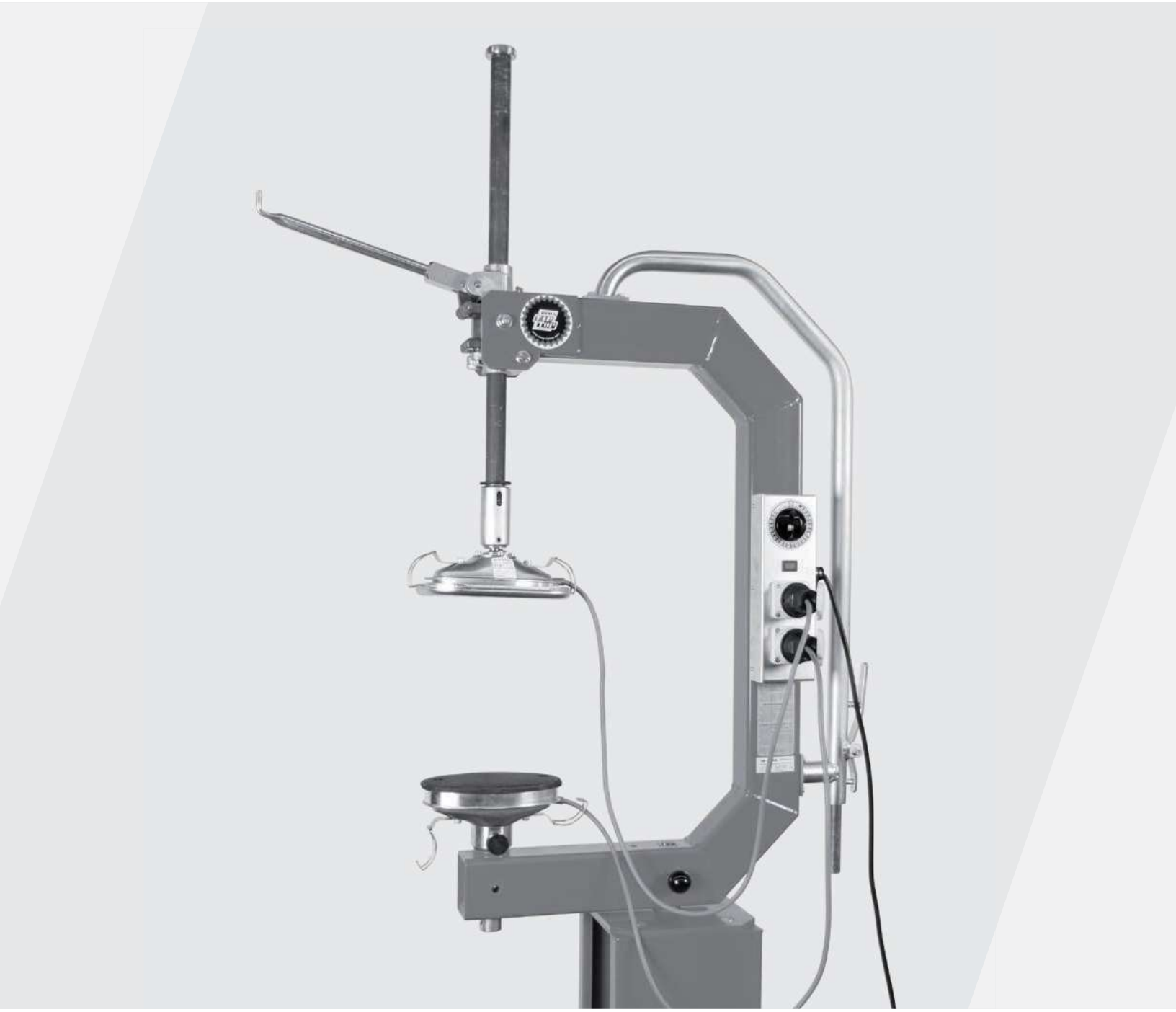
REMA TIP TOP

// ONE BRAND // ONE SOURCE // ONE SYSTEM



// SERVICE // MATERIAL PROCESSING // SURFACE PROTECTION // AUTOMOTIVE

THERMOPRESS II ECONOMY

Operating Instructions

Introduction

This manual explains the correct handling of the machine. It should be studied before the machine is put into operation for the first time, and read regularly when the machine is operated.

