



Tire Heating Tent

Assembly & Operating Instructions

MTH019201

Version _V2_2021/03

Contact

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Download Area

Assembly and Operating Instructions as well as Technical Manuals are available for download through the following link.

<http://www.manthey-racing.de/downloads.htm>

1. Warning and Safety Instructions

The classification of warning and safety information is made using the respective signal word (Danger, Warning, Attention) in addition to the warning icon.

 DANGER

Warning of death or serious bodily injuries, which will occur in the event of non-compliance.

 WARNING

Warning of death or serious bodily injuries, which will occur in the event of non-compliance.

 ATTENTION

Warning of minor bodily injuries in the event of non-compliance.

NOTE

Warning of property damage in the event of non-compliance.



Required tightening torque in Nm.

General Safety Guidelines

⚠ DANGER

Risk of injury and accident during and after work on the vehicle.

- Repairs are to only be carried out if access to the repair-handbook in the PIWIS Information System is also available.
- Follow the safety instructions.
- Follow the repair handbooks of the vehicle series in the PIWIS Information System.

⚠ DANGER

Falling vehicle risk:

Risk of Squeezing or Crushing.

Damage to vehicle.

- Do not place any rigid objects under the lifted vehicle.
- Secure lifting platform against lowering.
- Remove all objects under vehicle before lowering.
- Raise the vehicle using only the designated vehicle lifting points.
- Outer-most vehicle lifting points should be used as a matter of priority.

⚠ WARNING

Improper handling of safety-related fasteners risk:

Risk of injury.

Loosening of fastener.

- Always use new fastening screws and nuts after every dismantling.
- Observe the specified tightening torques.
- Visually inspect the components used.

⚠ WARNING

Working with compressed air:

Risk of eye injuries.

Damage and contamination of components.

- Wear safety glasses with side protection.
- Secure the compressed air discharge point with suitable materials.
- Place the compressed air discharge point on suitable areas.

⚠ WARNING

Toxic exhaust fumes:

Risk of Suffocation.

- When the engine is running, position an exhaust fume extraction system behind the vehicle exhaust pipes and ensure extraction system is switched on.

⚠ WARNING

Falling objects or loads:

Risk of Squeezing or crushing.

- Secure components against falling.

⚠ WARNING

Flying foreign bodies during grinding, drilling and milling:

Risk of eye injuries.

- Wear safety glasses.

⚠ WARNING

Non heat-resistant materials:

Fire Hazard.

- Avoid contact with hot components or sources of ignition.

⚠ ATTENTION

Sharp or sharp-edged objects:

Risk of Cracks, Punctures, or Cuts.

- Wear Personal Protective Equipment (PPE).

⚠ ATTENTION

Hot components:

Risk of Burns.

- Allow hot components to cool down.
- Wear Personal Protective Equipment (PPE).

⚠ ATTENTION

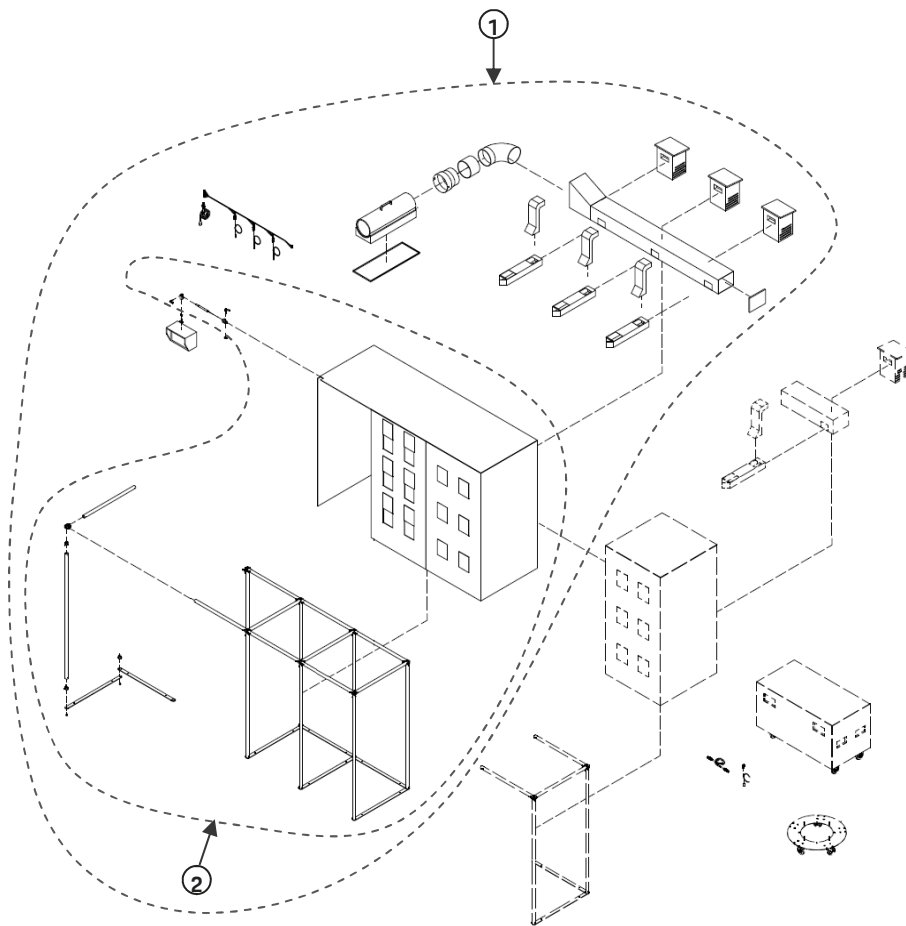
Heavy Components:

Risk of Crushing.

- Wear Personal Protective Equipment (PPE).

2. Component Overview

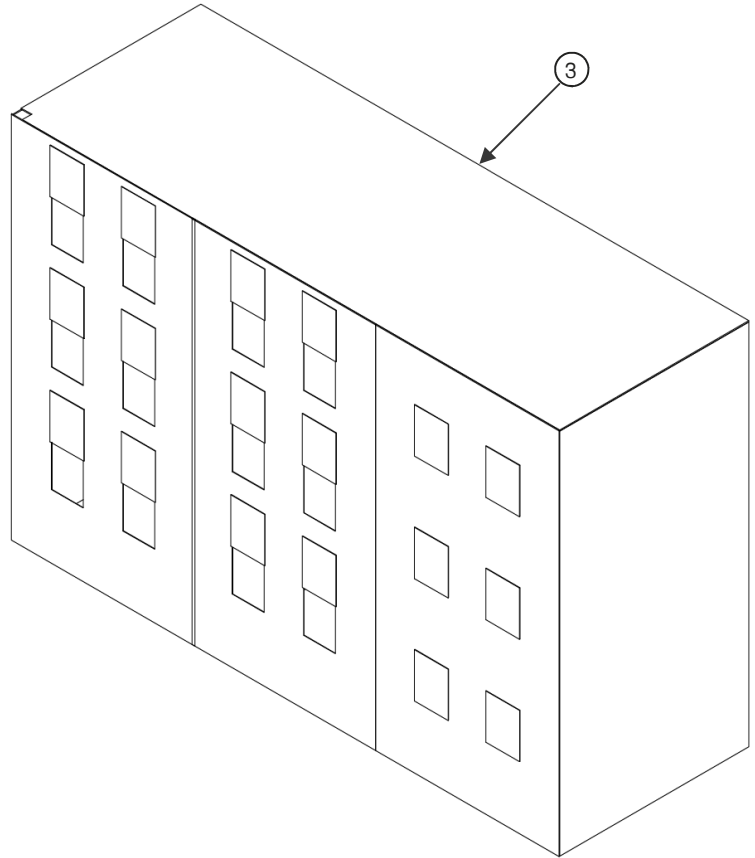
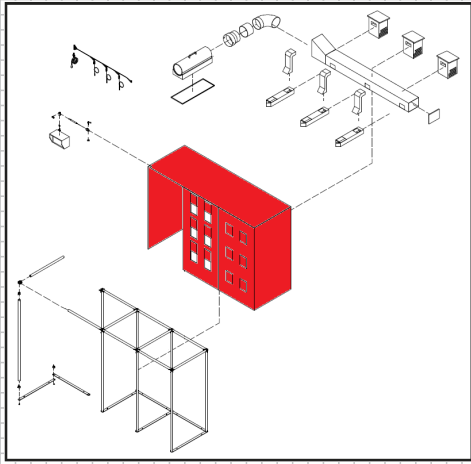
2.1 Tire Heating Tent



Pos.	Bezeichnung / Description	M	A.	Teile Nr. / Part no.
1	REIFENHEIZZELT (3 KAMMERN) POS.2-35 TIRE HEATING TENT (3 CHAMBER) POS.2-35		1	MTH019201
2	3ER KABINE BASIS HEIZZELT POS.3-20 TIRE HEATING TENT - BASIC 3 CHAMBER POS.3-20		1	MTH019207

2. Component Overview

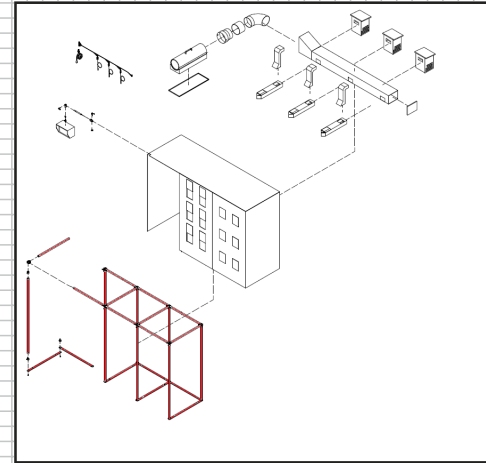
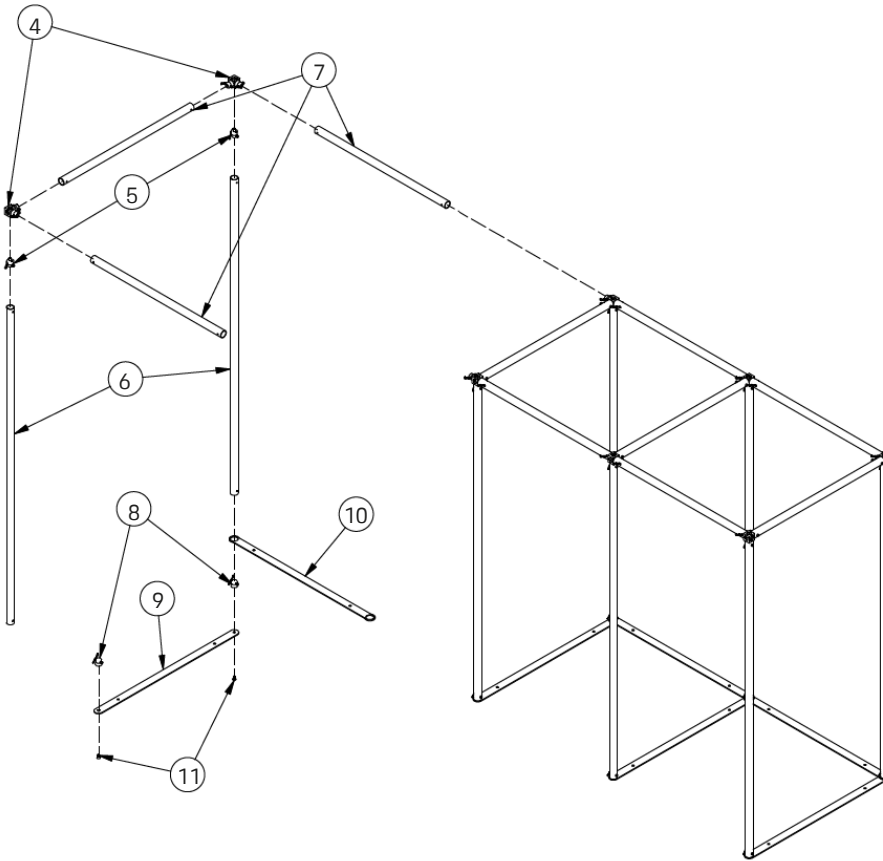
2.2 Tire Heating Tent - Basic Tarp



Pos.	Bezeichnung / Description	M	A.	Teile Nr. / Part no.
3	PLANE HEIZZELT 3-FACH TIRE HEATING TENT - 3 CHAMBER TARP		1	MTH019212

2. Component Overview

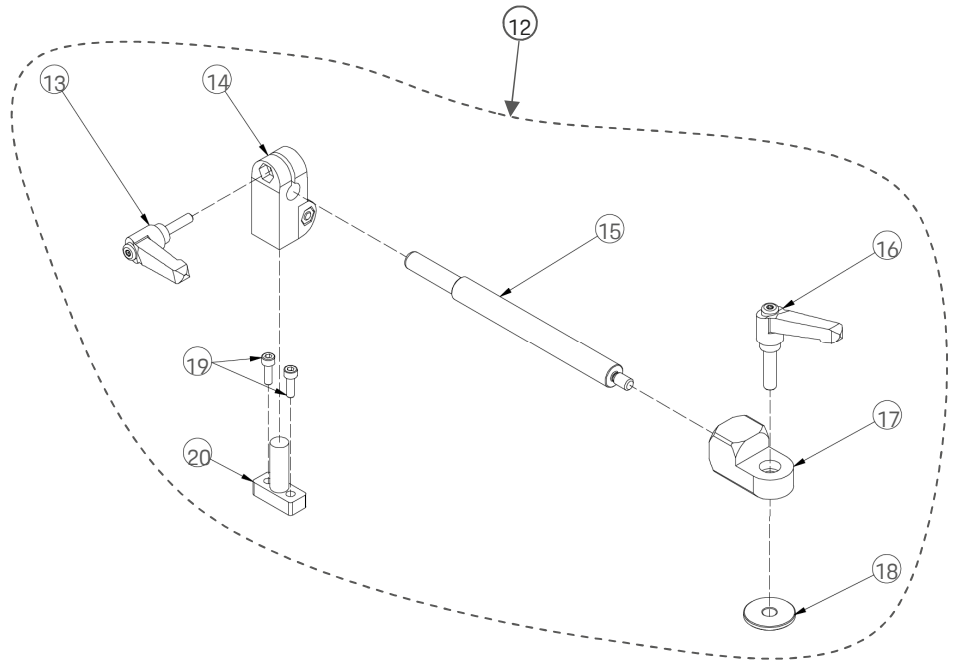
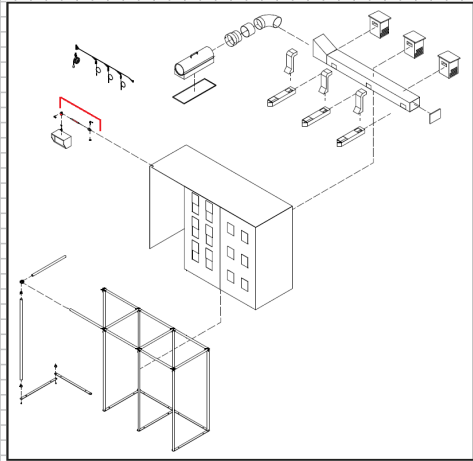
2.3 Tire Heating Tent - Frame Components



Pos.	Bezeichnung / Description	M	A.	Teile Nr. / Part no.
4	WUERFEL 6 ANSCHLUSSPUNKTE CORNER CUBE - 6 POINT CONNECTOR (fuer Erweiterung / for expansion →)		8/(2)	-
5	HALB KONUSVERBINDER HALF-CONE CONNECTOR (fuer Erweiterung / for expansion →)		10/(4)	-
6	VERBINDUNGSSTANGE LANG TRUSS LONG (fuer Erweiterung / for expansion →)		8/(2)	-
7	VERBINDUNGSSTANGE KURZ TRUSS SHORT (fuer Erweiterung / for expansion →)		10/(3)	-
8	HALBKONUS EINZELN MIT M8 INDIVIDUAL HALF-CONE CONNECTOR with M8 (fuer Erweiterung / for expansion →)		10/(4)	-
9	BODENBLECH (GESENKT) BASE PLATE (LOWER) (fuer Erweiterung / for expansion →)		4/(1)	-
10	BODENBLECH (UEBERWURF) BASE PLATE (CROSS-LINK) (fuer Erweiterung / for expansion →)		3/(1)	-
11	SENKKOPFSCHRAUBE M8X16 SCREW M8X16 (fuer Erweiterung / for expansion →)		8/(2)	-

2. Component Overview

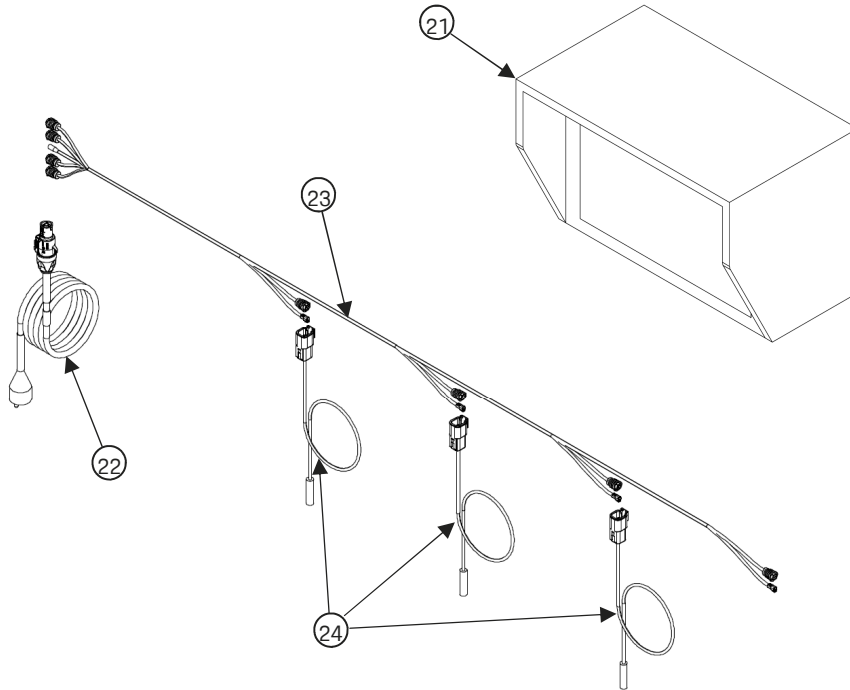
2.4 Tire Heating Tent - Control Unit Mount



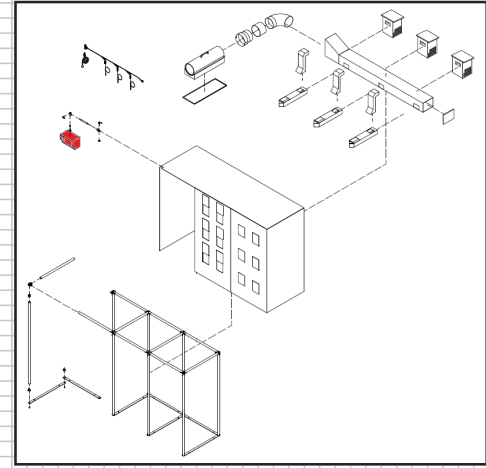
Pos.	Bezeichnung / Description	M	A.	Teile Nr. / Part no.
12	HALTER REGELEINHEIT POS. 13-20 CONTROL UNIT MOUNT POS. 13-20		1	MTH019215
13	VERSTELLBARER KLEMMHEBEL M6 ADJUSTABLE LEVER M6		1	-
14	WINKEL-KLEMMVERBINDER ANGLE CONNECTOR		1	-
15	GEWINDESCHAFT M8 MOUNTING SHAFT - M8		1	-
16	VERSTELLBARER KLEMMHEBEL M8 ADJUSTABLE LEVER - M8		1	-
17	ANBAU LASCHEN KLEMMHALTER MOUNTING BRACKET		1	-
18	ZENTRIERSCHEIBE HEIZZELT CENTERING WASHER		1	-
19	ZYLINDERSCHRAUBE M5X16 SCREW - M5X16		2	-
20	GRIFF FLANSCHBOLZEN HANDLE FLANGE BOLT		1	-

