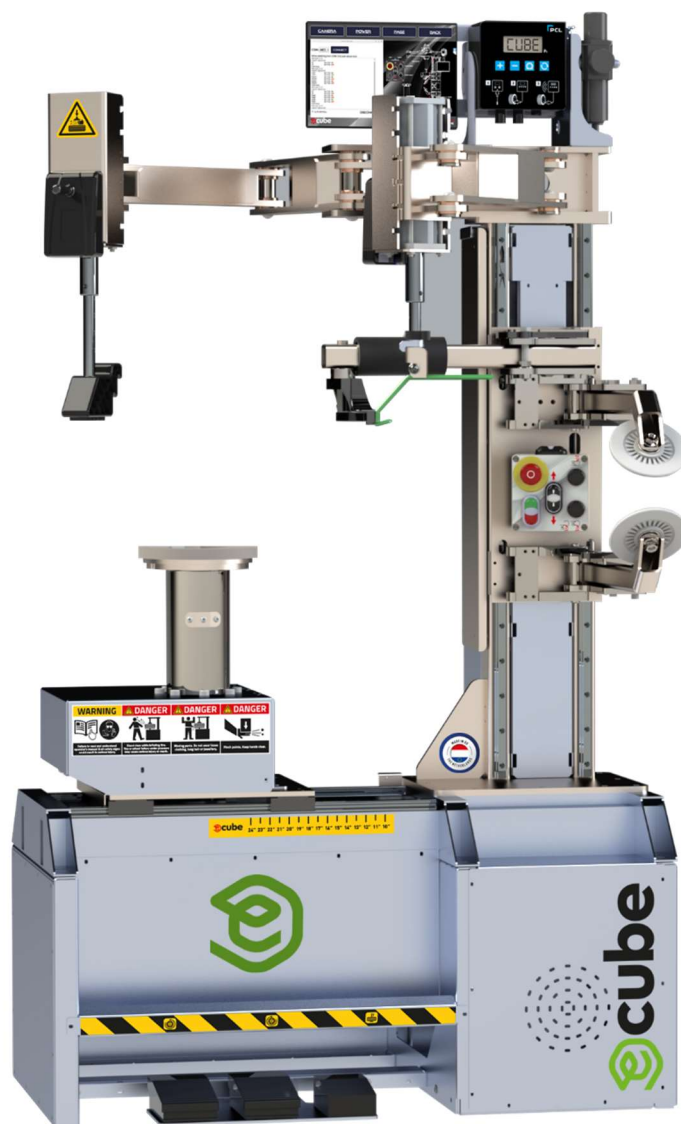


# **cube** Generation 4 Tire Changer Quick Guide



**Product image for illustration purposes only. Actual product may vary.**

E-cube Equipment International

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# 1 – General safety signs and instructions

## 1.1 – Signs

These symbols indicate potential danger including injuries and damage to the machine.



**CAUTION:**

Handle with care, minor injury or property damage present



**WARNING:**

Handle with care, **severe** injury, death or property damage present



**DANGER:**

Immediate danger, **severe** injury and death present, do not interfere!

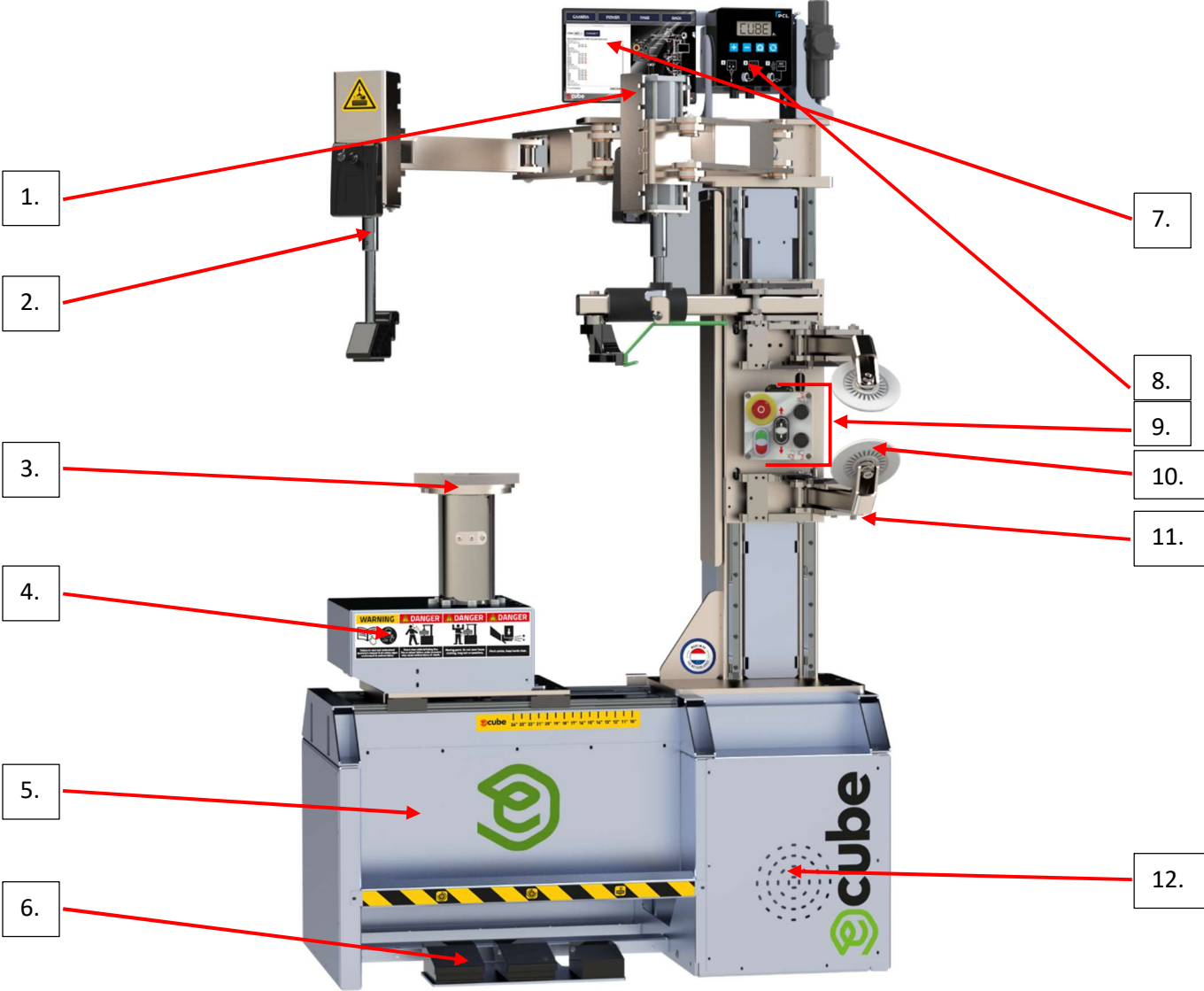
## 1.2 – Instructions

- Keep all manuals available around the Ecube gen 4
- Do not use the Ecube near open fires, flammable objects and similar objects
- Only suitable equipment mentioned in the manual should be used for the Ecube
- Damaged equipment is not to be used. Consult a qualified serviceman first for approval
- Suitable clothing is mandatory. Do not wear jewelry or loose clothes when operating
- When the Ecube is not used, turn it off and disconnect necessary components
- Read at least the full operational manual before kicking off with operating this machine
- Keep all warning signals and stickers visible on the machine for safety purpose
- Misuse may lead to injuries and damage to the machine
- Wear safety boots, gloves, safety glasses and ear protection when operating
- Proper back support while lifting tires is mandatory
- Do not lean or reach over tire when inflating
- Do not exceed pressure limitations on the compressor

- Do not stand on the tire changer
- Heavy force applied on the machine is not required
- When a defect has appeared on the machine, do not use it without an expert's approval
- Hanging on the arm is not permitted
- If extension cords are used, make sure the cord has an equal length to the machine and is not tight. This may cause overheating and or disconnection. Cords must not be longer than necessary in order to prevent tripping over or pulled out the socket
- In any case of emergency, consult your head operator
- Defects should always be informed to the producer Ecube Equipment International
- Do not work with temperatures above 50 degree/122 F
- Battery bank is chargeable and operative with temperatures above 0 degree/ 32F

Defects should always be informed to the producer Ecube Equipment International

## 2 – Ecube layout



Product image for illustration purposes only. Actual product may vary.

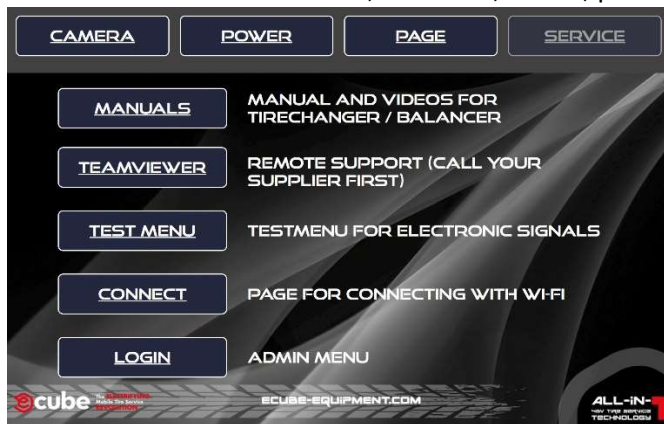
Layout description on the next page! ↓

- 1 = OPTIONAL helper arm
- 2 = Helper arm
- 3 = Adjustable height tire holder
- 4 = Semi-Automatic tire changer table

5 = 60 liter / 15 gallon air tank

6 = Foot control station

7 = Touchscreen with manuals, functions, router, pc



8 = Digital inflator/pressure meter, Auto start & stop

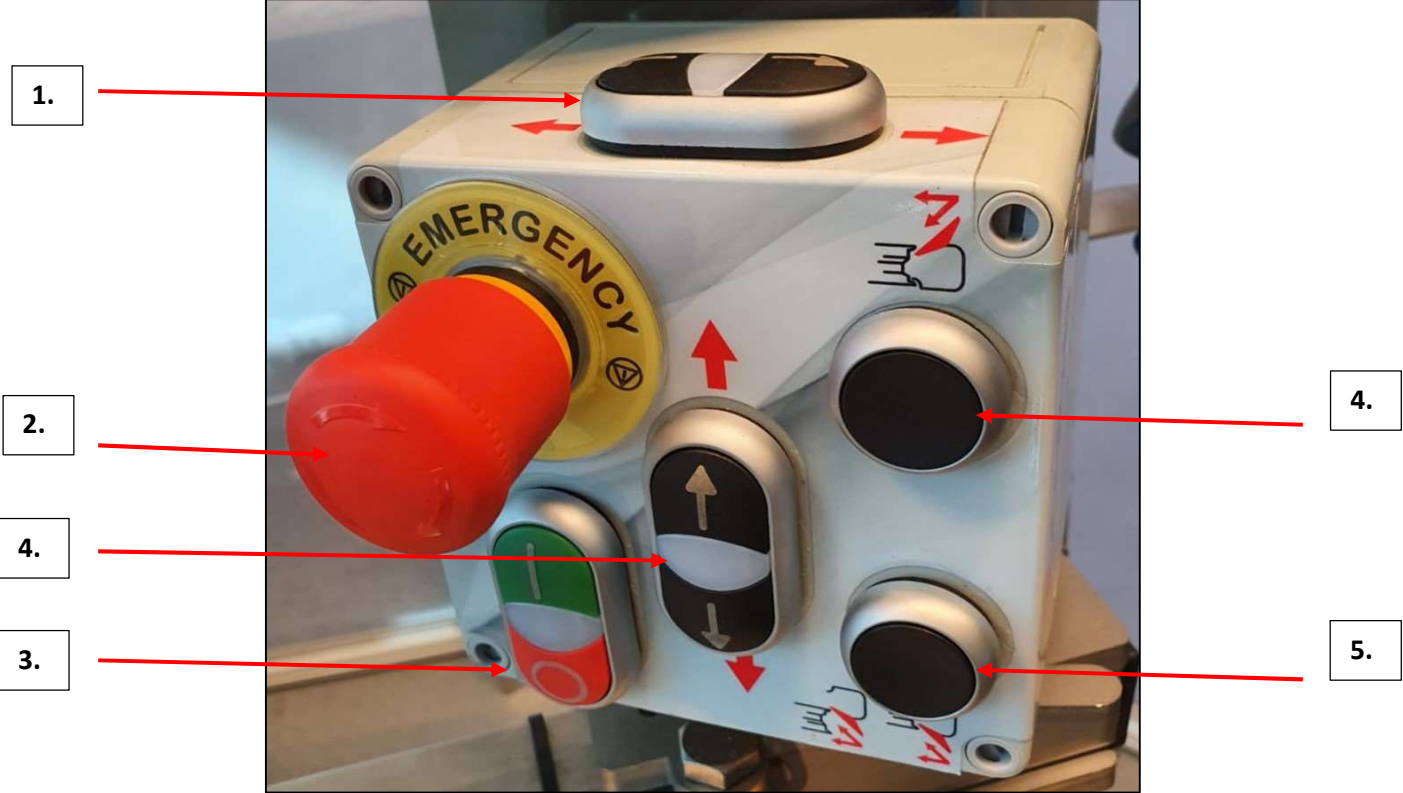
9 = Control panel

10 = Bead press rollers

11 = Camera for lower bead

12 = Compressor 8 bar / 115 psi (1,5 HP)

