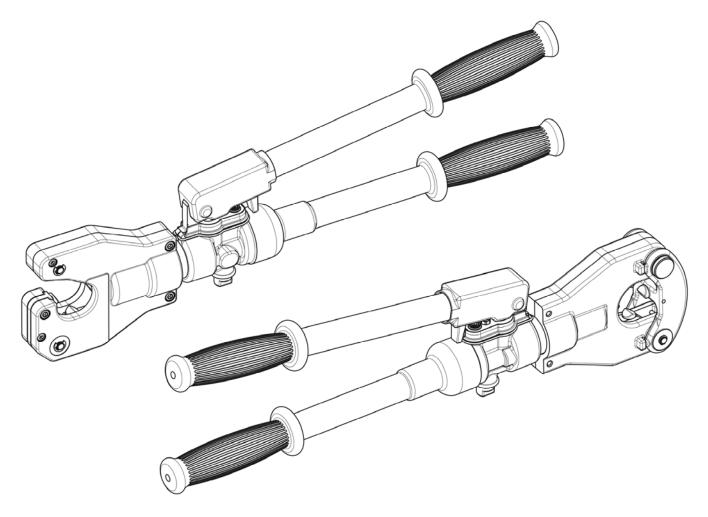




OWNER OPERATION MANUAL



VERSA-CRIMP[®] HYDRAULIC CRIMPING HAND TOOLS VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP



Read and understand all of the instructions and safety information in this manual before operating or servicing these tools.





VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP

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SAFETY

Safety is essential in the use and maintenance of Hubbell ANDERSON[®] tools and equipment. This instruction manual and any decals on the tool provide information for the avoidance of hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

<u>WARNING:</u> The black tool covering is designed to protect the tool surfaces against accidental momentary contact with LOW VOLTAGE parts. The covering is not intended to protect the operator in hot line work.

PURPOSE

This instruction manual is intended to familiarize operators and maintenance personnel with the safe operation, troubleshooting and repair procedures for the Hubbell ANDERSON[®] VERSA-CRIMP[®] tools VC63-SP, VC6FT-SP, VC7-SP, & VC7FT-SP.

Keep manual available to all personnel.

For replacement manuals visit www.hubbellpowersystems.com.



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Systems.



VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP

SAFETY SYMBOLS & INFORMATION

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This symbol is used to call your attention to hazards or unsafe practices which could result in any injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

DANGER

Immediate hazards which, if not avoided, WILL result in severe injury or death.

WARNING

Hazards which, if not avoided, COULD result in severe injury or death.

Hazards or unsafe practices which, if not avoided, MAY result in injury or property damage.

Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

Failure to observe this warning can result in severe injury or death.



Electric shock hazard:

This tool is not insulated. When using this unit near energized electrical lines use proper personal protective equipment.

Failure to observe this warning can result in severe injury or death.



WARNING

- Keep hands away from the crimping tool head when crimping.
- Failure to observe these warnings can result in severe injury or death.

Reference ANSI Z535.4 latest rev. and color chart



Skin injection hazard:

Oil under pressure easily punctures skin causing serious injury, gangrene or death. If you are injured by escaping oil, seek medical attention immediately.

- Do not use hands to check for leaks.
- Depressurize the hydraulic system before servicing.



Wear eye protection when operating or servicing this tool.

Failure to wear eye protection can result in serious eye injury from flying debris or hydraulic oil.

An incomplete crimp can cause a fire.

- Use proper connector and cable combinations. Improper combinations can result in an incomplete crimp.
- The relief valve will sound to indicate a completed crimp. If you do not hear the sound of the relief valve, the crimp is not complete.

Failure to observe these warnings can result in severe injury or death.



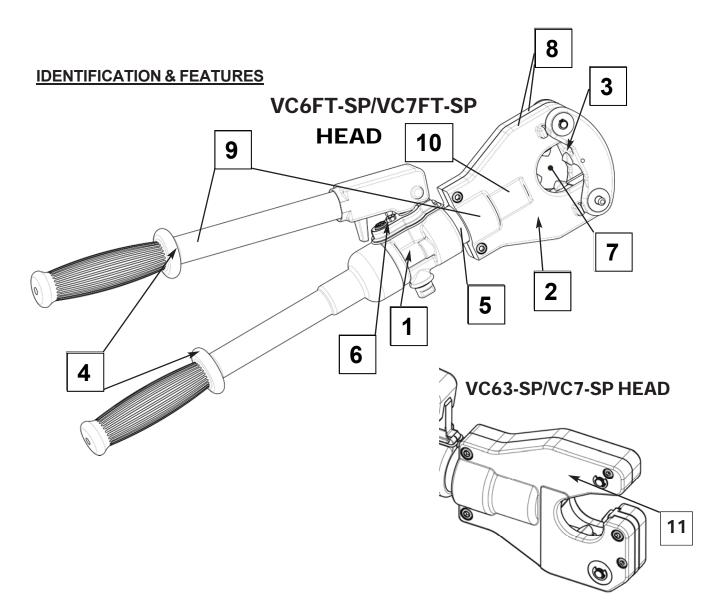
Inspect tool before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel.

Failure to observe this warning can result in severe injury or death.

- Protect the crimping tool from rain and moisture. Water will damage the crimping tool and battery.
- Use this tool for the manufacturer's intended purpose only.

Failure to observe these precautions can result in injury or property damage.





<u>Tool purpose</u>: The VC63-SP, VC6FT-SP, VC7-SP, & VC7FT-SP hydraulic hand-held crimping tools are self contained dieless crimping tools intended to crimp aluminum and copper connectors onto electrical conductor cable.

- 1. Two stage pump
- 2. Crimping head
- 3. Crimping nibs (x4)
- 4. Over molded handles
- 5. Rotating head at neck/serial # location
- 6. Release valve
- 7. Head opening accommodates up to 750 kcmil conductor
- 8. Serial numbers on head halves
- 9. Safety decals
- 10. Description and application
- 11. VC63-SP/ VC7-SP Head Version



SPECIFICATIONS

Crimping Tool

Length	25.2" (640.1 mm)
Width	14" (355 mm)
Height	3" (76 mm)
Weight	11.88 lbs (5.39 kg)
Pump Type	2-stage hydraulic
Hydraulic Oil	Shell Tellus

ANDERSON[®] Products

Crimping Capabilities

Cable size (Aluminum/Copper)	#8 to 750 kcmil max
Operating pressure	8500 psi (58.6 MPa)
Crimping Force	6.2 tons (55kN)
Crimping Time	Approximately 15 seconds



VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP

CRIMPING INSTRUCTIONS

OPERATION

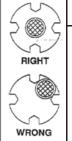
The VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP hydraulic hand tools are ruggedly designed and simple to operate. There are no dies to change out. The tools have built in "nibs" within the head.

Two basic configurations used in VERSA-CRIMP[®] connectors are 1) the sleeve and 2) the open groove. The following illustrations and commentary are provided to show how the tool is operated when installing these two types of connector configurations:

CONDUCTOR PREPARATION

Strip insulation from the conductor, being careful not to nick the strands. A proper insulation stripping tool or using the "Pencil" shaving method is recommended. Thoroughly clean the conductor by wire brushing until a bright shiny surface is obtained. All oxides and foreign matter must be removed. **NOTE: Do not wire brush tin-plated copper conductors or tinned connectors.**

WARNING: Certain small service sleeve connectors can severely damage the tool by becoming wedged between nibs of the tool head. The connector should always be centered in the tool as the nibs are slowly advanced into position about the connector.



