



RAUTOOL™ G2 BATTERY HYDRAULIC TOOL KIT

PRODUCT INSTRUCTIONS

RAUTOOL G2

TABLE OF CONTENTS

Safety Information	3
Items Supplied	4
Replacement Parts and Accessories	5
Technical Data, Description and Operation	6
Tool Preparation	7
Assembly Procedure	9
Important Notes	11
Maintenance	12
Troubleshooting	13



This symbol and the signal words DANGER, WARNING or CAUTION alert you to personal injury hazards. If you don't avoid the hazardous situation:

- DANGER! Will result in death or serious injury
- WARNING! Could result in death or serious injury
- CAUTION! Can result in minor or moderate injury

The signal word NOTICE is used to help you avoid property damage. We cannot warn of all hazards; you must also use your own good judgment.

RAUTOOL G2

SAFETY WARNINGS

Read all safety information and assembly instructions before using the tool. Follow these operating instructions and always keep the safety warnings with the tool. In addition to the operating instructions, always observe generally applicable statutory and other binding regulations relating to the prevention of and protection against accidents.

General Use and Care

- The tool is intended to be used with original REHAU supplementary sets for the assembly of all SDR11 compression-sleeve systems in the size range 40 to 110 mm. Do not use the tool for other purposes.
- Only operate the tool with original REHAU parts and accessories.
- Maintenance and repair work should be done only in a service center authorized by REHAU. We will not be responsible for any work performed by an unauthorized person.
- Keep the tool, the batteries and the charger away from moisture, extreme heat, oil and solvents. The charger is only intended for use in dry, indoor rooms. It must not be used outdoors.
- Before use, examine the tool and accessories for damage or defects (for example, cracks in the cable insulation, oil leaks from the tool, bent compression cylinders, damage or visible wear of the jaw sets). Check whether the moving parts are in proper working order, that they are not jammed and that parts are not damaged. All parts must be correctly assembled and satisfy all of the conditions to ensure proper tool operation.
- Never work with a damaged tool or accessory. Immediately send the damaged tool to your local REHAU representative.
- At every tool alteration (replacement of jaw sets), remove the battery from the tool to prevent unintended activation.
- When charging, only use one-phase alternating current at the voltage indicated on the power rating label.
- Avoid touching any leaks you may find in the hydraulic hose as long as the system is pressurized.
- For safety reasons, the hydraulic hose must be replaced by an authorized REHAU service center within five years at the latest. This time limit must be adhered to. The construction year of the tool can be found on the guarantee card. Should anything be unclear, please contact your local REHAU representative.
- Never leave the tool unattended when connected to the electrical mains.
- Safeguard the operating switch from inadvertent usage. Unplug the mains plug when the tool is not in use, before sending the tool in for maintenance and when changing the compression jaws.
- Make sure you use suitable extension cables.
- Make sure the supply cable does not get damaged. Do not carry your hydraulic unit by the supply cable. Do not use the cable to drag the tool around.

NOTICE: To avoid damage to tool, always follow operating instructions

- To prevent the motor from overheating, do not operate at maximum pressure for any prolonged period. The tool is not suited for long-term use. After about 50 consecutive compressions, it should be allowed to rest for at least 15 minutes to allow it to cool.
- To avoid damage to the tool, do not insert foreign objects into the ventilation grills on the charger.
- REHAU will not accept any liability for damage or injury attributable to unsafe product use, poor maintenance or improper product and system usage. For technical information, contact your local REHAU representative or download documents at www.na.rehau.com/resourcecenter.
- Make sure the hydraulic hose does not get damaged. Do not carry your hydraulic unit by the hydraulic hose. Do not use the hydraulic hose to drag the tool around.

⚠ CAUTION! Improper handling of the tool may result in personal injury and/or damage to the tool.