- Whenever the machine is sold again, pass on this manual to the new owner.
- REMA TIP TOP Thermopress machines are specifically designed for the vulcanization of skives filled with uncured rubber on passenger car, light truck, truck, tractor, industrial and small EM tyres. The machines are adapted to the working conditions under which these operations are carried out.
- For information about the preparation of tyre injuries, refer to the separate REMA TIP TOP tyre repair instructions (one-way/two-way system).
- Besides the explanations and safety instructions in this manual, the user has to take into account the precautions relating to the use of all technical devices.
- All the information given in this manual refers only to the use of original REMA TIP TOP materials, accessories and spare parts.
- A proper repair requires not only the use of high quality repair materials and tools but also an appropriate working environment, for example:
  - ↗ Good illumination
  - ↗ Periodical cleaning of the working place and the tools
  - ↗ Protection against direct sunlight and draughts
  - ↗ Compliance with storage requirements of all products
  - ↗ Technically accurate and regularly maintained machines and accessories
  - ↗ Well-trained staff
- We reserve the right to carry out modifications which we consider to be technically advantageous.

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1. General information

1.1 Safety instructions

- Before putting the device into operation for the first time, read the manual carefully step by step! Always observe the safety instructions.
- Always keep the manual accessible to the operators!
- The local mains power and compressed air supply must be equal to that stated on the machine data plate. If it is not equal to that stated on the machine data plate, do not connect the machine! Have it connected by a qualified specialist!
- Do not leave the machine unattended when it is operating.
- Observe the relevant measures for fire protection.
- Never exceed or change the settings, etc. listed in this manual.
- Avoid rolling over cables and air lines.
- Regularly check the connection cables and mains plugs for any damage, and, if necessary have them replaced by a qualified service technician.
- Immediately replace defective or damaged machine parts or cables.
- Allow only a specialist to carry out any work on electric and pressure-exerting parts.
- Make sure that defective or damaged machines cannot be put back into operation, and immediately send for a specialist to have the trouble-shooting and the repair done.
- Use only accessories and components which are offered or approved by REMA TIP TOP.
- Once a month, check the machine for wear and/or ageing-related defects such as corrosion, deformation, etc.; replace the parts concerned as quickly as possible.
- Do not touch the heating plates when the machine is working or cooling down. Danger of burning.
- Keep your hands and feet clear of the space between the heating plates and the tyre, when closing the pressure unit. Risk of entrapment!
- Make sure the tyre and the machine are secured well when working without the support stand. Take the appropriate measures to secure the machine and the tyre against rolling or tilting.
- When using an extension lead, make sure that the cable diameter is sufficient. Always completely unwind cable drums. Fire risk!
- Use the REMA TIP TOP Thermopress machines described in this manual only for curing repair areas on tyres which have been prepared correctly with original REMA TIP TOP materials.
- Observe general safety instructions and the specific regulations for prevention of accidents from the employer's liability insurance association.
- When the machine has to be put out of service and to be disposed of, observe the relevant regulations on waste separation, recycling and the correct disposal of used parts.

