Operating instructions
2022/A – 2026/A

www.hoflader.com

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English

Thaler GmbH & Co. KG
Weidingerstraße 24, 84570 Polling, Germany
Tel.: +49 (0)8633 50550-0, Fax: +49 (0)8633 50550-10 Email: info@hoflader.com

You have decided to purchase a loader from Thaler Maschinenbau.
We are grateful for the trust you have placed in us.

You have purchased a sturdy, high-performance product, which with its many possible applications, will make your day-to-day work easier.

These instructions provide you with information about:
Proper handling and operation of the machine
Maintenance, care and operating instructions to preserve the value of your machine
Details about proper and intended use
Information about environmental protection

Read through these instructions carefully and thoroughly.

We hope that you have pleasure in your daily work using the loader.

Thaler Maschinenbau GmbH & Co KG

If you have any questions about your machine, or come across any problems, please contact your local dealer, importer, or come directly to us – we would be glad to assist you further.

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Weidingerstraße 24, 84570 Polling
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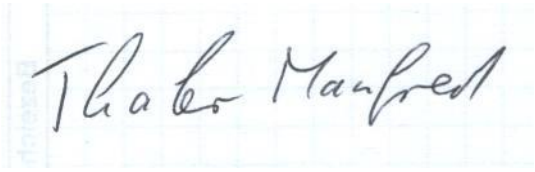
EC Declaration of Conformity

For the purposes of the EC Machinery Directive 2006/42/EC
The design of the machine
Make
120/Z
2022/A, 2026/A
2026/KA, 2034/KA
3034/A, 3045/A, 3051/A, 3051/AZ
3045/TA, 3051/TA
Type designation Hoflader

is developed, constructed and manufactured in accordance with
with the EC Directive 2006/42/EC
under the sole responsibility of
Company Thaler GmbH & Co. KG, Weidingerstraße 24, 84570 Polling, Germany
Technical documentation within the meaning of the Directive is complete.
The operating instructions belonging to the machine are available in the original version.



Polling, 12. January 2021

Thaler Manfred
Managing director

Table

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1.3 Technical data of my machine

Please enter the technical data of your machine here.

1. **Type** _____
2. **Delivery date** _____
3. **Chassis number** _____
4. **Diesel engine manufacturer** _____
5. **Diesel engine type** _____
6. **Diesel engine number** _____
7. **Axle brand** _____
8. **Front axle code number** _____
9. **Front axle number** _____
10. **Rear axle code number** _____
11. **Rear axle number** _____
12. **Cab type and number** _____
13. **Tyres** _____
14. **Additional equipment** _____

_____

_____

_____

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1.4 Instruction certificate Page 1 stays with the customer

It is hereby confirmed that, upon the handover of

Thaler type: _____
Chassis number: _____ _____

comprehensive instruction was carried out for the machine in accordance with the safety instructions and the operating instructions. I have been handed the following technical documents:

Operating instructions (number)……...

Spare parts list (number)……

Engine documentation ……

The instruction was carried out by:_____
(Company stamp)

Name of the instructor:_____
(Name in block capitals)

_____
(Place, date, signature of the instructor)

_____
(Place, date, signature of customer/person being instructed)

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1.4 Instruction certificate Page 2 for the dealer's warranty department

It is hereby confirmed that, upon the handover of

Thaler type: _____
Chassis number: _____ _____

comprehensive instruction was carried out for the machine in accordance with the safety instructions and the operating instructions. I have been handed the following technical documents:

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Name of the instructor:_____
(Name in block capitals)

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(Place, date, signature of customer/person being instructed)

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1.4 Instruction certificate Page 3 send back to the manufacturer

It is hereby confirmed that, upon the handover of

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Chassis number: _____

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Operating instructions (number)……

Spare parts list (number)…….

Engine documentation ……

The instruction was carried out by:_____
(Company stamp)

Name of the instructor:_____
(Name in block capitals)

_____
(Place, date, signature of the instructor)

_____
(Place, date, signature of customer/person being instructed)

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1.5 Handover certificate Page 1 stays with the customer

Type and chassis number Date

Importer/dealer 1 Stamp and signature Signature in block letters _____	Dealer 2 (if not same as 1) Stamp and signature Signature in block letters _____
Dealer 3 (if not same as 1) Stamp and signature Signature in block letters _____	Dealer 4 (if not same as 1) Stamp and signature Signature in block letters _____
Customer address: Name _____ Forename _____ Street _____ House number _____ Country/postcode _____ Town/place _____ The machine was handed over by me with all technical documentation: Dealer signature The machine was handed over to me along with all technical documentation and in perfect condition Customer signature_____	Type of use O Agricultural O Construction O Industrial O Hire/rental fleet O Municipal O Landscape gardening O Horse farming/equine industry Other purpose – description. Fill out in German or English _____ _____ _____ _____

1.5.1 Handover inspection Page 1 stays with the customer

When the machine is handed over by the dealer, the dealer must perform a handover inspection. The manufacturer has already performed this inspection. With this additional inspection by the dealer, it is ensured that the machine is handed over to the customer in a good condition.

Before handing over the machine, check the following points:

O Lubricate all greasing points	O Check tyre pressures
O Check that the wheel nuts are tight	O Check the engine oil level
O Check the hydraulic oil level	O Check the collision protection
O Check the brake system	O Check that all hoses are tightly fitted
O Check the coolant level	O Check the hydraulic system functions
O Check the steering system functions	O Check the lighting and instruments
O Check the safety belt	O Check that all bolts are tight
O Check the machine for leaks	O Perform a test drive

Remarks: _____

_____

_____

_____

_____

Place and date_____

Signature of the customer service technician_____

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1.5 Handover certificate Page 2 for the warranty department

Type and chassis number Date

Importer/dealer 1 Stamp and signature Signature in block letters _____	Dealer 2 (if not same as 1) Stamp and signature Signature in block letters _____
Dealer 3 (if not same as 1) Stamp and signature Signature in block letters _____	Dealer 4 (if not same as 1) Stamp and signature Signature in block letters _____

Customer address:
Name _____
Forename _____
Street _____
House number _____
Country/postcode _____
Town/place _____

The machine was handed over by me with all technical documentation:
Dealer signature

The machine was handed over to me along with all technical documentation and in perfect condition

Customer signature_____

Type of use
O Agricultural
O Construction
O Industrial
O Hire/rental fleet
O Municipal
O Landscape gardening
O Horse farming/equine industry
Other purpose – description.
Fill out in German or English
_____
_____
_____
_____

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O Check that the wheel nuts are tight
O Check the hydraulic oil level
O Check the brake system
O Check the coolant level
O Check the steering system functions
O Check the safety belt
O Check the machine for leaks
O Check tyre pressures
O Check the engine oil level
O Check the collision protection
O Check that all hoses are tightly fitted
O Check the hydraulic system functions
O Check the lighting and instruments
O Check that all bolts are tight
O Perform a test drive

Remarks:

Place and date_____
Signature of the customer service technician_____

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1.5 Handover certificate Page 3 send back to the manufacturer

Type and chassis number Date

Importer/dealer 1 Stamp and signature Signature in block letters _____	Dealer 2 (if not same as 1) Stamp and signature Signature in block letters _____
Dealer 3 (if not same as 1) Stamp and signature Signature in block letters _____	Dealer 4 (if not same as 1) Stamp and signature Signature in block letters _____
Customer address: Name _____ Forename _____ Street _____ House number _____ Country/postcode _____ Town/place _____ The machine was handed over by me with all technical documentation: Dealer signature The machine was handed over to me along with all technical documentation and in perfect condition Customer signature_____	Type of use O Agricultural O Construction O Industrial O Hire/rental fleet O Municipal O Landscape gardening O Horse farming/equine industry Other purpose – description. Fill out in German or English _____ _____ _____ _____

1.5.1 Handover inspection Page 3 send back to the manufacturer

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O Lubricate all greasing points
O Check that the wheel nuts are tight
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O Check the brake system
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O Check the steering system functions
O Check the safety belt
O Check the machine for leaks
O Check tyre pressures
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O Check the collision protection
O Check that all hoses are tightly fitted
O Check the hydraulic system functions
O Check the lighting and instruments
O Check that all bolts are tight
O Perform a test drive

Remarks:

Place and date_____
Signature of the customer service technician_____

1.6 Introduction

These instructions describe the operation and maintenance/care of the loader.
Before starting up the machine, every operator and also the maintenance personnel must familiarise themselves with the machine using these instructions.
These instructions contain the required knowledge to ensure safe and hazard-free handling, for cleaning, care and maintenance and the technical safety instructions for the machine.

Note

These instructions must always be in the machine or at its place of use.
These instructions do not serve as an explanation or manual for extensive repair or maintenance work. Such work is only to be performed by accredited specialised personnel.

The operating instructions are to be read by the following persons:
→ Persons in charge of operating the machine.
→ Persons responsible for any kind of troubleshooting.
→ Persons in charge of the maintenance, repair, care and disposal of fuels and operating materials.
→ Persons responsible for transporting the machine.

Only by carefully **reading and observing** the instructions can you ensure:
→ Correct, proper and safe operation of the machine.
→ The required expert maintenance, cleaning, care and trouble-free operation.
→ Compliance with the technical safety requirements.

Failure to observe these instructions can result in serious accidents with fatal injuries for the user and third-parties!

Should these instructions not comply with the safety instructions, environmental protection and accident prevention specified by national regulations, the missing instructions should be added to this manual by the user/operator of the machine.

The instructions are supplied as loose pages and are delivered in a clamping folder. This means that it is always possible for the operator to expand and/or correct the manual to comply with national regulations concerning safety/accident prevention and environmental protection.

If you have any questions about these instructions, please contact your local dealer/importer or contact us directly. We are happy to assist you.

1.7 General information about these operating instructions

The technical data in these operating instructions refers to standard models.
Firstly, they describe the standard functions that, at the time of printing, belonged to the standard equipment fitted in the Federal Republic of Germany.
The standard equipment depends on the country-specific requirements in the country of sale and can vary. Illustrations in these instructions can show products that are not mentioned or non-standard products. Equipment and their function as well as available special options depend on the respective model and can vary.

All descriptions, illustrations, weight specifications and technical data are fully non-binding and correspond to the equipment or state of the art at the time of publication.
We reserve the right to make changes as required by the further technical development of our products. Changes may occur at any time in the areas of equipment, technology, visual appearance or the design without prior notice.
There can be no claim for change, conversion or replacement as a result of this for machines that have already been delivered.

We are happy to give you information about if and to what extent any subsequent changes to the equipment of your machine might be possible. Speak to your responsible dealer, or to us, directly.

Always obey the safety instructions contained in these instructions, required by the legislators or by the professional associations.

The CE marking of this machine shows that the machine was manufactured in compliance with the EC regulations.

Despite the utmost care, we cannot rule out the possibility of the occurrence of arithmetic errors, typographical errors or omissions in the diagrams, dimensions, technical data and all other specifications. For this reason, we do not accept any liability for the accuracy or completeness of these operating instructions.
Any liability or warranty beyond that of our general terms and conditions of business is excluded.

For all warranty and damage claims, the instructions in the GERMAN operating instructions are binding.
Translation of these operating instructions into all other European languages is carried out by the responsible importers or by a translation company commissioned to do so.
WE DO NOT ACCEPT ANY WARRANTY FOR THE COMPLETENESS AND CORRECTNESS OF ALL INSTRUCTIONS THAT ARE NOT IN THE GERMAN LANGUAGE.

1.8 Description of the pictograms used in these instructions

Danger
Warning of possible accident and risk of injury

Danger
Warning of possible accident or risk of injury caused by electric shock

Caution
Warning of possible technical damage

Caution
Warning of possible physical injury or harm to health

Note
Important general information

Environmental Protection
Important information about protection and preservation of our environment

1.9 Warranty and liability

→ As a matter of principle, all work performed under warranty must be discussed with the manufacturer if possible **before** it takes place. Only the manufacturer can decide whether the damage is covered by the warranty or not, and if and to what extent the costs will be reimbursed.
We reserve the right to check any work performed under warranty at the end customer's location.

→ Spare parts that are required for work performed under warranty will be ordered in the same way as other spare parts and invoiced by us accordingly.
If the warranty claim is accepted by us or by our suppliers, a credit note will be issued.

→ Defective parts must be returned to the manufacturer with a warranty claim application within 14 days. It is not possible to process a warranty claim application or create a credit note without the old parts. All applications or old parts that are not returned to us in a timely manner cannot be processed further.

→ **Any warranty claim requires that the fully completed handover certificate, instruction certificate and handover inspection be sent to us directly after the sale. If the manufacturer does not have these documents, it is impossible for us to process the warranty claim.**

→ The general terms and conditions of business are binding for a reimbursement of costs.
The warranty excludes all damage:
To wearing parts, such as brake pads, cables, glass breakage on headlamps or cab windows, V-belts, filters, operating materials, lights, etc. Damage caused by personal negligence.
Damage caused by failing to observe the operating instructions.
Damage caused by improper maintenance or use of unsuitable filter materials or operating materials.
Damage caused by failing to observe the proper and intended use.
Damage caused by failing to perform regular visual checks.
Consequential damage caused by loose bolts/screws, loose hydraulic and air lines, leaks on the axles/gearboxes or hydraulic systems that are ignored or not repaired immediately.
Damage caused by unauthorised modifications to the machine that were not approved by the manufacturer.
Damage caused by the attachments not being suitable for the machine or approved by the manufacturer.
Damage to paintwork caused by stones, aggressive materials such as manure, slurry, salt or similar materials, improper maintenance or cleaning.
Damage caused by improper repairs and/or performed using unsuitable tools.

→ Operate and service the loader only as described in the operating instructions.

→ Only use the loader if all the safety and protective equipment is present and functional.

→ Observe the monitoring equipment while operating.

→ Only trained and qualified personnel may perform repairs.

→ Observe the operating instructions.

→ The manufacturer/supplier is not liable for damage resulting from a failure to observe these points. The risk is borne solely by the user/operator.

1.10 Intended use

The yard loader is constructed using state of the art technology and in compliance with the generally accepted technical and safety standards. Despite this, use of the machine may present a hazard to the life and limb of the user or third parties or damage to the loader or other property. The safety rules must therefore be fully complied with, without exception. The machine must always be kept in technically perfect working order, without exception.

The machine may only be operated in compliance with the operating instructions and safety regulations, for its intended purpose and in technically perfect working order.
In the event of any faults, the machine must be taken out of use until the faults are rectified.
Compliance with the operating instructions, the maintenance and inspection instructions helps to prevent faults, accidents and long downtime periods.
Proper and intended use includes reading and complying with these instructions.

Danger

Improper use may cause severe injury or death to the operator or to third parties. In addition, extensive damage to property may occur.

The machine is designed for use mainly in covered areas.
The machine may only be used to pick up and load material through forward motion of the machine. The specifications in the instructions are to be observed.
The machine may only be used with other attachments, in particular with attachments made by other manufacturers, if they do not affect the safety requirements of the machine **and** written approval has been obtained from Thaler.
The attachments that are to be used for certain types of work must be designed for this purpose.
Example: A grapple rake is not designed for removing silage, or to stack and transport round or square bales.
The use of attachments that are not suitable for the loader can result in serious accidents with fatal injuries and cause extensive property damage.
Any damage to persons, buildings or the machine resulting from this are not covered by the warranty, rather it is the sole responsibility of the operator.

All other use of the loader, for example:
→ Lifting or transporting people
→ Use as a work platform
→ As a towing vehicle
→ After a change has been made to the loader
→ After unprofessional repair/troubleshooting
→ Using the loader to lift, transport, push, stack, etc.
Without the appropriate work equipment/attachment is considered to be improper use.

1.11 Use on public roads

In the Federal Republic of Germany, the following must be observed to drive on public roads:

The requirements of the STVZO/STVO (German road traffic licensing regulations/German road traffic ordinance) are binding and must be observed in every case.

The loader is registration-free up to a top speed of 18 km/h.
A Class 5 or L driving license is required to drive the machine.
The operator only needs an operating permit/special permit from the vehicle registration office.

This is granted by the responsible authorities according to the following requirements:

→ Max. top speed 18 km/h
→ Lighting in accordance with the STVZO
→ Inspection by the TÜV (technical monitoring association – "TÜV Gutachten")
→ The complete address of the operator must be clearly legible and indelible on the left-hand side of the vehicle. (Forename, surname, place of residence or company name and registered office)
→ Left, right and back are speed signs obligatory.
→ Carrying trailers is not permitted (except 48T18 under certain conditions) Requirements).
→ Transport of persons and cargo is prohibited.
Sharp edges and / or burial teeth must be protected.
→ When participating in public road transport, the loader must be operated by the operator A Warndreieck, assembly box, warning vest and warning lights (With a total weight above 3.5t).
→ In case of a permissible total weight of more than 4 tonnes, a additional chock must be used to be available.

The conditions for participation in public road transport in other European countries Countries are subject to the respective admission requirements in the respective country.
All information given in this manual refers to the operation of the machine in Germany.
You can find out which conditions you have to consider in a country other than Germany from your responsible importer or office.

Failure to comply with relevant national regulations can result in money or prison terms.

1.12 Identification of the machine (chassis number)

→ A type plate is fitted on the machine on the right-hand side near the steering column (in the direction of travel).
→ The chassis number is punched on the front part of the machine on the right hand side (in the direction of the travel).
→ The type plate of the diesel engine is found on the left-hand side above the injection pump.
→ All attachments have a type plate on the rear panel on the right-hand side.
→ All axles have a type plate on the side.
→ All hydraulic motors have a type plate found on the back.
→ The drive pump (axial piston pump) has a type plate.
→ The drive motor (axial piston motor) has a type plate.
→ Safety-relevant components are provided with a test number.

Thaler attachment holder Euro attachment holder

2.1 General safety instructions

- → The general safety and accident prevention regulations provided for by law and/or the employer's liability insurance associations must be strictly adhered to.
- → These instructions must be complied with during operation, maintenance and repairs.
- → The loader is only to be accessed using the intended steps, and these must always be kept in clean and non-slip condition.
- → Operating levers, pedals and the driver's cab must always be kept absolutely free of dirt, grease or oils.
- → The operating instructions should always be kept where the machine is in use and accessible at all times.
- → General applicable laws and other binding regulations concerning compulsory insurance, road traffic regulations, environmental protection and accident prevention are to be observed and instructed.
- → This also applies to generally applicable rules of the individual countries that are not or not completely mentioned in these instructions.
- → The approved top speed and gross weight are to be observed and complied with.
- → The operating instructions must be supplemented by the operator in the following areas and kept up-to-date:
  - → Instructions about supervision and reporting obligations
  - → Particular instructions about organisation or working procedures
  - → Particular requirements/instructions for the personnel
- → If substances hazardous to health are found on the site of use, suitable protective clothing should be worn and/or the personnel should be instructed to wear this protective clothing.
- → The control devices may only be operated from the driver's seat.
- → It is forbidden to stand in the loader's danger zone. The safety distance is of 5 m.
- → It is forbidden to stand in the unsecured articulating area of the loader.
- → The working equipment must not be swung over persons, working areas or equipment. If there is any danger to people, the machine operator must give warning signs (sound the horn).
- → A safety distance of 0.5 m should be maintained to fixed components such as buildings, equipment, etc. to avoid the risk of crushing.
- → Generally applicable work, such as visual inspection for loose bolts, leaking hydraulic lines or components, cracks in the frame, etc. must be performed at regular intervals and/or before starting work (i.e. daily).
- → All maintenance work must be performed on a regular basis.

2.2 Personal safety, personnel qualifications

→ The required legally prescribed minimum age for operating persons is to be adhered to.
→ The operating persons must be in possession of the appropriate driving license.
→ The loader may only be driven and repaired or serviced by persons who are physically and mentally suitable to do so.
→ All persons who are responsible for activities on or with the loader must have read the operating instructions and, in particular, the section with the safety instructions. This also applies to persons who are only occasionally assigned to working on or with the machine.
→ Only trained and instructed personnel may work with or on the machine.
The responsibilities for operating, maintenance and repair must be defined.
→ It must be ensured that the loader is only used, serviced and/or repaired by persons trained to do so.
→ The operator is responsible for ensuring that the machine driver's responsibility is defined in accordance with the road traffic regulations. The machine's driver must be empowered to refuse improper or illegal instructions from third parties.
→ Personnel being trained or instructed may only operate the machine under the constant supervision of an experienced and authorised person.
→ All work on the electrical system, electronics, hydraulic system, brakes, chassis or steering system may only be performed by trained and experienced persons.
→ Persons may only operate, maintain or repair this machine if they have the necessary experience and are completely sober (0.0 percent blood alcohol level) and/or have no more residual alcohol in their blood.
→ Persons may only operate, maintain or repair this machine if they have the necessary experience and are not under the influence of medication or drugs.

If the machine is operated by a private person or by persons who are both the operator and user at the same time, the safety instructions must still be observed and complied with.
The instructions concerning personal safety and personnel qualifications are mandatory!
If no trained personnel is available for the various activities, the operator/user must take appropriate measures to get them!

2.3 Safety instructions for normal operation of the machine

These instructions apply to all persons who are assigned to working with or on the machine.

→ Any unsafe action is prohibited.

→ It is not permitted to wear a safety helmet on the machine.
The machine is constructed as a compact loader, the associated protective devices (FOPS) were designed for operation **without a safety helmet**.

→ Take appropriate measures to ensure that the machine is only operated in a functional condition.

→ The machine may only be operated if all protective and safety-related equipment, e.g. removable protective equipment, sound insulation, exhaust devices, are fitted and functional!

→ **Before starting work on site, familiarise yourself with the working environment.**
This includes any obstacles in the transport and working area, the bearing capacity of the ground and any necessary isolation of the working area to traffic area used by the public.

→ Every time **before** starting work (or daily), perform a check and visual inspection for any visible defects (loose bolts, loose or leaking hydraulic hoses, loose or leaking air intake or coolant hoses, etc.).

→ If there are any changes in the operational behaviour (a different engine noise, sluggish performance, etc.) or leaking hydraulic lines, the machine should be immediately shut down, secured and the damage promptly rectified.

→ In the event of any malfunctions, the machine should be immediately shut down, secured and the damage rectified.

→ **Every** time before starting work or driving (or daily), the lighting system, signalling system, brakes, steering etc. should be checked to ensure they are working properly.

→ Before starting up, check that no one is present in the machine's danger area.

→ Only start and operate the loader from the driver's seat.

→ Safety equipment such as start-up locks, drive locks or road locks, must be in a functional condition and must not be bypassed or tampered with.
Any non-functional safety equipment and locks must be repaired immediately, or the machine must be shut down and secured until they can be repaired.

→ Before driving and to prevent accidents, every accessory must be secured to the machine.

→ When driving on public roads, squares or paths, the applicable traffic rules and regulations must be observed.

→ Before driving, the machine must be put into a condition that complyies with these traffic regulations.

→ Turn on the lights in conditions of poor visibility or when it is dark.

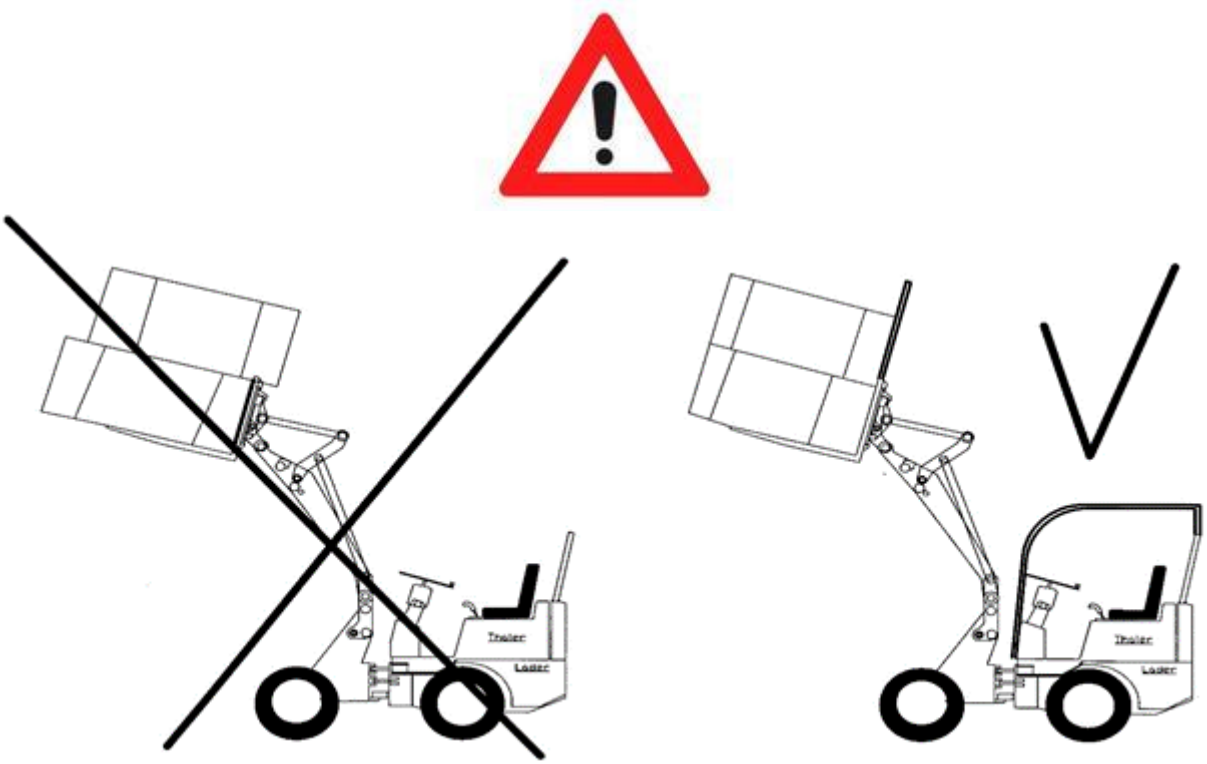
→ When manoeuvring around excavations, embankments, overhead lines, tunnels, bridges, gates and underpasses, ensure that there is sufficient headroom and width clearance and maintain a safe distance.

→ Any working practice that endangers the stability of the machine is prohibited.

→ Get information about the load capacities (payloads) of the machine in conjunction with its corresponding equipment.

→ The respective bearing loads or payloads can be found in the operating instructions.
→ **Attachments and cargoes are only to be carried close to the ground, especially when travelling downhill.**
Close to the ground means: the load is only lifted up far enough to ensure that the load and the attachment are no longer touching the ground. Lifting the load to 30 or 40 cm above the ground, for example, is no longer considered to be close to the ground.
Even at this height, a sudden steering movement of the machine can cause the machine to lose control and tip over.
→ **Lifting the load is only permitted if:**
  → The machine is **standing** on a level, straight and paved surface when it is extended (risk of tipping).
→ **Never drive with a raised load to navigate a corner or to pass embankments or slopes (risk of tipping).**
→ Never traverse slopes or embankments across the slope. (Risk of tipping)
→ Adjust your **speed** to suit the **terrain conditions** or the **load being carried**.
  → The **higher the weight being carried**, the **lower** the speed should be.
  → The **bumpier** the terrain, the **lower** the speed should be.
  → Always reduce your speed **before** you reach the slope, never **on** the slope.
  → The load must always be positioned towards the hillside when on an uphill or downhill slope.
→ When leaving the machine, it should be secured to prevent it from rolling away unintentionally and to prevent unauthorised use.
  → The working device or attachment should be lowered to the ground and the hydraulic pressure relieved.
  → Apply the handbrake.
  → Remove the ignition key.
  → Apply a wheel chock when parking the machine on a slope.

2.4 Safety instructions for transporting packaged goods



Loading, transporting and stacking of large bales, crates or packaged goods is only permitted with the attachments designed for this purpose.
These must be designed to prevent the load from falling off over the lifting arm.
Example: A grapple rake is not designed to transport or stack large or round bales, rather only to transport manure.

It is forbidden to load and transport large bales, round bales or packaged goods of any type without a cab or driver protective roof AND the suitable attachment.
Falling bales or stacks of crates and falling objects of all types can result in severe or fatal accidents.
The user/operator of the machine has the sole liability for the proper equipment of the machine.

2.5 Safety instructions and intended use of attachments

List of the most frequently used attachments and their application.

Bucket, earth bucket, large or light material bucket, stone scoop, potato bucket, etc. are only to be used to push, excavate or transport bulk materials.
Using the bucket as a working platform, for example, is forbidden.
Failure to observe this may result in serious injury or even death.

