

### Control Free Wheeling with IMAV-Block

#### MBG 24

##### a) Function "Swivel set upright"

The MBG base machine is relay controlled.

- Operational requirements (Activating "Free Wheeling"):

Preselection "Free Wheel" → switch S 40 (Key switch)

Foot pedal switch pushed → switch S 39

Button at the Joystick pushed → switch S 42

- Function course (The following valves are getting active):

At the main winch Y 290 ("Winch up");

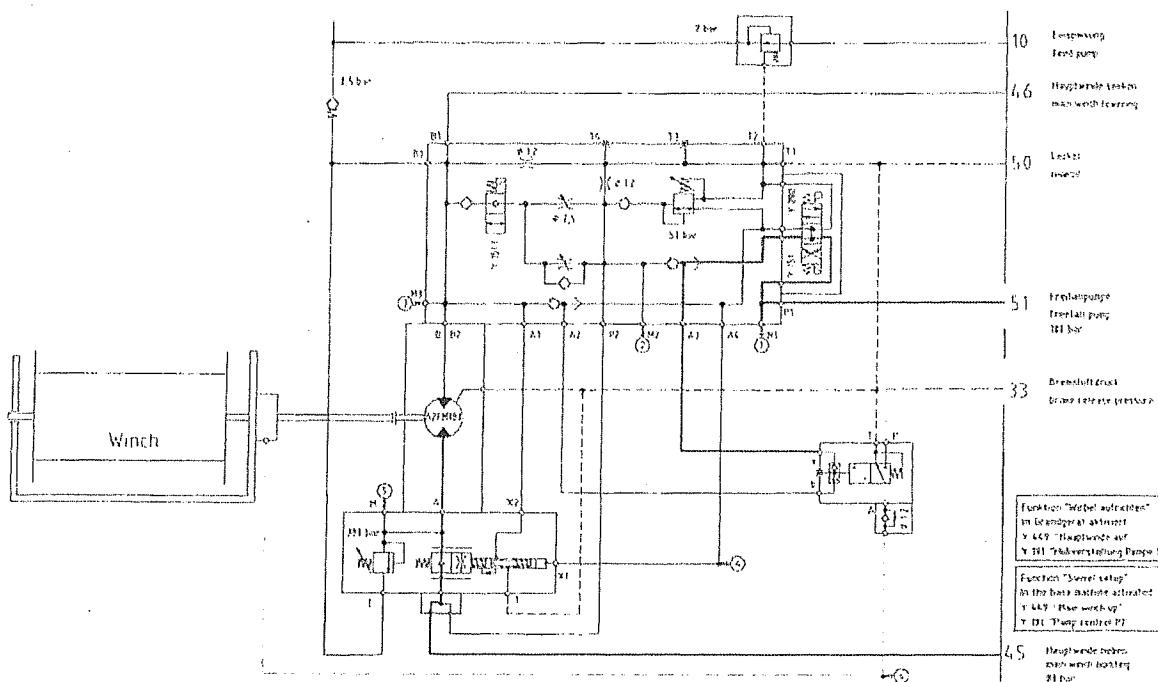
At the base machine Y 449 ("Main winch up") and Y 191 ("Pump control P1");

The swivel is set upright by the oil supply "Main winch hoisting" from the base machine, pump 1. The hoisting pressure is reduced to approx. 80 bar.

The main rope will be tensioned until the pressure switch DS 39 ("Free wheel winch 1") reacts. This pressure switch is installed inside the base machine. The adjustment value of DS 39 can vary depending on the application. The adjusted value has to be below the max. hoisting pressure

The Kelly bar may not be lifted up while the swivel is set upright!

The DS 39 is switching the system into the Free Wheeling mode.



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#### b) Function Free Wheeling

The foot pedal switch (S 39) must be hold on!