2. Component Overview

2.5 Tire Heating Tent - Control Unit & Wiring

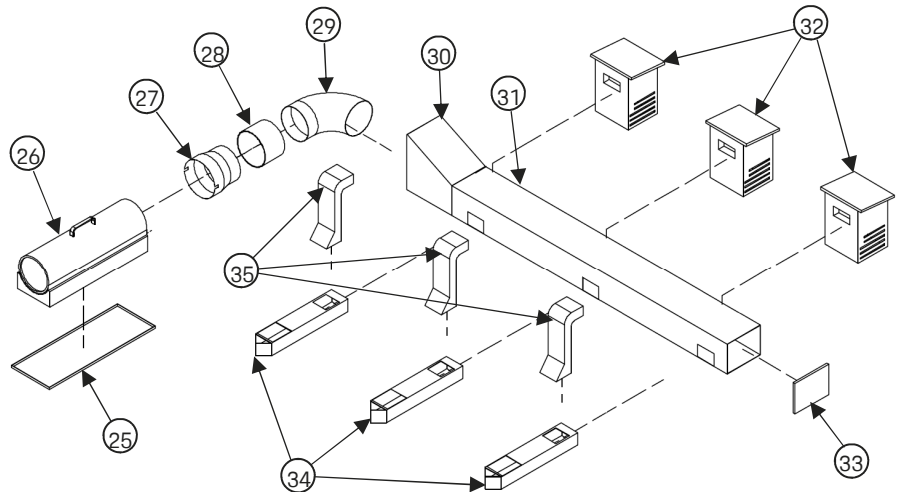
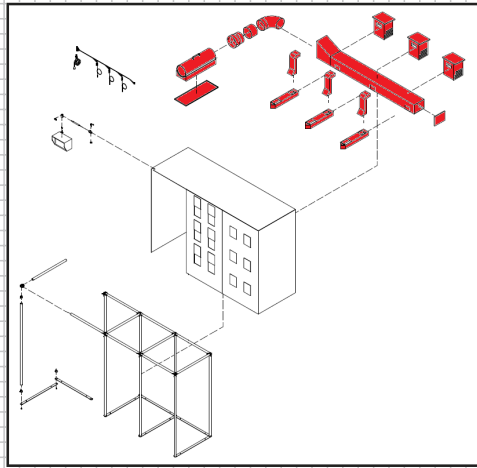


Pos.	Bezeichnung / Description	M	A.	Teile Nr. / Part no.
21	REGELEINHEIT HEIZZELT TIRE HEATING TENT CONTROL UNIT		1	MTH019205
22	ANSCHLUSSKABEL HEIZZELT TIRE HEATING TENT - POWER SUPPLY CABLE		1	MTH019202
23	KABELBAUM HEIZZELT TIRE HEATING TENT - WIRING LOOM		1	MTH019203
24	SENSORLEITUNG HEIZZELT TIRE HEATING TENT - SENSOR CABLE		3	MTH019204



2. Component Overview

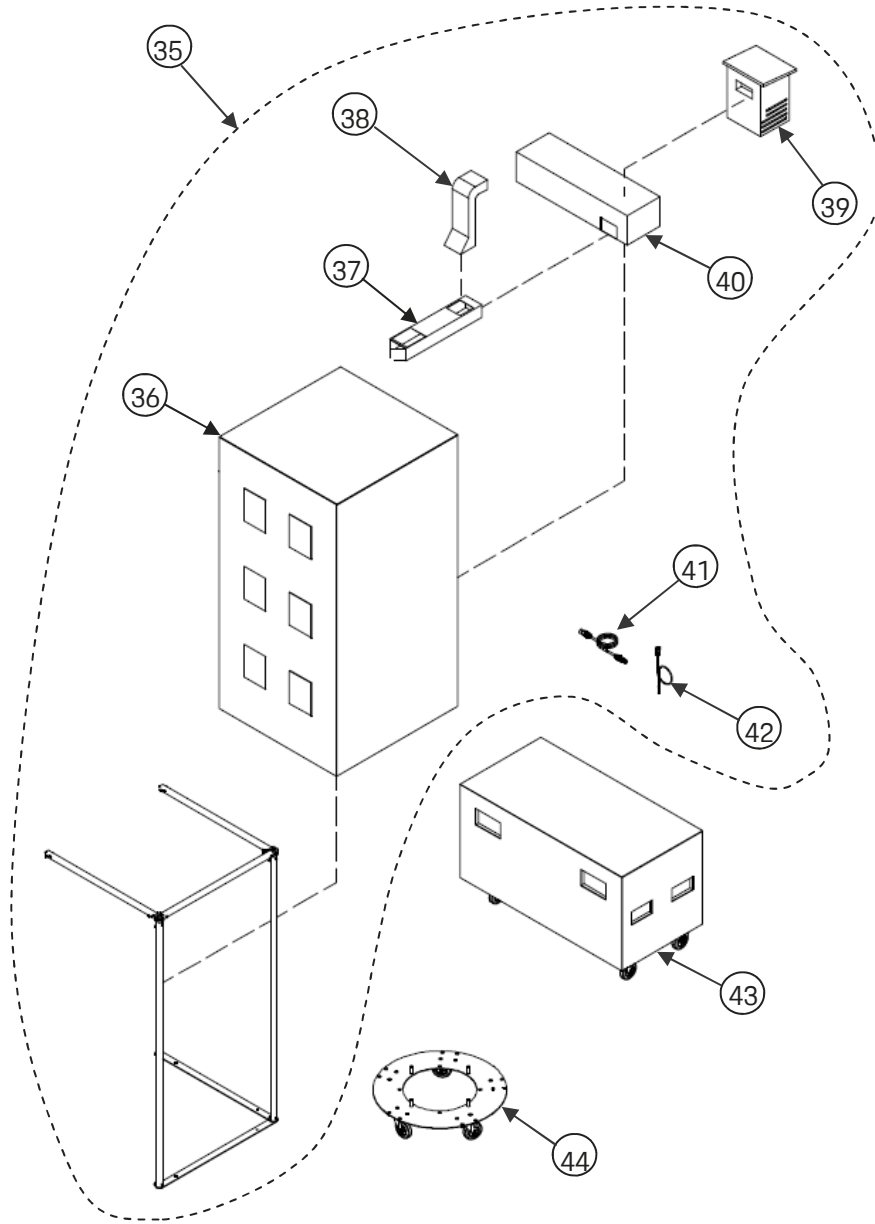
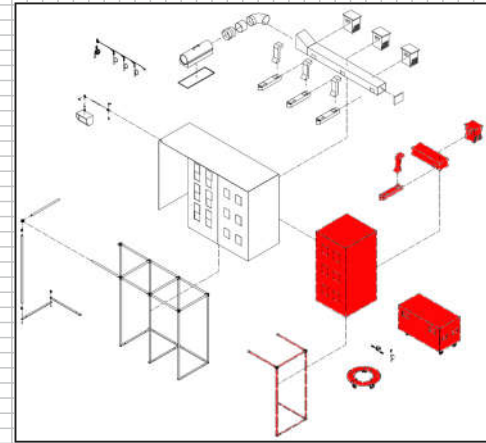
2.6 Tire Heating Tent - Heating Shaft



Pos.	Bezeichnung / Description	M	A.	Teile Nr. / Part no.
25	HEIZKANAL-WANNE HEATING SHAFT - PAN		1	-
26	BRENNER HEIZZELT TIRE HEATING TENT - BURNER		1	MTH019209
27	REDUZIERUNG REDUCER PIECE		1	-
28	MUFFE A / DN 200 FITTING A / DN 200		1	-
29	BOGEN 90° - Ø200mm HORIZONTAL BEND 90° - Ø200mm		1	-
30	HEIZKANAL-SAMMLER HEATING SHAFT - COLLECTOR		1	-
31	HEIZKANAL-VERTEILER 3-FACH HEATING SHAFT - MANIFOLD		1	-
32	LUEFTER HEIZZELT TIRE HEAT TENT - AIR FAN		3	MTH019206
33	HEIZKANAL-VERSCHLUSSDECKEL HEATING SHAFT - COVER		1	-
34	HEIZKANAL-AUSBLASSTUTZEN HEATING SHAFT - NOZZLE		3	-
35	HEIZKANAL-LUEFTERANSCHLUSS HEATING SHAFT - FAN CONNECTOR		3	-

2. Component Overview

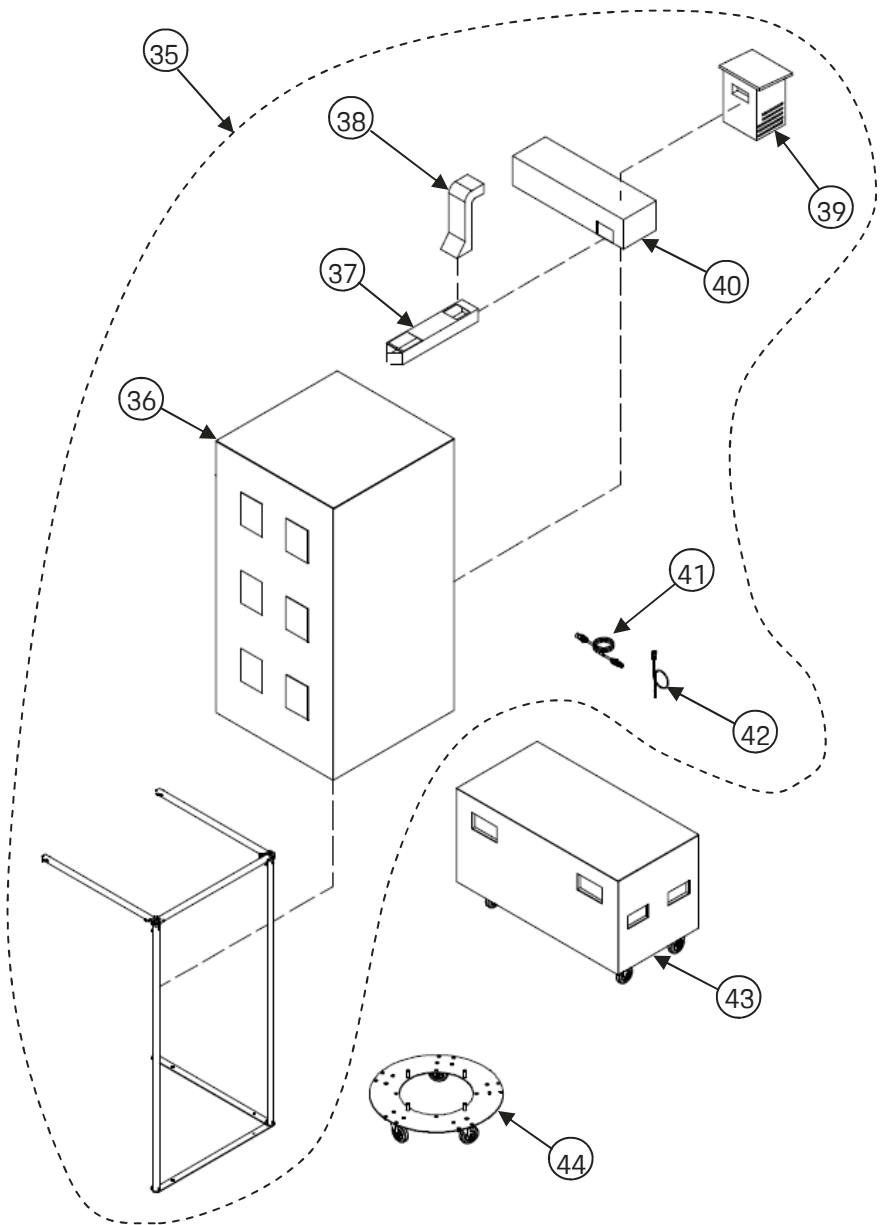
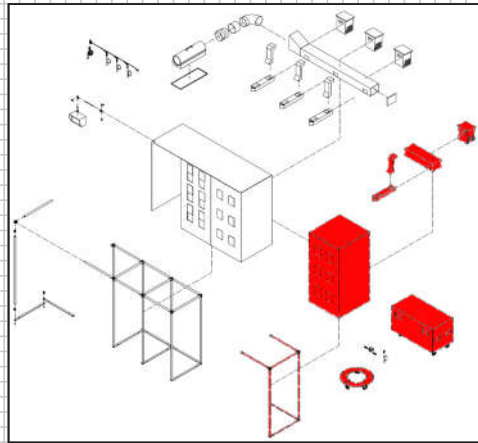
2.7 Tire Heating Tent - Optional 4th Tire Chamber & Accessories



Pos.	Bezeichnung / Description	M	A.	Teile Nr. / Part no.
35	ERWEITERUNG 4 KAMMER HEIZZELT POS. 36-42 TIRE HEAT TENT - 4TH CHAMBER EXPANSION POS. 36-42		1	MTH019211
36	ANBAUPLANE REIFENHEIZZELT 4-FACH TIRE HEATING TENT - EXPANSION TARP		1	MTH019213
37	HEIZKANAL-AUSBLASSTUTZEN HEATING SHAFT - NOZZLE		1	-
38	HEIZKANAL-LÜFTERANSCHLUSS HEATING SHAFT - FAN CONNECTOR		1	-
39	LUEFTER HEIZZELT O.B. TIRE HEATING TENT - AIR FAN N.P.		3	MTH019206
40	HEIZKANAL VERLAENGERUNG HEATING SHAFT - EXPANSION		1	-
41	VERLAENGERUNG KABELSTRANG WIRING LOOM EXPANSION		1	MR000499
42	SENSORLEITUNG HEIZZELT TIRE HEATINGTENT - SENSOR CABLE		3	MTH019204

2. Component Overview

2.7 Tire Heating Tent - Optional 4th Tire Chamber & Accessories

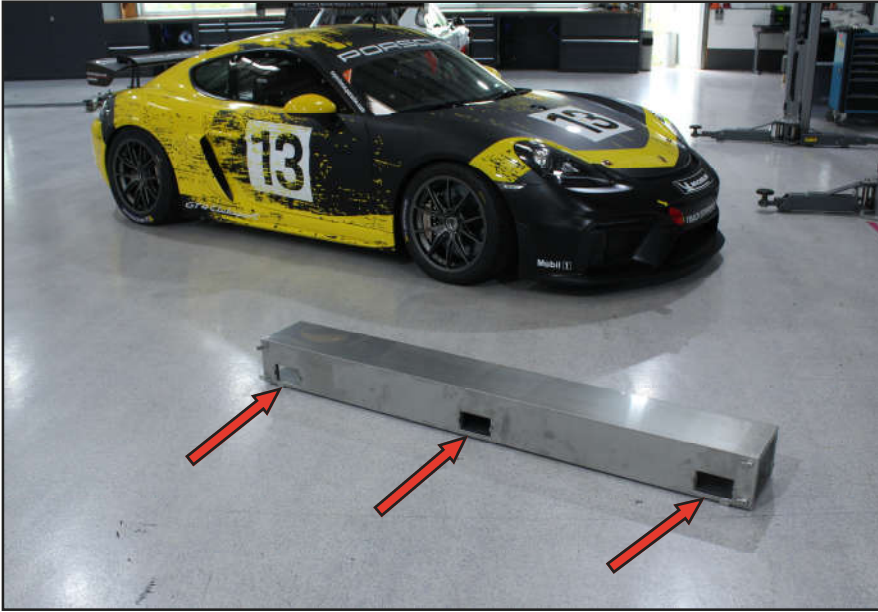


Pos.	Bezeichnung / Description	M	A.	Teile Nr. / Part no.
43	TRANSPORTKISTE FLIGHTCASE		1	MTH019210
44	ROLLBRETT TIRE SKATE		1	MTH019101

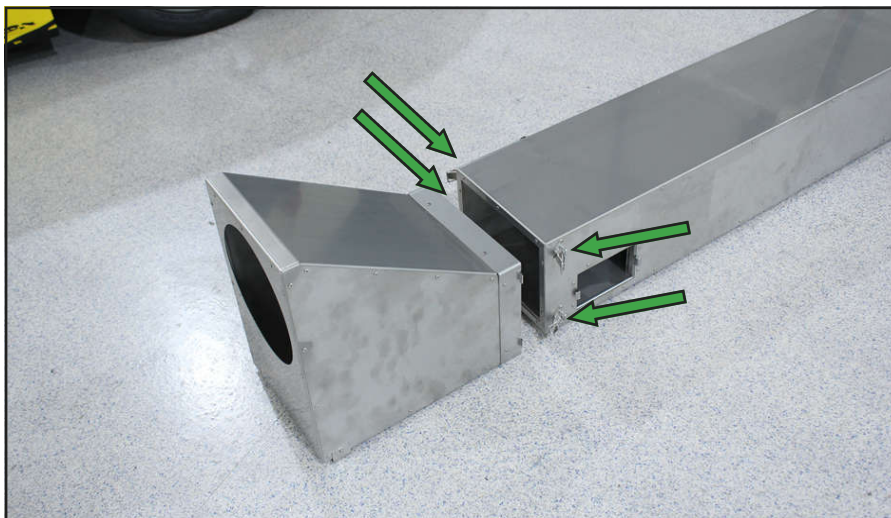
3 Tire Heating Tent Assembly

3.1 Heating Shaft Assembly

Step 1:



Step 2:



Step 1:

Place the Heating Shaft Manifold (Pos.31) on the ground in the desired location for the heating tent to be assembled.

NOTE

↓ Note the orientation of the manifold outlets. These must face towards the direction that tent will be placed.

NOTE

Once assembled the heating shaft assembly can not be easily moved, therefore the position of the heating shaft manifold will dictate the final location of the tire heating tent.

Step 2:

Mount the heating shaft collector onto the heating shaft manifold. The collector is ↓ secured using the four catches located on both sides of the manifold.

NOTE

Depending on the desired layout for the tire heating tent burner, the heating shaft collector can be assembled on the left or right side of the manifold.

NOTE

↓ Ensure that the end cover (Pos.33) is installed on the heating shaft manifold on the end opposite to the collector.



3 Tire Heating Tent Assembly

3.1 Heating Shaft Assembly (Cont.)

Step 3: Inline Layout



NOTE

Two orientations are possible for the burner layout, firstly, inline with the manifold, or secondly, perpendicular to the manifold.

Step 3 - Burner Layout - Inline

For inline installation, insert the reducer piece (Pos.27) directly into the heating shaft collector. ↓

The burner is then inserted into the reducer piece as shown. ↓

NOTE

Ensure the burner is placed in the pan (Pos.25). ↓

ATTENTION

Any spilled heating oil should be removed as soon as possible.

ATTENTION

The burner manufacturer's safety, operating, & maintenance instructions must be adhered to.

WARNING

The burner must be placed a minimum distance of 2.5m from any flammable materials.



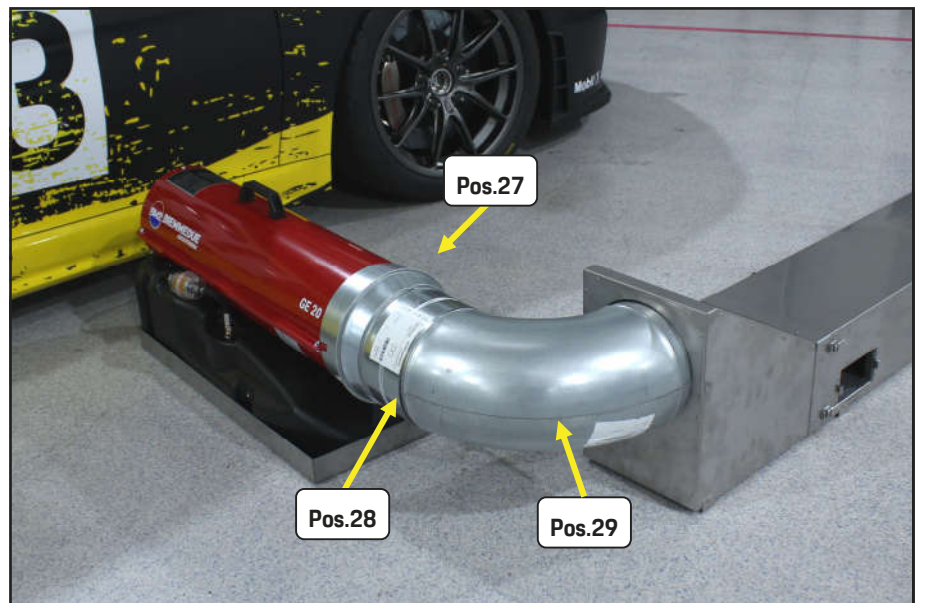
Step 3 - Burner Layout - Perpendicular

To mount the burner perpendicularly to the manifold, the included 90° bend (Pos.29), fitting A/DN200 (Pos.28), and reducer piece (Pos.27) are assembled in the order shown opposite. ↓

NOTE

Ensure the burner is placed in the pan (Pos.25).