(Only transport close to the ground, see page 21)

The grapple rake is only to be used to muck out the stalls and transport or load manure. The clamp is designed to secure the manure mat and is not designed for "ripping out" work.
Use of the grapple rake for moving silage, or to transport large bales or round bales, for example, is forbidden.
Failure to observe this may result in serious injury or even death. There may also be serious technical damage to the attachment or to the machine.

(Only transport close to the ground, see page 21)

The pallet fork is only intended to pick up, transport, stack or load pallet-borne material or boxes, cage pallets, etc.
It is not permitted to use it to transport or stack large or round bales, as the pallet fork does not prevent the load from tipping off over the rocker.
Failure to observe this may result in serious injury or even death. There may also be serious technical damage to the attachment or to the machine.

(Only transport close to the ground, see page 21)

Bale forks of all types are exclusively designed to pick up, transport, stack or load large or round bales.
Any other use is strictly prohibited.
Failure to observe this may result in serious injury or even death. There may also be serious technical damage to the attachment or to the machine.

(Only transport close to the ground, see page 21)

For silage handling, only attachments that are expressly designed for that purpose are permitted. They must **also** have been approved by Thaler Maschinenbau for use on the machine (silage gripper buckets, silage gripper forks, silage cutting clamps, etc.).

Improper usage of attachments can result in serious injury or even death. There may also be serious technical damage to the attachment or to the machine. Damage resulting from improper use are not covered by the manufacturer's warranty, rather are the sole responsibility of the user/operator.
The user/operator alone bears responsibility for proper use of the machine and compliance with all instructions and regulations.
In the interest of your health and in keeping life and limb intact, any sort of experimentation and improper use of attachments and of the loader is prohibited. The user/operator bears the sole liability for any infringements.

2.6 Dealing with vapour, smoke, gas, dust, electrical power etc.

→ Due to the exhaust gas produced by the diesel engine, the machine may only be operated in well-ventilated spaces.
Before starting the machine, ensure that there is adequate ventilation.
The applicable rules should be observed and complied with when working underground.

Warning in accordance with California's Proposition 65
→ According to the State of California, diesel engine exhaust and some of its components cause cancer, birth defects and other reproductive damage. Battery poles, connection terminals and associated parts contain lead and lead compounds. **After handling, wash your hands.**

→ Welding, burning and cutting work may only be performed with express permission.
There may not be any risk of fire or explosion.
→ **Before** welding, burning or grinding, the machine and its surroundings must be thoroughly cleaned of all flammable materials, dirt, and dust.
→ Ensure that there is adequate ventilation.

→ In the event of special hazards caused by poisonous or corrosive gases, vapours or in a contaminated environment, appropriate protective clothing should be worn.

Electrical power
→ When performing ground work, it must be ensured that no underground cables are laid in the area.
→ In the event of hitting an unexpected underground cable, the driver must stop work immediately.
→ When working in the vicinity of overhead power lines, a mains voltage-dependent safety distance must be maintained between the lines and the loader along with its working equipment.
Prescribed safety distances:
- → Up to 1,000 V 1.0 m
- → From 1 kV to 110 kV 3.0 m
- → From 110 kV to 220 kV 4.0 m
- → From 220 kV to 380 kV 5.0 m
- → With unknown mains voltage 5.0 m

→ In the event that overhead or underground lines are touched or damaged
- → Do not leave the machine.
- → Immediately drive the machine out of the danger area.
- → Warn outsiders to prevent them from approaching or touching the machine (sound horn, shouting, etc.)
- → Ensure that the line is immediately switched off.
- → Only leave the machine when the touched, damaged line has been switched off.

2.7 Dealing with the hydraulics, pneumatics, noise, oils, greases and chemical substances



→ Regularly check all lines, hoses, fittings and assemblies for leaks and externally visible damage.

→ Oil leaking under pressure can result in serious injuries (eyes, scalds, cuts at high pressures, etc.) or to a fire in the machine.

→ Leaks and damage to hydraulic lines or assemblies must be repaired immediately, or the machine must be shut-down until they have been repaired.

→ **Before** opening hydraulic or pneumatic lines, ensure that they are completely **depressurised**.

→ Never open lines that are under pressure under any circumstances.
Risk of injury!

→ For this, observe the instructions in the operating instructions or consult with authorised specialist personnel.

→ Ensure that the hydraulic and pneumatic lines are correctly laid. This work may only be performed by authorised specialised personnel.
All parts used must meet the manufacturer's requirements (quality, length, pressure and temperature stability, etc.).

→ All safety equipment must be fitted and functional.

→ When handling oils, grease or other chemical substances, the safety instructions for the respective product must be observed (see the instruction leaflet, or instructions on the oil or grease container, etc.).

→ While filling up the machine, smoking or naked lights or flames are forbidden. There is an increased risk of fire or explosion.

→ **Use commercially available winter diesel at low outdoor temperatures.**
The addition of petrol is forbidden (fire and/or explosion hazard).
The use of Startpilot (or other starting aids) is not permitted (risk of engine damage).

2.8 Transportation, towing, recommissioning and final disposal




→ Transport the machine only in accordance with the instructions in the operating instructions.
→ Observe the specified weight of the machine and the attachments.
→ Only use transport means with sufficient load bearing capacity.
→ **Only transport the machine with the articulation lock applied.**

→ The machine can only be towed in accordance with the instructions in the operating instructions.
→ The maximum speed and distances when towing are to be complied with.
→ The function of the steering, breaking system etc. is limited or not non-existent without the diesel engine running (if necessary, use a tow bar).

→ If the machine is brought back into operation after a long standstill, the instructions in the operating instructions must be complied with.

→ On final disposal or decommissioning of the machine, all operating fluids and auxiliary materials should be drained and disposed of in an environmentally-friendly manner.
→ After the operating fluids have been drained and/or battery have been removed, all parts must be disposed of according to regulations and in an environmentally-friendly manner.
→ Ensure that it is not possible to recommission the machine.

2.9 Battery master switch

The battery main switch is located in the direction of travel on the left side of the front car. This switch can be used to isolate the whole electrical system from the battery in case of emergency (short circuit – fire hazard).

→ Switch the battery off overnight to prevent/avoid discharging.
→ Switch the battery off overnight to prevent any eventual damage (short circuit).
→ Use the switch as an additional means of protection against theft by removing the switch.
→ When you remove the switch, it is important to cover the opening with the protective cap. This prevents moisture from getting into the switch (short circuit, risk of fire, premature wear).
→ Never actuate the switch when it is under load. Always first switch off the ignition before actuating the master switch.

→ **Turn the switch to the right (clockwise) – the electrical system is supplied with power.**
→ **Turn the switch to the left (anticlockwise) – the power supply to the electrical system is switched off.**

2.10 Safety belt – start lock or drive lock

The machine is equipped with a safety belt that has a switch in its buckle. There is also a switch in the seat cushion.

→ The safety belt must be worn during all work.
→ The safety belt is coupled to the safety equipment of the machine.
→ The seat contact is coupled to the safety equipment of the machine.
→ To drive the machine, the safety belt must be **correctly** fitted.
→ The switch must always be in perfect working condition.
Manipulating the switch is forbidden.
→ Manipulation of this switch may result in serious injury or death,
if when the machine tips (overturns), the driver is hit on the head by the roll bar.
→ A properly fitted safety belt prevents the driver from being thrown out of the seat if the machine tips over and being hit on the head by the hoop guard (FOPS).

→ **ATTENTION!**
Drive Lock up to vehicle no.
The machine is equipped with a seated sequence.
This means that the driver must first sit down and then fasten the seatbelt. Everyone Attempting to bypass this sequence results in the drive being switched off. The Machine can not be driven.

Drive lock From Fgst.Nr. (Or up-to-date after the conversion of older machines.)
The machines are fitted with a switch in the safety belt catch and in the seat cushion. The safety circuit only releases the drive with the correct sequence. You must first sit down in the driver's seat and then buckle up.
If you only sit down, and do not buckle up, the machine will start to sound its horn after 30 seconds. This horn signal will be switched off again after another 90 seconds. The drive continues to work. The horn will also be turned off as soon as the driver buckles up.

Please note: Do not attempt to manipulate or bypass this circuit. Deactivating this circuit can cause the machine to drive ON ITS OWN under certain circumstances.
This can result in serious or fatal accidents and/or considerable material damage.
The manufacturer is not liable for any accidents or material damage resulting from the manipulation of the sequential switching and/or through any improper use of the machine.
The responsibility lies solely with the owner/operator of the machine.

The restraint system and the seating sequential switch are solely and exclusively used for safety and to protect life and limb. Please consider that you are not the only one who will work with this machine, rather also family members or staff/employees. The owner of the machine is responsible for the safety and protection of life and limb of all persons who work with the machine.
In your interests, and in the interests of those who work with this machine, do not attempt to bypass this safety device.
Regularly remind yourself and all other persons who work with this machine that the restraint system should be used, i.e. that one should buckle up.
Always remember:
Sparing the 2 seconds needed to buckle up or to release the seat belt in no way justify any injury to life and limb.
Work on the machine without using the safety system may result in the loss of insurance cover.

Measures to shut down the drive: (Black Box)
The machine is equipped with a time delay during seat contact to prevent the drive from shutting down at each ground shaft. If this delay has been exceeded (e.g. due to unadjusted speed), the drive switches off. The machine is no longer running.
activate the belt and stand up for 2 seconds so that the relay can be reactivated.
Count 21 - 22 - 23, now sit down and buckle up again. The machine is racing again.
Measures to prevent this shutdown:
Adjust the driving speed to the terrain conditions.
Adjust the driver's seat to your body weight to avoid rash relief of the seat cushion.

They have opened the belt, but have not got up, but have strapped themselves on again.
The machine is no longer running.
activate the belt and stand up for 2 seconds so that the relay can be reactivated.
Count 21 - 22 - 23, now sit down and buckle up again. The machine is racing again.

They wanted to buckle up, but the belt did not shave at the first attempt, but only at the second attempt. The machine is not running.
The machine realized that the belt should be closed. However, the contact was immediately disconnected, causing the relay to switch off the traction drive.
activate the belt and stand up for 2 seconds so that the relay can be reactivated.
Count 21 - 22 - 23, now sit down and buckle up again. The machine is racing again.

All these measures are unsuccessful:
All of the measures described above do not cause the machine to run again. Proceed here as follows.
Check the handbrake of the machine. When you put on the **handbrake,** the red indicator lamp in the instrument console must light up. If the handbrake **is released,** the control lamp must be extinguished. As long as the indicator light is on fire, it is not possible to drive the machine.
The machine is running again when the handbrake isreleased.

The safety relay is not a purely electromagnetic component, but a programmed system relay. Since this relay is permanently supplied with continuous current, it can happen that relays "hang" in a faulty circuit. The relay is no longer activated.
Turn off the main battery switch (only when the diesel engine is switched off) for 20 seconds. Turn the main battery switch back on. The machine is racing again.

The seat sequence relay is powered directly from the battery. As with the other systems, the power supply is not provided by the steering column. This relay is secured in the relay box with a flying fuse (7.5A). The relay group is located in a black plasticdevice located under the bonnet of the air filter. The lid must be opened with a Phillips screwdriver. Check the backup and replace it if necessary. From. The machine is racing again.

If the battery voltage drops too far when starting the diesel engine, the relay that the driver has already set himself "forgets". The machine will return when you get up for 2 seconds while the diesel engine is running and then sit down and buckle up again. The battery voltage is too low. Charge the battery with a charger. The machine is racing again.

The machine is still not running – call your dealer or the manufacturer's customer service.

2.11 Safety labels used

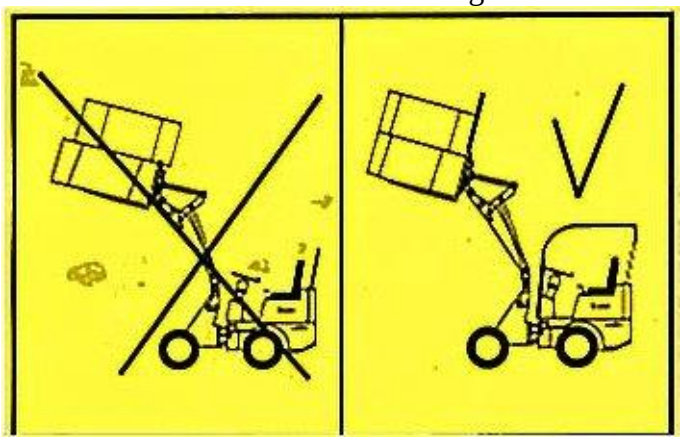
The machine is fitted with yellow safety labels to provide warnings or important information.
These must be kept in a clean and legible condition.
They may not be removed.
Damaged stickers must be replaced immediately. These can be ordered through your dealer or directly from us.

Before commissioning, the instructions are to be read.

Before maintenance work, the machine must be secured and the instructions must be read.

Be careful in the machine's danger area – risk of crushing.

The lifting arm and bucket is not a working platform.



Transporting and stacking packaged goods, large bales without suitable attachments and FOPS superstructure is forbidden.

Never linger in the unsecured danger area of the machine.

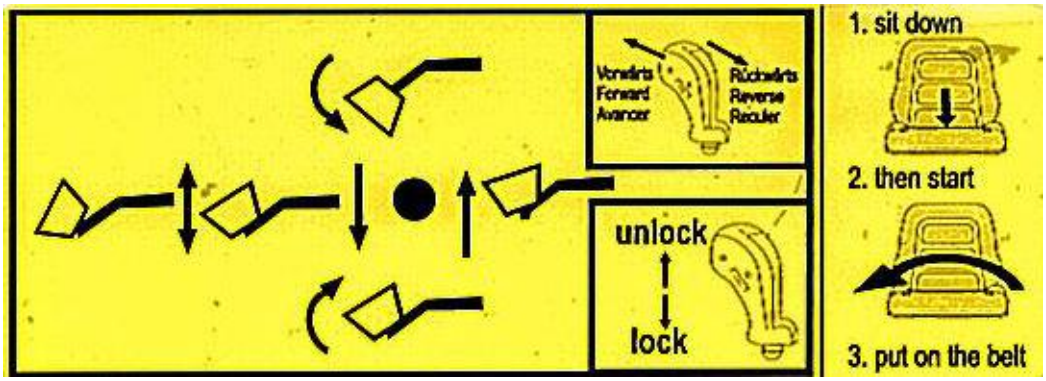
Never drive transversely across slopes – risk of tipping over.

Keep away from the machine – danger of ejected parts.

Do not touch any rotating parts or reach into the area of rotating parts. Wait for them to come to a standstill.

Watch out for overhead power lines. Maintain a safe distance.

Never reach into the crushing area of rotating parts.



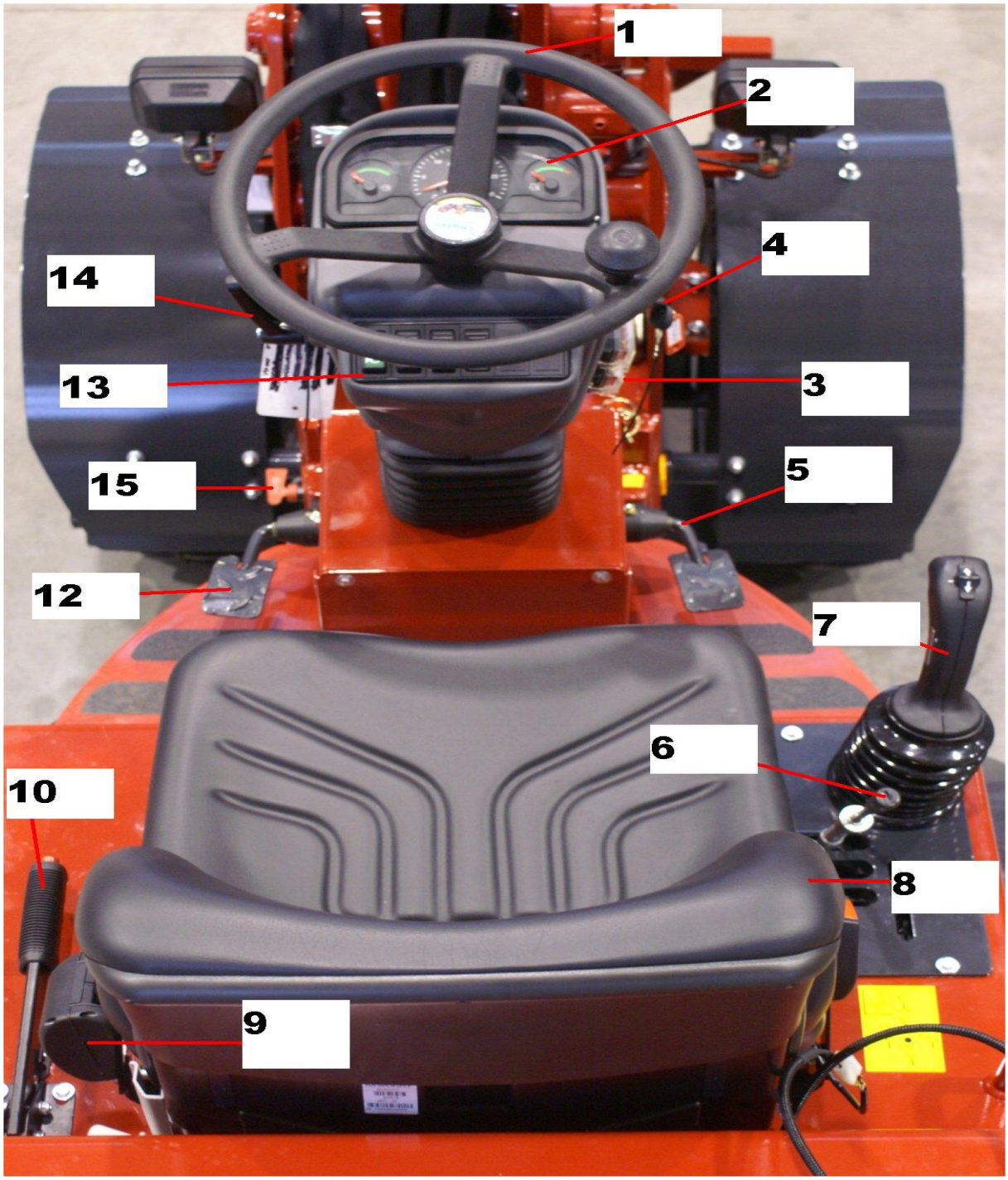
Joystick stickers:
Joystick forwards – rearwards = lower/raise.
Joystick fully forward = floating position.
Joystick left – right = retract bucket or dump.
Switch on the joystick = forwards – neutral – reverse.
Joystick down – up = road lock on/off.
Seating sequential switch:
Correct sequence to drive the machine

1. Sit down
2. Start engine (can also be done after belting up)
3. Belt up

The current machinery directive stipulates that the machine must have a driver restraint system (safety belt).
In addition, the manufacturer must take steps to prevent predictable misuse. The seating sequential switch ensures that the machine can only be driven when the driver is properly belted up according to the regulations.

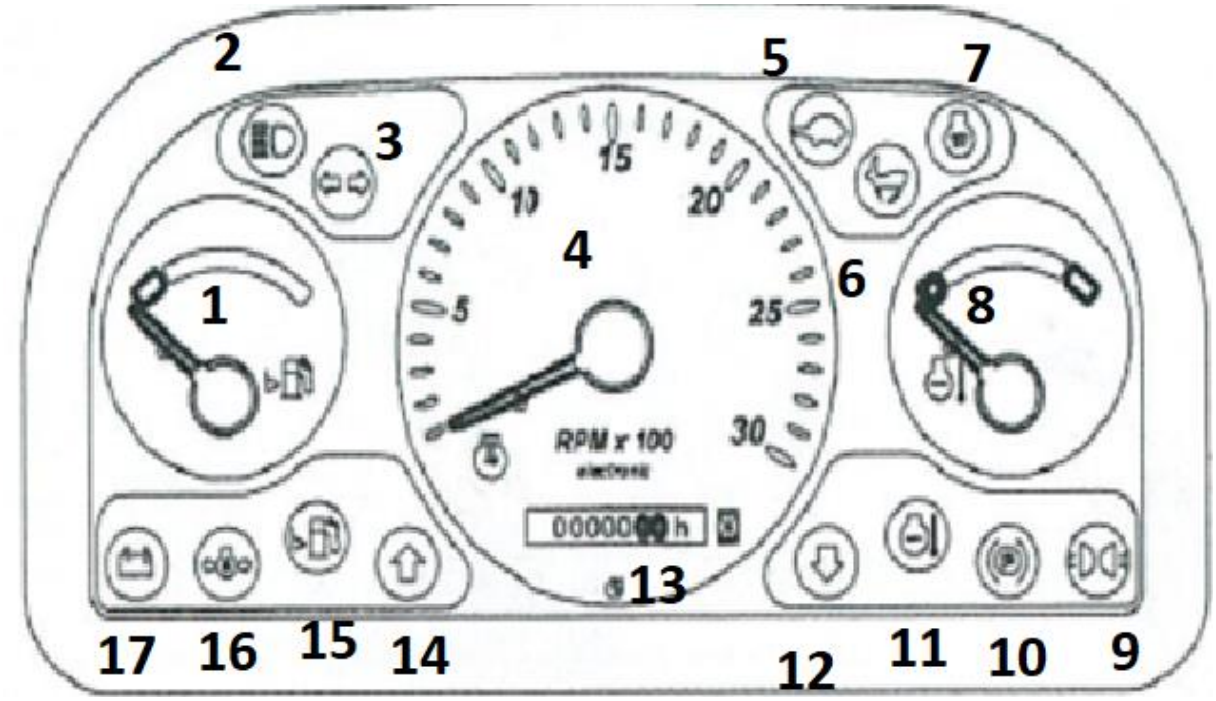
Fasten the safety belt.
Always fasten the safety belt for every machine operation.
Do not try to jump off the machine if it starts to tip over.
The safety belt prevents you from being thrown out of the machine and/or holds you in the seat if the machine tips over.
Failure to observe this may lead to serious or fatal accidents.

3.1 operating devices of the machine



1. steering wheel
2. dashboard
3. fuse boxes
4. ignition lock
5. accelerator pedal
6. auxiliary hydraulics
7. joystick
8. driver's seat
9. safety belt
10. handbrake
11.
12. inching pedal
13. switch panel
14. steering column adjustment
15. battery master switch

3.2 Instruments, indicator and warning devices



1. Fuel gauge
2. High beam indicator light *
3. Turn signal indicator light*
4. Tachometer (optional)
5. "Slow" gear indicator light
6. "Fast" gear indicator light
7. Pre-heat indicator light
8. Engine temperature gauge
9. Side light indicator light *
10. Handbrake indicator light
11. Engine temperature indicator light
12. "Reverse" indicator light
13. Operating hours counter
14. "Forwards" indicator light
15. Fuel reserve indicator light
16. Engine oil pressure indicator light
17. Alternator indicator light

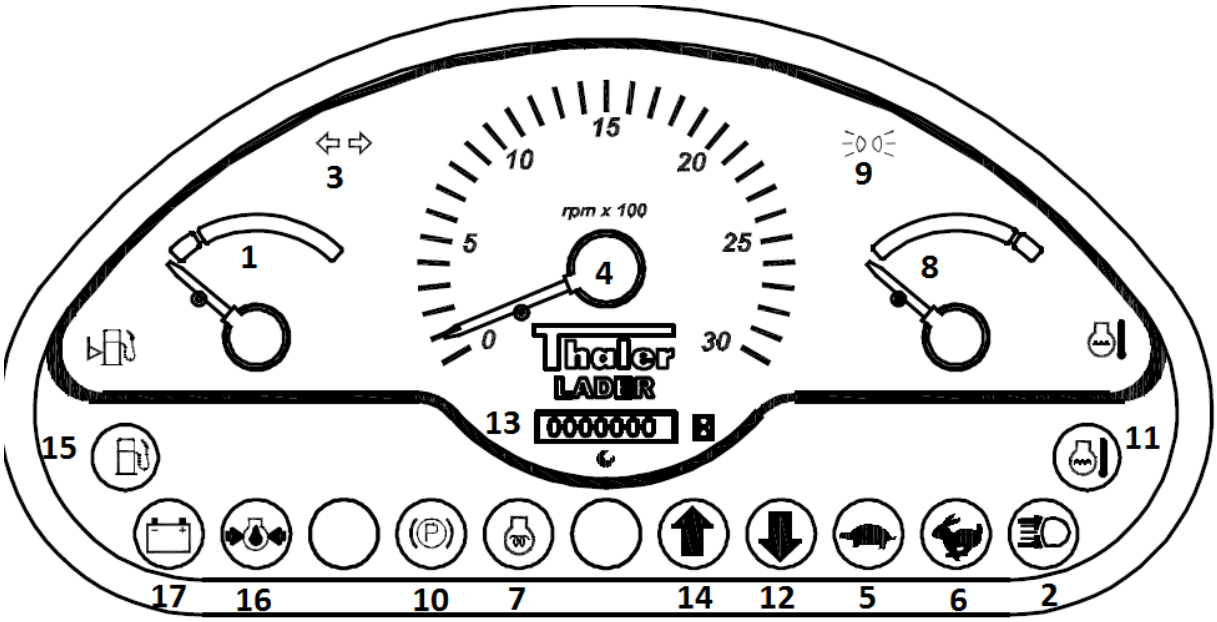
* Optional: only in combination with road-compliant lighting

Note:
As long as the handbrake indicator is lit, indicator lights 12 and 14 are without function.
The machine cannot be driven.

If the handbrake indicator is not lit, but indicator lights 12 and 14 are still without function, or the machine does not drive → The safety belt is not fastened or the correct sequence was not observed (see drive lock section).

To be able to drive the machine, the safety belt must be properly fastened and the handbrake must be completely released.
Otherwise, the machine cannot be driven.

3.2 Instruments, indicator and warning devices



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To be able to drive the machine, the safety belt must be properly fastened and the handbrake must be completely released.
Otherwise, the machine cannot be driven.

3.3 Before initial and daily start-up of the engine

→ **Before** commissioning the machine, read through the instructions carefully.
→ Use the instructions to familiarise yourself with the controls, safety regulations, as well as the proper and intended use of the machine.
→ Only operate the machine from the driver's seat.
→ Get instruction by specialists (local dealer) **before** you drive the machine for the first time.
→ Use a large area free of obstructions for your first attempts at driving.
→ Every time before starting work, check the machine to ensure that it is in good condition.
→ **Lubricate all greased bearings before starting work.**

→ Do not work with the machine when there are any faults that put operational safety at risk.
→ Check that all safety devices are fitted and ready for their intended use.
→ Check all tyres for damage, wear and that they are at the correct pressure.
→ Remove or fasten loose parts in the driver's cab.
→ Clean all controls and check their condition.
→ Clean all steps and handles and check their condition.
→ Perform a visual inspection for cleanliness and damage.
→ Check that all safety-related components are working properly.
→ Check that all bolts, joints, pivots, pins, wheel bolts, etc. are tight.
→ Check that all instruction labels and safety stickers are present and legible.
→ Check the loader for oil and fuel leaks.
→ Check the levels of the engine oil, hydraulic oil and fuel.

→ Any faults detected here should be fixed immediately before the machine is started up.

