flat washer</td>
<td>M20</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Nyloc nut</td>
<td>M20</td>
<td>1</td>
</tr>
</tbody>
</table>
```
### 6.6. Drive chain

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nyloc nut</td>
<td>M12</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Flat washer</td>
<td>M12</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Drive chain</td>
<td>Double Curve &amp; RS:1124 Single and twin shredder fixed bearing: 1191 Twin shredder slotted bearing:1192</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>17T sprocket Key</td>
<td>1000915 10 x 10 x 35mm</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Penny washer</td>
<td>M12</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Chain tensioner</td>
<td>2046</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Cover mount</td>
<td>1000880</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>23T sprocket Key</td>
<td>1000914 10 x 10 x 40mm</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Nut</td>
<td>M12</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Grub screw</td>
<td>M10 x 1.5</td>
<td>4</td>
</tr>
</tbody>
</table>
## 6.7. Hydraulic drive coupling

![Diagram of hydraulic drive coupling]

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fork drive dog</td>
<td>1992</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Grub screw</td>
<td>M10 x 1.5</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Bolt</td>
<td>M12 x 40</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Hydraulic motor</td>
<td>Parker 405 or Danfoss OMH 500</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Spring washer</td>
<td>M12</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Nut</td>
<td>M12</td>
<td>4</td>
</tr>
</tbody>
</table>
### 6.8. Input coupling

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bolt M8 x 16</td>
<td>M8 x 16</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Spring washer M8</td>
<td>M8</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Flat washer M8</td>
<td>M8</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Drive cover 1000406</td>
<td>1000406</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Input bearing 1001502</td>
<td>1001502</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Spring washer M12</td>
<td>M12</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Bolt M12 x 30</td>
<td>M12 x 30</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Clutch washer 1004430</td>
<td>1004430</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Feeder drive dog 1146</td>
<td>1146</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Key 10 x 10 x 35mm</td>
<td>10 x 10 x 35mm</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Grub screw M10 x 1.5</td>
<td>M10 x 1.5</td>
<td>1</td>
</tr>
</tbody>
</table>
6.9. Bearing arrangement

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity used</th>
<th>Fixed</th>
<th>Slotted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bearing</td>
<td>1001159</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Spring washer</td>
<td>M12</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Bolt</td>
<td>M12 x 30</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Nut</td>
<td>M12</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Coach bolt</td>
<td>M12</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Adjuster</td>
<td>1071</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Flat washer</td>
<td>M12</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
6.10. Slide adjuster

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bolt M12 x 65</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Flat washer M12</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Adjuster 1097</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Spring washer M12</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Nut M12</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Bearing 1001141</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Nut M16</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Flat washer M16</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
### 6.11. Teaser tines

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bolt</td>
<td>M12 x 30</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Nyloc nut</td>
<td>M12</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Upright</td>
<td>1004712</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Crossbar</td>
<td>2246</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Bolt</td>
<td>M12 x 40</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Flat washer</td>
<td>M12</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Spring washer</td>
<td>M12</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Nut</td>
<td>M12</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Tine</td>
<td>1001042</td>
<td>3</td>
</tr>
</tbody>
</table>
6.12. Shredder comb

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bolt M12 x 30mm</td>
<td>M12</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Flat washer M12</td>
<td>1073</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Shredder comb</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Spring washer M12</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Nut M12</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
6.13. Loading tines

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1150 loading tine</td>
<td>1004385</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1050 loading tine</td>
<td>1004384</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Set screw</td>
<td>M20 x 40</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Spring washer</td>
<td>M20</td>
<td>2</td>
</tr>
</tbody>
</table>
7. Troubleshooting

At Agmech we strive to deliver a solution to meet all your daily feed out requirements. The following section has been prepared to help you get the best results from your machine. Do not hesitate to call us if you have a specific problem or alternatively if you have found a way to optimise this feeder, which other farmers may benefit from, let us know and there may be a tasty reward.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bale comes apart in large piles rather than a constant feed row</td>