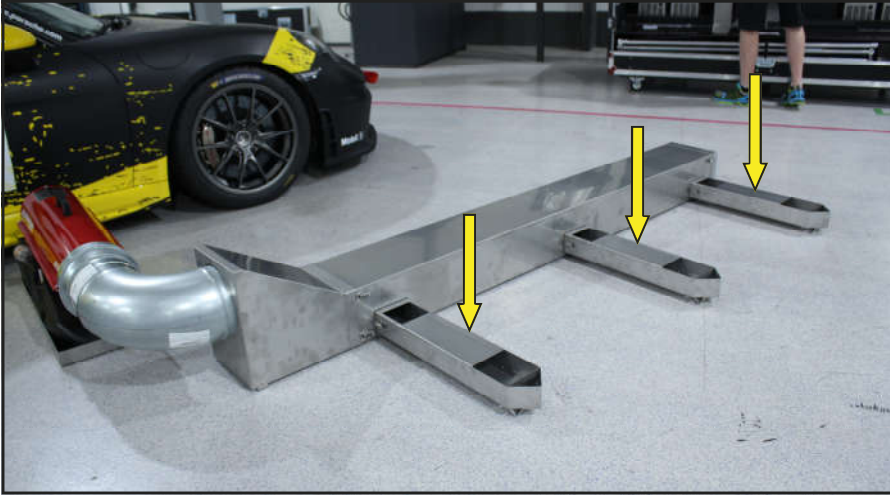
Step 3: Perpendicular Layout



3 Tire Heating Tent Assembly

3.1 Heating Shaft Assembly (Cont.)

Step 4:



Step 4:

↓ Insert the three Heating Shaft Nozzles (Pos.34) into the rectangular openings on the manifold.

↓ The nozzles are secured to the manifold using the latches on each side of the nozzle and catches located on each side of the manifold openings.



3 Tire Heating Tent Assembly

3.1 Heating Shaft Assembly (Cont.)

Step 4:

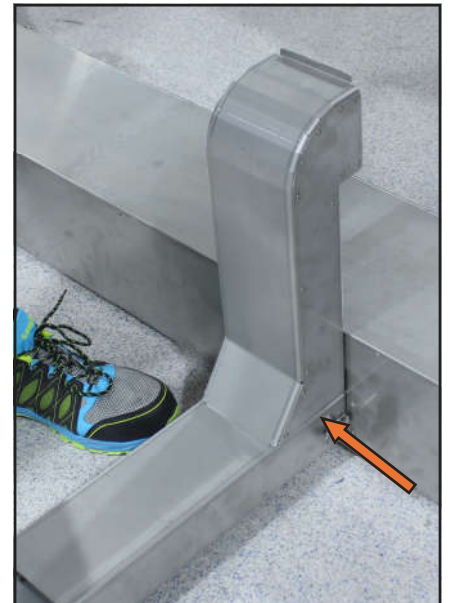
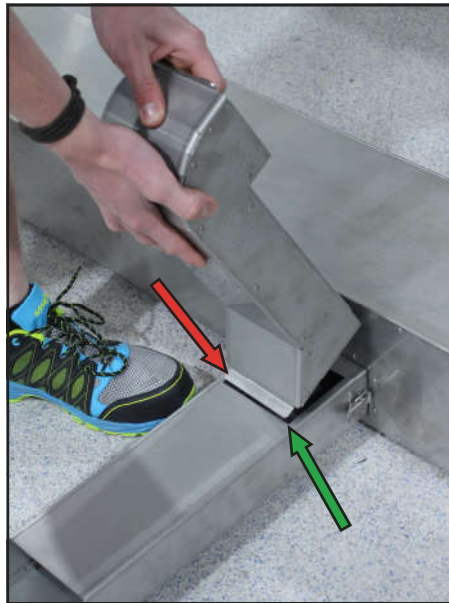
Step 4:

Mount the three fan connectors.

The fan connector is mounted by inserting the tab extending from the connector outlet into the opening on top of the nozzle near the manifold.

The tab is "hooked" into the opening and the fan connector then sits flat on top of the nozzle as shown.

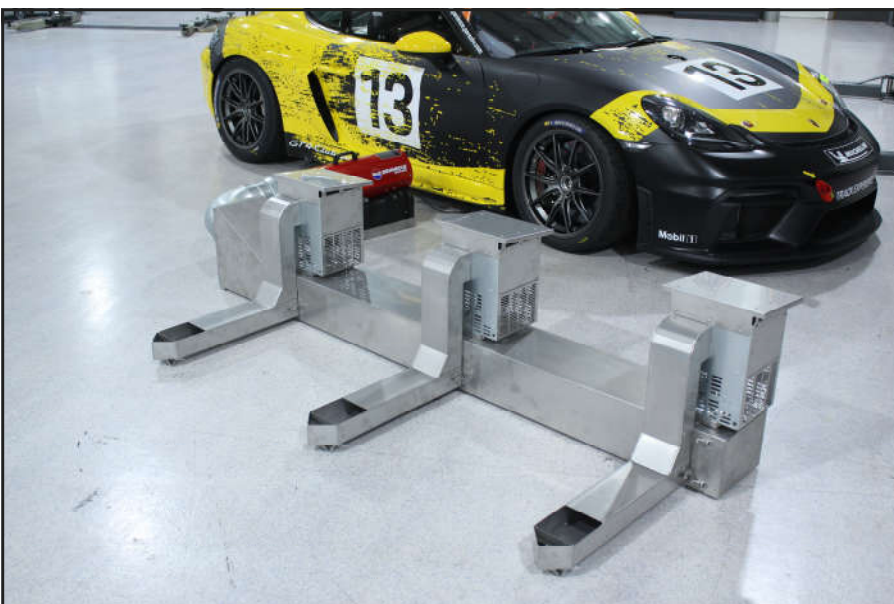
The above method is repeated for the remaining two fan connectors.



3 Tire Heating Tent Assembly

3.1 Heating Shaft Assembly (Cont.)

Step 4:



Step 4:

Mount the air fans.

The air fan is installed from above, inserting the tab extending from the connector inlet into the outlet of the air fan unit.

The tab is "hooked" into the outlet and the air fan then sits flat on top of the heating shaft manifold as shown.

Secure the air fan onto the manifold using the latch located at the rear of the air fan.

Repeat the above step for the two remaining air fans.

Assembly of the heating shaft is now complete.

⚠ WARNING

During operation, all parts of the heating shaft assembly reach high temperatures. Allow the heat shaft assembly to fully cool before touching or attempting to move. Touching while hot will cause burns.

It is the responsibility of the operator to avoid injuries or incidents!

⚠ WARNING

The burner must be placed a minimum distance of 2.5m from any flammable or temperature sensitive materials.

Do not allow the heat shaft assembly to come into close contact with flammable or temperature sensitive materials.

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Tire Heating Tent**

3 Tire Heating Tent Assembly

3.2 Tent Frame Assembly

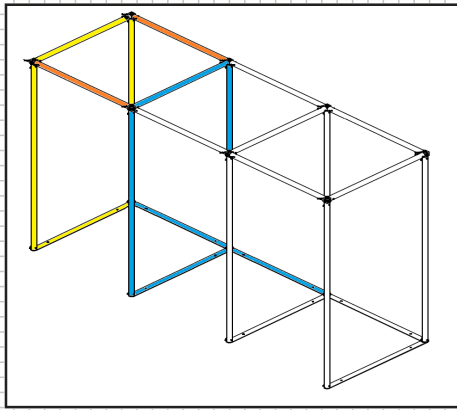


Fig.1 Frame Assm. Reference - A

NOTE

It is important to note the number of base plate crosslinks on each pre-assembled section as the number differs depending on the intended position for that frame section. Refer to Fig.1 above for the position of frame currently being assembled and the number and orientation of base plate crosslinks required in each position.

NOTE

The following steps should be carried out using two people.

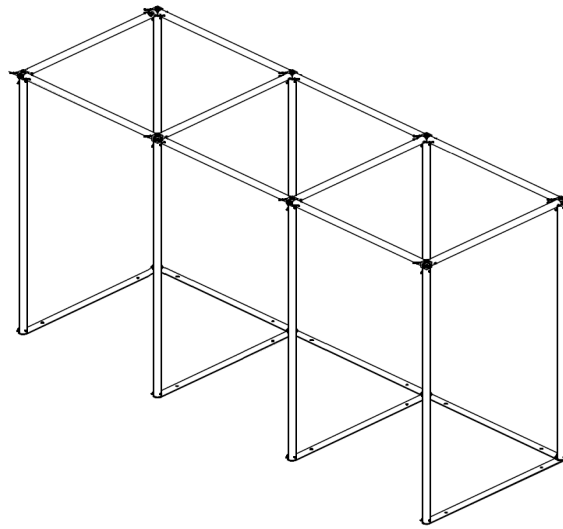
Step 1:

Mount the end of a short truss (Fig.1 - Orange) onto the conical connector protruding from the upper rear corner of the left outer frame (Fig.1 - Yellow). Ensure the holes in the connecting truss align with those in the conical connector.

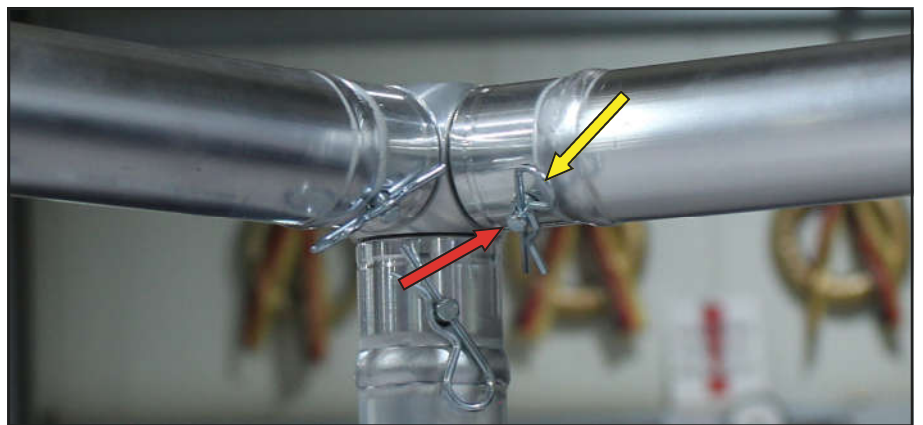
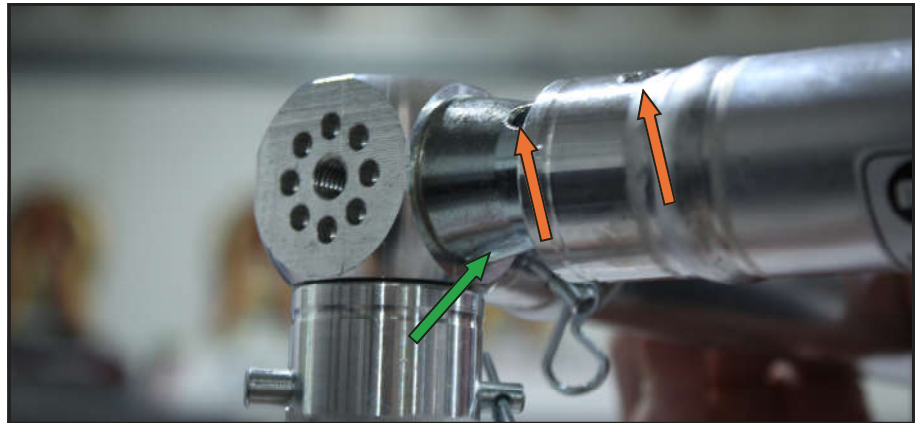
Fasten the short truss to the conical connector using a cross-pin and secure the cross pin using an R-Clip. The use of a hammer may be required to drive the cross pin through the holes.

The cross pin should be installed so that the R-Pin remains on the inside of the structure.

Repeat the above to connect the opposite end to the left inner frame section (Fig.1 - Blue).



Step 1:



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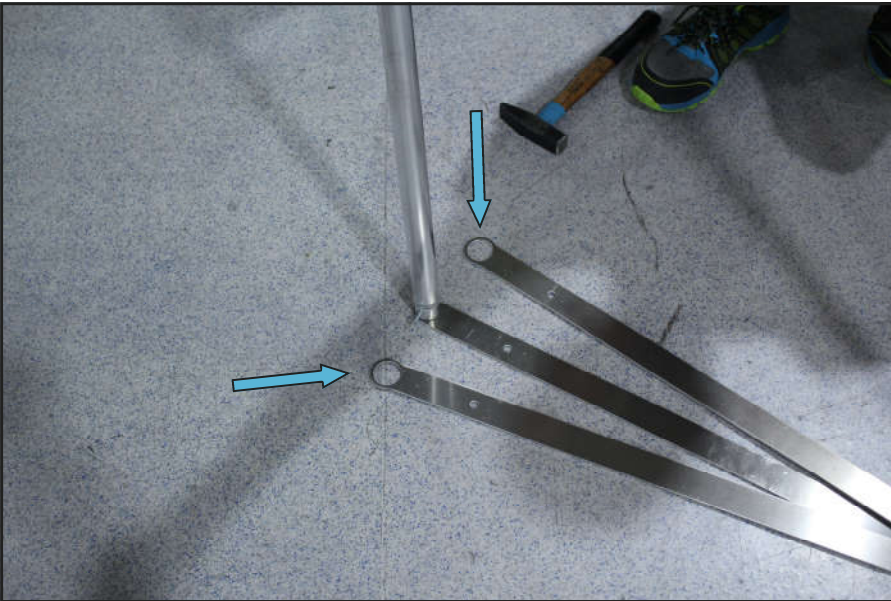
3 Tire Heating Tent Assembly

3.2 Tent Frame Assembly (Cont.)

Step 2:



Step 3:



Step 2:

- Repeat Step 1 for mounting a short truss to the upper corners of the left outer and inner left frame sections.

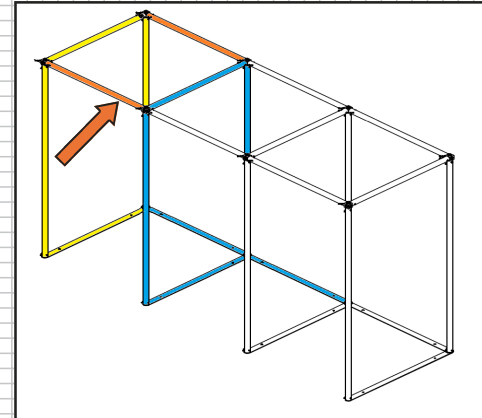


Fig.1 Frame Assm. Reference - A

Step 3:

- Separate the base plate crosslinks from the front of the inner frame section.

Position the base plate crosslinks at 90° to the inner frame section.

3 Tire Heating Tent Assembly

3.2 Tent Frame Assembly (Cont.)

Step 4:

Remove the retaining fasteners and release the long upright truss from the rear of the left outer frame section.

Lift the upright truss off the lower conical connector.

Place the free end of the base plate crosslink from the inner frame section over the conical connector.

Insert the upright truss through the base plate crosslink and onto the conical connector.

Re-fasten the upright truss and conical connector using the original cross pin and R-clip.

Step 4:

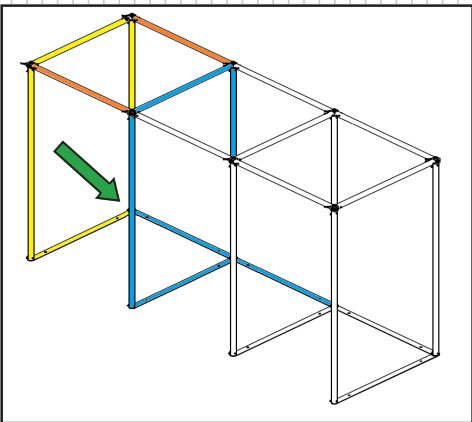
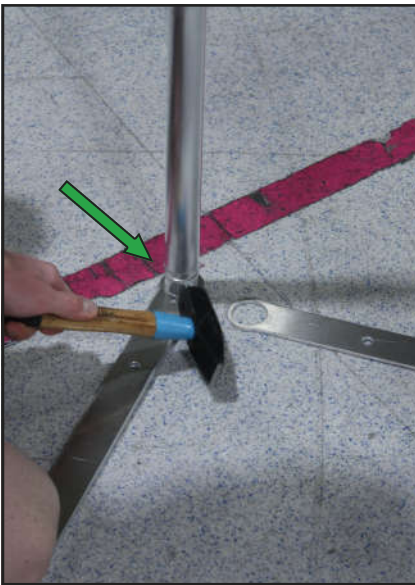
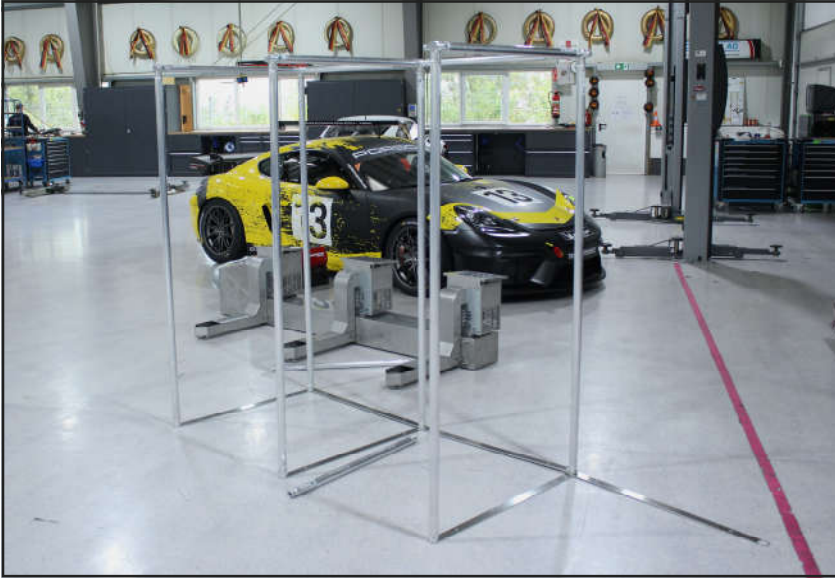


Fig.1 Frame Assm. Reference - A

3 Tire Heating Tent Assembly

3.2 Tent Frame Assembly (Cont.)

Step 5:



Step 5:

Repeat the process outlined in steps 1 - 4 to assemble the remaining frame sections.

