

JAGUAR 830 - 880 (496)

Information and Basic Field Settings

CLAAS



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Introduction

This quick reference guide has been produced to aid operator's with familiarisation and settings of CLAAS JAGUAR forage harvesters.

CLAAS forage harvesters are designed for output and efficiency but this can only be achieved with correct operation and maintenance of the machine.

This guide is not designed to replace the Operator's Manual but purely as a reference document.

More in depth information is available in the Operators Manual.

Downtime costs output

To get the most from the machine, the wheels must be turning. In order to keep downtime to a minimum, it's vital that routine maintenance is not neglected.
As well as servicing the machine according to the operator's manual, a good check of the machine is essential. It is false economy to put off the replacement of worn parts until they break.

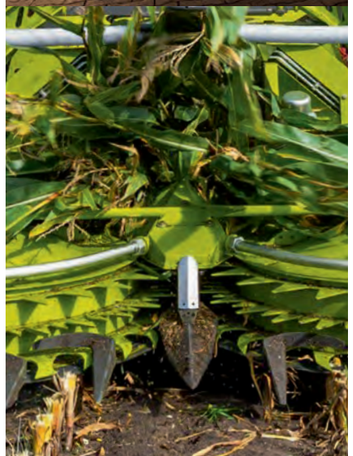
Abbreviations

Throughout this guide the following abbreviations are used: 'LHS' and 'RHS' refer to the Left Hand Side and Right Hand Side of the machine respectively, taken from the rear of the machine facing in the direction of travel.

ALWAYS READ THE OPERATORS MANUAL BEFORE OPERATING YOUR FORAGE HARVESTER.

The information is therefore not complete for the purpose of working on the machine. This document does not replace the relevant operators manual and repair documentation! Subject to changes due to continued technical developments.





Safety

Safety is of the utmost importance whilst you are operating and maintaining your forage harvester. Make sure that all of the risks are assessed to reduce the likelihood of an accident.

For more in depth safety information please consult your operators manual. Always read the Operator's Manual before using any new machine.

- Make sure you are familiar with the controls and operation of the machine and have read the Operator's Manual.
- The forage harvester has many moving parts, guards are designed to keep you safe, please ensure that all guards are kept in place and in good condition when operating the machine.
- When doing any maintenance work or making adjustments outside of the machine make sure that the engine is switched off and the battery isolator key is removed.
- Some of the maintenance has to be carried out at height, please asses the risks that this poses and ensure that the task is carried out safely.
- When operating the machine be aware of the presence of people particularly in farmyards, always get someone to help you when reversing in confined areas.
- Be aware of the size of your machine, particularly the height, you may be at risk from contact with overhead power lines and overhead obstructions particularly but not exclusively when the spout is in the working position and if extra aerials have been fitted to your machine.

Drive Concept



Drive is taken directly from
the **diesel engine (1)**
via a **power band belt (2)**
to the **cutting cylinder (3)**,
and the **accelerator (4)**.

The accelerator shaft drives
the **corn cracker (5)**
by means of another belt drive.

The cutting cylinder shaft
transmits the power to the right side
via the third **power band belt (6)**,
driving the **front attachment drive (7)**
and the feed rollers.
The feed rollers are reversed
using the **hydraulic motor (8)**.

Right Hand Console

1. **CEBIS Rotary Switch**
   Main machine functions

2. **Hotkey Rotary Switch**
   Additional machine functions

3. **Main Menu Rotary Switch**
   Menu navigation & value setting

4. **Value Select Rotary Switch**
   Sets a value from the hotkey menu

5. **ESC Key**
   Cancels a menu item/changes
   between road and field display

6. **Info Key**
   Provides information about fault



Right Hand Switch Panel



1. **Main Drive Switch**
   Engages the chopping cylinder

2. **Upper Discharge Chute**
   Raise/lower chute

3. **Machine Gearshift Switch**
   Shifts gear up and down

4. **Silage Additive System Switch**

5. **4 Trac Switch**
   Switches all wheel drive off/on

6. **Diesel Engine Speed Switch**

7. **Fold Front Attachment**

Multi-Function Lever

1. **Lower Front Attachment**
   Slow or fast

2. **Raise Front Attachment**
   Slow or fast

3. **Cutting Height Pre-Selection**
   Menu navigation & value setting

4. **AUTOCONTOUR On/Off**

5. **AUTOPILOT On/Off**

6. **Spout Control In/Out and Chute L/R**

7. **Front Attachmen / Feed Roller**
   Disengage and reverse

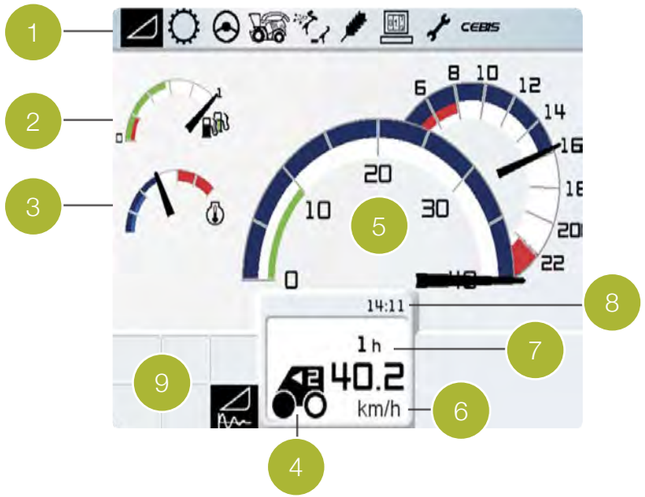
8. **Front Attachment / Feed Roller Engagement**

