

Operating instruction
Cable trailer type KH 140
(extendable version)

Order no. 72500



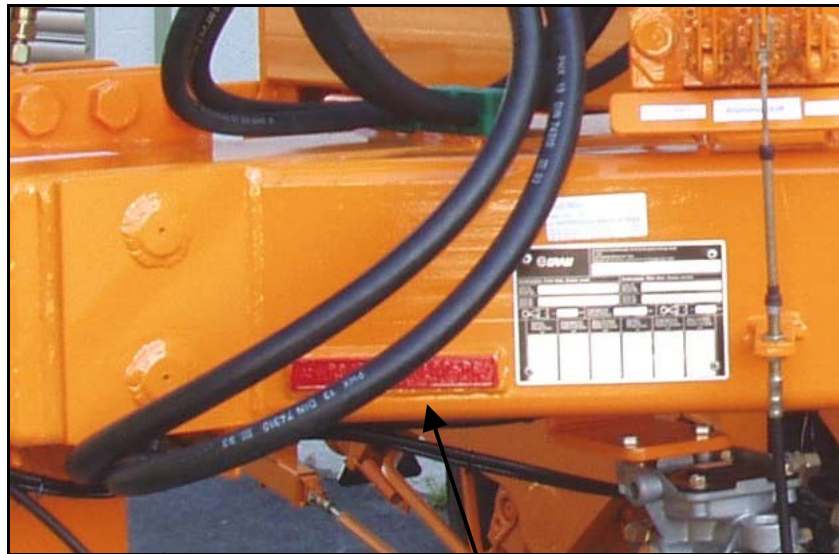
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For spare parts orders the manufacturing no. of the winch is required. The manufacturing no. can be taken from the type label or from the red marked plate located at the front right side of the base frame.

Introduction

General

Before using the machine, read this manual carefully to ensure correct use.

The instruction manual contains important information for operating the machine safely, properly and most efficiently. Observing these instructions help to avoid danger, reduce repair costs and shut-off-times and increase the reliability and life-time of the machine.

In addition to the operating instructions and to the mandatory rules and regulations for accident prevention and environmental protection in the country and place of use of the machine, the generally recognized technical rules for safe and proper working must also be observed.

The machine has been built in accordance with the existing safety precautions. Nevertheless, its use may - if improperly used - produce a risk of life for the user or third parties, or cause damage to the machine or others.

The machine must only be used in technically perfect condition in accordance with its designated use and the instructions contained in the operation manual. Any functional disorders, especially those affecting the safety of the machine, must be rectified immediately and before the use of the machine.

The trailer is only suitable for drum transportation.

Any use beyond must be considered as not to be according to regulations. This work is executed at the users risk and the manufacturer shall not be responsible for any resulting damages.

Safety instructions

It is presumed that fundamental work at the machine as well as all work with regard to transport, assembly, installation, starting-up, maintenance and repair is performed by qualified personnel or supervised by skilled labour taking overall responsibility.

Any deviation from normal operation conditions (increased power consumption, temperature, vibration, noise etc.) or warning signals by monitoring equipment suggest malfunction. Inform the responsible maintenance personal at once to prevent the trouble from getting worse and causing, directly or indirectly, serious physical injury or material damage.

In case of doubt switch off the machine immediately!

Never make any modifications, which might affect safety.

Work on the electrical systems or equipment may only be carried out by a skilled electrician. Use only original fuses with the specified current rating. Do not use the machine if trouble occurs in the electrical system.

The electrical equipment of machines has to be inspected and checked at regular intervals. Defects such as loose connections or scorched cables must be rectified immediately.

Avoid any operational mode that might be prejudicial to safety.

Before beginning work, familiarize yourself with the surroundings in the working and travelling area and make sure that nobody is at risk.

Take the necessary precautions to ensure that the machine is used only when in a safe and reliable state.

Operate the machine only if all protective and safety-oriented devices are in place and fully functional.

Operate petrol and Diesel engines only on adequately ventilated premises and observe the regulations in force at the respective site.

During operation, all sound baffles must be in order. Always wear the prescribed ear protectors.

