

DEPRAG

Operating Instruction Booklet

Pneumatic-Plier

48-401AS1

807471 C

Dear Customer:

This tool is the result of more than 70 years of experience in the design and manufacturing of pneumatic tools for the industrial market.

We kindly ask, that you read these operating instructions carefully, so that you will be able to use this tool safely and for many years to come. If you need additional information, please contact your DEPRAG

Representative, one of our international support offices or us direct at DEPRAG. We will be happy to answer any questions. Please visit our web site: www.deprag.com

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2 Safety Tips

2.1. General Safety Tips



Before operating tool make sure to carefully read and observe this operating instruction.

Generally, the operator of the equipment and/or machinery is responsible for the equipment's perfect condition and operation, while observing all necessary safety regulations. The equipment and/or machinery has been constructed in accordance with the newest stand of the technology, while recognizing all necessary safety-related requirements. Nevertheless, while operating the equipment and/or machinery there is a change of bodily harm to the operator as well as damage to equipment and/or machinery and other property. Operate the equipment and/or machinery only if equipment/machinery

- Is used for the task it was designed for
- is in perfect working condition and safe to use.


It is important to observe the technical data of the equipment, especially in regards to the environmental temperatures. The designated area of use for this equipment is clearly described in chapter *Designated Equipment Use* and those requirements have to be observed as well. Prerequisite for the safe conduct and the uninterrupted operation of the equipment, is the knowledge of the basic safety tips and the safety regulations. Additionally, all current regulations for a safe operational area, for accident-prevention guidelines of electrical and mechanical installations, as well as noise suppression demands must be observed. During any maintenance or repair work, a clean work surface is recommended. Also, it is not recommended to either eat or smoke during repair or maintenance. Arbitrary changes made to the equipment, which alters its designated use, voids the warranty and cancels the manufacturers liability.

- The tool is not insulated to protect against an electrical power surge.
- It is not recommended to use this tool in explosive hazardous environments, unless it was specifically designed for such a use.
- During the disconnection or reconnection of the tool from the compressed air, an injury is possible because of a whipping pressure-hose.

The operating-instruction booklet, especially the safety-symbols and safety-tips attached to the equipment or included in the documentation, must be observed at all times by all persons coming in contact with the equipment.

2.2. Safety Tips for machines for cutting and squeezing



- Keep your hands away from the cutting/pressing opening! Tool inserts with a wide “mouth” especially may cause injuries.
 - Make sure to never operate the tool holding it towards yourself or any other person.
 - Cut-off pieces or work parts of especially brittle material may be catapulted off – so watch out! When starting the tool, always pay attention to adjust the operating tool tip so that this risk will be reduced. Make sure to wear protective goggles!
 - Before putting the tool back down make sure to secure the lever, in order to avoid inadvertent start of tool.
 - When connecting/disconnecting tool to/from air supply, take absolute care NOT to activate operating lever. After using and before putting it down, tool should be disconnected from air supply.
 - Check plier inserts prior to operation and make sure they are not worn. If necessary, install new inserts (injuries may be caused by using worn/broken inserts).
- 
- The plier should only be used for the intended application. Tool may be damaged by cutting or bending tests, in the attempt to increase its power capability.
 - For exchange of inserts, tool has to be disconnected from power/air supply .
 - Maximum operating (flow) pressure must not be exceeded. Make sure to use a pressure regulator so that air flow pressure is checked before reaching the tool.
 - Do not wear any loose clothing or jewellery. They may get caught on the moving parts. Protect long hair by using a hair net.

2.3. Owner Obligation

The owner is obliged to only let persons operate the equipment, who

- are familiar with basic work environment safety rules and accident-preventing regulations. Also, those persons must be instructed in the correct use of the equipment.
- have read and understood all safety and warning notifications in the Operating Instruction Booklet, as well as all other documentation pertaining to this equipment.
- check and confirm at regular intervals, that a safety-conscious operation is guaranteed.

Only qualified and authorized personnel is allowed to operate, maintain and repair this equipment. A malfunction, which impairs operator safety, must be immediately removed.

