G-MAX Wagon

Quick Start Guide

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Disclaimer

While every attempt has been made to ensure that information and diagrams in this manual are correct, Giltrap Engineering Limited will not be responsible for any damage or consequential loss arising out of misinterpretation or failure to follow recommended procedures; nor will it be liable for any damage caused by or arising out of modification or misuse of its product.

For parts or service enquiries, please use the applicable contacts on the previous page.

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Introduction

Thank you for purchasing a Giltrap product. *Giltrap Engineering Ltd* has enjoyed a long-standing success with their machinery. We would like you to enjoy the benefits of owning a Giltrap too. By following the guidelines laid out in this book, you will ensure trouble free, low maintenance operating for years.

Giltrap Engineering Ltd is a progressive company which continually strives to satisfy your needs, so we welcome any feedback which you can provide to help us improve our products and services and to ensure that they perform to your expectations. Any constructive comments about this operator's manual are also welcome.

Your machine has been designed to perform its task efficiently and with a minimum of maintenance. This handbook provides safety guidelines, instructions, maintenance requirements and parts listings. We recommend that you read the entire handbook, before operating the machine as this will enable you to take full advantage of your new machine's considerable potential.

Manual Evaluation

We update our operating manuals regularly. Your suggestions for improvement help us to create even more user friendly manuals. Send your suggestions by email to admin@giltrapag.co.nz.

Delivery and Warranty

Before you begin to use your machine, please check it to make sure there is no delivery damage. If damage is evident, contact the dealer who supplied the machine so that they can make the appropriate claims.
If you have any other queries, please contact your dealer or *Giltrap Engineering Ltd* (0800 80 GILTRAP).
All Giltrap products are covered by a 24-month warranty on parts and labour, subject to normal use.

Please fill in the details below for future reference.

Model:
Serial No:
Delivery Date:
Dealer:

Warranty

The Goods specified in the Price List as designed and supplied by Giltrap Engineering Ltd are warranted against faulty workmanship and defective materials for a period of 24 months from the date of purchase. In addition to the primary 24 month warranty for Giltrap products, there is a further 12 month structural warranty for the goods, against faulty workmanship and/or defective materials for structural items only. The structural warranty does not apply to electronics or component parts.

Such warranty is subject to the following conditions:

1. This warranty covers the repair or replacement of parts or machinery sold by the manufacturer and damaged as a result of the faulty workmanship or materials in such parts or machinery. It does not extend to any other loss or damage including consequential loss or damage or loss to other property or persons.

2. Without limiting the generality of paragraph 1 above, this warranty does not cover the following:
(a) Travel expenses.
(b) Damaged caused by accident, misuse or abuse.
(c) Damage to any goods which have been altered or modified by someone other than the manufacturer or its authorised agent.
(d) Damage or loss to the goods due to their unsuitability for any particular use or for using with any particular tractor except where such use or tractor had been specifically approved by the manufacturer.
(e) Damage or loss where the fitting and installation of the goods were not carried out by the manufacturer or its authorised dealer.

3. Procedure for recovery under warranty.
No loss or damage will be covered by this warranty unless the loss or damage is reported immediately to the dealer (who will contact the distributor who will advise whether it is covered by the warranty and undertake the necessary action).

No warranty repair work is to be undertaken prior to an order number being obtained.

This warranty shall be interpreted according to the laws of New Zealand and the parties agree to submit to the jurisdiction of the Courts of New Zealand.

Warranty Claims

If you wish to make a claim under warranty:

- Immediately stop using the machine.
- List details of the machine and damaged item including serial numbers and date of purchase.
- Consult with your Giltrap dealer (supplier) and have him forward your claim and the damaged item to Giltrap Engineering Ltd.

No warranty to be undertaken unless an order number is obtained from the Seller (Giltrap Engineering Ltd) prior to any work being done.

Serial Number Identification

Before ordering any parts, check the serial number and the delivery date of the machine and include this information with all orders.

If the Serial Number Plate is missing, the serial number will be stamped on the front of the drawbar.

GILTRAP
ENGINEERED PERFORMANCE

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DRAWBAR VERTICAL RATING (kg): GROSS LADEN MASS (kg):

SERIAL No: MODEL No:

This plate is provided in compliance with the NZ Land Transport Heavy Vehicles 2004 rule, section 4.2. It is the operator's responsibility to ensure that this unit is fully compliant with all current legislation when it is used on public roads. **Removal of this plate invalidates certificate.**

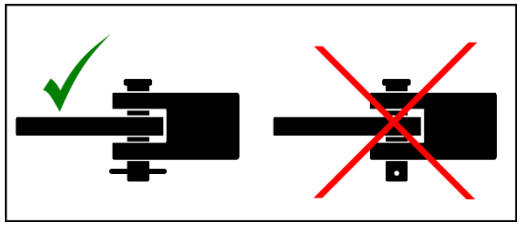
Serial number stamped onto chassis here

General Safety

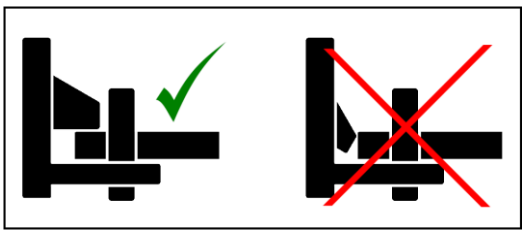
For the safety of others and yourself, please read and follow the precautions in this operator's manual. Pay particular attention to the following safety aspects of operating machinery.

Do not ride on or allow passengers on the machine.

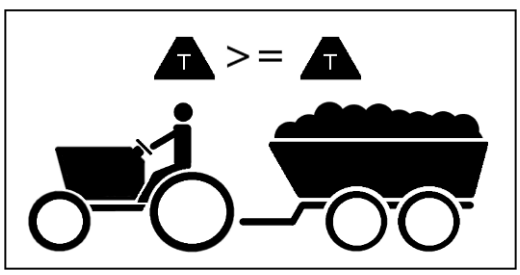
Always use a recognised hitch pin with a safety clip to hook trailed implements on behind the tractor.



Always ensure when using a quick hitch that the locking tab has come out and is in the locked position before moving.



When pulling trailed implements or loads, be sure to use a tractor of greater or equal weight than the combined weight of the load and trailer.



Carry a suitable fire extinguisher.

A fire can ignite under certain conditions, so please take the following precautions:

After running your machine for a short time, check for defective bearings. A faulty bearing can become very hot, eventually discolouring, requiring immediate replacement.

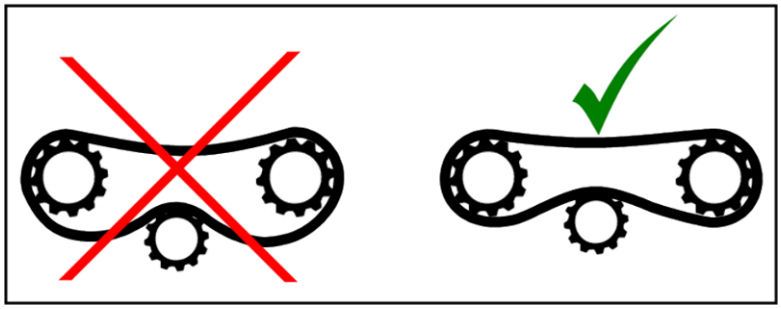
Do not allow combustible material to accumulate inside guards or around rollers and other moving parts.

If your machine becomes blocked, stop immediately and remove the obstruction.

Be careful when operating in hot or dry conditions or on extreme fire risk days.

Never operate your machine without the safety guards in place.

All chains should be properly adjusted and replaced when necessary.



Release all hydraulic pressure from implements before commencing service work. Never look for suspected oil leaks with your hands or body - use a piece of cardboard instead.
Any fluid that penetrates the skin will have to be removed immediately by a medical expert. Seek specialist advice on this type of injury.

