

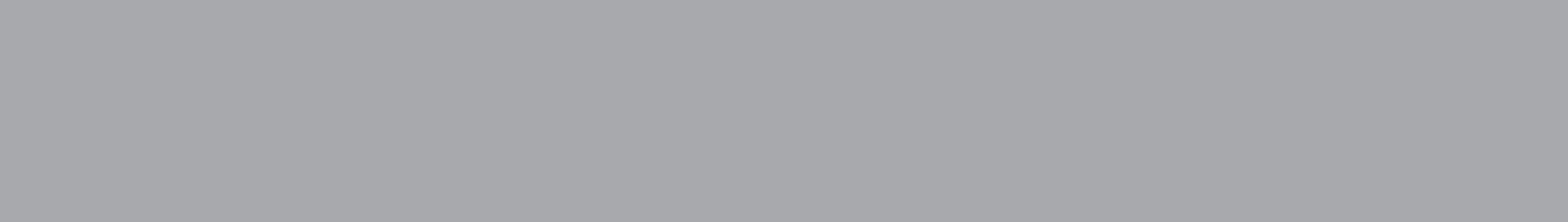


## Pneumatic/hydraulic blind riveting tool Accessory kit CHR2202

### Instruction Manual



Art.-No. CHR2302



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**Accessories and spare parts:**  
<http://www.chiefautomotive.com>

# 1.1 Information regarding this manual

## State-of-the-art

This blind riveting tool represents state-of-the-art technology. To ensure the functionality of the equipment, it must be operated in a proper and safe manner.

## Technical modifications

In the interests of quality assurance, we reserve the unrestricted right to proceed to technical modifications arising out of further developments in technology and product improvements, without prior notification.

## Read instruction manual

Read the instruction manual carefully before using the blind riveting tool.

## Handling

All handling necessary to ensure correct operation is described in the instruction manual. No methods of working other than those approved by the manufacturer may be practised.

## Faults

If problems arise, the operator may only eliminate those problems through their own actions where the corresponding rectification measure is described.

## Training

If desired, training can be provided at TKR for a charge calculated to cover expenses, in Gevelsberg or on the customer's premises. If you should have any related queries, please contact our Service address (page 9).

# 1.2 Explanation of symbols

In this instruction manual, some sections use internationally known warning symbols, warning notes and general instructional symbols.

The individual symbols are explained below. Follow all instructions and safety rules.



Observe instruction manual



Turn anti-clockwise.



Please note the following!



Observe general instructions



Warning  
General source of danger



Arrow to clarify compression



Wear face mask



Warning  
Hand could become trapped



Arrow showing direction



Wear gloves



Warning  
Fingers could become trapped



For more information, see section ...



Turn clockwise.

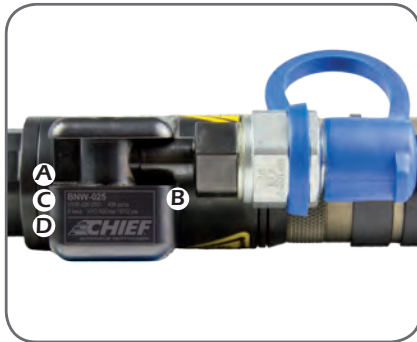


Warning  
System under pressure



Audible engaging

## Markings on the blind riveting tool




- A** Serial number
- B** CE marking
- C** Production date
- D** Manufacturer's identification

- E** Warnings (for complete view see Fig. 1.3.3)

## 2.1 Operating principles

The pneumatic/hydraulic blind riveting tool has been specially developed for all common riveting operations on thin sheet metal.


The scope of supply covers the blind riveting tool with operating unit and the hose package.

 **The blind riveting tool may be used exclusively with the PNP 90 hydraulic pump.**

The hydraulic pump is a pneumatically driven pressure intensifier with a pressure ratio of 1:100. This means that a hydraulic output pressure of 600 bars is generated with an input air pressure of 6 bars. When the equipment's preset final pressure is reached, the pump stops automatically and keeps this pressure constant. The hydraulic pump has a pneumatically controlled pressure relief valve.

The blind riveting tool is connected to the hydraulic pump via a high-pressure hose. The hose is connected to the pump via a leak-free quick release coupling. The coupling can only be connected to the equipment when it is depressurised.

The two pneumatic control lines are also connected to the pump. Make sure that the black and the blue hoses are inserted into the couplings with the relevant markings.

