Steering

The steering on the sprayer can be set in two different modes:
Front wheel steering - to be used on the road and during spraying.
Four wheel steering - to be used during turns at the end of the tram lines.

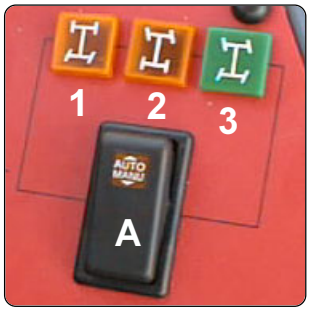
Warning! Do not use 4-wheel-steering on public roads and during fast driving.

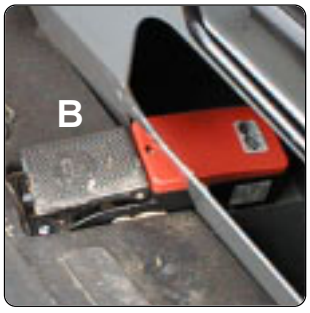
In case of failure in the hydrostatic steering circuit the steering orbitol permits an operation of the steering in a closed system.

Front wheel steering

In this mode, only the front wheels can turn, the rear wheels stay in straight position.

To select front wheel steering mode:
1. Stop driving. Machine must be stationary when changing steering mode.
2. Set the switch A to AUTO
3. Turn the steering wheel so that the rear wheels are placed in right position. The indicator 1 turns on.





Four wheel steering

In this mode the front and rear wheels are steering opposite each other simultaneously.

To engage 4-wheel-steering mode:
1. Stop driving. Machine must be stationary when changing steering mode.
2. Set the switch A to AUTO
3. Depress the floor pedal B, turn the steering wheel until both control lamps 1+2 turn on. Keep the floor pedal depressed as long as 4-wheel-steering is required.

To disengage 4-wheel-steering mode:
1. Release the floor pedal
2. Turn the steering wheel until the control lamp 2 turns on. Steering is now back to 2-wheel-steering.

Crab walk

1. Stop driving. Machine must be stationary when changing steering mode.
2. Set the switch A to MANUAL.
3. Depress the floor pedal B.
4. Turn steering wheel to offset position on rear axle.
5. Release the floor pedal. The steering of the machine will now only have impact on the front axle.
6. Turn the steering wheel to desired direction.

To disengage crab walk
1. Stop driving. Machine must be stationary when changing steering mode.
2. Turn the steering wheelin the opposite direction of the rear axle offset.
3. Depress the floor pedal.
4. Turn steering wheel until indicator for alignment of rear axle (2) turns on.
5. Release foot pedal.

Driving

Before starting the engine

Before starting the engine, always ensure that:

- All oil fluid levels are correct
- Nobody is carrying out service or repair jobs on the machine.
- All protection guards are properly fitted
- Parking brake is activated
- Lever is in neutral position
- Main on/off valve at operating unit is switched off.

Starting the engine

1. Switch on the battery isolator switch
2. Ensure lever is in neutral and parking brake is activated (a safety start switch will disable the starter motor when the pilot lever is not in neutral).
3. Set throttle at 1/4 of full speed
4. Switch on key to pos. 1 and check warning lamps.
5. Check that the spraying pump and on/off valve at EC-operating unit is switched off.
6. When the pre-heating control lamp is off, turn the key to start position.
7. Set throttle to 1000 r.p.m. and let the engine warm up for 3 min. to ensure good lubrication before driving.

To stop the engine

1. Set the lever in neutral position and apply parking brake.
2. Let the engine idle (800-1000 r.p.m.) for 5 min. to cool turbo and engine before stopping.
3. Stop engine by turning key to position 0.
4. Switch off the battery isolator switch.

Warning! When parking, always ensure that the spayer is out of reach of children or others, who can get contaminated and injured by chemical residues left at, or in, the sprayer.

Propulsion

The sprayer is equipped with hydrostatic transmission with full time 4-wheel-drive.

The speed can be altered stepless forward and reverse with the lever.

The transmission has different speed ranges, which can be chosen by the multi function knob.

Warning! Only use the multi function knob when the sprayer is stationary.

1. Parking brake
2. High speed, 0-25 km/h

- Minimum torque on front and rear motors
- Is used for road transport when full speed and less traction power is required.

3. Low speed, 0-12.5 km/h

- Maximum torque on front and rear motors
- Is used for spraying in the field and when working speed and full traction power is required.

4. Climbing position, 0-18 km/h

- Maximum torque on the rear motors
- Is used when driving uphill
- Can be used to avoid wheel spinning

5. Descending position, 0-18 km/h

- Maximum torque on the front motors
- Is used when driving downhill
- Can be used to avoid wheel spinning

Important! Position 4 and 5 should not be used for continuous driving. When conditions are back to normal, switch to position 1 or 2 again - but ONLY while the sprayer is stationary.

