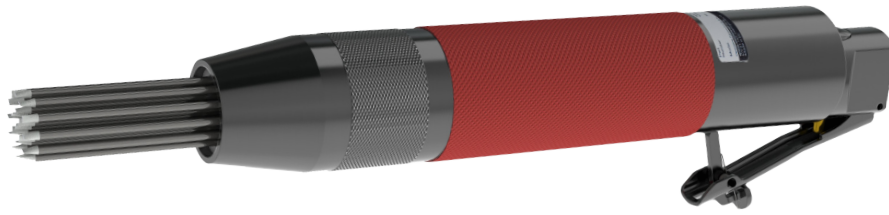
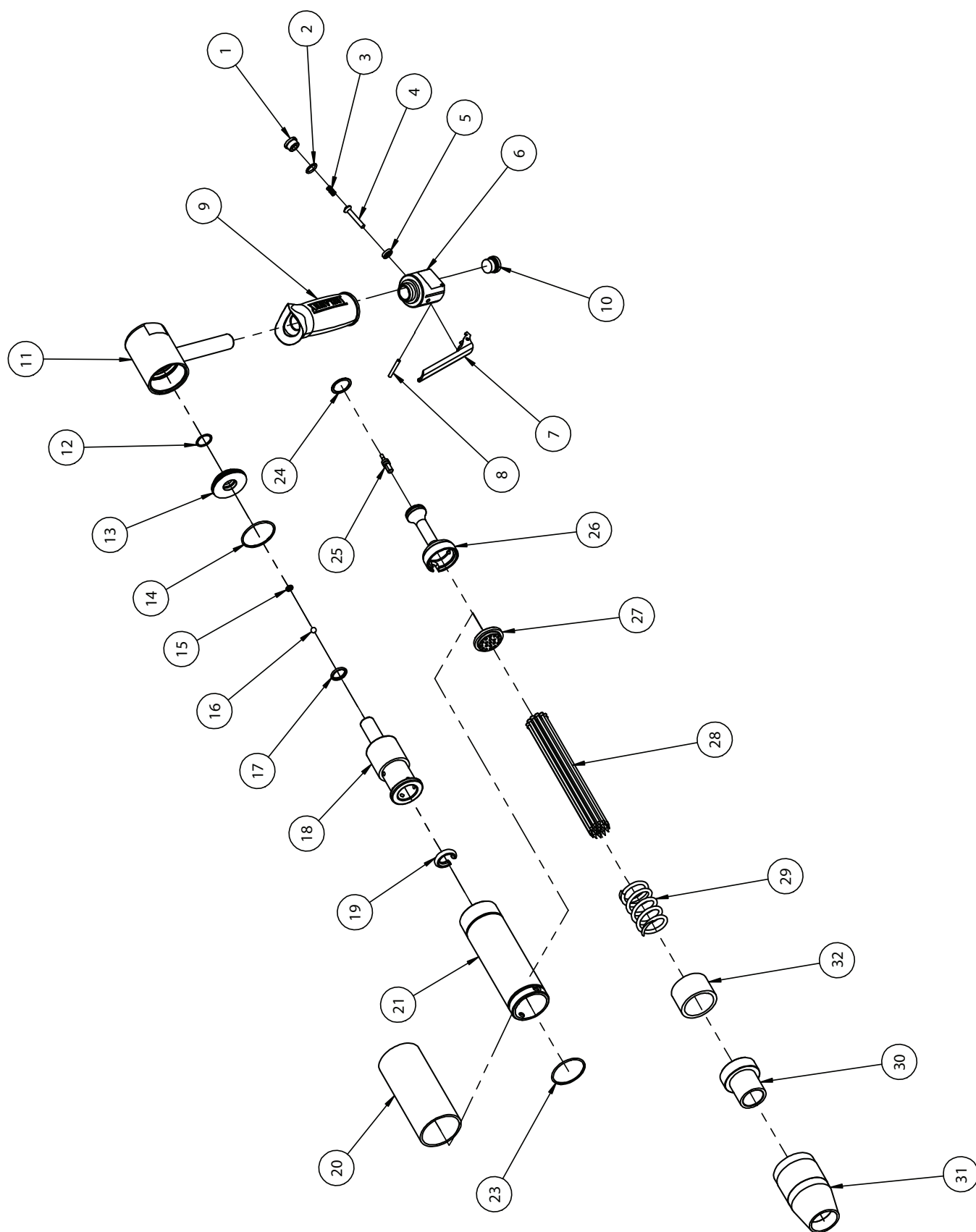


