



# EAGLE SERVICE MANUAL



This service manual contains detailed description of the main repair work on the cold HPW Eagle models

Repair work requires a suitable testing workplace with the necessary water and power supply.

If operating errors are evident, refer the customer to the operating instructions.

A fault in the cleaner can have several causes as described in the section on troubleshooting.

Refer to the illustrated spare parts lists during repairs. They show the assembly position and the sequence in which the individual components should be assembled.


See "Technical Service Bulletin (TSB) sheets. They include information on technical modifications that have been made after this repair manual was printed.

"Technical Service Bulletin" sheets are also valid as a supplement to the spare parts list until publication of a new edition.

Repair manuals and " Technical Service Bulletin" sheets should be available at the site where repairs are carried out.

It is not permitted to give them to third parties.

Use original **Pressure-Pro** spare parts only.

	<p><b>WARNING:</b> This product can expose you to chemicals including toluene and benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>.</p>
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For your own safety



Repair work should be carried out by persons instructed in electrical installations or by trained electricians only.

Observe valid safety regulations for electrical equipment. In particular, observe the following regulations:

IEC 60335-2-79

EN 60335-2-79

Additionally:

Also see national regulations

Before using the cleaner, always read the operating instructions and keep them readily available.

Only allow the high pressure

ESD measures  
(electrostatic discharge)

Take the following ESD precautions before carrying out any repairs to the electronics:

- Touch the earth conductor before repairing the cleaner ( to discharge electrostatic charge from your body ).
- Wear wrist band if necessary.
- Use a conductive floor covering or a conductive table cover.
- Never touch the printed circuit board or electronic components ( always hold on to plastic ).
- Transport electronic components in conductive packaging ( e.g. ESD bag ).



**EXTREMELY HAZARDOUS OR DANGEROUS SITUATION THAT WILL RESULT IN DEATH OR SERIOUS INJURY IF NOT OBEYED OR AVOIDED.**



**DO NOT FILL OR REFILL THE ENGINE WITH FUEL WHILE THE ENGINE IS RUNNING. STOP THE ENGINE, RELEASE THE PRESSURE IN THE HOSE AND ALLOW THE ENGINE TO COOL FOR AT LEAST 5 MINUTES BEFORE REFUELING.**

**DO NOT SMOKE WHEN REFILLING ANY FUEL TANKS.**

**DO NOT REFUEL INDOORS.**

**REFILL ONLY IN A WELL-VENTILATED AREA.**

**DO NOT OVER FILL TANKS. REFILL TANKS SLOWLY TO AVOID SPILLING FUEL.**

**DO NOT RESTART MACHINE UNTILL ALL FUEL SPILLS HAVE BEEN THOROUGHLY CLEANED UP AND ANY RESIDUAL FUEL HAS EVAPORATED.**

**DO NOT STORE THE MACHINE NEAR OPEN FLAME, HEAT SOURCE OR ANY DEVICE THAT COULD CREATE A SPARK.**



**DO NOT SPRAY FLAMMABLE LIQUIDS.**

**DO NOT OPERATE PRESSURE WASHER IN THE PRESENCE OF FLAMMABLE LIQUIDS, VAPORS, GASSES, COMBUSTIBLE DUST OR ANY OTHER COMBUSTIBLE MATERIALS.**

**DO NOT USE CRANKCASE OR WASTE OIL.**

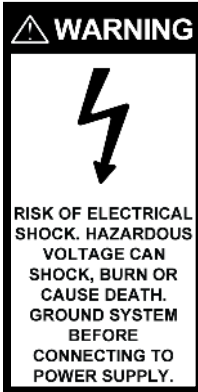
**DO NOT PUT GASOLINE IN ANY TANK INTENDED FOR FUEL OIL.**

**USE ONLY No.1 OR No.2 HEATING OIL OR DIESEL FUEL IN THE BURNER TANK.**



**DO NOT OPERATE PRESSURE WASHER IN AN ENCLOSED AREA.**

**USE ONLY IN A WELL-VENTILATED AREA. PROPER VENTILATION AND OXYGEN SUPPLY IS NEED TO SUSTAIN YOUR LIFE AND FOR THE SAFE AND EFFICIENT OPERATION OF THIS MACHINE.**



**DO NOT DIRECT THE WATER STREAM OR SPRAY AT ANY ELECTRICAL INSTALLATION OF ANY KIND INCLUDING LIGHTS. DO NOT USE THE WATER STREAM TO CLEAN THE PRESSURE WASHER.**

**DO NOT USE EXTENSION CORDS. USE ADDITIONAL HOSES. DO NOT USE THE PRESSURE WASHER IF THE GFCI, CIRCUIT BREAKER OR THERMAL OVERLOAD PROTECTOR TRIPS. DO NOT USE WHILE RAINING.**

**DO NOT USE IF POWER SUPPLY CORD IS DAMAGED.**

**DO NOT REPAIR POWER SUPPLY CORD. REPLACE IT.**

**DO NOT ALLOW POWER CORD TO LAY IN STANDING WATER.**

**USE ONLY FACTORY SUPPLIED CORD SET WITH A PROPERLY GROUNDED RECEPTACLE THAT IS EQUIPPED WITH A GROUND FAULT CIRCUIT INTERRUPTER.**

**USE ONLY A PROPERLY SIZED AND ISOLATED ELECTRICAL SUPPLY CAPABLE OF THE FULL LOAD AMPERAGE THAT THE PRESSURE WASHER REQUIRES.**



**DO NOT USE THE PRESSURE WASHER WHILE STANDING ON A LADDER OR SCAFFOLDING.**

**DO NOT USE WHILE STANDING ON PITCHED ROOFS. WET SURFACE IS SLIPPERY. DANGER OF SLIP AND FALL.**



**DO NOT POINT THE WATER STREAM AT ANY PERSONS OR ANIMALS.**

**DO NOT OPERATE IN THE VICINITY OF CHILDREN.**

**DO NOT USE THE WATER STREAM TO CLEAN ANY PROTECTIVE CLOTHING OR BOOTS.**



**USE ONLY FACTORY APPROVED IDENTICAL REPLACEMENT PARTS.**

**DO NOT CHANGE OR TAMPER WITH FACTORY PRESET ADJUSTMENTS.**



**DO NOT OPERATE THE UNIT WITH A MALFUNCTIONING BURNER OR BURNER CONTROL. INSPECT BURNER AND BURNER CONTROL OPERATION BEFORE EACH USE. FAILURE TO DO SO MAY RESULT IN AN EXPLOSION OR FIRE. IF YOU SUSPECT A PROBLEM WITH THE BURNER,**

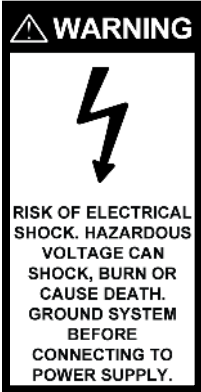
**DISCONTINUE USE IMMEDIATELY AND CONTACT YOUR LOCAL AUTHORIZED DISTRIBUTOR.**

**WARNING! (Liquid Petroleum or Natural Gas Fired Units)  
FOR YOUR OWN SAFETY, IF YOU SMELL GAS:**

- 1. OPEN WINDOWS.**
- 2. DO NOT TOUCH ELECTRICAL SWITCHES.**
- 3. TURN OFF BREAKER SWITCH SUPPLYING POWER TO UNIT. CLOSE GAS SUPPLY VALVE TO UNIT.**
- 4. EXTINGUISH ANY OPEN FLAME.**
- 5. IMMEDIATELY EVACUATE PREMISES AND CALL YOUR GAS SUPPLIER.**
- 6. MACHINES CAN CAUSE AN EXPLOSION WHEN OPERATED NEAR FLAMMABLE MATERIALS AND VAPORS. DO NOT-USE THIS MACHINE WITH OR NEAR FUELS, GRAIN DUST, SOLVENTS, THINNERS OR OTHER FLAMMABLE MATERIALS.**
- 7. THIS UNIT MUST BE INSTALLED IN COMPLIANCE WITH ALL APPLICABLE GAS CODES. FAILURE TO DO SO COULD RESULT IN INJURY OR DEATH TO YOU OR TO OTHER PERSONNEL.**
- 8. USE NO. 1 OR NO. 2 FUEL OIL ONLY IN OIL FIRED MACHINES. NEVER INTRODUCE GASOLINE TO THE FUEL OR OIL TANK. DOING SO COULD RESULT IN AN EXPLOSION OR FIRE. KEEP THE PROPER FUEL IN THE PROPER TANK.**



**POTENTIALLY HAZARDOUS SITUATION THAT COULD RESULT IN DEATH OR SERIOUS INJURY IF NOT OBEYED OR AVOIDED.**



**DISCONNECT** POWER BEFORE SERVICING THE PRESSURE WASHER.

**DISCONNECT** SPARK PLUG BEFORE SERVICING THE PRESSURE WASHER.

**DO NOT** DIRECT THE WATER STREAM OR SPRAY AT ANY ELECTRICAL INSTALLATION OF ANY KIND INCLUDING LIGHTS.



**DO NOT** TOUCH HOT SURFACES. EG. MUFFLER, BURNER, ENGINE, HEAT EXCHANGER, EXHAUST HEAD.

USE ONLY INSULATED EXTENSION WAND WITH HOT WATER.

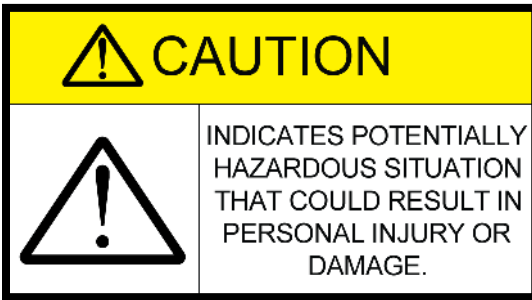
**DO NOT** ALLOW HOSES TO TOUCH HOT SURFACE.



**DO NOT** USE PRESSURE WASHER WITHOUT PROPER PROTECTIVE WEAR. USE EYE PROTECTION, RUBBER GLOVES, RUBBER BOOTS, AND PROTECTIVE CLOTHING.

**DO NOT** USE CORROSIVE OR AGGRESSIVE CHEMICALS WITHOUT PROPER PROTECTIVE WEAR.

USE ONLY APPROVED ACCESSORIES RATED FOR HOT WATER AND HIGH PRESSURE.



