1 Introduction

You decided to buy a TEREX TL120 Wheel Loader.

The confidence you have placed in this model will be rewarded by efficient and economical performance of the machine.

These Operating Instructions contain all information necessary for the correct use of the machine.

This instruction book is intended for use by personnel responsible for operation, maintenance, repair, and supervision of the machine.

This Operating Manual must be read thoroughly and understood before commissioning the machine and is always to be kept within reach at all times.

Please contact your dealer immediately if you need any further explanations or anything is unclear.

Special equipment and attachments are not included in this Operating Manual.

We reserve the right to make improvements on the machine within the scope of impending technical developments, without incurring any obligation to change these Operating Instructions.

Attention

Any modifications of TEREX products and their equipment using extras and work attachments which are not included in our product range require our written approval. If our approval is not sought, our warranty expires, as does our product liability for any resulting consequential damage.

Please always quote the vehicle type and vehicle identification number when making an inquiry and for all correspondence.

Attention

The vehicle identification number of the machine is stamped onto the type plate (1/1).

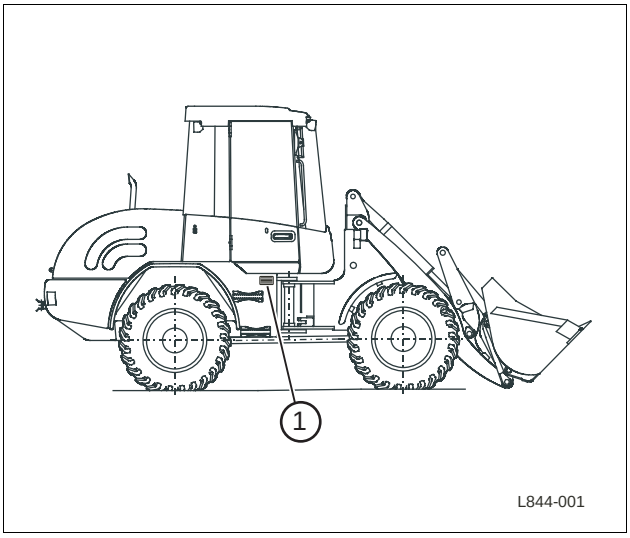


Fig. 1 Type plate

1.5 Pictograms

The following Table explains the meaning of the pictograms which may be attached to the machine.

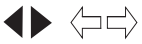
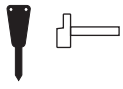
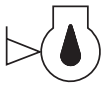
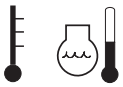
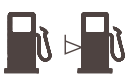
Symbol	Description		Symbol	Description
	Danger to life			Horn
	On machine: Caution, maintain safety distance In Operating Manual: Danger of injury/machine damage			Direction indicator LT/RT
	Attention			Working floodlight
	Battery charge indicator			High-beam indicator
	Preheating			Rotating beacon
	Engine oil pressure			Hazard warning system
	Engine oil temperature			Hydraulic rock breaker
	Engine oil level			Working hydraulics shut-off
	Coolant temperature			Unlocked
	Coolant level			Locked
	Air filter			Float position
	Fuel, fuel level			On machine: Safe distance
	Hydraulic oil Hydraulic oil level			Danger of injury
	Hydraulic oil temperature			Danger of crushing

Table 1 Pictograms on the machine

2 Safety and Accident Prevention

2.1 Declaration of Conformity

CE

Declaration of Conformity

The machine conforms to all basic requirements of the relevant European guidelines.

Conformity has been proven. The corresponding documentation and original of the Declaration of Conformity are kept by the manufacturer.

A copy of the Declaration of Conformity is attached to the sales documentation.

2.2 Introductory remarks

Before putting the earth-moving machine into operation, read these Operating Instructions carefully and strictly observe the indicated references for safe operation.

National safety regulations - e.g. the Accident Prevention Regulations, "Earth-Moving Machinery" (BGR 500, 2.12) and "Vehicles" (BGV D29) in the Federal Republic of Germany - must also be complied with when operating the earth-moving machine.

In addition to the Operating Instructions, legal regulations governing road traffic and accident prevention must also be observed. Such requirements could also apply in respect of handling hazardous goods or the wearing of personal safety gear, for example.