To select position/speed range:

1. Stop driving by moving the lever to neutral.
2. Select driving mode by means of the multi function knob.

Important! The engine r.p.m. must always be minimum 1800-2000 r.p.m. to ensure full traction and braking power of the transmission. Driving with too low engine r.p.m. can cause braking failure and transmission damage.

Brakes

The Alpha has no actual service brake system. The hydrostatic transmission works as propulsion and service brake system in one.

To stop the machine, the lever is moved towards neutral.

Parking brake
The parking brake is integrated in the multi function knob and the parking brake is engaged by selecting ‘P’ by means of the knob.
Important! Never activate the parking brake while the sprayer is moving.

11. Ignition switch
Machine on/off. The start key has three positions:
0: Off
1: Power at all electrical circuits, warning lamps and pre-heating on
2: Engine start position

12. By-pass switch
Choose between ‘Agitation’ or ‘Return to pump’

13. Spraying pump switch
Activate/deactivate ‘Spraying pump’

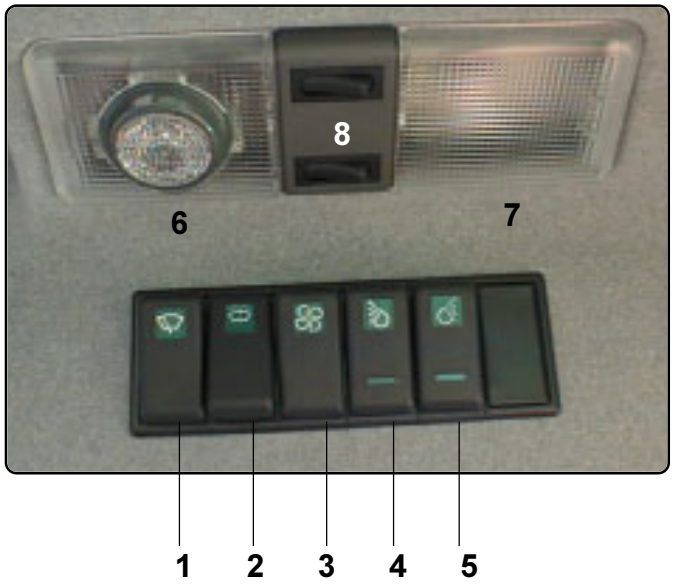
Control switches

1. Windscreen wiper
The windscreen wiper has three positions
- Off
- Normal
- Fast

2. Windscreen washer
Controls the windscreen washer. Use plenty of screen wash before starting the wiper to avoid scratches in the windscreen

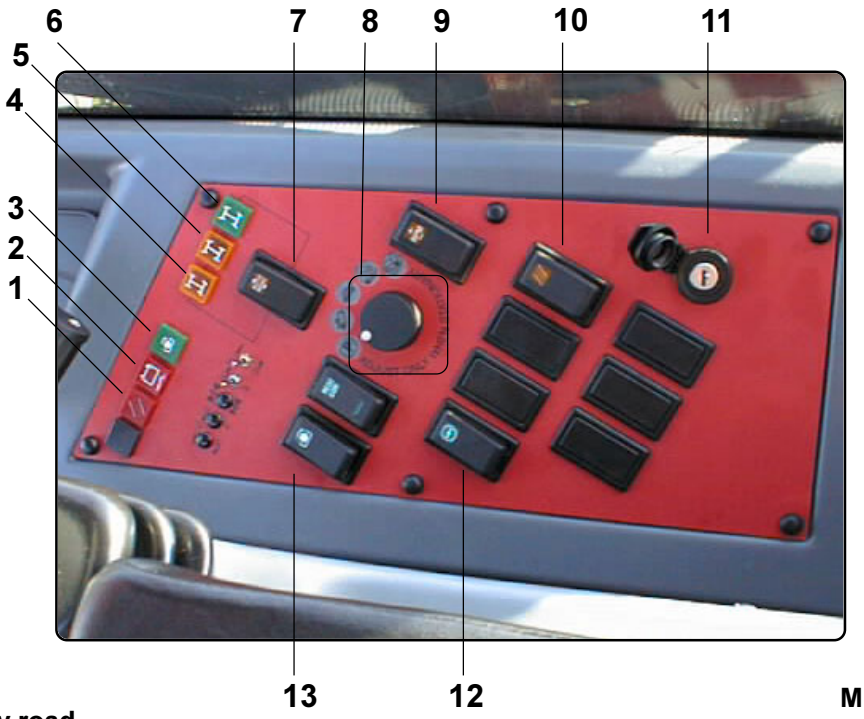
3. Ventilation/air circulating fan on/off
4. Front working lights on/off
5. Rear working lights on/off

6. Reading light
7. Cabin light
8. Reading light - cabin light on/off switches



For detailed information on NOVA grip and HARDI NOVA, please refer to separate instruction book.

