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Destudding Gun

PS-01

Operating instructions

(Id. No. 00035105)

00143037 PS-01

Table of contents

| | |
|-------------------------------------------------|-------------------------------------------|
| Table of contents..... | 2 |
| 1 Preface and general information..... | 3 |
| 1.1 General..... | 3 |
| 1.2 Scope of supply | 3 |
| 1.3 Intended use | 3 |
| 1.4 Liability..... | 3 |
| 1.5 Warranty | 3 |
| 2 Safety information | 4 |
| 2.1 Personnel responsible for safety | 4 |
| 2.1.1 Operator | 4 |
| 2.1.2 Qualified personnel..... | 4 |
| 2.2 General safety instructions..... | 4 |
| 2.3 Layout of the safety instructions..... | 5 |
| 3 Technical Data | 6 |
| 3.1 Stud types..... | 6 |
| 3.2 Dimensions and weight..... | 6 |
| 3.3 Noise emission | 6 |
| 3.4 Ambient conditions..... | 6 |
| 4 Commissioning..... | 6 |
| 4.1 Pneumatic connection..... | 6 |
| 5 Operation of the gun..... | 7 |
| 5.1 Elimination of studs..... | 7 |
| 6 Faults and trouble shooting | 8 |
| 7 Lubrication and maintenance..... | 8 |
| 7.1 Lubrication | 8 |
| 7.1.1 Lubricating oil | 8 |
| 7.1.2 Lubricating grease..... | 8 |
| 7.2 Greasing points..... | 9 |
| 7.3 Maintenance | 9 |
| 8 Placing out of operation and dismantling..... | 10 |
| 9 Spear and wear parts | 10 |
| 9.1 Requirements | 10 |
| 9.2 Handling of order | 10 |
| 9.3 Explanation of the spare parts list | 10 |
| 9.4 Exploded drawing PS-01..... | 11 |
| 9.5 Spare parts list PS-01 | 12 |
| 10 Appendix | 14 |
| 10.1 CE-Declaration of Conformity..... | 14 |
| 10.2 Copyright | 15 |
| 10.3 Manufacturer and contact person..... | Fehler! Textmarke nicht definiert. |
| 11 Notes..... | 16 |

EN

1 Preface and general information

1.1 General

The present operating instructions are used for safe operation of the Destudding Gun (in the following referred to as “gun“), type PS-01, (id.No. 00143037). The safety instructions included hereinafter must be observed.

The operating instructions must be available to every person who is working with the gun and the included indications must be carefully attended to.

The operating instructions must always be complete and perfectly readable.

EN

1.2 Scope of supply

The delivery normally consists of a destudding gun and the operating instructions. The parts included in the delivery are stated in the accompanying papers.

These papers shall be checked for conformity immediately after receipt of the goods. OKU Tools GmbH does not take on any guarantee and/or accept any liability for defects complained belatedly. Therefore:

- contact the forwarder immediately to complain about visible transit damages,
- contact OKU Tools GmbH immediately to complain about visible defects and/or incompleteness of delivery.

1.3 Intended use

The gun is exclusively destined for the removal of single and multi-flange studs from tires of passenger-cars and trucks.

Any other use shall be deemed to be inappropriate!

1.4 Liability

The information, data and notes of these operating instructions were up-to-date when being printed. The specifications, illustrations and descriptions included hereinafter do not apply to any previously supplied guns.

We do not accept liability for damages and operating troubles caused by:

- inappropriate use,
- unauthorized modification of the gun,
- improper operation of the gun,
- operating errors,
- disregard of the operating instructions.

1.5 Warranty

Conditions of warranty: see Standard Terms and Conditions of OKU Tools GmbH.

Assert warranty claims against OKU Tools GmbH immediately after detection of the defect or fault.

Warranty claims expire in each case where liability claims cannot be made.

2 Safety information

2.1 Personnel responsible for safety

2.1.1 Operator

Operator is called any natural or legal person who is using the gun or on behalf of whom the gun is used.

The operator and/or his safety officer must ensure that

- all essential regulations, instructions and laws will be observed,
- only qualified personnel will be working with the gun,
- the a.m. personnel will have the operating instructions available at any time,
- non-qualified personnel will be prohibited from working with the gun.

2.1.2 Qualified personnel

As qualified personnel are to be considered persons who have been authorized by the safety officer of the plant to perform the necessary activities and who are able to recognize and avoid potential hazards because of their education, experience, instructions and their knowledge of the corresponding standards and rules for the prevention of accidents as well as the operating conditions (see IEC 364, definition for qualified personnel).

