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Mounting and operating instructions

RT 135 RT 135-HY RT 135-E



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General

mounting and operating instructions No. 12-048768

for rape cutters RT 315

A) Safety instructions

1. Proper usage

The rape cutter may only be used for harvesting rape. It is designed to cut the intertwined branches of the rape plants. To do this it must be mounted on the side plate of the header of the combine harvester cutting table (see figure 1). Any other usage shall be deemed improper. The manufacturer cannot be held liable for any damage resulting from such usage; the risk for this is borne exclusively by the user.

2. Safety and accident prevention regulations

- a) Check the unit every time before starting it to ensure it is safe to transport and use.
- b) In addition to the instructions in this manual, follow the general safety and accident prevention regulations.
- c) There must be nobody in the working area of the rape cutter or the combine harvester cutting unit.
- d) When you leave the driver's cab and when remedying faults, switch off the rape cutter and combine harvester cutter unit; switch off the combine harvester engine, secure the combine harvester to prevent it rolling away (parking brake).
- e) The knife guard may only be removed immediately before use in the field.
- f) The relevant instruction manual is to be followed for using the combine harvester and combine harvester cutter unit.

3. Noise information

The permanent noise level is less than 70 dB (A).

4. Notes on warning symbols



Read operator's manual carefully before handling the machine. Observe instructions and safety rules when operating.



Wait until all machine components have completely stopped before touching them.

B) Mounting

1. General

The rape cutter is supplied by us in a form which complies with the safety regulations of Machine Directive 89/392/EEC. We have issued a manufacturer's declaration to this effect (see page 9).

The rape cutter is to be mounted on the combine harvester cutter unit by a specialist company; the regulations in the above Directive are to be followed.

The workshop is recommended to make a copy of the manufacturer's declaration for its records.

2. Modification of the drive unit

The rape cutter can be mounted either on the right-hand or on the left-hand side of the combine harvester table. The crank rods shall always work lying outside. In order to change the rape cutter from right to left or vice versa the bottom end of the bar has to be turned upwards. The knife heads and crank mounting must be modified accordingly.

On the RT 135 the crank guard (figure1, item 1) can be modified in such a way that it can be used for rape cutters mounted on the left-hand side or the right-hand side.

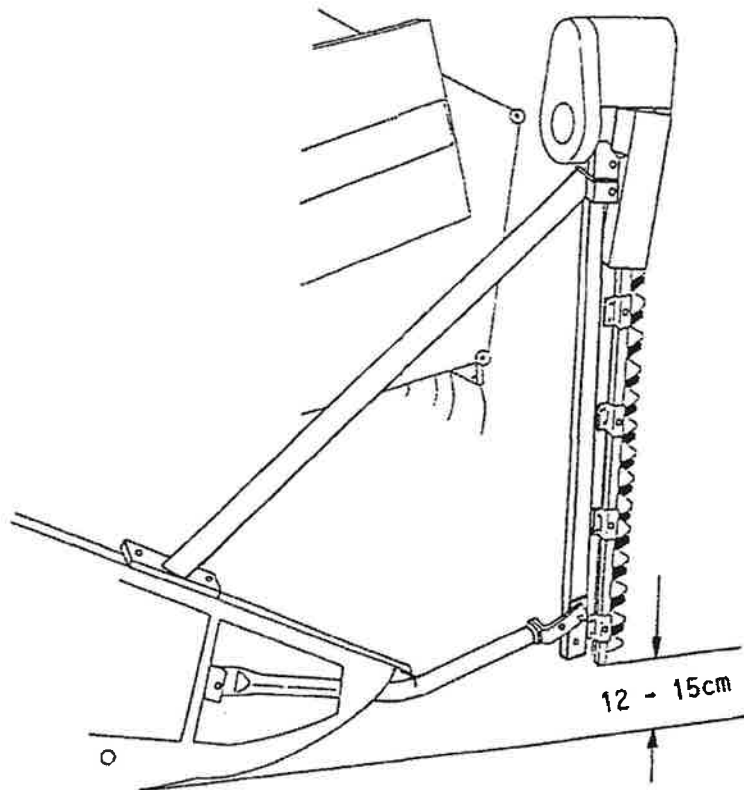


figure 1

3. Mounting on the cutting table

The rape cutter is supplied without mountings; for certain types of combine harvesters these can be bought separately from us.

The mountings must be designed in such a way that the rape cutter is secured firmly on the header side plate of the cutting table. Special attention is to be given to ensuring that

- when raising and lowering the reel, no shearing or crushing areas are produced.
- the side plate of the cutting table is reinforced if necessary.
- the entire crank drive is covered so that it is impossible to reach into crushing or shearing areas.
- the distance to the ground is 12 – 15 cm.
- the rape cutter is as far in front of the reel as possible.