VC6FT-SP EXAMPLE atch Pin 0 0 \odot $\overline{\nabla}$ 2. Close latch, push latch pin completely into latch. Failure to do so can cause severe damage to the tool. 1. Pull latch pin and open latch to insert cable and connectors. 3. Advance nibs to center 4. Pump handles until tool pressure connector by pumping builds up and a metallic "click" is handles. heard. Full crimping pressure has been obtained. 5. Rotate pump handle (clockwise) and depress handle fully to make contact with release plunger and retract nibs.



Small connectors may become wedged between the nibs of the tool. Center the connector between the four nibs before crimping. Failure to observe this precaution can cause property damage.



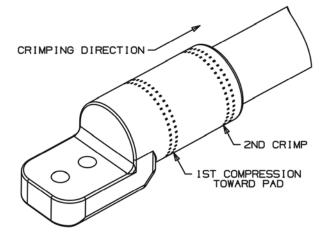
OPERATION (continued)

- 1. Insert cable fully into connector. Center the connector between the nibs.
- 2. Pump the tool to advance the nibs. Keep pumping until the pressure relief valve activates with an audible "pop" sound. This will also be felt in the handles.
- 3. After achieving pressure relief, turn the movable handle so as to contact the pressure relief pin. The ram will return to the start position and the nibs will retract.
- 4. Complete the number of crimps specified by Hubbell ANDERSON[®] connector products.

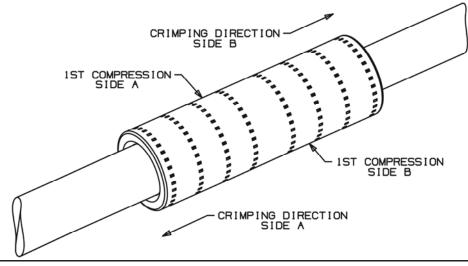
CONNECTOR/CONDUCTOR PREPARATION:

Follow all connector instructions for appropriate cable strip length and number of crimps.

TERMINALS – Start from pad end:



SPLICES – Start from either side of center and work outwards:





VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP

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PRESSURE RELIEF VALVE CHECK & MAINTENANCE

CARE OF HYDRAULIC TOOLS:

These tools require well-trained experienced personnel for major repairs, adjustments or maintenance. The following rules for field personnel, if followed, will prolong the time between major repair work and help ensure dependability of the tool:

- Keep the tool clean. Dirt and grit are the worst enemies to any type of hydraulic equipment. Keep the tool in its case when not in use. Do not lay the tool on the ground. Particularly avoid joint compounds from building up on the crimping nibs. Such compounds are highly abrasive and will work into the hydraulic mechanism if not regularly removed. Wipe the entire tool thoroughly with a clean dry or slightly oily cloth after each day's use.
- 2) <u>Do not make adjustments to the tool</u>. There are no adjustments on this tool which can be made in the field. If a tool becomes inoperable and the instructions in this booklet do not correct the malfunction, return it to the storeroom or other designated place and exchange it for a spare unit.
- 3) <u>Store the tool properly</u>. Before storing tools in their cases, be sure the nibs are fully retracted. This protects the opening ram from moisture condensation and will help assure correct operation at the next period of use; particularly is the tool is to be stored for a long time.

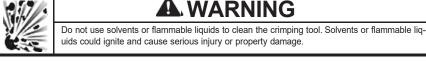
NOTE: When the tool is to be stored for an extended amount of time, the tools should be pumped up approximately every 30 days to keep o-rings and seals lubricated.

WARNING:

Latch pull pin must be fully inserted through head covers or tool WILL be damaged.

Crimping standard "H" frame (Double Open groove) connectors WILL cause tool damage and void any warranties.

MAINTENANCE SUMMARY



Regularly -

- 1. Inspect nibs for wear or damage such as cracks, gouges, or chips.
- 2. Inspect the crimping tool for damage or leaks. Have a damaged or leaking crimping tool repaired at a Hubbell ANDERSON[®] service center.

After Each Use -

- 1. Wipe all tool surfaces clean with a damp cloth and mild detergent
- 2. Fully retract the crimping tool and place it in the carry case. Store in a cool, dry place. NOTE: Do not use solvents or flammable liquids to clean the tool.

Monthly –

- 1. Thoroughly clean all surfaces
- 2. Check oil pressure with approved VCHTG pressure gauge.



VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP

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Annually or every 10,000 crimps -

- 1. Return the tool to an authorized Hubbell ANDERSON[®] service center for inspection and maintenance check.
- 2. Have the oil changed out.



<u>WARRANTY:</u> This tool is warranted to be free of defects in materials and workmanship for a period of two (2) years from the date purchased. Warranty coverage does not apply to repairs required due to normal wear and tear. Proof of purchase date is required for all warranty claims. Obvious misuse or abuse, repairs made or attempted by others, or the use of any non-Hubbell products resulting in damage to the tool (which can be determined at a Hubbell ANDERSON[®] service center) voids any warranty. If inspection by a certified tool technician shows the issue is due to defective workmanship or material, ANDERSON[®] will repair or (at our option) replace the tool. The use of this tool in a manufacturing process renders this warranty null and void.

INSTRUCTIONS FOR RETURNING TOOLS:

Do not ship any tool to the service and repair center without first securing permission. Call VERSA-CRIMP Customer Service and Repair at 1-800-426-8720.

Address: Hubbell ANDERSON[®] VERSA-CRIMP[®] Service & Tool Repair 150 Burndy Road Littleton, NH 03561 USA

INSPECTION PROCEDURE AFTER MAINTENANCE OR OVERHAUL

- 1. After repairs are completed, the tool should be cycled through several crimping operations by pumping the tool up to full pressure and spill off. This may be done without actually crimping any article in the tool. Any spongy feeling or free travel while pumping indicates the probability of air in the hydraulic system and should be corrected before completing the crimping test.
- 2. Rotate tool head counterclockwise (facing tool head) at least ten complete revolutions and check the following:
 - a. Check for binding
 - b. Check for looseness
 - c. After ten complete head revolutions, pump tool until it spills off at full pressure and check for rapid and full retraction of crimping nibs.
- 3. Check for proper adjustment of release pin mechanism. Make certain that plunger will depress sufficiently to open ball valve and allow crimping nibs to fully retract.
- 4. Check for proper spring return of release plunger. Upon retraction of the pump handle release finger, the release plunger should return to its original position.
- 5. Check the full open and full closed dimensions of the crimping nibs. The dimension should be 1.600" maximum to 0.214" minimum.
- 6. Check spring return of the pump handle when rotated and then released.
- 7. Check for oil leaks while pumping tool.



VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP

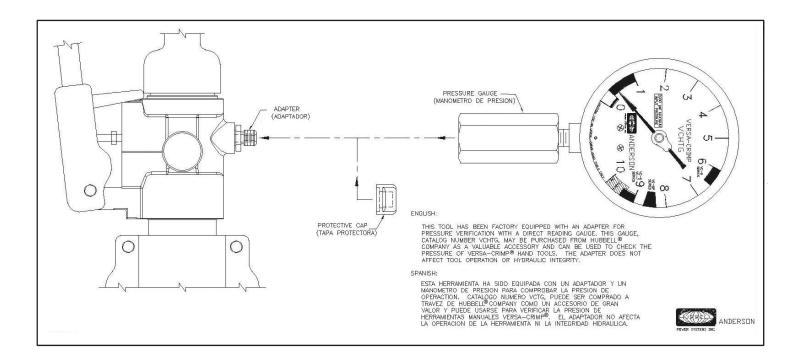
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- 8. Partially pump up tool and depress release plunger. Repeat this procedure. If the pump handle jumps back or if nibs move up or down, ball valve leakage is indicated.
- 9. Pressure check: This tool is equipped with a VCHTG pressure gauge adaptor as are all VERSA-CRIMP[®] hand tools. See illustration below. Remove protection cap, screw on the VCHTG gauge, and pump the tool till spill -off. At spill-off the tool should be in the green zone marked "VC-SP SERIES". If it is above or below this green zone, the tool needs to be calibrated and/or repaired. Call the Hubbell ANDERSON[®] Service and Repair Center.

