Description

4 Description

Constructional and design enhancements are important for the technical development of this equipment and may lead to deviations between figures and content in this manual.
These changes are summarized in Chapter 13. Please refer to Chapter 13 for details.

4.1 Overview

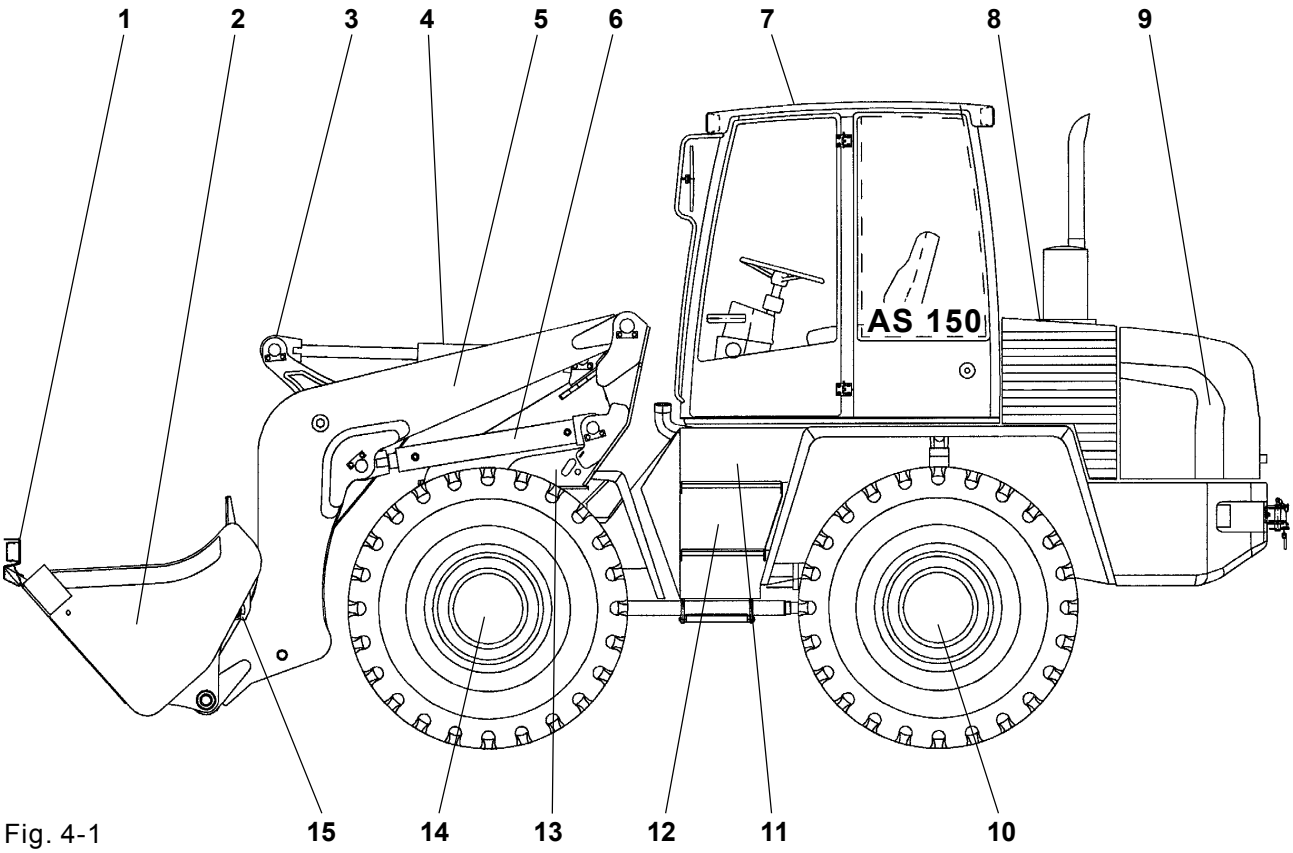


Fig. 4-1

1 - Bucket protector
2 - Bucket/Attachment
3 - Trunnion balls
4 - Push cylinder
5 - Boom
6 - Lift cylinder
7 - Cabin
8 - Hydraulic oil tank/Filler cap
9 - Engine
10 - Rear axle
11 - Battery case
12 - Tool case
13 - Swivel assembly
14 - Front axle
15 - Quick coupling mechanism
16 - Fuel tank, access ladder on right side of vehicle (not shown)

4.2 Swivel assembly and Axle support

The twin rotational cylinders are driven by a separate gear oil pump via a control valve. The swivel assembly is attached to the cylinders via drive chains, and thus totally free of play. Rotation can occur simutaneously while lifting the boom without any interference between the two components.

