

EN

Original Instructions
Version 1

DRAPER[®]

AIR **RIVETER**

16851, 16877



**UK
CA** **CE**

1. Preface

These are the original product instructions. This document is part of the product; retain it for the life of the product, passing it on to subsequent holders. Read this manual in full before attempting to assemble, operate, or maintain this product.

This Draper Tools manual describes the purpose of the product and contains all the necessary information to ensure its correct and safe use. Following all the instructions and guidance in this manual will ensure the safety of both the product and the operator and increase the lifespan of the product.

All photographs and drawings within this manual are supplied by Draper Tools to help illustrate correct operation of the product.

Every effort has been made to ensure the information contained in this manual is accurate. However, Draper Tools reserves the right to amend this document without prior warning. Always use the latest version of the product manual.

1.1 Product Reference

User Manual for: Air Riveter

Stock Nos.: 16851, 16877

Part Nos.: DAT-AR, DAT-ARK

1.2 Revisions

Version 1: April 2022

First release

As our manuals are continually updated, always ensure that the latest version is used.

Download the latest version from:
drapertools.com/manuals

1.3 Understanding the Safety Content

WARNING! – Situations or actions that may result in personal injury or death.

CAUTION! – Situations or actions that may result in damage to the product or surroundings.

Important: – Information or instructions of particular importance.

1.4 Copyright © Notice

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3. Warranty

Draper Tools products are carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, return the complete tool to your nearest distributor or contact Draper Tools directly. Contact information can be found at the back of this manual.

Proof of purchase must be provided.

If, upon inspection, it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This warranty period covers parts and labour for six months from the date of purchase. Where tools have been hired out, the warranty period covers 90 days from the date of purchase.

This warranty does not apply to any consumable parts, batteries or normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper Tools repair agent.

In all cases, to make a claim for faulty workmanship or materials within the standard warranty period, please contact or return the product to the place of purchase. Proof of purchase may be required.

If the place of purchase is no longer trading or if you experience any difficulties with your warranty, please contact Customer Services with the product details and your proof of purchase. Contact details can be found at the back of this manual.

If the tool is not covered by the terms of this warranty, repairs and carriage charges will be quoted and charged accordingly.

This warranty supersedes any other guarantees expressed or implied and variations of its terms are not authorised.

Your Draper Tools guarantee is not effective until you can produce, upon request, a dated receipt or invoice to verify your purchase within the guarantee period.

Please note that this warranty is an additional benefit and does not affect your statutory rights.

Draper Tools Limited

4.1 Scope

This air riveter is designed for joining appropriate malleable materials using non-threaded mechanical fasteners (rivets) of the specified sizes as part of domestic and light-duty commercial use. Any other application beyond the conditions established for use will be considered misuse. Draper Tools accepts no responsibility for improper use of this product.

Important: This air riveter is suitable for use with aluminium and stainless steel rivets.

WARNING! This product is not a toy and must be respected.

Read this manual in full before attempting to assemble, operate or maintain the product, and retain it for later use.

4.2 Specification

Stock No.	16851	16877
Part No.	DAT-AR	DAT-ARK
Operating air pressure:	60–100psi (4.1–7bar)	60–90psi (4.1–6.2bar)
Minimum air line size:	3/8" ID	3/8" ID
Air inlet:	1/4" BSP	1/4" BSP
Riveting capacity:	2.4, 3.2, 4.0, 4.8 and 6.4mm	2.4, 3.2, 4.0 and 4.8mm
Weight (tool only):	2kg	1.6kg

Important: Read and understand all Health and Safety instructions and assess any associated risks before attempting to assemble, operate, maintain or repair this product. Non-compliance with these instructions may result in injury or damage to the user or the product.

5.1 General Safety Instructions

- Only authorised personnel who have carefully read and understood this manual may operate, adjust and repair this product.
- Use the product only in the manner instructed in this manual.
 - **ONLY** use this riveter with the size and type of accessories and consumables detailed in this manual.
- Always wear adequate eye and face protection when using this product.
- Always ensure that the working area is well illuminated and free from obstructions.
- Keep bystanders at a safe distance during operation.
- **DO NOT** modify this product in any way.
- Inspect the product for signs of damage and wear before each use.

WARNING! Do not use this product if it is damaged or has been modified.

