

3 Operation

⚠ DANGER Risk of electric shock!

If the equipment comes into contact with overhead or underground electricity lines a current transfer to the equipment occurs. Persons in the immediate vicinity receive an electric shock as well as burns, which can cause serious or fatal injuries.

- △ Before starting work, ask an authorized person about the prescribed safety distance. Always observe the required safety distance. This also includes the avoidance of swinging loads and/or components in the danger area.
- △ Before starting work, inform the company responsible for the power supply.
- △ Consult the power supply company regarding the measures to be taken in case of emergency.
- △ If a current transfer does occur, do not leave the cabin. The equipment operator must instruct the endangered persons accordingly (e.g. keep legs closed and remain still).
- △ The danger has passed only when the power supplier gives the all-clear.

⚠ WARNING Danger of accident!

Improper use can cause an accident. This could result in serious or fatal injuries to persons.

- △ Please read and observe the following chapter on safety in the "General Safety" chapter before performing tasks or processes according to this chapter:
 - Danger area and safety distance [→ 42]
 - Safety when handling ropes [→ 43]
 - General information on stability [→ 43]
 - Operational safety [→ 45]

⚠ WARNING Risk of entanglement, risk of crushing, risk of collision!

Crushing surfaces and cutting edges are produced, primarily during raising and lowering of the grabber, rotation and swinging of the grabber, slewing and tilting of the Mast, movement of the bucket set, movement of the hydraulic hoses, movement of the hose guide wheel. If persons get between these edges, they can receive serious or fatal injuries.

- △ Maintain adequate safety distance.
- △ Do not insert any body parts between moving components.

⚠ WARNING Danger of getting crushed, hitting hazard!

When the grabber swings around with an open bucket, a reduction of the safety distance occurs. Any persons standing within the slewing range could be hit by the bucket and thus receive serious or fatal injuries.

- △ Maintain adequate safety distance.

⚠ WARNING Danger of getting crushed, danger of getting cut!

Crushing surfaces and cutting edges are produced, primarily during slewing and tilting of the tool, raising and lowering of the crowd sledge, tilting the mast forwards and backwards, folding the mast-head, retracting and extending the mast prop, retracting and extending the clamping cylinder. If persons get between these edges, they can receive serious or fatal injuries.

- △ Maintain adequate safety distance.
- △ Do not insert any body parts between moving components.

⚠ WARNING Danger of getting crushed, danger of getting cut!

Crushing surfaces and cutting edges are produced, primarily during raising, lowering, tilting, slewing, and adjusting of the Mast, raising and lowering of the crowd sledge, retracting and extending of the leader cylinder, retracting and extending of the displacement cylinder, folding of the Mast head, fitting of the piling material between vibrator, clamp and lifting chain. If persons get between these edges, they can receive serious or fatal injuries.

- △ Maintain adequate safety distance.
- △ Do not insert any body parts between moving components.

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⚠WARNING Danger of accident!

Changing the operating position while the equipment is performing work can cause the equipment to tip over or components to fall down. Persons could be hit and receive serious or fatal injuries.

- △ Never move the equipment away from the operating position while the equipment and the fittings are performing work.
- △ Mast Before starting work, align the equipment to the required inclination and do not alter this while the work is being performed. Should the position of the Mast be altered by external forces (e.g. by sagging soil), minimum and careful adjustment is permitted.

⚠WARNING Danger of getting crushed, danger of getting cut!

Crushing surfaces and cutting edges are produced, primarily during raising and lowering of the cutter, turning and swinging of the cutter, movement of the hose guide wheel, and slewing and tilting of the Mast. If persons get between these edges, they can receive serious or fatal injuries.

- △ Do not insert any body parts between moving components.
- △ Maintain adequate safety distance.

⚠WARNING Tipping hazard!

If the equipment is used in the hoisting device mode without LTL (load torque limitation) it can tilt and fall over. This could result in serious or fatal injuries to the equipment operator and persons in the vicinity of the equipment.

- △ It is forbidden to operate the equipment in hoisting device mode without LTL.
- △ Before operating in hoisting device mode, make sure that the operating mode "Hoisting mode" is activated on the equipment.

⚠WARNING Danger of getting crushed, danger of getting cut!

Crushing surfaces and cutting edges are produced, primarily when slewing and tilting the tool, raising and lowering the crowd sledge, raising or lowering the mast, folding the masthead. If persons get between these edges, they can receive serious or fatal injuries.

- △ Maintain adequate safety distance.
- △ Do not insert any body parts between moving components.


3.1 General

3.1.1 Operating modes

Rigging mode

Rigging mode is required for the assembly and disassembly of the equipment. Depending on which assembly processes or disassembly processes are to be carried out, the rigging mode can be divided up as follows:


Assembly mode (assembly of the equipment):

Selection button	Process
 1.22	<ul style="list-style-type: none">• Press button (1.22).✓ LED of button (1.22) turns green.✓ Assembly mode is selected.


Disassembly mode (disassembly of the equipment):

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Selection button	Process
 1.23	<ul style="list-style-type: none"> • Press button (1.23). ✓ LED of button (1.23) turns green. ✓ Disassembly mode is selected.

Rigging mode of the winches (for manual operation of the winches during assembly/disassembly of the equipment):

Selection button	Process
 1.21	<ul style="list-style-type: none"> • Press button (1.21). ✓ LED of button (1.21) turns green. ✓ Rigging mode of the winches is selected.

When the rigging mode of the winches is deselected, the main winch is selected.



Exactly when each operating mode is to be used is explained in the respective chapters.

Operation


The operating mode which enables the actual work with the equipment is referred to as operation.

Prerequisite:

- Assembly mode is not selected.
- Disassembly mode is not selected.
- Rigging mode of the winches is not selected.
- Transport mode is not selected.

Transport mode

The equipment may be loaded only in transport mode. In transport mode, only the functions necessary for loading and transporting the equipment are available.

