

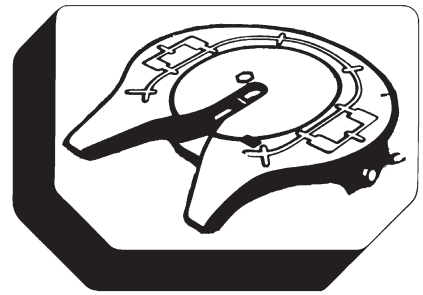
Fully automatic
Fifth Wheel

Series RO*644 M

Pneumatic remote control
Type tested
Type approval
No. M 3484



Important Document!
Must be passed
to the customer before fitting
the Fifth Wheel!



Note:

Please comply with the following when fitting coupling:

- applicable national regulations
- vehicle manufacturer's specifications

Technical Data

For fitting to lifting devices
on articulated vehicles.

D-value	152.3 kN
Permissible unladen weight of prime mover	15 t
Permissible Fifth Wheel load	20 000 kg
Weight of Fifth Wheel	131 kg

For connecting to 50 mm king pins
to DIN 74080 (2-inch).

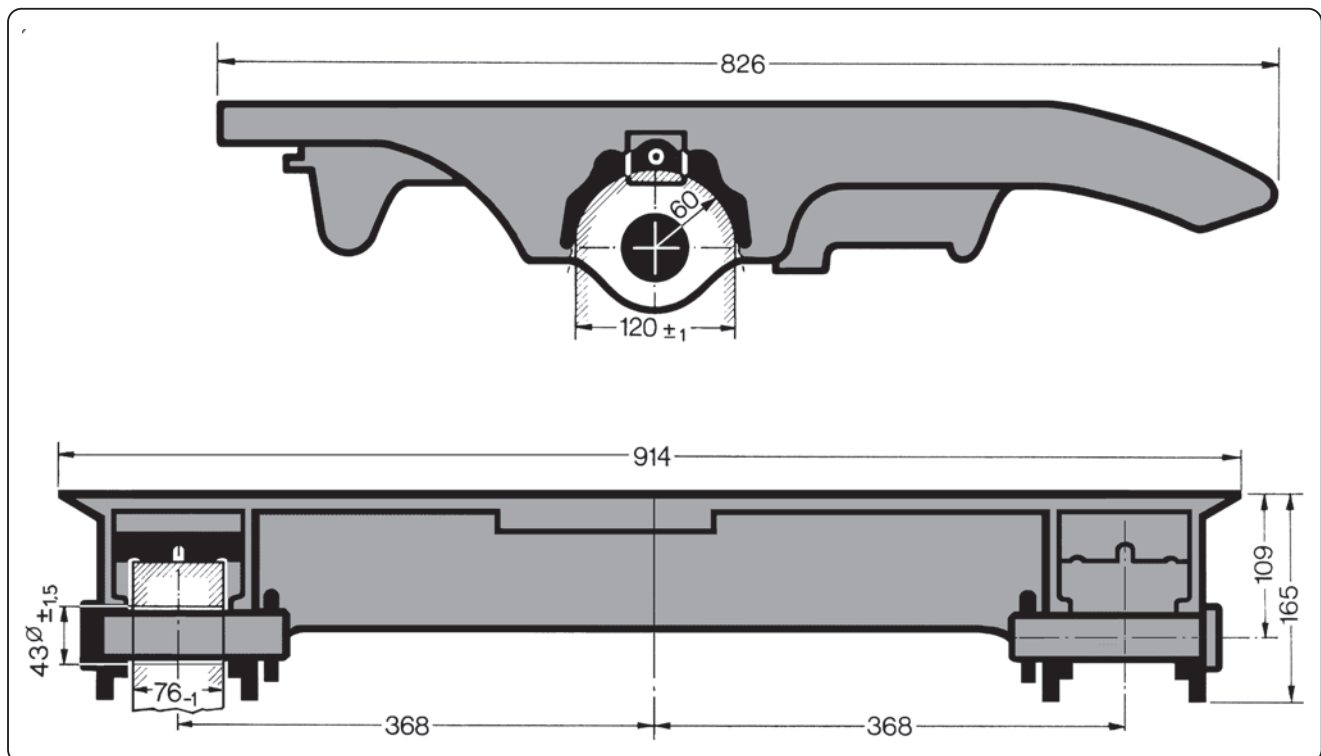
The Fifth Wheel is suitable for withstanding the steering effort of power steered semi-trailers (turn-in angle 40 degrees).

