



**GLOBAL CRANE TRAINING**

# **AC200-1 OPERATION**

## Emergency Operation



# Emergency Operation Content



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### Emergency Operation (Optional)

**Follow all safety instructions which are also valid for normal operation!**

The emergency operation procedures described in the following are only for when the superstructure engine or a pump fail so that small loads (load pressures < 210 bar (< 3046 psi)) can be recovered safely.

Emergency operation is not equipped or suitable for maintaining normal crane operation.

#### General

The required connections (hydraulic interfaces) are standardized.

The required auxiliary power unit is a hydraulic transformer, which basically consists of a pump and an engine. Such a transformer can be ordered from the crane manufacturer.

**The transformer has the following connections:**

**TUW – Tank connection crane chassis**

**PUW – Pressure connection crane chassis**

**LUW – Leakage oil connection crane chassis**

**T – Tank connection superstructure**

**P – Pressure connection superstructure.**

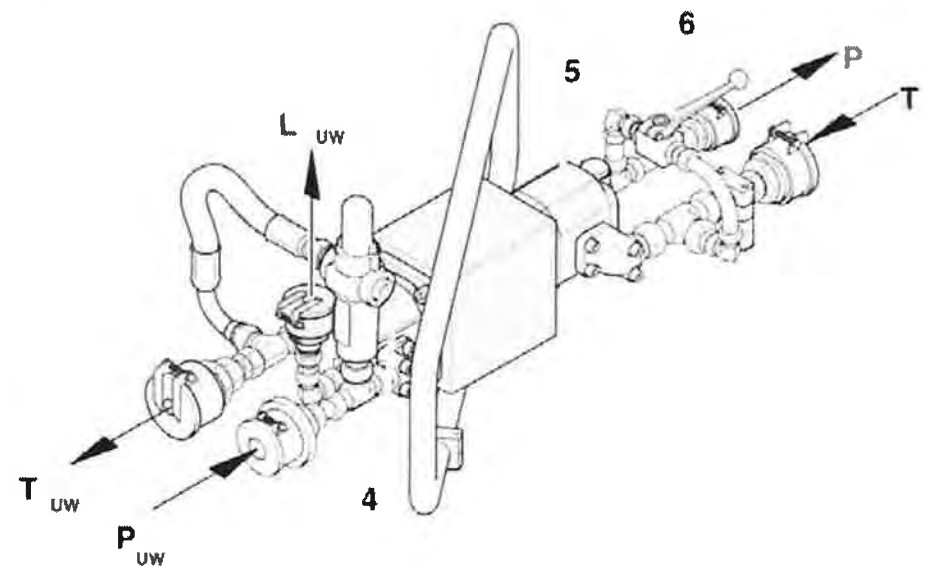
The shut-off lever (6) of the hydraulic transformer is set to open through feed and is only closed when a movement is to be driven immediately afterwards.

The engine of the transformer (4) is driven by an external hydraulic system (e.g. from the crane chassis, a second crane or a special unit) and it then drives the transformer pump (5), which supplies the superstructure hydraulic system.

The following movements can then be driven by activating the control lever in the superstructure:

- **Luffing**
- Raising / lowering **hoists**
- **Rotating (in connection with a stop valve on the superstructure)**

The required hydraulic transformer and all required hoses must be supplied by the customer or can be delivered as optional equipment.





## Connecting the Transformer

### Initial situation:

– Crane in relevant operating configuration (outrigger support area, counterweight and similar) with hanging small load.

– Superstructure:

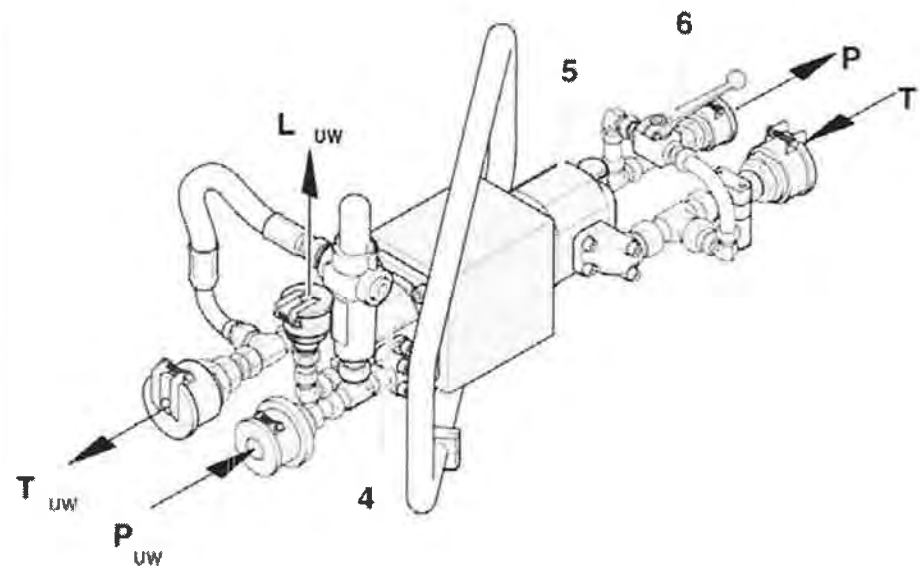
- \* Failure of diesel engine or pump
- \* Hydraulics and electrics functioning
- \* Engine and ignition off

– Crane chassis:

- \* Hydraulic external supply from the crane chassis or external machine with connections for driving the transformer
- \* Engine and ignition off

– Use of a standard transformer In the following, an example of the transformer supplied by the crane manufacturer is described.

1. Unfold protection caps on the relevant couplings of the transformer and unscrew hydraulic hoses.



2. Connect transformer engine (4) to the corresponding hydraulic couplings on the crane chassis using hoses.

*These hydraulic couplings (x 3) are on the left-hand side of the chassis between the wheels of axles 2 and 3 on the bottom of the covering. There are protection caps on the hydraulic couplings which must be removed.*

The corresponding coupling sleeves and plugs are marked with plates as follows:

**T<sub>UW</sub>** – tank connection crane chassis

**L<sub>UW</sub>** – Leak oil crane chassis

**P<sub>UW</sub>** – pressure connection crane chassis.

*There is no risk of them being confused as the connections of the different hoses have different sizes.*

*For transformers without a leak oil connection, coupling “L<sub>UW</sub>” remains free on the crane chassis.*

The shut-off lever (6) of the hydraulic transformer is set to “open through feed”. Figure (top view) shows the stop valve (6) in the closed position.

3. Connect pump (5) of the transformer to the corresponding hydraulic couplings of the superstructure using hoses. To do so, unscrew each protection cap and screw on the hydraulic hose.

