Rescue, towing, lashing, lifting by crane

7 Rescue, towing, lashing, lifting by crane

7.1 Rescue, towing, lashing

7.1.1 Rescue/towing of the articulated loader if the engine or drive has failed

CAUTION

The articulated loader must not be tow-started. Any attempt to tow-start leads to damage.

DANGER

Secure the rescue location if it is on a public road.

NOTE

- Towing is only permitted to clear the site or a street.
- Preparation for towing depends on whether the engine has failed, thus causing a failure of the entire hydraulic system, or if only the drive has failed and the engine can drive the rest of the hydraulic system.

7.1.1.1 Towing the articulated loader when the engine has failed

(1) Actuate the toggle switch for the hazard flasher (4-8/13).

(2) Set the drive switch (4-10/11) to “0”.

(3) Apply the parking brake (4-9/3).

CAUTION

If the rescue location is on an uphill/downhill grade, wheel chocks must be placed on the sloping side of both front axle wheels in addition to applying the parking brake.

NOTE

The preparations described in steps (4) and (5) are only to be carried out if the rescue location is **not** on a public road:

(4) Cover the bucket cutting edge and teeth with the bucket protector (5-4/arrow).

(5) Insert the plug of the bucket protector into the socket (5-5/arrow, option).

(6) Push the valve lever for the working hydraulics (4-8/4) beyond its pressure point into the forward position (float position).

(7) Using a suitable lifting device, e.g. a second loader with an attached bucket, lift the bucket arm of the loader to be towed until the mechanical bucket arm support can be inserted at the loader to be towed (7-1).

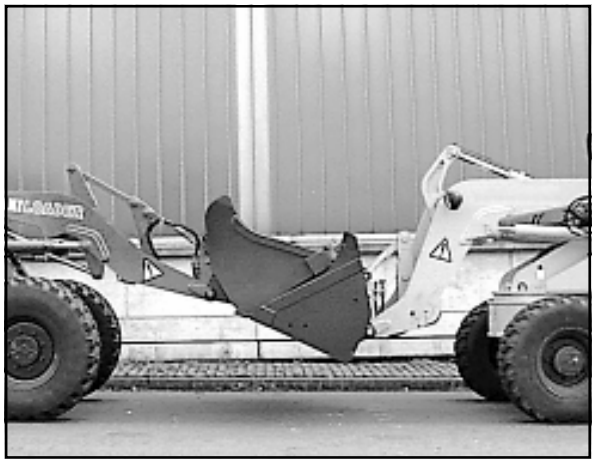

Figure 7-1

(8) Mechanically prop up bucket arm [e.g. by inserting the bucket arm support (option) (1-2/arrow)] and lower bucket arm until it rests on the bucket arm support.

(9) Disable the float position by pulling the pilot valve for the working hydraulics to the rear beyond its pressure point.

(10) Lock the pilot valves for working and auxiliary hydraulics (1-2/arrow) (rear position).

(11) Connect the tow rod to the loader to be towed (7-2/arrow) and to the towing vehicle.

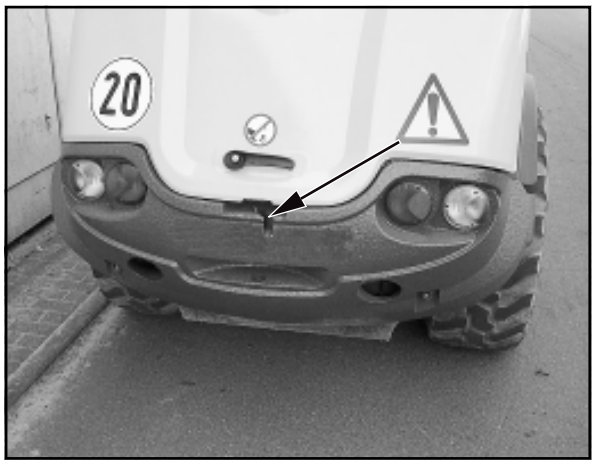

Figure 7-2

(12) Undo the fastening screw on the hydraulic oil tank (7-3/arrow) of the right rear mudguard.