2.4. Operator Obligation

Personnel, who is engaged in the operation of the equipment, must always be committed to

- observe the basic safety and accident preventing regulations,
- read and observe the safety and warning notifications of this operating instruction booklet.

2.5. Warranty and Liability

Unless otherwise specified, our “General Sales and Delivery Conditions” apply. Warranty and liability claims in regards to persons or equipment damages are invalid, if one or several of the following causes apply:

- Use of the equipment in a non-designated application.
- Improper installation, operation, service or maintenance of the machine.
- Operation of the machine with either defective or removed safety and protection devices.
- Non-observance of the requirements stated in the operating instruction booklet, in regards to transportation, storage, mounting, installation, operation, maintenance and service of the equipment.
- Structural change or adjustment on the equipment to a non-designated use.
- Inadequate supervision of wear parts.
- Improper repair, inspection or maintenance.
- Catastrophic cases because of a war, acts of god or other reasons which are beyond our control.

2.6. Symbol Description



Read and observe the Operating Instruction Booklet, prior to and during operation of tool.



DANGER

Reference to an immediate danger to a person. May lead to serious injuries or even death, if unobserved!



Properly recycle environmentally damaging grease, cooling agents or detergents



RECOMMENDATIONS

Important or additional information on the equipment or in the documentation



Use eye protection or wear safety goggles

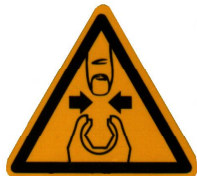


Wear hearing protection



Warning for hand-injuries.

Attention: Keep away your hands from areas, which are marked with this symbol!



There is the danger, that hands may be crushed, seized or otherwise injured.



ESD protected area

Equipment may be damaged or destroyed by an electrostatic discharge.

Maintenance and repair on hydraulic and pneumatic equipment may only be performed by specially trained personnel!



Disconnect equipment from air supply, prior to repair of pneumatic or hydraulic equipment.

Provide regular preventive maintenance on hoses and airlines. Exchange hose lines, even if there is no visible damage! (Observe corresponding requirements of the manufacturer!)

After repair and maintenance, check the following items:

- make sure all detached and re-attached connections are solid.
- confirm that removed covers, screens or filters were re-installed
- During disconnecting or reconnecting of an air-operated equipment, injury may occur due to a whipping air-hose

After conclusion of maintenance or repair and prior to start of operation, make sure to

- Remove all for the maintenance or repair needed materials, tools and other supplies from work-area of the equipment
- Remove leaked liquid or oils
- Make sure all safety devices on the equipment work perfectly!

2.7. Observe Environmental Regulations



When working on or with the equipment, it is imperative to observe all requirements in regards to waste-disposal and proper recycling.

Especially during installation-, repair or maintenance water damaging agents, such as,

- lubricating grease and –oil
- hydraulic fluid
- cooling agents
- solvent-containing cleaning agents

must not leak into the ground or into the sewage system!

Such materials must be stored, transported, contained and recycled in suitable containers.

3 Designated Equipment Use

DEPRAG pneumatic pliers are to be used for cutting, bending, sealing/stamping, pressing and mounting of hose/spring clamps.

4 Installation

- Blow out air line and pressure hose, prior to connection it to the tool.
- Make sure, that all air lines have a sufficient cross-section (see technical data) and hoses must be free of bends and kinks. The hose length should not exceed 2 meters.
- All DEPRAG Pliers, may be operated either with or without lubricated air. (see paragraph: Maintenance and Upkeep). Best results are achieved, when plier is lubricated with 1 – 2 drops of oil per 1m³. When plier is operated with dry air, a performance reduction of up to 20% occurs and maintenance increases!
- Connect the equipment as follows:

- a) for standard operation connect to a maintenance unit consisting of filter with condensation reservoir, oiler and pressure regulator. When selecting a maintenance unit, make sure to observe the plier's air consumption requirement (see technical data).