The loader assembly can be rotated through 90° left or right.

When the loader assembly is rotated through more than approximately 30°, the axle support mechanism automatically engages. Hydraulic pressure is built up in the rear axle support cylinder on the load-bearing side via the support valve and uses the actual load pressure to counteract the effect of the rotated load.

NOTE

Axle support is disengaged when the swivel assembly is centered.

4.3 Float Feature

The assembly is equipped with a float feature that allows the operator to perform tasks such as leveling on uneven terrains. To enable the float feature, push the hydraulics control lever (4-7/2) forwards through its pressure point. The lever will remain in this position until you disengage the float feature by pulling it in the opposite direction.

DANGER

Ensure that the bucket is grounded before engaging the float feature.

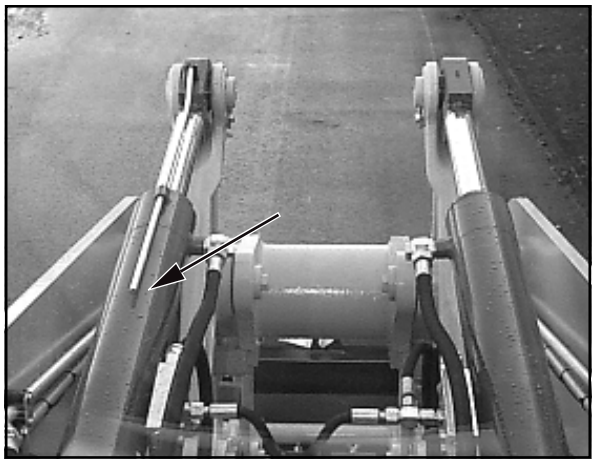


Fig. 4-2

4.4 Bucket Position Display

The driver can determine the bucket position by checking the colored marks on the tilt cylinder. If the mark on the tilt cylinder aligns with the end of the monitoring rod (4-2/ arrow), the bucket heel is parallel to the ground.

4.5 Accoustic Warning System

The machine is fitted with an accoustic warning system that provides three functions:

1. Show gear shift failure.
   » In combination with signal lamp (4-8/10). «
2. Show hydraulic oil temperature over 100°C (+/- 3°C).
   » In combination with signal lamp (4-8/36). «
3. Show indicator use.
   » In combination with signal lamp(4-8/26). «

4.6 Air Conditioning (optional)

The loader is equipped with an air conditioning unit that allows the driver to set the desired temperature, thus guaranteeing improved operator response and considerably enhancing operator concentration. At the same time, the air conditioning unit dehydrates the air entering the cab, preventing condensation and steamed up windows, and allowing for better visibility. Additionally, the air conditioning unit uses dust filters to filter the air, at the same time preventing dust and other unpleasant or harmful substances from entering the cab by permanently generating slightly raised cab pressure.

To ensure perfect working order and full performance, the compressor must be engaged once a week for a short period, in order to lubricate the internal gaskets.

If the ambient temperature is low, the compressor should not be switched on until the engine has reached running temperature. The coolant, which in fluid state tends to collect at the lowest point in the compressor circuit, assumes its gaseous form due to engine heat. Fluid coolant can cause damage to the compressor.

DANGER

- Due not attempt to open the air conditioning circuit, as this will cause coolant loss.
- The coolant circuit contains gas which can be dangerous in certain circumstances.

ATTENTION

- The air conditioning unit should be maintained by trained and authorized staff only.
- The compressor has an oil fill-level gage. Do not remove the gage, as this will empty the unit. The oil fill-level does not need to be checked, except when emptying the air conditioning circuit.

NOTE

If the circuit develops a leak, the air conditioning unit will become ineffective.

4.7 Bucket Cushioning

When driving the loader over a longer distance, particularly if the bucket is loaded, it makes sense to engange the bucket cushioning feature (4-8/15) to prevent the loader from seesawing. This particularly applies on uneven terrain and if the loader is driven at higher speeds.

ATTENTION

- Bucket cushioning can only be activated while moving the loader, but not for normal operations.
- The pipe burst protection system is deactivated when bucket cushioning is engaged.
- Bucket cushioning cannot be activated when a fork-lift attachment or lifting hook is fitted.

NOTE

- Bucket cushioning is activated by pressing a button (4-8/15).
- Returning the starter switch (4-8/19) to the "0" position will automatically disengage the bucket cushioning mechanism. Re-engage the the mechanism, if required.