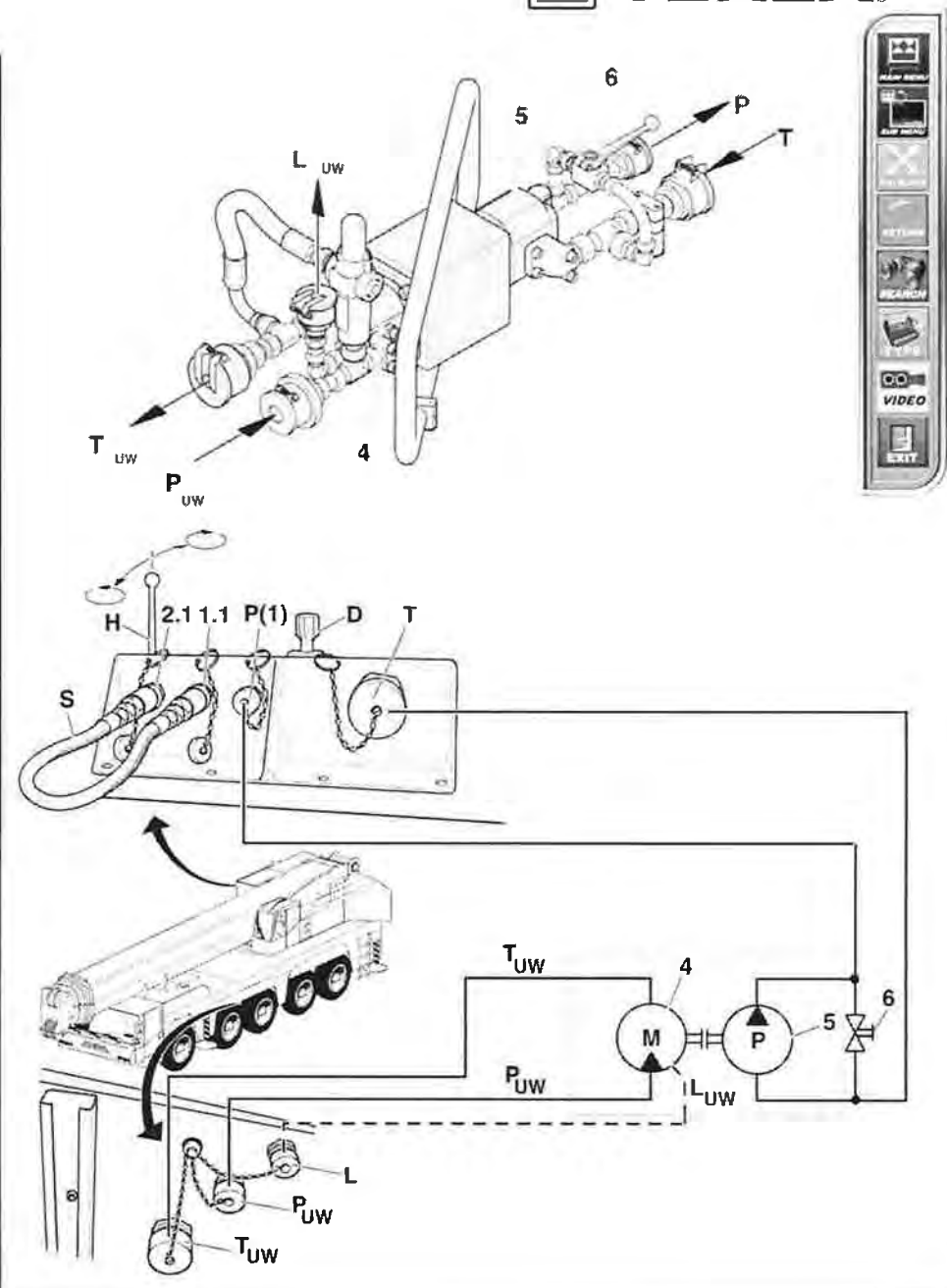
The coupling sleeves and plugs which belong together can be marked with plates as follows:

**P** – Pressure connection superstructure

**T** – Tank connection superstructure

*There is no risk of them being confused as the connections of the different hoses have different sizes.*

4. Connect bridging hose “S” on the superstructure between the connections 1.1 and 2.1 (rotate for function Superstructure).



## Recovering a Small Load

1. Connect the transformer in accordance with section 36.2.
2. Switch on the ignition of the superstructure.
3. Activate the function Emergency lowering (optional) (203.3,) in the service line in the main menu of the crane control system.

The function surface then displays "ON".

When the crane operating mask is switched on, a red cross with "ON" written on it is displayed at (25) in the crane display (A).

4. Open stop valve (6) of the hydraulic transformer (= pressure- free circuit from pump side), if this has not already been done!

*The stop valve is only closed shortly before a movement is executed.*

5. Start up the engine of the crane chassis.

6. Press switch (103, S 2430) in the chassis cab.

To do so, the hand brake must be applied and the transmission must be in "neutral position".