Furthermore, safety laws governing work in particular locations (tunnels, adits, quarries, pontoons, contaminated areas, etc.) must likewise be observed.

2.3 Proper use

The earth-moving machine with standard bucket equipment is intended solely for work which is suitable for the function of the machine and its work implements.

Such work involves loosening, taking up, transporting and dumping soil, rock or other materials as well as loading these materials on trucks, conveyor belts or other means of transport, when the transport of the material is normally done by positioning the earth-moving machine.

The mounting of special work implements such as multi-purpose buckets, side-dump buckets, sweepers, fork lift attachments, etc. allows the machine to perform above mentioned work.

Any usage above and beyond that specified here, e.g. the transport of persons or the usage of the lift equipment as work platform is regarded as improper use. The supplier cannot be held responsible for any damage resulting from improper use. The risk is carried solely by the user.

Compliance with the operating and maintenance instructions, the performance of maintenance work as specified and adherence to replacement intervals all form part of the concept of proper use.

2.4 General safety instructions

- It is important to refrain from any working methods which impair safety.
- The earth-moving machine is only to be used with a cabin or canopy.
- The earth-moving machine is only to be used if it is in a safe and operational condition.
- The manufacturer’s Operating Instructions must be complied with for operation, maintenance, repair, assembly and transportation.
- The plant operator must provide additional special safety instructions, wherever necessary, for specific local conditions.
- The Operating Instructions and any information pertaining to safety must be carefully kept in the driver’s cab.
- The Operating Instructions and safety notes must be complete and fully readable.
- Safety equipment on earth-moving machines must not be deactivated or removed.
- Protective clothing must be worn during operation. Rings, scarves and unbuttoned jacket should be avoided. Protective goggles, protective boots, helmets, gloves, reflecting jackets, ear-muffs, etc. may be required.
- Before commencing work, information must be obtained on first aid and possible means of rescue (emergency ambulance, fire brigade, helicopters).
- A check must be carried out to ensure that the first aid box is at hand and that its contents comply with regulations.
- Personnel must be aware of the location and method of operation of the fire extinguishers on the earth-moving machine as well as on-site fire-warning and fire-fighting equipment.
- Loose parts such as tools or other accessories must be secured to the earth-moving machine.
- Doors, windows, covers, flaps etc. must be closed or secured against slamming shut if in an open condition.

2.5 Operation

Earth-moving machines are only to be independently operated and serviced by persons who:

– are physically and mentally suitable

– have been instructed in the operation or maintenance of earth-moving machines and have demonstrated this ability to the plant operator

– and who can be expected to perform their allocated duties reliably.

All such persons must be of the legal minimum age.

They must be designated by the plant operator to operate or service the earth-moving machine.

Operating equipment and controls are only to be operated from the driver's seat.

The earth-moving machine is only to be ascended and entered using the entrances and surfaces intended for this purpose.

It is the driver’s responsibility to ensure that the operator’s stand, entrances and other surfaces of the earth-moving machine which have to be stepped on are kept free of dirt, grease, oil, ice and snow.