**POTENTIALLY HAZARDOUS SITUATION THAT COULD RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE IF NOT OBEYED OR AVOIDED.**

**DO NOT LEAVE THE PRESSURE WASHER RUNNING UNATTENDED. TURN THE MACHINE OFF AND RELEASE ALL PRESSURE FROM THE SYSTEM.**

**DO NOT DEFEAT THE TRIGGER GUN SAFETY**

**DO NOT LOCK THE TRIGGER IN THE OPEN POSITION IN ANY WAY.**

**KNOW THE MACHINE CONTROLS AND HOW TO QUICKLY SHUT DOWN AND RELEASE ALL PRESSURE IN THE SYSTEM.**

**DO NOT OPERATE THE MACHINE WITHOUT ALL GUARDS AND PROTECTIVE COVERS IN PLACE.**

**DO NOT ALLOW ANY PART OF PERSONS OR HOSES TO CONTACT HOT SURFACES.**

**INSPECT THE PRESSURE WASHER AND HOSES FOR DAMAGED PARTS DAILY.**

**DO NOT OPERATE WITH ANY FAULTY OR DAMAGED COMPONENTS.**

**DISCONNECT POWER CORD, BATTERY NEGATIVE AND SPARK PLUG BEFORE PERFORMING ANY SERVICE ON THE PRESSURE WASHER.**

**KEEP ALL HOSES AND POWER CORDS AWAY FROM VEHICLE TRAFFIC.**

**DO NOT MOVE THE MACHINE BY PULLING ON THE HOSE.**

**DO NOT DIRECT THE HIGH PRESSURE WATER STREAM AT FRAGILE OBJECTS.**

**DO NOT USE ANY ACCESSORIES UNLESS THEY ARE RATED AT OR ABOVE THE WORKING PRESSURE OF THE MACHINE.**

**ALWAYS USE EYE, FACE, HAND, FOOT, HEARING, AND BODY PROTECTIVE WEAR.**

**DO NOT OPERATE PRESSURE WASHER IF FATIGUED OR UNDER THE**

Technical Data ↓					
Service data	Unit	Value	Value	Value	Value
Cart Model		E3027HC	E3027HG	E3027HV	E3030HCI
Skid Model		-	S/E3027HG	S/E3027HV	-
Frame:					
Cart Frame		KCA008-2	KCA008-2	KCA008-2	KCA008-2
Skid Frame		-	KCA075-2	KCA075-2	-
Pump:					
Pressure pump head @ Qiec	psi	-	-	-	-
Pressure pump outlet @ Qiec	psi	2538 ± 100	2538 ± 100	2538 ± 100	2825 ± 100
Pressure gun outlet @ Qiec	psi	-	-	-	-
Retaining pressure	psi	3100 ± 200	3100 ± 200	3100 ± 200	3400 ± 200
Flow. Qiec	GPM	2.8 ± 0.1	2.8 ± 0.1	2.8 ± 0.1	2.8 ± 0.1
Suction height dry	ft	0	0	0	0
Suction height primed	ft	Flooded	Flooded	Flooded	Flooded
Pump type		CAT 4PPX30GSI	GP TP2530J34	VIPER VV3G27G	CAT 4PPX30GSI
Number of pistons		3	3	3	3
Piston type		Ceramic	Ceramic	Ceramic	Ceramic
Thermal dump valve	°F	140	140	140	140
Pump oil type		Cat ISO 68	SAE30 Non-Detergent	SAE30 Non-Detergent	Cat ISO 68
Pump oil amount	qt	0.265	0.343	0.367	0.265
Plumbing Kit		KPL057	KPL401	KPL402	KPL057
Engine:					
Engine Manufacturer		Honda	Honda	Honda	Honda
Engine type		GX200	GX200	GX200	GX200
Engine Power	HP	5.5	5.5	5.5	5.5
Fuel type		Gasoline	Gasoline	Gasoline	Gasoline
Fuel capacity	gal	0.8175	0.8175	0.8175	0.8175
Fuel consumption	GPH	0.42	0.42	0.42	0.42
Engine/Pump RPM	RPM	3400	3400	3400	3400
Engine oil type/amount	Quart	10W30 / .63	10W30 / .63	10W30 / .63	10W30 / .63
Drive Kit		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Unit Data:					
Nozzle size, water		3.5	3.5	3.5	3
Max. Inlet temp. (primed)	°F	140	140	140	140
Max. Inlet temp. (pressure fed)	°F	140	140	140	140
Gun/Wand		AGU03621290C-I	AGU03621290C-I	AGU03621290C-I	AGU03621290C-I
Lance Length	in	36"	36"	36"	36"
Hose Kit		AHS280	AHS280	AHS280	AHS280
Hose	type/ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft
Sound level (LwA/LpA) 1m/6M	dbA	102	100	99	100
Machine weight Cart	lbs	79	83	83	79
Machine weight Skid	lbs	-	71	71	-
Size - Machine L x W x H Cart	in	37 x 21.5 x 24	37 x 21.5 x 24	37 x 21.5 x 24	37 x 21.5 x 24
Size - Machine L x W x H Skid	in	-	23 x 17.5 x 17	23 x 17.5 x 17	-

Technical Data ↓					
Service data	Unit	Value	Value	Value	Value
Cart Model		E3027KV	E4042KV	E3032HG	E4040HA
Skid Model		-	S/E4042KV	-	S/E4040HA
Frame:					
Cart Frame		KCA008-2	KCA030-20	KCA030-20	KCA030-20
Skid Frame		-	KCA076-2	-	KCA076-2
Pump:					
Pressure pump head @ Qiec	psi	-	-	-	-
Pressure pump outlet @ Qiec	psi	2538 ± 100	3988 ± 100	2987 ± 100	3799 ± 100
Pressure gun outlet @ Qiec	psi	-	-	-	-
Retaining pressure	psi	3100 ± 200	4520 ± 100	3600 ± 200	4400 ± 200
Flow. Qiec	GPM	2.8 ± 0.1	3.8 ± 0.1	2.8 ± 0.1	3.8 ± 0.1
Suction height dry	ft	0	0	0	0
Suction height primed	ft	Flooded	Flooded	Flooded	Flooded
Pump type		VIPER VV3G27G	VIPER VV4G42G	GP TX1508G8	AR RRV4G40D-F24
Number of pistons		3	3	3	3
Piston type		Ceramic	Ceramic	Ceramic	Ceramic
Thermal dump valve	°F	140	140	140	140
Pump oil type		SAE30 Non-Detergent	SAE30 Non-Detergent	SAE30 Non-Detergent	SAE30 Non-Detergent
Pump oil amount	qt	0.367	0.48	0.437	0.437
Plumbing Kit		KPL402	KPL400	KPL400	KPL400
Engine:					
Engine Manufacturer		Kohler	Kohler	Honda	Honda
Engine type		SH265	CH440	GX270	GX390
Engine Power	HP	6.5	14	9	11.7
Fuel type		Gasoline	Gasoline	Gasoline	Gasoline
Fuel capacity	gal	0.847	1.85	1.4	1.61
Fuel consumption	GPH	0.528	0.61	0.59	0.87
Engine/Pump RPM	RPM	3400	3400	3400	3400
Engine oil type/amount	Quart	10W30 / .66	10W30 / 1.37	10W30 / 1.16	10W30 / 1.16
Drive Kit		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Unit Data:					
Nozzle size, water		3.5	3.7	3.5	3.7
Max. Inlet temp. (primed)	°F	140	140	140	140
Max. Inlet temp. (pressure fed)	°F	140	140	140	140
Gun/Wand		AGU03621290C-I	AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC
Lance Length	in	36"	42"	42"	42"
Hose Kit		AHS280	CHA0501GB	AHS280	CHA0501GB
Hose	type/ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft
Sound level (LwA/LpA) 1m/6M	dbA	102	106	100	103
Machine weight Cart	lbs	82	137	117	126
Machine weight Skid	lbs	-	134	-	123
Size - Machine L x W x H Cart	in	37 x 21.5 x 24	41 x 22 x 26	41 x 22 x 25	41 x 22 x 25
Size - Machine L x W x H Skid	in	-	27 x 19.5 x 21	-	27 x 19 x 20

Technical Data ↓					
Service data	Unit	Value	Value	Value	Value
Cart Model		E4042HC	E4042HG	E4040HG	E4042HV
Skid Model		-	-	S/E4040HG	S/E4042HV
Frame:					
Cart Frame		KCA030-20	KCA030-20	KCA030-20	KCA030-20
Skid Frame		-	-	KCA076-2	KCA076-2
Pump:					
Pressure pump head @ Qiec	psi	-	-	-	-
Pressure pump outlet @ Qiec	psi	3988 ± 100	3988 ± 100	3799 ± 100	3988 ± 100
Pressure gun outlet @ Qiec	psi	-	-	-	-
Retaining pressure	psi	4520 ± 100	4520 ± 100	4400 ± 200	4520 ± 100
Flow. Qiec	GPM	3.8 ± 0.1	3.8 ± 0.1	3.8 ± 0.1	3.8 ± 0.1
Suction height dry	ft	0	0	0	0
Suction height primed	ft	Flooded	Flooded	Flooded	Flooded
Pump type		CAT 66PPX40GG1	GP PPEZ4040-400	GP EZ4040G	VIPER VV4G42G
Number of pistons		3	3	3	3
Piston type		Ceramic	Ceramic	Ceramic	Ceramic
Thermal dump valve	°F	140	140	140	140
Pump oil type		Cat ISO 68	SAE30 Non-Detergent	SAE30 Non-Detergent	SAE30 Non-Detergent
Pump oil amount	qt	0.58	0.468	0.437	0.48
Plumbing Kit		KPL408	KPL400	KPL400	KPL400
Engine:					
Engine Manufacturer		Honda	Honda	Honda	Honda
Engine type		GX390	GX390	GX390	GX390
Engine Power	HP	11.7	11.7	11.7	11.7
Fuel type		Gasoline	Gasoline	Gasoline	Gasoline
Fuel capacity	gal	1.61	1.61	1.61	1.61
Fuel consumption	GPH	0.87	0.87	0.87	0.87
Engine/Pump RPM	RPM	3400	3400	3400	3400
Engine oil type/amount	Quart	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16
Drive Kit		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Unit Data:					
Nozzle size, water		3.7	3.7	4.0	3.7
Max. Inlet temp. (primed)	°F	140	140	140	140
Max. Inlet temp. (pressure fed)	°F	140	140	140	140
Gun/Wand		AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC
Lance Length	in	42"	42"	42"	42"
Hose Kit		CHA0501GB	CHA0501GB	CHA0501GB	CHA0501GB
Hose	type/ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft
Sound level (LwA/LpA) 1m/6M	dbA	103	103	104	103
Machine weight Cart	lbs	133	128	130	128
Machine weight Skid	lbs	-	-	127	125
Size - Machine L x W x H Cart	in	41 x 22 x 25	41 x 22 x 25	41 x 22 x 25	41 x 22 x 25
Size - Machine L x W x H Skid	in	-	-	27.5 x 19 x 20	27 x 19 x 20