### 3 – Control panel layout



- 1: Move left, Move right
- 2: Emergency Stop
- 3: Turn on and off
- 4: UPPER BEAD PRESS – DUAL MOVEMENT, SAFELY RETRACTS AFTER PRESSING “UP” BUTTON
- 5: LOWER BEAD PRESS – DUAL MOVEMENT, SAFELY RETRACTS AFTER PRESSING “DOWN” BUTTON

#### 4.3 - Operating principle tire changer

MAKE SURE TO HAVE COMPLETED ECUBE OPERATOR TRAINING AND THAT THE HAZARDS AND RISKS AROUND ECUBE ARE WELL UNDERSTOOD. THE MAJORITY OF TIRE/WHEEL ASSEMBLIES CAN BE SERVICED WITH YOUR ECUBE. SOME MIGHT REQUIRE ADDITIONAL ACCESSORIES LIKE RIM PROTECTORS AND CLAMPS. ECUBE AND ITS AUTHORIZED DISTRIBUTORS CANNOT BE HELD LIABLE FOR INJURIES, DAMAGE AND/OR EXCESSIVE WEAR CAUSED BY IMPROPER USE, MAINTENANCE AND/OR MODIFICATIONS TO THE MACHINE.

## 5. Operating instructions

### 5.1 - Operating principle tire changer

MAKE SURE TO HAVE COMPLETED ECUBE OPERATOR TRAINING AND THAT THE HAZARDS AND RISKS AROUND ECUBE ARE WELL UNDERSTOOD. THE MAJORITY OF TIRE/WHEEL ASSEMBLIES CAN BE SERVICED WITH YOUR ECUBE. SOME MIGHT REQUIRE ADDITIONAL ACCESSORIES LIKE RIM PROTECTORS AND CLAMPS. ECUBE AND ITS AUTHORIZED DISTRIBUTORS CANNOT BE HELD LIABLE FOR INJURIES, DAMAGE AND/OR EXCESSIVE WEAR CAUSED BY IMPROPER USE, MAINTENANCE AND/OR MODIFICATIONS TO THE MACHINE.

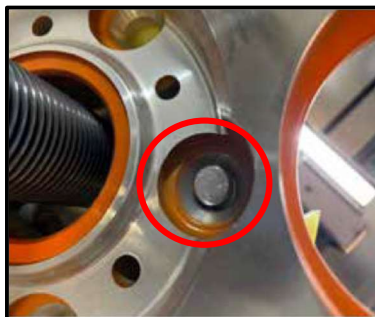
#### 5.1.1 – Start-up

**STEP 1** TURN ON THE MACHINE BY PRESSING THE GREEN BUTTON. ENSURE THAT THE TIRE CHANGER TABLE IS IN THE MOST LEFT POSITION BEFORE POSITIONING THE WHEEL.



**STEP 2** POSITION THE WHEEL.

**STEP 3** ENSURE THAT THE LOCK PIN ON THE MOUNTING TABLE IS INSERTED INTO ONE OF THE STUD HOLES.





**STEP 4** CHECK IF CENTER HOLE OF THE RIM IS LINED UP WITH THE CENTER POST SPINDLE. THEN PRESS AND HOLD THE RIGHT FOOT PEDAL TO ELEVATE THE CENTER POST SPINDLE TO ITS MAX HEIGHT.



**STEP 5** POSITION THE YELLOW PLASTIC CONE COVER, HOLDING THE DUAL METAL CONES, BY SLIDING IT OVER THE CENTER POST SPINDLE.

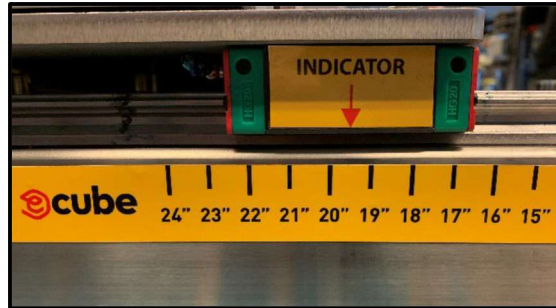
**STEP 6** POSITION THE STEEL QUICK NUT AND FIRMLY TIGHTEN IT. ENSURE THAT THE RIM IS PERFECTLY CENTERED. NOW RELEASE THE RIGHT FOOT PEDAL.



**STEP 7** THE ARMS OF THE QUICK NUT CAN NOW BE FOLDED DOWN TO MINIMIZE INTERFERENCE WHEN USING THE TIRE LEVER.



**STEP 8**      **SET THE STARTING POSITION OF THE MACHINE** BY CHECKING THE TIRE SIZE. THEN MOVE THE TABLE TO THE RIGHT TIRE SIZE WITH THE HELP OF THE YELLOW RULER AND INDICATOR. INDICATION ONLY, FINE TUNING MIGHT BE REQUIRED.



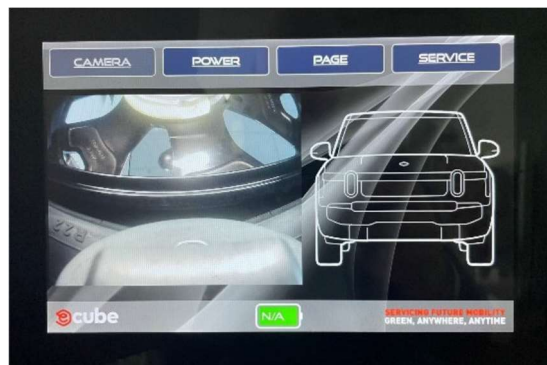
### 5.1.2 – Demounting

**STEP 1** REMOVE THE VALVE CORE AND AIR PRESSURE FROM THE TIRE. DON'T START THE BEAD BREAKING PROCESS UNTIL THE TIRE IS COMPLETELY DEFLATED.



**STEP 2** TO SAVE TIME IT'S RECOMMENDED TO START WITH THE LOWER BEAD. LOWER THE VERTICAL TOOL SELECTOR UNTIL THE BOTTOM BEAD PRESS ARM WITH DISK CAN MOVE FREELY UNDERNEATH THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 3** MOVE THE VERTICAL TOOL SELECTOR UPWARDS BY PRESSING THE "UP" BUTTON. ENSURE OF 0,1 INCH CLEARANCE BETWEEN THE DISK AND THE RIM EDGE. USE CAMERA SCREEN OR VISUAL INSPECTION FOR GUIDANCE.



**STEP 4** PUSH DOWN THE MIDDLE FOOT PEDAL; THE CENTER POST TURNS CLOCKWISE. APPLY ELUBE BETWEEN THE TIRE AND RIM.



**STEP 5** PRESS THE LOWER BEAD BREAKING BUTTON IN **SMALL INTERVALS** TO BREAK THE BOTTOM BEAD. KEEP LUBRICATING AS NEEDED TO ENABLE A SMOOTH BEAD BREAKING PROCESS.



**STEP 6** AFTER FULLY COMPLETING THE BEAD BREAKING PROCESS PUSH THE "DOWN" BUTTON. THE CENTER POST RETURNS TO ITS STARTING POSITION.



**STEP 7** AS SOON AS THERE'S ENOUGH CLEARANCE UNLOCK THE BEAD PRESS ARM WITH DISK. SWING IT BACK TO ITS STARTING POSITION.

**STEP 8** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE UPPER BEAD PRESS ARM WITH DISK CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION

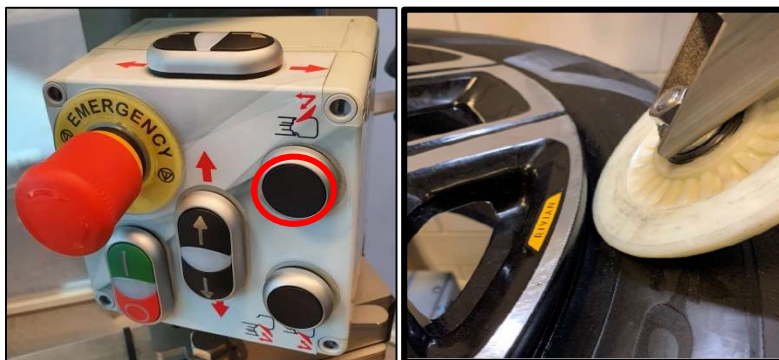
**STEP 9** MOVE THE VERTICAL TOOL SELECTOR DOWNWARDS BY PRESSING THE "DOWN" BUTTON. ENSURE OF 0,1 INCH CLEARANCE BETWEEN THE DISK AND THE RIM EDGE.



**STEP 10** PUSH DOWN THE MIDDLE FOOT PEDAL; THE CENTER POST TURNS CLOCKWISE. APPLY ELUBE BETWEEN THE TIRE AND RIM.



**STEP 11** PRESS THE UPPER BEAD BREAKING BUTTON **IN SMALL INTERVALS** TO BREAK THE UPPER BEAD. KEEP LUBRICATING AS NEEDED TO ENABLE A SMOOTH BEAD BREAKING PROCESS..



**STEP 12** AFTER FULLY COMPLETING THE BEAD BREAKING PROCESS PUSH THE "UP" BUTTON. THE CENTER POST RETURNS TO ITS STARTING POSITION.

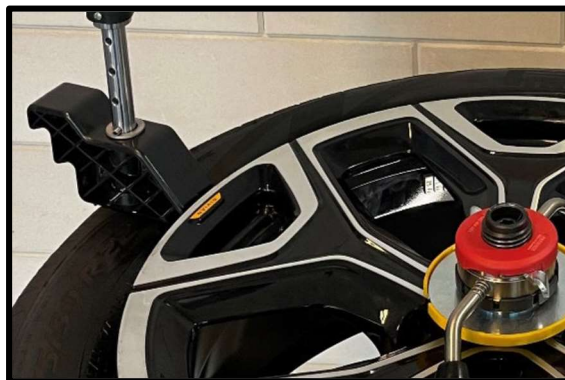


### DEMOUNTING WITH (DE)MOUNT HEAD AND TIRE LEVER

**STEP 13** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 14** LOWER THE VERTICAL TOOL SELECTOR AND POSITION THE (DE)MOUNT HEAD ON THE EDGE OF THE RIM. ENSURE THAT THE (DE)MOUNT HEAD IS PROPERLY ALIGNED, ADJUST IF NEEDED.

