



OPERATING INSTRUCTIONS FOR THE COLUMBUS ELECTRIC WHEEL SPINNER SP85-HD

To ensure safe and efficient use, please read through the entire instruction before using the product.

The COLUMBUS wheel-spinner is a special machine that is primarily intended for trouble-shooting of wheels on heavy vehicles. It can of course also be used for trouble-shooting wheels on lighter vehicles such as motorcars, vans, etc. With the help of the wheel-spinner it is easy to detect noise in bearings, unbalanced wheels, deformed wheel rims, uneven tyres, brakes that rub, etc. On vehicles equipped with ABS and EBS braking system, the wheel spinner can be used to spin the wheel and check that the control signals from the wheels are accurate and reach the computer properly.

The numbers and letters in parentheses () refer to the enclosed wiring diagram.

SAFETY

Only use the machine when it is standing on a firm, flat floor.

Do **not** use the machine if it is standing on a table or similar, this can be dangerous for the user.

Always ensure that the electric power supply cable is quite free so it cannot get entangled in the vehicle wheel or the spinning wheel.

Remove any stones from the tyre tread before spinning the vehicle wheel.

Always use a visor or protective goggles or safety specs when working with the wheel-spinner.

Never try to slow down a rotating vehicle wheel with your hand or foot or any other object. This can be extremely dangerous even at low speeds.

Always make sure that the distance between the vehicle wheel's outer part and the electric motor and the shaft is large enough so that no protruding parts can hook in to the machine.

A safety zone must be defined around the wheel-spinner and it must be large enough to ensure that people passing by cannot be injured.

To reduce any twisting of the machine when the motor starts, the shaft can be pushed forwards so that the machine is supported on the floor by the rubber roller of the shaft.

The wheel-spinner is equipped with a rotating wheel (spinning wheel). Always ensure that the spinner-wheel is stationary before moving the machine or before moving it out of the way after a job.

With the red emergency button (S3), mounted on the motor protection switch (MS), the wheel spinner can be emergency stopped. Always press the emergency button after having finished the work.

Never leave a rotating vehicle wheel unattended.

The machine's electrical protection class is: IP54.

REPAIRS AND ELECTRICAL INSTALLATIONS

Repairs and permanent installation of the machine must be done by an authorised electrician.

NOTE - the machine must be connected to a 3-phase outlet with 16 amps - slow fuse. No other loads should be on the group.

GENERAL

The wheel spinner is powered by a custom made motor (M) with extra high torque, and it is intended for a power supply of 400 VAC, 50 Hz, 3-phase as standard.

The power to the machine is turned on with the main switch (S1), and turned off with the red button (S2).

The electric motor is equipped with a motor protection switch (MS) with built-in overload protection.

The main switches (S1, S2) are integrated in the motor protection switch (MS).

In the event of a power failure the circuit breaker (P1) trips and the machine can only be restarted by pressing down the main switch (S1).

The motor windings are protected by a thermo switch (P2). The thermo switch cuts the power to the motor if the motor overheats due to excessive load. When the motor has cooled down, the thermo switch closes automatically and the machine can be started again.

The wheel spinner is equipped with an emergency stop (S3). The emergency stop must be off to start the motor.

Release the emergency stop by turning the emergency stop button.

For start, stop and reversing of the spinning wheel the machine is equipped with a spring-loaded three position rotary switch (RS).

Note - The direction of rotation on the spinning wheel depends on how the three phases are connected to the mains supply. Always check in which direction the spinning wheel rotates when you use the

Important! Never change the direction of rotation when the motor is running at full speed. Let the motor speed drop some before changing the direction of rotation. Otherwise the motor and other parts can be damaged.