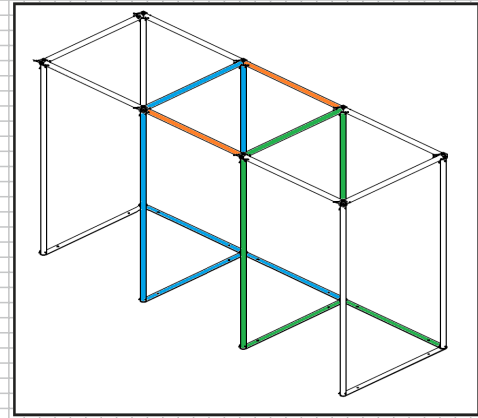


Fig.2 Frame Assm. Reference - B

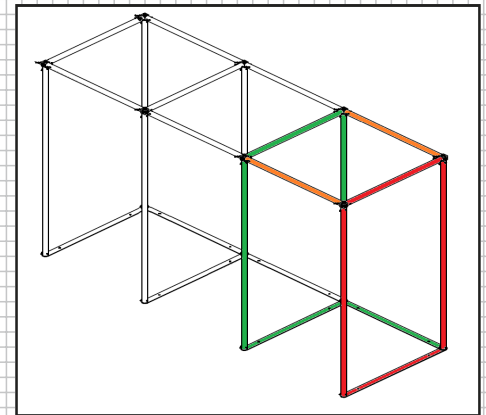
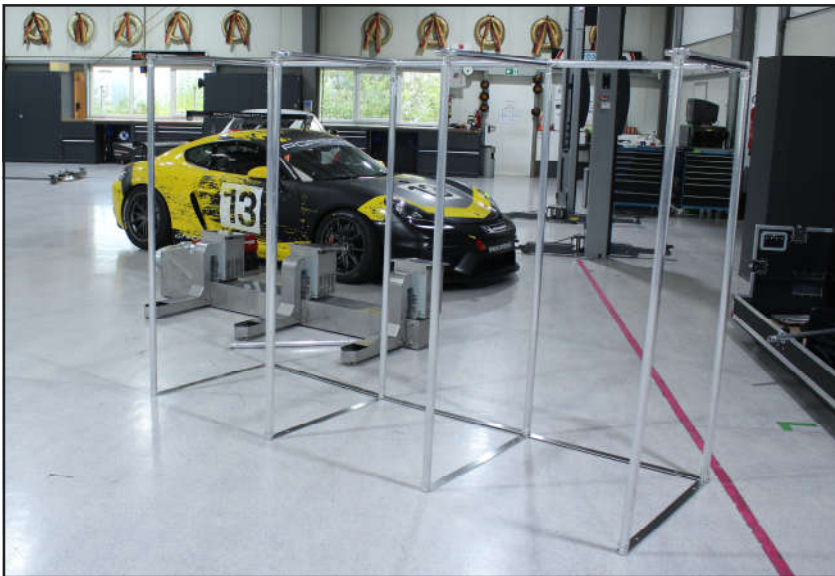


Fig.3 Frame Assm. Reference - C

Step 6:



Step 6:

Upon completion of the tent frame, move the frame into position as shown opposite, such that the heating shaft nozzle outlets are positioned centrally in the tent cabin.

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3 Tire Heating Tent Assembly

3.3 Tarpaulin Mounting

Step 1:

Step 1:

Unfold and lay out the tarpaulin flat in front of the assembled tent frame as shown opposite.



Step 2/Step 3:

Step 2:

Unzip the two outer zippers and fold back the front panel of the tarp as shown opposite.



Step 3:

Holding the tarp by the lower front corners, lift the tarp up and over the frame along the path shown.

NOTE

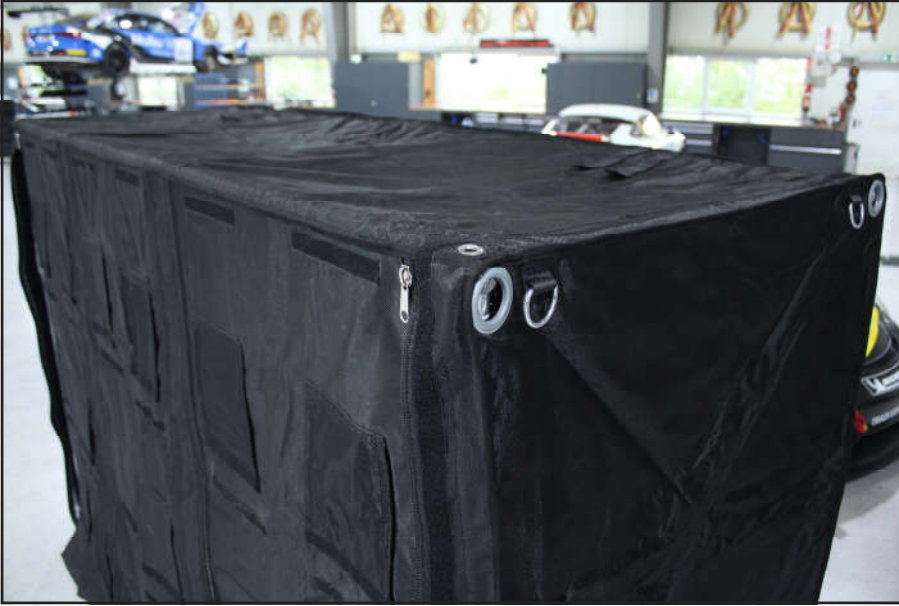
This step should be carried out by two people.



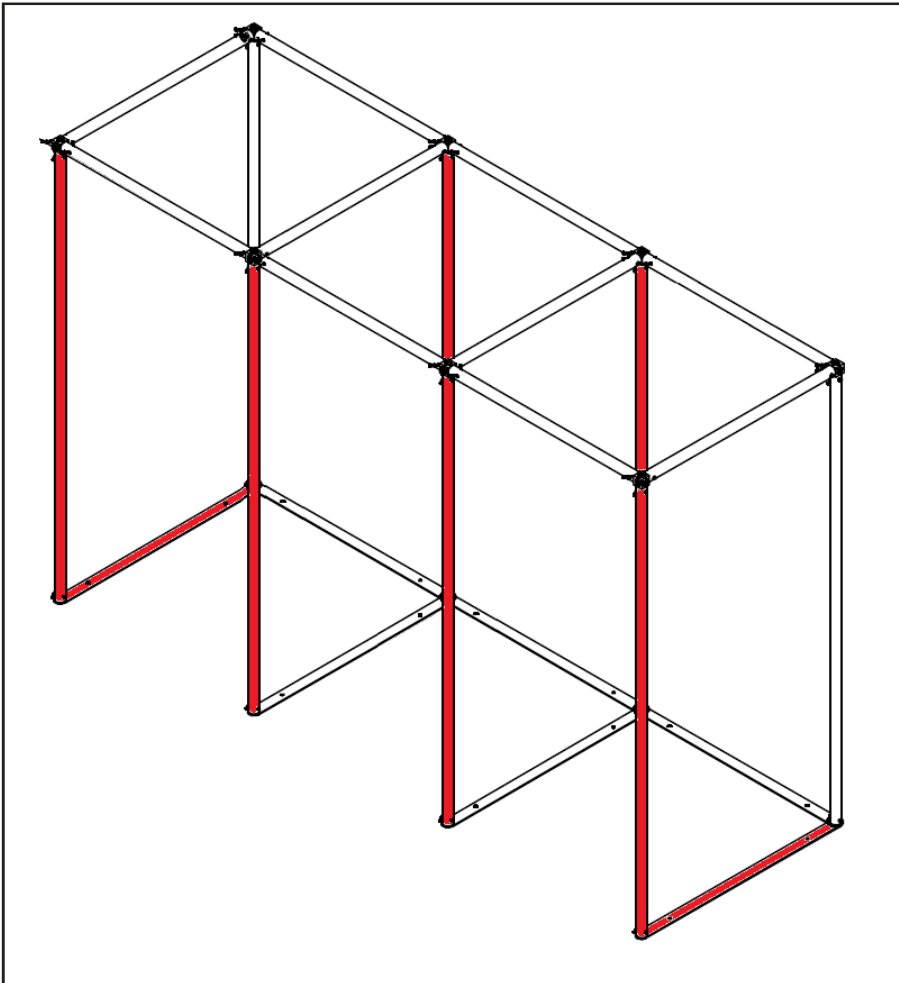
3 Tire Heating Tent Assembly

3.3 Tarpaulin Mounting (Cont.)

Step 4:



Step 5:



Step 4:

Adjust the positioning of the tarp so it sits snugly on the frame, with all corners and edges properly aligned.

Step 5:

Secure the tarp to the frame.

The tarp is secured to the frame using flaps with velcro along sections highlighted in Red in the figure opposite.

NOTE

For ease of access, the front panel can be folded back over the top of the frame.

3 Tire Heating Tent Assembly

3.3 Tarpaulin Mounting (Cont.)

Step 5-A:

Step 5-A:

The lower outer tarp flap secures to the frame by wrapping under and around the base plate, fastening to the mating strip of velcro.

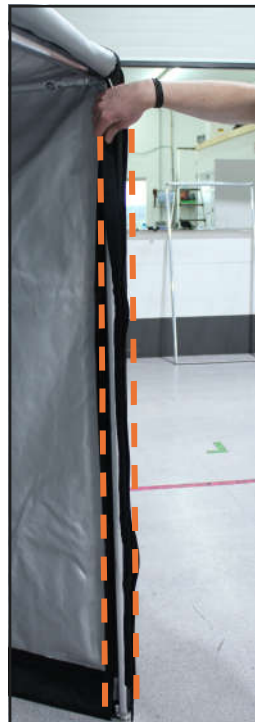
The process is the same for the opposite side of the tarp/frame.



Step 5-B:

The tarp secures to the front outer uprights of the frame using two thin flaps with velcro. The flaps wrap around the upright before fastening onto each other.

Step 5-B:

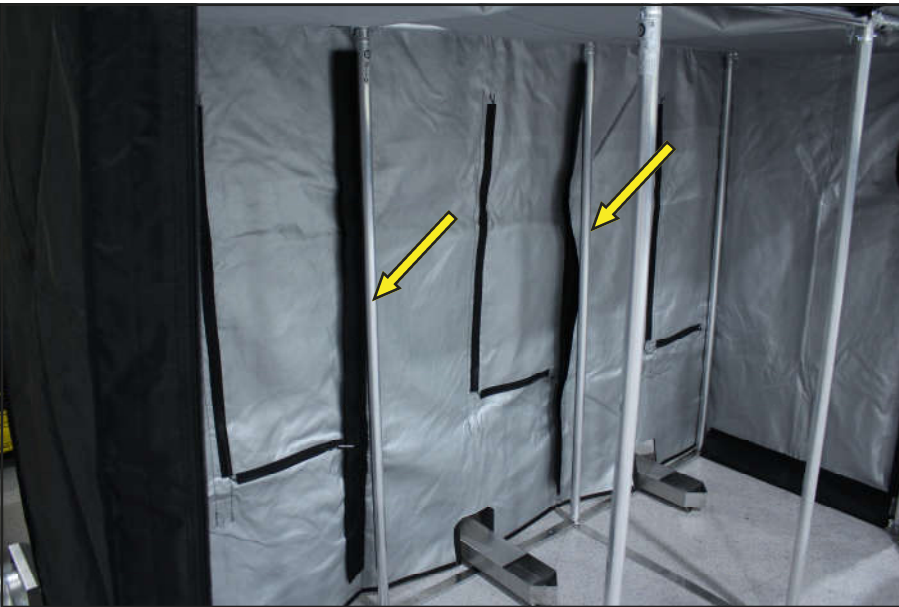


3 Tire Heating Tent Assembly

3.3 Tarpaulin Mounting (Cont.)



Step 5-C:



NOTE

Before securing the tarp to the inner rear uprights, ensure that the internal temperature sensors protrude fully from the tarp and are not caught behind the velcro flaps. This is to ensure an accurate temperature reading from within the cabins.

Step 5-C:

↓ The tarp secures to the rear inner uprights of the frame using two thin flaps with velcro. The flaps wrap around the upright before fastening onto each other.

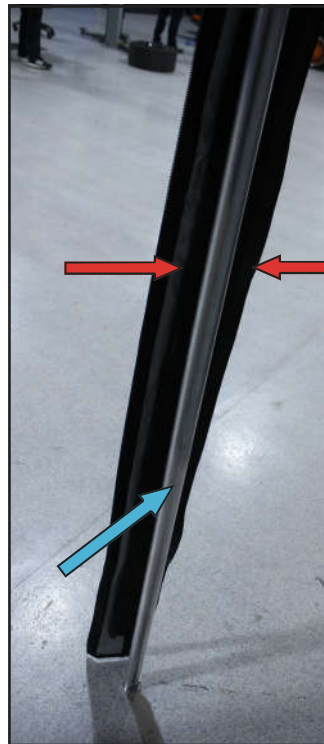
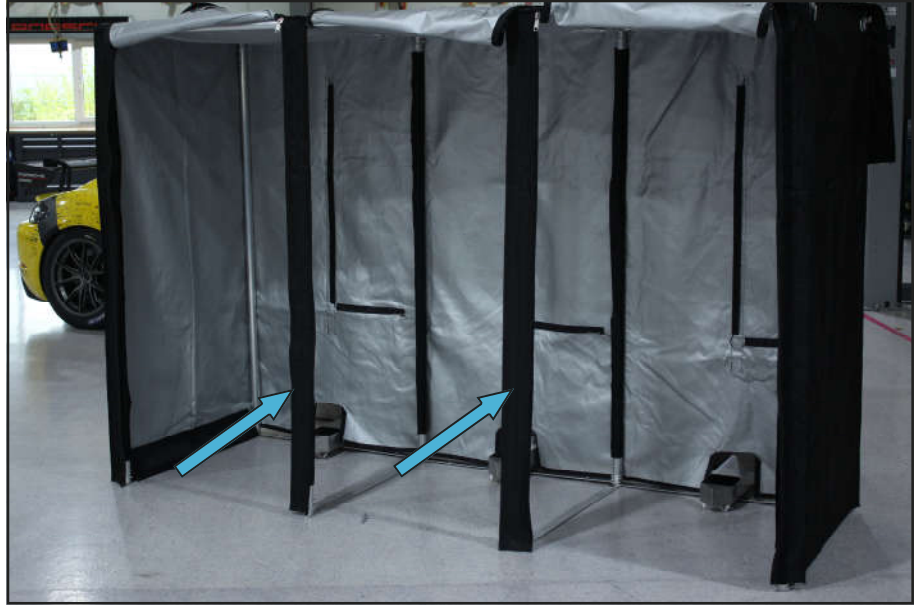
3 Tire Heating Tent Assembly

3.3 Tarpaulin Mounting (Cont.)

Step 5-D:

Step 5-D:

The tarp secures to the front inner uprights of the frame using two thin flaps with velcro. The flaps wrap around the upright before fastening onto each other.



3 Tire Heating Tent Assembly

3.3 Tarpaulin Mounting (Cont.)

Step 6:



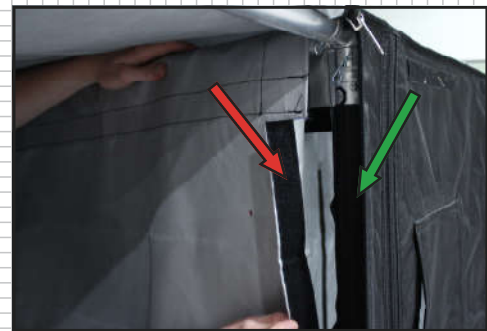
Step 6:

Mount internal cabin panels.

Two inner tarp panels must be mounted in order to separate the internal tent space into individual cabins.

These panels each have velcro flaps at each end to wrap around the inner upper poles and lower base plates of the tent frame.

Along the outer edges of the internal panels are strips of velcro. These attach to a corresponding mating strip of velcro on the main tarp.



The tarp is now fully secured to the frame. The front panel of the tarp can be returned to its original position.

⚠ WARNING

Once fully assembled, the tent frame should be secured from tipping or movement in adverse conditions by using anchor bags, weight plates, and/or straps (guy ropes). Straps should be secured to the upper corners of the tent frame.

The aforementioned anchoring equipment is not included with the tire heating tent kit. It is the responsibility of the user to obtain these items and ensure their tent is properly secured.

Assembly & Operating Instructions Tire Heating Tent

3 Tire Heating Tent Assembly

3.4 Control Unit & Electrical Harness

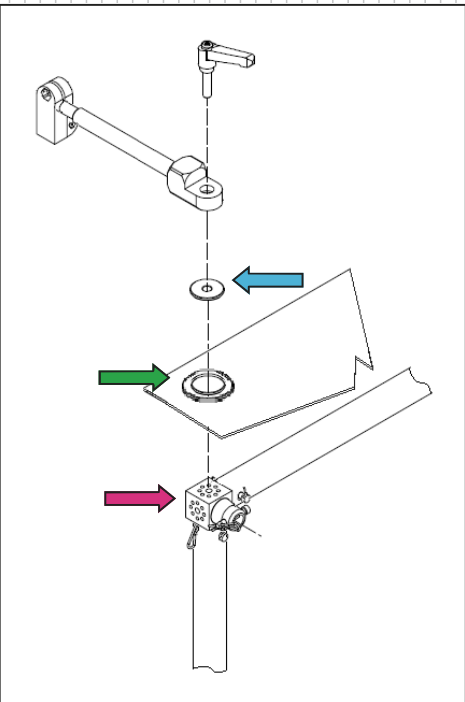
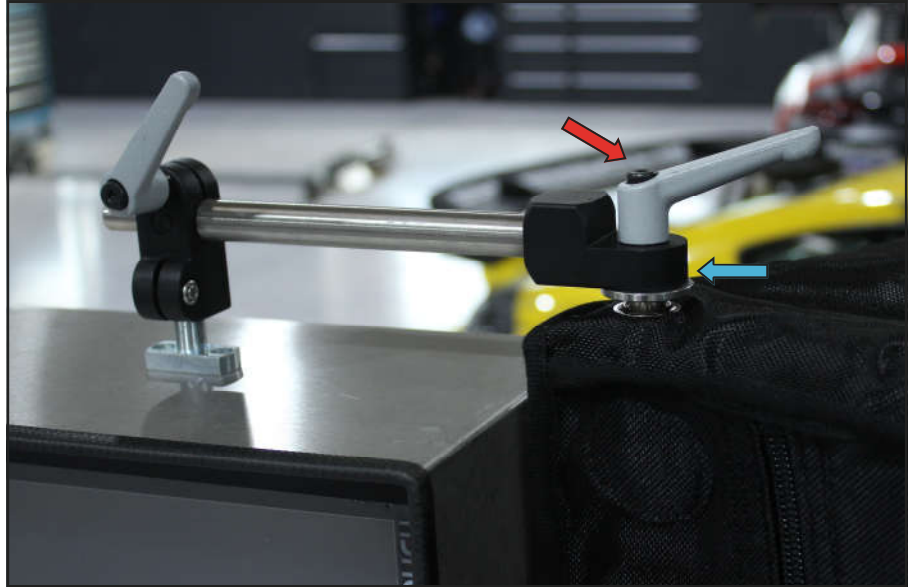
Step 1:

Step 1:

Mount the control unit.

The control unit comes with the mount pre-installed.

The control unit is mounted on the upper front left corner of the frame and is secured into position by means of an M8 lever bolt which passes through the mounting bracket, centering washer, and tarp eyelet, before being threading into the corner connector block of the frame.