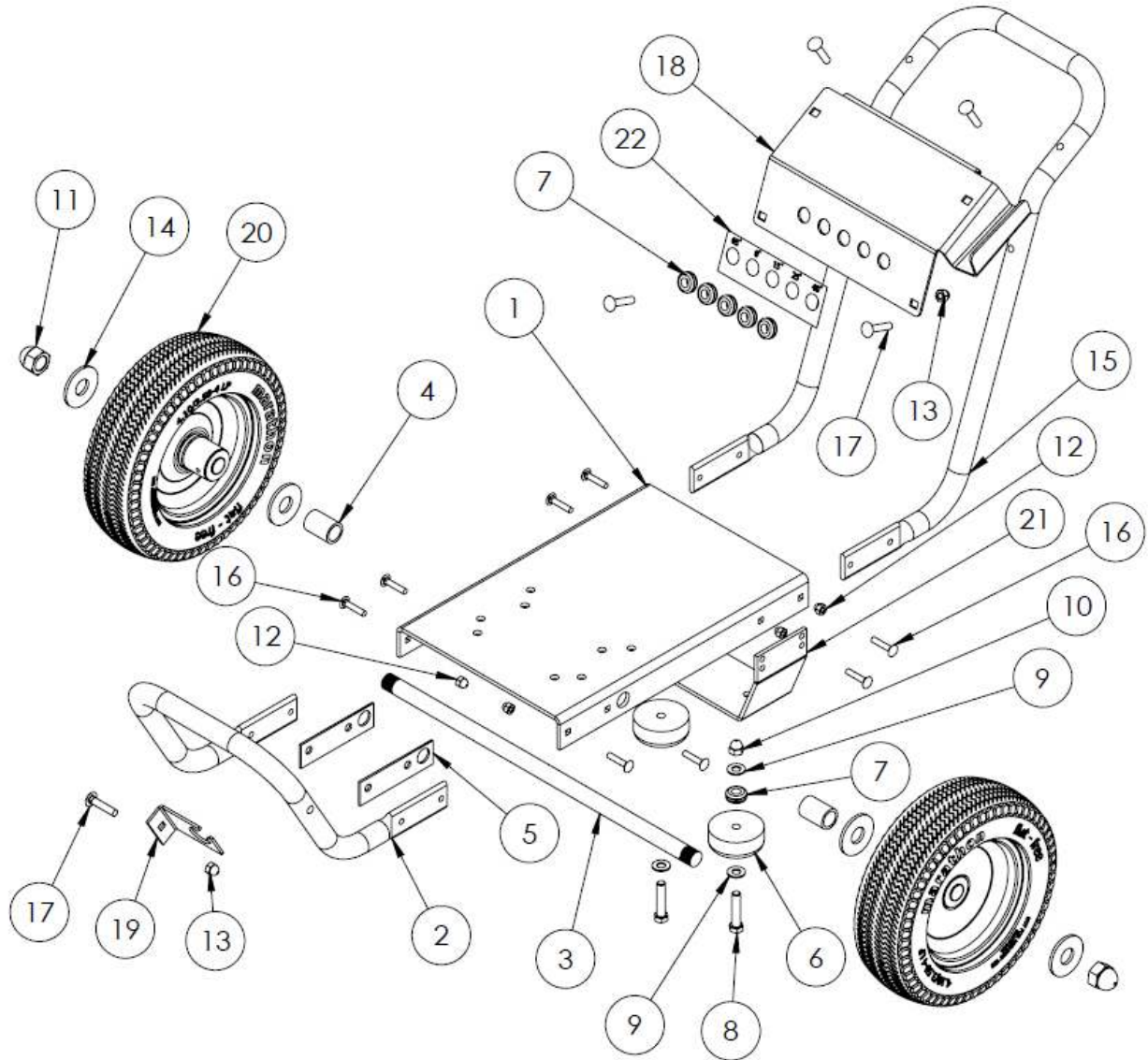
Technical Data ↓					
Service data	Unit	Value	Value	Value	Value
Cart Model		E4040HAE	E4040HCE	E4040HGE	E4042HVE
Skid Model		S/E4040HAE	-	S/E4040HGE	-
Frame:					
Cart Frame		KCA030-20	KCA030-20	KCA030-20	KCA030-20
Skid Frame		KCA076-2	-	KCA076-2	-
Pump:					
Pressure pump head @ Qiec	psi	-	-	-	-
Pressure pump outlet @ Qiec	psi	3799 ± 100	3799 ± 100	3799 ± 100	3988 ± 100
Pressure gun outlet @ Qiec	psi	-	-	-	-
Retaining pressure	psi	4400 ± 200	4400 ± 200	4400 ± 200	4520 ± 100
Flow. Qiec	GPM	3.8 ± 0.1	3.8 ± 0.1	3.8 ± 0.1	3.8 ± 0.1
Suction height dry	ft	0	0	0	0
Suction height primed	ft	Flooded	Flooded	Flooded	Flooded
Pump type		AR RRV4G40D-F24	CAT 66PPX40GG1	GP EZ4040G	VIPER VV4G42G
Number of pistons		3	3	3	3
Piston type		Ceramic	Ceramic	Ceramic	Ceramic
Thermal dump valve	°F	140	140	140	140
Pump oil type		SAE30 Non-Detergent	Cat ISO 68	SAE30 Non-Detergent	SAE30 Non-Detergent
Pump oil amount	qt	0.437	0.562	0.437	0.48
Plumbing Kit		KPL408	KPL408	KPL400	KPL408
Engine:					
Engine Manufacturer		Honda	Honda	Honda	Honda
Engine type		GX390	GX390	GX390	GX390
Engine Power	HP	11.7	11.7	11.7	11.7
Fuel type		Gasoline	Gasoline	Gasoline	Gasoline
Fuel capacity	gal	1.61	1.61	1.61	1.61
Fuel consumption	GPH	0.87	0.87	0.87	0.87
Engine/Pump RPM	RPM	3400	3400	3400	3400
Engine oil type/amount	Quart	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16
Drive Kit		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Unit Data:					
Nozzle size, water		3.7	4.0	4.0	3.7
Max. Inlet temp. (primed)	°F	140	140	140	140
Max. Inlet temp. (pressure fed)	°F	140	140	140	140
Gun/Wand		AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC
Lance Length	in	42"	42"	42"	42"
Hose Kit		CHA0501GB	CHA0501GB	CHA0501GB	CHA0501GB
Hose	type/ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft
Sound level (LwA/LpA) 1m/6M	dbA	103	103	103	103
Machine weight Cart	lbs	155	162	159	157
Machine weight Skid	lbs	151	-	155	125
Size - Machine L x W x H Cart	in	41 x 24 x 25	41 x 24 x 25	41 x 24 x 25	41 x 24 x 25
Size - Machine L x W x H Skid	in	27 x 25.5 x 20	-	27 x 25.5 x 20	-

Technical Data ↓					
Service data	Unit	Value	Value	Value	Value
Cart Model		EB3025HG	EB4035HG	EB4040HA	EB4040HC
Skid Model		-	S/EB4035HG	S/EB4040HA	S/EB4040HC
Frame:					
Cart Frame		KCA069-V2-2	KCA060-V2-2	KCA060-V2-2	KCA060-V2-2
Skid Frame		-	KCA064-2	KCA064-2	KCA064-2
Pump:					
Pressure pump head @ Qiec	psi	-	-	-	-
Pressure pump outlet @ Qiec	psi	2305 ± 100	3291 ± 100	3799 ± 100	3799 ± 100
Pressure gun outlet @ Qiec	psi	-	-	-	-
Retaining pressure	psi	3100 ± 200	4100 ± 200	4400 ± 200	4400 ± 200
Flow. Qiec	GPM	2.8 ± 0.1	3.8 ± 0.1	3.8 ± 0.1	3.8 ± 0.1
Suction height dry	ft	0	0	0	0
Suction height primed	ft	Flooded	Flooded	Flooded	Flooded
Pump type		GP EZ02536S	GP KPU001G-V2	AR RKA4G35NL	CAT 5PP3140
Number of pistons		3	3	3	3
Piston type		Ceramic	Ceramic	Ceramic	Ceramic
Thermal dump valve	°F	140	140	140	140
Pump oil type		SAE30 Non-Detergent	SAE30 Non-Detergent	SAE30 Non-Detergent	Cat ISO 68
Pump oil amount	qt	0.437	1.1	0.471	0.53
Plumbing Kit		KPL403	KLP402	KLP402	KLP402
Engine:					
Engine Manufacturer		Honda	Honda	Honda	Honda
Engine type		GX200	GX390	GX390	GX390
Engine Power	HP	5.5	11.7	11.7	11.7
Fuel type		Gasoline	Gasoline	Gasoline	Gasoline
Fuel capacity	gal	0.8175	1.61	1.61	1.61
Fuel consumption	GPH	0.42	0.87	0.87	0.87
Engine/Pump RPM	RPM	3400	3400	3400	3400
Engine oil type/amount	Quart	10W30 / .63	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16
Drive Kit		KDR205	KDR315	KDR345	KDR300
Unit Data:					
Nozzle size, water		3.7	4.0	4.0	4.0
Max. Inlet temp. (primed)	°F	140	140	140	140
Max. Inlet temp. (pressure fed)	°F	140	140	140	140
Gun/Wand		AGU03621290C-I	AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC
Lance Length	in	36"	42"	42"	42"
Hose Kit		AHS280	CHA0501GB	CHA0501GB	CHA0501GB
Hose	type/ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft
Sound level (LwA/LpA) 1m/6M	dbA	100	102	103	103
Machine weight Cart	lbs	110	159	157	151
Machine weight Skid	lbs	-	150	148	142
Size - Machine L x W x H Cart	in	41 x 23 x 25	41 x 26 x 25	41 x 26 x 25	41 x 26 x 25
Size - Machine L x W x H Skid	in	-	30 x 17 x 20	29 x 17 x 20	29 x 17 x 20

Technical Data ↓					
Service data	Unit	Value	Value	Value	Value
Cart Model		EB4040HG	EB4042HV	EB5030HG	EB5525HG
Skid Model		S/EB4040HG	S/EB4042HV	S/EB5030HG	S/EB5525HG
Frame:					
Cart Frame		KCA060-V2-2	KCA060-V2-2	KCA060-V2-2	KCA060-V2-2
Skid Frame		KCA064-2	KCA064-2-2	KCA064-2	KCA064-2
Pump:					
Pressure pump head @ Qiec	psi	-	-	-	-
Pressure pump outlet @ Qiec	psi	3799 ± 100	3988 ± 100	2825 ± 100	2305 ± 100
Pressure gun outlet @ Qiec	psi	-	-	-	-
Retaining pressure	psi	4400 ± 200	4520 ± 100	3400 ± 200	3100 ± 200
Flow. Qiec	GPM	3.8 ± 0.1	3.8 ± 0.1	4.8 ± 0.1	5.3 ± 0.1
Suction height dry	ft	0	0	0	0
Suction height primed	ft	Flooded	Flooded	Flooded	Flooded
Pump type		GP HP4040	VIPER VA4G42S	GP KPU001G-V2	GP KPU001G-V2
Number of pistons		3	3	3	3
Piston type		Ceramic	Ceramic	Ceramic	Ceramic
Thermal dump valve	°F	140	140	140	140
Pump oil type		SAE30 Non-Detergent	SAE30 Non-Detergent	SAE30 Non-Detergent	SAE30 Non-Detergent
Pump oil amount	qt	1.16	0.47	1.1	1.1
Plumbing Kit		KPL402	KLP403	KLP402	KLP402
Engine:					
Engine Manufacturer		Honda	Honda	Honda	Honda
Engine type		GX390	GX390	GX390	GX390
Engine Power	HP	11.7	11.7	11.7	11.7
Fuel type		Gasoline	Gasoline	Gasoline	Gasoline
Fuel capacity	gal	1.61	1.61	1.61	1.61
Fuel consumption	GPH	0.87	0.87	0.87	0.87
Engine/Pump RPM	RPM	3400	3400	3400	3400
Engine oil type/amount	Quart	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16
Drive Kit		KDR315	KDR345	KDR345	KDR315
Unit Data:					
Nozzle size, water		4.0	3.7	5.5	6.5
Max. Inlet temp. (primed)	°F	140	140	140	140
Max. Inlet temp. (pressure fed)	°F	140	140	140	140
Gun/Wand		AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC
Lance Length	in	42"	42"	42"	42"
Hose Kit		CHA0501GB	CHA0501GB	AHS280	AHS280
Hose	type/ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft
Sound level (LwA/LpA) 1m/6M	dbA	103	104	103	103
Machine weight Cart	lbs	158	149	158	158
Machine weight Skid	lbs	149	140	150	150
Size - Machine L x W x H Cart	in	41 x 23 x 25	41 x 26 x 25	41 x 26 x 25	41 x 26 x 25
Size - Machine L x W x H Skid	in	29 x 17 x 20	29 x 17 x 20	29 x 17 x 20	29 x 17 x 20