When handling oil, grease and other chemical substances, observe the product-related safety regulations.

Before starting or travelling with the machine, check that the braking, signalling and lighting systems are fully functional.

When travelling on public roads, ways and places always observe the valid traffic regulations and, if necessary, make sure beforehand that the machine is in a condition compatible with these regulations.

Avoid any operation that might be a risk to the machine stability.

The position of the machine should be on stable and level ground and has been secured against inadvertent movement.

The machine must be towed, loaded and transported only by adequate transport and lifting gears.

For towing the machine observe the admissible speed.

Maintenance

Use only suitable and technically perfect lifting gear and suspension systems for changing of greater construction groups.

Never stand or work under suspended loads.

Ensure that all consumables and replaced parts are disposed of safely and with minimum environmental impact.

Before cleaning the equipment using water or stream jet (high pressure cleaner) cover all openings which are to be protected against ingress of any material for reasons of safety and/or proper functioning.

If work is to be done on engine or equipment, remove the ignition cable to prevent an unintentional start.

Operation

Accident Prevention

The relevant accident prevention regulations as well as other generally adopted regulations governing safety, industrial medicine and road traffic, must be observed.

Risk of injury

Access to the danger areas of the trailer is prohibited while drum loading work is carried out.

Keep hands and feet away from moving parts.

Always secure the trailer while drum loading work is carried out.

Let the motor run only at a high speed while the drum drive is in operation.

Do not reset or set out of operation any safety units.

Risk of material damage

Use good quality fuel. Stale fuel can clog the carburettor. Always check the fuel lines connections for cracks and leaks. If necessary, replace.

Use only original parts or equivalent material. Using spare parts not of same quality can damage the engine.

TIP

Note

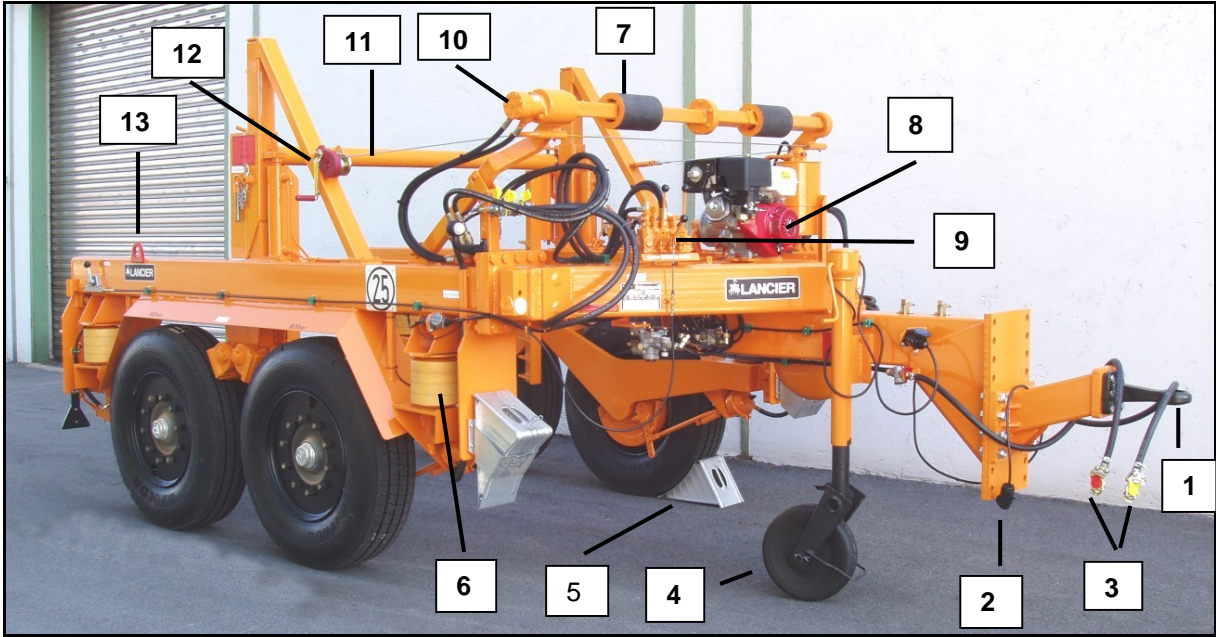
Agree on a feasible way of communication between the personnel during loading works.