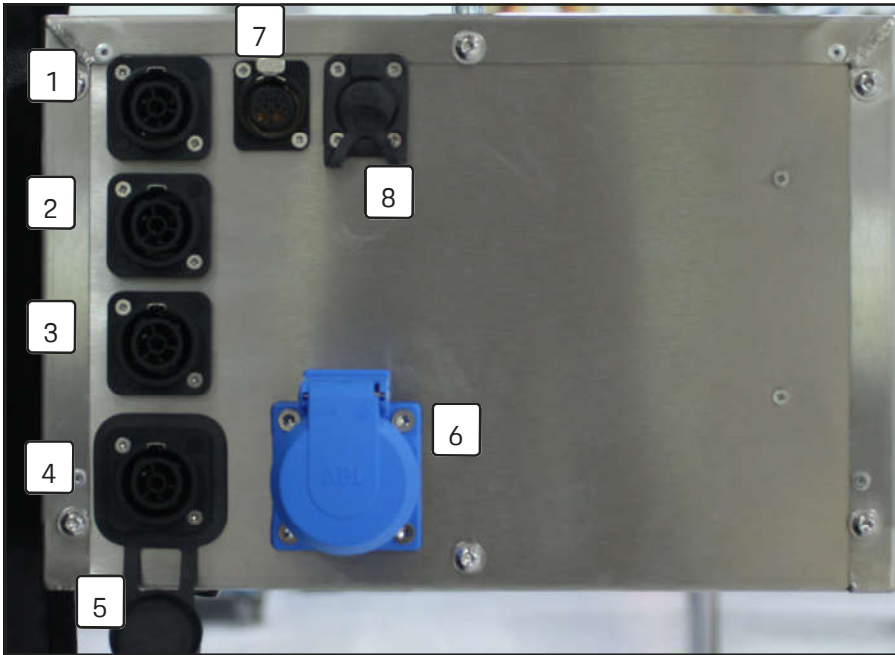


The control unit can be freely adjusted and positioned as desired.

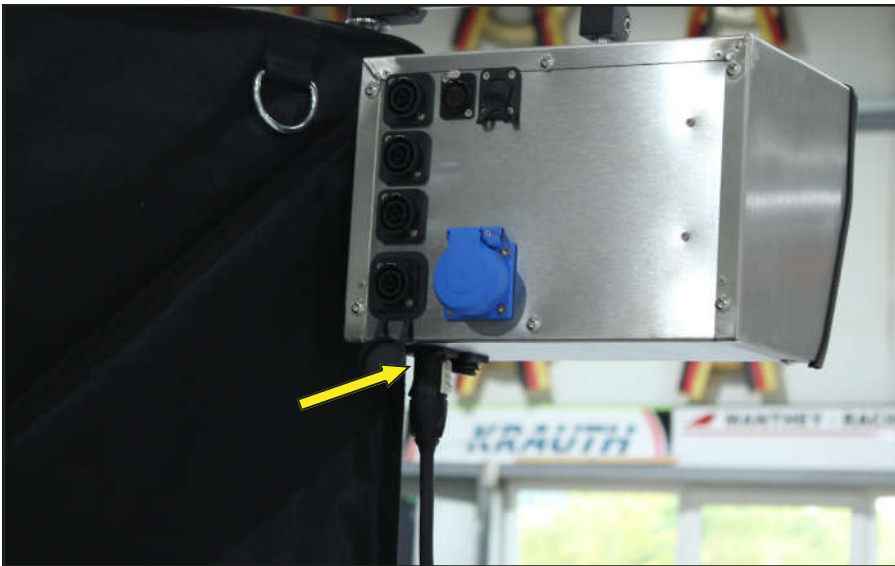


3 Tire Heating Tent Assembly

3.4 Control Unit & Electrical Harness (Cont.)



Step 2:



Step 3:



NOTE

Electrical connections for the control unit are located on the rear and underside of the unit casing and are defined as follows:

1. - Air Fan Power Supply—Chamber 1
2. - Air Fan Power Supply—Chamber 2
3. - Air Fan Power Supply—Chamber 3
4. - Air Fan Power Supply—Chamber 4
5. - 230v Power Input (Underside)
6. - 230v Output
7. - Temperature Sensor Input
8. - Control Unit/PLC COM Port

NOTE

The control unit should be kept dry. Do not allow unit to get wet or be exposed to persistent rain or moisture.

NOTE

A 110V to 230V transformer is required to power the control panel with a 110V power supply.

Step 2:

- ↓ Connect the power supply cable (MTH019202) to the control panel power input socket [5].

Step 3:

- ↓ Connect wiring harness (MTH019203) to sockets 1-4 as numbered on the harness.
- ↓ The fifth plug on this harness connects to the upper XLR socket [7].



⚠ ATTENTION

Do not mix/swap connectors positions. The harness **MUST** be connected as per the chamber numbering outlined above and connector numbering on each cable.

Assembly & Operating

Instructions


Tire Heating Tent


3 Tire Heating Tent Assembly

3.4 Control Unit & Electrical Harness (Cont.)


Step 4/Step 5:


Step 4:

Lay the cable harness on top of the heat tent as shown opposite. 

Secure the harness to the tent using the Velcro loops located along the upper rear edge of the tarp. 

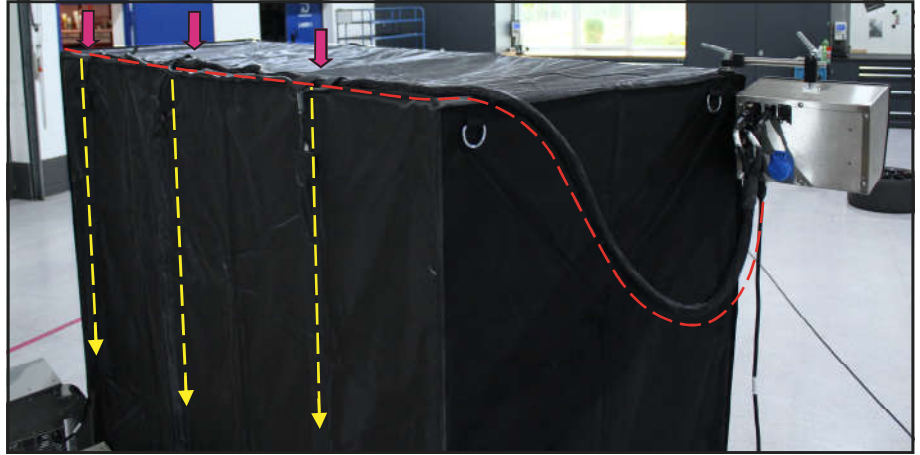
Step 5:

Route the larger Neutrik power connectors down through the fabric cable guide on the rear of the tent. 


Plug the power connectors into their respective air fans. 


ATTENTION

The wiring loom must not contact with any surfaces of the heating shaft assembly.



Step 6:

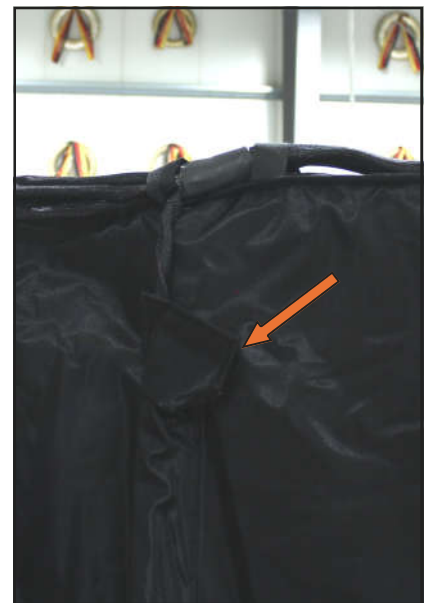
Plug the temperature sensor connectors into their respective mating connector on the wiring harness. 

Tuck the connectors into the channel as shown. 

NOTE

Temperature sensors are pre-installed along the fabric channel at the rear of the tarp. The connectors for these can be found at the upper openings of the channels.

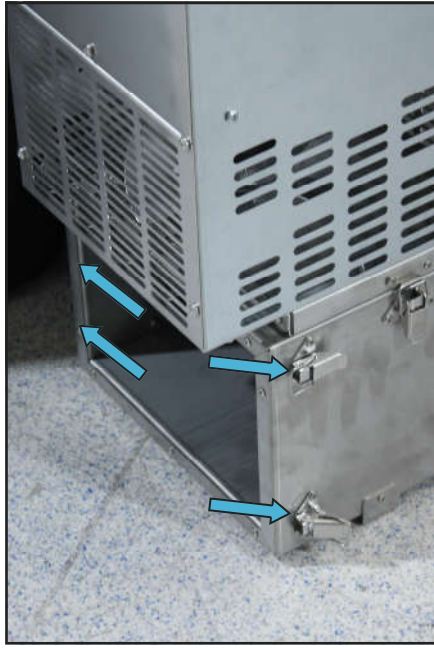
Step 6:



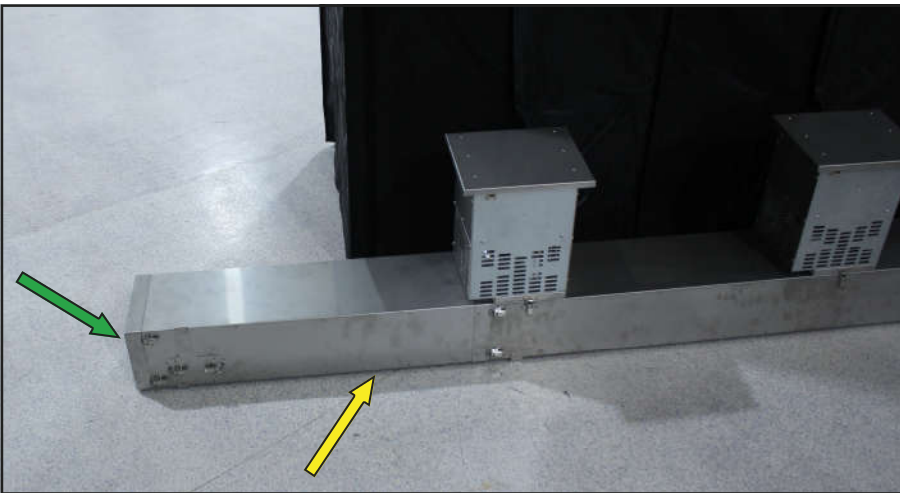
3 Tire Heating Tent Assembly

3.5 Assembly of Optional 4th Chamber

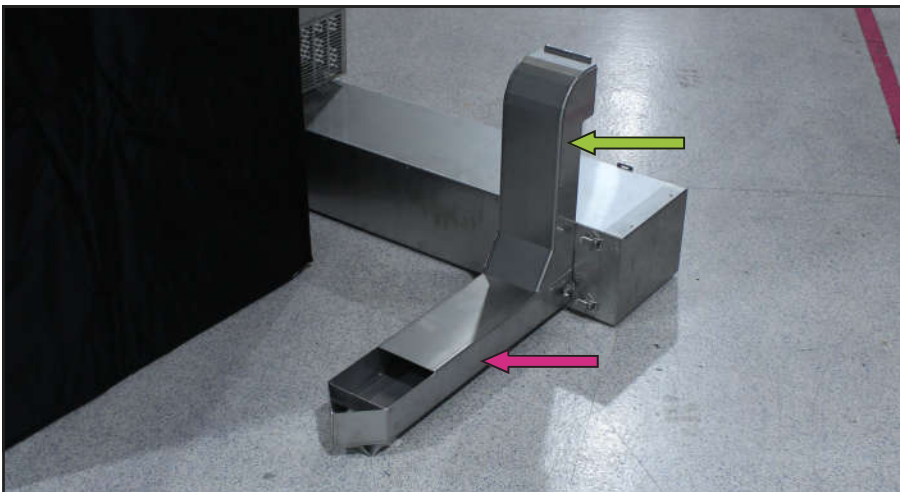
Step 1:



Step 2:



Step 3:



NOTE

The additional fourth heating chamber (MTH019211) is not included as part of the standard tire heating tent kit, but can be purchased as an optional accessory that can be added to the expand standard 3-Cabin heating tent.

Step 1:

- Remove end cover from heating shaft manifold. This cover is fastened by four toggle latches, two each side.

Step 2:

- Attach the heat shaft manifold extension onto the end of the standard manifold. Secure using the four toggle latches on both sides of the heat shaft.
- Mount the manifold end cover to the end of the manifold extension.

Step 3:

- Install the additional heat shaft nozzle and fan connector onto the heat shaft extension. The method for mounting these is the same as that of the standard heat shaft components (See Pg.17-18).

3 Tire Heating Tent Assembly

3.5 Assembly of Optional 4th Chamber (Cont.)

Step 4:

Step 4:

Mount the fourth air fan onto the fan connector in the same manner as done for the standard air fans.

NOTE

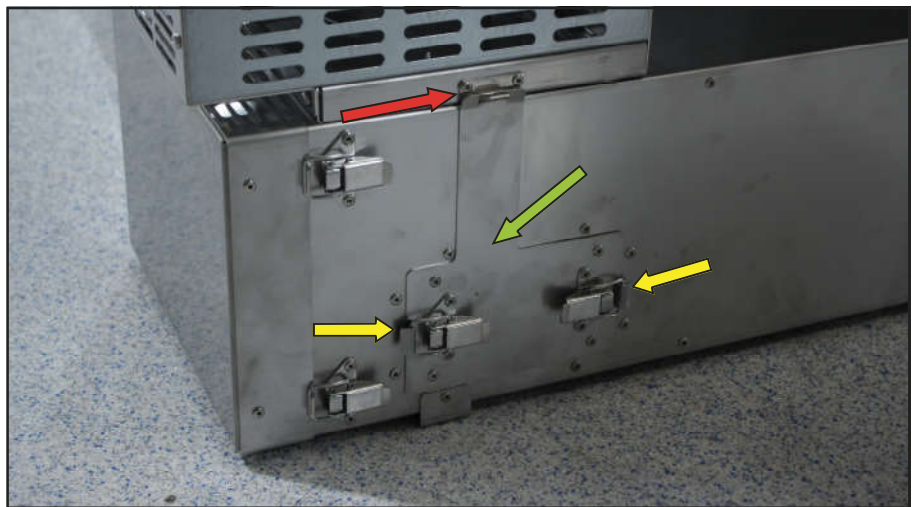
Refer to Pg. 19 Step 4 for the air fan mounting method.



Step 5:

Step 5:

Secure the air fan using the outlet cover/ fan retainer. The retainer hooks onto the catch at the rear base of the fan and then itself is secured to the manifold using the two toggle latches.



Step 6:

Step 6:

On the end of the standard tent frame, release the additional base plate crosslink.

Align the base plate crosslink with the heat shaft manifold.

NOTE

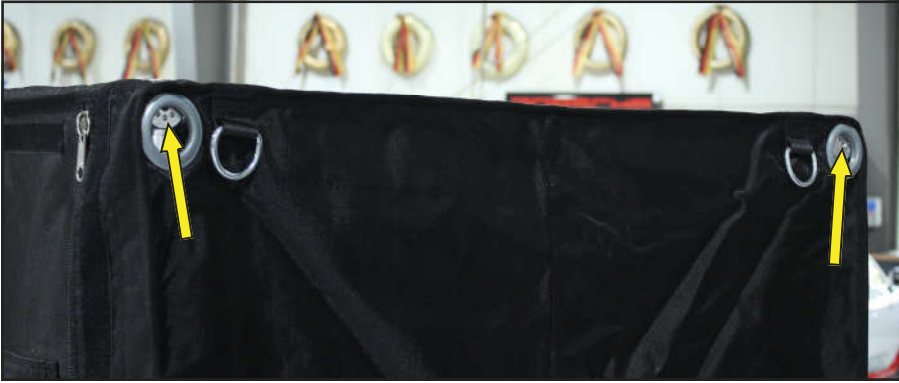
Refer to Pg. 22 Step 4 for the retainer release method.



3 Tire Heating Tent Assembly

3.5 Assembly of Optional 4th Chamber (Cont.)

Step 7:



Step 8:



Step 7:

Mount two conical connectors using the included M8 bolts onto the corner connecting points of the standard frame.

The conical connectors should pass through the eyelets of the standard tarpaulin.

Step 8:

Position and secure the tent frame expansion section to the standard base plate retainer.

NOTE


Refer to page 22 Step 4 for the mounting method.

3 Tire Heating Tent Assembly

3.5 Assembly of Optional 4th Chamber (Cont.)

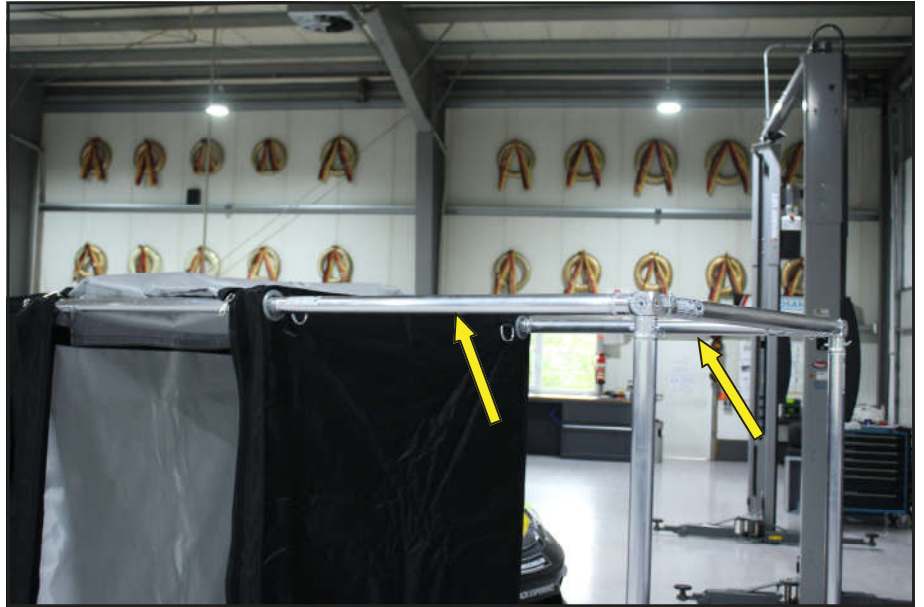
Step 9:

Step 9:

Complete securing the additional tent frame section to the standard tent frame by installing the upper short trusses. 

NOTE

Refer to page 20 Step 1 for the mounting method.



Step 10:

Step 10:

Unfold the additional tarp and lift over the heat tent frame expansion to cover.



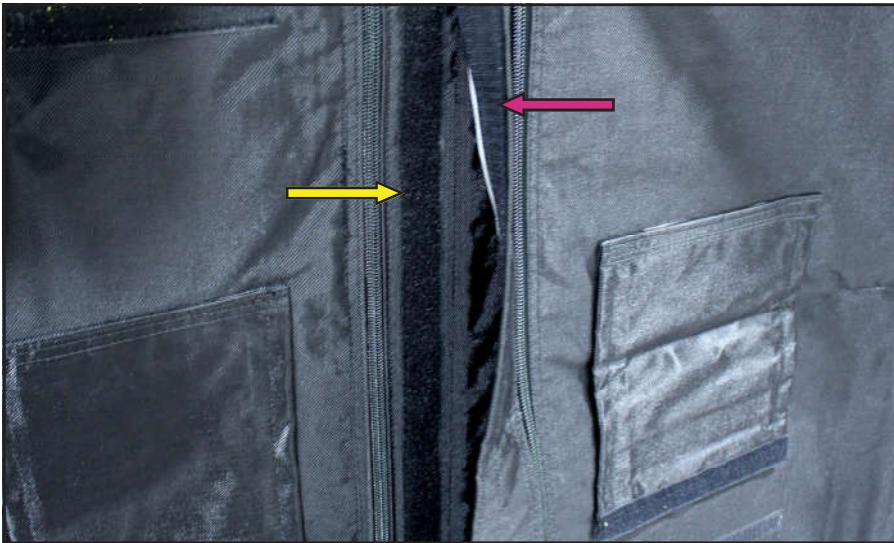
3 Tire Heating Tent Assembly

3.5 Assembly of Optional 4th Chamber (Cont.)

Step 11:



Step 12:



Step 11:

Fasten the tarp extension to the indicated sections of frame using the velcro flaps.

NOTE

Refer to page 26, step 5-A & 5-B for further detail on these tarp attachment points.

Step 12:

The inner edge of the expansion tarp attaches to the standard tarp using a mating strip of velcro that runs along the outer perimeter of the original tarp.



3 Tire Heating Tent Assembly

3.5 Assembly of Optional 4th Chamber (Cont.)

Step 13:

Step 13:

Connect both plugs of the wiring loom extension (MR000499) to the standard wiring loom (MTH019203).

NOTE

The wiring loom extension and temperature sensor is pre-installed along the fabric cable guide at the rear of the tarp.

