

Operator's Manual

# **RAMOS** **SM 310**

Model: FZ / FZ-KC / FZ-RC / FZ-RC DUO

Disc mower

The FELLA logo is centered on a white circular background. The word "FELLA" is written in a bold, italicized, black sans-serif font. The background of the entire page is a solid red color, with a decorative graphic of several curved, overlapping red lines on the left side that sweep upwards and to the right.

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# 1 Machine description

## 1.1 Identification

AGCO Feucht GmbH

Fellastraße 1-3

90537 Feucht

Germany

Telephone: +49 (0) 9128 73-0

Fax: +49 (0) 9128 73-210

## 1.2 Type plate and serial number

The serial number of your machine can be found on the type plate following the description Mach.-no. / Serial-No.:

The type plate (Abb 1) is riveted to the frame.

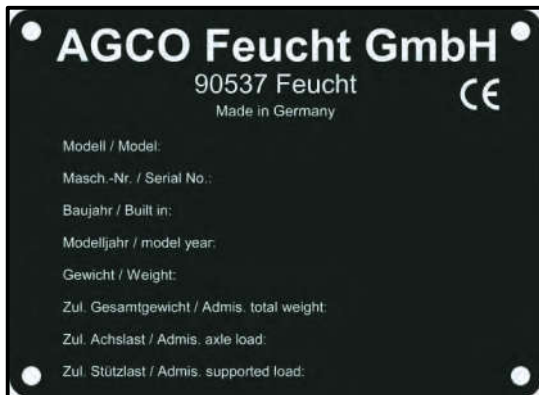


Abb 1. Type plate

In addition, the machine/serial number is also stamped onto the entry gearbox of the cutter bar (Abb 2).

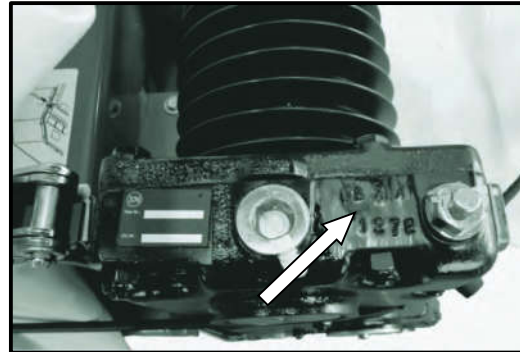


Abb 2. Stamped machine/serial number

## 1.3 Intended use

The machine is designed for cutting stalks that grow at ground level over the width of the towing vehicle. This should prevent the stalks from being pressed down by the towing vehicle, as the swath is deposited between the wheels of the towing vehicle. This machine has been constructed exclusively for standard agricultural applications or similar tasks.

Any other use beyond this is considered improper. The manufacturer accepts no liability for any damage caused as a result of improper use. The user alone is responsible for this.

### “Proper use” includes:

- Paying attention to all of the information on how to operate the machine in the operating instructions.
- Observing all safety instructions.
- Carrying out all inspections and maintenance work as instructed and when they are due.