4.8 Gear Selection Type "20 km/h" and "25 km/h"

ATTENTION

The gears of the transfer gear shift can only be selected when the vehicle is stationary, the service brakes have been applied and the direction selector (4-7/3) is in neutral (position "0").

To select a gear, press the push-button (4-8/4) on the dash board.

- Press the button once to engage first gear (the push-button lights up).
- Press the button again to engage second gear (the push-button is unlit).

NOTE

Second gear is automatically selected when you restart the vehicle, that is after the device has been powered off.

4.9 Changing Wheels

DANGER

Before changing a wheel on a public road, ensure that the danger area has been secured.

(1) Park the vehicle on level ground.
(2) Put the drive selector (4-7/3) in neutral (position "0".
(3) Apply the parking brakes (4-7/4).

Fig. 4-3

(4) Changing a front wheel:
- Lift and mechanically prop up bucket arm [e.g. by inserting the bucket arm support (option) (1-1/arrow)] and lower bucket arm until it rests on the bucket arm support.
- Block the swivel assembly. To do so remove the wedge (1-3/arrow) from the holder, insert it in the swivel retainer (1-4/arrow) and use a spring-pin to lock it in this position .

(4) Changing a rear wheel:
Drop and uncouple attachment.

(5) Turn the ignition key (4-8/19) left to position "0".
(6) Lock the levers for main and auxiliary hydraulics (1-2/1 and 1-2/2).
(7) Chock one wheel on the rear axle in both directions to prevent the vehicle from rolling. Choose the wheel that **does not** need to be changed.
(8) Loosen the wheel nuts on the wheel you are changing to a point where they can be removed without needing to apply force.
(9) Place a suitable jack (minimum load 6 tons) at the jacking point under the rear axle as indicated in (4-3) ensuring that the jack is centered under the axle and cannot slip. Then raise the jack until the wheel is clear of the road.

DANGER
- Ensure that the jack does not sink into soft ground by using an appropriate base.
- Ensure that the jack is properly seated.

(10) Completely loosen and remove the wheel nuts.
(11) Lower the vehicle by lowering the jack slightly to a point where the wheel bolts are freely accessible.
(12) Rotate the wheel clockwise and anticlockwise while pulling the wheel off the wheel hub, and then roll the wheel to one side.
(13) Fit the new wheel on the hub.

NOTE
- Use only tires specified in Chapter 11.7.
- Pay attention to the profile direction.
- If the profile direction of your spare tire is inappropriate, the spare wheel must be replaced by a wheel with the appropriate tire profile as soon as possible.
- All four wheels must be of the same size and have the same PR (ply rating) number. Refer to Fig. 4-4 for the running direction.

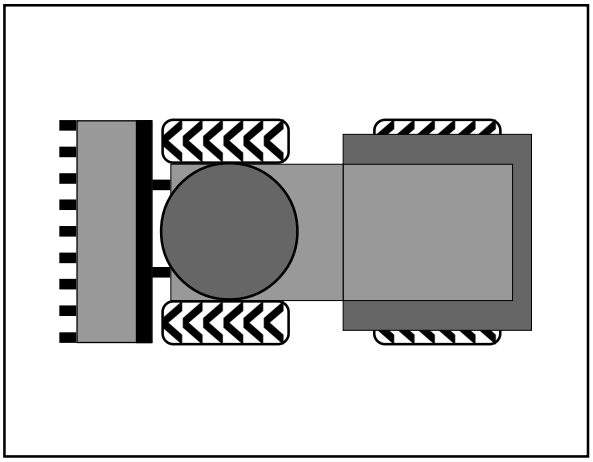


Fig. 4-4

(14) Replace wheel nuts manually.

(15) Lower the jack to lower the front/rear axle.

(16) Use a torque wrench (600 Nm) to tighten the wheel nuts.

ATTENTION
Re-tighten the wheel nuts after 8 - 10 operating hours.

4.10 Operating elements

1 - Locking device for steering column adjustment
  - forwards/backwards
  - axially parallel to steering column
2 - Throttle
3 - Double pedal for service brakes/inching
4 - Foot pedal for swivel
5 - Steering column switch
  - forwards: right indicator
  - backwards: left indicator
  - up - driving lights
  - down - driving lights beam
  - push-button - signal-horn
6 - Heating and ventilation unit /air conditioning (opt.)