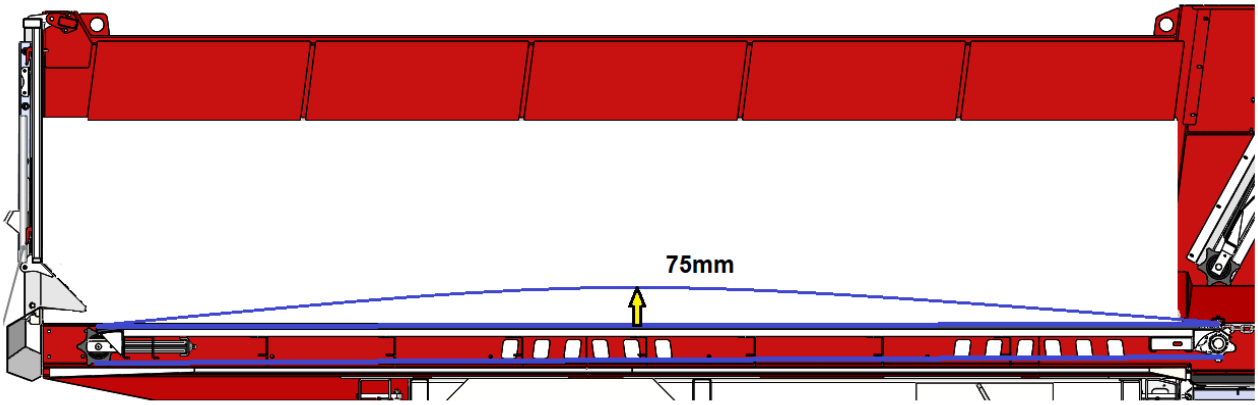
Never attempt to unblock equipment while it is still operating.
Always disengage power take-off, hydraulics and shut down engine before removing materials, checking or servicing.
Failure to follow these precautions is likely to result in serious injury.

Wear proper protective clothing. Loose attire can easily be snagged by rotating machinery resulting in serious injury or death.

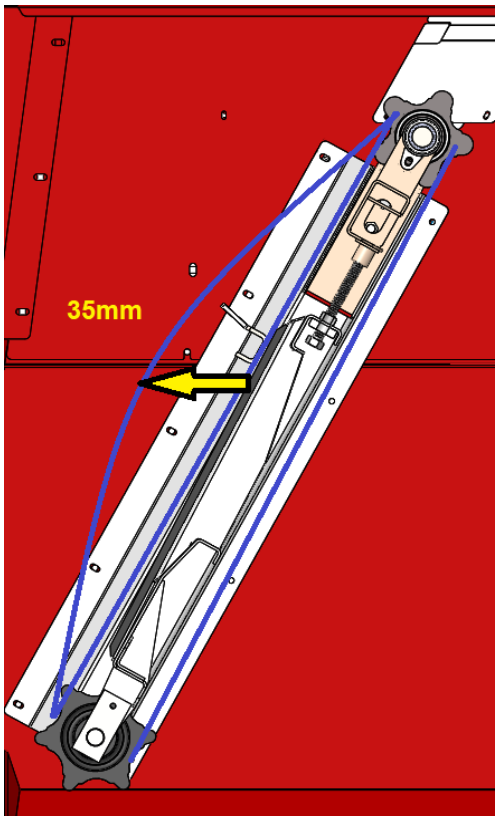
Pre-Service Guidelines & Settings

Prior to delivering your machine, your dealer should have completed a pre-delivery check.
It is beneficial to check the following points before using the machine for the first time, after the first few loads, then weekly.

CHECK FLOOR CHAIN TENSION. A simple check is to stand in the bin and exert a strong pull at the centre of the floor. There should be approximately **75mm (3")** of vertical movement in this area.



CHECK ELEVATOR CHAIN TENSION. Exert a pull at the mid-point of the elevator face. If necessary, adjust for approximately **35mm (1-1/2")** of movement from rest towards the rear of the wagon.



- CHECK ALL WHEEL NUTS ARE SUFFICIENTLY TIGHT.

Wheel Nut Recommended Torque Settings	
M18 Stud	200 ft/lbs or 270Nm
M20 Stud	280 ft/lbs or 380Nm
M22 Stud	330 ft/lbs or 450Nm

- CHECK ALL TYRE PRESSURES ARE CORRECT.

Recommended Tyre Pressures	
11.5/80-15.3	58psi 4.0 bar
400/60-15.5	50psi 3.5 bar
15.0/70-18	45psi 3.1 bar
400/55-22.5	46psi 3.2 bar
500/45-22.5	35psi 2.4 bar
500/60-22.5	35psi 2.4 bar
560/45R22.5	58psi 4.0 bar
560/60R22.5	58psi 4.0 bar
650/55R26.5	58psi 4.0 bar

- CHECK ALL AXLE MOUNTING BOLTS AND NUTS ARE SUFFICIENTLY TIGHT.

Axle Mounting Bolt Recommended Torque Settings	
M16	180 ft/lbs or 245Nm
M20	355 ft/lbs or 480Nm

- THE SIDE CONVEYOR BELT should be checked for alignment and tension, and adjusted if necessary to ensure it is tracking correctly.

- THERE ARE SEVERAL GREASE POINTS on all Giltrap feeders. Check the yellow label on the side of your machine to see how many grease points there are. You should fully grease everything before running it for the first time. See greasing and lubrication section in manual.

- CHECK AND RETIGHTEN WHEEL NUTS AFTER:
    - First use
    - First laden journey
    - The first 50 hours of use and every 50 hours thereafter

Installation

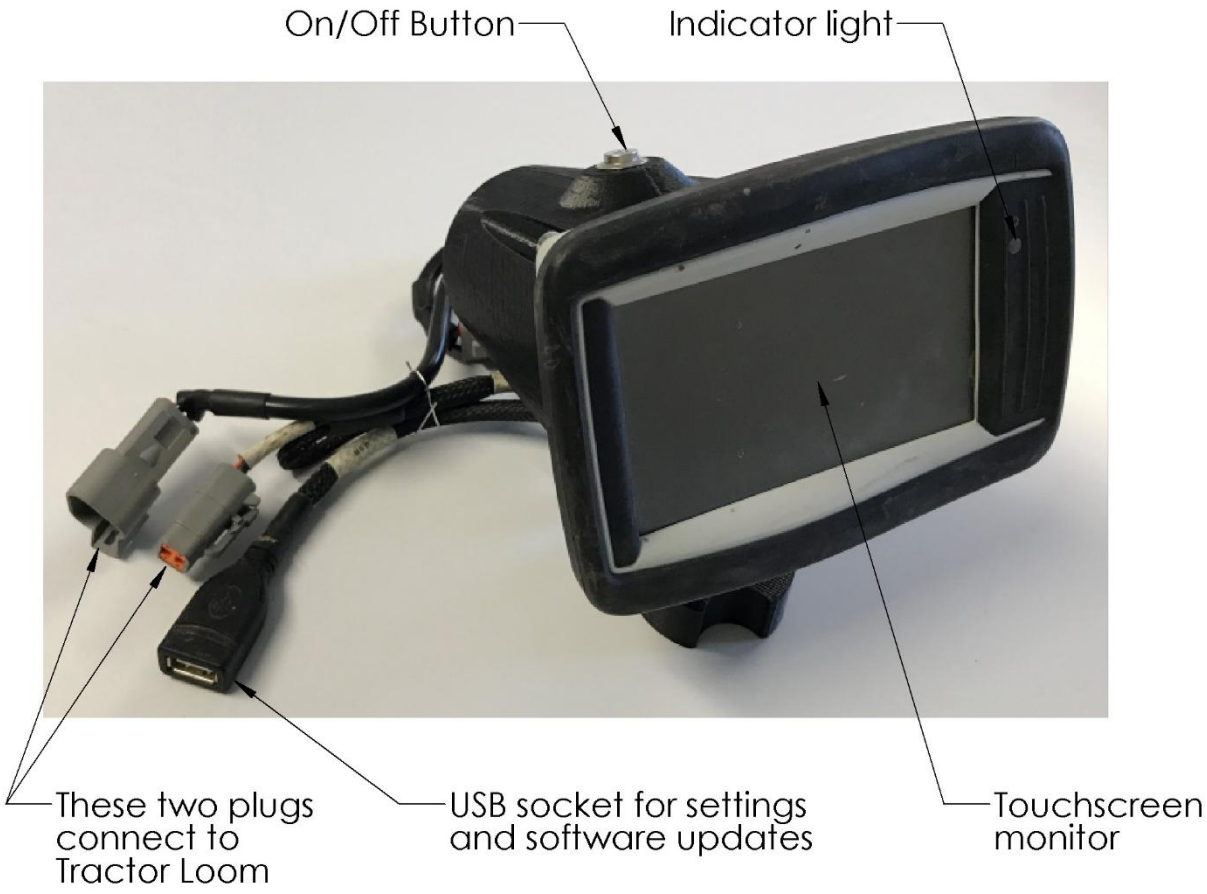
Connect drawbar to tractor. The hydraulic jack (where fitted) may be use as quick hitch foot
Retract hydraulic jack or wind up jack handle and stow jack