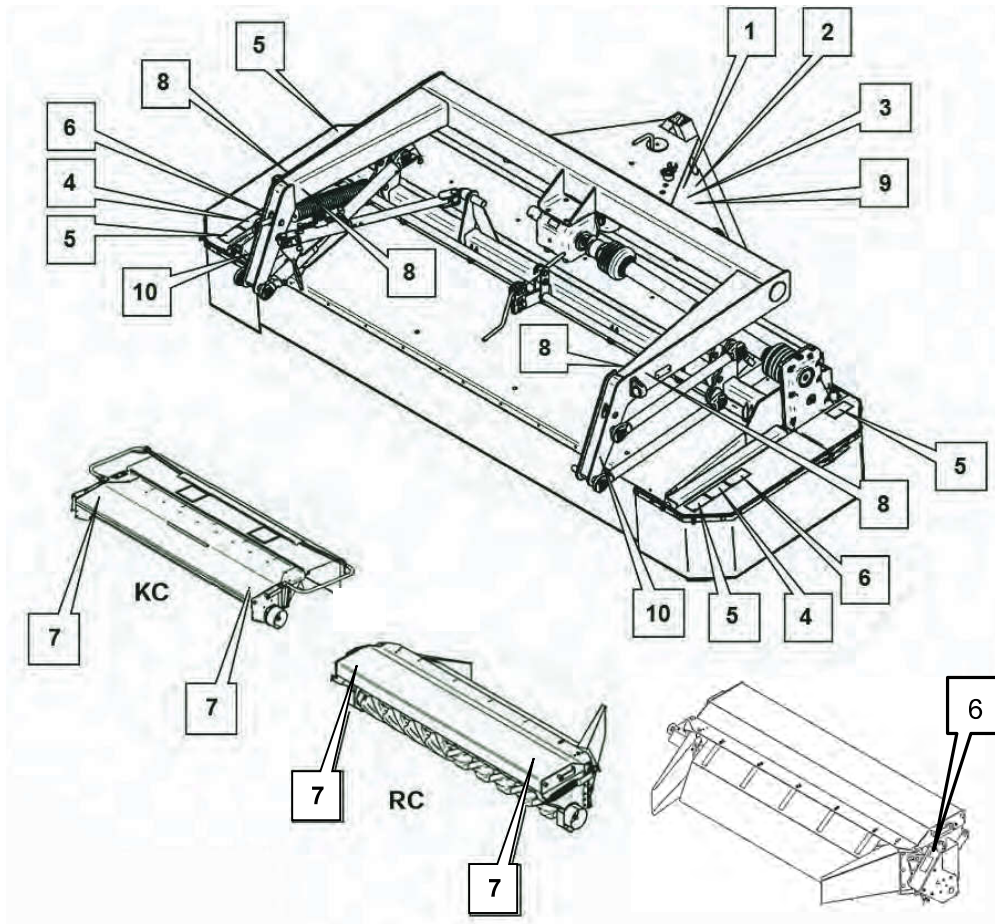
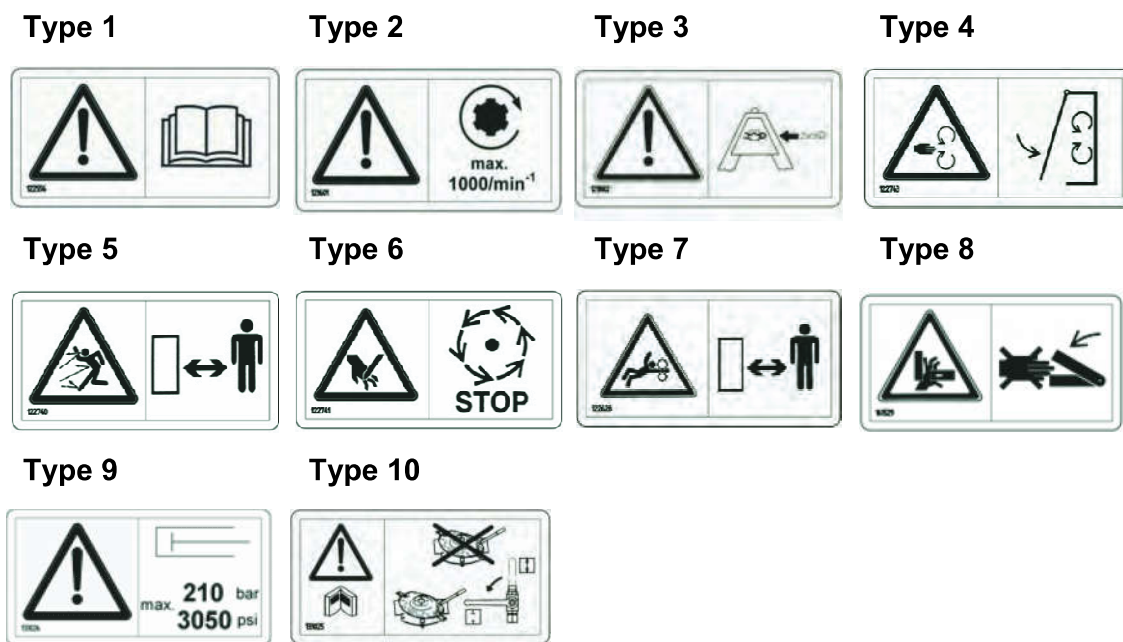