- Do not touch moving parts. Touching moving parts could cause fingers to become trapped.
- Ensure rechargeable battery contacts cannot be shorted by metal objects, such as screws, instruments or nails. A short circuit between the battery contacts can cause burns or fire.
- As a result of improper use, liquid can leak from the battery. Avoid contact with this liquid. In the event of inadvertent contact, rinse off with water. Should the liquid enter the eyes, obtain medical assistance immediately.
- Do not wear loosely fitting clothes or jewelry. They may get caught in moving parts. Wear a hair net if you have long hair.
- Do not work below the minimum processing temperature of 14°F (-10°C). Processing at temperatures below 14°F (-10°C) or above 113°F (45°C) may result in damage to jointing components, to the tool and/or in personal injury.
- At temperatures below 32°F (0°C), it is recommended that the jointing components be stored in a warm environment before being processed.

⚠ WARNING! Improper use of the tool could cause death or serious injury.

- Never operate the tool in an environment presenting the risk of fire or explosion.
- Do not burn the tool, charger or rechargeable batteries. Rechargeable batteries may explode and flare up.
- Only use the battery and charger supplied. Using a different battery or different charger may cause an explosion.

RAUTOOL G2

ITEMS SUPPLIED

RAUTOOL G2 50 to 63 mm (Art. No. 212734-001)

- Battery pump AP-3 (Art. 212734-920)
- Li-ion battery 18V/3 Ah (Art. 203623-001)
- Battery charger 120 V US/CA (Art. 212754-001)
- Hydraulic cylinder (Art. 137904-001) with hydraulic hose G2 (Art. 212734-900)
- Head assembly with 2 short and 2 long locking pins (Art. 137914-001)
- 2 long locking pins (Art. 137745-001)
- Pipe cutter for up to 63 mm (Art. 139092)
- Deburring tool (Art. 138990-001)
- Basic transport case (Art. 137724-001)
- Operating instructions
- Expansion head G 50 x 4.6 mm (Art. 137424)
- Expansion head G 63 x 5.7 mm (Art. 137434)
- Set of clamping jaws G 50 mm (Art. 137624)
- Set of clamping jaws G 63 mm (Art. 137634)



RAUTOOL G2

REPLACEMENT PARTS AND ACCESSORIES

Expander Heads G

Art. No.	138463	40 x 3.7 mm
	137424	50 x 4.6 mm
	137434	63 x 5.7 mm
	137584	75 x 8.6 mm
	137604	90 x 8.2 mm
	137614	110 x 10 mm



Li-ion Battery 18V/3 Ah

Art. No. 203623-001



Clamping Jaws G

Art. No.	137964-002	40 mm
	137624	50 mm
	137634	63 mm
	137644	75 mm
	137654	90 mm
	137664	110 mm



Battery Charger 120 VAC

Art. No. 212754-001



RAUTOOL G2

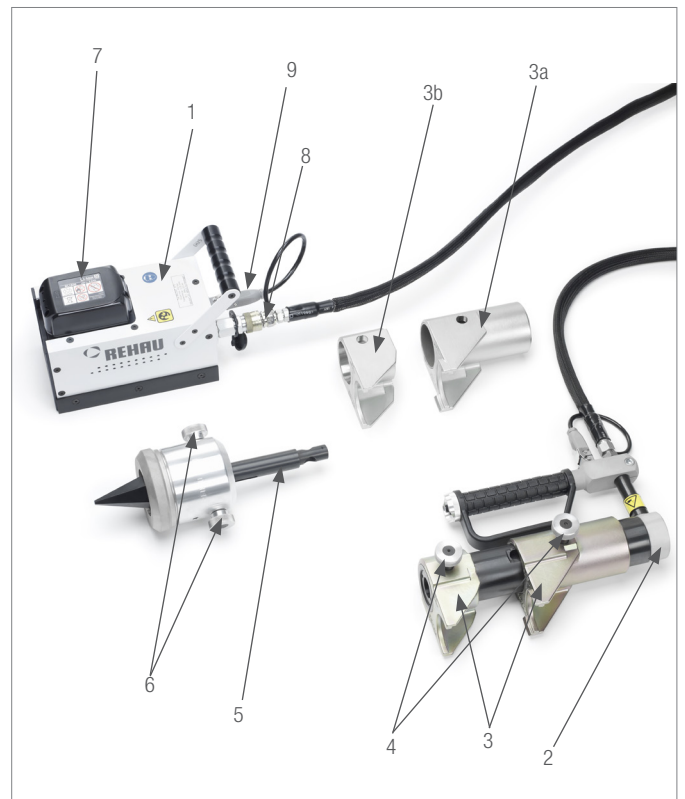
TECHNICAL DATA, DESCRIPTION AND OPERATION