**STEP 15** USE THE HELPER ARM (2) AND ITS PRESS BLOCK TO GENTLY PRESS THE TIRE BEAD ON THE OPPOSITE SIDE. THIS TO MAKE SURE THAT THE BEAD IS IN THE DROP CENTER TO ENSURE SUFFICIENT SPACE WHILE DEMOUNTING WITH THE TIRE LEVER AND (DE)MOUNT HEAD. ELUBE TIRE SPRAY PLAYS A CRUCIAL ROLE DURING MOUNTING AND DEMOUNTING.



**STEP 16** POSITION THE TIRE LEVER ONTO THE (DE)MOUNT HEAD, LIFT THE BEAD AND PULL IT OVER THE (DE)MOUNT HEAD.



**STEP 17** NOW HAVE THE CENTER POST TURN CLOCKWISE TO REMOVE THE UPPER BEAD FROM THE RIM. MAKE SURE THAT THE TIRE LEVER COVER IS IN GOOD CONDITION TO AVOID METAL-ON-METAL FRICTION DURING ROTATION. (TIRE LEVER COVER IS A CONSUMABLE REPLACEMENT PART)

**STEP 18** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS STARTING POSITION. MOVE HELPER ARM (2) SIDWAYS.

**DEMOUNTING WITH (DE)MOUNT HEAD AND IN-CONTROL HOOK**

**STEP 19** REPLACE THE PRESS BLOCK FROM HELPER ARM (1) WITH THE IN-CONTROL HOOK.



**STEP 20** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 21** LOWER THE VERTICAL TOOL SELECTOR AND POSITION THE (DE)MOUNT HEAD ON THE EDGE OF THE RIM. ENSURE THAT THE (DE)MOUNT HEAD IS PROPERLY ALIGNED, ADJUST IF NEEDED..

**STEP 22** POSITION THE IN-CONTROL HOOK ONTO THE (DE)MOUNT HEAD.



**STEP 23** DEPENDING ON THE TIRE COMPLEXITY, USE THE HELPER ARM (2) AND ITS PRESS BLOCK TO GENTLY PRESS THE TIRE BEAD ON THE OPPOSITE SIDE. THIS TO MAKE SURE THAT THE BEAD IS IN THE DROP CENTER TO ENSURE SUFFICIENT SPACE WHILE DEMOUNTING WITH THE IN-CONTROL HOOK AND (DE)MOUNT HEAD. ELUBE TIRE SPRAY PLAYS A CRUCIAL ROLE DURING MOUNTING AND DEMOUNTING.

**STEP 24** LOWER THE HOOK, BY OPERATING THE PNEUMATIC CYLINDER, UNTIL IT GRABS THE TIRE BEAD. DURING THE PROCESS (BOTH UPWARDS AND DOWNWARDS) IT'S CRUCIAL TO GUIDE THE HOOK BY HOLDING THE GRIP.



**STEP 25** USE THE HOOK TO PULL THE BEAD OVER THE (DE)MOUNT HEAD.

**STEP 26** NOW HAVE THE CENTER POST TURN CLOCKWISE TO REMOVE THE UPPER BEAD FROM THE RIM WHILE STILL HOLDING THE HOOK.



**STEP 27** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS STARTING POSITION. MOVE HELPER ARMS (1+2) SIDEWAYS.

**STEP 28** LIFT THE TIRE ON THE RIGHT SIDE AS FAR AS POSSIBLE.

**STEP 29** LOWER THE VERTICAL TOOL SELECTOR UNTIL THE BOTTOM BEAD PRESS ARM WITH DISK CAN MOVE FREELY UNDERNEATH THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 30** MOVE THE VERTICAL TOOL SELECTOR UPWARDS BY PRESSING THE "UP" BUTTON. WHEN REACHING THE RIM EDGE, PRESS THE LOWER BEAD BREAKING BUTTON TO PUSH THE BEAD OVER THE RIM EDGE. KEEP 0,25 INCH CLEARANCE IN BETWEEN DISK AND RIM EDGE. MAKE SURE THE TPMS SENSOR ISN'T DAMAGED DURING THE PROCESS.



**STEP 31** NOW HAVE THE CENTER POST TURN CLOCKWISE TO COMPLETELY REMOVE THE TIRE FROM THE RIM.



**STEP 32** PRESS THE "DOWN" BUTTON UNTIL THE TURNTABLE IS BACK TO ITS ORIGINAL POSITION.



**STEP 33** AS SOON AS THERE'S ENOUGH CLEARANCE UNLOCK THE BEAD PRESS ARM WITH DISK. SWING IT BACK TO ITS STARTING POSITION.

**STEP 34** CHECK THE RIM FOR ANY IMPERFECTIONS OR DAMAGE BEFORE FITTING A NEW TIRE. ALWAYS CHECK/REPLACE THE VALVE AND CHECK/PROGRAM/REPLACE THE TPMS IF NEEDED.

### 5.1.3 – Mounting tire

**STEP 1** LUBRICATE THE NEW TIRE WITH ELUBE TIRE SPRAY.

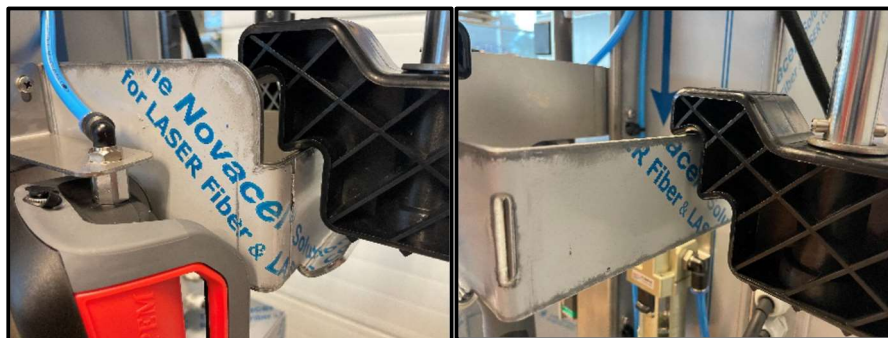
**STEP 2** CHECK FOR DIRECTIONAL MARKS OR SIDE MARKS TO PUT THE TIRE IN THE RIGHT POSITION ON THE RIM. PUT THE TIRE ON TOP OF THE RIM AND MANUALLY PUSH THE RIGHT SIDE OF THE TIRE DOWN.

**STEP 3** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE RIM. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 4** LOWER THE VERTICAL TOOL SELECTOR AND POSITION THE (DE)MOUNT HEAD. ENSURE THAT THE (DE)MOUNT HEAD IS PROPERLY ALIGNED, KEEP 0,13 INCH CLEARANCE. ADJUST IF NEEDED.

**STEP 5** NOW HAVE THE CENTER POST TURN CLOCKWISE TO FIT THE LOWER BEAD ON THE RIM.

- STEP 6** POSITION EDGE OF TIRE BEAD ON TOP OF THE MOUNTING LIP OF THE (DE)MOUNT HEAD. THE MOUNTING LIP IS ON THE LEFT SIDE OF THE LIP.
- STEP 7** PUSH EDGE OF TIRE BEAD UNDER THE DEMOUNTING LIP OF THE HEAD, WHILE KEEPING THE OTHER EDGE OF TIRE BEAD ABOVE THE MOUNTING LIP.
- STEP 8** TWIST TIRE CLOCKWISE BY HAND TO LOCK THE TIRE INTO THE MOUNTING POSITION. TURN CENTER POST CLOCKWISE.
- STEP 9** NOW HAVE THE CENTER POST TURN CLOCKWISE TO FIT THE UPPER BEAD ON THE RIM.
- STEP 10** WHEN NECESSARY USE HELPER ARM (2) WITH PRESS BLOCK AND/OR IN-CONTROL BEAD PRESS ROLLER.
- STEP 11** STORE THE HELPER ARMS IN THEIR HOME POSITION, LOCK THEM BY USING AIR PRESSURE. AVOID EXCESSIVE PRESSURE!



HELPER ARM 1 AT SIDE

HELPER ARM 1 AT REAR

- STEP 12** INFLATE TIRE WITH AIR TO THE PRESSURE ADVISED BY THE MANUFACTURER. AN AUTOMATIC INFLATOR (8) IS AVAILABLE. PLEASE READ THE MANUAL BEFORE USING THE INFLATOR

5.1.4 – End of use



KEEP HANDS AND BODY AS FAR AWAY AS POSSIBLE FROM TIRE DURING INFLATION. TIRES ARE TO BE INFLATED WITH UTMOST CAUTION.

- STEP 1** MOVE TURNTABLE TO THE LEFT IN ORDER TO CREATE ENOUGH CLEARANCE.



**STEP 2** PRESS AND HOLD THE RIGHT FOOT PEDAL



**STEP 3** TURN ARMS OF THE QUICK NUT UP



**STEP 4** UNSCREW THE QUICK NUT AND REMOVE PLASTIC CONE COVER HOLDING THE DUAL METAL CONES.

**STEP 5** RELEASE THE RIGHT FOOT PEDAL TO LOWER THE CENTER POST SPINDLE.

**STEP 6** CAREFULLY REMOVE THE WHEEL FROM THE CENTER POST.

**STEP 7** THE WHEEL IS NOW READY FOR BALANCING.

**ATTENTION:**

**ECUBE BENEFITS FROM MULTIPLE STEPPER MOTORS.**

**IN CASE OF A TORQUE OVERLOAD THE MOTOR THAT ENSURES THE ROTATION OF THE TURNTABLE WILL STOP. BY SWITCHING THE MACHINE OFF/ON IT WILL BE OPERATIONAL AGAIN.**

**MAKE SURE TO USE SUFFICIENT ELUBE DURING THE (DE)MOUNTING PROCESS. SMALL INTERVALS DURING THE BEAD BREAKING PROCESS HELP TO AVOID TORQUE OVERLOAD.**

**ECUBE COMES EQUIPPED WITH INSTRUCTIONAL VIDEOS ON HOW TO CHANGE A TIRE, BALANCE A WHEEL, AND TROUBLESHOOT ANY PROBLEM YOU MAY ENCOUNTER ALONG THE WAY.**

## 5.2 – Touchscreen

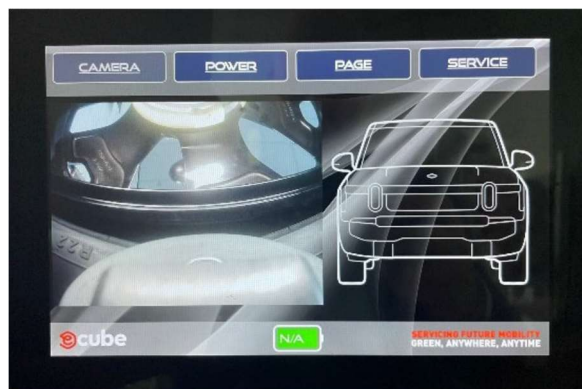
YOUR ECUBE TOUCHSCREEN OFFERS A VARIETY OF INTERESTING FEATURES.

USE PINCH GESTURES TO ZOOM IN OR OUT (AS YOUR FINGERS MOVE APART, THE SCREEN ZOOMS IN).

### 5.2.1 – Camera

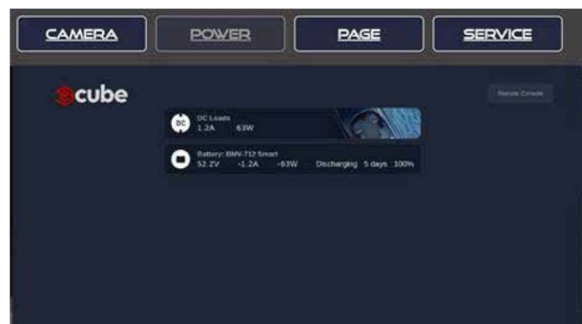
THE CAMERA TAB ALLOWS YOU TO MONITOR THE BEAD BREAKING PROCESS OF THE LOWER BEAD.