Abb 32. Warnings and hazard symbols on the machine and on the conditioners



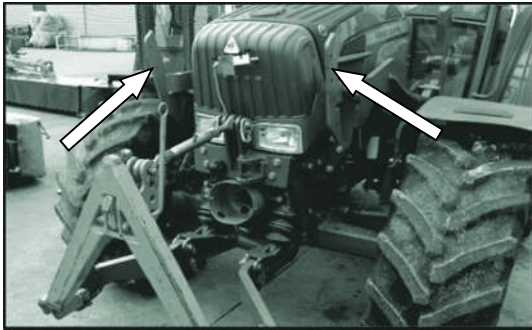


Abb 53. Tractor with side-mounted chain tongues

- Then, drive up to the machine with the front hydraulics lowered and couple the machine by picking it up (lifting) with the Weiste triangle. (Abb 54)

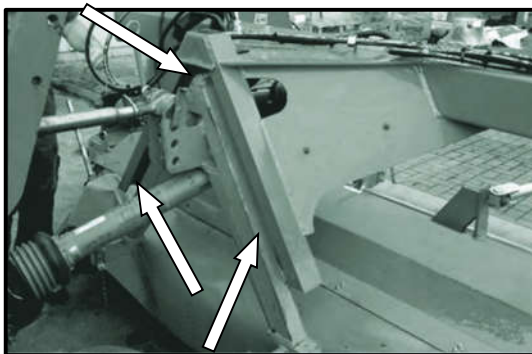


Abb 54. Tractor coupling the Weiste triangle to the machine's coupling triangle

- Release the safety levers and move them to position B (Abb 55).

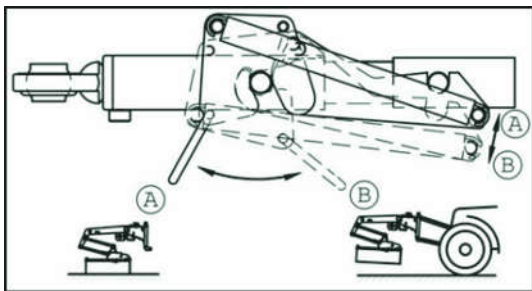


Abb 55. After coupling, move the safety levers to position B

- Check that the device locking mechanism is properly fitted and that it engages.

- Secure the device locking mechanism (tongue) with a spring cotter – see Abb 56.

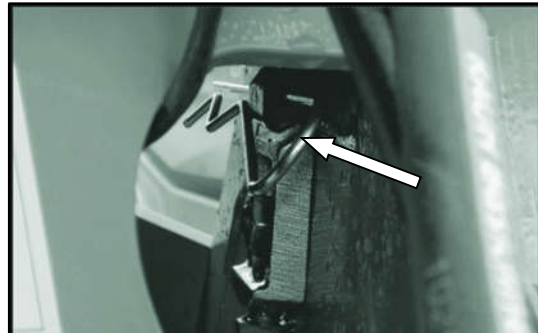


Abb 56. The device locking mechanism is secured with a spring cotter

### 4.2.3 Connecting the hydraulic system to the tractor

- Inspect the hydraulic hose lines regularly and replace if showing signs of damage or ageing.
- Check the connections for leak-tightness (screws and nuts).
- Use a piece of board or wood for leak detection (Abb 57) and do not use your hands to carry out this search.

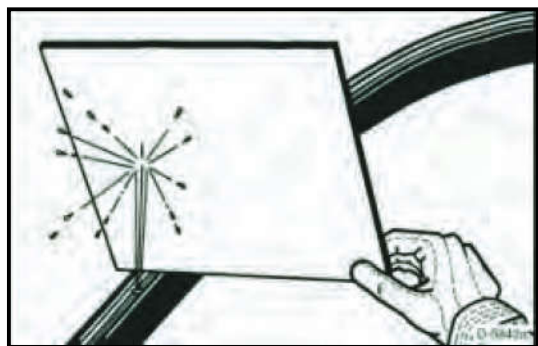


Abb 57. Leak detection with a piece of board

- Wear protective gloves and goggles to protect yourself from injury (Abb 58).

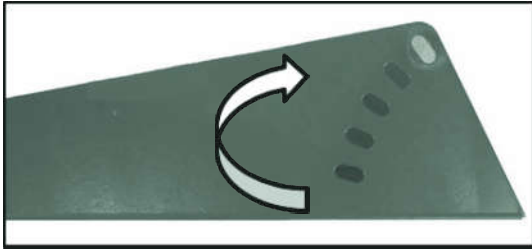


Abb 88. Changing the position of the swath guide plate using the holes

- ➔ Then, secure the swath guide plate in position again, using the locking screw.