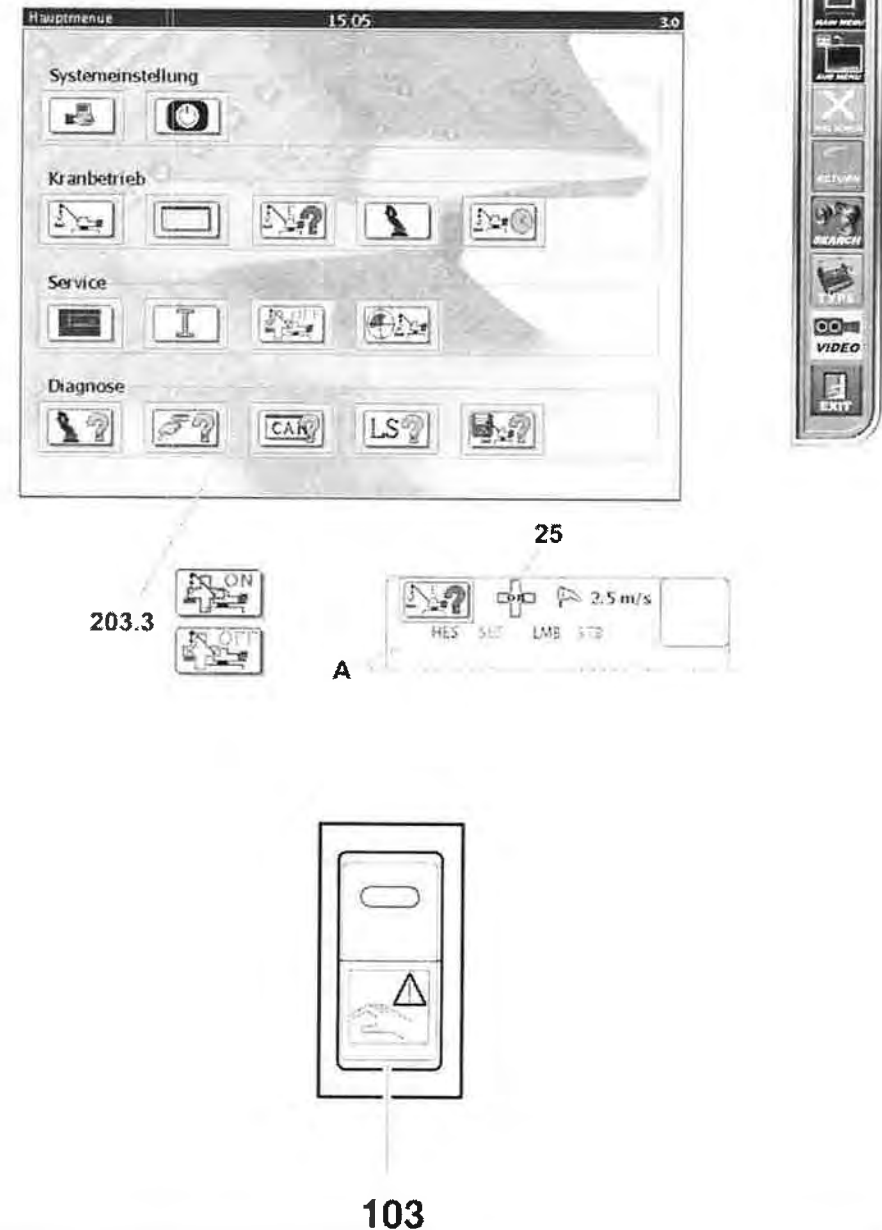
*The engine of the hydraulic transformer is supplied with oil.*

7. Close stop valve (6) of the hydraulic transformer: The superstructure hydraulic system is supplied with oil.

The further procedure depends on the movement to be carried:

## Hoist and luffing

8. The crane movements "Hoist and luffing" can be carried out as before using the joystick.



### Rotating the superstructure

9. In order to rotate the superstructure, the position of the stop valve (H) must be modified: During normal crane operation, the stop valve (H) is in the middle position. In order to rotate the superstructure clockwise, the lever of the stop valve must be pressed inwards. In order to rotate the superstructure anticlockwise the lever of the stop valve must be pulled outward. The lever of the stop valve is moved in the final position each time (locks in place!)

The speed of the slewing movement is set using the knob of the throttle (D). You will have a slewing speed that is easily manageable when you turn the rotating knob half a turn from the completely screwed in position (closed). Further opening of the throttle results in an increase of the slewing speed.

The actual slewing movement is introduced by pressing the corresponding joystick to the right or the left.

**(Steering direction immaterial!)**

### Risk of crushing and pushing!

The slewing direction of the superstructure is determined by the position of the hand stop valve (H) and not by steering the joystick.