9. **Auto Chute Positioning**

10. **Auto Chute/Auto Fill**
    Parking position and engagement



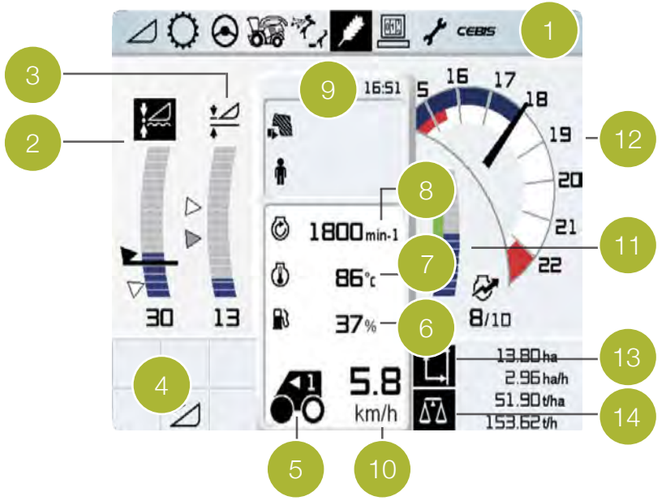
CEBIS Road Travel Display



1. Main Menu
2. Fuel Level (Black)
   Ad-Blue (Green)
3. Coolant Temperature
4. Gear 4WD Status
5. Forward Speed Counter
6. Ground Speed
7. Working Hours
8. Time
9. Alarm & Message Field

CEBIS Harvest Display

1. Main Menu
2. AUTOCONTOUR Height Control
3. Pre-Set Cutting Height
4. Message Fields
5. Gear Selection
6. Fuel Level*
7. Maintenance Display*
8. Engine Speed
9. Variable Display
10. Ground Speed
11. Diesel Engine Load
12. Diesel Engine Speed
13. Area Counter Display
14. Performance Monitor



* Pre-set as a standard, may be modified.

CEBIS Keys and Symbols

Using the CEBIS rotary switch (1) the forager settings can be adjusted. The picture below shows the settings that can be adjusted. To navigate through the settings turn the CEBIS rotary switch.

Inside the CEBIS display, the large number displays the value selected and the lower numbers shows the range which is possible.



To adjust the value, rotate switch (2) to increase or decrease the value. After the required setting is achieved turn the CEBIS rotary switch (1) back to the CEBIS icon on the screen.





Exits the menu and returns to CEBIS



Corn Cracker Gap Adjustment



Sets the monitor brightness



OPTIFILL master switch



Sets the ACTILISER silage additive dosing rate



Silage additive system doing rate

HOTKEY

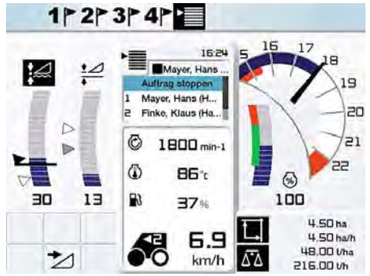


The HOTKEY is used to adjust more frequently changed settings on the forager for example cutting height or cruise control speed.

To adjust any of the hotkey values, turn the rotary switch (1) and the HOTKEY dial will appear on CEBIS, which is shown on the left.



After 5 seconds the HOTKEY dial will disappear from CEBIS and the settings will be displayed in the window shown. To change the HOTKEY setting rotate the switch (2) to increase or decrease the values.



To remove the adjusted settings from the window, rotate the HOTKEY (1), back to the 12 o'clock position and the previous settings will be displayed.

HOTKEY Symbols



Sets the number of active partial widths



Sets the AUTO PILOT centraliser switch



Sets the cruise control speed



Hectolitre weight adjustment



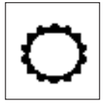
Sets the yield mapping flag



Sets the stone detector sensitivy



Adjusts AUTO FILL



Driving menu



Sets the working speed of the diesel engine



Sets the cutting height

Feed Rollers

Cylinder	Application	Complete set of knives
V-Classic 14	Number of knives	28
	Length of cut range (mm)	3.5 - 15
V-Classic 12	Number of knives	24
	Length of cut range (mm)	4 - 17
V-Classic 10	Number of knives	20
	Length of cut range (mm)	5 - 21

The purpose of the feed rollers is to compress the crop before it enters the chopping cylinder.
The feed roller speed is adjusted using the manual gearbox to achieve the required chop length.



Plastic Strips

It is advisable to remove the Teflon strips off the upper feed roller during maize harvest. This will allow optimal feeding of the crop to the cutting cylinder.

Bottom Plate

When harvesting whole crop or maize, the grain collection plate (1) needs to be fitted underneath the feed rollers to stop any grains from falling out under the machine. This needs to be removed for grass harvesting.



Metal Detector and Stop Rock

A **metal detector** is installed in the bottom roller of the feeder unit.

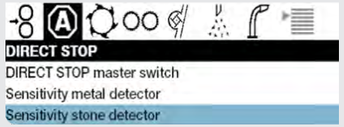
When a sudden instance of magnetic metal is fed into the feeder unit, the feeder unit stops before the metal can enter the chopping cylinder.

The sensitivity can be adjusted in the cab using CEBIS.
Sensitivity Adjustment: 1 > 5

It is not possible to switch off the metal detector.

When the metal detector DIRECTSTOP function is activated in CEBIS, the machine's forward motion will stop automatically if the metal detector or stone detector detects a foreign object.