Connect hydraulic hoses
Connect brake hose (if equipped)
Connect lights plug
Connect Electric control system plug

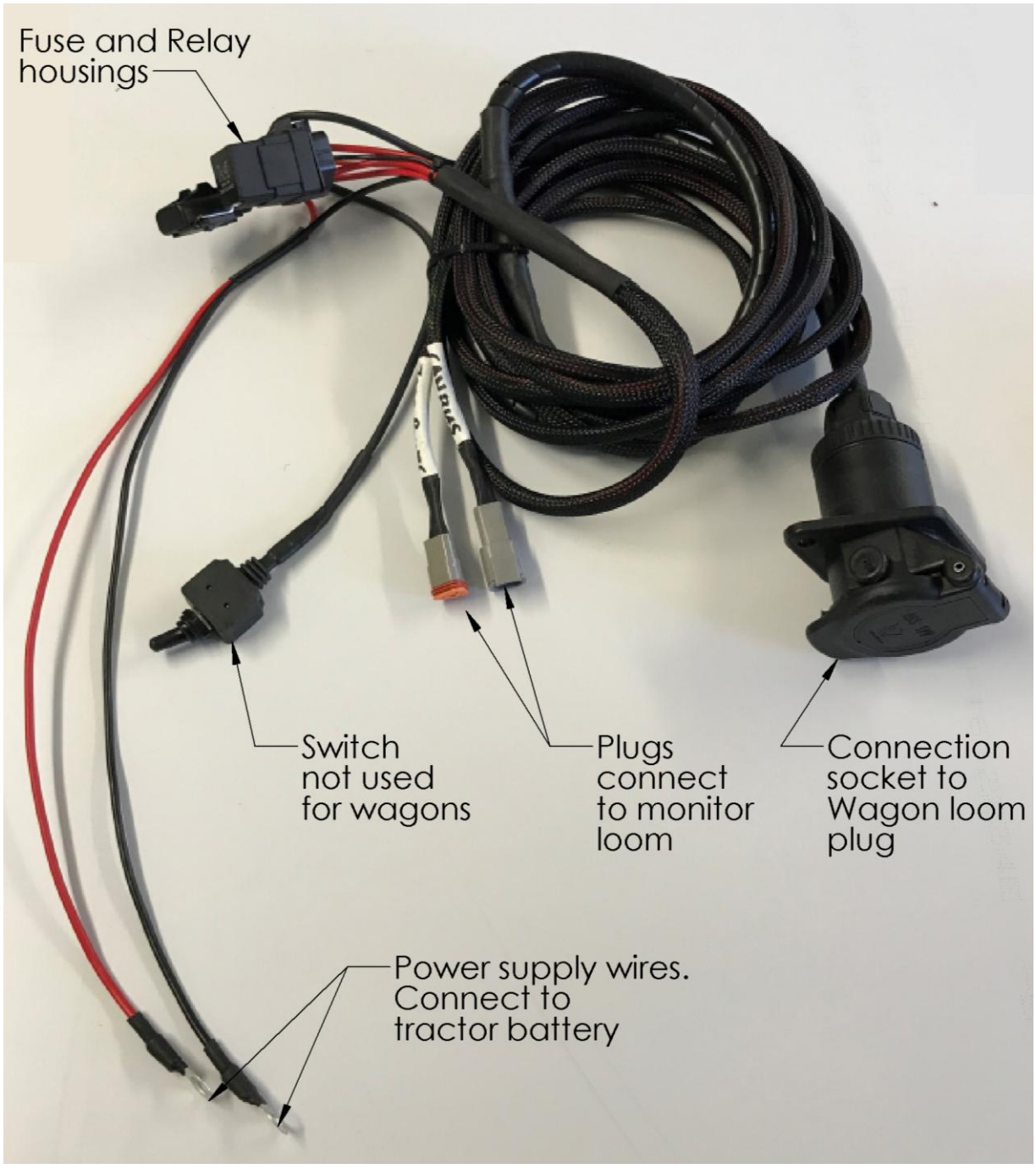
Electric Control Installation (where equipped)

Fit monitor in cab. Power supply should be connected directly to tractor battery. It is recommended to fix the connection socket to the tractor – this will allow auto release mechanism to work.

In-Cab Touchscreen Monitor Connections



Tractor loom Connections



Connect Wagon loom plug to Tractor loom socket.

Operation

Loading the Wagon

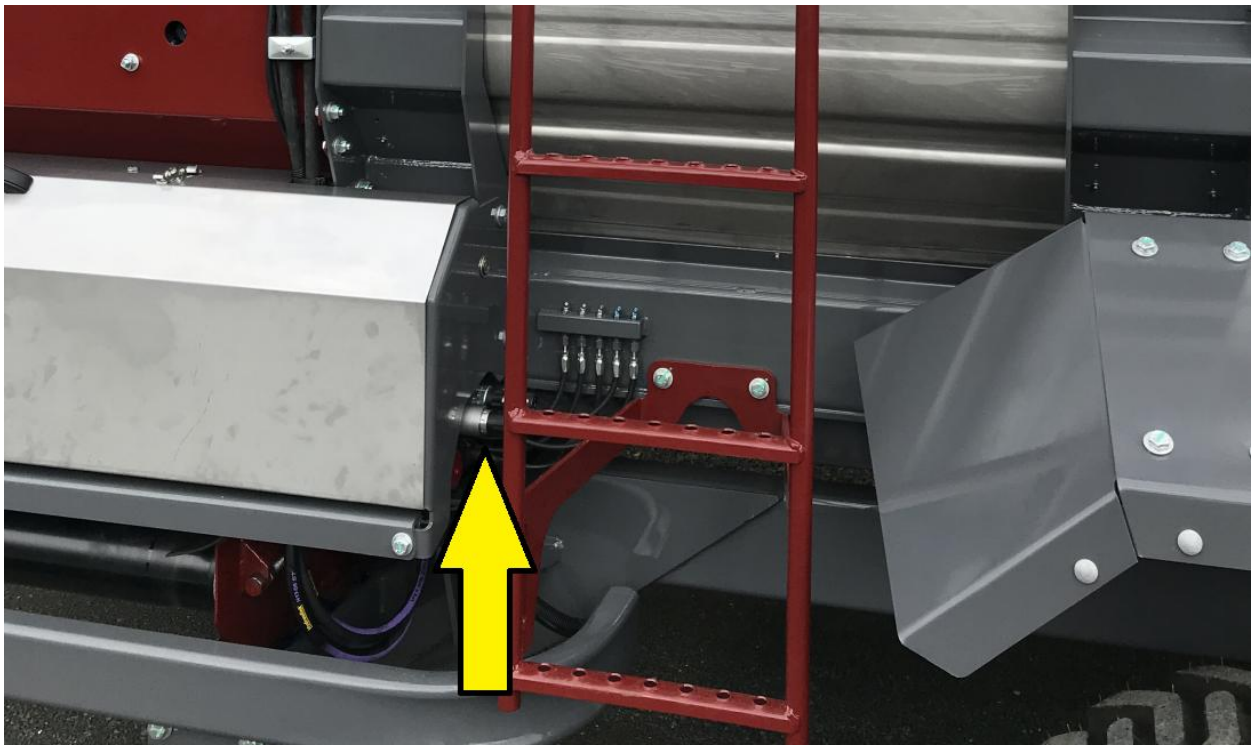
Load the wagon from the rear to the front. When difficult material has to be handled, eg long, wet silage, load the material in sections. It may sometimes be necessary to reverse the load a short distance and then bring it forward again to present a new face to the elevator. Note: reverse the floor by pushing the hydraulic lever on your tractor in the opposite direction.