2.2 General safety instructions

These safety instructions do not claim to be exhaustive. In case of any questions please contact OKU Tools.

At the time of delivery the gun is state of the art and considered reliable.

The gun is a source of danger for persons, for the gun itself and for other material assets of the operator if

- it is operated by unqualified personnel,
- it is used inappropriately.




Operate the gun only when it is in perfect condition!

Any upgrade, modification or redesign of the gun is basically prohibited. In this case please confer with OKU Tools.

2.3 Layout of the safety instructions


The safety instructions described hereinafter are arranged consistently.

Warning of personal injury


| Pictogram | Meaning | Signal words | Notes |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------|
|  | Warning of dangerous electrical voltage | Danger! | Warns of imminent danger Consequences if disregarded: Death or very severe injuries |
|  | Warning of a general danger | Warning! | Warns of a potential very dangerous situation Consequences if disregarded: Death or very severe injuries |
|  | Warning of a general danger | Caution! | Warns of a potential dangerous situation Consequences if disregarded: Light or minor injuries |

EN

Warning of material damage

| Pictogram | Meaning | Signal words | Notes |
|-------------------------------------------------------------------------------------|----------------------------|--------------|------------------------------------------------------------------------------------------------------------------|
|  | Warning of material damage | Stop! | Warns of potential material damage Consequences if disregarded: Ambient damage or damage of the gun |

Other information

| Pictogram | Meaning | Signal words | Notes |
|-------------------------------------------------------------------------------------|--------------|--------------|------------------------------------------------------------------------------------------------|
|  | General note | Note! | Signalizes a general useful note. Observance thereof will facilitate the use of the gun. |

3 Technical Data

3.1 Stud types

The gun is suited for the removal of single-flange and multi-flange studs from passenger-car and truck tires.

| | |
|------------|-------------|
| Head dia. | 6,5 - 12 mm |
| Shank dia. | 4 - 8 mm |
| Length | max. 18 mm |

EN

3.2 Dimensions and weight

The following values are valid for the gun without any accessories. They may differ according to the equipment of the gun.

| | |
|--------|----------------|
| Length | approx. 242 mm |
| Width | approx. 70 mm |
| Height | approx. 179 mm |
| Weight | approx. 1,8 kg |

3.3 Noise emission

The sound pressure level at the work station of the operator can reach up to 83 dB(A). Provide suitable ear protection for the operator.

3.4 Ambient conditions

The gun shall be used in closed and dry rooms only.

The permissible ambient temperature during operation is from 10 °C to 40 °C.

4 Commissioning

Precautions to be taken before starting to work with the gun:

- check perfect condition of gun,
- never operate a damaged gun.

4.1 Pneumatic connection



The pneumatic connection has to be exclusively made by qualified personnel with extensive knowledge in the handling of pneumatic systems.

Screw provided screw coupling (2) into the handle. Plug compressed air hose into the screw coupling. The gun requires compressed air with approx. 7-8 bar working pressure. The maximum operating pressure amounts to 10 bar.



Screw coupling (2) for compressed air connection

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5 Operation of the gun

5.1 Elimination of studs

Press the gun with the claws (36) into the tire rubber over a stud. Operate the trigger (7) and keep it pressed. The claws close and seize the stud. Then the gun is pushed off the tire with the push-off plate (25) and the stud is pulled out of the tire. Release the trigger as soon as the stud has been fully pulled out of the tire. The push-off plate returns, the claws open, the extracted stud is set free and can be disposed of.



Do not hold the gun with the hand in the area of the push-off plate. There is danger of violent pressure!



When impressing the gun above the stud a certain counter pressure has to be put by hand to the tire rubber. With some practice and skill you will soon find out the correct pressure in order to obtain a steady working result.

6 Faults and trouble shooting

| No. | Cause | Trouble shooting |
|-----|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.1 | Wear of the claws (36) | Take off O-Ring (37), remove spring dowel pin (34) and shafts (33). Take out claws (36), turn by 180° and reinsert with the unused side showing to the front. Take care that the balls (35) will be reinserted. If both sides of the claws are worn new claws will have to be installed. |
| 6.2 | The push-off movement of the push-off plate (25) is too much in advance of the closing movement of the claws (36). | Screw off gun head (28), remove piston disks (12, 19) with the expanding mandrel (17). Check possible damages of the grooved rings (16); if o.k. clean and grease. If the grooved rings are damaged or worn replace by new ones. Check if the pressure springs (24) are broken; replace broken pressure springs. Check function and tightness of leaf springs (13, 15), replace defective leaf springs. |
| 6.3 | Trigger (7) gets caught | Remove O-Ring (10) and dowel pin (11), take out trigger (7), clean and slightly lubricate with oil. Check if pressure spring (6) is broken, if so replace pressure spring. |

EN

7 Lubrication and maintenance

7.1 Lubrication



Observe the effective directions for the use and safety of the applied lubricants!

