



# Mover<sup>®</sup> SR Version 2

**(GB) Operating instructions**  
To be kept in the vehicle!

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- During manoeuvring, the distance between the radio remote control and the middle of the caravan **must not exceed 10 m**.
- In the event of a malfunction, apply the parking brake.
- In order to avoid tilting the caravan, when manoeuvring on slopes the drawbar should be pointed downwards (downhill).
- After manoeuvring, always **apply the parking brake** first, **disengage the drive rollers from the tyres** and block the wheels (especially on sloping surfaces!). The Mover® is **not suitable for use as a parking brake** for the parked caravan.
- Always protect the radio remote control from unauthorised access (paying particular attention to children).
- Never tow the caravan with the drive rollers engaged, as this may cause damage to the tyres, the towing vehicle and the drive assemblies.
- All wheels and tyres on the caravan must be of the same size and type.
- In order to ensure that the Mover® operates correctly, the gap between the tyres and the disengaged drive rollers must be 20 mm. All tyres must be inflated to the same pressure in accordance with manufacturer's instructions and checked regularly. Tyre wear or the fitting of new tyres may make it necessary to readjust the gap between the drive rollers and the tyres (see "Fitting the drive elements").
- When using a jack, the Mover® must **not** be used as a jacking point, as this may damage the drive assembly.
- Sensitive objects such as cameras, DVD players etc. must not be kept in the stowage box near the control unit or the motor cables, as the powerful electromagnetic fields may damage them.
- The empty weight of the vehicle increases by the weight of the Mover®, which reduces the payload of the vehicle.
- When engaging, make sure that there are no objects (e.g. stones, lumps of ice) between the engine and the engine housing.

## Symbols used



Symbol indicates possible hazards.



Note containing information and tips.

## Safety instructions

- Before using the Mover® outdoors for the first time, **practice with it to familiarise yourself with the functions of the remote control and of the Mover®**.
- Before each use of the Mover®, check tyres and drive rollers, removing any sharp stones and similar objects.
- No person must be present in the caravan during operation.
- **No persons (especially children)** must be present in the operating area of the Mover®.
- When operating the Mover®, care must be taken to ensure that no hair, parts of the body, clothing or other parts on the body can become caught in moving and / or rotating parts (such as drive rollers).

## General instructions

The Mover® SR has been designed to cope with inclines of up to approx. 13 % bearing a gross weight of 2000 kg on a suitable surface.

Depending on the weight of the caravan, the Mover® may not be able to overcome obstacles more than about 2 cm in height without auxiliary equipment (please use ascent chocks).

As a result of the characteristic properties of a radio signal, it may be interrupted by terrain / objects. This reduces reception quality in small areas around the caravan, as a result of which the operation of the Mover® may be briefly interrupted.

 When the Mover® is switched off using the remote control, the control unit remains in standby. In order to switch off completely the battery must be disconnected or an isolating switch installed.

## Batteries

For optimum operation we recommend the Truma Mover® PowerSet, which contains batteries with button cells and an appropriate charger. So-called drive, lighting and gel batteries with sufficient capacity are also suitable.

### Recommended battery capacities

Button cell technology	at least 55 Ah
Gel / AGM	at least 70 Ah
Lead-acid battery (liquid electrolyte)	at least 80 Ah
<b>Starter batteries are not suitable</b>	

**i** Batteries with greater capacity allow the equipment to be used for longer.

## Charger

For optimum battery charging we recommend the Truma BC 10 charger, which is suitable for all battery types up to 200 Ah.

## Battery care (including maintenance-free batteries)

In order to achieve a long battery service life, attention must be paid to the following points:

- Batteries should be fully charged before and after removing power,
- for stationary periods of longer than 24 hours, interrupt power circuit (e.g. using circuit breaker or by disconnecting the battery poles),
- for longer stop periods the battery must be disconnected and charged for 24 hours at least every 12 weeks.

**i** In winter, store fully charged battery in a cool and frost-free place and recharge at regular intervals (every 12 weeks).

## Function description

**Always observe the operating instructions and the "Safety instructions" prior to starting!** The vehicle owner is responsible for correct operation of the device.

**Please note that the Mover® SR is only suitable for single-axle trailers.**

The Mover® is a manoeuvring system which allows a caravan to be manoeuvred without the aid of the towing vehicle.

It consists of two separate drive assemblies, each with its own 12 V DC motor. These units are mounted on the frame of the vehicle in the immediate vicinity of the wheels, and are connected by lateral bars.