Please note that in the raised condition the speed is limited to 20 km/h and then during maneuvering.

The type 644 Fifth Wheel is supplied with pneumatic remote control. Type 644, version MF with mounting bearers, hole pattern to DIN 74081 (installed height of Fifth Wheel 194 mm).

Type 644, version M without mounting bearers (installed height of Fifth Wheel 109 mm). The version M may only be used on prime movers provided with a lifting device suitable for fitting the Fifth Wheel.

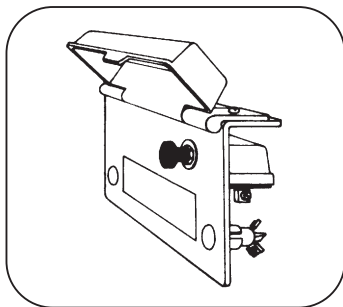
Note the dimensions of suitable swivel heads, shown in the illustration, with a radius of 60 mm and a width of 76 mm.



The cab of the prime mover shall be fitted with the following equipment.

- a) A yellow telltale which comes on when the hitch lock is locked (hitched condition).
- b) A covered actuating device for the control valve (for “opening the lock”).
- c) A green telltale which comes on at the lowest position (basic position) of the lifting device (except for version MF).

Installation and operation



The control unit must be ordered separately:

24 V order no. 69124

This consists of the following.

Control panel with cover plate (built-in pull switch, yellow and green telltales).

Compressed air valve, 5 m, $\frac{3}{8}$ -inch air hose with hose connections for connecting to the compressed air valve and unlocking cylinder.

Installation of version MF

- The Fifth Wheel must not be mounted directly on the vehicle frame (vehicle manufacturer’s instructions).
It is secured to a mounting plate which is connected to the auxiliary frame.
- To secure the Fifth Wheel, the mounting bearers must be in contact of their complete width in the area of the mounting bolts and in the center over an area at least 50 mm wide.
- Use M 16-8.8 countersunk bolts to mount a flat mounting plate on the auxiliary frame or to mount the Fifth Wheel on a flat mounting plate.

Note: The regulations of the TÜV regarding bolted joints and their security in motor vehicle construction as well as the installation guidelines of the manufacturer must be followed for all installation work.

Caution:

- Secure the mounting plate to the auxiliary frame using at least four bolts on each side.
- To provide sufficient strength, distribute the bolts, or the holes, uniformly along the complete length. Minimum land from the outer edge of the plate is 20 mm.
- Adjust mounting plate at the middle of the Fifth Wheel and the middle of the rear axle of the tractor (note installation guidelines of vehicle manufacturer) and fasten it to the subframe by means of bolts M 16-8.8. M 16 x 1.5-8.8 may be used as an option. In this case also note the instructions of some vehicle manufacturers: M 20-8.8 bolts and M 20-8 self-locking nuts.
Torque loading 210 Nm for M 16
Torque loading 225 Nm for M 16 x 1.5
Torque loading 370 Nm for M 20
- Secure the Fifth Wheel to the mounting plate using at least eight M 16-8.8 bolts, washers 17 DIN 7349 and M 16-8 self-locking nuts, ensuring that they are symmetrically arranged along the longitudinal and transverse axes, preferably on the outer elongated holes of the mounting bearers.
Torque loading 210 Nm.

