MONOSEM

FEP - 2018
Réf.10640208

COMPAGNIE COMMERCIALE RIBOULEAU

TECHNICIAN'S INSTRUCTIONS
FEP ELECTRIC PLANTER

ASSEMBLY, SETTINGS, CHECKS

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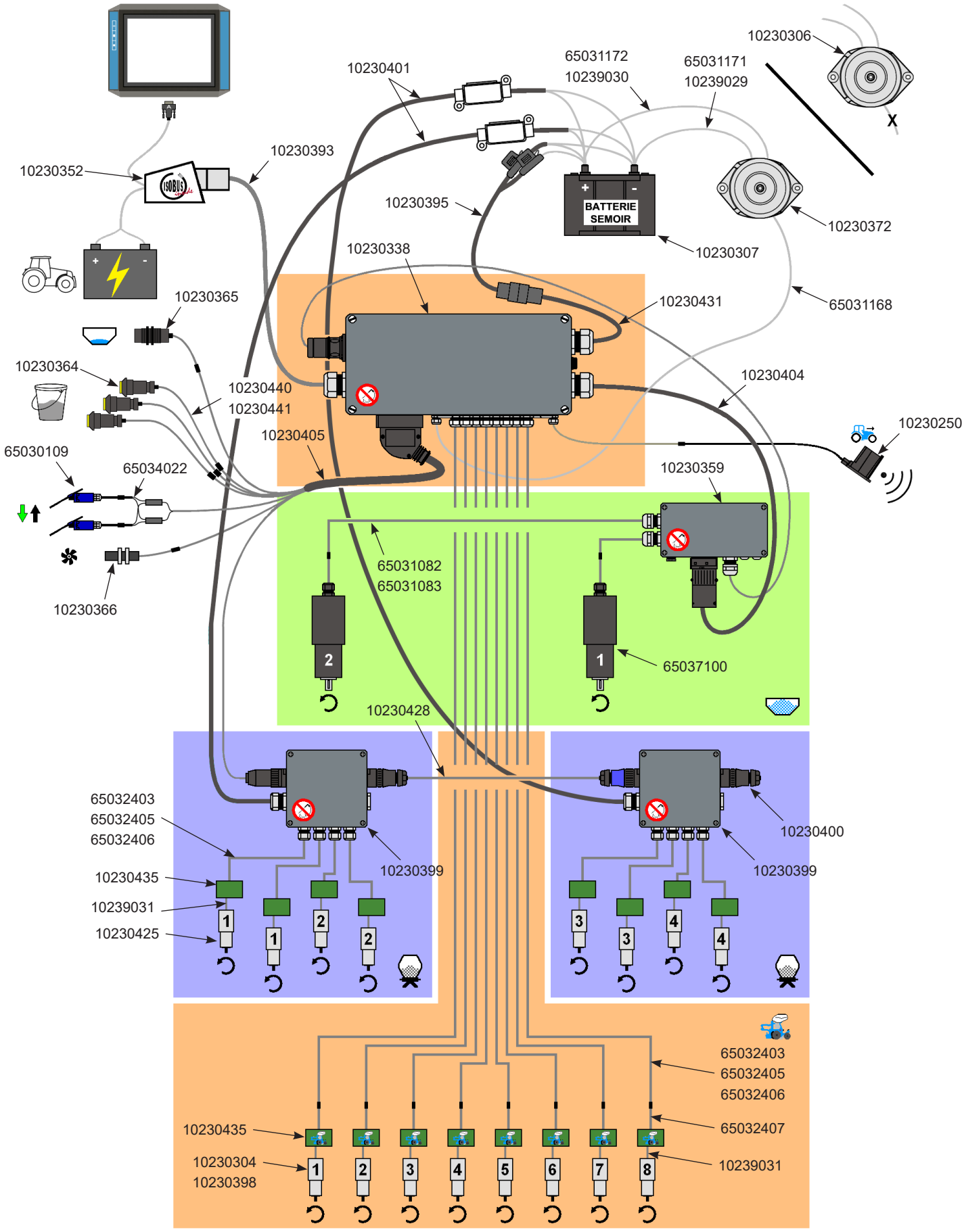
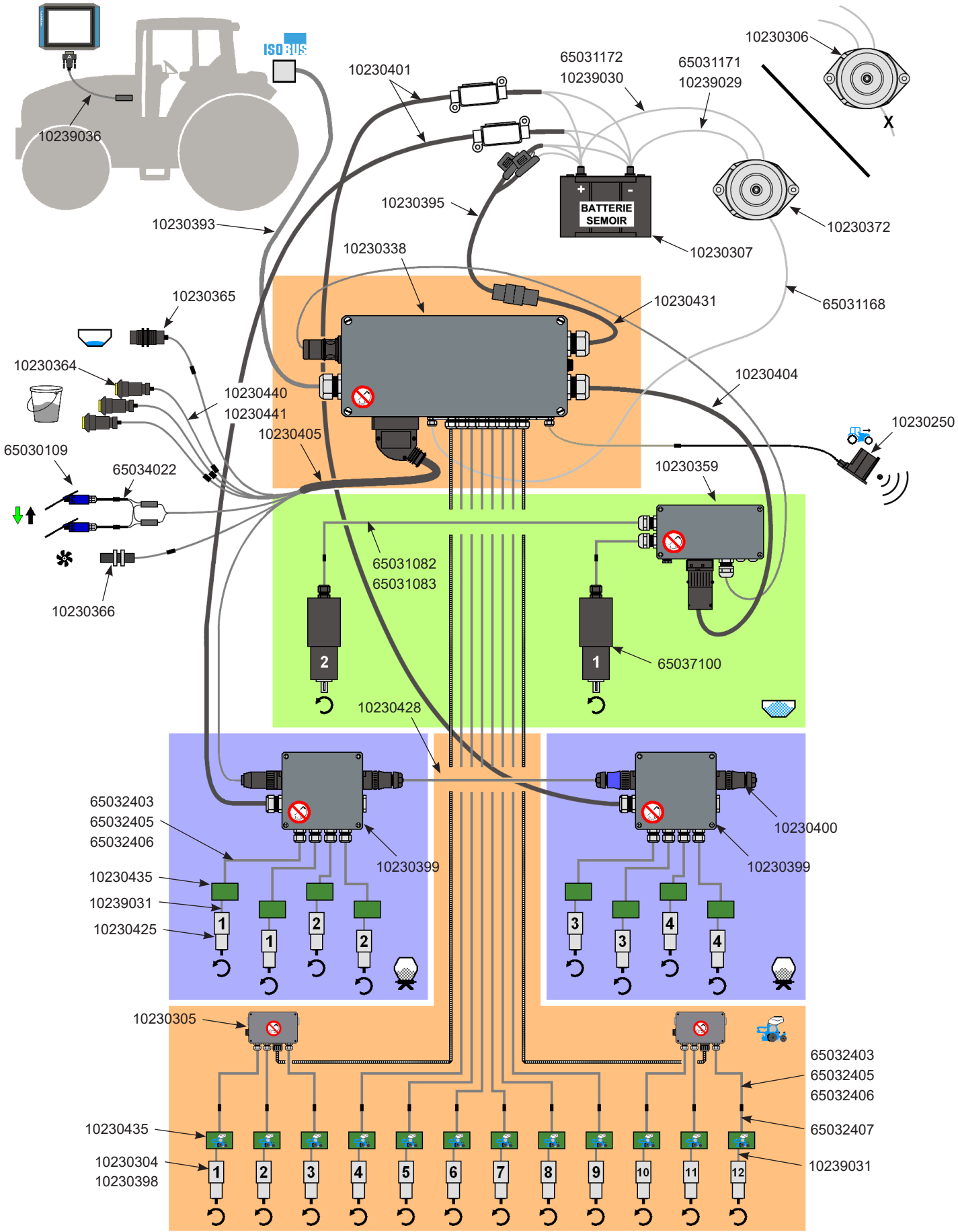
1 ► COMPONENTS & FEP GLOBAL ARCHITECTURE

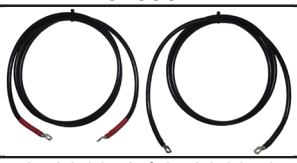
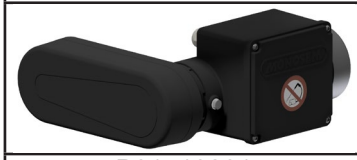
1.1 ► *"Non-ISOBUS tractor" FEP GLOBAL ARCHITECTURE*



1.2 ► "ISOBUS tractor" FEP GLOBAL ARCHITECTURE



1.3 ► *DIAGRAM OF COMPONENTS*

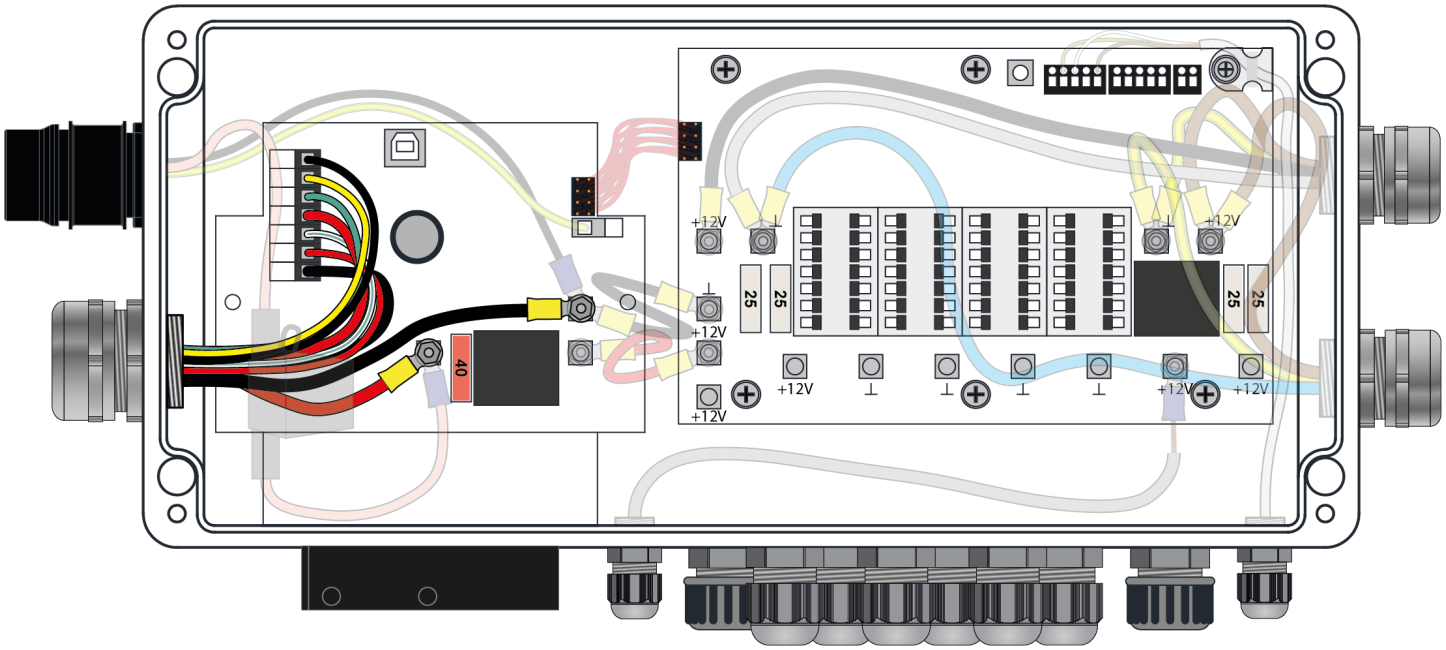
			
10230399	10230401	10230428	10230400
			
10230359	10230404	65037100	65031082 / 65031083
			
10230405	65030109	65034022	10230364
			
10230366	10230365	10230440 / 10230441	10230250
			
10230352	10230393	10239021	10239036
			
10230307	10230372	65031172 / 65031171	65031168
			
10230338	10230395	10239037 / 038 / 039	10230431
			
P01510281	P06160180	P06040180	10230435
			
10230425	10230304	10230398	10230305
			
10239031	65032407	65032403 / 405 / 406	

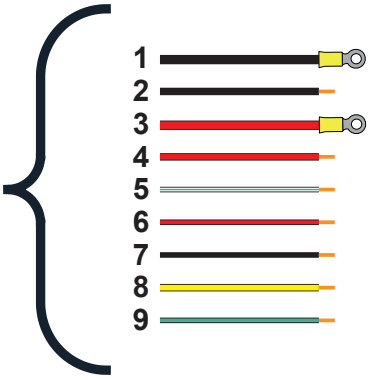
1.4 ► *DESCRIPTIONS OF COMPONENTS*

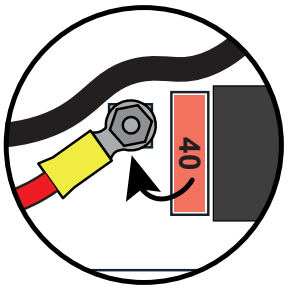
10230399 - Microsem ECV connection box
10230401 - Supply harness for Microsem ECV connection box
10230428 - CAN harness between 2 Microsem ECV connection boxes
10230400 - CAN stopper plug for Microsem ECV connection box
10230359 - Fertilizer placement unit MM2 motor ECU
10230404 - Supply harness for fertilizer placement unit MM2 motor ECU
65037100 - Fertilizer placement unit drive electric motor
65031082 - Motor harness for MM2 motor ECU Length 2.10 m
65031083 - Motor harness for MM2 motor ECU Length 3 m
10230405 - Accessories harness
65030109 - 2-way plug / lower position sensor
65034022 - Y-harness for position sensor
10230364 - Calibration button
10230366 - Turbine rotation speed sensor
10230365 - Hopper base sensor
10230440 - 5 m extension lead for calibration button
10230441 - 14 m extension lead for calibration button
10230250 - Speed radar
10230352 - Tractor side ISOBUS harness
10230393 - Main ECU side ISOBUS harness
10239021 - 4 m ISOBUS extension lead
10239036 - "Muller" InCab harness
10230307 - Planter battery
10230372 - Alternator
65031171 - Alternator / battery harnesses (+)
65031172 - Alternator / battery harnesses (–)
65031168 - Exciter harness for alternator
10230338 - 2.5G main ECU unit
10230395 - Battery side duo-power harness
10239037 - 4 m extension lead for duo-power harness
10239038 - 6 m extension lead for duo-power harness
10239039 - 8 m extension lead for duo-power harness
10230431 - Main ECU side duo-power harness
P01510281 - Microsem drive unit (See spare parts chart)
P06160180 - NG Plus drive unit (See spare parts chart)
P06040180 - MECA V4 drive unit (See spare parts chart)
10230435 - Motor ECU electronic board
10230425 - Drive motor for Microsem
10230304 - Drive motor for NG Plus ME / NG Pus 4E / NX ME
10230398 - Drive motor for MECA V4
10230305 - Junction box
10239031 - Encoder harness between motor and motor ECU
65032407 - Unit side motor ECU harness
65032403 - Main ECU side motor ECU 9 m harness
65032405 - Main ECU side motor ECU 6 m harness
65032406 - Main ECU side motor ECU 14 m harness

2 ► CONNECTION

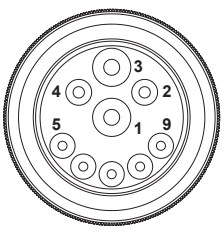
2.1 ► "2.5G main ECU ISOBUS harness" CONNECTION



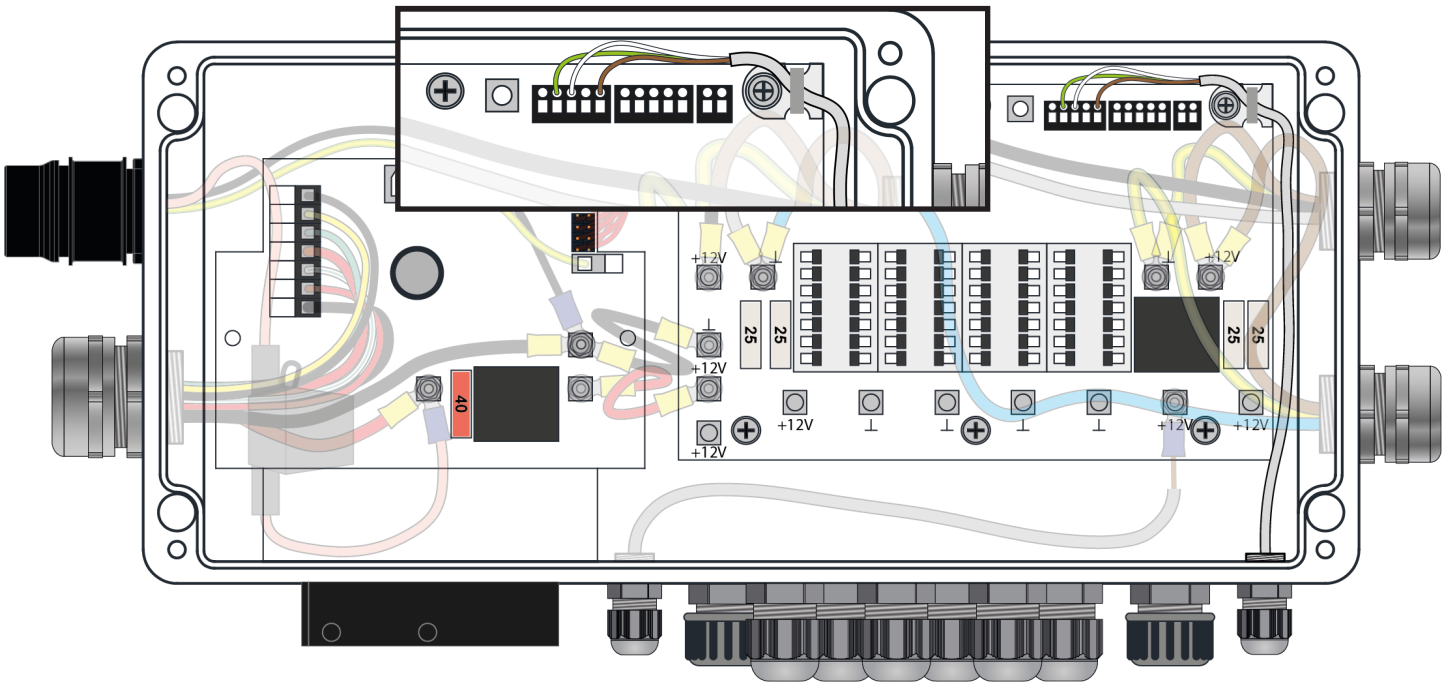


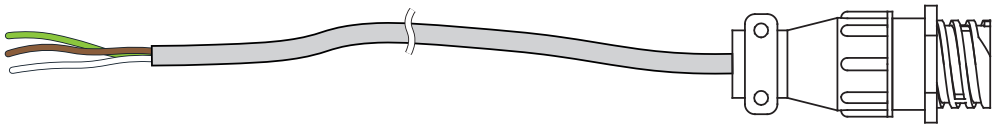


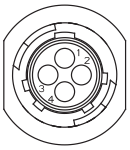
1 40 A fuse protects the ISOBUS inlet.

ISOBUS plug			
	**Pin**	**Colour**	**Function**
	1	**Black**	Ground
	2	**Black**	Control unit ground
	3	**Red**	+12V
	4	**Red**	Control unit supply
	5	**Green / white**	Termination checking
	6	**Red**	Power supply for terminations
	7	**Black**	Ground for terminations
	8	**Yellow**	CAN-Hi
	9	**Green**	CAN-Lo

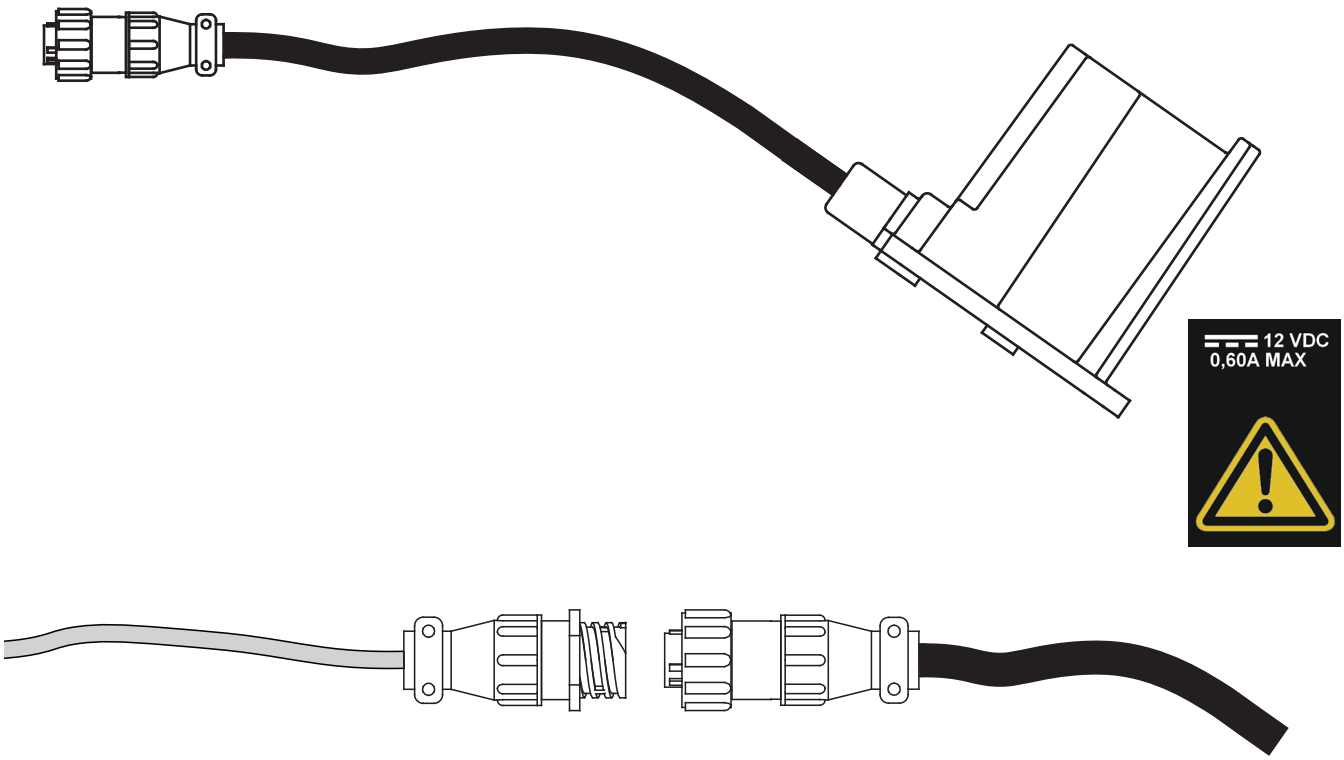
2.2 ► "2.5G main ECU RADAR harness" CONNECTION

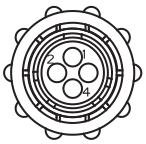




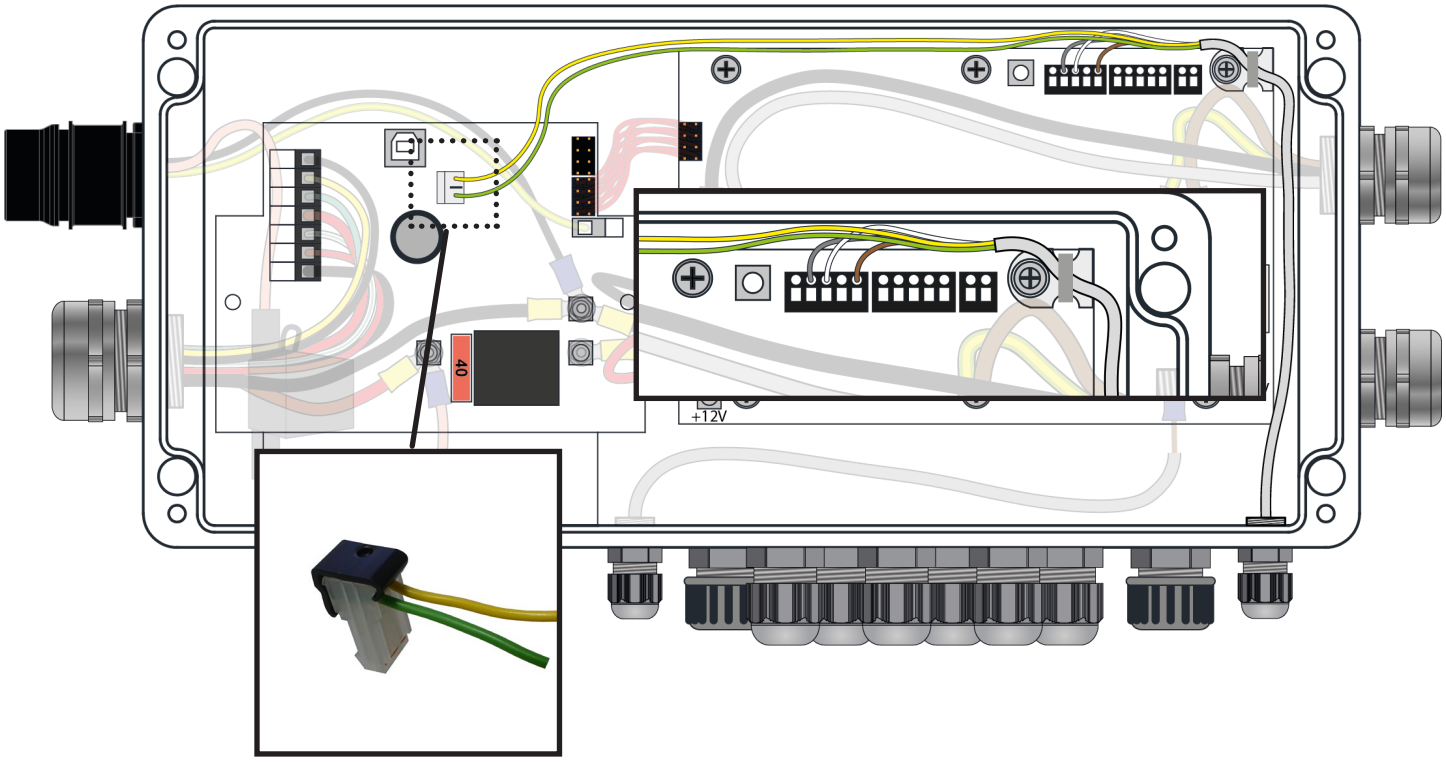
RADAR harness 4-pin plug			
	Pin	Colour	Function
	1	White	+12V
	2	Green	Speed signal
	3	Brown	Ground
	4	/	/

2.3 ► *"RADAR" CONNECTION*

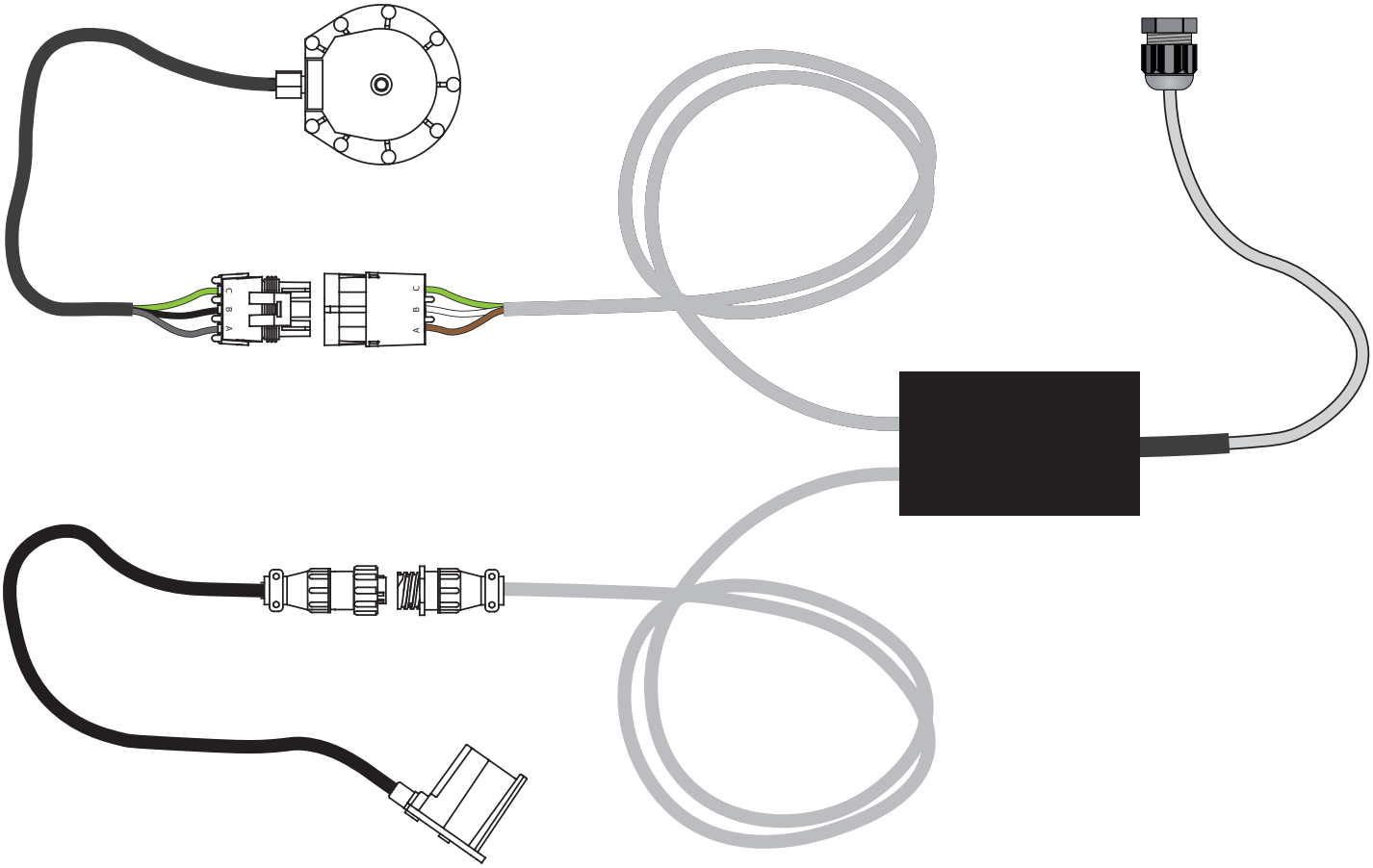


RADAR 4-pin plug			
	**Pin**	**Colour**	**Function**
	1	**Black**	+12V
	2	**Green**	Speed signal
	3	**Red**	Ground
	4	**-**	Shunt 3 - 4

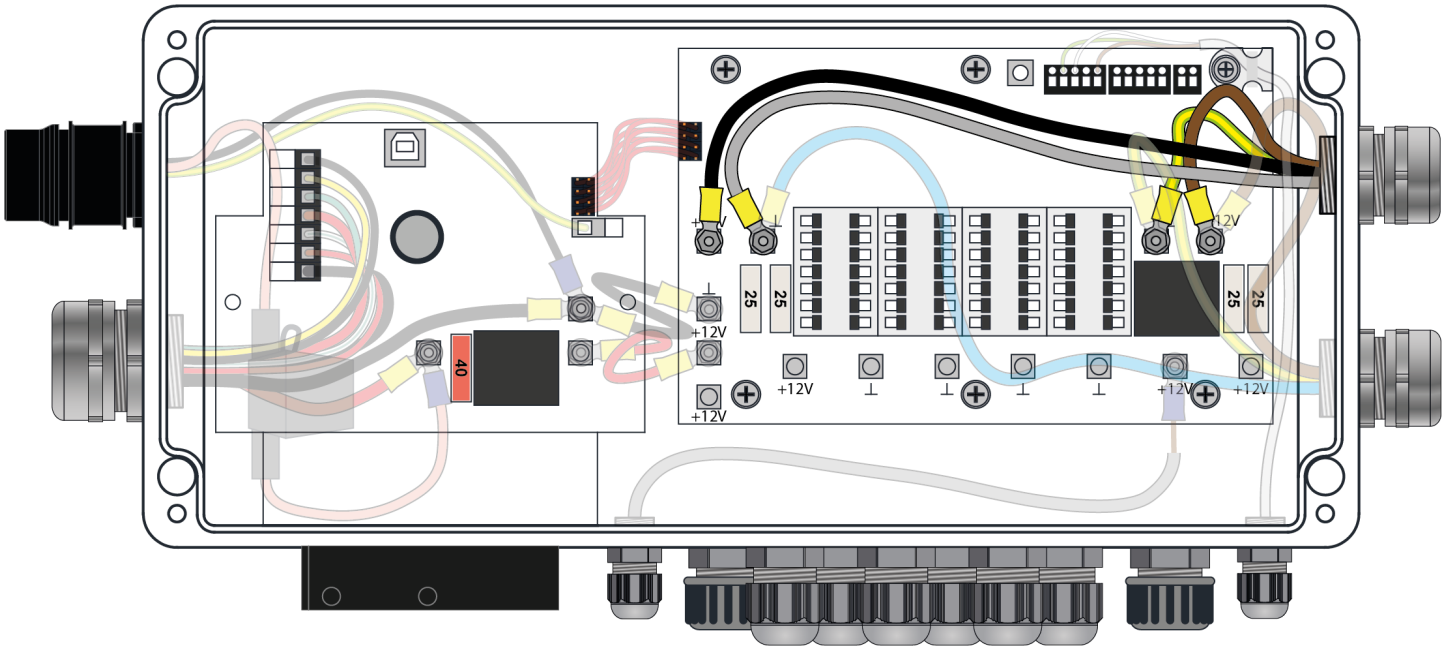
2.4 ► "2.5G main ECU side RADAR / ENCODER Y-harness" CONNECTION

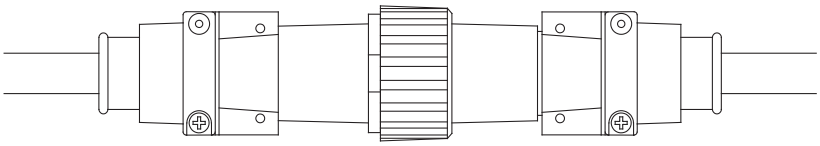


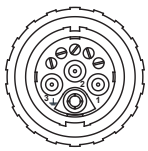
2.5 ► "ENCODER / RADAR Y-harness" CONNECTION



2.6 ► "2.5G main ECU side DUO-POWER harness" CONNECTION

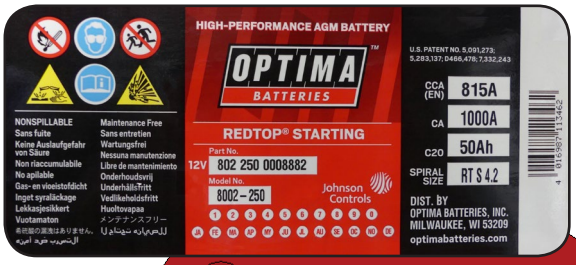




Schaltbau M3 series 4-pin plug			
	Pin	Colour	Function
	1	Grey	ground
	2	Black	+12V
	3	Brown	+12V
	Ground	Yellow / Green	Ground

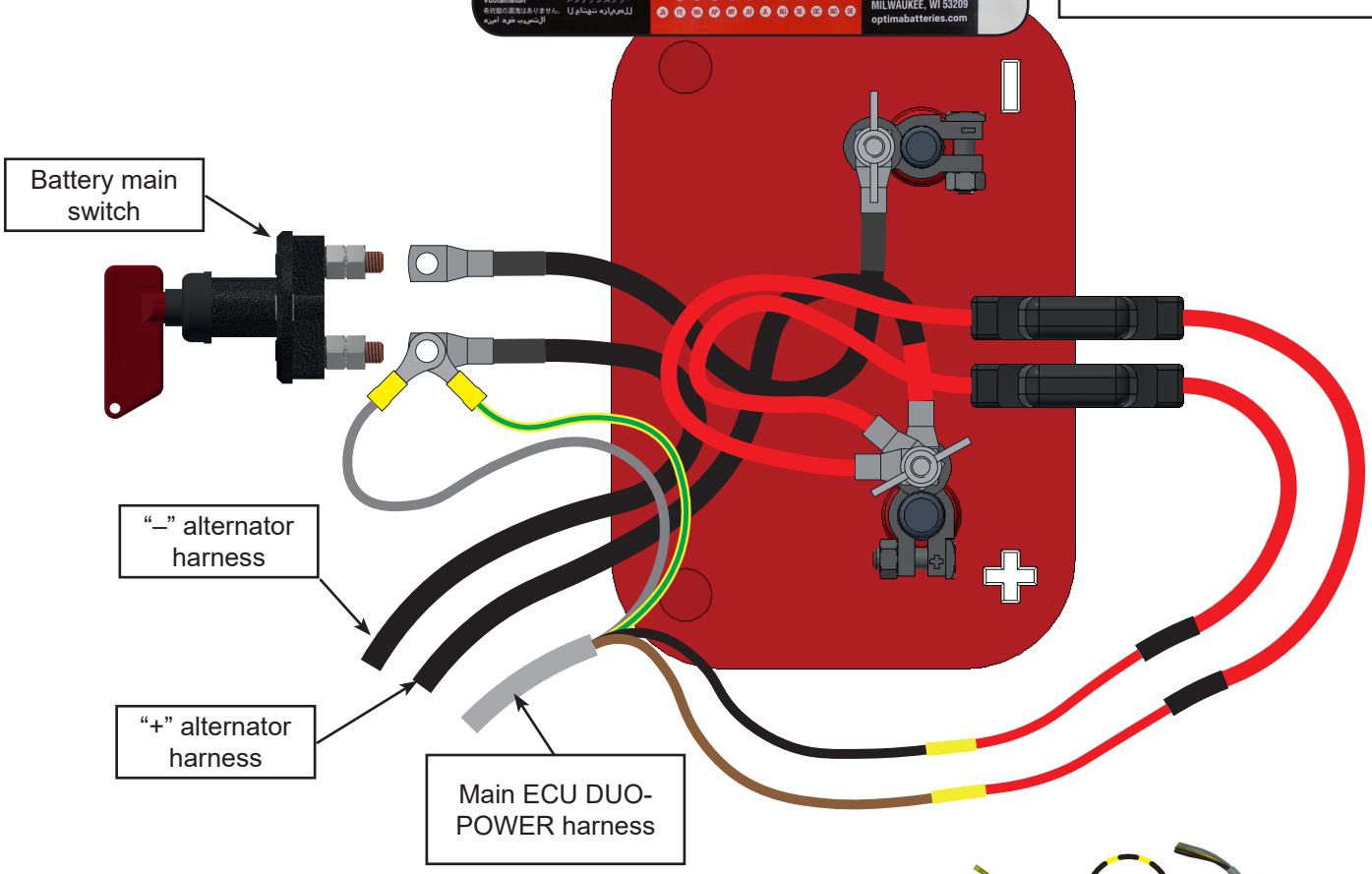
2.7 ► *"Battery side DUO-POWER harness" CONNECTION*

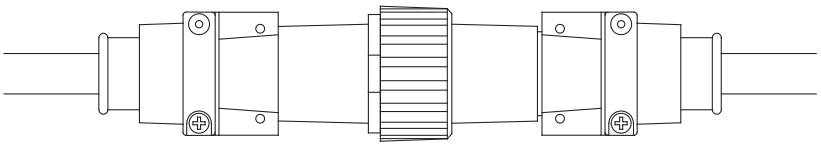
The battery is connected by plugging in + first, then –.



Spécifications:

Product code:	RT S 4.2
Voltage (V):	12
Cold-starting current @ 0°C (A):	1000
Reserve capacity (Minutes):	100
Capacity (standard C/20) (Ah):	50
Internal resistance (ohms):	0.003
Type of terminal / battery lead connection:	SAE
Minimum weight (kg):	17.2 kg

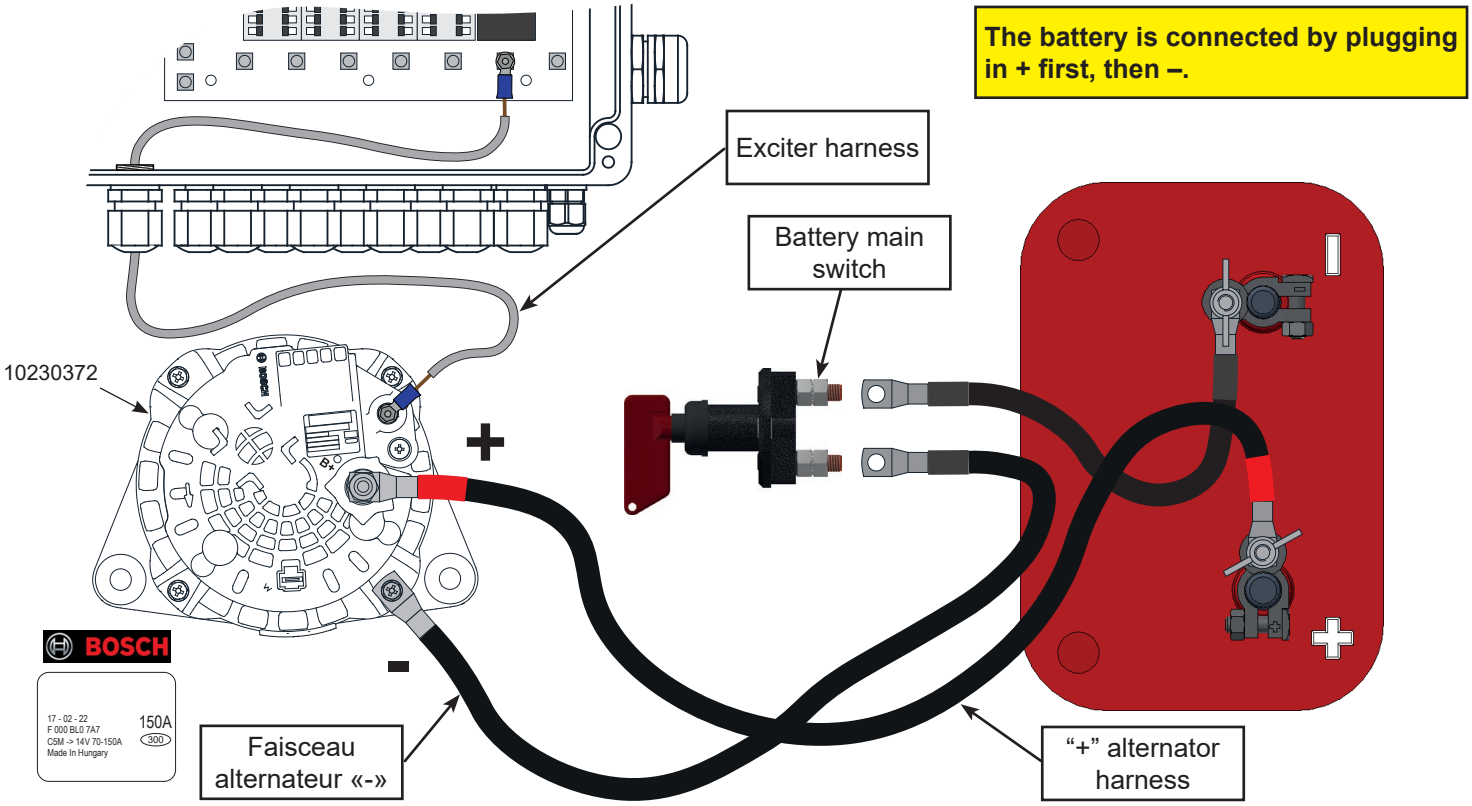




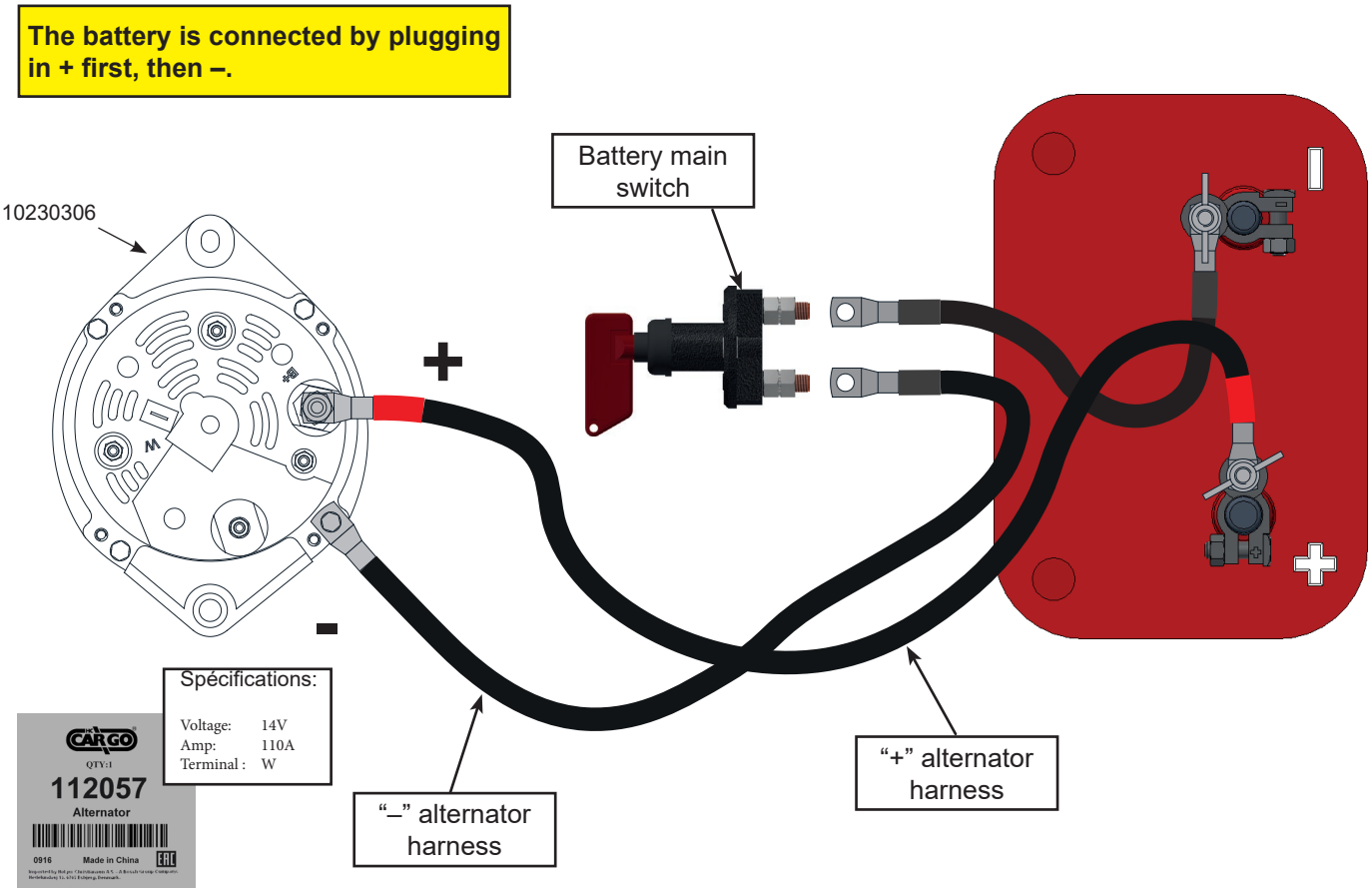
2 40A fuses protect the inlet of the main ECU.