3.1.3 Dimensioned drawing with fork lift attachment

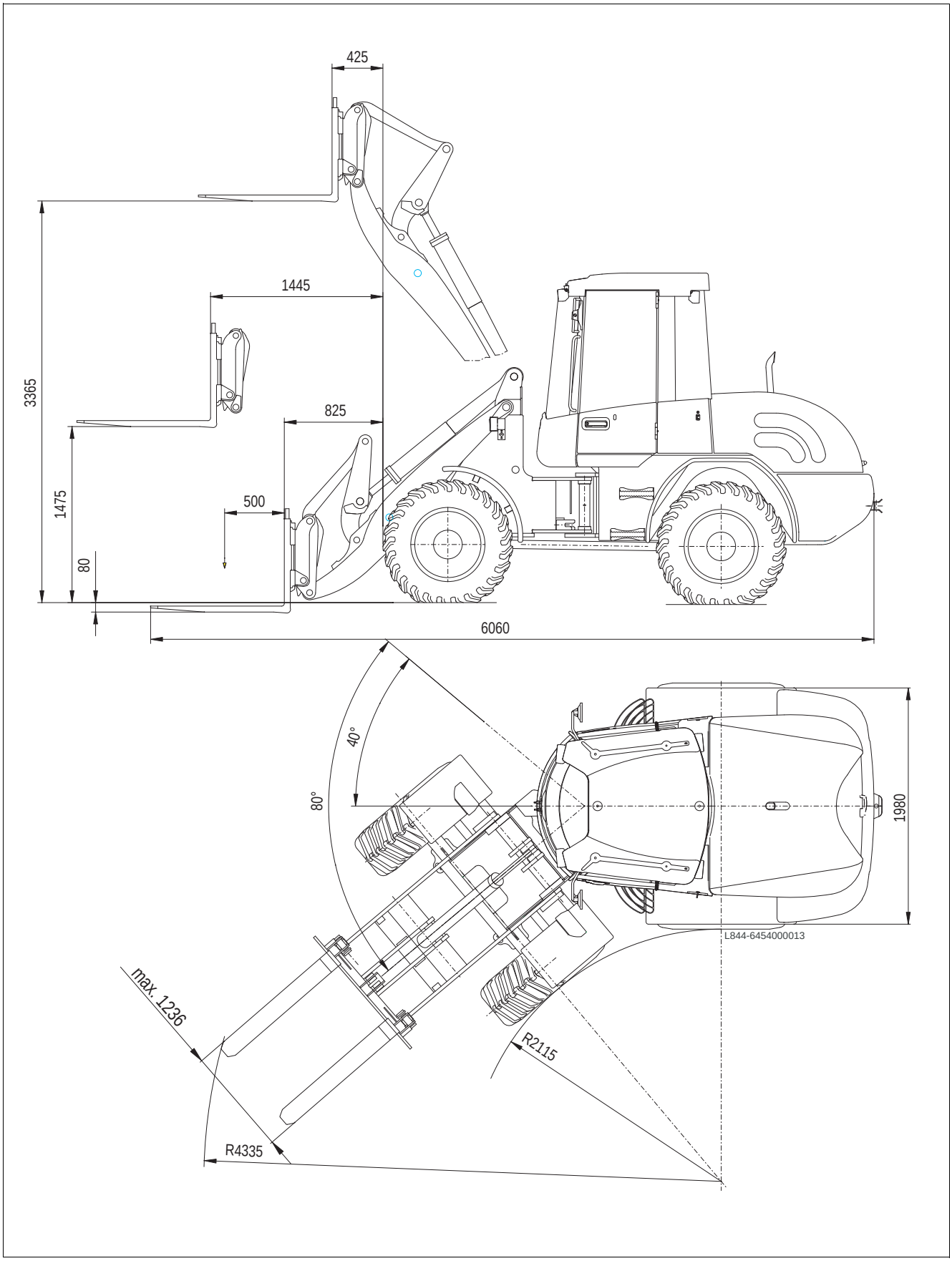


Fig. 4 Dimensioned drawing with fork lift attachment and 405/70 R 20 tires

3.9.2 Fuel, lubricant and coolant specifications

Use	Code designation according to Bi [1]	Prescribed fuels, lubricants and coolants for Central Europe Designation	Specification, standards, Quality	Remarks
Engine	–	Diesel fuel	EN 590 ASTM D975 1-D / 2-D	***Attention*** *Before using RME fuels (rape oil methyl ester), it is essential to consult your responsible TEREX dealer for further details.*
Engine	EO 1540 A	Engine oil	SAE 15W-40 API CF4 ACEA E3 or E2	See also engine manufacturer's Operating Manual.
Hydraulic system	HYD 1040	Hydraulic oil or multi-grade engine oil	HVLP 46 or SAE 10W-40	The following viscosity limit values must be observed (according to ASTM 445): at 100°C min. 8 mm^2/s (cSt) at –10 °C approx. 1500 mm^2/s (cSt)
	BIO-E-HYD-HEES	Biodegradable hydraulic oil on a synthetic ester base	Filling according to customer specifications. Brand label on the machine. ***Machine damage*** *caused by non-mixable bio oils.* • *Do not mix bio oils from different manufacturers.*	The same viscosity specifications apply as for mineral hydraulic oils. ***Attention*** *When changing from mineral to biodegradable hydraulic oils, the tank and the hydraulic system must be completely drained, cleaned and flushed.* *For further details before changing oils, please consult your responsible TEREX dealer.*
Axles Wheel hubs	GO 90 LS	Transmission oil	SAE 85W-90LS API-GL 5	Alternative recommendations SAE 90LS SAE 80W-90LS
Lubricating points	MPG-A	Multi-purpose, lithium-soap based grease	K2K-30 DIN 51825	
Brake	ATF	Brake oil	ATF Type A Suffix A Dexron-IID	
Cooler		Mixture of water, additives and glycol	***Machine damage*** *due to incorrect coolant and mix proportions.* *Observe the information on the cooling system given in the engine manufacturer's Operating and Maintenance Manual.*	The antifreeze is factory-set to approx. -25 °C.