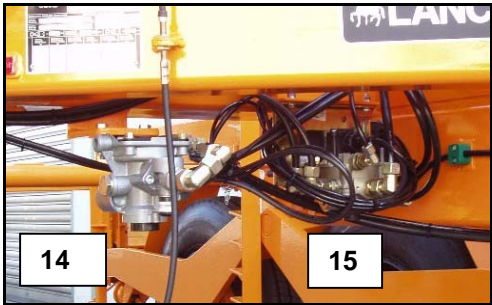
Disposal note

Waste oils may not be mixed with other liquids. Observe the oil producer's disposal guidelines.

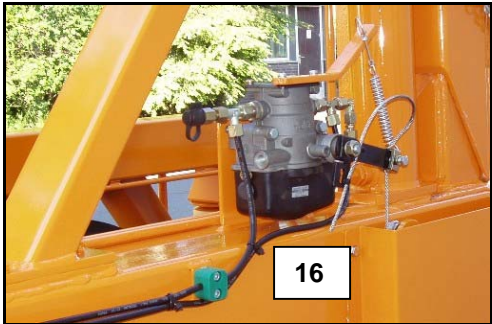
Cable trailer main components

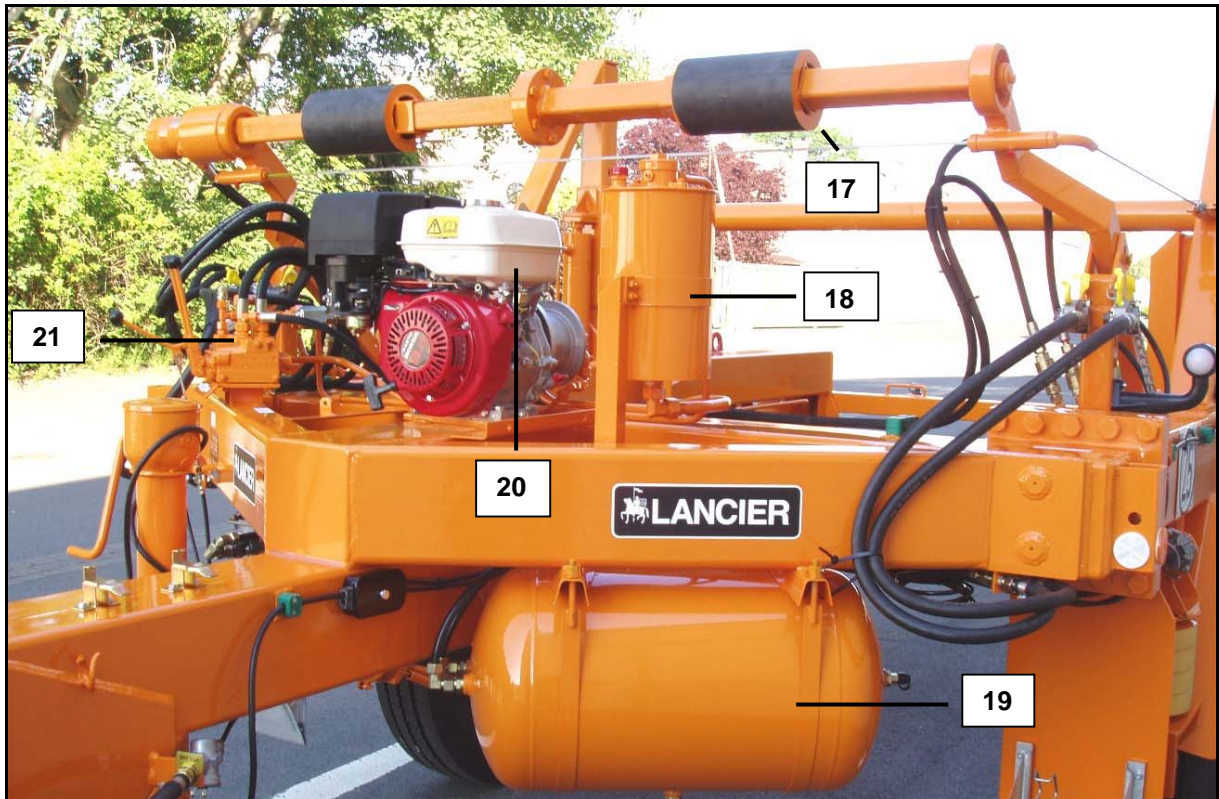


- 1 Towing eye; vertical adjustable
- 2 Connecting cable for lighting
- 3 Connecting hoses for the brake
- 4 Support wheel
- 5 Chock
- 6 Air cell suspension
- 7 Drum drive
- 8 Motor for drum drive and loading
- 9 Valve block
- 10 Hydraulic motor for drum drive
- 11 Drum axle with bearing
- 12 Hand operated winch for drum drive adjustment
- 13 Lifting hook for trailer components



- 14 Valve for air brake
- 15 ABS valve with electronic
- 16 ALB valve (automatic brake regulator)





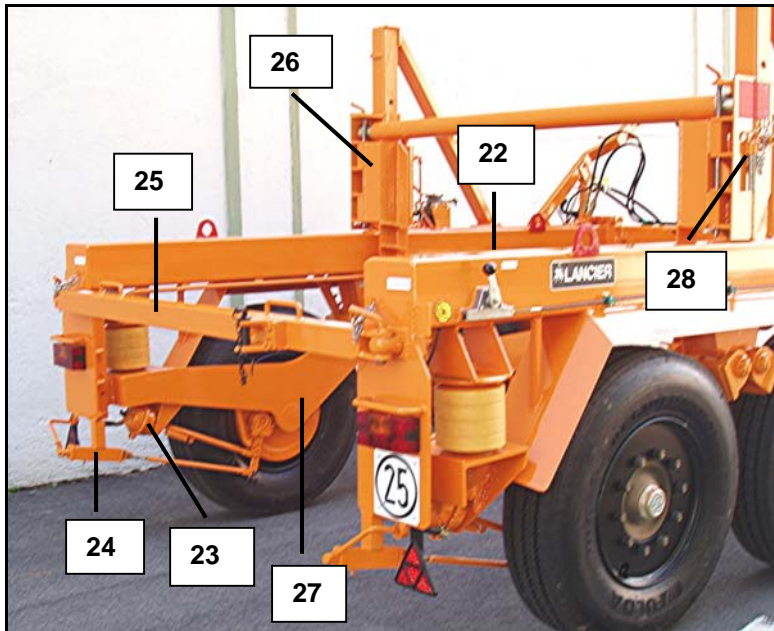
17 Friction roller for drum drive

18 Hydraulic oil tank

19 Air tank for the air brake

20 Petrol tank

21 Valve block for drum drive operation and drum loading



22 Remote control for the drum drive

23 Brake cylinder

24 Handbrake

25 Cross bar

26 Drum take-up

27 Motion link with wheel suspension

28 Bolt for securing the drum take-up

Operation



Accident Prevention

Observe the admissible load for the trailer.
Observe the load on the support wheel.

When working in public traffic secure the working area according to traffic regulations.

To load the drum

Remove the drum axle (11) from the trailer and place it in the cable drum.

Place the drum axles clamps and centering cones on both sides of the drum and fasten the screws of the clamps so that the drum cannot move on the axle.

Take out the cross bar (25).

Reverse the cable trailer vehicle with the assistance of another person so that the cable drum is in the centre at the back of the trailer.

Continuing reversing the trailer till the axle ends on the right and left side fit into the holder of the drum take-ups (26) of the trailer.

Secure the axle in the holder by inserting on each side the bolt and secure the bolts with the spring cotter pin.

Rotating the cable drum



Accident Prevention

Position the cable trailer into the operating position, and tighten both handbrakes (24) of the trailer chassis.

Place the chocks (5) behind a right and left wheel.

Additionally, if necessary, secure the trailer with ropes, chains or similar to the hooks of the base frame.