Once the drive rollers have been engaged against the tyres using the lever provided, the Mover® is ready for operation. It is operated exclusively via the remote control, which transmits radio signals to the control unit. A separately installed 12 V lead-acid battery or suitable lead-gel battery (not supplied) provides the control unit with electrical power.

## Operating instructions

### Remote control

a = On / Off slide switch

- ▮ On (green LED lights up)
- Off (green LED goes off)

b = caravan forwards  
(both wheels rotate in forward direction)

c = caravan reverse  
(both wheels rotate in reverse direction)

d = caravan right forwards  
(left wheel rotates in forward direction)

e = Caravan left forwards  
(right wheel rotates in forward direction)

f = Caravan right reverse  
(left wheel rotates in reverse direction)

g = Caravan left reverse  
(right wheel rotates in reverse direction)

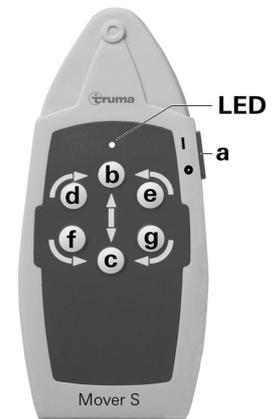


Figure 2

The caravan can be rotated on the spot without being moved forwards.

d + g = rotate caravan to the right  
(left wheel rotates in forward direction + right wheel rotates in reverse direction)

e + f = rotate caravan to the left  
(left wheel rotates in reverse direction + right wheel rotates in forward direction)

The remote control will switch itself off after about 2 minutes if no buttons are pressed, or after about 7 minutes if one of the movement buttons is pressed continuously. The green LED goes off.

To reactivate the remote control, move the slide switch to "Off" ● and then back to "On" ▮ after approximately 1 second.

There is no "On / Off" switch on the caravan itself.

### Remote control LED blink code and audio signal

#### LED "On" and no signal tone

System is ready for operation

#### LED "off" and no audio signal

System off

(check batteries in remote control if necessary)

#### LED "flashing" in combination with acoustic signal:

- for approx. 5 seconds after switching the remote control on, until the system is ready for operation
- for approx. 10 seconds after switching the remote control on, then it is switched off again – unable to establish radio link to control unit.
- every 3 seconds if the caravan battery charge is weak (finish manoeuvring as quickly as possible and charge battery).
- 5 times a second (5 Hz) if the caravan battery voltage is low. The movement function is locked until battery voltage returns to more than about 11 V (e.g. as a result of recovery / charging of the battery).
- approx 2 times a second (2 Hz) in the event of overvoltage / overtemperature. Switch remote control off and on again (in the case of overtemperature, wait for end of cooling-off phase if necessary).

## Remote control battery change

Only use micro-batteries that will not leak, type LR 03, AAA, AM 4, MN 2400 (1.5 V).

When inserting new batteries, make sure the positive / negative terminals are connected correctly.

 Empty, used batteries can leak and damage the remote control! Remove the batteries if the remote control is not being used for a long period of time.

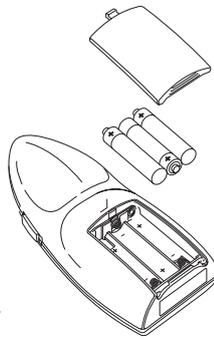


Figure 3

**No warranty is given for damage caused by leaking batteries.**

Before scrapping a defective remote control, always remove the batteries and dispose of them properly.

## Manoeuvring the caravan

 Follow the "Safety instructions" before using the Mover®.

With the caravan uncoupled (apply parking brake), engage the drive rollers using the lever provided. Turn the lever until it cannot be turned any further without excessive force. In the end position the drive assembly engages securely.

 Before starting the Mover®, release the parking brake.

Move the slide switch (a) on the remote control to the "On" position **I** – the green LED flashes in combination with the audio signal for approx. 5 seconds until the control unit is ready for use.

The direction buttons allow the caravan to be moved in six directions – forwards, reverse, left forwards, left reverse, right forwards, right reverse.

In addition, the "left forwards" (e) and "right reverse" (f), or "right forwards" (d) and "left reverse" (g) buttons can be pressed simultaneously to turn the caravan on the spot without moving it forwards.

 The Softstart / Softstop makes the caravan start to move without jolting, and brakes it gently when stopping.

When the buttons are released, or if the radio signal is interrupted or becomes too weak, the caravan stops moving. Radio equipment or other Mover® remote controls will not activate your Mover®.

After starting up, the Mover® moves at a uniform speed. Speed increases slightly on downhill slopes and decreases on uphill slopes.

Move the slide switch on the remote control to the "Off" position **0** to switch the remote control and the Mover® off.