Table 11 Specification of fuels, lubricants and coolants

[1] *In conformity with the regulation lubricants of the Main Association of the German Building Industry e.V.*

3.13 Optional accessories

– Orthopedic air-cushioned driver’s seat
– Fire extinguisher
– Height and tilt-adjustable steering wheel
– Pressurized cab
– Air-conditioning
– Engine-independent diesel heater with timer
– Diverse electrical accessories such as working floodlights, rotating beacon, radio, etc.
– FOPS-roof guard
– Sliding window, right-hand door
– Diesel exhaust cleaner
– Catalytic converter
– High-speed version

– Ride control system (LSD)
– Anti-theft device
– Back-up alarm system
– Electric refueling pump
– Quick-attach system, hydraulically operated
– Snow blade
– Sweeper
– Load hook for attaching to forks
– Rear axle weights
– Outlet for hydraulic hand hammer
– Filling with biodegradable hydraulic oil (ester-based "BIO-E-HYD-HEES")

Further optional equipment available on request!

Machine damage

due to unauthorized alterations to the design, additional equipment and work tools of TEREX products.

- *Please note that any modification requires the written approval from the manufacturer. If our approval is not sought, our warranty expires, as does our product liability for any resulting consequential damage.*

4 Operation

4.1 Initial familiarization

Danger to life

due to unintentional operation of controls.

- *The machine must be entered from the left-hand side as seen in the direction of travel.*

The right-hand cab door acts as an emergency exit.

If the cab is entered by the right-hand door, the joystick may be operated unintentionally.

- If you are not familiar with the controls and indicators of this machine, read this Chapter thoroughly before operating the machine.

All the functions are described in this Chapter.

- Before driving and operating this machine, you must memorize the controls and indicators well.
- Prior to any initial start-up, the machine must be subjected to a thorough visual inspection. During this inspection, pay special attention to damage, loose or missing screws and bolts, accumulation of oil and oil or fuel leaks. Problems must be eliminated immediately. If the operational safety of the machine is endangered, the machine must not be taken into operation until the problems have been eliminated.
- Every time the machine is taken into operation, the inspections described in Chapter ➔ 7.8, 72 must be performed.

4.4 Driver's seat / Steering wheel tilt adjustment

The comfort seat is spring-mounted with oil-pressure operated shock absorbers and lap belt.

The seat meets international quality and safety standards in compliance with ISO 7096 and ISO 6683 (Fig. 11).

1 Horizontal adjustment

2 Weight adjustment

3 Seat back adjustment

4 Armrest (option)

5 Vertical adjustment

- Raising seat:
  Raise seat until it clicks audibly into place.
- Lowering seat:
  Raise seat as far as the stop; the seat then sinks to its lowest position.

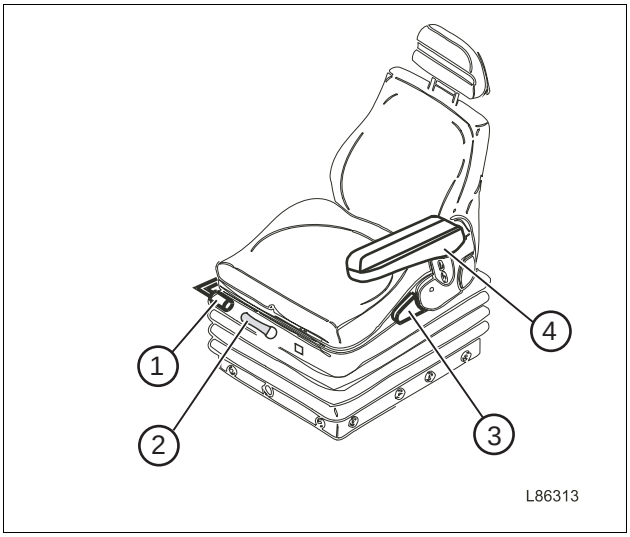


Fig. 11 Driver's seat

Tilt adjustment of steering wheel

- Push down lever (12/4).
- Adjust steering-wheel tilt.
- Release lever.