<td>Trying to feed against the way the bale was rolled up</td>
<td>Try feeding the bale the opposite way</td>
</tr>
<tr>
<td></td>
<td>Tines (RS) are not separating the individual flakes of the bale</td>
<td>Adjust the teaser tines to create a smaller gap</td>
</tr>
<tr>
<td></td>
<td>Uneven hydraulic flow e.g. accidentally letting the control lever in and out</td>
<td>Locking the control lever in constant pumping</td>
</tr>
<tr>
<td>Bale does not want to unroll</td>
<td>Tight outer layer</td>
<td>Try feeding the bale the opposite way</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feed over shredder if fitted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Try quickly teasing the bale from side to side</td>
</tr>
<tr>
<td>Poor hydraulic response</td>
<td>Low oil in tractor</td>
<td>Check and top up hydraulic oil.</td>
</tr>
<tr>
<td>Large build up of material around the shredder rotors</td>
<td>Gap between shredder knives and comb is too large</td>
<td>Adjust or replace shredder comb as necessary</td>
</tr>
<tr>
<td></td>
<td>Rotor needs cleaning</td>
<td>Reverse the direction of the shredder</td>
</tr>
<tr>
<td>Shredder rotor does not turn</td>
<td>Drive chain has broken</td>
<td>Replace drive chain</td>
</tr>
<tr>
<td></td>
<td>Sprocket tooth has bent</td>
<td>Straighten tooth or replace sprocket</td>
</tr>
<tr>
<td></td>
<td>Key is missing</td>
<td>Replace key</td>
</tr>
<tr>
<td>Floor chains do not move</td>
<td>Drive chain has broken</td>
<td>Replace drive chain</td>
</tr>
<tr>
<td></td>
<td>Hydraulic oil supply to motor has stopped</td>
<td>Check hoses are connected correctly</td>
</tr>
<tr>
<td></td>
<td>Hydraulic motor has failed</td>
<td>Check for oil leaks</td>
</tr>
<tr>
<td></td>
<td>Drive dogs are not engaged</td>
<td>Inspect drive dogs</td>
</tr>
<tr>
<td>Floor chains come off guide sprockets</td>
<td>Difficult to get bale to slide on and off loading tines</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Chain tension insufficient</td>
<td>Tines are at an angle to the bale</td>
<td></td>
</tr>
<tr>
<td>Tension the floor chains</td>
<td>Adjust the top link so the tines are parallel to the ground</td>
<td></td>
</tr>
<tr>
<td>Remove foreign body</td>
<td>Trying to pierce the denser core of the bale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pierce the bale lower to the ground so the tines are closer to the outside of the bale.</td>
<td></td>
</tr>
</tbody>
</table>
8. Terms and conditions of manufacture and supply

Ownership
Agmech Ltd at all times retains ownership in the goods supplied until payment is made for the goods and for any other goods supplied by Agmech Ltd; and if such goods are sold on their own account or as constituents of other goods by the customer prior to payment to Agmech Ltd then the proceeds of such sale shall be the property of Agmech Ltd.
The customer acknowledges that in the event that default is made in payment for any goods supplied for a period of one month, Agmech Ltd may repossess the goods in their original form or as constituents of other goods and sell the same exercising the full rights as owners of such goods. All losses, costs and expenses incurred in recovering and disposing of the goods is to the cost of and at the liability of the customer.
The customer agrees to indemnify Agmech Ltd for the cost of any litigation arising out of Agmech Ltd acting on any instructions for the customer.

Warranty
Agmech Ltd warrants, for a period of 12 months from the date delivery, its new product and parts to be free from defects in material and workmanship.
Agmech Ltd obligation over this warranty is limited to repair or replacement (at its factory or Agents factory) of any part or parts of the said products which shall be returned to Agmech Ltd with transportation charges prepaid and which Agmech Ltd examination shall disclose to its satisfaction to have been defective.
Agmech Ltd undertakes to remedy with reasonable dispatch, any original defects arising from defects in material or workmanship which under proper and normal conditions of use, are revealed within 12 months from date of delivery. In no case shall Agmech Ltd be liable for the cost of labour and travel incurred in replacing and fitting of the defective parts. Labour and installation charges and costs for work carried out under the terms of this warranty are for the customer’s account.
Replacement parts provided under the terms of this warranty are covered for the remainder of the warranty period applicable to the product in which they are installed as if such parts were original components of that product.

For all warranty Agmech Ltd require you to contact them directly; no responsibility will be accepted for any defect, unless a written complaint is first received by Agmech Ltd and we have been given the first priority and ample opportunity to rectify the defect.
Agmech Ltd makes no other warranty, of any kind whatsoever, express or implied; AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE ABOVE MENTIONED OBLIGATIONS ARE HEREBY DISCLAIMED BY AGMECH LTD EXCLUDED FROM THIS AGREEMENT.
Agmech Ltd neither assumes nor authorises any person to assume for it, any other obligation in connection with the sale of Agmech’s products. This warranty shall not apply to any product nor component thereof which has been repaired or altered outside of an approved factory in any manner so as (Agmech’s sole judgment) to affect its serviceability or which has been subject to misuse, negligence, or accident; or to products made by Agmech Ltd which have been operated in a manner contrary to the printed instructions.
Under no circumstances shall Agmech Ltd be liable for loss, damage, cost or repair of consequential damages of any kind in connection with the sale, use and repair of any product purchased from Agmech Ltd.