3.4 Switch panel and multifunction lever

Foto1

1. Signal horn (optional)
2. Stand light, dipped-beam (turn sleeve) (optional)
3. Direction of travel (indicator) (Lever before or back)(optional)
4. Dipped light - high beam (lever up - down)(optional)
5. Rear Work Lights
6. Locking Switch – articulated steering
7. Cabin ventilation -tap-changer
8. Windscreen wiper / washing system
9. Overload overload protection
10. Hydraulic locking
11. Warning flashing system

Due to the many equipment variants, the switch assignment may vary. Switches that are not present in your machine can be shown here. In case of special requests, your machine may be equipped with switches that are not shown here. **The following photos show possible equipment variants. Switches are shown which are types and equipment dependent.**

Foto2

1. Work Lights
2. Work Lights
3. Working headlights
4. Windscreen wipers / washing system
5. Hydraulic locking
6. Overload overload protection
7. Warning flashing system

Photo 3

1. Signal horn (standard)
2. Working lights
3. Windscreen wiper / washing system
4. Locking switch - articulated steering
5. Cabin ventilation
6. Override load indicator
7. Hydraulic locking

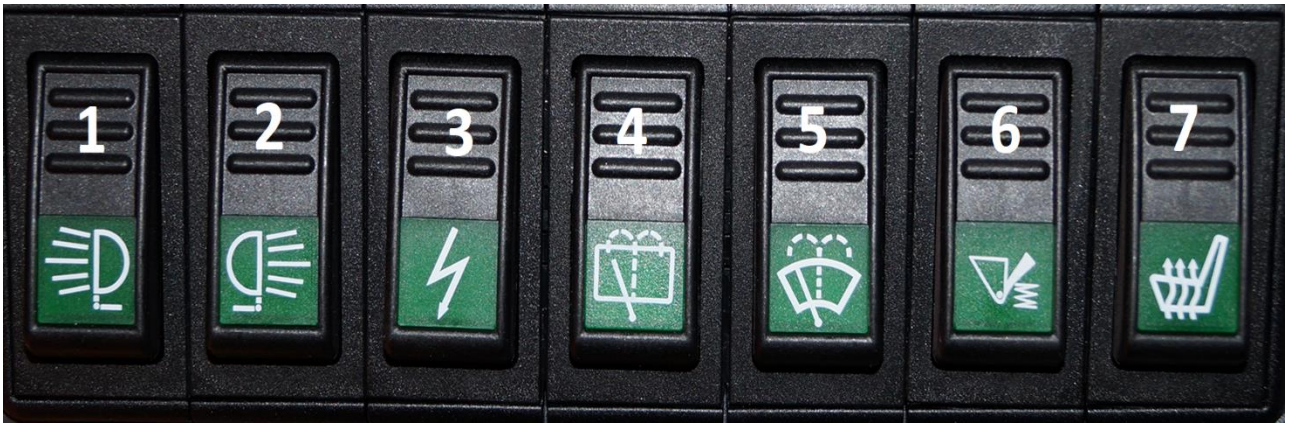


Photo 4

1. Work Lights
2. Work Lights
3. 3-pole front socket (switchable)
4. Windscreen wiper rear
5. Windscreen wiper front
6. Damping system (not 48T18)
7. Seat heating

Switches for stage switching
1. Gear - 2. Gear

3.5 operation joystick and two-step circuit (depending on type)

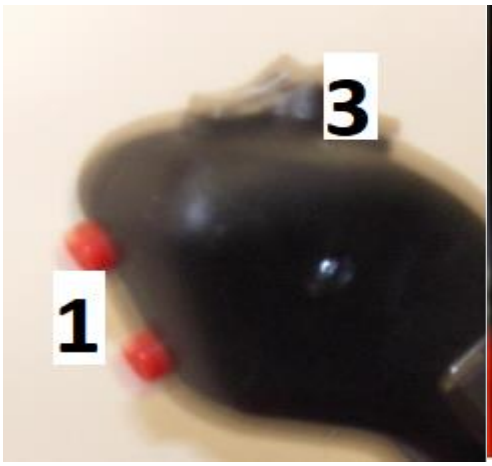


photo 1

photo 2

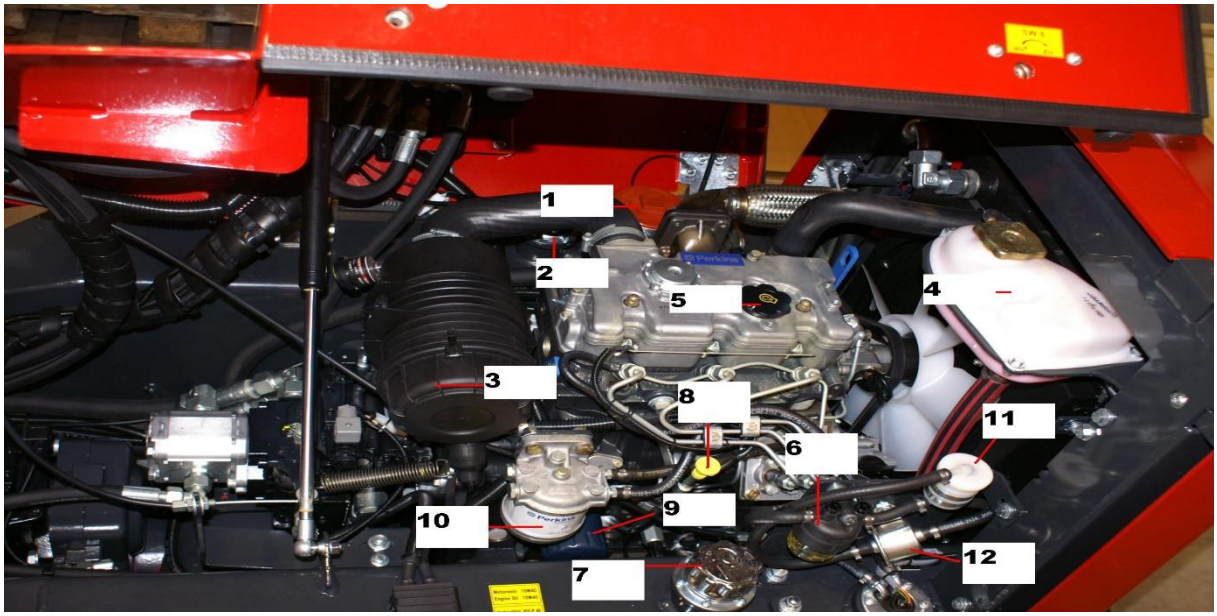
There are used different ball handles depending on the equipment of the machine.

knobs 1 – operation solenoid valve
switch 3 – forwards – neutral – backwards

solenoid valves (1)
The solenoid valves (1) are switched directly (e. g. press the right orange knob/press the red knob above – the gripper opens, press the left orange knob/press the red one below – the gripper shuts).

switch forwards – neutral – backwards (3)
The direction can be changed without stopping the machine. But do not change the direction at full throttle (the machine reacts abruptly).
Such an approach leads to useless premature wear of the machine. Furthermore this can lead to major accidents and serious injuries.

3.6 Refuelling the loader



→ **Fire hazard!** – Diesel fuel is flammable. Smoking, fire and naked flames are prohibited while refuelling.
→ Only use diesel fuel in accordance with DIN EN 590.
→ Mixing with petrol is prohibited.
→ Refuelling with petrol is prohibited.
→ **Refuelling with bio-diesel or vegetable oil is prohibited.**
Refuelling with bio-diesel or vegetable oil can result in severe engine damage.
The operator alone is liable for any damage occurring from the use of incorrect fuel.
→ Diesel fuel is harmful to the environment. In the interests of our environment, ensure that no fuel is spilled.
→ Any escaping, overflowing or spilled fuel must be immediately absorbed with a suitable binding agent and then disposed of in an environmentally friendly manner.
→ Inform the responsible persons/agencies immediately if there is a release of diesel fuel into the environment.
→ The diesel tank and fuel tank are located at the rear left of the vehicle.
→ The fuel nozzle (7) is only accessible when the bonnet is open.
→ Lower the lifting arm and turn off the diesel engine before refuelling.
→ Diesel is hazardous to your health. Use suitable protective gloves.
→ Open the fuel filler cap.
→ Refuel the machine through the filler neck.
→ Close the tank lid after refuelling and wipe up any spilled fuel off of the machine (environmental and paintwork damage).

3.7 Safety instructions and care of the driver's seat

To preserve your health, it is a prerequisite that the driver's seat is always functional and individually adjusted to you. Preserve the functionality of your driver's seat with care and regular functional testing (see maintenance schedule).

→ The driver's seat must not be adjusted while driving – risk of **accident!**
→ Check that the screw connections are firmly fitted during inspections.
→ Check the driver restraint systems during the inspections.
→ The driver's seat may only be fitted and repaired by specialised personnel.
→ The operating instructions must be kept in the vehicle or at the job site.

→ Incorrectly adjusted driver's seats have a smaller suspension movement area. To avoid back injury and damage to the driver's seat, the weight adjustment must be set to match the individual weight of the driver **before every start-up** and **every time the driver changes**.
→ To avoid injury, **no objects** must be stored **in the suspension movement area** of the driver's seat.
→ To reduce the risk of accidents, you must check that the adjustment devices are correctly engaged **before starting-up** the vehicle.
→ With the back cushion removed, the seat back adjustment may only be operated if the back plate is supported, for example, with your hand. Failure to observe this results in a high risk of injury when the back plate snaps forwards.
→ Any change to the standard condition of the driver's seat can revoke the tested condition of the driver's seat. The functionality of the driver's seat may be compromised, which could endanger your safety. For this reason, every structural change to the driver's seat must be approved by Grammer.
→ When removing and installing the driver's seat, the instructions provided by the vehicle manufacturer must be observed.
→ Do not lift up the driver's seat using the covers. Failure to observe this causes an increased risk of accidents due to loose or broken covers.
→ Before removing the driver's seat, all the plug connections between the driver's seat and the on-board electrical system must be disconnected. When reattaching the plug connections, ensure that they are sealed (dust, water). **Make sure that all the electrical systems are functioning properly.**
→ The safety belt must be fastened **before every start-up**.
→ Screw connections must be regularly checked to ensure they are firmly fitted. If the driver's seat wobbles, this may indicate that there are loose screw connections or other defects.
→ If you notice any irregularities in the driver's seat functionality (e.g. defective suspension of the drivers seat, improper curvature of the lumbar support or damaged gaiters), immediately consult a specialist workshop to fix the cause.

→ Driver's seats with a built-in switch for the seat occupancy sensor (seat contact) must not be loaded with objects on the surface of the seat, as this could cause the vehicle could start moving without a driver.
Increased risk of accidents
Unloading the seat while driving results in a sudden vehicle stop (after a delay of about 2 seconds).

→ During operation, while the driver's seat is loaded, do not press the gaiter inwards.
-Risk of crushing-

→ Ensure that no objects or liquids penetrate inside the driver's seat.

→ The driver's seat is not waterproof and should be protected against splashes!

→ Conversion or retrofit work on driver's seats manufactured by Grammer may only be performed by approved specialised workshops, trained personnel or suitably instructed persons, taking account of the applicable operating, maintenance and installation regulations as well as country-specific regulations.

→ There is a risk of injury and material damage if the installation is carried out improperly, and in addition, the functionality of the driver's seat cannot be guaranteed.

Dirt can impair the function of the driver's seat. Therefore, always keep your driver's seat clean!

The fabric must not be loosened and removed from the seat frame to clean it.

Risk of injury from the backrest springing forward! When cleaning the backrest upholstery, the seat back must be held by hand when the seat back adjustment lever is actuated.

Please note:

Do not clean the driver's seat with a high-pressure washer!

When cleaning the upholstered surfaces, avoid soaking through the upholstery.

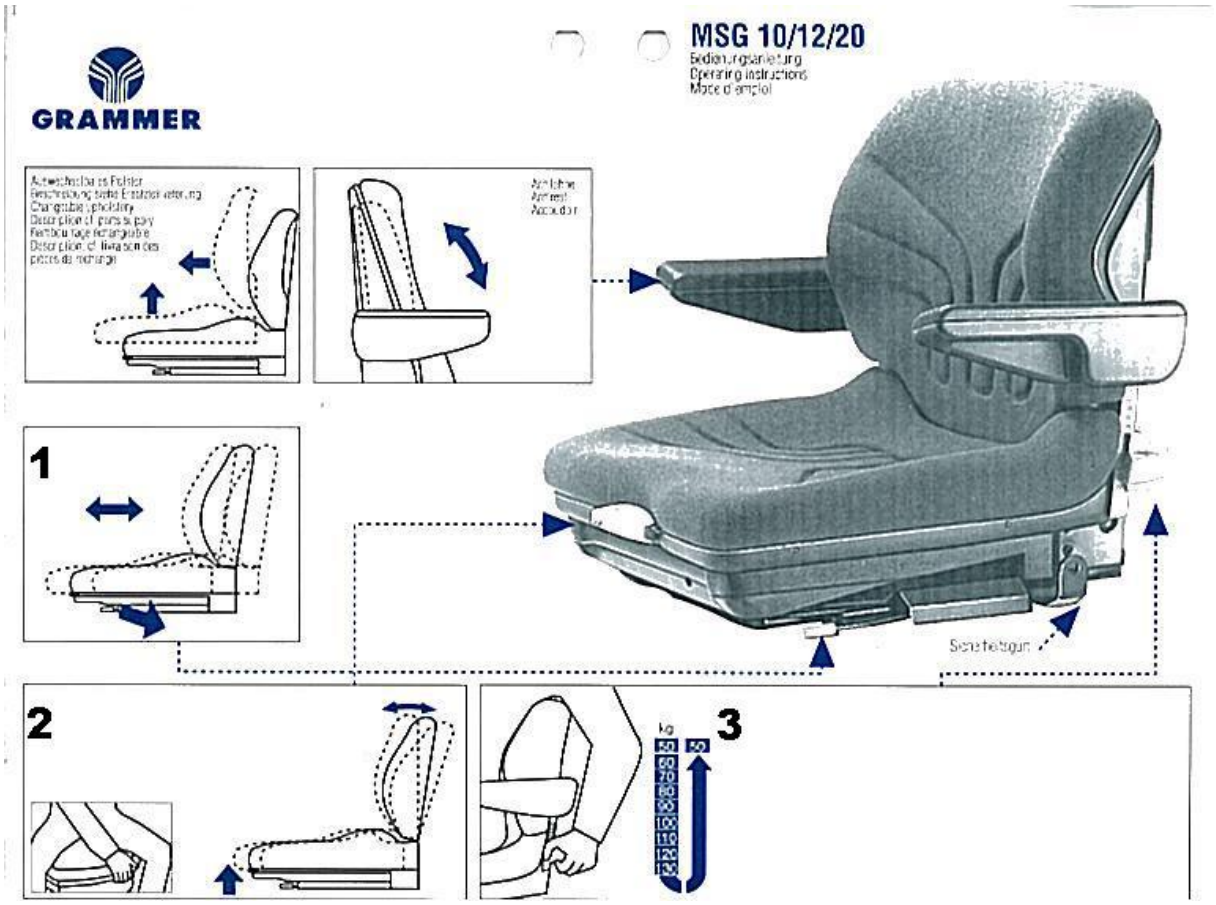
Test commercially available upholstery or plastic cleaners first on a hidden small area to check if it is compatible.

Observe the maintenance instructions

Grammer, Cobo / MT and Thaler do not accept any warranty or liability for damage resulting from improper assembly, application, use or repair.

Sources of the texts and photos for the driver's seat description:
Grammer AG and Cobo / MT

3.8 Adjusting the driver 's seat MSG 20



Quelle: Grammer AG, Amberg

→ Adjust the driver's seat only when the machine is at a standstill.

You can adjust the driver's seat according to your individual needs to body size and
Adjust the body. Adjust the seat so that the levers and pedals are comfortable
When the back rests against the backrest. This is the best way to prevent tensions and fatigue.

The following settings are possible (see graphic):
1. Longitudinal setting:
Adjust the length setting by "pulling out sideways" (away from driver 's seat)
Locking lever. Slide the seat forward or back until you are in the desired position. Release the lever and move the seat gently forward or backward until the lever clicks back into place and the seat can no longer move.
2. Backrest adjustment:
Adjust the backrest of the driver's seat to your personal needs.
To do so, pull the front lever upwards in the center and move the seat cushion forward or backward.
3. Weight setting:
Adjust the driver's seat to your weight by moving the handle from the top to the bottom.
Never pull the handle upwards. If you push the handle down against the stop, it automatically switches to position 50 kg.
You have 9 levels available.

3.9 seat belt, interlock, fuses and working lights



Use the seat belt for all types of work.
Check the belt buckle and the belt before you fasten it.
Damaged parts must immediately be replaced.

interlock:
The driver's seat is coupled with the machine control system through switches in the seat and in the belt buckle. These switches are part of a sequential switching.
First you have to sit down and then fasten the seat belt.
A wrong order prevents the driving respectively the starting of the machine. If you manipulate this sequence, the machine cannot be operated.
example: If the driver's seat is released, although the belt buckle is still locked, the direction switch is turned off.
You have to start the sequential switching all over again in order to restart the loader.
See here also the pages 28 – 28b.

Please note:
You can only drive the machine if the order of the switching is right.
First fastening the belt and then sitting down, this does not work. Also pulling the belt through between back and backrest does not work.
If the sequential relay has switched off, the seat was released for too long, the belt was opened and then immediately shut again, or similar, then the relay has to be newly activated.
For this open the belt – stand up for 2 seconds, count meanwhile 21 – 22 – 23 – sit down again and fasten the belt – now you should be able to drive the machine again.
See here also the pages 28 – 28b.

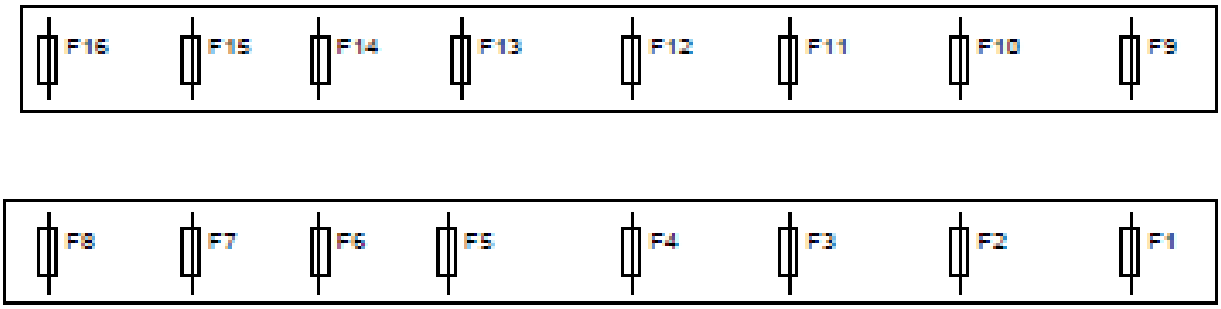
Additional interlocks:
The machine cannot drive as long as the parking brake is applied.
Additional start inhibitor:
You can only start the machine if the switch forwards-backwards is in position neutral.

- → Sit down in a way that your back has contact with the backrest.
- → Pull the belt over your pelvis and engage the latch in the belt buckle.
- → Make sure that you do not have any breakable or sharp parts (bunch of keys, glasses etc.) in the pockets.
- → You press the red button at the belt buckle to unlatch the belt. Thereby hold the belt and let it slowly slide in direction of the reel. Do not let the belt spring back with a jerk. This may cause injury or damage the reel.

The machine is fitted with several fuses that are found on the right-hand side of the steering column, under the ignition lock.

The machine can be fitted with up to 6 working headlights. Depending on the machine's equipment, 3 headlights are fitted as standard. 1x at the rear on the FOPS-ROPS safety roof and 2x on the front of the machine. For use on public roads, this lighting is replaced with combined headlights.
All switches for the headlights are found on the steering column. Depending on the machine's equipment, on the switch panel or on the multi-function lever.

Safe Occupancy Perkins Motor Ciam Steering Column



F1 - 10A Warning flashing system / Continuous plus
F2 – 25A Continuous plus / Diesel heating
F3 - 7.5 A Signal Horn
F4 - 7.5A Rear working lights
F5 - 15A Front working lights
F6 - 15A Low beam
F7 - 15A High beam
F8 – 5A Instrumentenbeleuchtung

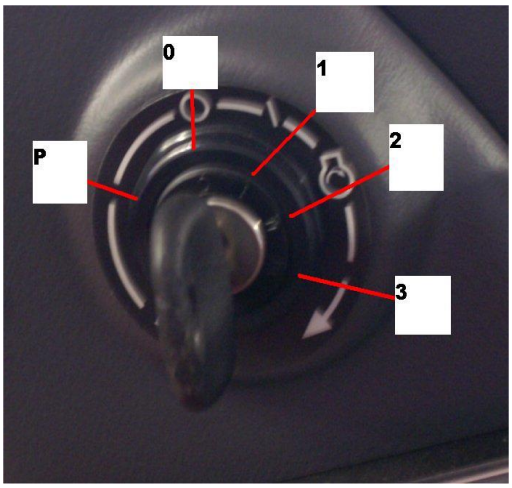
F9 – 15A Power supply joystick and relay hand brake control, 1 / 2 gear, electromagnetic valve 3 control circuit
F10 – 10A Parkingmagnet, additional working lights, independent speed control, lifting roof
F11 - 15A Fuel Pump
F12 - 15A Locking Telescope
F13 - 10A Interior lighting, rear window heating
F14 - 10A Windscreen wiper / fan and heating
F15 – 10A 1 / 2 gear, working lights front on Fops-Rops cage
F16 - 5A Warning flashing system, power supply instrument console

Attention: The occupancy depends on types and equipment
Due to the many equipment options, the occupancy may vary.
So is the fuse strength.
.

3.10 Starting the diesel engine

The machine is equipped with a "start lock". **The diesel engine can only be started if the travel direction switch is in neutral. Depending on the equipment of the machine, starting the engine is only possible from the driver's seat.**

→ Check that nobody is standing in the loader's danger area.
→ At low temperatures, allow the engine to warm up for some time at low speed. The lower the outdoor temperature, the longer the warming up phase.
→ **Towing the machine if it does not start is not possible and is forbidden. Towing results in severe technical damage to the hydraulic system.**
→ Follow the instructions in the "Before starting up" section before starting.
→ Switch the engine off again immediately if the warning lights do not go out.
→ Only start the engine again when all of the faults have been rectified.
→ Do not switch the engine off immediately from full load. Allow the engine to run at idle speed for some time to allow the temperature to adjust.



The ignition switch is located on the right-hand side under the steering wheel.

P = Parking position (not used)
0 = Ignition off – remove the ignition key
1 = Ignition on
2 = Pre-heat
3 = Start engine

→ Use the accelerator pedal to slightly increase the engine speed.
→ Turn the ignition key to position 1 (warning lights for engine oil pressure and alternator **must** light up).
→ Turn the ignition key against the spring pressure towards 2 until the pre-heat indicator lights up. Depending on the outdoor temperature, hold the key in this position for a little while (max. 1 minute/Warning: the indicator light does not go out by itself).
→ Turn the ignition key against the spring pressure further towards 3. The starter begins the start-up process. Release the key as soon as the engine starts (all warning lights **must** go out).
If the engine does not start after 20 seconds, release the key and wait for 1 minute.

3.11 The diesel engine does not start or immediately shuts down

It is impossible to bump start the loader while towing. This results in severe damage to the hydraulic system.

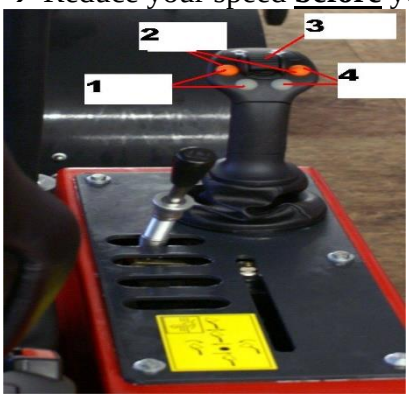
→ Do not try to start the engine for longer than 20 seconds. Then release the key and wait for 1 minute.
→ Repeat the starting procedure.
→ If the engine does not start after the second starting procedure, consult a specialised workshop.
→ Do not, under any circumstances, use a starting aid such as Startpilot or similar. This can result in severe damage to the engine.
→ Do not mix any petrol in with the diesel fuel.
→ Only use commercially available diesel in accordance with DIN EN 590.
→ At low temperatures, use commercially available winter diesel.

Allow the machine to warm up at low temperatures by idling (approx. 5 minutes). Only place the machine under full load when both the diesel engine and the hydraulic oil have more or less reached their operating temperature.

3.12 Driving the machine, driving with a mulcher or road sweeper



→ Keep the swing arm as close to the ground as possible while driving.
→ Adapt your speed to suit the local conditions.
→ Never drive across a sleep slope.
→ Watch out for persons or obstacles in the danger area.
→ Adjust your driving speed to suit the weather conditions – in snow or ice, increased care is needed and the speed should be reduced.
→ Reduce your speed **before** you reach a slope, not on the slope.



The machine is fitted with a drive direction switch on the joystick (3).
If you switch it e.g. to forwards (the lamp on the instrument panel must light up), you can drive the machine using the accelerator pedal.
The more you accelerate, the faster the machine drives.

Please note that driving the machine is only possible if the parking brake is reduced.

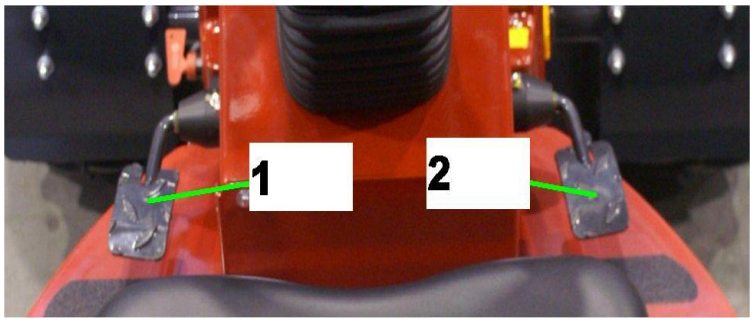
→ Do not change the drive direction at high speed. The machine would abruptly change its direction, which can lead to serious injuries or damage to the machine.
→ Do not brake the machine using the drive direction switch. The machine would stop abruptly, which can lead to serious injuries or damage to the machine.

When using a road sweeper, flail mulcher or swing mulcher, the motor speed is maintained at full speed. This means that you need to control the vehicle speed using the inch pedal (see page 48). For technical reasons, when driving longer routes or over larger areas, this pedal must be completely released at regular intervals and the speed re-adjusted again. If you keep your foot on the pedal over longer distances, there will be a temperature change in the axles which will cause the machine to become slower and slower or to independently start to brake. The machine will only drive again after a break of 5 to 10 minutes.

Independent speed controller: (see page 59)

When using mulchers, road sweepers or similar devices, we recommend that you fit your machine with an independent speed control.
This means that it is possible to control the speed independently of the engine speed using a rotary valve. It is not necessary to constantly control the speed using the inch pedal. This control is achieved using a rotary valve that is located on the right-hand side of the driver behind the control device. If the valve is opened, the machine drives more slowly, if it is closed, the machine drives more quickly.

3.13 Stopping, braking, parking and parking



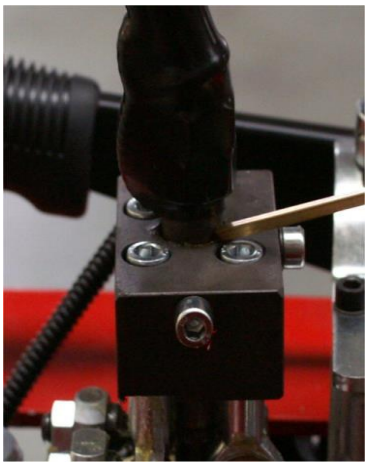
1. Inchpedal
2. Accelerator

To stop the machine, release the accelerator pedal down to standstill speed. The machine slows down with the reduction of the engine speed until it comes to a standstill at standstill speed.
The machine is equipped with an inch pedal. You can use this pedal to control the driving speed. This allows them to drive the machine slowly even at full throttle.
Attention: Do not use the pedal on the slope or in the slope. By actuating, the pressure of the driving hydraulics is immediately controlled. The machine loses all braking effect and rolls downhill. To stop in the slope only reduce the motor speed. Turn the forward-reverse switch into the "Slope Upturn".

→ Only place the machine on flat and fixed grounds or places.
→ The machines can get very hot. Pay attention to the concerns of fire protection.
→ Do not place the machine in a slope.
→ Make sure that no unauthorized person is driving the machine away, rolling away or can be put into operation unintentionally. (e.g. children playing - children are a possible danger not conscious)
→ Release the swingarm down to the ground and completely relieve it.
→ Never leave the machine with a raised swing or load.
→ The lifting swing arm depends on the design due to the own weight.
→ There may be an uncontrolled tipping of the shovel.
→ Turn off the diesel engine.
→ Tighten the handbrake.
→ Unplug the ignition key.
→ You may have a wedge.
Make sure that no unauthorized person can put the machine into operation.
Incorrect operation of the machine can result in serious or fatal injuries or serious technical damage to the machine.
The manufacturer shall not be liable for damage caused by incorrect or improper use of the machine. The risk is borne solely by the user/operator.

3.14 Road lock on the joystick

The machine is fitted with a road lock for the control unit (lifting arm).
This lock must be used when driving on roads. It should prevent the lifting device being lowered unintentionally.
Failure to do so can result in serious or fatal injuries or serious technical damage.