Let down the support wheel and if necessary support with wooden boards.

Check the fuel level in the fuel tank of the motor and top up if necessary

Check the oil level of the driving motor and top up if necessary

See fuel and motor oil information and safety instructions in the operating instruction of the motor manufacturer.

Start the motor (8) of the hydraulic system and take out the bolts (28) on both sides of the drum take-ups.

Load the drum by operating the left and right lever of valve block (9).

The drum will be lifted into the transport position.

The left and right lifting cylinder is able to lift max. 16 tons if the weight is in the centre of the axle.

If the lifting force is not sufficient, it can be increased a little by adjusting the pressure relief valve on the valve block.

For details ask LANCIER CABLE.

When the drum has been lifted into the transport position secure the drum by putting the bolts (28) back into its position and secure with the spring cotter pins. Release the pressure from the lifting cylinder.

Replace the cross bar (25) back into position.

The **unloading** of the drum is done in the reverse order.

Release and remove the cotter pins of the drum drive frame.

Adjust both friction roller (17) to the width of the drum and tighten the screws

Place the drum drive shaft next to the cable drum rim by using the winch (12).

By operating the rope winch (12), pull the friction roller tightly against the drum rims.

Start the motor (8) of the hydraulic system.

By operating the middle control lever of the hydraulic valve block (21) set the cable drum into motion.

When the winding or unwinding of the cable is completed, wind the drum driving frame back into the resting position and secure with the cotter pins.

Switch off the hydraulic systems

Maintenance



Accident Prevention



Risk of injury

During maintenance the motor must be switched-off and the cable trailer must be placed in a secure position. Lower the support wheel (4) and place both chocks (5) underneath the wheels.

For maintenance of the motor for the hydraulic system follow the manufacturer's instructions.

Regularly check all pipeworks, hoses and screw connections for tight fit and externally visible damage. Repair defects immediately.

Hydraulic oil leaking out under high pressure can lead to injury and fire!

In case of injury, immediately consult a doctor to avoid possible serious infections!

Only look for leak spots in the pressurized hydraulic system with suitable working aids and protective clothing!

Avoid long skin contact with hydraulic oil!

- Observe the oil producer's disposal guidelines!
- Waste oils may not be mixed with other liquids!
- Do not dispose of waste oil with refuse, in the main sewer and in drains, or put it away on the ground!
- We recommend that waste oil be brought in a sealed container to an officially licensed waste oil collection depot!

After the first 50 operating hours and then after every 500 operating hours or every two years change the hydraulic oil.

Filled in hydraulic oil: Aral VITAM HF 46 (Hydraulicoil HVLP)

Alternativ oil type: ESSO Univis N 68; viscosity ISO VG 68

Alternativ oil type for winter operation ESSO Univis J26; viscosity ISO VG 32

Oilvolume approx. 10 l

Unscrew the oil filter of the oil tank (18) and remove the drain plug. Drain the old oil completely. Clean the oil filter and wash out by pure gasoline. Also clean the rubber seals and replace damaged seals. Put back the filter insert into the filter pot tighten the screws.

Unscrew the oil dip stick with air filter and wash out the filter in pure gasoline or cleans the filter by compressed air.

Fit the drain plug and fill up the oil tank with new oil.

Check the correct oil level with the dip stick. Check all hydraulic connections on tightness.

The oil level in the hydraulic oil tank must be checked regularly. For filling up the oil and for checking the oil level unscrew the cap from the tank.

An air filter is integrated in the dip stick. This filter enables the oil to "breathe" due to temperature differences of the hydraulic oil.

Lubricate all lubricating points marked in red monthly or more often depending on situation. Take care that the four motion link connections (27) are regularly greased.

From time to time

Check the valves, pressurized air lines and couplings of the brake system for tightness and correct functioning.

Clean the air filter of the brake line

Drain condensation water from the air tank by opening the valve.

Lubricate all cotter pins.

Keep the piston rod of the drum jacks clean.

When changing a tyre observe the type and the specified load rating.

Before changing a wheel secure the wheels on the opposite side of the trailer with chocks!

Check rims and tyres for visible damage!