This function can be activated and deactivated through CEBIS as is required.



Stop Rock, is used to detect stones entering the feed rollers by monitoring the movement of the upper precompression rollers.

A sudden movement of the feed rollers indicates a foreign object, the machine will then stop the feed rollers similar to a metal detection.

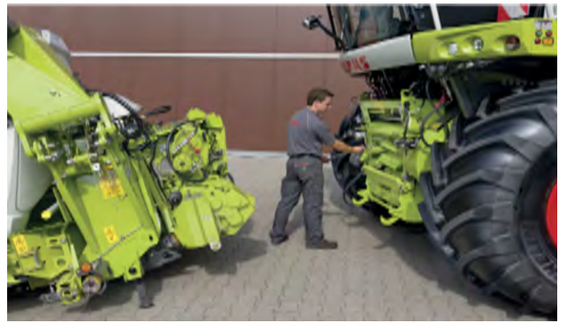
The sensitivity can be adjusted from the cab using CEBIS.

Sensitivity Adjustment: 0 > 10

It is recommended to deactivate Stop Rock when harvesting maize, using sensitivity setting 0.

Opening Feed Rollers

In order to remove the feed rollers, the front attachment must remain on the front of the feed rollers and the following steps need to be followed:



1. Lower the legs on the front attachment and lower the feeder housing as far as possible.

2. Undo the 13mm bolt and retaining collar to remove the panel over the drive belt on the RHS of the feeder.

3. Remove the guard over the drive belt on the RHS of the feeder housing and remove front attachment belt.

4. Undo the 24mm locking bolt underneath the feeder housing until the hooks become free.

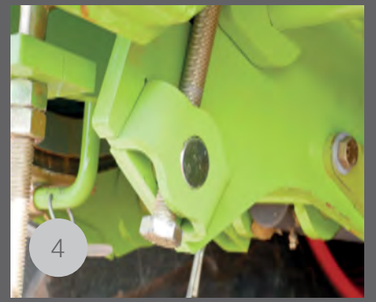
5. Remove the electrical, lubrication and air connections on the machine RHS and the hydraulic motor connections on the LHS.

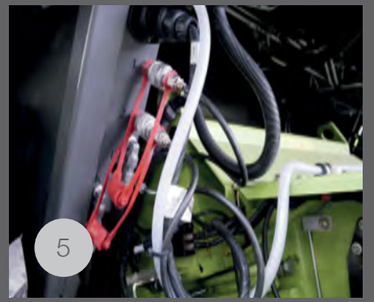
6. Slacken the bolt and swing out the locking unit on both sides. The Jaguar can now be reversed, leaving the feeder housing attached to the front attachment. Make sure the cutting cylinder is not lifted from the cab, while the feeder housing is removed.

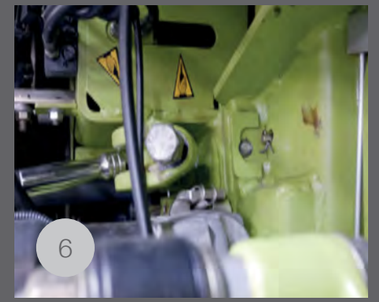












Opening Feed Rollers



The feeder housing can also be V'd open as shown to give a brief inspection of the blades. In order to V open the feeder housing, the following steps must be followed:

1. The front attachment must remain on the feeder housing.
2. The feeder housing must first be lowered to the lowest possible position.
3. The locks, electrical connections and hydraulic connections can then be removed.
4. It is important not to unlatch hooks underneath feeder housing.
5. The engine can now be started and lift the front attachment with caution to any hoses or cables.
6. It should now be possible to gain access as can be seen above.

Chopping Cylinder

The chopping unit has the task of cutting the material compressed by the feeder housing to the pre-set chopping length and of accelerating this material out of the cutting plane.

There are 3 cylinder variants available:

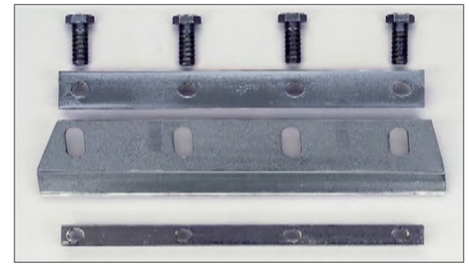
- V10 (20 Knives)
- V12 (24 Knives)
- V14 (28 Knives)

Changing the Knives

When the shear bar can not be adjusted any further, CEBIS will indicate wear on knife edge. As the knives are fixed using elongated holes, the position of the knife can be readjusted to the shear bar.

Please refer to the operators manual (section 9.12.14) for full instructions on replacing the knives.

When working on the cutting cylinder, ensure the machine is stopped and the cylinder locking tool is in place.





Sharpening



The sharpening process is carried out from within the cab. This is completed with the main drive engaged at idle engine RPM. The procedure and the number of cycles can be adjusted from CEBIS.

The sharpening stone readjusts automatically during the sharpening process, however after approx. 450 cycles this needs to be manually reset. Please refer to section 9.12.16 of the operators manual to carry out this adjustment.

Sharpening Interval

The sharpening interval should be adjusted dependant on the degree of wear on the knives. This must be checked visually, as the degree of wear will vary dependant on:

- Throughput Volume
- Crop Type
- Sand proportion (stubble height, raking depth)
- Chop Length

Number of cycles

The number of cycles can be adjusted through CEBIS, as few as possible to obtain a good cutting edge but as many as needed to maintain the edge. It is best to sharpen frequent with less cycles as opposed to daily with many cycles.