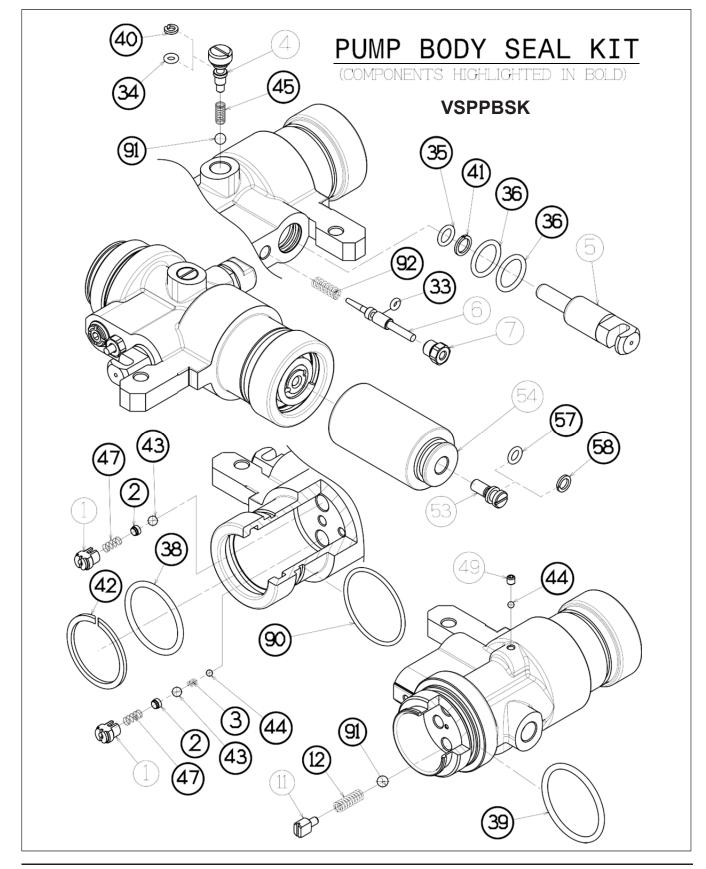
IF YOU HAVE CHECKED THE ABOVE WHEN YOUR TOOL IS RETURNED AND THE TOOL DOES NOT MEET ALL OF THE ABOVE REQUIREMENTS, CALL THE HUBBELL ANDERSON SERVICE AND REPAIR CENTER IMMEDIATELY!

VCHTG Pressure Gauge (Recommended)

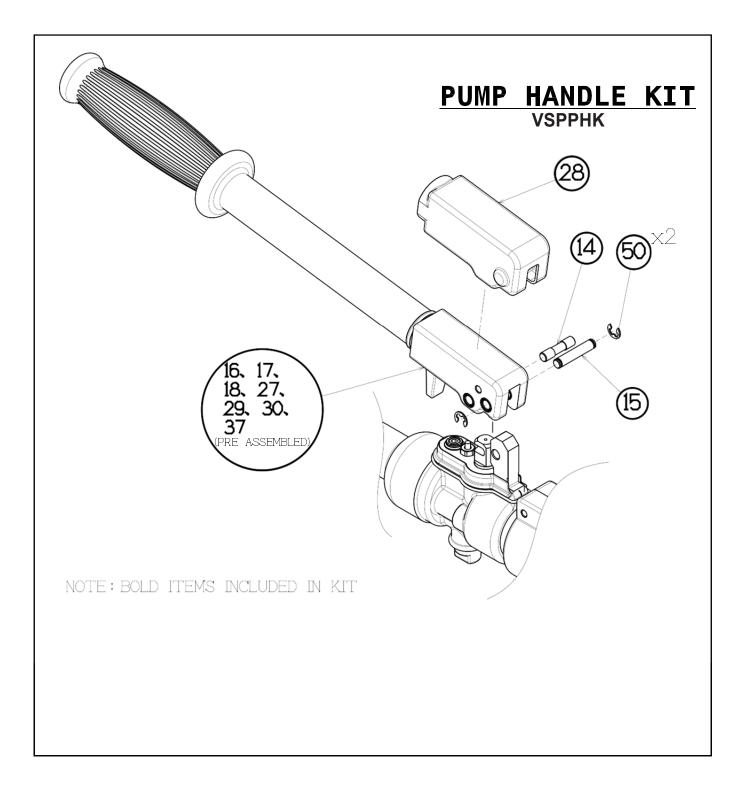
It is recommended the tool be checked for proper operating pressure periodically. The best method is by an ANDERSON[®] VERSA-CRIMP[®] VCHTG pressure gauge.