TechnicalData

Max. working pressure:	6,256 psi (450 bar)
Max. shear force:	12,589 lb/ft (56 kN [linear])
Mains voltage battery charger:	120 VAC
Battery voltage:	18 V
Battery capacity:	3 Ah
Battery technology:	Lithium-ion
Battery charge time:	approximately 22 mins
Hydraulic oil:	ISO VG 8 - 10, acid-free and waterless
Ambient temperature:	14 to 113°F (-10 to 45°C)
Noise level:	75 dB (A) at 1 m distance
Vibrations:	< 2.5 m/s ² (weighted effective value of the acceleration)
Weight:	basic tool with battery approximately 11 lb (5 kg)

Description and Operation

No.	Tool Elements	Function
1	Pumping unit	Hydraulic battery unit for building up pressure in the working unit
2	Compression cylinder	Working unit for holding the jaw sets
3	Jaw set G	A set compromises one short an one long jaw
3a	Long jaw G	Moving jaw
3b	Short jaw G	Fixed jaw
4	Pins G	Used to fasten the jaw sets to the compression cylinder
5	Expander set G	Expander device for expanding the pipes in conjunction with the expander head and compression cylinder with 2 short pins
6	Short pins G	Device for fixing the expander set on the compression cylinder
7	Battery holder	Holder for lithium-ion battery 18V 3Ah
8	Quick coupling	For quick release of the hydraulic hose from the pumping unit
9	Signalling cable	Plug for releasing the signalling cable from the pumping unit



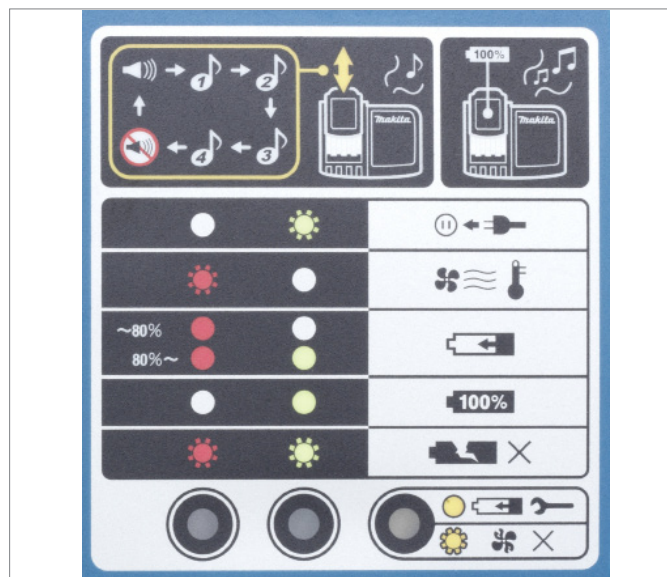
RAUTOOL G2

TOOL PREPARATION

Charging the Battery

To charge the battery, connect the charger to the electric power mains and push the battery securely into the charger. Charging takes about 22 minutes. The battery charge level is indicated by the LEDs on the charger.