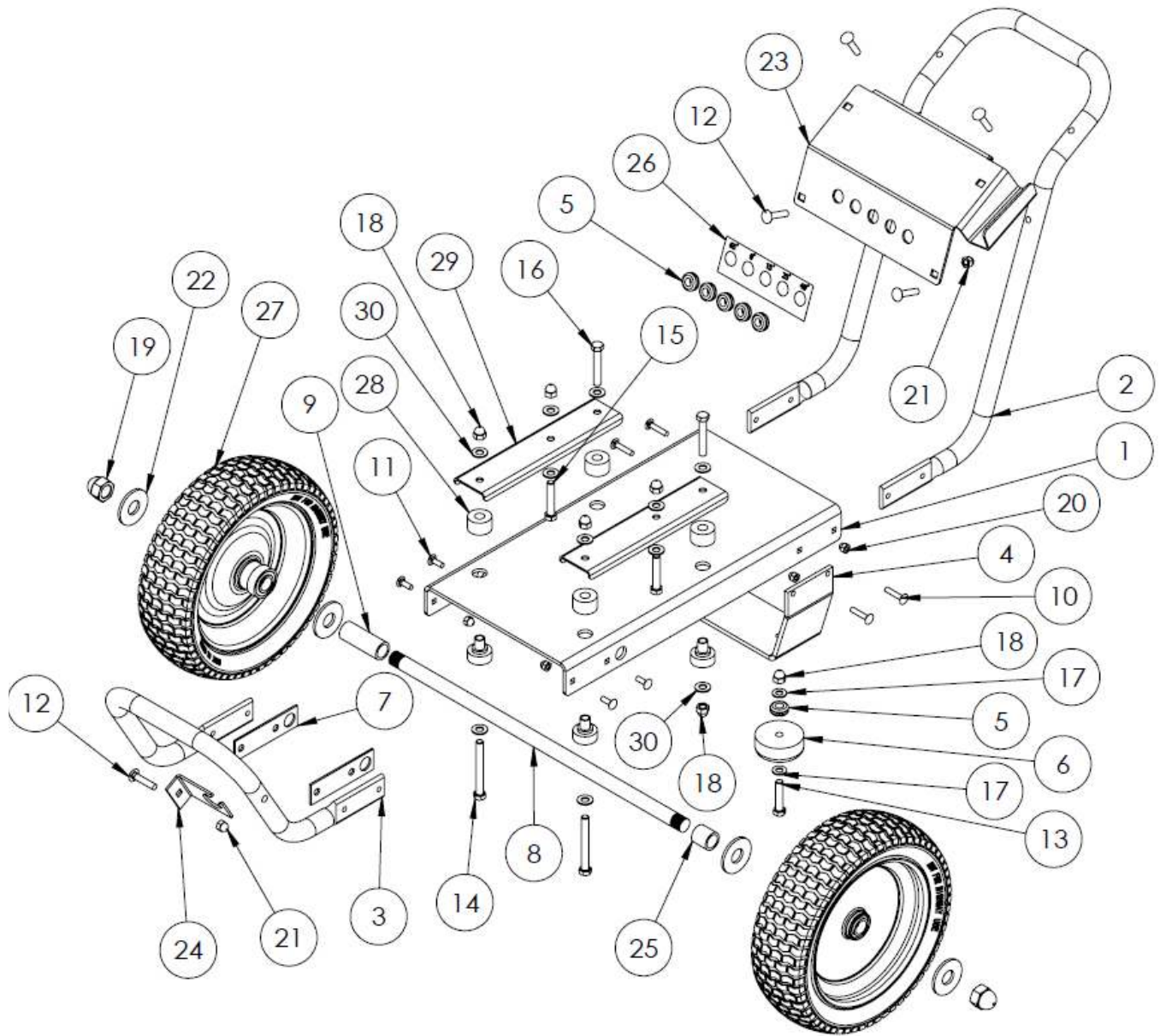
Technical Data ↓					
Service data	Unit	Value	Value	Value	Value
Cart Model		EB4035HGE	EB4040HAE	EB4040HCE	EB4040HGE
Skid Model		S/EB4035HGE	S/EB4040HAE	S/EB4040HCE	S/EB4040HGE
Frame:					
Cart Frame		KCA063-2	KCA063-2	KCA063-2	KCA063-2
Skid Frame		KCA065-V2-2	KCA065-V2-2	KCA065-V2-2	KCA065-V2-2
Pump:					
Pressure pump head @ Qiec	psi	-	-	-	-
Pressure pump outlet @ Qiec	psi	3291 ± 100	3799 ± 100	3799 ± 100	3799 ± 100
Pressure gun outlet @ Qiec	psi	-	-	-	-
Retaining pressure	psi	4100 ± 200	4400 ± 200	4400 ± 200	4400 ± 200
Flow. Qiec	GPM	3.8 ± 0.1	3.8 ± 0.1	3.8 ± 0.1	3.8 ± 0.1
Suction height dry	ft	0	0	0	0
Suction height primed	ft	Flooded	Flooded	Flooded	Flooded
Pump type		GP KPU001G-V2	AR RKA4G35NL	CAT 5PP3140	GP HP4040
Number of pistons		3	3	3	3
Piston type		Ceramic	Ceramic	Ceramic	Ceramic
Thermal dump valve	°F	140	140	140	140
Pump oil type		SAE30 Non-Detergent	SAE30 Non-Detergent	Cat ISO 68	SAE30 Non-Detergent
Pump oil amount	qt	1.1	0.47	0.53	1.16
Plumbing Kit		KPL402	KLP403	KLP402	KLP402
Engine:					
Engine Manufacturer		Honda	Honda	Honda	Honda
Engine type		GX390	GX390	GX390	GX390
Engine Power	HP	11.7	11.7	11.7	11.7
Fuel type		Gasoline	Gasoline	Gasoline	Gasoline
Fuel capacity	gal	1.61	1.61	1.61	1.61
Fuel consumption	GPH	0.87	0.87	0.87	0.87
Engine/Pump RPM	RPM	3400	3400	3400	3400
Engine oil type/amount	Quart	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16
Drive Kit		KDR326	KDR326	KDR301	KDR326
Unit Data:					
Nozzle size, water		4.0	4.0	4.0	4.0
Max. Inlet temp. (primed)	°F	140	140	140	140
Max. Inlet temp. (pressure fed)	°F	140	140	140	140
Gun/Wand		AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC
Lance Length	in	42"	42"	42"	42"
Hose Kit		CHA0501GB	CHA0501GB	CHA0501GB	CHA0501GB
Hose	type/ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft
Sound level (LwA/LpA) 1m/6M	dbA	103	103	103	103
Machine weight Cart	lbs	199	197	191	198
Machine weight Skid	lbs	166	164	158	165
Size - Machine L x W x H Cart	in	46 x 26 x 26	46 x 26 x 26	46 x 26 x 26	46 x 26 x 26
Size - Machine L x W x H Skid	in	34.5 x 22 x 20	34.5 x 22 x 20	34.5 x 22 x 20	34.5 x 22 x 20

Technical Data ↓					
Service data	Unit	Value	Value	Value	Value
Cart Model		EB4042HVE	EB5030HGE	EB5525HGE	
Skid Model		S/EB4042HVE	-	S/EB5525HGE	
Frame:					
Cart Frame		KCA063-2	KCA063-2	KCA063-2	
Skid Frame		KCA065-V2-2	-	KCA065-V2-2	
Pump:					
Pressure pump head @ Qiec	psi	-	-	-	
Pressure pump outlet @ Qiec	psi	3988 ± 100	2825 ± 100	2305 ± 100	
Pressure gun outlet @ Qiec	psi	-	-	-	
Retaining pressure	psi	4520 ± 100	3400 ± 200	3100 ± 200	
Flow. Qiec	GPM	3.8 ± 0.1	4.8 ± 0.1	5.3 ± 0.1	
Suction height dry	ft	0	0	0	
Suction height primed	ft	Flooded	Flooded	Flooded	
Pump type		VIPER VA4G42S	GP KPU001G-V2	GP KPU001G-V2	
Number of pistons		3	3	3	
Piston type		Ceramic	Ceramic	Ceramic	
Thermal dump valve	°F	140	140	140	
Pump oil type		SAE30 Non-Detergent	SAE30 Non-Detergent	SAE30 Non-Detergent	
Pump oil amount	qt	0.47	1.1	1.1	
Plumbing Kit		KPL407	KPL402	KLP402	
Engine:					
Engine Manufacturer		Honda	Honda	Honda	
Engine type		GX390	GX390	GX390	
Engine Power	HP	11.7	11.7	11.7	
Fuel type		Gasoline	Gasoline	Gasoline	
Fuel capacity	gal	1.61	1.61	1.61	
Fuel consumption	GPH	0.87	0.87	0.87	
Engine/Pump RPM	RPM	3400	3400	3400	
Engine oil type/amount	Quart	10W30 / 1.16	10W30 / 1.16	10W30 / 1.16	
Drive Kit		KDR352	KDR346	KDR326	
Unit Data:					
Nozzle size, water		3.7	5.5	6.5	
Max. Inlet temp. (primed)	°F	140	140	140	
Max. Inlet temp. (pressure fed)	°F	140	140	140	
Gun/Wand		AGU04221290C-I/2PC	AGU04221290C-I/2PC	AGU04221290C-I/2PC	
Lance Length	in	42"	42"	42"	
Hose Kit		CHA0501GB	CHA0501GB	CHA0501GB	
Hose	type/ft	Grey non-marking / 50ft	Grey non-marking / 50ft	Grey non-marking / 50ft	
Sound level (LwA/LpA) 1m/6M	dbA	103	103	103	
Machine weight Cart	lbs	189	198	198	
Machine weight Skid	lbs	156	-	165	
Size - Machine L x W x H Cart	in	46 x 26 x 26	46 x 26 x 26	46 x 26 x 26	
Size - Machine L x W x H Skid	in	34.5 x 22 x 20	-	34.5 x 22 x 20	