### 5.5.3 Settings on the RC roller conditioner

#### 5.5.3.1 Adjusting the conditioning intensity on the roller conditioner

The clearance between the two rubber rollers determines the intensity of the conditioner – infeed and ejection of the crop on the machine with roller conditioner. The clearance between the two rollers is adjusted using the adjusting bolts on the left and right of the RC.

The clearance between the rubber rollers is measured between the profile on the one rubber roller and the groove on the other. The clearance between the rollers should be five mm to seven mm (see Abb 89).

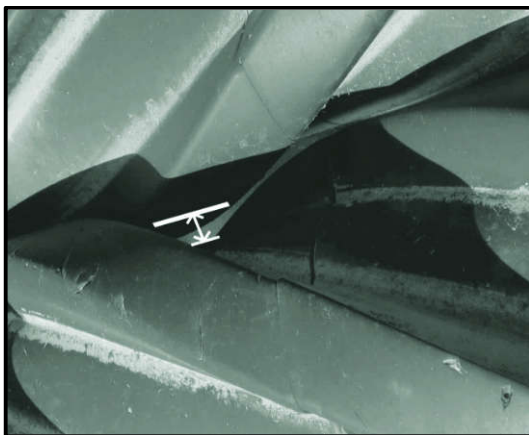


Abb 89. Roller clearance measuring points

#### Adjusting the clearance between the rotor rollers of the roller conditioner

- ➔ Undo the lock nut (1).
- ➔ Set the adjusting bolts (2) to the required roller clearance.

Clockwise                      Smaller clearance

Anticlockwise                Greater clearance

- ➔ Tighten the lock nut (1).

- ➔ Set both sides equally.

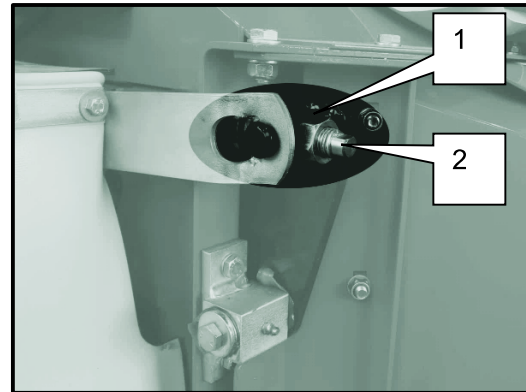


Abb 90. Adjusting the conditioner intensity of the RC (left side)

- 1      *Lock nut*
- 2      *Adjusting bolt*

#### Adjusting the spring tension on the roller conditioner

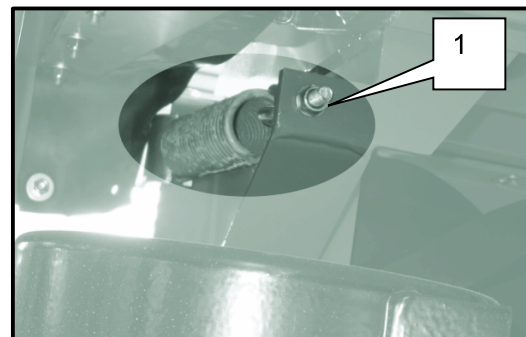


Abb 91. Setting the spring tension, right; example: SM 310 FZ-RC

- 1      *Adjusting nut*

- ➔ Turn the nut (1) to alter the tension of the uppermost rubber roller spring.

Clockwise                      More initial tension

Anticlockwise                Less initial tension

The oil drain plug used for changing the gearbox oil is located underneath the gearbox, in line with the drive shaft of the cutter bar (Abb 115).

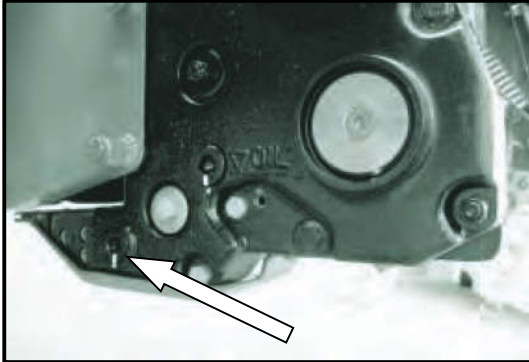


Abb 115. Oil drain plug on the entry gearbox of cutter bar

### If the oil level is too low

- If the oil level is too low, top up with gear oil.  
Gearbox oil: API GL5 SAE 85W-90  
Capacity: 11.6 litres

- Use the correct oils and greases.