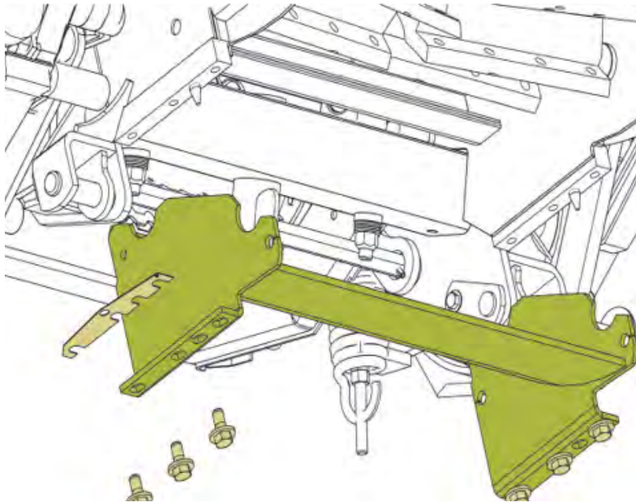
Cylinder Concave

There are two types of concaves available for under the cylinder. The smooth version fitted as standard for normal conditions or the heavy duty premium line version for use in conditions where wear from sandy soil etc is a problem.

Concave Adjustment

Once the blades wear on the machine, the bottom ‘concave’ may need to be adjusted to achieve optimum crop flow, this can be done by removing the shims fitted as required.

Refer to section 9.12.3 in the operators manual for instructions on how to carry out adjustment.

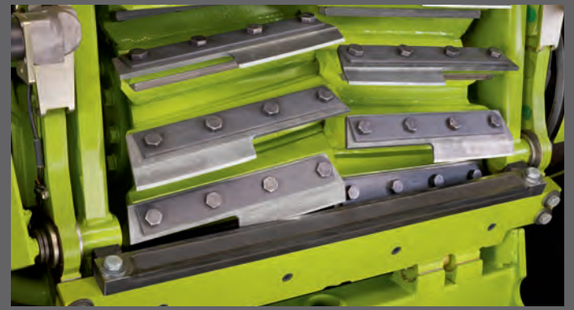


Shear Bar

Shear Bar Adjustment

The shear bar can be adjusted automatically from the comfort of the cab using CEBIS. The shear bar should be readjusted after each sharpening and where possible between sharpening intervals.

Please refer to the operators manual Section 9.12.10, for full instructions.



Recommendations:

The condition and the adjustment of the shear bar are essential to obtain optimum chopping quality, maximum efficiency and long service lives of knives and shear bar.

1. Readjust the shear bar after every sharpening process.
2. If needed, the shear bar should be readjusted without knife sharpening, ie. if clearance too great.
3. Adjust the shear bar as close as possible to the knives, for optimum chop quality. The knives must not touch the shear bar, otherwise wear increases. A feeler gauge can be used to monitor the gap.
4. To assess the wear condition of the shear bar, the rear side must be inspected. (The rear of the shear bar must be able to sit straight on the knife).

> The cutting edges of PREMIUM LINE shear bars have a longer service life and therefore improve chopping quality and service life.

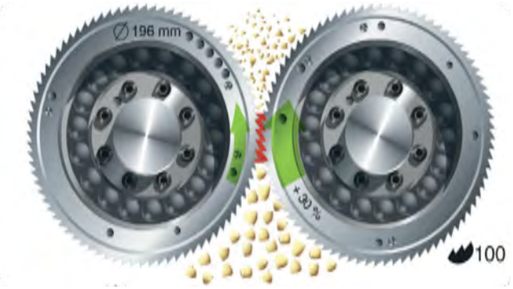
Shear Bar Adjustment

When the shear bar is worn or cannot be readjusted any further, it must be turned around or replaced.

Corn Cracker

The crop coming from the chopper unit is crushed between the Corn Cracker rollers and conveyed to the accelerator. The purpose of the cracker is to open each kernel of maize in order to free its starch to allow its starch to be free for digestion.

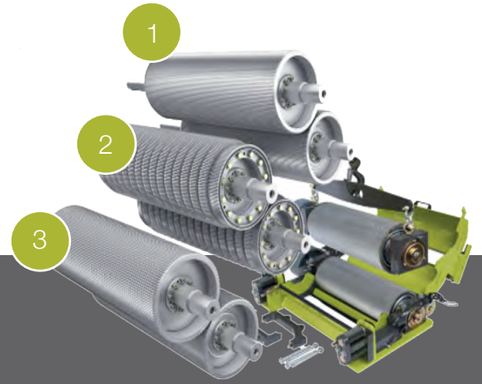
When the Corn Cracker is not in use, it should be completely removed from the machine because at stand still the high performance bearings might be damaged by the vibrations in the machine.