Schaltbau M3 series 4-pin plug			
	**Pin**	**Colour**	**Function**
	1	**Grey**	Ground
	2	**Black**	+12V
	3	**Brown**	+12V
	Ground	**Yellow / Green**	Ground
40A fuses			

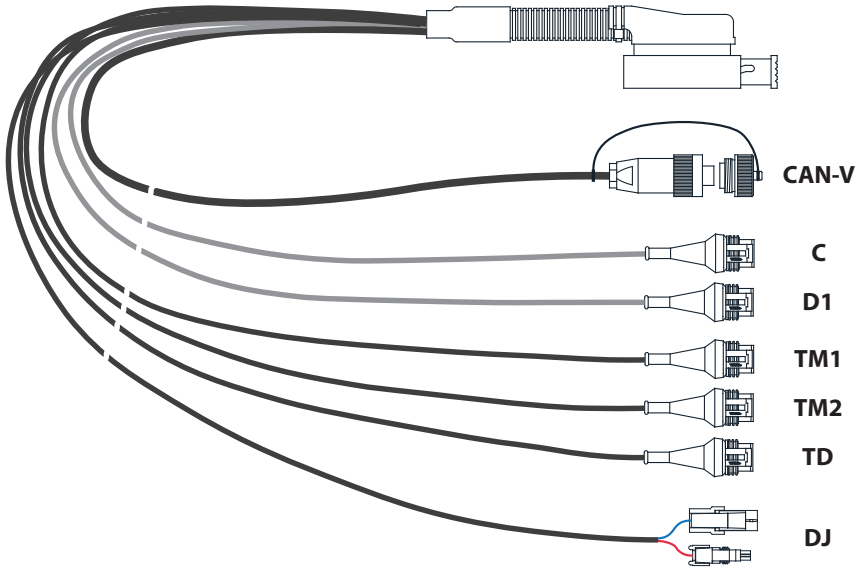
2.8 ► *"Planter battery with > 2017 alternator" CONNECTION*

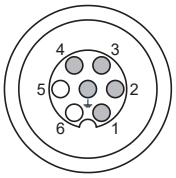
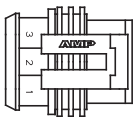
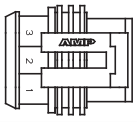
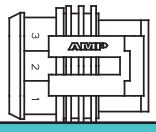
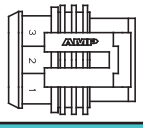
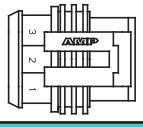
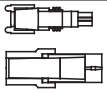


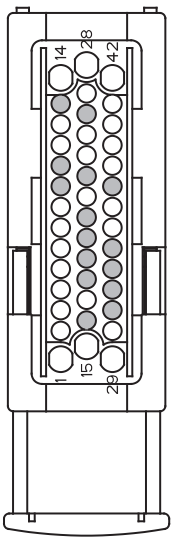
2.9 ► *"Planter battery with < 2017 alternator" CONNECTION*



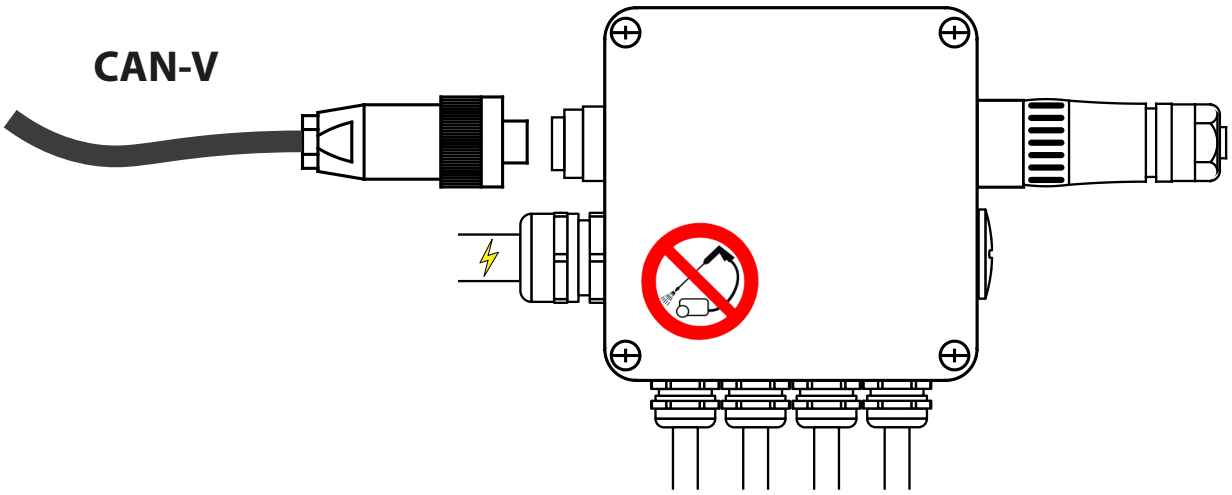
2.10 ► 2.10 ► "FEP accessories harness" CONNECTION



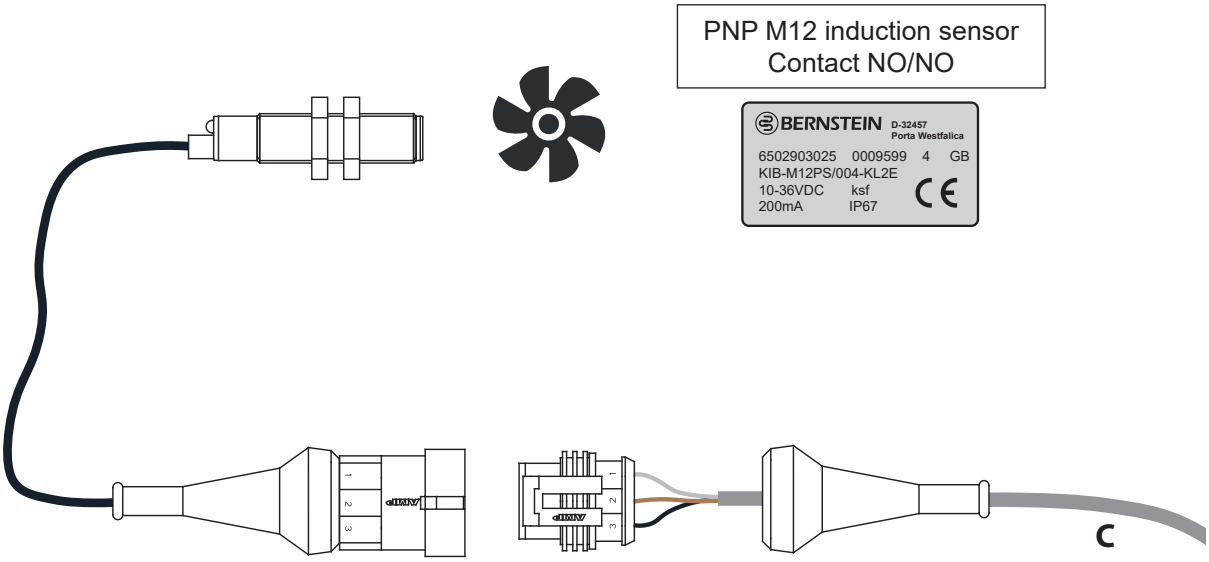
CAN - V (7-pin plug)				Connecteur 42 voies
	Pin	Colour	Function	
	1	Black	+12V	10
	2	Black	Ground	16
	3	Black	CAN Lo	33
	4	Black	CAN Hi	19
	Ground	Black	Next in	13
C (3-way plug)				
	Pin	Colour	Function	
	1	Black	+12V	18
	2	Grey	Ground	34
	3	Brown	Signal	21
D1 (3-way plug)				
	Pin	Colour	Function	
	1	Black	+12V	18
	2	Grey	Ground	20
	3	Brown	Signal	37
TM1 (3-way plug)				
	Pin	Colour	Function	
	1	Brown	+12V	32
	2	Blue	Ground	31
	3	-	-	-
TM2 (3-way plug)				
	Pin	Colour	Function	
	1	Brown	+12V	32
	2	Blue	Ground	9
	3	-	-	-
TD (3-way plug)				
	Pin	Colour	Function	
	1	Brown	+12V	32
	2	Blue	Ground	26
	3	-	-	-
B (2 one-way plugs)				
	Connector	Colour	Function	
	Male	Brown	+12V	23
	Female	Blue	Ground	34

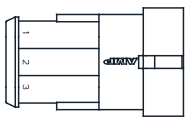


2.11 ► *"CAN-V plug for ECV unit" CONNECTION*



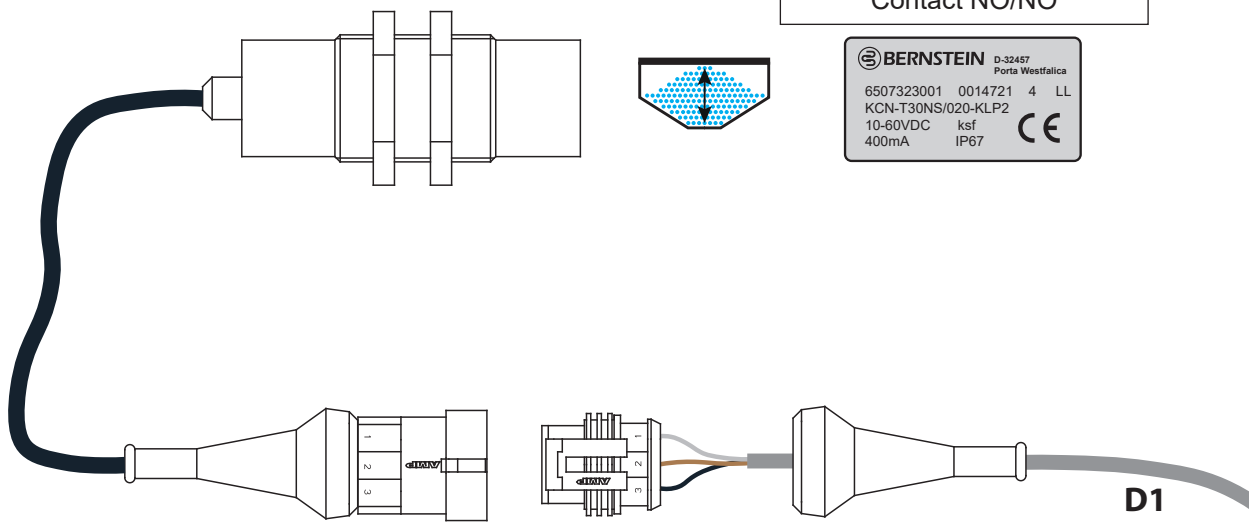
2.12 ► *"Turbine rotation speed sensor" CONNECTION*



AMP 3-pin plug			
	Pin	Colour	Function
	1	/	+12V
	2	/	Ground
	3	/	Signal

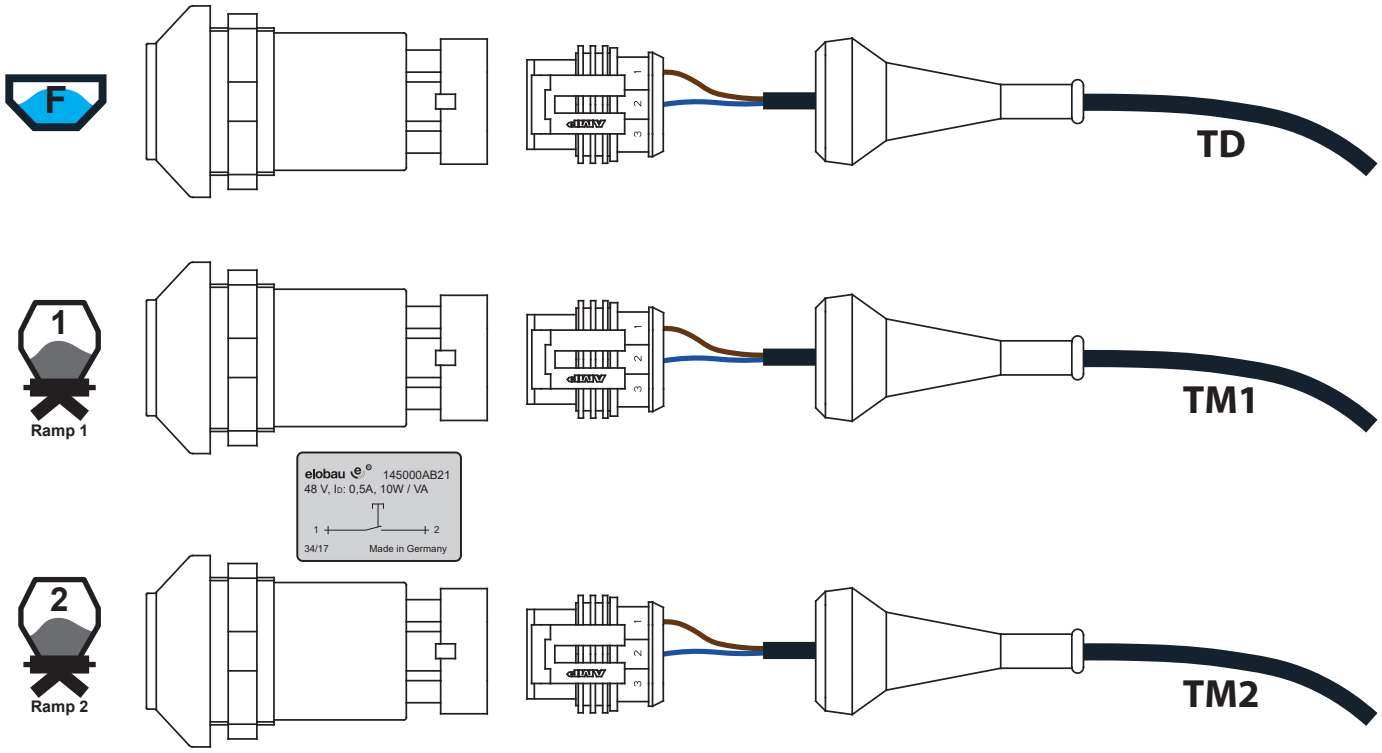
2.13 ► *"Hopper fill level sensor" CONNECTION*

NPN M30 capacitive sensor
Contact NO/NO



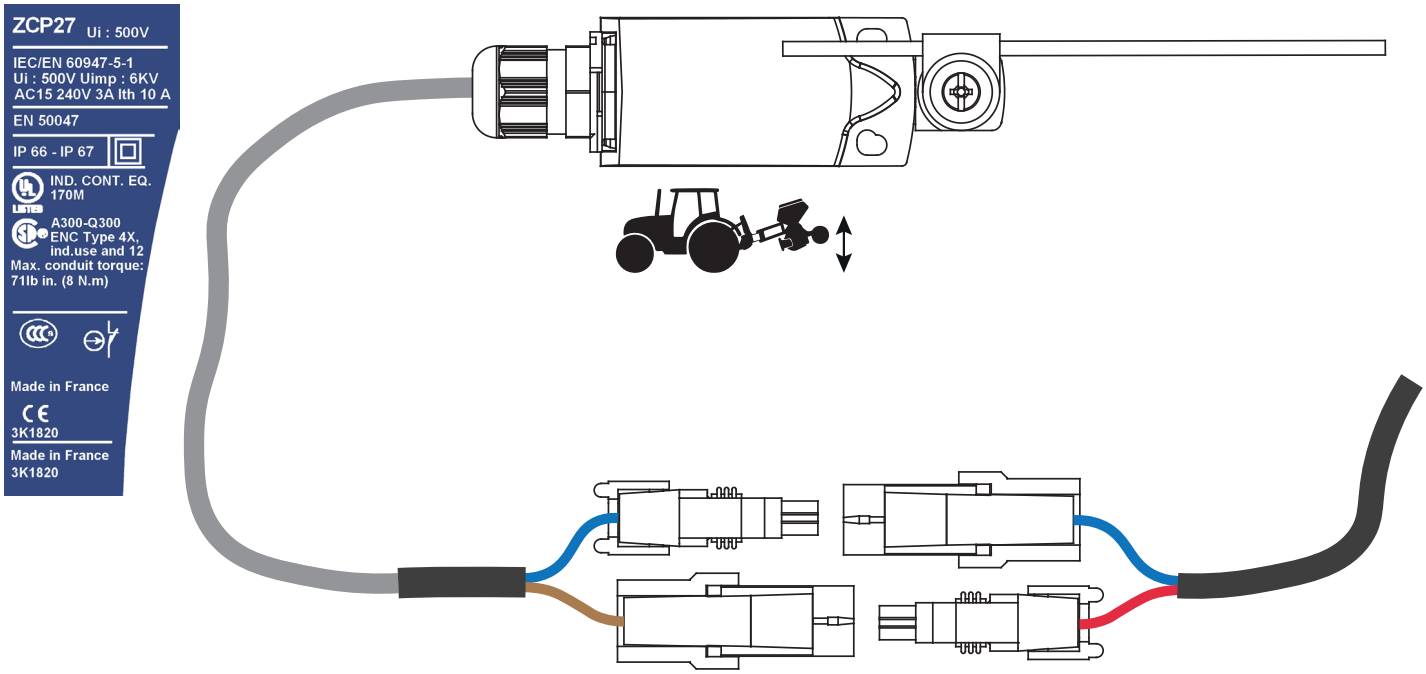
AMP 3-pin plug		
Pin	Colour	Function
1	/	+12V
2	/	Ground
3	/	Signal

2.14 ► *"Calibration button" CONNECTION*



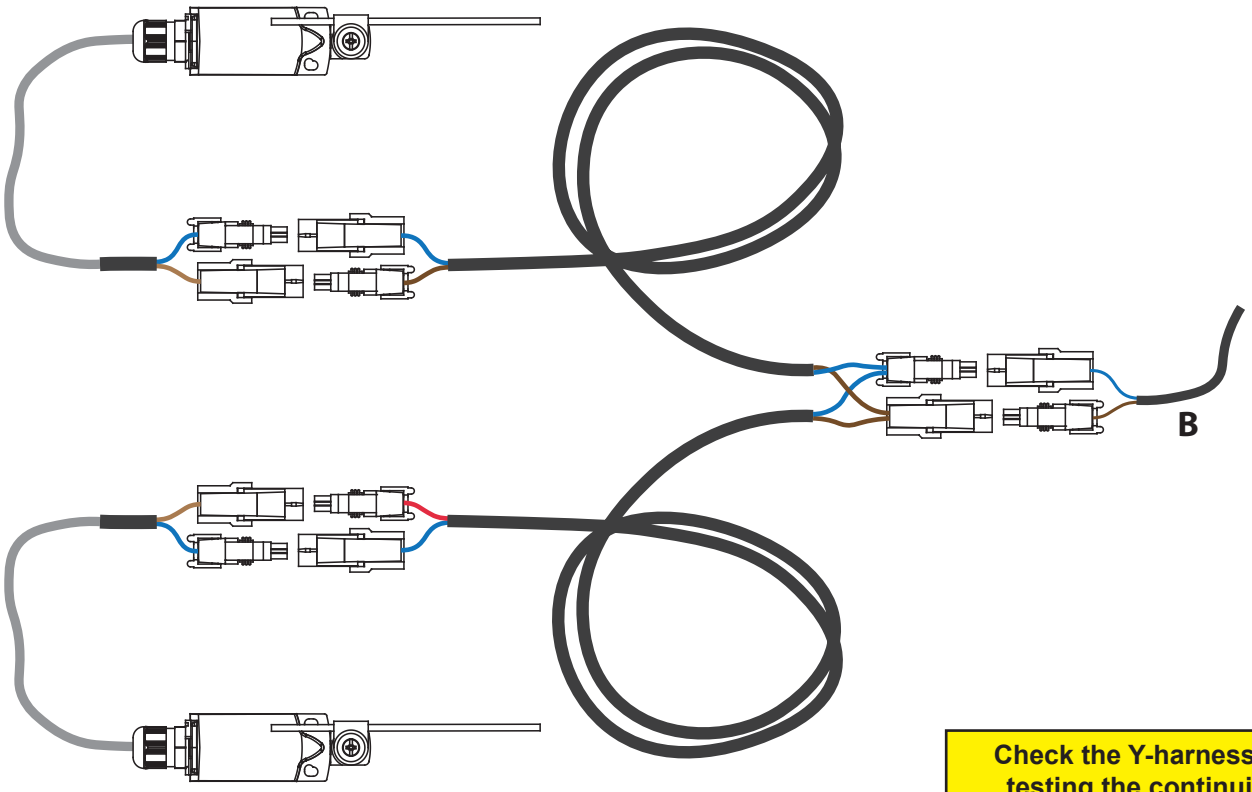
Check the contact of the buttons by testing the continuity.

2.15 ► *"Position sensor" CONNECTION*



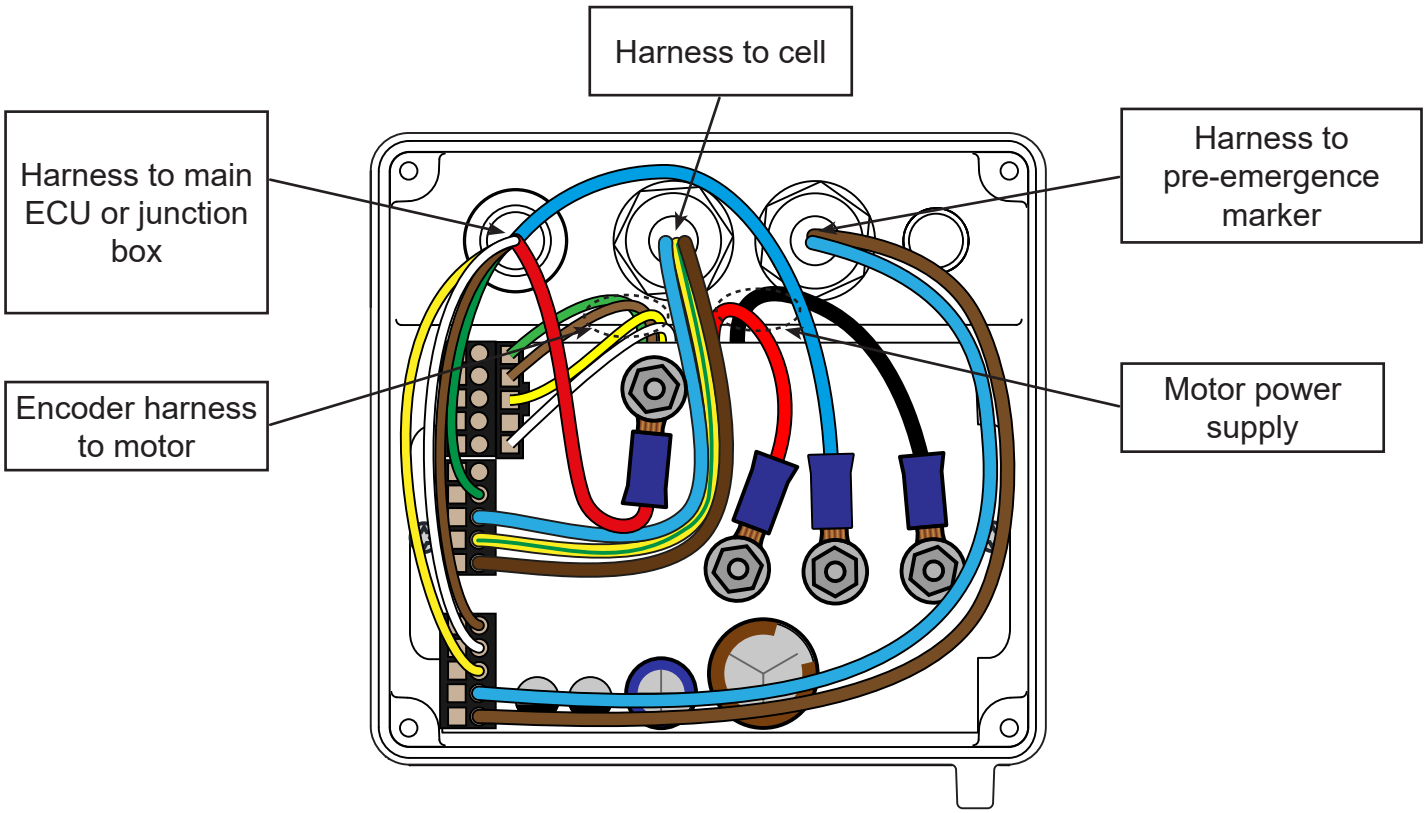
Check the contact of the sensors by testing the continuity.

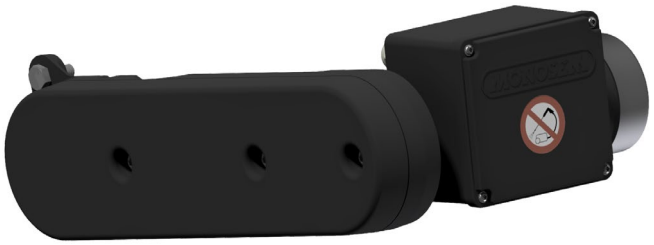
2.16 ► *"Position sensor Y-harness" CONNECTION*



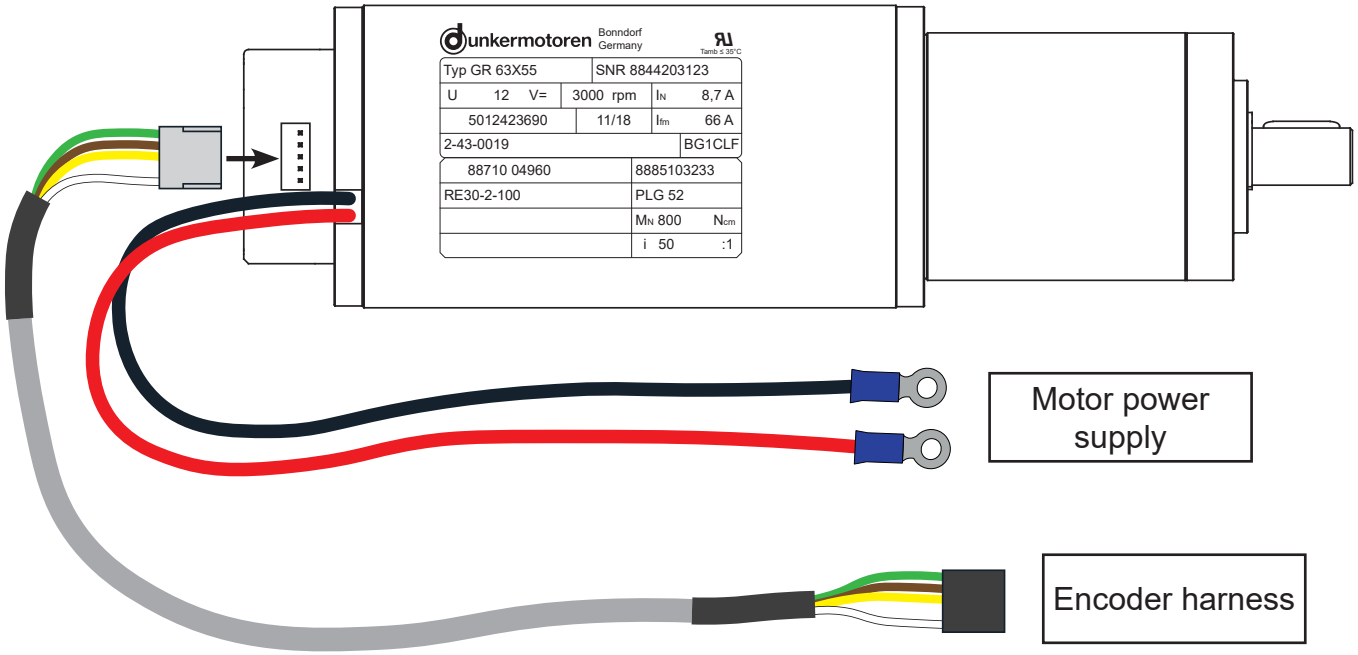
Check the Y-harness by testing the continuity.

2.17 ► *"Motor ECU for seed unit" CONNECTION*

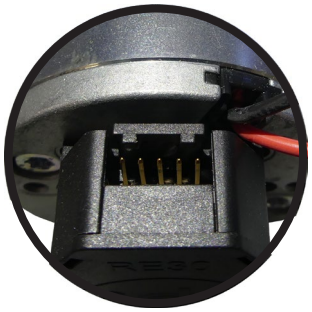




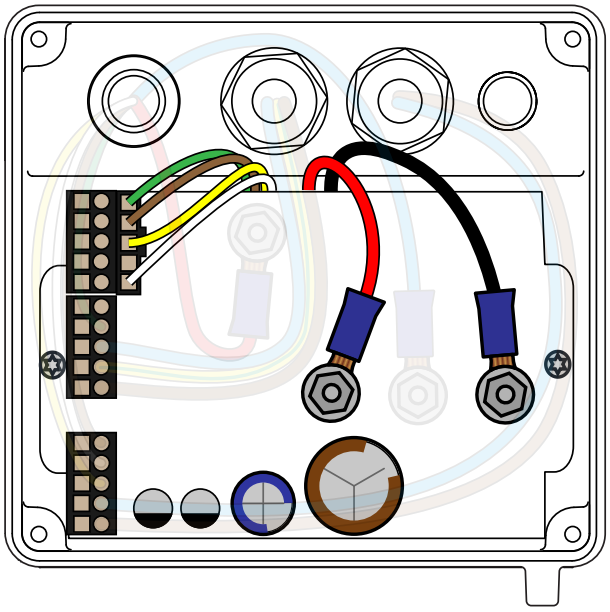
2.18 ► *"NG Plus ME - NG Plus 4E - NX ME seed unit motor" CONNECTION*



Check the continuity of the encoder harness.

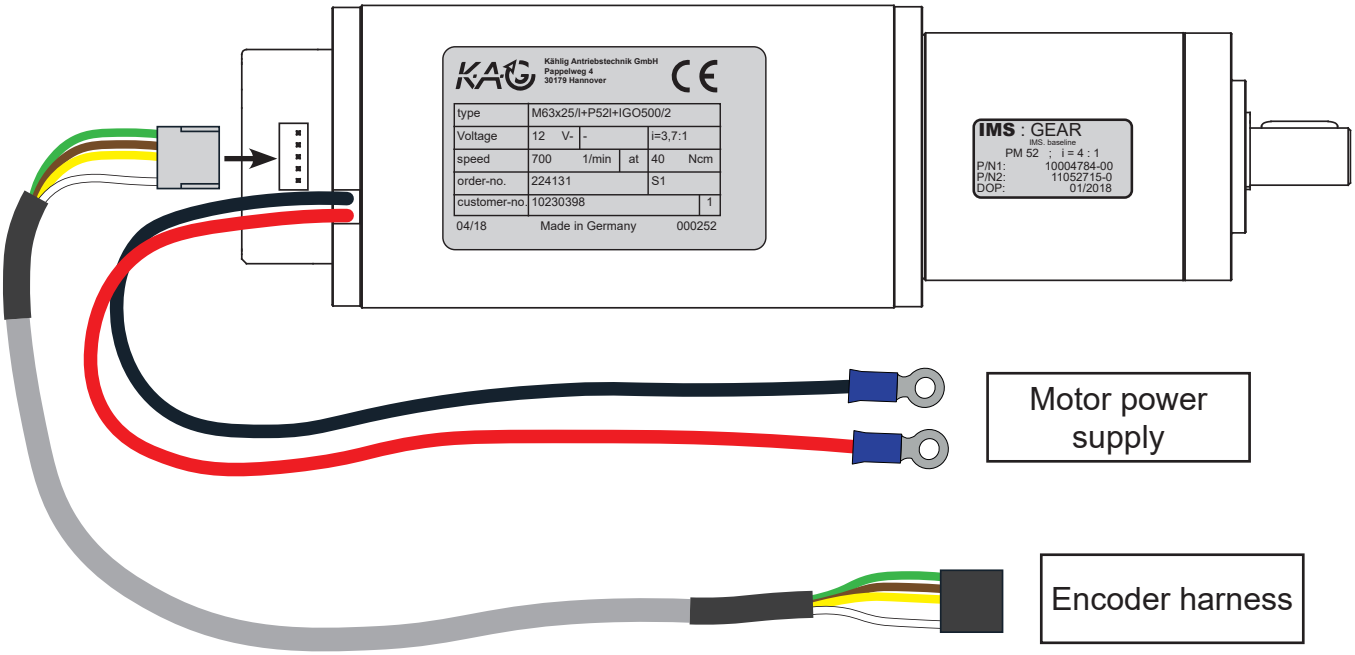


Check that the connection pins of the encoder are correctly lined up.

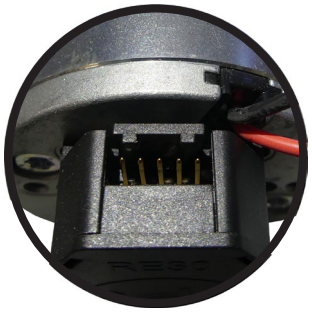


Motor power supply		
Wire	**Colour**	**Function**
1	Black	Ground
2	Red	+12V
Encoder harness		
Wire	**Colour**	**Function**
1	White	Ground
2	Yellow	LIN
3	Brown	+12V
4	Green	Speed information

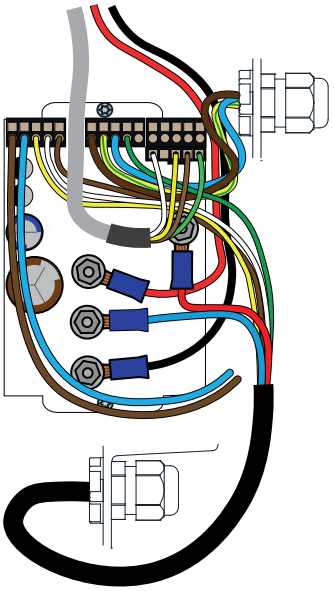
2.19 ► *"MECA V4E seed unit motor" CONNECTION*



Check the continuity of the encoder harness.

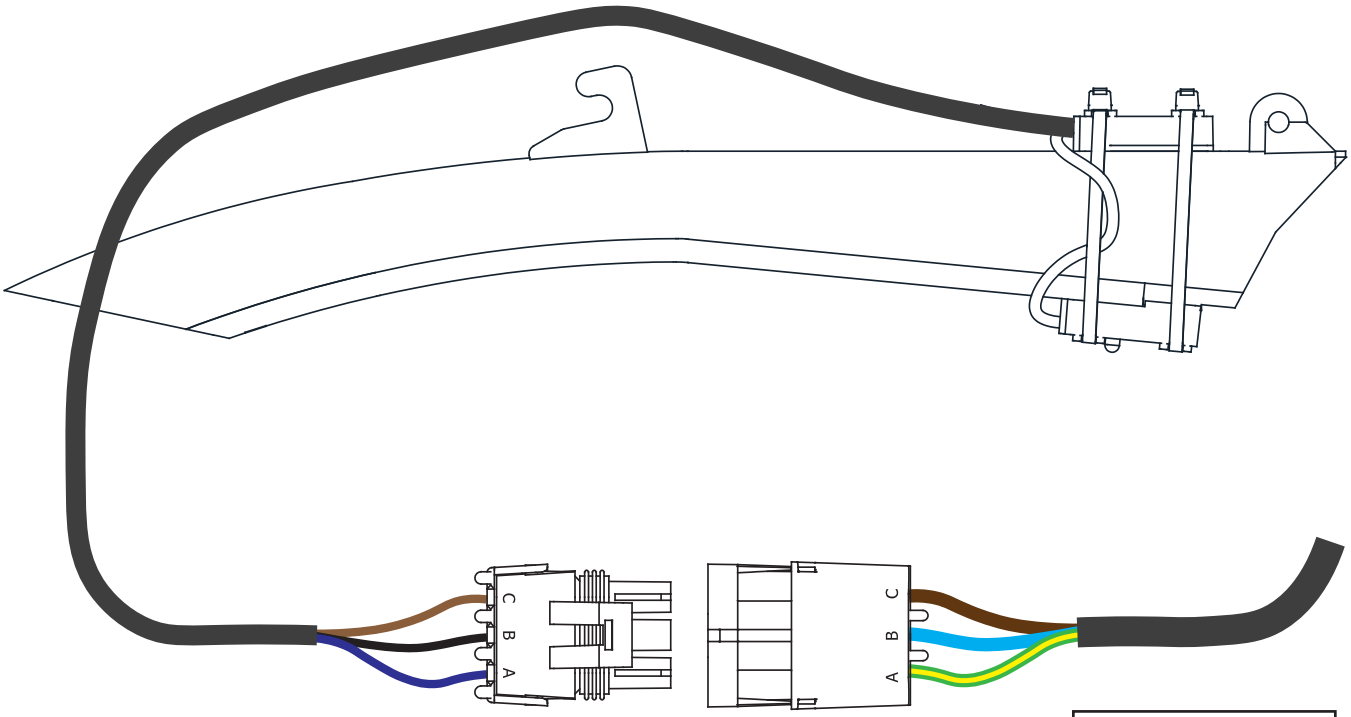


Check that the connection pins of the encoder are correctly lined up.

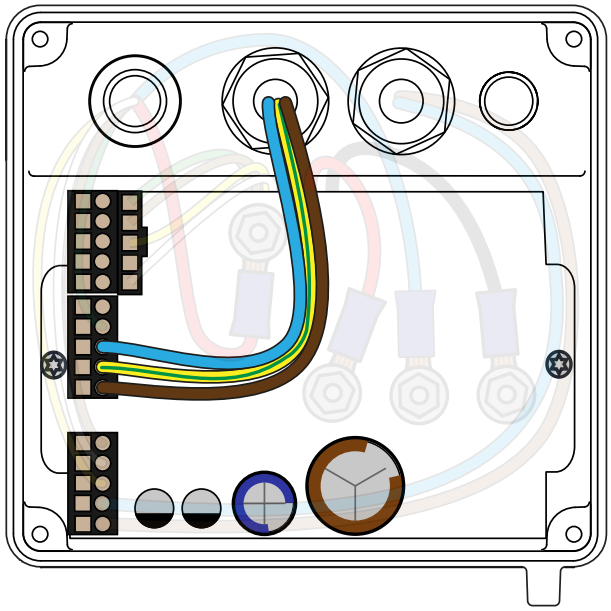


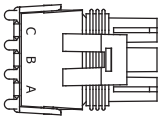
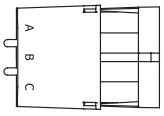
Motor power supply		
Wire	**Colour**	**Function**
1	**Black**	Ground
2	**Red**	+12V
Faisceau codeur élément		
Wire	**Colour**	**Function**
1	**White**	Ground
2	**Yellow**	LIN
3	**Brown**	+12V
4	**Green**	Speed information

2.20 ► *"TT2 chute cell" CONNECTION*

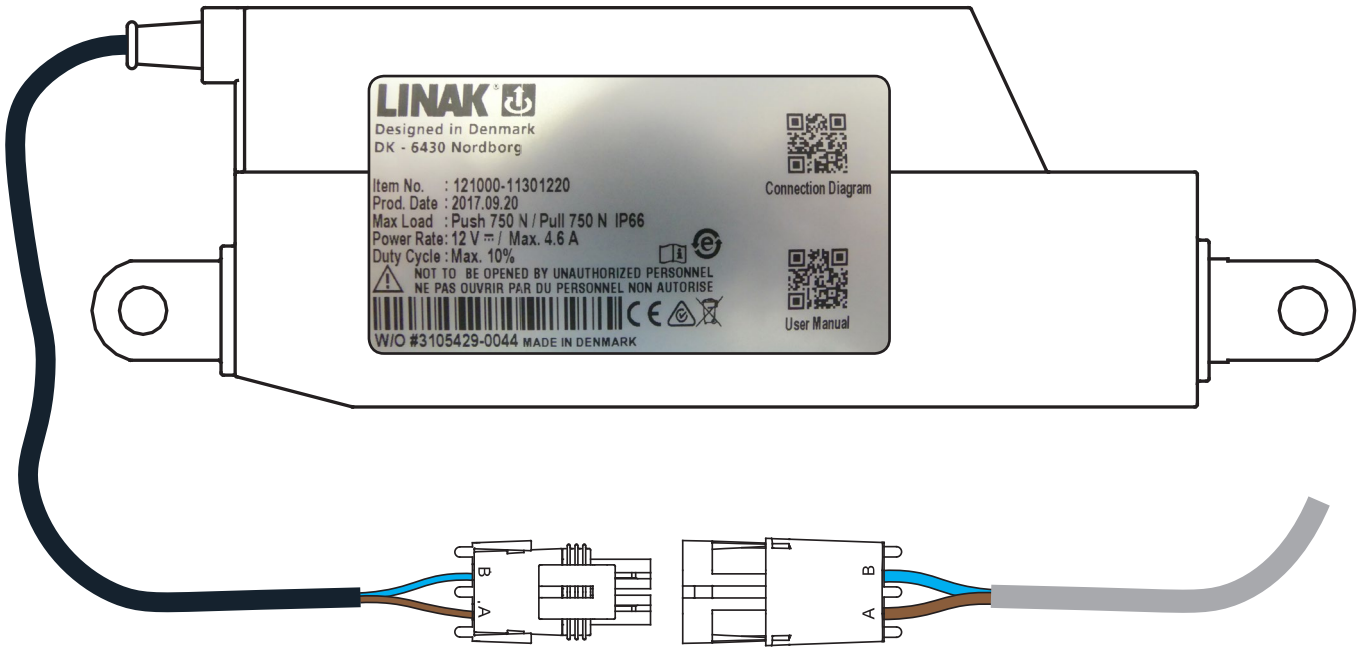


Cell harness



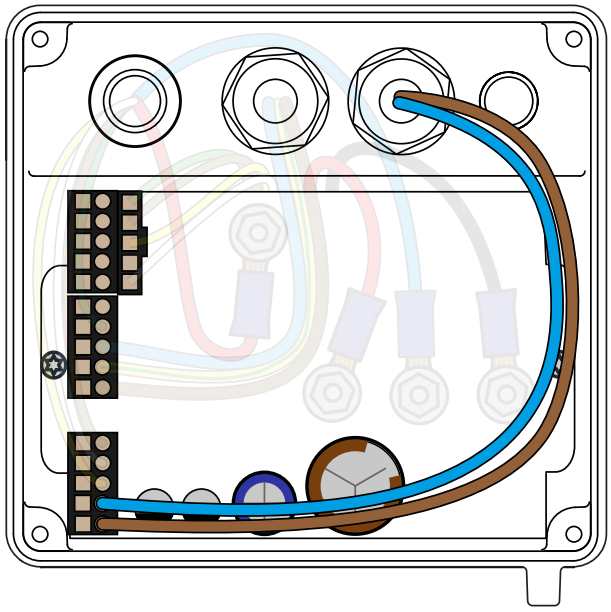
Cell plug			
	**Wire**	**Colour**	**Function**
	A	**Blue**	Signal
	B	**Black**	Ground
	C	**Brown**	+12V
Cell harness			
	**Wire**	**Colour**	**Function**
	A	**Yellow / Green**	Signal
	B	**Blue**	Ground
	C	**Brown**	+12V

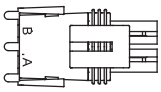
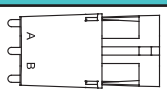
2.21 ► *"Electro-jack for pre-emergence marker" CONNECTION*