Feeding Out

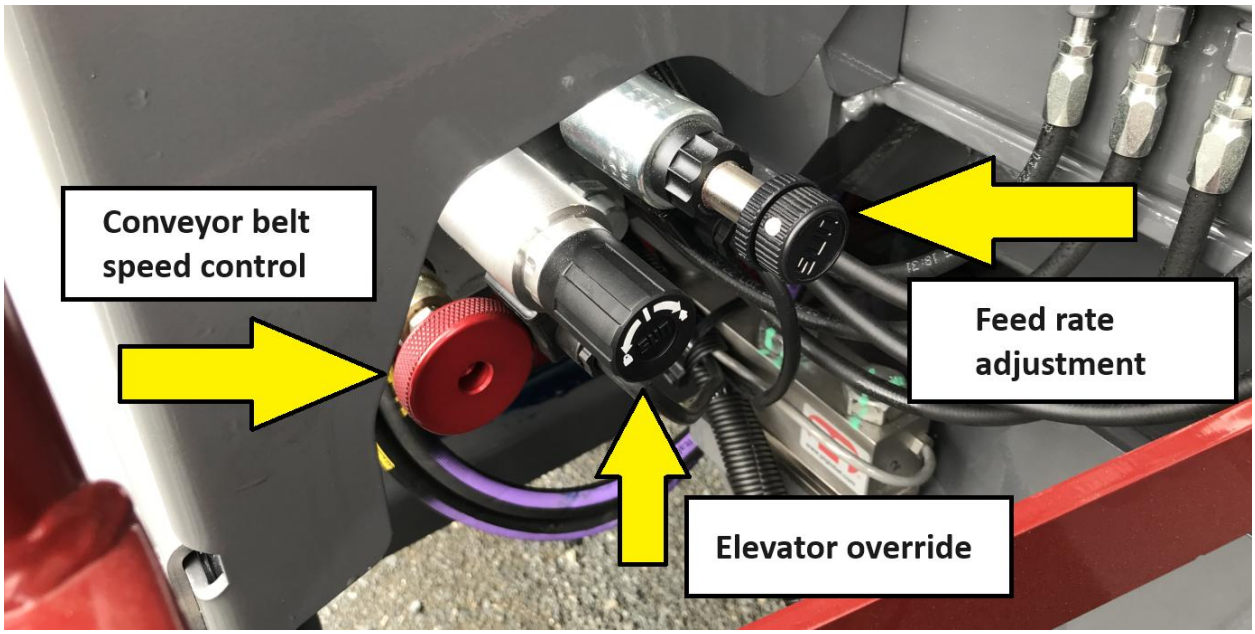
Best feeding out conditions occur when the wagon is freshly loaded. If left loaded overnight, the material can settle into a hard mass that becomes difficult to feed out. The practice of leaving a load in the machine for hours before feeding out will also accelerate the deterioration of the wagon because of the acidic nature of the material.

Manual Control Operation

Where electronic control is not fitted, feeding is controlled by manual adjustment of the hydraulic valve block. The hydraulic block is located under the stainless steel cover on the left side of the wagon. The two adjustments for the block may be accessed through the cut out in the back plate.



Adjustment Knobs (Manual control):



Conveyor Belt Speed Control

Belt speed is adjusted using the red knob shown. The conveyor belt takes priority oil flow.

Turning the valve clockwise increases the conveyor belt speed.

Feed-Out Rate Control

Feed Out rate is adjusted using the black knob shown. This adjusts the load pressure that the valve uses to start and stop the floor automatically. When you have adjusted the feed-out rate to your requirements, the valve will maintain an even flow of material to the elevator by automatically adjusting the floor speed. As the wagon empties the floor will automatically speed up to its maximum speed.

Turning the valve clockwise increases the feed out rate.

If the elevator chain stalls from overloading, reduce this setting.

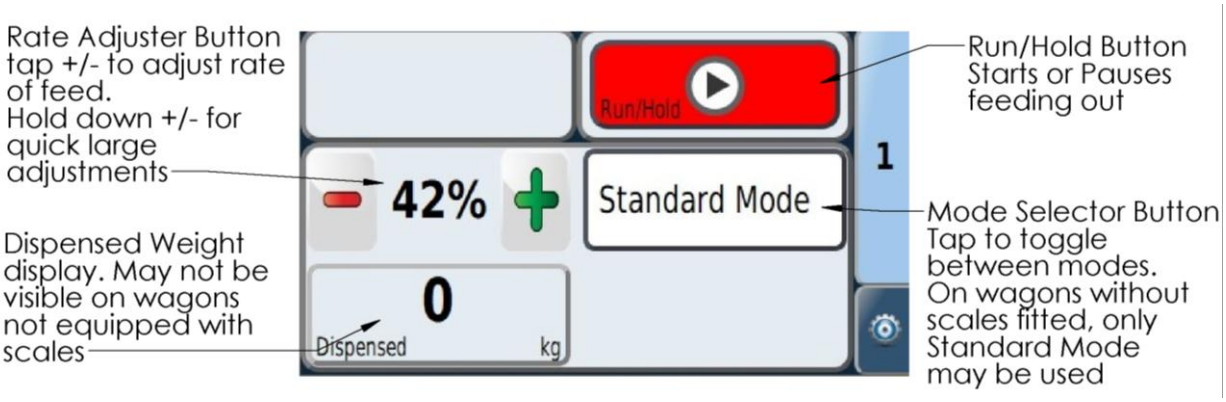
To Feed Out, engage tractor hydraulics and drive forward. Ensure hydraulic flow is sufficient to cause the elevator to turn smoothly (30-60 litres per minute at full working pressure: 2500 - 2800psi (170 – 190 bar)).

Electronic Control

Turn on the in-cab touchscreen monitor.
Engage the tractor hydraulics. The Cross conveyor belt will run continuously.
Cross conveyor belt speed is adjusted as per manual adjustments above

Rate Control

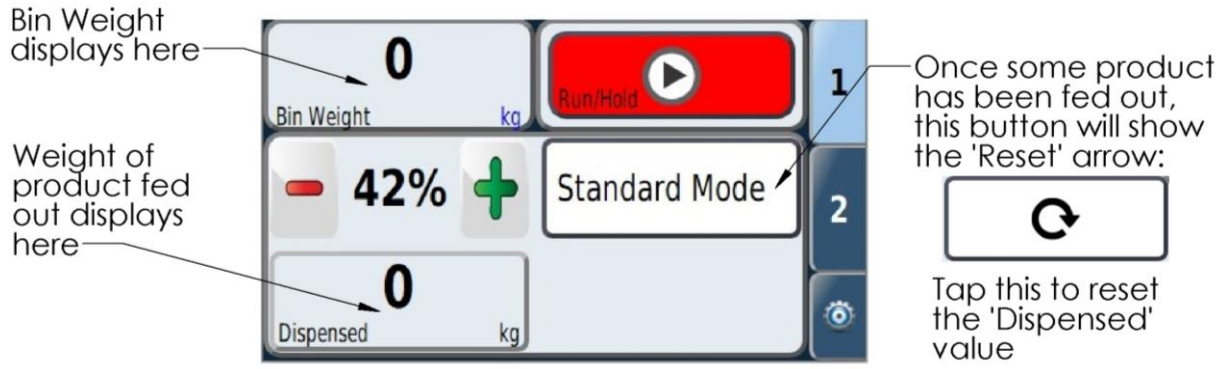
On wagons equipped with electronic rate control, the feed rate may be adjusted from the tractor cab. Once hydraulics are engaged, feeding out is also turned on and off using the touchscreen.



Rate Control with Scales Fitted

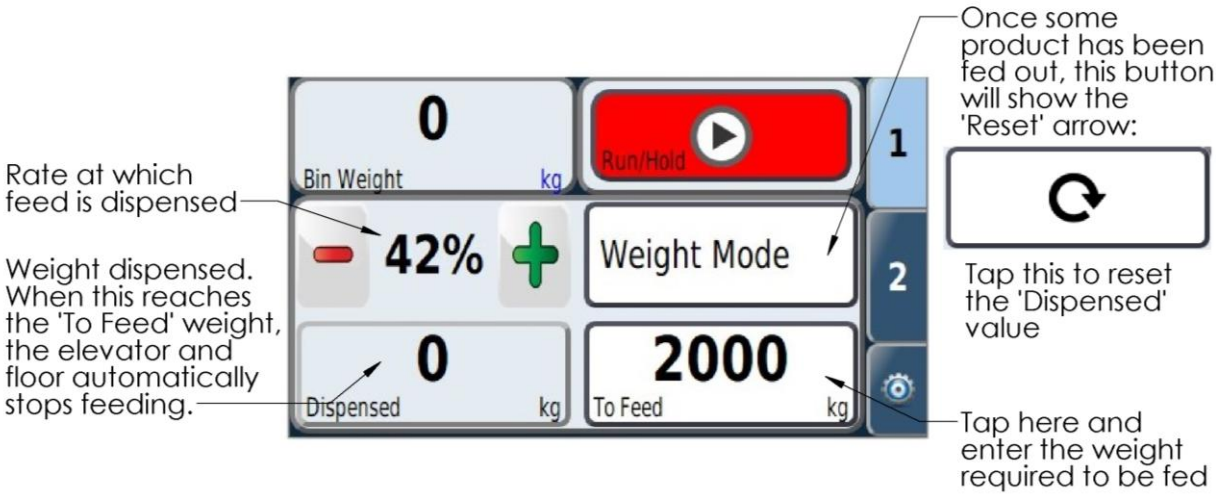
Standard Mode

With Scales fitted, the weight of product in the wagon and the amount dispensed are displayed.