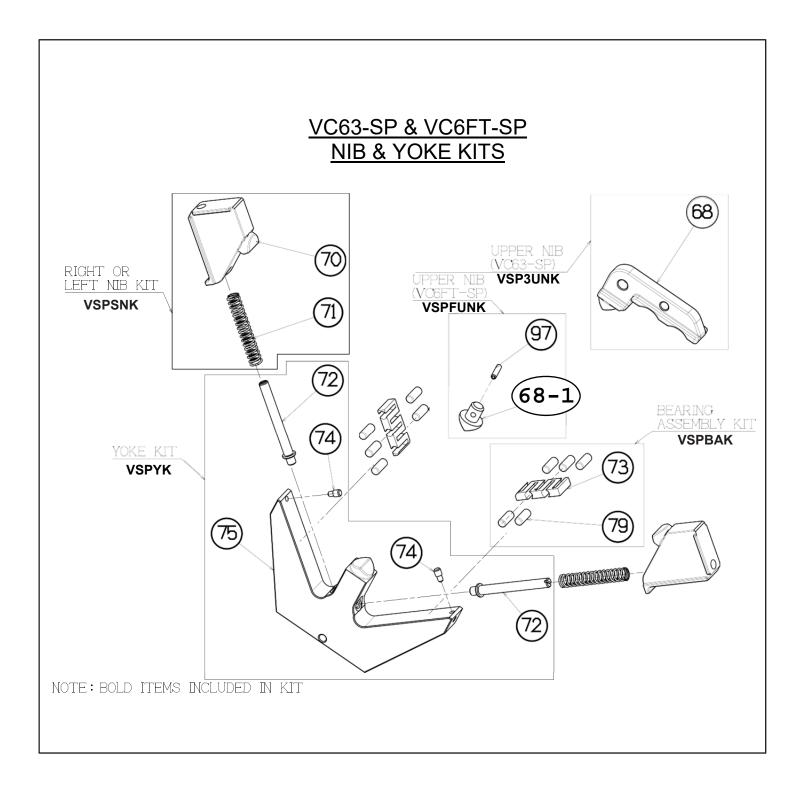




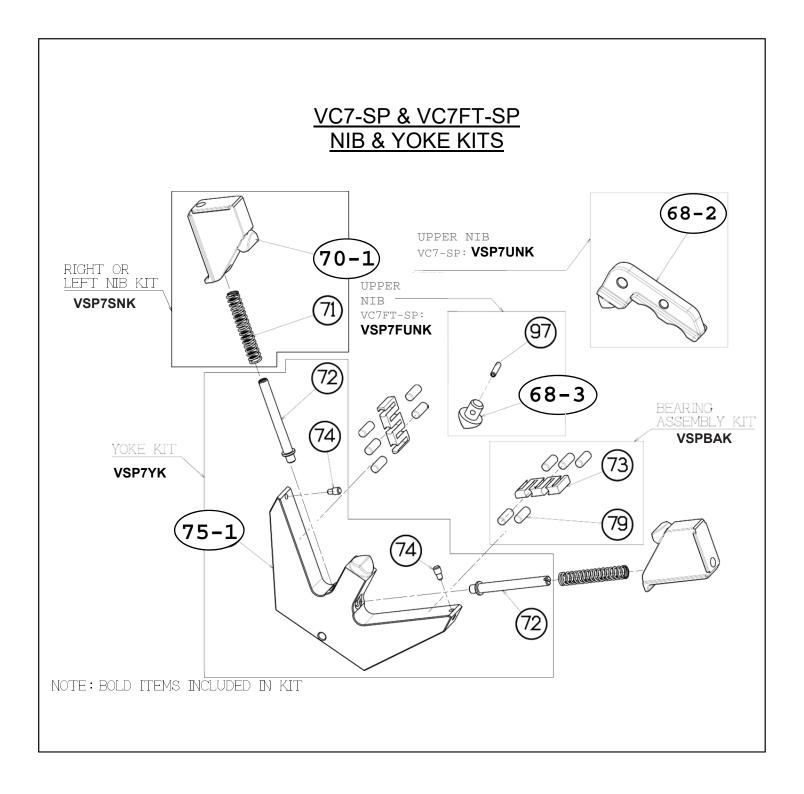








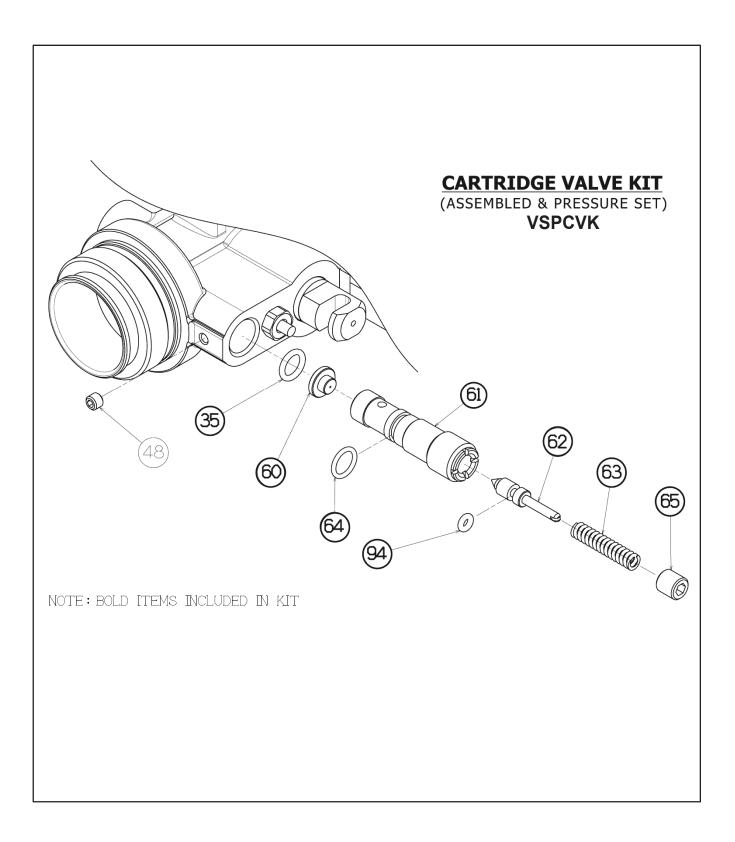




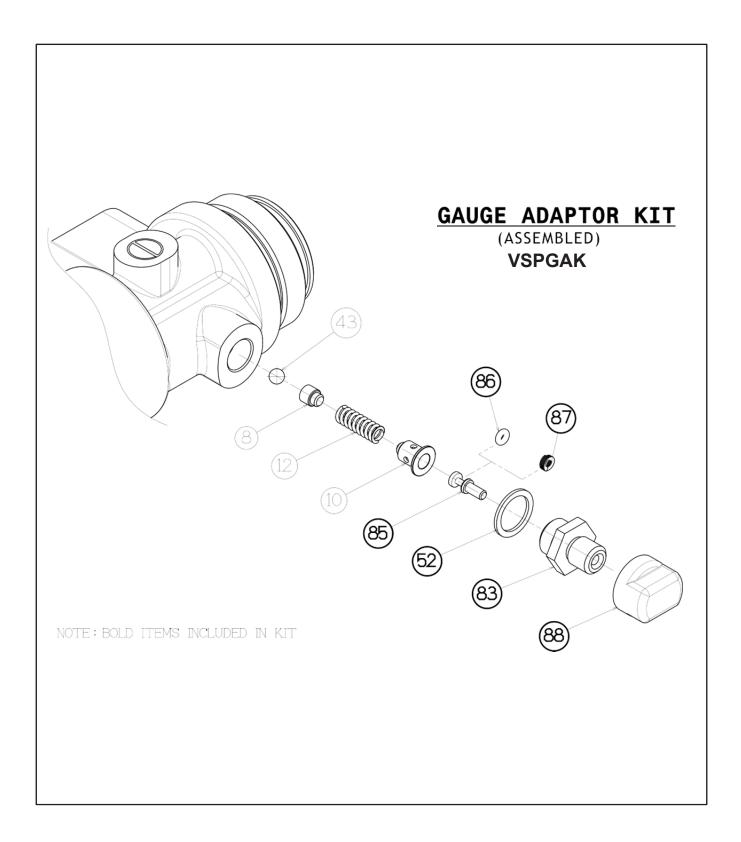


VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP

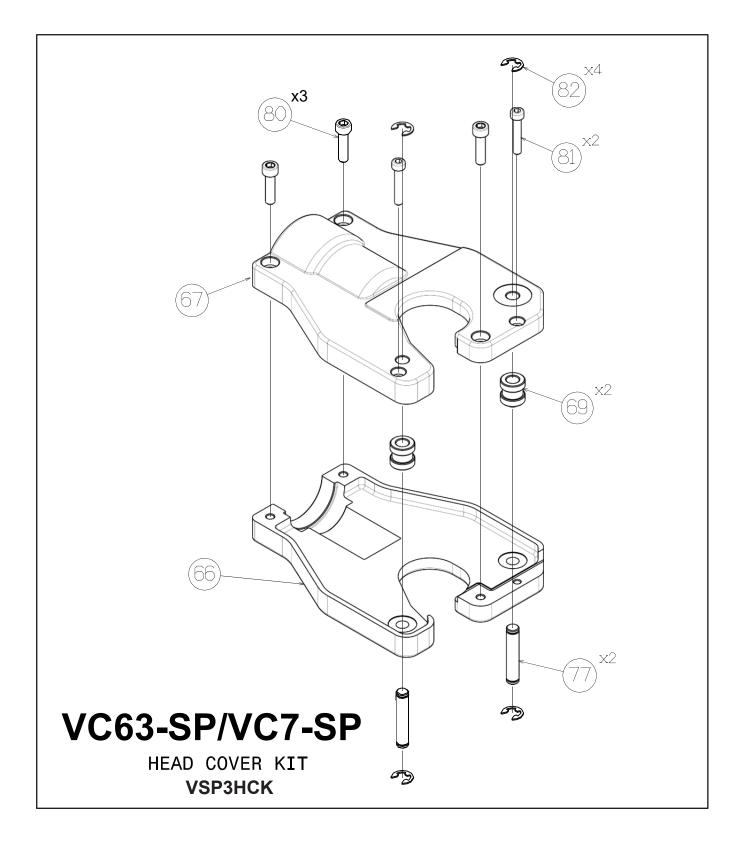
ANDERSON[®] Products



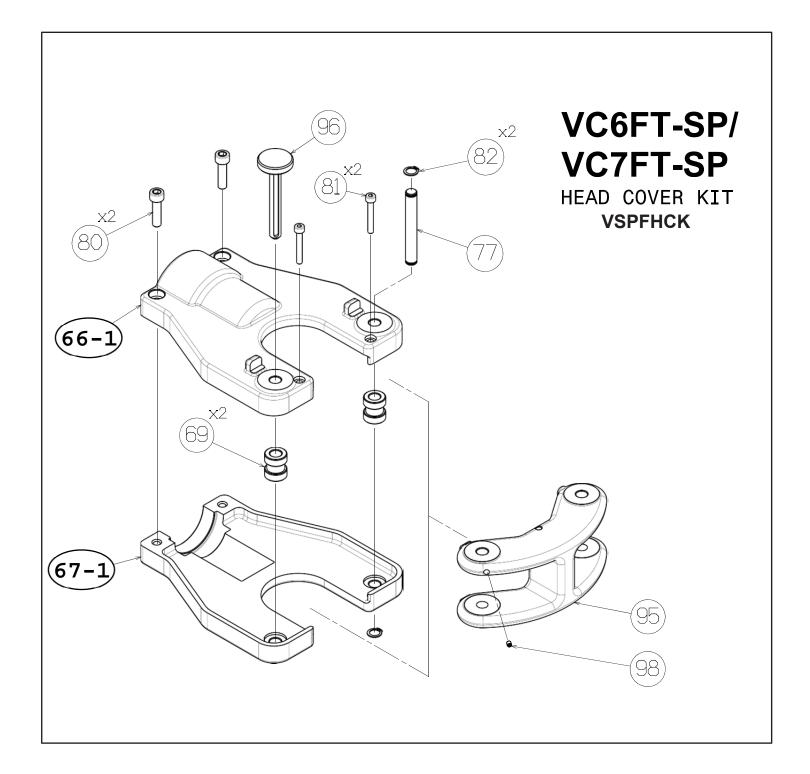












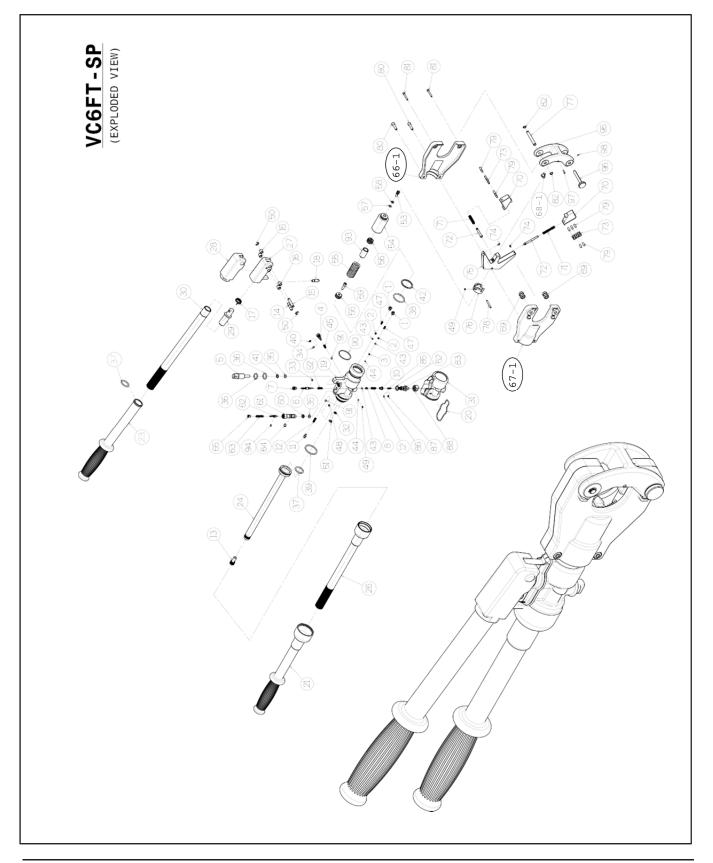


VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP

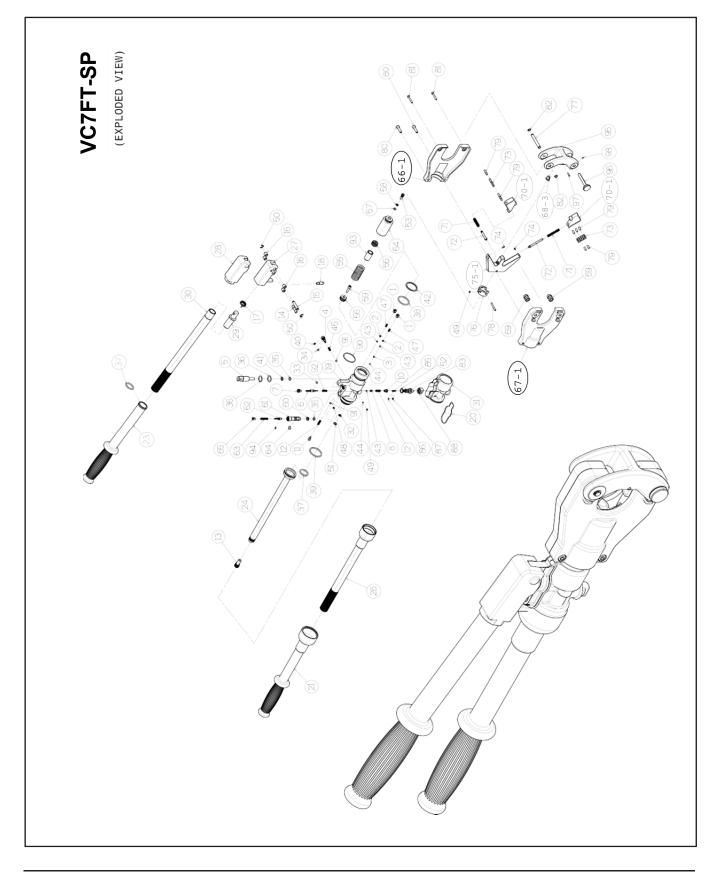
ANDERSON[®] Products

KIT NUMBER	KIT DESCRIPTION	Image Part Number	Description	Quantity in Assembly
		2	Spring Cap	2
		3	Outlet Spring	1
		12	Compression Spring	1
		33 34	O-Ring P3 O-Ring P4	1
		35	O-Ring P8	1
		36	O-Ring P16	2
		38	O-Ring P35	1
		39	O-Ring G38	1
VODDDOV	Duran Darts Oral Kit	40	Nylon Backup Ring P4	1
VSPPBSK	Pump Body Seal Kit	41 42	Nylon Backup Ring P8 Nylon Backup Ring P35	1
		42	Ball D4.75mm	2
		44	Ball D3.175mm	2