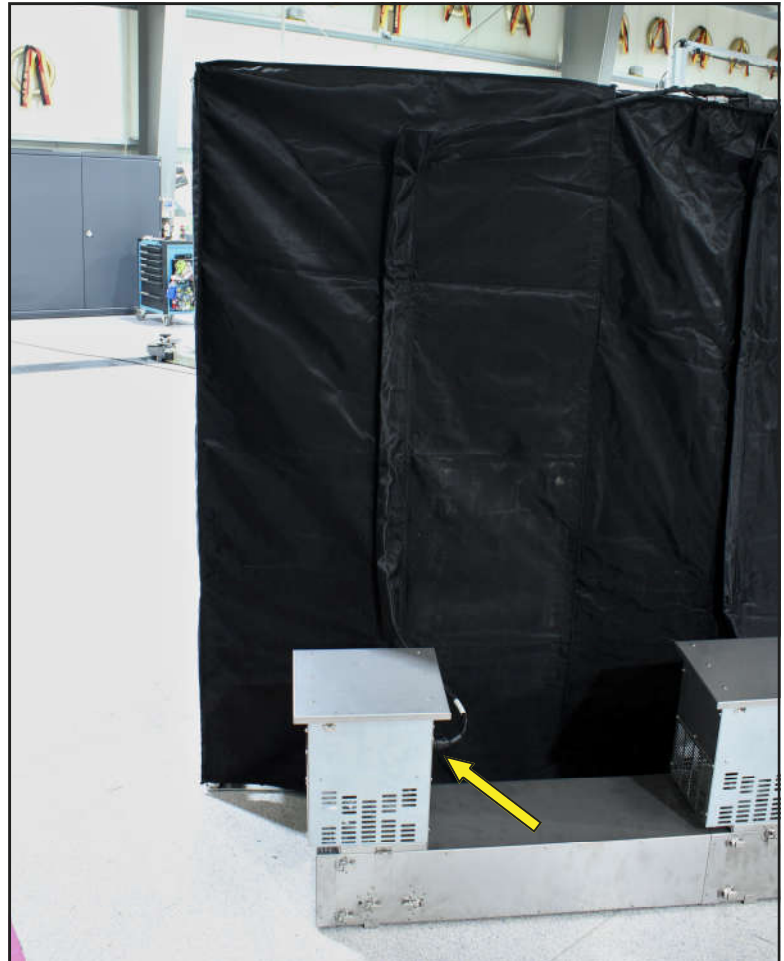
Ensure the internal temperature sensor protrudes fully from the tarp and is not hidden within the fabric cable guide. This is to ensure an accurate temperature reading from within the cabin.



Step 14:

Step 14:

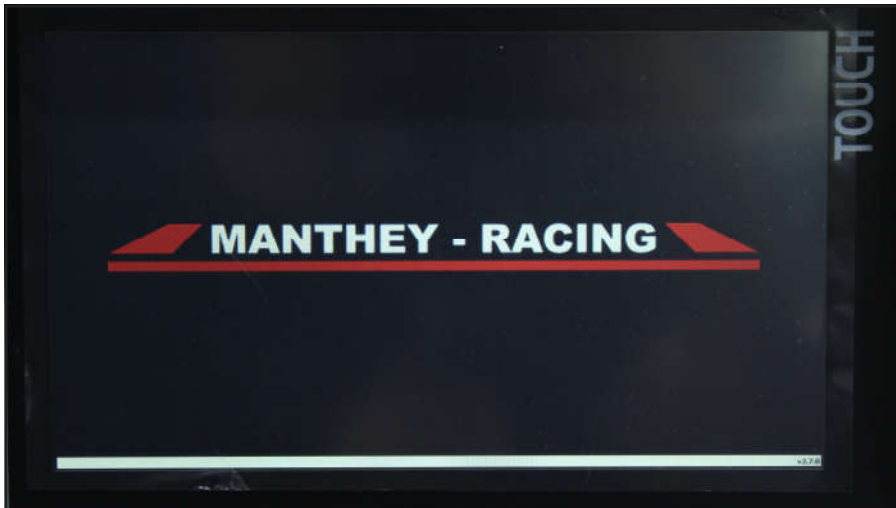
Plug the additional Neutrik power connector into the fourth chamber air fan.



4 Control Panel Operation

4.1 Powering On

Step 1:



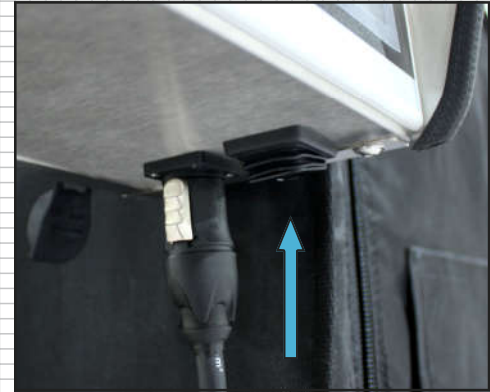
Step 2:



Step 1:

↓ Power on the Tire Heating Tent control panel. The power switch is located on the underside of the control unit.

A start screen will display while the system boots up.



NOTE

The control panel power inlet cable must already be connected to a 230v mains power supply.

Step 2:

Once the system has started up the main system screen will be displayed.

This display is automatically locked from start up.

To unlock the display, press any button on the display.

↓ A PIN entry keypad will be displayed on screen.

↓ Enter the security PIN using the keypad and press the green tick to confirm.

The keypad will disappear once the PIN is correctly entered and confirmation button is selected.

NOTE

Standard Preset PIN Code:

1234

4 Control Panel Operation

4.2 Parameters Screen

4.2: Parameter Screen

To adjust the system settings of the control panel, Press the "Parameter" button on the upper right corner of the main screen.

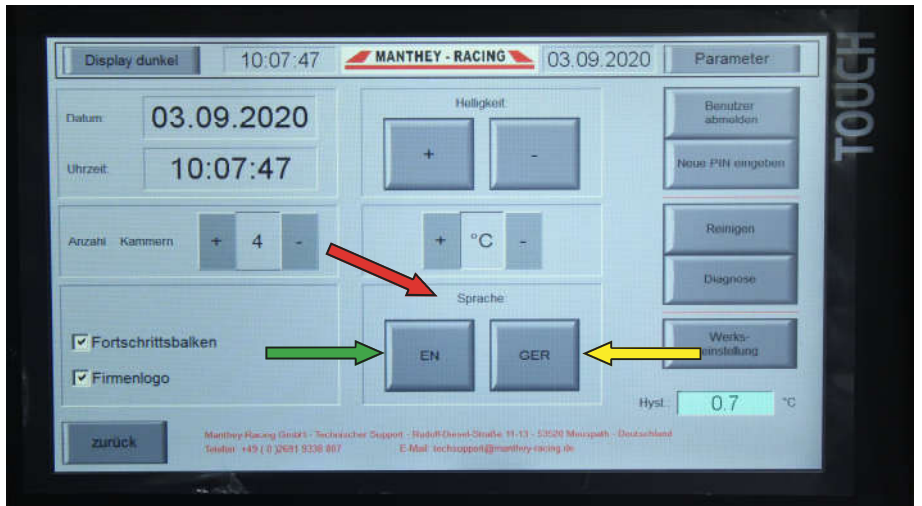


4.2.1: Setting System Language

The system text can be displayed in English or German. This can be set in the "Parameter" menu in the Language/Sprache panel.

To set the preferred language simply press:

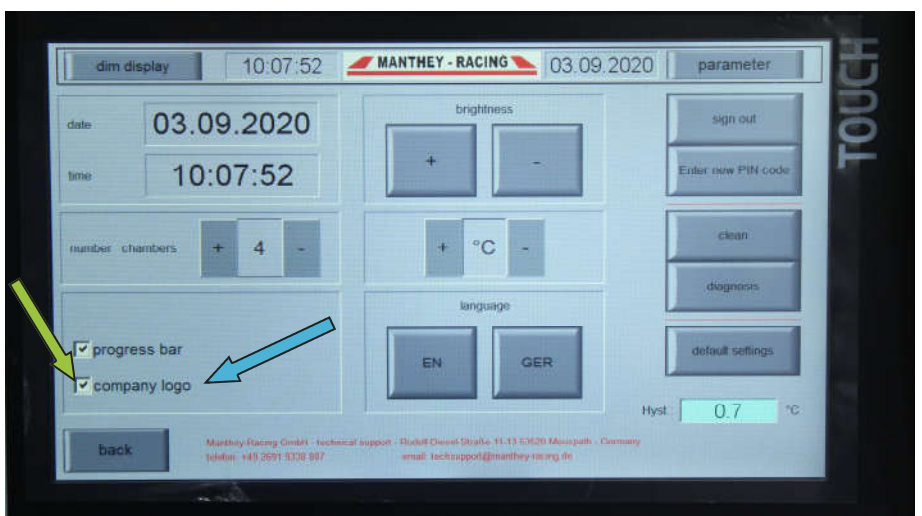
- ⇒ **EN for English**
- ⇒ **GER for German**



4.2.2: Company Logo

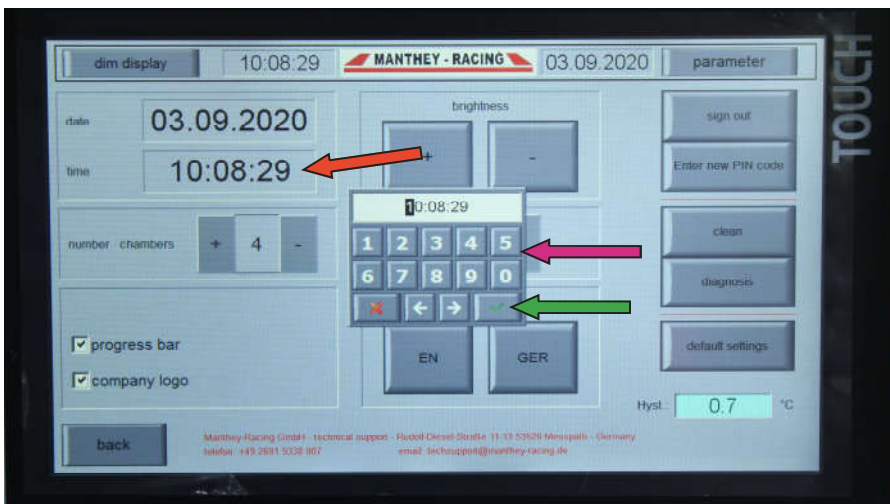
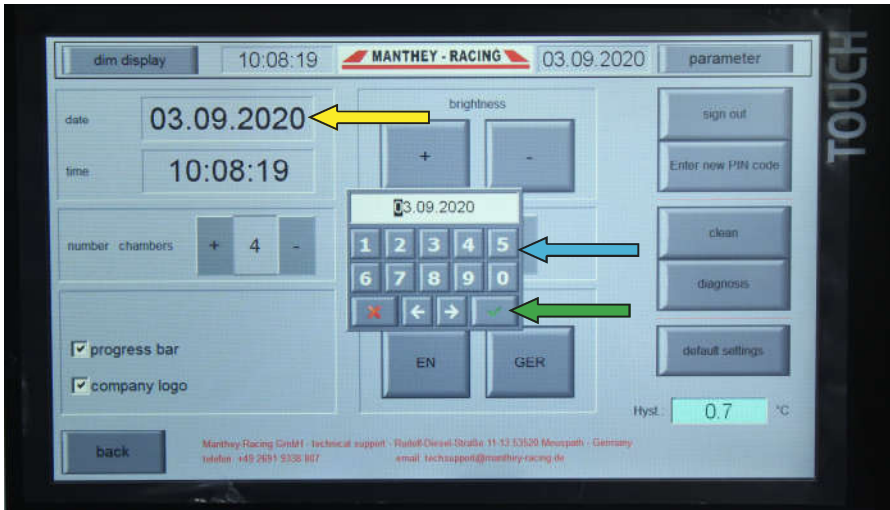
The company logo displayed at the start screen can be turned on or off by selecting the "Company Logo"/ "Firmenlogo" option in the lower left section of the "Parameter" menu.

Unticking the checkbox will turn off the company logo.



4 Control Panel Operation

4.2 Parameters Screen (Cont.)



4.2.3: Setting System Date

↓ To set the system date, press on the date displayed in the "Parameter" menu

↓ A numberpad will be displayed on screen.

Enter the desired date using the numberpad and press the green tick to confirm.

The number will disappear once the confirmation button is selected.

NOTE

The date is displayed/entered in the following format:

DD.MM.YYYY

4.2.4: Setting System Time

↓ To set the system time, press on the time displayed in the "Parameter" menu.

↓ A numberpad will be displayed on screen.

Enter the desired time using the numberpad and press the green tick to confirm.

The numberpad will disappear once the confirmation button is selected.

NOTE

The time is displayed/entered in the following 24H format:

HH.MM.SS

4 Control Panel Operation

4.2 Parameters Screen (Cont.)

4.2.5: Setting number of chambers

Depending on whether the Tire heat tent has been assembled with the standard-three tire chambers or with the optional fourth tire chamber, the system will need to be adjusted to suit.

The current chamber quantity setting is displayed on the left side of the screen.

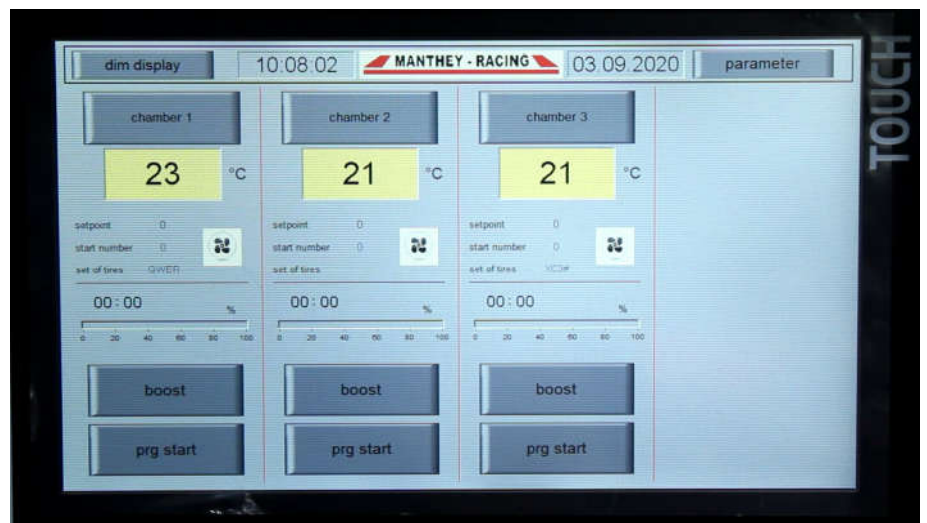
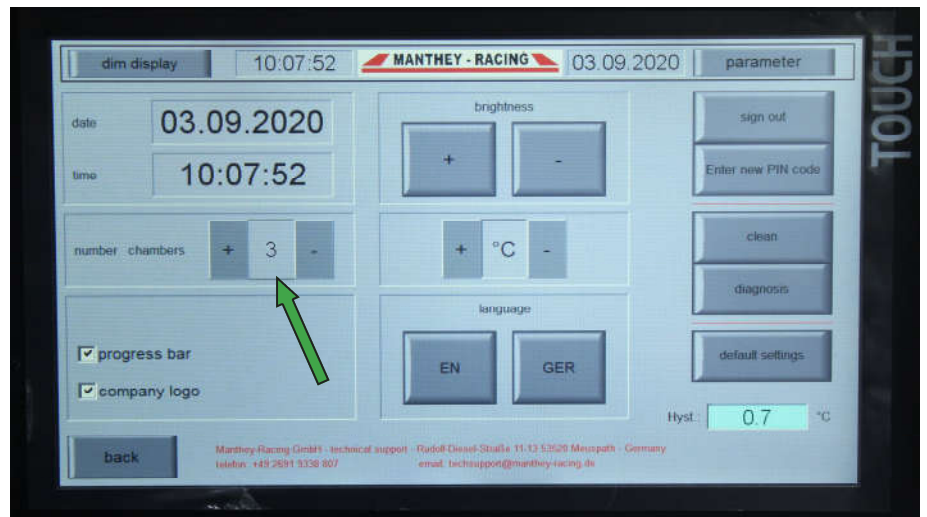
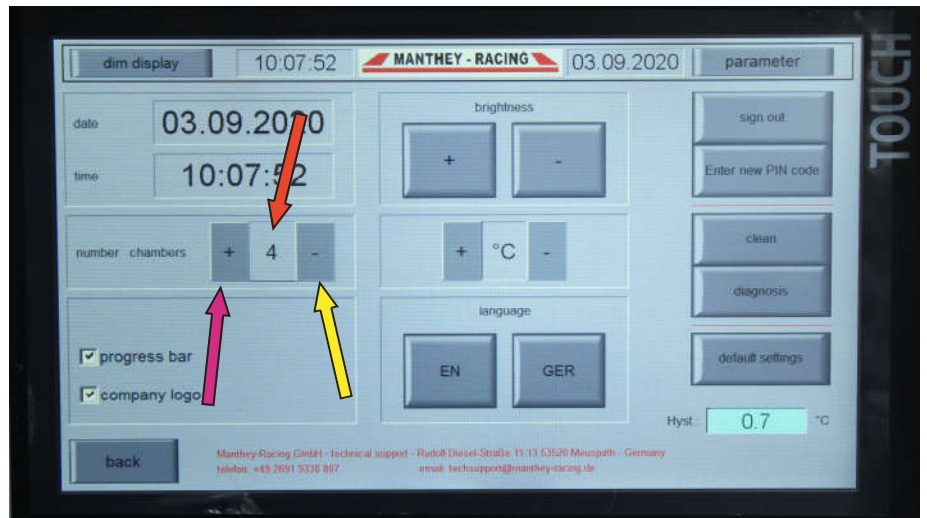
To adjust the number of chambers press the following buttons on screen;

To increase, Press "+"

To decrease, Press "-"

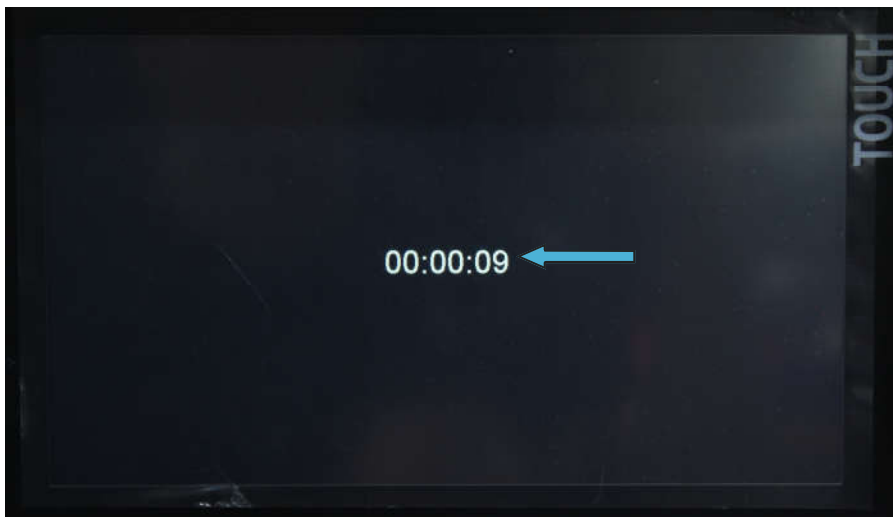
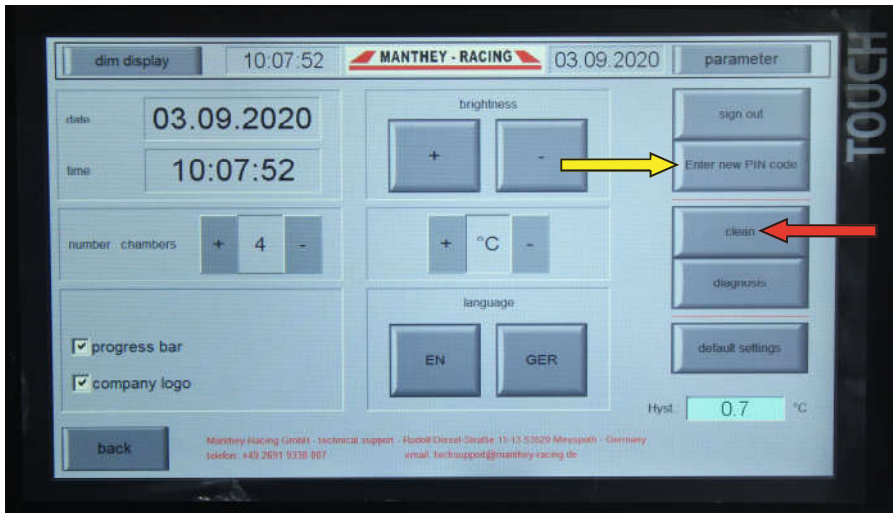
The system change will be visible on the "Main Screen" with a corresponding quantity of chamber controls displayed.