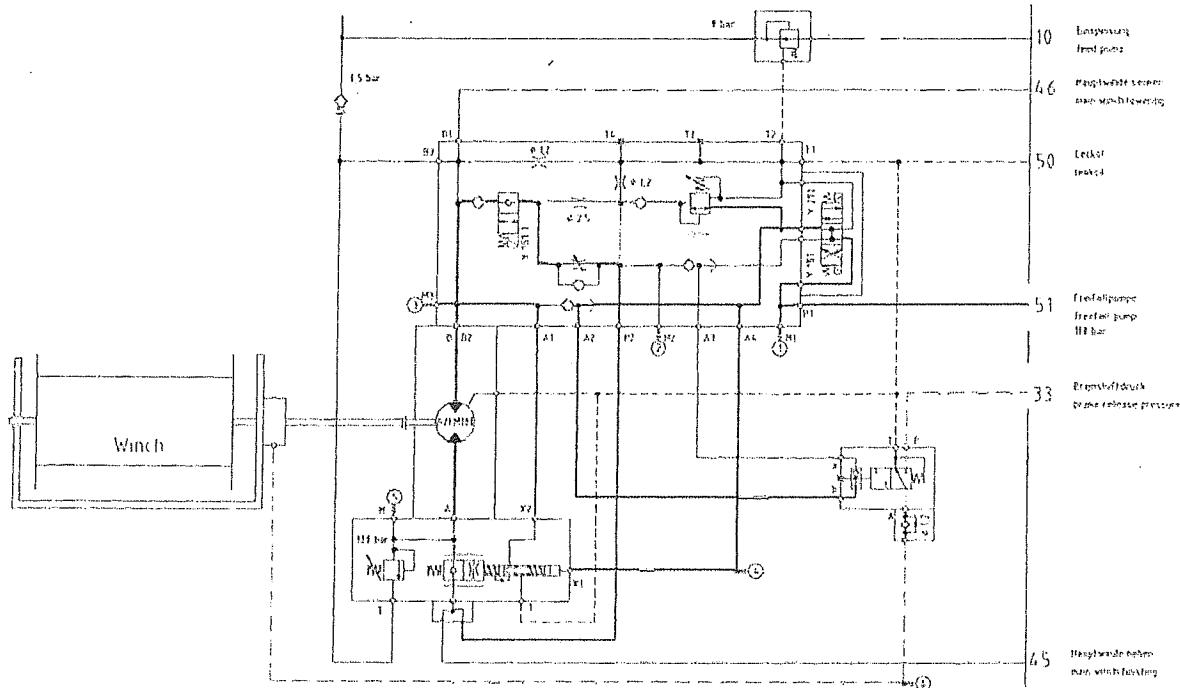
The valves Y 151 and Y 151.1 ("Free Wheel") of the control block at the main winch motor are getting active. The Free Wheeling mode is enabled.

The pump "Freefall" supplies the main brake valve and the hydraulic brake valve (Q-Meter) for releasing the winch and enabling the oil flow.

Further it supplies the pressure control valve which is feeding the hydraulic circuit for avoidance of cavitation and replacement of oil losses.