1.2 Technical data

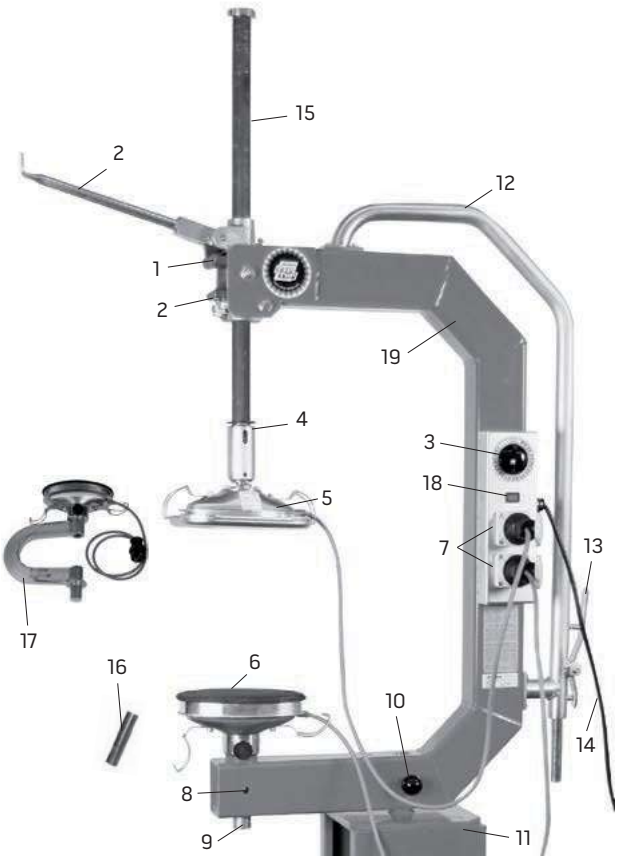
Power supply	230 V 50 Hz
Nominal power consumption	540 W
Operating temperature(measured at the measuring point)	approx. 160 °C (with integrated overheating cut-out)
Maximum pressure	550 kp (quick clamping mechanism with automatic reset)
Weight of machine	approx. 33 kg
Dimensions, approx.	200 x 660 x 920 mm

We reserve the right to carry out modifications which we consider to be technically advantageous.

1.3 Description of the machines

Thermopress II Economy (Ref. No. 517 1525)

1 Quick clamping mechanism with receptacle for the jacking lever
2 Locking plate for the clamping mechanism. The pressure is released by pressing the locking plate down with the jacking lever (see page 23, fig. 2.3.1)
3 Timer 0-120 minutes
4 Spring assembly, maintaining constant pressure
5 Upper heating plate
6 Lower heating plate
7 Socket for connection of upper and lower heating plate
8 Locking pin for lower heating plate
9 Short heating plate shaft
10 Locking pin for base plate
11 Base plate
12 Support handle
13 Locking mechanism for support leg
14 Mains power cable
15 Pressure shaft with receptacle for jacking lever
16 Long extension for lower heating plate
17 U-clamp
18 Red pilot lamp for timer
19 Machine frame



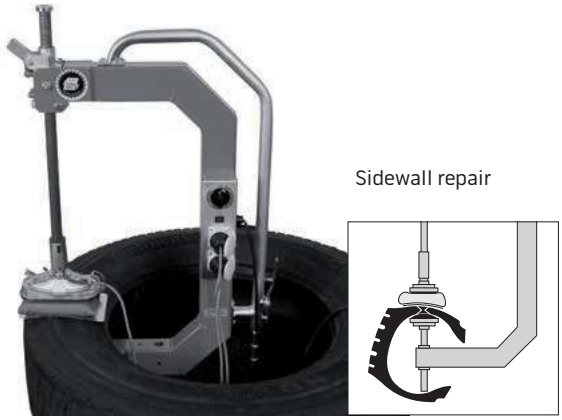
1.4 Positioning of the machine for the vulcanization procedure

! Attention:
- Make sure the tyre and the machine are secured well when working without the support stand. Take the appropriate measures to secure the machine and the tyre against rolling or tilting.
- Avoid any risk of stumbling over cables, etc.

1.4.1 Sidewall repair

When tyres exceeding a rim diameter of 18" are to be vulcanized, lay the tyre on the floor, and remove the machine from the base plate or the support stand. Then, fit the machine on the sidewall of the tyre, centring the heating plates onto the repair area. The machine can be secured in the appropriate position using the support leg. (fig. 1.4.1)

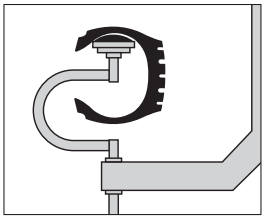
Note: For vulcanizing sidewall injuries to tyres with a rim diameter below 18" (e.g. passenger car, minibus, light truck, truck, and industrial tyres), we recommend clamping the tyre in the machine with the use of the U-clamp (Ref.No. 517 3028) (fig. 1.4.5)
During this operation, the Thermopress machine remains on the base plate of the support stand or on the work bench.



1.4.1



517 3028



1.4.2 Tread repair

Heavy tyres (exceeding 17.5") should be angled against a working bench, etc. during the curing process in order to avoid deformation due to the tyre´s own weight.
Remove the Thermopress machine from the base plate or the support stand, and centre it onto the repair area. (fig. 1.4.2)
To facilitate the handling of the machine, we recommend to use the support stand (Ref.No. 517 1123).