The machine is fitted with a control unit which meets the statutory requirements regarding a road lock.
If the joystick is in the neutral position, it can be moved upwards or downwards by a latch fitted in the cross controller.

Downwards = road lock is switched on – the joystick can not be moved any longer. Unintentional lowering of the lifting arm during road travel is impossible.

Upwards = road lock is switched off – all functions are active.
This photo shows the joystick in the down position – the road lock is switched on.
Never use force to operate the joystick when it is locked.
This can result in serious technical damage to the cross controller of the control unit.

This photo shows the road lock in its switched off state – all functions are enabled.
The joystick can be moved freely in all directions without **effort**.

3.15 Road lock for additional control unit, operating powered equipment

The additional control unit is fitted with a road lock in the same way as the joystick.
A handle is located on the lever for this purpose with which the lock can be lifted up.
In addition, the additional control unit is fitted with a one-sided latch as standard.
This means: The lever can be locked in both the neutral position (road lock) and in the working position (e.g. road sweeper).

This photograph shows the lever in the neutral position – road lock on.
Never use force to operate the lever when it is locked. This can result in serious technical damage to the controller on the control unit.

This photograph shows the lever in the unlocked condition – road lock, or the latching function is switched off.

In this state, the lever is held in the centre using springs for most attachment functions (e.g. grapple rake).

When combined with a pressure-free return, most motorized attachments can be operated.
Please note the volume requirements or other requirements of the loader or the attachment (the operating instructions of the respective attachment in conjunction with this manual).
The attachment must be appropriate for the type of loader in regards to its volume requirement and in particular the oil cooling.
Ask your dealer or us directly **before** you purchase a corresponding attachment.
Many attachments which can be bought "cheaply" from the dealer around the corner or on the Internet, are not suitable for use on the yard loader.
For this reason, all warranty claims and guarantees are void if an attachment is used which was not sourced from us or for which no written approval has been given by us. Any resulting damage is the sole responsibility of the user/operator.
Thaler Maschinenbau develops and manufacturers attachments for this yard loader which can be used without any second thoughts on the machine.

3.16 Transport lock, blocking of the articulated joint for maintenance

The machine isequipped with a transport lock or a fuse to block the articulated joint. This fuse is there for your safety and can help prevent serious or fatal injuries.
→ Attach the fuse when the machine is mounted on a transport device from A transportedto B.
→ Attach the fuse for all repairs.
→ Attach the fuse during all maintenance.
Failure to do so can result in serious or fatal injuries. The responsibility for this lies not with the manufacturer but only with the operator/user.

→ **Place the buckling,** fuse **before placing the machine on a transport device verzurren.**
→ **Never actuate the steering withb-curled articulated joint.**
→ **After transport as first, loosen/remove the buckling fuse.**
→ **During maintenance work in the buckling area of the machine, the buckling Protection is Install**

Drive the loader onto the transport device and steer the machine straight.
The buckling fuse is fixed on the right side of the road on the cover plate of the front car (see photo above)..
Remove the buckling fuse from the holder and attach it to the bolt on the right side and secure it with the folding plates (see photo below)..
Now the loader can be lashed on the transport device or maintenance work can be carried out.
Proceedin reverse order to remotely protect the buckling fuse.

3.17 Changing the attachments

These operating instructions only describe the handling of the:
→ Bucket
→ Pallet fork
→ Manure fork or grapple rake
The operating instructions supplied with all other attachments must be observed.

→ Only use attachments that are suitable for this machine or that have been approved by Thaler.
→ Thaler does not accept any liability for the use of attachments that are not suitable for the respective loader type, that are not produced by Thaler or for which no written approval has been issued. The operator/user bears sole responsibility for any injuries or damage resulting from such attachments.
→ Only use attachments in accordance with their intended and proper use.
→ Unauthorised attachments can overload the machine.
  → This can result in instability of the machine.
  → This can cause the machine to tip over.
  → This can lead to overheating of the diesel engine or the hydraulic units.
  → This can lead to serious injury or death.

Position the locating pins of the attachment holder under the receiving hook of the respective attachment (take note of the respective equipment of your machine).
Lift the swing arm and ensure that the device is held properly in the holding frame on the left and right-hand sides (take note of the design type of the machine).
Pull in the attachment.
Secure the attachment manually using a pin and make sure that the attachment is seated properly and it will not be lost (automatic locking with a Thaler holder – ensure that the pin has properly locked).
Shut off the engine and move the auxiliary hydraulics control lever several times in both directions to depressurise the lines.
With solenoid valves, switch on the ignition and operate the buttons several times in both directions.
Connect the hydraulic lines to the provided couplings depending on the attachment.
To remove the attachment, proceed in the reverse order.
→ Ensure that the attachment is firmly fitted.
→ If possible, position the attachment so that it is not exposed to direct sunlight (pressure build-up in the lines).
→ Before uncoupling the lines, depressurise them as described above.
→ Place dust caps on the plugs and sockets.
→ Position a tray underneath when coupling to catch any oil leaks.
  Dispose of this in an environmentally friendly manner.

3.18 Operation with the bucket, pallet fork and grapple rake



Incorrect or improper use of attachments can result in serious accidents with serious injuries or even fatal consequences.

→ Only use the attachments in accordance with their intended use.
→ Please note that, when attachments are fitted to the machine, it is longer and turning takes more space and swings out further.
→ Always ensure that no-one is in the working or hazard area of the machine.
→ Immediately stop working if anyone enters the working or hazard area.
→ Only use attachments that are suitable for this type of machine.
→ Unsuitable attachments can result in severe or fatal accidents.

Bucket:
Bucket, earth bucket, large or light material bucket, stone scoop, potato bucket, etc. are only to be used to push, excavate or transport bulk materials.
Using the bucket as a working platform, for example, is forbidden.

(Only transport close to the ground, see page 21)

Pallet fork:
The pallet fork is only intended to pick up, transport, stack or load pallet-borne material or boxes, cage pallets, etc.
It is not permitted to use it to transport or stack large or round bales, as the pallet fork does not prevent the load from tipping off over the rocker.

(Only transport close to the ground, see page 21)

Manure fork or grapple rake:
The manure fork or grapple rake is only to be used to muck out the barn and transport or load manure.
Use of the manure fork or grapple rake for removing silage, or to transport large bales or round bales, for example, is forbidden.

(Only transport close to the ground, see page 21)

→ Always adjust your speed to suit the local conditions and the properties of the material being transported.
→ Adjust your speed accordingly: the higher the load on the machine, the lower the speed you should choose.
→ Always ensure that no material can fall from the attachment over the rocker.
→ Avoid excessive wheel spin. This leads to increased tyre wear and fuel use, and the performance of your machine is not fully utilised.
→ Only drive with the load lowered. Particularly when the loader is folded, there is an increased risk of tipping. Adjust your speed to suit the local conditions and do not use the loader on steeply sloping ground.

Working with the bucket:

→ To pick up loose material, lower the bucket so that it is parallel to the ground and drive into the material to be loaded.
Adjust the vehicle speed to suit the characteristics of the material to be loaded.
Driving at top speed with full throttle into the material to be loaded, i.e. "racing", only results in premature wear of the machine.
In addition, it can result in serious injury.

→ If you want to load material that is difficult to penetrate with the bucket, use the control lever to perform slight up and down movements of the scraper blade.
With the machine moving forwards at the same time, this will result in the bucket being completely filled more quickly and safely than "racing into" the pile.
Your machine will reward you with a long and trouble-free service life.

→ When excavating, lower the bucket to the ground and tip it far enough forwards so that a digging angle is created.
After the scraper blade has penetrated the ground, flatten out the bucket again so that the most even layer possible is removed. Avoid unnecessary wheel spin.
Choose the "thickness of the layer" according to the properties and resistance of the material. With hard ground, use the control lever to move the scraper blade up and down to make excavation easier.

Working with the pallet fork:

→ Only pick up material that is securely fastened on pallets or in crates.

→ Always ensure that no material can fall over the back of the forks.

→ Slowly drive the forks under the pallet or crate. Ensure that the weight is evenly distributed. Drive carefully forwards until the pallet or crate lies on the back of both forks. Lift the load carefully and tip slightly to the rear. Only lift the load until the pallet or crate is off the ground.
Ensure that the load is evenly distributed and that it will not fall off to the left, right, front or rear.

Working with the manure fork or the grapple rake:

→ The manure fork and the grapple rake are only designed to loosen, pick up, transport and load manure or loose straw, hay or grass.

→ Neither the manure fork nor the grapple rake are designed to remove silage or to transport round or big bales.

→ Open the clamp on the attachment. Lower the fork until it is parallel to the ground and drive into the material to be loaded. Adjust your vehicle's speed to suit the characteristics of the material to be loaded.
Driving at top speed with full throttle into the material to be loaded, i.e. "racing", only results in premature wear of the machine.
In addition, it can result in serious injury.
To achieve sufficient filling, proceed as you would with the bucket.
Close the clamp and loosen the hard-packed material with careful up and down movement of the tines. Avoid sudden jerky movements and forceful "tearing" of the manure on the floor of the stall. This only results in premature wear of the machine.

→ **Observe these procedures and your machine will reward you with a long and trouble-free service life. Unnecessary repairs lead to unnecessary costs. Bear in mind that damage to the machine or to the attachments that results from incorrect, reckless and violent work with the machine are not covered by the manufacturer's warranty.**

3.19 Measures in the event of the machine tipping over



The correct actions to take if the machine tips over:

→ Immediately switch the engine off, if improper and reckless operation of the loader caused it to be at an extreme angle or to tip over.

→ Hold on tight and remain seated in the machine. Under no circumstances should you attempt to jump off the machine if it is tipping over.

→ **Under no circumstances should you start the engine up immediately after righting the machine.**

→ Engine oil can run into the suction duct or the combustion chamber of the engine if the machine has overturned. Even a short go at starting the engine will cause surge pressure in the engine.
The result is an extremely expensive repair or replacement of the engine.
Such damage is not covered by the manufacturer's warranty or guarantee, rather is the sole responsibility of the user/operator.

→ Contact a specialist workshop to have the engine inspected. Only start the engine again when approved by a specialist workshop for operation.

→ Check the hydraulic oil levels and the water level in the battery.
Top these up if necessary.

→ Check the engine oil level and the coolant.
Top these up if necessary.

→ Spilled oil or other fluids are harmful to the environment.

→ Catch any leaking oil or other fluids and/or remove any oil and fluids that have already leaked and dispose of them in an environmentally-friendly manner.

→ After the machine has been released or repaired, clean it at a suitable location (paved surface with oil separator). Carefully clean the machine to completely remove any leaked oil and other fluids.

→ Spilled oil damages our environment and increases the risk of fire on your machine.

→ Spilled battery fluid damages our environment and results in damage to the paintwork on the machine.

→ Spilled coolant damages our environment and results in damage to the hoses and plastic parts on the machine.

Please observe and implement these points in the interests of our environment.
We can all contribute to the protection of our environment with little effort.

Remember:

We have not inherited the Earth and do not own it.
We have borrowed it from our children and must hand it back again.

3.20 Measures to be taken at high or low outdoor temperatures

High or low outdoor temperatures can cause damage to the machine.
Take the following precautions to prevent damage.

At **high** temperatures:
→ Keep the air intake ducts for the water cooling clean.
→ Keep the cooling fins of the radiator clean.
→ Keep the engine free from dirt. A coating of dirt on the engine prevents the engine from loosing heat in a controlled manner.
→ Use the correct viscosity grade for engine and hydraulic oils.
→ Check the air filter regularly.
→ Keep the whole machine free from oil and dust. Perform regular cleaning to reduce the risk of fire on the machine at high outdoor temperatures.

At **low** outdoor temperatures:
Watch out for the weather conditions. Snow, mud and black ice can cause serious accidents.
Very low temperatures can make starting aids necessary.
These might include oil or fuel heaters, additional starter battery, etc. Consult your dealer.
Do not use petrol as an additive to the diesel fuel or starter assistance spray (Startpilot).
Additional starter batteries may not be connected in series (24 V).
→ Use engine oil with the correct viscosity.
→ Use commercially available winter diesel.
→ Make sure that the starter battery is fully charged.
→ Fill up the fuel tank at the end of each working day.
→ Where possible, park the machine in closed rooms or at least under a wind-protected canopy or similar.
→ After starting the engine, allow it to idle and warm up.
The lower the outdoor temperatures, the longer the required warm-up time (below 0 °C).
→ **Immediate engine speed acceleration at low outdoor temperatures can cause damage to the hydraulic system of the machine and/or the diesel engine.**
→ At temperatures around -5 °C, the diesel tank can experience temperatures of down to **-20 °C** depending on the airstream or drafts. Due to this, there may be problems with winter diesel even at moderate sub-zero temperatures. To avoid problems with the diesel, add approximately 0.002 l of flow improver to the tank before refuelling. You can thereby avoid problems with your machine with minimal effort.
Tractor units, trucks or cars filled from the same tank will not normally have problems because they have a coarser filter or are fitted with electrical fuel heaters.

3.21 Operation at sub-zero temperatures and electrical fuel heaters

Diesel and biofuels become viscous at sub-zero temperatures. The fuel becomes thick and gooey and sticks to the micro-pore filter surface. This leads to defects in the diesel circuit and to power loss in the diesel engine. Winter diesel is not exempt from these problems. Winder diesel is safe down to -20 °C under **laboratory conditions**.
Depending on the weather conditions, with an outdoor temperature of -7 °C, for example, the diesel tank on the machine can reach -20 °C (e.g. wind cooling, airstream, etc.).
This can mean that problems may occur with the operational reliability of the machine at outdoor temperatures below -7 °C.

The reliability can be improved using an flow-improvement additive when refuelling. (See page 53)

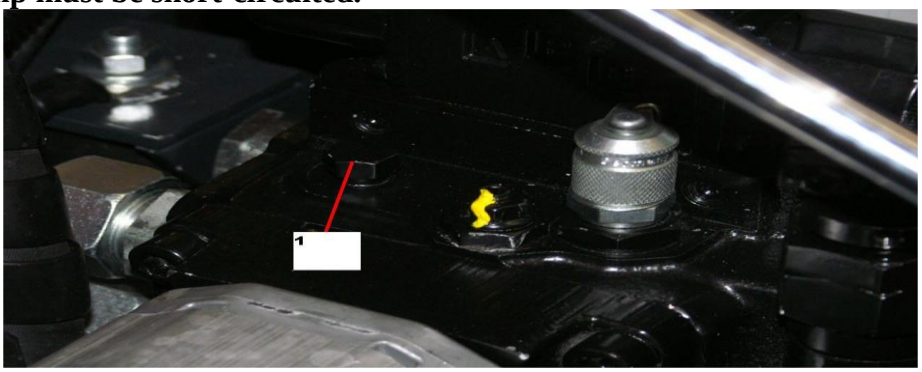
Also, reliability can be improved by using an electrical fuel heater (optional). Using a flow-improvement additive is then no longer necessary. The heating should be switched on below outdoor temperatures of approx. +5 °C. Running the heater consumes significant amounts of power. For this reason, the heater should only be switched on with the diesel engine running or just before starting the engine.

The switch for the diesel heater is found on the right-hand side of the steering column (see photo). The switch is a rotary switch with 2 positions. 1 = on, the yellow indicator light is lit. 0 = off, the yellow indicator light goes out. The system is automatically regulated by a thermostat during operation, which may cause the indicator light to go out for short periods of time when it is turned on.

Safety instructions:
There cannot be any petrol added to the tank.
The fuel system must not be run completely dry.
Do not touch the parts of the fuel heater (installed in the front part of the vehicle) while they are running (risk of burns).
Only switch on the heater while the engine is running or just before starting the engine.

3.22 Towing and transport (Bondioli & Pavesi plant)

Towing the machine is not possible. To tow the machine, the traction drive on the axial piston pump must be short-circuited.



Open the hood
Loosen the screw position 1 (key width 14mm) approx. 2-3 turns.
Close bonnet.

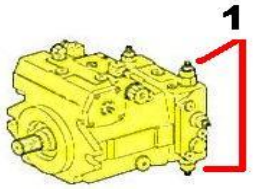
→ Now you can tow the machine at walking speed (max 5km / h).
→ Only tow the machine as far out of the danger zone as it is for recovery necessary is. (max 500m)
→ Use a transport device for longer distances or set the machine Service.
→ Only tow the machine with a tow bar.
→ Please note that the steering and brakes are only partially functional.
→ **Improper towing can lead to serious damage or total failure Lead the driving hydraulics. The resulting damage does not fall under the Warranty of the manufacturer are solely the responsibility of the operator / User.**
→ **Tighten the screw after towing, otherwise driving is not possible.**

Transport:

→ Clean the machine from coarse dirt before transport.
→ Make sure that the carrying device has sufficient load capacity.
→ Clean the ramps and wheels of the machine from oil and dirt Prevent slipping.
→ Beware of snow and ice (danger of falling when loading).
→ If possible, always load the machine backwards (risk of tipping over when loading forward).
→ Use only ramps which are sufficient for the weight of the machine and undamaged.
→ Before locking the machine, bring the transport lock as described in the chapter "Transport lock described.
→ Tie down the machine at the points provided with straps suitable for the Weight of the machine are sufficient.
→ Use wheel chocks to secure the machine.

3.22 Towing and transportation (Bosch Rexroth system)

It is not possible to tow the machine. To tow the machine, the drive to the axial piston pump must be short-circuited.



Open the bonnet.
Loosen both lock nuts (1) and screw in the threaded bolts until they touch the nut (do not turn in further, otherwise parts in the axial piston pump could be destroyed).
Close the bonnet.

→ You can now tow the machine at walking speed (max. 5 km/h).
→ Only tow the machine as far as is necessary to recover it out of the danger area (max. 500 m).
→ For longer distances, use a transporter or repair the machine on-site.
→ Only tow the machine with a towing bar.
→ Take note that the steering and brakes are only partially functional.
→ **Improper towing can result in severe damage up to total failure of the drive hydraulics. Damage resulting from this are not covered by the manufacturer's warranty, rather it is the sole responsibility of the operator/user.**
→ **After towing, carefully unscrew the threaded bolts up to the stop and re-lock them, otherwise driving will be impossible.**

Transportation:

→ Before transporting, clean off any coarse dirt from the machine.
→ Ensure that the transporter has sufficient load bearing capacity.
→ Clean the ramps and the wheels of the machine of any oil and dirt to prevent slipping.
→ Take care if there is snow or black ice (risk of falling off during loading).
→ If possible, always back the machine on to load it (danger of tipping over if it is loaded forwards).
→ Only use loading ramps that are suitable for the weight of the machine and are undamaged.
→ Before lashing the machine, apply the transportation lock as described in the "Transport lock" section.
→ Lash the machine down at the points provided using belts that are rated for the weight of the machine.
→ Use wheel chocks to secure the machine.

3.23 Equipment lock – mechanical or hydraulic

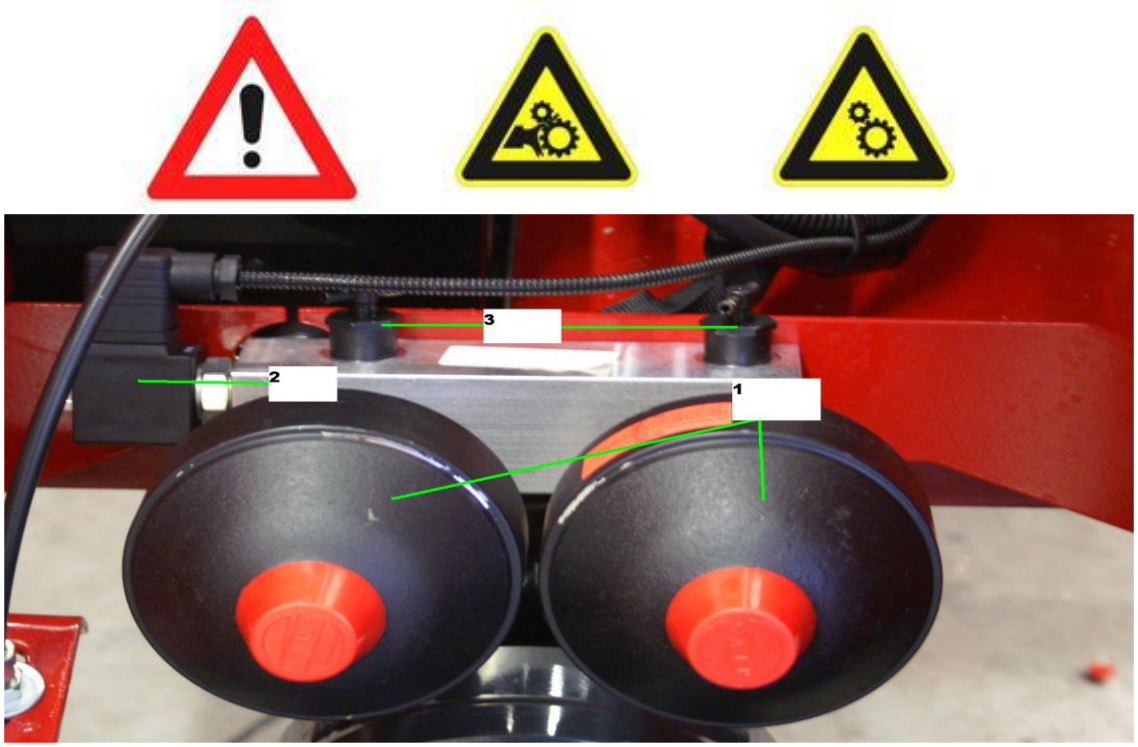
The equipment holder can be delivered in different versions.
Thaler standard holder, Euro holder, Bobcat or Komatsu holder, Schäffer or Weidemann holder etc. There are extensive possibilities for the holder.
Mechanical and hydraulic versions are also available.
In these instructions, only the Thaler standard holder (mechanical or hydraulic) will be described.

The mechanical lock is pulled out by hand and locked in the open position, as can be seen in the image. If an attachment is now picked up and the equipment holder pulled in, it locks itself automatically.
(Only for equipment from Thaler).

→ Before starting work, check that the attachment is actually properly locked.
→ If the machine is parked without an attachment, this pin must be carefully closed by hand.
A pin that is locked in the open position can lead to serious injuries should it close due to carelessness. The pin is closed abruptly by a strong pressure spring if it is moved out of its resting position. Endangered persons are maintenance personnel, third parties who are unaware of the danger and, above all, children who are playing.
In the interests of these persons, always close the pin as soon as the machine is parked without an attachment. Danger of bone fractures and severe bruising.

There are 2 variants of the hydraulic lock. On the one hand, a separate section on the control unit, with which only the lock is actuated (see page 46). On the other hand, a changeover variant in which a switch over a shut-off valve
(see photo below).
→ Before starting work, check that the attachment is actually properly locked.

3.24 Damping system for the lifting arm (optional)



1. Note the markings on the aluminium block for the accumulator bladders HP (High Power) and LP (Low Power).
2. Electromagnetic shut-off
3. Mechanical shut-off valves

The damping system for the lifting arm operates on its own. The driver has no way to intervene in the process.
The damping system is always active. If any function on the control unit is pressurised, the damping system switches off. This prevents the accumulators having to be filled and then the lifting arm actuated. When the joystick returns to neutral, the damping system is reactivated.
Caution! The lifting arm falls by 2-5 cm when the joystick is released. Any vibrations or impacts are now absorbed by the accumulator bladders.
The machine is more stable with a damping system than without.
It is vital that the following points are observed for safe operation:

- → **Have the accumulator bladders regularly checked by a specialist workshop for the correct pressure (HP = 100 bar, LP = 70 bar).**
- → **Only fill the accumulator bladders with nitrogen.**
- → **When working on the hydraulic system, the mechanical shut-off valves must be closed. Opened shut-off valves may result in serious injuries if the lines to the lifting cylinder are opened.**
- → **After completing the work, open the shut-off valves again.**
- → **Accumulator bladders which are incorrectly or not completely filled can result in total failure of the damping system. Damage resulting from incorrectly filled accumulator bladders are not covered by the manufacturer's warranty or guarantee, rather are the sole responsibility of the user/operation.**
- → **Have the accumulator bladders checked for their correct filling level every 6 months.**

3.25 Diesel engine – general

- → Always observe all instructions contained in the operation and maintenance manual of the diesel engine. This manual is issued with the loader's operating instructions. Keep it in a safe place so that it is available at any time as required.
- → The diesel engine is guaranteed for 2 years. This does not apply to the electrical components of the diesel engine such as the oil pressure switch, alternator, starter motor and temperature probe. These are guaranteed for one year from the date of delivery.
- → V-belts are a wearing part and very dependent on regular and correct maintenance. All filters and V-belts are not covered by the warranty.
- → If there are any differences in the maintenance intervals specified in these instructions and in the manual for the diesel engine, the information contained in **these** operating instructions is to be followed.
- → Neither these instructions nor the diesel engine's manual contain detailed information about repairing or overhauling the engine. This is only to be performed by authorised specialised personnel.
- → Only use genuine maintenance materials from Thaler or Yanmar.
  This is authorised by Yanmar and meets the required technical standards.
  The use of "cheap" filter materials can, under certain circumstances, void any warranty claims.
- → For all work on the diesel engine, switch the engine off, remove the ignition key and the battery master switch. Ensure that no unauthorised person can start up the engine while you are working on it.
- → Inspect regularly (e.g. at every refuelling) to ensure that all hoses from the engine to the air filter, from the engine to the radiator, etc. are properly attached and fastened.
- → **Never wash the machine with the diesel engine running. Any water that is sucked into the machine can cause surge pressure in the engine.**
- → **Washing with the engine running can destroy the fan blades.**
- → **Damage to the diesel engine due to incorrect maintenance, the failure to carry out visual inspections, the use of incorrect or poor-quality filter materials, operation with too little, the wrong sort or poor-quality motor oil are not covered by the manufacturer's warranty, rather they lie solely in the responsibility of the user/operator.**

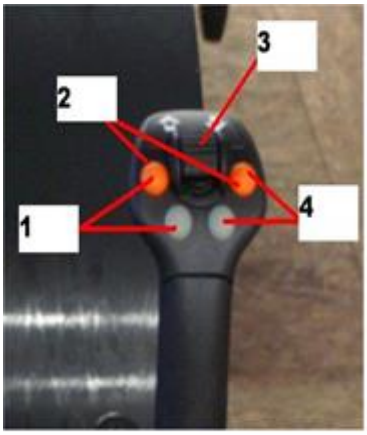
3.26 Independent Speed Control

With the independent speed control it is possible to adjust the speed of the machine,at a constant enginespeed, the terrain or stock conditions. In normal operation, the speed is controlled by the engine speed.
This means that the further the accelerator pedal is operated, the faster the machine travels. For certain attachments (mulcher, sweeper, etc.) it is necessary to keep the engine speed at full throttle. This makes the driving speed too fast in both speeds. A regulation of the driving speed with the left pedal (inchpedal) isnot "fine" enough and tiring in this work.
Place your attachment (mulcher, sweeper or similar) in working position.
Open the rotary valve until it stops. Turn on the control unit and enter full throttle. Stopthis motor speed now konstant and turn the valve up until the optimal speedof the machine isreached. The motor speed remainsconstant at full throttlewithout being pressed throughthe attachment.
Open valve - The machine is slowing down. **Closing the valve** - The machine is getting faster. The valve **can** be adjusted during work. During the respective work situation, it may well be that these settings have to be adjusted during the operation. With denserthe stock,the travel speed must be reduced without reducing the engine speed – **to do this the valve further turn**on. If the standthinner can be driven a little faster again – to do this the valve slightly **turn.** Due to the vehicle's own weight, the driving speed is affected when uphill or downhill. Here, too, the valve must be re-regulated in order to maintain the optimum speed for the respective attachment device.
For normal operation of the machine, this valve must be kpl. gclosed.
Using the left pedal (inch pedal), the machine can be stopped immediately at any time, as in normal operation.
The machines are additionally equipped with a toggle switch in the instrument console with which the speed control can be "bridged".
If you have set the ideal setting of the speed to your stock height, you would have to change it again for turning at the forehand or turn at the set speed.
If you use the toggle switch here, the Independent Speed Control will be switched off immediately. You can turn at normal speed. Press the switch again when you re-enter the stock restores the set speed.

Use the electrical bridging only when needed. If the control is not needed, the rotary valve must be closed again kpl. Switch the toggle switch to the "off" position.