REMEMBER THAT YOU CAN USE PINCH GESTURES TO ZOOM IN AND ZOOM OUT.



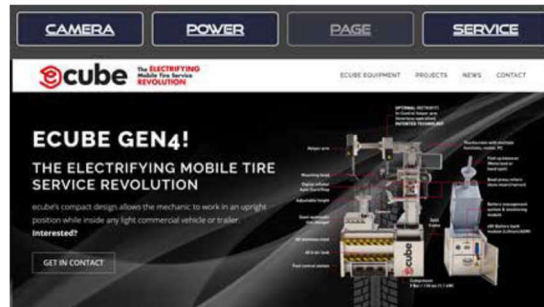
### 5.2.2 – Power

THE POWER TAB SHOWS YOU THE POWER SYSTEM. IT ALLOWS YOU TO CHECK THE AC/DC AND DC/DC CHARGING PERFORMANCE. YOU ALSO HAVE THE POSSIBILITY TO SWITCH THE INVERTER ON/OFF. ('OFF' IS RECOMMENDED WHEN YOU ARE NOT USING YOUR ECUBE FOR A LONGER TIME)



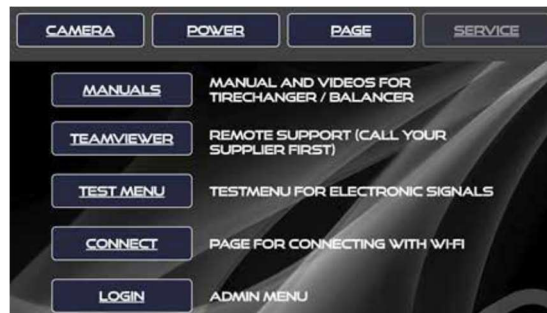
### 5.2.3 – Page

THE HTML BASED PAGE TAB BRINGS YOU TO THE ECUBE-EQUIPMENT WEBSITE AS LONG AS CONNECTED WITH THE INTERNET (THROUGH CELL PHONE OR BY ENTERING AN APPROVED NETWORK ENVIRONMENT).



### 5.2.4 – Service

THE SERVICE TAB BRINGS YOU TO THE PAGE WITH MANUALS AND 'HOW TO' VIDEOS. IT ALSO SHOWS THE TEAMVIEWER TAB FOR REMOTE ACCESS/SUPPORT BY AUTHORIZED ECUBE STAFF AND ONLY AFTER YOUR APPROVAL.



THE TEST MENU TAB HELPS TO QUICKLY IDENTIFY A POSSIBLE CONNECTION PROBLEM BETWEEN COMPONENTS.

THE CONNECT TAB HELPS YOU TO ESTABLISH A WIFI CONNECTION.



THE LOGIN TAB IS AVAILABLE TO AUTHORIZED ECUBE SERVICE TECHNICIANS ONLY.



## 5.3 - Miscellaneous

### Emergency stop button

When a dangerous situation occurs which requires immediate action, press the Emergency stop button. This knob stops the tire changer completely and ensures no electricity and moving parts will be active anymore.

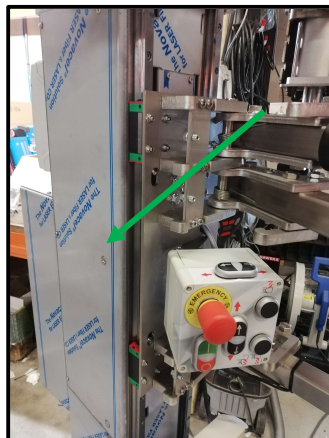
### Helper arm positioning

If you do not work for a long time with the Ecube, we suggest to place the helper arms in their holders. This way, no accidents or damage can take place. When driving, ALWAYS place the helper arms in their holders to prevent them from moving around in the vehicle.



### Safety switch protection

Within the machine, multiple safety switches are located in order to prevent accidents and lethal damage. When a tire is hitting the plate of the vertical axle, the machine will likely shut off out of protection.

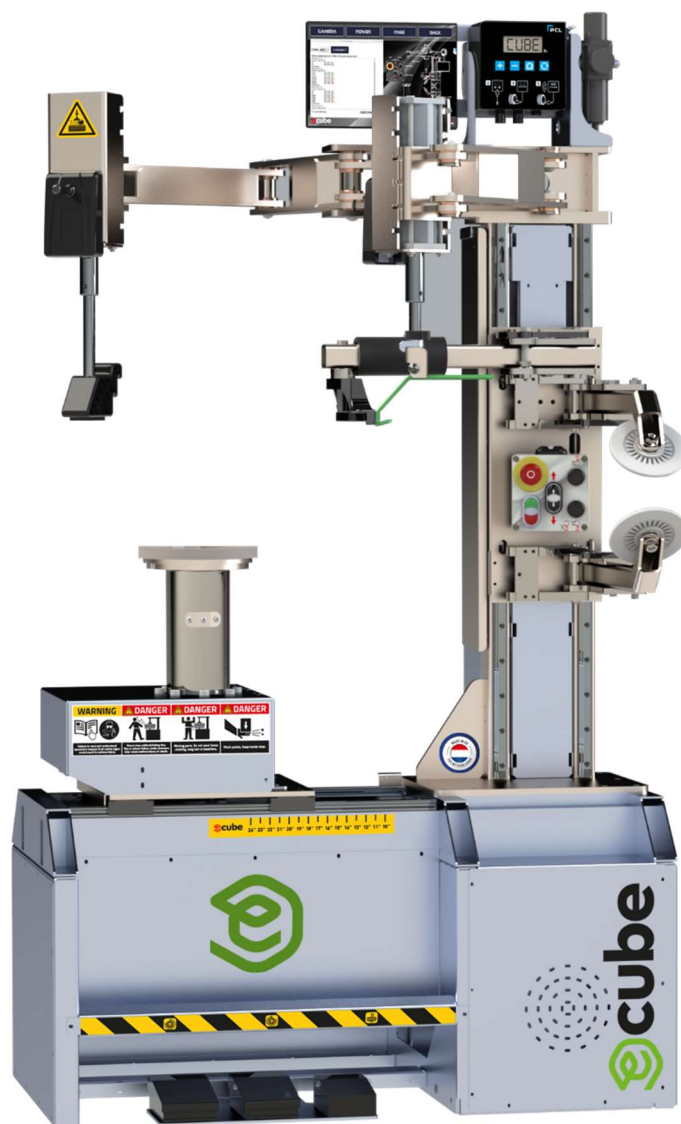


### Quick nut usage

Place the quick nut above the black spindle. By pushing the metal 'handles' to the opposite direction, the quick nut expands and allows you to move it to the bottom of the spindle. Release the handles at the end in order to return the screw thread. Tighten extra if required.



# **ecube** Generation 4 Tire Changer Quick Guide



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# 1 – General safety signs and instructions

## 1.1 – Signs

These symbols indicate potential danger including injuries and damage to the machine.



**CAUTION:**

Handle with care, minor injury or property damage present



**WARNING:**

Handle with care, **severe** injury, death or property damage present



**DANGER:**

Immediate danger, **severe** injury and death present, do not interfere!

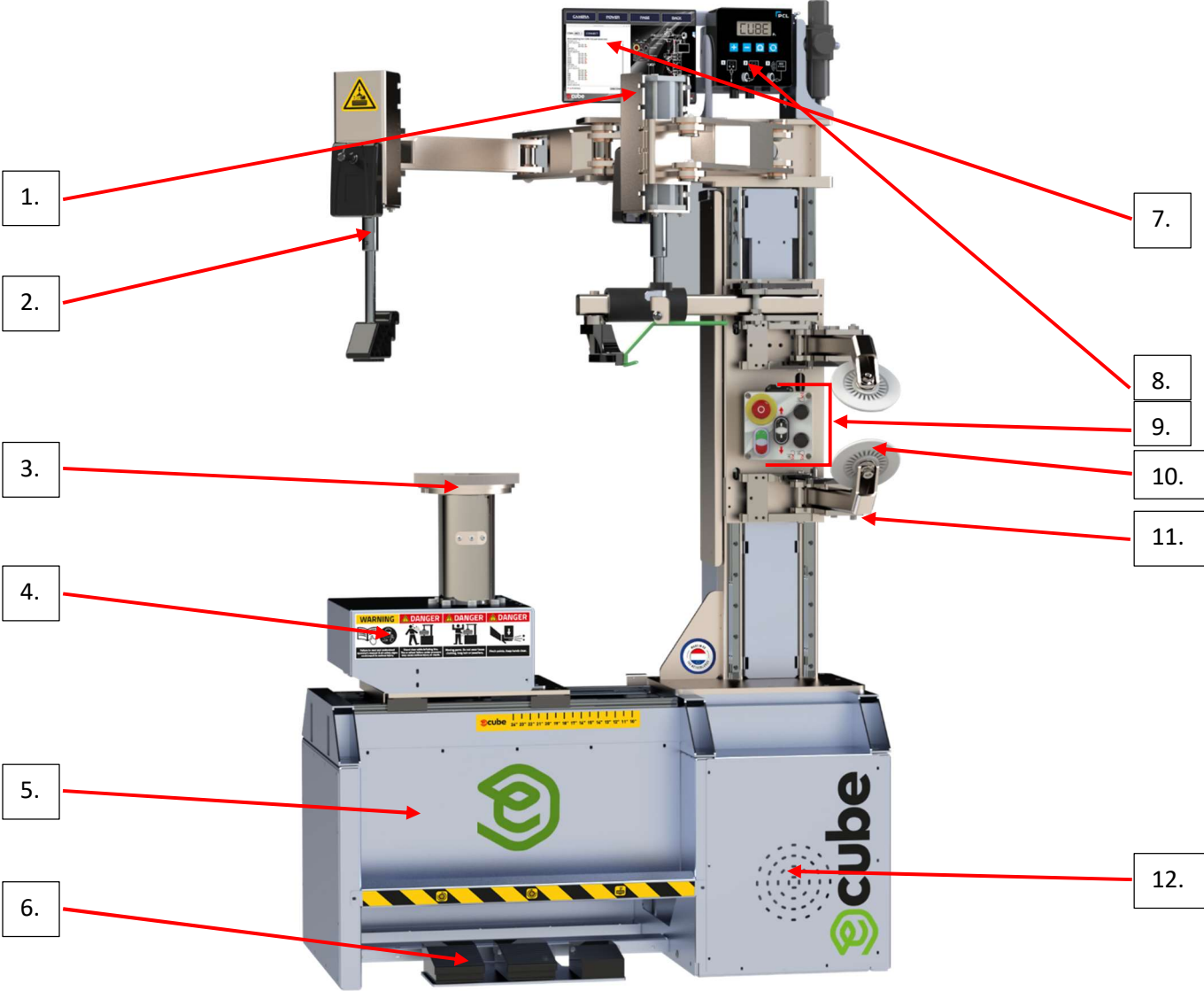
## 1.2 – Instructions

- Keep all manuals available around the Ecube gen 4
- Do not use the Ecube near open fires, flammable objects and similar objects
- Only suitable equipment mentioned in the manual should be used for the Ecube
- Damaged equipment is not to be used. Consult a qualified serviceman first for approval
- Suitable clothing is mandatory. Do not wear jewelry or loose clothes when operating
- When the Ecube is not used, turn it off and disconnect necessary components
- Read at least the full operational manual before kicking off with operating this machine
- Keep all warning signals and stickers visible on the machine for safety purpose
- Misuse may lead to injuries and damage to the machine
- Wear safety boots, gloves, safety glasses and ear protection when operating
- Proper back support while lifting tires is mandatory
- Do not lean or reach over tire when inflating
- Do not exceed pressure limitations on the compressor

