



HIDRACAR S.A.

“START-HIDRO” OLEO-HYDRAULIC STARTER

Starting

1. - Check that the oil in the tank can be seen through the tank upper maximum oil level peep hole.

Note: The internal piston that moves the Bendix pinion (1) forward to engage the engine flywheel gear, consumes for its lubrication a very small amount of oil in each operation, that is, therefore, consumed (To refill the oil tank, use clean and filtered hydraulic oil, of viscosity 4.5°E at 50°C and a minimum viscosity index of 120 in accordance with ASTM D2270).

2. – Make sure that the valve (4) handle is at 90° position from the valve port axis. With the hand pump handle (3) start pumping oil into the accumulator (2). The pressure gauge (5) needle will move up in steps after each pump handle stroke until reaching 100 bar (the N₂ gas charge pressure of the accumulator). Then the accumulator will start being charged with oil. When the pressure gauge (5) reads 200 bar, stop pumping (the needle will be within the green range of the gauge dial).

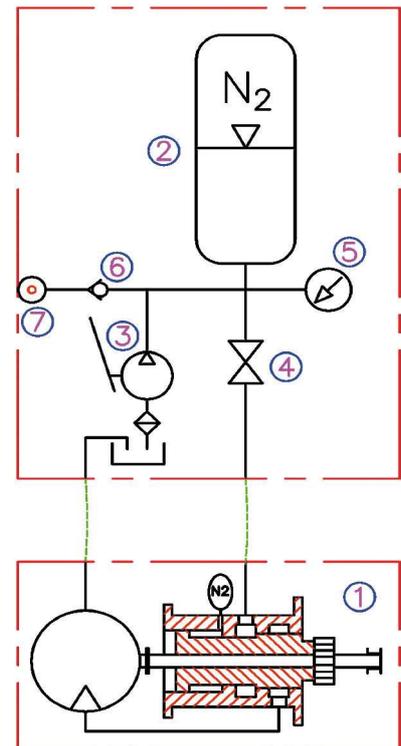
3. - To start the diesel engine:

a) Open the start valve (4) by turning its handle slowly but continuously until it gets aligned with the valve port axis.

b) When the valve is open, the oil, under pressure from the gas inside the accumulator, pushes the internal piston of the starter, which moves the Bendix pinion forward until it engages the Diesel engine flywheel gear. Only at this point, the pinion will start turning to make the Diesel engine crankshaft turn.

c) Once the Diesel engine has been started, close immediately the start valve (4) by turning the handle back to its initial position at 90° from the valve port axis. If the pressure gauge needle indicates a pressure above 100 bar (green zone), it means that some oil is still stored into the accumulator. This oil will be used in the next starting operation, reducing the time needed to reach the required 200 bar.

d) If the Diesel engine has not been started once all the oil stored into the accumulator has been discharged, proceed with the starting operation all over again. If after two or three starting attempts it has not been possible to start the Diesel engine, then there is something wrong with the Diesel engine. Proceed to check the Diesel engine manufacturer's manual to solve it.



Remark: We recommend making use of this starting equipment periodically (every two or three months) in order to keep its good maintenance.

Note: The point (7) in the oleo-hydraulic scheme indicates an optional external source of oil pressure that could be used to fill the accumulator with oil (in this case a check valve (6) must be installed).

MANUFACTURED BY:

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