 The slide switch also acts as an "Emergency Stop" switch.

After manoeuvring, **apply the parking brake first** and then **disengage the drive rollers from the tyres**.

## Coupling to a towing vehicle

The Mover® allows a caravan to be coupled to a towing vehicle with millimetric precision. However, this requires care and a degree of practice.

Following the operating instructions, move the caravan close to the towing vehicle (apply parking brake and engage gear). In order to position the caravan precisely, press the appropriate direction button briefly and repeatedly until the caravan's coupling is located precisely over the ball coupling on the towing vehicle. Then couple the caravan to the vehicle by lowering it at the support wheel in the usual manner.

Prepare the caravan for towing in the usual way.

**The caravan must not be towed with the drive rollers engaged.**

## Maintenance

Keep drive elements clear of coarse road dirt. When cleaning the caravan, spray the Mover® with a water hose to remove mud etc. Make sure that no stones, twigs etc. are trapped in it. The control unit does not require servicing. The remote control must be kept in a dry place.

Every year (or before overwintering), clean the Mover® as described above, dry it and spray the drive assembly guides lightly with spray oil or similar water-repellent lubricants. **Do not put lubricant on the rollers or the tyres.** Engage and disengage the drive assemblies a few times to allow the lubricant to penetrate all the guides. Do not park the caravan with the drive rollers engaged.

To prevent the battery from becoming totally discharged during long periods of inactivity it must be disconnected and recharged before using again. Charge the caravan battery before starting up.

It is extremely easy for you or your caravan dealer to perform the checking and maintenance of your Mover® during the annual inspection of your caravan. In case of doubt, please contact Truma Service (see Truma Service Booklet or [www.truma.com](http://www.truma.com)).

## Checks

- Check the installation, wiring and connections for damage at regular intervals. The drive assemblies must be able to move freely, and the spring must automatically return them to the safe idle position when they are disengaged. If this is not the case, check the drive assemblies for dirt or corrosion on their guides, cleaning them if necessary. Undo all moving parts as required and oil or spray with a spray oil (such as WD40) to ensure that the equipment moves correctly and provides the full range of movement.
- After the annual inspection, check whether all motors react properly to the buttons on the remote control.
- At least every 2 years, an expert **must** check the Mover® for rust, check that detachable parts are firmly attached and check that all safety-related parts are in good working order.

## Troubleshooting

Before calling customer service, please check the following:

Are the batteries in the remote control in perfect condition?

Is the caravan battery in perfect condition and fully charged?  
Please note that battery performance can deteriorate considerably at cold ambient temperatures.

Perform a reset by disconnecting the battery briefly (approx. 10 seconds).

If these actions do not remedy the problem, please contact Truma Service.

## Tuning the electronic control unit to the radio remote control

**i** The remote control and the control unit are tuned to each other in the factory.

If the control unit or the remote control is replaced, they must be tuned to each other again in accordance with the instructions below.

Check that installation has been carried out in accordance with the installation instructions, and make sure that the drive rollers are **not** engaged. Check that the battery is properly connected and in good condition, and that the control unit is being supplied with 12 V.

Press and hold the reset button (k) on the control unit (red LED – j – flashes slowly), and after approx. 5 sec the LED (j) flashes rapidly. Release the reset button and within 10 sec press and hold button (c) – caravan reverse – on the remote control, at the same time switching the remote control on using the slide switch (a).

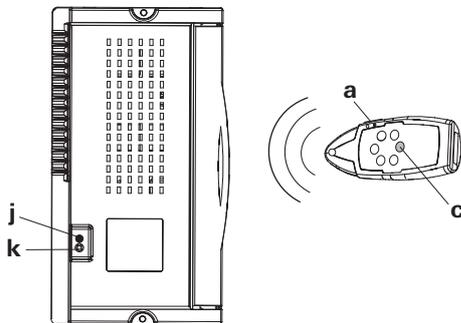


Figure 4

The remote control and the control unit are now tuned to each other. Once tuning is complete, the red LED flashes fast.

## Declaration of conformity

### 1. Information about the manufacturer

Name: Truma Gerätetechnik GmbH & Co. KG  
Address: Wernher-von-Braun-Str. 12, D-85640 Putzbrunn

### 2. Device identification

Type / model:

Manoeuvring Assistant **Mover® SR**

### 3. Complies with the requirements of the following EC directives

- 3.1 R&TTE directive (1999/5/EC)
- 3.2 EMC directive (2004/108/EC)
- 3.3 Radio interference suppression in motor vehicles 72/245/EEC (with supplements)
- 3.4 Low Voltage Directive 2006/95/EC
- 3.5 End-of-life vehicle directive (2000/53/EC)

and bears the type approval number e1 03 4473 and the CE mark.