- To charge the battery, use only one-phase alternating current at the voltage indicated on the power rating label.
- Use only the charger provided. Using a different battery or different charger may cause an explosion.
- Never operate the charger in an environment presenting the risk of fire or explosion.
- Do not expose the charger to rain or snow.
- After charging and before any cleaning, disconnect the charger from the power source.
- Make sure that the battery contacts cannot be shorted by metal objects, such as screws, instruments or nails.



Description of the LED Display on the Charger

			Green LED flashes	Charger ready for use
			Red LED flashes	Charging delayed, battery cooling
			Red LED displays a steady light	Battery charging, charged level less than 80%
			Green and red LEDs display a steady light	Battery charging, charged level 80-100%
			Green LED displays a steady light	Battery is full, charger automatically switches to trickle charge. The battery can stay in the charger for approximately 24 hours without being damaged. Depending on the setting, a melody will sound once when the battery is full.
			Red and green LEDs flash alternately	A malfunction exists. The battery cannot be charged. The contacts of the charger or of the battery may be dirty or the battery is worn out or damaged. Clean contacts.
			Yellow LED displays a steady light	Conditioning charge of the battery to prevent the battery from wearing out quickly. This can occur when the battery is inserted into the charger at high or low temperatures or when it is completely charged or completely empty.
			Yellow LED flashes	Cooling fan malfunction. The battery can still be charged. Clean vents. If malfunction occurs often, send the charger in for maintenance or repair.

Only charge the battery at a room temperature of 50 to 104°F (10 to 40°C). If you want to charge a battery that is too hot or too cold, the red LED may flash. A battery which is too hot can remain in the charger, charging will begin when the battery has cooled down. A battery which is too cold, however, should be removed from the charger. Wait until the battery has reached room temperature. Charging will begin after the battery has warmed up or cooled down.

RAUTOOL G2

TOOL PREPARATION

- Make sure that whenever the jaw sets are changed, the pins are completely and safely locked in place.
- Before changing the jaw sets, the battery must be removed from the tool to avoid inadvertent activation
- Before each use, check the jaw sets, expander bits, expander sets and the tool for damage or visible wear. Damaged tools must no longer be used and should immediately be sent to your local REHAU representative for repair.

Expansion

To expand, the cylinder must be directly connected to the unit/foot pump by the hydraulic hose (quick coupling) and control cable.

Note: Ensure that the quick coupling is completely engaged. The coupling is to be pressurized only when engaged. Check plug connections thoroughly for dirt. Clean if necessary.

To insert the battery, push it completely into the holder until it locks into position on its own.



Completely insert the expander set into the cylinder. Fix in the cylinder using the two short pins and one long pin.

Note: Pins must be fully inserted. As a general rule, operation may only begin once the pins are fully inserted.



To change expander heads, remove fixing nut, position expander head correctly, screw fixing nut completely on. From dimension 75 mm, expander heads are screwed on directly (without fixing nut). Expander heads > 75 mm must also be screwed on completely.



Clamping

The expander set must be removed for clamping. To do this, pull out the long pin completely and the short pins to the stop.



Pull out and remove the expander set from the cylinder.



First, clamp on the long clamping jaw and then the short one. Then fully insert the long pins.



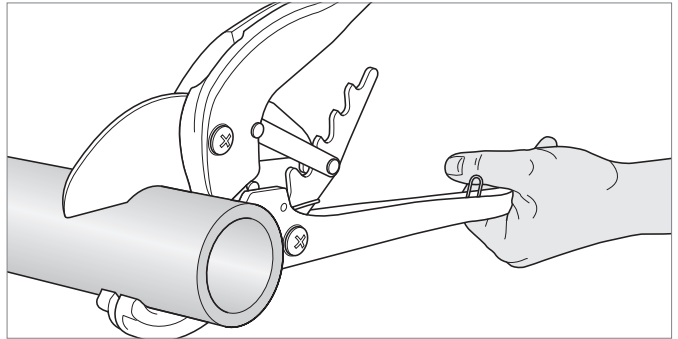
In confined assembly situations, use an Allen key to release and turn the tool handle.