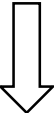
- Do not stand on the tire changer
- Heavy force applied on the machine is not required
- When a defect has appeared on the machine, do not use it without an expert's approval
- Hanging on the arm is not permitted
- If extension cords are used, make sure the cord has an equal length to the machine and is not tight. This may cause overheating and or disconnection. Cords must not be longer than necessary in order to prevent tripping over or pulled out the socket
- In any case of emergency, consult your head operator
- Defects should always be informed to the producer Ecube Equipment International
- Do not work with temperatures above 50 degree/122 F
- Battery bank is chargeable and operative with temperatures above 0 degree/ 32F

Defects should always be informed to the producer Ecube Equipment International

## 2 – Ecube layout



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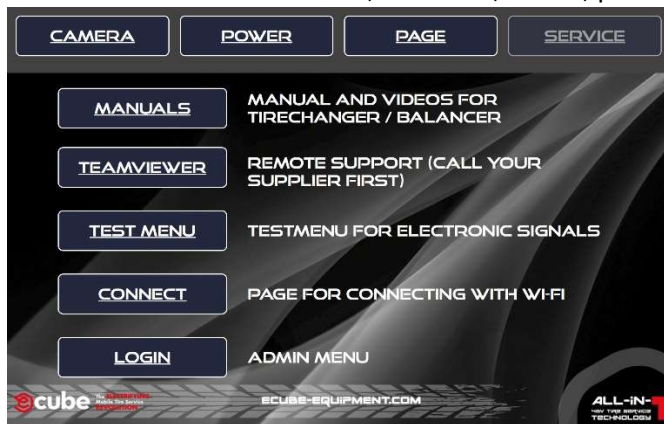
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7 = Touchscreen with manuals, functions, router, pc



8 = Digital inflator/pressure meter, Auto start & stop

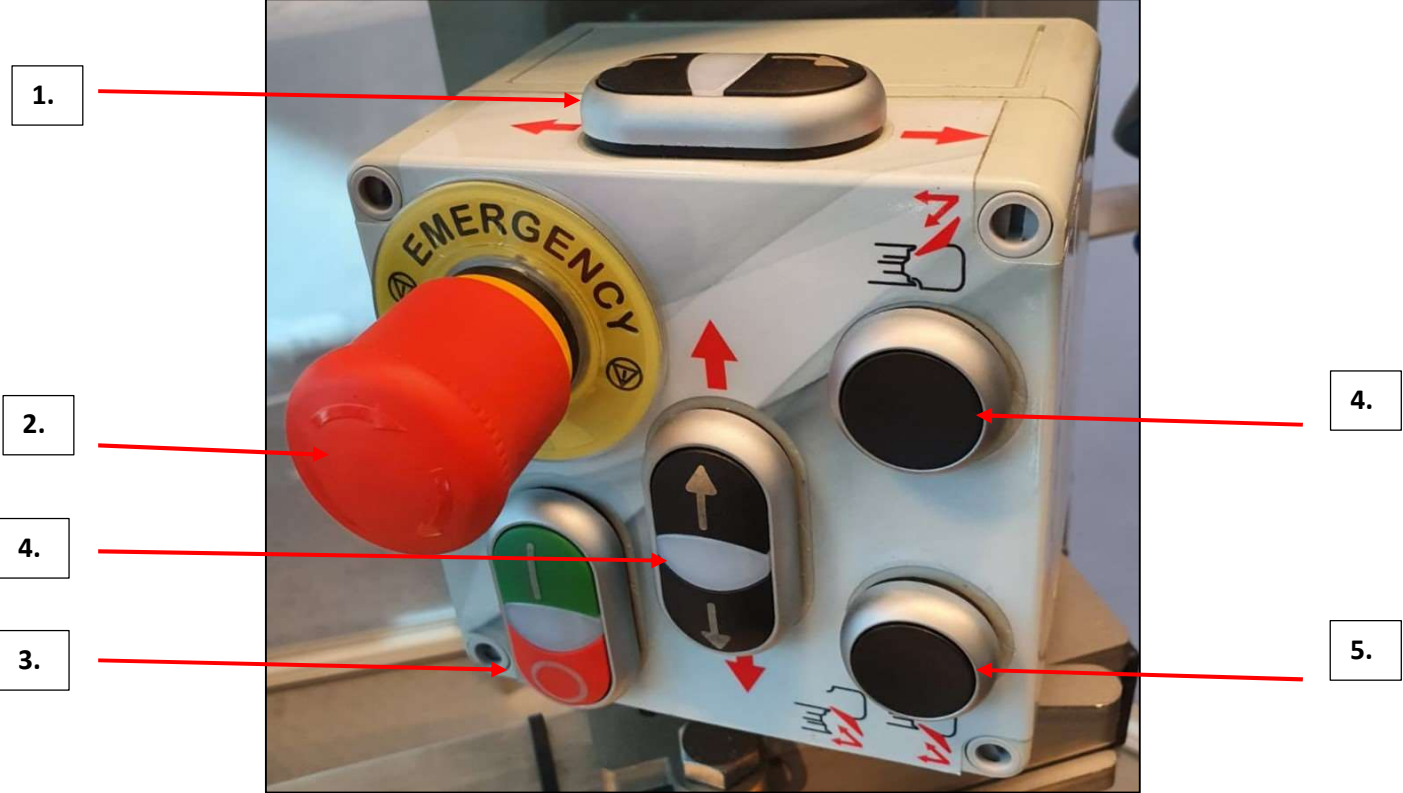
9 = Control panel

10 = Bead press rollers

11 = Camera for lower bead

12 = Compressor 8 bar / 115 psi (1,5 HP)

### 3 – Control panel layout



- 1: Move left, Move right
- 2: Emergency Stop
- 3: Turn on and off
- 4: UPPER BEAD PRESS – DUAL MOVEMENT, SAFELY RETRACTS AFTER PRESSING “UP” BUTTON
- 5: LOWER BEAD PRESS – DUAL MOVEMENT, SAFELY RETRACTS AFTER PRESSING “DOWN” BUTTON

#### 4.3 - Operating principle tire changer

MAKE SURE TO HAVE COMPLETED ECUBE OPERATOR TRAINING AND THAT THE HAZARDS AND RISKS AROUND ECUBE ARE WELL UNDERSTOOD. THE MAJORITY OF TIRE/WHEEL ASSEMBLIES CAN BE SERVICED WITH YOUR ECUBE. SOME MIGHT REQUIRE ADDITIONAL ACCESSORIES LIKE RIM PROTECTORS AND CLAMPS. ECUBE AND ITS AUTHORIZED DISTRIBUTORS CANNOT BE HELD LIABLE FOR INJURIES, DAMAGE AND/OR EXCESSIVE WEAR CAUSED BY IMPROPER USE, MAINTENANCE AND/OR MODIFICATIONS TO THE MACHINE.

## 5. Operating instructions

### 5.1 - Operating principle tire changer

MAKE SURE TO HAVE COMPLETED ECUBE OPERATOR TRAINING AND THAT THE HAZARDS AND RISKS AROUND ECUBE ARE WELL UNDERSTOOD. THE MAJORITY OF TIRE/WHEEL ASSEMBLIES CAN BE SERVICED WITH YOUR ECUBE. SOME MIGHT REQUIRE ADDITIONAL ACCESSORIES LIKE RIM PROTECTORS AND CLAMPS. ECUBE AND ITS AUTHORIZED DISTRIBUTORS CANNOT BE HELD LIABLE FOR INJURIES, DAMAGE AND/OR EXCESSIVE WEAR CAUSED BY IMPROPER USE, MAINTENANCE AND/OR MODIFICATIONS TO THE MACHINE.

#### 5.1.1 – Start-up

**STEP 1** TURN ON THE MACHINE BY PRESSING THE GREEN BUTTON. ENSURE THAT THE TIRE CHANGER TABLE IS IN THE MOST LEFT POSITION BEFORE POSITIONING THE WHEEL.



**STEP 2** POSITION THE WHEEL.

**STEP 3** ENSURE THAT THE LOCK PIN ON THE MOUNTING TABLE IS INSERTED INTO ONE OF THE STUD HOLES.



**STEP 4** CHECK IF CENTER HOLE OF THE RIM IS LINED UP WITH THE CENTER POST SPINDLE. THEN PRESS AND HOLD THE RIGHT FOOT PEDAL TO ELEVATE THE CENTER POST SPINDLE TO ITS MAX HEIGHT.



**STEP 5** POSITION THE YELLOW PLASTIC CONE COVER, HOLDING THE DUAL METAL CONES, BY SLIDING IT OVER THE CENTER POST SPINDLE.

**STEP 6** POSITION THE STEEL QUICK NUT AND FIRMLY TIGHTEN IT. ENSURE THAT THE RIM IS PERFECTLY CENTERED. NOW RELEASE THE RIGHT FOOT PEDAL.



**STEP 7** THE ARMS OF THE QUICK NUT CAN NOW BE FOLDED DOWN TO MINIMIZE INTERFERENCE WHEN USING THE TIRE LEVER.





**STEP 8**      **SET THE STARTING POSITION OF THE MACHINE** BY CHECKING THE TIRE SIZE. THEN MOVE THE TABLE TO THE RIGHT TIRE SIZE WITH THE HELP OF THE YELOW RULER AND INDICATOR. INDICATION ONLY, FINE TUNING MIGHT BE REQUIRED.



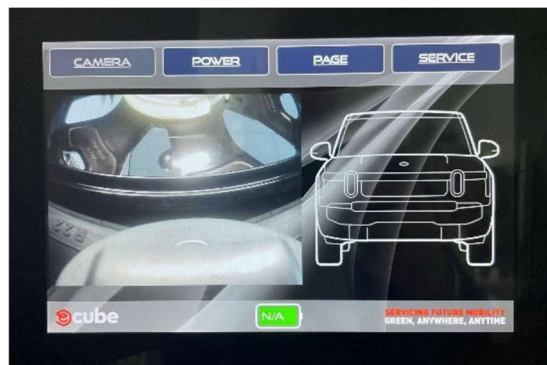
### 5.1.2 – Demounting

**STEP 1** REMOVE THE VALVE CORE AND AIR PRESSURE FROM THE TIRE. DON'T START THE BEAD BREAKING PROCESS UNTIL THE TIRE IS COMPLETELY DEFLATED.



**STEP 2** TO SAVE TIME IT'S RECOMMENDED TO START WITH THE LOWER BEAD. LOWER THE VERTICAL TOOL SELECTOR UNTIL THE BOTTOM BEAD PRESS ARM WITH DISK CAN MOVE FREELY UNDERNEATH THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 3** MOVE THE VERTICAL TOOL SELECTOR UPWARDS BY PRESSING THE "UP" BUTTON. ENSURE OF 0,1 INCH CLEARANCE BETWEEN THE DISK AND THE RIM EDGE. USE CAMERA SCREEN OR VISUAL INSPECTION FOR GUIDANCE.



**STEP 4** PUSH DOWN THE MIDDLE FOOT PEDAL; THE CENTER POST TURNS CLOCKWISE. APPLY ELUBE BETWEEN THE TIRE AND RIM.



**STEP 5** PRESS THE LOWER BEAD BREAKING BUTTON IN **SMALL INTERVALS** TO BREAK THE BOTTOM BEAD. KEEP LUBRICATING AS NEEDED TO ENABLE A SMOOTH BEAD BREAKING PROCESS.



**STEP 6** AFTER FULLY COMPLETING THE BEAD BREAKING PROCESS PUSH THE "DOWN" BUTTON. THE CENTER POST RETURNS TO ITS STARTING POSITION.