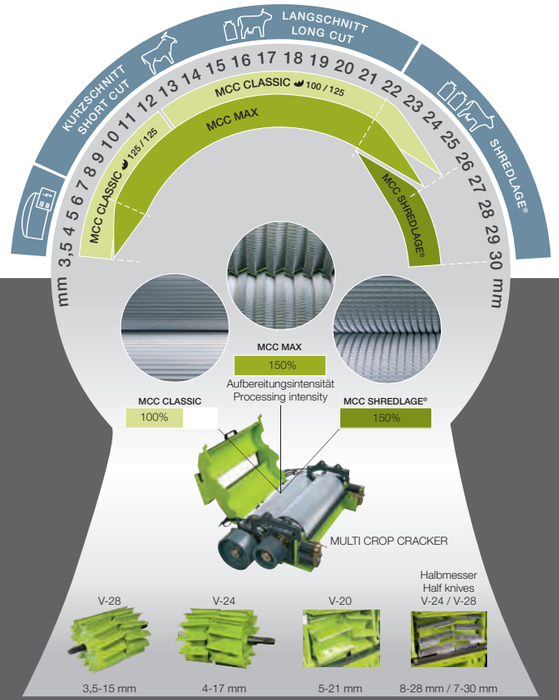
Multi Crop Cracker Variants (MCC)

Type	Machine	Power Band Belt
MCC - M - 80/100 teeth	JAGUAR 830-870	6 - groove
MCC - M - 100/100 teeth		
MCC - M - 125/125 teeth (whole crop)		
MCC “L” 100/125 teeth	JAGUAR 870-880	7 - groove
MCC “L” 125/125 teeth		
MCC “L” 150/150 teeth		
MCC MAX 120/130		
Shredlage 110/145		

Corn Cracker

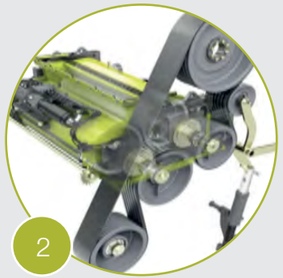


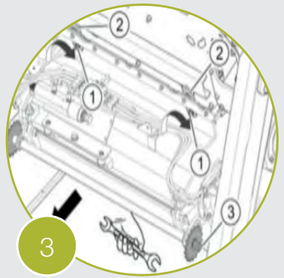
1. MCC L Roller
2. MCC Shredlage Roller
3. MCC L Max Roller



Removing the Corn Cracker









In crops where the corn cracker is not needed, it is recommended that the corn cracker is completely removed from the machine. During this time, the filler housing needs to be fitted to replace the dismounted corn cracker, this allows the crop flow directly from the cylinder to the accelerator.

For this conversion, the drive belt of the Corn Cracker is removed (R15), the lock is released as shown in picture 3 (loosen bolts [1] and rotate locks [2]) and the Corn Cracker can then be retracted, using the ratchet wheel [3]. After this, the filler housing is put into place and fastened by tightening the locking tabs.

For full information regarding the removal of the Corn Cracker please refer to Section 7.20.11 of the Operators manual.

Accelerator

The discharge accelerator receives the crop from the Corn Cracker or directly from the chopper unit and conveys it through the square discharge tube and the upper discharge chute out of the machine at high velocity.

Mechanical Adjustment

On the standard machine the gap between the housing and the accelerator can be adjusted manually both LHS and RHS.

Why change the clearance in the accelerator?

If the maximum blow is not needed, the accelerator position can be set to a wider opening this reduces wear and fuel consumption. Setting the accelerator closer to the plate will increase the blowing capability.

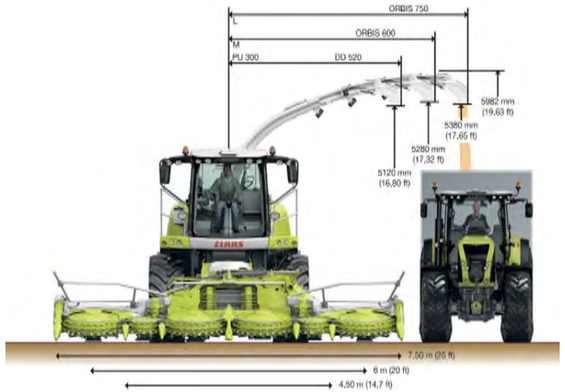
Accelerator Paddles

There are toothed accelerator paddles fitted as standard. Smooth paddles can be fitted if needed to increase the blowing capacity of the machine, e.g in very dry crops. If changing the paddles, it is important to note the difference in height of the paddles, so it is important to adjust the accelerator clearance afterwards.

Please Refer to the operators manual Section 9.13.21 for full procedure.



Discharge



The crop is expelled via the discharge chute into the trailer, the chute can be moved to maximise trailer filling using the buttons on the joystick as shown earlier in the booklet.

Different length chutes

Different length chute extensions need to be added or removed according to the width of header which is attached to the front of the machine. Chute extensions come in 750mm lengths and the L chute has 2 sections added.



Other Machine Features



The JAGUAR can also be fitted with the OPTI FILL automated discharge chute control system. This feature delivers the following functions:

- Extended swivel action, segmented in intervals of approximately 70cm
- Automatic flap adjustment to ensure trailers filled at the centre point as chute swivels
- Extended chute angle to 225° (standard 210°)
- Automatic return of chute to road travel position
- Automatic swivelling from one side to the other

Customer Benefits

- Optimised operation when filling trailers.
- Ease of Operation to park/rotate chute.
- Convenient to use.

AUTO FILL (Optional)



AUTO FILL is an option which allows fully automatic control of the discharge spout. This consists of an additional camera on the spout which monitors the trailer position and fill level.



There is also an additional monitor fitted in the cab to allow the operator to view the trailer and spout position.



The AUTO FILL system can be activated by pressing switch pictured on the joystick.

Other Machine Features





Additive Application

The JAGUAR is fitted with an additive tank as standard. This can carry up to 375 litres of liquid.The system can be activated from the cab.

The ensiling agent system is activated under the following conditions:

1. The JAGUAR must be travelling forwards.
2. The chopping unit and the attachment must both be engaged.
3. The attachment must be in the working position.

Dosing Options

- Constant dosing mode – 20 > 400 L/hour
- Throughput dependant dosing – 500 >100 ml/tonne

ACTISILER (Optional)

The independent ACTISILER system is available for adding lactic acid bacteria. A 37L storage container supplies the dosing pump.