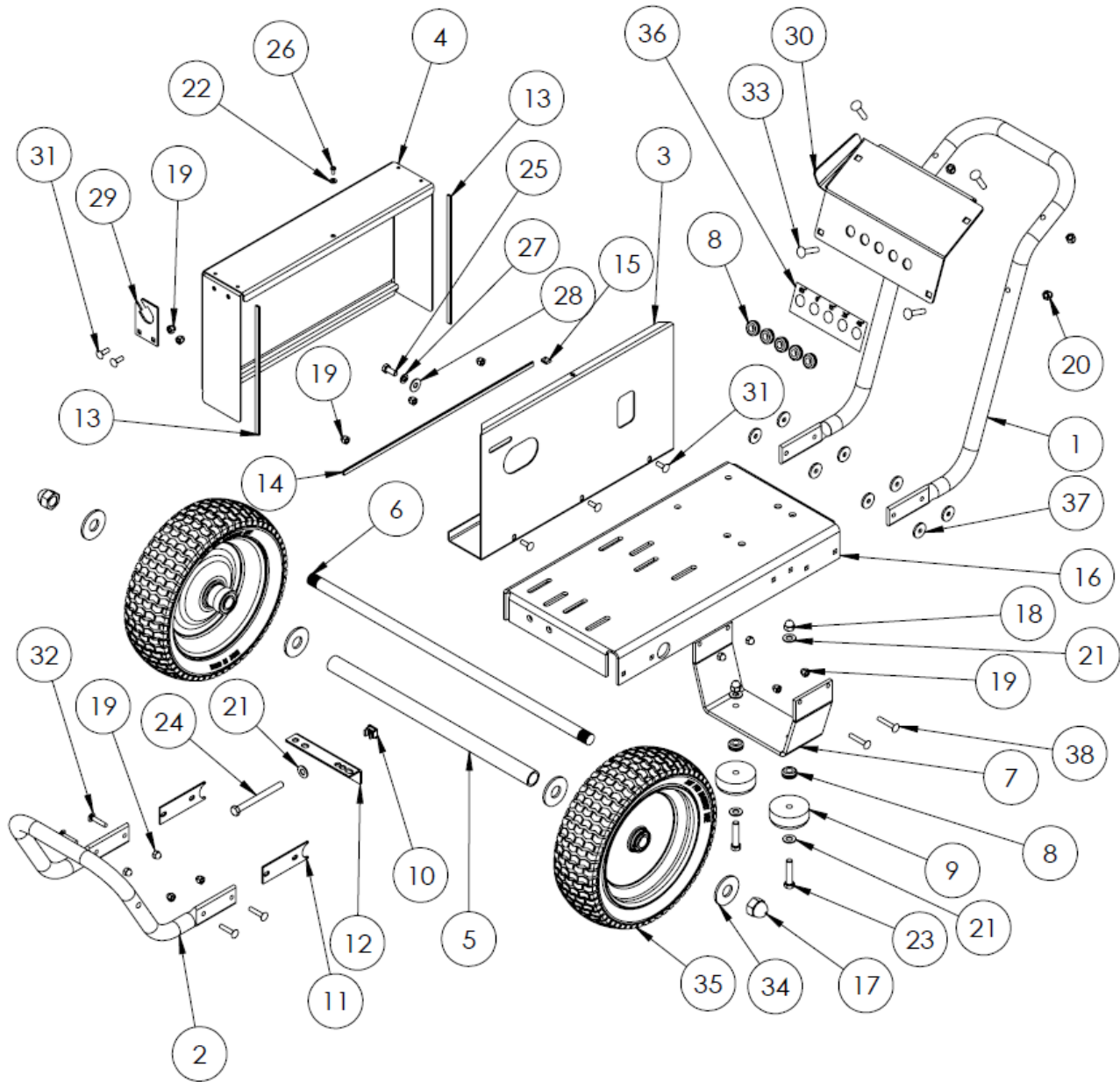
**KCA008-2**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	106169320	BASE, ALUM	1
2	1457D	HANDLE, SHORT, 10 WIDE W/ 3/8 HOLE	1
3	V-PAX050T	AXLE, 19.50", THREADED, CD&UAD	1
4	PPAX001	AXLE SPACER	2
5	1463-PPRO	AXLE SUPPORT	2
6	613-PPRO	2-1/2" Rubber Foot Pad	2
7	2860	GROMMET, BLACK FOR 1/8 METAL	7
8	105 061 601 750	HHCS USS 3/8-16 X 1-3/4	2
9	111 037 500 100	FLAT WASHER, USS, 3/8	4
10	130 061 600 000	NYLOCK NUT, USS, 3/8-16	2
11	130 121 620 000	3/4-16 JAMB NYLOCK	2
12	130 042 000 000	NYLOCK NUT, USS 1/4-20	8
13	130 051 800 000	NUT, NYLOCK, 5/16-18	5
14	101 075 000 100	SAE Flatwasher, 3/4"	4
15	1422-PPRO	HANDLE, LONG, DOUBLE BEND	1
16	21157	CB 1/4-20x1.25	8
17	104 051 801 500	CB 5/16-18x1.5	5
18	106169326	Decal-Plate DD	1
19	106169328	Wand-Holder DD	1
20	00011P-BLK	WHEEL ASSY, FLAT FREE W/ 3/4" SEALED BEARING	2
21	1435-PPRO	FOOT BRACKET, DUAL HEIGHT	1
22	PDE-TIPS	DECAL, MULTI COLOR, TIPS	1



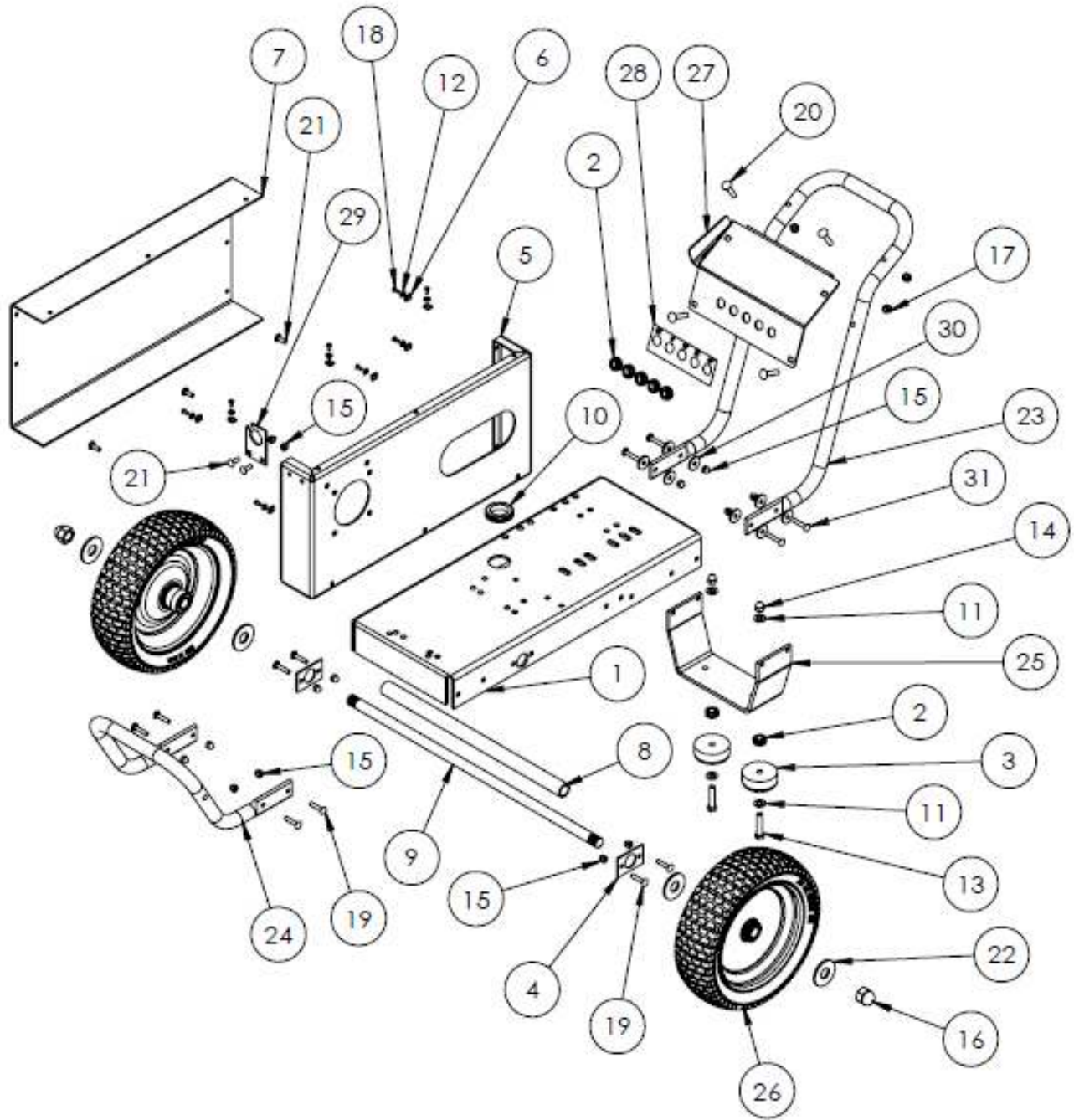
## KCA030-20

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3600	BASE, RENTAL, GX390	1
2	1422-PPRO	HANDLE, LONG, DOUBLE BEND	1
3	1457D	HANDLE, SHORT, 10 WIDE W/ 3/8 HOLE	1
4	1472-PPRO	FOOT BRACKET, 12" WHEELS	1
5	2860	GROMMET, BLACK FOR 1/8 METAL	7
6	613-PPRO	2-1/2" RUBBER FOOT	2
7	1463-PPRO	AXLE SUPPORT	2
8	106169330	AXLE, 19.50", THREADED, CD&UAD	1
9	PPAX004	SPACER, WHEEL, 4012	1
10	21157	CB 1/4-20x1.25	4
11	104 042 000 750	CB 1/4-20x.750	4
12	104 051 801 500	CB 5/16-18x1.5	5
13	105 061 601 750	HHCS USS 3/8-16 X 1-3/4	2
14	105 061 603 250	BOLT, 3/8-16 X 3 1/4	2
15	105 061 602 000	HHCS, USS, GR5, 3/8-16 X 2	2
16	105 061 602 250	HHCS, USS, GR5, 3/8-16 X 2 1/4"	2
17	111 037 500 100	FLAT WASHER, USS 3/8	4
18	130 061 600 000	NYLOCK NUT, USS, 3/8-16	8
19	130 121 620 000	3/4-16 JAMB NYLOCK	2
20	130 042 000 000	NYLOCK NUT, USS 1/4-20	8
21	130 051 800 000	NUT, NYLOCK, 5/16-18	5
22	101 075 000 100	SAE Flatwasher, 3/4"	4
23	106169326	Decal-Plate DD	1
24	106169328	Wand-Holder DD	1
25	PPAX003	SPACER, WHEEL, 4012	1
26	PDE-TIPS	DECAL, MULTI COLOR, TIPS	1
27	PP417H	11.81 x 3.5" FF w/ 3/4" Bearings Eagle 2.0	2
28	1633-PPRO	VIBRATION ISOLATOR, CENTER BOLT MOUNT	4
29	106169339	Isolator Engine Bracket SS	2
30	111 037 500 100	FLAT WASHER, USS, 3/8	12