**STEP 7** AS SOON AS THERE'S ENOUGH CLEARANCE UNLOCK THE BEAD PRESS ARM WITH DISK. SWING IT BACK TO ITS STARTING POSITION.

**STEP 8** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE UPPER BEAD PRESS ARM WITH DISK CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION

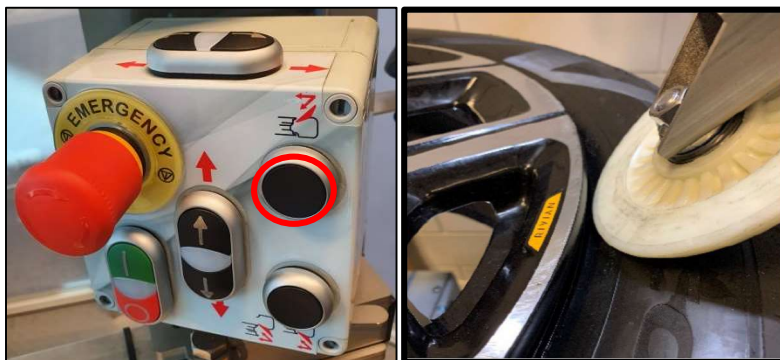
**STEP 9** MOVE THE VERTICAL TOOL SELECTOR DOWNWARDS BY PRESSING THE "DOWN" BUTTON. ENSURE OF 0,1 INCH CLEARANCE BETWEEN THE DISK AND THE RIM EDGE.



**STEP 10** PUSH DOWN THE MIDDLE FOOT PEDAL; THE CENTER POST TURNS CLOCKWISE. APPLY ELUBE BETWEEN THE TIRE AND RIM.



**STEP 11** PRESS THE UPPER BEAD BREAKING BUTTON **IN SMALL INTERVALS** TO BREAK THE UPPER BEAD. KEEP LUBRICATING AS NEEDED TO ENABLE A SMOOTH BEAD BREAKING PROCESS..



**STEP 12** AFTER FULLY COMPLETING THE BEAD BREAKING PROCESS PUSH THE "UP" BUTTON. THE CENTER POST RETURNS TO ITS STARTING POSITION.

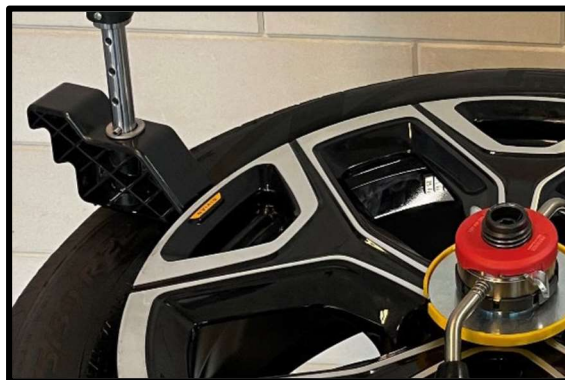


### DEMOUNTING WITH (DE)MOUNT HEAD AND TIRE LEVER

**STEP 13** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 14** LOWER THE VERTICAL TOOL SELECTOR AND POSITION THE (DE)MOUNT HEAD ON THE EDGE OF THE RIM. ENSURE THAT THE (DE)MOUNT HEAD IS PROPERLY ALIGNED, ADJUST IF NEEDED.

**STEP 15** USE THE HELPER ARM (2) AND ITS PRESS BLOCK TO GENTLY PRESS THE TIRE BEAD ON THE OPPOSITE SIDE. THIS TO MAKE SURE THAT THE BEAD IS IN THE DROP CENTER TO ENSURE SUFFICIENT SPACE WHILE DEMOUNTING WITH THE TIRE LEVER AND (DE)MOUNT HEAD. ELUBE TIRE SPRAY PLAYS A CRUCIAL ROLE DURING MOUNTING AND DEMOUNTING.



**STEP 16** POSITION THE TIRE LEVER ONTO THE (DE)MOUNT HEAD, LIFT THE BEAD AND PULL IT OVER THE (DE)MOUNT HEAD.



**STEP 17** NOW HAVE THE CENTER POST TURN CLOCKWISE TO REMOVE THE UPPER BEAD FROM THE RIM. MAKE SURE THAT THE TIRE LEVER COVER IS IN GOOD CONDITION TO AVOID METAL-ON-METAL FRICTION DURING ROTATION. (TIRE LEVER COVER IS A CONSUMABLE REPLACEMENT PART)

**STEP 18** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS STARTING POSITION. MOVE HELPER ARM (2) SIDWAYS.

**DEMOUNTING WITH (DE)MOUNT HEAD AND IN-CONTROL HOOK**

**STEP 19** REPLACE THE PRESS BLOCK FROM HELPER ARM (1) WITH THE IN-CONTROL HOOK.



**STEP 20** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 21** LOWER THE VERTICAL TOOL SELECTOR AND POSITION THE (DE)MOUNT HEAD ON THE EDGE OF THE RIM. ENSURE THAT THE (DE)MOUNT HEAD IS PROPERLY ALIGNED, ADJUST IF NEEDED..

**STEP 22** POSITION THE IN-CONTROL HOOK ONTO THE (DE)MOUNT HEAD.



**STEP 23** DEPENDING ON THE TIRE COMPLEXITY, USE THE HELPER ARM (2) AND ITS PRESS BLOCK TO GENTLY PRESS THE TIRE BEAD ON THE OPPOSITE SIDE. THIS TO MAKE SURE THAT THE BEAD IS IN THE DROP CENTER TO ENSURE SUFFICIENT SPACE WHILE DEMOUNTING WITH THE IN-CONTROL HOOK AND (DE)MOUNT HEAD. ELUBE TIRE SPRAY PLAYS A CRUCIAL ROLE DURING MOUNTING AND DEMOUNTING.

**STEP 24** LOWER THE HOOK, BY OPERATING THE PNEUMATIC CYLINDER, UNTIL IT GRABS THE TIRE BEAD. DURING THE PROCESS (BOTH UPWARDS AND DOWNWARDS) IT'S CRUCIAL TO GUIDE THE HOOK BY HOLDING THE GRIP.



**STEP 25** USE THE HOOK TO PULL THE BEAD OVER THE (DE)MOUNT HEAD.

**STEP 26** NOW HAVE THE CENTER POST TURN CLOCKWISE TO REMOVE THE UPPER BEAD FROM THE RIM WHILE STILL HOLDING THE HOOK.

**STEP 27** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE TIRE. MOVE THE ARM TO ITS STARTING POSITION. MOVE HELPER ARMS (1+2) SIDEWAYS.

**STEP 28** LIFT THE TIRE ON THE RIGHT SIDE AS FAR AS POSSIBLE.

**STEP 29** LOWER THE VERTICAL TOOL SELECTOR UNTIL THE BOTTOM BEAD PRESS ARM WITH DISK CAN MOVE FREELY UNDERNEATH THE TIRE. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 30** MOVE THE VERTICAL TOOL SELECTOR UPWARDS BY PRESSING THE "UP" BUTTON. WHEN REACHING THE RIM EDGE, PRESS THE LOWER BEAD BREAKING BUTTON TO PUSH THE BEAD OVER THE RIM EDGE. KEEP 0,25 INCH CLEARANCE IN BETWEEN DISK AND RIM EDGE. MAKE SURE THE TPMS SENSOR ISN'T DAMAGED DURING THE PROCESS.



**STEP 31** NOW HAVE THE CENTER POST TURN CLOCKWISE TO COMPLETELY REMOVE THE TIRE FROM THE RIM.



**STEP 32** PRESS THE "DOWN" BUTTON UNTIL THE TURNTABLE IS BACK TO ITS ORIGINAL POSITION.





**STEP 33** AS SOON AS THERE'S ENOUGH CLEARANCE UNLOCK THE BEAD PRESS ARM WITH DISK. SWING IT BACK TO ITS STARTING POSITION.

**STEP 34** CHECK THE RIM FOR ANY IMPERFECTIONS OR DAMAGE BEFORE FITTING A NEW TIRE. ALWAYS CHECK/REPLACE THE VALVE AND CHECK/PROGRAM/REPLACE THE TPMS IF NEEDED.

### 5.1.3 – Mounting tire

**STEP 1** LUBRICATE THE NEW TIRE WITH ELUBE TIRE SPRAY.

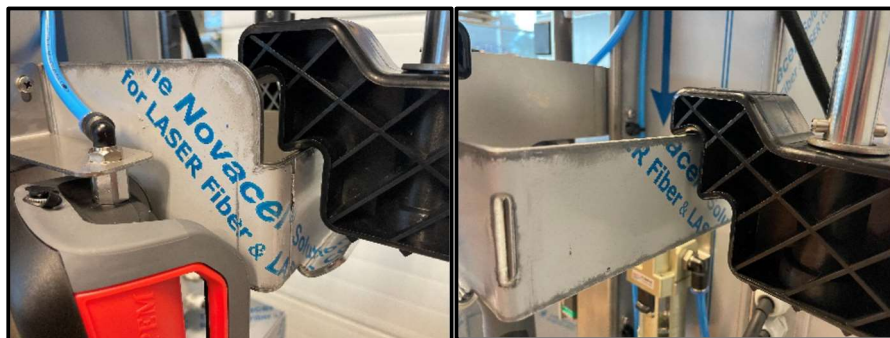
**STEP 2** CHECK FOR DIRECTIONAL MARKS OR SIDE MARKS TO PUT THE TIRE IN THE RIGHT POSITION ON THE RIM. PUT THE TIRE ON TOP OF THE RIM AND MANUALLY PUSH THE RIGHT SIDE OF THE TIRE DOWN.

**STEP 3** RAISE THE VERTICAL TOOL SELECTOR UNTIL THE (DE)MOUNT HEAD ARM CAN MOVE FREELY OVER THE RIM. MOVE THE ARM TO ITS LOCKING POSITION.

**STEP 4** LOWER THE VERTICAL TOOL SELECTOR AND POSITION THE (DE)MOUNT HEAD. ENSURE THAT THE (DE)MOUNT HEAD IS PROPERLY ALIGNED, KEEP 0,13 INCH CLEARANCE. ADJUST IF NEEDED.

**STEP 5** NOW HAVE THE CENTER POST TURN CLOCKWISE TO FIT THE LOWER BEAD ON THE RIM.

- STEP 6** POSITION EDGE OF TIRE BEAD ON TOP OF THE MOUNTING LIP OF THE (DE)MOUNT HEAD. THE MOUNTING LIP IS ON THE LEFT SIDE OF THE LIP.
- STEP 7** PUSH EDGE OF TIRE BEAD UNDER THE DEMOUNTING LIP OF THE HEAD, WHILE KEEPING THE OTHER EDGE OF TIRE BEAD ABOVE THE MOUNTING LIP.
- STEP 8** TWIST TIRE CLOCKWISE BY HAND TO LOCK THE TIRE INTO THE MOUNTING POSITION. TURN CENTER POST CLOCKWISE.
- STEP 9** NOW HAVE THE CENTER POST TURN CLOCKWISE TO FIT THE UPPER BEAD ON THE RIM.
- STEP 10** WHEN NECESSARY USE HELPER ARM (2) WITH PRESS BLOCK AND/OR IN-CONTROL BEAD PRESS ROLLER.
- STEP 11** STORE THE HELPER ARMS IN THEIR HOME POSITION, LOCK THEM BY USING AIR PRESSURE. AVOID EXCESSIVE PRESSURE!



HELPER ARM 1 AT SIDE

HELPER ARM 1 AT REAR

- STEP 12** INFLATE TIRE WITH AIR TO THE PRESSURE ADVISED BY THE MANUFACTURER. AN AUTOMATIC INFLATOR (8) IS AVAILABLE. PLEASE READ THE MANUAL BEFORE USING THE INFLATOR

5.1.4 – End of use



KEEP HANDS AND BODY AS FAR AWAY AS POSSIBLE FROM TIRE DURING INFLATION. TIRES ARE TO BE INFLATED WITH UTMOST CAUTION.