Dosing Options

- Constant dosing mode – 200 > 7500 ml/hour
- Throughput dependant dosing – 10 > 30 ml/ tonne



PICK UP



A 32 and 17 tooth sprocket are fitted on the feed auger drive from the factory - this is recommended for medium to long chop lengths.

Two further sprockets are included in the shipping package for adjusting the auger speed. These are 33 and 15 toothed sprockets for short chop lengths.

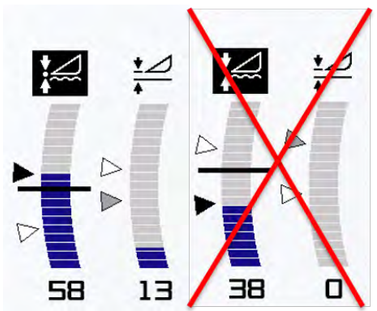
Auger speeds can further be adjusted by means of the 3 speed gearbox.

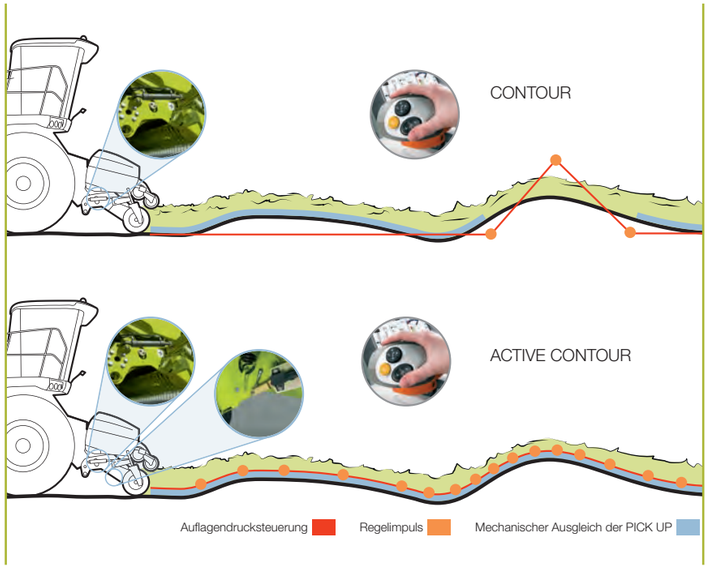
On the pick-up 300, the entire drive is from the mechanical drive from the JAGUAR via quick coupler (1). From there, the pick-up drive (2) and the feed auger (3) are driven. Using the 3-speed gearbox (3) there is a shift lever which enables the feed auger speed to be switched between three gears.
A centre sensing wheel (4) further improves ground adaptation especially on soft and very uneven ground.



PICK UP

ACTIVE CONTOUR is activated when auto contour function is enabled and the cutting height control is above 50%. When the cutting height control is below 50%, ground pressure mode is activated and ACTIVE CONTOUR is deactivated.





PICKUP

Maintenance checks by operational hours.

Prior to harvest

- Check tightness of all gearboxes
- Check all oils
- Check drive shaft, chains and clutches
- Check all connections

Daily

- Check all connections
- Check tightness of gearboxes
- Ensure all connections are tight and secured correctly

50 hours

- Check all gearbox oils
- Lubricate all grease points
- Check chain tension on intake auger
- Check pick up chain tension

500 hours

- Change all gearbox oils
- Check clutches
- Check all chain tensions
- Check all connections
- Check all connections are tight and correctly seated

PICKUP

General Adjustments

- Ensure the height of the sensing wheels is correct
- Adjust the speed of the feed auger via the 2 stage gearbox or different sprockets
- Check chain tensions regularly
- Ensure overrun clutches operate correctly
- Check bearings for play regularly
- Check tines and tine bars at the beginning of the working day
- Check type pressures on sensing wheels regularly





DIRECT DISC

The DIRECT DISC direct cutterbar cuts the crop with a disc mower based on the DISCO mower heads.
There are two different design variations of DIRECT DISC:



1. Cutterbar without paddle roller and large intake auger (DIRECT DISC 500). Specifically designed for harvesting taller crops eg. Hybrid Rye.

2. Cutterbar with paddle roller and smaller intake auger (DIRECT DISC 500P). Suited to all crop varieties.

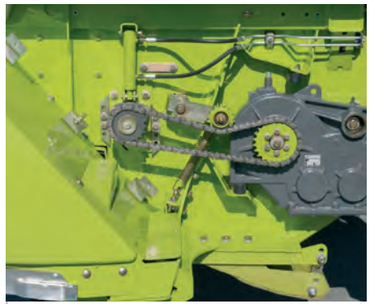
DIRECT DISC

Maintenance Adjustments



Intake Speed

The speed of the intake auger and paddle roller (If Fitted) can be adjusted by altering the position of the driveshaft as can be seen in the picture. It is important to adjust the speed to match the feed roller speed for optimium crop feeding.



Paddle Roller Height

For the DIRECT DISC, the hydraulic paddle roller adjustment is available as an option to suit crop conditions. Alternatively, if this option is not fitted the paddle roller height can be adjusted manually.



Cutting Height

The cutting height of the DIRECT DISC can be altered by adjusting the skids under the front attachment.