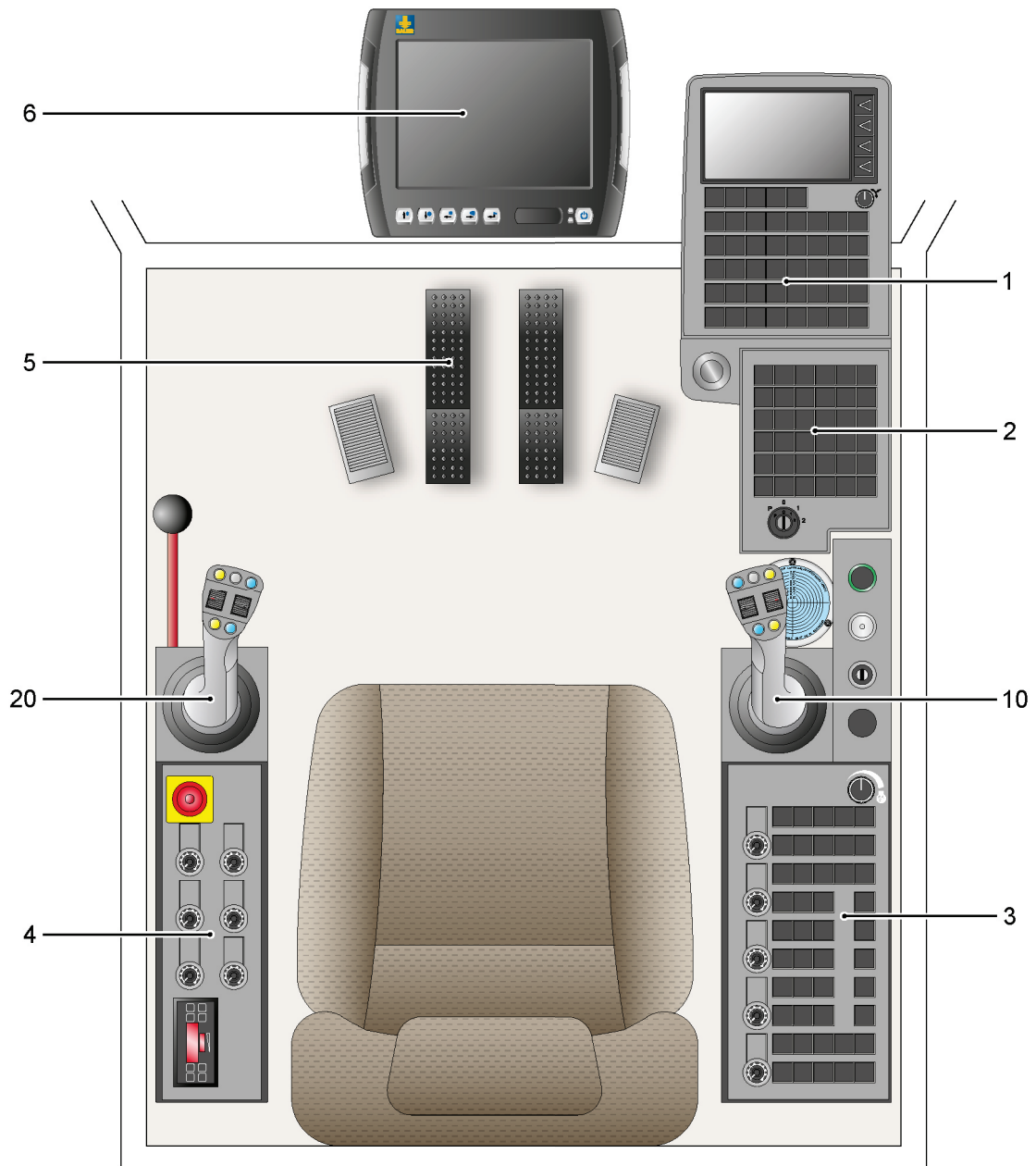
Key switch	Process
 3.8	<ul style="list-style-type: none"> • Turn key switch (3.8) to position "I". ✓ Transport mode is selected.

3 Operation



3.2 Controls/monitoring

3.2.1 Overview of cab and control station



- 1 Control panel 1
- 2 Control panel 2
- 3 Control panel 3
- 4 Control panel 4

- 5 Foot pedals
- 6 B-Tronic screen
- 10 Control lever right
- 20 Control lever left