		45	Low Pressure Spring	1
		47	Compression Spring D4.2-5-0.3	2
		57	O Ring P6	1
		58	Nylon Backup Ring P6	1
		90 91	O-Ring S40 Ball D5.56	1 2
		91 92	Oil Loop Top Needle Spring	2
		14	Plunger Pin	1
		15	Fulcrum Pin	1
VSPPHK	Pump Handle Kit (Partially Assembled)	16-18, 27, 29, 30, 37	Pump Handle	1
		28	Fulcrum Cover	1
		50	Snap Ring D8	2
VODONIK		70	Side Jaw	1
VSPSNK	Right or Left Nib Kit	71	Side Jaw Spring	1
VSP7SNK	Right or Left Nib Kit	70-1	Side Jaw	1
VOF / SNR	Right of Left Nib Kit	71	Side Jaw Spring	1
VSPBAK	Bearing Assembly Kit	73	Bearing Retainers	1
	J	79 72	Roller Bearing D5-L12	5
VSPYK	Yoke Kit	72	Spring Pin Bearing Stop	2
		74	Cam Yoke	1
i		72	Spring Pin	2
VSP7YK	Yoke Kit	74	Bearing Stop	2
		75-1	Cam Yoke	1
VSPFUNK L	Jpper Nib for VC6FT-SP	68-1	Fixed Nib	1
		97	Pin D3-L14	1
VSP3UNK	Upper Nib for VC63-SP	68	Fixed Nib	1
VSP7FUNK L	Jpper Nib for VC7FT-SP	68-3	Fixed Nib	1
		97	Pin D3-L14	1
VSP7UNK	Upper Nib for VC7-SP	68-2	Fixed Nib	1