Weight Mode

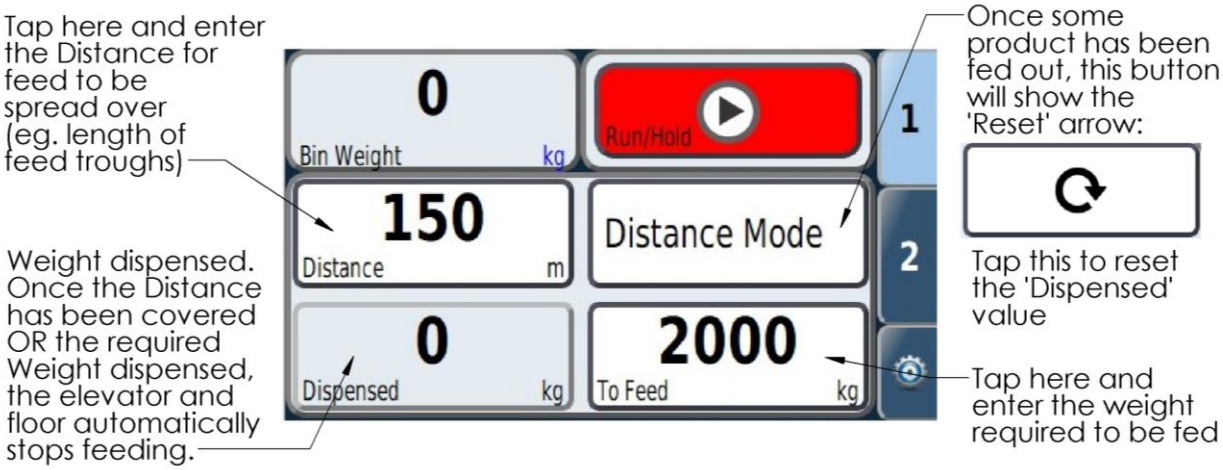
With Scales fitted, Weight mode allows a pre-set amount of feed to be dispensed before the wagon automatically stops feeding



Rate Control with Scales and Wheel Speed Sensor Fitted

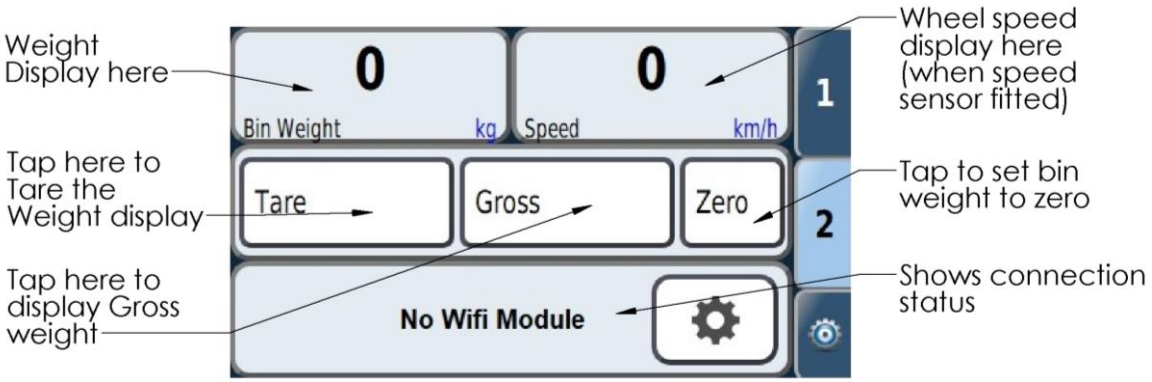
Distance Mode

With Scales and a Wheel speed sensor fitted, Distance mode allows a pre-set amount of feed to be dispensed over a pre-set distance before the wagon automatically stops feeding. This is useful when feeding into troughs or to ensure a sufficiently long feed-row in a paddock.



Wireless Scales

When equipped with Load cells, the bin weight may be monitored in real time, even with the wagon disconnected from the tractor. The system uses its own built-in WiFi to communicate.



Note: when disconnected from the tractor, the system:

- cannot operate feeding controls
- cannot set bin weight to zero

Both these tasks require the electrical plug and socket to be connected. The ‘Wagon Active’ and green socket symbol will be displayed when the wagon is plugged in to the in-cab monitor:

When the electrical plug and socket are disconnected, the Wifi will become active for displaying weight:

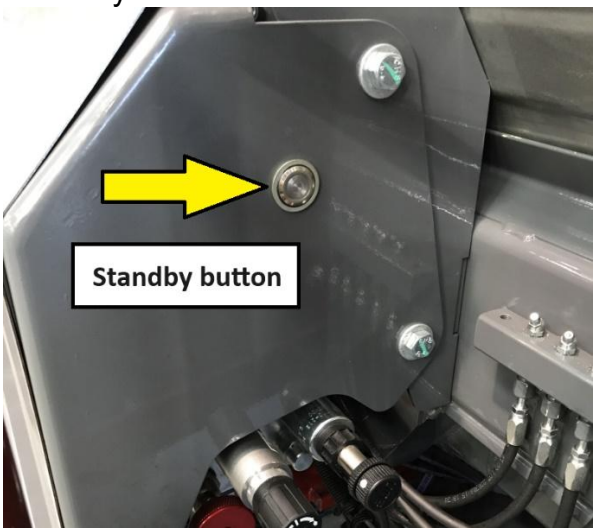
The wagon may now be loaded by the towing tractor, with live bin weight readout in the cab.

NOTE: If the tractor goes out of range of the Wifi, or if the wagon control box times out and turns off, the Wifi symbol will turn Red, indicated a broken connection. To reconnect, either move the tractor closer to the wagon, or press the Standby Button on the control box.

Wagon Standby Button

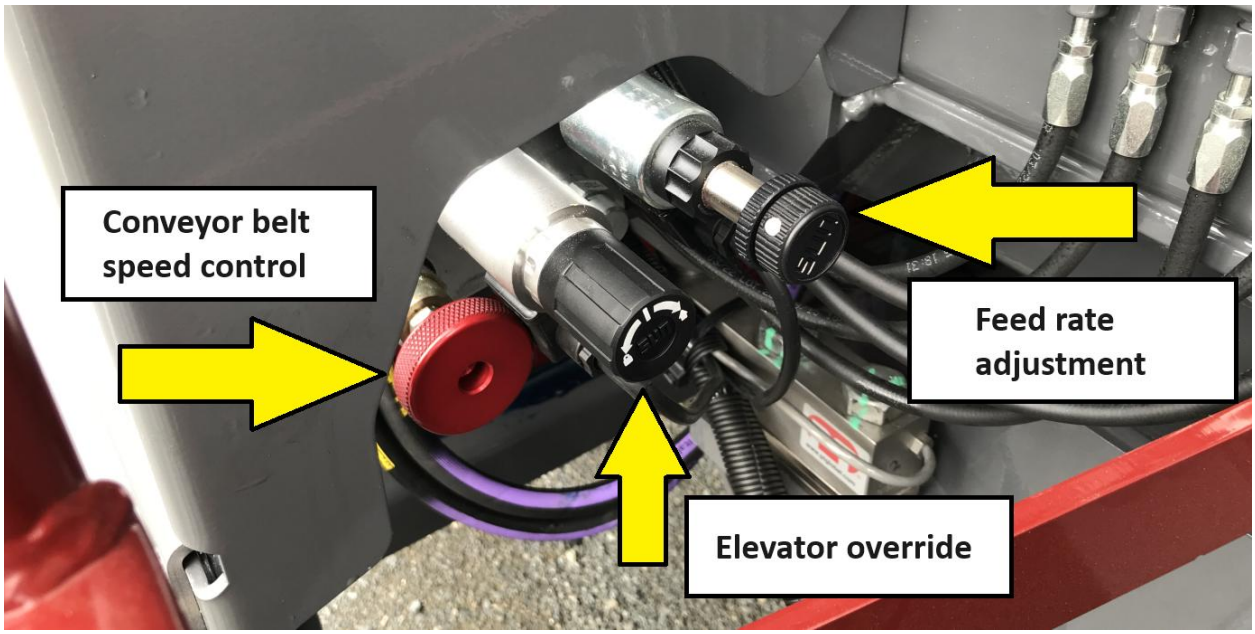
When the electrical plug and socket to the tractor are disconnected, the wagon control box remains on for a set length of time to allow for wireless scales display. Once time is up, the control box will turn off to conserve on-board battery power.