- This product does not emit noise that exceeds a level of 70dB(A) during operation.

5.2 General Safety Instructions for Non-Electric Assembly Tools

- Keep the air line hose tidy to avoid creating a trip hazard.
- Holes in the workpiece must be pre-drilled before rivets are installed.
- Ensure that the workpiece is securely fixed during operation.
- Repetitive or extended use of this product may cause discomfort to the hands, arms and shoulders.
 - Take breaks as necessary to relieve discomfort.

5.3 Additional Safety Instructions for Air Tools

- Compressed air can cause severe injury.
 - Always turn off and disconnect the air supply before making any adjustments to this product.
 - **NEVER** direct this product towards yourself or others.
 - Ensure that compressed air is not blocked by or in contact with any part of your body.
- It is recommended that a whip hose is used between the tool and the air supply to reduce vibration.
CAUTION! Whipping hoses can cause severe injury. Always check for and replace damaged or loose hoses and fittings.
- Ensure that the product is compatible with the air supply before use.
- Ensure all connections are securely tightened.
- **DO NOT** exceed the maximum stated air pressure.
- Maintain awareness of projectiles from the product exhaust.
- **DO NOT** obstruct the ability of the trigger to release once depressed.
- **NEVER** carry the tool by the hose.

5.4 Residual Risk

The safety instructions in this manual cannot account for all possible conditions and situations that may occur. Exercise common sense and caution when using this product and protect against any additional conceivable risks.

6.1 Product Overview



- | | | | |
|----|------------|----|-------------------------------------|
| 1. | Trigger | 4. | Exhaust and tailpipe grip |
| 2. | Head cover | 5. | Air line inlet |
| 3. | Nosepiece | 6. | Rubber guard (Stock No. 16851 only) |

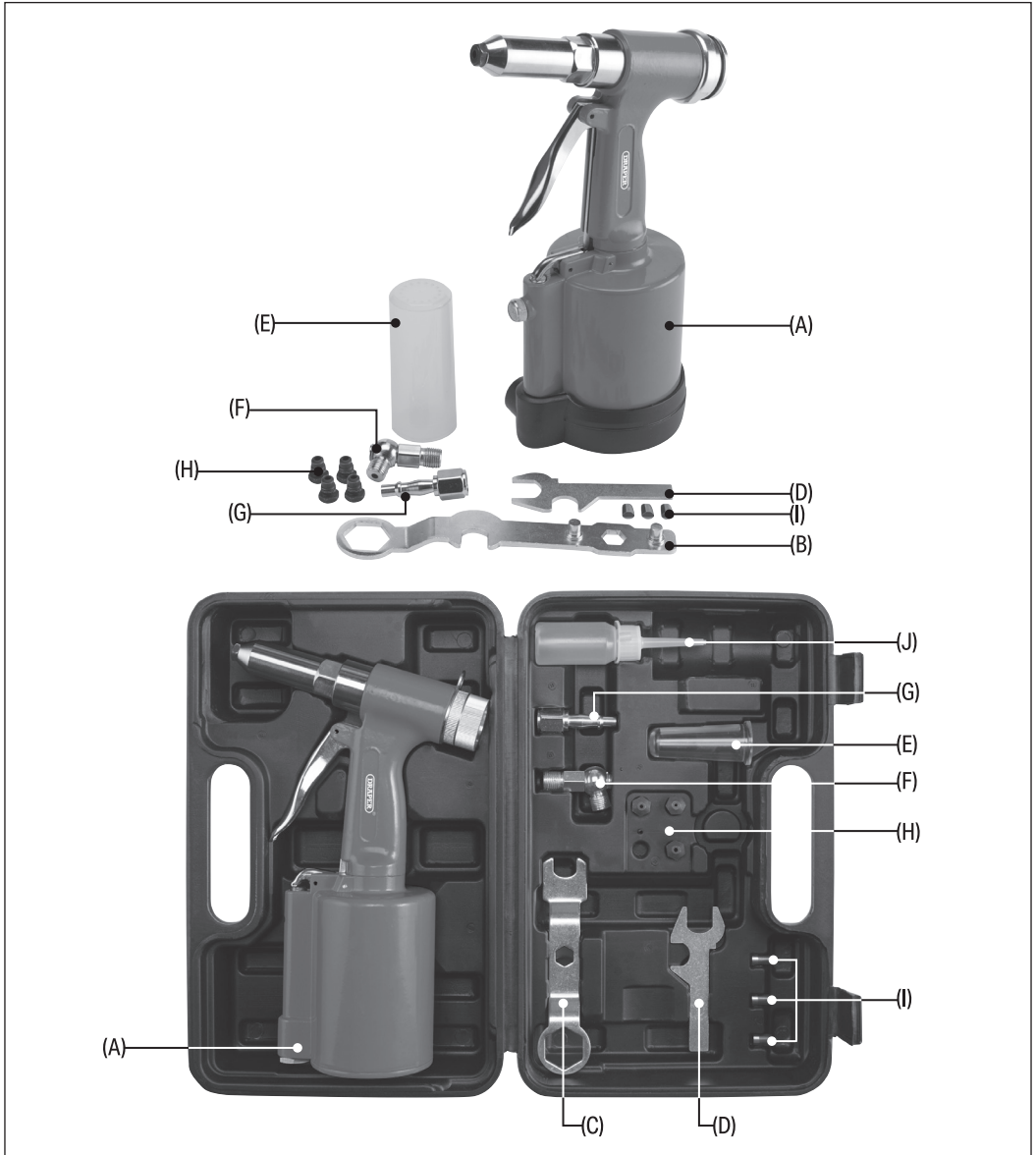
Products may differ slightly in appearance.