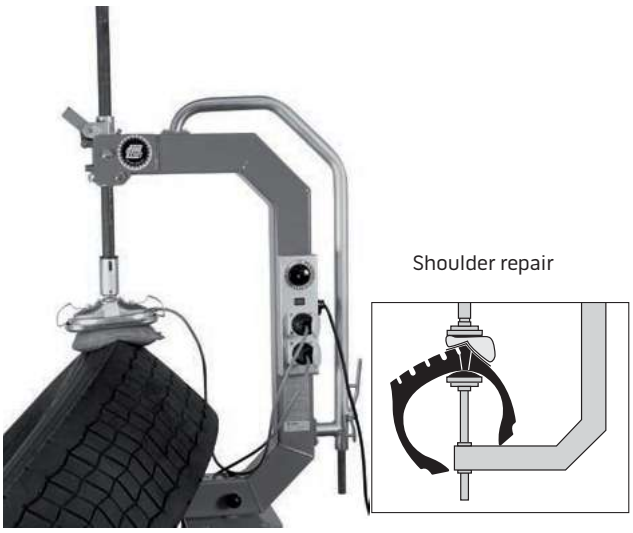


1.4.2

1.4.3. Shoulder repair

As regards the positioning of the tyre, refer to "Tread repair". In order to generate the required pressure, cover the repair area with heat-resistant Thermopress foil. Then centre the pressure equalizing bag (included in the shipment) onto the repair area. Adapt the pressure equalizing bag to the tyre surface by hand-moulding the bag.
Remove the Thermopress machine from the base plate or the support stand, and position it onto the pressure equalizing bag. (fig. 1.4.3)

! Attention for pos. 1.4.1 - 1.4.3:
Make sure that the tyres and the vulcanizing machines are secured correctly. Avoid any risk of stumbling over cables, etc.



1.4.3

2. Handling of the machine for the vulcanization of tread, shoulder and sidewall tyre repairs

2.1 Operation shown on a truck tyre sidewall repair

Mark the injury with auxiliary lines. (fig. 2.1.1)



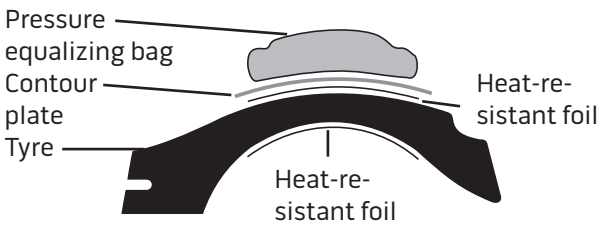
2.1.1

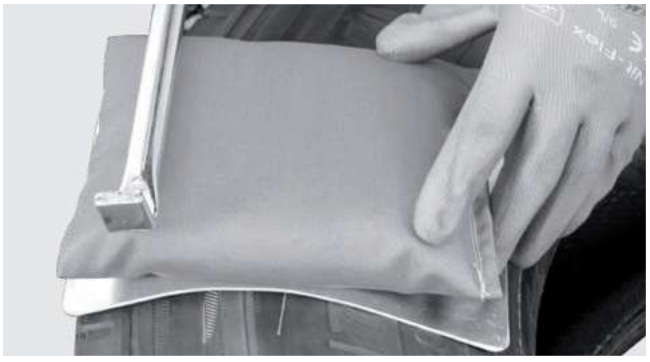
Cover the repair area with heat-resistant Thermopress foil. Then centre a pre-shaped aluminium contour plate together with the appropriate **pressure equalizing bag (Ref.No. 517 2438 or 517 1989)** onto it. Adapt the pressure equalizing bag to the tyre contour by hand-moulding the bag. (fig. 2.1.2 and 2.1.3)



2.1.2

Note: It is not necessary to use the aluminium contour plate/the pressure equalizing bag, if the repair area is completely covered by the heating plates.
See page 23 info box „curing times".





2.1.3

Position the machine on the repair area according to the auxiliary lines. (fig. 2.1.4). Slightly spread the tyre, if necessary.