To turn the unit back on, either plug in the tractor electrical plug and socket, or press the ‘Standby’ button located above the hydraulic valve controls.



Manual Hydraulic Override of Electronic system

It may sometimes be necessary to over-ride the electronic control system and use the wagon in manual mode. This can be done by adjusting the control knobs on the hydraulic block, located on the left hand side of the wagon, under the stainless steel cover.



- The Conveyor belt speed control Red knob controls conveyor belt speed.

- The Elevator over-ride (centre black) knob is a ‘spring to centre’ type when used in electronic control mode. **To over-ride the elevator electronic control, turn this knob anti-clockwise until it ‘clicks’ and holds its’ position**.

- The Floor over-ride black knob is a rotary adjustment type. For electronic control this knob must be turned anti-clockwise all the way out. **To over-ride electronic floor rate control, turn this knob clockwise until the floor moves when the hydraulics are engaged.** The feed rate may then be adjusted to suit by screwing the knob in (higher rate) or out (lower rate).

Side Shift Operation

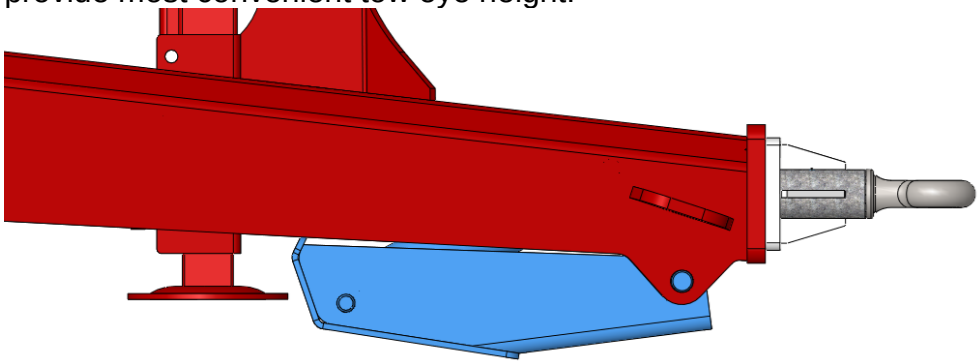
The side shift hydraulic ram is located underneath the cross conveyor. Actuating it out allows 300mm of sideways extension to feed into troughs, along fence lines, etc.

To operate, connect the two side shift hydraulic hoses to the tractor and adjust cross conveyor position using the tractor hydraulics.

Ensure cross conveyor bed is retracted before driving through narrow areas such as gateways, to avoid potential damage.

Hydraulic Jack Operation

The hydraulic jack (when fitted) is located underneath the front of the drawbar. In its' folded up position it may be used as a Quick Hitch foot. The height may be adjusted to provide most convenient tow eye height.



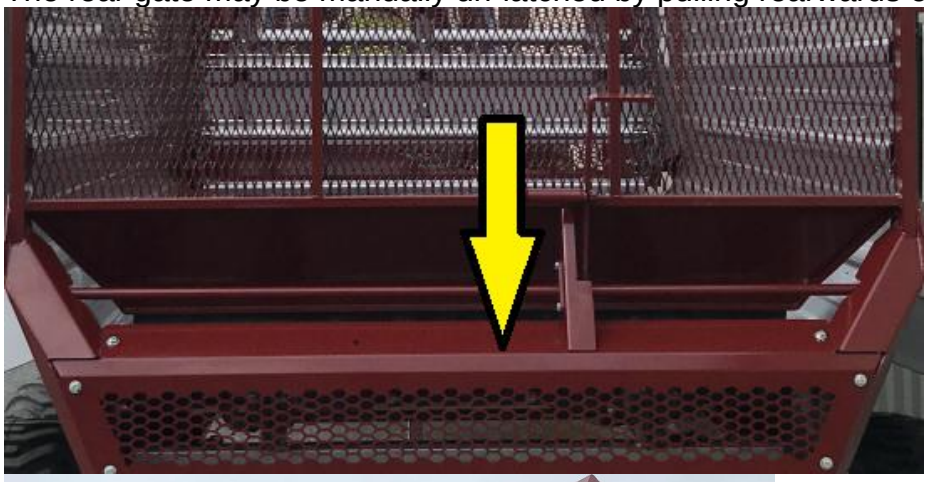
To operate, connect the two jack hydraulic hoses to the tractor. Standing away from the drawbar (in case of movement), turn the on/off lever to point along the hose (On position). The jack height may now be adjusted using the tractor hydraulics.

When disconnecting the wagon, set the jack height as necessary and turn the on/off lever to 'Off' before disconnecting hoses.

Upon initial installation, air may be present in the hydraulic jack ram. This may be purged by cycling the jack from fully up to fully down a number of times.

Rear Gate Operation

The rear gate may be manually un-latched by pulling rearwards on the handle:



A stay is fitted which locates in the gate to hold it open for access.

Note the gate will automatically open when the main floor is reversed and product pushes against the gate. Afterwards the gate must be manually re-latched.

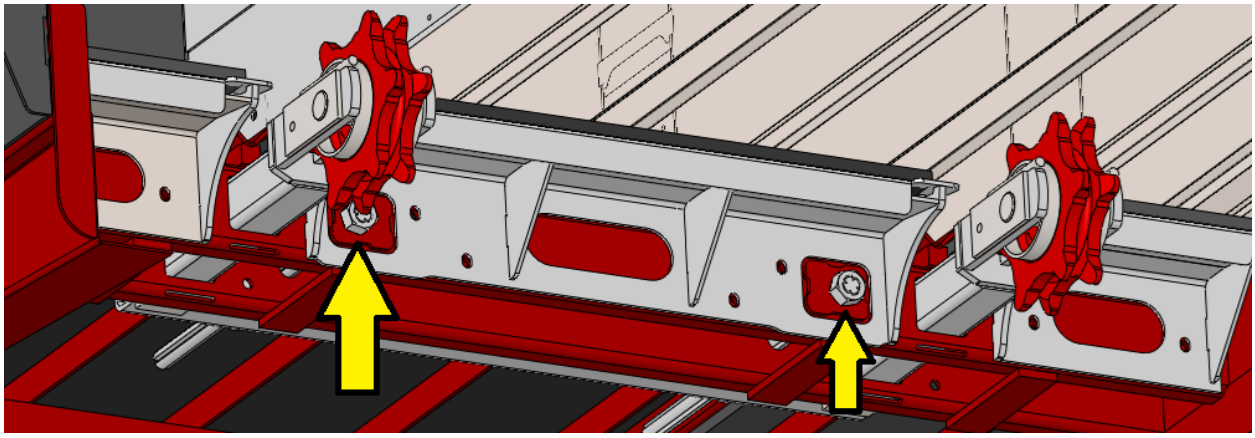
To re-latch the gate, hold the handle down while pushing the gate firmly against the back of the wagon. Then push the handle upwards until it engages through the ball catch.