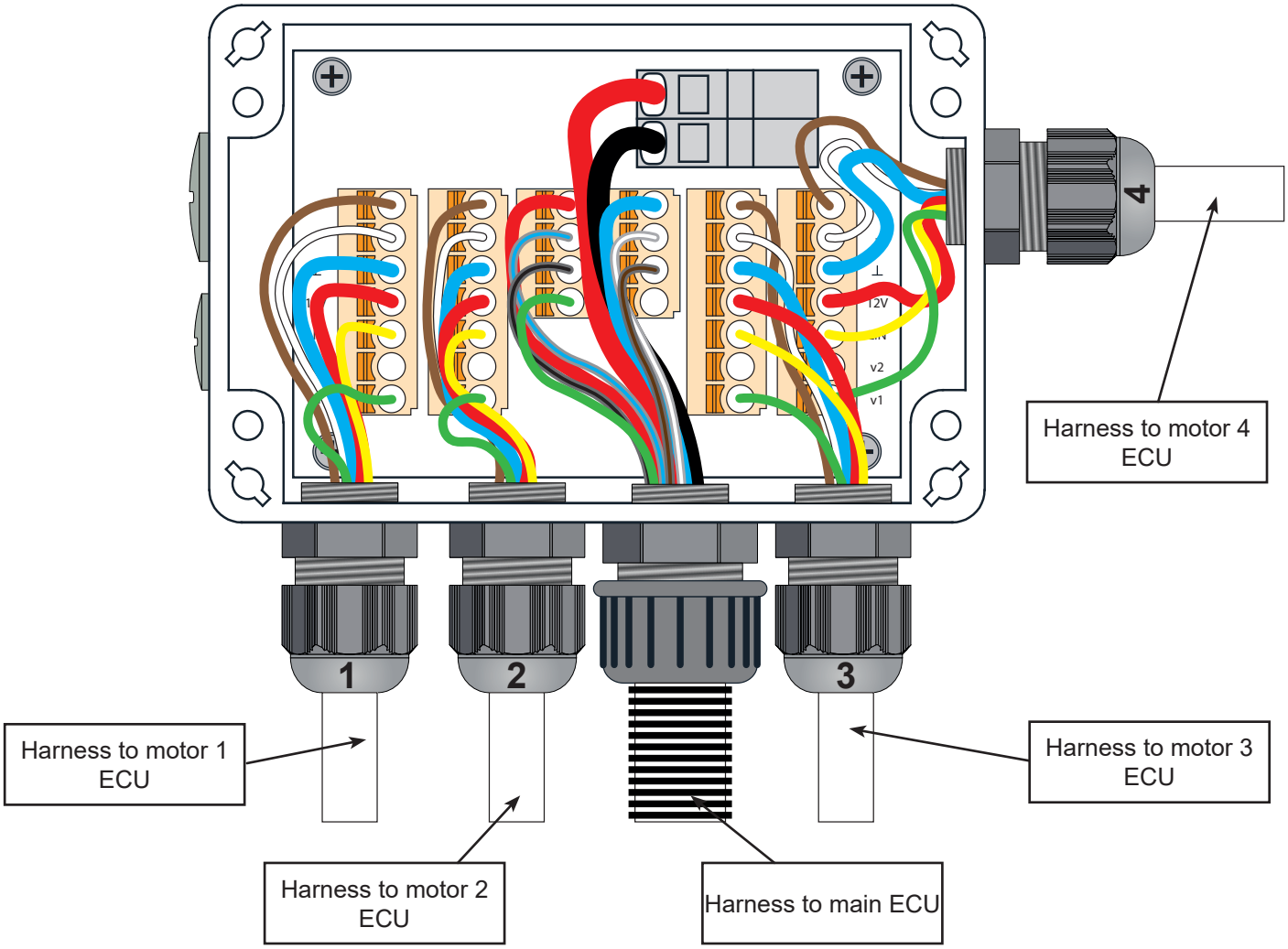
Motor power supply

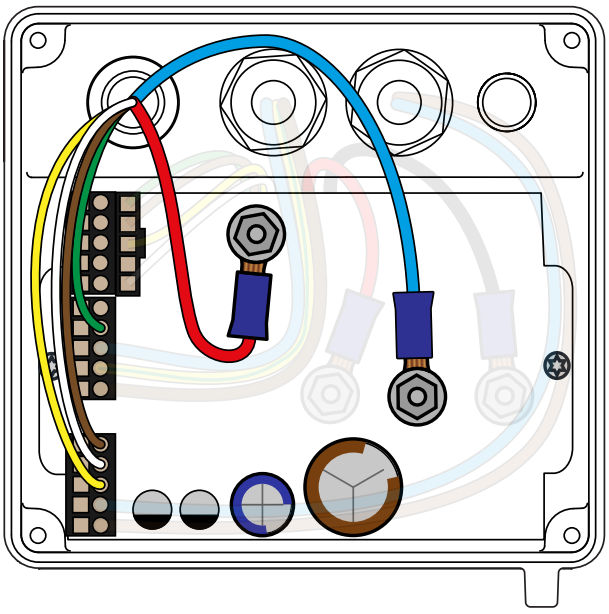
Pre-emergence marker harness



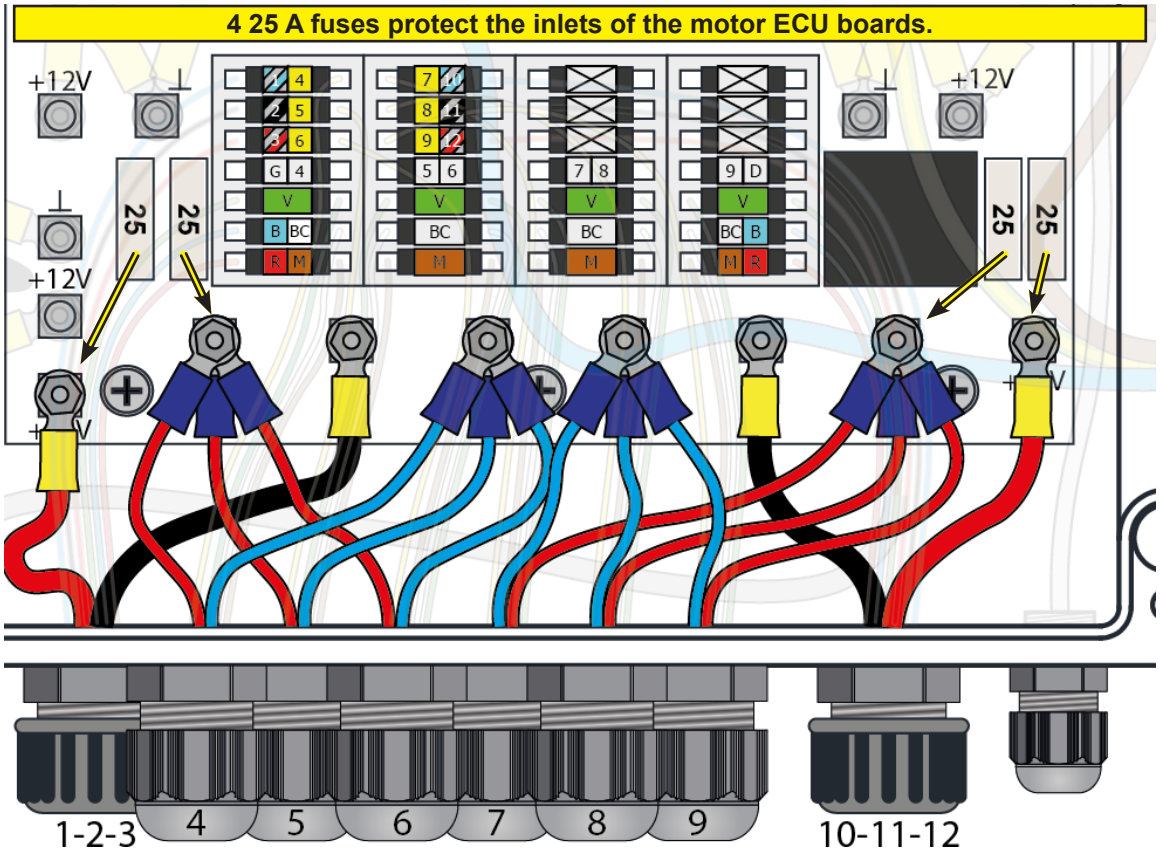
Electro-jack power supply			
	**Wire**	**Colour**	**Function**
	A	**Brown**	+12V
	B	**Blue**	Ground
Pre-emergence marker harness			
	**Wire**	**Colour**	**Function**
	A	**Brown**	+12V
	B	**Blue**	Ground

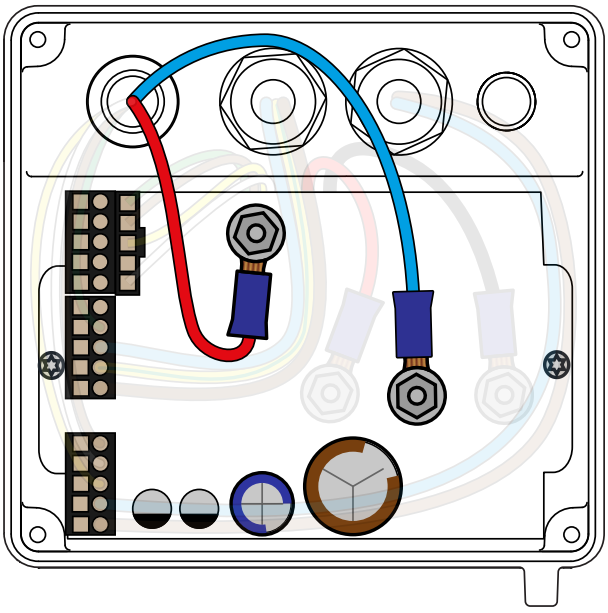
2.22 ► *"Junction box" CONNECTION*

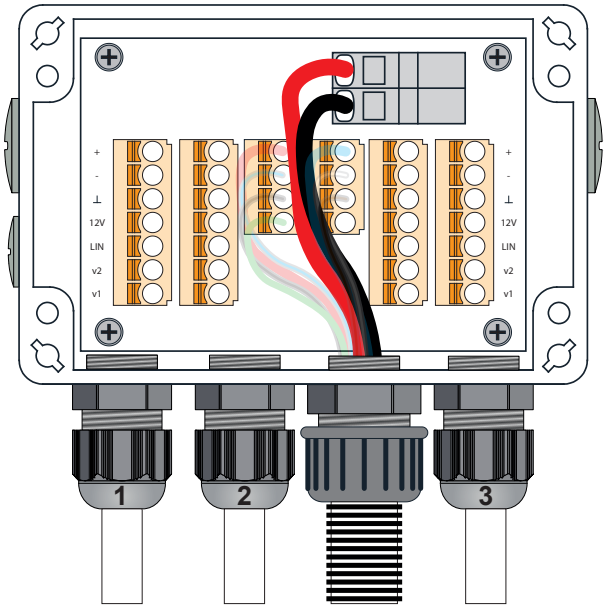




2.23 ► *"Supply for seed unit motor ECUs (E.g.: 12 row planter)" CONNECTION*



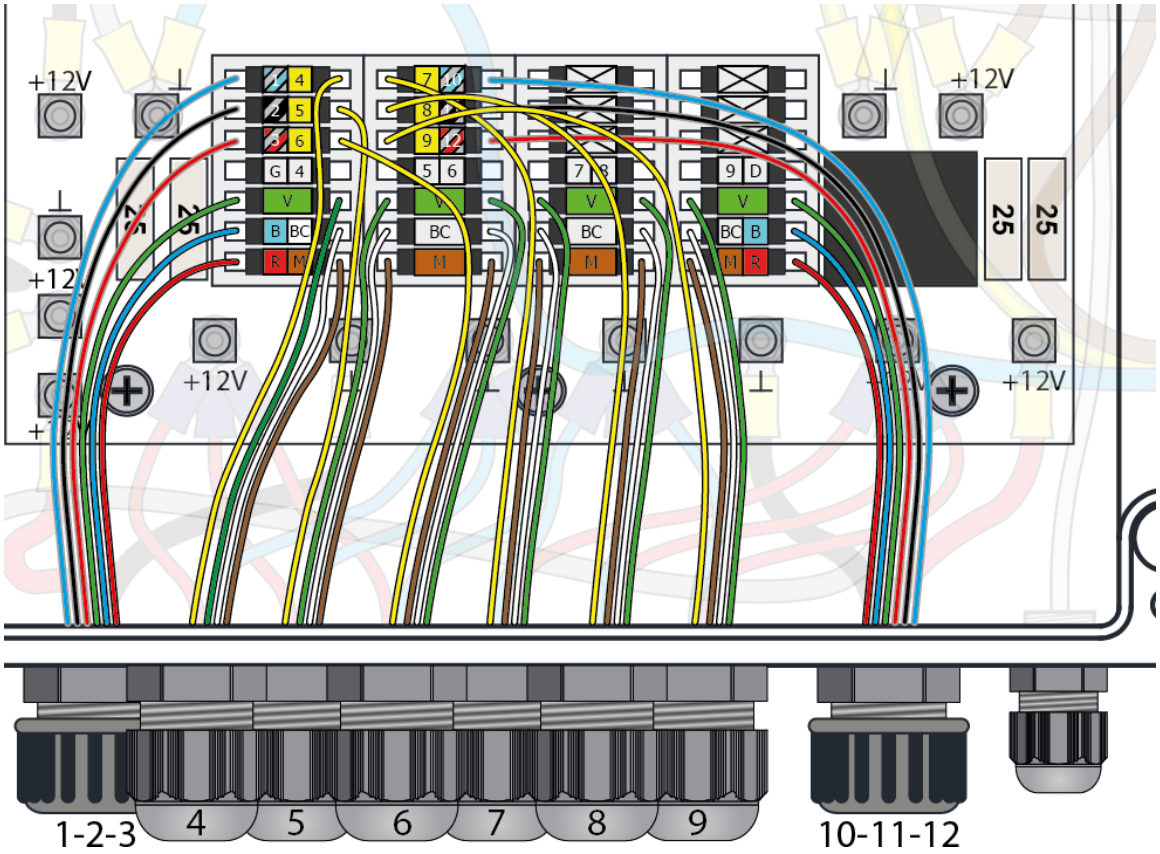


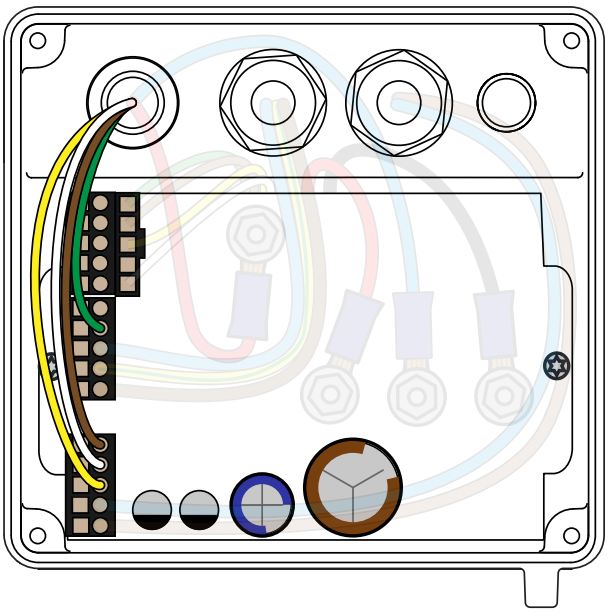


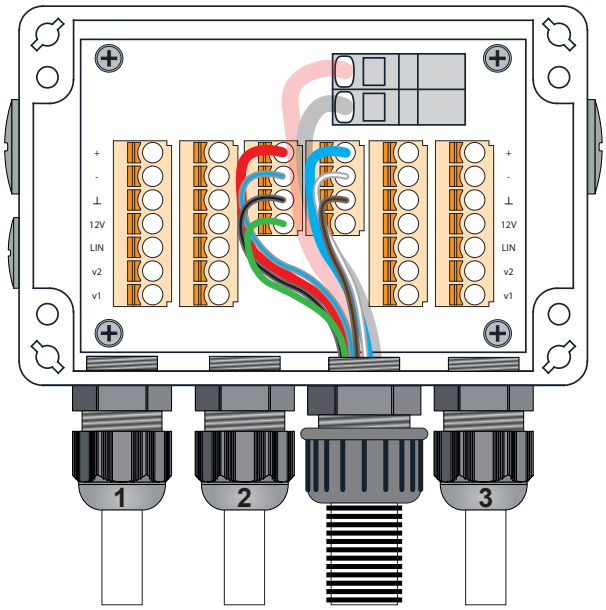
Motor ECU harness power supply		
Wire	**Colour**	**Function**
1	**Red**	+12V
2	**Blue**	Ground

Junction box power supply		
Wire	**Colour**	**Function**
1	**Red**	+12V
2	**Black**	Ground

2.24 ► "Signals of seed unit motor ECUs (E.g.: 12 row planter)" CONNECTION



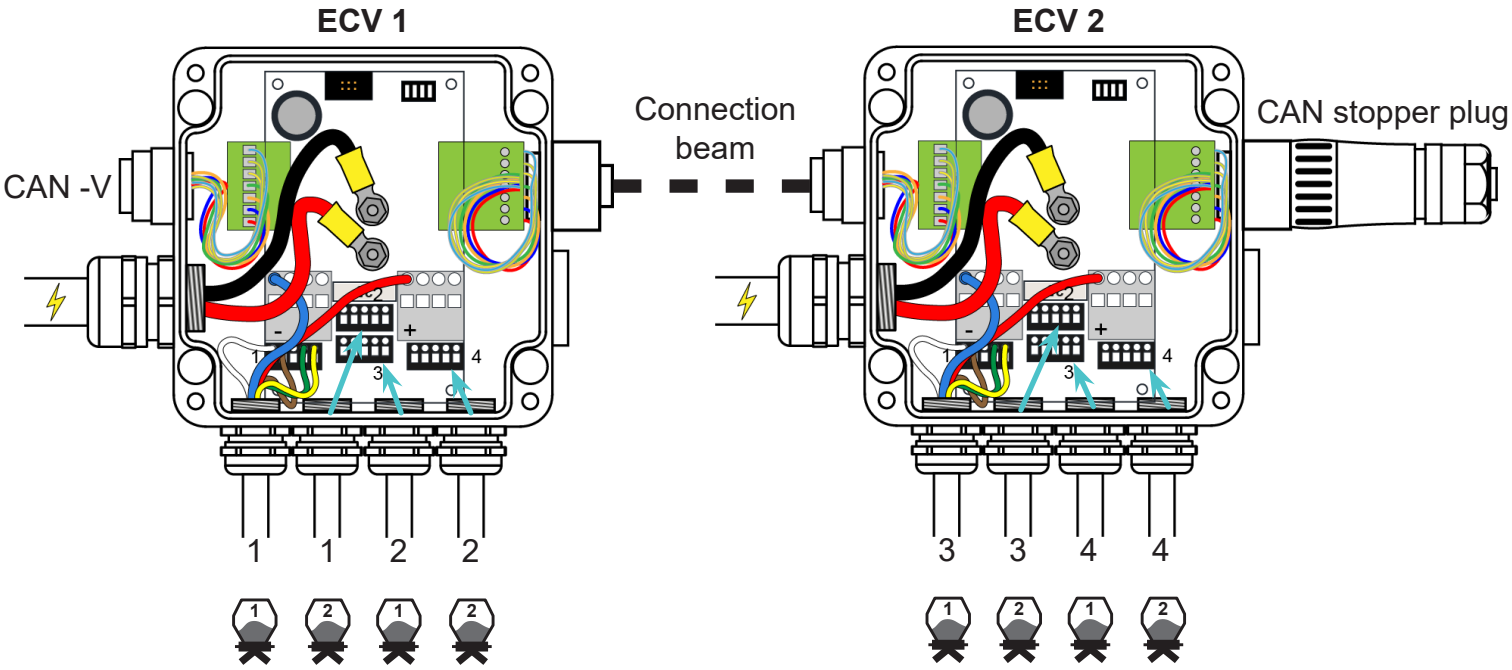




Motor ECU harness signals		
Wire	**Colour**	**Function**
1	Green	Speed information
2	Brown	+12V
3	White	Ground
4	Yellow	LIN

Junction box signals		
Wire	**Colour**	**Function**
1	Red	+12V
2	Grey - Blue	LIN1
3	Grey - Black	LIN2
4	Green	Signal cellule
5	Blue	Ground
6	Grey - Black	LIN (option)
7	Grey - Brown	LIN3

2.25 ► *"ECV unit" CONNECTION*



ECV connection box

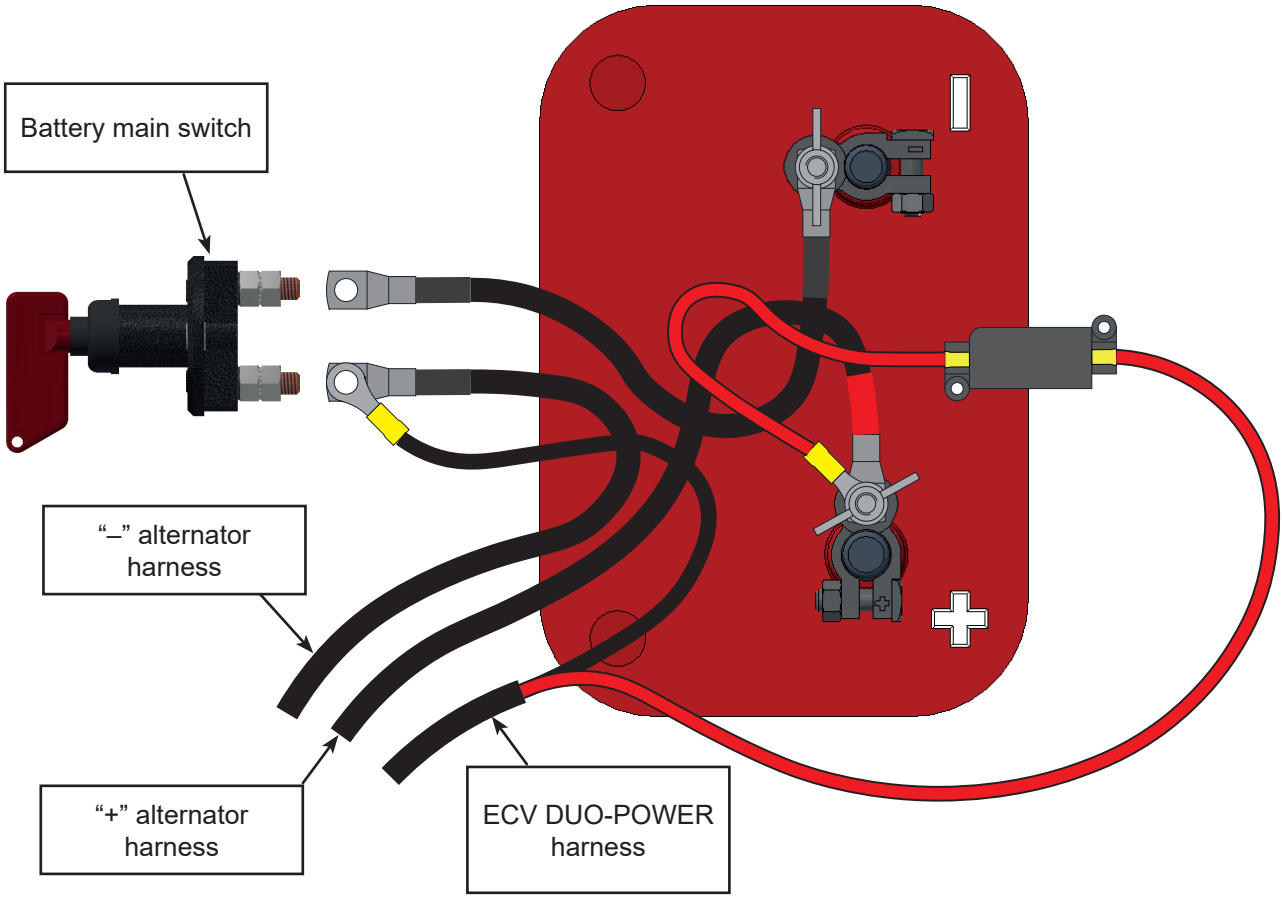
CAN harness

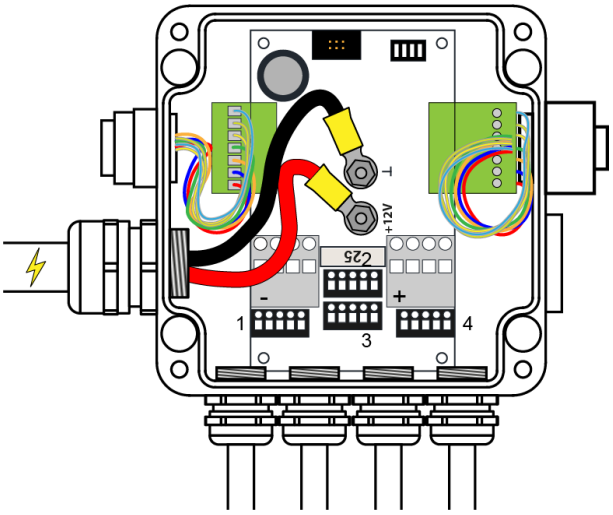
CAN stopper plug

Check the continuity of the signals between the two connections.

Check the resistance (≈ 120Ω) between terminals 3 and 4.

2.26 ► *"ECV DUO-POWER harness" CONNECTION*

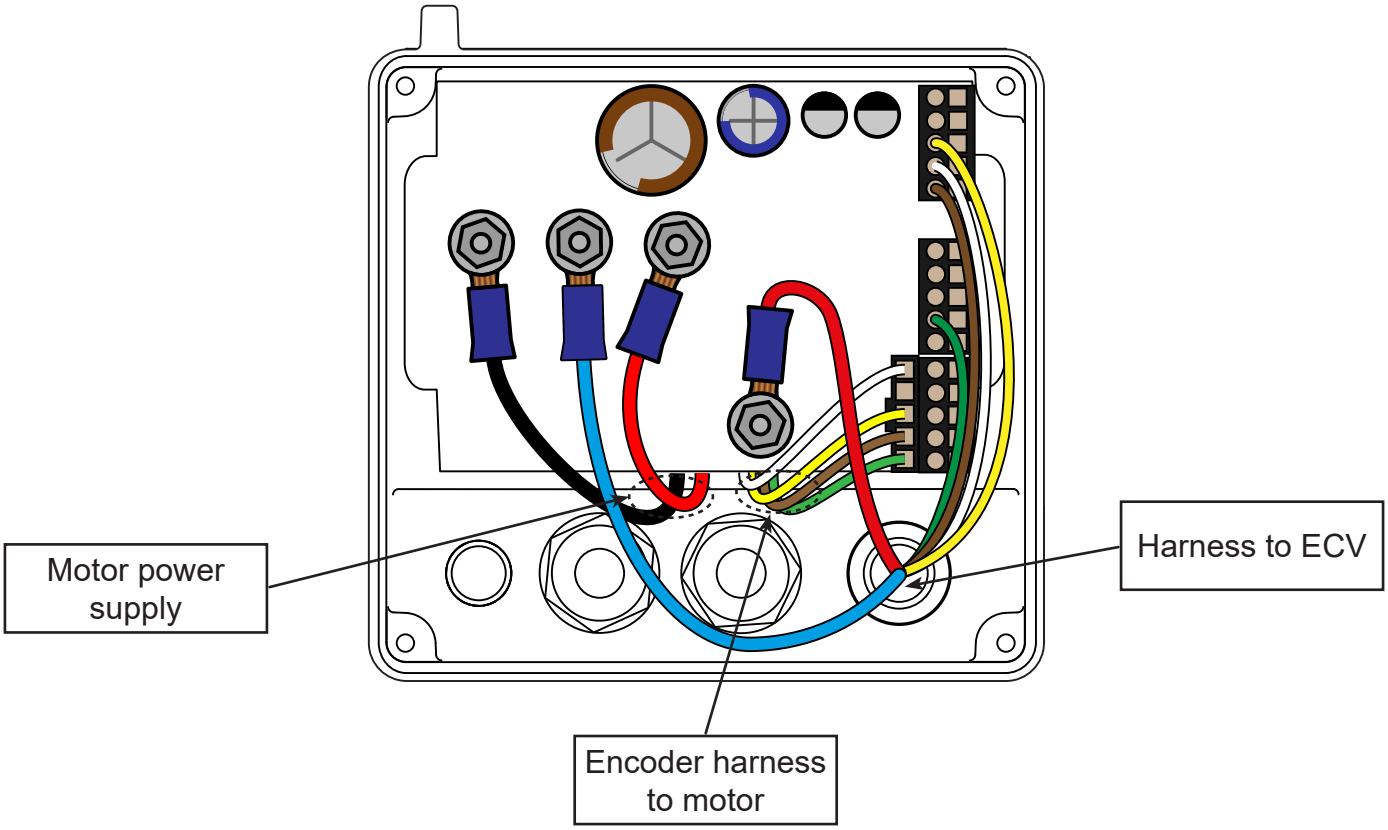




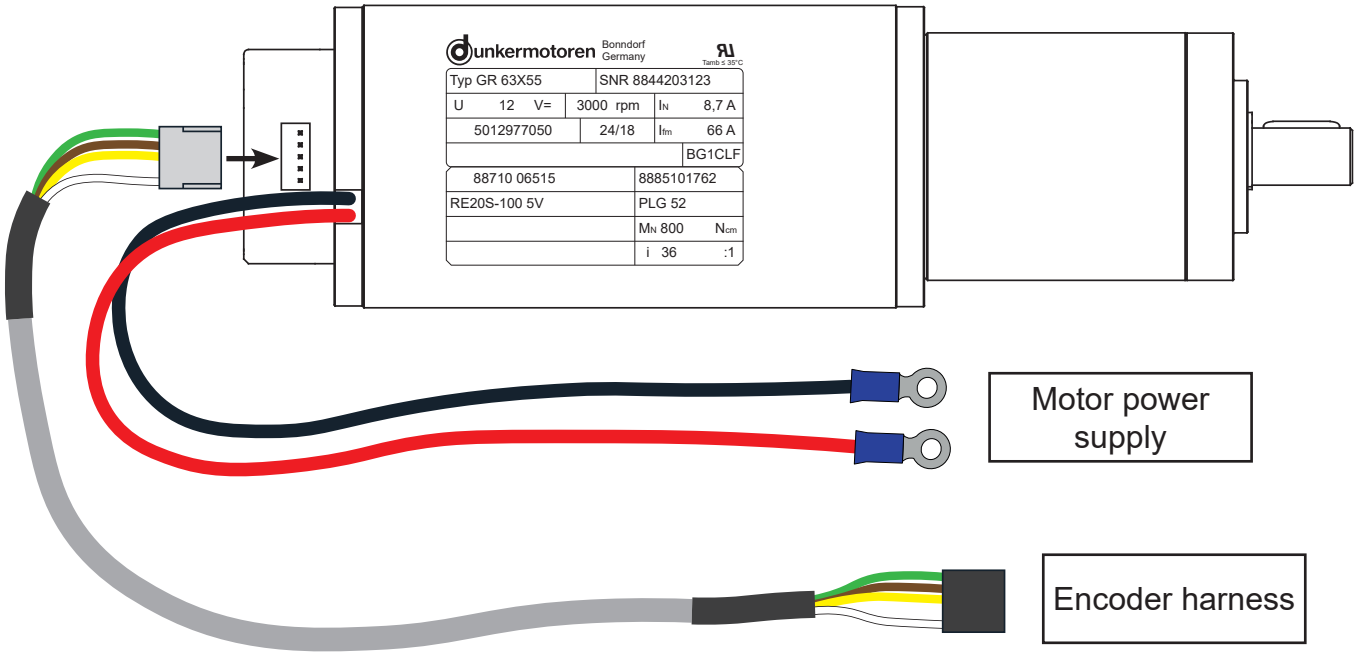
1 40 A fuse protects the board of the ECV unit.

ECV duo-power harness		
Wire	**Colour**	**Function**
1	**Red**	+12V
2	**Black**	Ground
40 A fuse		

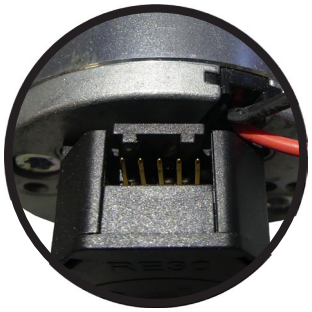
2.27 ► *"Motor ECU for Microsem" CONNECTION*



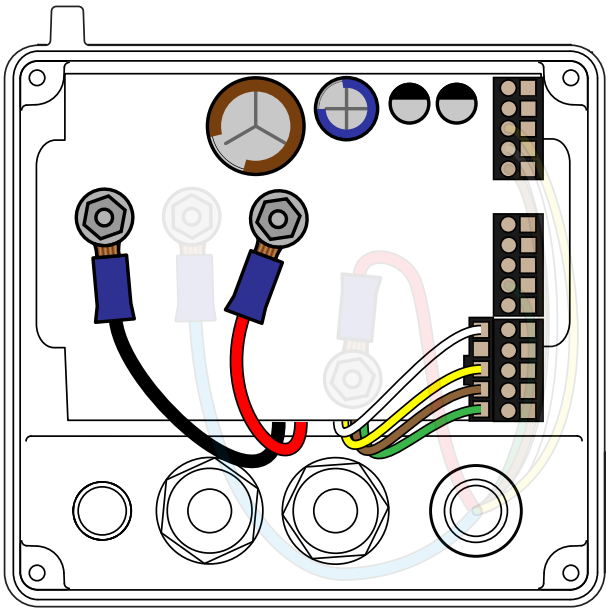
2.28 ► *"MICROSEM motor" CONNECTION*



Check the continuity of the encoder harness.

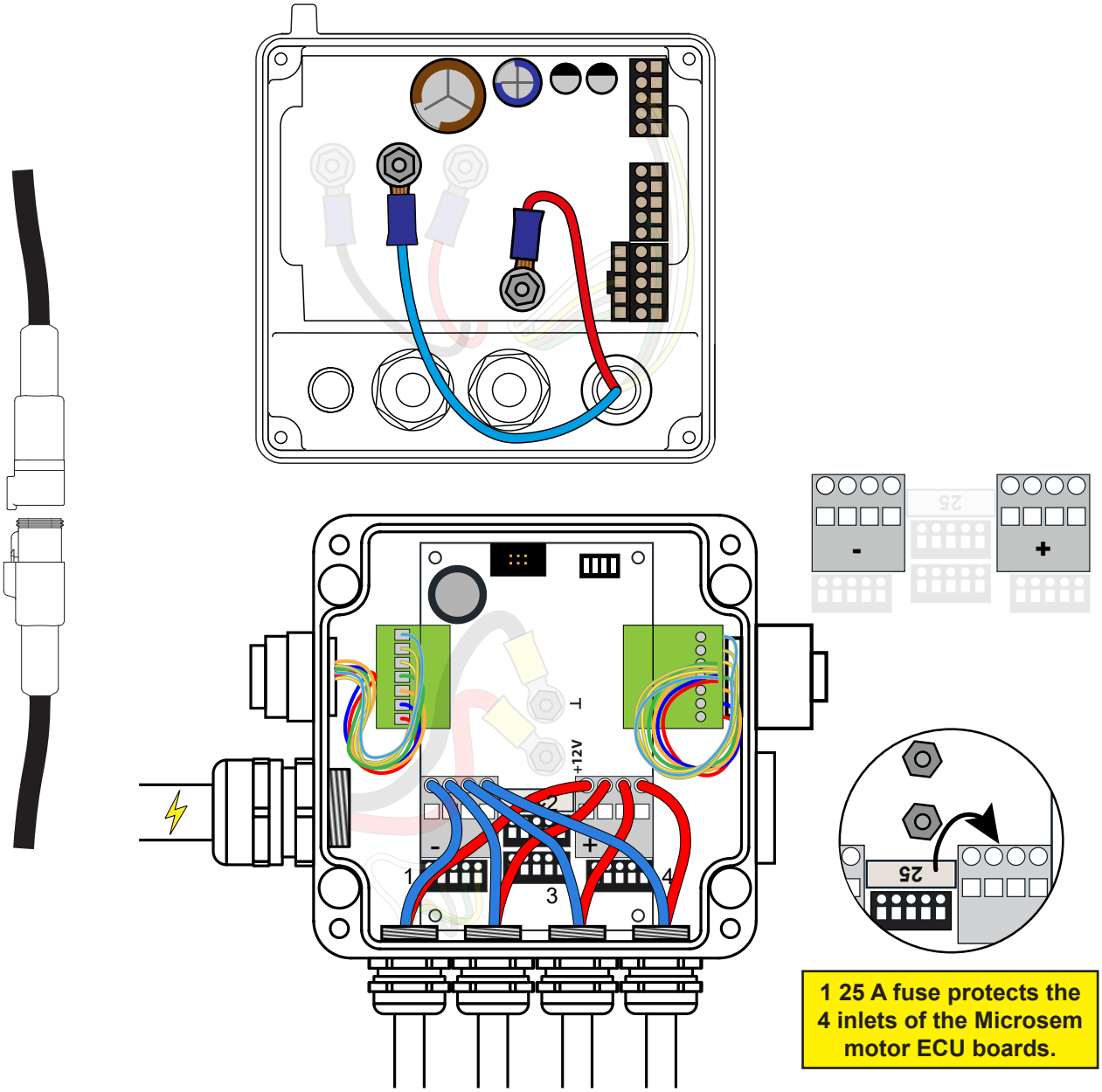


Check that the connection pins of the encoder are correctly lined up.

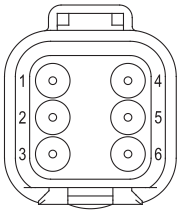
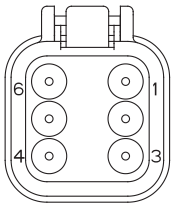


Microsem motor power supply		
Wire	**Colour**	**Function**
1	**Black**	Ground of motor
2	**Red**	+12V motor
Microsem encoder harness		
Wire	**Colour**	**Function**
1	**White**	Ground
2	**Yellow**	LIN
3	**Brown**	+12V
4	**Green**	Speed information

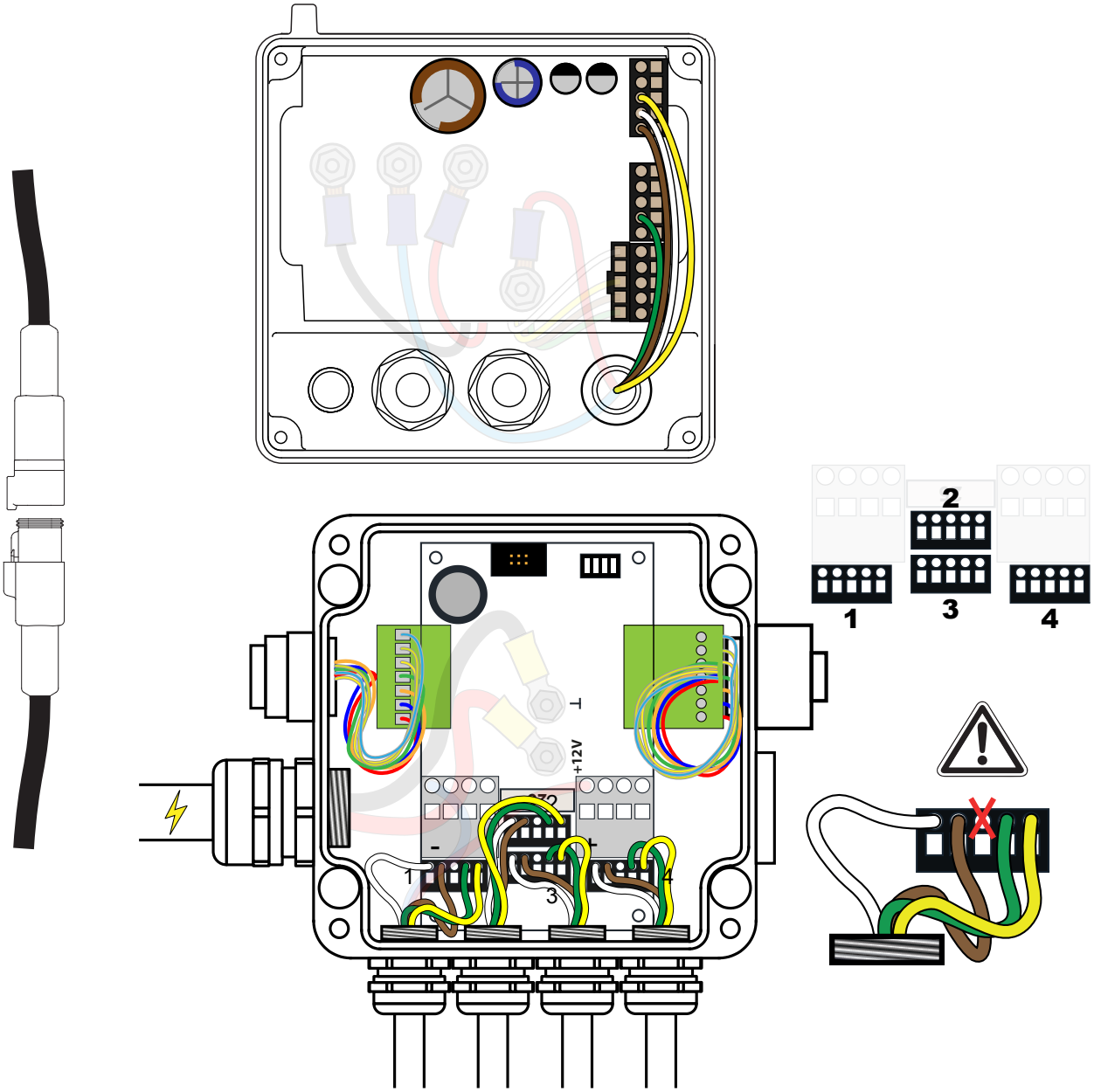
2.29 ► *"Supply for Microsem motor ECUs" CONNECTION*

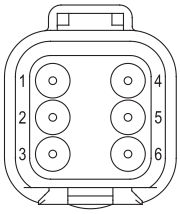


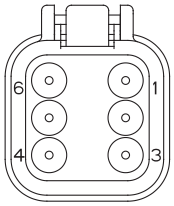
1 25 A fuse protects the 4 inlets of the Microsem motor ECU boards.