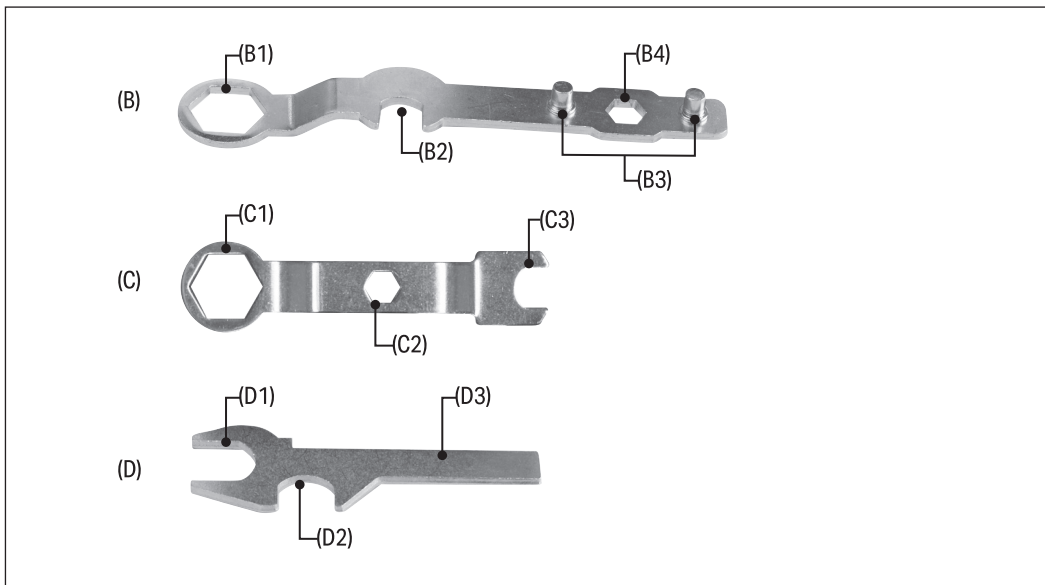
6. Identification and Unpacking

6.2 What's in The Box?

Carefully remove the product from the packaging and examine it for any signs of damage that may have occurred during shipment.

Before assembling the product, lay the contents out and check them against the parts shown below. If any part is damaged or missing, do not attempt to use the product. Please contact the Draper Helpline; contact details can be found at the back of this manual.