7.1.1 Lubricating oil

| Code letter as per DIN 51502 | Designation | ISO Viscosity Class as per DIN 51519 | Manufacturer (designation of manufacturer) e.g. |
|------------------------------|------------------------|--------------------------------------|-------------------------------------------------|
| AN 22 | Normal lubricating oil | ISO VG 22 | AVIA (AVILUB RS 22) BP (BP Energol CS 22) |

7.1.2 Lubricating grease

| Designation acc. to DIN 51825 | Designation | Consistency Index NLGI Class as per DIN 51818 | Worked penetration as per DIN ISO 2137 | Manufacturer (designation of manufacturer) e.g. |
|-------------------------------|--------------------------------|-----------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| KP2K-20 | Lubricating grease for bearing | NLGI-2 | 265-295 | AVIA (AVIALITH 2) BP (Energrease L2) ESSO (Beacon 2) KLÜBER (CENTOPLEX 2 EP) MOBIL (Mobilux 2) SHELL (Alvania R 2) |

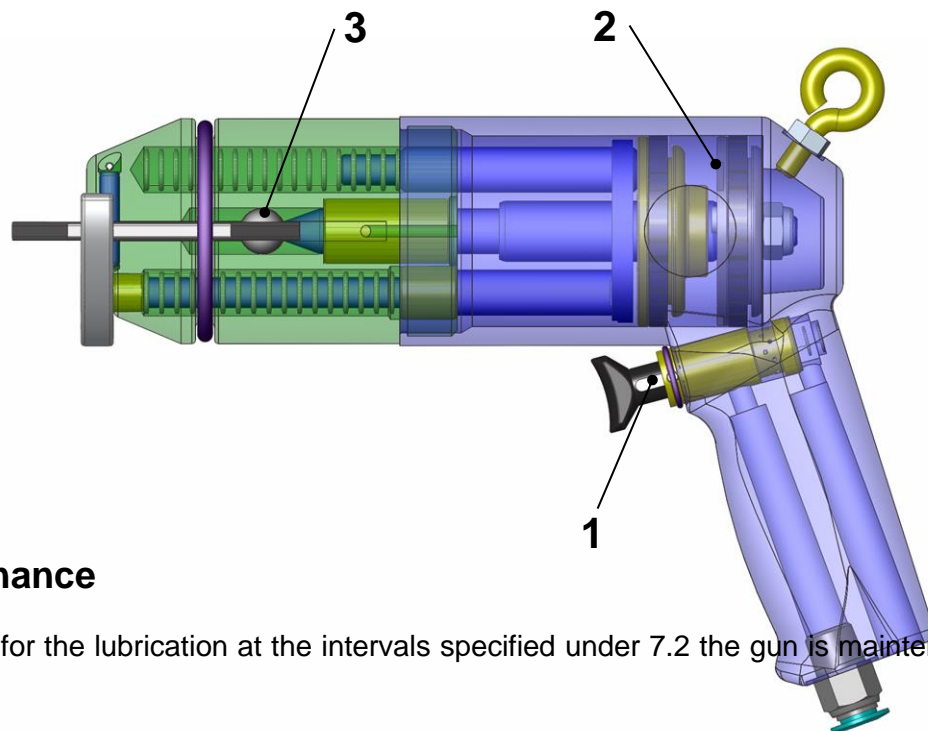
7.2 Greasing points

The following points of the gun need to be greased regularly. You will find a maintenance-set including grease and corrosion preventive-oil-spray in the spare parts list in chapter 9.5.

To grease the gun it must be partially dismantled (see hereto chapter 6 “Faults and trouble shooting”). At the exchange of wear parts, it is recommended to grease the gun at the same time.

| No. | Designation | Service to be done | Operating material Measured values | Frequency | Notes |
|-----|-----------------------------|-----------------------|-----------------------------------------|-----------|--------------------------------|
| 1 | Trigger | Lubricate with oil | Lubricating oil DIN 51501-L-AN 22 | quarterly | Oil trigger slightly |
| 2 | Piston disk Grooved ring | Lubricate with grease | Lubricating grease DIN 51825-KP2K-20 | yearly | Grease piston surface slightly |
| 3 | Balls | Lubricate with grease | Lubricating grease DIN 51825-KP2K-20 | quarterly | Grease balls slightly |

EN



7.3 Maintenance

Except for the lubrication at the intervals specified under 7.2 the gun is maintenance-free.