3.27 pressure relief of the hydraulic clutches, coupling and uncoupling of the equipment devices

The machine is equipped with a control unit, which is – depending on type and construction – provided either with a mechanical lever, or an electrical function or a comfort control for the 3. control circuit (see also pages 35, 46 and 47). Proceed as follows in order to depressurize the couplings.



mechanical lever:
Switch off the diesel engine and move the mechanical lever to the left and to the right, in order to relieve the couplings.
electrical version:
You have to switch off the diesel engine in order to relieve the electrical version.
After the ignition is switched on, you can relieve the couplings with the knobs on the joystick.
comfort hydraulics proportional control:
You have to switch off the engine to relieve the couplings. After the engine has stopped you have to press and hold the knob on the joystick. Now move the joystick forward and backward to relieve the couplings.
Please note when coupling the equipment device / attachment:

1. Shut the attachments (e. g. crocodile pincer) completely.
2. Put all functions of the attachment in neutral position.
3. Put all functions of the joystick in neutral position.
4. Switch off the diesel engine.
5. Depressurize the couplings.
6. Disconnect the hoses of the attachment from the machine.
7. You have to catch and dispose properly possibly escaping hydraulic fluid*.
8. Start the diesel engine.
9. Open the equipment locking.
10. Park the attachment on an even surface.
11. Do not put the attachment in the direct sunlight.

* The machines are equipped with couplings, which can also be coupled or uncoupled with residual pressure. These couplings release the hydraulic fluid outward into the coupling. This gives the impression that the coupling would be possibly defective.

4.1 Safety instructions for maintenance and inspection

→ Persons assigned to maintaining the machine must have the necessary expertise.
→ Suitable working and/or protective clothing should be worn for all maintenance work.
→ Hearing protection should be worn if there are high noise levels.
→ Maintenance work may not be performed if these instructions have not been read and understood.
→ Observe all basic safety instructions and the warning signs fitted on the machine.
→ Observe all general safety regulations, including those that are not listed in these instructions.
→ The operating instructions must always be in the loader or in its place of use.
→ All maintenance work may only be performed if the machine has been secured.
→ Working under the raised loader swing arm is forbidden. If work under a raised swing arm is unavoidable, the arm must be secured using an appropriate support.
→ Do not perform any work or procedures that could endanger your safety.
→ Make sure that all articulated joint safety devices are applied as described in the "Transport lock" section.
→ Only work with functional, undamaged and suitable hand tools.
→ Unsuitable tools can result in serious injuries.
→ Do not smoke when handling flammable liquids.
→ In the event of a fire, do not try to extinguish the machine with water, rather use suitable powder CO_2 or foam extinguishers. If water is used to extinguish a fire, burning fluids can "float away".
→ Inform the fire brigade in every case.
→ Avoid oils and greases coming into contact with the skin or eyes.
→ Risk of scalding from hot oil.
→ Do not use fuels or solvents to clean the skin.
→ All leaks must be fixed immediately.
→ Do not allow oil or oily waste to enter the soil or watercourses.
→ Leaking oil or fuel is to be collected and disposed of in an environmentally friendly manner.
→ Any oil or fuel that has already escaped should be absorbed using a suitable binding agent and disposed of in an environmentally friendly manner.
→ Bio oils, biodegradable oils etc. must also be disposed of in an environmentally friendly manner, just like any other oil.

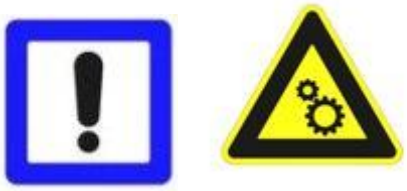
4.2 Reduction of residual pressure, securing the machine

Certain tasks need to be carried out before starting maintenance.
→ Park the machine on a level, firm and dry surface.
→ Lower the swing arm.
→ Apply the handbrake and switch off the engine.
→ Switch off the battery master switch.
→ Depressurise all the hydraulic circuits and move all the levers to neutral position.
→ If required, apply a wheel chock.
→ Clean the machine of any coarse dirt.
→ Perform a visual inspection for leaks on all the components and hoses.
→ Perform a visual inspection on the machine (tyres, attachments, locks, etc.).
→ Remove the ignition key.
These tasks should also be carried out when the machine is parked after daily use.

Residual pressure in the hydraulic system
→ Hydraulic systems can be under considerable residual pressure.
→ Depressurise the hydraulic circuits before opening them.
→ A jet of hydraulic oil under pressure can penetrate through the skin.
→ Consult a doctor without delay if oil penetrates into the eyes or skin.
→ The residual pressure only drops gradually. Even after a long period of standstill, there can still be residual pressure in individual systems.
→ Move all of the controls on the control device (joystick, auxiliary hydraulics, etc.) several times in all directions with the engine switched off to depressurise the lines.
→ Actuate the inch/brake pedal several times to depressurise the drive hydraulics.

Even now, there can still be residual pressure in the system. When opening the hoses, proceed with the required caution to avoid injuries.

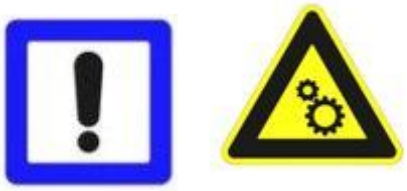
4.3 Daily maintenance



The following tasks are to be performed **daily**:

→ Clean the machine.
→ Check for damage on the machine.
→ Check for any leaks.
→ Check the tyres for damage.
→ Check the air filter for damage or contamination.
→ Check the engine oil level, top-up if necessary.
→ Check the hydraulic oil level, top-up if necessary.
→ Check that all bolts are tight.
→ Check that all wheel bolts are tight.
→ Check the safety belt.
→ Check the electrical system, the instruments, indicator lights, optical and acoustic warning devices.
→ Check that all hydraulic functions (steering, raising and lowering the lifting arm, etc.) are working.
→ Check the attachment.
→ Check the exhaust for defects or excessive smoke production.
→ Check that the FOPS/ROPS safety bar is properly fastened and undamaged.
→ Lubricate according to the lubrication schedule.
→ Lubricate the attachments.

4.4 Weekly maintenance

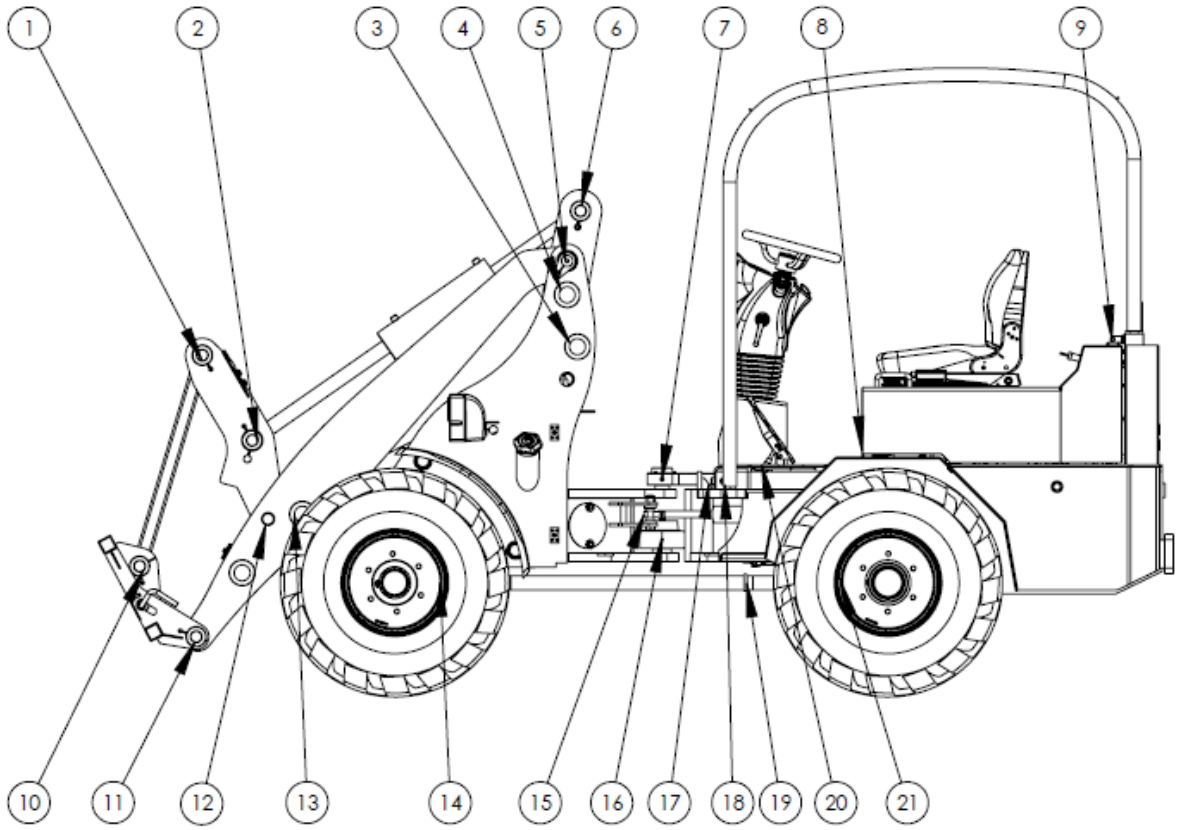


Do the following work **once a week:**

→ Check the fuel system for tightness.
→ Check axles and hydraulic system for tightness.
→ Check or clean air intake ducts for contamination.
→ Check the cooler for contamination or clean.
→ Check the motor for tightness.
→ Check the acidity of the battery.
→ Check attachments (welds, screws, etc.).
→ Piston rods of the hydrauliccylinders for damage and contamination.
→ In case of damage, replace the piston rod or cylinder.
→ Remove dirt thoroughly (leads to leaking on the piston rod).
→ Check the installation of pipelines and hoses.
→ Clean air filters.
→ Check the installation of the electrical cables.
→ Oil lubrication of all levers, bowden pulls and hinges.
→ Tighten all screws.
→ Check the motor bearings and fastening of the axles.
→ Spray the belt lock inside with a rust-relieving multifunction oil (WD40)

4.5 Lubrication Schedule

Lubricate all lubrication points **daily** with water-resistant multi-purpose grease.
(Class NLGI 2)
All other moving parts such as handbrake levers, foot pedals, bowden pulls, etc.
have to be lubricated with an oil jug.



1: Push rod
2: Device cylinder
3: Lifting cylinder
5: swingarm
6: Device cylinder
7: Pendulum Lever
8: Steering cylinder
9: Hinge bonnet
10: Push rod
11: Device holder
12: Bell crank
13: Lifting cylinder
14: Cardan shaft (depending on type)
15: Steering cylinder
16: Main bearing
17: pendulum lever
18: Steering cylinder (year-old)
19: cardan shaft (depending on type)
20: Pedals
21: Cardan shaft (type-dependent)

4.6 Running-in period and 5 H Service

You have decided to purchase a brand new machine. To be able to enjoy your new machine for a long time, you should observe a few things.

The diesel engine is new and has been run for perhaps 3 hours prior to delivery.
Allow your engine to have a running-in period, and do not operate at more than 70 % of its capacity during the first 50 operating hours. Keep the speed of the engine under three-quarters of full speed.

The following tasks should be performed after 5 operating hours:
→ Retighten all bolts.
→ Retighten all wheel bolts.
→ Check all pipes and hoses, tighten up if necessary.
→ Check all engine mounts and that the wheel motors are securely fitted, retighten if necessary.
→ Give the whole machine a thorough visual inspection.

4.7 50 H Service

Your machine is brand new and is in the running-in phase.

For this reason, after the first 50 operating hours, perform the following tasks.

→ Change the engine oil and filter.
→ Change the axle oils
→ Change the hydraulic oil filter.
→ Change the fuel filter.
→ Clean the air filter.
→ Check the acid level in the battery, top-up if necessary.
→ Retighten all bolts.
→ Retighten all wheel bolts.
→ Check all pipes and hoses, retighten if necessary.
→ Check all electrical equipment on the machine.
→ Check all hydraulic functions.
→ Give the whole machine a thorough visual inspection.

This service after the first 50 operating hours is the most important service that you will perform. With this service, contamination in the oil(s) that occurs during the "running-in" of the individual components is removed from the machine.
"Saving" by not performing this service can be very expensive and, above all, lead to completely unnecessary repairs.

4.8 Hydraulic system – general, maintenance of the hydraulic hoses



During maintenance of the hydraulic system, the utmost levels of cleanliness must be maintained to prevent a premature failure of the system.

→ Observe the maintenance intervals.
→ Before opening the hydraulic tank, clean off the lid and the surrounding area.
→ Only use clean oil cans.
→ Only use fresh, clean hydraulic oil.
→ Only fill up the oil to the middle sight glass (with the swing arm lowered).
→ Do not overfill the tank.
→ If the hydraulic oil is very contaminated, it must be changed **immediately** – even if the service interval has not been reached. If the oil is not changed when it is very contaminated, it may cause total failure of the hydraulic system in certain circumstances. Damages that occur because the hydraulic oil was not changed are not covered by the manufacturer's warranty. The risk is borne solely by the user/operator.

Only change the hydraulic oil in the tank. It is vital to remove any contamination in the tank by rinsing it out.
Fill up to the filling specifications using fresh, clean oil.
→ Observe the specifications of the hydraulic oil.
Please note: Only use e.g. biological oil after written approval has been given by the manufacturer.
Damage resulting from incorrect hydraulic fluids is not covered by the manufacturer's warranty. The risk is borne solely by the user/operator.
After major repair work where the axial piston pump or the engine has been run dry, the system must be bled before starting the diesel engine.
Incorrect starting-up results in the immediate destruction of the drive.
This damage is not covered by the manufacturer's warranty. The risk is borne solely by the user/operator.

→ Only use original hydraulic hoses.

Requirements	Test times	Change intervals
Normal usage times of up to approx. 3 hours per day (approx. 1,000 operating hours per year)	1 x annually	Every 6 years
High usage times of up to approx. 5 hours per day (approx. 2,000 operating hours per year)	2 x annually	Every 4 years
Very high usage times as of 5 hours per day (more than 2,000 operating hours per year)	2 x annually	Every 2 years

Hydraulic hoses are subject to very high loads.
Burst hydraulic hoses can result in serious injury or severe technical damage to the hydraulic system.

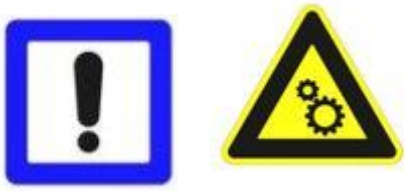
4.9 Major inspection

The following tasks should be performed during the major inspection (**every 400 operating hours or once a year**):

→ Clean the machine thoroughly.
→ Check all components and add-on components for damage, functionality and leaks.
→ Check the tyres for damage, foreign bodies, etc.
→ Check the tyre pressure.
→ Check and retighten all bolts.
→ Retighten all wheel bolts (M14 = 180NM / M18 = 240 NM).
→ Check the safety belt for damage and functionality.
→ Check the entire electrical system.
→ Check the wiring harness for damage.
→ Check all hydraulic functions for functionality and leaks at max. working pressure.
→ Check all attachments.
→ Check the exhaust system for defects or excessive smoke production.
→ Check the FOPS/ROPS safety bar for damage and correct fitting.
→ Lubricate the machine in accordance with the lubrication schedule.
→ Lubricate the attachments.
→ Clean the air filter and radiator.
→ If heavily contaminated, replace the air filter.
→ Check the electrolyte level in the battery.
→ Check and clean the piston rods in the hydraulic cylinders.
→ Check the fitting of the axial piston motor and the axial piston pump.
→ Oil all levers, Bowden cables and hinges.
→ Change all the axle oils.
→ Change the engine oil and filter.
→ Change the hydraulic oil filter, check the oil for contamination.
→ Change contaminated hydraulic oil immediately.
→ The hydraulic oil should be changed once a year.
→ Change all the fuel filters.
→ Clean the water separator (**every 50 operating hours)**.
→ If heavily contaminated, rinse out the diesel tank.

See also page 84

4.10 Maintenance intervals, filling quantities and specification



Run the work, depending on which interval is reached first.
Daily and weekly maintenance work can be found in chaptern.
The works, which are done after the first 5h or 50h, can be found in the respective chapters.
You will find all the work to be carried out in the previous chapters.

Work	Every 50 h	Every 400h	Every 1000h	Every 1200h	Or annually	Every 2 years
Clean air filters	X				X	
Change engine oil and filter		X			X	
Change fuel filters		X			X	
Drain or clean water separators	X				X	
Change hydraulic oil filters		X			X	
Change axle oils		X			X	
Change hydraulic oil (change tank contents only)				X		X
Check fuel system		X			X	
Major inspection		X			X	
Setting the valve clearance			X			
Check or retighten fan belts		X			X	

Engine oil 22 + 26hp	Approx 4.9l	Synth 5W40 (Page 85)
Hydraulic fluid	Approx 36l	Synth 5W40 (Page 85)
Fuel tank	Approx 36l	Diesel fuel (DIN EN 590)
Front axle	Approx 3.0l	Gear HN 20W40 Special UTTO (Page 86)
Rear axle	Approx 3.0l	Gear HN 20W40 Special UTTO (Page 86)

All required maintenance materials can be ordered from your dealer or directly from us.

Synt 5W-40

Product characteristics application	The significantly improved engine quality of Synt 5W-40 results in particular from the further improved wear protection and improved engine cleanliness, even with extended oil change intervals (according to the manufacturer's instructions !!) Synt 5W-40 is suitable as a high-performance, low-friction motor oil for demanding engines. It is recommended for car, petrol and diesel engines, including turbo versions and for direct injection engines, under all operating conditions (without PD, WIV, DPF)

Usable for	ACEA A3/B4 API SM, SL/CF BMW longlife-01 GM-LL-B-025 MB 229.3 VW 502.00/505.00 Renault RN 0700 / RN 0710 PSA B71 2296

THALER

Service Information

GEAR HN 20W/40

Especially recommended for the use of construction and material handling vehicles.

Product characteristics application	**This special UTTO is used in ZF axles with self-locking differentials and axles that are exposed to high thermal loads.** **It offers improved wear protection while reducing noise from wet brakes.** **The regulations of the respective machine manufacturer must be observed when switching to Gear HN 20W-40!** **Mixing with commercially available limited-slip differential oils (LS oils) is to be avoided, i.e. a rinse cycle with Gear HN 20W-40 is advantageous here.**

Usable for	Komatsu-Hanomag Volvo WB 101 ZF TE-ML 03E/05F/06K/17E

Technical specifications

Characteristics	Unit	Test method	Gear HN 20W-40
Density at 15°C	g/cm³	DIN 51 757	0,893
Viscosity at 40°C	mm²/s	DIN 51 562	109,00
Viscosity at 100°C	mm²/s	DIN 51 562	13,00
Flasch point COC	°C	DIN ISO 2592	200
Pourpoint	°C	DIN ISO 3016	-23

4.11 Maintenance Axes, Air Pressure Table

The drive train consists of a front axle and a rearaxle. The rear axle is equipped with a drum brake. The drum brake serves as a parking brake.
The axes can be equipped with a self-locking differential. These axles lock up to 40% and are painted red (year-old) for differentiation. Axles without lock are painted black or grey.

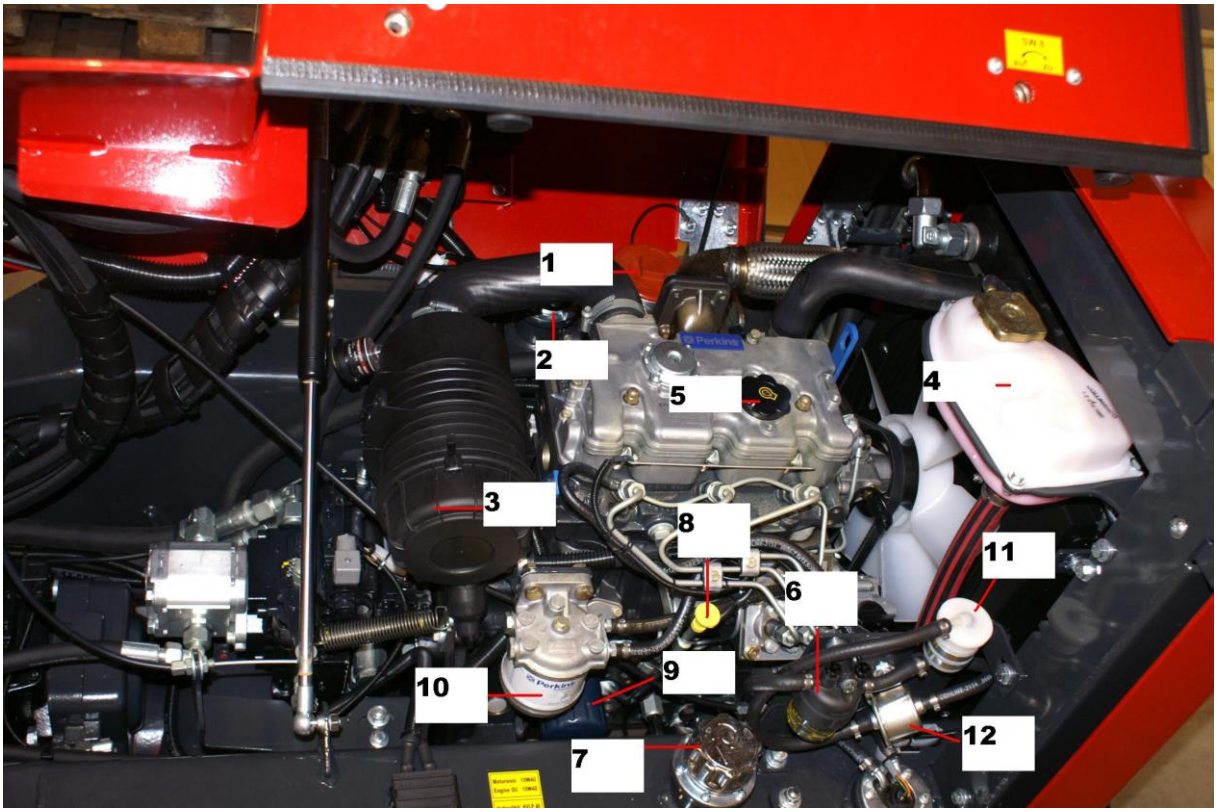
The oil should be drained in a warm state:
→ Drain the oil on the front axle in the middle.
→ Drain the oil at the rear axle in the middle.

→ The axes can be filled via the central vent screw in the middle.
→ Fill the axes up to the control screws.
→ 30 min. wait.
→ **Before recommissioning, check the axles for proper oil level.**

Tire size	**Bar**
7.00-12	**3,1**
27x8.50-15	**3,5**
26x12.00-12	**3,4**

Attention: Twin wheels only with 7.00-12. The twin wheel must be attached as close as possible to the main wheel. The airfrom the twin wheel may be max. 1.8 bar.
When using twin tires, make sure that the main wheel carries the load and not the twin wheel. The twin wheel may only act as a "support wheel" not as "Carrying Wheel".
Damage to the axle caused by the use of twin tyres is not covered by the manufacturer's warranty.
The risk is borne solely by the user/operator.

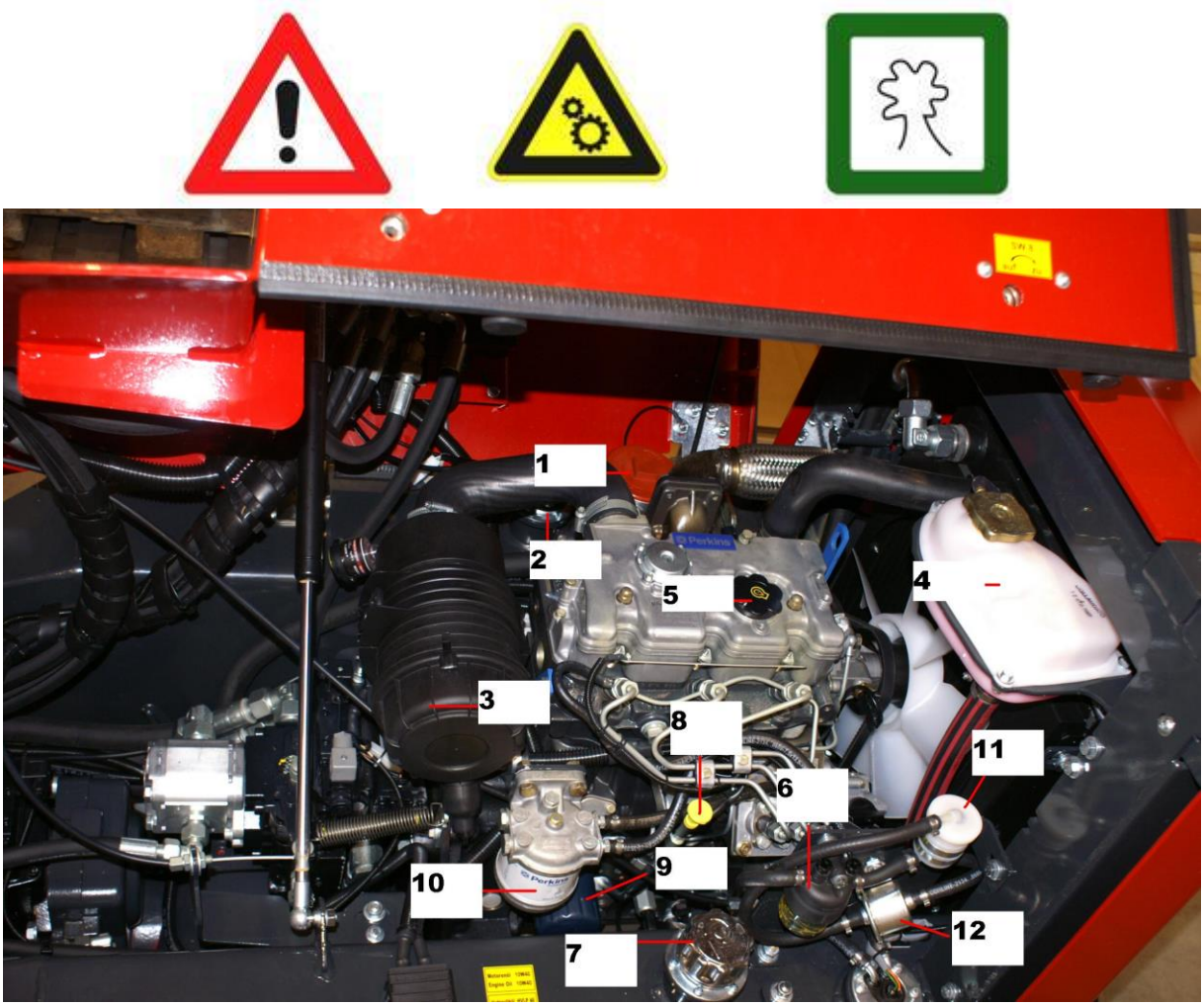
4.12 Engine oil change, air filter cleaning



→ Drain the engine oil on the drain plug of the oil pan and place it in a suitable Container (see motor companion book).
→ Dispose of engine oil in an environmentally friendly manner.
→ Unscrew the oil filter (9) and dispose of in an environmentally friendly manner.
→ Rub the seal of the new oil filter with oil and mount it by hand.
→ Remove the filling screw (5) and slowly replenish the engine oil.
→ Check with the oil measuring rod (8) and fill up to just below max marking.
→ Install the filling screw and start the motor at the lower idle speed.
The oil pressure control must be extinguished within a few seconds. After a waiting period Check the oil level again for several minutes and refill it if necessary.
Does not extinguish the oil pressure control, immediately turn off the engine and correct the fault.
→ Check the motor for tightness.

→ Carefully open the air filter housing (3). Make sure that none of the three brackets Lost.
→ Remove the air filter and gently blow out from the inside out (max. 2.1bar).
→ Check air filters for damage (lamellas and seal).
→ Undamaged air filters re-insert and mount the lid. Make sure that all three brackets are properly seated.

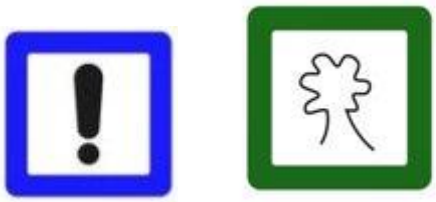
4.13 Cleaning the water cooler, changing hydraulic oil filters



→ Check the cooler regularly for water level (4) and constipation.
→ To clean the cooler, dismantle the radiator grille.
→ Carefully blow out the cooler from the inside (fan side) with compressed air.
→ Do not damage cooling fins.
→ Reassemble the radiator grille after cleaning.
→ **Do not clean the cooler when the engine is running. Risk of injury!**

→ Open the lid of the hydraulic filter housing (1).
→ Remove the oil current cap.
→ Remove the filter element and replace it with a filter of the same design.
→ Use only original filters.
→ Reseat the oil current cap.
→ Then mount the lid by hand and gently tighten it with a key.
→ Check for tightness.
→ Dispose of leaked hydraulic oil and the filter in an environmentally friendly manner.