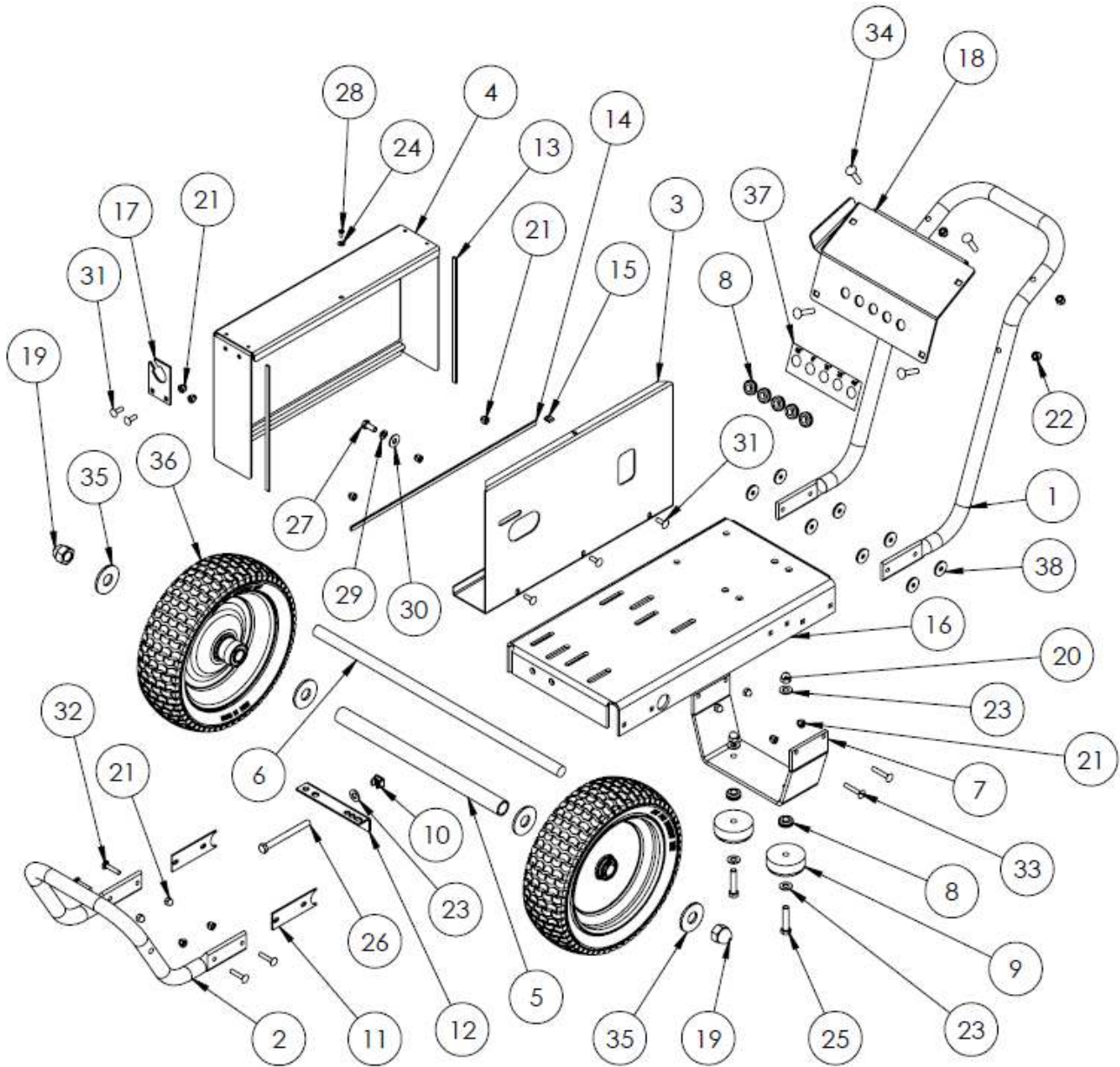
**KCA060-V2-2**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1422-PPRO	HANDLE, LONG, DOUBLE BEND	1
2	1457D	HANDLE, SHORT, 10 WIDE W/ 3/8 HOLE	1
3	3422	BELT GUARD BACK, EAGLE, GX270, GX390	1
4	3423	BELT GUARD, EAGLE. GX270, GX390	1
5	P1305C4D-F	TUBE, AXLE, 17 3/4" COATED	1
6	V-PAX160T	AXLE, THREADED, 24.75" LONG	1
7	106169336	FOOT BRACKET, 12" WHEELS	1
8	2860	GROMMET, BLACK FOR 1/8 METAL	7
9	613-PPRO	2-1/2" RUBBER FOOT	2
10	11544419	CAPTIVE NUT, 3/8-16	1
11	3406D	AXLE LOCK	2
12	3424	BRACKET, TENSIONER, EAGLE, GX270-390	1
13	EGB 5-16	TRIM-LOC, 9.8"	2
14	EGB 5-16	TRIM-LOC, 16.8"	1
15	1807D	TINNERMAN NUT, #10, UAB	1
16	106169323	Base Alum Engine Adj w/o nozzles holes	1
17	130 121 620 000	3/4-16 JAMB NYLOCK	2
18	130 061 600 000	NYLOCK NUT, USS, 3/8-16	2
19	130 042 000 000	NYLOCK NUT, USS 1/4-20	13
20	130 051 800 000	NUT, NYLOCK, 5/16-18	4
21	111 037 500 100	FLAT WASHER, USS, 3/8	5
22	1314D	WASHER, #10, NYLON	1
23	105 061 601 750	HHCS USS 3/8-16 X 1-3/4	2
24	155 061 604 000	HHCS GR A Tap Bolt 3/8 x 4"	1
25	105 052 400 750	Cap Screw, SAE, G5, Plated, 5/16-24x3/4	1
26	1317D	MACH SCREW, PHILLIPS HEAD, #10 X 3/8	1
27	131 031 200 100	LOCK WASHER, 5/16	1
28	111 031 200 100	FLAT WASHER, USS 5/16	1
29	106169329	Wand Holder Belt Drive	1
30	106169327	Decal Plate Belt Drive	1
31	104 042 000 750	CB 1/4-20x.750	5
32	21157	CB 1/4-20x1.25	4
33	104 051 801 500	CB 5/16-18x1.5	4
34	101 075 000 100	SAE Flatwasher, 3/4"	4
35	PP417H	11.81 x 3.5" FF w/ 3/4" Bearings Eagle 2.0	2
36	PDE-TIPS	DECAL, MULTI COLOR, TIPS	1
37	106169338	RUBBER WASHER, 281 PSA BACK	8
38	104 042 001 500	CARRIAGE BOLT, 1/4-20 X 1 1/2"	4



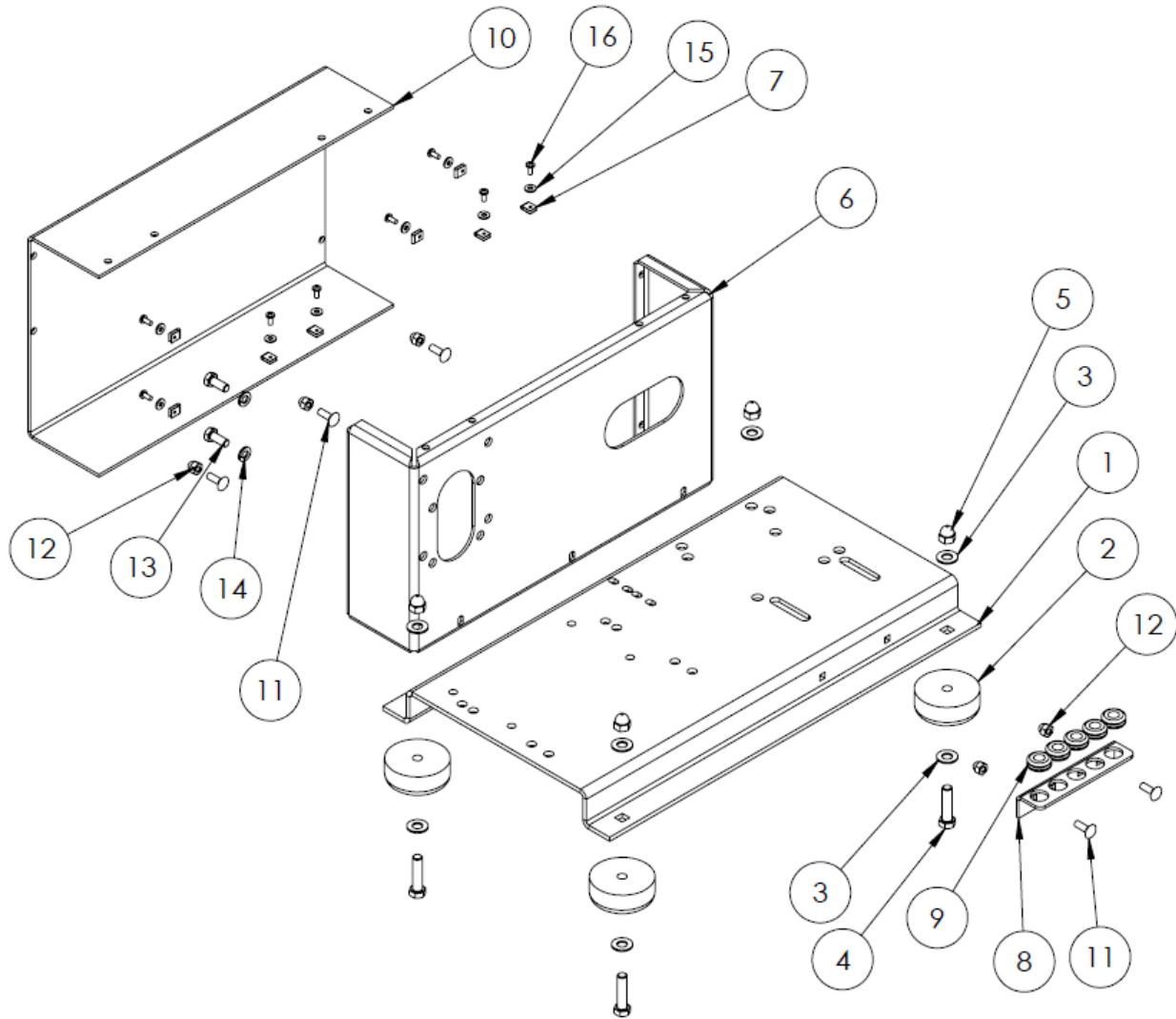
**KCA063-2**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	106169324	Base Alum 10.25x25 W/O Nozzle Holes	1
2	2860	GROMMET, BLACK FOR 1/8 METAL	7
3	613-PPRO	2-1/2" RUBBER FOOT	2
4	3404D	AXLE LOCK	2
5	1605D	BACK PLATE 22"	1
6	1807D	TINNERMAN NUT, #10, UAB	8
7	1606D	COVER, BELT GUARD	1
8	P1305C4D-F	TUBE, AXLE, 17 3/4" COATED	1
9	V-PAX160T	AXLE, THREADED, 24.75" LONG	1
10	99-424	RUBBER GROMMET, 3/16 MATERIAL	1
11	111 037 500 100	FLAT WASHER, USS, 3/8	4
12	1314D	WASHER, #10, NYLON	8
13	105 061 601 750	HHCS USS 3/8-16 X 1-3/4	2
14	130 061 600 000	NYLOCK NUT, USS, 3/8-16	2
15	130 042 000 000	NYLOCK NUT, USS 1/4-20	17
16	130 121 620 000	3/4-16 JAMB NYLOCK	2
17	130 051 800 000	NUT, NYLOCK, 5/16-18	4
18	1317D	MACH SCREW, PHILLIPS HEAD, #10 X 3/8	8
19	21157	CB 1/4-20x1.25	8
20	104 051 801 500	CB 5/16-18x1.5	4
21	104 042 000 750	CB 1/4-20x.750	5
22	101 075 000 100	SAE Flatwasher, 3/4"	4
23	1422-PPRO	HANDLE, LONG, DOUBLE BEND	1
24	1457D	HANDLE, SHORT, 10 WIDE W/ 3/8 HOLE	1
25	106169336	FOOT BRACKET, 12" WHEELS	1
26	PP417H	11.81 x 3.5" FF w/ 3/4" Bearings Eagle 2.0	2
27	106169327	Decal Plate Belt Drive	1
28	PDE-TIPS	DECAL, MULTI COLOR, TIPS	1
29	106169329	Wand Holder Belt Drive	1
30	106169338	RUBBER WASHER, 281 PSA BACK	8
31	104 042 001 500	CARRIAGE BOLT, 1/4-20 X 1 1/2"	4