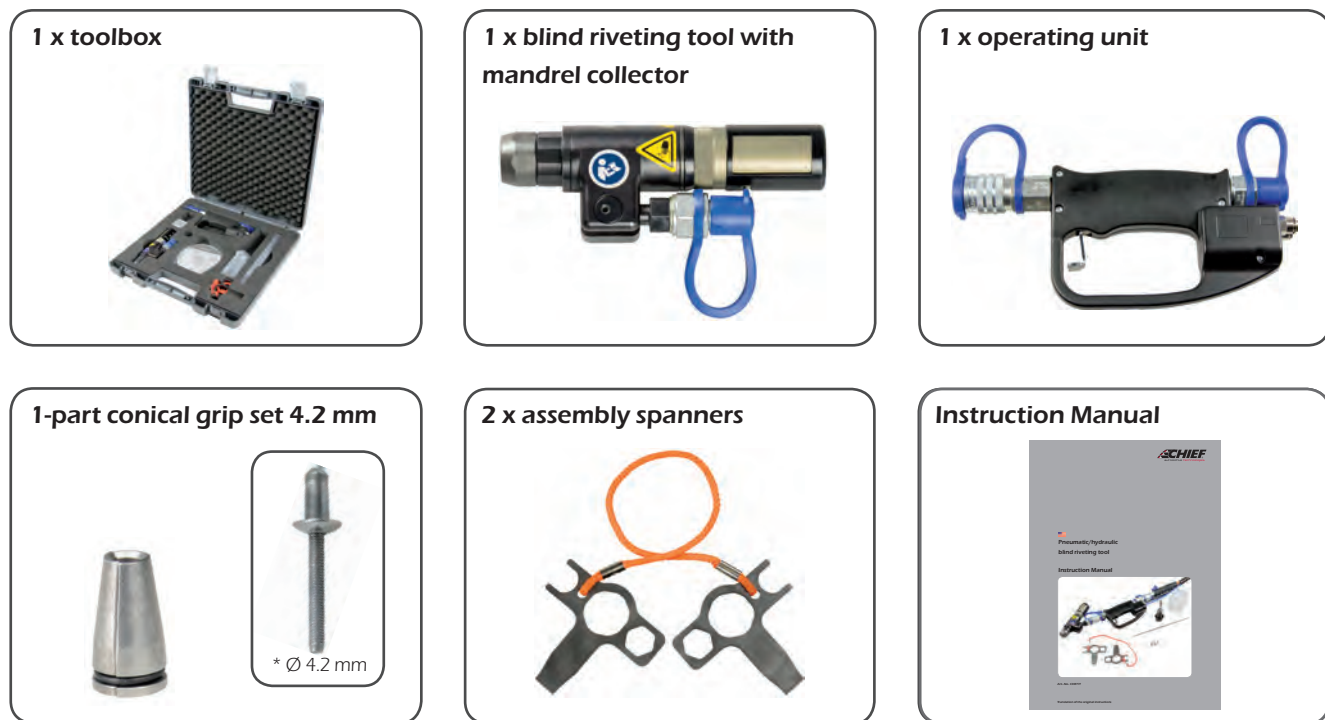
 **Compressed air can be connected to the equipment as soon as the hydraulic hose and the control lines are connected to the pump.**

The operating unit is provided with an actuating lever behind a trigger guard.

If the valve is activated, the pump begins to run and the hydraulic plunger extends.

If the operating lever is released, the pump is deactivated and the hydraulic plunger retracts to its original position.

## 2.2 Scope of supply and accessories



\* \* Blind rivets not included

## 2.3 Technical specifications

Travel	20 mm
Setting force	24500 N at 6 bar
Weight	0.8 kg (without hose and operating unit)
Hydraulic operating pressure	max. 600 bar
Pneumatic operating pressure	6 bar
Ambient temperature	5–50 °C / 41 –122 °F
Prescribed safety clothing	Protective gloves, eye protection, long-sleeved working clothes, close fitting at the neck
Drive unit	PNP 90 hydraulic pump
Vibration emission value	$a < 2,5 \text{ m/s}^2$

## 2.4 Safety instructions



The hydraulic tool kit is approved exclusively for the purposes intended by the manufacturer.



Only genuine accessories may be used. Use of non-genuine tools or accessories presents a major safety hazard.



Do not use any hoses or fittings that are not permitted for the equipment's operating pressure.



Ensure that only trained and instructed personnel use the equipment!



Use of the equipment by persons who have not been instructed in its use is prohibited.



Ensure that the instruction manual is made available to operating personnel.



Protective gloves and a face mask must strictly be worn for all applications of the equipment, because metallic parts can break up and fly off with great force if the tool is faulty or operated incorrectly. Work clothing should also be long-sleeved and close fitting around the neck.



As a result, there is a risk of severe bodily injury! See also ANSI Z87.1-1989. Observe the applicable national regulations for prevention of accidents.



Before any use is made of the tool, a visual surface check must be carried out - no deep scratches must be visible.



Never operate the tool without the rear closing cap in place.



Before use, check seals for any oil leaks.



Before use, check the threaded connection on the piston to ensure it is firmly seated and manually tighten as required.



Never throw the tool or allow it to fall. Never misuse the tool or lend it to untrained personnel.



The tool must only be used in ambient temperatures of above 5 °C and at a maximum of 50 °C.



The tool must never be used in potentially explosive areas.



You must read and understand the safety instructions before setting up, operating, repairing or maintaining the machine or replacing accessories on it and before working near the machine for non-threaded fasteners. Not reading the instructions may result in serious bodily injury.



This machine for non-threaded fasteners must not be modified. Modifications may reduce the effectiveness of safety equipment and increase operator risk.