VL NEEDLE & CHISEL SCALERS

OPERATION & MAINTENANCE MANUAL



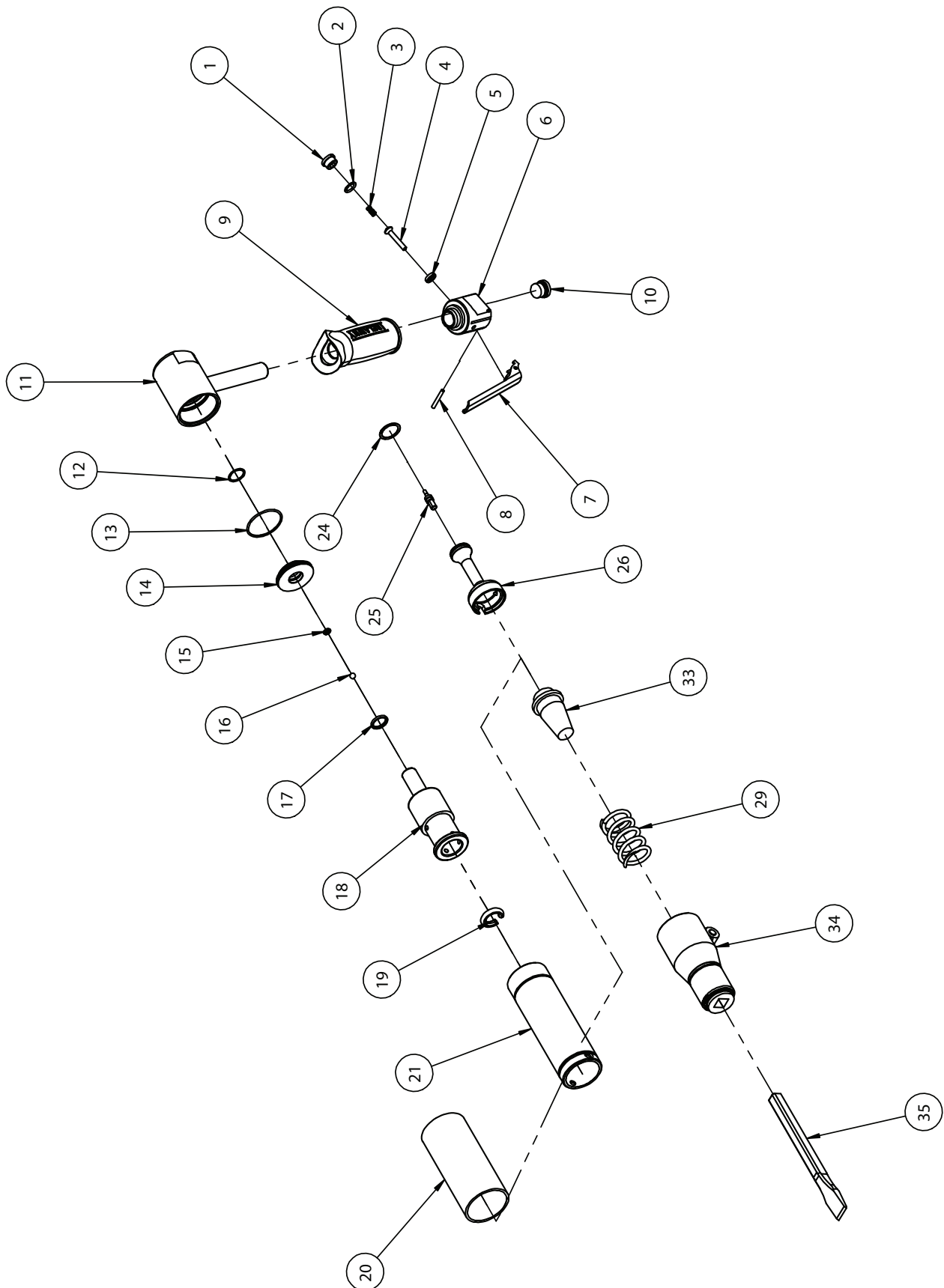
EXPLODED VIEW - VL203 NEEDLE SCALER



PARTS LIST - VL203 NEEDLE SCALER

ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	615.3021	Valve Cap	1
2	809.0139	Valve Cap O'Ring	1
3	712.3022	Valve Spring	1
4	618.3022	Valve Stem	1
5	809.0089	Valve Seat O'Ring	1
6	423.3021	BPG/LR/PG Valve Body Assembly	1
7	716.3000	Throttle Lever	1
8	813.0108	Spring Pin 1/8" x 1" Long	1
9	717.3050	Grip - Trelawny Logo	1
10	818.0250	Plug 1/4" BSP - Red	1
11	425.2003	VL203 Cover Assembly - Red	1
12	829.2003	Guide Plate Seal	1
13	652.2003	Guide Plate VL203/223	1
14	809.0299	O'Ring	1
15	809.0080	O'Ring	1
16	816.3003	Rubber Ball 1/4" dia	1
17	809.3005	Cylinder Stem Reaction Ring	1
18	428.2003	VL203 Cylinder Assembly	1
19	809.2004	Piston Cushion VL203/223 50mm	1
20	721.2003	Int/Tube Sleeve VL203/223 - Black	1
21	622.2031	Intermediate Tube VL203/223	1
23	809.0299	O'Ring	1
24	829.2002	Piston Ring VL203	1
25	636.3003	Valve Pin	1
26	612.2003	Piston VL203/223	1
27	601.2030	Needle holder 3mm VL203/223	1
28	453.2110	3mm Chisel Needles x 100	1
29	712.2003	Front Spring VL203/223	1
30	620.2003	Front Tube Insert	1
31	622.2030	Front Tube VL203/223	1
32	620.2003A	Front Tube Spacer	1
ITEMS NOT SHOWN			
N/A	446.2003	Service Kit VL203/223 Needle Inc 2,3,4,5,7,8,12,15,16,19,23,24,25,27,29 & 28 x Chisel Tip Needles	1
N/A	446.2120	VL203/223 Chisel Attachment Kit	1
N/A	819.2375	Connector 1/4 BSPT-3/8 Stem	1
N/A	418.2003	TVS Vacuum Take-off VL203/223	1
N/A	512.2003	VL203/223 Fall Arrester Kit	1
N/A	458.1530	1/4" BSP Inline Oiler Assembly	1
N/A	453.1110	3mm Flat Needles x 100	1
N/A	453.3110	3mm Pointed Needles x 100	1
N/A	453.1310	3mm Be/Cu Needles x 100	1

