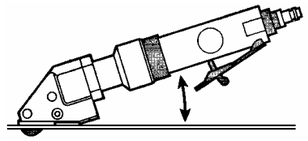
b

The pos. number used are in connection with the opposite Service-tips

1. Before using the metalshears please check cutting capacity see technical data.

2. Always place the machine straight on the work piece. The jaws (pos. 10) must lay flat on the material. When cutting sheet metal etc. do not oil cutting surface.



3. When cutting a slot without drilling an end hole, pull shear backwards with motor running.

4. **Circular cuts:** Always cut counter clockwise from right to left, this enables a shorter inside curve.

5. For cutting out curved or square inside patterns a hole between 10 - 14 mm should be drilled to insert the cutting knife. For square cut outs drill a hole in each corner.

6. If after cutting, a small strip remains, this can be trimmed off to the exact marked line, without leaving a burr or any distortion of the material.

7. When producing the same parts several times a template can be used. The knife will follow the template on the side. A marked line can be easily followed due to the points on the jaws.

8. Both knife and jaws can be resharpened. After being re-sharpened or replaced, the knife should be adjusted at it's lowest point and should protrude the jaws by approximately 2.5 mm.

9. If following these instructions, you are able to work with the knife and jaws about 200 working hours depending on the hardness of the materials.

ATTENTION: THE MATERIAL MUST ALWAYS BE FREE OF GREASE OR OIL.

Equipment protection

The maximum allowable operating pressure of 6.6 bar must not be exceeded; use a pressure reducer if necessary.

To avoid damage by contaminated pressurised air, a maintenance unit must be used in the air supply system.

The maintenance unit consists of three main components:

- Filter with water separator
- Pressure reducer with manometer

Mist oilier for lubricating the machine with SAE 20 or SAE 10 motor oil.

Do not use petroleum or diesel oil.

Noise/vibration information

Measured values determined according to EN 792, PNEUROP PN8NTC1, ISO 3744 and ISO 8662/1.

Typically the A-weighted noise levels of the tool are: Sound pressure level: 78,2 dB (A); Sound power level: 78,9 dB (A)

Wear ear protection!

The typical hand-arm vibration is below 2,5 m/s².

Care and Maintenance

Before carrying out any work on the tool itself, disconnect the air supply.

Oil the knife pin 1**8** and knife **11** at regular intervals.

Should the tool fail in spite of careful manufacturing and testing procedures, the repair is to be performed by an authorised customer service location for pneumatic or electric tools.

Guarantee

Dräco tools carry a guarantee of 12 months from date of delivery.

Damage attributable to normal wear and tear, overload or improper handling will be excluded from the guarantee.

In case of complaint please send the machine, to your dealer or the Dräco Service Centre for electric power tools.

CE Declaration of conformity

We declare under our sole responsibility that this product is in conformity with the following standards or standardisation documents:

EN 792-13, ISO 8662-1, EN50144, according to the provisions of the regulations 89/37

CE 09 Max Draenert

Environmental protection

Recycling raw materials instead of waste disposal Machine, accessories and packaging should be sorted for environment-friendly recycling.

These instructions are printed on recycled paper manufactured with chlorine.

DRÄCO®

Instructions Pneumatic Sheet Metal Shears 19/3520, 19/3514-2 & 19/3514-7R

To avoid failure, when using DRÄCO-Metal Shears, please read these instructions

For your safety:

1 Safe operation of this machine is possible only when the operating instructions and the safety precautions are read completely and the instructions contained therein are strictly observed.

2 Use ear protectors and protective goggles.

3 Wear protective gloves and sturdy footwear.

- Before carrying out any work on the tool itself, during pauses in the work and when not in use, disconnect the air supply.
- Apply the machine to the sheet metal only when switched on.
- Always provide for secure footing when working.
- Firmly clap the workpiece if it does not remain stationary from its own weight.
- The knife should not rub on the jaws: Possible danger of cutting tool breakage.
- Do not exceed the maximum allowable material thickness especially when cutting over doubles, folded joints or welded seams.