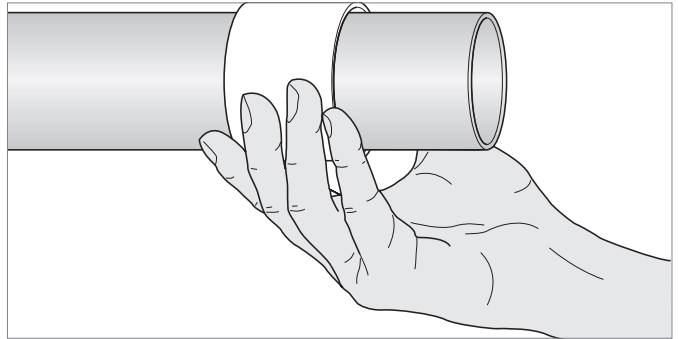
RAUTOOL G2

ASSEMBLY PROCEDURES

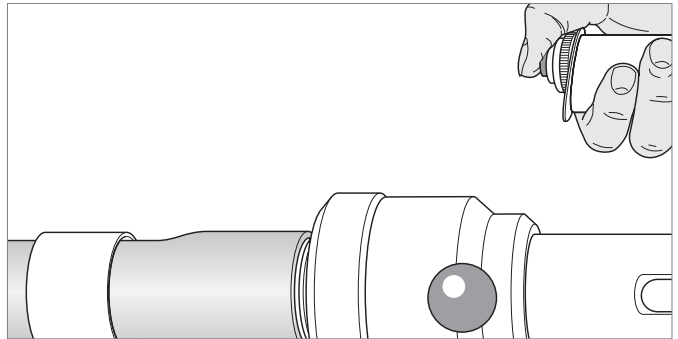
1. Using pipe cutters, cut pipe to required length at right angles and without leaving burrs. Do not use saws, or similar.



2. Slide compression-sleeve onto pipe. With metal compression-sleeves, the inner taper must point toward the joint.

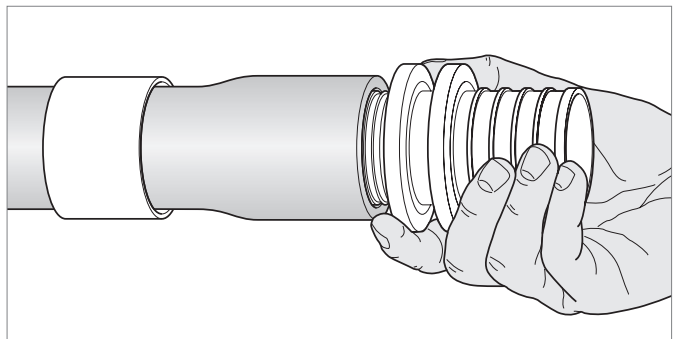


3. Expand pipe, rotate 30° and repeat. The compression-sleeve must not be in the expansion area. Expansion is to be carried out using the pressure switch or by activating the foot lever.



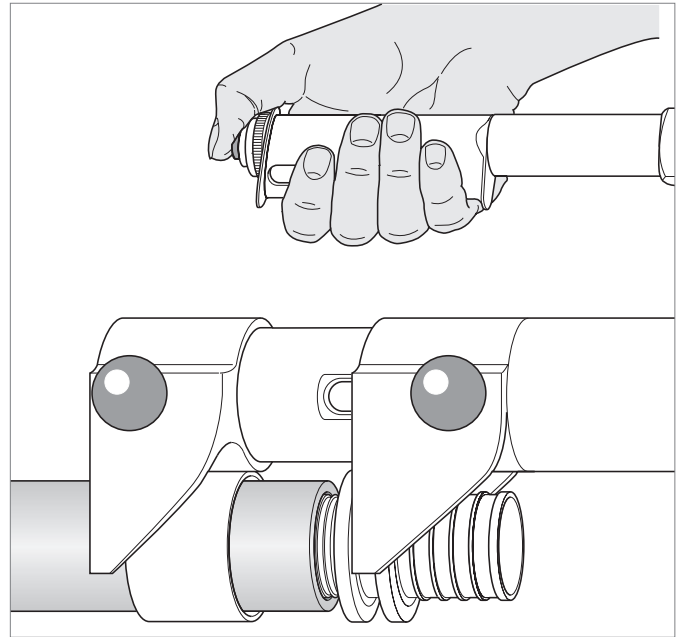
4. Insert fitting into pipe up to the stop. After a brief period the fitting will sit tightly in the pipe (memory effect).