4.14 Cleaning of the machine, care of the plastic**parts**



In order to keep the machine in a safe and technically and optically perfectcondition, daily cleaning is necessary.

Clean the machine only in suitable places (oil. separators).

→ Clean the tins, handles, controls and footspace daily.
→ Clean the machine thoroughly once a week.
→ In case of contact with aggressive materials such as **slurry, barn manure or stray salt,** thoroughly clean the machine immediately after completion of these work. Slurry, barn manure, salt and similar materials are very aggressive and both the painted and galvanized parts of your machine. There can be very severe paint damage.
→ **Paint damage caused by poor cleaning is, not covered by the manufacturer's warranty. Responsibility lies solely with operator/ user.**

→ When cleaning, also think of the underside of the machine.
→ No dirt or mud must accumulate here.
→ Before cleaning with water, cover the intake nozzle of the air filter.
→ Make sure that no water enters the exhaust.
→ Do not clean electrical components with the high-pressure cleaner.
→ When washing, set the high-pressure cleaner to a maximum of 120 bar and 80°C.
→ Do not wash directly to the stickers or other sensitive parts.

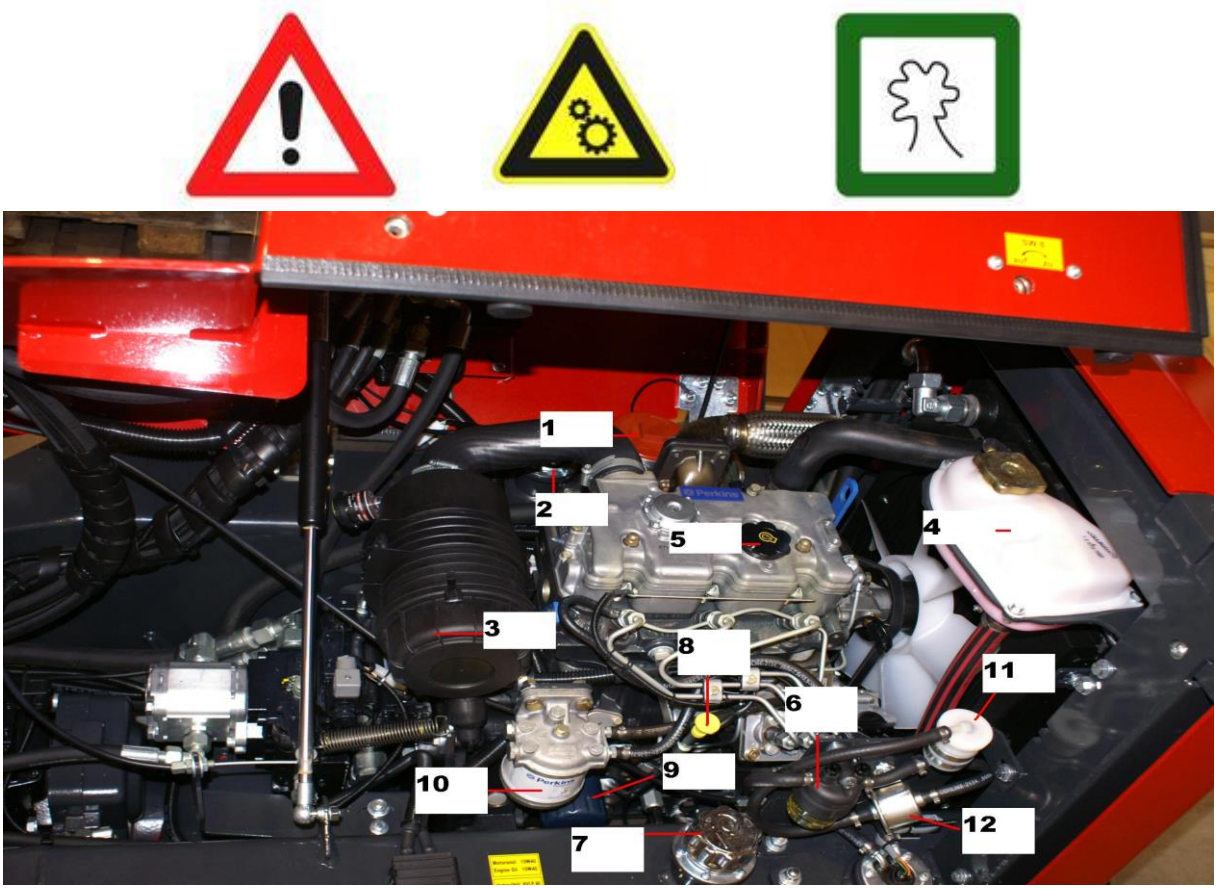
→ *Do not wash the machine with a high-pressure cleaner for the first three months. The paint is not yet fully hardened, which means that when cleaning with a high-pressure cleaner can cause paint damage.*
→ *In the delivery state, the paint is not yet fully hardened. Contact with manure, slurry, salt or similarly aggressive materials can cause severe damage (discoloration or detachment of the deck-sent). If possible, avoid contact with these aggressives for the first 3 months materials or clean the machine immediately after contact with sponge and water hose (do not use a high-pressure cleaner). No Aggressive Cleaner Use.*
→ The plastic parts of the steering column or driver's seat are regularly fitted with cockpit spray or treat the same treatment in order to prevent premature fading or porous, the parts are Prevent.
→ The artificial leather covers of the driver's seat regularly with an appropriate care product Treat.
→ All bellows of the machine regularly with an appropriate care product Treat to avoid fading or premature wear.

4.15 Daily Security Check

Perform a daily security check on your machine.
Damage found must be repaired immediately.

To be checked are:
→ Ascent, stepping board, handles, operating elements on a proper seat and Function.
→ Check all steel components for damage and loose screws.
→ Check the guard rail.
→ Check the seat belt.
→ Check the device recording and the device lock.
→ Check the condition of the reflectors and the lighting.
→ Check the tyres for foreign objects.
→ Check the condition of all warning stickers.

4.16 Changing fuel filters, venting diesel engine



The machine has several fuel filters that are regularly inspected, cleaned or need to be renewed (see maintenance intervals).
The machine can be equipped with different fuel pumps.
Option 1: Following the diesel line, the water separator (6) comes with the sight glass. In this sight glass there is a filter that is not visible from the outside.
This filter can be cleaned (unscrew the glass). This water separator is equipped with a drain screw over which the water can be drained.
Next comes a cylindrical electric fuel pump labeled "Facet". A filter is integrated into this pump, which can be cleaned. To do this, the pump must be dismantled and the bayonet cap opened.
Next comes the filter (10) on the diesel engine, which can only be changed.
Option 2: Here comes a white pipe filter (11) after the water separator, which cannot be cleaned and then the fuel pump (12). This pump has no imprint and does not have an integrated filter. This line filter can only be replaced. **Attention! This filter must not be removed from the system. Operation without this filter leads to a total failure of the fuel pump. Damage to the pump caused by the absence of this filter is not subject to warranty. The risk is borne solely by the user/operator.**
To vent the system after changing the filter or emptying the tank, it is sufficient to switch on the ignition for approx. 1 min. The system vents itself.

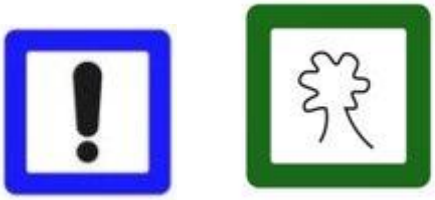
→Expired diesel fuel must be disposed of in an environmentally friendly manner.

4.17 Opening the driver's cab Open

The driver's cab can be opened for maintenance purposes.

To open the driver's cab you need an 8mm key. This was included in the scope of delivery of your machine. Insert the inbus key into the designated opening. Rotate the key to open and close in the direction indicated on stickers. The driving edge / bonnet can be opened sideways. A gas spring supports the process.

4.18 Battery, Electrical System, External Start



The battery is maintenance-free. In order to maintain a long battery life, some maintenance measures are still necessary.
The battery is installed in the rear car on the right side directly under the silencer.
After unscrewing the panel, this battery is freely accessible.

→ Keep the surface of the battery clean and dry.
→ Check the acidity of the battery according to the maintenance plan and fill in when required **distilled** water.
→ The battery releases explosive gases. Smoking, fire and open light are Prohibited.
→ Do not place any tools on the battery - short-circuit risk.
→ Battery acid is corrosive. Prevent any skin contact with the acid.
→ Wear protective gloves and goggles.
→ In case of contact with the acid, the affected areas must be immediately supplied with clear water Rinse. Consult a doctor.
→ Make sure that the cover of the plus pole is always present and closed.
→**Battery acid or waste batteries are harmful to the environment. Dispose of waste battery environment friendly.**

When disconnecting the battery, always the minus pole and then the positive pole must be disconnected first. When clamping in reverse order.
Existing covers of the poles must be reattached (fire hazard).
When working on the electrical system, the battery must be disconnected. Do not clean electrical components with the high-pressure cleaner. Do not touch incandescent lamps or reflectors with your fingers.
Have faults in the electrical system fixed by a specialist.
The entire system is secured with several fusesof different thicknesses. These are located on the right side of the steering column.
Use only fuses of the same thickness and design.
Bridging defective fuses is prohibited.
Starting from another:
In the case of an empty or defective battery, the machine can be externally started via the positive pole at the starter and the ground point at the clutch bell. These points are freely accessible after opening the bonnet. A charger can also be connected via these points to charge the battery.
Disassembly of the side panel is not necessary.

Never use the wheel nuts to create the mass. This can lead to bearing damage within the axis. Damage in the axle, which is due to the creation of the mass, is not subject to the warranty of the manufacturer, but is solely the responsibility of the user/operator.

4.19 Decommissioning and recommissioning

If you shut down the loader for a longer period of time (e.g. winter months), the following information must be observed:

→ Clean the loader thoroughly.
→ Change engine oil and filter.
→ Refuel the machine.
→ Place the machine on a flat and load-bearing floor.
→ Make sure you have a dry environment.
→ Block the articulated joint.
→ Lower the swingarm.
→ Back up the machine as described in the instructions.
→ Bock the machine so far thatall 4 wheels no longer have ground contact.
→ Lower the air pressure to 1 bar.
→ Turn off all hydraulic systems without pressure.
→ Charge the battery completely and disconnect it (main battery switch).
→ Lubricate the machine thoroughly and completely.
→ Spray the engine, open piston rods and bare metal parts with a anti-corrosion agent.
→ Close the intake and exhaust opening of the diesel engine.

Recommissioning:

→ Increase the air pressure to the prescribed value.
→ Bock off the machine.
→ Remove the anti-corrosive agent from the piston rods.
→ Connect the battery (main battery switch).
→ Remove the closures from the intake and exhaust duct.
→ Remove the buckling fuse.
→ Start the engine and carefully put the machine back into operation.
→ Treat the machine to an eneerone phase after a prolonged standstill.
→ Perform all maintenance work as well as visual and safety checks, before using the machine to work.

5.1 Technical description of the machine

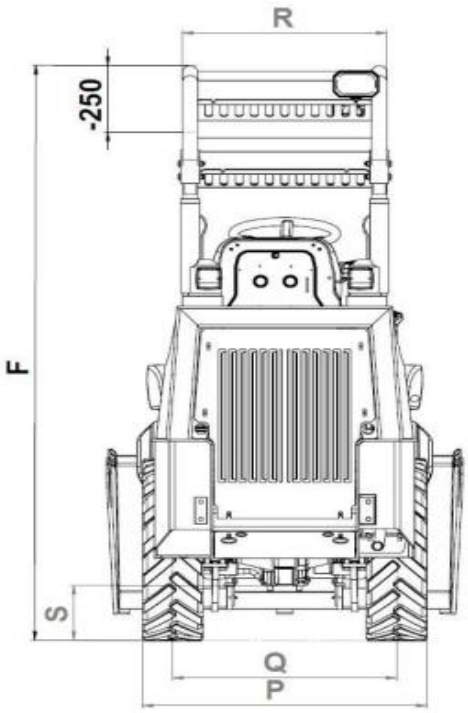
Base:
The machine consists of a split vehicle frame. The front car with the swingarm and the rear frame in which the drive unit is housed.
They are connected by a bending pendulum joint.
Drive:
The drive consists of a diesel engine that drives the driving and working hydraulics.
The driving hydraulics supply 2 orbit motors via an axial piston pump, which passes the force on to the wheels.
The working hydraulics are supplied by a gear pump, which is flanged directly at the axial piston pump.
Steering:
Fully hydraulic articulated pendulum steering via a double-acting hydraulic cylinder.
Brakes:
The drive is at the same time the service brake of the vehicle.
In addition, the vehicle is equipped with a parking brake.
Hydraulic:
The machine has 2 separate systems, which are supplied by a tank.

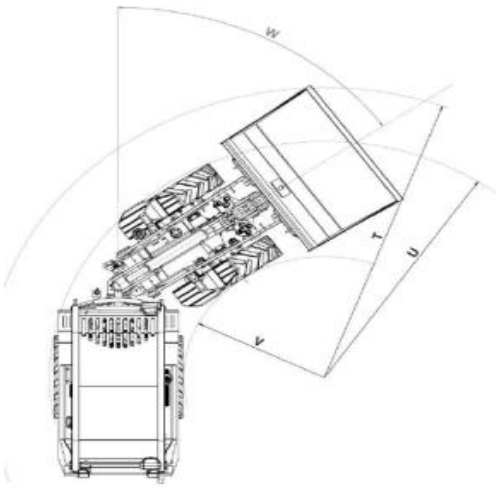
→The steering and working hydraulics
→The drive

The traction drive is driven by an axial piston adjustment pump. This is flanged directly on the engine. The generated force is passed far away to the orbit alders with the help of an oil flow. The accelerator pedal and the inch pedal can be used to control both the driving speed and the thrust power of the drive.
The steering and working hydraulics are supplied by a gear pump, which is flanged directly to the axial piston adjustment pump.
The system is equipped with pressure limiting valves and filters.
Electrics:
The operating voltage of the electrical system is 12V.
The system is secured with several fuses.
Design:
The machine has been designed as a compact loader.
The machine is equipped with a Fops-Rops guard, which is designed for operation without a safety helmet.
The machine is designed for use on covered surfaces.

5.2 Specifications

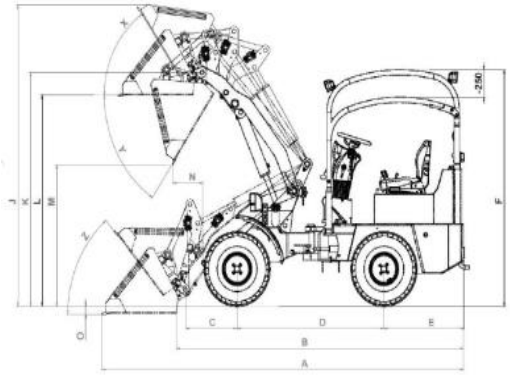
Data sheet 2022/A - 2026/A





		2022/A	2026/A	
	Lifting force	980kg	1150kg	
	Tipping load shovel			
	Machine straight	775kg	950kg	
	Machine bent (45°)	500kg	550kg	
	Tipping load pallet fork (50cm)			
	Machine straight	650kg	750kg	
	Machine bent (45°)	400kg	450kg	
A	Total length with shovel	3610mm	3610mm	
B	Total length without shovel	2960mm	2960mm	
C	Axle center to shovel pivot point	500mm	500mm	
D	Wheel distance	1380mm	1380mm	
E	Rear overhang	890mm	890mm	
Q	Height above Fops-Rop's roof	2195mm	2195mm	
J	Total work height	3000mm	3000mm	
K	Max height at the shovel pivot point	2700mm	2700mm	
L	Overload height	2510mm	2510mm	
M	Max discharge height	1860mm	1860mm	
N	Range at M	230mm	230mm	
O	Depth of mining	70mm	70mm	
P	Total width standard	920mm	920mm	
Q	Gauge	730mm	730mm	
R	Width over H-bar	770mm	770mm	
S	Ground clearance	180mm	180mm	
T	Max Radius	2315mm	2315mm	
U	Radius at the outer edge	1800mm	1800mm	
V	Radius	880mm	880mm	
W	Knickangle	45 °	45 °	
X	Roll back angle at maximum lifting height	38°	38°	
Y	Max tipping angle	50°	50°	
Z	Roll-back angle on the ground	45 °	45 °	
	Hydraulic tank volume	36h	36h	
	Diesel tank volume	36h	36h	
	Front axle weight	450kg	450kg	
	Rear axle weight	1098kg	1098kg	
	Weight	1548kg	1548kg	
	Operatingg wichtwicht	1820kg	1820kg	

Information without additional weight



Dimensions for standard tyres
Dimensions change depending on the attachment and tyres as well as technical development

All information subject to reservation. We reserve the right to make changes in the course of technical development!!!

5.2 Specifications

	2022/A	2026/A	
Power Displacement	22 hp 1131cc	26 hp 1131cc	
Speed	0 - 12 km/h 1-stage	0 - 12 km/h 1-stage	
Hydraulic power 3. Control circuit Standard	Max. 33 l/min	Max. 45 l/min	
Lifting force	980kg	1150kg	
Tipping load shovel - loader straight	775kg	950kg	
Tipping load pallet fork - loader straight	650kg	750kg	
Total length with shovel	3610mm	3610mm	
Total length without shovel	2960mm	2960mm	
Axle center to shovel pivot point	500mm	500mm	
Wheel distance	1380mm	1380mm	
Rear overhang	890mm	890mm	
Height above Fops-Rop's roof	2195mm	2195mm	
Max height at the shovel pivot point	2700mm	2700mm	
Depth of mining	70mm	70mm	
Total width of standard tyres	920mm	920mm	
Gauge	730mm	730mm	
Width over brackets	770mm	770mm	
Ground clearance	180mm	180mm	
Radius	880mm	880mm	
Knickangle	45 °	45 °	
Roll back angle at maximum lifting height	38°	38°	
Max tipping angle	50°	50°	
Roll-back angle on the ground	45 °	45 °	
Hydraulic tank volume	36h	36h	
Diesel tank volume	36h	36h	
Weight	1548kg	1548kg	
Operating weight	1820kg	1820kg	

THALER

Factory Training

Position	Label	Detail 1	Detail 2
1 o. X17.s	Central plug	Female	Cable strand side
2 o. X15.s	Central plug	Male	Cable strand side
3 K11a and K11b	Bugle		
4	Mass	Rallying	
5	Fuel		
6 o. K30	Plug	Tanker	
7	Plug	Axial piston motor	1 / 2 level color grey
8	Plug	Axial piston motor	Reverse detection color black
9	Plug	6 or 8-pin	To the relay group - depending on the type and design
10	Plug	Axial piston pump	Forward Color Grey
11	Plug	Axial piston pump	Reverse color black
12 o. K17 and K18	Plugs - depending on the design or year of construction, different plugs are installed	STVZO	Front – Can be 8-pin alone or in combination with 2-pin plug or 2x 6-pin plug
13	Plug	STVZO	Mass in front
14 o. K28 and K29	Plug	STVZO Rear	Either 6-pole or 2x 3-pole
15 o. X16.s	Plug	STVZO	For central plugs
16 K23	Plug working lighting	Rear left	Depending on the version, a 4-pin plug may also be available
16a K24	Plug working lighting	Rear right	Depending on the design, a 4-pin plug may also be available
16b K24	Plug Working lighting	Rear	
17	Plug	Relay group	Different meanings
18	Battery	12v	
19	Starter		
20	Alternator	Generator	
21	Battery main switch	If available	Pay attention to execution
22	Oil pressure switch	Perkins Motor	
23	Combined switch	Remote thermometers	and warning light cooling water temperature
24	Glow plugs or	Air preheaters	(Yanmar 3TNV82 and 88, 4TNV88)
25	Parking magnet or actuator	Perkins Motor	Actuator only at 4061

26	Solenoid	Axial piston pump	Backward
27	Solenoid	Axial piston pump	Forward
28	Solenoid	Axial piston motor	Direction detection
29	Solenoid	Axial piston motor	1 / 2 level
30	Tanker	Potentiometer and Switch for clock and control lamp	
31	Relais	Handbrake control	
32	Relais	1 / 2 level	
33	Relais	Start lock	
34	Relais	Seat connection circuit	
35	Relais	Solenoid valve	3 Control circuit
36	Relais	Solenoid valve	3 Control circuit
37	Relais	Backward	
38	Relais	Forward	
39	Relay group		
40	Backup	7.5A	Only for seat sequence relays
41	Plug	Joystick	
42	Plug	Handbrake switch	
43	Additional plug	Joystick	
44	Plug	Solenoid valve	Ecu
45	Plug	Seat	
46	Switch	Seat contamination	Plug K7 (white box)
47	Switch	Belt lock	Plug K3 (white box)
48	Standlight	Links	Front
49	Standlight	Right	Front
50	Dipped-beam	Links	
51	Dipped-beam	Right	
52	Distant	Links	
53	Distant	Right	
54	Indicators	Links	Front
55	Indicators	Right	Front
56	Standlight	Links	Rear
57	Standlight	Right	Rear
58	Indicators	Links	Rear
59	Indicators	Right	Rear
60	Switch	Gerastet	Forward
61	Switch	Gerastet	Backward
62	Button	Solenoid valve	Control unit 3 control circuit
63	Button	Solenoid valve	Control unit 3 control circuit
64	Button	Solenoid valve	Control unit 4 control circuit
65	Button	Solenoid valve	Control unit 4 control circuit
66	Button	Gerastet	1 / 2 level
67	Joystick		
68 o. X17 at Ciam,	Central plug	Male at Ellebi and Ciam	Cable strand steering column
69 o. X15 at Ciam,	Central plug	Female at Ellebi and Ciam	Cable strand steering column
70 o. X16	Plug	STVZO	Cable strand steering column
71 o. X1	Plug	Ignition	

72 o. X14	Fuse box 1		
73 o. X13	Fuse box 2		
74 o. X3	Plug	Tilting switch	Bugle
75 o. X11	Relais	Bugle	
76 o. X2	Plug	Multifunction switches	STVZO
77	Steering column		
78 o. X8	Plug	Instrument console	
79 o. X6	Plug	Switch	1 / 2 level
80	Working lighting	Rear	
81 o. X9	Relais	Dipped-beam	
82 o. X10	Relais	Distant	
83 o. X12	Relais	Indicator	(Blinker)
84 o. X4	Plug	Switch	Working lighting
85 o. X5	Plug	Switch	Working lighting
86 o. X7	Plug	Switch	Warning flashing switch
87	Indicator	Standlight	Instrument console
88	Indicator	Indicator	Instrument console
89	Indicator	Distant	Instrument console
90	Indicator	1 level turtle	Instrument console
91	Indicator	2 Level Hare	Instrument console
92	Display watch	Cooling water temperature	Instrument console
93	Display watch	Rev counter and o.	Hour counter - instrument console
94	Indicator	Cooling water temperature	Instrument console
95	Indicator	Charging control	Instrument console
96	Indicator	Backward	Instrument console
97	Display watch	Fuel tank	Instrument console
98	Indicator	Engine oil pressure	Instrument console
99	Indicator	Parking brake	Instrument console
100	Indicator	Pre-glow control	Instrument console
101	Indicator	Forward	Instrument console
102	Indicator	Tank "Reserve"	Instrument console
103	Instrument beleuching		Instrument console
104	Solenoid	3 Control circuit	Ecu
105	Solenoid	3 Control circuit	Ecu
106	Switch	Indicator	Multifunction switches
107	Button	Bugle	Multifunction switches
108	Switch	Dipped-beam	Multifunction switches
109	Switch	Distant	Multifunction switches
110	Multifunction switches	Steering stock switch	
111	Relais	Solenoid valve	4 Control circuit
112	Relais	Solenoid valve	4 Control circuit
113	Relais	Switching valve	
114	Timer	Parking magnet	Yanmar Diesel Engines
115	Solenoid	3 control circuit or telescope off - a	control unit telescopic buckling loader and 48T18
116	Solenoid	3 Control circuit or telescope off - a	control unit telescopic buckling loader and 48T18

117	Plug	Working lighting	Front
118	Mass point	On the diesel engine	
119	Plug	Parking magnet or Actuator	Perkins Motor Actuator only at 4061
120	Plug	Oil pressure switch	Perkins Motor
121 o. K18	Plug	Remote thermometers	
122 o. K12	Plug parking magnet	Yanmar Motor	
123	Parking magnet	Yanmar Motor	
124 o. K14	Plug	Oil pressure switch	Yanmar Motor
125	Oil pressure switch	Yanmar Motor	
126 o. K27	Plug	Fuel	
127	Working lighting	Front car	Bottom left
128	Working lighting	Front car	Bottom right
129	Working lighting	Additional rear	
130 o. K8	Plug	Working lighting	Front Fobs Rops
130a o. K9	Plug	Working lighting	Front Fobs Rops
130b o. K10	Plug	Working lighting	Front
131	Working lighting	Front left	Fobs Rops
132	Working lighting	Front right	Fops Rops
133	Plug	Abeits lighting	Swingarm / Telescopic arm
134	Working lighting	Swingarm / Telescopic arm	
135	Switch	Parking brake	Plug K5 (white box)
136	Plug	Solenoid valve	Telescope or 3 and 4 control circuit
137	Solenoid	4 Control circuit or telescope off - a	control unit telescopic buckling loader and 48T18
138	Solenoid	4 Control circuit or telescope from on	control unit telescopic buckling loader and 48T18
139	Ignition		
140 o. X22	Plug	Switch	Free function or Load indicator 48T18
141 o. X20	Plug	Switch	Lifting roof
142	Instrument console		
143	Relais	Roadblock	48T18
144	Relais		
145 o. X23	Plug	Switch	Independent speed control Or Hydraulic Verriegelung 48T18
146	Summer	Seat connection circuit	
147	Switch	Working lights at the front	Standard on the front car

148	Switch	Working lights at the rear	Depending on the design 1 or 2 headlights
149	Toggle switch button	Bugle	
150	Switch	1 / 2 level	Depending on the execution
151	Switch	Warning flashing system	
152	Power relays	Yanmar	Parking magnet
153	Timer	Yanmar	Parking magnet
154 o. X26	Plug	Additional equipment	Steering column side
155 o. X28	Plug	Additional equipment	Steering column side
156 o. X27	Plug	Additional equipment	Steering column side
157 o. X21	Plug	Switch	Windscreen wipers and wiper water
158	Switch Touch switch	Independent speed control Hydraulic locking 48T18	
159	Switch	Lifting roof	
160	Switch		Free function or Load indicator 48T18 to Fgst.Nr.
161	Switch		
162	Plug	Switching valve	
163	Solenoid	Switching valve	Propo valve
164	Main fuse	Only Ellebi steering columns	Either F1 = 30 A in the fuse box or F13 = 50 A in the steering column outside the fuse boxs Depending on type and execution
165	Resistance	Heavy-duty resistance	
166	Locking diode		
167	Plug	Push	Warning flashing system
168	Push		Bugle
169	Instrument beleuchying tung	Integrated in the rev counter, temperature display and tank display	
170	Plug Black	Electronic accelerator pedal control	Extras
171	Plug Grey	Electronic accelerator pedal control	Extras
172	Plug	Power supply	Motor control - standard equipment
173	Plug	Speed sensor	Extras
174	Plug	Accelerator	Extras
175	Plug	Pressure sensor	Standard equipment - no need for optional equipment
176	Plug	Electronic motor control	Series control - no longer applicable to optional equipment
177	Ecu	Standard	Only for 4061 with mechanical speed control
178	Electronic accelerator pedal control	Extras	Only 4061 with electronic accelerator pedal - motor control for