F **For further notes on safety refer to enclosed sheet**

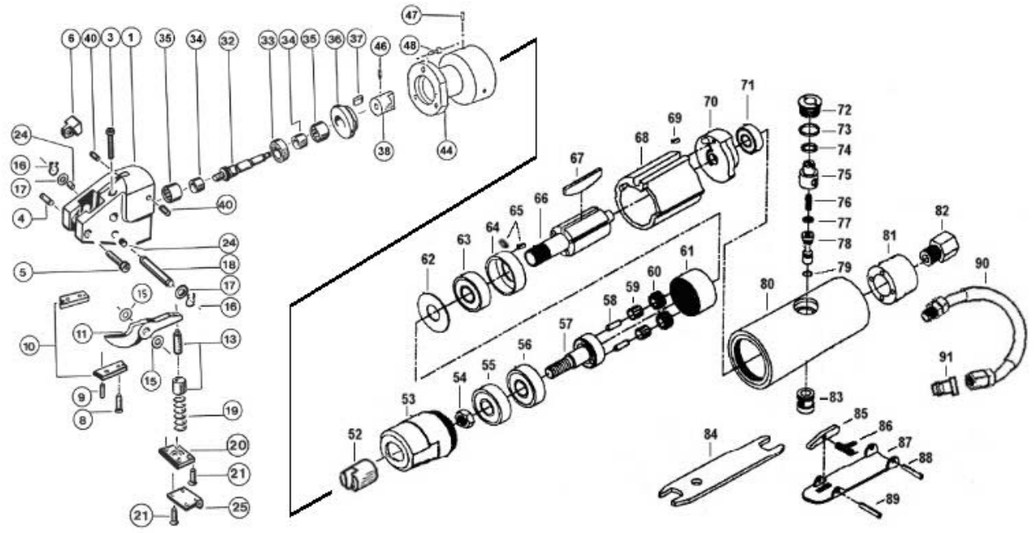
Technical Data:

DRÄCO Metal Shears		**19/**	**3514-2**	**3514-7R**	**3520**
max. cutting capacity		*Art.no.:*	*62060-1*	*62070-1*	*62080-1*
steel	400 N/mm²	mm/ga.	**2,0/14**	**2,0/14**	**2,0/14**
stainl. steel	600 N/mm²	mm/ga.	**1,5/17**	**1,5/17**	**1,5/17**
stainl. steel	800 N/mm²	mm/ga.	**1,3/18**	**1,3/18**	**1,3/18**
aluminium	250 N/mm²	mm/ga.	**3,0/10**	**3,0/10**	**3,0/10**
tightest radius		mm/ "	**200/8**	**45/1¾**	**200/8**
duct & Pittsburg Seam		mm	**4x0,9**	**4x0,7**	**4x0,7**
double lock seam 250N/mm²		mm	**6x0,7**		
working speed		m/min	**9**	**9**	**9**
strokes		min $^{-1}$	**3000**	**3000**	**3000**
air-consumption at 6 bar/min.		m^3 ±	**0,18**	**0,18**	**0,18**
motor capacity		Watts	**200**	**200**	**200**
weight		kg	**1,3**	**1,3**	**1,3**
noise		db(A)	**78,2**	**78,2**	**78,2**

spare parts	**19/3514-2**	**19/3514-7R**	**19/3520**
knife	035141	371401	035201
set of jaws	BG35146	BG37222	BG35020
knife-pin set	BG35055	BG35055	BG35055

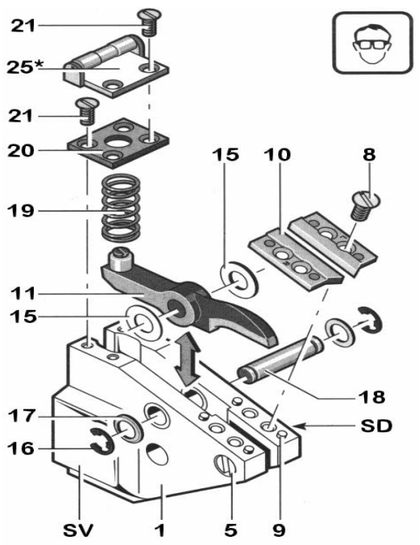
optional accessories	
support roller (plastic)	BG10076
support roller (metal)	BG10077

Spare parts DRÄCO Pneumatic Metal Shears 19/3520, 19/3514-2 & 19/3514-7R



SERVICE-TIPS (Dismantling/assembling Knife)

Before performing any work on machine itself, disconnect the air supply.
Clamp the machine in a vice on the clamping surfaces (SV) between aluminium protective jaws.