If the machine for non-threaded fasteners is damaged, you must not use it.



**If any abnormality is identified, the tool must not be used.  
Please contact Service.**

## 2.5 Working with the blind riveting tool - basic principles



### **Risk of injury**

Route all supply lines in a manner that prevents people from tripping over them. Correctly route and attach the compressed air hose. If a compressed air hose whips around wildly, it could cause severe bodily injury.



**Before starting work, check the preset air pressure! Incorrectly set air pressure could cause equipment damage or bodily injury!**



### **Max. air pressure**

Make sure that the maximum permissible operating air pressure of 6 bar / 87 psi is never exceeded. Check the setting of the pressure regulating valve before each riveting operation!



### **Clean compressed air**

Make sure that the pump is only supplied with clean and dry compressed air. Moisture and contamination could cause equipment malfunction and/or damage. Only use compressed air of quality class 2 as per ISO 8573-1.



**Always disconnect the blind riveting tool from the compressed air when leaving your work station!**



### **Warranty**

The manufacturer accepts no liability for damage or injury caused by improper repair or use of non-original replacement parts.



Incorrect usage of the blind riveting tool that leads to equipment damage invalidates the warranty.



**The compressed air supply must be disconnected from the equipment before any adjustment or maintenance work is performed.**





**The tool's hydraulic system, pneumatic control systems, hoses and couplings must all be kept free of dirt and other contamination. Foreign bodies in the hydraulic fluid or in the control air will cause the tool system to malfunction.**



**All maintenance and service work on the blind riveting tool must only be performed with the pump disconnected.**



**5.5** Under normal circumstances, maintenance of the blind riveting tool is restricted to regular cleaning and replacement of the conical grips.



All other necessary maintenance work and/or repairs must be performed by the manufacturer or properly trained personnel only.

The user must only perform the maintenance and repair measures outlined in this instruction manual.



Maintenance and repair work not covered in this instruction manual may only be performed by professionals with proper training by VSG. For further information on servicing and training, please contact us at our Service address:

### **Chief Automotive Technologies**

Service

996 Industrial Drive

Madison, IN 47250

Phone: 800-445-9262

Fax: 866-275-0173

### **Accessories and spare parts:**

**<http://www.chiefautomotive.com>**

## 2.7 Warranty

Blind riveting tools from Chief Automotive Technologies come with a 12-month warranty against material and manufacturing defects.

This does not cover wearing parts (rivet mandrels, rivet dies, spacing bolts and spacing sleeves) or hydraulic oil.

The warranty period begins on the date of delivery, as specified on the invoice or delivery note.

The warranty is valid for the user/customer provided that the tool is obtained from an authorized sales outlet and is used as described in the instructions and for the purposes for which it was designed.

The warranty becomes invalid if the tool is used for purposes other than those for which it was designed.

In addition, the warranty becomes invalid if the tool is not used as described in the instruction manual.

In the event of defect or fault, Chief Automotive Technologies will only repair or replace faulty parts at its own discretion.