Height adjustment of steering wheel (option)

- Push up lever (12/4).
- Adjust steering-wheel height.
- Release lever.

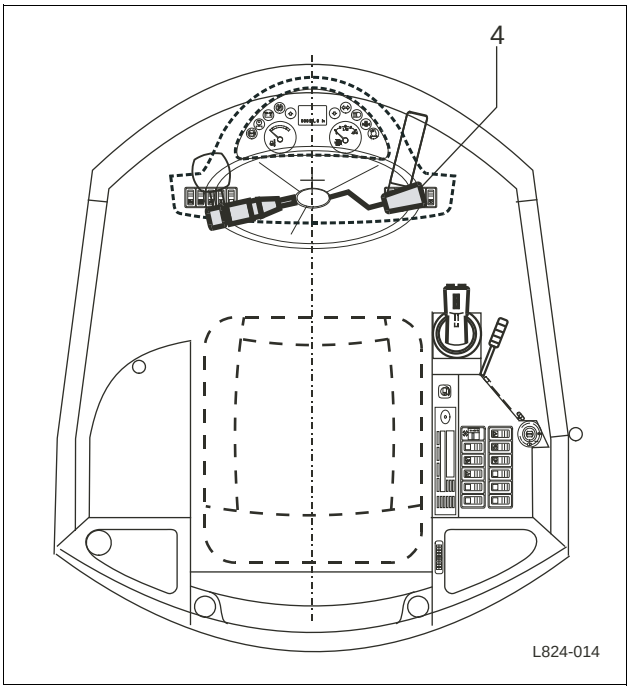


Fig. 12 Tilt and height adjustment of steering wheel

5 Working Operation

Danger to life

due to incorrectly fastened work attachments.

- *Daily before commencing work and after every change of work attachments, a check must be carried out to ensure that the work attachment is correctly fastened, and the quick-mount hitch is properly locked.*
- *The bucket must be moved carefully at a low height.*

- Before commencing loading work, memorize the lever controls well.
- During loading operations, driving and work movements should flow in smooth succession.
- Drive slowly when familiarizing yourself with the controls.

5.1 Operation - Loader

- Switch on the work equipment (21/35).

Operation - Bucket

- Operate joystick (21/6).

Operation - Additional control circuit

- Additional control circuit (21/47) in Position 1.
- Press right-hand / left-hand push-button switch (21/5) (e.g. open/ close multi-purpose bucket).

Attention

The additional control circuit must always be switched off unless additional equipment is operated.