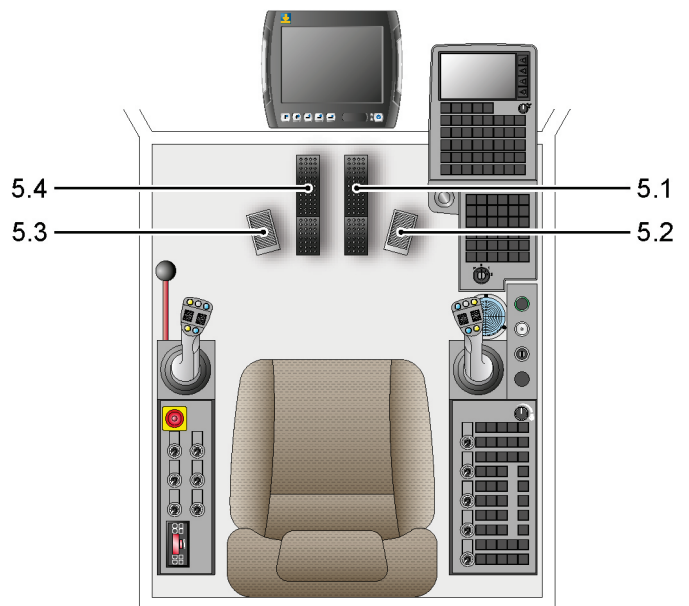
3 Operation



3.2.2 Foot pedals

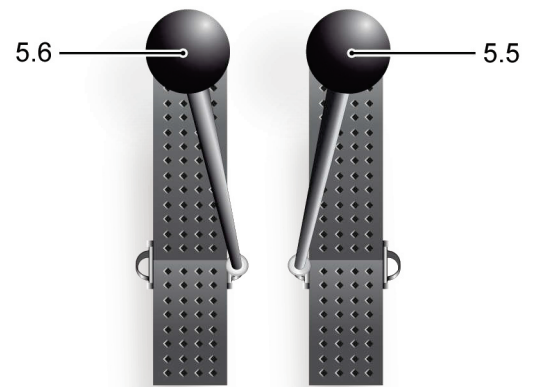
- | | | | |
|--------------|----------------|------------------------|--|
| ●=BV mode | ●=BTM mode | ■=HPD mode | ▲=CSM mode |
| ●=CSV mode | ●=SCM mode | ■=hammering (vibrator) | ▲=BC mode (HDS) |
| ●=DKS mode | ●=SMW mode | ■=RDV mode | ▲=BC mode (HTS, HSS) |
| ●=FDP mode | ●=CFA mode | ■=ROB mode | ▲=grab mode (HDSG) |
| ●=Kelly mode | ●=FOW mode | ■=VD mode | ▲=grab mode (slinging rope) |
| ●=MIP mode | ●=pre-drilling | ■=SPP mode | ▲=foundation crane in hoisting device mode |

- 5.1 Travel mode: Steer right crawler
- 5.2 ●: Release main winch freewheel
- 5.3 -
- 5.4 Travel mode: Steer left crawler



Overview of levers:

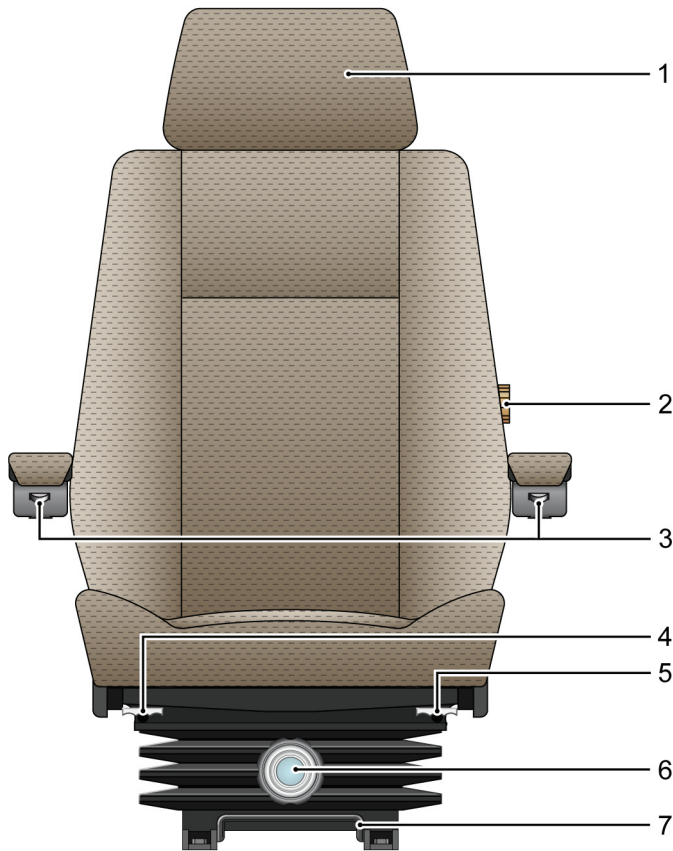
- 5.5 Travel mode: Steer right crawler
- 5.6 Travel mode: Steer left crawler