- A. 1 x Air riveter
- B. 1 x Spanner tool for Stock No.16851 (Stock No. 16851 only)
 - B1. Head cover ring spanner
 - B2. Jaw mechanism spanner
 - B3. Base cap removal pins
 - B4. Nosepiece ring spanner
- C. 1 x Spanner tool for Stock No.16877 (Stock No. 16877 only)
 - C1. Head cover ring spanner
 - C2. Nosepiece ring spanner
 - C3. Jaw mechanism spanner
- D. 1 x Spanner Gauge
 - D1. Lock nut spanner
 - D2. Jaw mechanism spanner
 - D3. Gauge
- E. 1 x Exhaust tailpipe
- F. 1 x Swivel connector (1/4" thread)
- G. 1 x Air line coupling
- H. Nosepieces (2.4, 3.2, 4.0, 4.8, 6.4mm)
 - 5 x for Stock No. 16851 (2.4, 3.2, 4.0, 4.8, 6.4mm)
 - 4 x for Stock No. 16877 (2.4, 3.2, 4.0, 4.8mm)
- I. 3 x Spare jaw pieces
- J. 1 x Oil dispenser (empty) (Stock No.16877 only)
- K. 1 x Carry case (Stock No.16877 only)

6.3 Packaging

Keep the product packaging for the duration of the warranty period for reference should the product need to be returned for repair.

WARNING! Keep packaging materials out of reach of children. Dispose of packaging correctly and responsibly and in accordance with local regulations.

Please visit drapertools.com for our full range of accessories and consumables.

CAUTION! Read the instructions in full before attempting to assemble and use the product. Draper Tools accepts no responsibility for damage caused by improper use of this product.

7.1 Air Tool Oil Specification

Air tool oil viscosity refers to the thickness and flow of the oil used in the product and the way in which it reacts with heat. Liquids with low viscosity are thinner than liquids with high viscosity.

As the viscosity of the air tool oil is reduced when heated, choosing the right viscosity is essential. If the oil viscosity is too low, it may not lubricate the tool appropriately when heated. If the oil viscosity is too high, the fluid may cause excessive resistance within the air lines when cold.

ISO grade 22–32 (SAE grade 5W–15W) monograde oil should be used in this product. We recommend the use of Draper Air Tool Oil

- **500ml** Stock No. 34681
- **1L** Stock No. 34862

During use, the oil must be constantly supplied to the equipment to ensure complete lubrication and optimum performance.

7.2 Preparing the Air Supply for Use

These air tools operate at a maximum pressure of:

- **Stock No. 16851:** 100psi
- **Stock No. 16877:** 90psi

This must be controlled by a combination pressure regulator, in-line lubricator and moisture filter. This will ensure a constant supply of dry air and lubricating oil at all times (see Fig. 1), provided it is properly maintained.

IMPORTANT: Always check the machine operating pressure before use.

Water in the compressor tank may cause considerable corrosion to air tools and should be drained daily to avoid excessive water in the air supply. Dirty or wet air can significantly shorten the lifespan of the product.

When using an air tool with a hose over 25ft long, it is recommended to increase the bore of the hose to the next largest available size (i.e. increase 3/8" to 1/2") to ensure adequate pressure and volume of air to power the tool.

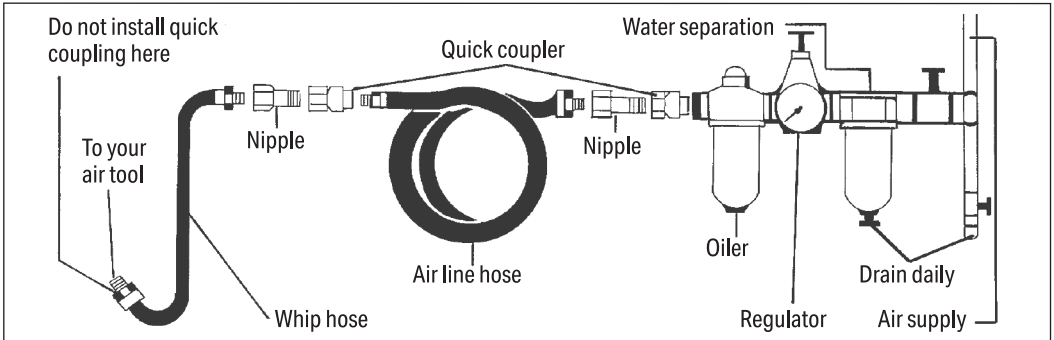


Fig. 1

7.3 Setting the Jaw Stroke

The jaw stroke is set before shipment and the riveter should be ready for use. However, if the tool does not break the rivets regularly, you may find that the jaw stroke needs resetting as follows:



Fig. 2

1. Use the ring spanner (B1) / (C1) to remove the riveter head cover (2).



Fig. 3

2. Position the gauge (D3) against the end of the jaw mechanism (L).

Important: When calibrated correctly, the end of the spanner gauge should rest against the thread of the head cover.