C) Connecting the drive units

1. Electric drive unit

| Model | Mounted | Electric-Motor | Ampere | Length |
|---------------|----------------|-----------------------|---------------|---------------|
| RT 135-E | right | 12 Volt | 25 A | 1,35 m |
| RT 135-E/24 | right | 24 Volt | 40 A | 1,35 m |
| RT 135-E-L | left | 12 Volt | 25 A | 1,35 m |
| RT 135-E/24-L | left | 24 Volt | 40 A | 1,35 m |

The specified voltage of the electric motor must be the same as that of the combine harvester mains. The mains must be able to supply approx. 300 W for each rape cutter 12 V (24 V with 750 W) in addition to the requirements of the electrical components. This corresponds approximately to the specified ampere figure. If necessary a stronger generator/alternator must be installed.

IMPORTANT: The electric motor contains electromagnets in its casing which are very sensitive. Do not bang the casing with a hammer or the like!

Lay the electric cable, with a minimum cross section of 6 mm², as shown in figure 2. If you wish to use two electric rape cutters, the cabling should be duplicated.

① Battery: as a result of the high current strengths, the cables must be connected to the battery.

② 25A fuse: connect immediately after the battery in the positive cable; the slimline miniature circuit breaker, order no. RT 500 ZU 50 can also be used at this point. Secure the slimline miniature circuit breaker to the combine chassis using the terminal rail supplied; never use the rape cutter without a fuse.

③ Touch-sensitive switch: Position in the driver's cabin in such a way that when the combine harvester cutting unit is switched on, the switch contact is closed with the lever ④. Some combine harvesters are not switched on mechanically using a lever ④ but electrically using a toggle switch. In this case the cable is to be connected to the rotary switch ⑤. Then the toggle switch takes over the function of the touch-sensitive switch ③.

⑤ Rotary switch: if you use it the rape cutter can be turned off even if the combine harvester cutter unit is running. Hole size required: 12,5 mm in diameter. Use connections + and 1.

⑥ Relay: When switches ③ and ⑤ are closed, current runs into the coil on the relay and closes the heavy current relay. The cables which feed the heavy current to the rape cutter motor are to be connected to connections 30 and 87. Bolt the relay and its holder lug firmly below the instrument panel.

⑦ Rape cutter motor: When connecting the cables, ensure that the motor turns in the correct direction as indicated by the arrow on the cover hood (clockwise looking towards the front).

Our wiring harness with order no. RT 500 ZU 30 contains 16 m black and 16 m blue cable, 6 mm², three-pole plugs and sockets for the combine harvester/cutting table and cutting table/rape cutter connection points, together with small parts. As a result of the high current strengths, each wiring harness may only be used to connect a single rape cutter. If two electric rape cutters are to be connected, the heavy current cables and the relay must be doubled.

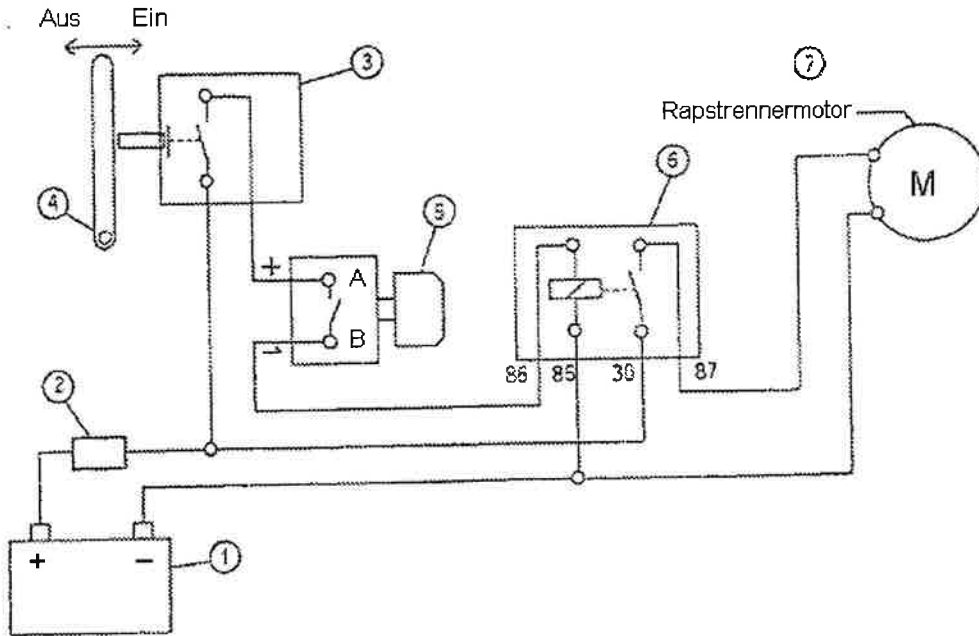


figure 2

2. Hydraulic drive unit

| Model | Pressure | Oilflow rate | Length |
|-----------|--------------|--------------|--------|
| RT 135-HY | 50 - 180 bar | 10- 12 l/min | 1,35 m |

The hydraulic motors used can be loaded with back pressure, in other words two rape cutters can be connected in series to them. The specific oil flow rate must not be exceeded. If necessary a flow rate check valve has to be installed.