ECU side motor ECU harness			
	**Pin**	**Colour**	**Function**
	1	**Yellow**	LIN
	2	**Brown**	+12V
	3	**Green**	Speed information
	4	**White**	Ground
	5	**Blue**	Ground of motor
	6	**Red**	+12V motor
ECV side motor ECU harness			
	**Pin**	**Colour**	**Function**
	1	**Yellow**	LIN
	2	**Brown**	+12V
	3	**Green**	Speed information
	4	**White**	Ground
	5	**Blue**	Ground of motor
	6	**Red**	+12V motor

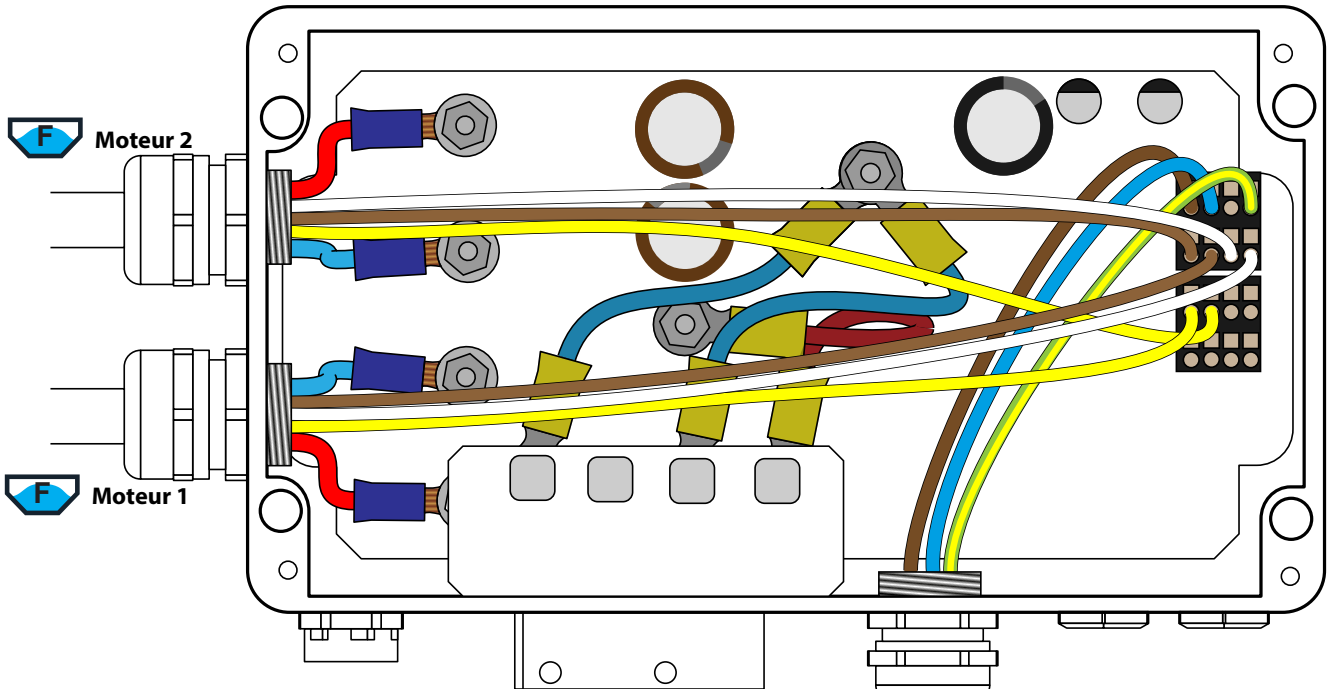
2.30 ► *"Signals of Microsem motor ECUs" CONNECTION*



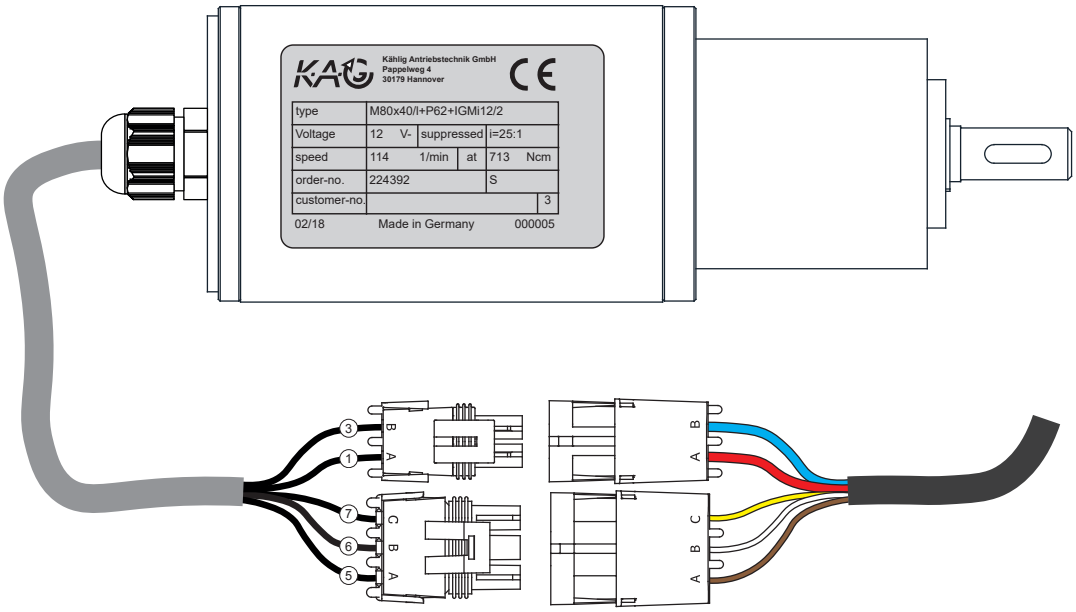
ECU side motor ECU harness			
	**Pin**	**Colour**	**Function**
	1	**Yellow**	LIN
	2	**Brown**	+12V
	3	**Green**	Speed information
	4	**White**	Ground
	5	**Blue**	Ground of motor
	6	**Red**	+12V motor

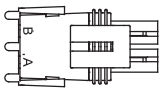
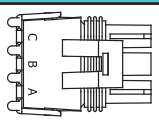
ECV side motor ECU harness			
	**Pin**	**Colour**	**Function**
	1	**Yellow**	LIN
	2	**Brown**	+12V
	3	**Green**	Speed information
	4	**White**	Ground
	5	**Blue**	Ground of motor
	6	**Red**	+12V motor

2.31 ► *"MM2 motor ECU unit" CONNECTION*

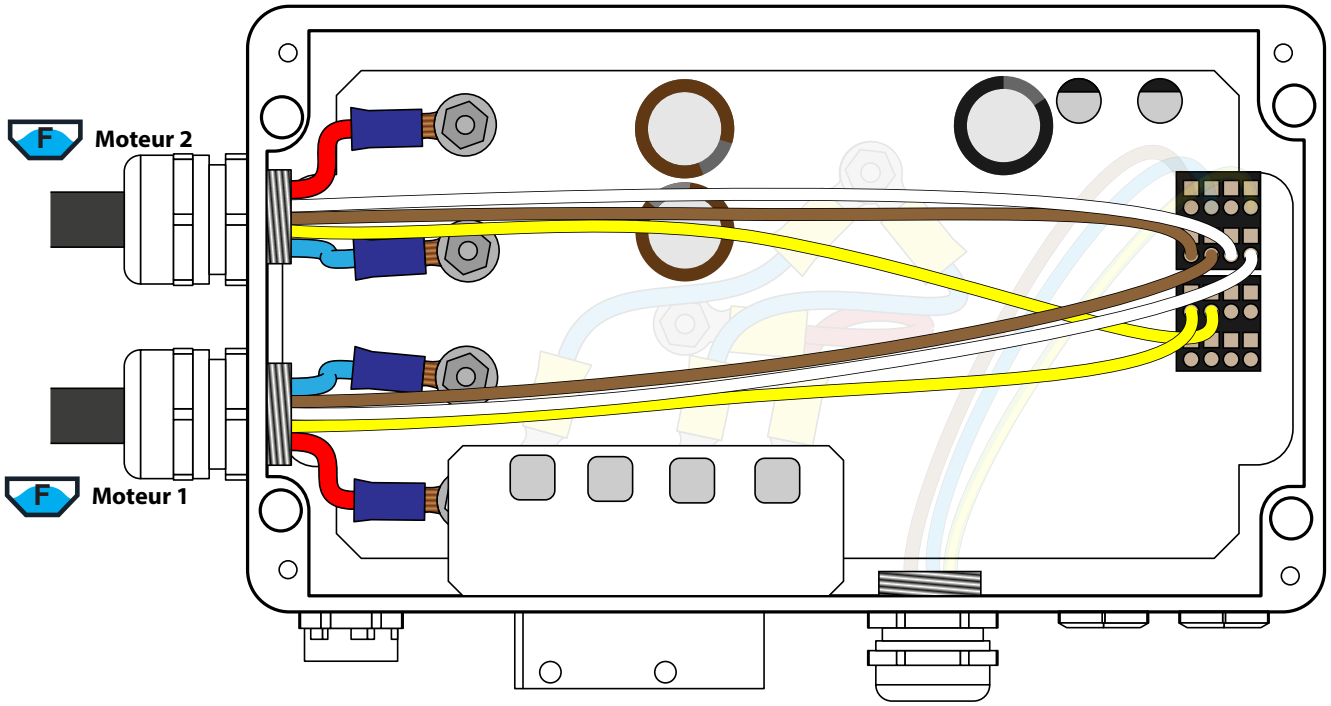


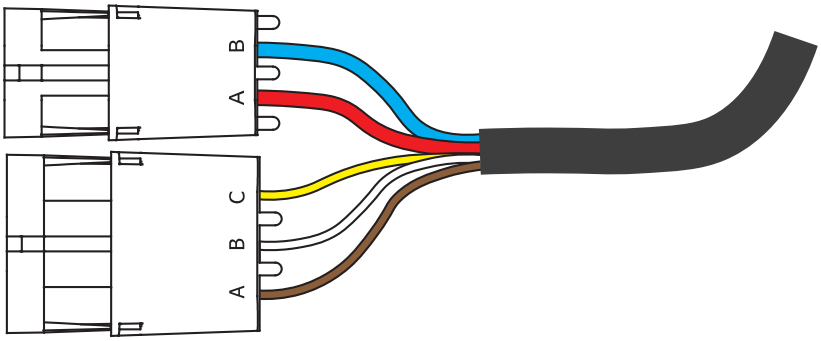
2.32 ► *"Fertilizer placement unit motor" CONNECTION*

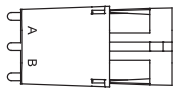
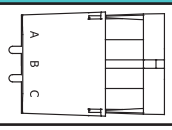


2-way male DELPHI plugs				
	**Pin**	**Colour**	**Wire number**	**Function**
	A	**Red**	①	+12V motor
	B	**Blue**	③	Ground of moteur
3-way male DELPHI plug				
	**Pin**	**Colour**	**Wire number**	**Function**
	A	**Brown**	⑤	Encoder VCC
	B	**White**	⑥	Encoder ground
	C	**Yellow**	⑦	Encoder A signal

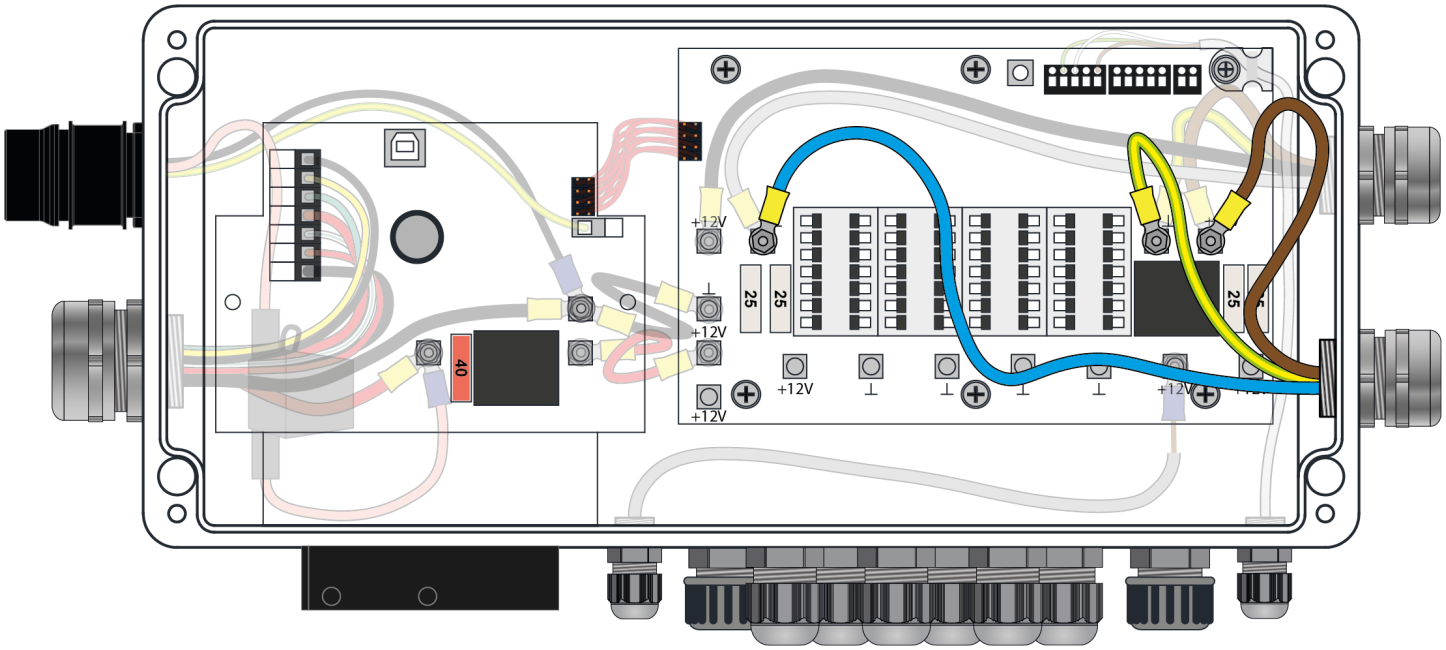
2.33 ► *"Fertilizer placement unit motor harness" CONNECTION*

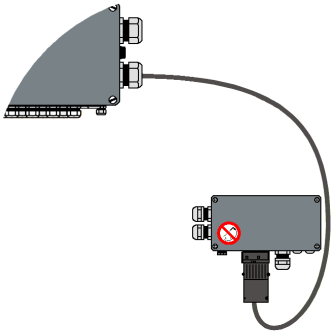




2-way female DELPHI socket			
	**Pin**	**Colour**	**Function**
	A	**Red**	+12V motor
	B	**Blue**	Ground of moteur
3-way female DELPHI socket			
	**Pin**	**Colour**	**Function**
	A	**Brown**	Encoder VCC
	B	**White**	Encoder ground
	C	**Yellow**	Encoder A signal

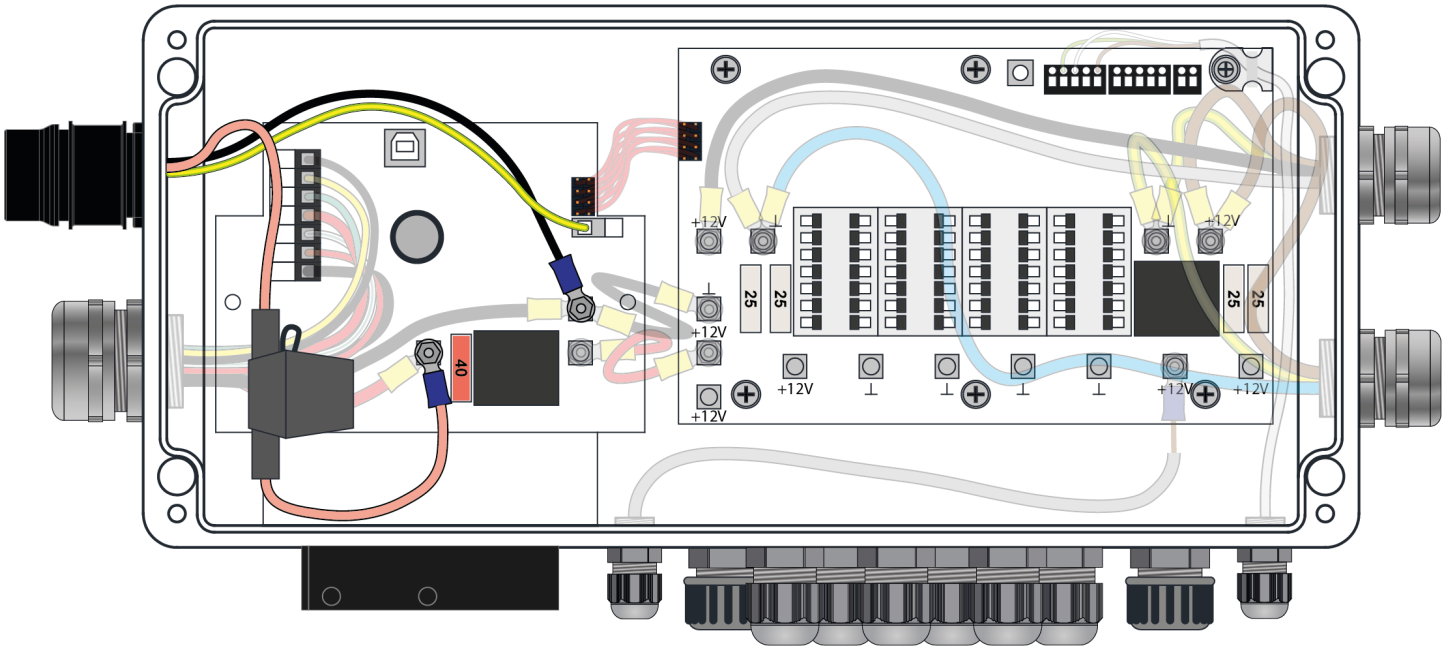
2.34 ► *"MM2 DUO-POWER harness on 2.5G main ECU" CONNECTION*

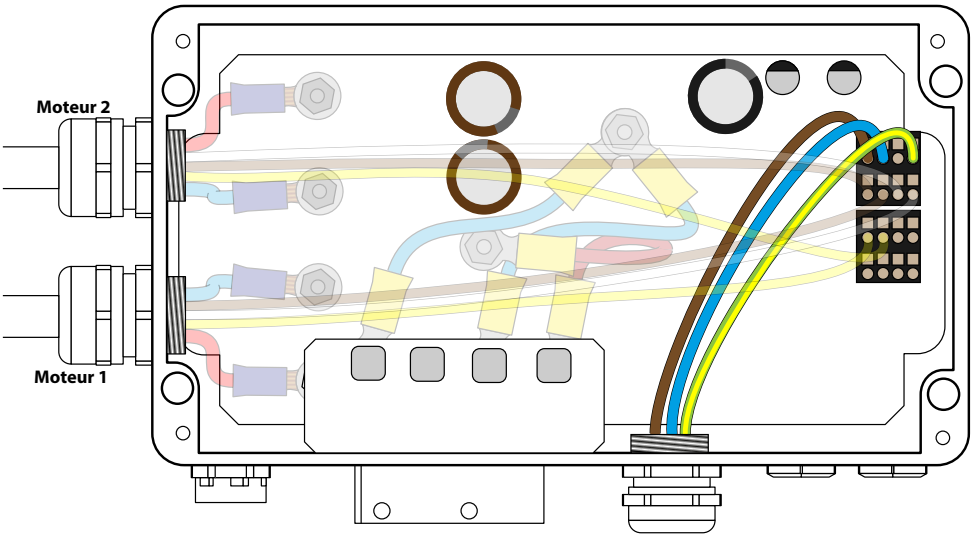


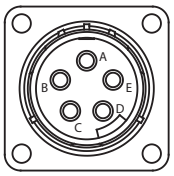


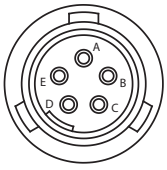
MM2 duo-power harness			16-way connector	
Wire	Colour	Function	Pin	
1	Brown	Ground	1	
2	Blue	+12V	3	
3	Yellow - Green	Ground	7	

2.35 ► *"MM2 communication CAN harness" CONNECTION*





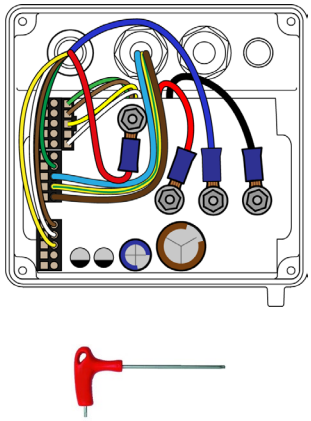
Male plug LIN communication - main ECU			
	**Pin**	**Colour**	**Function**
	A	**Orange**	+ 12 V with 15A fuse holder
	B	**-**	-
	C	**Black**	Ground
	D	**-**	-
	E	**Yellow / Green**	LIN

Socket LIN communication - harness			
	**Pin**	**Colour**	**Function**
	A	**Brown**	+12V
	B	**-**	-
	C	**Blue**	Ground
	D	**-**	-
	E	**Yellow / Green**	LIN

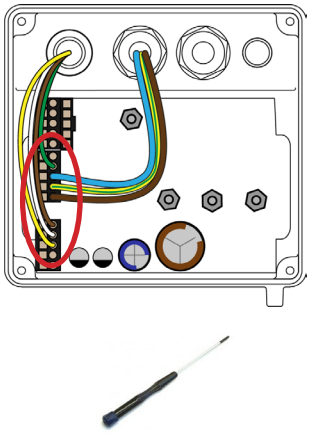
2.36 ► *Motor ECU board REPLACEMENT*

1 Open the cover of the ECU housing by removing the 4 screws.

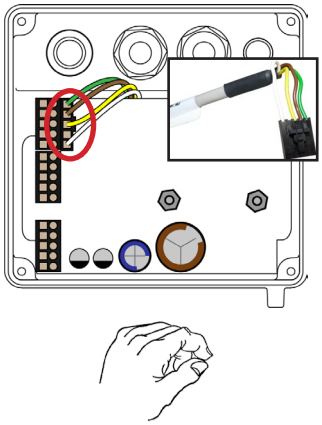
N.B. disconnect the battery before carrying out replacement.



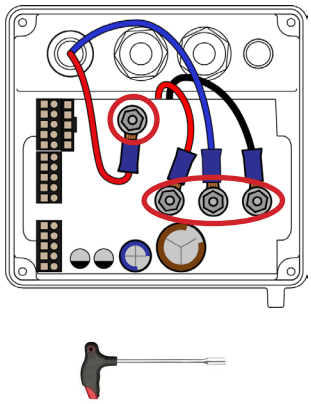
2 Disconnect the 7 wires of the fast-connect terminals using a very thin screwdriver.



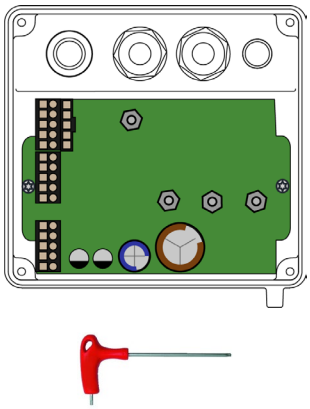
3 Disconnect the plug by carefully removing it.



4 Use a socket head screwdriver to disconnect the 4 wires.



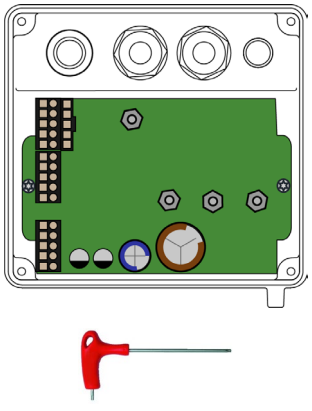
5 Use a Torx wrench to unscrew the board's 2 screws.



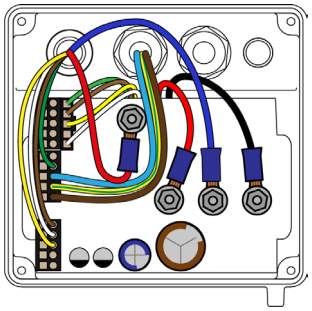
6 Remove the board and replace with the new board.

N.B. hold the new board at the edges.

7 Use the Torx wrench to screw the 2 screws back onto the board.



8 Reconnect in the original positions.

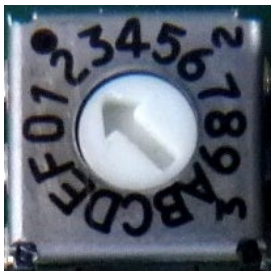


9 Reposition the cover using the 4 screws.

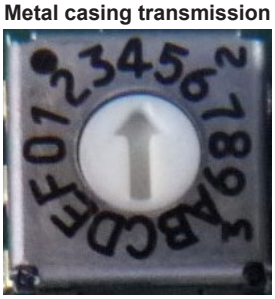
3 ► SETTINGS, CHECKS

3.1 ► *Position of the switch on the 2.5G main ECU electronic board*

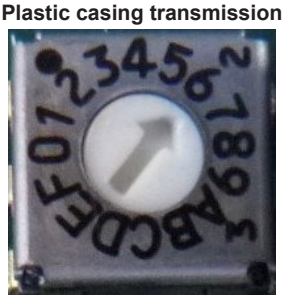
MONOSHOX NG Plus M — MONOSEM NG Plus 4 — MONOSHOX NX M

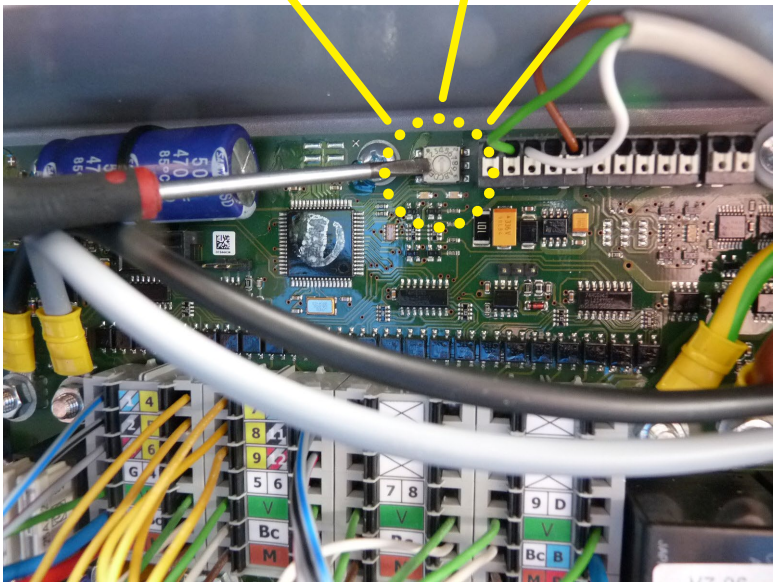


MONOSEM MECA V4 — Metal casing transmission



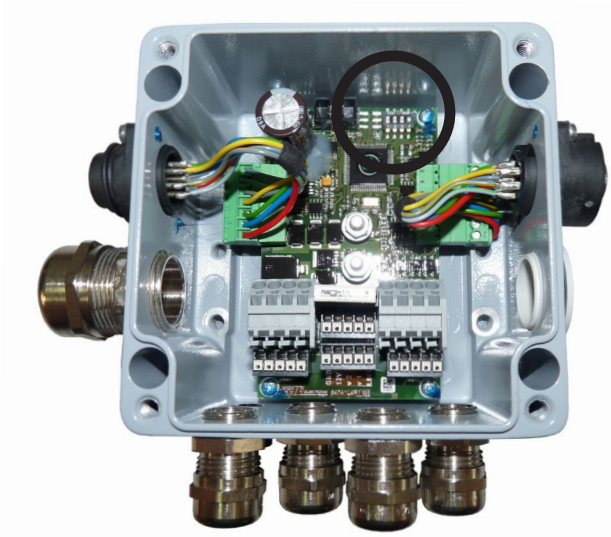
MONOSEM MECA V4 — Plastic casing transmission





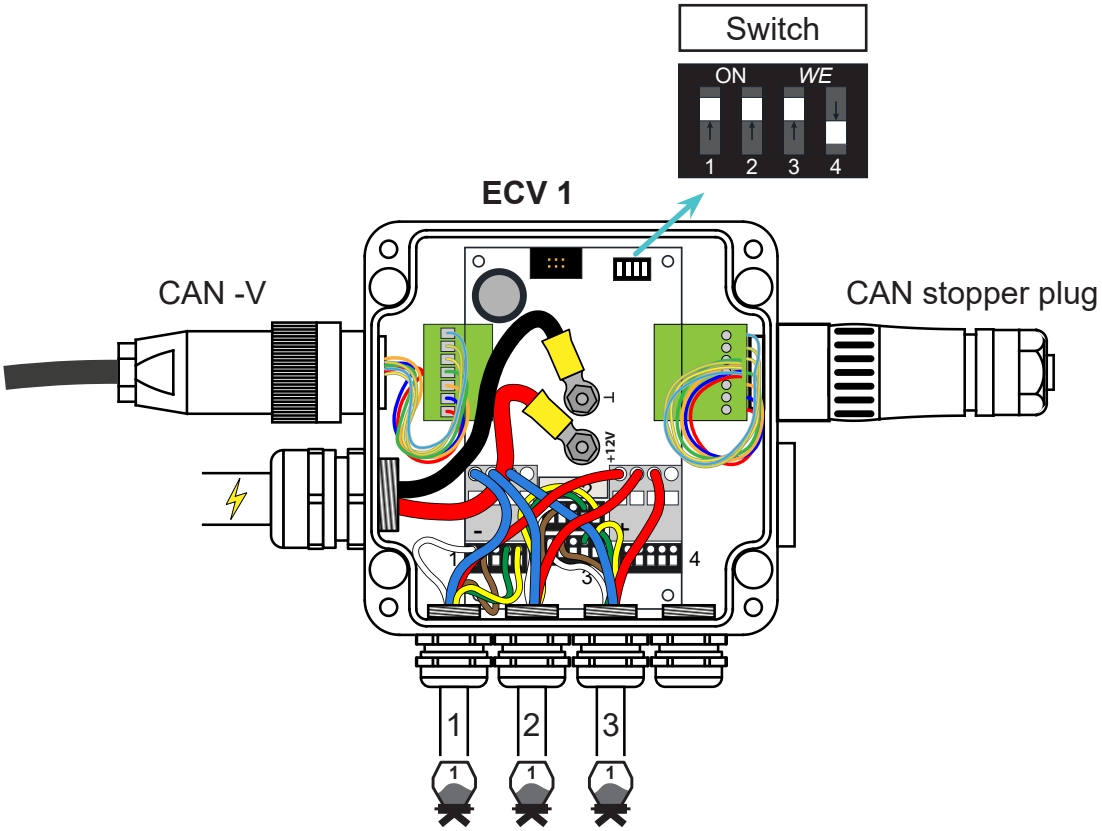
Use a thin, precision screwdriver to carry out the adjustment.

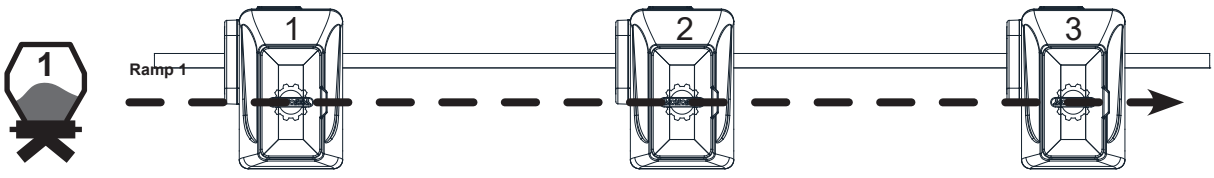
3.2 ► *Activating the switches on the ECV unit's electronic board*



Activation of switches upwards

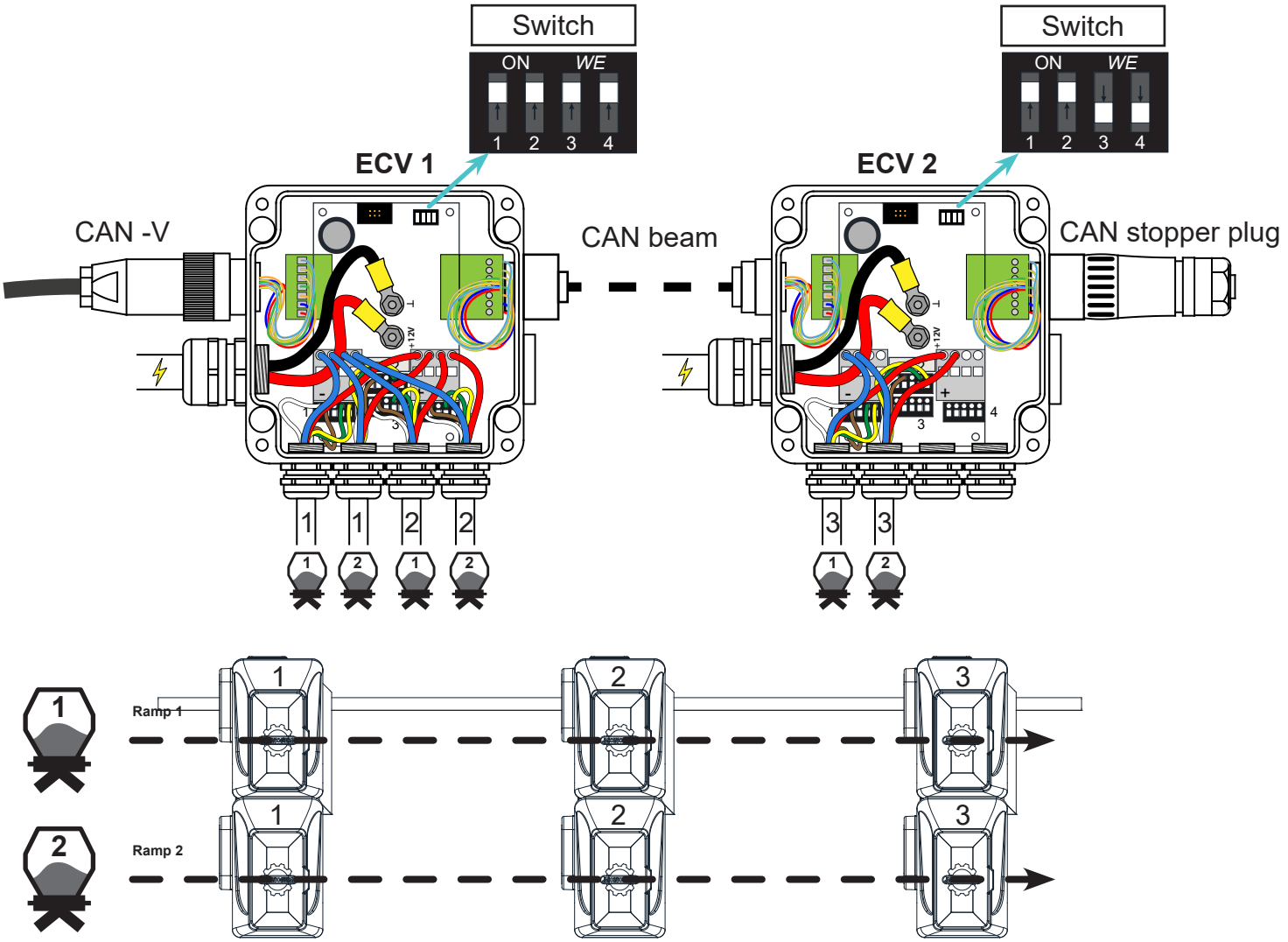
One ramp - 3 motors



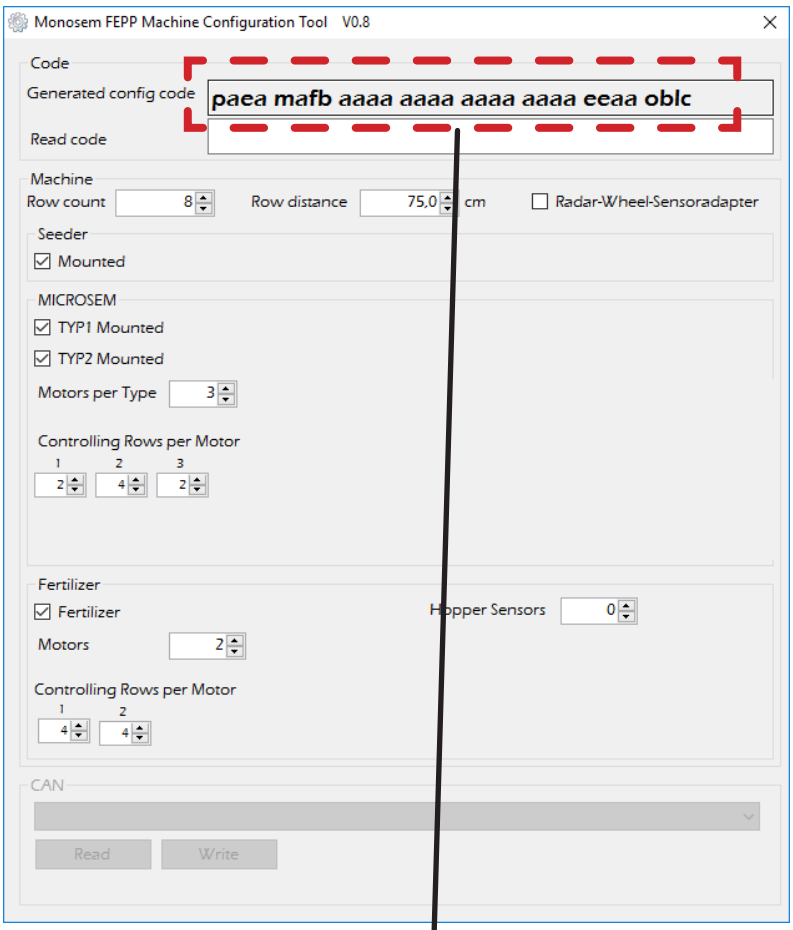


3.2 ► *Activating the switches on the ECV unit's electronic board*

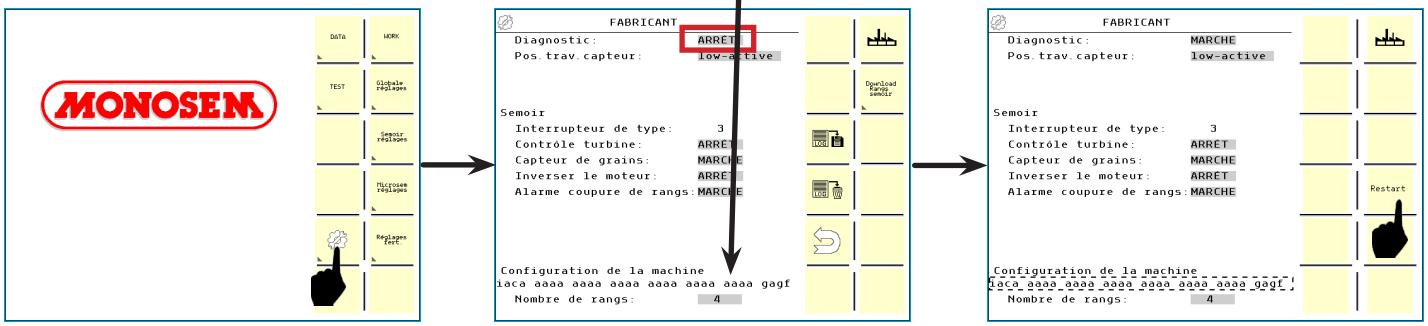
Two ramps - 6 motors



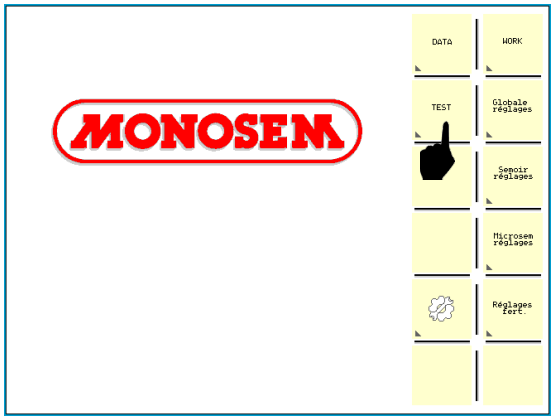
3.3 ► *Setting the planter's "planter configuration code"*

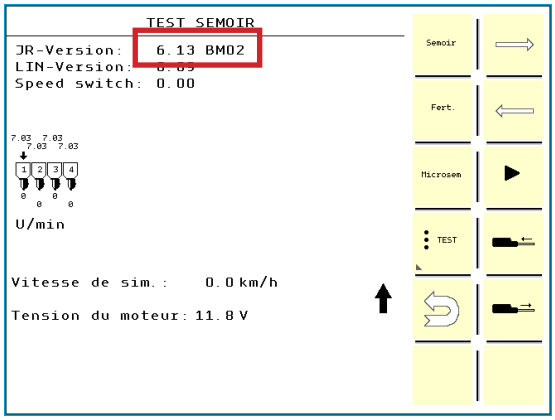


Switch the diagnostic function "OFF" before changing the configuration code



3.4 ► *Software version*



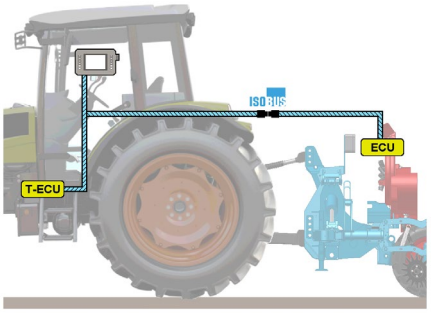


3.5 ► *Software updating*

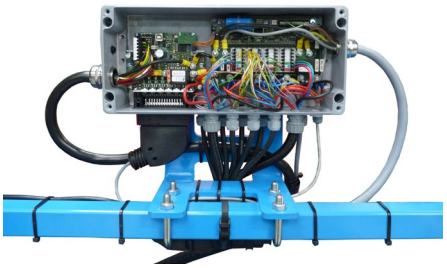
1 Use a laptop to install the update software.

2 USB cable "type A-B".

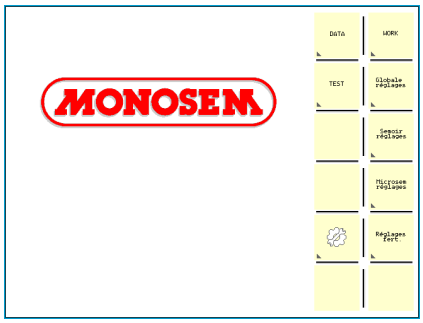
3 Connect the console and the ISOBUS to the tractor.



4 Open the main ECU



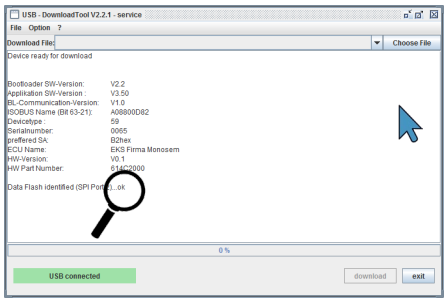
5 Switch on the console.



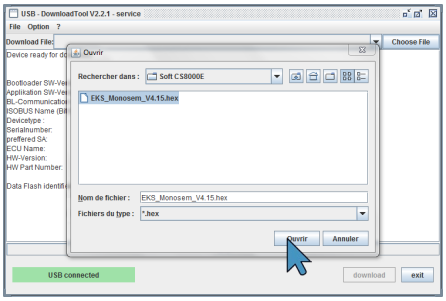
6 Connect the laptop to the ECU using the USB cable.

7 Launch the "WTK flash" update software.

8 Check the USB connection and click "Choose File".

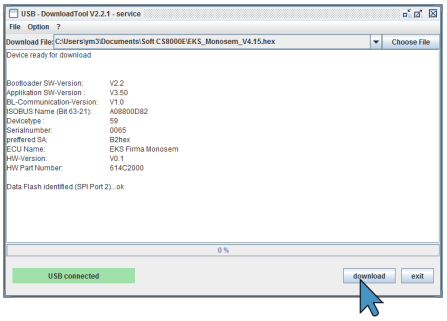


9 Select the update file.

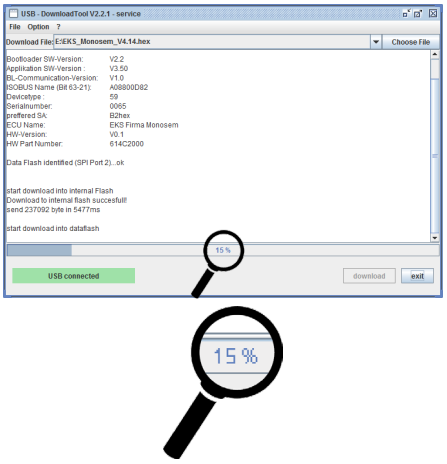


3.5 ► *Software updating*

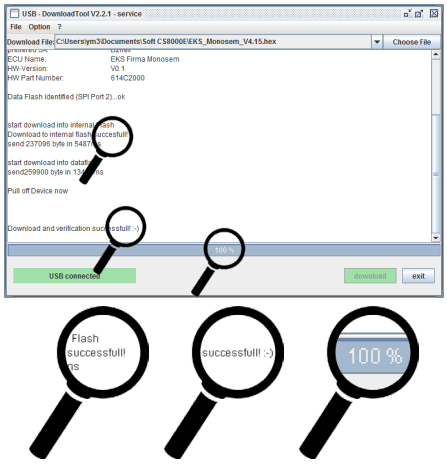
10 Launch "download".



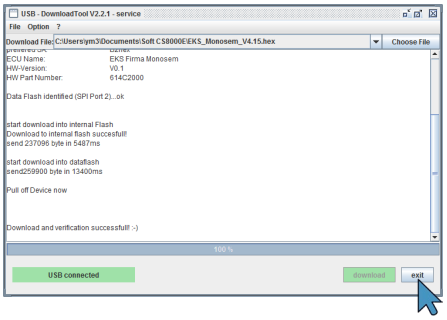
11 Update loading underway.



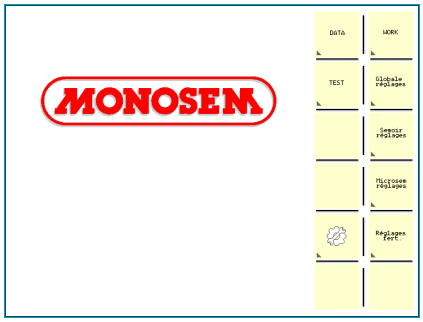
12 Loading finished.



13 Exit the software.

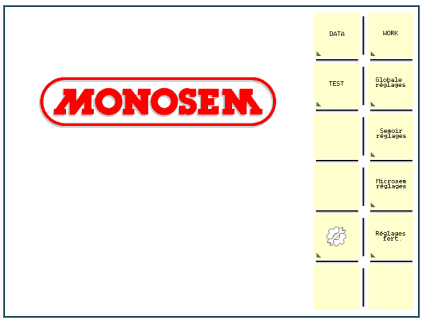


14 Switch off the console.

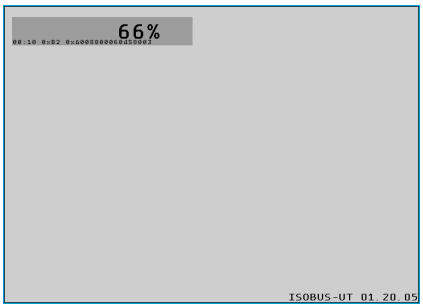


15 Unplug the USB cable.

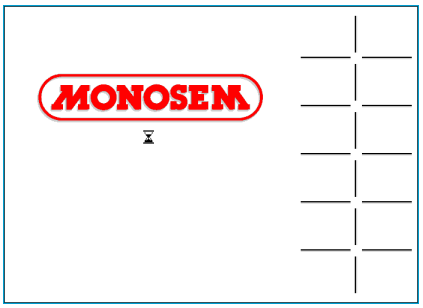
16 Switch on the console.



17 Software loading underway.

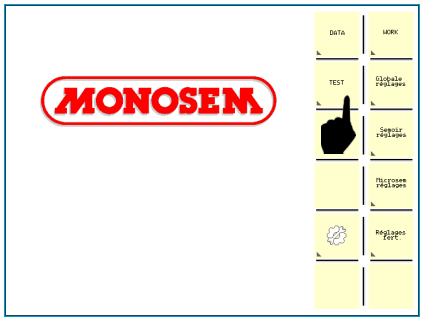


18 Software preparation underway.

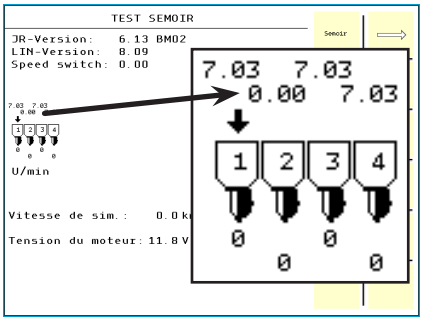


3.6 ► *Reprogramming a row*

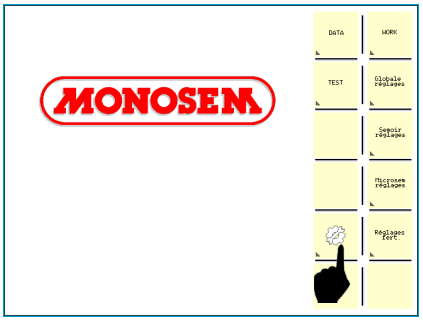
1 Access to TEST menu.



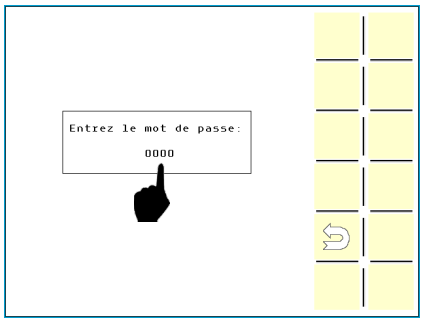
2 Row no 2 is cancelled.



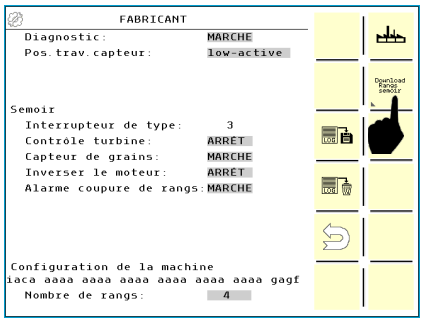
3 Access to factory setting menu.



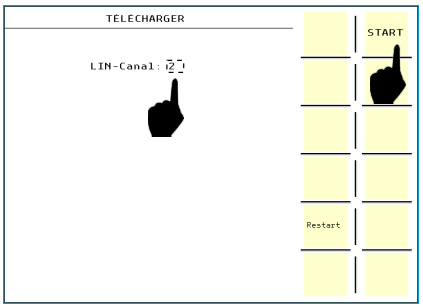
4 Password.



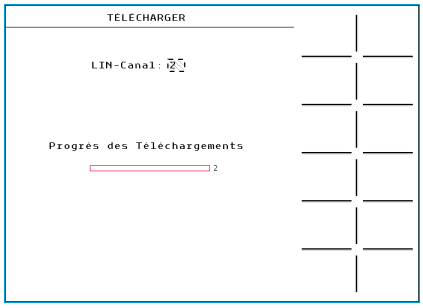
5 Access to reprogramming.