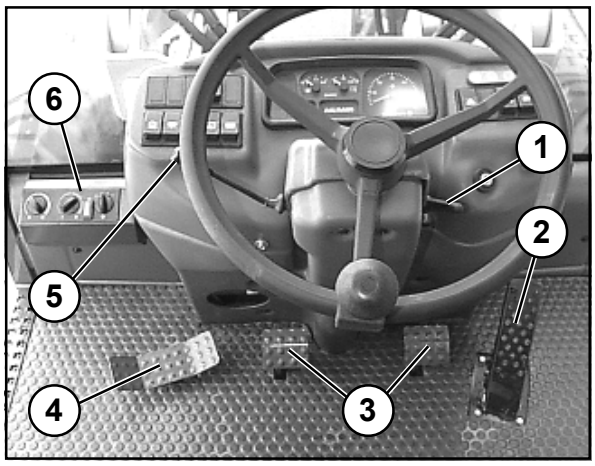


Fig. 4-5

Left of driver´s seat:

1 - Door handle
2 - not used
3 - Inspection flap
4 - Steering selection lever
  - outwards : four-wheel-drive
  - inwards: rear-wheel-drive
5 - Control lever auxiliary hydraulics front boom
6 - Switch for auxiliary hydraulics front boom (opt.)
7 - Push-button dump lock (opt.)
8 - Manual console adjustment wheel (valve control for auxiliary hydraulics)

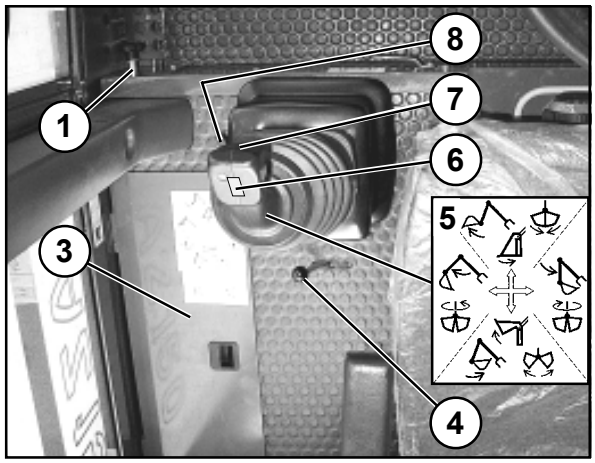


Fig. 4-6

Right of driver´s seat:

1 - **Fast-runners**
  - Gears:
    - left: 2nd gear
    - center: 1st gear
    - right: Alpha max. (Turtle symbol)
  - **Slow-runners**
  - Hydraulic drive levels:
    - right - speed I: slow
    - left - speed II: fast
2 - Valve control for main hydraulics
3 - Drive selector: forward/0/reverse
4 - Lever for parking brake
5 - Main battery switch
6 - Inspection flap
7 - Holder
8 - Manual console adjustment wheel (valve control for main hydraulics)
9 - Door handle