		35	O-Ring P8	1
		60	Relief Valve Seat	1
	Cartridge Valve Kit	61 62	Relief Valve Body Seal Pin	1
VSPCVK	(Assembled)	63	Relief Valve Spring	1
	· · · · · · · · · · · · · · · · · · ·	64	O-Ring S9	1
		65	Relief Valve Adjusting Screw M8-L8	1
I		94	O-Ring AN27	1
		52	Soft Copper Washer	1
	One Ada to Mit	83	Gauge Adaptor	1
VSPGAK	Gauge Adaptor Kit (Assembled)	85 86	High Pressure Piston O-Ring CO7200A	1
	(Assembled)	86	Nylon Backup Ring CO 7200A	1
		88	Gauge Adaptor Cap	1
İ		66-1	Cover Half A	1
		67-1	Cover Half B	1
		69	Pivot Roller Bearing	2
		77	Pivot Pin	1
VSPFHCK	VC6FT-SP &VC7FT-SP	80	Socket Head Screw M6-L28	2
	Head Cover Kit	81	Socket Head Screw M4-L28	2
		82 95	E Type Snap Ring D8 Latch	2
		95 96	Latch Pin	1
		98	Headless Inner Hex Screw M3-L8	1
t		66	Cover Half A	1
		67	Cover Half B	1
	/C63-SP & VC7-SP Head	69	Pivot Roller Bearing	2
VSP3HCK V	Cover Kit	77	Pivot Pin	2
		80	Socket Head Screw M6-L28	3
		81	Socket Head Screw M4-L28	2