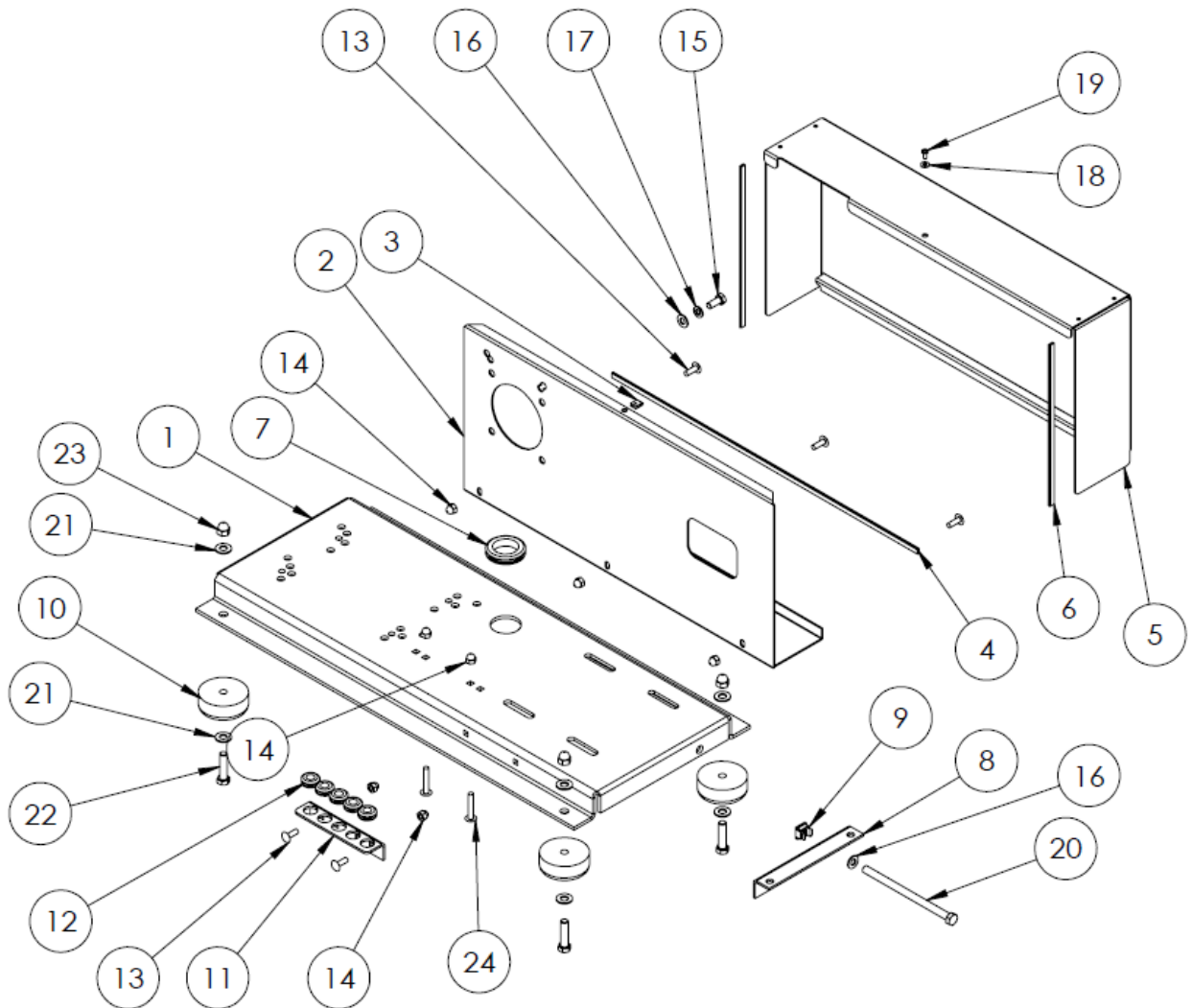
**KCA069-V2-2**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1422-PPRO	HANDLE, LONG, DOUBLE BEND	1
2	1457D	HANDLE, SHORT, 10 WIDE W/ 3/8 HOLE	1
3	P3426	BELT GUARD BACK, EAGLE, GX200	1
4	3423	BELT GUARD, EAGLE. GX270, GX390	1
5	P1304C4D-F	TUBE, AXLE, 17 3/4" COATED	1
6	V-PAX122T	AXLE, THREADED, 24.75" LONG	1
7	106169336	FOOT BRACKET, 12" WHEELS	1
8	2860	GROMMET, BLACK FOR 1/8 METAL	7
9	613-PPRO	2-1/2" RUBBER FOOT	2
10	11544419	CAPTIVE NUT, 3/8-16	1
11	3406D	AXLE LOCK	2
12	3424	BRACKET, TENSIONER, EAGLE, GX270-390	1
13	EGB 5-16	TRIM-LOC, 9.8"	2
14	EGB 5-16	TRIM-LOC, 16.8"	1
15	1807D	TINNERMAN NUT, #10, UAB	1
16	106169323	Base Alum Engine Adj w/o nozzles holes	1
17	106169329	Wand Holder Belt Drive	1
18	106169327	Decal Plate Belt Drive	1
19	130 121 620 000	3/4-16 JAMB NYLOCK	2
20	130 061 600 000	NYLOCK NUT, USS, 3/8-16	2
21	130 042 000 000	NYLOCK NUT, USS 1/4-20	13
22	130 051 800 000	NUT, NYLOCK, 5/16-18	4
23	111 037 500 100	FLAT WASHER, USS, 3/8	5
24	1314D	WASHER, #10, NYLON	1
25	105 061 601 750	HHCS USS 3/8-16 X 1-3/4	2
26	155 061 604 000	HHCS GR A Tap Bolt 3/8 x 4"	1
27	105 052 400 750	Cap Screw, SAE, G5, Plated, 5/16-24x3/4	1
28	1317D	MACH SCREW, PHILLIPS HEAD, #10 X 3/8	1
29	131 031 200 100	LOCK WASHER, 5/16	1
30	111 031 200 100	FLAT WASHER, USS 5/16	1
31	104 042 000 750	CB 1/4-20x.750	5
32	21157	CB 1/4-20x1.25	4
33	104 042 001 500	CARRIAGE BOLT, 1/4-20 X 1 1/2"	4
34	104 051 801 500	CB 5/16-18x1.5	4
35	101 075 000 100	SAE Flatwasher, 3/4"	4
36	PP417H	11.81 x 3.5" FF w/ 3/4" Bearings Eagle 2.0	2
37	PDE-TIPS	DECAL, MULTI COLOR, TIPS	1
38	106169338	RUBBER WASHER, 281 PSA BACK	8



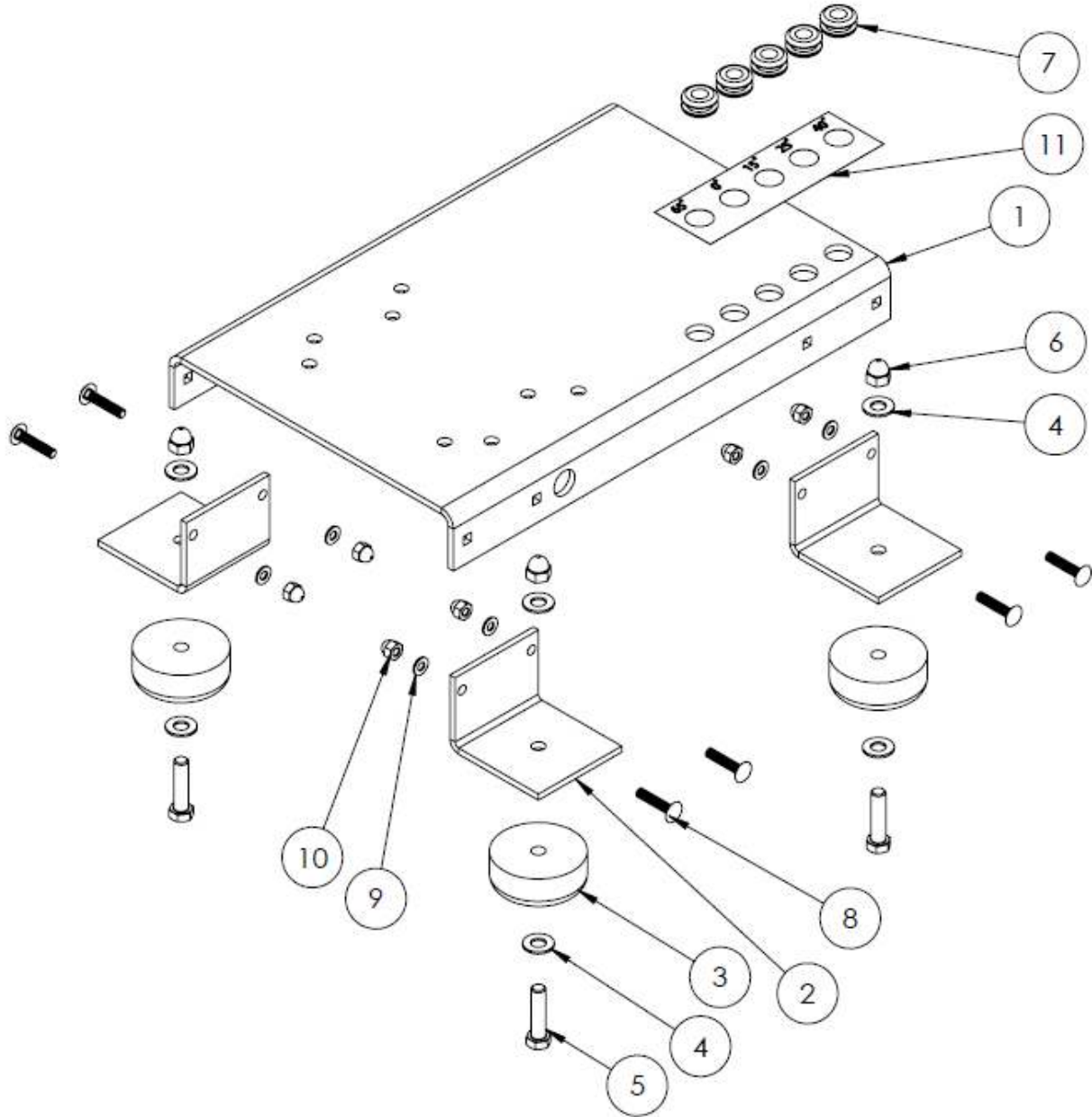
**KCA064**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	P1656-F	BASE, SKID, FLANGED, SMALL W/ COATING	1
2	613-PPRO	2-1/2" RUBBER FOOT	4
3	111 037 500 100	FLAT WASHER, USS, 3/8	8
4	105 061 601 500	HHCS, USS, GR5, 3/8-16 X 1-1/2"	4
5	130 061 600 000	NYLOCK NUT, USS, 3/8-16	4
6	3402D	Belt Guard Cover	1
7	1807D	TINNERMAN NUT, #10, UAB	8
8	1230-PPRO	NOZZLE HOLDER, UNIVERSAL	1
9	2860	GROMMET, BLACK FOR 1/8 METAL	5
10	3403D	BELT GUARD (UAB)	1
11	104 042 000 750	CB 1/4-20x.750	5
12	130 042 000 000	NYLOCK NUT, USS 1/4-20	5
13	105 052 400 750	Cap Screw, SAE, G5, Plated, 5/16- 24x3/4	2
14	131 031 200 100	LOCK WASHER, 5/16	2
15	1314D	WASHER, #10, NYLON	8
16	1317D	MACH SCREW, PHILLIPS HEAD, #10 X 3/8	8