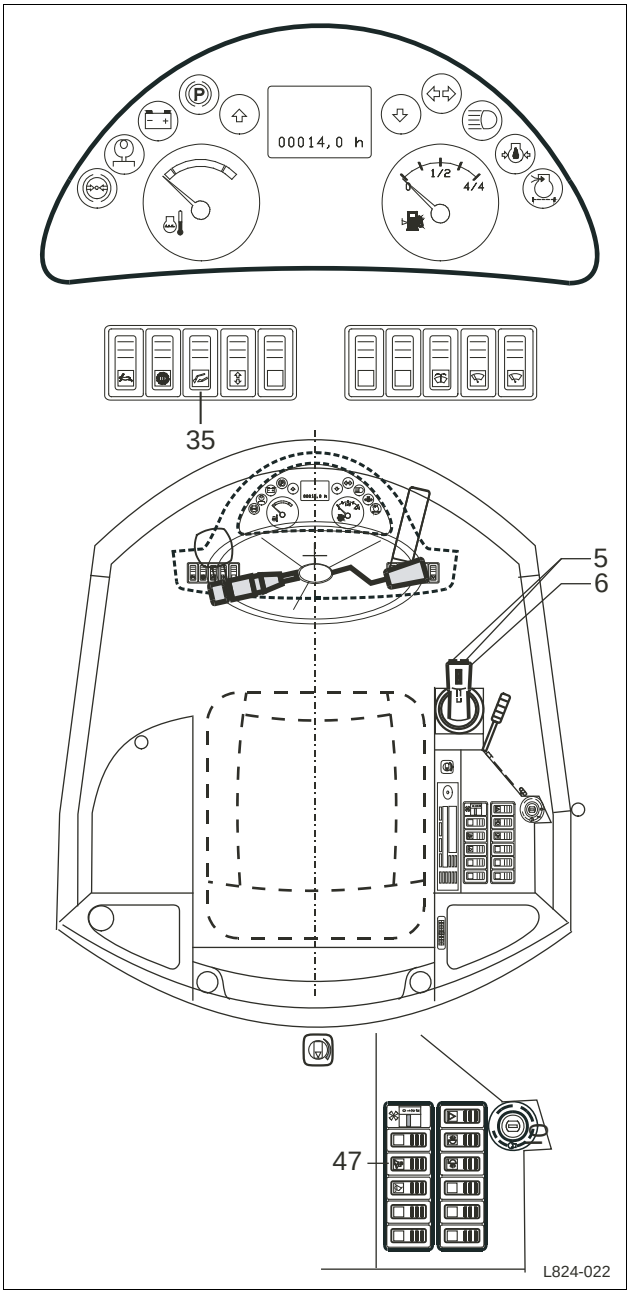


Fig. 21 Operating the loader

5.3 Notes on how to work with the machine

5.3.1 Loading

During transport, the bucket - either filled or empty - must be kept as close to the ground as possible.

If possible, avoid long transport distances!

Attention

- *For loading, lower the bucket and position the cutting edge parallel to the ground. Reduce driving speed by inching as required.*
- *Move the bucket into the material to be loaded.*
- *As soon as the bucket is filling, slightly raise the lift frame and tilt back the bucket.*
- *For dumping, raise the bucket until it is above the point of dumping and dump the material.*

5.3.2 Scraping and grading

- Lower the lift frame and move the cutting edge into the ground keeping a flat angle of inclination. Do not penetrate too deeply to ensure smooth removal of earth.
- During this operation, the depth is only to be leveled by moving the bucket in and out.

5.3.3 Excavating

- To dig out an excavation, strip layers which are as regular as possible.
- Plan the excavating work in such a way as to enable the wheel loader to drive forward with full bucket out of the excavation.
- Keep the outward run of the excavation as flat as possible.

7.5 Care and cleaning

Attention

The machine must be cleaned on a suitable surface with an oil separator.

- Neither a steam-jet appliance nor a high-pressure cleaning apparatus are to be used for cleaning during the first two months after the machine is used for the first time or when newly painted to allow the paint to harden.
- Do not use aggressive detergents for cleaning the machine. We recommend using commercially available cleaning agents for passenger cars.
- When cleaning with a steam-jet appliance, the hot water jet should not exceed 80°C and the spray pressure should be no greater than 70 bar.
- Linings (insulating materials, etc.) should not be exposed directly to water, steam or high-pressure jets.
- Take care not to spray exhaust-gas and air filter openings when cleaning with water or a steam jets.
- When cleaning the engine with water or a steam jet, do not expose sensitive engine parts, such as the alternator, cabling, oil pressure switch, etc. directly to the jet.
- The machine must be lubricated after each wet clean in accordance with the lubricating plan and a test of all work cycles, support and driving functions should be carried out.

7.6 Notes for operation in winter

The following points - and the relevant notes in the Engine Instruction Book - should be observed during winter operation:

Hydraulic oil

– If the machine is not used for longer periods at temperatures around and below freezing, warm up the engine by running at medium revs. (for approx. 3 – 5 min).

Engine oil

– The oil viscosity (SAE class) should be selected according to the ambient temperature at the machine's place of operation.

Coolant

– Check the level of antifreeze before the beginning of the cold season and adjust in line with the ambient temperature if necessary. The antifreeze is factory-set to approx. -25 °C.

Condition of the battery

– A good cold start performance requires a well-charged battery. The minimum starting temperatures can be lowered by 4-5°C by warming the battery to approx. +20°C (remove the battery after the engine has been turned off and store it in a warm room).