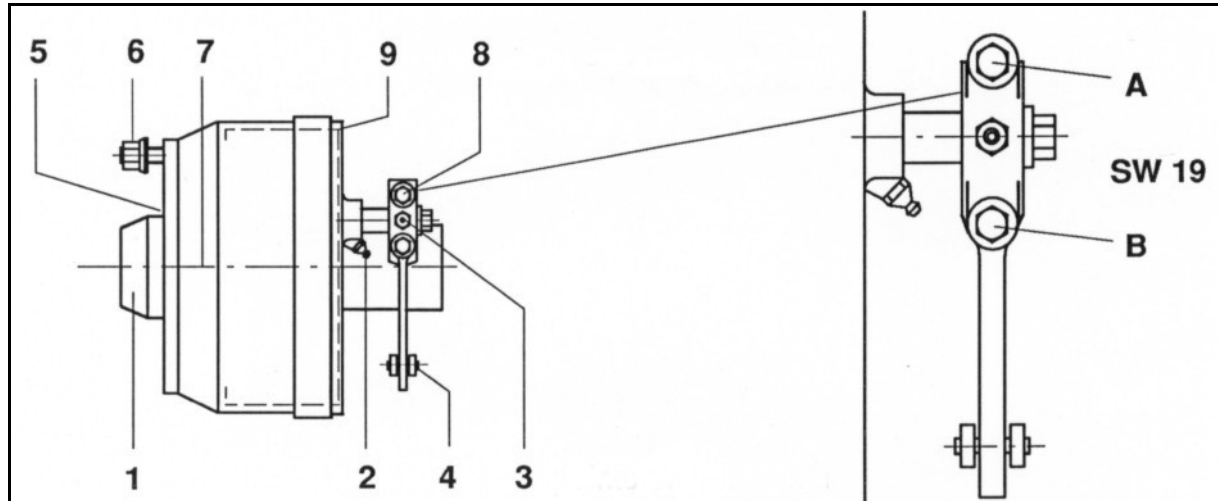
At longer periode of disuse of the trailer drain the air container, pressurize the brake system and actuate it for checking the function of the valves and the brake in general.

Keep the piston rods of the drum jacks clean and apply a thin coating of grease.

Lubrication and maintenance for the axles

The truck driver can carry out routine maintenance.

In case of defective parts, these should be replaced at a specialist garage if the vehicle owner does not have the appropriate staff and equipment available at his own works premises and if he is not in possession of an official permit for brake testing.



- 1) Change of the grease of the wheel bearings every 60.000 km. Use roller bearing grease, e.g. Shell Alvania G3 (R3)
- 2) Lubrication of the brake camshaft/brake bracket every 3.000 km with general purpose grease or MoS₂ grease.
- 3) Lubrication of the slack adjuster every 3.000 km with general purpose grease or MoS₂ grease.
- 4) Oiling of the articulation head every 3.000 km with engine oil.
- 5) Check tight fit of the wheel cap after 500 km after taking into operation and then every 15.000 km
- 6) Check tight fit of the wheel nuts after 50 km after taking into operation and then every 500 km. Tighten, if necessary with 450 – 550 Nm.
- 7) Check bearing play after 500 km after taking into operation and then every 15.000 km. Readjust, if necessary to 0 to 0,1 mm axial.
- 8) Check bleed clearance play after 500 km after taking into operation and then every 3.000 km. Readjust, if necessary by releasing screw A. Turn right screw B (worm) until the brake is fastened and then loosen screw B until free rotating of the drum brake. Tighten screw A by approx. 70 Nm.
- 9) Check the wheel brake lining every 30.000 km and renew, if necessary. Check brake drum and tension spring for wear and damage and renew, if necessary. Min. thickness of the brake lining 5 mm.

The tyres must be checked regularly on correct pressure (see the specification of the tyre manufacturer).

If the trailer has to be jacked up always secure the opposite wheel side with chocks!