Use hydraulic lines 12 mm in diameter (nominal width 9 mm), safe operating pressure 200 bar. If the oil is supplied from the harvester's on-board system, discuss the situation with the combine harvester and cutting unit manufacturers.

As a result of the current safety regulations, when the combine harvester cutting table is shut down, the rape cutter and any other auxiliary equipment must also be shut down. This can be achieved if

- the rape cutter is supplied with oil from a hydraulic unit in the cutting table
or
- when the cutting table is shut down, the oil supply is stopped by switching off a solenoid valve ⑧. The solenoid valve must be switched
⇒ by a touch-sensitive switch ③ which is pressed by the switch lever ④, see figure 2
or
⇒ by an electric toggle switch which shuts down the entire cutting unit from the driver's cab.

The solenoid valve has to be fitted by the dealer.

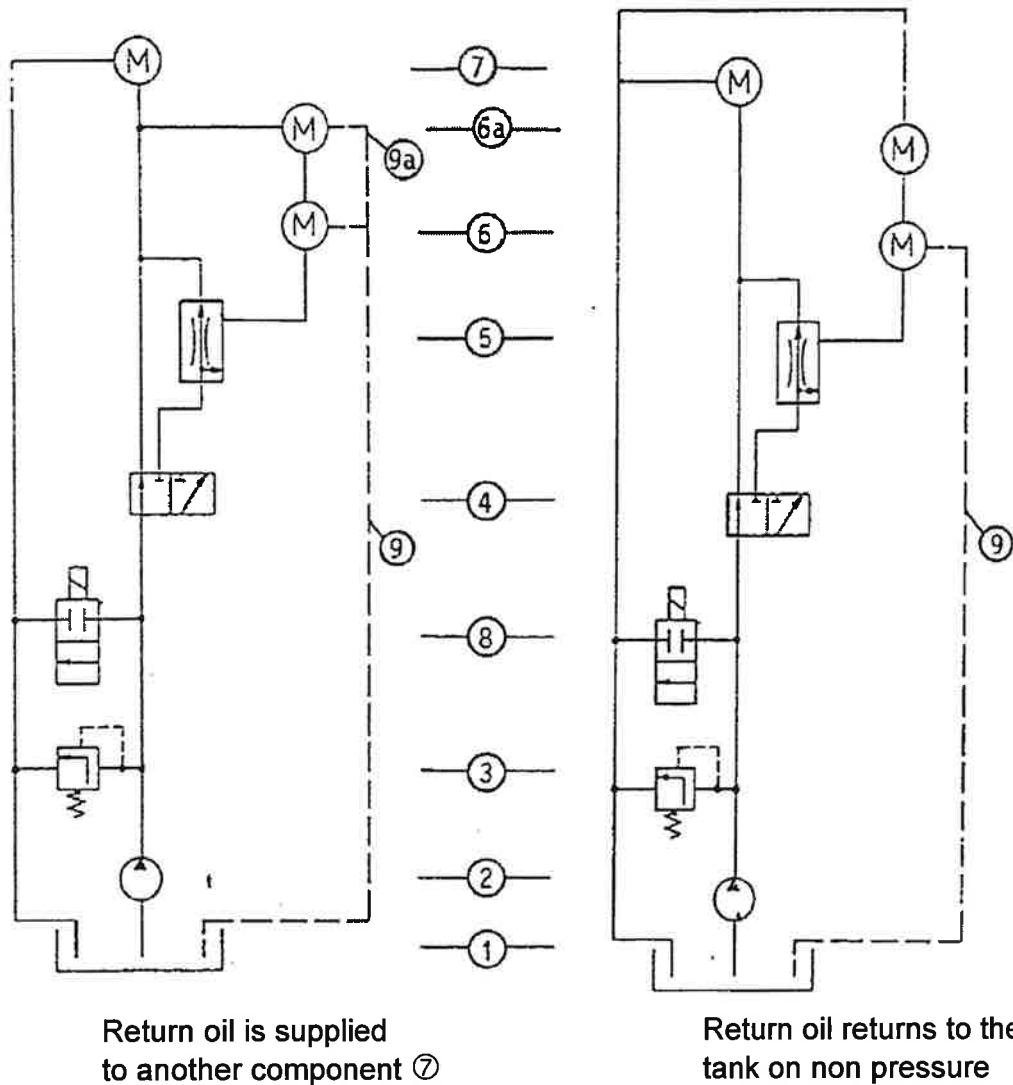


figure 3

- ① Oil tank
- ② Pump
- ③ Pressure limiting valve (180 bar max.)
- ④ Three-way cock in order to shut down the rape cutter
- ⑤ Flow rate check valve
- ⑥, ⑥a Rape cutter motor
- ⑦ Hydraulic reel drive, valve block in combine harvester, etc.
- ⑧ Electric solenoid valve
- ⑨, ⑨a Leakage oil line, required if a pressure of 50 bar is exceeded in the line to the rape cutter motor; this is the case if
 - ⇒ the return oil is supplied to other components ⑦ such as the reel drive, hydraulic reel adjuster, etc. which can generate back pressure
 - ⇒ a second rape cutter motor ⑥a is connected to series.

D) Operation

The rape cutters are designed for continuous operation and can cut rape without any problem when driven at a speed of 5 - 6 km/h. Reduce your speed if the crop is lying on the ground.

E) Maintenance and care

1. Lubrication

Please grease before use the knives and knife guides adequately with standard temperature-resistant oil and grease.

2. Knife guides

The knife guides should be set in a way that they offer no play but do not jam!

3. To replace the knives

If the two crank rods are released from the knife heads in order to sharpen the knives, please note for the mounting of the crank rods:

THE CRANK SHAFT MUST REACH ALTERNATIVE ENDS OF STROKE I.E. TOP KNIFE PITMAN AT T.D.C. AND BOTTOM KNIFE SHOULD BE AT B.D.C. NOW TIGHTEN THE BOLTS "A" THROUGH RUBBER BUSHINGS ON KNIFE HEADS; (figure 4)

When tightening the bolts ensure that the rubber metal bushes do not turn with them. This should also be ensured if the crank shaft has been removed in order to repair the bearings or the like.

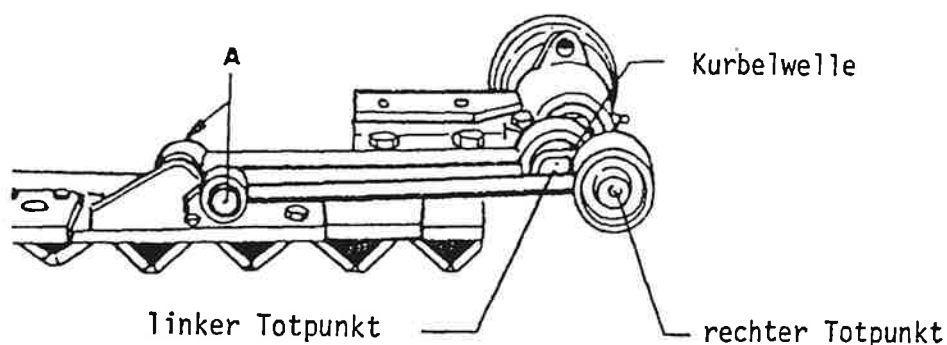


figure 4

F) Troubleshooting guide

| Problem | Drive unit | Remedy |
|-------------------------------|-------------------|--|
| Rape cutter stops | Electric | <ul style="list-style-type: none"> • Check fuse • Repair cable break or poor contacts • Replace notched drive belt • Top up battery |
| Rape cutter often runs slowly | Electric | <ul style="list-style-type: none"> • Repair poor contacts on the battery, the relay or the sockets • Straighten bent knives |
| Fuse trips often | Electric | <ul style="list-style-type: none"> • Use cable with a cross section of at least 6 mm², connect straight to the battery • Repair poor contacts on the battery, the relay or the sockets • Straighten bent knives • Loosen excessively tight knife guides • Eliminate chafing on the cable |
| Melted knife guides | | <ul style="list-style-type: none"> • Straighten bent knives • Set the knife guides less tightly • Reduce excessive speed; 550-600 rpm is the correct speed |
| Bent knives | | <ul style="list-style-type: none"> • Rape cutter is mounted too low on the cutting table and has contact to the ground |

EC Manufacturer's Declaration
in compliance with EC Directive 89/392/EEC

We

**Ziegler GmbH
Schrobenhausener Strasse 74
D-86554 Pöttmes**

hereby declare on our sole responsibility that the rape cutter of type:

Rape cutter

RT 135

To with this declaration refers, complies with the relevant basic safety and health requirements of EC Directive 89/392/EEC.

IMPORTANT:

We would like to point out that this prouct must not be commissioned until it has been established that the machine into which it is to be fitted, complies with the regulations of the Directive which refer to it.

The rape cutter therefore does not require a separate CE symbol; however, the combine harvester must bear a CE symbol if it was commissioned after 1 January 1995.

Pöttmes, December 2008



Martin Ziegler
(Managing Director)