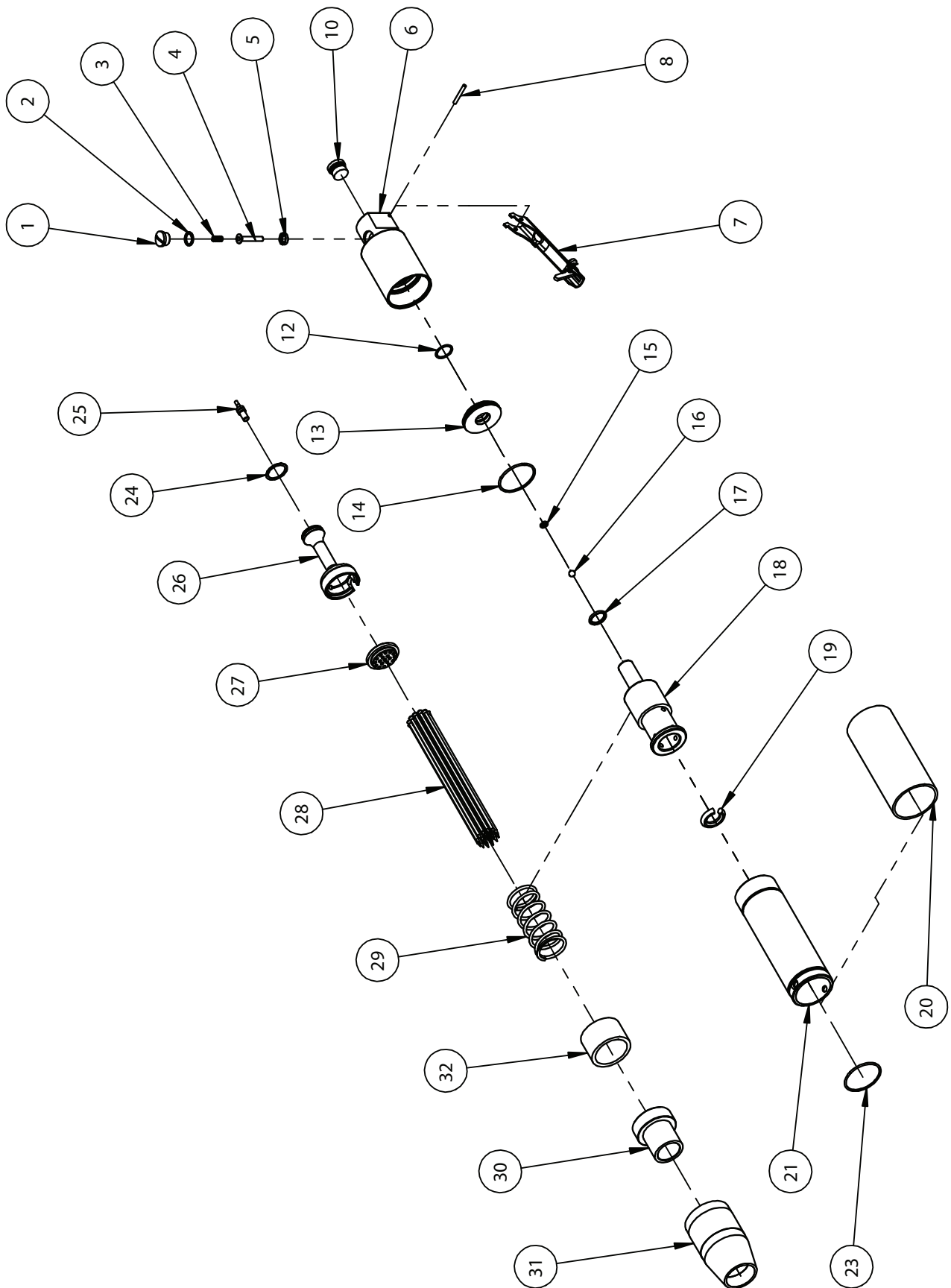
EXPLODED VIEW - VL2003 CHISEL SCALER



PARTS LIST - VL203 CHISEL SCALER

ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	615.3021	Valve Cap	1
2	809.0139	Valve Cap O'Ring	1
3	712.3022	Valve Spring	1
4	618.3022	Valve Stem	1
5	809.0089	Valve Seat O'Ring	1
6	423.3021	BPG/LR/PG Valve Body Assembly	1
7	716.3000	Throttle Lever	1
8	813.0108	Spring Pin 1/8" x 1" Long	1
9	717.3050	Grip - Trelawny Logo	1
10	818.0250	Plug 1/4" BSP - Red	1
11	425.2003	VL203 Cover Assembly - Red	1
12	829.2003	Guide Plate Seal	1
13	652.2003	Guide Plate VL203/223	1
14	809.0299	O'Ring	1
15	809.0080	O'Ring	1
16	816.3003	Rubber Ball 1/4" dia	1
17	809.3005	Cylinder Stem Reaction Ring	1
18	428.2003	VL203 Cylinder Assembly	1
19	809.2004	Piston Cushion VL203/223 50mm	1
20	721.2003	Int/Tube Sleeve VL203/223 - Black	1
21	622.2031	Intermediate Tube VL203/223	1
24	829.2002	Piston Ring VL203	1
25	636.3003	Valve Pin	1
26	612.2003	Piston VL203/223	1
29	712.2003	Front Spring VL203/223	1
33	610.2003	Anvil VL203/223	1
34	419.2003	1/2" Chisel Holder VL203	1
35	704.3101	Vibro-Lo Chisel 1/2"Sq x 3/4"	1
ITEMS NOT SHOWN			
N/A	446.2203	Service Kit VL203/223 Chisel Inc 2,3,4,5,7,8,12,14,15,16,19,24,25,29 & 35	1
N/A	819.2375	Connector 1/4 BSPT-3/8 Stem	1
N/A	512.2003	VL203/223 Fall Arrester Kit	1
N/A	704.3103	Vibro-Lo Chisel 1/2" 7x2.1/2"	1
N/A	704.3105	Vibro-Lo Chisel 1/2" 10x2.1/2"	1
N/A	704.3110	Vibro-Lo Chisel 1/2"Sq Al.Brnz	1
N/A	704.3205	Vibro-Lo 1/2" Chisel Cranked	1