– Ensure that there is good contact of terminal connections when installing the battery.

– Only tighten terminal screws "hand-tight" to prevent deformation of the terminal cones.

7.7.2 Daily and weekly tasks

Inspection and maintenance jobs to be performed by operating personnel.

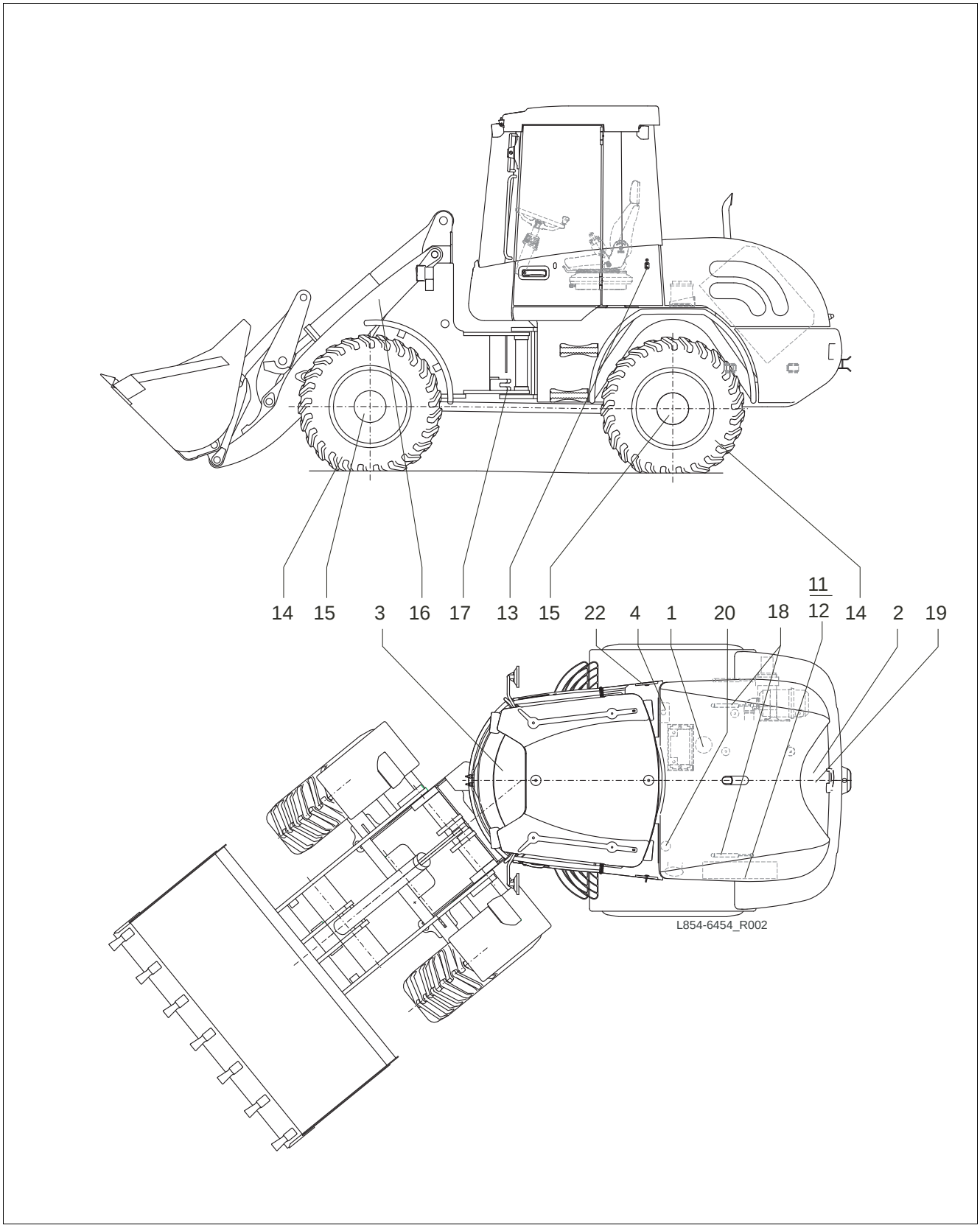


Fig. 31 Inspection and maintenance plan

7.8 Inspection and maintenance work

7.8.1 Engine oil

7.8.1.1 Checking the engine oil level

- The oil level must be checked daily before start-up with the machine standing on level ground.
- Insert the oil dipstick (33/1) until the stop. The notches on the dipstick indicate the minimum and maximum oil levels.
- Top up engine oil if necessary. Open the filler neck (33/2) and add oil using a clean container. Close the filler neck again.