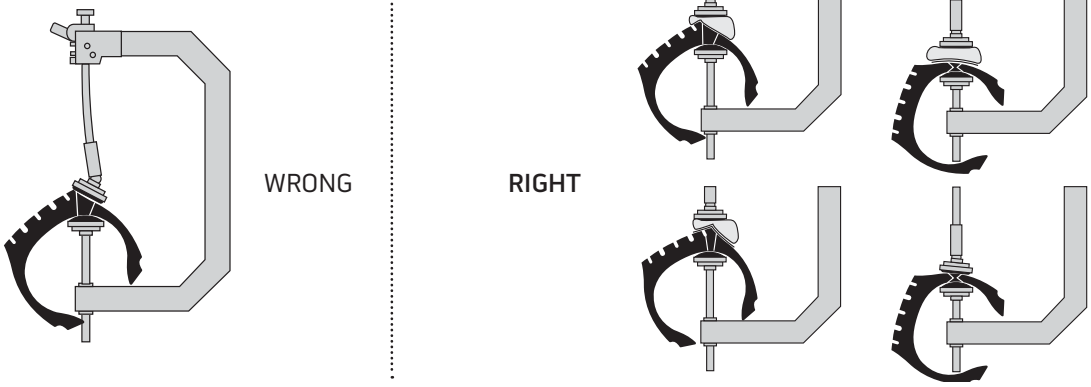
! Attention: Seek help, if required, in order to change the position of the machine or its settings.



2.1.4

2. Handling of the machine for the vulcanization of tread, shoulder and sidewall tyre repairs

Application area of pressure equalizing bag



2.2 Clamping the tyre in the Thermopress machine

Operate the jacking lever of the clamping mechanism in order to obtain the required curing pressure. (fig. 2.2.1)



2.2.1

As soon as the maximum pressure (fig. 2.2.2) has been reached, stop jacking, and put the jacking lever back in its receptacle. Position at maximum pressure.
The position may change depending on the operation of the automatic reset mechanism. However, manual pressure re-adjustment is not necessary.

! Attention: Keep your hands and feet clear of the space between the tyre and the heating plates, while pressure is built up. Risk of entrapment!



2.2.2

2. Handling of the machine for the vulcanization of tread, shoulder and sidewall tyre repairs

Curing of the repair area: Wind the timer with one full revolution, then set it back to the prescribed curing time (see the following chart). (fig. 2.2.4)
Repeat this operation when the curing time exceeds 120 minutes.
At the end of the previously set curing time, the electric current to the heating plates is cut off automatically.



2.2.4

! Attention: Do not leave the machine unattended when it is operating. Observe the relevant measures for fire protection and the regulations on the operation of electric appliances.

2.3 Opening the Thermopress machine

To release the clamping mechanism, place the jacking lever with its flat end between the locking plate (pos. 2, page 18) and the lifting plate, then press the jacking lever downwards. Pull the pressure shaft with the heating plate upwards. (fig. 2.3.1)



2.3.1

! Attention: Do not touch the heating plates during the cooling down period. Danger of burning.
Wear protective gloves.

Remove the Thermopress machine from the tyre, and check again whether the repair has been carried out correctly. For information about further repair operations such as patch application, buffing, etc., refer to the relevant REMA TIP TOP tyre repair instructions (one-way/two-way system).

2.4 Curing times

Per 1 mm of material thickness	min. 2 Min.	min. 2,5 Min.	min. 3 Min. bei T > 15 °C	min. 4 Min. bei T < 15 °C	min. 5 Min. bei T > 15 °C	min. 6 Min. bei T < 15 °C
	min. 15 Min.	min. 30 Min.				
	min. 30 Min.	min. 45 Min.				
	min. 30 Min.	min. 70 Min.				

When using

Pressure equalizing bags	+30 Min.	+60 Min.	+60 Min.
Repair system	+ patch thickness in mm		
Segment	+ 0,5 Min. per mm damage thickness		–

3. Maintenance

As REMA TIP TOP vulcanizing machines are very reliable, thanks to their construction and the high quality of their parts and materials, they have long intervals between servicing.

For safety and warranty reasons, damaged machine parts should immediately be replaced by original REMA TIP TOP spare parts. Any work on electric components as well as any work which exceeds maintenance work has to be carried out only by a specialist!