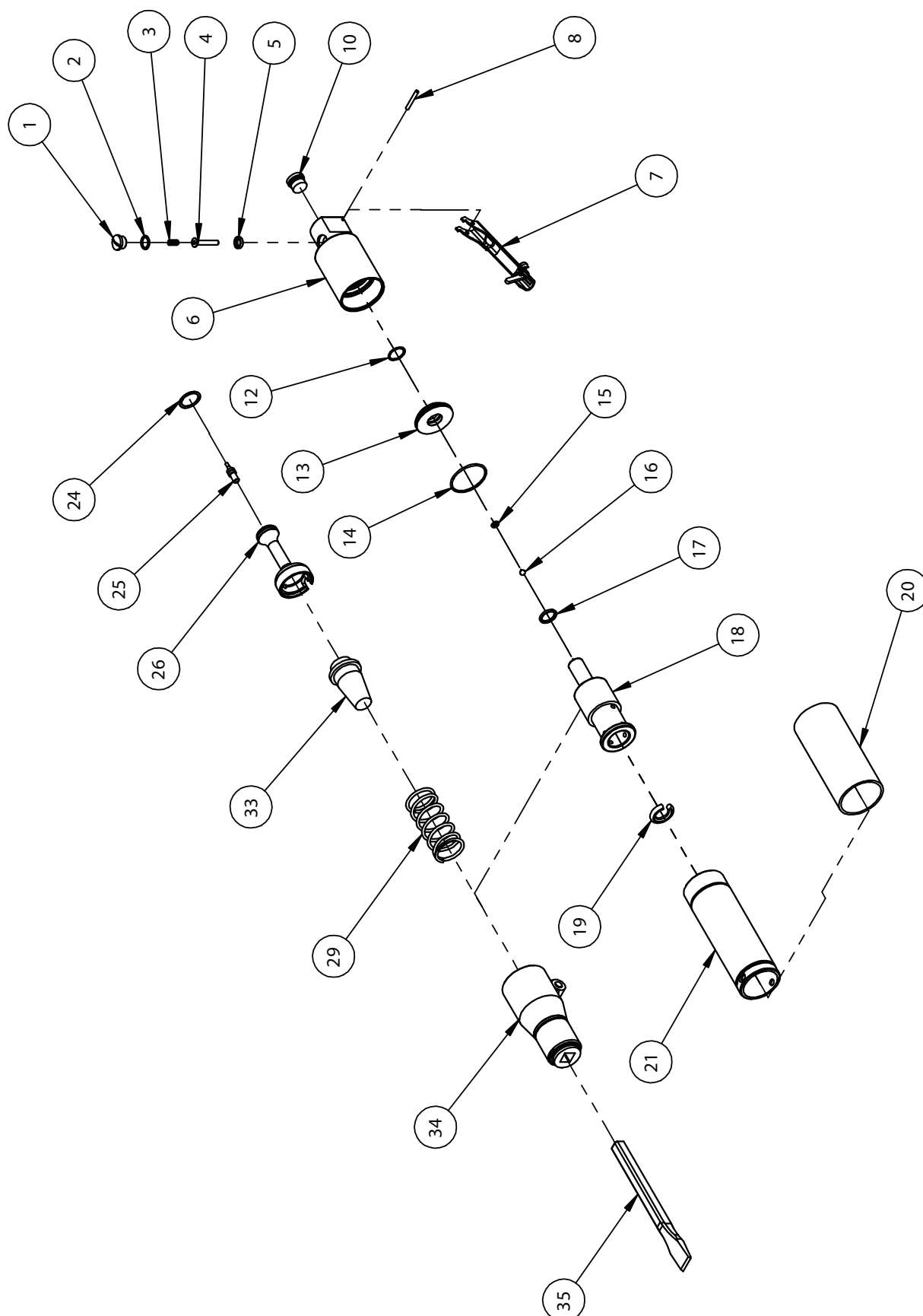
EXPLODED VIEW - VL223 NEEDLE SCALER



PARTS LIST - VL223 NEEDLE SCALER

ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	615.3021	Valve Cap	1
2	809.0139	Valve Cap O'Ring	1
3	712.3022	Valve Spring	1
4	618.3022	Valve Stem	1
5	809.0089	Valve Seat O'Ring	1
6	423.2023	VL223 Valve Body Assembly - Black	1
7	716.3000	Throttle Lever	1
8	813.0108	Spring Pin 1/8" x 1" Long	1
10	818.0250	Plug 1/4" BSP - Red	1
12	829.2003	Guide Plate Seal	1
13	652.2003	Guide Plate VL203/223	1
14	809.0299	O'Ring	1
15	809.0080	O'Ring	1
16	816.3003	Rubber Ball 1/4" dia	1
17	809.3005	Cylinder Stem Reaction Ring	1
18	428.2003	VL203 Cylinder Assembly	1
19	809.2004	Piston Cushion VL203/223 50mm	1
20	721.2003	Int/Tube Sleeve VL203/223 - Black	1
21	622.2031	Intermediate Tube VL203/223	1
23	809.0299	O'Ring	1
24	829.2002	Piston Ring VL203	1
25	636.3003	Valve Pin	1
26	612.2003	Piston VL203/223	1
27	601.2030	Needle holder 3mm VL203/223	1
28	453.2110	3mm Chisel Needles x 100	1
29	712.2003	Front Spring VL203/223	1
30	620.2003	Front Tube Insert	1
31	622.2030	Front Tube VL203/223	1
32	620.2003A	Front Tube Spacer	1
ITEMS NOT SHOWN			
N/A	446.2003	Service Kit VL203/223 Needle Inc 2,3,4,5,7,8,12,15,16,19,23,24,25,27,29 & 28 x Chisel Tip Needles	1
N/A	446.2120	VL203/223 Chisel Attachment Kit	1
N/A	819.2375	Connector 1/4 BSPT-3/8 Stem	1
N/A	418.2003	TVS Vacuum Take-off VL203/223	1
N/A	512.2003	VL203/223 Fall Arrester Kit	1
N/A	458.1530	1/4" BSP Inline Oiler Assembly	1
N/A	453.1110	3mm Flat Needles x 100	1
N/A	453.2110	3mm Chisel Needles x 100	1
N/A	453.3110	3mm Pointed Needles x 100	1
N/A	453.1310	3mm Be/Cu Needles x 100	1