8 Placing out of operation and dismantling

OKU Tools takes back your gun. We recommend you to have OKU Tools professionally dismantle the gun and dispose of it.



Contribute to environment protection by recycling valuable raw materials.

| What? | | Where? |
|--------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Transport material | Pallets | Return to the manufacturer or forwarder |
| | Packing material | Cardboard boxes to waste paper Plastic to plastic recycling or waste material Wood-wool reuse or to waste material |
| Lubricants | Oil, grease | Dispose according to regulations in force |
| Components | Materials used: aluminum aluminum cast steel brass plastic | Dispose of different materials separately |

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9 Spear and wear parts

9.1 Requirements



Spare and wear parts must be in accordance with the technical requirements stipulated by the manufacturer.

9.2 Handling of order

To ensure punctual handling of orders please always state in your orders the **OKU id.No.** of the spare part you need. You will find the **OKU id.No.** in the exploded drawings and the spare parts lists.

9.3 Explanation of the spare parts list

The numbering of the spare parts in the exploded drawing corresponds to the item numbers of the spare parts list.

9.5 Spare parts list PS-01

| Item | OKU Id. No. | Qty | Designation |
|------|-------------|-----|-------------------|
| 1 | 00487706 | 1 | Handle |
| 2 | 00031539 | 1 | Screw coupling |
| 3 | 00000613 | 1 | Eyebolt |
| 4 | 00000627 | 1 | Hexagon nut |
| 5 | 00350728 | 1 | Sleeve |
| 6 | 00350297 | 1 | Pressure spring |
| 7 | 00470092 | 1 | Trigger |
| 8 | 00003463 | 1 | O-Ring |
| 9 | 00003404 | 1 | O-Ring |
| 10 | 00003464 | 1 | O-Ring |
| 11 | 00000536 | 1 | Dowel pin |
| 12 | 00405849 | 1 | Piston disk |
| 13 | 00405851 | 1 | Leaf spring |
| 14 | 00024080 | 2 | Cheese head screw |
| 15 | 00405850 | 1 | Leaf spring |
| 16 | 00003507 | 2 | Grooved ring |
| 17 | 00405844 | 1 | Expanding mandrel |
| 18 | 00004082 | 1 | Hexagon nut |
| 19 | 00375188 | 1 | Piston disk |
| 20 | 00003416 | 1 | O-Ring |
| 21 | 00405845 | 1 | Disk |
| 22 | 00405324 | 1 | Plunger |
| 23 | 00000391 | 1 | Countersunk screw |
| 24 | 00004794 | 2 | Pressure spring |
| 25 | 00407163 | 1 | Push-off plate |
| 26 | 00000210 | 1 | Cheese head screw |
| 27 | 00404981 | 1 | Bolt |
| 28 | 00487707 | 1 | Gun head |
| 29 | 00375192 | 1 | Bushing |
| 30 | 00023422 | 2 | Shim ring |
| 31 | 00003817 | 1 | Slide bearing |
| 32 | 00003807 | 1 | Slide bearing |
| 33 | 00433900 | 2 | Shaft |
| 34 | 00023016 | 1 | Spring dowel pin |
| 35 | 00003308 | 2 | Ball |
| 36 | 00404908 | 2 | Claw |
| 37 | 00003468 | 1 | O-Ring |

EN

| | | |
|----------|---|------------------------------------------------------------------------------------------------|
| 00885027 | 1 | corrosion preventive-oil, aerosol can 100 ml (single) |
| 00885028 | 1 | grease, tube 20 g (single) |
| 20015510 | 1 | 1 aerosol can corrosion preventive-oil (100 ml) and 1 tube grease (20 g) as maintenance-set |

EN

10 Appendix

10.1 CE-Declaration of Conformity

(CE Machine Directive 2006/42/EC, Appendix II A)

The manufacturer: OKU Tools GmbH
Rosenstraße 15
73650 WINTERBACH, GERMANY

herewith declares that the machine

designation: **Destudding gun model PS-01**

as delivered complies all the relevant regulations of the CE Machine Directive 2006/42/EC.

Harmonized standards applied:

EN ISO 12100 Safety of machinery – General principles for design - Risk assessment and risk reduction

Stuttgart, 01.03.2019

OKU Tools GmbH



Karin Klingel
Geschäftsführer

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10.2 Copyright

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10.3 Manufacturer and contact person



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