### **Your supplier and service partner:**

#### **Chief Automotive Technologies**

Service

996 Industrial Drive

Madison, IN 47250

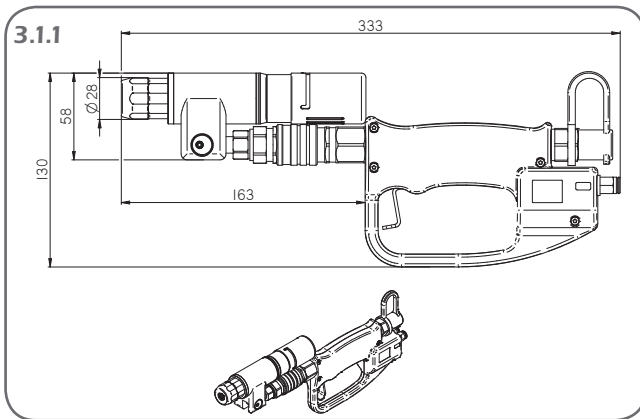
Phone: 800-445-9262

Fax: 866-275-0173

### **Accessories and spare parts:**

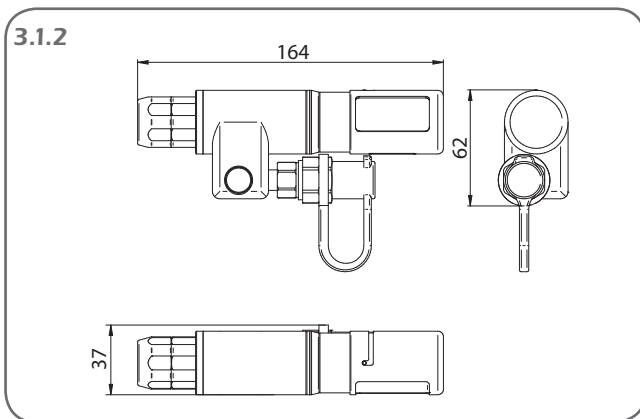
**<http://www.chiefautomotive.com>**

## 3.1 Technical data



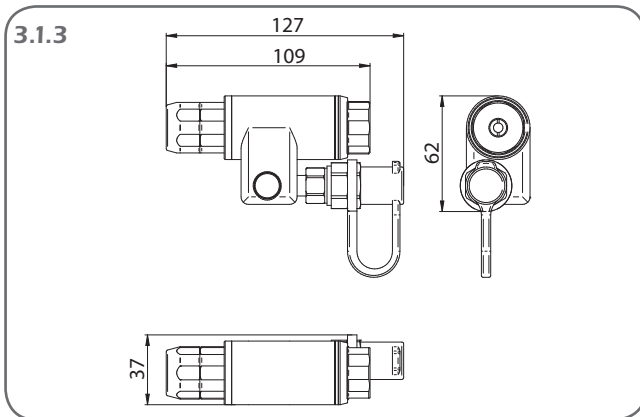
### Blind riveting tool with operating unit

Length	333 mm
Width	37 mm
Height	130 mm
max. operating pressure	
hydraulic	600 bar
pneumatic	6 bar
Weight	1.443 kg



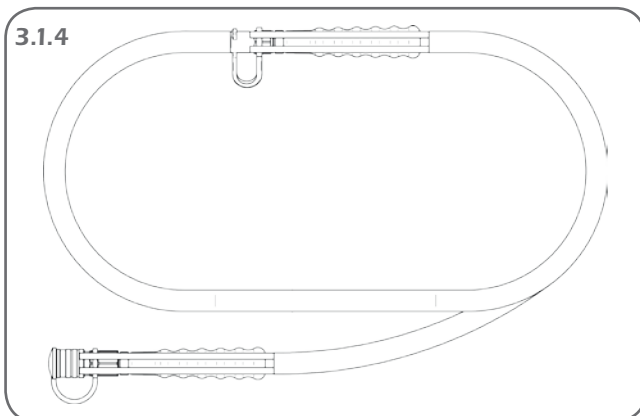
### Blind riveting tool with mandrel collector

Length	164 mm
Width	37 mm
Height	62 mm
Weight	0.823 kg



### Blind riveting tool with ejector

Length	127 mm
Width	37 mm
Height	62 mm
Weight	0.782 kg



### Hose package

Hose length	3.65 m
Hose Ø	ca. 20 mm
Weight	1.100 kg

## 4.1 Preparing the operating unit

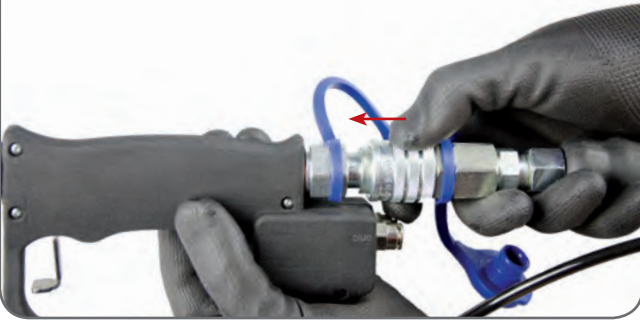
4.1.1



4.1.2



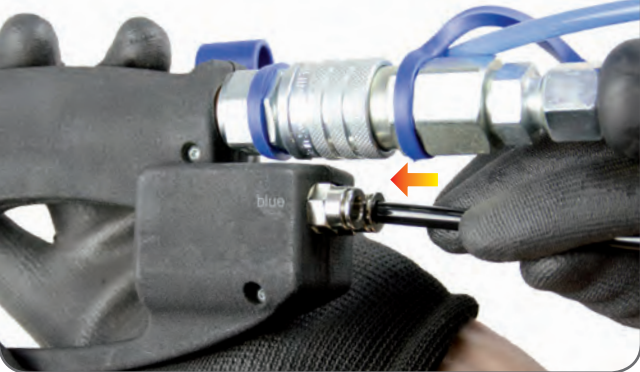
4.1.3



4.1.4



4.1.5



**4.1.1/4.1.2**

The operating unit and both hose package connections are provided with protective caps. Remove the protective caps from the corresponding couplings.

**4.1.3/4.1.4**

Connect up the operating unit and the hose by pulling back the quick-release coupling and holding it as it is pushed on. When the quick-release coupling is released the connection is locked.

4.1.6



**4.1.5/4.1.6**

When connecting the pneumatic control hoses, make sure that the black hose is attached to the coupling indicated. The pneumatic hoses must be inserted right up to the stop.



## 4.2 Preparing the pressure generator and connecting up the operating unit



### 4.2.5

When connecting the pneumatic control hoses, make sure that the black hose is attached to the marked coupling.



Before using the equipment, check the condition of the blind riveting tool with add-on component and hoses. Risk of severe bodily injury if the pump or the blind riveting tool is damaged.



Check the hoses and couplings for damage.