Note: All sealing ribs must be covered. Until the memory effect has set in completely, the fitting can still fall out of the pipe. Make sure the fitting is positioned evenly.

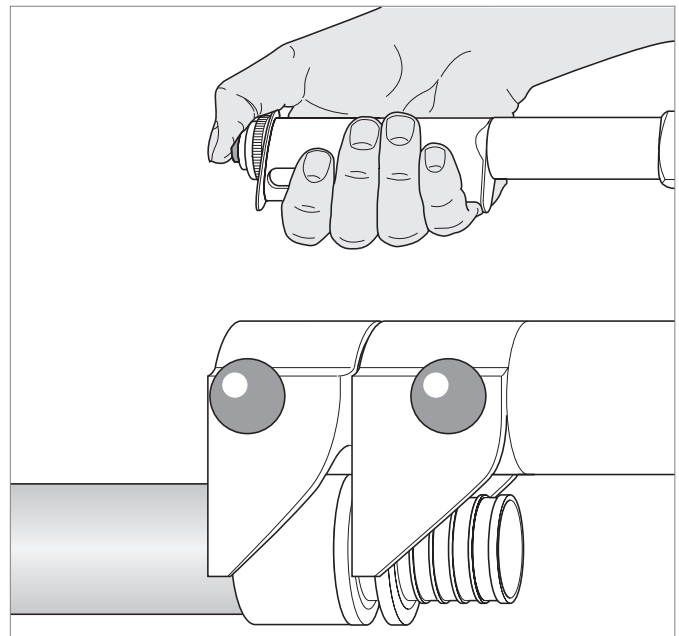


5. Fully insert the joint into the clamping tool.

Note: Do not tilt. Tool must be applied over full surface and at right angles.



6. Insert the compression-sleeve all the way to the fitting collar by activating the pressure switch/foot lever.

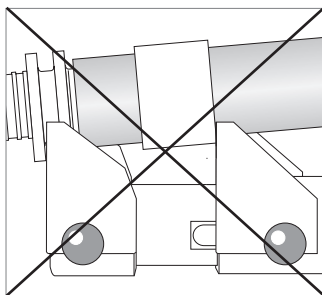


RAUTOOL G2

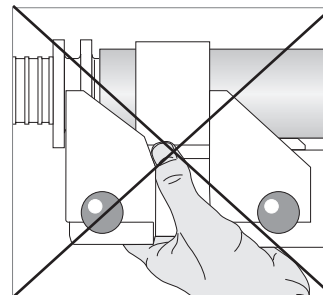
IMPORTANT NOTES

NOTICE: Adhere to these instructions to reduce risk of property damage.

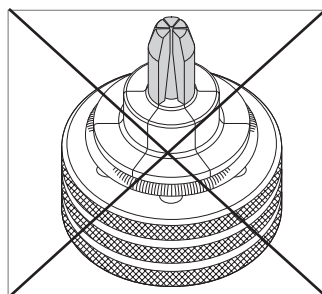
Always apply clamping jaws/jointing technique at right angles, making sure it completely contacts the entire surface.