3 Operation



3.2.3 Operator's seat



1 Adjustable head rest

2 Adjust lumbar support

3 Adjust angle of armrests

4 Adjust angle of the backrest

5 Adjust height and angle of the seat

6 Adjust the operator's seat to the equipment operator's body weight

7 Move operator's seat forwards or backwards

3 Operation



3.2.4 B-Tronic

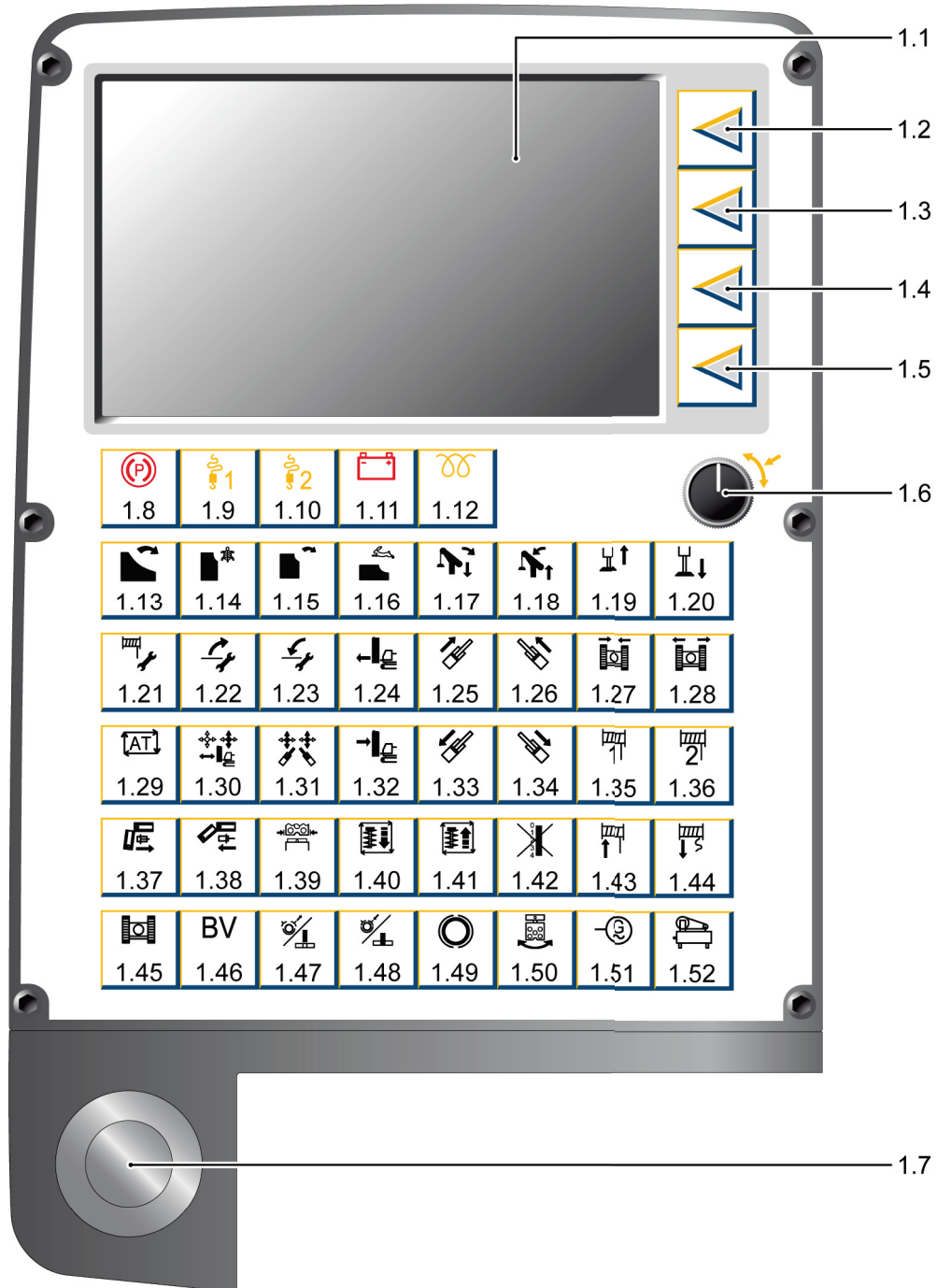


Further information can be found in the enclosed additional documentation.

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3.2.5 Control panel 1



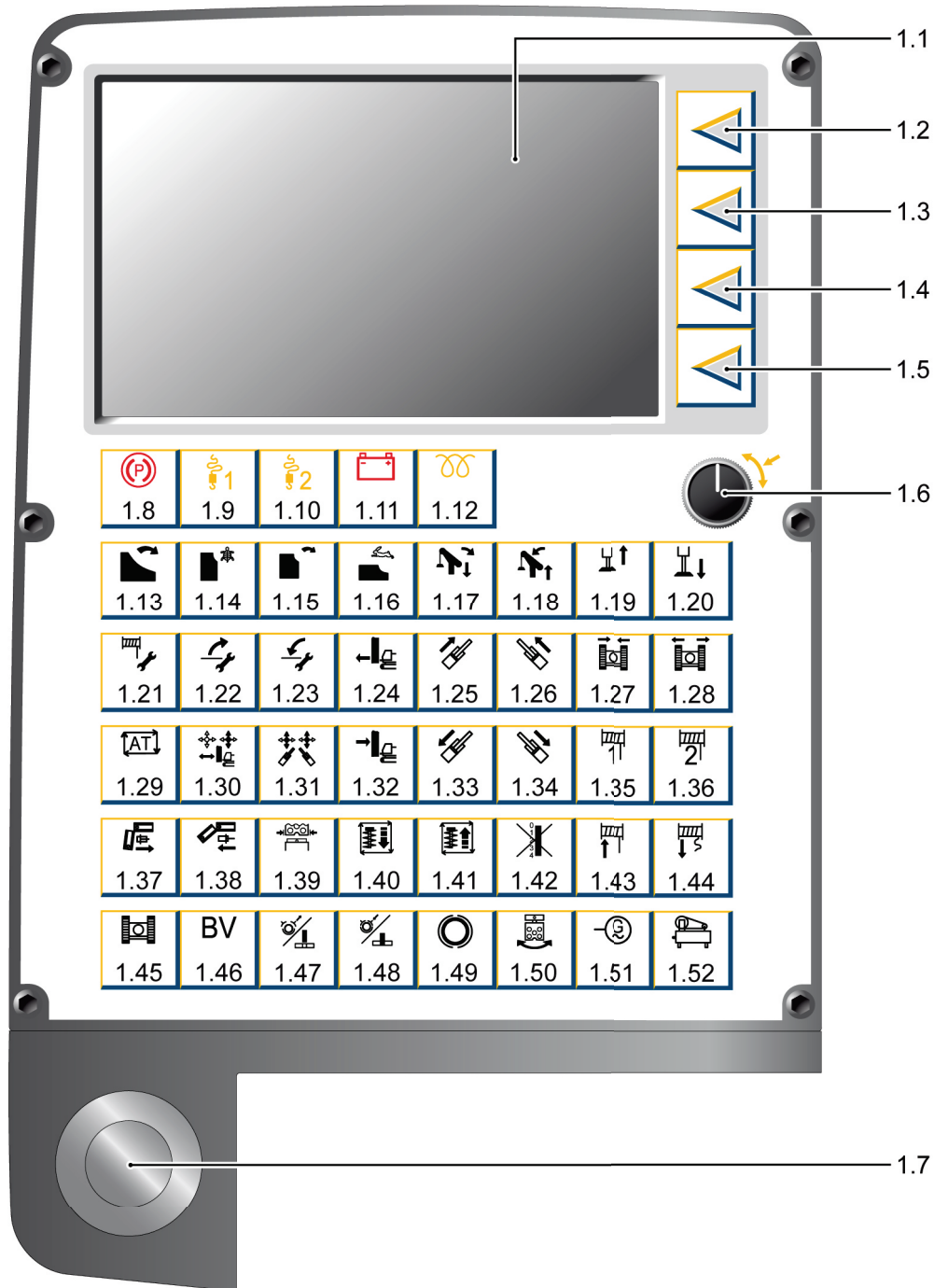
3 Operation



- =BV mode
- =CSV mode
- =DKS mode
- =FDP mode
- =Kelly mode
- =MIP mode
- =BTM mode
- =SCM mode
- =SMW mode
- =CFA mode
- =FOW mode
- =pre-drilling
- =HPD mode
- =hammering (vibrator)
- =RDV mode
- =ROB mode
- =VD mode
- =SPP mode
- =CSM mode
- =BC mode (HDS)
- =BC mode (HTS, HSS)
- =grab mode (HDSG)
- =grab mode (rope)
- =foundation crane in hoisting device mode
- =leader mode