3.1 Maintenance schedule

Machine part	Frequency	Type of maintenance work
Machine frame	Regularly	Check for damage
Locking pins	Once every month	Visually check for damage and deformation
Pressure shaft	4 times a year	Visually check for damage
Electric components	Always before putting the machine into operation	Visually check for damage
Screw links/plug-in connectors	A week after putting the machine into operation for the first time, then: once every month	Check and retighten if necessary

3.2 Trouble shooting

In case of malfunction which cannot be determined precisely, disconnect the machine from the mains and the compressed air supply at once, make sure that it cannot be put into operation again, and have the trouble shooting and the repair done by a specialist. Have any work on parts relevant to safety, e.g. electric parts, pneumatic cylinders, etc. done only by a qualified specialist.

Trouble	Possible reason	Possible solution
The heating plates do not heat up	Timer not wound up	Set the curing time
	Defective timer/defective heating plate controller	Immediately replace the components
	The power supply has been interrupted	Restore the power supply
	Defective fuse	Replace the fuse and pinpoint the cause of the malfunction
	Defective heating plate(s)/heating elements	Immediately replace the components
Heating plate damaged	Wear	Immediately replace the components
	Damaged by external influences like impact	

Note: In all these cases, after having solved the problem in question, you may have to repeat the curing operation or the repair. For this purpose, check again whether repairing the tyre is economically reasonable and technically possible.