Note:

- The Fifth Wheel plate must be free to move and must not contact the mounting plate, or parts of the frame or auxiliary frame.
- The hand lever must not bend, otherwise locking will be impaired.

Mounting versions M and MF

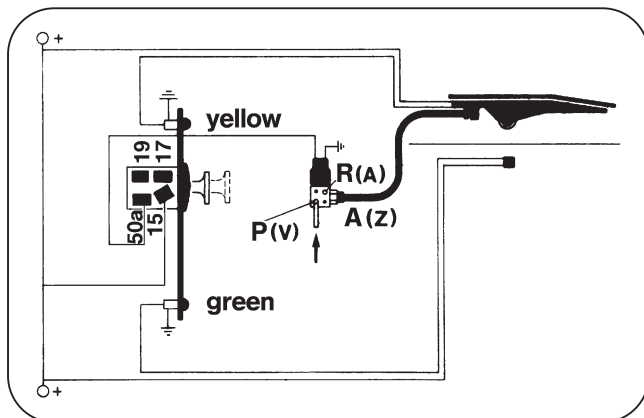
The P (V) connection to the compressed air system of the vehicle must be made by an officially-recognized brake repair service.

This connection must be to an outlet of the compressed air system which has the lowest priority function for auxiliary users.

If the vehicle has a four-circuit protection valve installed (normal case), a connection at that point for auxiliary users (e.g. connection 23 or 24) can be used either directly or by means of a T-piece parallel to an auxiliary user to form the connection to the compressed air valve, provided it is not already in use.

If the compressed air system has no connection for auxiliary users, or if auxiliary users already connected have to be additionally protected, an overflow valve is to be fitted as close as possible to the air tank. The set pressure of the overflow valve must be higher than the design pressure of the brake system in the last air tank. An overflow valve without backflow in accordance with DIN 74279 (e.g. Wabco 4341001250 or Graubremse 314012004 or Knorr-Bremse DR 4341, not part of the supply package).

The safety of the Fifth Wheel connection is fully retained in the event of failure of the compressed air.



Operation

The Fifth Wheel is supplied with a closed lock. The automatic system is therefore to be opened for the first time before commissioning. To do this, pull out the "Open the lock" pull switch on the instrument panel and hold it pulled until the hitch hook is brought to the open position by hand. When unhitching, the pull switch is also to be pulled and held until the vehicles have parted.

For trouble-free hitching, the semi-trailer must be fitted with a standard Fifth Wheel king pin to DIN 74080 or the corresponding ISO or SAE standard (2" king pin). Bent king pins, or those of incorrect dimensions or which do not fit squarely in the semi-trailer plate impair the proper functioning of the automatic system and can lead to accidents.

The unhitching operation is fully automatic. The Fifth Wheel king pin to DIN 74080 mounted on the semi-trailer releases the automatic system. The Fifth Wheel king pin is forcefully gripped by the swiveling, powerful hitch hook and tightly enclosed. In this way the locking unit engages the hitch hook and positively locks it. The locking unit is automatically secured by a further locking device which can only be unlocked when the unlocking cylinder is actuated from the pull switch.

It is impossible for the Fifth Wheel connection to become undone on its own.

The yellow "lock check" telltale must come on when the hitching operation is complete, otherwise there is a danger of accidents!

The "raising, lowering and unhitching" actuation may only be carried out when the vehicle is stationary, and, furthermore, the "unhitching" operation only when the lifting device is in the basic position.

A green "lift check" telltale is used to check the lowered position. This must come on when the lowered position is reached (version M).

The automatic system is ready for a new hitching operation after the vehicle have parted. No further manual interventions are required for this purpose.