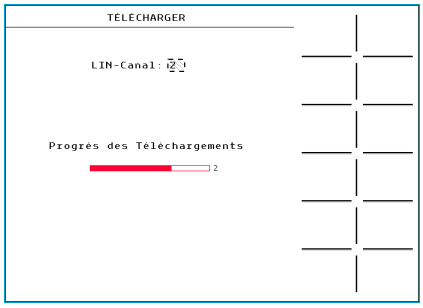
6 Enter the row number to be reprogrammed then press START.



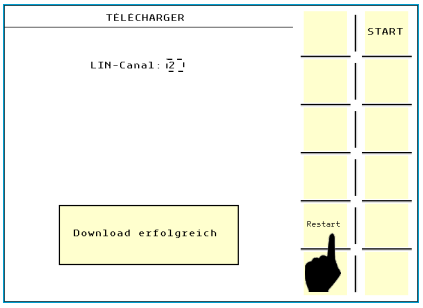
7 Downloading has been launched.



8 Downloading is underway.

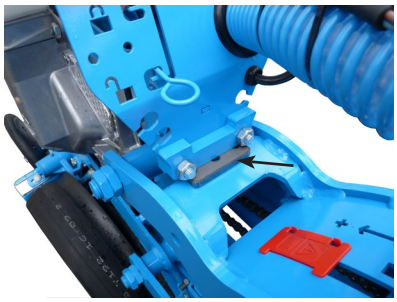


9 Downloading has finished. Restart the software.



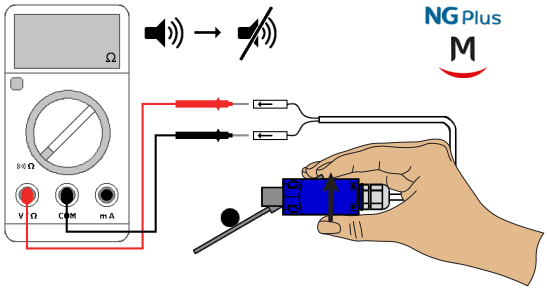
3.7 ► *Setting and checking seed unit sensors*

MONOSHOX NG Plus M



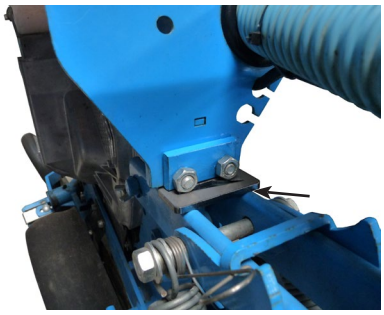
With the planter lowered, insert a 5mm thick wedge.

Unscrew the sensor's screws.

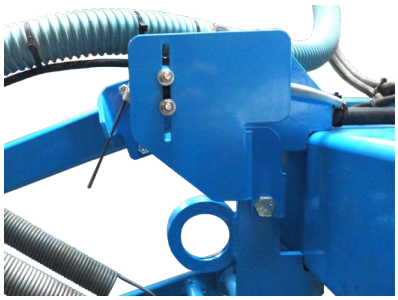


With the planter raised, move the sensor upwards until the beep stops.

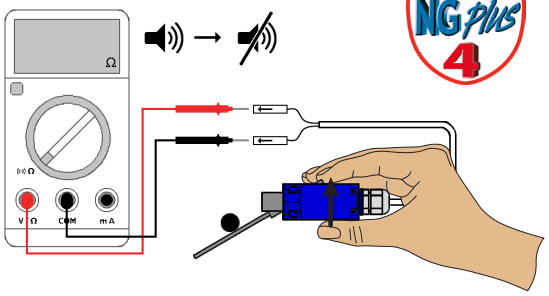
MONOSEM NG Plus 4



With the planter lowered, insert a 5mm thick wedge.



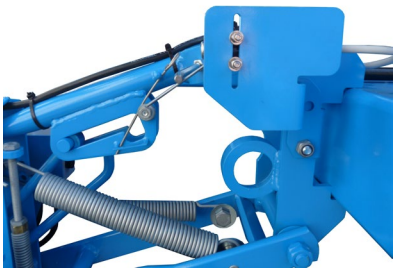
Unscrew the sensor's screws.



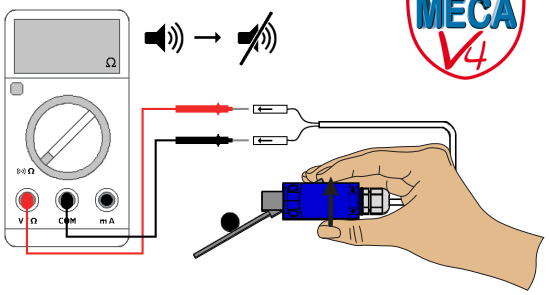
With the planter raised, move the sensor upwards until the beep stops.

MONOSEM MECA V4

With the planter lowered, insert a rod, Ø 8 mm.

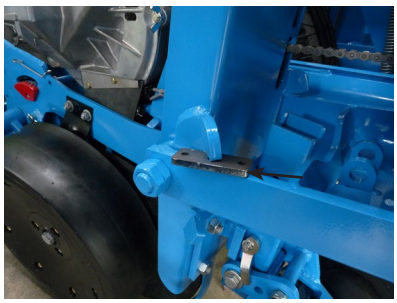


Unscrew the sensor's screws.

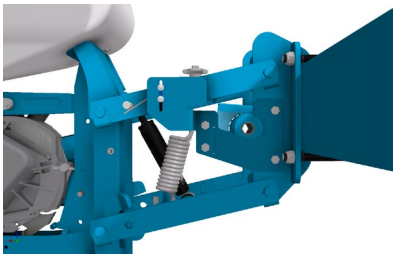


With the planter raised, move the sensor upwards until the beep stops.

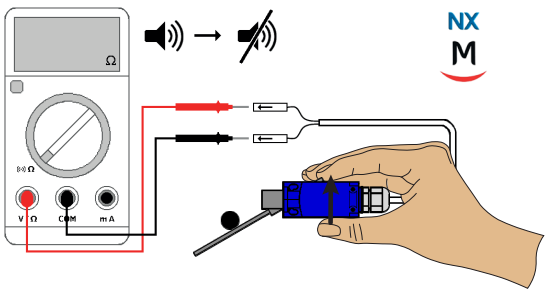
MONOSHOX NX M



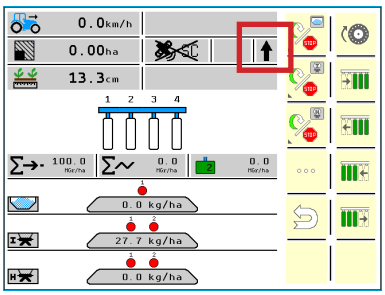
With the planter lowered, insert a 5mm thick wedge.

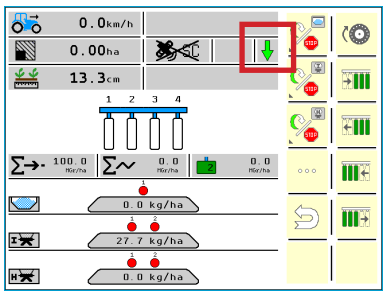


Unscrew the sensor's screws.



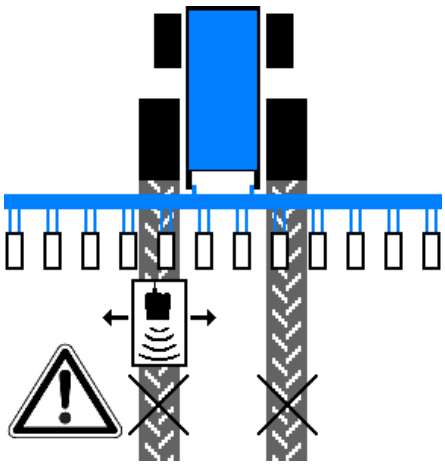
With the planter raised, move the sensor upwards until the beep stops.

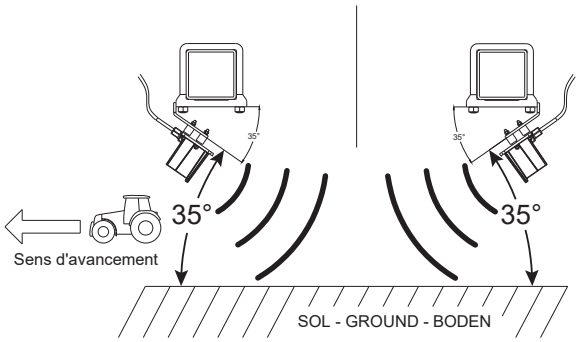


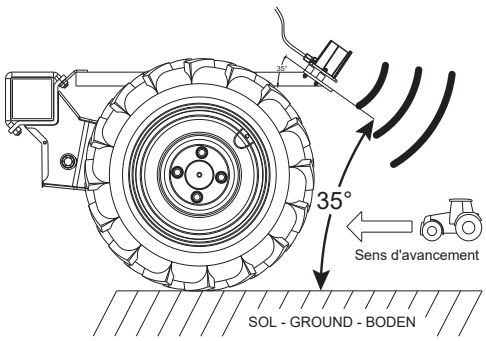


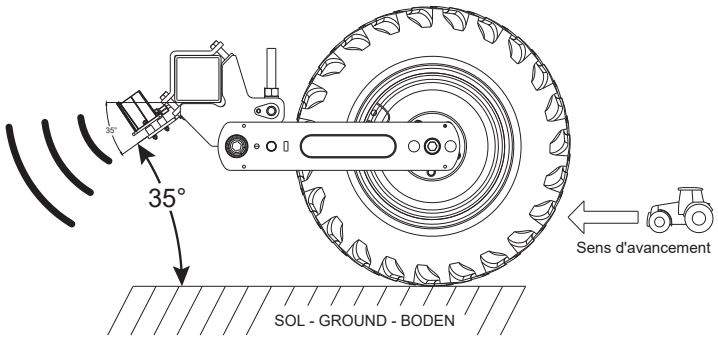
Perform a planter lift test to check the positions on the screen.

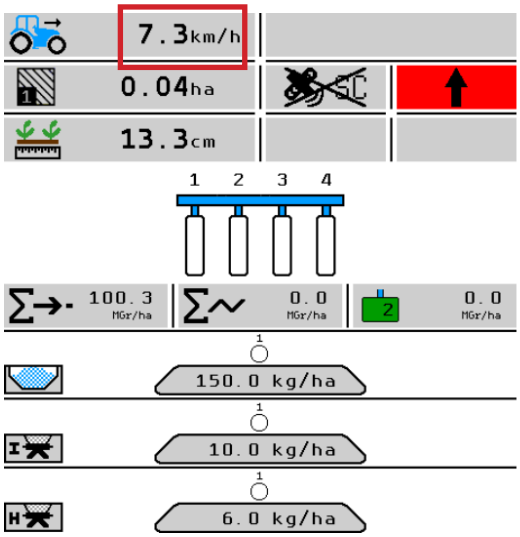
3.8 ► *Checking radar speed information*





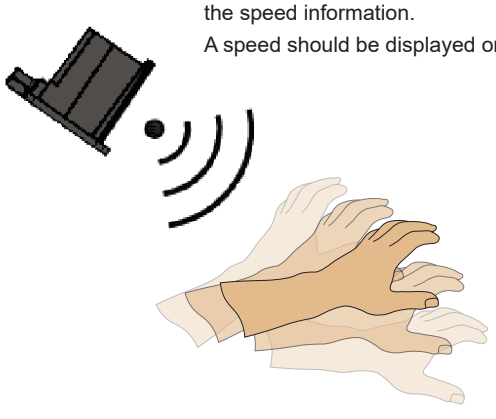




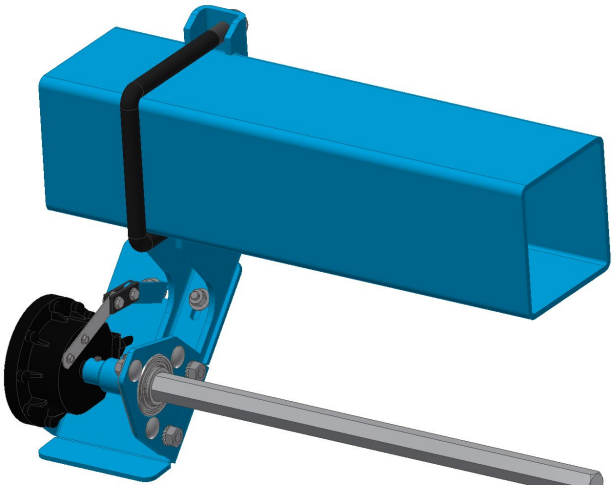


RADAR

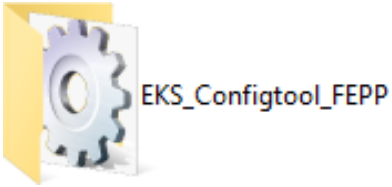
Move your hand in front of the radar to check the speed information.
A speed should be displayed on the screen.

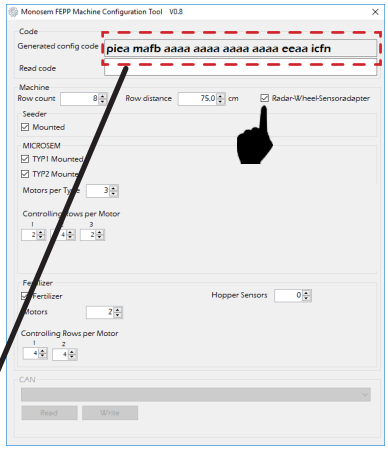


3.9 ► *Assembling and activating the speed encoder*



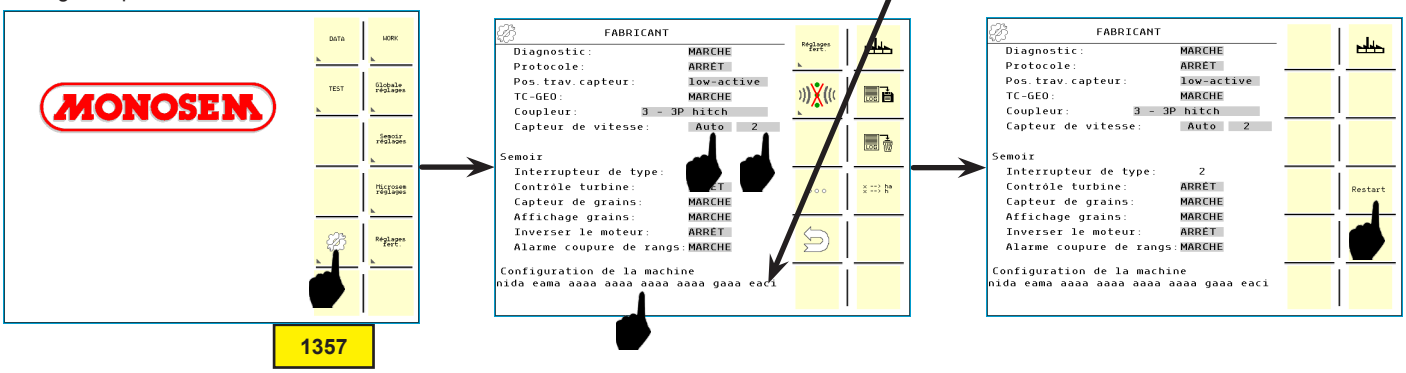
Obtaining the configuration code with speed encoder.





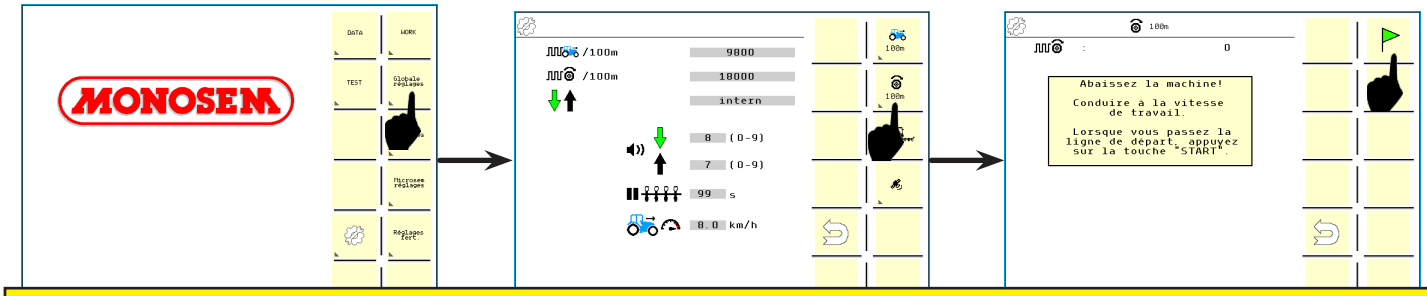
From version: 6.13

Setting the speed encoder



1357

Calibrating the speed encoder

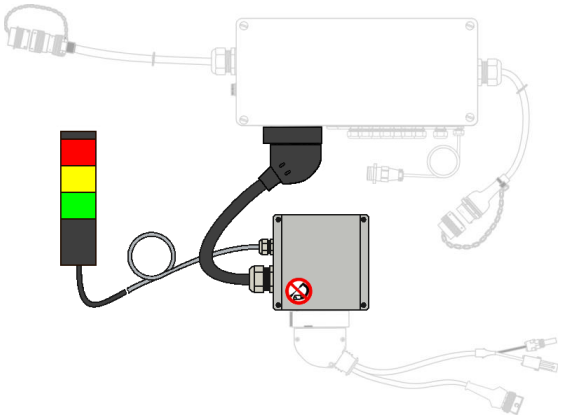


N.B.: speed display test off to check connections, it is necessary to rotate the wheel and radar together.

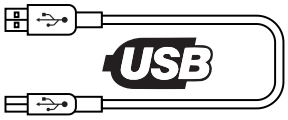
3.10 ► *Assembling the monitoring TOTEM*

1 Monitoring kit.

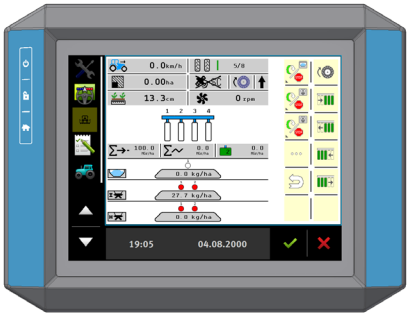
2 Assembling the kit.



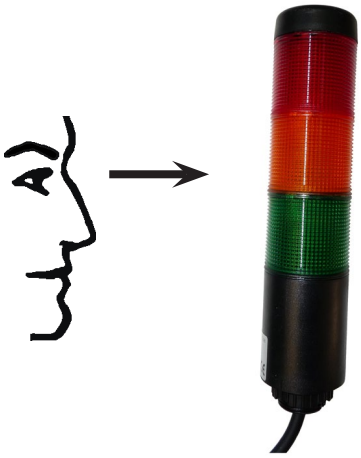
3 Updating the software. (Version > 6.13)



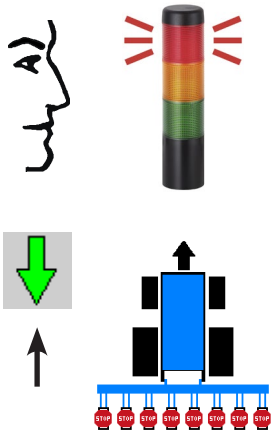
4 Launching the software.



5 Looking at the monitoring totem.

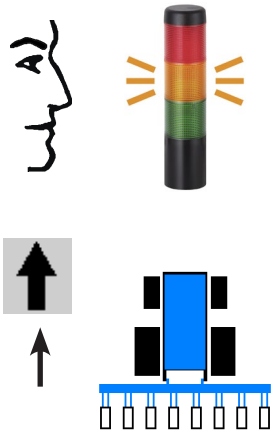


6 Monitoring case no 1.



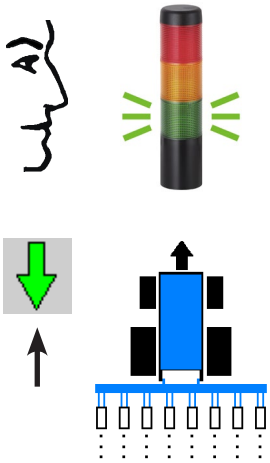
The planter is in the operating position on or off and all the motors are off.

7 Monitoring case no 2.



The planter is in the raised position.

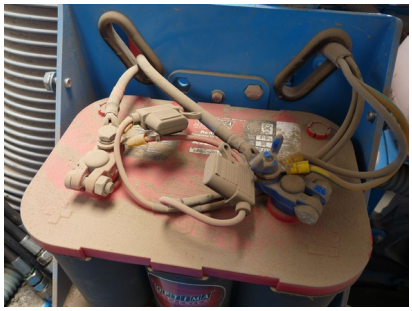
8 Monitoring case no 3.



The planter is in the operating position, and sowing is occurring correctly.

3.11 ► *Checking the OPTIMA battery*

1



1 - Remove the casing.

2 - Check the cleanliness of the battery.

AIR

3 - Blow air onto the battery to remove dust and dirt.

2

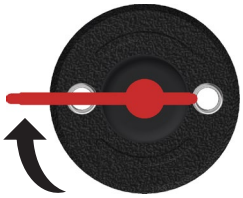
1 - Check the condition of the cables and the battery lead connections.

2 - Clean the battery lead connections if oxidisation has occurred.

3 - Check the tightness of the battery lead connections and tighten if necessary.

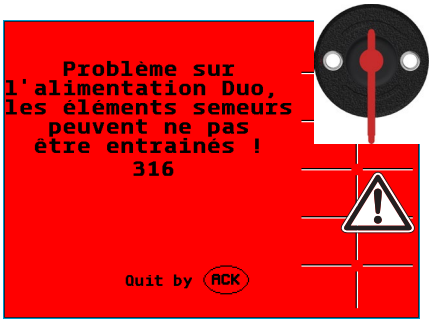
4 - Check the fuses.

3

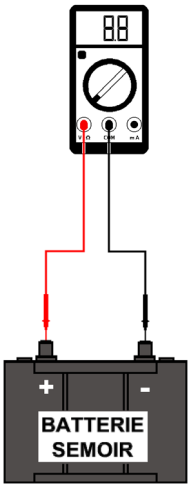


ON

1 -Place the battery main switch in the "ON" position.



4

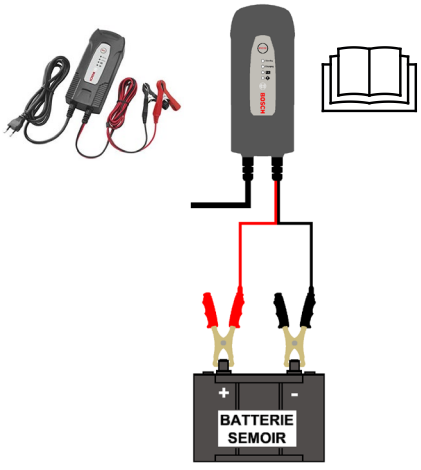


V

1 - Check the voltage of the planter battery.
Optimal voltage ≥ 12.4 V

2 - If voltage < 12 V, charge the battery.

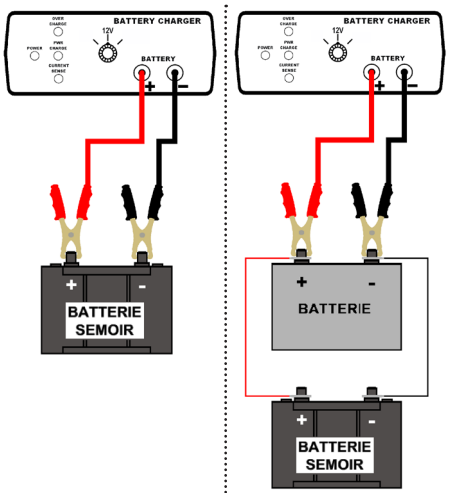
4.1 METHOD 1: "RECOMMENDED" RECHARGING THE BATTERY



VOLTAGE < 12 V

Carry out recharging with our electronic battery charger.
It can perform an automatic charge and a maintenance charge.
Ref.10239024 (approved by MONOSEM).

4.2 METHOD 2: RECHARGING THE BATTERY



VOLTAGE ≥ 11 V

If the charge is ≥ 11 V, it is possible to use a standard battery charger with regulated voltage (< 13.8 V) but low amperage (1 - 2 A).

VOLTAGE ≤ 11 V

If the charge is < 11 V, it is possible to use a standard battery charger with regulated voltage (< 13.8 V) but low amperage (1 - 2 A), first it is necessary to connect, at the same time, a charged battery.

3.12 ► *Checking the alternator*

1

1 - Remove the casing.

2 - Check the cleanliness of the alternator.

AIR

3 - Blow air onto the alternator to remove dust, residue and dirt.

2

1 - Check the condition of the cables and battery lead connections.

2 - Clean the battery lead connections if oxidisation has occurred.

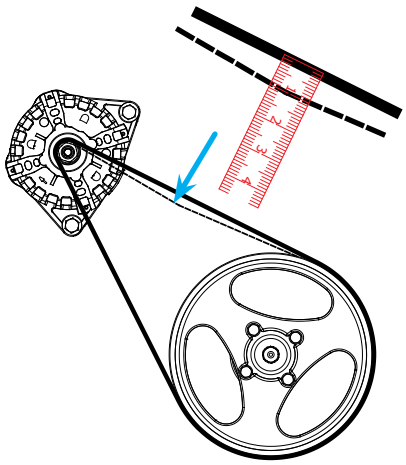
3 - Check the tightness of the battery lead connections and tighten if necessary.

3

1 - Check the state of wear of the alternator belt.

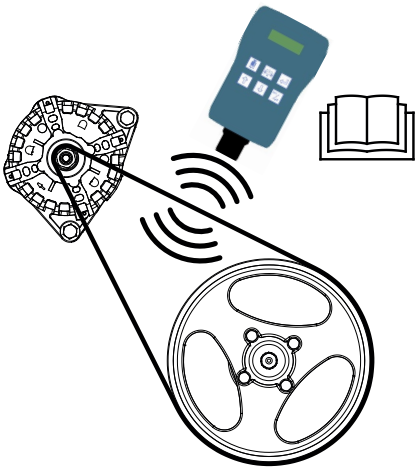
2 - Check the tension of the alternator belt.

3.1 METHOD 1: VISUAL BELT TENSION CHECK



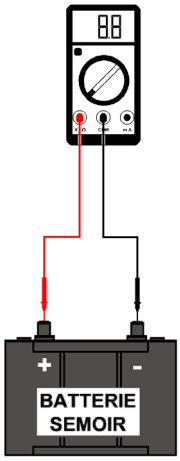
1 - Press the belt to check the tension of the alternator belt.
"Maximum 10 mm sag"

3.2 METHOD 2: BELT TENSION CHECK



1 - Measure the tension of the belt with a tensiometer.
"Tension required 137 Hz"

4



1 - Hitch the planter to the tractor and connect the power take-off.

2 - Launch the power take-off.

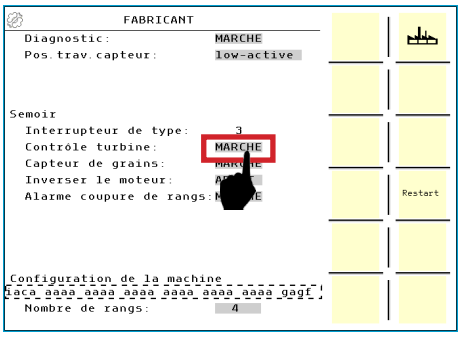
V

3 - Check the charge voltage of the planter battery.
Charge voltage 13.8 V - 15 V.

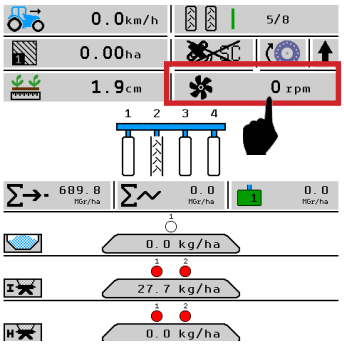
4 - **Charge voltage of 14.4 V on the console screen.**

3.13 ► *Checking turbine rotation*

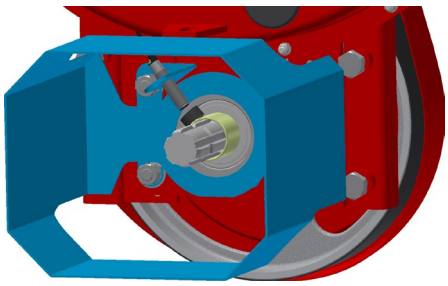
1 Turbine check activation.



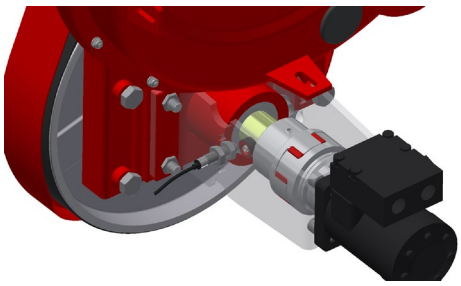
2 Turbine check display.



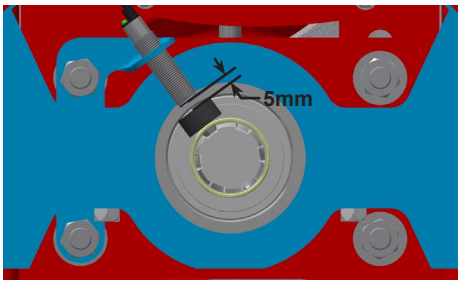
3 Assembly of the rotation speed sensor with drive by universal joint.



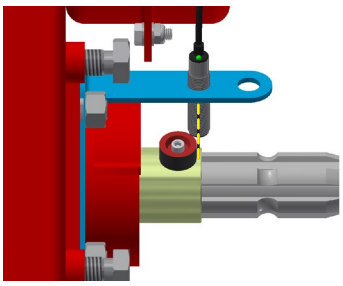
4 Assembly of the rotation speed sensor with drive by hydraulic motor.



5 Setting the sensor with the magnet.



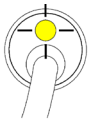
End of the sensor 5 mm from the magnet



Edge of the magnet in the axis of the sensor

6 Check the turbine rotation speed.

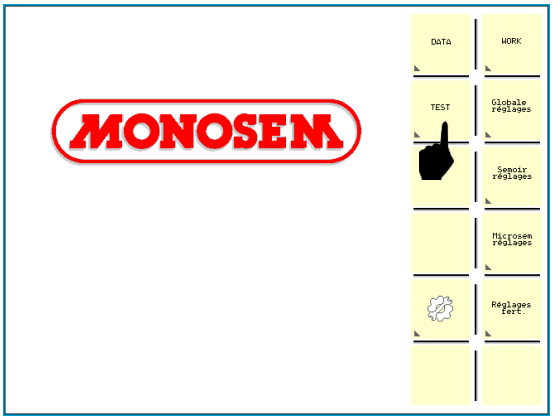
1 - Launch the power take-off.

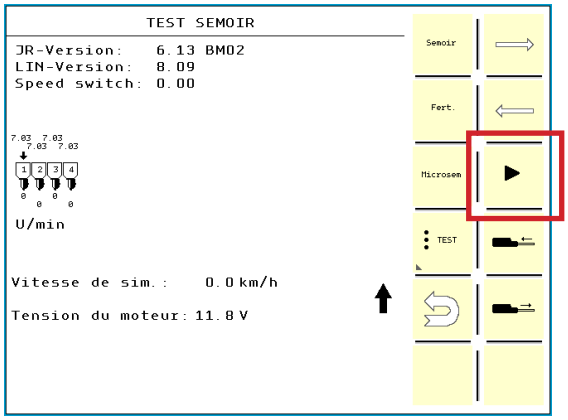


2 - Check that the sensor's diode is on.

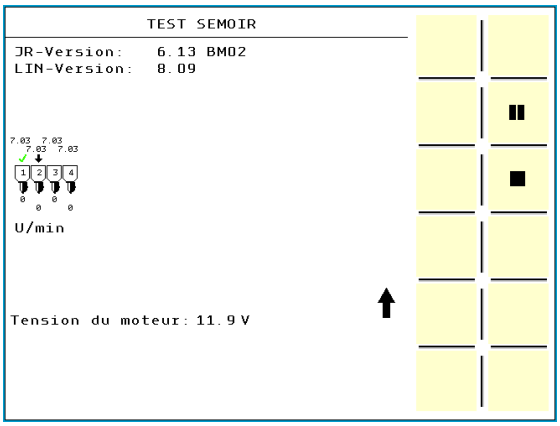
3 - Check the rotation speed with a tachometer.

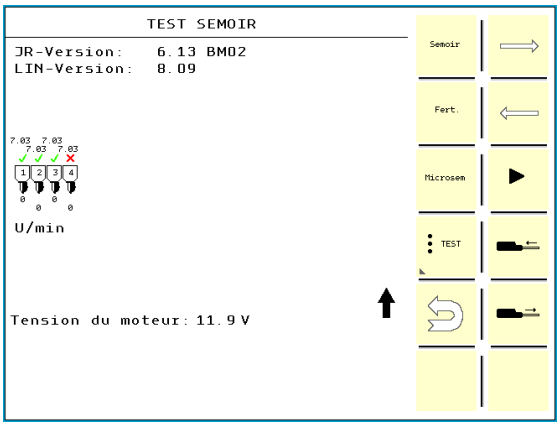
3.14 ► *Checking the fertilizer placement unit, Microsem and seed unit motors*



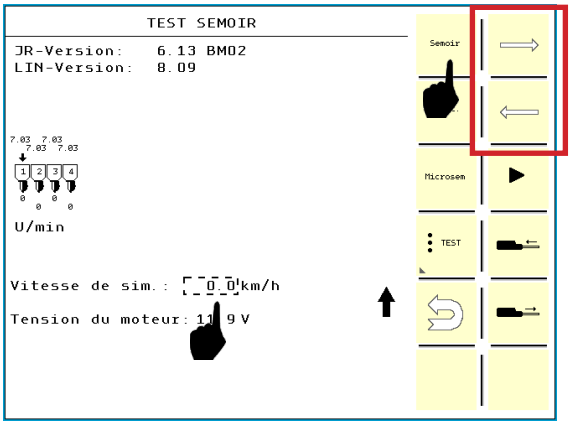


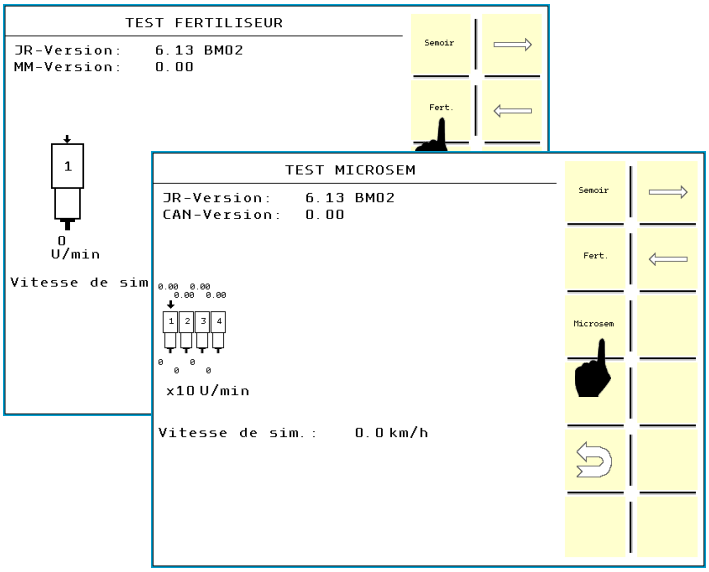
Launch the motor test in automatic



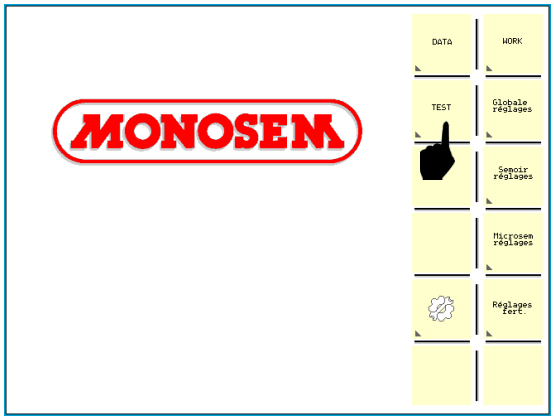


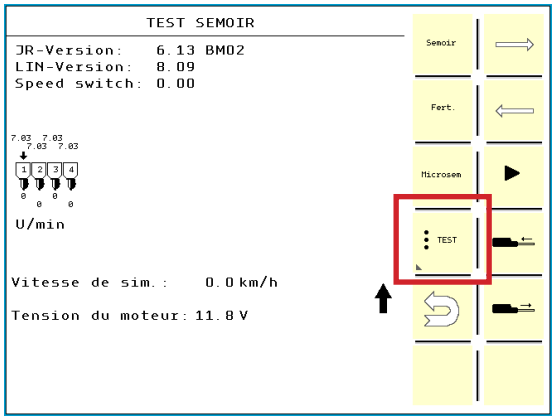
Launch the motor test manually

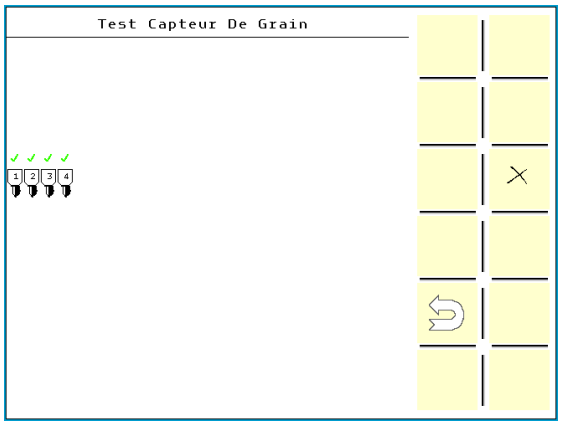




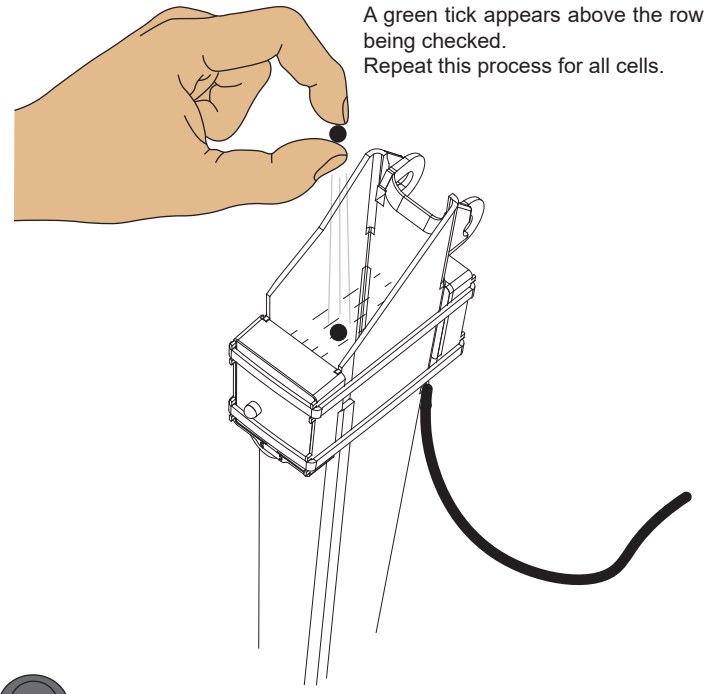
3.15 ► *Checking the cells*



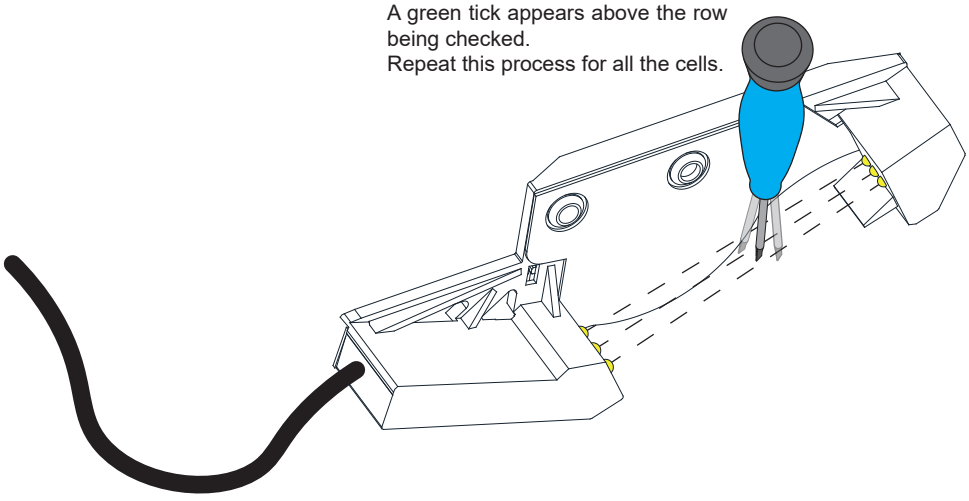




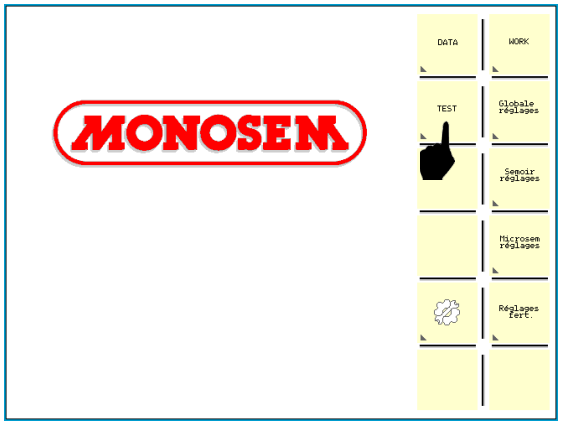
Drop seeds in front of the cell's beam to check its operation on the screen.
A green tick appears above the row being checked.
Repeat this process for all cells.

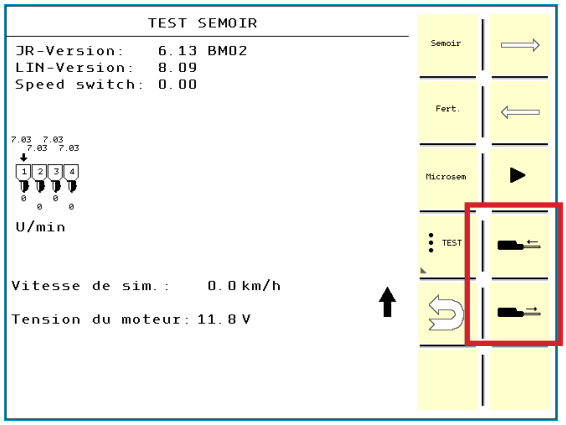


Pass a screwdriver in front of the beam of the cell over the entire width to check its operation on the screen.
A green tick appears above the row being checked.
Repeat this process for all the cells.

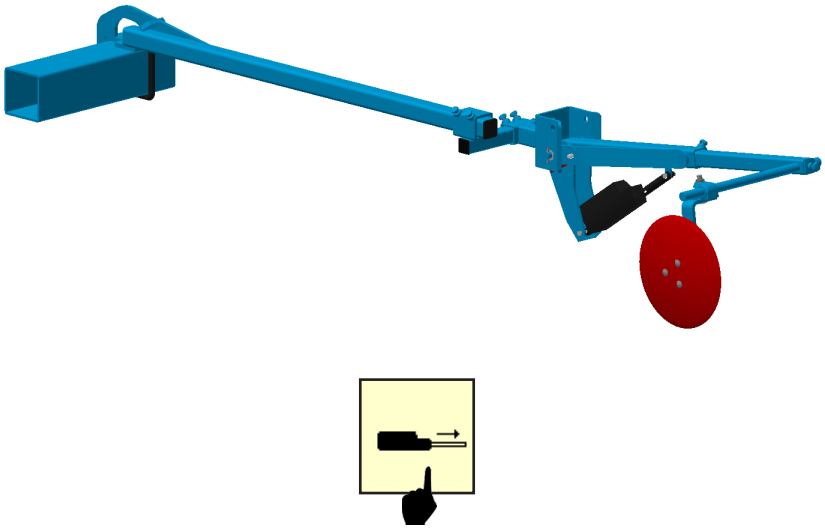


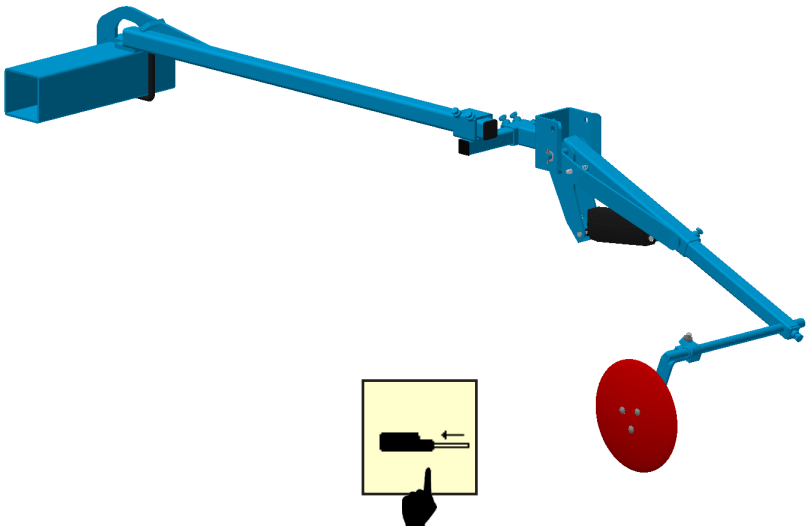
3.16 ► *Checking the pre-emergence markers*



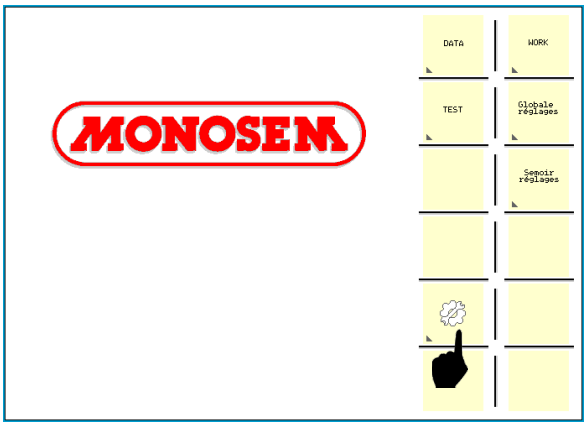


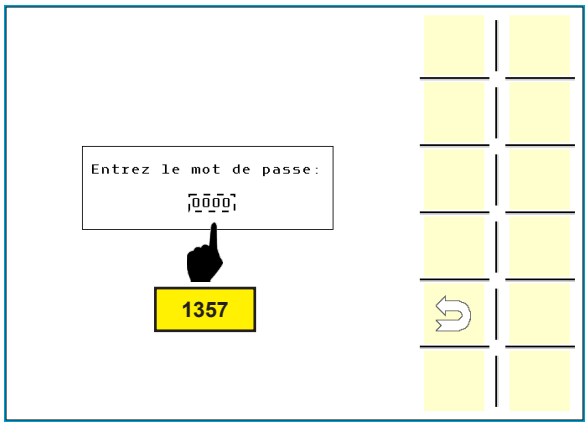
Place the pre-emergence markers in sowing position.