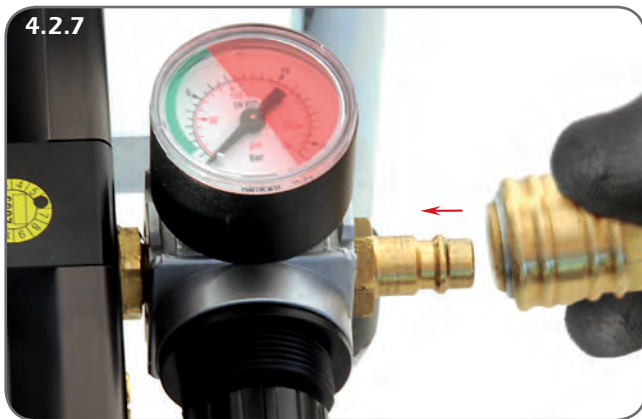
In the event of any noticeable damage, the hydraulic components must be replaced. Damaged hoses or couplings could cause severe injury!



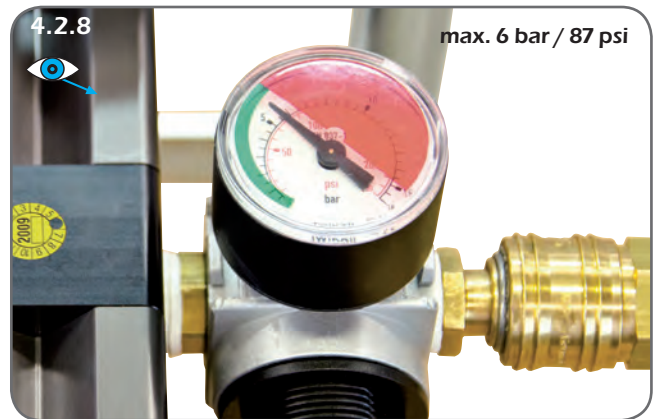
Incorrectly attached hoses could come loose and cause severe bodily injury.




## 4.2 Prepare the pressure generator and connect to the operating unit



**4.2.7**  
Connect compressed air to the pressure regulating valve and set the pressure



**4.2.8**  
 **Never apply a pressure above the permitted value of 6 bar or 87 psi. This could cause damage to the equipment or even bodily injury.**

## 4.3 Connect up the blind riveting tool and operating unit



**4.3.1**  
Remove the protective coupling cap on the blind riveting tool.

**4.3.2/4.3.3**  
Connect up the tool and the operating unit by pulling back the high-pressure coupling and holding it while pushing it on. When releasing, the coupling must be heard to connect and engage.



## 4.4 Safe Set-Up and positioning of equipment



Ensure that the high-pressure pump is always placed on a non-slip surface and that the hoses are routed in a way that prevents them from getting damaged or disconnected. The hoses must also be routed in a way that prevents people from tripping over them.

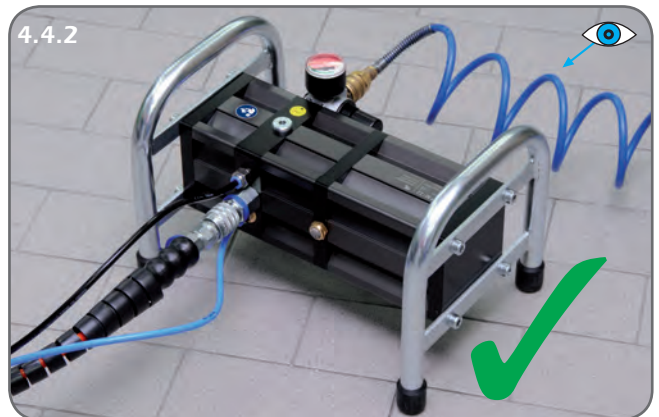


Make sure that the pump and the blind riveting tool are set up in a work area that is free from heat sources (max. 50 °C/ 120 °F), corrosive liquids, greases and oils.



Before using the equipment, make sure that the pump is standing on a secure surface.

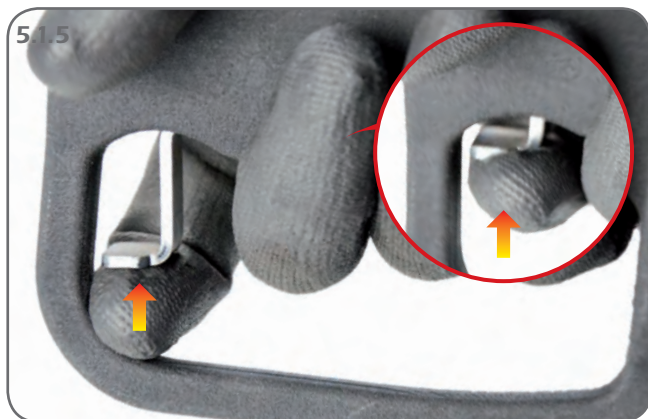
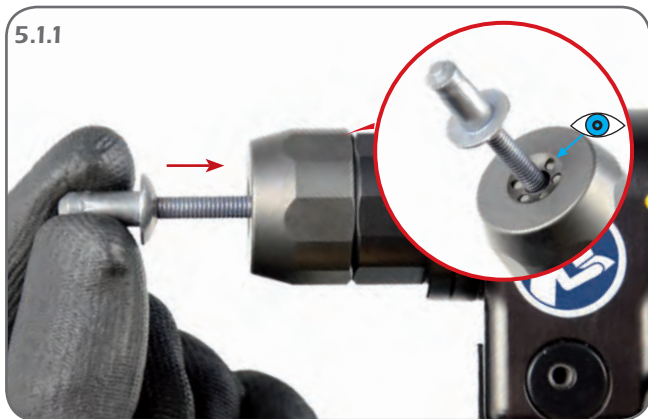
4.4.2