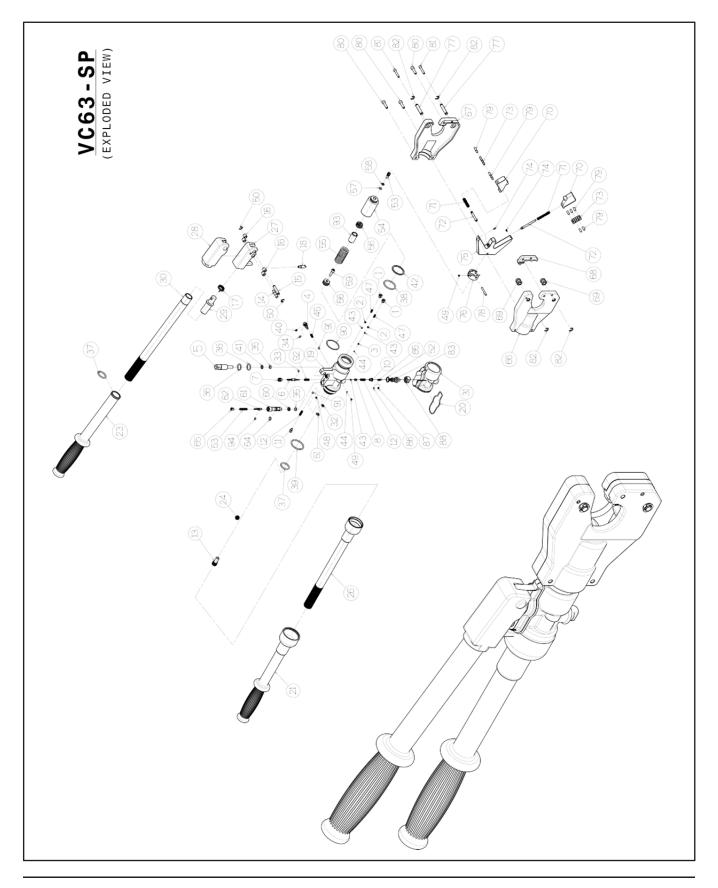




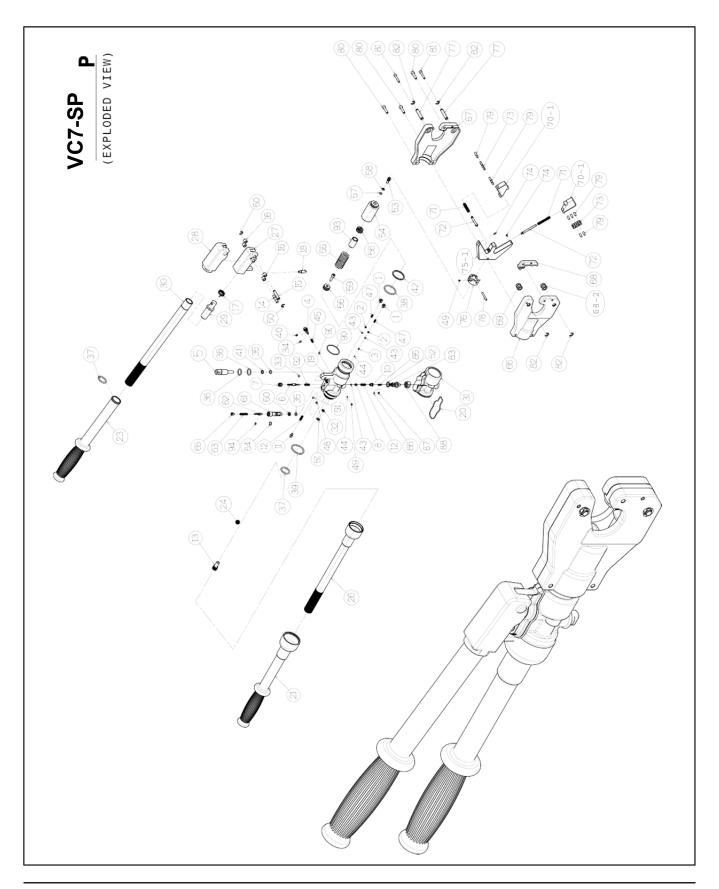




ANDERSON[®] Products VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP







VC6FT-SP, VC63-SP,

VC7-SP, & VC7FT-SP



VC63-SP TOOL			
Image Part Number	Description	Quantity in Assembly	
1	Outlet Valve Screw M10x1.25	2	
2	Spring Cap	2	
3	Outlet Spring	1	
4	Low Pressure Screw	1	
5	Pump Plunger	1	
6	Release Plunger	1	
7	Release Nut	1	
8	Reservoir Spring Cap	1	
9			
10	Adaptor Insert	1	
11	Low Pressure Screw	1	
12	Compression Spring	2	
13	Reservoir Plug	1	
14	Plunger Pin	1	
15	Fulcrum Pin	1	
16	Fulcrum Bushing	4	
17	Torsion Spring	1	
18	Plunger Release Arm	1	
19	Pump Body	1	
20	Overmold Ring Clip	1	
21	Fixed Handle Rubber Overmold	1	
21			
22	Pump Handle Rubber Overmold	1	
23	Oil Bladder	1	
		1	
25			
26	Fixed Handle Assembly	1	
27	Handle Fulcrum	1	
28	FulcrumCover	1	
29	Pump Handle Stub	1	
30	Pump Handle	1	
31	Pump Body Cover	1	
32	Oil Filter Screen	1	
33	O-Ring P3	1	
34	O-Ring P4	1	
35	O-Ring P8	1	
36	O-Ring P16	2	
37	O-Ring G25	2	
38	O-Ring P35	1	
39	O-Ring G38	1	
40	Nylon Backup Ring P4	1	
41	Nylon Backup Ring P8	1	
42	Nylon Backup Ring P35	1	
43	Ball D4.75mm	3	
44	Ball D3.175mm	2	
45	Low Pressure Spring	1	
46			
47	Compression Spring D4.2-5-0.3	2	
48	Hollow Set Screw M5-L4	1	
49	Hollow Set Screw M4-L4	2	
-			

VC6FT-SP TOOL			
lmage Part Number	Description	Quantity in Assembly	
1	Outlet Valve Screw M10x1.25	2	
2	Spring Cap	2	
3	Outlet Spring	1	
4	Low Pressure Screw	1	
5	Pump Plunger	1	
6	Release Plunger	1	
7	Release Nut	1	
8	Reservoir Spring Cap	1	
9			
10	Adaptor Insert	1	
11	Low Pressure Screw	1	
12	Compression Spring	2	
13	Reservoir Plug	1	
10	Plunger Pin	1	
15	Fulcrum Pin	1	
16	Fulcrum Bushing	4	
10	Torsion Spring	1	
17	Plunger Release Arm	1	
10	Pump Body	1	
20	Overmold Ring Clip	1	
20	Fixed Handle Rubber Overmold	1	
21			
22			
23	Pump Handle Rubber Overmold Oil Bladder	1	
	Oli Bladder	1	
25			
26	Fixed Handle Assembly	1	
27	Handle Fulcrum	1	
28	Fulcrum Cover	1	
29	Pump Handle Stub	1	
30	Pump Handle	1	
31	Pump Body Cover	1	
32	Oil Filter Screen	1	
33	O-Ring P3	1	
34	O-Ring P4	1	
35	O-Ring P8	1	
36	O-Ring P16	2	
37	O-Ring G25	2	
38	O-Ring P35	1	
39	O-Ring G38	1	
40	Nylon Backup Ring P4	1	
41	Nylon Backup Ring P8	1	
42	Nylon Backup Ring P35	1	
43	Ball D4.75mm	3	
44	Ball D3.175mm	2	
45	Low Pressure Spring	1	
46			
40	Compression Spring D4.2-5-0.3	2	
48	Hollow Set Screw M5-L4	1	
40	Hollow Set Screw M3-L4	2	
73		2	



VC63-SP TOOL			
Image Part Number	Description	Quantity in Assembly	
50	Snap Ring D8	2	
51	Snap Ring D8	1	
52	Soft Copper Washer	1	
53	Flat Head Screw	1	
54	Work Piston	1	
55	Retraction Spring	1	
56	Spring Retainer	2	
57	O Ring P6	1	
58	Nylon Backup Ring P6	1	
59	Flat head Inner Hex Screw M6	1	
60	Relief Valve Seat	1	
61	Relief Valve Body	1	
62	Seal Pin	1	
63	Relief Valve Spring	1	
64	O-Ring S9	1	
65	Relief Valve Adjusting Screw M8-L8	1	
66	Cover Half A	1	
67	Cover Half B	1	
68	Fixed Nib	1	
69	Pivot Roller Bearing	2	
70	Side Jaw	2	
71	Side Jaw Spring	2	
72	Spring Pin	2	
73	Bearing Retainers	2	
74	Bearing Stop	2	
75	Cam Yoke	1	
76	Cam Yoke Adaptor	1	
77	Pivot Pin	1	
78	Roll Pin	1	
79	Roller Bearing D5-L12	10	
80	Socket Head Screw M6-L28	3	
81	Socket Head Screw M4-L28	2	
82	E Type Snap Ring D8	4	
83	Gauge Adaptor	1	
84			
85	High Pressure Piston	1	
86	O-Ring CO7200A	1	
87	Nylon Backup Ring CO 7200A	1	
88	Gauge Adaptor Cap	1	
89			
90	O-Ring S40	1	
91	Ball D5.56mm	2	
92	Oil Loop Top Needle Spring	1	
93	Retraction Spring Bushing	1	
94	O-Ring AN27	1	

VC6FT-SP TOOL			
Image Part Number	Description	Quantity in Assembly	
50	Snap Ring D8	2	
51	Snap Ring D8	1	
52	Soft Copper Washer	1	
53	Flat Head Screw	1	
54	Work Piston	1	
55	Retraction Spring	1	
56	Spring Retainer	2	
57	O Ring P6	1	
58	Nylon Backup Ring P6	1	
59	Flat head Inner Hex Screw M6	1	
60	Relief Valve Seat	1	
61	Relief Valve Body	1	
62	Seal Pin	1	
63	Relief Valve Spring	1	
64	O-Ring S9	1	
65	Relief Valve Adjusting Screw M8-L8	1	
66-1	Cover Half A	1	
67-1	Cover Half B	1	
68-1	Fixed Nib	1	
69	Pivot Roller Bearing	2	
70	Side Jaw	2	
71	Side Jaw Spring	2	
72	Spring Pin	2	
73	Bearing Retainers	2	
74	Bearing Stop	2	
75	Cam Yoke	1	
76	Cam Yoke Adaptor	1	
77	Pivot Pin	1	
78	Roll Pin	1	
79	Roller Bearing D5-L12	10	
80	Socket Head Screw M6-L28	2	
81	Socket Head Screw M4-L28	2	
82	E Type Snap Ring D8	2	
83	Gauge Adaptor	1	
84			
85	High Pressure Piston	1	
86	O-Ring CO7200A	1	
87	Nylon Backup Ring CO 7200A	1	
88	Gauge Adaptor Cap	1	
	Cauge Adaptol Cap	1	
89			
90	O-Ring S40	1	
91	Ball D5.56mm	2	
92	Oil Loop Top Needle Spring	1	
93	Retraction Spring Bushing	1	
94	O-Ring AN27	1	
95	Latch	1	
96	Latch Pin	1	
97	Pin D3-L14	1	
98	Headless Inner Hex Screw M3-L8	1	