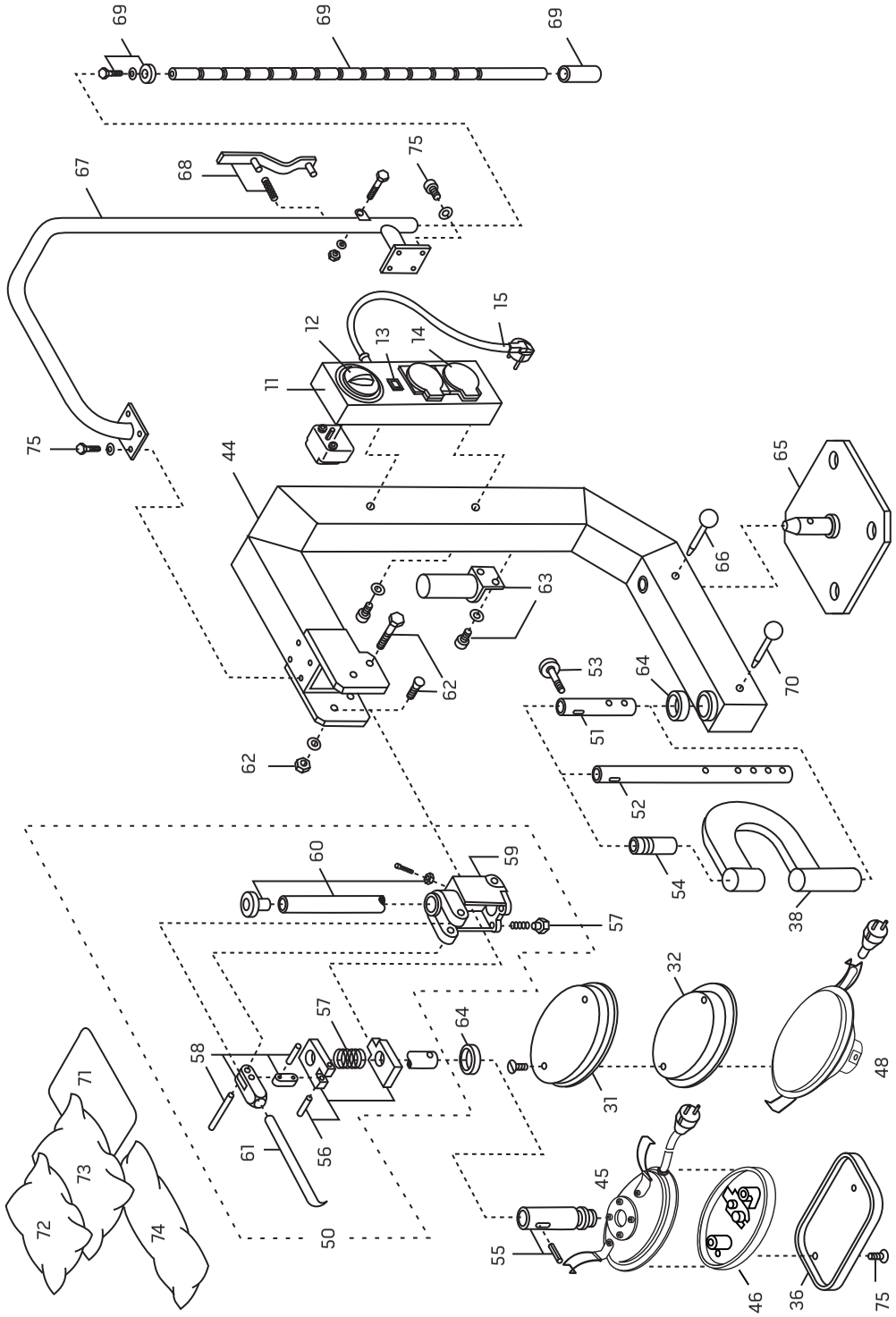
4. Accessories

Ref. No.	Description
517 1130	Support stand
517 1161	Valve heating plate
517 3853	Small pressure equalizing pad 0,3 kg (for passenger car tyres)
517 2438	Medium pressure equalizing pad, 0,5 kg (for passenger car tyres)
517 1989	Large pressure equalizing pad, 1 kg (for truck tyres)
517 1965	Large pressure equalizing pad, 1 kg (for tractor tyres)
517 1958	Aluminium contour plate 210 x 140 x 1
517 3310	Pressure plate for large damages on tractor and OTR tyres
517 3327	Pressure plate for side wall repairs to tubeless truck tyres for drop centre rims (fits the sidewall contour).
517 3365	Pressure plate for tread repairs to ALL truck, tractor and OTR tyres
517 3334	Heating plate profile shape for repairs to low profile passenger car tyres
517 3963	Pressure plate, contour for tyre outside
517 3970	Contour segment, truck tyre outside, houlder
517 3987	Pressure plate, contour for tyre inside
517 3451	Pressure plate, contour for tyre inside; contour D
517 3452	Pressure plate, contour for tyre inside; contour G
517 3461	Pressure plate, contour for tyre outside; contour E
517 3462	Pressure plate, contour for tyre outside; contour H



Note: For further accessories please view our online product catalogue at http://products.rema-tiptop.com

5. Exploded view



! Attention: Allow only a qualified specialist to carry out any work on electric parts!
The parts marked with an asterisk *) are wear parts, for which no liability based on any legal regulations whatsoever can be accepted.