4.4.3



## 5.1 Fitting blind rivets



### 5.1.1/5.1.2

Insert the blind rivet, centred in the tool's rivet guide. The rivet head is held in place by the magnets.

### 5.1.3/5.1.4

Position the blind riveting tool and insert into the hole provided as far as the contact surface.

### 5.1.5

Trigger riveting by pulling the lever.

### 5.1.6

The mandrel is pulled back into the tool during riveting. This causes the rivet material to be spread out around the rivet head on the opposite side.

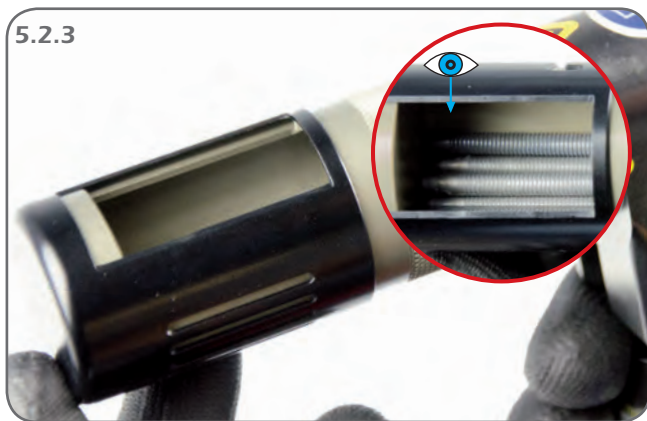
### 5.1.7

The projecting part of the mandrel breaks at the front side at the intended breaking point.





## 5.2 Emptying the mandrel collector



### 5.2.1

Press the mandrel collector towards the riveting tool, as shown in the laser engraving.

### 5.2.2 – 5.2.4

The mandrel collector is turned to open the recovery aperture to allow the mandrels to be removed.



#### Warning

Empty the mandrel collector after a maximum of 10 riveting operations. If there are more than 10 mandrels in the container, this can result in damage being caused to the riveting tool.

### 5.2.5

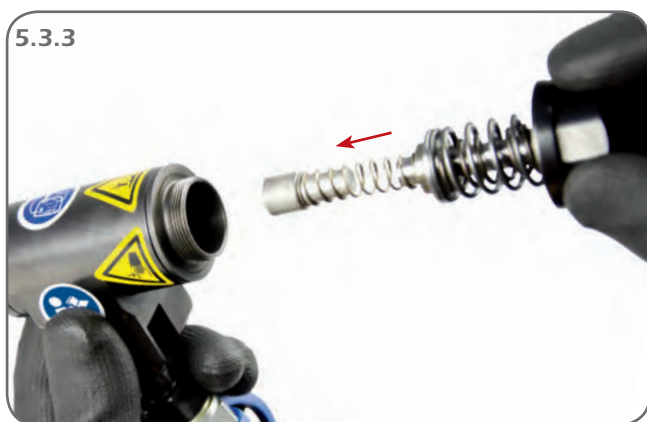
To close, press the mandrel collector towards the riveting tool, as shown in the laser engraving.

### 5.2.6

The mandrel collector is turned to close the recovery aperture.



## 5.3 Fitting the ejector



### 5.3.1/5.3.2

Turn the mandrel collector anti-clockwise.



**When opening, keep the blind riveting tool angled slightly forward. Otherwise the conical grips may fall out.**

### 5.3.3/5.3.4

Insert the ejector and tighten clockwise until the contact surface is reached.

### 5.3.5/5.3.6

Tighten by hand using the large opening of the assembly spanner.



**When not in use, keep the ejector in the protective cover provided for the purpose.**





## 5.4 Replacing conical grip segments



### 5.4.1

Turn the mandrel collector anti-clockwise.

### 5.4.2

Remove the conical grip segments by turning the blind riveting tool.

### 5.4.3

Locate the conical grip on the tip of the assembly aid.

### 5.4.4 – 5.4.7

Insert the assembly aid into the aperture on the blind riveting tool and pull out towards the front.

➔ **5.3** Then refit the mandrel collector or the ejector.



## 5.5 Maintenance and cleaning

5.5.1



**5.5.1**

Disconnect the blind riveting tool from the operating unit and the compressed air supply.

→ **5.4 5.5.2**

Remove the three conical grips from the casing.