Air Consumption	Thread Size	Part No.
0,05 - 0,5 m ³ /min	G 1/4	820454 A
0,15 – 1,5 m ³ /min	G 1/2	820455 A
0,8 – 4,0 m ³ /min	G 3/4	821608 A

- b) for the use with minimal lubrication connect equipment to a maintenance unit, consisting of Filter with condensation reservoir and Regulator

Air Consumption	Thread Size	Part No.
0,05 - 0,5 m ³ /min	G 1/4	822408 A
0,15 – 0,9 m ³ /min	G 3/8	826981 A
0,5 – 1,5 m ³ /min	G 1/2	822409 A
0,8 – 6,0 m ³ /min	G 3/4	826982 A

Each in connection with a Point-of-Use Oiler (Part No. 378077 A)

- c) For oilfree operation, connect to Filter/Regulator, consisting of Filter with condensation reservoir and Pressure Regulator.

Air Consumption	Thread Size	Part No.
0,05 - 0,5 m ³ /min	G 1/4	822408 A
0,15 – 0,9 m ³ /min	G 3/8	826981 A
0,5 – 1,5 m ³ /min	G 1/2	822409 A
0,8 – 6,0 m ³ /min	G 3/4	826982 A

- Check pressure at directly on the machine. The Regulator needs to be adjusted to an airflow of 6,3 bar (90 PSI). A higher pressure leads to increased wear and tear. A lower pressure results into reduced power output.

In regards to air-quality according to ISO8573-1, we recommend:

	CLASS	RESIDUE OF OIL	RESIDUE OF DUST		RESIDUE OF WATER	
		Content mg/m ³	Particle Size μm	Concentration max. mg/m ³	Dew Point °C	Pressure Concentration max. g/m ³
Lubricated Air	4	5	15	8	+3	6
Dry Air	3	1	5	5	-20	0,88

5 Operation

Attention:

Plier starts by activating lever valve. Air flow pressure must not drop beyond 5 bar!



The selection of the suitable plier size (power) depends on different determinants

such as:

- a) the strength resp. hardness and viscosity of the material to be handled or the material's respective yield strength.
- b) the air pressure.

If necessary, the best suitable type will have to be determined after respective cutting or clamping tests.

6 Handling

The DEPRAG plier is very easy to handle.

Take care to stand securely and hold plier in both hands. Plier insert will open up (close) and cut/treat the material (depending on insert used), once the lever is activated.

After letting go of the lever, plier will be vented and is again ready for use.

7 Assembly - Disassembly

Disassembly: (see Spare Parts Drawing)



Prior to disassembly, disconnect equipment from air-supply! Only experienced maintenance personnel may assemble or disassemble this equipment.