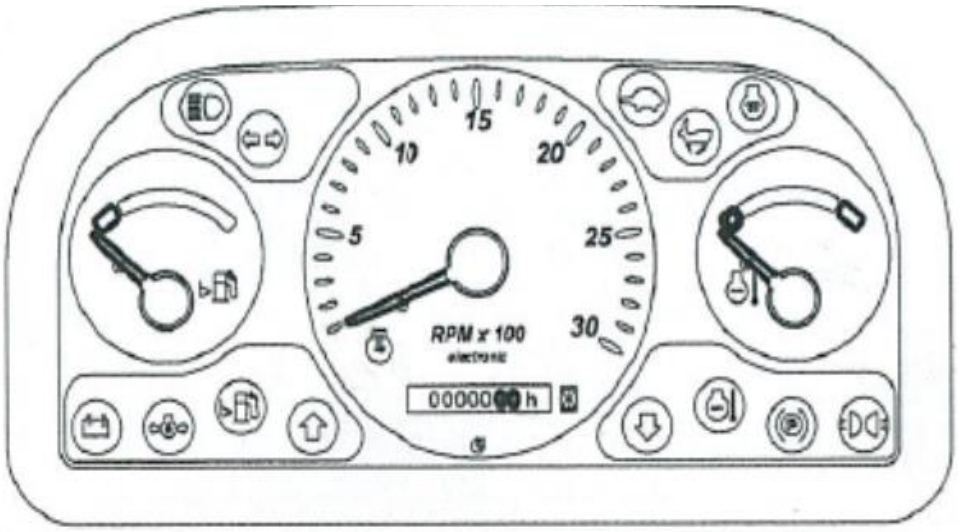
			mechanical accelerator pedal is no longer necessary
179	Plug	Stand light - Ablindlight - High beam	Only at Immel - Steering column
180	Switch		Windscreen wipers and wiper water
181 o. X27	Plug	Additional equipment	Cable strand side
182 o. X28	Plug	Additional equipment	Cable strand side for Steering column
183 o. X26	Plug	Additional equipment	Cable strand side
184	"Black Box"	Electronic box	The box is white
185 o. bX55	Plug or slot in the electronics box	From the joystick	
186 o. K1	Plug or slot in the electronics box	To the instrument console	
187 o. K2	Plug or slot in the electronics box	Load display	
188 o. bX17	Plug or slot in the electronics box	Power supply	Switched Plus - Terminal 15 Must be connected
189 o. bX18	Plug or slot in the electronics box	Power supply	Switched Plus - Terminal 15 Must be connected
190 o. bX19	Plug or slot in the electronics box	Power supply	Continuous current - Terminal 30 Must be connected
191 o. bX20	Plug or slot in the electronics box	Power supply	Continuous current - Terminal 30 Must be connected
192 o. bX25	Plug or slot in the electronics box	Entrance	
193 o. bX26	Plug or slot in the electronics box	Entrance	Push-button lifting roof Slot may vary or be used for other functions
194 o. bX27	Plug or slot in the electronics box	Entrance	Switch Independent Speed Control Slot may vary or be used for other functions
195 o. bX28	Plug or slot in the electronics box	Entrance	Slot may vary
196 o. bX29	Plug or slot in the electronics box	Entrance	
197 o. bX30	Plug or slot in the electronics box	Entrance	From switch hydraulic oil level
198 o. bX31	Plug or slot in the electronics box	Entrance	From switch roadblock
199 o. bX32	Plug or slot in the electronics box	Entrance	
200 o. bX33	Plug or slot in the electronics box	Entrance	From seat contact switch
201 o. bX34	Plug or slot in the electronics box	Entrance	From belt lock switch
202 o. bX35	Plug or slot in the electronics box	Entrance	From push button bridging load indicator
203 o. bX36	Plug or slot in the electronics box	Entrance	From push-button switching valve hydraulic locking

204 o. bX37	Plug or slot in the electronics box	Entrance	From switch Len card valve Steering type 1
205 o. bX38	Plug or slot in the electronics box	Entrance	From switch Len card valve Steering type 2
206 o. bX39	Plug or slot in the electronics box	Entrance	From switch Len card valve Steering type 3
207 o. bX40	Plug or slot in the electronics box	Entrance	From Taster Regeneration "Safe Mode" "Save Mode"
208 o. bX41	Plug or slot in the electronics box	Entrance	
209 o. bX42	Plug or slot in the electronics box	Entrance	From handbrake switch
210 or bX43	Plug or slot in the electronics box	Entrance	
211 or bX44	Plug or slot in the electronics box	Entrance	
212 o. bX1	Plug or slot in the electronics box	Output	Forward
213 o. bX2	Plug or slot in the electronics box	Output	Control unit shutdown
214 o. bX3	Plug or slot in the electronics box	Output	Backward
215 o. bX4	Plug or slot in the electronics box	Output	safety valve (2220 - 4275) or Lender valve B (48T18)
216 o. bX5	Plug or slot in the electronics box	Output	Direction detection
217 o. bX6	Plug or slot in the electronics box	Output	safety valve (2220 - 4275) or Lender valve C (48T18)
218 o. bX7	Plug or slot in the electronics box	Output	Fast (2-stage) - Slow (1-stage)
219 o. bX8	Plug or slot in the electronics box	Output	Bypass Valve (2326) Bypass valve for regeneration Steering valve D (48T18)
220 o. bX9	Plug or slot in the electronics box	Output	telescopic arm on - off Section opt.
221 or bX10	Plug or slot in the electronics box	Output	Lender valve A (48T18) Section opt.
222 or bX11	Plug or slot in the electronics box	Output	telescopic arm on - off Section opt
223 or bX12	Plug or slot in the electronics box	Output	Section opt.
224 or bX13	Plug or slot in the electronics box	Output	Switching valve Proportional
225 or bX14	Plug or slot in the electronics box	Output	Switching valve hydraulic locking
226 or bX15	Plug or slot in the electronics box	Output	Valve Independent speed control
227 or bX16	Plug or slot in the electronics box	Output	Switching valve lifting roof
228 o. XM2	Plug diesel engine	8-pole	

229 o. XM1	Plug diesel engine	2-pole	Power supply
230 o. XM3	Plug diesel engine	1-pole	Pre-glow plant
231 o. XM4	Plug diesel engine	1-pole	Relay parking magnet
232	Solenoid		Security package
233	Solenoid		Security package
234	Solenoid		Bypass (2326)
235	Solenoid		Bypass Regeneration
236	Solenoid		Independent speed control
237	Solenoid		Switching valve lifting roof
238	Solenoid		Control unit shutdown
239	Solenoid	Len card valve A	
240	Solenoid	Len card valve D	
241	Solenoid	Len card valve B	
242	Solenoid	Len card valve C	
243	Plug	Load display	23-pole
244	Plug Diagnostics	Load display	
245	Plug	Load sensor	Front - Cable shielded
246	Plug	Load sensor	Rear - Cable shielded
247	Load sensor		
248	Solenoid	Switching valve	Proportional hydraulics
249	Solenoid	Switching valve	Hydraulic locking
250	Switch	Hydraulic oil level	4275
251	Switch	Roadblock	48T18, 4275
252	Switches (buttons)	Bridging	Load indicator 48T18
253	Switches (buttons)	Switching valve	Hydraulic locking
254	Switches (buttons)	Regeneration	"Safe Mode" "Save Mode"
255	Switch	3-levels	Len card valve
256 o. X26	Plug	Cable strand side or Additional cable strand	Cabin or additional cable strand 48T18 load display, len cards
257	Plug	Aux Power	
258	Plug	Air seat	
259	Wiper motor		
260	Wiping water pump		
261	Cabin light		
262	Fan motor		
263	Tap-changers	Ventilation	
264	Switch lighting		
265	Plug	Heated	Either direct power supply from the fuse box or switched via toggle switch - depending on the driver's seat
266	Plug	Wiper	
267	Plug Steering column - cable strand	Wiping water pump Roadblock	And release seat sequence circuit
268	Collective bar 30	Main power supply	
269	Plug diesel engine	3-pole	
270	Plug	Interior lighting	

271	Plug Cable strand - steering column	Wiping water pump Roadblock	And release seat sequence circuit
272	Plug	Disc washer	
273	Plug	Working lighting	Telescopic arm
274	Plug		Hydraulic locking
275	Plug	2-pole	Len karten
276	Plug	2-pole	Control unit shutdown
277	Plug	2-pole	Control unit shutdown
278	Plug	2-pole	Wiping water pump

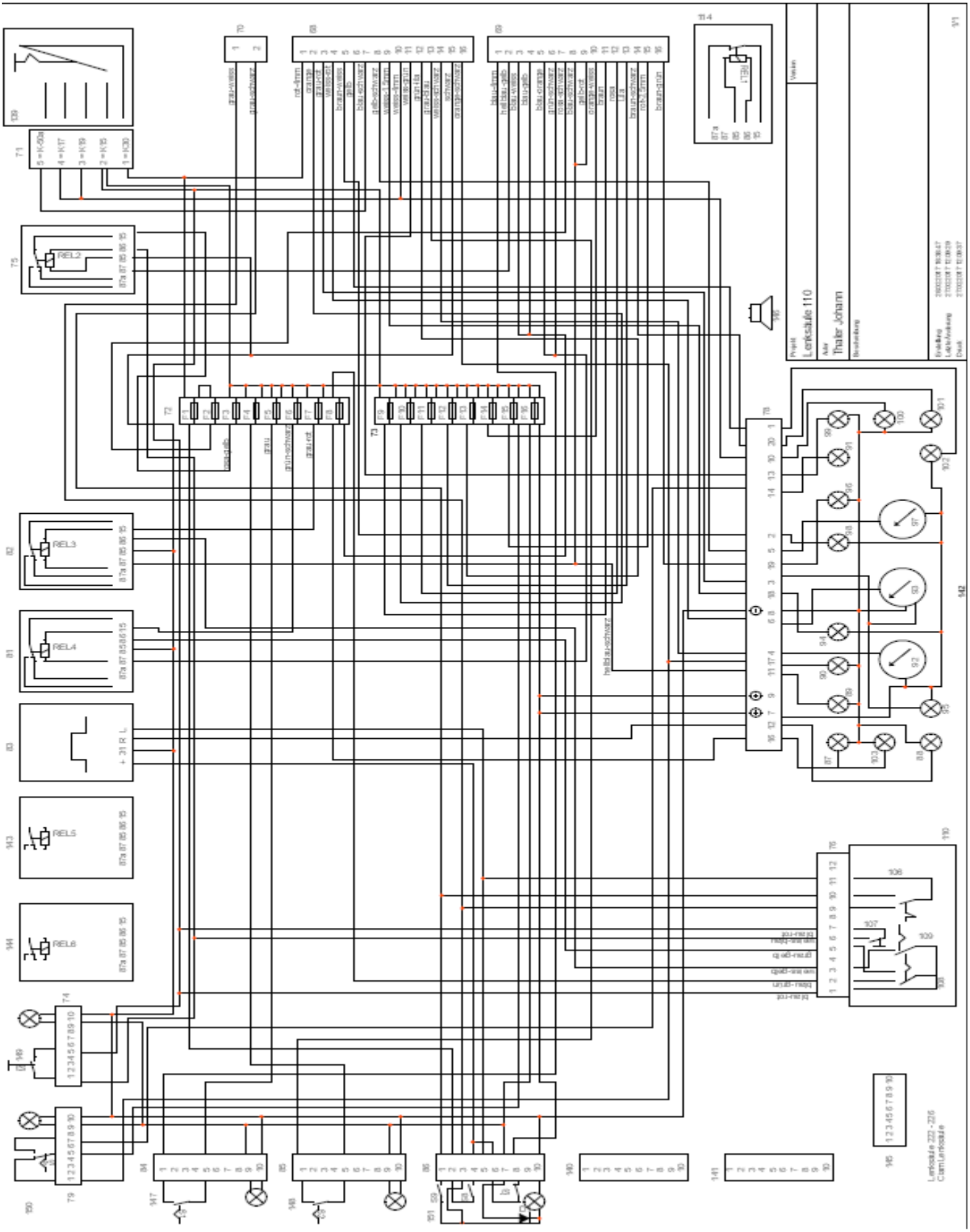
Circuit diagrams for this steering column (Ciam)



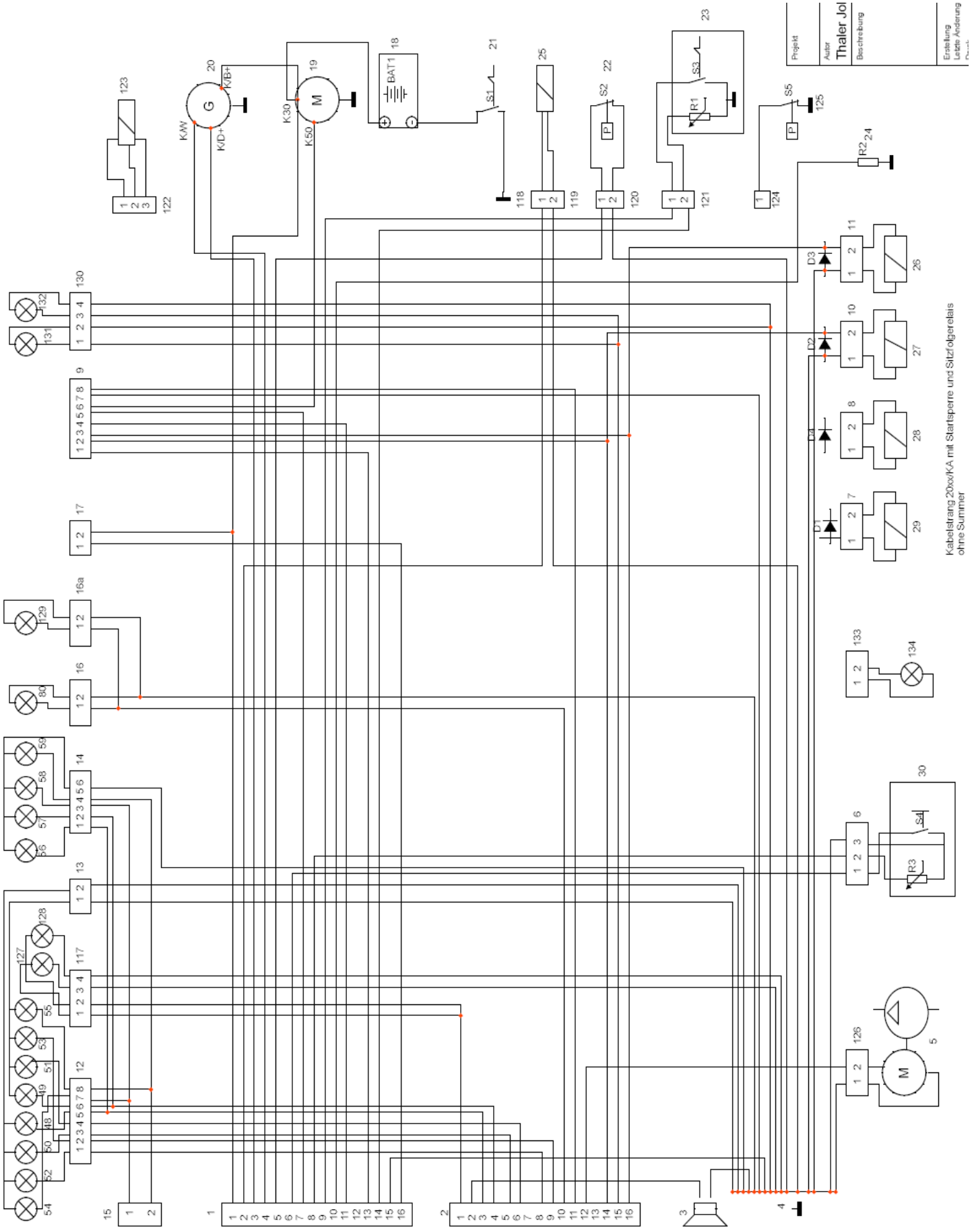
Steering column to chassis number:
Machines with seat sequence relay 1. The driver must buckle up in order to be able to drive.

Machines after conversion to seat sequence relay 2. The driver does not have to buckle up to drive. After 90 seconds, the driver is reminded to buckle with a buzzer.

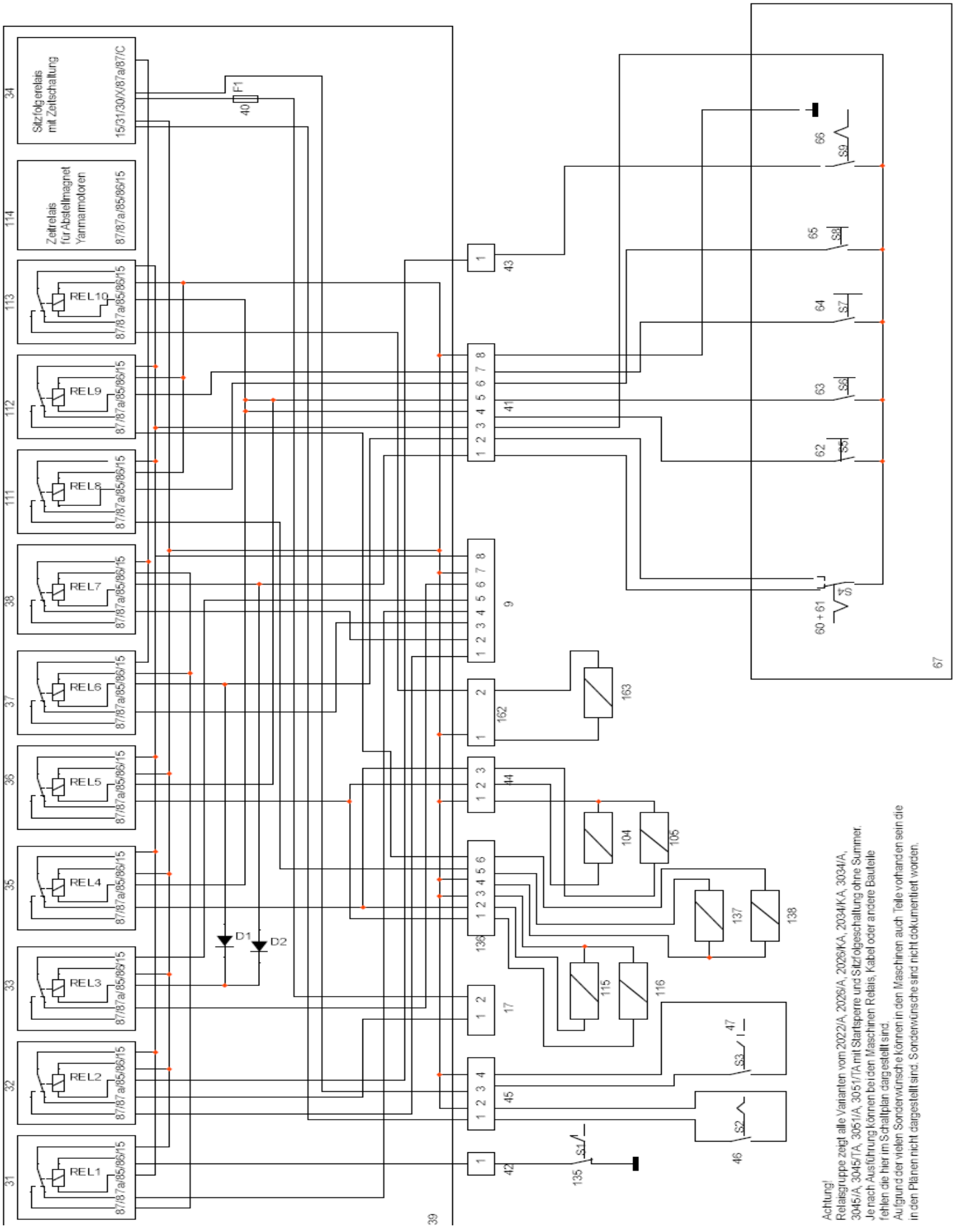
Steering column to chassis number with seat sequencer relay 1



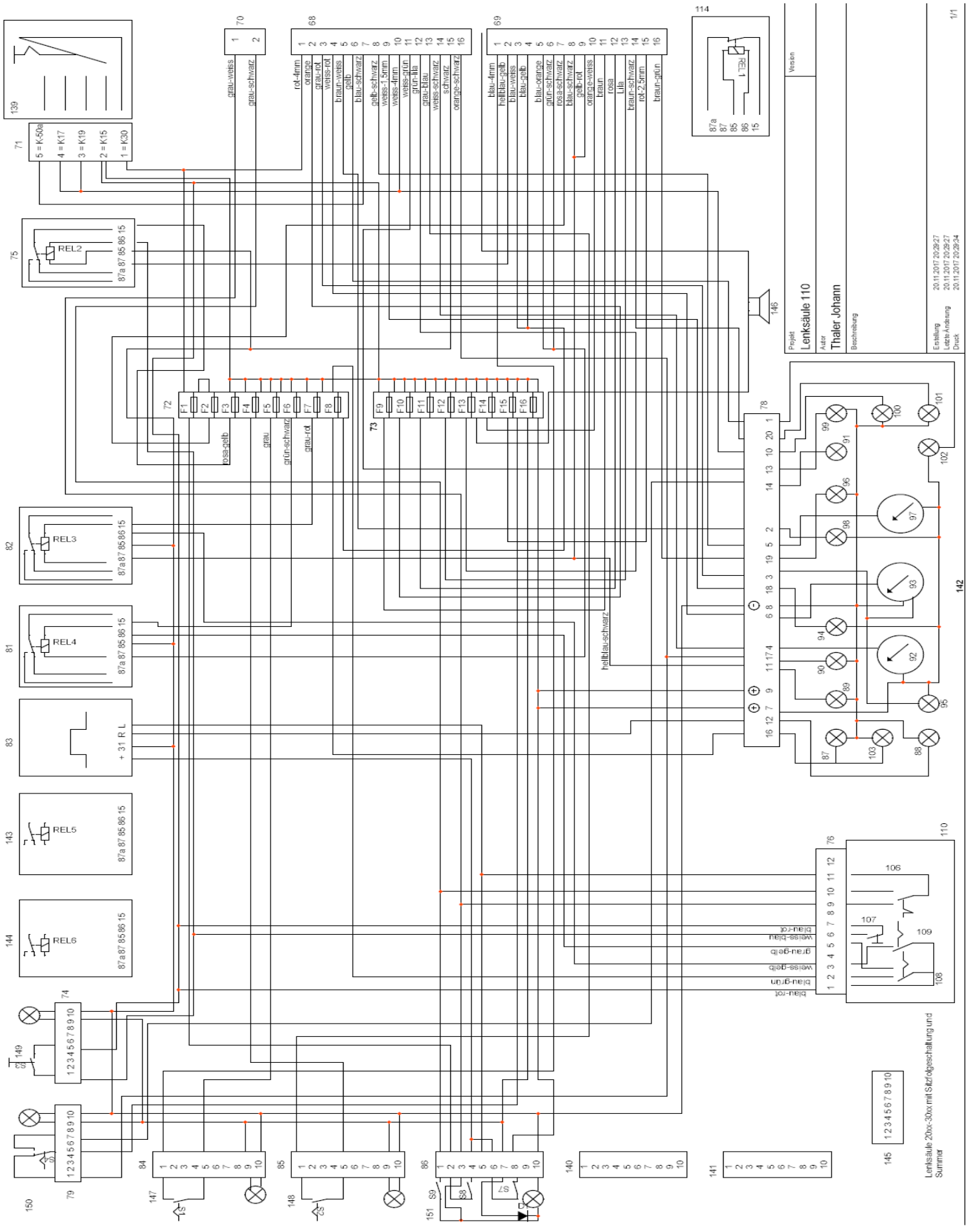
Wiring harness to chassis number with seat sequence relay 1



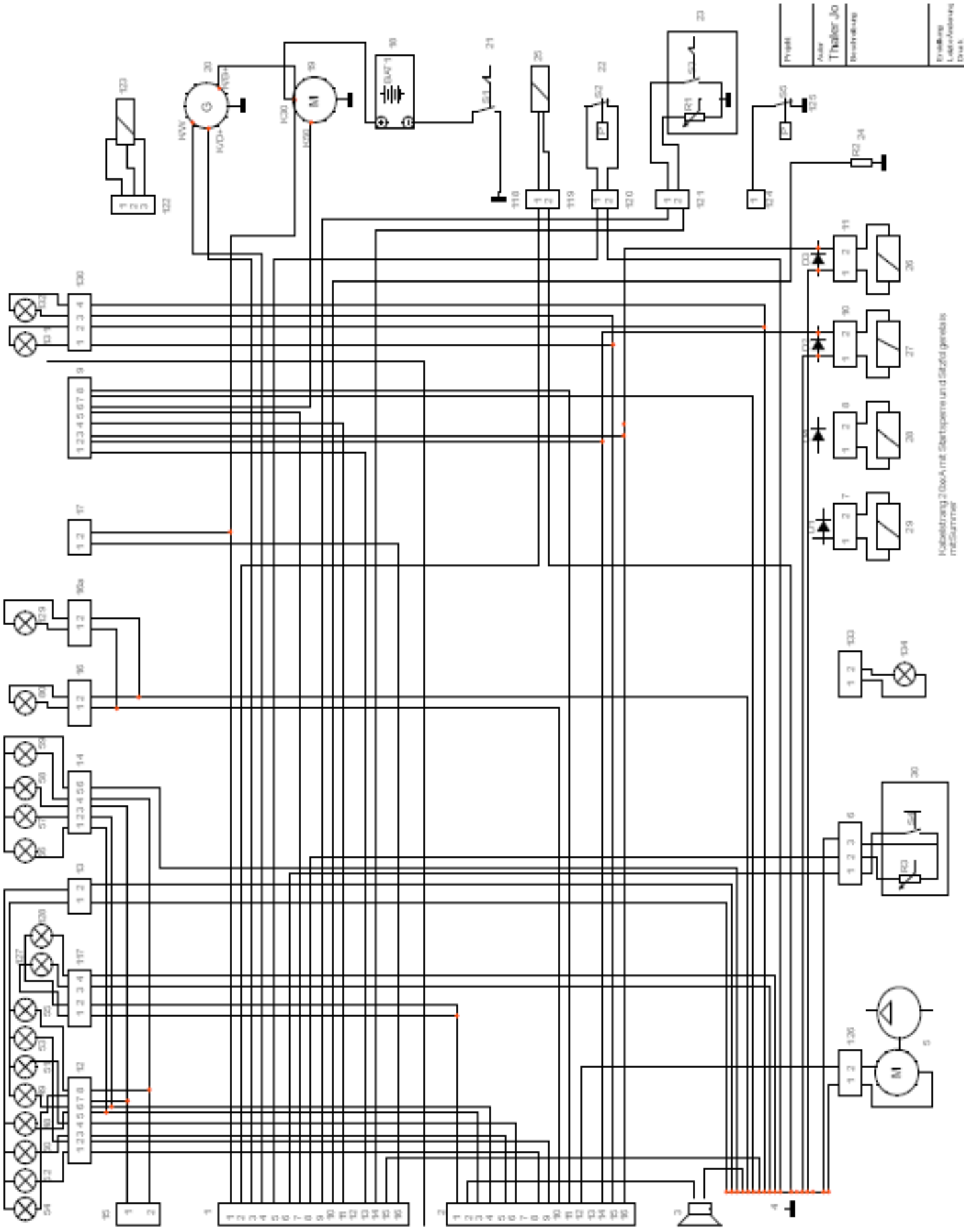
Relay group up to chassis number with seat sequence relay 1