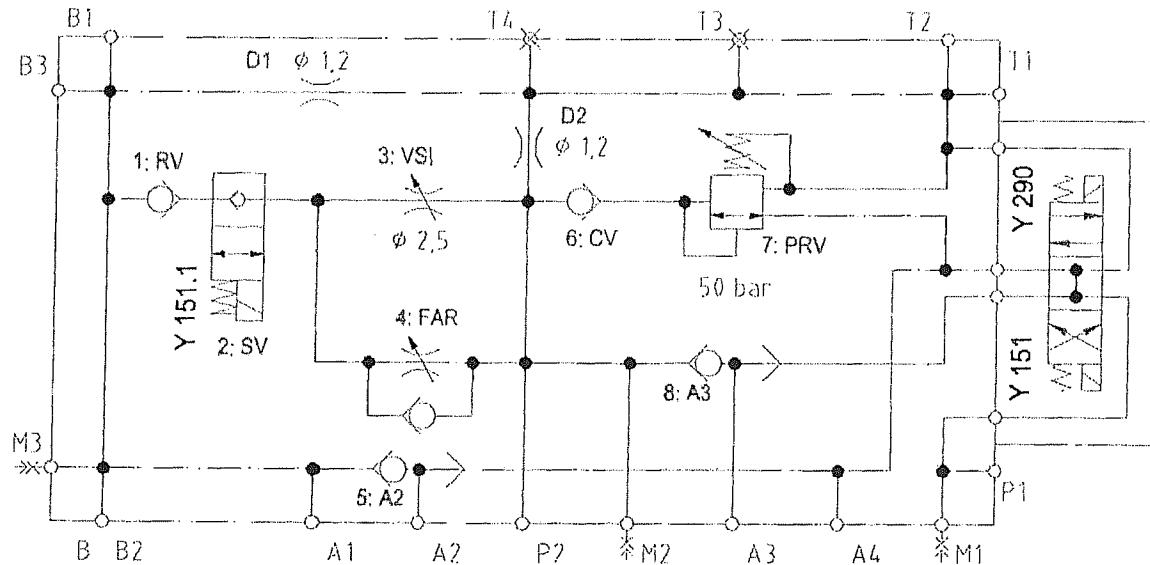
The oil circulation happens from the hoisting side of the motor (Q-Meter) through the flow control valve and the seated directional valve Y 151.1 back to the lowering side of the motor.

Hoisting or lowering the main winch manually or releasing the foot pedal switch is canceling the Free Wheeling mode.