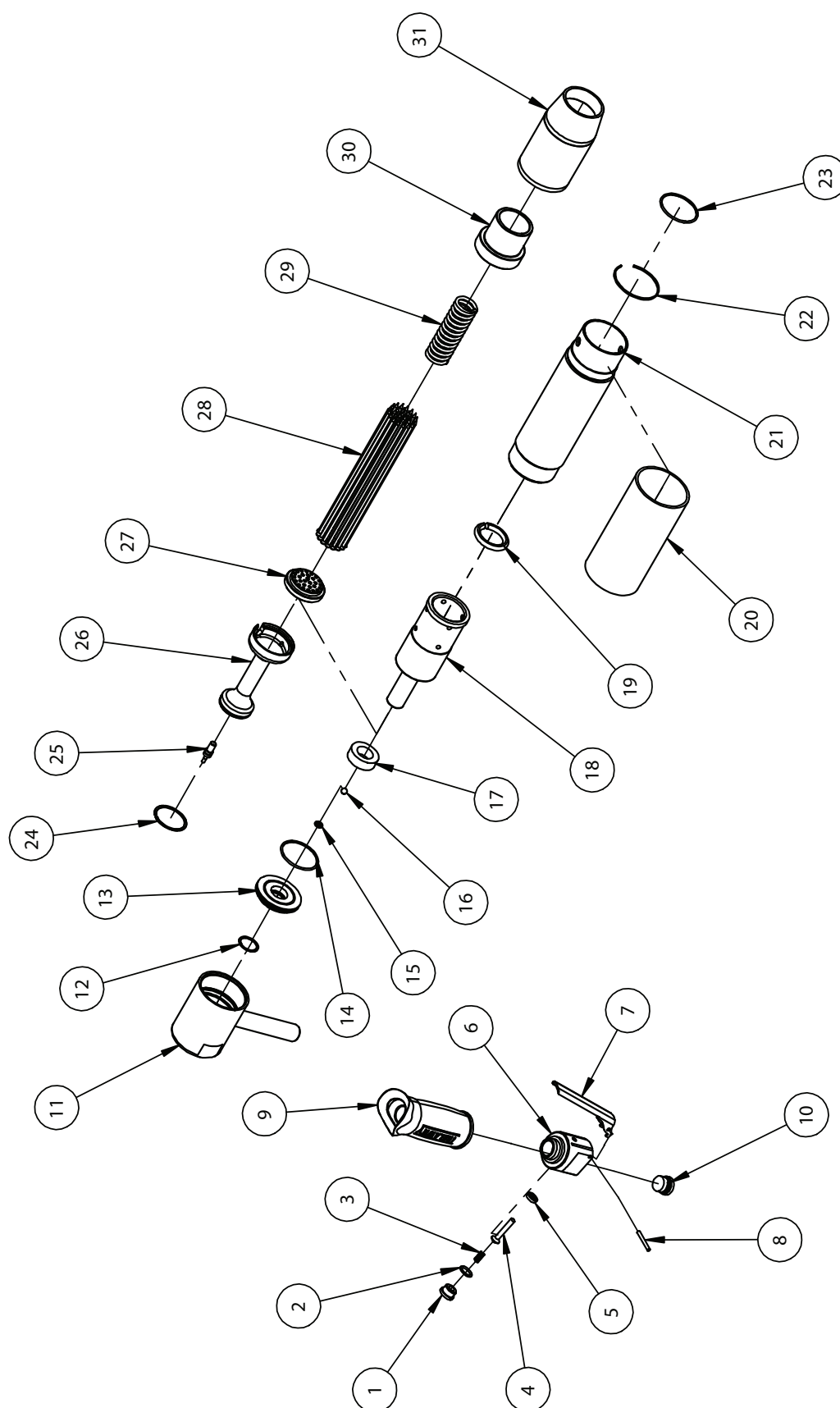
EXPLODED VIEW - VL223 CHISEL SCALER



PARTS LIST - VL223 CHISEL SCALER

ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	615.3021	Valve Cap	1
2	809.0139	Valve Cap O'Ring	1
3	712.3022	Valve Spring	1
4	618.3022	Valve Stem	1
5	809.0089	Valve Seat O'Ring	1
6	423.2023	VL223 Valve Body Assembly - Black	1
7	716.3000	Throttle Lever	1
8	813.0108	Spring Pin 1/8" x 1" Long	1
10	818.0250	Plug 1/4" BSP - Red	1
12	829.2003	Guide Plate Seal	1
13	652.2003	Guide Plate VL203/223	1
14	809.0299	O'Ring	1
15	809.0080	O'Ring	1
16	816.3003	Rubber Ball 1/4" dia	1
17	809.3005	Cylinder Stem Reaction Ring	1
18	428.2003	VL203 Cylinder Assembly	1
19	809.2004	Piston Cushion VL203/223 50mm	1
20	721.2003	Int/Tube Sleeve VL203/223 - Black	1
21	622.2031	Intermediate Tube VL203/223	1
24	829.2002	Piston Ring VL203	1
25	636.3003	Valve Pin	1
26	612.2003	Piston VL203/223	1
29	712.2003	Front Spring VL203/223	1
33	610.2003	Anvil VL203/223	1
34	419.2003	1/2" Chisel Holder VL203	1
35	704.3101	Vibro-Lo Chisel 1/2"Sq x 3/4"	1
ITEMS NOT SHOWN			
N/A	446.2203	Service Kit VL203/223 Chisel Inc 2,3,4,5,7,8,12,14,15,16,19,24,25,29 & 35	1
N/A	819.2375	Connector 1/4 BSPT-3/8 Stem	1
N/A	512.2003	VL203/223 Fall Arrester Kit	1
N/A	704.3103	Vibro-Lo Chisel 1/2" 7x2.1/2"	1
N/A	704.3105	Vibro-Lo Chisel 1/2" 10x2.1/2"	1
N/A	704.3110	Vibro-Lo Chisel 1/2"Sq Al.Brnz	1
N/A	704.3205	Vibro-Lo 1/2" Chisel Cranked	1