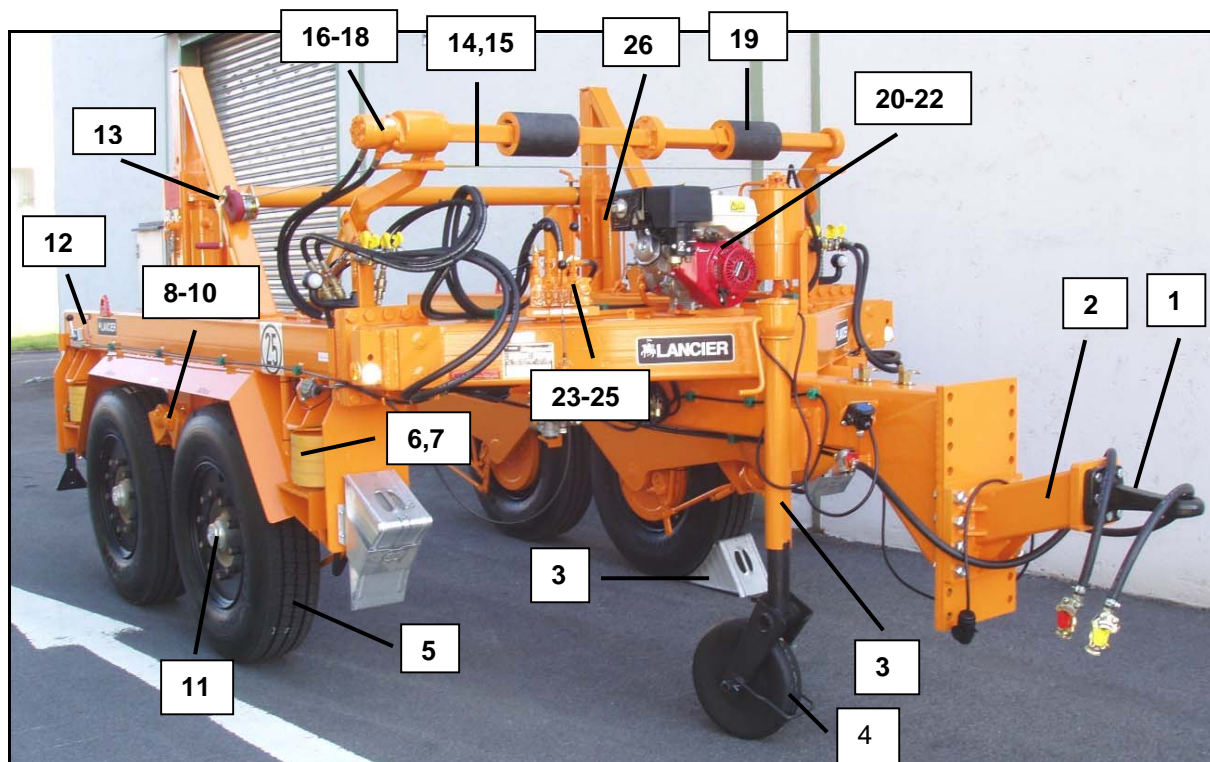
No access should be allowed to the jacked trailer!

Technical data

Engine power for the hydraulic system	6,6 kW
Fuel	regular, lead-free petrol
Payload	140 kN
Weight empty small version wide version	3.150 kg 3.500 kg
Weight of the traverse for trailer width 3.400 mm	295 kg
Drum axle, long	155 kg
Drum axle, short	115 kg
Total length	6.000 mm
Width; small version Width; wide version	2.510 mm 3.410 mm
Height	2.450 mm
Clear loading width; small version wide version	1.775 mm 2.665 mm

For max. drum diameter	3.600 mm
Adjustable trailer coupling from	500 – 1050 mm
Permissible max. speed at 140 kN payload	25 km/h
Tyres	11 R 22,5
Pneumatic brakes	Dual-line with ALB and ABS
Lighting	According to EG
Acoustic capacity level L_{WA}	90 dB(A)
Noise emission level L_{PA}	88 dB(A)
Measurement deviation range	±2,3 dB(A)
Measurement method	DIN 45635-01-KI 2
Measurement conditions	outdoors