VC7-SP TOOL			
Image Part Number	Description	Quantity in Assembly	
1	Outlet Valve Screw M10x1.25	2	
2	Spring Cap	2	
3	Outlet Spring	1	
4	Low Pressure Screw	1	
5	Pump Plunger	1	
6	Release Plunger	1	
7	Release Nut	1	
8	Reservoir Spring Cap	1	
9			
10	Adaptor Insert	1	
11	Low Pressure Screw	1	
12	Compression Spring	2	
13	Reservoir Plug	1	
14	Plunger Pin	1	
15	Fulcrum Pin	1	
16	Fulcrum Bushing	4	
17	Torsion Spring	1	
18	Plunger Release Arm	1	
19	Pump Body	1	
20	Overmold Ring Clip	1	
21	Fixed Handle Rubber Overmold	1	
22			
23	Pump Handle Rubber Overmold	1	
24	Oil Bladder	1	
25			
26	Fixed Handle Assembly	1	
20	Handle Fulcrum	1	
28	Fulcrum Cover	1	
28	Pump Handle Stub	1	
	Pump Handle	1	
30 31		1	
31	Pump Body Cover Oil Filter Screen	1	
33 34	O-Ring P3	1	
-	O-Ring P4	-	
35	O-Ring P8	1	
36 37	O-Ring P16	2	
	O-Ring G25 O-Ring P35	1	
38		1	
39	O-Ring G38	1	
40	Nylon Backup Ring P4		
41	Nylon Backup Ring P8	1	
42	Nylon Backup Ring P35	1	
43	Ball D4.75mm	3	
44	Ball D3.175mm	2	
45	Low Pressure Spring	1	
46			
47	Compression Spring D4.2-5-0.3	2	
48	Hollow Set Screw M5-L4	1	
49	Hollow Set Screw M4-L4	2	

VC7FT-SP TOOL			
Image Part Number	Description	Quantity in Assembly	
1	Outlet Valve Screw M10x1.25	2	
2	Spring Cap	2	
3	Outlet Spring	1	
4	Low Pressure Screw	1	
5	Pump Plunger	1	
6	Release Plunger	1	
7	Release Nut	1	
8	Reservoir Spring Cap	1	
9			
10	Adaptor Insert	1	
11	Low Pressure Screw	1	
12	Compression Spring	2	
13	Reservoir Plug	1	
14	Plunger Pin	1	
15	Fulcrum Pin	1	
16	Fulcrum Bushing	4	
17	Torsion Spring	1	
18	Plunger Release Arm	1	
19	Pump Body	1	
20	Overmold Ring Clip	1	
21	Fixed Handle Rubber Overmold	1	
22			
23	Pump Handle Rubber Overmold	1	
24	Oil Bladder	1	
25			
26	Fixed Handle Assembly	1	
27	Handle Fulcrum	1	
28	Fulcrum Cover	1	
29	Pump Handle Stub	1	
30	Pump Handle	1	
31	Pump Body Cover	1	
32	Oil Filter Screen	1	
33	O-Ring P3	1	
34	O-Ring P4	1	
35	O-Ring P8	1	
36	O-Ring P16	2	
37	O-Ring G25	2	
38	O-Ring P35	1	
39	O-Ring G38	1	
40	Nylon Backup Ring P4	1	
41	Nylon Backup Ring P8	1	
42	Nylon Backup Ring P35	1	
43	Ball D4.75mm	3	
44	Ball D3.175mm	2	
45	Low Pressure Spring	1	
46			
40	Compression Spring D4.2-5-0.3	2	
48	Hollow Set Screw M5-L4	1	
49	Hollow Set Screw M3-L4 Hollow Set Screw M4-L4	2	



VC7-SP TOOL		
Image Part Number	Description	Quantity in Assembly
50	Snap Ring D8	2
51	Snap Ring D8	1
52	Soft Copper Washer	1
53	Flat Head Screw	1
54	Work Piston	1
55	Retraction Spring	1
56	Spring Retainer	2
57	O Ring P6	1
58	Nylon Backup Ring P6	1
59	Flat head Inner Hex Screw M6	1
60	Relief Valve Seat	1
61	Relief Valve Body	1
62	Seal Pin	1
63	Relief Valve Spring	1
64	O-Ring S9	1
65	Relief Valve Adjusting Screw M8-L8	1
66	Cover Half A	1
67	Cover Half B	1
68-2	Fixed Nib	1
69	Pivot Roller Bearing	2
70-1	Side Jaw	2
71	Side Jaw Spring	2
72		2
72	Spring Pin	2
73	Bearing Retainers	2
	Bearing Stop	
75-1	Cam Yoke	1
76	Cam Yoke Adaptor	1
77	Pivot Pin	1
78	Roll Pin	1
79	Roller Bearing D5-L12	10
80	Socket Head Screw M6-L28	3
81	Socket Head Screw M4-L28	2
82	E Type Snap Ring D8	4
83	Gauge Adaptor	1
84		
85	High Pressure Piston	1
86	O-Ring CO7200A	1
87	Nylon Backup Ring CO 7200A	1
88	Gauge Adaptor Cap	1
89		
90	O-Ring S40	1
91	Ball D5.56mm	2
92	Oil Loop Top Needle Spring	1
92	Retraction Spring Bushing	1
93	O-Ring AN27	1
94	U-King ANZ/	

VC7FT-SP TOOL			
lmage Part Number	Description	Quantity in Assembly	
50	Snap Ring D8	2	
51	Snap Ring D8	1	
52	Soft Copper Washer	1	
53	Flat Head Screw	1	
54	Work Piston	1	
55	Retraction Spring	1	
56	Spring Retainer	2	
57	O Ring P6	1	
58	Nylon Backup Ring P6	1	
59	Flat head Inner Hex Screw M6	1	
60	Relief Valve Seat	1	
61	Relief Valve Body	1	
62	Seal Pin	1	
63	Relief Valve Spring	1	
64	O-Ring S9	1	
65	Relief Valve Adjusting Screw M8-L8	1	
66-1	Cover Half A	1	
67-1	Cover Half B	1	
68-3	Fixed Nib	1	
69	Pivot Roller Bearing	2	
70-1	Side Jaw	2	
71	Side Jaw Spring	2	
72	Spring Pin	2	
73	Bearing Retainers	2	
74	Bearing Stop	2	
75-1	Cam Yoke	1	
76	Cam Yoke Adaptor	1	
77	Pivot Pin	1	
78	Roll Pin	1	
79	Roller Bearing D5-L12	10	
80	Socket Head Screw M6-L28	2	
81	Socket Head Screw M4-L28	2	
82	E Type Snap Ring D8	2	
83	Gauge Adaptor	1	
84			
85	High Pressure Piston	1	
86	O-Ring CO7200A	1	
87	Nylon Backup Ring CO 7200A	1	
88	Gauge Adaptor Cap	1	
89			
		1	
90	O-Ring S40		
91	Ball D5.56mm	2	
92	Oil Loop Top Needle Spring	1	
93	Retraction Spring Bushing	1	
94	O-Ring AN27	1	
95	Latch	1	
96	Latch Pin	1	
97	Pin D3-L14	1	
98	Headless Inner Hex Screw M3-L8	1	



Model No:		
Serial No:		
Date of Purchase:	-	
Purchased From:	-	
Notes:		



VC6FT-SP, VC63-SP, VC7-SP, & VC7FT-SP



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