Control board



1. Indicator Safety road
2. Indicator Battery cut-off
3. Indicator Spraying pump
4. Position indicator - front axle
5. Position indicator - rear axle
6. Indicator 4-wheel-steering

7. 4-wheel-steering mode switch (AUTO/MANUAL)
In 'AUTO' the rear wheels centre and lock after the turn.
In 'MANUAL' the rear wheels remain in position allowing *crab steering*.

For further information, see section *Driving* and *Steering*

8. Multi function knob
By turning the knob the following options can be selected:

- **Parking brake**
- **High speed** (minimum torque on front and rear motors)
- **Low speed** (maximum torque on front and rear motors)
- **Displacement setting for up hill** (maximum torque on the rear motors)
- **Displacement setting for down hill** (maximum torque on the front motors)

For further information, see section *Driving* and *Steering*

9. Accelerator switch
Increase/reduce engine r.p.m.

10. Safety road switch
Important! This is a safety device and it must be activated before entering public roads. This option ensures that it is impossible to switch to 4-wheel-steering, unfold the booms etc. during transport on public roads. Deactivate the safety road switch when driving in the field.

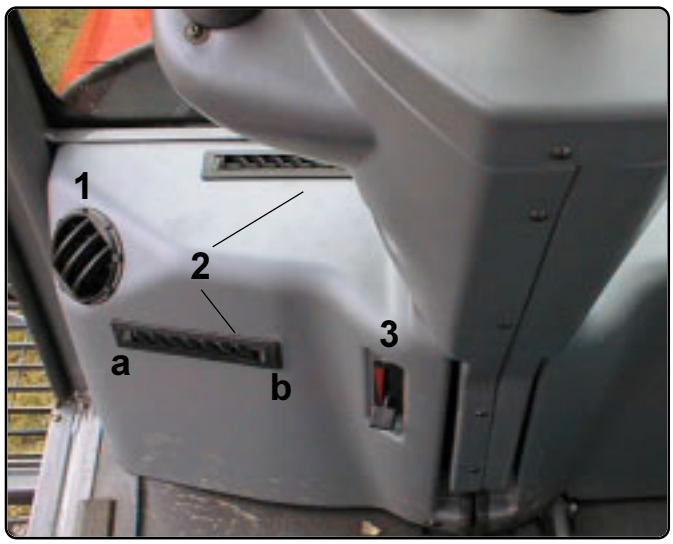
Multi function knob

Warning! Only use the multi function knob when the sprayer is stationary.

Heating

The cabin is fit with 6 adjustable outlets (1+2).

1. Adjustable air flow louvres (x2)
2. Adjustable air flow louvres (x4)
   a. Angling of air
   b. Regulation/on-off
3. Heater temperature control

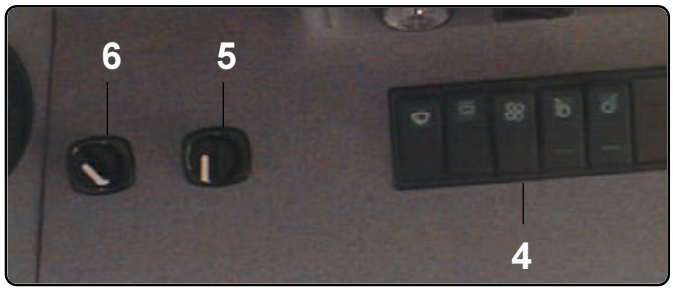


Use of cab heating
The cab is heated by means of the engine coolant. The warm air is distributed via the adjustable air flow louvres which will ensure effective heating of the cab and de-frosting of the windscreen.

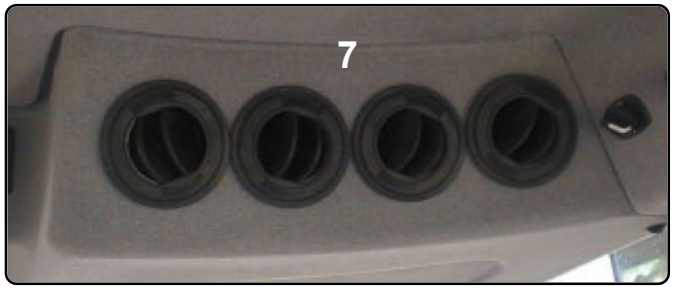
- Adjust the air volume by turning the fan speed control (5).
- Open and adjust the air flow louvres (1+2).
- Adjust the temperature on the heater temperature control (3).