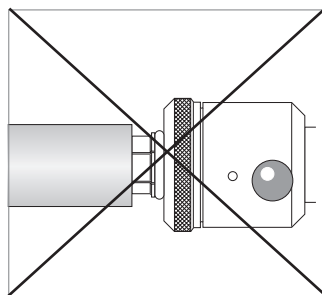
CAUTION! Do not touch moving parts. Touching moving parts could cause fingers to become trapped.



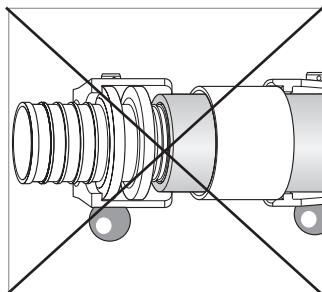
Never work with a damaged expander head as this will damage the pipe. Replacements are available from your local REHAU representative.



Always insert the expanding tool into the pipe up to the stop.



Make sure the fitting is correctly seated in the tool. Applying the tool to the wrong fitting collar will over-compress the joint.



RAUTOOL G2

MAINTENANCE

Regular Inspection

Note: Always remove the battery or unplug from the mains before cleaning and inspection.

- Always keep jaw sets, expanding tools and cylinders clean. When soiled, clean them with a brush and oil them. Then store the tool in a dry place.
- Before every use, check the jaw sets, expanding tools and the G2 tool for damage or visible wear. Damaged tools must not be used and should immediately be sent to your local REHAU representative for repair.
- Make sure that the jaw sets are fully applied across the entire surface and at a right angle during the compression process. The compression sleeve should be inserted up to the fitting collar.
- Regularly grease the expanding tool taper. Do not apply grease to the surface of expander segments. Should excess grease reach the expander segments, the segments must be thoroughly cleaned with cleaning solvent and then dried.
- Before starting the coupling process, check the quick coupler for impurities/dirt and clean with cloth if required.
- Fit dust covers onto quick-coupler once the uncoupling procedure is completed.

Repairs

Note: Do not perform any repairs on the tool yourself. Return the tool to your local REHAU representative.

Storage

Never store the tool if wet. Dry the tool and grease it. Then store it in a dry place.

RAUTOOL G2

TROUBLESHOOTING

For operation with battery

Defect	Cause	Correction
Motor does not run	- Tool/battery contacts dirty - Tool/battery contacts damaged - Battery not locked correctly into the tool - Battery empty - Battery faulty	Clean contacts when dry with non-conducting material Send tool/battery to your local REHAU representative Reinsert battery, pay attention to locking mechanism Charge battery Give battery to recycling system
Battery does not charge	- Charger not plugged in correctly - No power coming to socket - Charger/mains cable or plug damaged - Charger not ready - Charger/battery contacts dirty - Charger/battery contacts damaged - Battery not locked into charger correctly	Reinsert mains plug Change socket Send charger to your local REHAU representative Wait for green LED to flash Clean contacts when dry with non-conducting material Send charger/battery to your local REHAU representative Reinsert battery, pay attention to locking mechanism.

For operation with power adapter

Defect	Cause	Correction
Motor does not run	- Tool/mains adapter contacts dirty - Tool/mains adapter contacts damaged - Mains adapter not correctly locked into tool - Mains adapter not plugged in correctly - No power coming to socket - Mains adapter/cable or plug damaged - Mains adapter overheated	Clean contacts when dry with non-conducting material Send tool/mains adapter to your local REHAU representative Plug in adapter again, pay attention to locking mechanism Reinsert mains plug Change socket Send mains adapter to your local REHAU representative Allow mains adapter to cool down

General

Defect	Cause	Correction
Motor does not run	- Control cable not inserted correctly - Control cable/pressure switch faulty - Tool faulty	Insert control cable properly Send working unit to your local REHAU representative Send power unit to your local REHAU representative
Motor runs, but working unit does not function properly or at all	- Leak in hydraulic hose	Send working unit to your local REHAU representative
Tool does not reach final pressure (Only inspect at zero pressure)	- Leak in hydraulic hose	Send working unit to your local REHAU representative

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