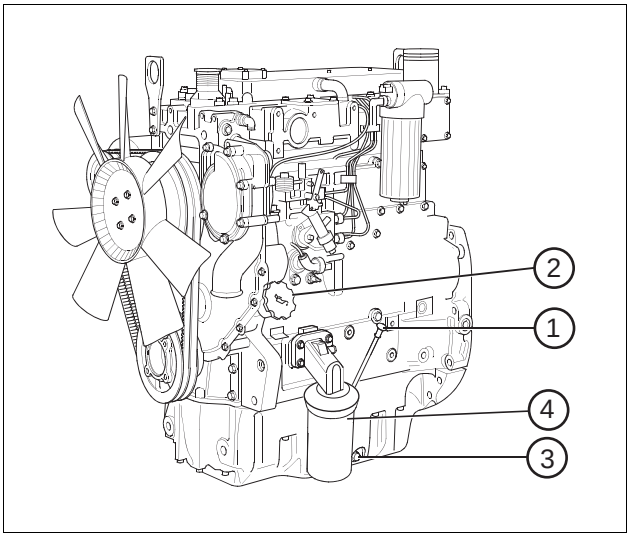


Fig. 33 Engine oil

7.8.1.2 Changing the engine oil

Attention

- *Collect the waste oil in a suitable container and dispose of according to regulations.*

- Run the engine until it reaches operating temperature, engine oil temperature approx. 80 °C.
- Park the machine on a level surface.
- Switch off the engine.
- Remove the cover from the bottom rear-end.
- Place suitable drip pans under the opening.

Danger of scalding

due to hot oil getting into contact with skin or eyes.

- *Wear appropriate protective clothing/safety goggles.*

7.8.5.7 Cleaning the main cartridge

Machine damage

due to damaged main cartridge.

Never wash or brush out the main cartridge.

When blowing out, ensure that dust does not land on the inside of the main cartridge.

- The main cartridge can be cleaned up to five times if necessary. It must be replaced once it reaches its maximum service life of two years, at the latest. The number of times it is cleaned must be marked.
- For cleaning (48/1), a pipe the end of which is bent at 90° should be attached to a compressed-air pistol. It must be sufficiently long to reach the floor of the cartridge. Blow out the main cartridge from the inside to the outside with dry compressed air (max. 5 bar) by moving the pipe up and down in the cartridge and continue until no more dust escapes.
- Check the clean main cartridge for damage to the paper bellows and rubber seals (48/2). Tears and perforations in the paper bellows can be determined using a torch.

Machine damage

due to damaged main cartridge.

Never continue to use damaged main cartridges. If in doubt, use a new one.

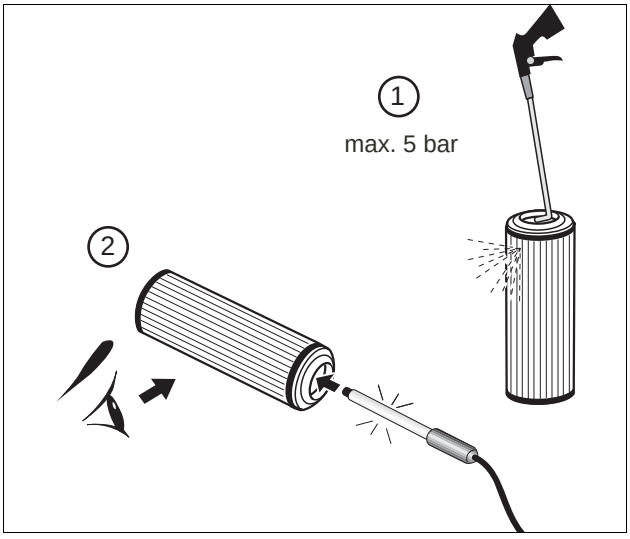


Fig. 48 Cleaning the main cartridge