- | | |
|--|---|
| <ul style="list-style-type: none"> 1.1 Monitor unit:
Left = engine operation indicators
Right = camera angles 1.2 Camera front right/rear right: Switch between camera angles 1.3 Call up equipment data 1.4 Lower rear-view camera/winch camera:
Switch between camera angles 1.5 Open/close service menu 1.6 Select screen display 1.6 Button (1.5) selected: Select and operate menu mode 1.7 Release: Adjust console 1.8 Indicator light: Swing brake activated 1.9 Indicator light: Main winch freewheel activated 1.10 - 1.11 Indicator light: Battery charge indicator 1.12 Indicator light: Diesel engine preheating system 1.13 KDK selected: Large torque and high speed | <ul style="list-style-type: none"> 1.14 KDK selected: Large torque and low speed 1.15 KDK selected: Reduced torque and high speed 1.16 KDK selected: Low torque and maximum speed 1.17 - 1.18 - 1.19 Retract mast prop 1.20 Extend mast prop 1.21 Rigging mode: Preselect winches 1.22 Preselection: Assembly mode 1.23 Preselection: Derigging mode 1.24 Increase operating radius 1.25 Operation: Extend left backstay cylinder 1.26 Operation: Extend right backstay cylinder |
|--|---|

3 Operation



3 Operation



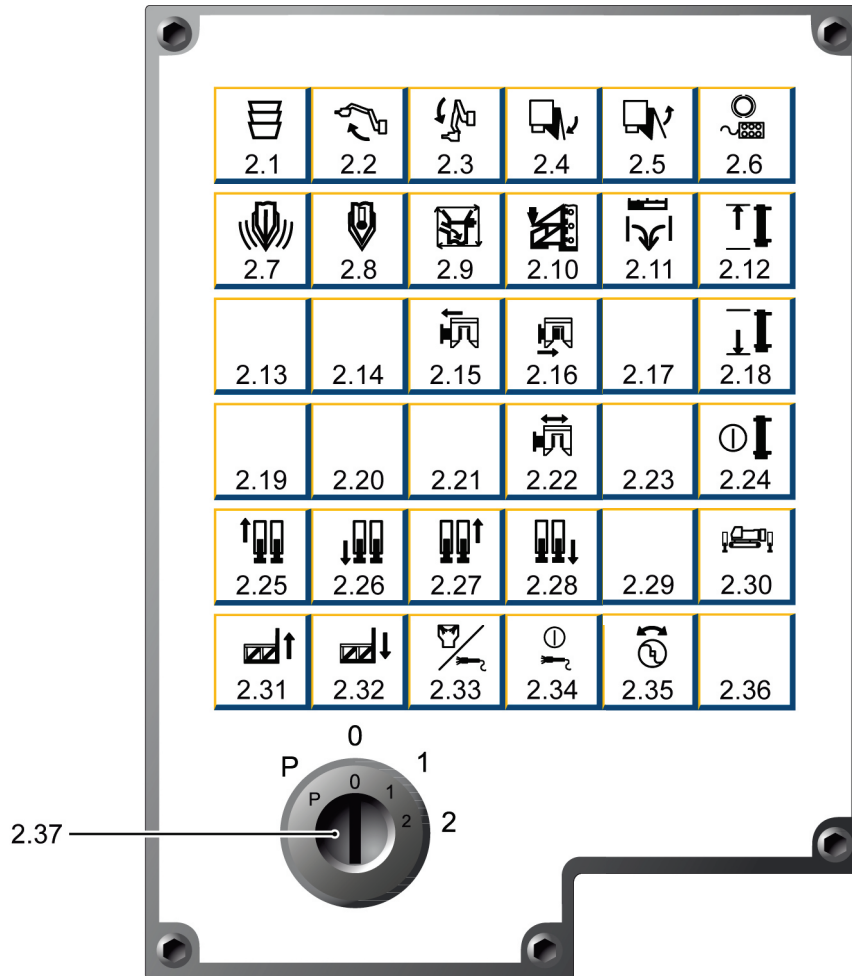
- =BV mode
- =CSV mode
- =DKS mode
- =FDP mode
- =Kelly mode
- =MIP mode
- =BTM mode
- =SCM mode
- =SMW mode
- =CFA mode
- =FOW mode
- =pre-drilling
- =HPD mode
- =hammering (vibrator)
- =RDV mode
- =ROB mode
- =VD mode
- =SPP mode
- ▲=CSM mode
- ▲=BC mode (HDS)
- ▲=BC mode (HTS, HSS)
- ▲=grab mode (HDSG)
- ▲=grab mode (rope)
- ▲=foundation crane in hoisting device mode
- ▲=leader mode

- | | |
|---|--|
| 1.27 - | 1.40 ●/●/●/●: Switch drilling assistant on/off |
| 1.28 Preselection: Undercarriage control lever | 1.41 - |
| 1.29 Automatically align mast vertically | 1.42 - |
| 1.30 - | 1.43 Tighten crowd ropes |
| 1.31 Rigging mode indicator light: Backstay cylinder selected | 1.44 Slacken crowd ropes |
| 1.32 Operation: Reduce operating radius | 1.45 Preselection: Travel mode |
| 1.33 Operation: Retract left backstay cylinder | 1.46 - |
| 1.34 Operation: Retract right backstay cylinder | 1.47 - |
| 1.35 Preselection: Main winch | 1.48 - |
| 1.36 Preselection: Auxiliary winch | 1.49 - |
| 1.37 - | 1.50 - |
| 1.38 - | 1.51 - |
| 1.39 - | 1.52 - |