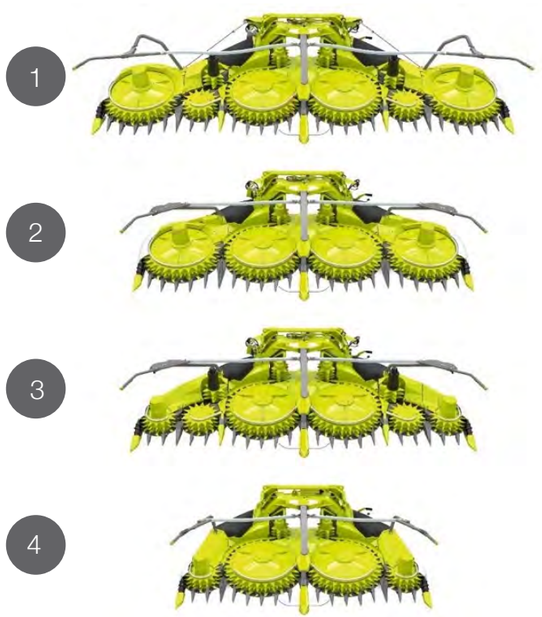
The blades should be checked and replaced if necessary prior to each working day.

ORBIS

The ORBIS maize header is available in four different working widths:

1. ORBIS 750, 10-row*, working width 7.5 m
2. ORBIS 600 SD, 8-row*, working width 6m
3. ORBIS 600, 8-row*, working width 6m
4. ORBIS 450, 6-row*, working width 4.5 m

* A row spacing of 75 cm is assumed here



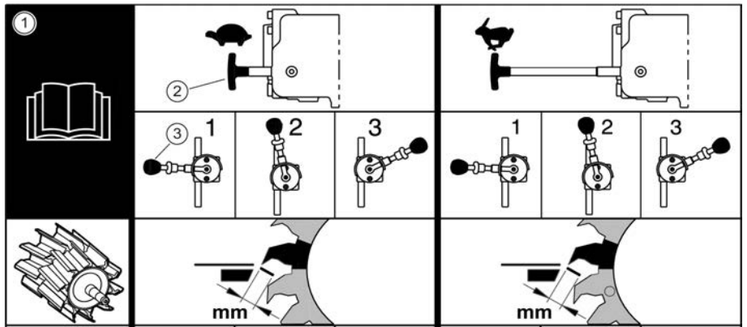
ORBIS

Adjustments

The intake speed of crop from the ORBIS must also be matched to the feed roller speed.

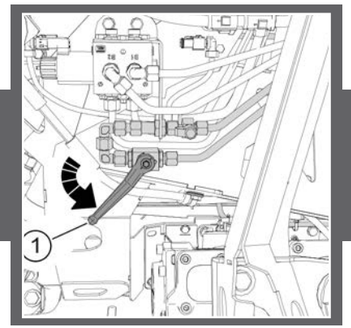
This is essential to ensure consistent crop flow which is vital for a consistant chop length.

The intake speed can be adjusted using the 2 speed input gear box and 3 speed feeder drum gearbox. The table below shows the relevant gears for various chop lengths.

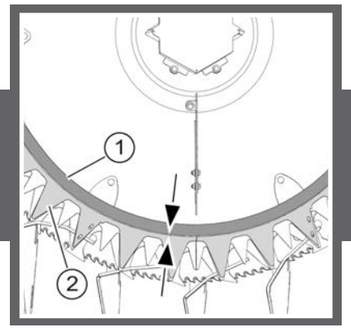


V20	5-12	12,5-17	17,5-22	9,5-15	15,5-20	20,5-26,5
V24	4,5-10	10,5-14	14,5-20	8,5-12	12,5-16,5	17-22
V28	4-8,5	9-12	12,5-16	7,5-10,5	11-14,5	15-17,5

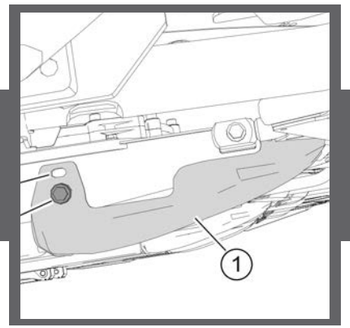
Adjustments



The dividing rollers at each side can be activated or deactivated as required by turning the tap.



As pictured above, the cob guide tubes should be adjusted as close as possible to the discs without touching. These ensure any cobs which fall off the stalks are transported to the feed rollers.



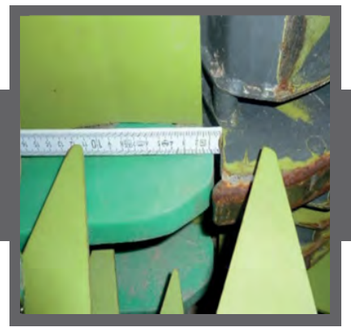
Hole A - Uneven ground
- Steep cutting angle

Hole B - Down maize
- Whole crop

Adjustments



The divider tips can be adjusted to prevent the tips being in contact with the soil during harvesting. Their intended purpose is only to divide the rows of maize.



The gap between the scrapers and the nylon wear plates should not exceed 10mm. As this could lead to crop build up preventing even crop flow.



The scrapers on the feeder discs should be adjusted as close as possible without touching, to allow smooth crop flow.

ORBIS

Maintenance checks by operational hours.