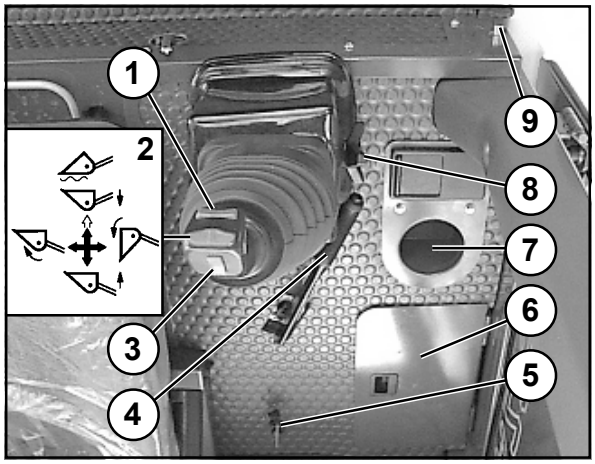


Fig. 4-7

4.11 Dashboard

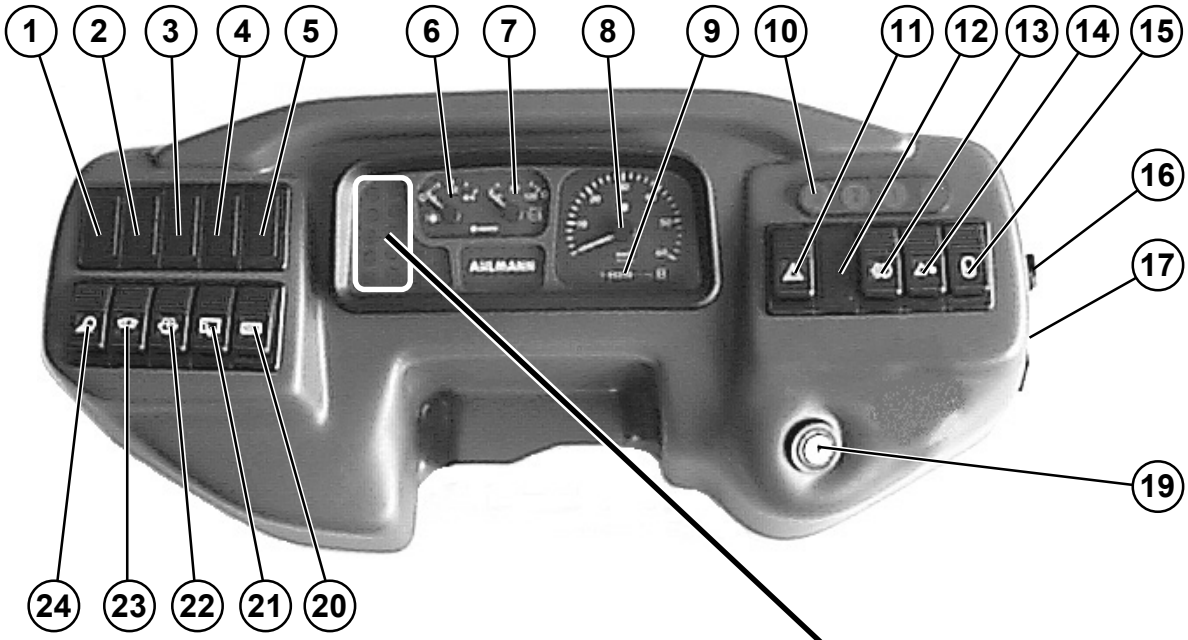
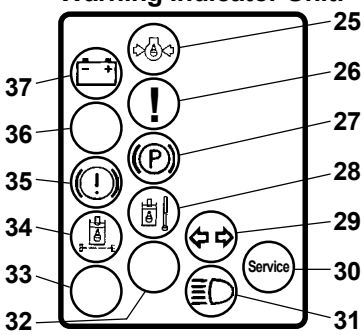


Fig. 4-8

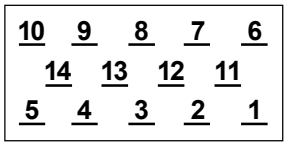
Warning Indicator Unit:



1 - Rocker switch for permanently engaging auxiliary hydraulics (opt.)
2 - not used
3 - not used
4 - Push-button for speed select (nur für Langsamläufer)
5 - Rocker switch for differential lock (opt.)
6 - Fuel indicator
7 - Cooling water temperature display/
Warning light cooling water temperature
8 - Tachometer
9 - Operating hour counter
10 - Indicators for gear select
from left to right:
2nd gear,
1st gear,
Alpha max. (Turtle symbol),
malfunction (red) with accoustic warning (see section 4.5)
11 - Rocker switch for hazard warning lights
12 - Rocker switch for 360° light (opt.)
13 - Rocker switch for road lights
- Position I: Rear lights, side lights
- Stellung II: Driving lights
14 - Push-button Release quick coupling mechanism
15 - Push-button for bucket cushioning
16 - Socket
17 - Fusebox
18 - not used
19 - Starter switch
20 - Rocker switch for heated rear screen, rear view mirror (opt.)
21 - Rocker switch for screen wash / rear screen wash
22 - Rocker switch for windscreen wipers front (continuous)
23 - Rocker switch for windscreen wipers front (interval)
24 - Rocker switch for working floodlights
25 - Warning indicator engine oil pressure
26 - Warning indicator cooling water low
27 - Warning indicator parking brake
28 - Warning indicator hydraulic oil temperature
29 - Indicator travel direction
30 - Indicator service interval (opt)
31 - Warning indicator driving lights beam
32 - not used
33 - not used
34 - Warning indicator hydraulic oil filter blocked
35 - Warning indicator service brake malfunction
36 - not used
37 - Indicator loading

opt. = optional feature

Fuse box (Item 17):



1	Driving operations	7,5 A
2	Indicators	7,5 A
3	Hydraulics	10,0 A
4	Heating/Air cond.	10,0 A
5	Heated rear screen	15,0 A
6	Headlight beam	7,5 A
7	Headlight dip	7,5 A
8	Tail light left, Sidelight left	5,0 A
9	Tail light right, Sidelight right	5,0 A
10	Hazard warning	7,5 A
11	Wipers/Washer	15,0 A
12	Engine cut-off	5,0 A
13	Working floodlights, Panel display lighting, Brake lights	25,0 A
14	360° light (opt.), Signal-horn, Socket, Interior light	20,0 A

opt. = optional feature