Maintenance notes

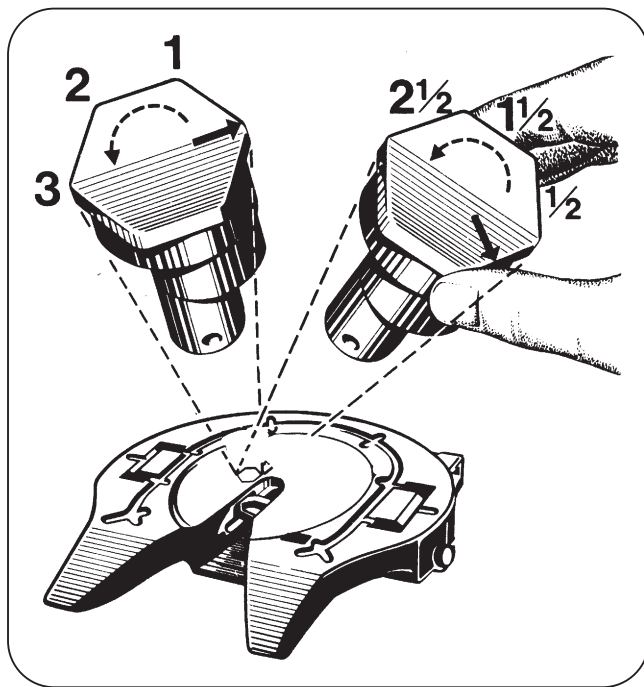
ROCKINGER Fifth Wheels have an extraordinary long service life thanks to their outstanding materials and rugged construction. The following instructions show how simple and inexpensive it is to maintain the ROCKINGER Fifth Wheel, if after several years a repair does happen to become necessary.

Wear check

From the point of view of the complete vehicle and of driving comfort, the permissible play of the king pin in the coupling lock should be kept within a limit of 2 mm. Safe road use is also guaranteed for locking the Fifth Wheel at an even larger clearance (approx. 4 mm).

The amount of play can be determined by moving the prime mover backwards and forwards, or by using a checking gauge (order no. 58029).

Lock adjustment

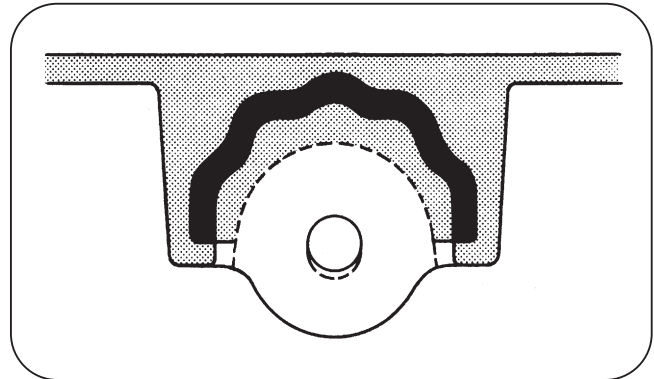


Remove the split pin from the eccentric bearing pin on the underside of the Fifth Wheel body. Withdraw the eccentric bearing pin partially, rotate it counterclockwise through 60 degrees and then reinsert it. This reduces the clearance of the lock by approximately 2 mm. As an option, eccentric bearing pin order no. 52189 can also be used, which reduces the lock clearance by approx. 1 mm.

Refit the split pin to the eccentric pin. The split pin legs must be bent over as specified!

Play in the side bearing positions

The side bearing positions remain free of clearance for a long period due to the large bearing areas and the fitted rubber body. The bearing pins have no loadbearing function.



The bearing rubber is mounted under load between the large saddle-type mounting faces of the lifting pedestals and the Fifth Wheel plate. The bearing pin holds these parts together and therefore they cannot be moved by hand in the unloaded state. In the loaded state, the lift pedestal transmits the force and the bearing pin force is released **and can be moved by hand**.

The bearing rubber must be replaced if the bearing pin can be moved by hand in the unhitched condition or cannot be moved in the hitched condition.

The locking unit is supplied oversize. When fitted, the locking face for the hitch hook is to be worked so that it holds the hook without play but without sticking (adjusting gauge order no. 58029).