Spare parts



Pos.	Description	Order-no.
1	Ring pulling eye	53826
2	Connecting tube	56350
3	Brake shoe	58828
4	Support wheel, complete	22014
5	Tyre	72392
6	Air cell suspension	02433
7	Sping	02431
8	Bolt	53765
9	Nut	53948
10	Washer	02389
11	Axle; right front and left rear	72391
	Axle; left front and right rear	72390
12	Remote control for the drum drive	27290

13	Winch for drum drive	72371
14	Rope	55610
15	Tension spring	02397
16	Motor	19160
17	Bearing	09367
18	Coupling	09348
19	Friction wheel	07265
20	Motor	41750
21	Coupling	21860
22	Gear pump	70077
23	Valve block	51503
24	Switching element	51508
25	Change over valve	51505
26	Hydraulic cylinder	31506

Electric wiring

Lighting system 12 and 24 V

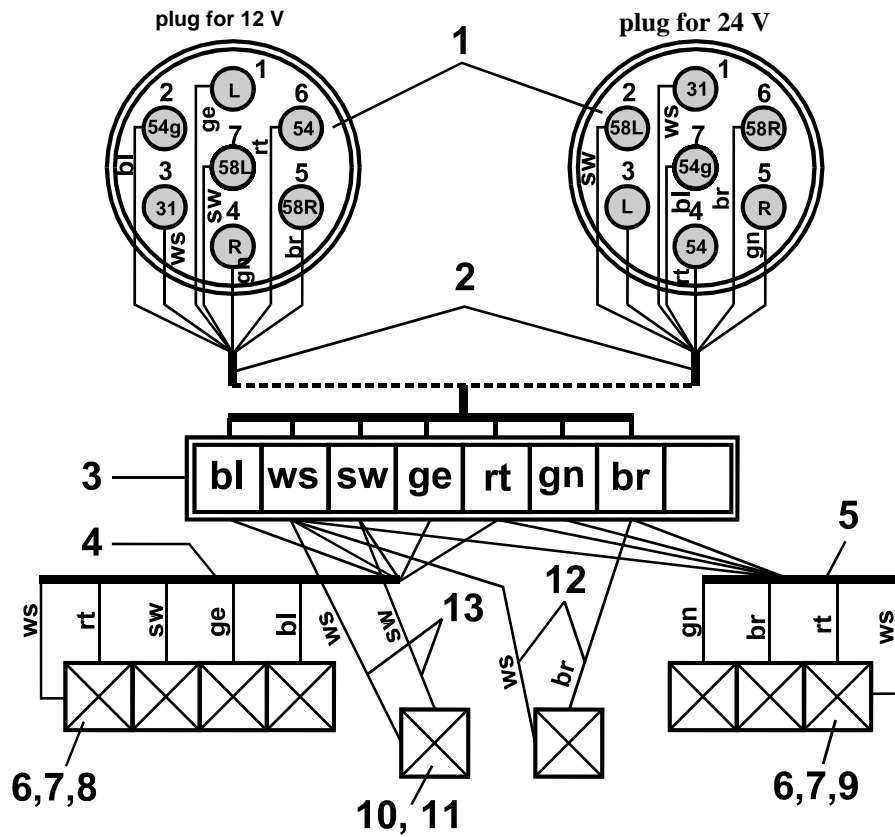
br = brown
 ge = yellow
 gr = green
 rt = red
 ws = white
 sw = black
 bl = blue

2-core cable
 ws, sw and ws,br

4-core cable
 ws, rt, br, gr

5-core cable
 sw, ws, ge, rt, bl

7-core cable
 br, ge, gn, rt, ws, sw, bl



Pos.	Description	Order no. for 12 V system	Order no. for 24 V system
1	Plug	04286	04286
2	Cable NYMHY	04113	04113
3	Connector	04283	04283
4	Cable FLYY	22764	22764
5	Cable FLYY	26899	26899
6	Bulb 10 W	04382	29795
7	Bulb 21 W	04381	29796
8	Left rear light	04377	04377
9	Right rear light	08560	08560
10	Bulb 5 W	04380	29797
11	Licence plate light	23926	23926
12	Cable FLYY	57709	57709
13	Cable FLYY	26899	26899