6. Spare parts list

Ref. No. 517 1525, 230 V/540 W

Pos.	Ref. No.	Description
11	517 7048	Complete E-control unit 230 V
12	517 7189	Timer set consisting of: timer 120 mins, timer face 0-120, timer switch pointer, 120 mins timer adapter plate and fastening screw
13	517 7196 *	Spare pilot lamp 230 V
14	517 3145	Earthed socket 230 V including fastening screws
15	557 6292	Cable for E-control box, with cable protector bush
31	517 7165 *	Rubber pad for truck tyres with fastening screws M6 x 10
32	517 7172 *	Rubber pad for passenger car tyres with fastening screw M6 x 10
36	517 7158 *	Heating plate attachment, truck tyres (upper part), with fastening screw M6 x 10
38	517 1295	U-shaped bow
44	557 9691	Frame, complete
45	517 3633	Heating plate, upper part with hexagon head cap screw M6 x 35
46	517 3650	TP heating plate, lower part 230 V/270 W, complete / with integrated heating element / with thermostat and overheating fuse / with feeding cable and earthed plug
47	517 3572	Heating plate, lower part 115 V/270 W / with integrated heating element /with thermostat and overheating fuse / with feeding cable and 4-pin round plug
48	517 3578 *	TP heating plate 230 V/270 W, complete
50	517 2043	Complete clamping mechanism (for truck tyres)
51	517 2232	Short extension
52	517 2225	Long extension
53	517 2641	Locking bolt M8 for lower heating plate
54	517 3248	Extra short extension for lower heating plate
55	517 3571	Spring assembly, complete with link, Split pin sleeve 6 x 40
56	517 2460	Stop plate, Lifting plate, Grooved pin for lifting plate
57	517 2590*	Upper pressure spring, Lower pressure spring, Retaining bolt for lower pressure spring
58	517 2670	Grooved pin for lever bracket, Hinge link, Lever bracket, Grooved pin for alu housing
60	517 2680	Nut M6, Adjusting screw M6, Pressure shaft, End cap
61	517 2012	Pumping lever
62	517 2700	Lower fastening screw for clamping mechanism, Upper fastening screw, Shim 10 mm, Nut M10
63	517 2710	Extension holder, Spring washer 6 mm, Screw M6 x 15
64	517 2720	Rubber washer for spring assembly, Rubber ring
65	517 2294	Base plate
66	517 2287	Locking pin for base plate Ø 8 mm
67	517 2311	Handle
68	517 2730	Adjusting lever, Pressure spring for adjusting lever
69	517 2740	Support leg, Safety washer for support leg, Guide bushing for support leg, Screw M6 x 20, Spring washer 6 mm
70	517 2263	Locking pin extension Ø 10 mm
71	517 1958 *	Aluminium contour plate
72	517 2438 *	Small pressure equalizing pad 180 x 30
73	517 1989 *	Large pressure equalizing pad 210 x 150
74	517 1965 *	Tractor pressure equalizing pad 260 x 100
75	517 2410	TP II / TP II Economy screw set, Set screw M8 x 20 with nut, Hexagon head cap screw M6 x 35, Fastening screw M6 x 10, Sheet metal screw DIN 7982 C 4,2 x 13 mm for electrical socket, only TP II ECO, Sheet metal screw DIN 7981 C 2,2 x 9,5 mm for timer, only TP II ECO, Split pin sleeve 6 x 40, Spring washer 6 mm, Screw M6 x 15, Screw M6 x 40 for adjusting lever, Nut M6, Screw M6 x 20, Fastening screw for timer, only for TP II

HORN

CE-Konformitätserklärung
EC Declaration of Conformity

Hersteller/Manufacturer:	Horn GmbH
Anschrift/Address:	Gewerbestrasse 14 D-78244 Gottmadingen
Produktbezeichnung: Product designation:	106-135-0003-A1 TP Economy
Artikelnummer: Article no.:	106-135-0003-A1 TP Economy

Wir erklären hiermit im Sinne der EG-Richtlinien dass, das oben bezeichnete Produkt in Übereinstimmung mit folgenden Richtlinien entwickelt, konstruiert und gefertigt wurde.
We thereby declare, in exclusive responsibility, that the aforementioned product was developed, designed and manufactured in harmony with the following directives

Richtlinie 2014/35/EU, (Niederspannungsrichtlinie)
Richtlinie 2014/30/EU, (EMV)
Richtlinie 2011/65/EU, (RoHS)
Council Directive 2014/35/ECC (Low Voltage)
Council Directive 2014/30/ECC (Electromagnetic Compatibility)
Council Directive 2011/65/ECC (RoHS)

Wir bestätigen zusätzlich die Konformität des oben bezeichneten Produktes mit den Normen:
We additionally confirm that the aforementioned product conforms with the following standards:

DIN EN 61140:08/2014	DIN VDE 0140-1
DIN EN 60335-1:10/2012	DIN VDE 0700-1
DIN EN 50106:05/2009	DIN VDE 0700-500
DIN EN 55014-1:05/2012	DIN VDE 0875-14-1
DIN EN 61000-6-3:09/2011	DIN VDE 0839-6-3
DIN EN 61000-3-2:03/2015	DIN VDE 0838-2
DIN EN 55014-2:01/2016	DIN VDE 0875-14-2

Horn GmbH
Gottmadingen, 22.04.16

Geschäftsführer
CEO

Qualitätsmanagement
Quality Management

Diese Erklärung ist keine Zusicherung im Sinne des Produkthaftungsgesetztes!
This declaration is not an assurance for the purposes of the product liability law!

Die Sicherheitshinweise der Produktdokumentation sind zu beachten!
The safety advice in the product's documentation must be followed!

DIN ISO 9001 ZERTIFIZIERT

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