3. Use the spanner (B) / (C) to hold the jaw mechanism in place and use the spanner gauge (D) to loosen the lock nut.
4. Screw the jaw mechanism to reposition it as required and tighten the lock nut to secure it in place.
5. Replace the riveter head cover and tighten to secure.

Important: Tension within the jaw mechanism will reduce over time. When rivets frequently fail to break, even when the tool has been lubricated and the jaws are not worn, slightly adjust the position of the jaw mechanism away from the riveter head to increase the tension.

7.4 Assembling the Riveter and Connection to the Air Supply

IMPORTANT: It is recommended that a 1/4" BSP thread whip hose (Stock No. 54438) is used to connect the air riveter to an air line in order to reduce vibration. If a whip hose is used, a parallel union nut (Stock No. 25823) must also be used (not supplied) to replace the air line coupling. To set the jaw stroke:

1. Attach the exhaust tailpipe.

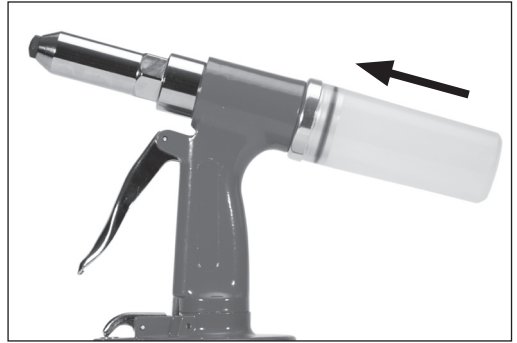


Fig. 4

For Stock No. 16851:

- a. Slide the exhaust tailpipe (E) over the rubber tailpipe grip (4).

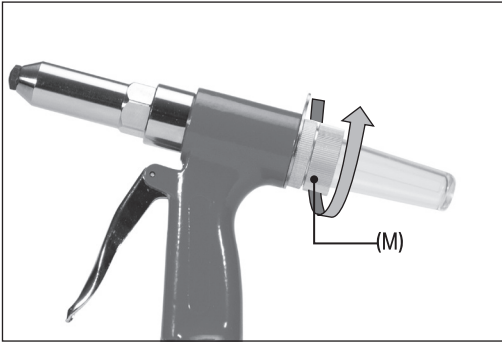


Fig. 5

For Stock No. 16877:

- a. Unscrew the tailpipe grip (M).
- b. Insert the exhaust tailpipe (E) through the clamp and screw securely back into place.



Fig. 6

2. Attach and lubricate the air line connectors:

- a. Wrap a length of PTFE tape around the thread of the long arm of the swivel connector (F). Wrap the tape in the opposite direction to the thread.



Fig. 7

- b. Screw the swivel connector to the inlet at the base of the riveter body and attach the air line coupling [G] to the swivel connector.
If using a whip hose, attach a parallel union nut (Stock No. 25823) instead of the air line coupling.



Fig. 8

- c. Pour a few drops of hydraulic oil into the end of the air line coupling.
 - d. Depress the trigger several times to draw the oil into the riveter.
3. Connect the air line to the riveter.
If using a whip hose, wind a length of PTFE tape around the thread of the whip hose and attach it to both the air outlet and the parallel union nut, ensuring an airtight seal.

7.5 Using the Air Riveter

CAUTION! Always ensure that the correct rivets and nosepiece are used. Rivets should only be driven into pre-drilled holes. Do not use this tool on any workpieces that may shatter.



Fig. 9

1. Use the nosepiece ring spanner (B4) / (C2) to tightly screw the appropriate nosepiece (H) into the end of the riveter head cover (2).



Fig. 10

2. Insert the rivet into the nosepiece.
3. Aim the nosepiece at the pre-drilled hole and pull the trigger.

WARNING! Be aware of mandrels ejected from the exhaust. Do not leave rivets in the nosepiece when not in use.

The riveter is ready for use when shipped but will require periodic maintenance according to the frequency of use.

IMPORTANT: Maintenance and repair of the riveter must only be performed by qualified personnel with sufficient knowledge of the mechanisms used in these devices.