- STEP 1** MOVE TURNTABLE TO THE LEFT IN ORDER TO CREATE ENOUGH CLEARANCE.



**STEP 2** PRESS AND HOLD THE RIGHT FOOT PEDAL



**STEP 3** TURN ARMS OF THE QUICK NUT UP



**STEP 4** UNSCREW THE QUICK NUT AND REMOVE PLASTIC CONE COVER HOLDING THE DUAL METAL CONES.

**STEP 5** RELEASE THE RIGHT FOOT PEDAL TO LOWER THE CENTER POST SPINDLE.

**STEP 6** CAREFULLY REMOVE THE WHEEL FROM THE CENTER POST.

**STEP 7** THE WHEEL IS NOW READY FOR BALANCING.

**ATTENTION:**

**ECUBE BENEFITS FROM MULTIPLE STEPPER MOTORS.**

**IN CASE OF A TORQUE OVERLOAD THE MOTOR THAT ENSURES THE ROTATION OF THE TURNTABLE WILL STOP. BY SWITCHING THE MACHINE OFF/ON IT WILL BE OPERATIONAL AGAIN.**

**MAKE SURE TO USE SUFFICIENT ELUBE DURING THE (DE)MOUNTING PROCESS. SMALL INTERVALS DURING THE BEAD BREAKING PROCESS HELP TO AVOID TORQUE OVERLOAD.**

**ECUBE COMES EQUIPPED WITH INSTRUCTIONAL VIDEOS ON HOW TO CHANGE A TIRE, BALANCE A WHEEL, AND TROUBLESHOOT ANY PROBLEM YOU MAY ENCOUNTER ALONG THE WAY.**

## 5.2 – Touchscreen

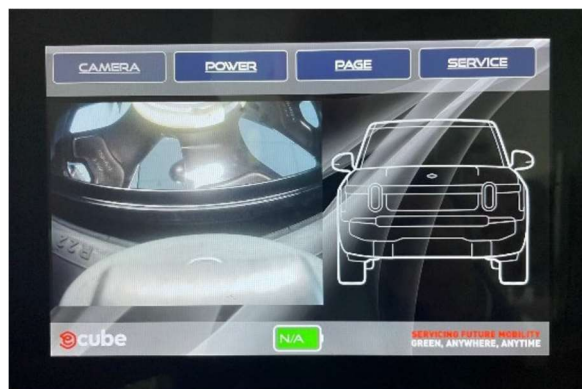
YOUR ECUBE TOUCHSCREEN OFFERS A VARIETY OF INTERESTING FEATURES.

USE PINCH GESTURES TO ZOOM IN OR OUT (AS YOUR FINGERS MOVE APART, THE SCREEN ZOOMS IN).

### 5.2.1 – Camera

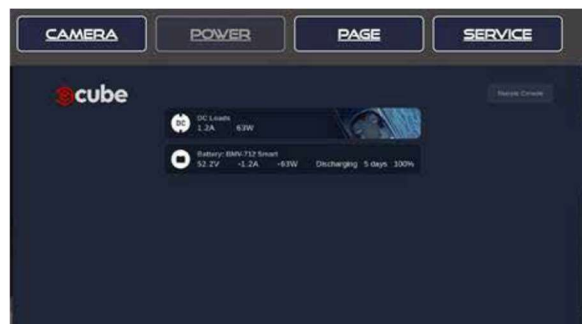
THE CAMERA TAB ALLOWS YOU TO MONITOR THE BEAD BREAKING PROCESS OF THE LOWER BEAD.

REMEMBER THAT YOU CAN USE PINCH GESTURES TO ZOOM IN AND ZOOM OUT.



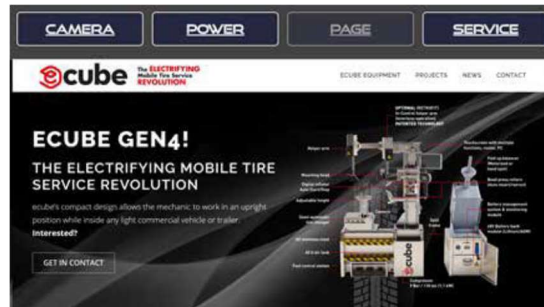
### 5.2.2 – Power

THE POWER TAB SHOWS YOU THE POWER SYSTEM. IT ALLOWS YOU TO CHECK THE AC/DC AND DC/DC CHARGING PERFORMANCE. YOU ALSO HAVE THE POSSIBILITY TO SWITCH THE INVERTER ON/OFF. ('OFF' IS RECOMMENDED WHEN YOU ARE NOT USING YOUR ECUBE FOR A LONGER TIME)



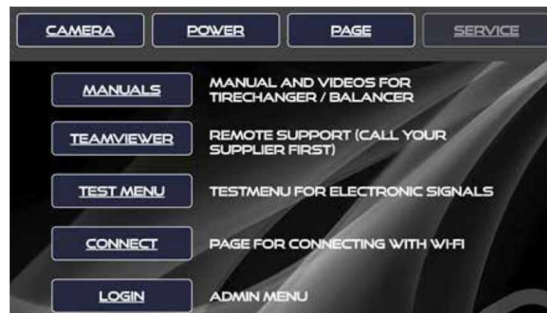
### 5.2.3 – Page

THE HTML BASED PAGE TAB BRINGS YOU TO THE ECUBE-EQUIPMENT WEBSITE AS LONG AS CONNECTED WITH THE INTERNET (THROUGH CELL PHONE OR BY ENTERING AN APPROVED NETWORK ENVIRONMENT).



### 5.2.4 – Service

THE SERVICE TAB BRINGS YOU TO THE PAGE WITH MANUALS AND 'HOW TO' VIDEOS. IT ALSO SHOWS THE TEAMVIEWER TAB FOR REMOTE ACCESS/SUPPORT BY AUTHORIZED ECUBE STAFF AND ONLY AFTER YOUR APPROVAL.



THE TEST MENU TAB HELPS TO QUICKLY IDENTIFY A POSSIBLE CONNECTION PROBLEM BETWEEN COMPONENTS.

THE CONNECT TAB HELPS YOU TO ESTABLISH A WIFI CONNECTION.



THE LOGIN TAB IS AVAILABLE TO AUTHORIZED ECUBE SERVICE TECHNICIANS ONLY.



## 5.3 - Miscellaneous

### Emergency stop button

When a dangerous situation occurs which requires immediate action, press the Emergency stop button. This knob stops the tire changer completely and ensures no electricity and moving parts will be active anymore.

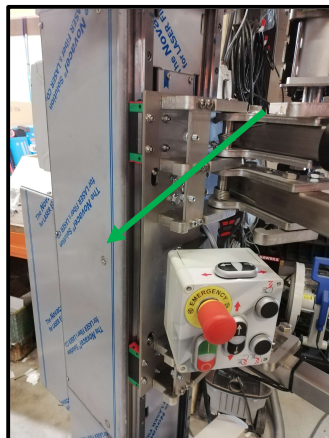
### Helper arm positioning

If you do not work for a long time with the Ecube, we suggest to place the helper arms in their holders. This way, no accidents or damage can take place. When driving, ALWAYS place the helper arms in their holders to prevent them from moving around in the vehicle.



### Safety switch protection

Within the machine, multiple safety switches are located in order to prevent accidents and lethal damage. When a tire is hitting the plate of the vertical axle, the machine will likely shut off out of protection.



### Quick nut usage

Place the quick nut above the black spindle. By pushing the metal 'handles' to the opposite direction, the quick nut expands and allows you to move it to the bottom of the spindle. Release the handles at the end in order to return the screw thread. Tighten extra if required.



# **cube** Generation 4 Balancer Quick Guide



**Product image for illustration purposes only. Actual product may vary.**

E-cube Equipment International

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Rechtzaad 6, 4703 RC

[eu@ecube-equipment.com](mailto:eu@ecube-equipment.com)

Roosendaal, The Netherlands

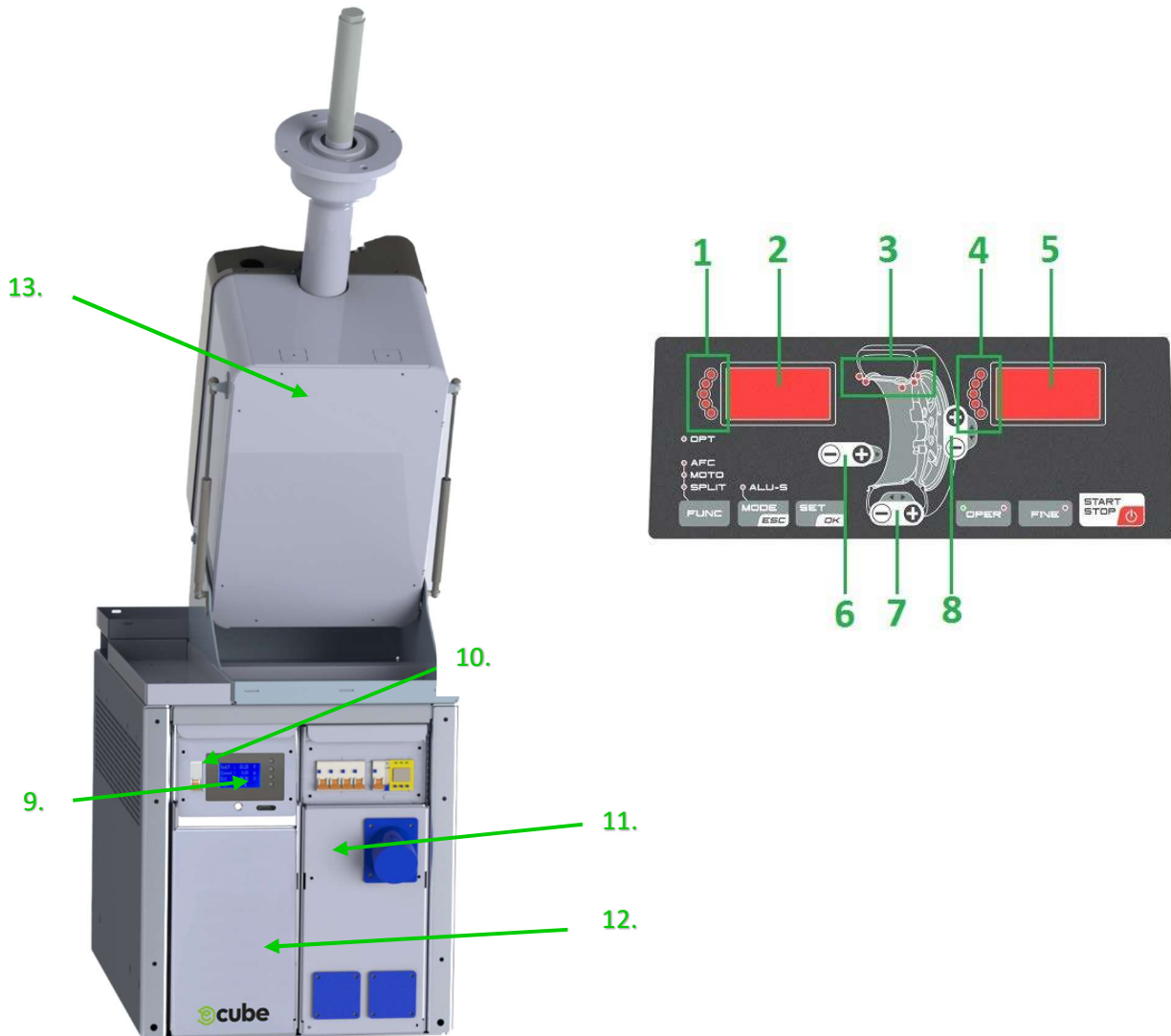
+31-165-394018

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## 1 – Balancer Layout



Product image for illustration purposes only. Actual product may vary.