DO NOT ENTER WHEN WAGON IS IN OPERATION. IT IS RECOMMENDEDTHE TRACTOR IS SWITCHED OFF AND KEYS REMOVED BEFORE ENTERING THE WAGON

Maintenance

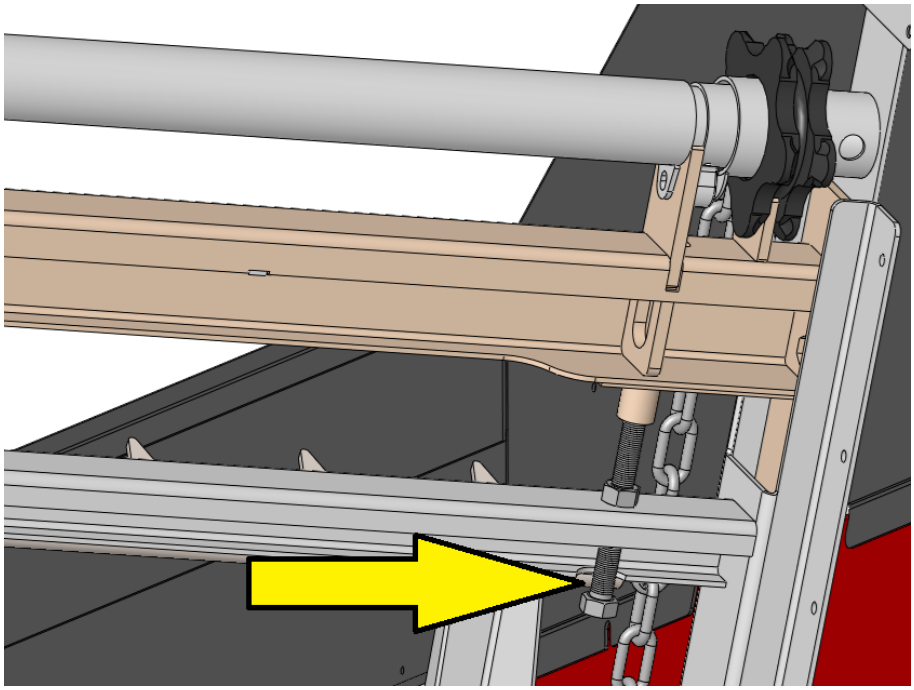
Floor Chain tension

Adjust floor chain tension as per pre-service guidelines on page 10. The adjusters are located at the rear of the machine near the sprockets. Undo the locknut (where fitted) before making adjustment. Adjust both sides approximately evenly.



Elevator Chain tension

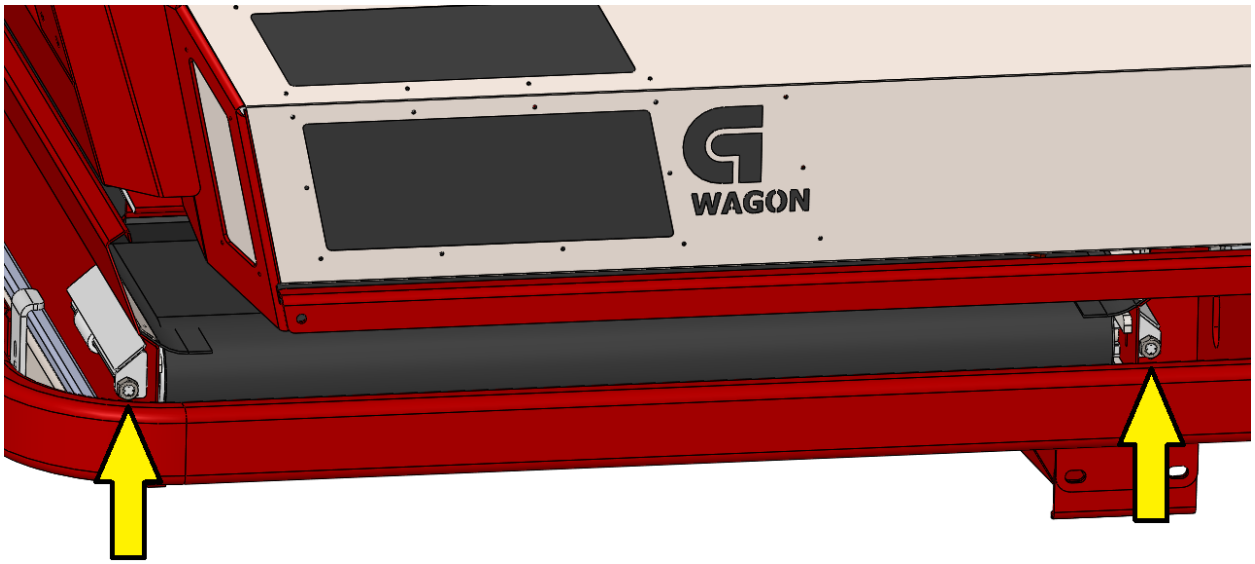
Adjust elevator chain tension as per pre-service guidelines on page 10. The adjusters are located under the upper elevator sprockets. Undo the locknut (where fitted) before making adjustment. Adjust both sides approximately evenly.



Cross Conveyor Belt tracking

The side delivery belt is set up and adjusted at the factory before delivery; however it is usual after a period of time to notice the belt running off centre. This is normal and is caused by belt stretch or movement under load.

The adjusters are located on the left hand end of the cross conveyor unit. First, loosen the lock nut each side. Turn the bolt heads ¼ turn at a time with the conveyor running, until the belt runs true again. You should either loosen one adjuster slightly, or tighten the other, or a combination of both. Tighten lock nuts once adjusted.



All adjustments must be made with wagon running, preferably empty. Only adjust ¼ of a turn at a time and run for at least 2 minutes between adjustments. THE BELT WILL RUN TO THE LOOSE SIDE.

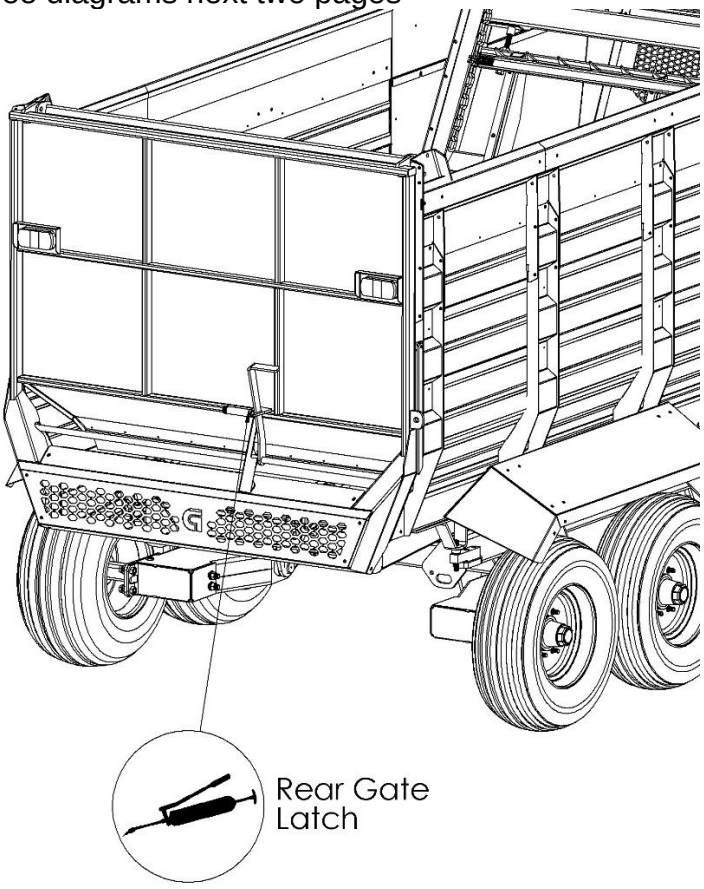
DO NOT OVERTIGHTEN - THIS WILL CAUSE A POWER LOSS!