**Count the conical grips to ensure that none has been left in the system. If a cone is left behind the piston and the seal, damage will be caused to both tool and cone.**



**Clean and check the gripper teeth on the conical grips. Replace cones if blunt. Worn gripper teeth can cause severe damage to the tool.**

5.5.2



**5.5.3**

Never use compressed air to clean the tool casing. This will result in dirt being blown into the seals.

Use a soft, lint-free cloth to clean the tool.

5.5.3

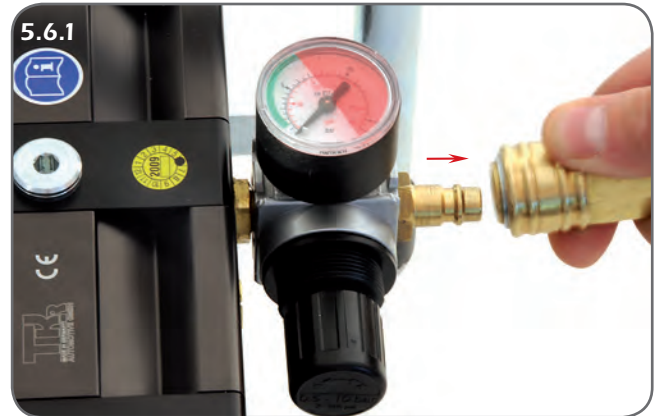


## 5.6 Completing an operation and riveting tool storage



### 5.6.1

Always disconnect the compressed air supply from the pump after blind riveting is complete or during a work interruption.



### 5.6.2/5.6.3

Then disconnect the control hoses and seal all ports.



Make sure that the disconnected hoses never make contact with the dirty floor or the ground.