3 Operation



3.2.6 Control panel 2



3 Operation



- =BV mode
- =CSV mode
- =DKS mode
- =FDP mode
- =Kelly mode
- =MIP mode

- =BTM mode
- =SCM mode
- =SMW mode
- =CFA mode
- =FOW mode
- =pre-drilling

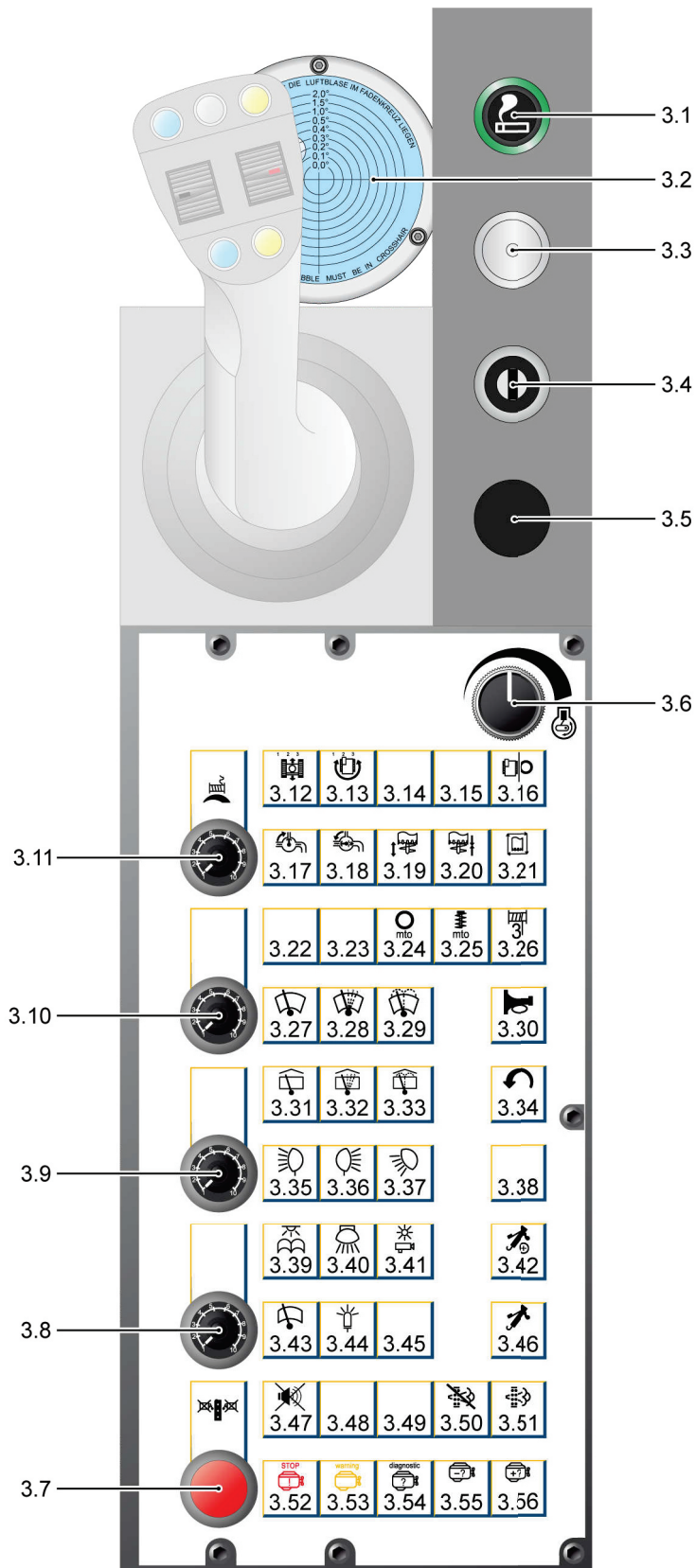
- =HPD mode
- =hammering (vibrator)
- =RDV mode
- =ROB mode
- =VD mode
- =SPP mode

- =CSM mode
- =BC mode (HDS)
- =BC mode (HTS, HSS)
- =grab mode (HDSG)
- =grab mode (rope)
- =foundation crane in hoisting device mode
- =leader mode

- | | |
|--------|-----------------------------|
| 2.1 - | 2.20 - |
| 2.2 - | 2.21 - |
| 2.3 - | 2.22 - |
| 2.4 - | 2.23 - |
| 2.5 - | 2.24 - |
| 2.6 - | 2.25 - |
| 2.7 - | 2.26 - |
| 2.8 - | 2.27 - |
| 2.9 - | 2.28 - |
| 2.10 - | 2.29 - |
| 2.11 - | 2.30 - |
| 2.12 - | 2.31 - |
| 2.13 - | 2.32 - |
| 2.14 - | 2.33 - |
| 2.15 - | 2.34 - |
| 2.16 - | 2.35 - |
| 2.17 - | 2.36 - |
| 2.18 - | 2.37 Switch ignition on/off |
| 2.19 - | |