1. **Before replacing the knife, place a drop of oil on the right and left side between the housing (1) and the knife (11).**
2. Unscrew the screws (21) and remove the spring plate (20). Remove the spring (19).
3. Remove the Circlip ring (16) and screw (17).
4. Push the knife pin back (18).
5. Lift the knife (11) and remove to the front.
6. ⚠ **Do not interchange the spacers (15)**: **The jaws and knife could be ruined by the wrong spacing.**
7. Insert a new knife with the spacers (15). Insert the knife pin (18). Mount the washer (17) and the Circlip ring (16)
8. Insert the spring (19). Remount the spring plate (20).

Replacing the Jaws
Loosen the screws (8) and remove the jaws (10). Press out the positioning pins (9). Mount new jaws and position pins again. Tighten the screws (8)

⚠ **The knife (11) must not rub against the jaws (10): Danger of breakage.**
Note: If heavy burring is produced while cutting, repeat the adjustment.

Sharpening the Knife/Jaws
The knife and the jaws can be sharpened and must be adjusted after resharpening or replacing.
This work should be performed by an authorised Dräco customer service location. Send in the complete machine for this purpose.

No warranty on knives and jaws.

The pos. numbers used on the service tips are in connection with the drawing left.

Spare parts list DRÄCO Pneumatic Metal Shears 19/3520, 19/3514-2 & 19/3514-7R

The pos. numbers used, are in connection with the opposite spare parts list.

Pos. no.	Order no.	Description	Quantity per shear
1	37547	Head casting	1
3	81120	Screw	1
4	81089	Tap screw	1
5	81272	Hex. Socket screw	1
6	37059	Spacing block	1
8	81286	Flat head screw	4
9	81248	Pin 3x7	4
		Knife for 19/3514-2 (width: 5 mm!)	
11-14	035141	Knife 3514	1
10	BG35146	Set of Jaws	1
		Knife for 19/3514-7R (width: 7 mm)	
11-14	371401	Knife 3514-2	1
10	BG37222	Set of Jaws	1
		Knife for 19/3520 (width: 5 mm)	
11-14	035201	Knife 3520	1
10	BG35020	Set of Jaws	1
13	35067	Knife adjusting screw with lock ring	1
14	12100	Lock ring M6	1
15	12400	Spacing shims set	1
16	35054	Circlip	2
17	81072	Washer	2
16-18	BG35145	Knife pin	1
15-18	BG35055	Knife pin set	1
19	12200	Spring	1
20	12300	Spring cover	1
21	81271	Flat head screw	4
24	17900	Bushing Ø 10 mm	2
(24)	17911	Bushing Ø 11 mm	2
25	BG10077	Support roller (Option)	1
35	10300	Needle bearing	1
29-39	10058	Complete drive	1
29	10005	Sleeve	1
32	35556	Eccentric drive shaft	1
33	35285	Ball bearing	1
34	10005	Sleeve	1
35	10300	Needle bearing	1
36	10450	Cap for needle bearing	1
37	10006	Key	1
38	10070	Coupling shear	1
40	81239	Tap screw	2

Pos. no.	Order no.	Description	Quantity per shear
44	10071	Flange	1
46	81280	Tap screw	1
47	81278	Tap screw	3
48	81263	Hex. socket screw	3
52	10072	Coupling Motor	1
53	19053	Head Housing Motor Side	1
54	19054	Nut	1
55	19055	Ball bearing	1
56	19056	Ball bearing	1
57	19057	Gear holder	1
58	19058	Cyl. Pin	3
59	19059	Needle bearing	3
60	19060	Gear	3
61	19061	Gear housing	1
62	19062	Washer	1
63	19063	Ball bearing	1
64	19064	Front cover	1
65	19065	Pin	3
66	19066	Rotor	1
67	19067	Vane	5
68	19068	Cylinder	1
69	19065	Cyl. Pin	3
70	19070	Back rotor cover	1
71	19071	Ball bearing	1
72	19072	Valve screw cover	1
73	19073	O-Ring	1
74	19074	O-Ring	1
75	19075	Regulator control	1
76	19076	Valve spring	1
77	19077	O-Ring	1
78	19078	Valve nut	1
79	19079	O-Ring	1
80	19080	Motor housing	1
81	19081	End adapter	1
82	19082	Air connector	1
83	19083	Valve bushing	1
84	19084	Wrench	1
85	19085	Safety lever	1
86	19086	Spring	1
87	19087	Lever	1
88	19088	Doval pin	1
89	19089	Rivit	1
90	19090	Air exhaust tube	1
91	19091	Plug-in connector	1

When ordering spare parts, please state position and order numbers.

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