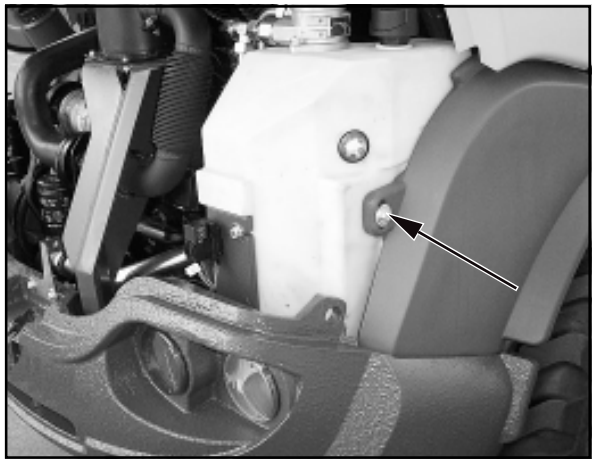

Figure 7-3

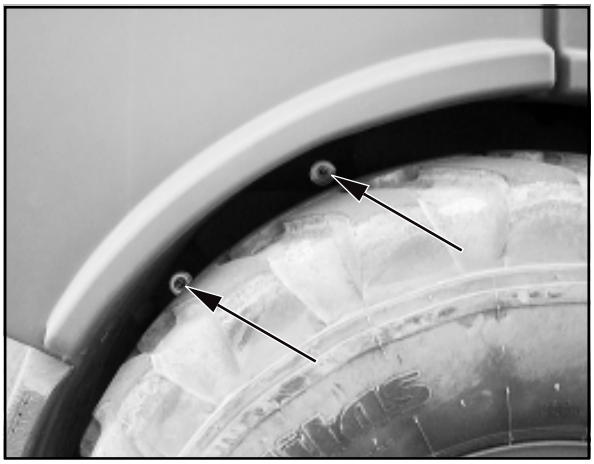

Figure 7-4

(13) Undo fastening screws in the wheel house rear right (7-4/arrows) and pull the mudguard off to the side.

(14) Switch the hydrostatic drive motor to free oil flow before towing. For this purpose, screw in the setscrews at both high pressure relief valves (7-5/arrows) of the drive pump until they are level with the hexagon nuts (size 13) loosened beforehand. Then tighten the hexagon nuts.

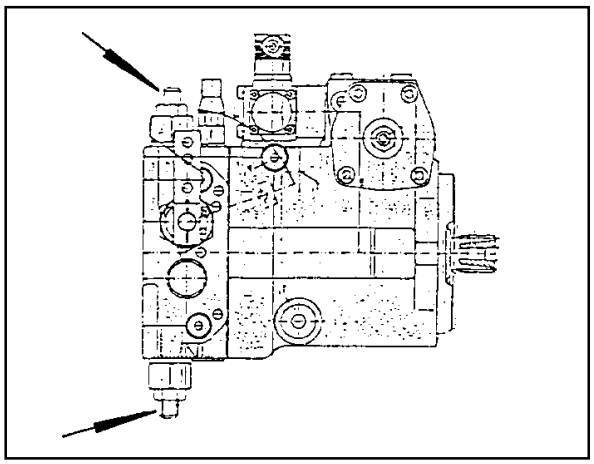

Figure 7-5

NOTE

The operator of the loader is responsible that the (optional) tool required to remove the mudguard (items 12 and 13) and to adjust the drive pump (item 14) is always on board the loader.

NOTE

After towing has been completed, loosen the hexagon nuts again. Screw the setscrews out of both high-pressure relief valves until they stop and tighten the lock nuts.

(15) Remove the chocks (if applicable).

(16) Release the parking brake lever (4-9/3).

Figure 7-6

DANGER

- More power is required to steer if the engine has failed.
- Tow the loader at walking speed (2 km/h).
- The towing distance should not exceed 1 km.
- For a longer distance, the defective loader must be loaded onto a truck (for the lashing points, see 7-2/arrow, 7-7/6/arrows and 7-7/arrows).

- The max. permissible load of the shunting and towing coupling (7-2/2) is 4.5 t horizontally in the longitudinal direction.
- The max. permissible load of the lashing/load-bearing points (7-6/arrows, and 7-7/arrows) is 2.0 t.

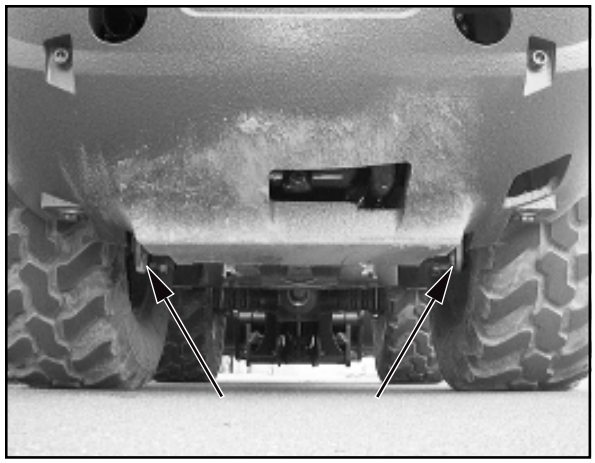

Figure 7-7

7.1.1.2 Towing the articulated loader when the traction drive has failed

(1) Actuate the toggle switch for the hazard flasher (4-8/13).

(2) Set the drive switch (4-10/11) to “0”.

(3) Apply the parking brake (4-9/3).

CAUTION
If the rescue location is on an uphill/downhill grade, wheel chocks must be placed on the sloping side of both front axle wheels in addition to applying the parking brake.

NOTE
The preparations described in steps (4) and (5) are only to be carried out if the rescue location is **not** on a public road:

(4) Cover the bucket cutting edge and teeth with the bucket protector (5-4/arrow).

(5) Insert the plug of the bucket protector into the socket (5-5/arrow, option).
(6) Lift and mechanically prop up bucket arm [e.g. by inserting the bucket arm support (option) (1-2/arrow)] and lower bucket arm until it rests on the bucket arm support by actuating the lever for the working hydraulics (4-8/4).