Cooling unit

The cabin is fit with 4 adjustable outlets (7).



Use of air conditioning
- Switch on the fan switch (4).
- Set the heater temperature control (3) to a minimum.
- Adjust the air conditioning temperature control (6) to the desired temperature.
- Adjust the air volume by turning the fan speed control (5).
- Adjust the air flow louvres to obtain comfortable air circulation in the cab.



Do not cool the cab air too much below outside temperature. A huge temperature difference will affect your physical well-being.

Important! Always keep the cab door closed when the air conditioning is switched on.

To demoist the windows rapidly, the air conditioning and heater can be operated simultaneously to lower cab air humidity.

Important! To keep the air conditioning properly working, it must be operated at least once a month for min. 10 minutes. Circulation of the refrigerant will lubricate all seals and prevent escape of the refrigerant. Consult with your HARDI dealer if the problem continues and have the system inspected by a specialist in air conditioning systems. AC refrigerant is not environmental friendly. Have leakages mended instantly.

11. Engine coolant thermometer
The engine coolant temperature should be 80-100 degrees C when the machine has reached normal operating temperature. If the temperature exceeds 110 degrees C the engine is overheating, which can be caused by:

- Overload of engine - reduce driving speed
- Clogged cooler radiator fins - clean the radiator
- Coolant level low - refill with hot coolant to correct level

If none of the above is solving the problem, call the engine service agent.

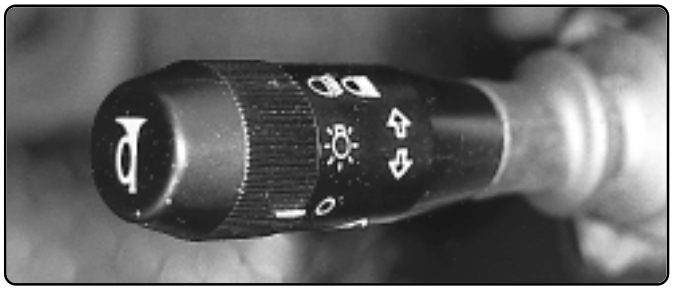
12. Directional indicators (hazard warning)
(Right and left side). If a bulb is defective the frequency will increase or the control lamp will not flash.

13. Engine temperature warning lamp
Warning lamp lights up when engine is overheated.

14. Position lamps
Indicates the position lamps are on.

15. Main beam
Indicates the main beam is on.

Multi -functional control stalk



- The position lamps' and head lamps' dipped beam are switched on by turning the multi-functional lever and is indicated by the pilot lamp.
- The main beam is activated by pressing the lever downwards and is indicated by the pilot lamp.
- To flash the main beam pull the lever upwards.
- The directional indicators are operated by pushing the lever forward (right) or backward (left) and indicated by the pilot lamp.
- The horn is activated by depressing the stalk end.

Adjustment of steering column

The inclination of the steering column is adjusted by depressing the pedal 1.

The height of the steering column is adjusted by loosening the lever 2.

1. Inclination lever
2. Height adjustment

Steering column

1. Console

2. Revolution counter and hour meter
Count engine revolutions and working hours. All service and maintenance intervals are based on hour meter readings.

3. Battery charge/alternator.
This should be off immediately after start of engine. If this lamp lights up while working, the battery is not being charged. Get alternator and electric wiring inspected a.s.a.p.

4. Engine oil pressure control lamp
This lamp must be off immediately after start of engine. If this lamp is not off or lights on when engine works, STOP THE ENGINE IMMEDIATELY and check engine oil level - refill if necessary. If oil level is OK it is advised not to restart the engine before it has been inspected by the engine service agent.

5. Engine pre-heating control lamp
The engine pre-heating device is functioning automatically. Start the engine when the pre-heating control lamp switches off.

6. Parking brake control lamp
If this lamp lights, it indicates that the parking brake is engaged.

7. Fuel level gauge
Displays actual fuel level in litres.

8. Beacon switch
It is recommended to use this function when driving on public roads. Note local regulations regarding use of rotating warning beacon.

9. Hazard warning signal switch
Depress switch to switch on and off hazard warning signals. Note local traffic regulations regarding use of this device.

10. Multi functional control stalk
Please see description later in this chapter.

Alpha cabin - supplement

Cabin overview - controls and switches

Overview - pictorial symbols

Horn	Electrical preheat	Warning beacon
Battery charging condition	Fuel	Clearance/position lights
Hourmeter	Headlights - main beam	Turn signals
Fast	Headlights - dipped beam	Windscreen wiper
Slow	Work lights	Windscreen washer
STOP Engine stop	Hazard warning lights	Ventilating/air circulating fan