E.g. Number of chambers set to three, only three chamber control columns will be displayed (See image below).



4 Control Panel Operation

4.2 Parameters Screen (Cont.)



4.2.6: Clean Mode

↓ A “Clean” program is available in the “Parameter” menu.

The purpose of this program is to allow the user to clean the control panel screen of any contaminants without the risk of inadvertently pressing a button.

↓ When the “Clean” button is pressed, the screen will turn black, displaying only a countdown timer.

↓ This screen blackout will last for 10 Seconds, as displayed by the on-screen timer.

Once the time has elapsed, the screen will return to the previous “Parameter” screen.

4.2.7: Enter a new PIN code

If you want to exchange the standard PIN code with a new PIN code tick the button “Enter new PIN code”.

A numberpad will be displayed on screen.

Enter the desired PIN code (four numbers) press the green tick to confirm.

NOTE

If the self generated PIN code is forgotten, this can only be resetted at Manthey-Racing. The control unit has to be sent to Manthey-Racing.

4 Control Panel Operation

4.3 Diagnosis Screen

A diagnostic mode is available in the "Parameter" menu. The function of the "Diagnosis" screen is to allow:

- Check operation of fans individually.
- Check the operation of the tire chamber temperature sensors individually.
- Confirm fans are connected in the correct order in relation to the display numbering.
- Confirm tire chamber temperature sensors are connected in the correct order in relation to the display numbering.

Pressing the "diagnosis" button will bring up the diagnostic screen (Shown opposite). This screen contains four rows consisting of:

- Current Temperature Sensor Reading.
- Tire Chamber Number.
- Fan Test Button.

4.3.1: Fan Test

To check the operation and position of the fans, press the "test" button for the desired chamber number.

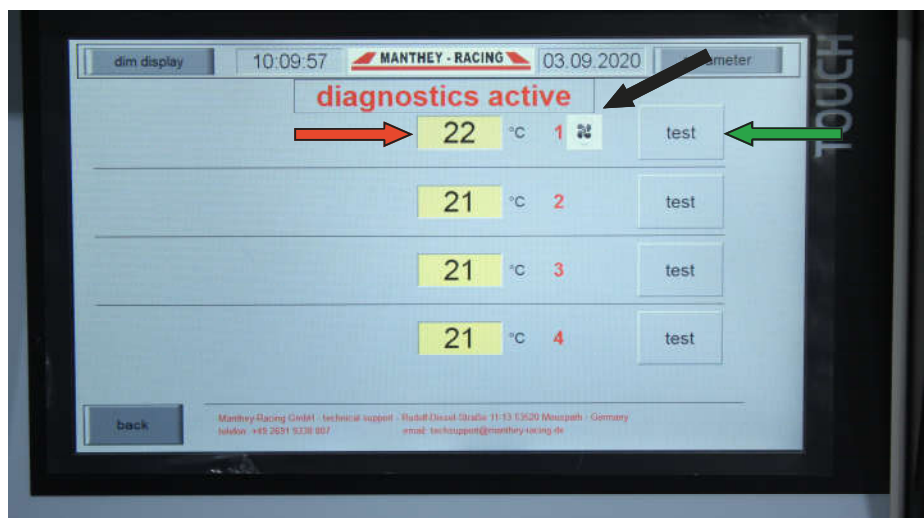
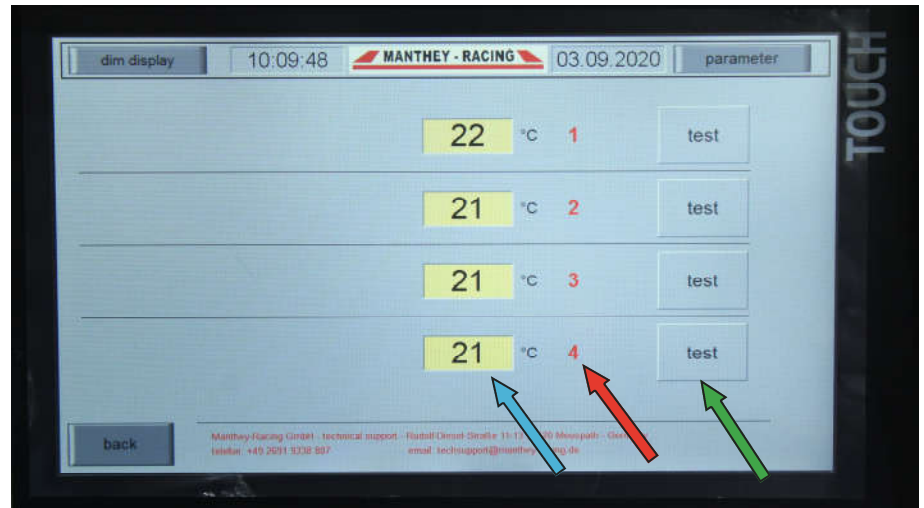
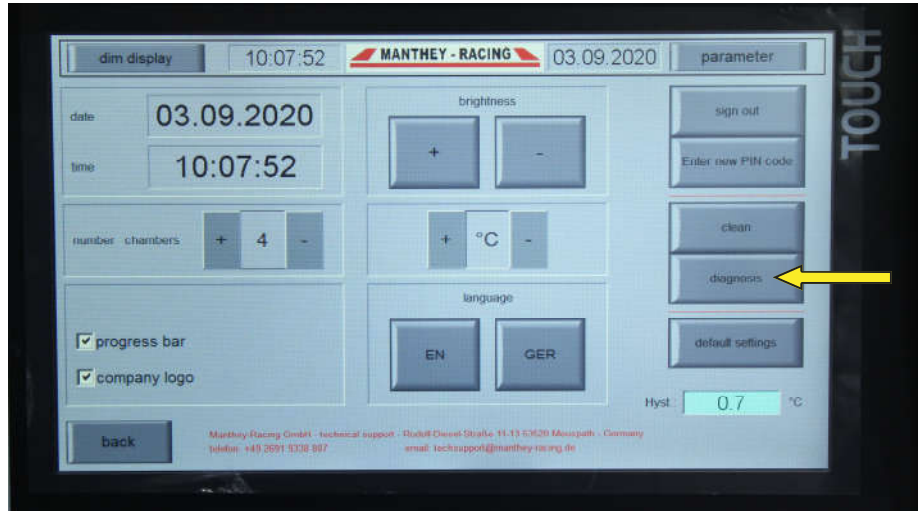
The fan to which the system associates the selected chamber number will turn on.

The position of the running fan can then visually and audibly confirmed by the user.

When the test button is pressed, a fan symbol will appear beside the selected button for reference. A "diagnostics active" header will also be displayed on screen while a fan is operational in test mode.

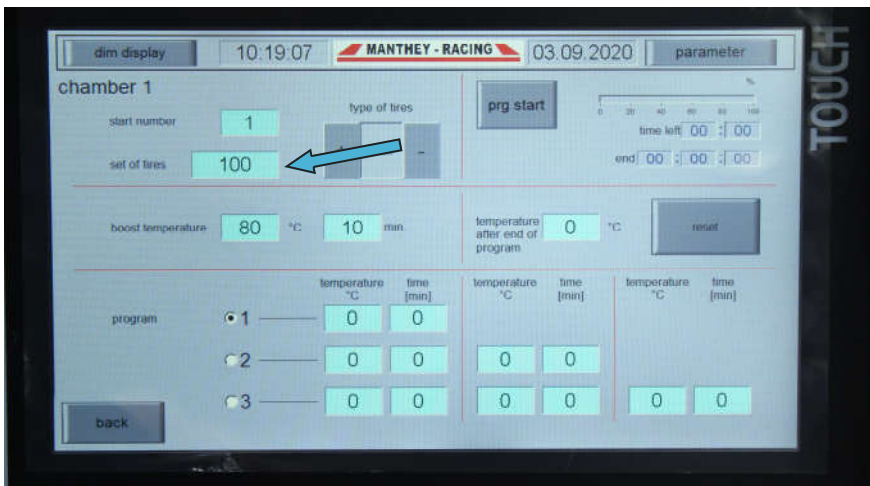
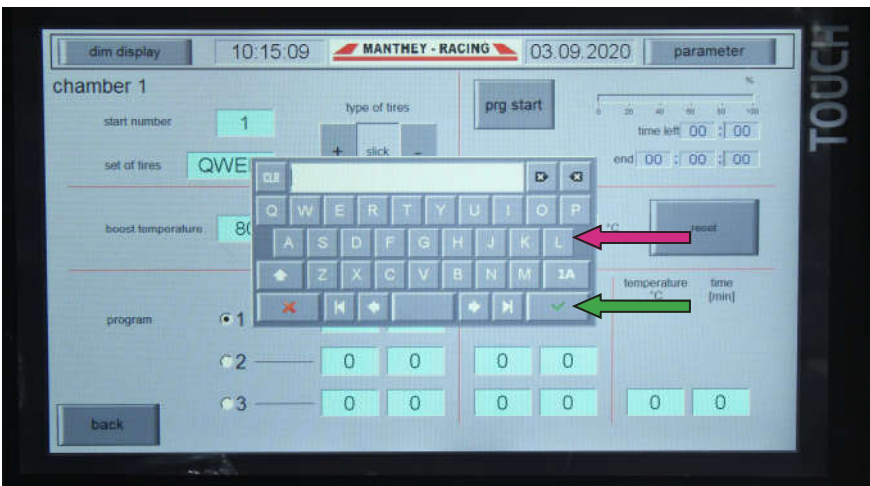
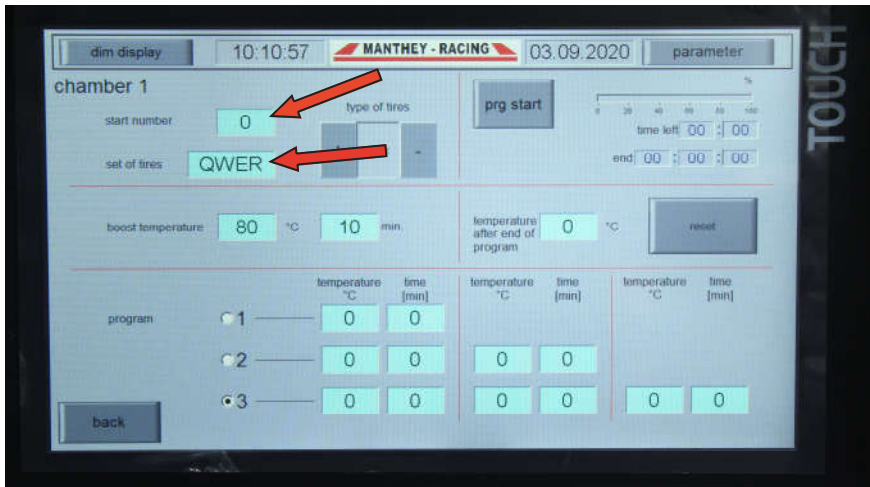
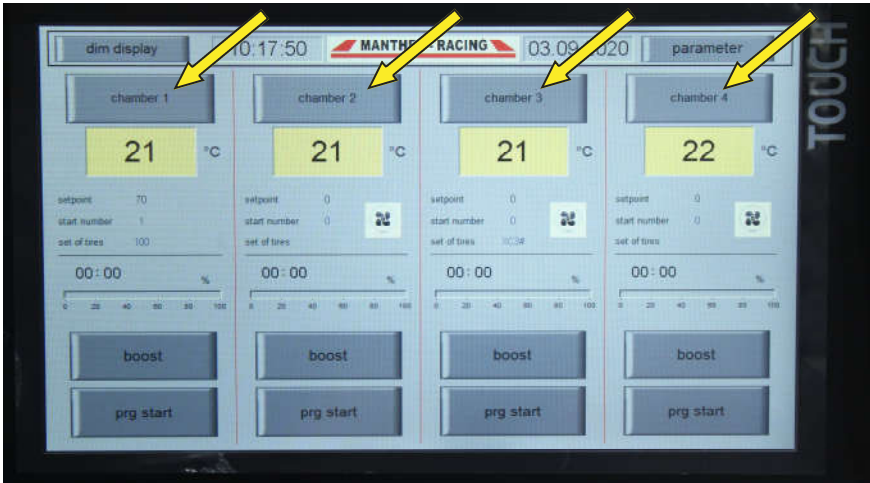
4.3.2: Temperature Sensor Check

To check the operation and positioning of the temperature sensors. The fans can be turned on individually to heat individual chambers.



4 Control Panel Operation

4.3 Program Set Up & Operation



4.3.3: Chamber/Program Set Up

Chamber information and programs can be set up by pressing the "Chamber #" button on the "Main" screen for the respective chamber to be setup.

The following parameters can be set in the "Chamber #" screen:

- Start Number
- Set of Tires
- Tire Type
- Boost Temperature Settings
- Chamber Program End Temperature
- Program Selection
- Program Settings

4.3.4: Start Number/Tire Set Naming

To set the Start Number for a chamber, press on the "start number" value.

A numberpad will be displayed on screen.

Enter the desired number using the numberpad and press the green tick to confirm.

The numberpad will disappear once the confirmation button is selected.

To set a reference title for a tire set contained in a specific chamber, press on the "set of tires" value.

An alphanumeric keypad will be displayed on screen.

Enter the desired number using the numberpad and press the green tick to confirm.

The updated value will now be shown in the display box.

4 Control Panel Operation

4.3 Program Set Up & Operation (Cont.)

4.3.5: Temperature Boost Setup

A temperature boost mode is available. This allows a temporary heating to be run to allow tires to be heated at a higher temperature for a set time if required.

To set the boost temperature, press on the temperature display box in the "boost temperature" panel.

A numberpad will be displayed on screen.

Enter the desired temperature using the numberpad and press the green tick to confirm.

The numberpad will disappear once the confirmation button is selected.

To set the boost temperature program duration, press on the time duration display box in the "boost temperature" panel.

A numberpad will be displayed on screen.

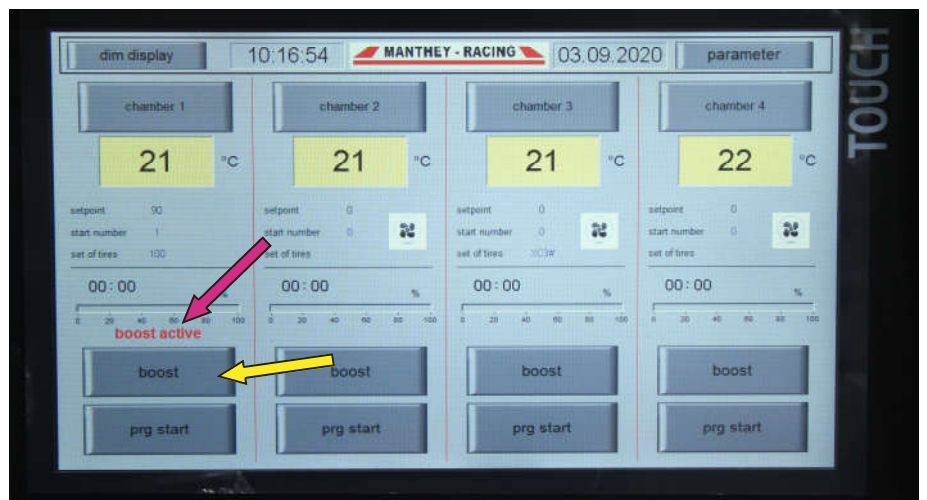
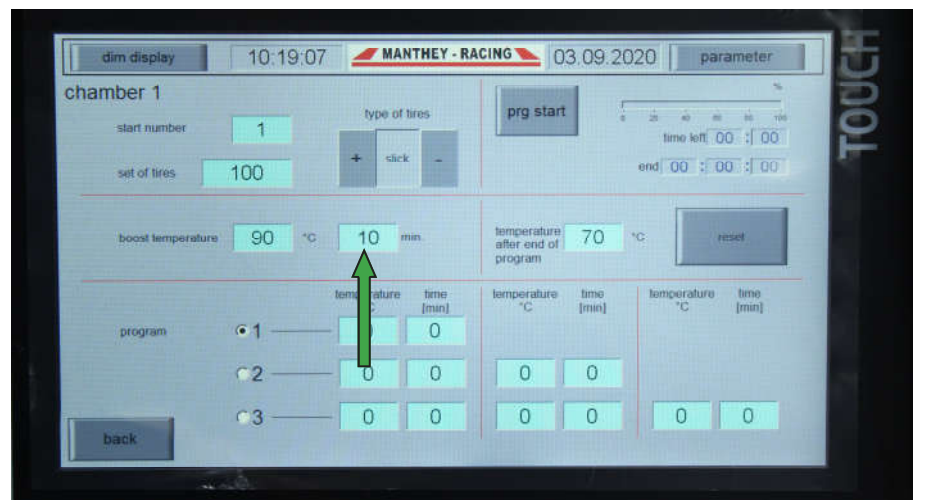
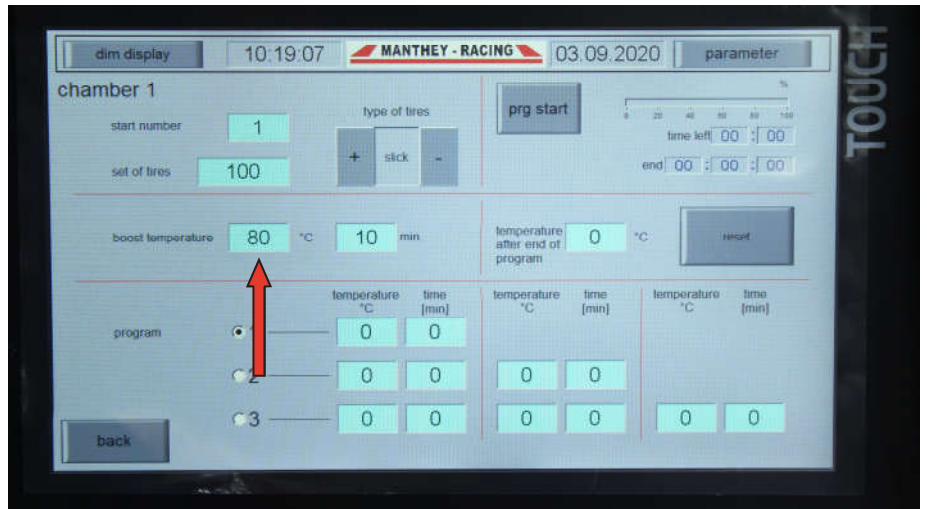
Enter the desired time duration using the numberpad and press the green tick to confirm. The numberpad will disappear once the confirmation button is selected.

The boost temperature program can be activated while a main program is running.