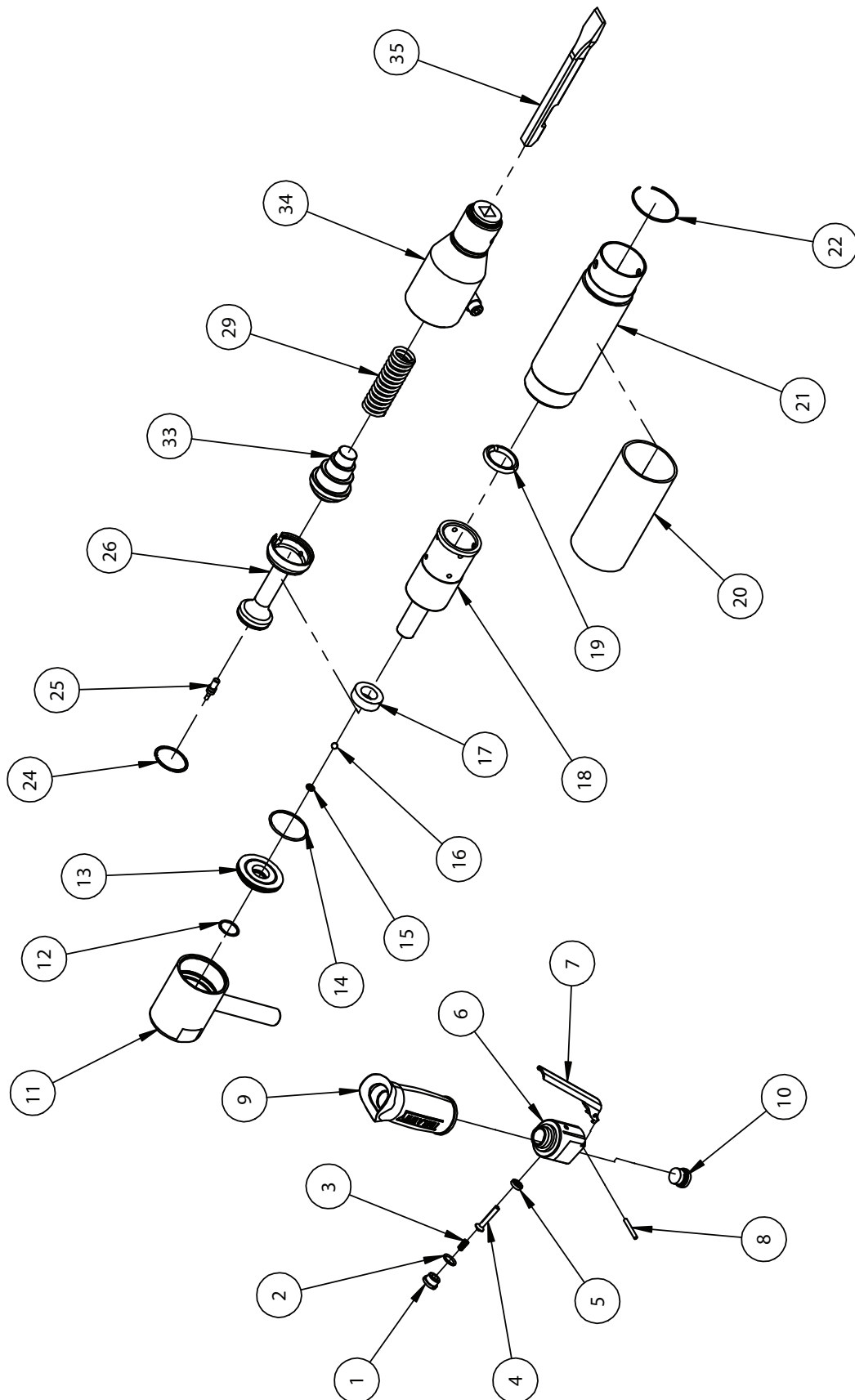
EXPLODED VIEW - VL303 NEEDLE SCALER



PARTS LIST - VL303 NEEDLE SCALER

ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	615.3021	Valve Cap	1
2	809.0139	Valve Cap O'Ring	1
3	712.3022	Valve Spring	1
4	618.3022	Valve Stem	1
5	809.0089	Valve Seat O'Ring	1
6	423.3021	BPG/LR/PG Valve Body Assembly	1
7	716.3000	Throttle Lever	1
8	813.0108	Spring Pin 1/8" x 1" Long	1
9	717.3050	Grip - Trelawny Logo	1
10	818.0250	Plug 1/4" BSP - Red	1
11	425.3003	VL303 Cover Assembly - Red	1
12	829.3003	Guide Plate Seal	1
13	652.3003	Guide Plate	1
14	809.0299	O'Ring	1
15	809.0080	O'Ring	1
16	816.3003	Rubber Ball 1/4" dia	1
17	729.3003	Cylinder Stem Reaction Ring	1
18	428.3003	VL303 Cylinder Assembly	1
19	809.3004	Piston Cushion 85mm long	1
20	721.3003	Int/Tube Sleeve VL303 - Black	1
21	622.3031	Intermediate Tube VL303	1
22	814.3003	Circlip (Spring Seat Location)	1
23	809.0299	O'Ring	1
24	829.3002	Piston Ring	1
25	636.3003	Valve Pin	1
26	612.3003	Piston VL303	1
27	601.3030	Needle Holder 3mm VL303	1
28	453.2110	3mm Chisel Needles x 100	1
29	712.3003	Front Spring	1
30	620.3003	Front Tube Insert VL303	1
31	622.3030	Front Tube VL303	1
ITEMS NOT SHOWN			
N/A	446.3003	Service Kit VL303 Challenger Inc 2,3,4,5,7,8,12,15,16,19,23,24,25,27,29 & 28 x Chisel Tip Needles	1
N/A	446.2130	VL303 Chisel Attachment Kit	1
N/A	819.2375	Connector 1/4 BSPT-3/8 Stem	1
N/A	418.3003	TVS Vacuum Take-off VL303	1
N/A	512.3003	VL303 Fall Arrester Kit	1
N/A	458.1530	1/4" BSP Inline Oiler Assembly	1
N/A	453.1110	3mm Flat Needles x 100	1