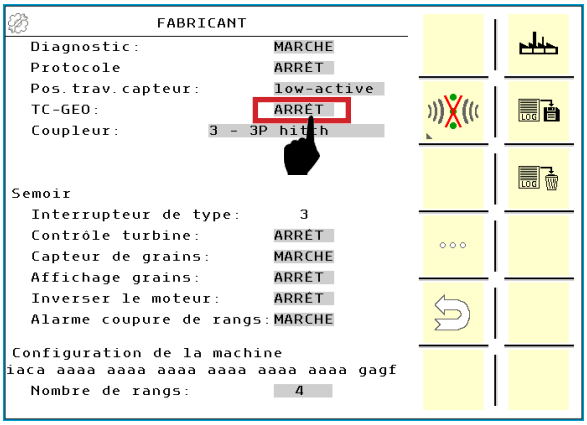


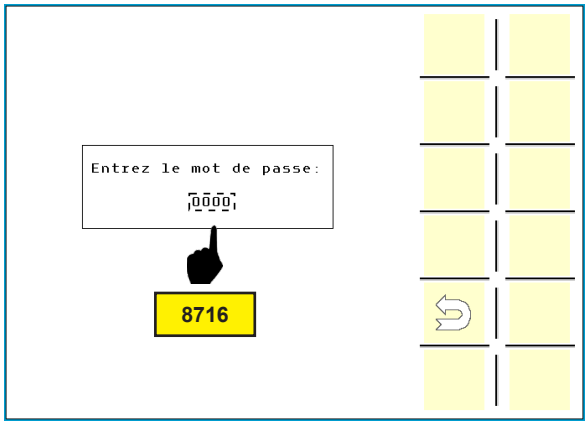


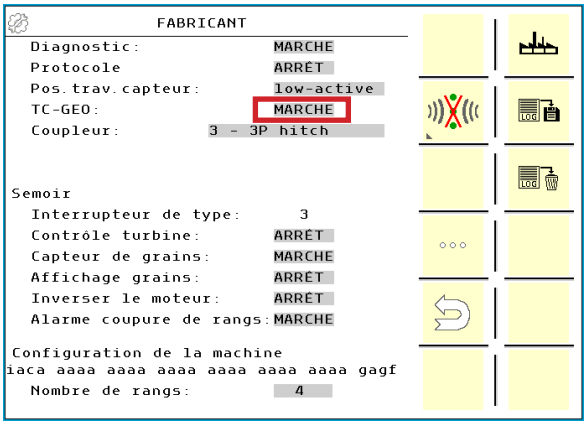
3.17► *Activating the TC-GEO function*



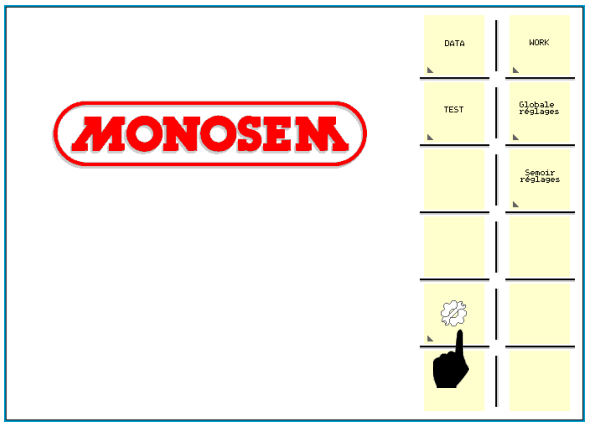


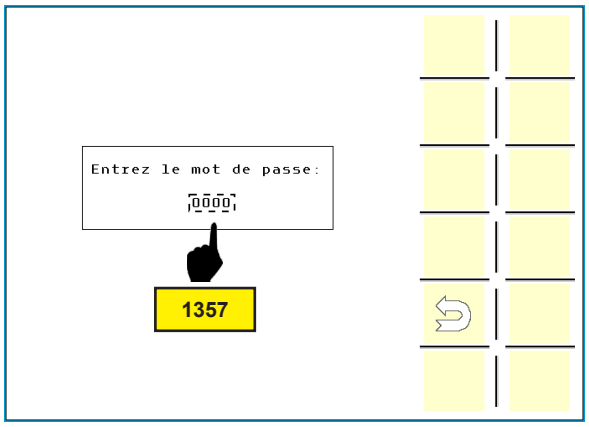


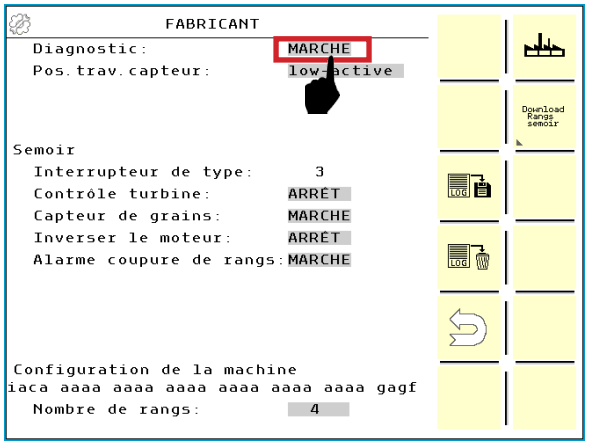




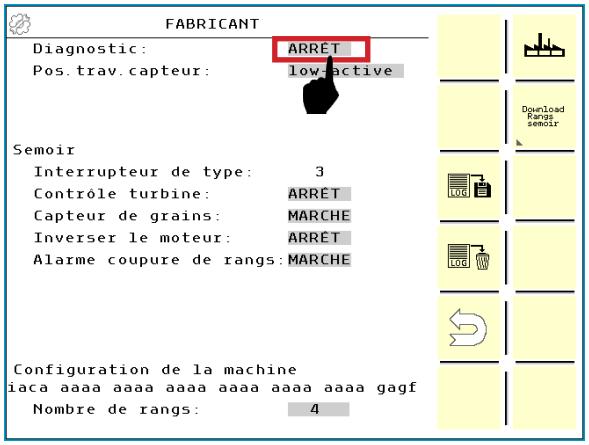
3.18► *Enabling and disabling alarms (DIAGNOSIS)*







Activation of alarms "ON"



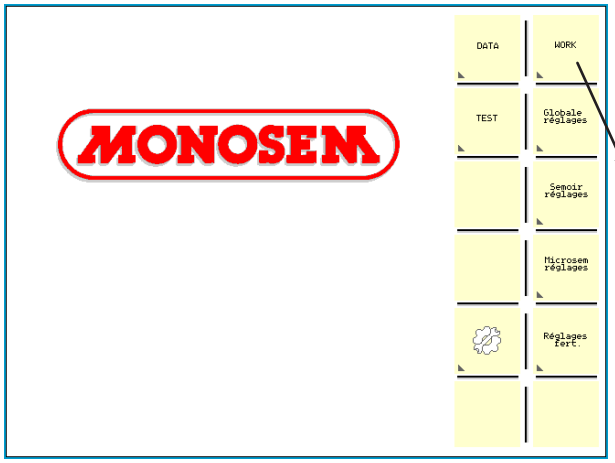
Disabling of alarms "OFF"

During sowing, remember to return the diagnostic function to the on position.

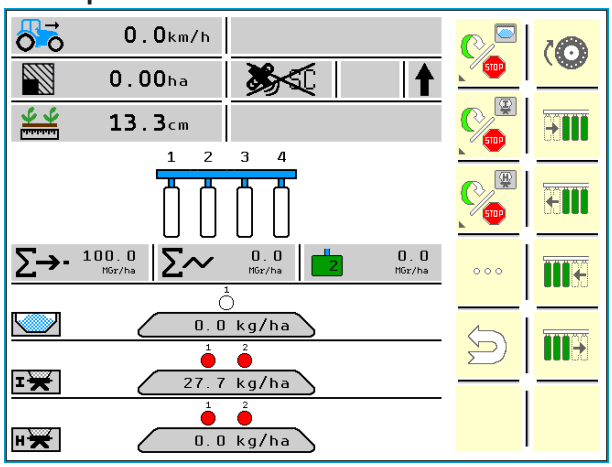
Prevents accidental alarms during test, setting and maintenance work.

4 ► STARTING UP

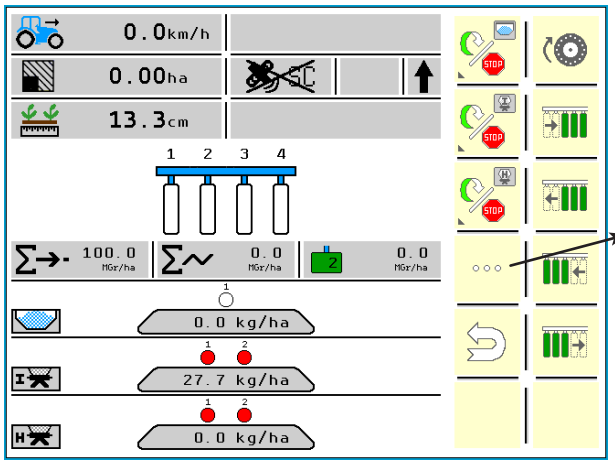
4.1 ► *WORK menu*

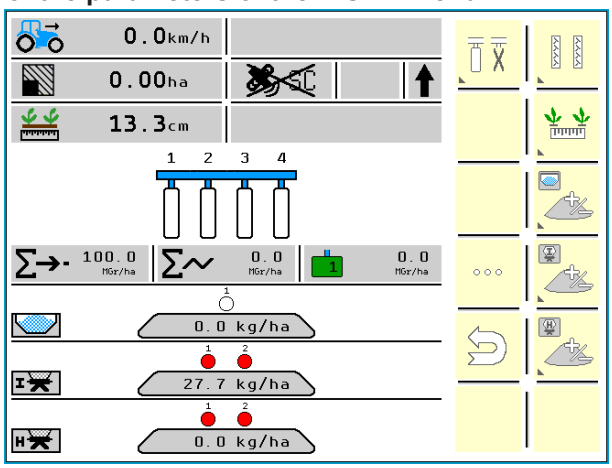


List 1 of the parameters of the WORK menu

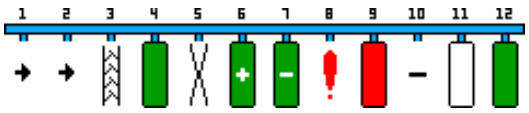


List 2 of the parameters of the WORK menu



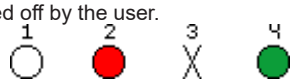


Status of the seed units

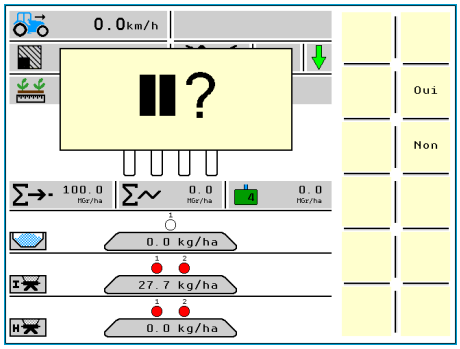


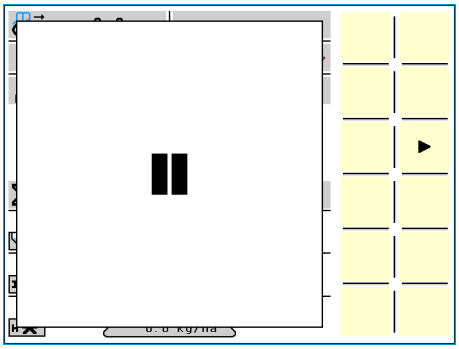
Status of the Microsem and fertilizer placement unit motors

○ - The motor is not operating.
(The planter is on or the tractor has stopped, or the associated seed rows are not being sowed).
● - The motor is not operating because of an alarm.
✕ - The motor has been manually switched off by the user.
(Restart the motor with the key).
● - The motor is operating.



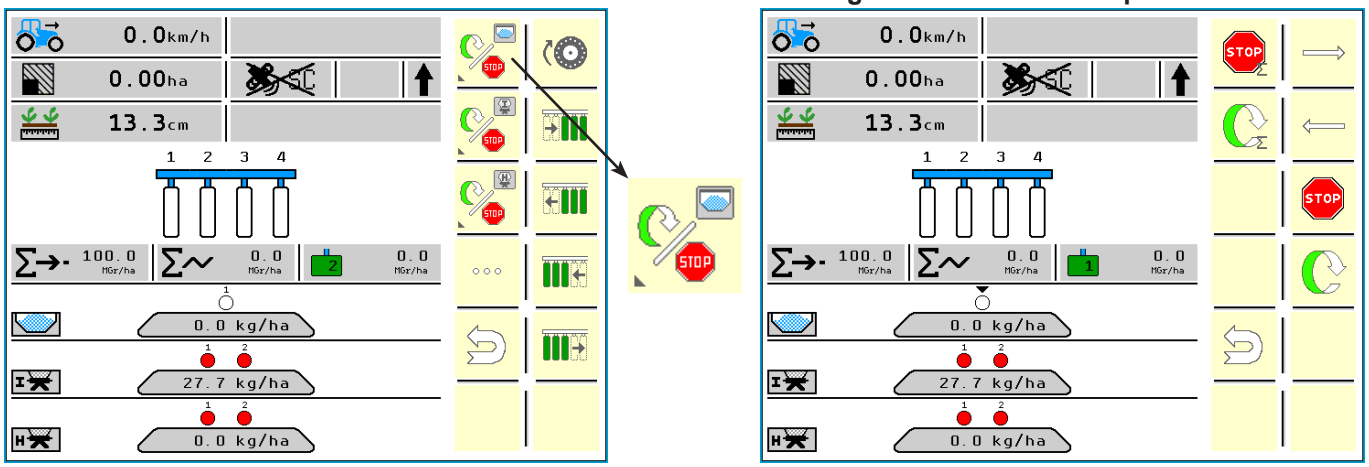
Pause mode



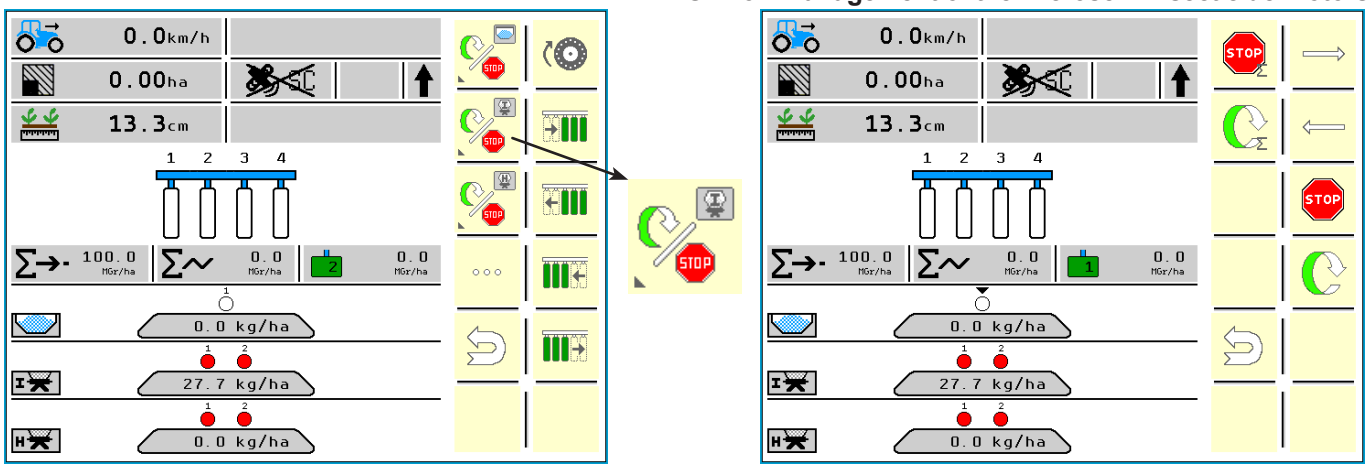


4.1 ► *WORK menu*

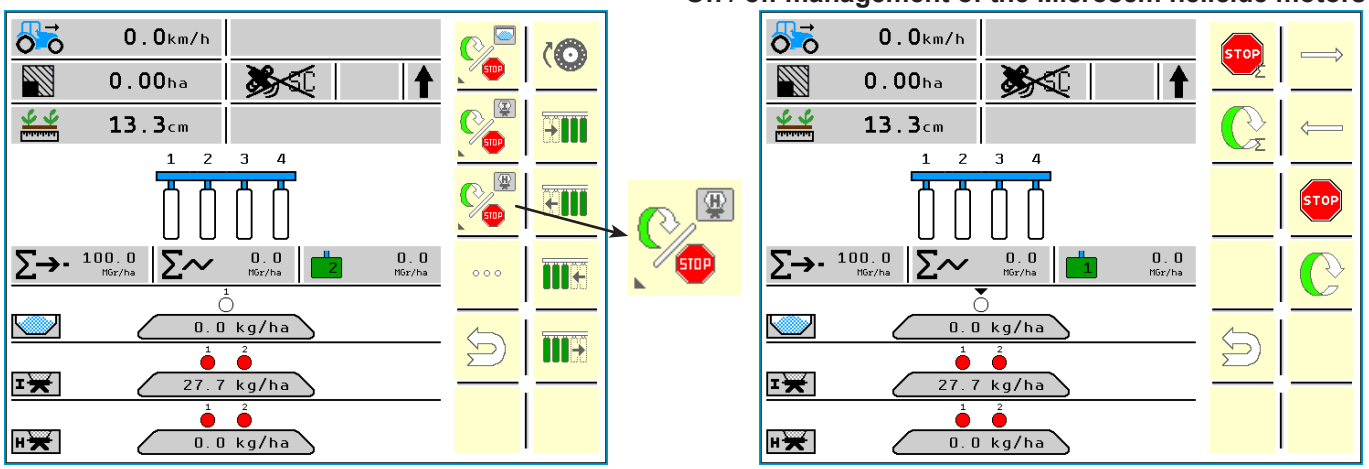
On / off management of the fertilizer placement unit motor



On / off management of the Microsem insecticide motors

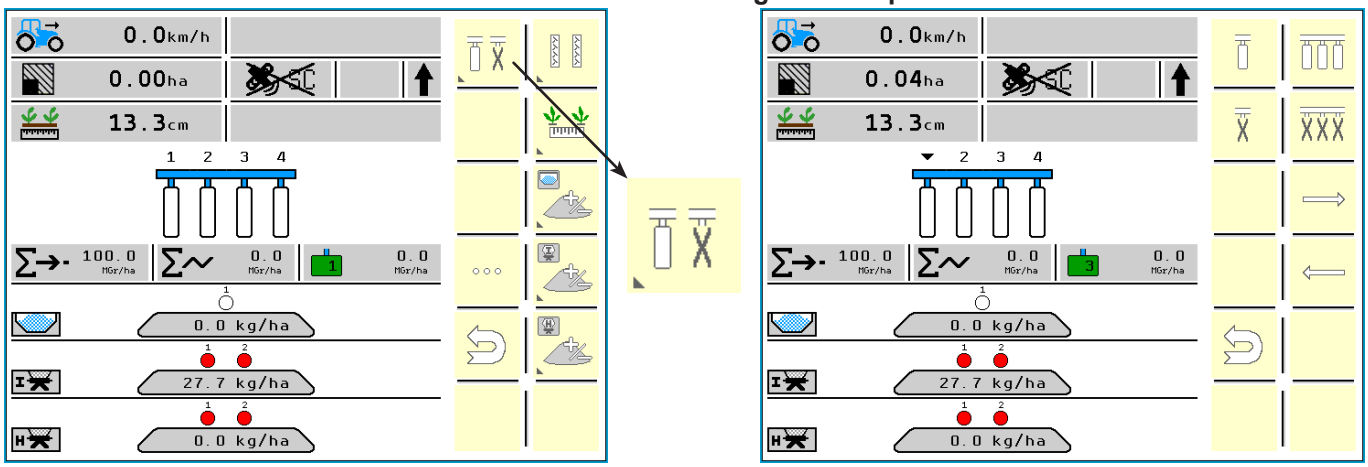


On / off management of the Microsem helicide motors

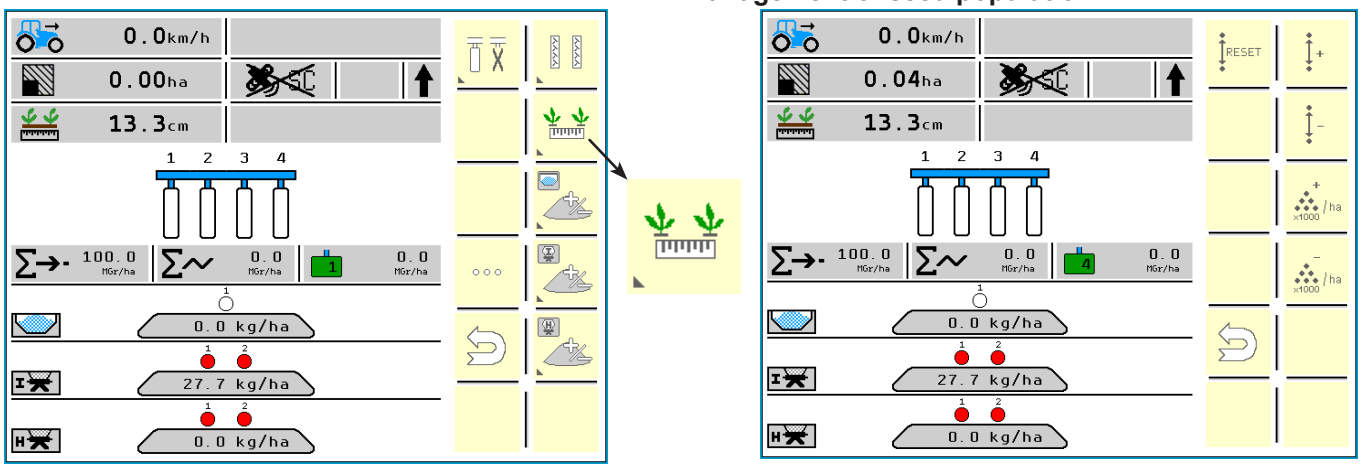


4.1 ► *WORK menu*

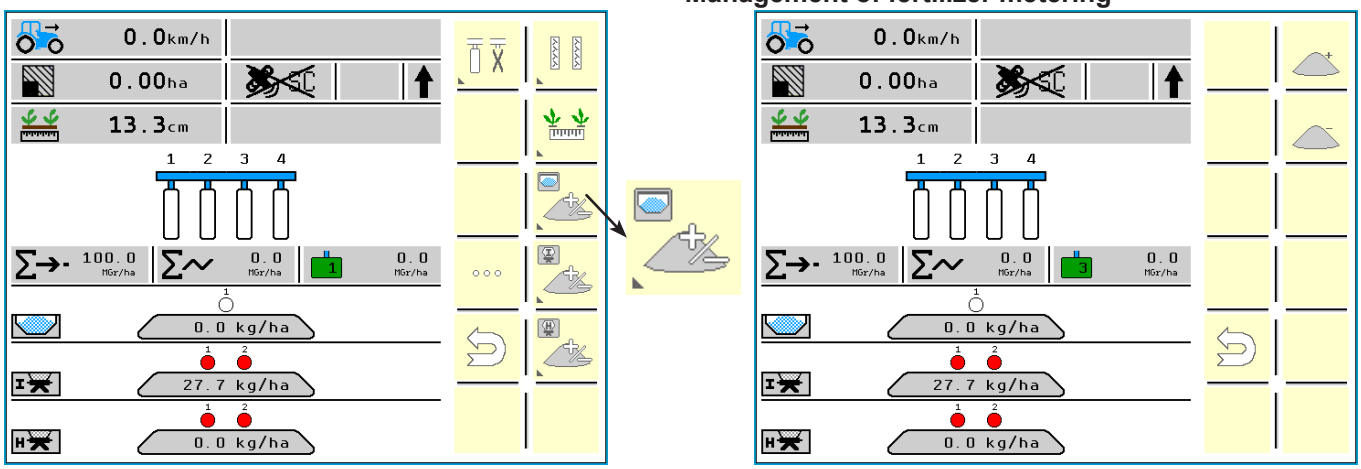
Management of permanent row cut-off



Management of seed population

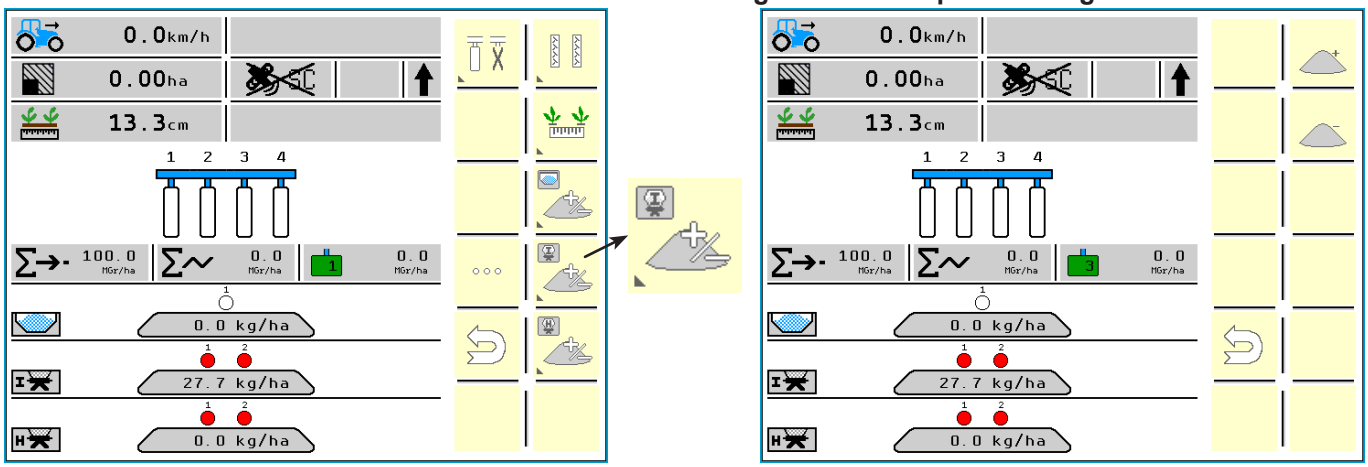


Management of fertilizer metering

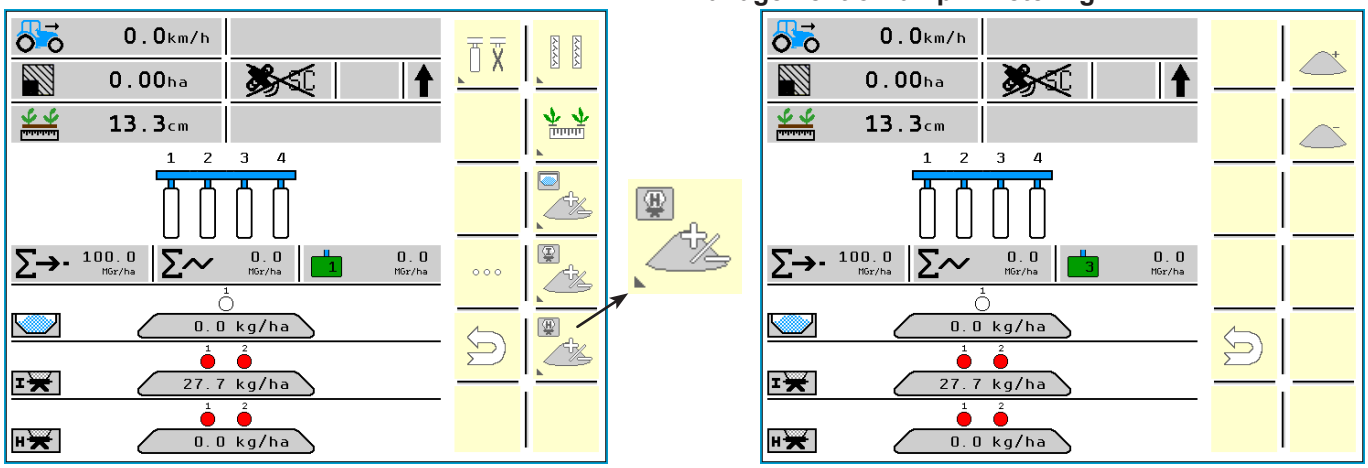


4.1 ► *WORK menu*

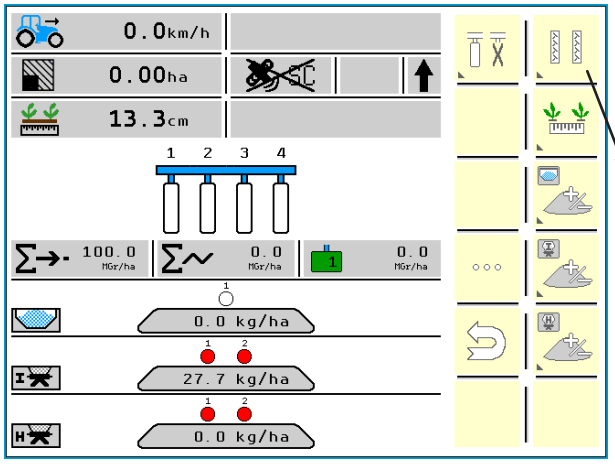
Management of ramp 1 metering



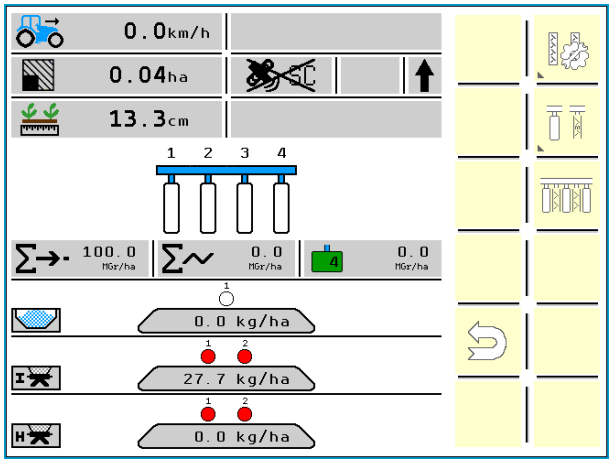
Management of ramp 2 metering

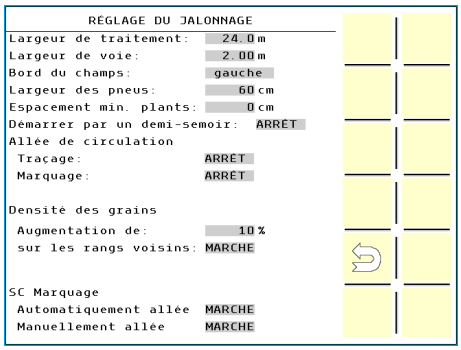


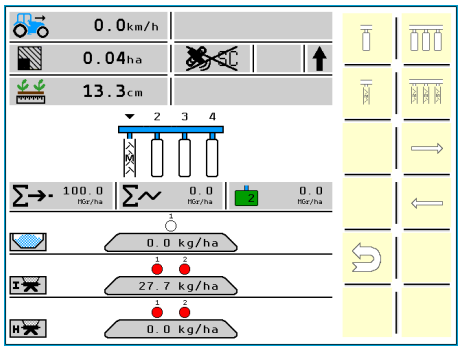
4.1 ► *WORK menu*

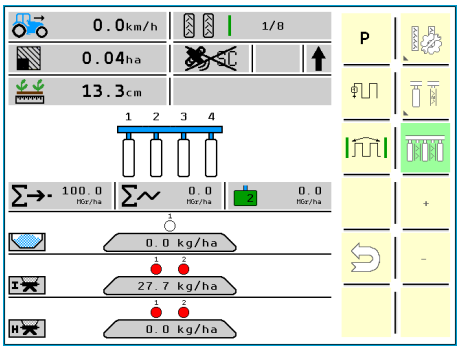


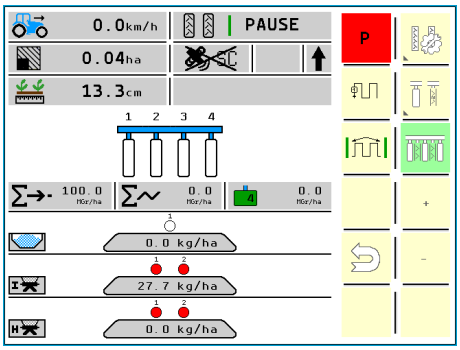
Management of tramline mode





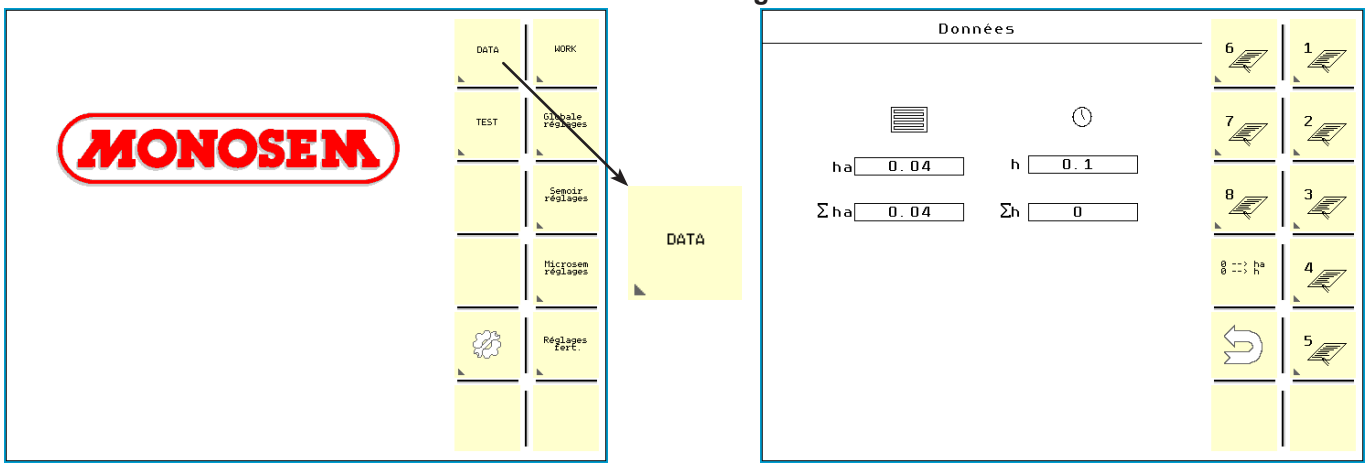




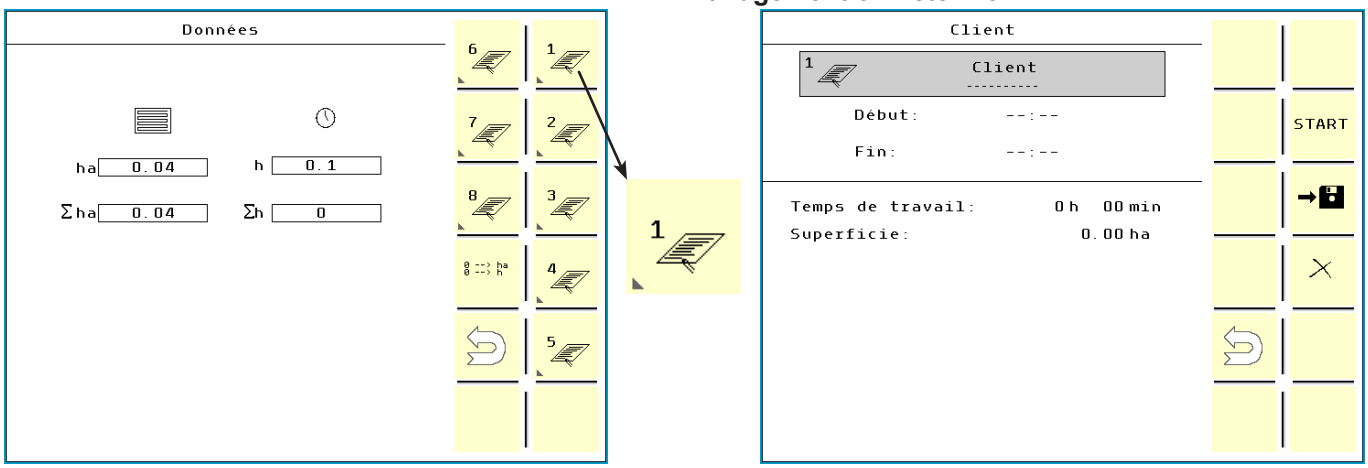


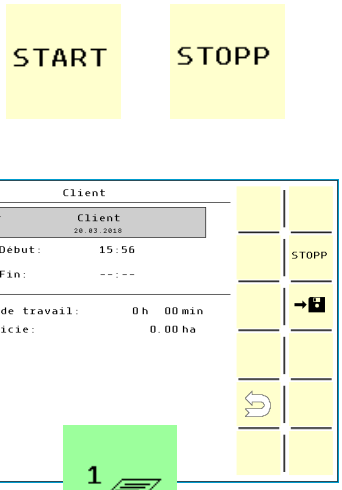
4.1 ► *DATA menu*

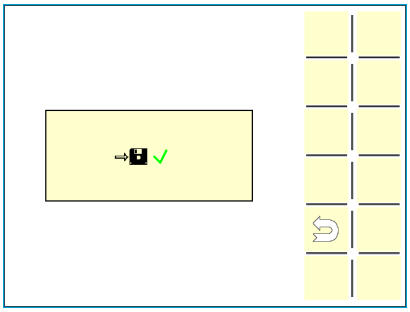
Management of meters

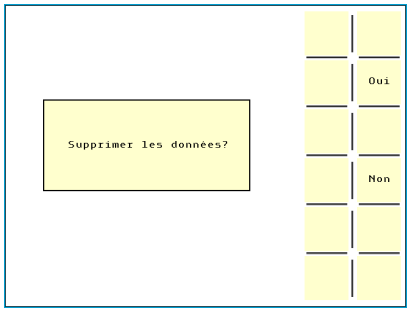


Management of meter no 1



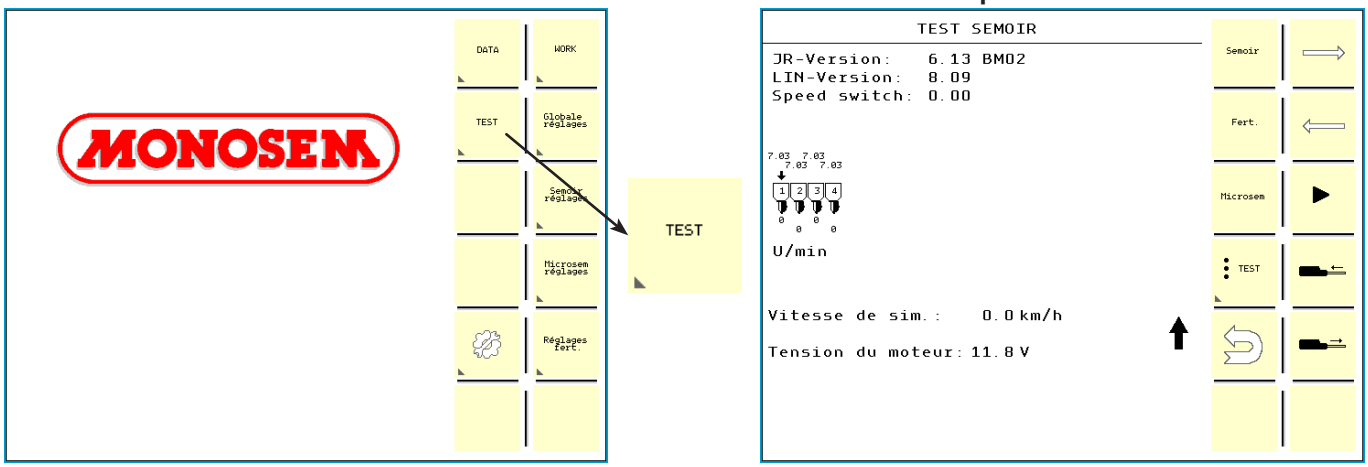




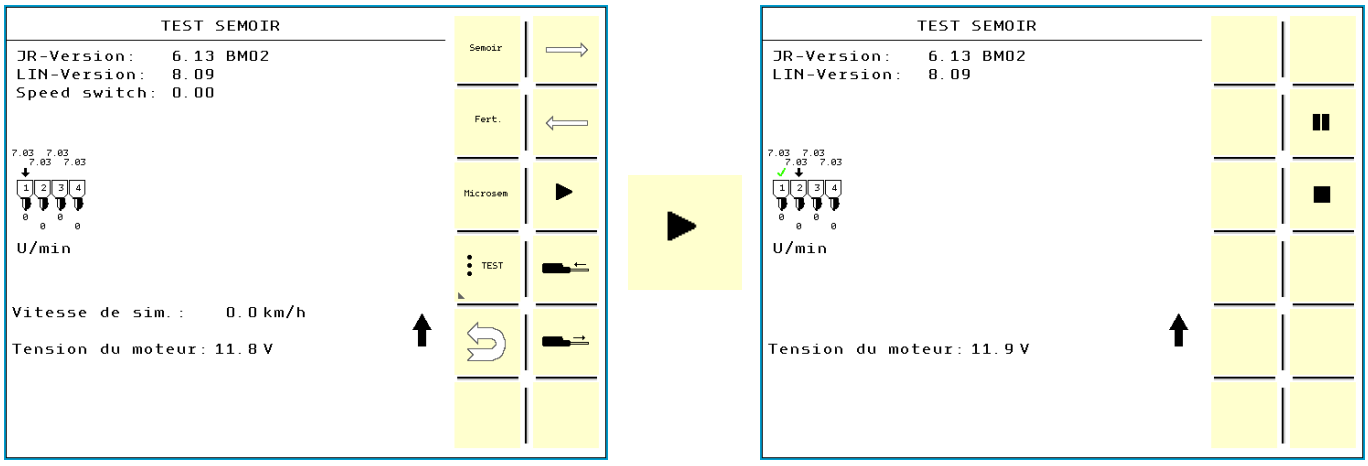


4.3 ► *TEST menu*

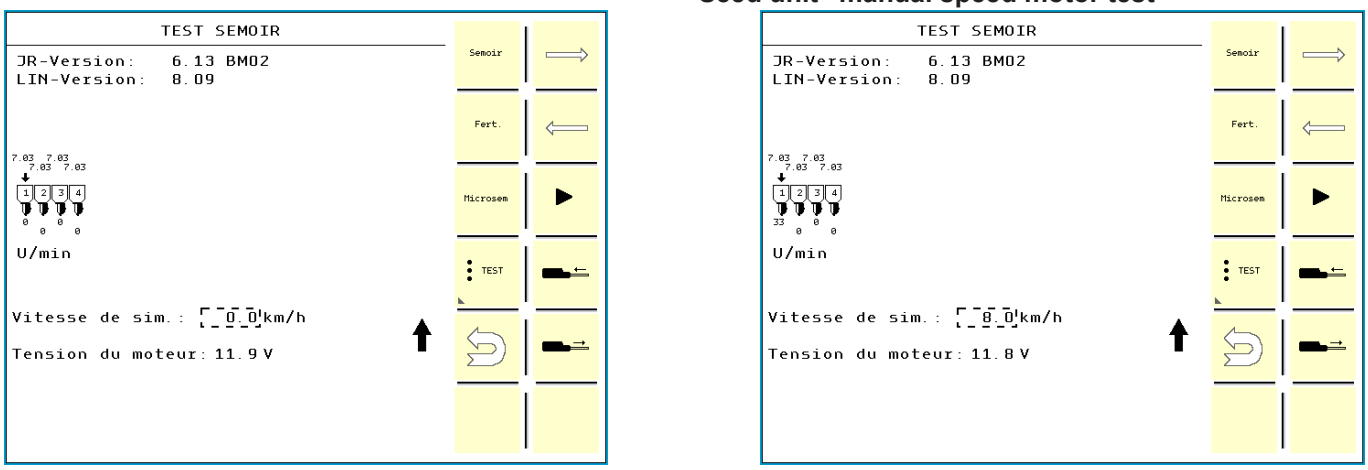
Access to the different planter tests



"Seed unit" motor test in automatic



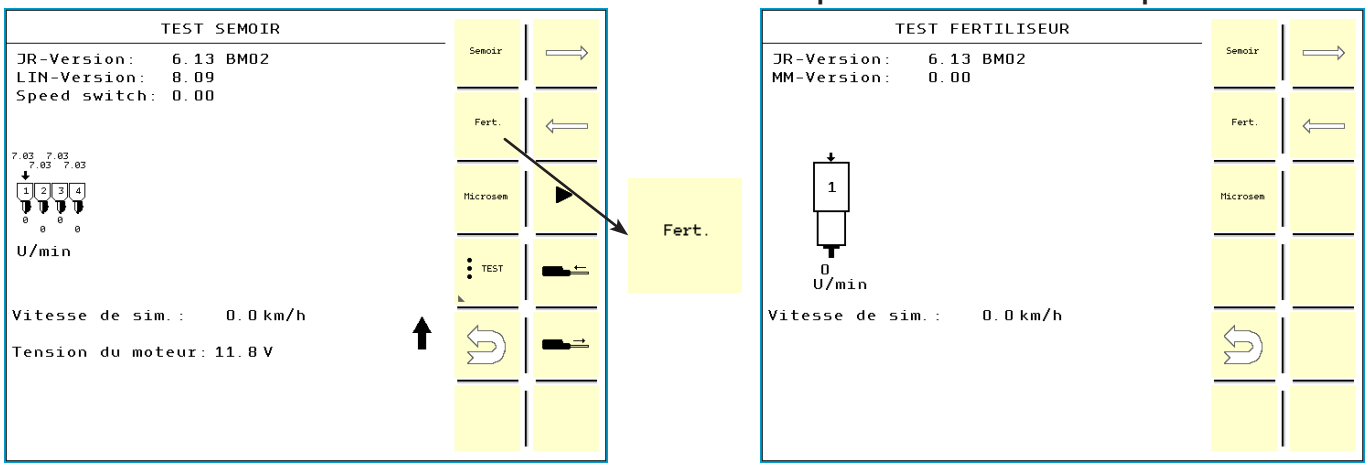
"Seed unit" manual speed motor test



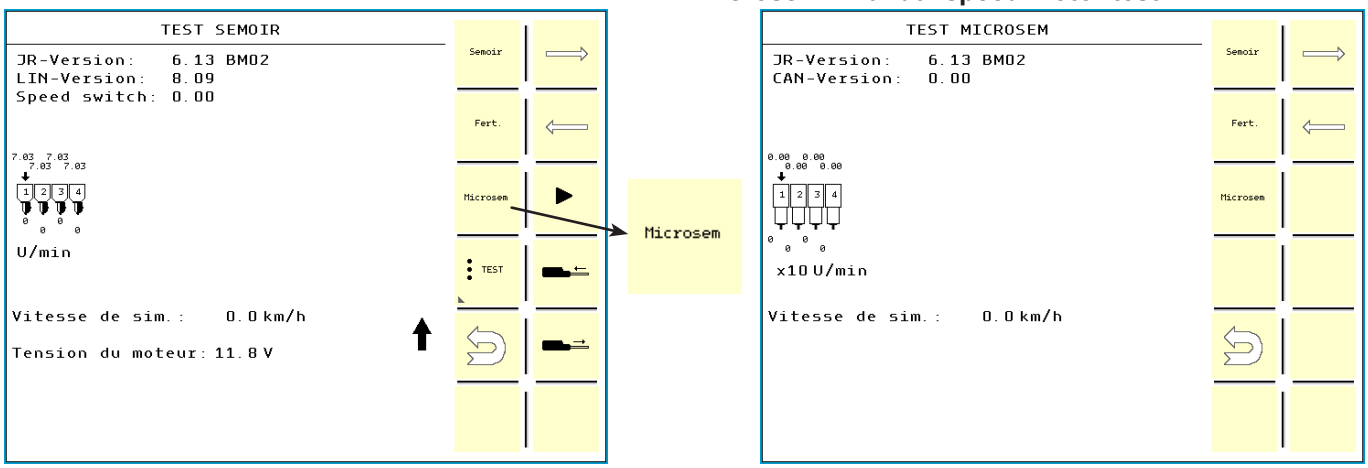
Vitesse de sim. : 0.0 km/h

4.3 ► *TEST menu*

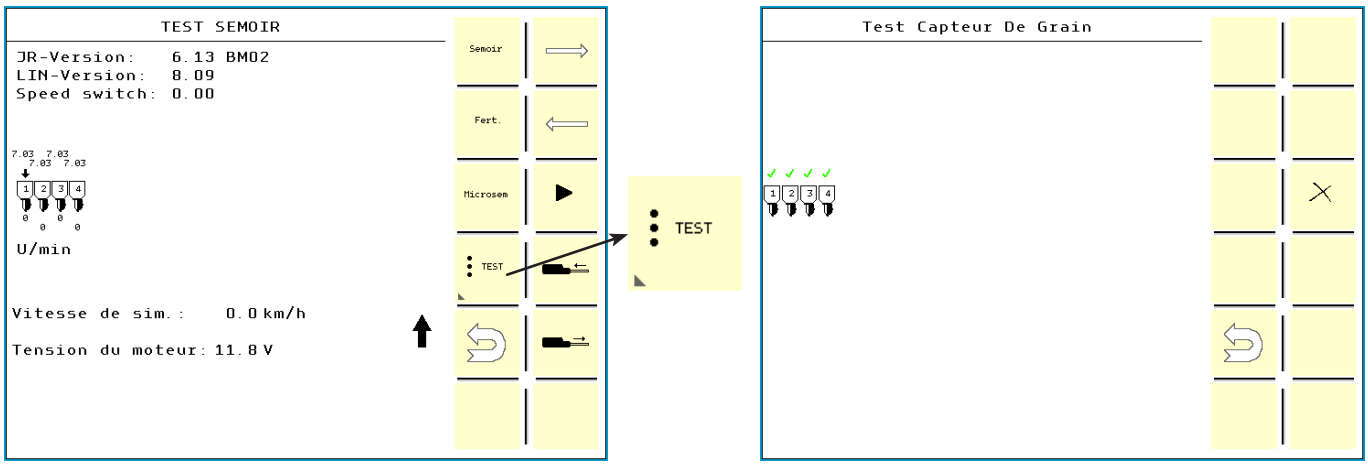
"Fertilizer placement unit" manual speed motor test