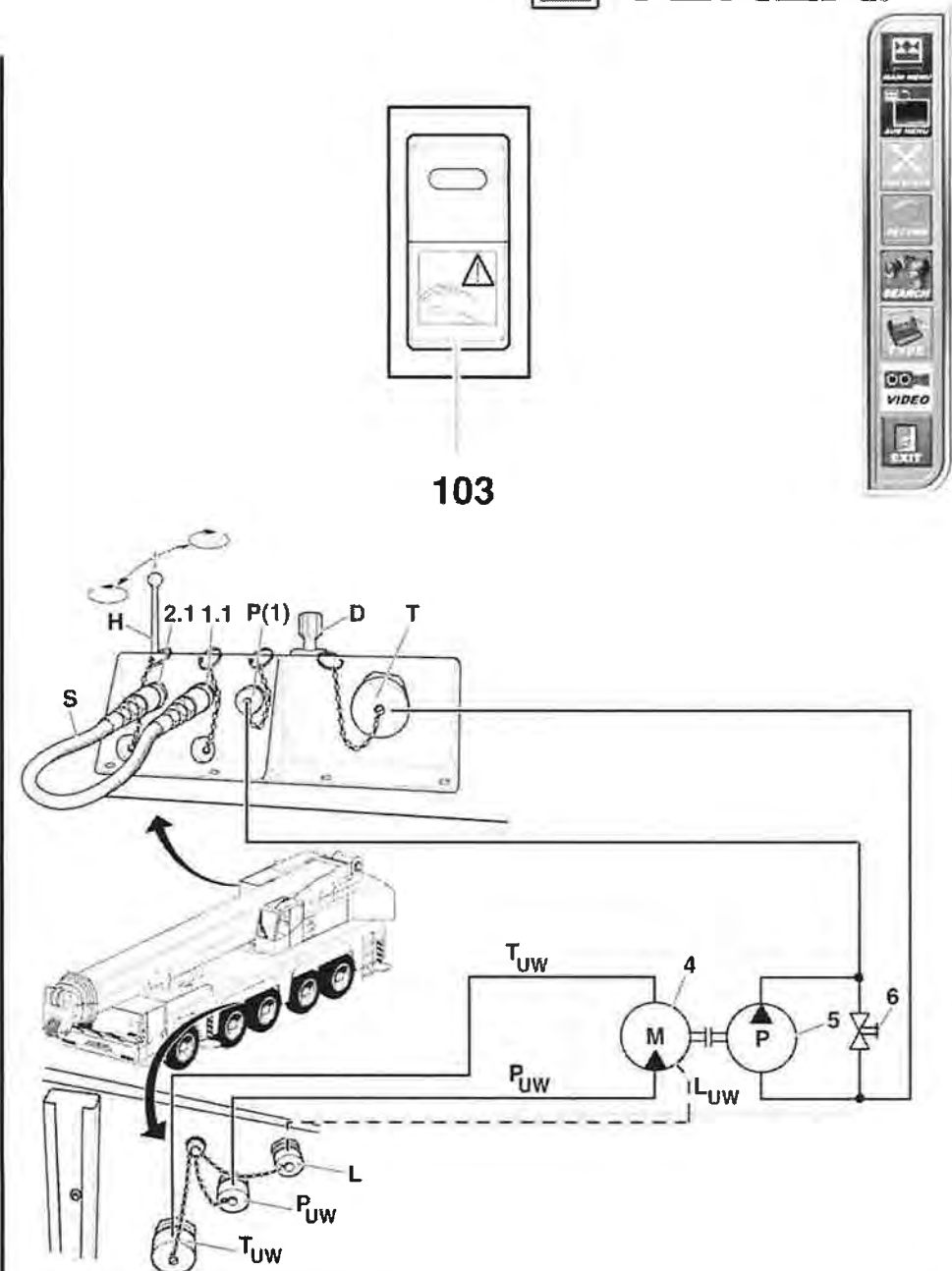
10. Open stop valve (6) of the hydraulic transformer after the movement has been carried out (= pressure free circuit from pump side).

**Only operate the transformer as long as is required for recovering the load and do not let it run at idle speeds for longer periods of time. If the transformer is operated for a longer period of time, the oil can overheat.**

11. After the load has been recovered, switch off the ignition in the superstructure and with there was a slewing movement previously: return hand stop valve (H) to the middle position (locks in place).

12. Switch off switch (103, S 2430) in the crane chassis and turn off the engine.

13. Disconnect all connections of the transformer again and refit the protective caps on the couplings.



**NOTES;**