**Foreign bodies or contamination in the control lines could cause the equipment to malfunction.**



### 5.6.4

**Only store the tool in the transport case designed for this purpose. Make sure that the hoses do not become kinked!**



**Never transport the tool by the hoses!**

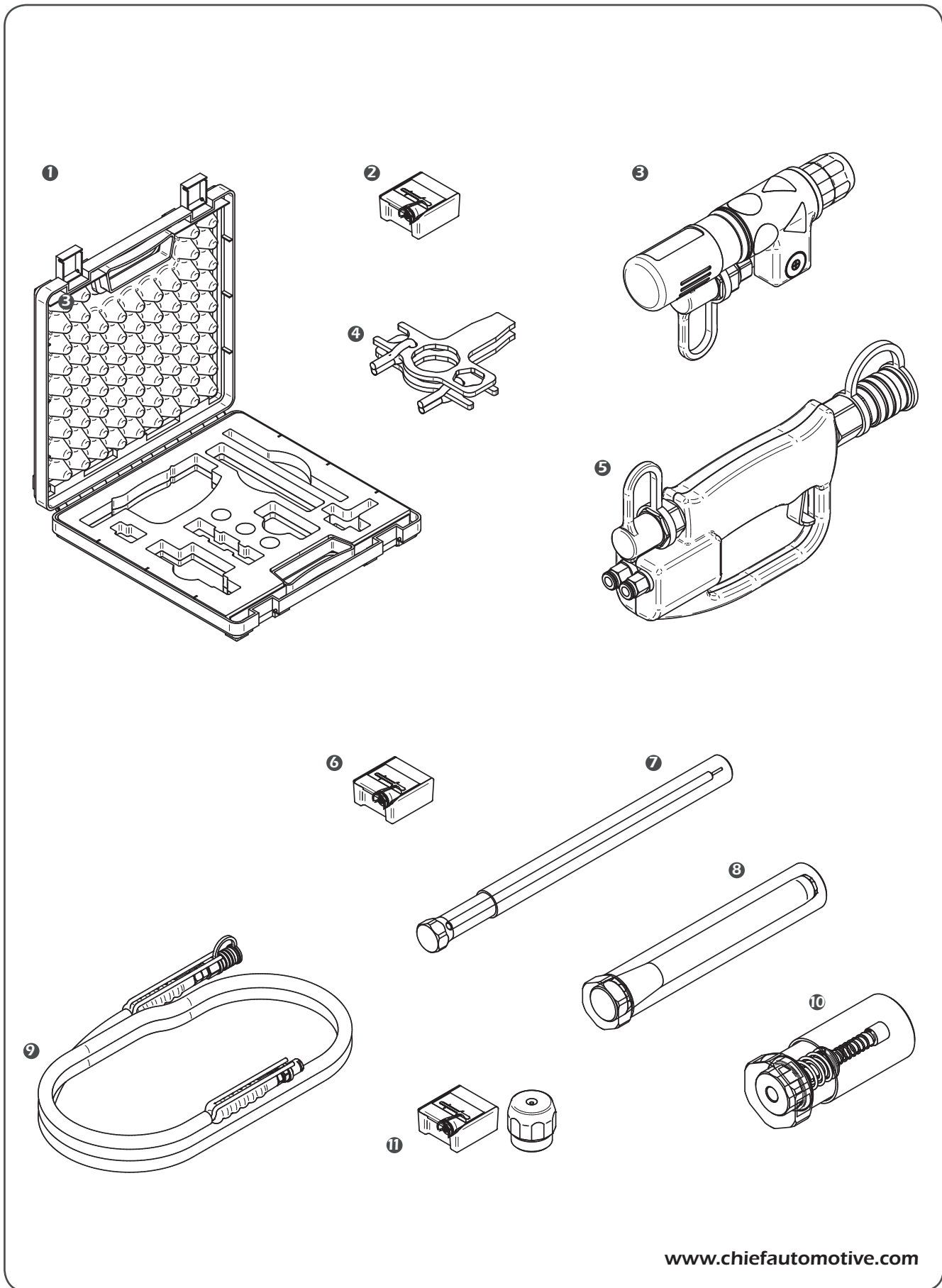


# 6.1 Troubleshooting

Problem	Cause
Blind riveting tool not working	Compressed air supply not connected up
	Control lines incorrectly connected
	Control lines not connected up
	Insufficient air pressure
	Hydraulic hose package not coupled up
	Pump faulty
Blind riveting tool will not shut off	Control lines incorrectly connected
	Control lines not connected up
	Control valve faulty (operating unit)
	Pump faulty
Air leak	Control valve faulty (operating unit)
Blind rivet not being gripped, conical grips slipping on mandrel	Conical grips dirty
	Gripper teeth on conical grips worn
	Incorrect conical grips
Blind riveting process not completed Rivet mandrel not separated from blind rivet head	Insufficient quantity of oil (pressure intensifier)
	Gripper teeth on conical grips worn
	Pump faulty
	Insufficient air pressure
Oil leak	Hydraulic hose package faulty
	High-pressure coupling faulty
	Blind riveting tool losing oil
Screwing spring package/ejector into housing requires application of excessive force	Piston not in starting position - quantity of oil present in housing
	Faulty thread
Blind rivet cannot be inserted	Conical grip segments in piston adapter (3-part) sitting in different positions
	Mandrel collector overfilled - broken off mandrels can no longer be carried back
	Incorrect conical grips



Remedy	Page
Connect compressed air	see Operating Instructions PNP 90
Connect control lines correctly and ensure they are properly seated	12/13
Connect control lines correctly and ensure they are properly seated	12/13
Check air supply at pressure intensifier	14
Connect up hydraulic hose package in accordance with Operating Instructions	12/13
Have repaired by manufacturer/service partner	see Operating Instructions PNP 90
Connect control lines correctly and ensure they are properly seated	12/13
Connect control lines correctly and ensure they are properly seated	12/13
Have repaired by manufacturer/service partner	9
Have repaired by manufacturer/service partner	see Operating Instructions PNP 90
Have repaired by manufacturer/service partner	9
Carefully clean conical grips	19
Replace worn conical grips with new	19
Check and replace conical grips	19
Check oil level and top up if necessary	see Operating Instructions PNP 90
Replace worn conical grips with new	19
Have repaired by manufacturer/service partner	see Operating Instructions PNP 90
Check air supply at pressure intensifier	14
Replace hydraulic hose package	12/13
Have repaired by manufacturer/service partner	9
Have repaired by manufacturer/service partner	9
Allow residual oil pressure to disperse by connecting up the hydraulic hose and the high-pressure push-fit nipple (wait 10-20 seconds)	12/13
Check thread and replace ejector, if necessary	18
Unscrew rivet guide and gently push conical grip segments back 2-5 mm with a blunt implement until they are evenly positioned	19
Empty mandrel collector and mandrels left behind in housing by pushing back with a blunt implement	19
Check and replace conical grips	19



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## 6.2 Spare parts

Item no.	Art. no.	Name
4	CHR2202-4	Assembly spanner
5	CHR2222-5	Operating unit
6	CHR2202-2	1-part conical grip set for Ø 4.2 mm blind rivets*
7	CHR2202-7	Assembly aid in packaging
8	CHR2202-8	Extension
9	CHR2406	Hose package
10	CHR2202-9	Ejector in packaging
11	CHR2202-10	1-part conical grip set for Ø 2.6 mm blind rivets*

## 6.3 Components

Item no.	Art. no.	Name
1	CHR2202-1	Toolbox
2	CHR2202-2	1-part conical grip set for Ø 4.2 mm blind rivets
3	CHR2202-3	Blind riveting tool
4	CHR2202-4	Assembly spanner
5	CHR2202-5	Operating unit

## 6.4 Disposal



**Appliances and machinery and components of appliances and machinery must be disposed of in accordance with the laws, regulations and other stipulations of that country in which they are located.**

We recommend that disposal be undertaken by licensed professional operators.

## 6.5 Liability



Chief Automotive Technologies, Inc. does not assume responsibility for any death, injury or property damage resulting from the operator's negligence or misuse of this product or its attachments.

Chief makes no written, express or implied warranty whatsoever of merchantability or fitness for a particular purpose or otherwise regarding the equipment or any part of the product other than the limited one-year warranty stated in chapter 2.6.





**Chief Automotive Technologies**

Service

996 Industrial Drive

Madison, IN 47250

Phone: 800-445-9262

Fax: 866-275-0173