Mover® SR:  
Class 1, frequency 868 MHz.

Countries:

AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK.

### 4. Basis of the proof of conformity

EN300220-2:2006, EN300220-1:2006 (R&TTE art. 3.2), EN301489-1:2005, EN301489-3:2002 (EMC art. 3.1b), EN61000-4-2:2001, EN61000-4-3:2006, EN61000-4-6:2001, EN55022:2003 (Class B), ISO 7637-2:2004, EN60950:2001, 2004/104/EC, 2005/83/EC, 2006/28/EC, 2000/53/EC

### 5. Monitoring body

Federal Motor Transport Authority (Kraftfahrt-Bundesamt)

### 6. Signatory details

Signature: Mathias Venschott  
Product Centre Manager  
Air Conditioning and  
Manoeuvring Systems

Putzbrunn, 22.04.2013

## Technical data

### Designation

Mover® SR

### Deployment range

Single-axle caravans with a gross weight of up to 2000 kg

### Operating voltage

12 V DC

### Power consumption

Approx. 20 A on average

Maximum 120 A

### Quiescent current consumption

< 20 mA

### Remote control frequency

Class 1, 868 MHz

### Speed

Approx. 16 cm per second (depending on weight and slope)

### Weight

Approx. 34 kg

(including cross actuation device)



Subject to technical changes.

# Truma Manufacturer's Warranty

## 1. Warranty claims

The Manufacturer hereby warrants for all defects of the unit caused by material or production faults. In addition, the seller continues to be subject to any statutory warranty claims.

No warranty claim shall be applicable under the following circumstances:

- Consumable parts which are subject to wear and tear
- Use of parts other than original Truma components in any of the units
- In gas pressure regulation systems: damage caused by foreign substances in the gas (e.g. oils, plasticisers)
- Failure to observe Truma's installation or operating instructions
- Improper handling
- Improper transport packing

## 2. Scope of warranty

The warranty covers all defects under clause 1 that occur within 24 months upon concluding the purchase agreement between the seller and the end customer. The Manufacturer undertakes to remedy such defects through subsequent fulfilment, i.e. at its discretion either by repairing or replacing the defective item. If the Manufacturer remedies a defect under its warranty commitment, the term of the Warranty shall not recommence anew with regard to the repaired or replaced parts; rather, the original warranty period shall continue to be applicable. No further-reaching claims shall be permitted, especially damage claims presented by purchasers or third parties. This provision shall not affect the validity of the German Product Liability Act (Produkthaftungsgesetz).

The Manufacturer shall bear the cost of employing the Truma Customer Service for the removal of warranty defects – in particular, transportation, travelling, job and material costs – provided that the Customer Service conducts its work within Germany. This Warranty does not cover Customer Service work outside Germany.

Additional costs arising from complicated removal or installation jobs on the unit (e.g. dismantling of furnishings or parts of the vehicle body) are not covered by the Warranty.

## 3. Making a claim under the warranty

The Manufacturer's address is:  
Truma Gerätetechnik GmbH & Co. KG  
Wernher-von-Braun-Straße 12  
85640 Putzbrunn, Germany

Should problems occur, please contact the Truma Service Centre or one of our authorised service partners (see [www.truma.com](http://www.truma.com)). Please describe your claim in detail and state the serial number of the unit and the date of purchase.

To help the Manufacturer determine whether your claim is covered by the Warranty, the end user must take or send the unit to the Manufacturer or service partner at their own risk. In the event of damage to the heat exchanger, the gas pressure regulator, too, must be returned along with the unit.

Air conditioning systems:

To avoid transport damage, the unit must be sent either to the Truma Service Centre in Germany or to the relevant authorised service partner; this must only be done upon prior arrangement. Otherwise the sender shall bear the risk for any transport damage that may occur.

If a unit is sent to the manufacturing facility, make sure it is shipped as a freight item. If the claim is covered by the Warranty, transport / shipping and the cost of return shall be borne by the manufacturing facility. If the claim is not covered by the Warranty, the Manufacturer shall notify the customer to this effect, specifying the cost of repairs not borne by the Manufacturer; shipping costs, too, shall be borne by the customer in such a case.

**GB** Should problems occur, please contact the Truma Service Centre or one of our authorised service partners (see [www.truma.com](http://www.truma.com)).

In order to avoid delays, please have the unit model and serial number ready (see type plate).