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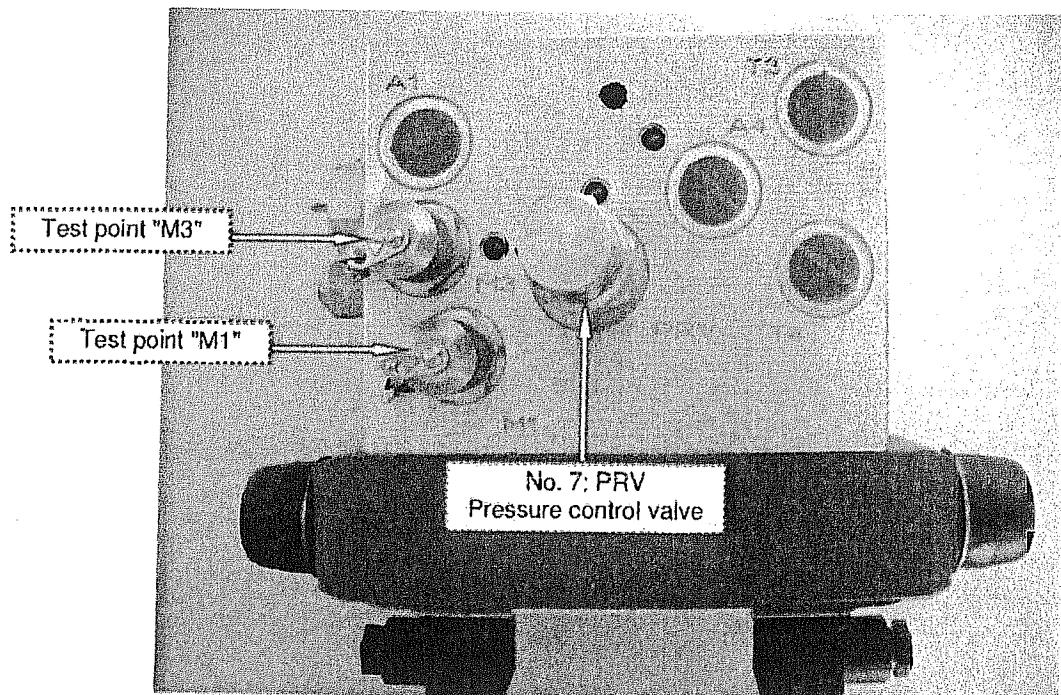
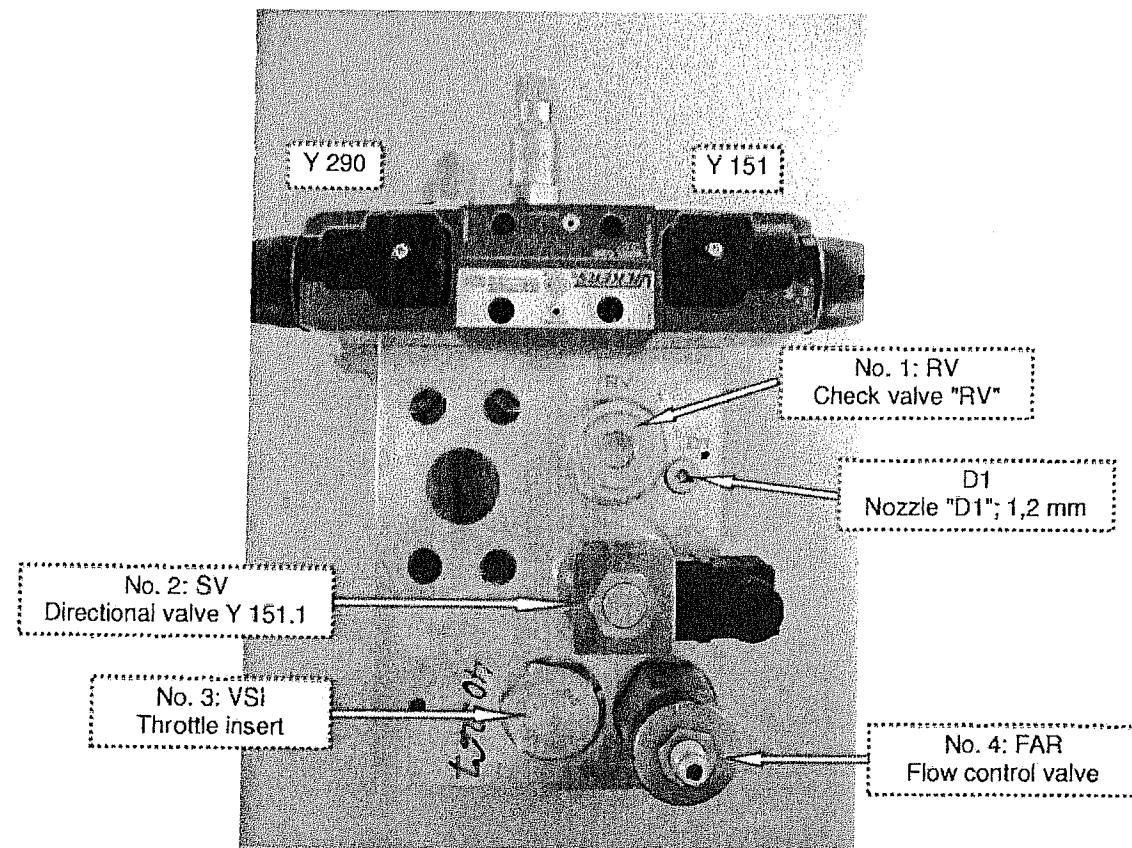
#### c) Free-wheel block, components and locations



- |        |                                    |
|--------|------------------------------------|
| 1: RV  | = Check valve "RV"                 |
| 2: SV  | = Seated directional valve Y 151.1 |
| 3: VSI | = Throttle insert                  |
| 4: FAR | = Flow control valve               |
| 5: A2  | = Shuttle valve "A2"               |
| 6: CV  | = Check valve "CV"                 |
| 7: PRV | = Pressure control valve           |
| 8: A3  | = Shuttle valve "A3"               |
| D1     | = Nozzle "D1"                      |
| D2     | = Nozzle "D2"                      |

Locations see photo documentation on the next pages.

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