To activate, press the "boost" button for the desired chamber on the "main screen"

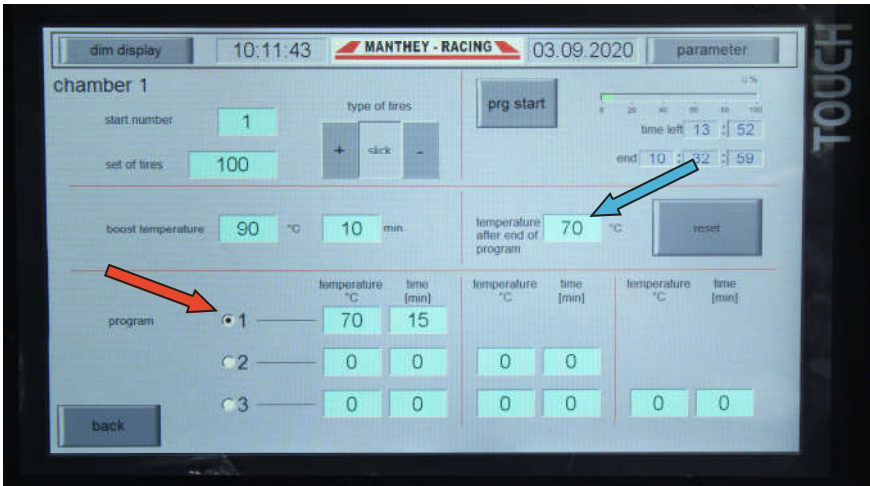
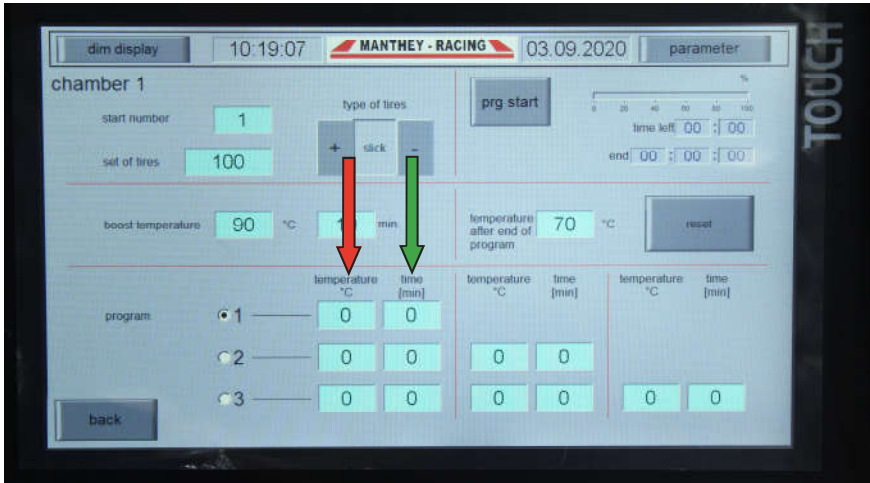
A "boost active" alert will be displayed on screen for the duration of the boost program.

The boost program can be cancelled at any time by pressing the "boost" button again.



4 Control Panel Operation

4.3 Program Set Up & Operation (Cont.)



NOTE

It is important to set the value for the temperature at end of program. This value specifies the temperature that the tent will maintain once the running program has ended. If a value is not entered here, the chamber will begin to cool down once the program has ended.

To set the temperature for after a program, press on the temperature display box. A numberpad will be displayed on screen.

Enter the desired temperature using the numberpad and press the green tick to confirm.

4.3.6: Heating Program Setup

In the chamber menu, up to three individual programs can be set up to allow for different heating rates.

The program numbers allow the following;

- 1 - Single Stage Heating Cycle.
- 2 - Two Stage Heating Cycle.
- 3 - Three Stage Heating Cycle.

To set the temperature for a program, press on the temperature display box beside the desired program number row.

A numberpad will be displayed on screen.

Enter the desired temperature using the numberpad and press the green tick to confirm.



To set the time duration for a program, press on the time display box beside the desired program number row.

A numberpad will be displayed on screen.

Enter the desired time duration using the numberpad and press the green tick to confirm.

For programs 2 and 3, the additional stage settings are entered in the same way.

The operational sequence runs from left to right on the settings entered when the selected program is run.



To specify which program is used when the program is started, press on the number of the desired program.

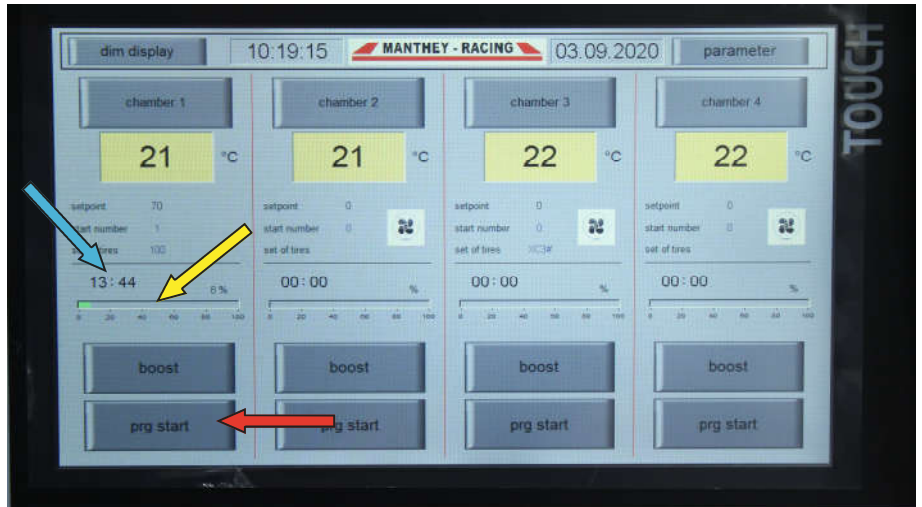
4 Control Panel Operation

4.3 Program Set Up & Operation (Cont.)

4.3.7: Program Operation

To begin the heating cycle as per the selected program for a specified chamber, press the "prg start" button on the "Main" screen.

Once the "prg start" button is pressed, a countdown timer will begin elapsing. A program progress bar will also begin filling.



4.3.8: "Dim Display"

To prevent the tire heating information being openly visible to the public or competing teams, the "dim display" mode can be used.

To enter "dim display" mode, press the "dim display" button in the upper left corner of the screen.

The "dim display" mode will black out the control panel screen displaying only the program countdown timer and progress bar for each chamber.

The current time will also be displayed.

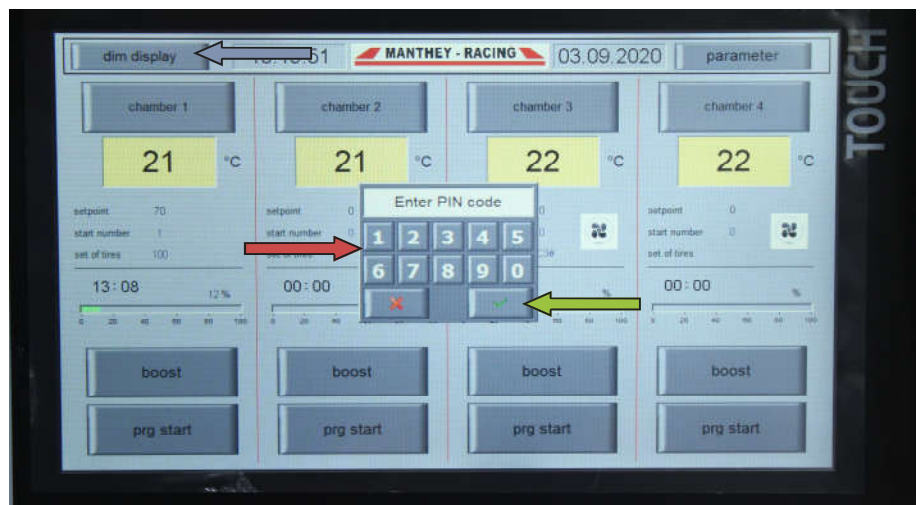


To exit the "dim display" mode, press anywhere on the screen.

This will bring back the previous screen, but in a locked mode.

To unlock the screen the security PIN code must be entered into the on screen numberpad.

The numberpad will disappear once the confirmation button is selected.



5 Tire Heating Tent Operating Notes

5.1 Use of Tire Skates



The use of tire skates is required to move tire sets in to and out of the tent cabins.

Optionally available Manthey-Racing Tire Skates (MTH019101) are advised for use with the tire heating tent. These skates allow for proper airflow around and uniform heating of the tire set.



NOTE

Tire skates manufactured from flammable materials or featuring a fully closed deck should not be used. Burning of the tire skate can occur!

NOTE

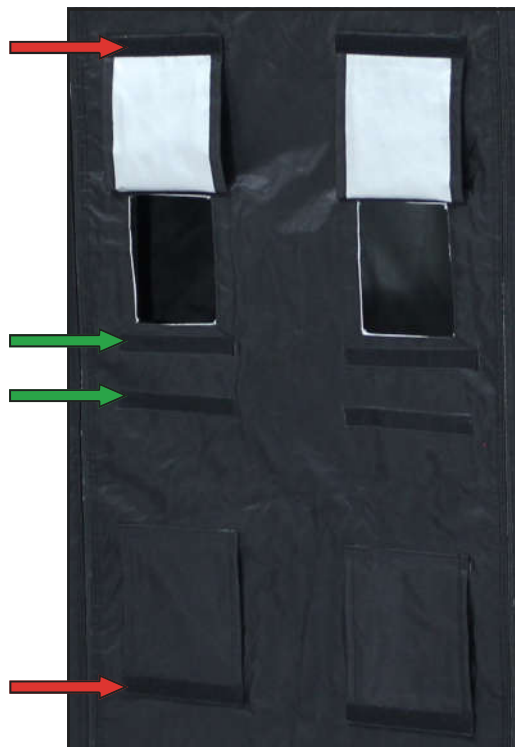
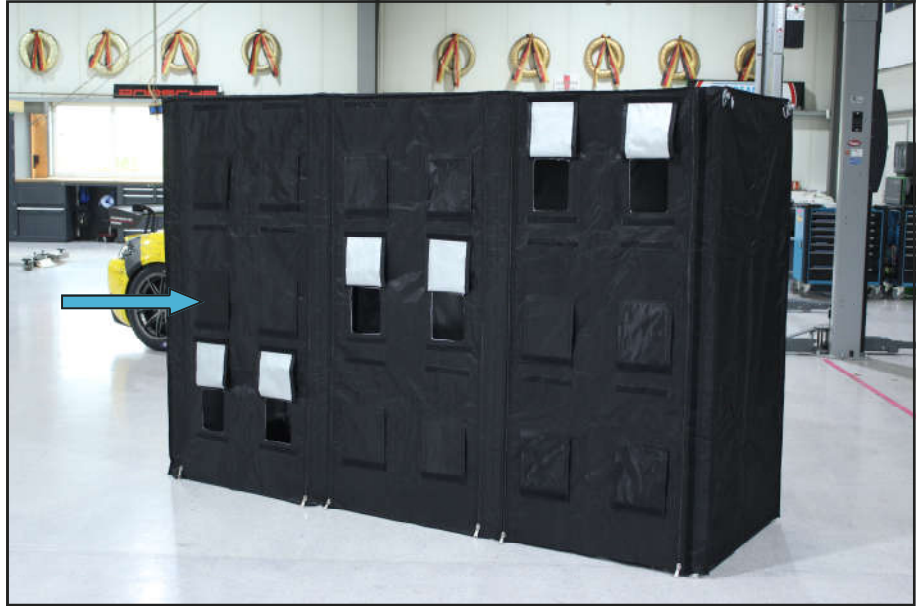
The tire set should be positioned in the cabin such that the nozzle outlet is unobstructed by the tire skate and centred within the wheel set.

5 Tire Heating Tent Operating Notes

5.2 Cooling Flaps

Six flaps are located on the front tarp panel of each chamber. The purpose of these flaps is to allow the user to cool the tires at a controlled rate should or prevent overheating of the tire set. ↓

Each flap has a strip of Velcro located on the outer and inner faces of the flap along the lower edge. This allows the flap to be secured closed or opened by using the mating Velcro strips on the tarp front panel. ↓



5 Tire Heating Tent Operating Notes

5.3 Turning Off the Burner



Turning off the burner:

- ↓ Set main switch on "0" position
- ↓ The fan will continue to run after the burner has been switched off.

Once the burner has fully cooled, it can be disconnected from the mains power supply and then moved for storage or transport

NOTE

The fan remains running for a pre-set time as part of the burner's cooldown cycle.

⚠ WARNING

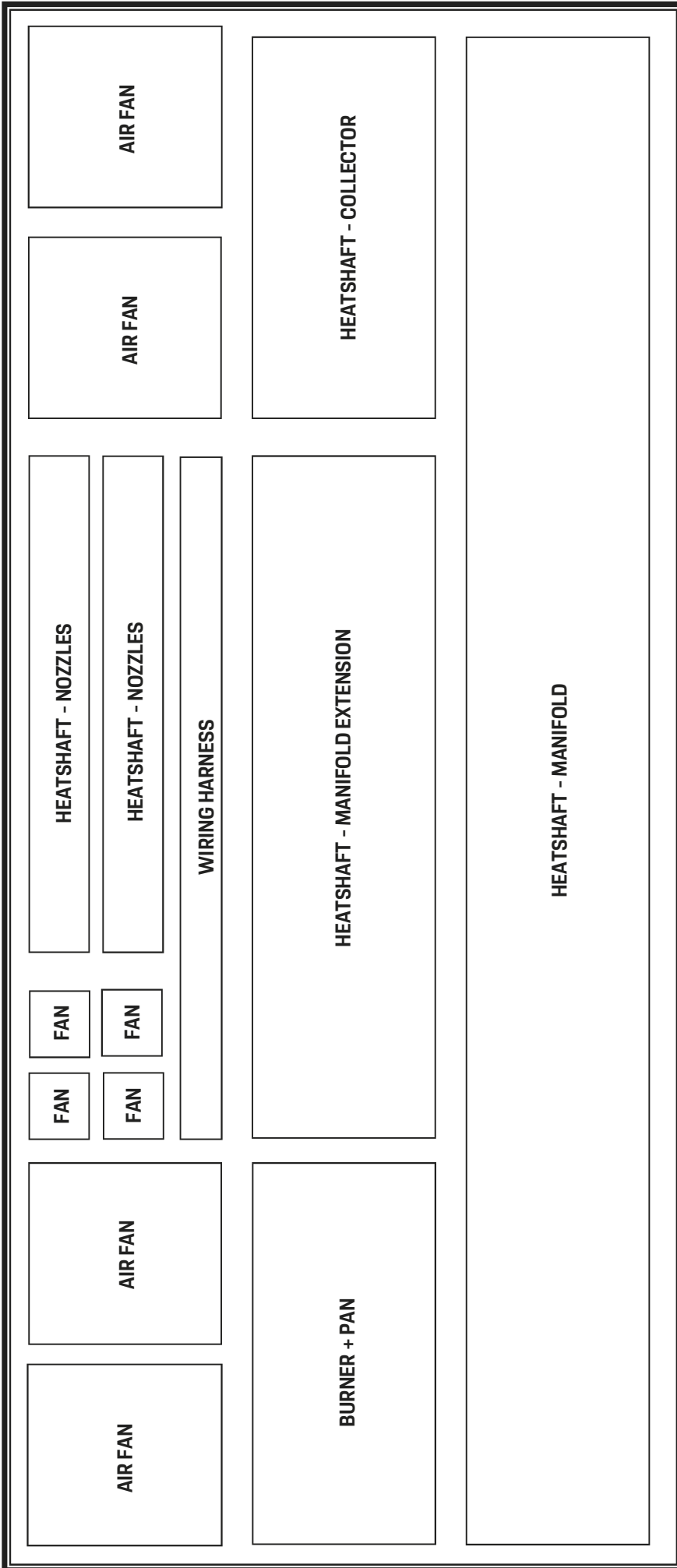
The burner must only be switched off at the main switch to allow the cooldown cycle to occur.

The burner must not be unplugged from the mains power supply before the cooldown cycle has ended. Failure to complete the proper cooldown cycle will result in the burner overheating and damaging the internal components.

This is not covered by warranty!

6 Tire Heating Tent - Optional Flight Case Layout

6.1 Upper Level



NOTE

The diagram opposite outlines the intended layout of the tire heating tent components within the optionally available flight

NOTE

The flight case (MTH019210) is an additional option available, and is not included as part of the standard tire heating tent kit.

6 Tire Heating Tent - Optional Flight Case Layout

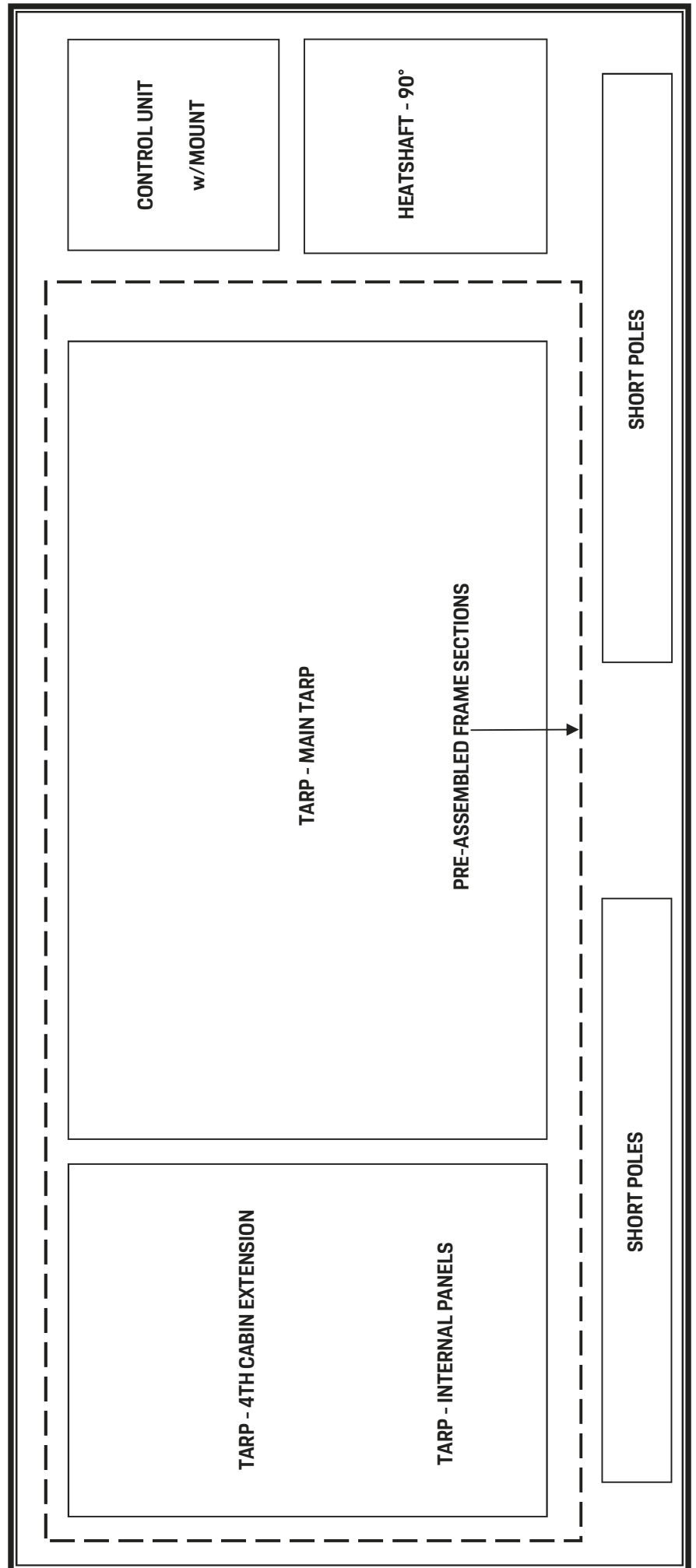
6.2 Lower Level

NOTE

The diagram opposite outlines the intended layout of the tire heating tent components within the optionally available flight

NOTE

The flight case (MTH019210) is an additional option available, and is not included as part of the standard tire heating tent kit.



Notes