"Microsem" manual speed motor test

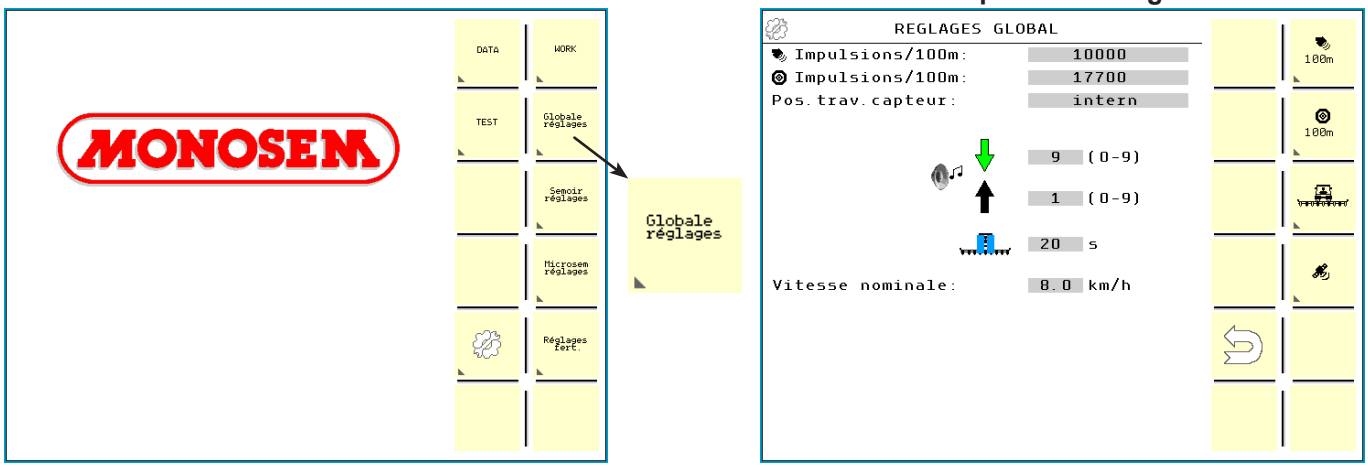


Seed sensor test

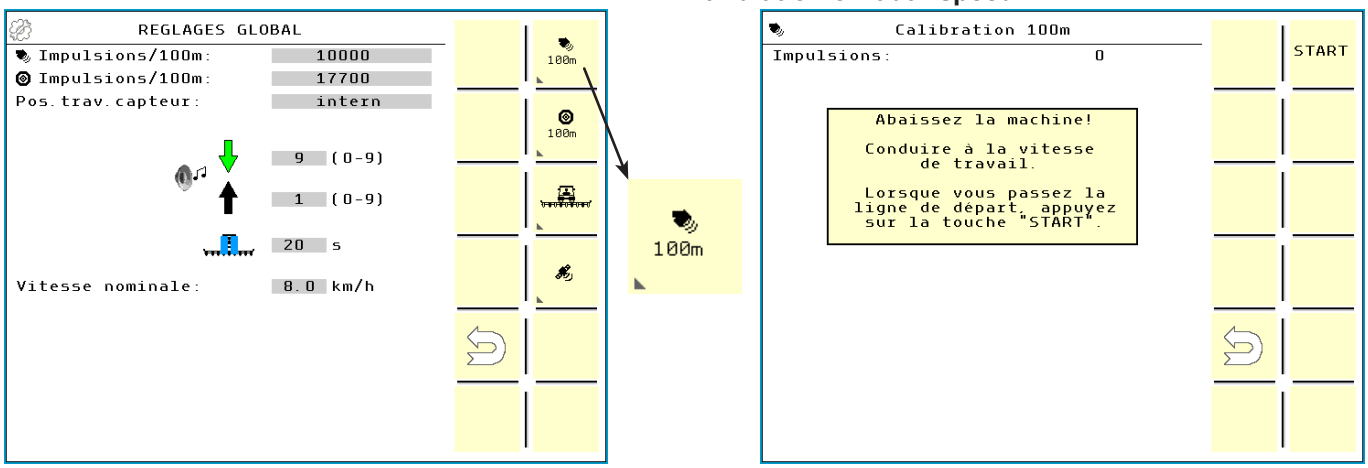


4.4 ► *"General settings" menu*

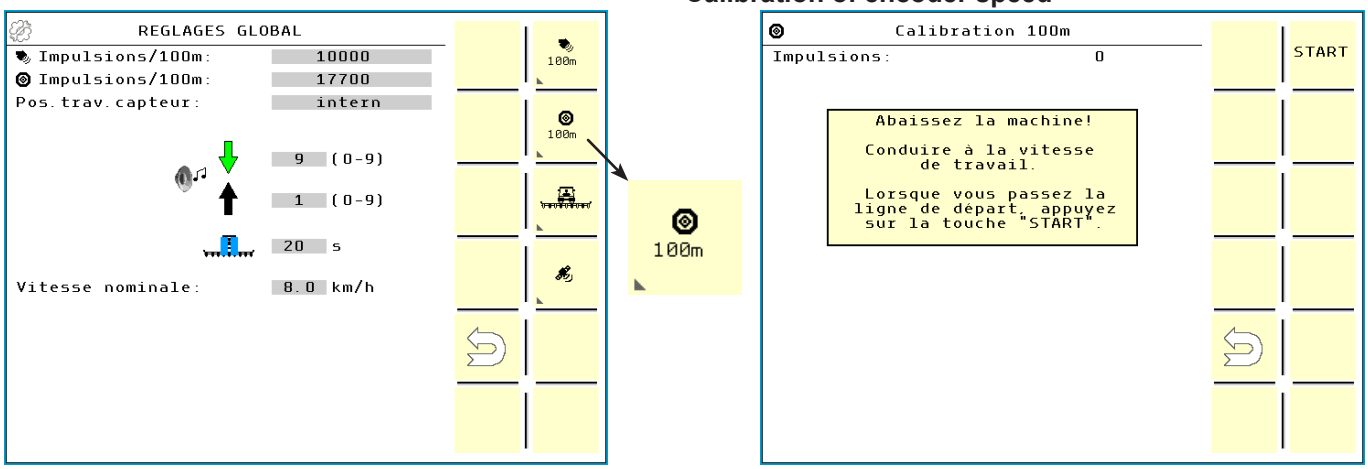
Access to the different planter settings



Calibration of radar speed

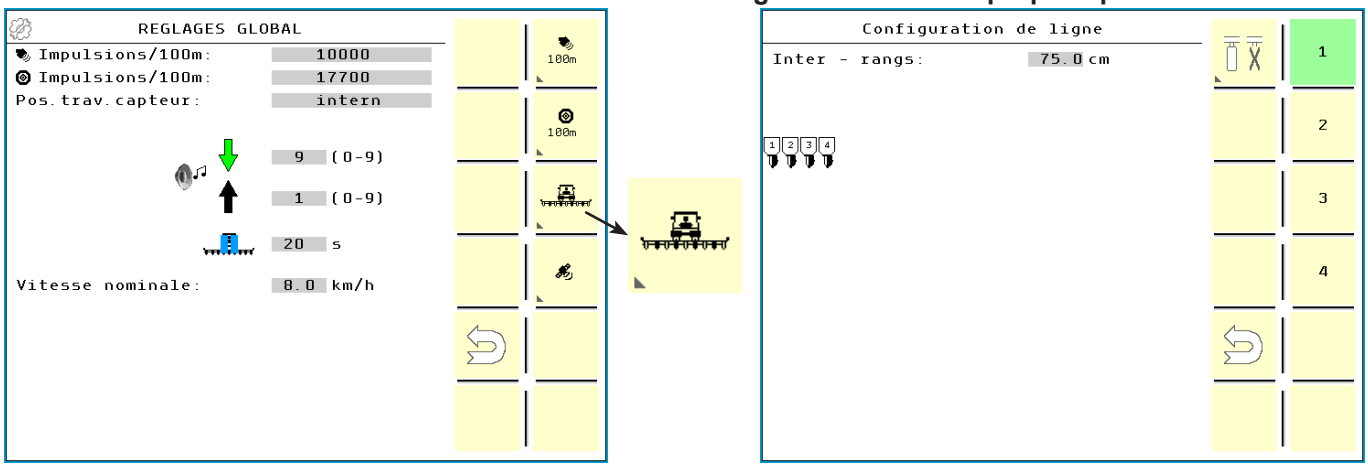


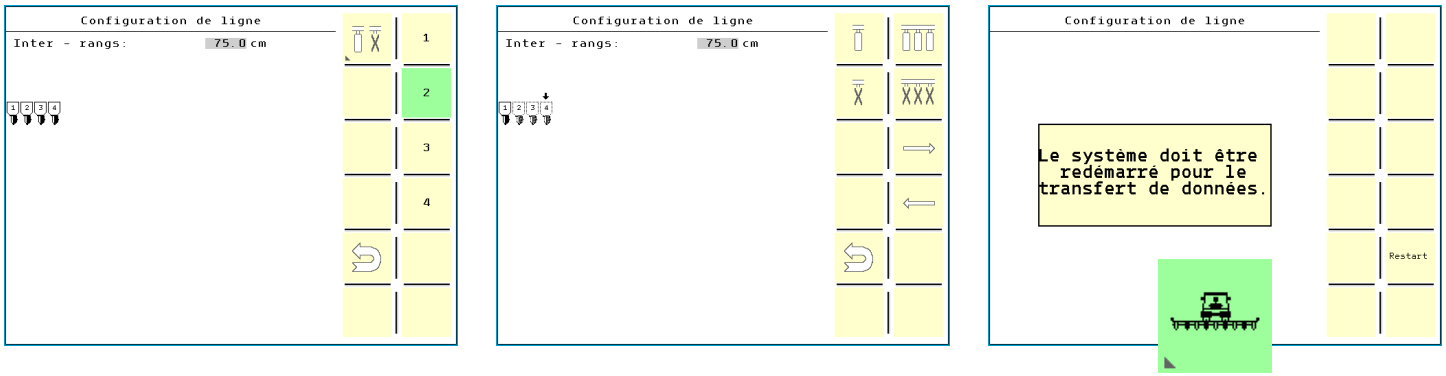
Calibration of encoder speed



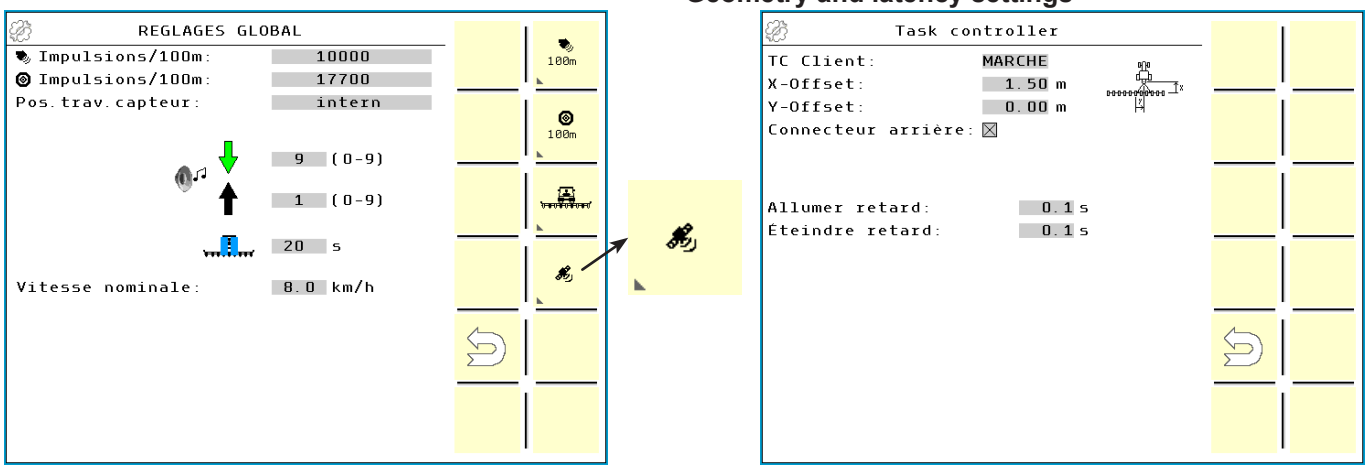
4.4 ► *"General settings" menu*

Configurations of multi-purpose planters



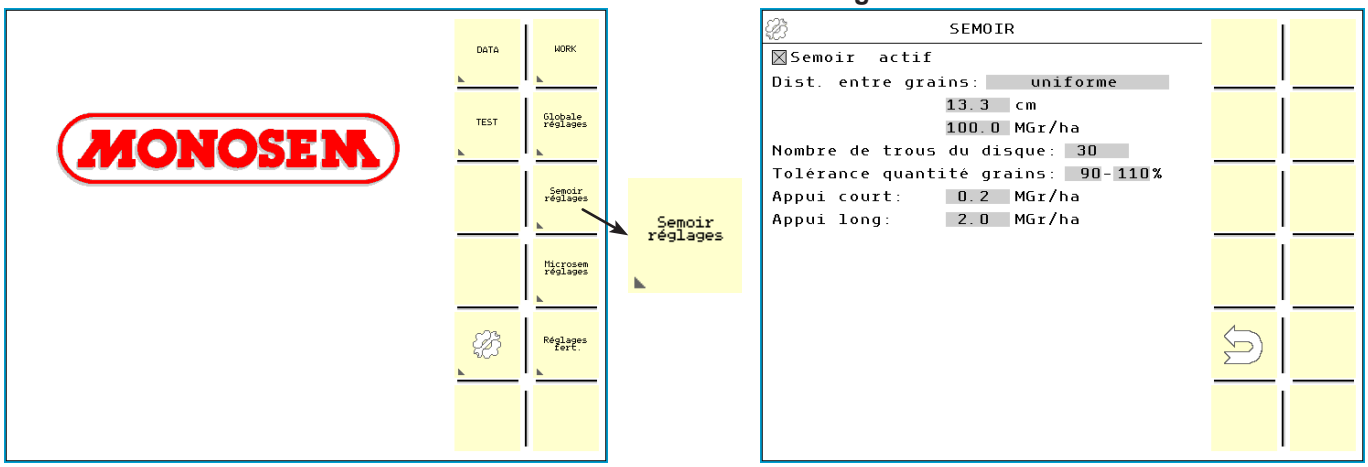


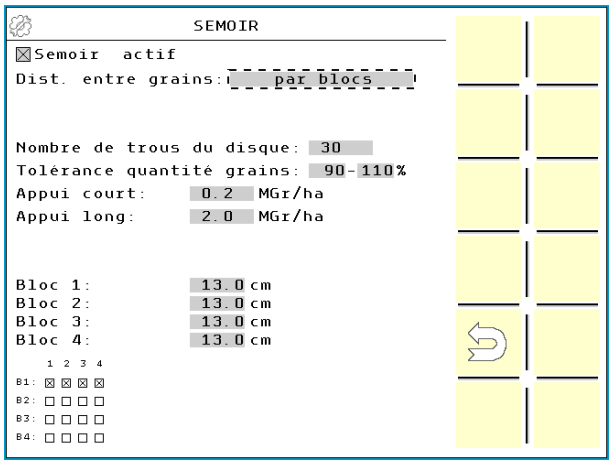
Geometry and latency settings



4.5 ► *"Planter settings" menu*

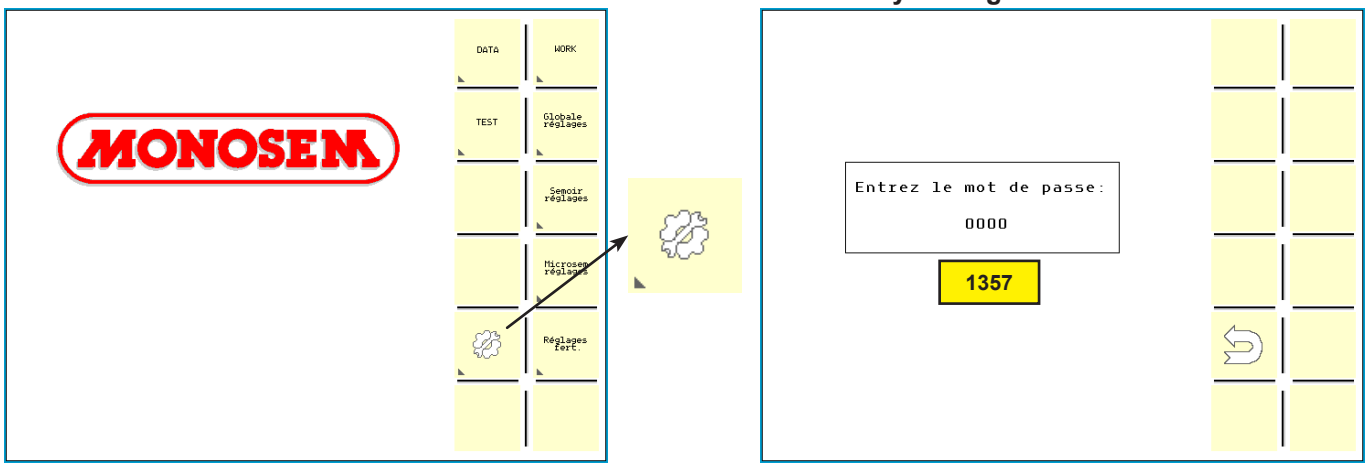
Planter settings





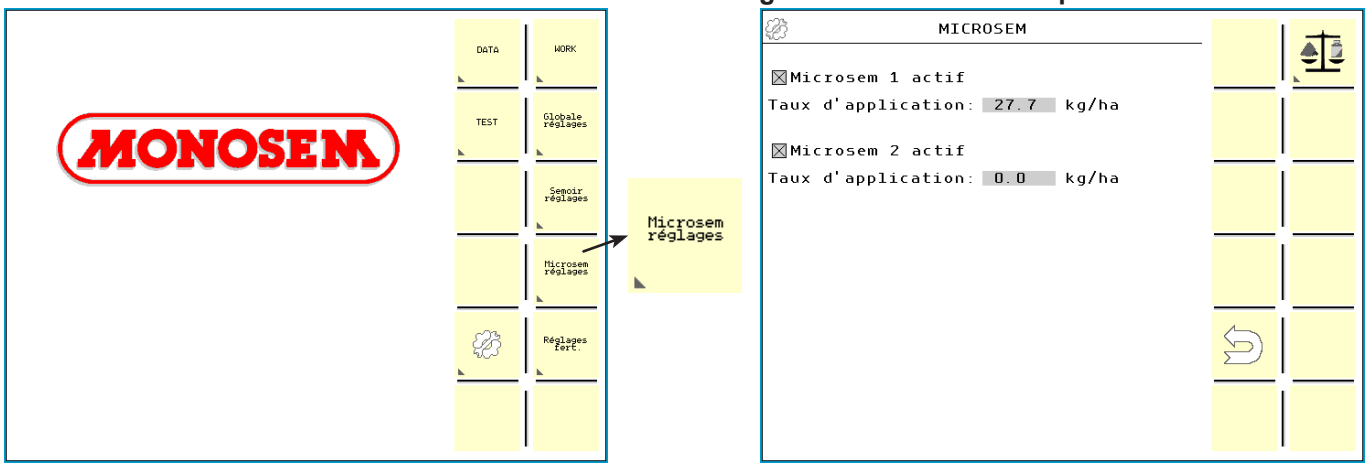
4.6 ► *"Factory settings" menu*

Access to factory settings

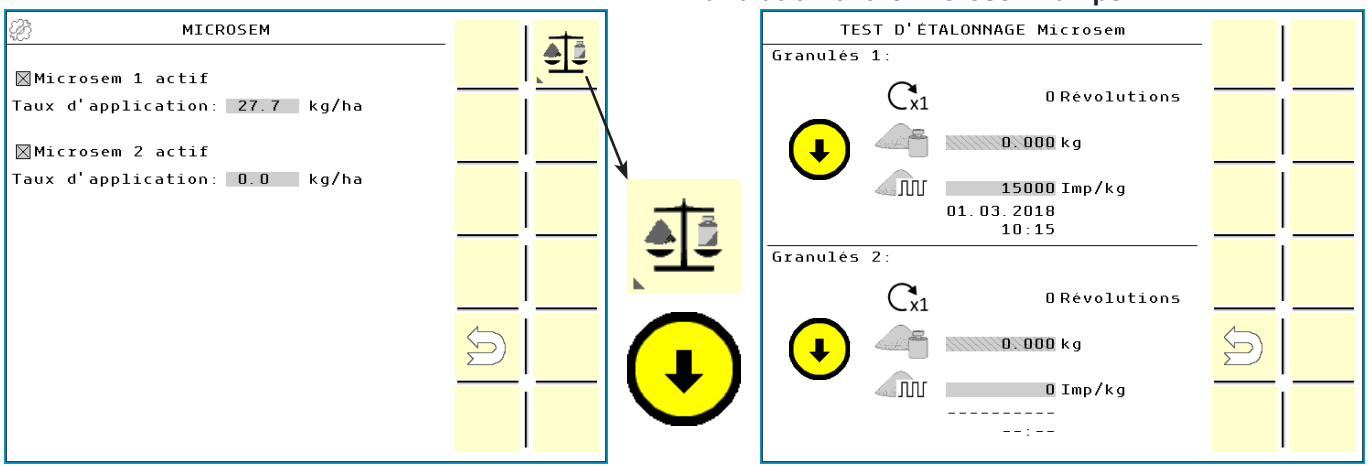


4.7 ► *"Microsem settings" menu*

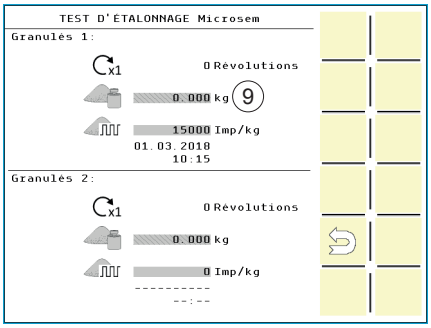
Settings of the Microsem ramps

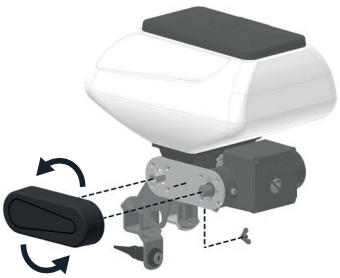


Calibration of the Microsem ramps

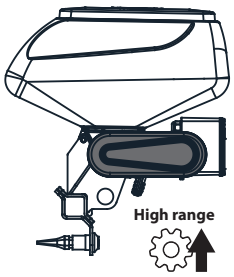


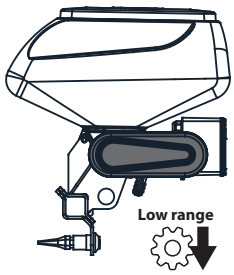
Calibration of the Microsem



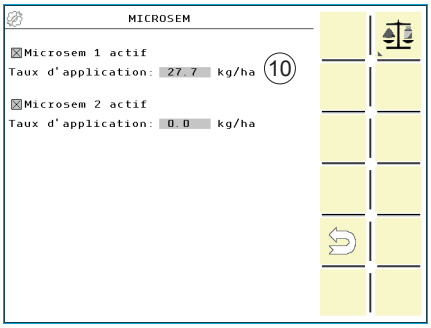


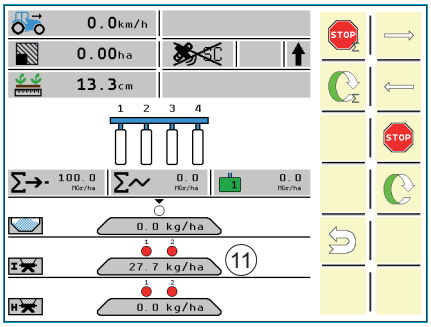
Fast range change.

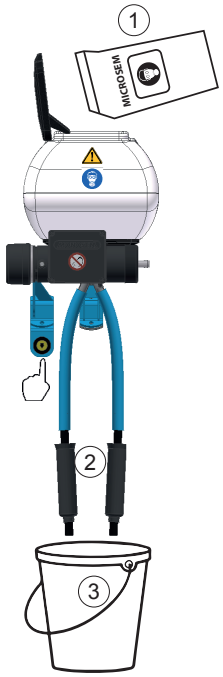




If the desired value (kg/ha) is outside the range, **change range and repeat product calibration.**







4 Menu access

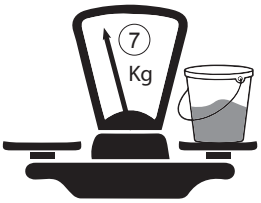
5 Pre-load

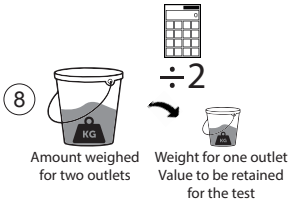
5 s

⚠ Empty the bucket

6 Calibration

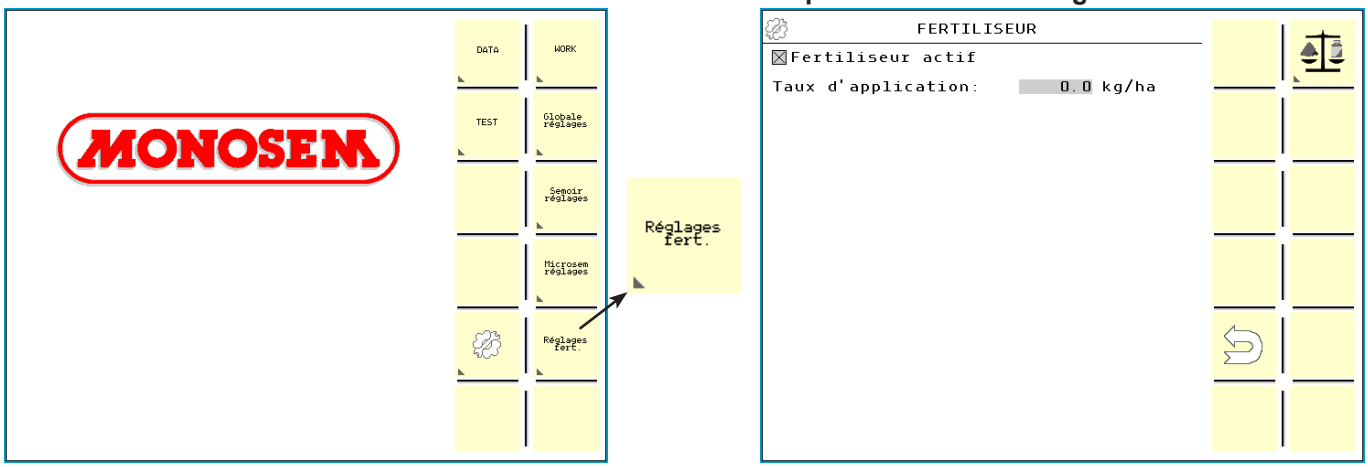
1 min



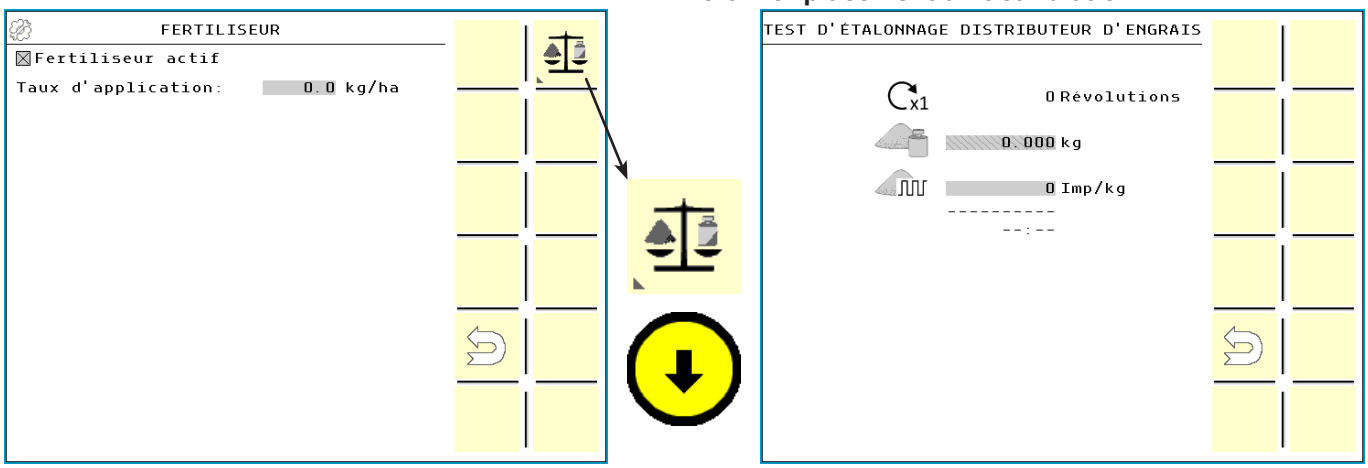


4.8 ► *"Fertilizer placement unit settings" menu*

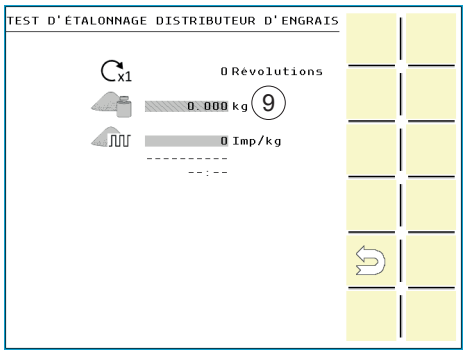
Fertiliser placement unit setting

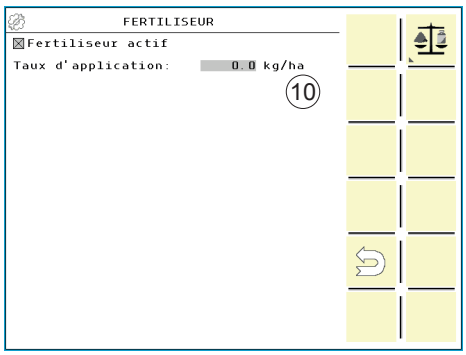


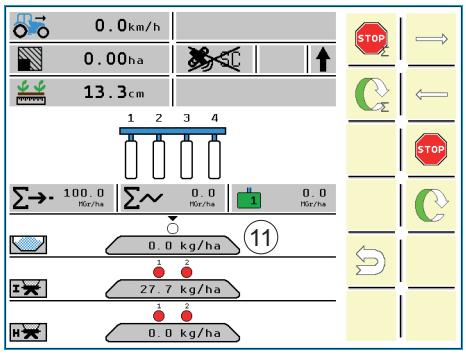
Fertilizer placement unit calibration

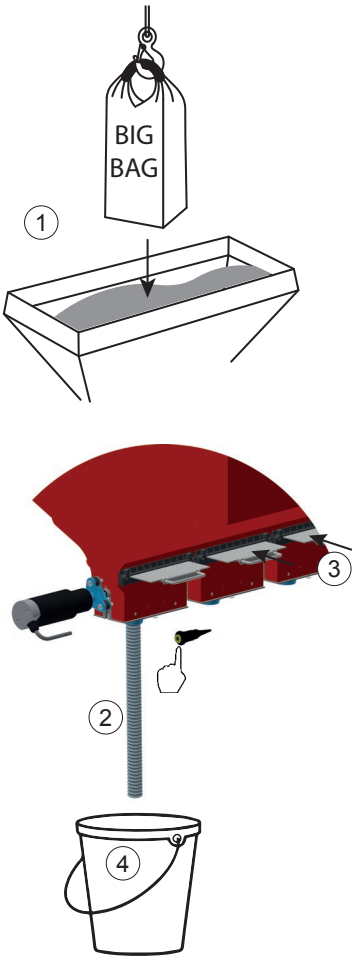


Calibration of the Fertilizer







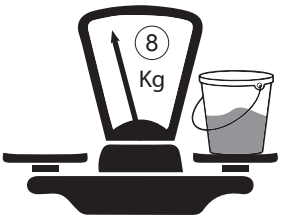


5 Menu access

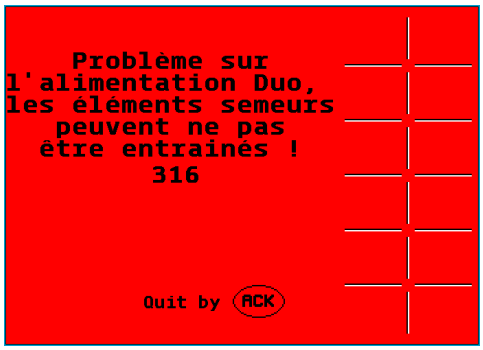
6 Pre-load 5 s

Empty the bucket

7 Calibration 1 min 30s



4.9 ► *List of alarms*



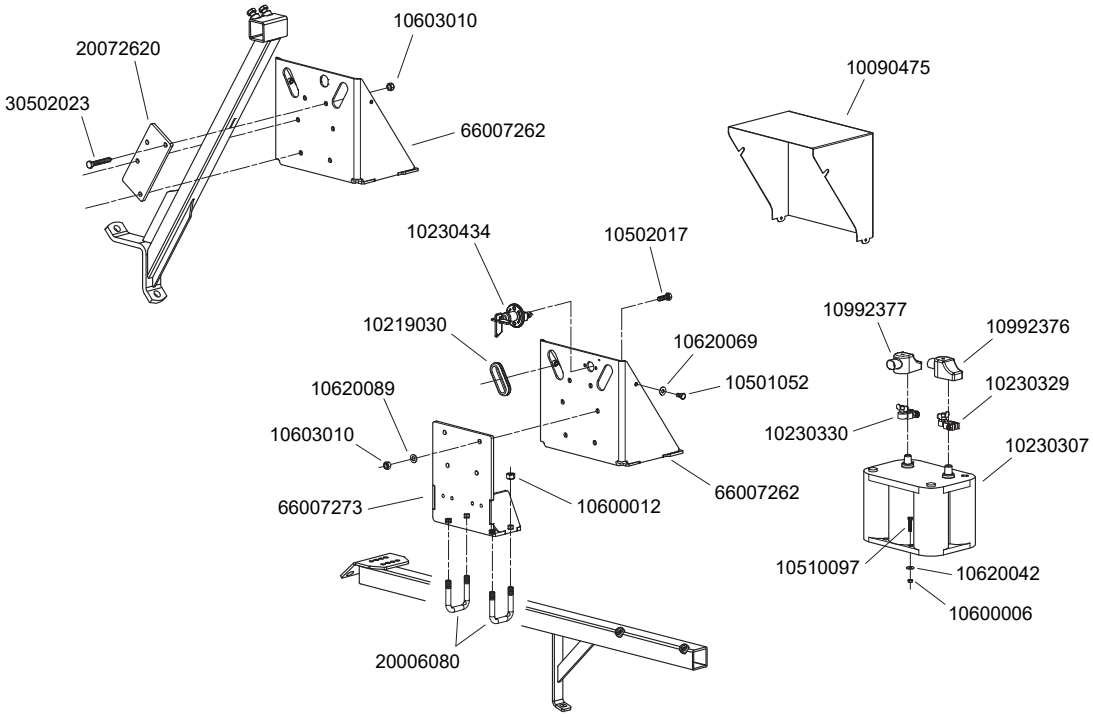
Alarm code	Cause	To do
31	ECU_PWR is lower than 10 V	1- Check ISOBUS power supply cables and fuses. Refer to tractor manual.
32	Regulated sensor power supply voltage is lower than 5 V	1- Check sensor cable for a short circuit. 2- Check for defective sensors.
33	Unregulated sensor power supply voltage is lower than 12 V	1- Check sensor cable for a short circuit. 2- Check for defective sensors.
34	Incorrect speed signal	1- Check connection of speed signal wire of the seed motor ECU.
35	No communication with motor ECU.	1- Check connection of the LIN signal wire of the seed motor ECU. 2- Do/Start a manual software update of the seed motor ECU if the green LED on the seed motor ECU is not flashing regularly. 3- Replace seed motor ECU.
36	No communication with LIN distributor.	1- Check connection cable between the 2 PCBs in the main ECU. 2- Do/Start a manual software update of the LIN distributor. 3- Replace main ECU.
37	Cable break on power lines of motor.	1- Check power connection between seed motor and seed motor ECU. 2- Check motor power connection of seed motor ECU. 3- Check fuses on LIN distributor.
38	ISO_PWR voltage is lower than 12 V	1- Check ISOBUS power supply cables and fuses. Refer to tractor manual.
39	Seeding disc/motor blocked	1- Check the ease of rotation of the seeding disc/motor. 2- Check encoder wires between seed motor and seed motor ECU. 3- Replace motor.
310	The speed is too high: Seed motor has reached the upper limit of turning.	1- Drive slower. 2- Check correct value for speed signal (Imp/100m). 3- Do a 100 m justification. 4- Check speed sensor.
311	Motor overload.	1- Check the ease of rotation of the seeding disc/motor. 2- Replace seed motor. 3- Replace seed motor ECU.
312	Motor control error or temperature fault.	1- Check the ease of rotation of the seeding disc/motor. 2- Replace seed motor ECU.
313	Software error on motor ECU.	1- Do/Start a manual software update of the seed motor ECU. 2- Replace seed motor ECU.
314	Encoder power supply fault.	1- Check encoder cable, possible short circuit. 2- Replace seed motor ECU. 3- Replace seed motor (encoder fault).
315	LIN bus fault.	1- Check connection of the LIN signal wire of the seed motor ECU, possible short circuit. 2- Replace main ECU.
316	DUO-Power supply fault.	1- Check the voltage of the DUO power in the main ECU. 2- Check all fuses.
317	Software error on LIN distributor.	1- Do/Start a manual software update of the LIN distributor. 2- Replace main ECU.
318	Rows disabled.	1- Information, that some rows are deactivated in the row configuration.
320	Hopper empty.	1- Check hopper level. 2- Check Grain sensor and connection. 3- Replace Grain sensor. 4- Replace seed motor ECU.

Alarm code	Cause	To do
320	Too few grains.	1- Check hopper and seeding disc. 2- Check lower threshold setting for grains. 3- Check Grain sensor and connection. 4- Replace Grain sensor. 5- Replace seed motor ECU.
321	Too many grains.	1- Check hopper and seeding disc. 2- Check upper threshold setting for grains. 3- Check Grain sensor and connection. 4- Replace Grain sensor. 5- Replace seed motor ECU.
322	Fan speed too low.	1- Check fan speed. 2- Check setting for fan speed threshold. 3- Check fan speed sensor and connection. 4- Replace fan speed sensor.
323	TECU sends hitch position error.	1- Check hitch sensor on tractor. Refer tractor manual. 2- Check settings for hitch sensor in TECU. Refer to tractor manual. 3- Check ISOBUS compatibility of TECU.
324	TECU Hitch information or TECU not available.	1- Check settings for Hitch sensor in TECU. Refer to tractor manual. 2- No TECU on ISOBUS found. Refer to tractor manual.
325		
326	Machine in transport position.	1- Lower seeder. 2- Check working position sensor.
327	Machine in working position.	1- Lift up / Raise seeder. 2- Check working position sensor.
328	Machine in Pause mode.	1- Leave Pause mode.
329	Error during filling seed disc.	1- Check connection of the LIN signal wire of the motor ECU. 2- Check the ease of rotation of the seeding disc/motor.
331	Machine is not stopped (Speed > 0).	1- Stop driving.
332	Seeding Unit auto test finished.	1- Acknowledge the message.
333	Invalid grain distance.	1- Change grain distance or setpoint value.
334	Too few SBOX input.	1- Use a SBOX with more inputs.
335	No communication with motor ECU.	1- Check connection of the LIN signal wire of the MICROSEM motor ECU. 2- Do/start a manual software update of the motor ECU if the green LED on the motor ECU is not flashing regularly. 3- Replace MICROSEM motor ECU.
336	Cable break on power lines of motor.	1- Check power connection between MICROSEM motor and seed motor ECU. 2- Check motor power connection of MICROSEM motor ECU.
337	Motor overload.	1- Check the ease of rotation of the MICROSEM motor. 2- Replace MICROSEM motor. 3- Replace MICROSEM motor ECU.
338	Motor control error or temperature fault.	1- Check the ease of rotation of the MICROSEM motor. 2- Replace MICROSEM motor ECU.
339	Software error on motor ECU.	1- Do/Start a manual software update of the MICROSEM motor ECU. 2- Replace MICROSEM motor ECU.
340	LIN bus fault.	1- Check connection of the LIN signal wire of the MICROSEM motor ECU, possible short circuit. 2- Replace ECV.
341	DUO-Power supply fault.	1- Check the voltage of the DUO power in the ECV. 2- Check all fuses.
342	Software error on ECV.	1- Make a manual software update of the ECV. 2- Replace ECV.
343	DUO-Power supply fault.	1- Check the voltage of the DUO power in the MM0X. 2- Check all fuses.
344	Motor overload.	1- Check the ease of rotation of the fertilizer motor. 2- Replace fertilizer motor. 3- Replace MM0X.
345	Motor control error.	1- Check the ease of rotation of the fertilizer motor. 2- Replace MM0X.
346	Motor control temperature fault.	1- Check the ease of rotation of the fertilizer motor. 2- Replace MM0X.
347	Voltage of power supply of MM0X.	1- Check the voltage of the ECU power to the MM0X. 2- Check all fuses.
348	Software error on MM0X.	1- Do/Start a manual software update of the MM0X. 2- Replace MM0X.