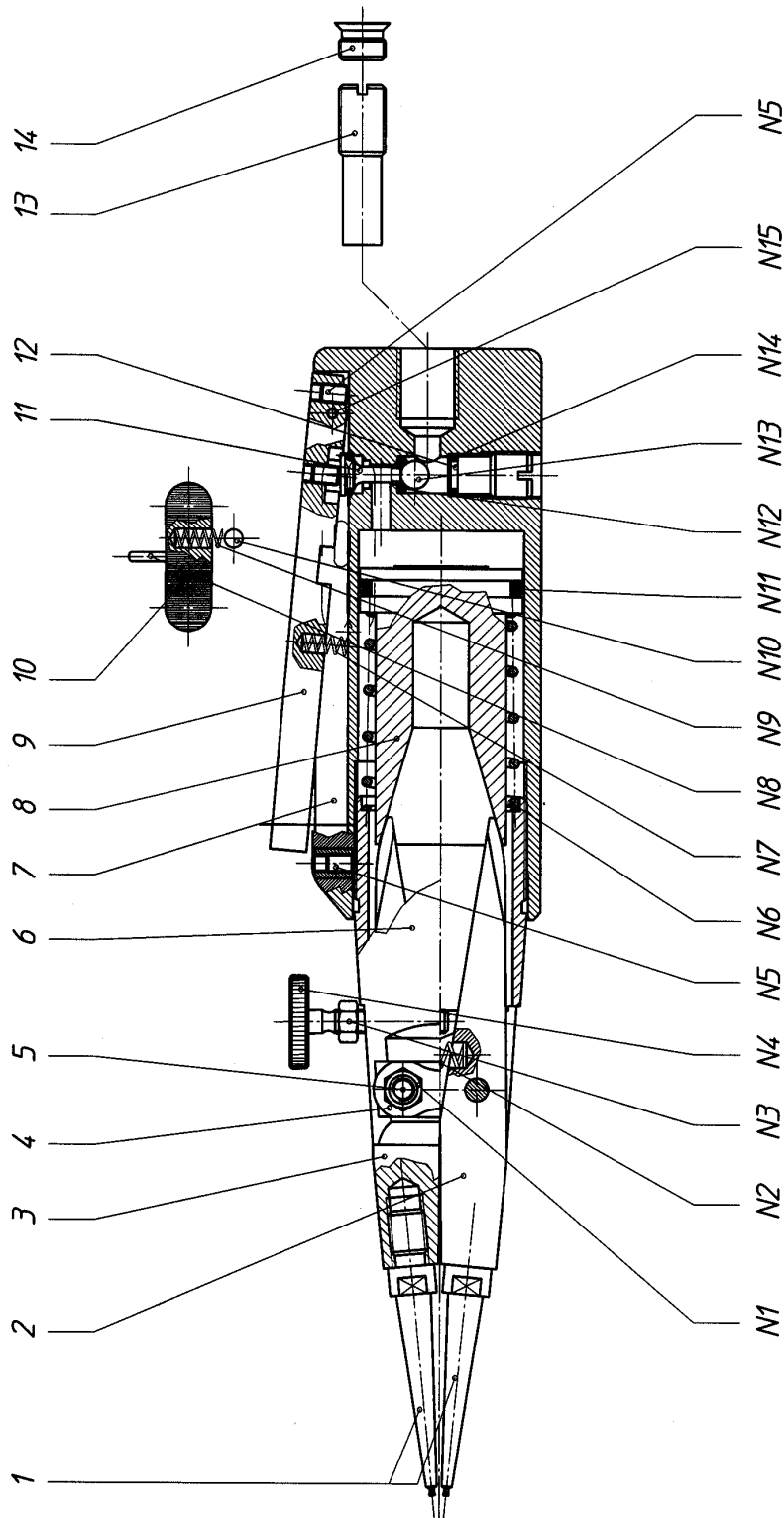
After repair or maintenance, verify that equipment runs to specification!

Principally, use only DEPRAG original spare parts. Otherwise, a reduction in equipment power-output and an increased maintenance-requirement occurs.
If NON-DEPRAG parts are installed, DEPRAG is justified to void any existing warranty and liability obligations.

Assembly:
in reverse sequence

After maintenance please check technical data.

7.1. Spare Parts Drawing



Darstellung zeigt Zange mit Sondereinsatzspitzen
(nicht im Lieferumfang enthalten)

Use nipple 804273 and quick coupler (I.D. 6 mm) to connect plier to air hose.

7.2. Spare Parts Drawing

Pos.	QUANTITY	NAME
1	2	Insert tip
2	1	Plier Insert below
3	1	Plier Insert above
4	2	Bracket
5	2	Insert bolt
6	1	Plier head
7	1	Housing
8	1	Wedge
9	1	Push button
10	1	Safety push button
11	1	Valve pin
12	1	Threaded plug
13	1	Stop
14	1	Stop pin
N1	4	Hex. nut
N2	1	Spring
N3	2	Hex. nut
N4	1	Knurled screw
N5	3	Threaded pin
N6	1	Pressure spring
N7	1	Pressure spring
N8	1	Cylinder pin
N9	3	Pressure spring
N10	4	Ball
N11	2	O-Ring
N12	2	O-Ring
N13	1	Ball
N14	4	O-Ring
N15	1	Cylinder pin

8 Maintenance and Upkeep

Inspektion und Wartung können vom Bediener durchgeführt werden, Demontage und Montage der DEPRAG Zangen sind nur von sachkundigen Mitarbeitern durchzuführen. Fehlerhafte Montage kann zu Unfallgefahren für den Bediener und zu Beschädigungen der Maschine führen.