(7) Lock the pilot valves for working and auxiliary hydraulics (1-2/arrow) (rear position).

(8) Connect the tow rod to the loader to be towed (7-2/arrow) and to the towing vehicle.
(9) Undo the fastening screw on the hydraulic oil tank (7-3/arrow) of the right rear mudguard.
(10) Undo fastening screws in the wheel house rear right (7-4/arrows) and pull the mudguard off to the side.
(11) Switch the hydrostatic drive motor to free oil flow before towing. For this purpose, screw in the setscrews at both high pressure relief valves (7-5/arrows) of the drive pump until they are level with the hexagon nuts (size 13) loosened beforehand. Then tighten the hexagon nuts.

NOTE
The operator of the loader is responsible that the (optional) tool required to remove the mudguard (items 9 and 10) and to adjust the drive pump (item 11) is always on board the loader.

NOTE
After towing has been completed, loosen the hexagon nuts again. Screw the setscrews out of both high-pressure relief valves until they stop and tighten the lock nuts.

(12) Remove the chocks (if applicable).

(13) Release the parking brake (4-9/3).

DANGER
- With the engine running, tow the loader at walking speed (2 km/h).
- The towing distance should not exceed 1 km.
- For a longer distance, the defective loader must be loaded onto a truck (for the lashing points, see 7-2/arrow, 7-7/6/arrows and 7-7/arrows).
- The max. permissible load of the shunting and towing coupling (7-2/2) is 4.5 t horizontally in the longitudinal direction.
- The max. permissible load of the lashing/load-bearing points (7-6/arrows, and 7-7/arrows) is 2.0 t.

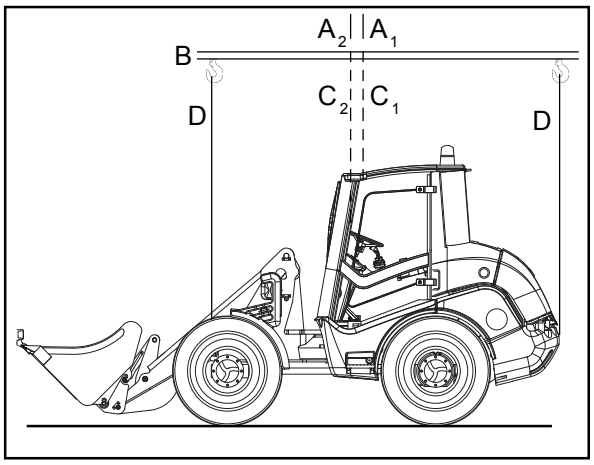

Figure 7-8

7.2 Lifting by crane

The loader to be lifted must be prepared as follows:
(1) Set the drive switch (4-10/11) to “0”.

(2) Set hydraulic drive stage „I“ (4-10/9).

(3) Apply the parking brake (4-9/3).

(4) Lift or lower the bucket arm until the lowest point of the bucket arm or of the bucket is at least 30 cm above the road (5-4).

(5) Close the pilot valve for the working and auxiliary hydraulics (1-2/arrow).

(6) Insert the articulation safeguard into the articulation joint (1-3/arrow).

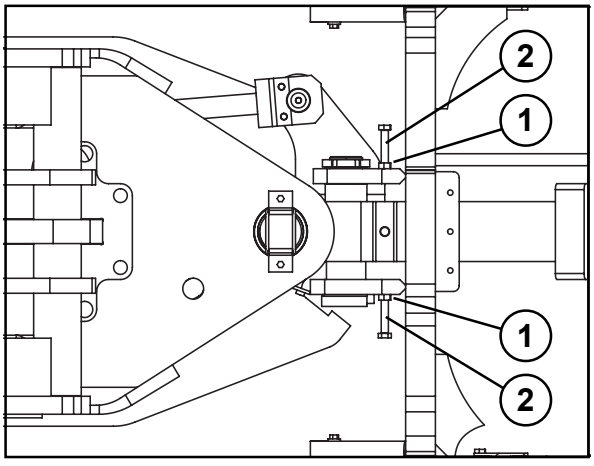

Figure 7-9

CAUTION
Do not operate the steering while the articulation safeguard is in place.

(7) Engage the float safeguard. To do so, loosen lock nuts (7-9/1) on the left and right of the loader, screw in securing screws (7-9/2) all the way to the stop and tighten lock nuts again.

(8) Lock both doors.

(9) Fold the outside mirror inwards.

CAUTION

The following items must be observed when lifting the loader by crane (Figure 7-8):

- The lifting point (A_1 - loader without standard bucket or A_2 - loader with standard bucket) of the lifting device (B) must be precisely vertically over the centre of gravity (C_1 or C_2) of the loader so that the lifting device is **horizontally** above the longitudinal centre axis of the loader.
- The lifting gear (D) must lead vertically upwards from the lifting points of the loader (7-6/arrows and 7-7/arrows).

DANGER

The lifting gear must have a lifting capacity of at least 3.0 t.

NOTE

Disengage the float safeguard after successful loading with a crane. To do so, loosen lock nuts (7-9/1) on the left and right of the loader, screw out securing screws (7-9/2) all the way to the stop and tighten lock nuts again.