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3.2.7 Control panel 3



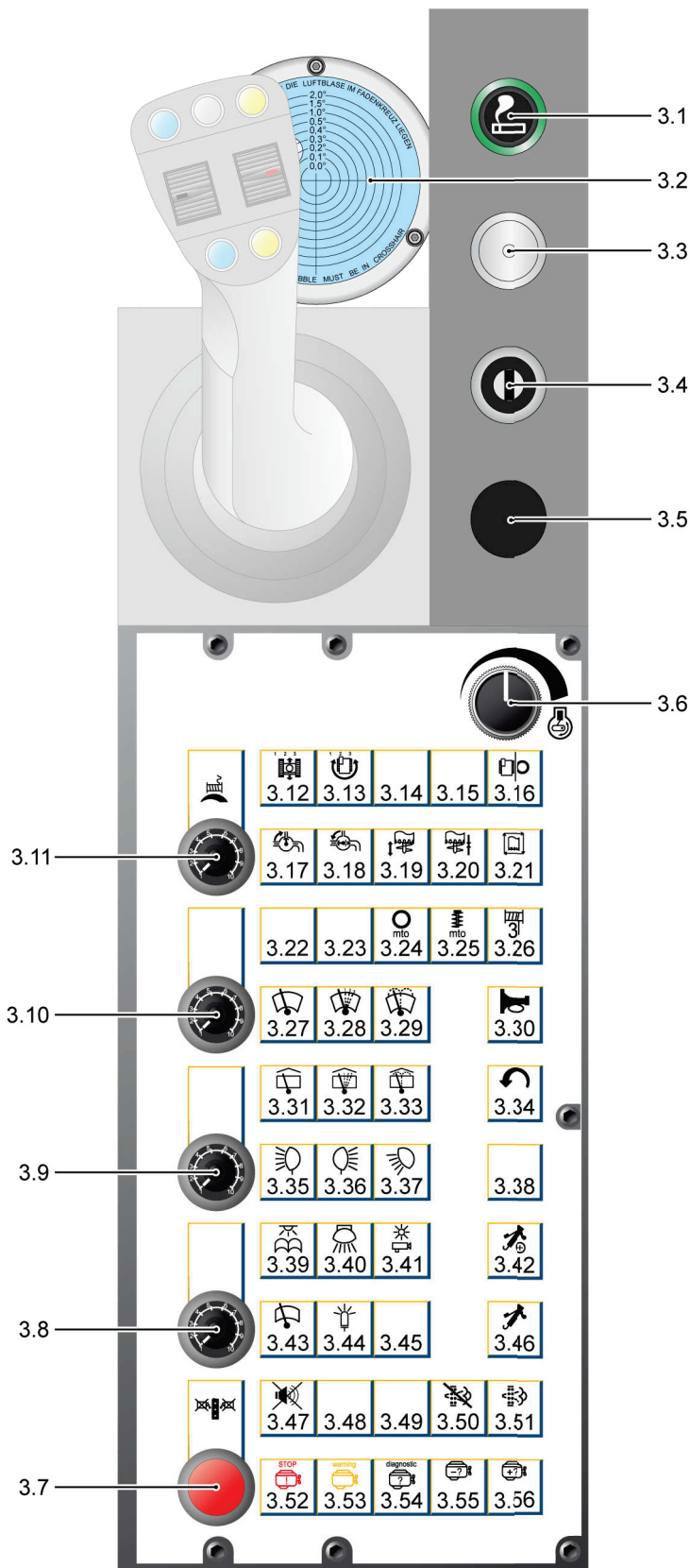
3 Operation



=BV mode	=BTM mode	=HPD mode	=CSM mode
=CSV mode	=SCM mode	=hammering (vibrator)	=BC mode (HDS)
=DKS mode	=SMW mode	=RDV mode	=BC mode (HTS, HSS)
=FDP mode	=CFA mode	=ROB mode	=Grab mode (HDSS)
=Kelly mode	=FOW mode	=VD mode	=Grab mode (rope)
=MIP mode	=pre-drilling	=SPP mode	=Foundation crane in hoisting device mode
			=Leader mode

3.1	Cigarette lighter	3.15	-
3.2	Round spirit level	3.16	-
3.3	-	3.17	-
3.4	: Preselection free wheel operation	3.18	-
3.5	-	3.19	-
3.6	Diesel engine: Control speed	3.20	-
3.7	Bypass mast's lateral inclination limit switch	3.21	: Switch rock drilling assistant on/off
3.8	Switch transport mode on/off	3.22	-
3.9	-	3.23	-
3.10	-	3.24	-
3.11	: Automatic rope tensioning facility – adjust remaining load on the main rope	3.25	-
3.12	-	3.26	-
3.13	-	3.27	Front windshield: Switch wipers on/off
3.14	-	3.28	Front windshield: Adjust wiper interval

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3 Operation



- =BV mode
- =CSV mode
- =DKS mode
- =FDP mode
- =Kelly mode
- =MIP mode

- =BTM mode
- =SCM mode
- =SMW mode
- =CFA mode
- =FOW mode
- =pre-drilling

- =HPD mode
- =hammering (vibrator)
- =RDV mode
- =ROB mode
- =VD mode
- =SPP mode

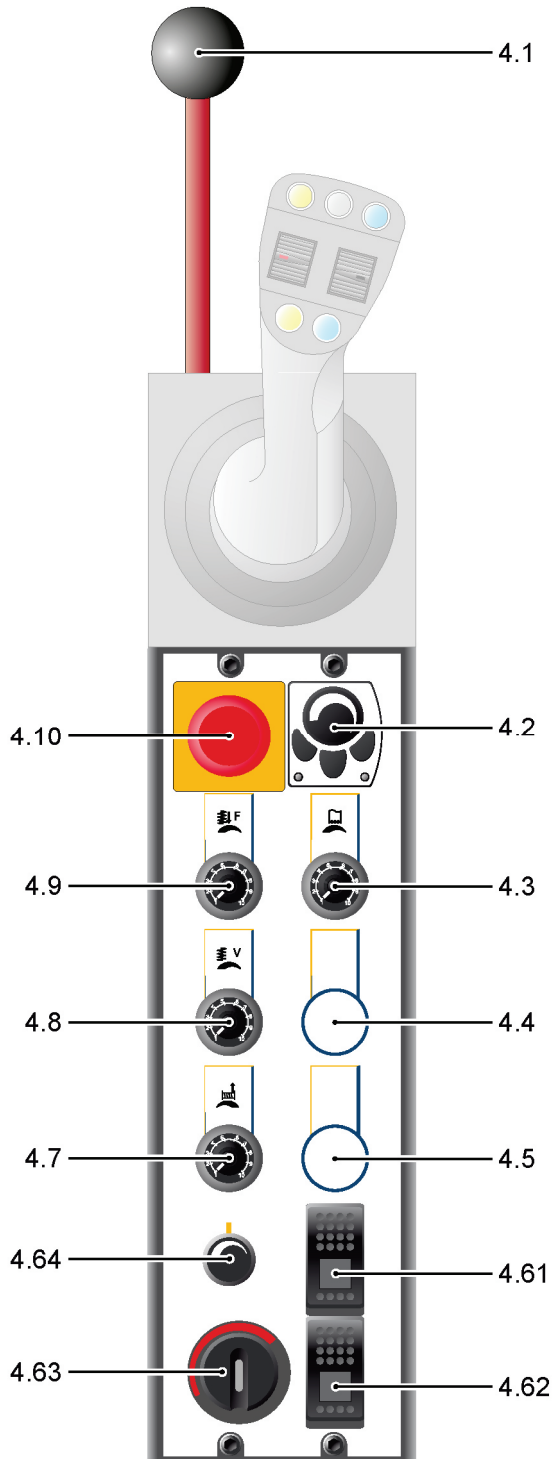
- =CSM mode
- =BC mode (HDS)
- =BC mode (HTS, HSS)
- =Grab mode (HDSG)
- =Grab mode (rope)
- =Foundation crane in hoisting device mode
- =Leader mode