8.1 General Maintenance

- Check the product for signs of damage and wear before every use.
- Clean the product regularly and lubricate all parts of the mechanism.
- Protect the product from adverse weather conditions, both during use and when stored.
 - Prolonged exposure to water may cause considerable corrosion and damage the operative mechanisms of the product.
- Only use spare parts supplied by Draper Tools.

8.2 Replacing the Jaws

Over time, the serrated edge of the jaws may erode and fail to grip rivets when inserted.

To check and replace the jaws:

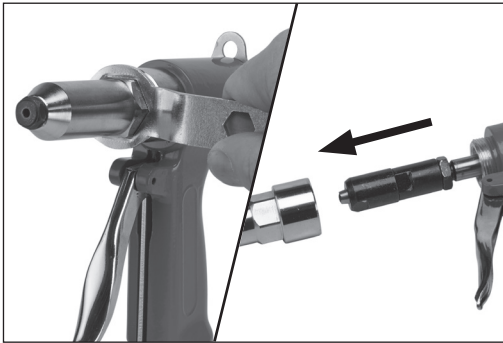


Fig. 11

1. Use the nosepiece ring spanner (B1) / (C1) supplied to remove the riveter head cover.
2. Use the spanner (B) / (C) and spanner gauge (D) to loosen the jaw mechanism (L).

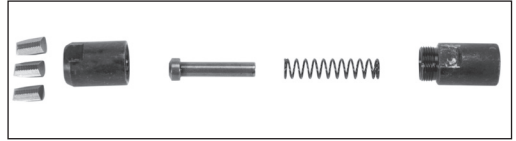


Fig. 12

3. Unscrew the jaw mechanism from the riveter head and tip out the spring mechanism and jaws.
4. Clean and lubricate all parts of the jaw mechanism and check the jaw pieces for blunting or wear on the serrated edge. Replace any blunt jaws.
5. Pinch the jaw pieces together and drop them into the mechanism chamber.
6. Insert the spring mechanism into the chamber with the rod cap inserted first.
7. Set the jaw stroke as appropriate (see 7.3 Setting the Jaw Stroke).
8. Screw the jaw mechanism back onto the riveter head and replace the riveter head cover.

8.3 Topping Up the Oil

If a rivet is not broken after five pulls of the trigger, the oil in the tool must be topped up. Use a high-quality air tool oil, such Draper Stock No. 34682 or equivalent.

CAUTION! Never use brake or engine oil. Do not allow dirt to enter the oil or product.

To top up the oil:

1. Turn off the air supply and disconnect the riveter.
2. Depress the trigger several times to ensure all pressure is released before disassembly.
3. Use the nosepiece ring spanner (B1) / (C1) supplied to remove the riveter head cover (Fig. 11).
4. Remove the rubber guard (6) from the base of the riveter if present.

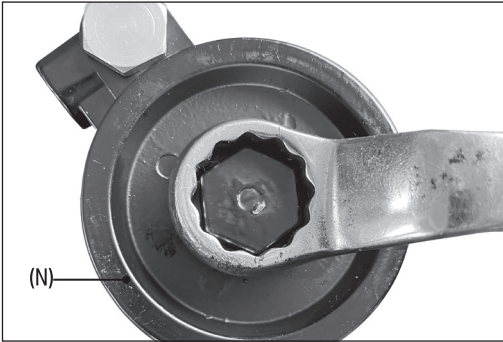


Fig. 13

5. Unscrew the base of the riveter and remove the base cap (N).

- For Stock No. 16851, insert the base cap removal pins (B3) into the base cap and twist anticlockwise.
- For Stock No. 16877, use an appropriate spanner (not supplied).