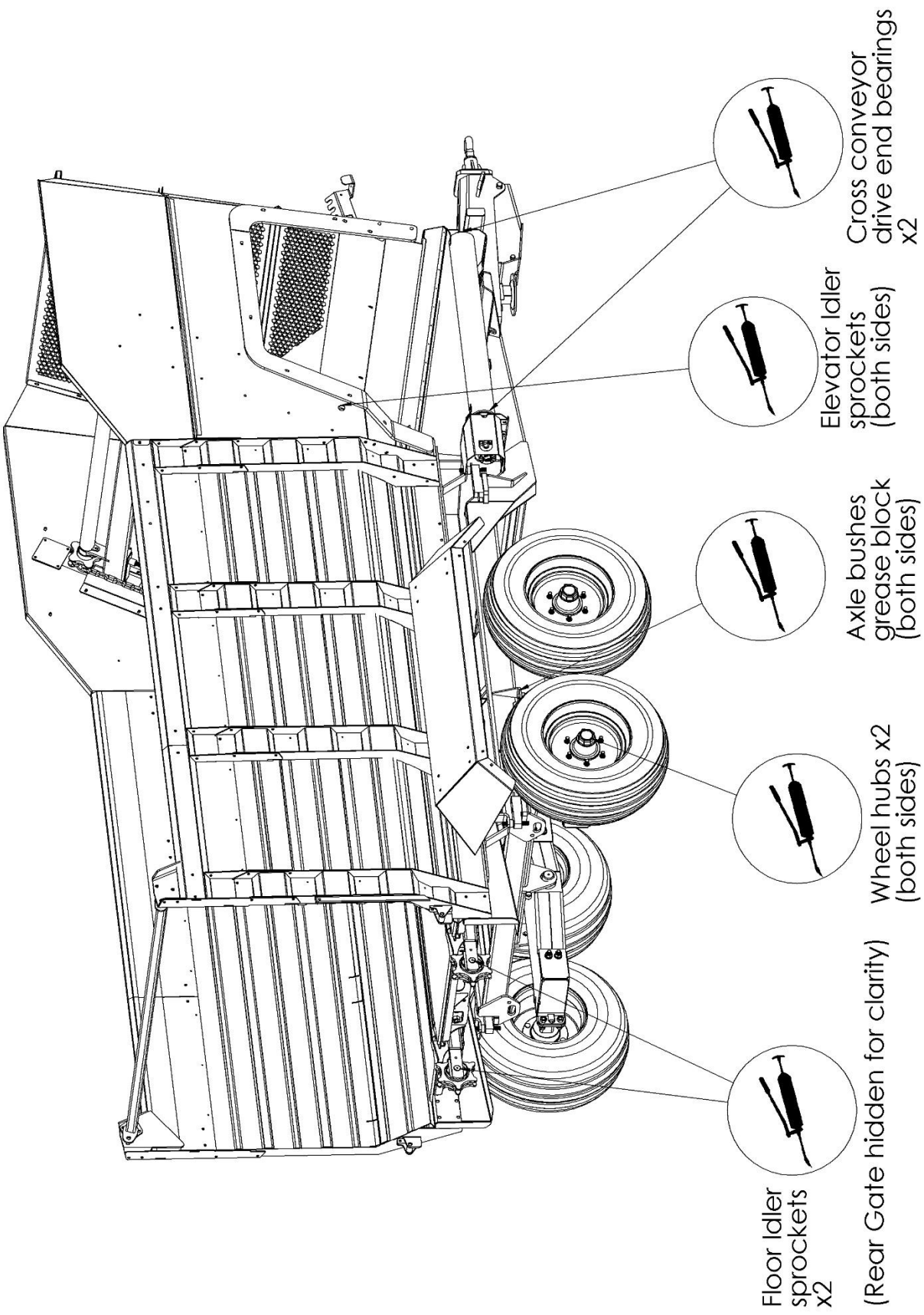
Greasing and Lubrication

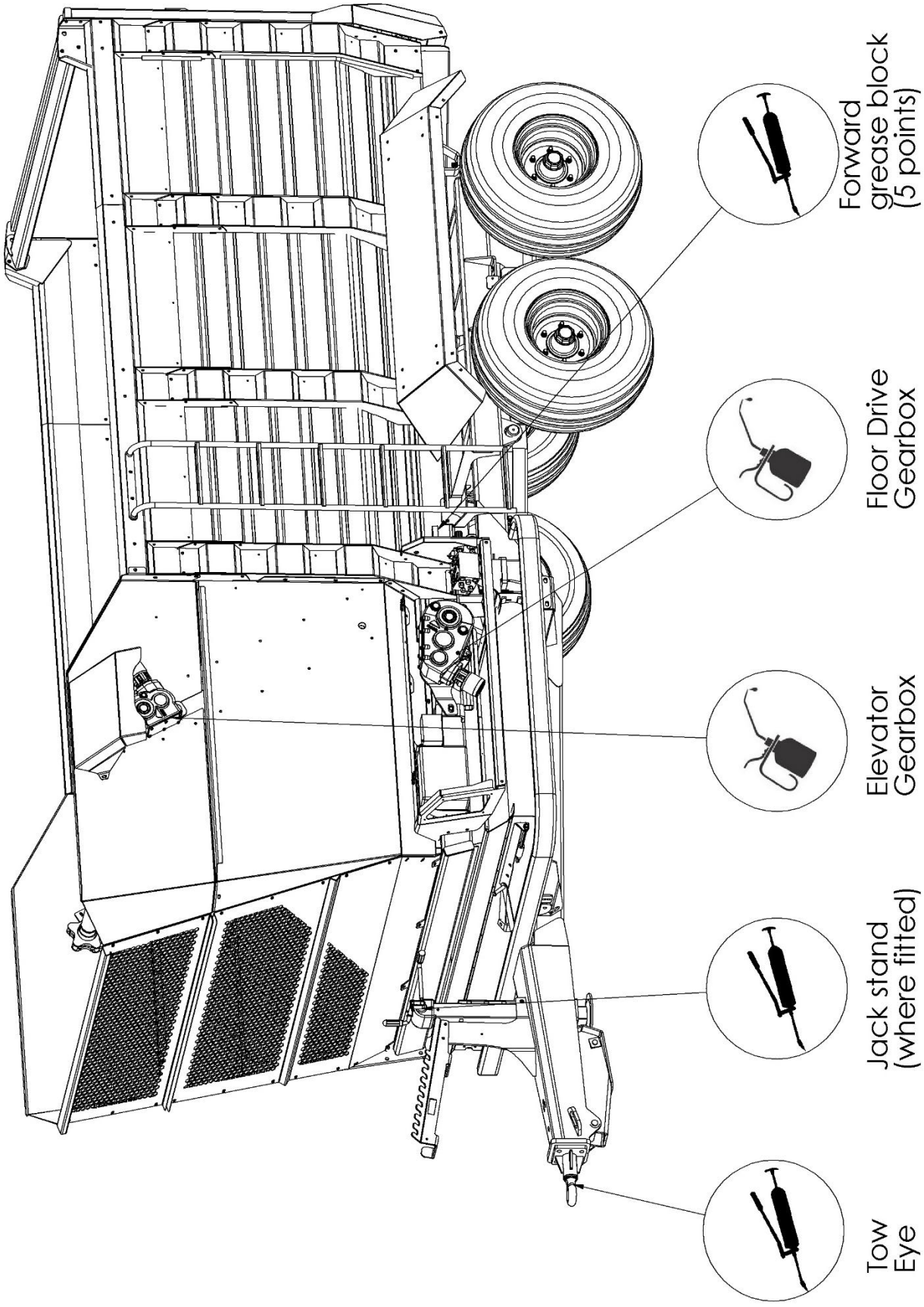
Grease Grade Recommended: NLGI 2 oil based
Gearbox Oil Recommended: GL-5 80w-90

Schedule		
Item		**Frequency**
Axle Bushes	(axle grease blocks)	– Grease every second day
Elevator Drive Shaft Bearings	(on forward grease block)	– Grease every 10 loads
Floor Driveshaft Deadeyes	(on forward grease block)	– Grease every 10 loads
Elevator Idler Sprockets		– Grease every 10 loads
Floor Idler Sprockets		– Grease every 10 loads
Cross Conveyor Drive End Bearings		– Grease monthly
Tow Eye		– Grease monthly
Jack Stand		– Grease monthly
Wheel Hubs		– Grease every 3 months
Rear Gate Latch		– Grease every 3 months
Elevator Gearbox		– Maintain level as necessary
Floor Drive Gearbox		– Maintain level as necessary

See diagrams next two pages




Cross conveyor drive end bearings x2
Elevator Idler sprockets (both sides)
Axle bushes grease block (both sides)
Wheel hubs x2 (both sides)
Floor Idler sprockets x2
(Rear Gate hidden for clarity)


Forward grease block (5 points)
Floor Drive Gearbox
Elevator Gearbox
Jack stand (where fitted)
Tow Eye