3.29	Front windshield: Switch window wiper system on/off	3.43	-
3.30	Actuate the horn	3.44	Switch rotating beacon light on/off
3.31	Roof window: Switch wipers on/off	3.45	-
3.32	Roof window: Adjust wiper interval	3.46	Switch central lubrication system on/off
3.33	Roof window: Switch window wiper system on/off	3.47	Buzzer: Suppress warning sound
3.34	Diesel engine: Switch automatic engine idling reset on/off	3.48	-
3.35	Switch headlights on/off	3.49	-
3.36	Switch rear headlamp on/off	3.50	Deactivate automatic regeneration of the exhaust system
3.37	Switch spotlight on boom on/off	3.51	Activate manual regeneration of the exhaust system
3.38	-	3.52	Indicator light: Diesel engine "Stop"
3.39	Switch interior cab lighting on/off	3.53	Indicator light: Diesel engine "Warning"
3.40	Switch engine compartment lighting on/off	3.54	Switch diesel engine diagnostics on/off
3.41	Switch camera spotlight on/off	3.55	With diesel engine diagnostics switched on: Scroll backwards through the stored error messages in the engine diagnostics system During emergency control: Reduce diesel engine speed
3.42	Central lubrication system: Activate intermediate lubrication	3.56	With diesel engine diagnostics switched on: Scroll forwards through the stored error messages in the engine diagnostics system During emergency control: Increase diesel engine speed

3 Operation



3.2.8 Control panel 4



3 Operation



=BV mode
 =CSV mode
 =DKS mode
 =FDP mode
 =Kelly mode
 =MIP mode

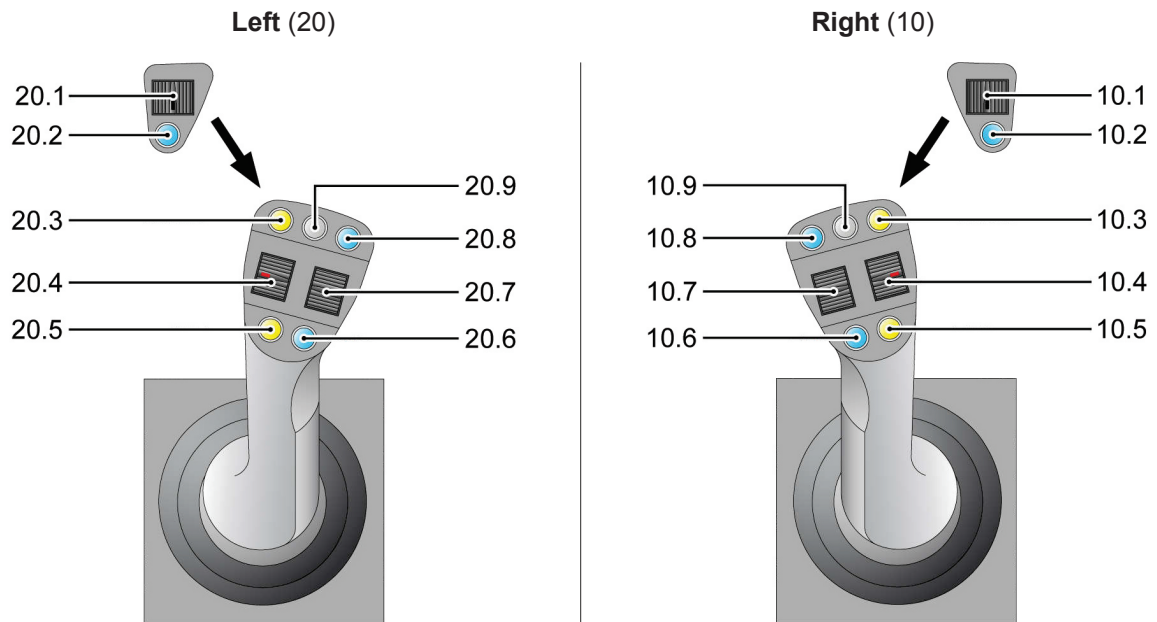
=BTM mode
 =SCM mode
 =SMW mode
 =CFA mode
 =FOW mode
 =pre-drilling

=HPD mode
 =hammering (vibrator)
 =RDV mode
 =ROB mode
 =VD mode
 =SPP mode

=CSM mode
 =BC mode (HDS)
 =BC mode (HTS, HSS)
 =grab mode (HDSG)
 =grab mode (rope)
 =foundation crane in hoisting device mode
 =leader mode

- | | | | |
|------|--|------|---|
| 4.1 | Safety lever: Switch "pilot control" on/off | 4.63 | Air-conditioning system: Control temperature |
| 4.2 | - | 4.64 | Cab ventilation: Adjust power levels |
| 4.3 | : Adjust KDK speed | 4.7 | ///: Free wheel mode – Adjust back pull of the main winch |
| 4.4 | - | 4.8 | Adjust crowd speed (V) |
| 4.5 | - | 4.9 | Adjust crowd pressure (F) |
| 4.61 | Switch air-conditioning on/off | 4.10 | EMERGENCY-STOP |
| 4.62 | Cab ventilation: Switch air circulation on/off | | |

3.2.9 Control lever configuration



Further information on the control lever configuration is detailed in the chapter "Operation".

3.2.10 Additional switches Torque limiting key switch

Process fittings which cannot withstand a larger torque are relieved accordingly by means of torque limitation.

Switch on torque limiting:

- Turn key switch (1) in the electrical box to position "I".