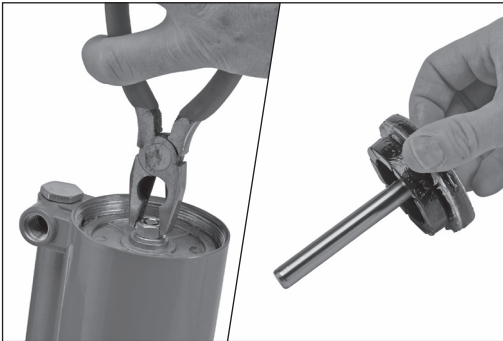


Fig. 14

6. Pull the piston out of the cylinder.



Fig. 15

7. Clean inside the riveter and lubricate the cover seal with oil.

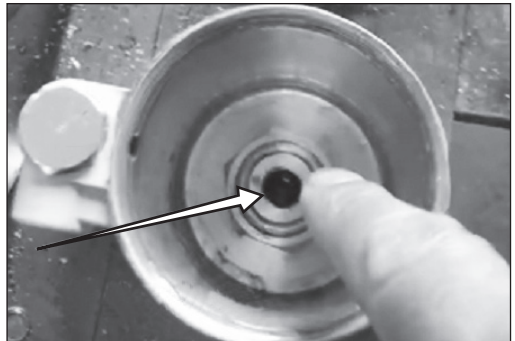


Fig. 16

8. Apply oil to the intake (the chamber where the piston stem sits) until the neck of the riveter is full.

9. Clean the piston stem and grease the inner wall of the cylinder and the ring.



Fig. 17

10. Reassemble the piston mechanism and reattach the base cap.

11. Reattach the riveter head cover and wipe the tool clean of any excess oil.

8.4 Storing the Air Riveter

When the riveter is not in use:

- Disconnect the air line and remove the swivel connector and air line coupling when storing the product.

Important: Lubricate the mechanism by pouring a few drops of air tool oil into the air line coupling and pulling the riveter trigger several times before detaching from the riveter.

- Remove any rivets from the nosepiece.
- Clean the product before storage.
- Store the product in a clean and dry location, out of reach of children.

8.5 Troubleshooting

Problem	Possible cause	Remedy
The air riveter no longer operates.	The air pressure is too low.	Check that the air line is connected and not damaged.
	The trigger mechanism has malfunctioned.	Inspect and repair the trigger mechanism as necessary.
The riveter operates with reduced power.	The air line is obstructed.	Switch off and detach the air line. Clean the air line and air inlet and remove any obstructions.
	The air pressure is low.	Check the CFM rating of the air compressor, set the pressure appropriately, and check for loose connections.
	Internal parts are worn.	Replace any worn parts.
There is significant air leakage from the product.	The airflow mechanisms are damaged.	Inspect, clean and replace parts of the mechanism as appropriate.
The trigger is stiff or resists excessively when depressed.	The hydraulics mechanism requires lubrication.	Follow steps in 8.3 to top up the oil.
	The hydraulics mechanism is obstructed.	Follow steps in 8.3 to clean the mechanism.
The trigger does not release easily.	The piston cylinder is obstructed.	Follow steps in 8.3 to clean and lubricate the mechanism.
The jaws are jammed.	The jaw pieces are dirty or obstructed.	Follow steps in 8.2 to clean the jaw mechanism.
The jaws do not grip the rivet appropriately.	The jaw pieces are worn or dirty.	Follow steps in 8.2 to clean and replace the jaws.
	The jaw case or head cover is not tightened sufficiently.	Tighten the jaw case and head cover as appropriate.
Rivets are not fully driven into the workpiece.	The rivet size does not match the nosepiece.	Switch the rivet or nosepiece as appropriate.
	The tool is not lubricated sufficiently.	Follow steps in 8.2 and 8.3 to lubricate the jaw mechanism and piston. Pour a few drops of oil into the air coupling and press the trigger several times.
	The jaw stroke is not set correctly.	Follow steps in 7.3 to set the jaw stroke appropriately.
The riveter fires immediately upon connection to an air supply.	The trigger mechanism is damaged.	DO NOT use the product. Contact Draper Tools to discuss repair or replacement options.

At the end of its working life, or when it can no longer be repaired, dispose of the product according to local regulations.

Contact your local authority for details of collection schemes in your area.

In all circumstances:

- **DO NOT** dispose of this tool with domestic waste
 - **DO NOT** incinerate
- Before decommissioning, drain and dispose of any oil in the product in line with local regulations.
- **DO NOT** abandon in the environment



10. Explanation of Symbols



Read the instruction manual



Product weight (example)



Warning!



Wear face mask and safety glasses



Wear ear defenders



Wear protective gloves



Do not abandon in the environment



Do not incinerate or throw onto fire



Keep out of the reach of children



Air inlet



Min. hose size



Operating air pressure (example)



Operating air pressure (example)

Contact Details

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Service / Warranty Repair Agents

For aftersales servicing or warranty repairs, please contact the Draper Tools Product Helpline for details of an agent in your area.