Daily

- Check tightness of all gearboxes
- Check knives for damage
- Check guide fingers for damage
- Remove crop residues

50 hours

- Check all oil levels
- Lubricate all grease points (inc. under Christmas tree top covers)
- Check all scrapers for correct adjustment
- Check adjustment of crop dividers and touch pilot arms (if fitted)
- Service Tension cables (after first 50)

500 hours / annually

- Check hydraulic hose lines
- Check clutch adjustment
- Check all connection elements
- Service Tension cables

2500 hours / 5 years

- Replace all oils



Pitching and Dampening





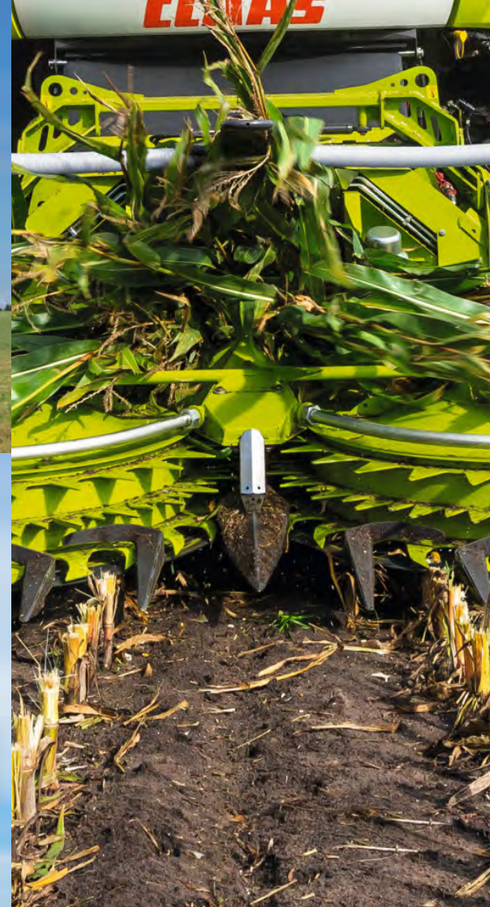
The JAGUAR is equipped with a front attachment suspension system. This system actively counteracts pitching movements of the front attachment. This avoids mechanical loads both on the front attachment and on the JAGUAR during road travel.

To activate this feature, set the road travel master switch to the road travel position and briefly hit the cutting height control function on the multifunction lever. The “active” status is shown on the CEBIS monitor.

A successfully completed limit stop learning process with the front attachment in question is the precondition for correct function.









Failed Cuts

Points to check:

- Condition of shear bar
- Shape / Condition of knives
- Feed Roller Speed

May be due to bad crop feeding:

- Due to ORBIS adjustments
- ORBIS may be too fast
- Crop may be lodged (Crop Lifters)



Unchopped Leaves - May be an issue in very dry crops

Points to check:

- Knife Condition (Sharpness)
- Shear Bar Position (Too far from knife)

Things to consider:

- Add Friction Ledge
- Add Friction Cylinder Bottom



Crop Grinding

Points to check:

- Corn Cracker Clearance (Increase gap)
- Knife Condition
- Shear Bar Condition



Uncracked Grains

Points to check:

- If grains unbroken: reduce corn cracker clearance
- If the grains are becoming crushed: Increase cracker clearance
- Early in the season: A greater clearance may be used
- Late in the season: the gap must be reduced

Small Gap= Greater Power Consumption

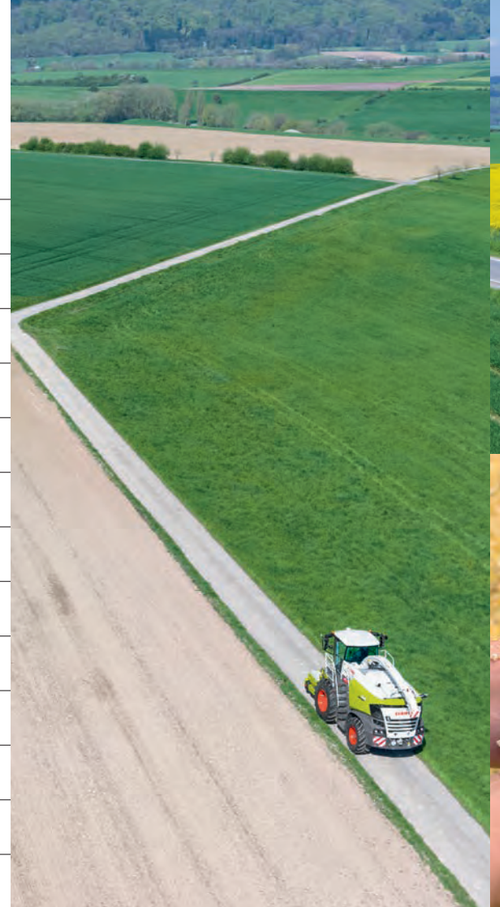


Useful Part Numbers

JAGUAR	Part Number	PICK UP	Part Number
Universal L.H Knife Kit	00 0998 1011	Outer Tines	00 1322 6160
Universal R.H Knife Kit	00 0998 1021	Inner Tines	00 0973 2790
Maize L.H Knife Kit	00 0984 6900		
Maize R.H Knife Kit	00 0984 6910	ORBIS	
Shear Bar Universal	00 2614 2700	Laid Maize Kit	00 2616 2690
Shear Bar Maize	00 0495 2743		
Cylinder Bottom	00 0495 8321	DIRECT DISC	
Standard Sharpening Stone	00 0984 3185	Blade Cranked	00 0952 0420
Long Sharpening Stone	00 1312 4424	Blade Cranked	00 0952 0430
Toother Accelerator Paddle	00 0123 8620		
Smooth Accelerator Paddle	00 0123 8660	Maintenance	
		EP3 400G	00 0241 7931
		EP3 5KG	00 0202 2491

Notes

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Jaguar 830 - 880 (496)

Information and Basic Field Settings

www.claas.co.uk