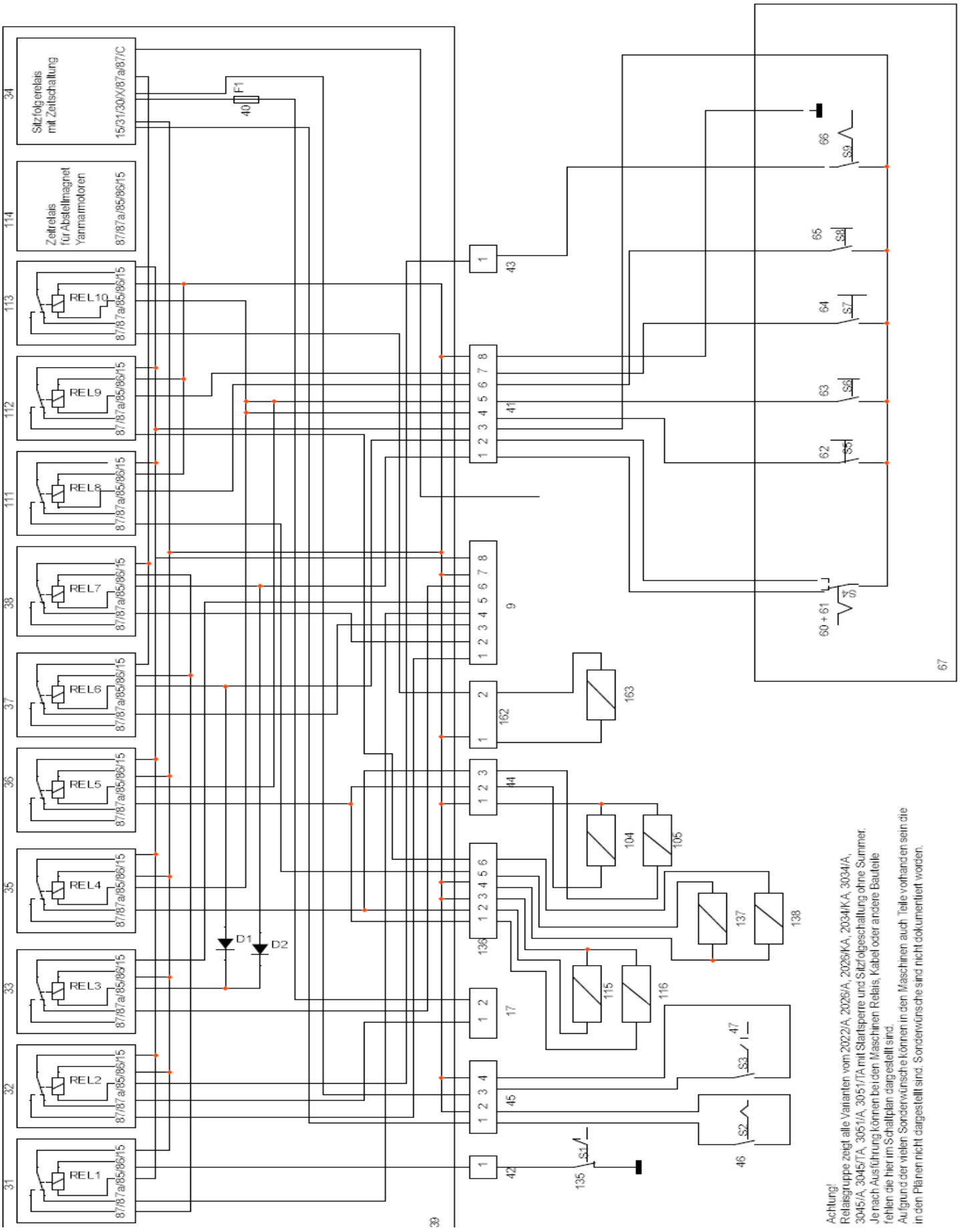
Steering column up to chassis number after conversion to seat sequence relay 2



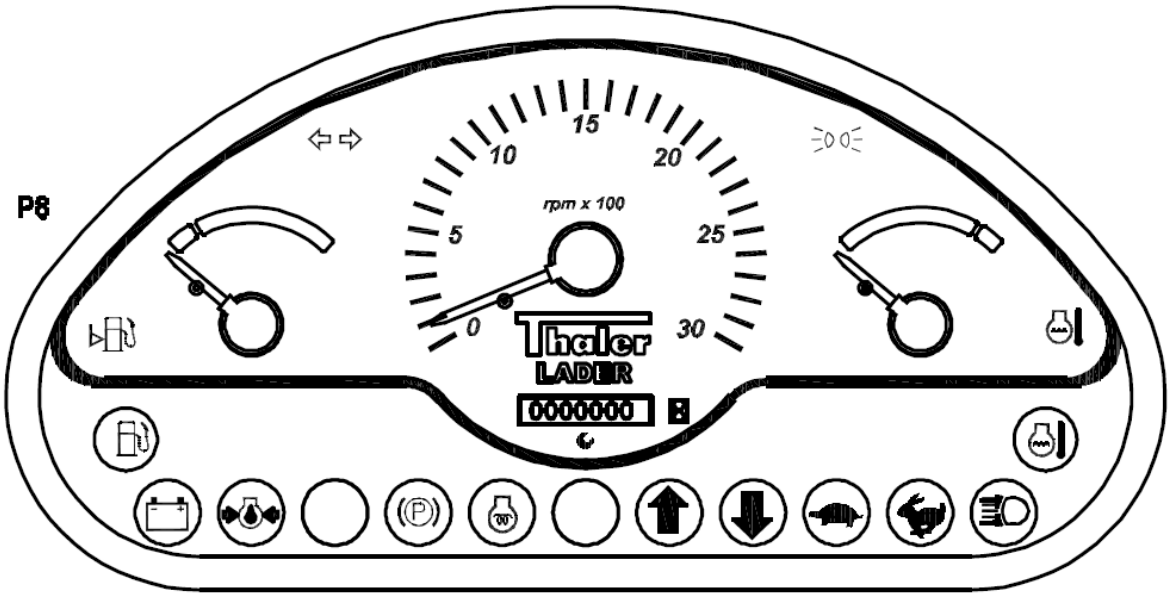
Cable harness to chassis number after conversion to seat sequence relay 2



Relay group up to chassis number after conversion to seat sequence relay 2



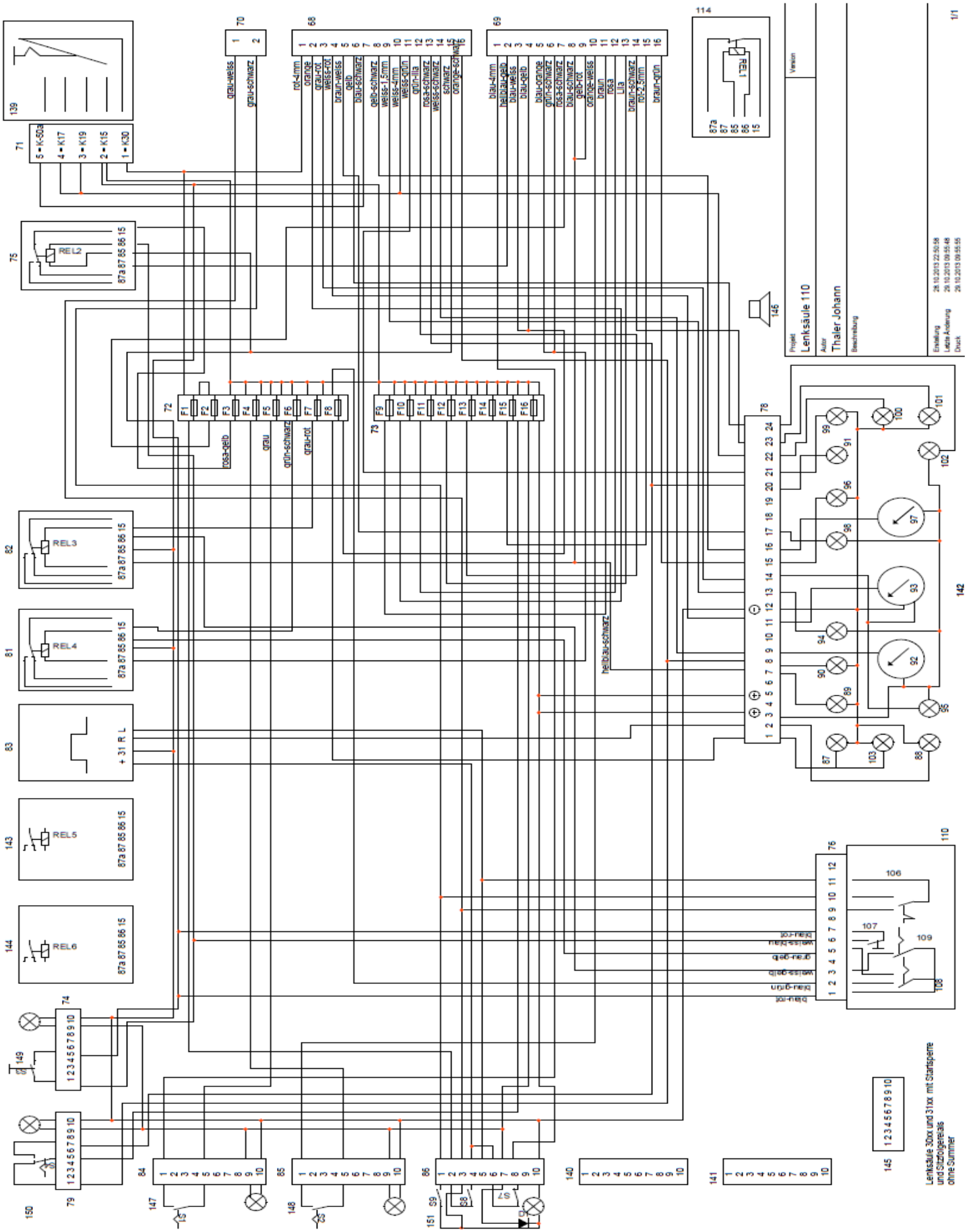
Circuit diagrams for this steering column (Ciam)



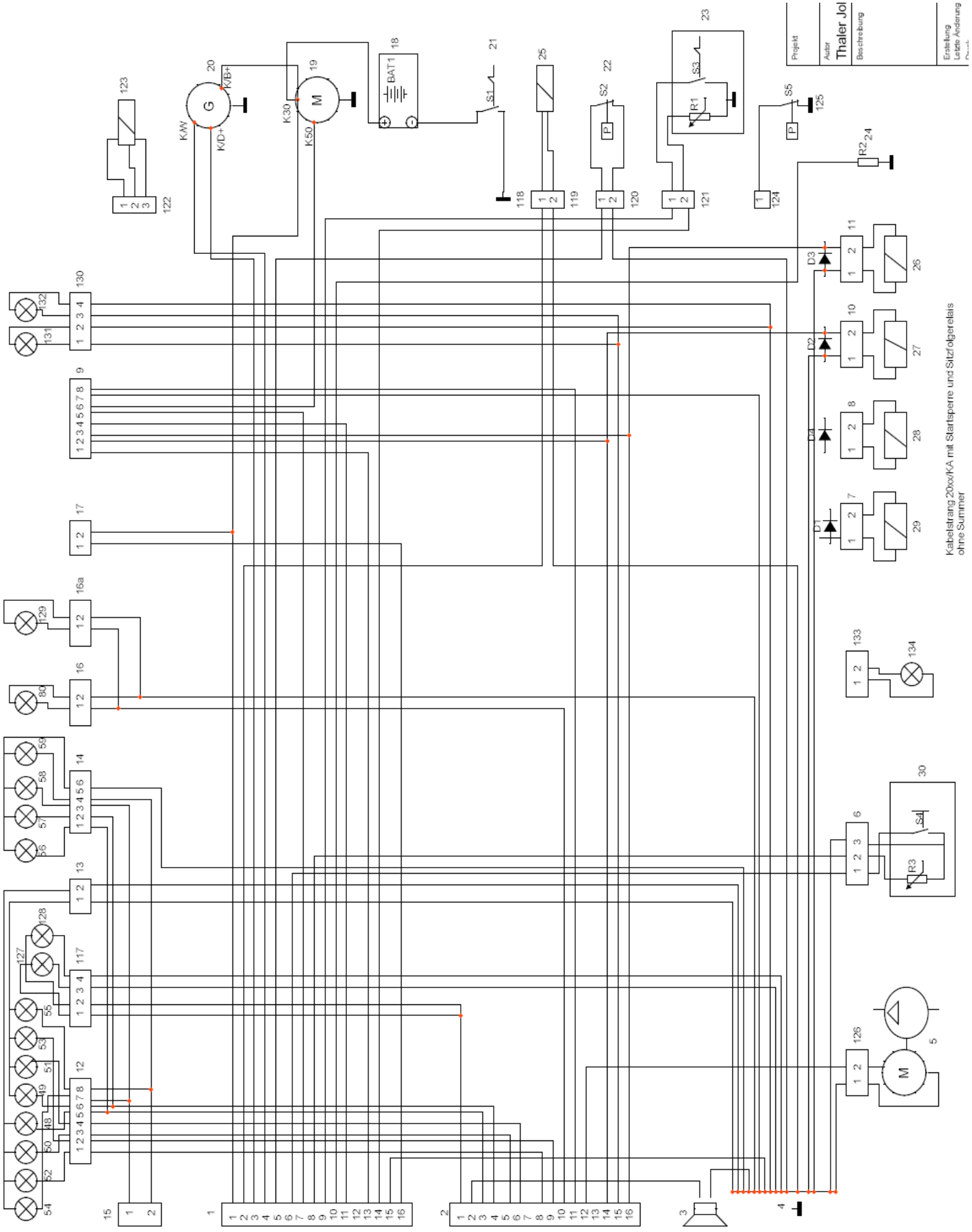
Steering column from chassis number:
Machines with seat sequence relay 1. The driver must buckle up in order to be able to drive.

Machines after conversion to seat sequence relay 2. The driver does not have to buckle up to drive. After 90 seconds, the driver is reminded to buckle with a buzzer.

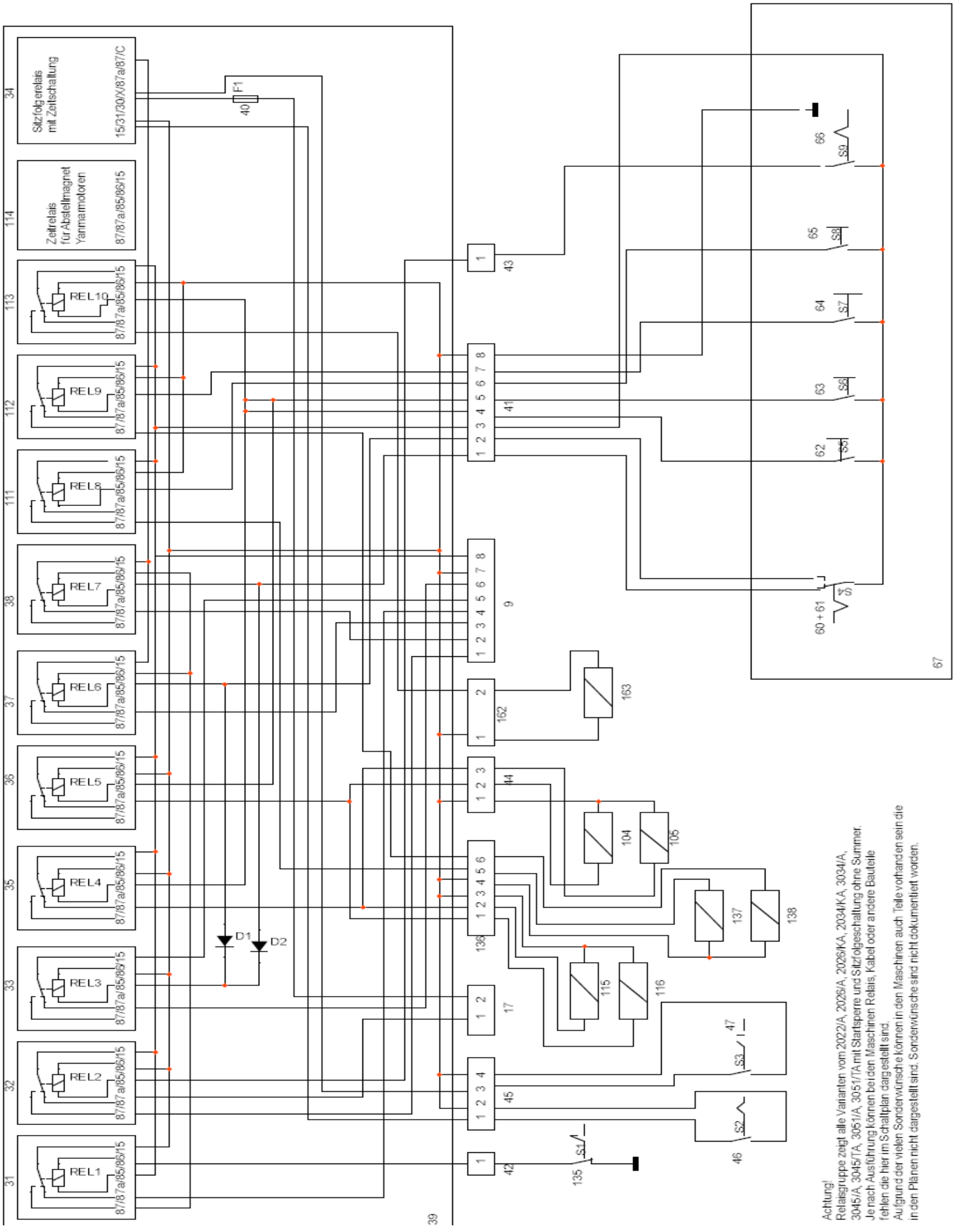
Steering column from chassis number with seat sequence relay 1



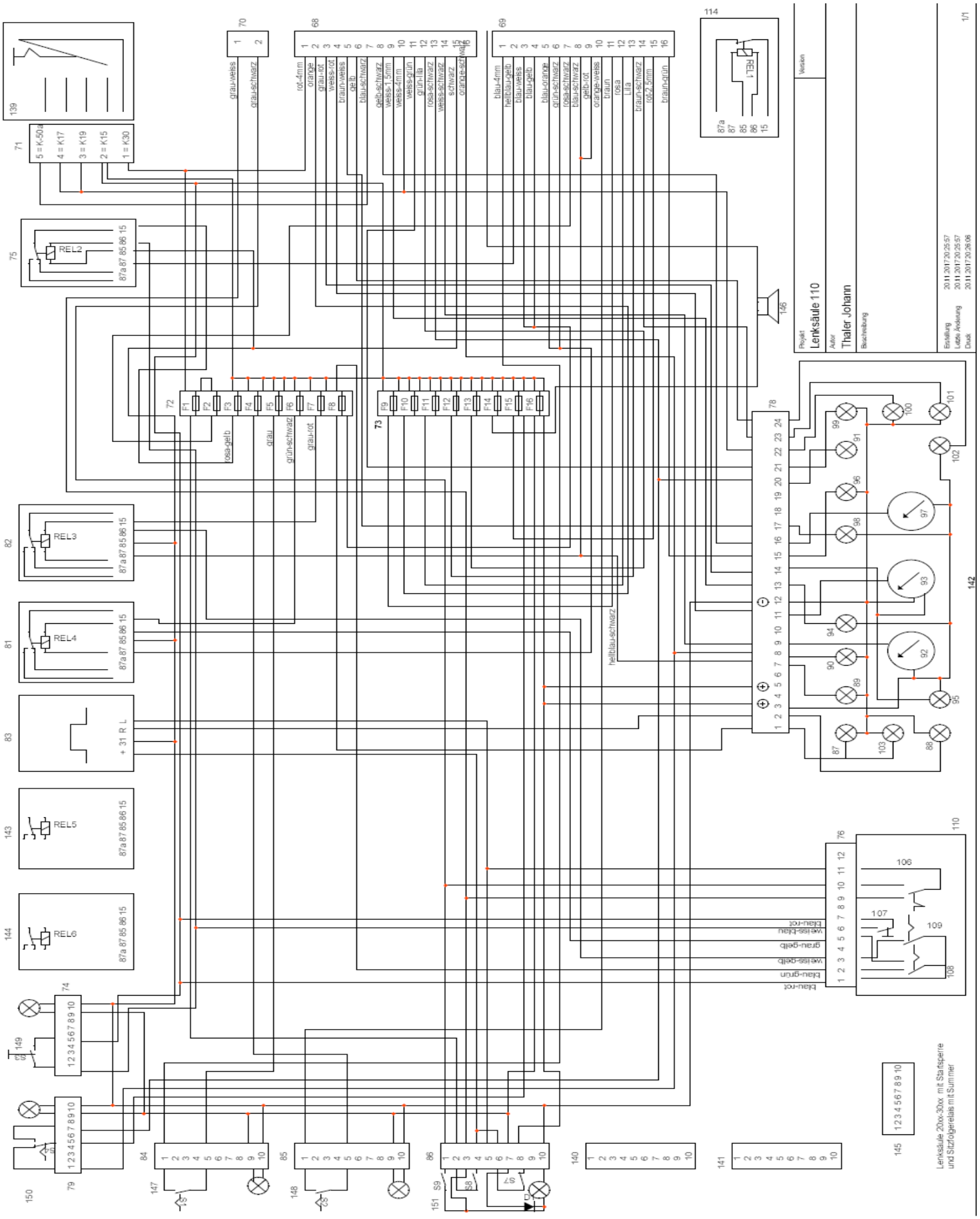
Wiring harness from chassis number with seat sequence relay 1



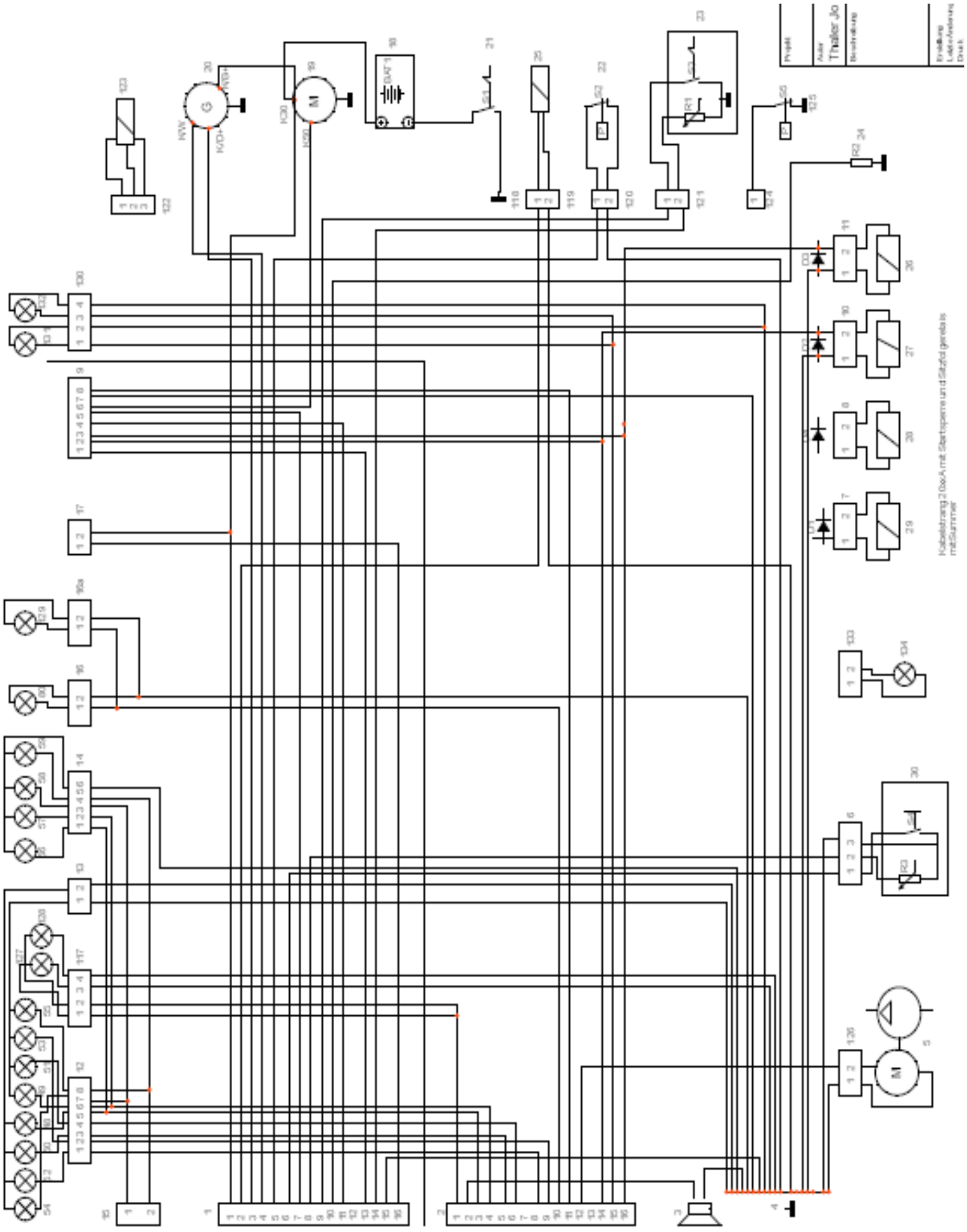
Relay group from chassis number with seat sequence relay 1



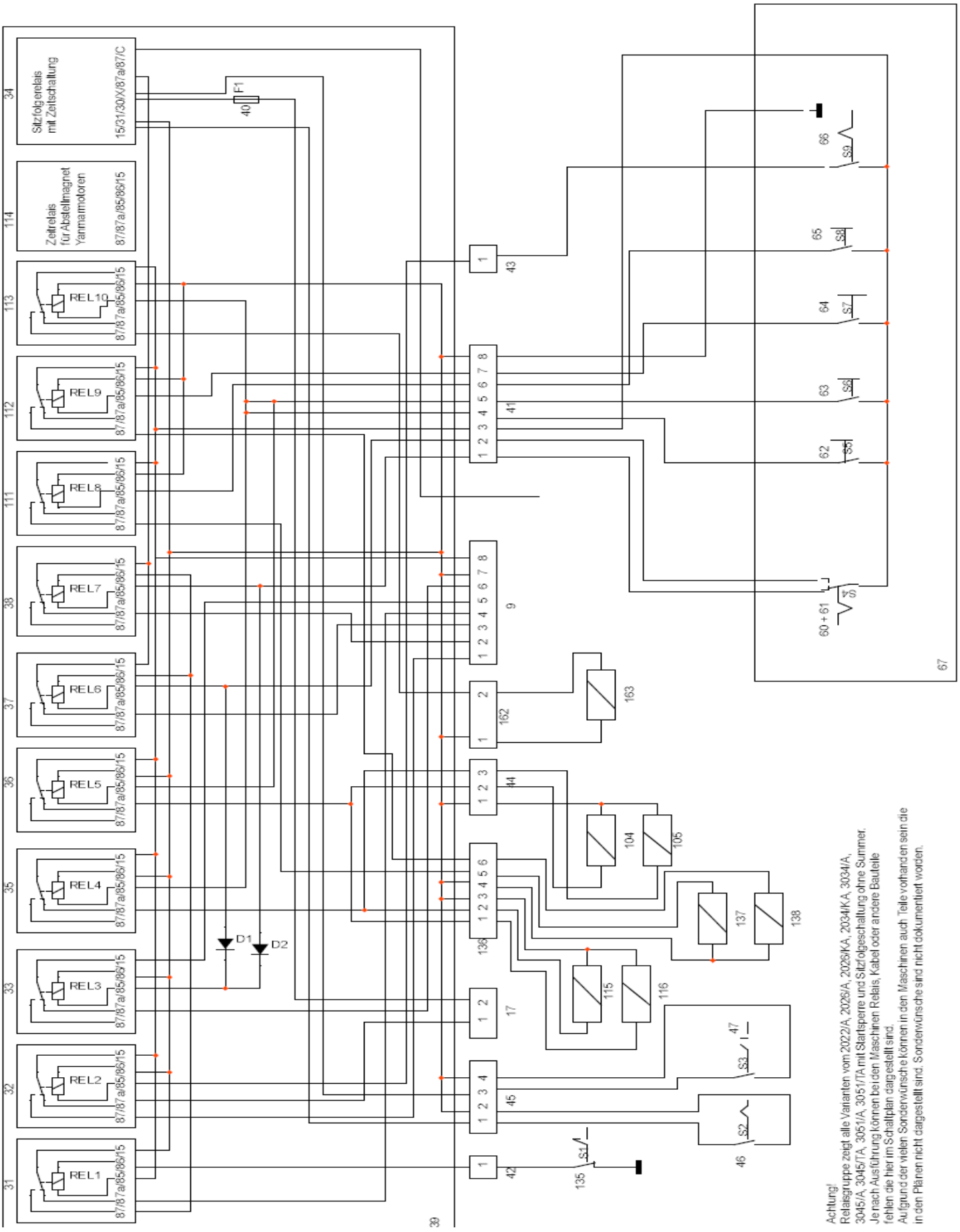
Steering column from chassis number after conversion to seat sequence relay 2



Wiring harness from chassis number after conversion to seat sequence relay 2



Relay group from chassis number after conversion to seat sequence relay 2



Proof of inspection

1. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

2. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

3. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

4. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

Proof of inspection

5. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

6. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

7. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

8. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

Proof of inspection

9. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

10. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

11. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

12. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

Proof of inspection

13. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

14. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

15. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

16. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

Proof of inspection

17. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

18. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

19. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

20. Inspection
Performed on …….
At operating hours ……

Stamp and signature – workshop

5 Legal notice

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Draft pictograms: Tobias Dietl
Printed in Germany

The German edition of the operating instructions is legally binding for both parties