N/A	453.2110	3mm Chisel Needles x 100	1
N/A	453.3110	3mm Pointed Needles x 100	1
N/A	453.1310	3mm Be/Cu Needles x 100	1

EXPLODED VIEW - VL303 CHISEL SCALER



PARTS LIST - VL303 CHISEL SCALER

ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	615.3021	Valve Cap	1
2	809.0139	Valve Cap O'Ring	1
3	712.3022	Valve Spring	1
4	618.3022	Valve Stem	1
5	809.0089	Valve Seat O'Ring	1
6	423.3021	BPG/LR/PG Valve Body Assembly	1
7	716.3000	Throttle Lever	1
8	813.0108	Spring Pin 1/8" x 1" Long	1
9	717.3050	Grip - Trelawny Logo	1
10	818.0250	Plug 1/4" BSP - Red	1
11	425.3003	VL303 Cover Assembly - Red	1
12	829.3003	Guide Plate Seal	1
13	652.3003	Guide Plate	1
14	809.0299	O'Ring	1
15	809.0080	O'Ring	1
16	816.3003	Rubber Ball 1/4" dia	1
17	729.3003	Cylinder Stem Reaction Ring	1
18	428.3003	VL303 Cylinder Assembly	1
19	809.3004	Piston Cushion 85mm long	1
20	721.3003	Int/Tube Sleeve VL303 - Black	1
21	622.3031	Intermediate Tube VL303	1
22	814.3003	Circlip (Spring Seat Location)	1
24	829.3002	Piston Ring	1
25	636.3003	Valve Pin	1
26	612.3003	Piston VL303	1
29	712.3003	Front Spring	1
33	610.3003	VL303 Anvil (Chisel Holder)	1
34	419.3003	1/2" Chisel Holder VL303	1
35	704.3101	Vibro-Lo Chisel 1/2"Sq x 3/4"	1
ITEMS NOT SHOWN			
N/A	446.3303	Service Kit VL303 Chisel Inc 2,3,4,5,7,8,12,14,15,16,19,24,25,29 & 35	1
N/A	819.2375	Connector 1/4 BSPT-3/8 Stem	1
N/A	512.3003	VL303 Fall Arrester Kit	1
N/A	704.3103	Vibro-Lo Chisel 1/2" 7x2.1/2"	1
N/A	704.3105	Vibro-Lo Chisel 1/2" 10x2.1/2"	1
N/A	704.3110	Vibro-Lo Chisel 1/2"Sq Al.Brnz	1
N/A	704.3205	Vibro-Lo 1/2" Chisel Cranked	1