Alarm code	Cause	To do
349	Connection to ECV failed.	1- Check the connection cables of ECV. 2- Check the terminator connection on the last ECV. 3- Check the switches on the ECV. 4- Check that there are enough ECV connected to the corresponding machine configuration. 5- Do/Start a manual software update of the ECV. 6- Replace ECV. 7- Replace main ECU.
350	Connection to MM0X failed.	1- Check the connection cables of MM0X. 2- Check that there is the correct MM0X connected to the corresponding machine configuration. 3- Do/Start a manual software update of the MM0X. 4- Replace MM0X. 5- Replace main ECU.
351	Fertilizer adjustment required.	1- Do a fertilizer adjustment.
352	MICROSEM adjustment required.	1- Do a MICROSEM adjustment.
353	Target value of fertilizer changed due to new adjustment value	1- Check fertilizer target value.
354	Target value of MICROSEM changed due to new adjustment value.	1- Check MICROSEM target value.
355	Fertilizer hopper empty.	1- Check fertilizer hopper. 2- Check hopper level sensor connection. 3- Check hopper level sensor. 4- Check machine configuration. 5- Replace main ECU.
356	Machine code invalid.	1- Enter a correct machine code.
357	The speed is too high: MICROSEM motor has reached the upper limit of turning.	1- Drive slower. 2- Check correct value for speed signal (Imp/100m). 3- Do a 100 m justification. 4- Check speed sensor.
358	All rows are deactivated.	1- Activate at least one row.
359	MICROSEM motor blocked.	1- Check the ease of rotation of the MICROSEM motor. 2- Check encoder wires between seed motor and MICROSEM motor ECU. 3- Replace MICROSEM motor ECU.
360	Encoder power supply fault.	1- Check encoder cable, possible short circuit. 2- Replace MICROSEM motor ECU. 3- Replace MICROSEM motor (encoder fault).
361	No Fileserver found.	1- Check if there is a ISOBUS Fileserver connected to / present on the ISOBUS.
362	Connection to speed sensor switch failed.	1- Check connection to the speed sensor switch. 2- Do/Start a manual software update of the speed sensor switch. 3- Replace speed sensor switch.
363	Voltage on power supply for speed sensor switch to loo.	1- Check the voltage of the power of the speed sensor switch. 2- Check all fuses. 3- Replace speed sensor switch.
364	No signal from radar sensor.	1- Check the connection of the radar sensor. 2- Check correct value for speed signal of the radar sensor (Imp/100m). 3- Do a 100 m adjustment of the radar sensor. 4- Check radar sensor. 5- Replace radar sensor. 6- Replace speed sensor switch.
365	No signal from wheel sensor.	1- Check the connection of the wheel sensor. 2- Check correct value for speed signal of the wheel sensor (Imp/100m). 3- Do a 100 m adjustment of the wheel sensor. 4- Check wheel sensor. 5- Replace wheel sensor. 6- Replace speed sensor switch.
366	TC-GEO enabled, but the planter is set to seed spacing mode.	1- Set the planter to UNIFORM.
367	Motor rpm change more than 10% over the target.	1- Check the motor. 2- Replace the motor.

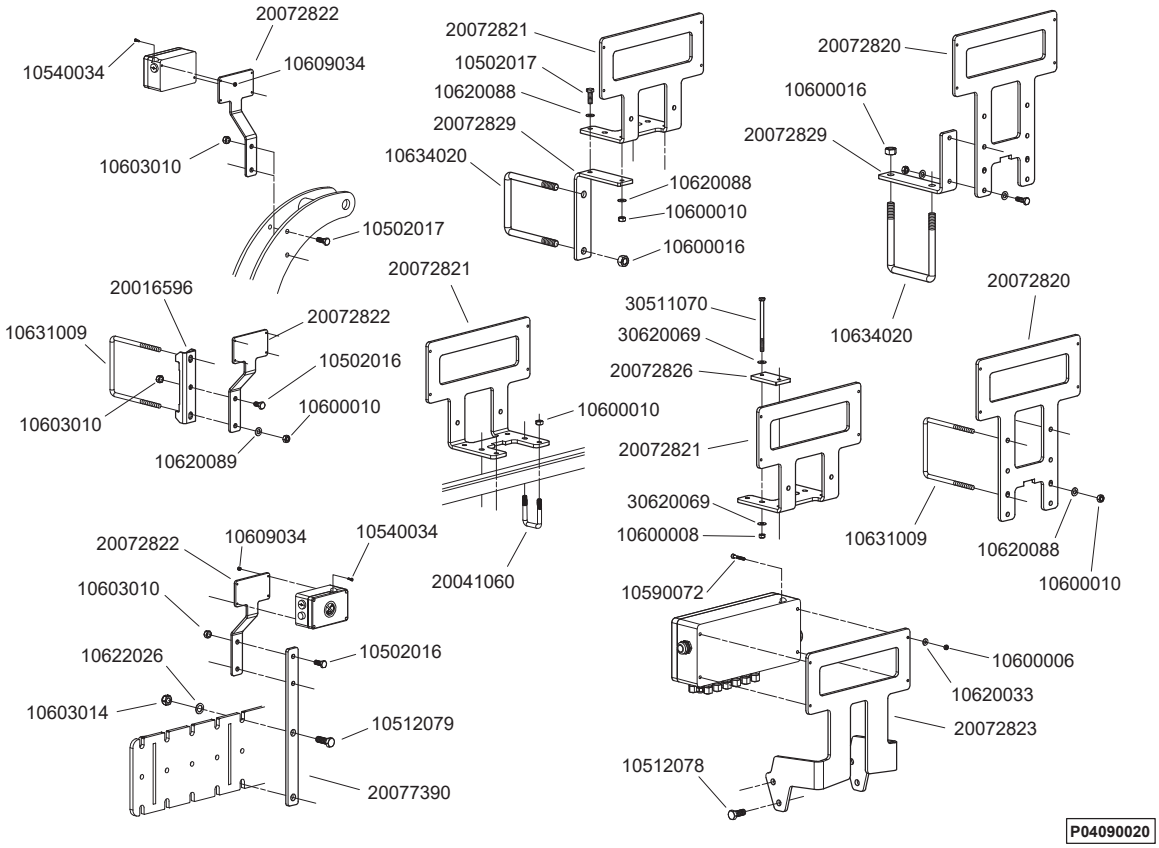
5 ► SPARE PARTS

5.1 ► NG Plus ME (1) electric accessories



P04090012

5.2 ► NG Plus ME (2) electric accessories



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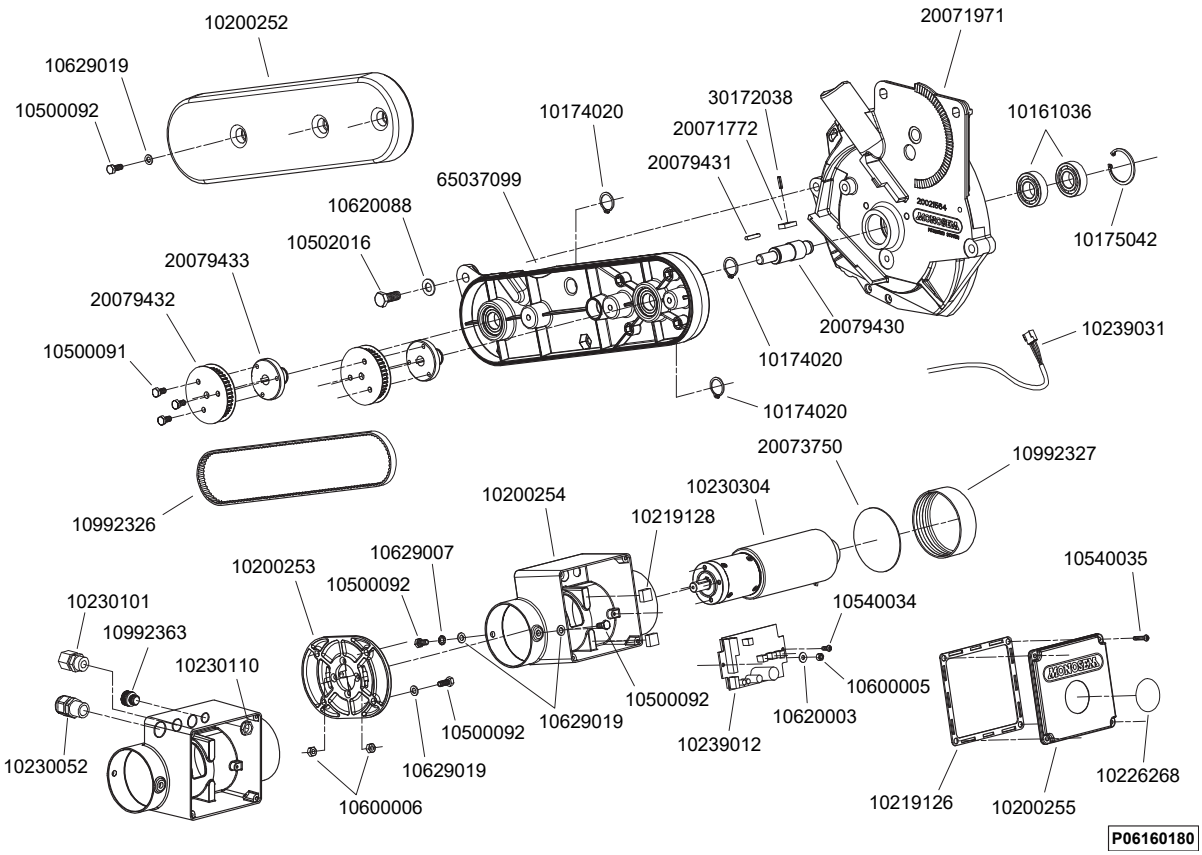
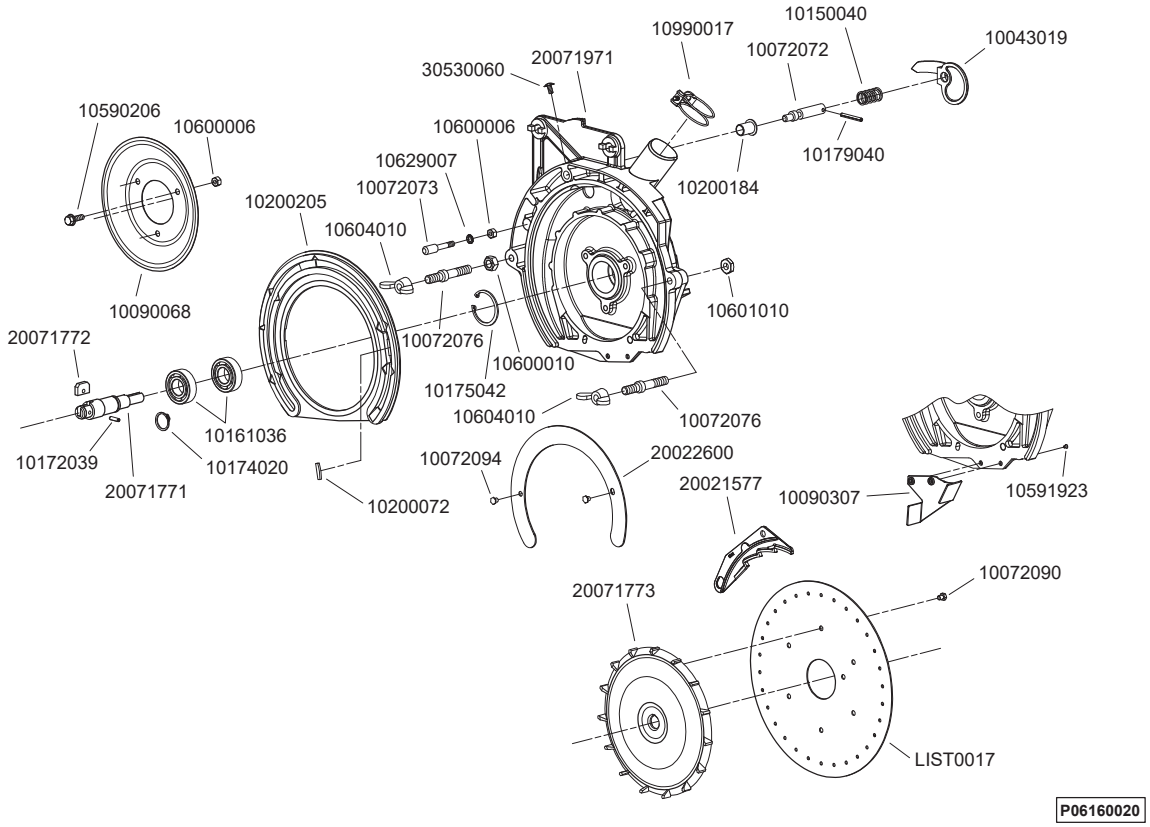
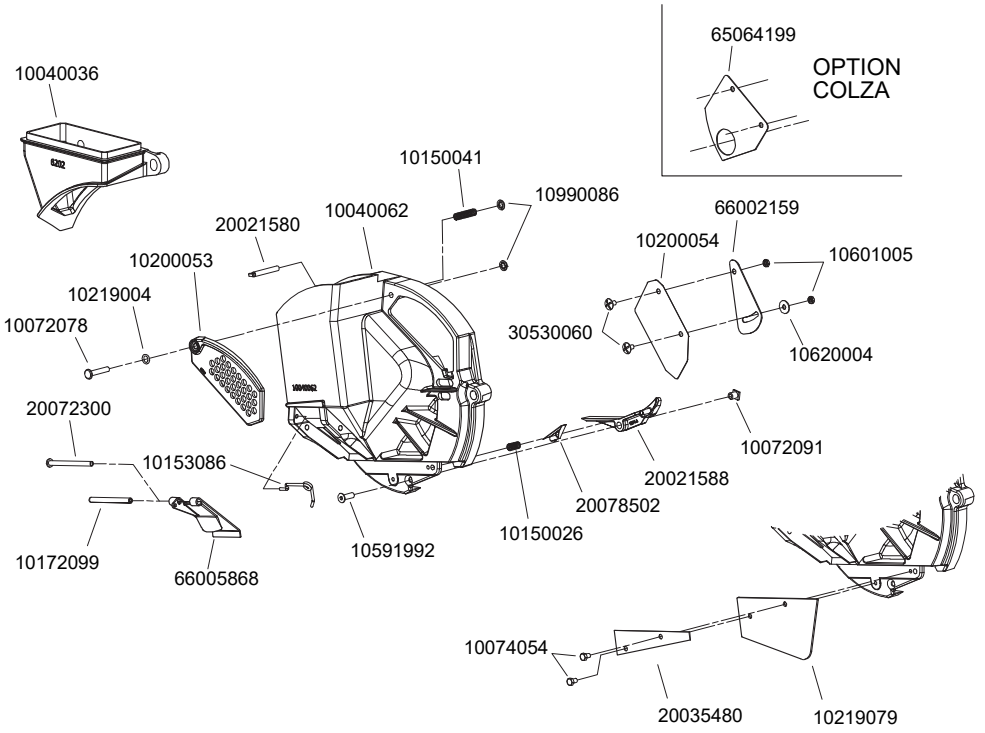
5.3 ► NG Plus ME (2) drive & distribution



5.4 ► NG Plus ME (2) drive & distribution



5.5 ► *NG Plus ME standard cover*



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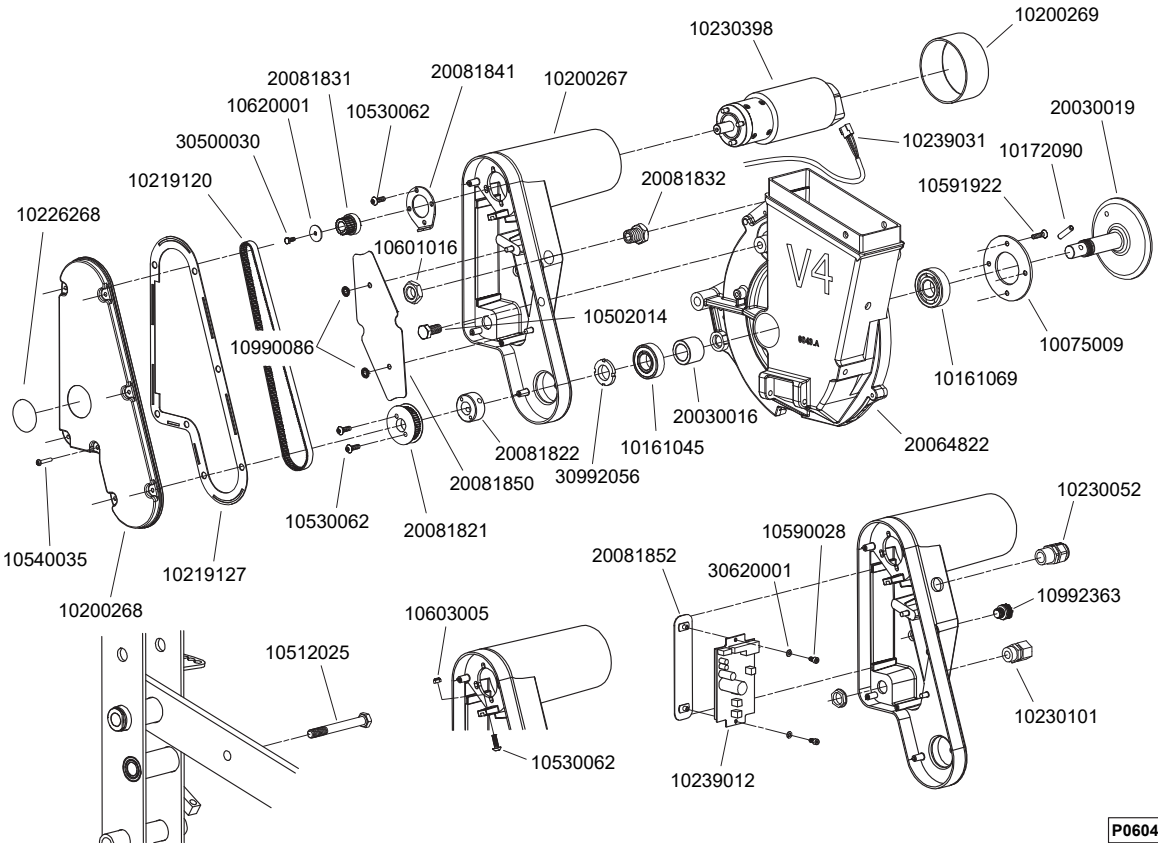
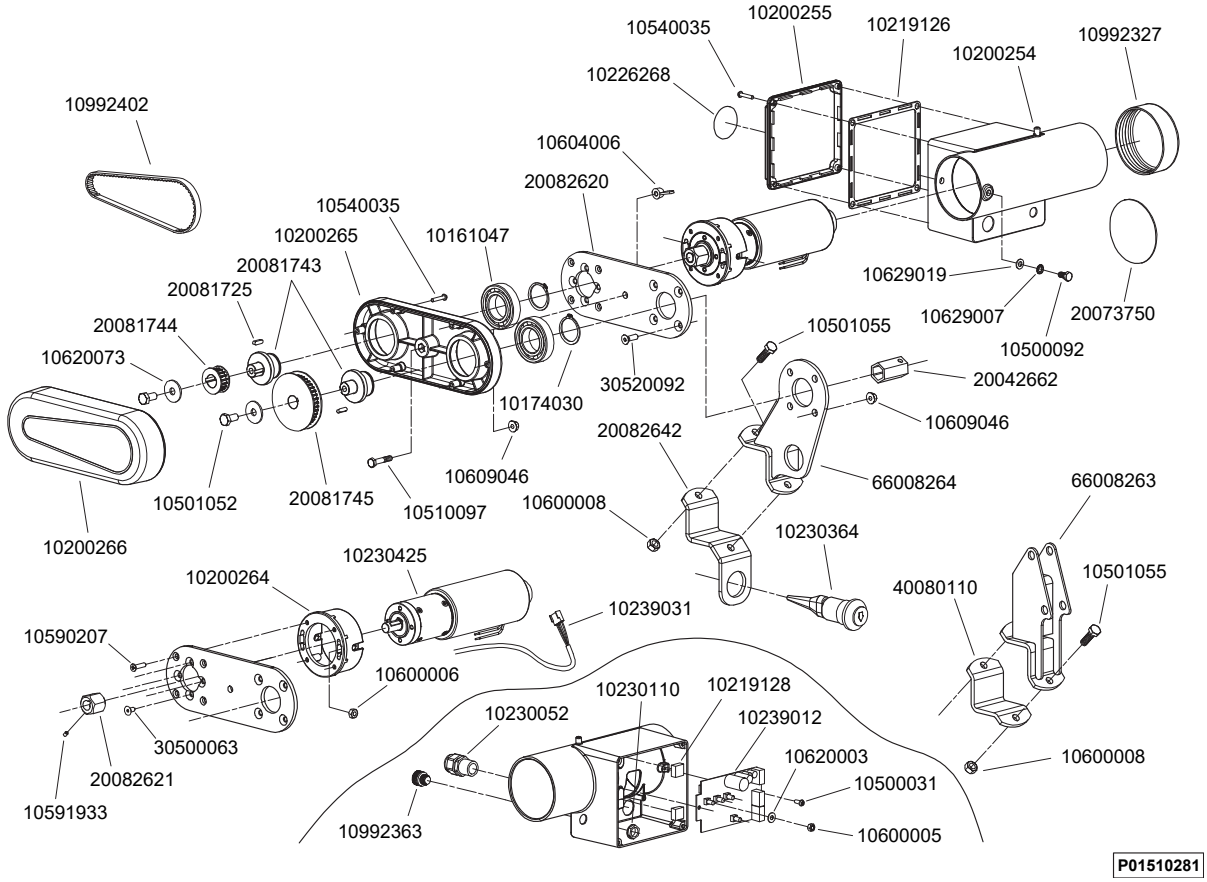
5.6 ► *2018 electric MECA unit drive*

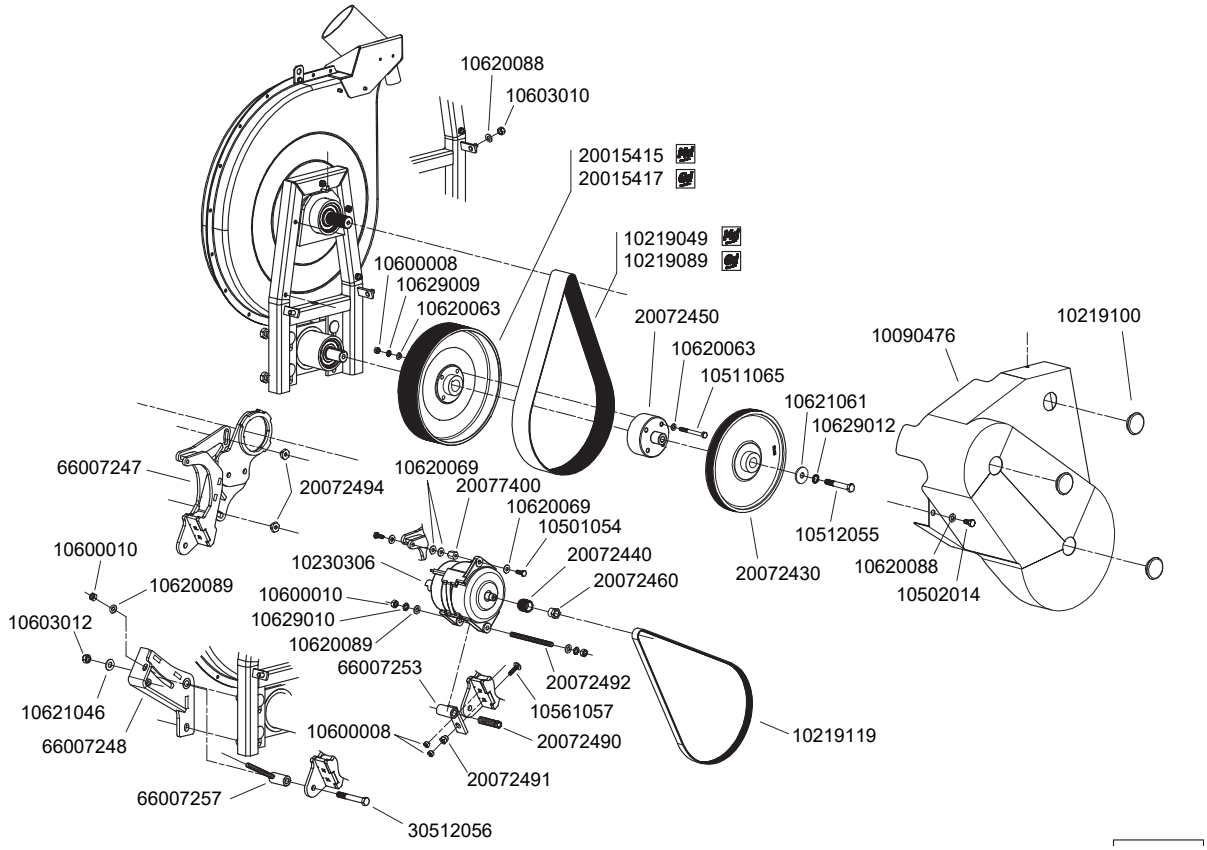


P06040180

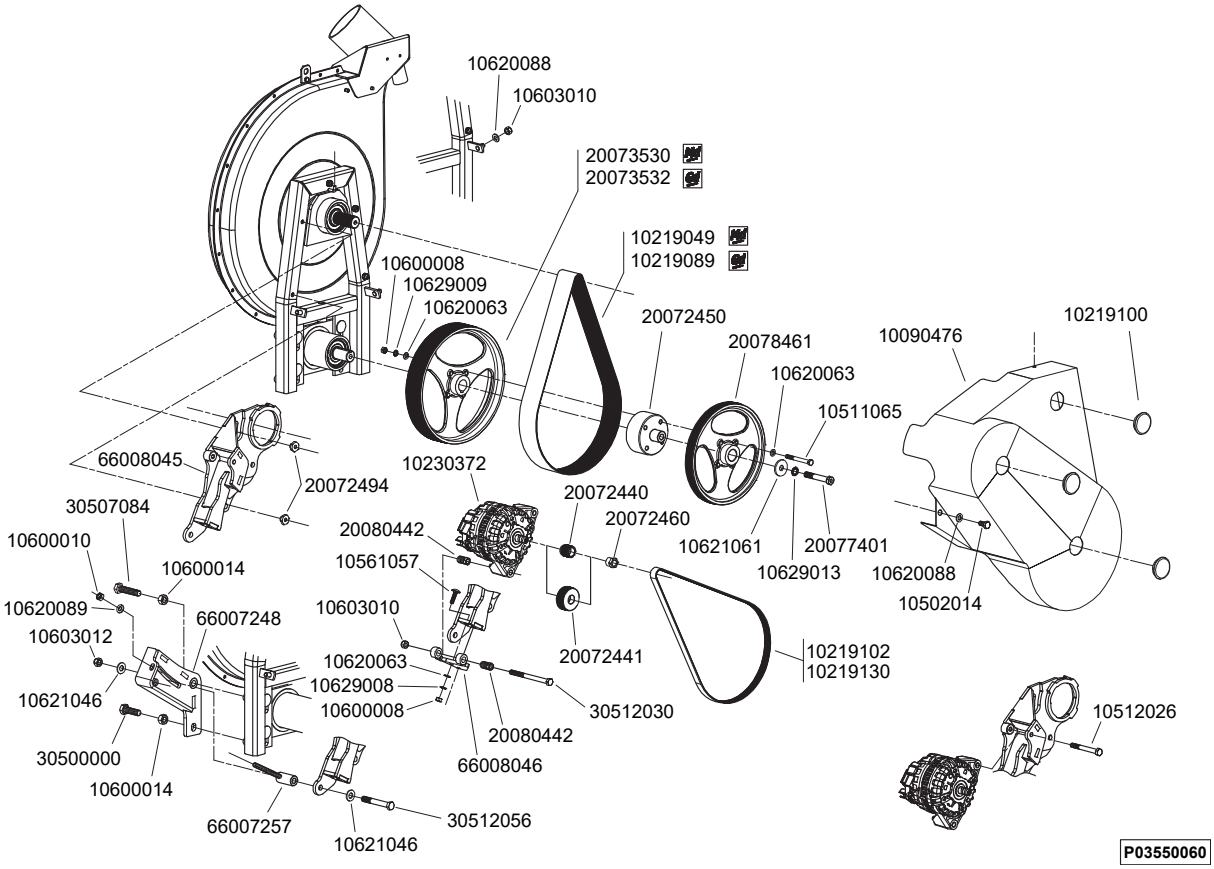
5.7 ► > 2018 electric Microsem drive



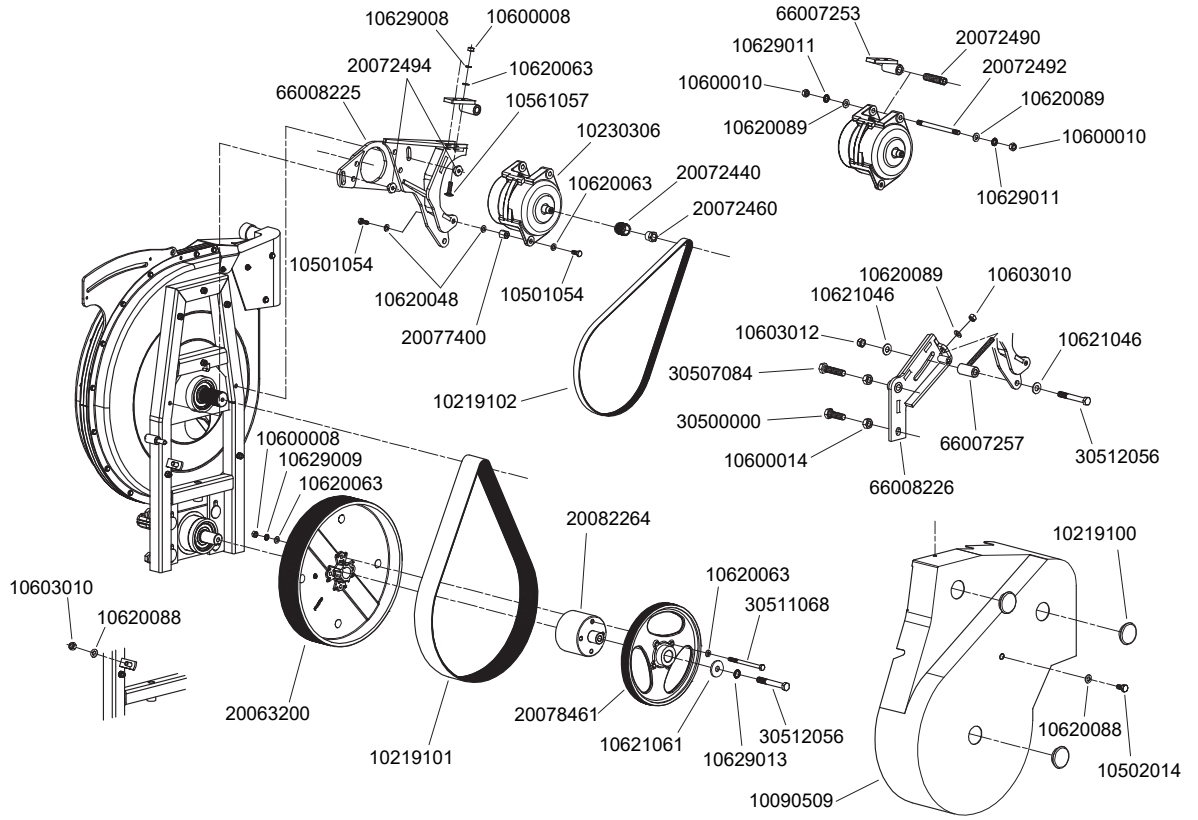
5.8 ► *MD & GD electric turbine alternator assembly*



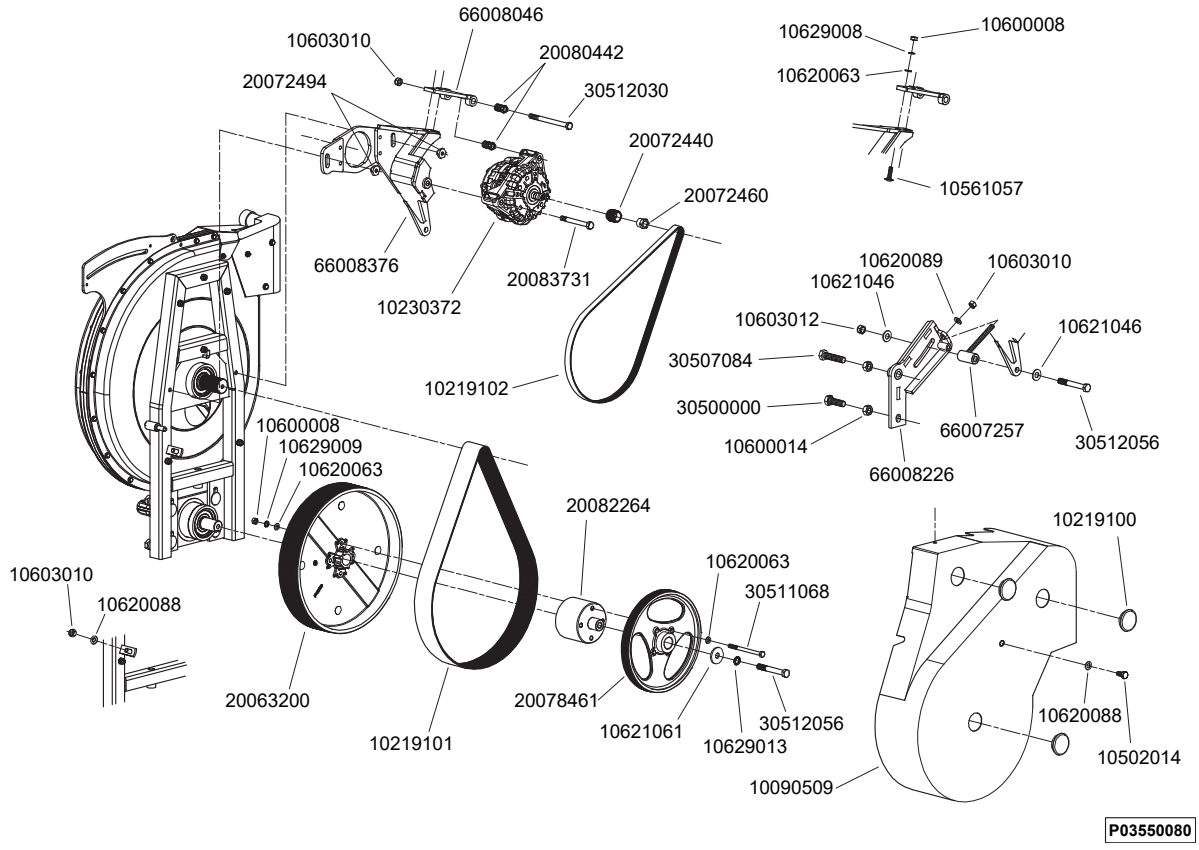
5.9 ► *> 2017 MD & GD electric turbine alternator assembly*



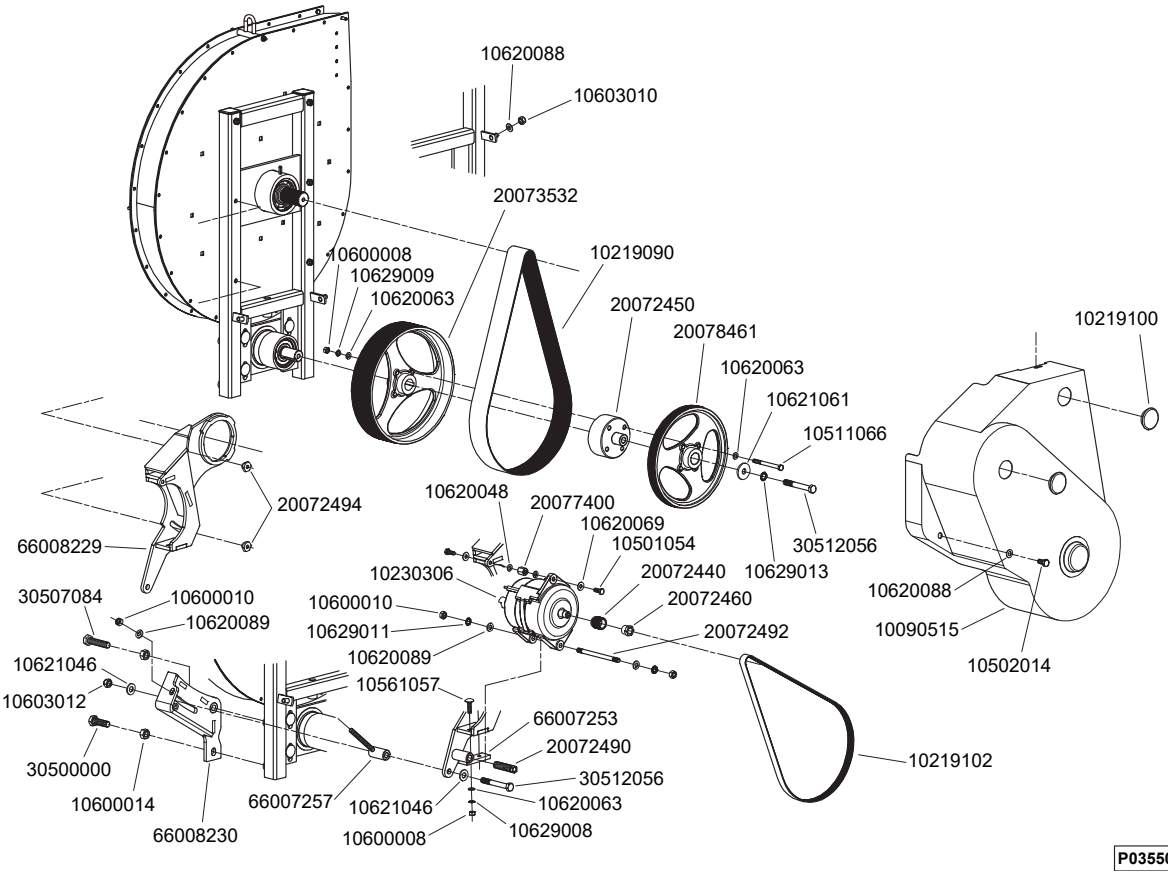
5.10 ► *DF electric turbine alternator assembly*



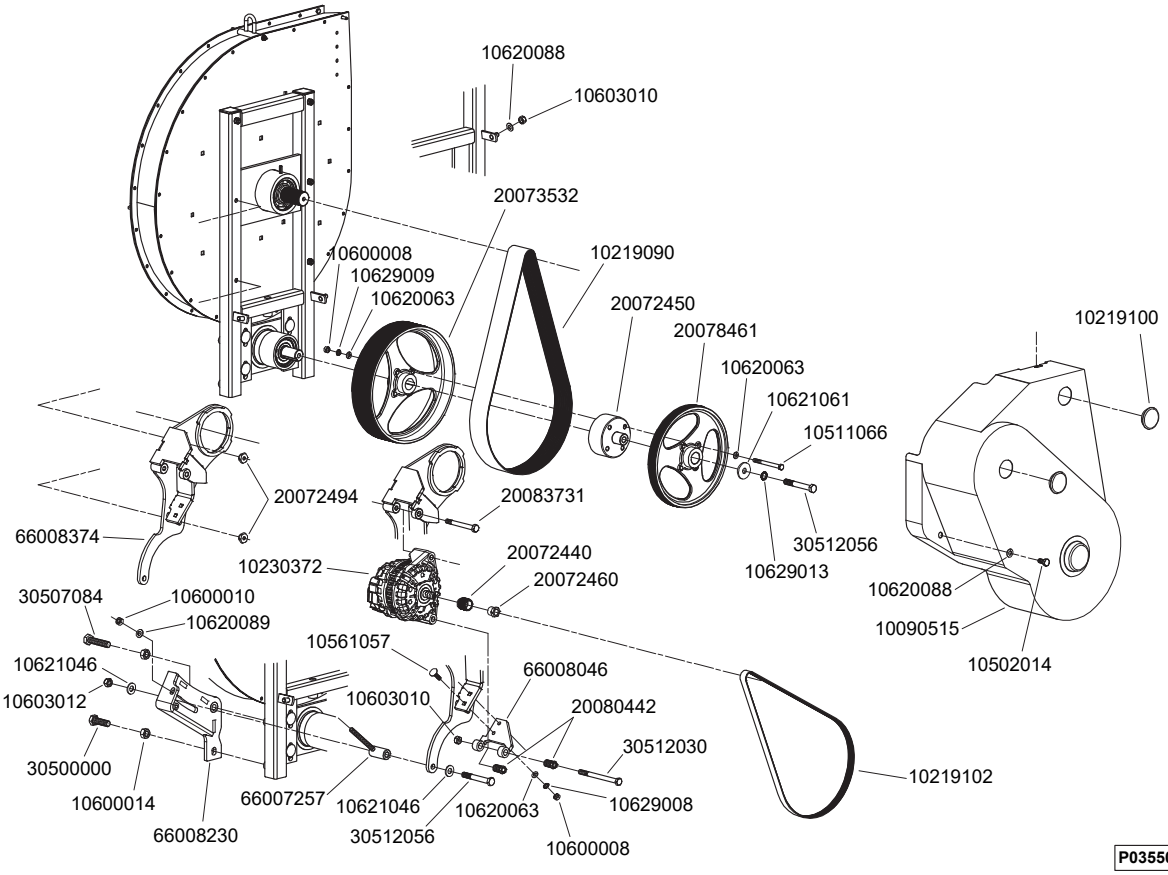
5.11 ► *> 2018 DF electric turbine alternator assembly*



5.12 ► TGD electric turbine alternator assembly

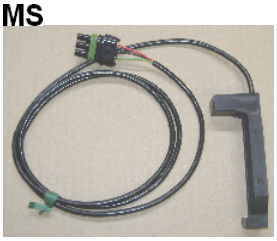


5.13 ► > 2018 TGD electric turbine alternator assembly



5.14 ► Set of controller cells - DICKEY JOHN

MS



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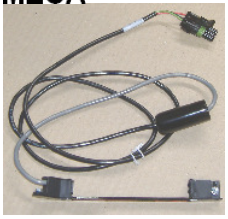
MECA

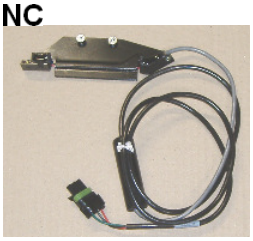


10992007

NG Plus - NX

10992033

NC



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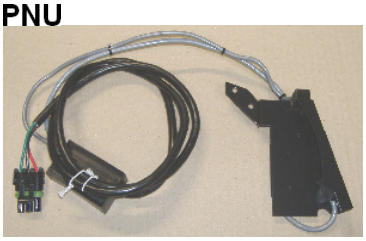

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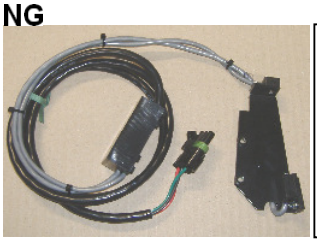
NG



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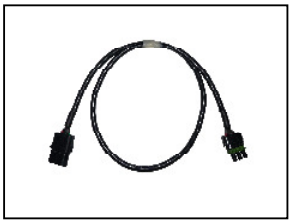

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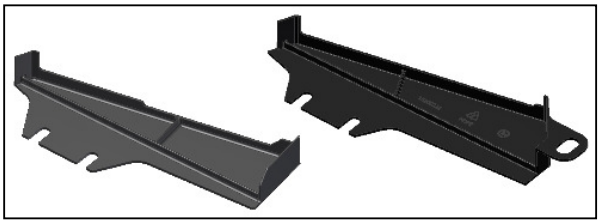

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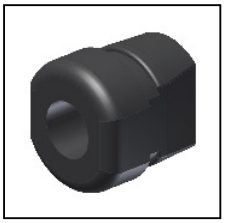

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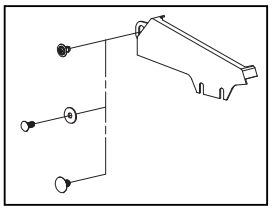
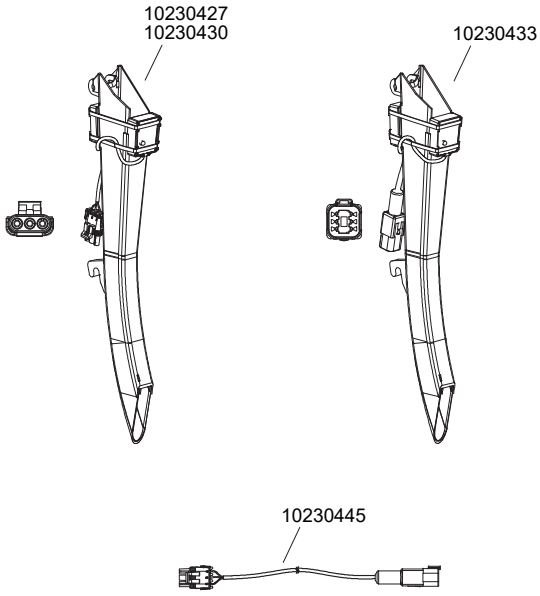


P04500011

5.15 ► Set of TT2 controller cells – MONOSEM



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NOTES

Par soucis d'amélioration continue de notre production, nous nous réservons le droit de modifier sans préavis nos matériels qui, de ce fait, pourront par certains détails être différents de ceux décrits sur cette notice.

Photographies non contractuelles.

NOTES

With the aim of continuously improving our products, we reserve the right to modify our equipment without notice. Some details may therefore differ from those described in these instructions.

Photographs non-binding.

… and for all your cultivating and hoeing.

Please consult us !

The cultivators

SUPER-CROP

MONOSEM

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