The oil filler plug is located on top of the gearbox (Abb 116).

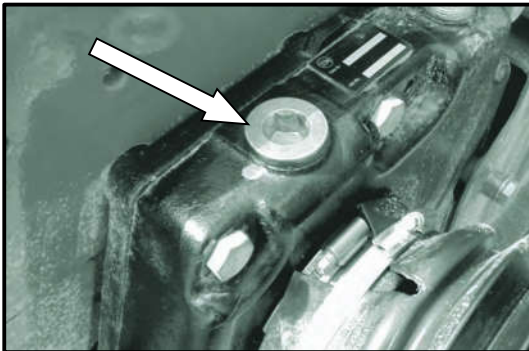


Abb 116. Entry gearbox oil filler plug

- Unscrew the oil filler plug.
- Top up the oil as required.
- Replace the oil filler plug and tighten.

### 6.1.5.2 Angle drive

- Undo the oil inspection plug. The oil level should be at the height of the opening (Abb 117)

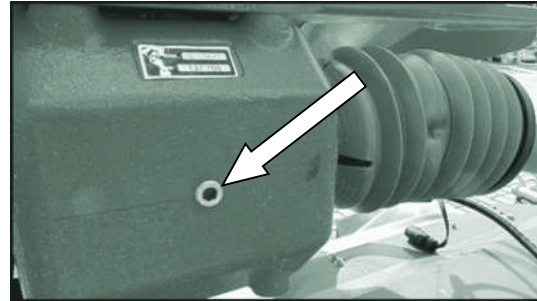


Abb 117. Oil inspection plug on the angle drive

- If no oil emerges, the oil filler plug above must be opened and the oil topped up (see Lubrication schedule).  
Gear oil: SAE 85W-90  
Total fill volume: 2.5 litres

### 6.1.6 Drive chain maintenance

Service interval: Once per season

- Carry out a visual inspection of the drive chain and gear wheels to check for wear.
- If they are worn, have the drive chain and gear wheels replaced by a specialist workshop.

### 6.1.7 Checking and lubricating drive shaft

Maintenance interval: Before every use

- Check for the correct installation and operation of the drive shaft.
- Check that the drive shaft has been modified correctly.
- Check that the protection devices are all fitted and complete. The protection devices consist of the guard cone, protective tube and safety chain.
- Lubricate the drive shaft as explained in the operating instructions from the shaft manufacturer.

#### IMPORTANT

- Follow the drive shaft manufacturer's operating instructions.

### 6.2 Troubleshooting and repair

Fault	Possible causes	Remedy
Irregular cutting pattern	Rotational speed is too high/too low	Correct the speed. (max. 1000 rpm)
	Cutter blades worn	Replace cutter blades (note direction of rotation),(see Section 6.1.9.5).
	driveGUARD has been triggered	Replace the driveGUARD element that has been triggered (Section6.3.3 Replacing drive-GUARD).
	Lower link height incorrect	Set lower link to correct working height
	Cutting height incorrect	Adjust cutting height to correct height (Section 5.5.1)
	Relieving spring setting incorrect	Set the relieving springs to 15 mm (0.6 ")
Tractor power too low	Mower's gliding motion is sluggish	Adjust the residual pressure to the correct value by using the adjusting screw to change the spring load of the relieving springs (see Section 5.5.4 Basic settings of the relieving springs)
	Incorrect assembly or incorrect settings on the machine	Front ball end must be 850 mm (2.8 ft) above the ground
No hydraulic function	Hydraulic connection to the vehicle is not correct	Check the hydraulic connections (connection to the machine) and correct them, if necessary
Swath too wide/too narrow	Swath guiding assembly has been adjusted incorrectly	Correct the swath guide assembly setting (see5.5.2.2).
Vibrations on the mower unit	Faulty or damaged cutter blades	Replace the affected cutter blades in pairs (see Section 6.1.9.5 - Replacing cutter blades and / or cutter blade screw).
	Mower discs are contaminated	Clean the contaminated mower discs.
	Imbalance of the conditioner rotor	The rotor must be realigned
	Faulty or damaged KC tines	Replace any faulty or damaged tines. If necessary, have the KC rotor rebalanced by your specialist retailer.

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