SPINNING UP THE VEHICLE WHEEL

- Remove any loose parts such as hubcaps, clips, etc. before the work is started.
- Lift the vehicle to a suitable height and make it safe using stands or similar.
- Clean out any stones or debris from the tyre tread.
- **Note** – the spinner-wheel must be aligned with the vertical axis of the vehicle wheel otherwise the machine may tend to jerk when the spinner-wheel is pressed against the side of the tyre. Working outside the vertical axis also reduces the transmitted power between the spinner-wheel and the vehicle wheel – the wheel spinner becomes powerless.
- Release the emergency stop switch (S3) by turning on the emergency button.
- Press the black button (main switch) so that the machine is powered.
- **Always spin the vehicle wheel in the normal direction of rotation.**
- Move the wheel-spinner machine forwards towards the wheel.

- Move the shaft forwards so that the spinning wheel presses against the side of the tyre with sufficient force to start the wheel rotating.
- **Note** - Do not press the spinner-wheel too hard against the tire, as this takes more energy to get the vehicle wheel started, and it takes longer to spin the wheel. **Note** - the contact pressure against the tire should be just enough to prevent slippage between the spinning wheel and the tire.
- Start the spinning wheel by turning the handle for the desired direction of rotation. If necessary increase the pressure against the tyre by pushing the shaft forwards more.
- **Note** - starter handle must always be turned fully to its mechanical stop. The rotation should be done with a quick and continuous motion so that the contacts close quickly and completely - otherwise you may increase arcing between the contacts and the switch's lifetime decreases sharply
- When the vehicle wheel has reached the desired speed, release the handle, move the shaft backwards, and then move the machine backwards.
- Slow down the speed of the spinning wheel
- Carry out the trouble-shooting. **Do not go too close to the rotating wheel!**
- To reduce any twisting of the machine when the motor starts, the shaft can be pushed forwards so that the machine is supported on the floor by the rubber rollers of the shaft.

BRAKING THE VEHICLE WHEEL

- If the spinning wheel is rotating, slow down its speed so it is nearly stationary. This is done by a quick and full turn of the starting handle in the opposite direction.
- Move the wheel spinner forwards, towards the vehicle wheel. Increase the pressure between the tire and the spinning wheel by moving the handle forwardly. **Note** - the contact pressure against the tire should be just big enough to prevent slippage between the spinning wheel and the tire.
- Turn the starter handle for rotation in the opposite direction. The spinning wheel is now rotating in the opposite direction to the vehicle wheel and will slow down the speed of the vehicle wheel.
- **Note** – the starter handle must always be turned fully to its mechanical stop. The rotation should be done with a quick and continuous motion so that the contacts close quickly and completely - otherwise you may increase arcing between the contacts and the switch's lifetime decreases sharply.
- Turn of the power to the machine with the red square button.
- The vehicle wheel can also be slowed down by pressing the spinning wheel against the tyre, but with the motor switched off. Braking in this way takes a little longer time.
- **Never try to slow down a rotating wheel with your foot or hand or any other object. This can be extremely dangerous even at low speeds.**

DANGER – Never leave a rotating vehicle wheel unattended.

SERVICE AND MAINTENANCE

For optimum performance, the machine must be kept clean of oil, dirt, dust and moisture.
Moving parts should be lubricated with engine oil.

TECHNICAL DATA

Weight	58 kg
Length	770 mm
Width	500 mm
Height	980 mm

Motor: torque 25 Nm at 16 Amp, 400 V, 3-phase, 50/60 Hz .

Motor protection: thermal and over current protection.

Spinning speed of the vehicle wheel: around 80 km/h – depending on the size of the vehicle wheel.

Acceleration time: from 0 - 80 km/h, about 5 - 15 seconds - depending on the size and weight of the vehicle wheel.

Braking time: about 5 to 15 seconds - depending on the size and weight of the vehicle wheel.

The factory warranty ceases to be valid if the machine's design is altered.
We reserve the right to make design changes without prior notice.

Compliance with EU Regulations

Machinery Directive 2006/42/EC:
Sound level: EN ISO 3744: EN ISO 11201
Vibration level: ISO 5349: EN ISO 20643
Low Voltage Directive 2014/35/EU
EMC: EN 61000-6-2: EN 61000-6-4
RoHS Directive (2011/65/E



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