1 = Balancing indication inner part tire

2 = Display inner part tire

3 = Position balancing weight

4 = Balancing indication outer part tire

5 = Display outer part tire

6 = Dimension rim to machine adjuster

7 = Width rim adjuster

8 = Diameter rim adjuster

9 = Battery display

10 = Main power switch

11 = Inverter box

12 = Battery box

13 = Balancer

## 2 – Balancer control panel definitions

<MODE>: .....	To select balancing type: Dynamic-Static-Alu.
<SET>: .....	Confirm selection
<OPER>: .....	To select Operator 1 or Operator 2.
<FINE>: .....	To select reading scale.
<FUNC>: .....	To select specific functions.
<START-STOP>: .....	Starts-stops wheel spinning.
6 <DISTANCE -/+>: .....	Set internal side measure.
7 <WIDTH -/+>: .....	Set width measure.
8 <DIAMETER -/+> .....	Set diameter measure.

### LED INDICATORS

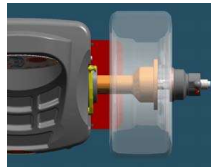
1-4: .....	indicate location of weight required.
2-5: .....	indicate amount of weight required.
3: .....	indicate the application point of weights.

### 3 – Calibrating the balancer

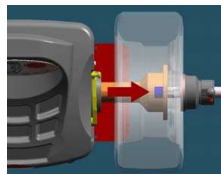
These symptoms could be an indication of calibrating

- Calibration program appears to be failing
- Constant low or high weight readings
- Point of unbalance constantly wrong
- 2+ spins required in order to balance the wheel correctly

- |        |   |
|--------|---|
| STEP 1 | Turn on the wheel balancer  |
| STEP 2 | Press <SET> when <SOF> appears on the display   |
| STEP 3 | Select mode CAL USR   |
| STEP 4 | Let the balancer spin until it stops (C0 on screen)   |
| STEP 5 | After the first spin is done, place any wheel with steel frame on the flange (C1 on screen) |



- |        |   |
|--------|---|
| STEP 6 | ATTENTION! Do not forget to tighten the wheel with the cone       |
| STEP 7 | Let the balancer spin once again with the wheel on it             |
| STEP 8 | Start C2 (calibration 2) with the calibration weight on the wheel |



- |         |  |
|---------|--|
| STEP 9  | Let the balancer spin once again with the wheel and weight on it         |
| STEP 10 | Your calibration of the balancer is finished and should work accordingly |
| STEP 11 | Press <MODE/ESC> in order to balance normal again                        |



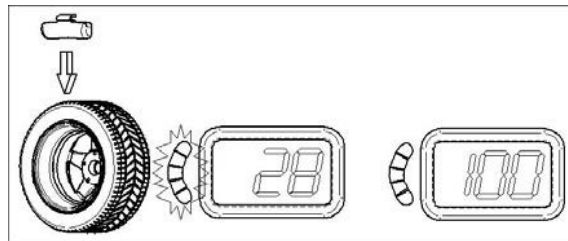
**CAUTION:** Only authorized and qualified personnel is allowed to calibrate



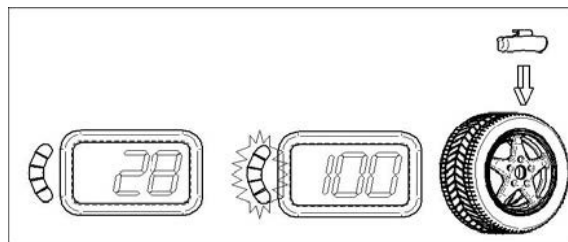
**WARNING:** Do not forget to tighten and adjust the wheel with the cone

## 4 - Balancing a wheel

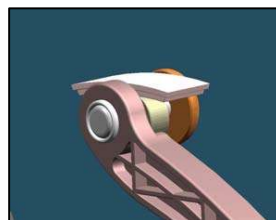
- STEP 1** Measure the size of the tire with the reading distance gauge
- STEP 2** Lock the wheel onto the balancer with the provided cone
- STEP 3** Press <START> in order to start a measurement run
- STEP 4** If unbalance is shown GOOD, press <FINE> to show unbalance
- STEP 5** The left screen indicates inside weight



- STEP 6** The right screen indicates outside weight



- STEP 7** Place the weight on the rod



- STEP 8** Turn the wheel to the position in order to have both screens balanced (step 5 & 6)
- STEP 9** Move the rod until = = = appears on the screen
- STEP 10** Apply the weight and repeat for the opposite weight if needed

## 5 – Laser line usage + APS Function (Optional)

<b>STEP 1</b>	Proceed your process as mentioned above in 5.5
<b>STEP 2</b>	When LEDs 1 and 4 are all ON, the wheel is in position for weights
<b>STEP 3</b>	The laser line will now appear on the exact place for the weight
<b>STEP 4</b>	Place the weight on the laser line
<b>NOTE:</b>	Laser lined balancers have an automatic position system (APS) which stops where you need to stick the weight. You do not need to move the tire.

## 6 – Additional data display (optional)



## 7 – Safety precautions

- As this unit runs at a speed below 100rpm, a safety cover is not required.
- Ecube International shall not be responsible for any inconvenience, breakdown, accidents caused directly or indirectly by unauthorized service. Service to any parts by unauthorized engineers will void warranty and will any right of the owner of the unit.

## 1 – Introduction

This manual provides all information regarding the ecube generation 4. The manual includes instructions and information which is required to operate and maintain the ecube G4.

### Who is this manual for?

In this manual, there is expected that the operator is familiar with tire service and has the knowledge of handling a basic machine. Make sure all other operators read this manual also. By proceeding with operation the operator agrees that he fully understands the contents of this manual.

Unauthorized use is strictly inadvisable due to safety measurements and insufficient knowledge. This may lead to serious injuries and/or machine failure. The ecube is to be used only by a qualified trained operator.

### Warranty

The ecube generation 4 comes with a 12 months warranty on its components (wear and tear parts excluded).

### Definitions

Within the manual, certain definitions are marked *Italic* or **Bold** to provide additional information or explanation. **Bold** is often used to mark important definitions.

### Operator responsibility

Follow all safety-, operation- and maintenance instructions. Make sure all labels are clean and visible.

### Liability information

ecube International B.V. assumes **no** liability for damages resulting from:

- Use of the equipment for purposes other than those described in this manual
- Modifications to the equipment without prior, written permission from ecube International B.V.
- Damage to the equipment from external influences
- Incorrect operation of the equipment

### Limitations

Every effort has been made to have complete and accurate instructions in this manual. However, product updates, revisions, and/or changes may have occurred since this manual was published. Ecube international B.V. reserves the right to change any information in this manual without incurring any obligation for equipment previously or subsequently sold.

## 2 – General safety signs and instructions

### 2.1 – Signs

These symbols indicate potential danger including injuries and damage to the machine.



**DANGER:**

Watch for this symbol, it means **BE ALERT!** Your safety and the safety of others is involved. Negligence could result in personal injury, machine and/or property damage.



**CAUTION:**

Hot surface! May cause minor burns and irritation



**CAUTION:**

Crush hazard! Mind your hands.



**CAUTION!**  
High voltage

**CAUTION:**

Electrical shock or burn hazard.



**CAUTION:**

Laser radiation/collimated LED. Risk of eye injuries. Avoid direct eye exposure.

## 2.2 – Instructions

- Keep the manual near the machine
- Do not use ecube in the presence of open fires, flammable liquids, gases or dust
- Only manufacturer's recommended attachments and accessories, original parts or parts approved by manufacturer should be used with ecube
- Do not wear jewelry and/or loose clothing when operating ecube, always wear safety boots, gloves, safety glasses and ear protection
- **When ecube is not in use make sure it's turned off and disconnect external devices**
- Read the full operational manual before operating ecube
- Keep all warning signals and stickers visible on the machine for safety purpose
- Improper use may lead to injuries and damage to the machine
- Proper back support while lifting tires & wheels is mandatory
- Do not lean or reach over tire when inflating
- Do not exceed maximum tire pressure as shown on tire's side wall
- Do not stand on the tire changer
- Carefully guide/support wheel balancer during tilting process
- Report any defect immediately
- Hanging on the helper arm is not permitted
- If extension cords are used, make sure a cord with a current rating equal or more than that of the equipment should be used
- In any case of emergency, consult your team leader or service partner
- Do not work in ambient temperatures above 50 degree/122 F and ensure proper ventilation
- Battery bank is equipped with heating panels ensuring charging below 0 degree/ 32F at lower charging speed
- Keep work area clean and well illuminated
- Make sure the wheel is fully deflated and is rotating during the bead breaking process



### **3 – General operational & safety guidelines**

- Do not operate without a completed operator's training
- Do not cover the air vents in the frame
- The yellow inch indicator is a helper only. Exact rim dimensions might vary from their specifications
- ecube is only suitable for indoor use.
- Remove all wheel weights when demounting the wheel due to potential damage
- Prior to driving store wheel balancer in vertical position and secure the helper arm in its designated holder
- Always use a sufficient amount of elube tire spray during (de)mounting to minimize stress on the bead
- Remove any liquids immediately, ecube contains a variety of electronic parts

## 4 – DC/DC plugin

Always make sure to meet with local regulations!

The G4 ecube has an integrated Anderson connector in the power box (grey color).  
With ecube we provide a plastic bag that contains the holly crimpers and the other end of the Anderson connector that should be handed over to the installer



Is my DC/DC system functioning?

1. UNPLUG THE AC/DC CHARGER IN CASE IT IS CONNECTED.
2. START THE ENGINE
3. CHECK THE CURRENT ON THE LCD SCREEN OF YOUR POWER BOX
4. IT SHOULD NOW SHOW A MAXIMUM CHARGING CURRENT OF 15A
5. IF THE AMPS KEEP SHOWING ZERO THERE IS NO POWER REACHING THE DC/DC CHARGING SYSTEM – PLEASE CHECK THE CONNECTION AS PREPARED BY THE INSTALLER

Simultaneous DC/DC and AC/DC charging is possible

## 5 - Installation instructions

Always make sure to meet with local regulations!



ecube is a heavy machine which requires a forklift for transportation. Inside the cargo area, ecube may be positioned with the help of slide plates. Use **EXTREME** caution during the positioning process!

**For safe and efficient installation, multiple skilled people are recommended**

- STEP 1: Use a forklift to lift the pallet with the ecube
- STEP 2: Adjust the height of the pallet just so it is in line with the vehicle's cargo floor
- STEP 3: Turn off the forklift or put it on the handbrake
- STEP 4: Push the ecube with at least 2 people into the vehicle.
- STEP 5: Position ecube at the preferred position
- STEP 6: Ensure a roof connection to avoid ecube from tilting
- STEP 7: Check the vehicle's anchoring points for maximum output per anchoring point as specified by the vehicle manufacturer
- STEP 8: Use the M8 connection points at the rear and both sides of the main frame at the lower part of the frame(s) to connect with the anchoring points of the vehicle. Or drill in floor when anchoring points aren't available. Please note that the power box connection points (without tread) can be reached **only** after de-installing the battery box and inverter box (always unplug cables before de-installing battery box and inverter box !)



- STEP 9: Test ecube stability by doing a test drive and evaluate if the connection points need adjusting

### TIPS:

- Use slide plates in order to move ecube easily and safely inside the cargo area
- We recommend heavy duty flat brackets to connect with the roof of the vehicle
- For floor connectors, we recommend heavy duty L-angle profiles or corner brackets
- When dealing with height limitations please demount the top bracket of the machine (holding the touch screen and inflation system) before placing the machine in the cargo area of the vehicle