Druckluftmaschinen benötigen im Allgemeinen wenig Wartung. Bei Beachtung folgender Regeln wird die Maschine die erwartete hohe Lebensdauer erreichen und eine stets hohe Betriebssicherheit aufweisen.

- Regelmäßige Überprüfung der Maschine auf äußere Schäden.
- Regelmäßige Überprüfung des Druckluftfilters, des Ölers und der Einstellung des Ölers, sofern nicht ölfrei betrieben. Wir empfehlen nur von uns freigegebene Schmiermittel zu verwenden, z.B. Spezialöl DEPRAGOL, Best.-Nr. 790081 E (250 cm³).
- Nach einer Reinigung müssen die bewegenden Teile (wie Kolben) vor dem Zusammenbau mit Wälzlagerfett, Best.-Nr. 807293 (100 g), geschmiert werden.
- Nach dem Zusammenbau in den Lufteinlass ca. 2 - 3 Tropfen DEPRAGOL einfüllen.
- Bei normalen Betrieb wird alle 12 Monate (Einschichtbetrieb) eine Inspektion und Reinigung empfohlen.
- Bei ölfreiem Betrieb wird alle 6 Monate (Einschichtbetrieb) eine Inspektion und Reinigung empfohlen.
- Verschlissenen oder beschädigten Zangensatz sofort auswechseln. Beschädigte oder gebrochene Zangensätze können Unfälle verursachen.
- Bei Störungen empfehlen wir, die Maschine einzuschicken.

8.1. Wear Parts

NAME	Pos.–No.
Plier Insert	2
Plier Insert	3

8.2. Trouble Shooting

In the case of a malfunction, check and observe all instructions contained in this technical documentation. If necessary, adjust equipment as needed.

Possible faults and their causes are shown below:

ERROR	REASON	SOLUTION
Plier does not start	No air, Shut-Off valve is closed	Open Shut-Off valve
Insufficient Power	Air pressure too low	Minimum air pressure should be 90 PSI for maximum performance
	Restriction in air hose	Remove bends or other restrictions
	Hose I.D. is too small	Use required hose I.D.
	Plier insert is worn	Exchange plier insert
	Piston is worn	Exchange piston

If necessary, please send tool to DEPRAG for service.

9 Delivery Capacity

Please check the delivery capacity in regards to its completeness.

QUANTITY	NAME	ORDER-No..
1	Operating Instruction Booklet	012239
1	Plier	807471 C

10 Storage

Unused machines should be stored in a dry, locked area.

11 Technical Data

Manufacturer DEPRAG SCHULZ GMBH u. CO.
Address Kurfürstenring 12 - 18 Postfach 1352
D-92224 Amberg D-92203 Amberg
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Fax 09621/371-120

Technical Data :

TYPE	48-401AS1
Order-No.:	807471 C
Length (mm/in)	246,5
Machine diameter (mm)	49,0
Weight (kg/lbs)	0,6
Air pressure (bar/PSI)	6
Air consumption (m ³ /min / cfm)	219
Power (kW)	0,46

12 Disposal

Unused machines should be stored in a dry, locked area. Observe local and environmental regulations for the separation and recycling of materials.



Recycle waste oil to avoid environmental contamination!

13 Conformity Declaration

EC-Conformity Declaration according to the EC-Machine-Guidelines 98/37/EC, Amendment IIA

We,

DEPRAG SCHULZ GMBH & CO.
PO Box 1352
D-92203 Amberg

hereby confirm, that the design of the
the plier

48-401AS1


conforms to the following, relevant regulation:

- EC-Machine-Guidelines, Version 98/37/EC, Amendment No. 1 and No. 2.2.

Applicable Standard:

- EN 292

Amberg, 15.01. 2004


Dipl. Ing. (FH) A. Langig
Mr. Design Dept.

14 Service Locations and Authorized Partners

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