TECHNICAL SPECIFICATIONS

DETAIL	VL203 Needle	VL203 Chisel	VL223 Needle	VL223 Chisel	VL303 Needle	VL303 Chisel
Part Code	196.2003	196.2203	196.2103	196.2213	196.3003	196.3203
Description	VL203 Needle Scaler	VL203 Chisel Scaler	VL223 Needle Scaler	VL223 Chisel Scaler	VL303 Needle Scaler	VL303 Chisel Scaler
Type	Pistol Grip	Pistol Grip	In-line	In-line	Pistol Grip	Pistol Grip
Piston Diameter	23.5mm	23.5mm	23.5mm	23.5mm	34.4mm	34.4mm
Piston Stroke (approx)	11mm	11mm	11mm	11mm	20mm	20mm
Blows Per Minute	2,400	2,400	2,400	2,400	3,000	3,000
Air Consumption	1.89lps (4.0 cfm)	1.89lps (4.0 cfm)	1.89lps (4.0 cfm)	1.89lps (4.0 cfm)	2.6lps (5.5 cfm)	2.6lps (5.5 cfm)
Air Pressure	6.2 bar (90 psi)	6.2 bar (90 psi)	6.2 bar (90 psi)	6.2 bar (90 psi)	6.2 bar (90 psi)	6.2 bar (90 psi)
Air Inlet	1/4" BSP	1/4" BSP	1/4" BSP	1/4" BSP	1/4" BSP	1/4" BSP
Overall Length	340mm	395mm	370mm	435mm	370mm	400mm
Weight	2.7kg	3.2kg	2.35kg	2.95kg	3.51kg	4.25kg
Needles / Chisel	51 x 2mm 19 x 3mm	19mm (3/4") Standard fit	51 x 2mm 19 x 3mm	19mm (3/4") Standard fit	65 x 2mm 28 x 3mm	19mm (3/4") Standard fit
Noise Level L_{WA} dB (A)	90.7	76.3	90.7	76.3	109.5	78.2
Vibration Level m/s^2 Primary	2.75 (k)	3.3 (k)	2.56 (k)	3.69 (k)	2.3 (k)	3.7 (k)
Vibration Level m/s^2 Secondary	3.26 (k)	4.14 (k)	2.95 (k)	3.59 (k)	3.7 (k)	4.3 (k)
Trelawny SPT Ltd operates a policy of continuous product development and refinement and therefore reserves the right to change technical specifications and product designs without giving prior notice.						

Noise Levels measured in accordance with:
EN ISO 15744: 2008

Vibration levels measured in accordance with:
EN ISO 28927-9:2012 and EN ISO 20643:2005

(k) ** Equals the factor of uncertainty, which allows for variations in measurement and production. Vibration Data figures are tri-axial, which gives the total vibration emission. Because of various factors, the range of vibration emission during intended use can vary. The vibration is dependent on the task, the operators grip, and feed force employed etc. NOTE: The above vibration levels were obtained from tri-axial measurements to comply with the requirements of "The Control of Vibration at Work Regulations 2005*" and the revisions to the (8662) now EN ISO 28927:2012 and EN ISO 20643:2005 series of standards. These values are at least 1.4 times larger than the values obtained from single axis measurements.

*Based on European Union Council Directive 2002/44/EC (Physical Agents (Vibration) Directive)

This equipment has been designed and produced in accordance with the following directive:
2006/42/EC Machinery Directive
and applicable harmonised standard; EN ISO 1 1148-4:2012

If your company has any problem with our products or would like to discuss the possibility of an improvement being made to them, then please do not hesitate to contact us. Your comments are both important and appreciated.

Trelawny tools are thoroughly tested under specified conditions in accordance with applicable internationally recognised standards. When a tool is used on site the conditions may not be the same as those used in our tests.

Trelawny Surface Preparation Technology operates a policy of continuous product development and refinement and therefore reserves the right to change technical specifications and product designs without giving prior notice.

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**Use only genuine Trelawny consumables with this product.
The use of non-Trelawny spare parts invalidates the warranty.**

TROUBLE SHOOTING

FAULT	POSSIBLE CAUSE	ACTION
Poor performance or lack of power	Low air pressure.	Ensure that the air pressure is correct at 90psi, max 100psi.
	If tool has been left for some time without use, the oil may dry out slightly, causing a sticky residue.	Strip tool down, clean and re-oil.
	Needles worn or some missing.	Replace with new set of needles and new needle holder
	Piston seal worn.	Remove seal from piston and fit into bore of cylinder. If it drops to the bottom of the bore, a replacement is required.
	Incorrect chisel fitted.	Ensure that the chisel is for a vibration reduced tool.
	Valve pin broken.	Replace valve pin and 6mm rubber ball.
Tool continues to run with trigger released	Valve seal may have become dislodged through the tool being disconnected with the trigger in the open position.	Ensure that the trigger has not been taped or wired in the open position. Do not use quick release couplings to switch tool off.
High vibration	High air pressure.	Ensure that the air pressure is correct at 90psi, max 100psi.
	Lack of lubrication.	Lubricate with the recommended air tool oil daily.
	Low air pressure 70-80psi can also cause high vibration.	Ensure that the air pressure is correct at 90psi, max 100psi.
	Front return spring weak or broken.	Replace return spring.
	Guide plate seal worn.	Replace guide plate seal.
	Piston cushion failed. (This is a split o'ring)	Replace with a new piston cushion.
Tool stopped working	6mm rubber ball worn out.	Check for and remove the remains of the ball, possibly in an exhaust hole of cylinder and renew 6mm rubber ball.
	Valve pin broken.	Replace valve pin and 6mm rubber ball.

NOTES