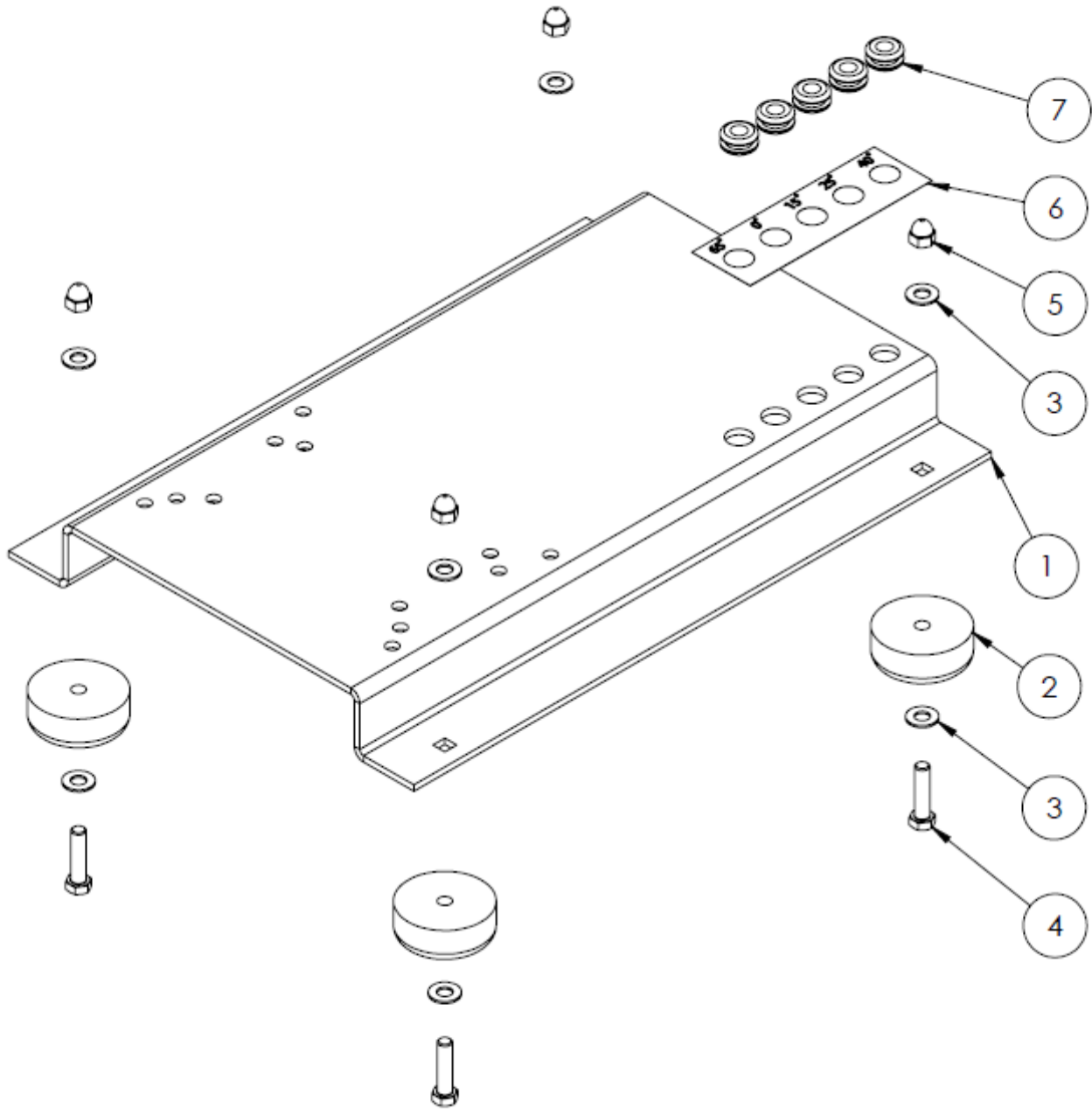
**KCA065-V2**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	7102-F	BASE, FLANGED, SUPER SKID 12V, W / COATING	1
2	5157	BELTGUARD BACK,MAGNUM 12V SKID	1
3	1807D	TINNERMAN NUT, #10, UAB	1
4	EGB 5-16_21.5	TRIM-LOC, 16.8"	1
5	5158	BELT GUARD, 12V MAGNUM SKID	1
6	EGB 5-16	TRIM-LOC, 9.8"	2
7	99-424	RUBBER GROMMET, 3/16 MATERIAL	1
8	5154	BRACKET, PUMP TENSIONER, 115V MAGNUM	1
9	11544419	CAPTIVE NUT, 3/8-16	1
10	613-PPRO	2-1/2" RUBBER FOOT	4
11	1230-PPRO	NOZZLE HOLDER, UNIVERSAL	1
12	2860	GROMMET, BLACK FOR 1/8 METAL	5
13	104 042 000 750	CARRIAGE BOLT, 1/4-20 X 3/4	5
14	130 042 000 000	NYLOCK NUT, USS 1/4-20	7
15	105 052 400 750	Cap Screw, SAE, G5, Plated, 5/16-24x3/4	1
16	111 031 200 100	FLAT WASHER, USS, 5/16	2
17	131 031 200 100	LOCK WASHER, 5/16	1
18	1314D	WASHER, #10, NYLON	1
19	1317D	MACH SCREW, PHILLIPS HEAD, #10 X 3/8	1
20	155 061 606 000	BOLT, TAP, GR5, HEX, 3/8-16 X 6	1
21	111 037 500 100	FLAT WASHER, USS, 3/8	8
22	105 061 601 500	HHCS, USS, GR5, 3/8-16 X 1-1/2"	4
23	130 061 600 000	NYLOCK NUT, USS, 3/8-16	4
24	104 042 001 500	CARRIAGE BOLT, 1/4-20 X 1 1/2"	2



**KCA075**

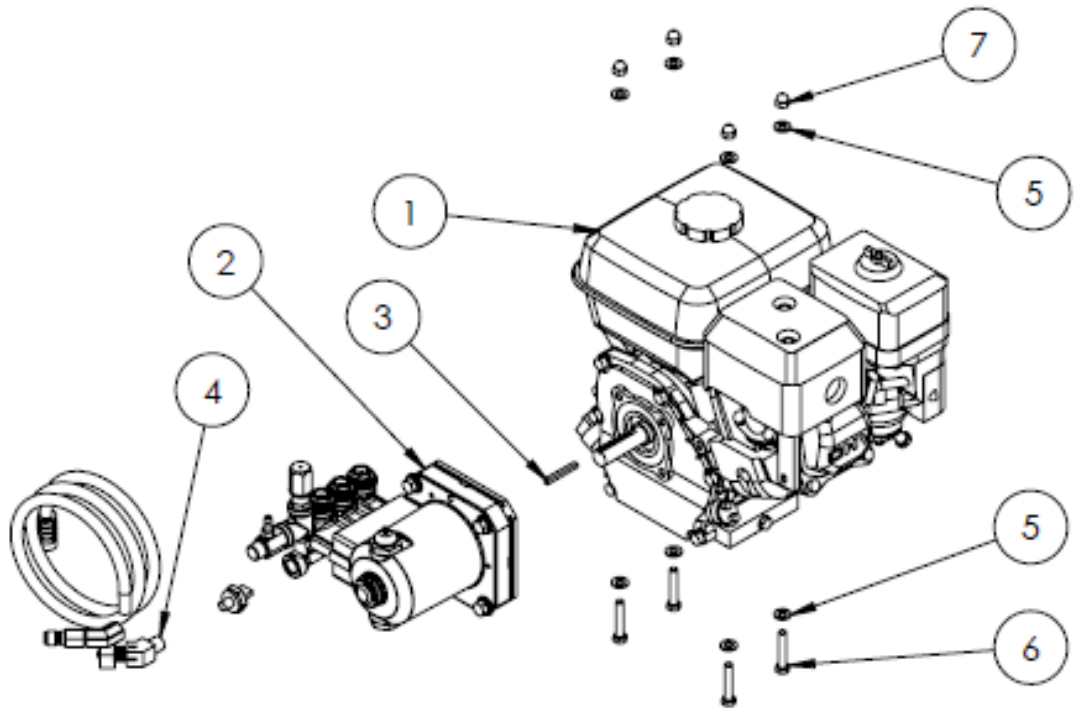
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1793D	CART, BASE, CD	1
2	1213-PPRO	FOOT, ANGLE, SKID FRAME	4
3	613-PPRO	2-1/2" RUBBER FOOT	4
4	111 037 500 100	FLAT WASHER, USS, 3/8	8
5	105 061 601 500	HHCS, USS, GR5, 3/8-16 X 1-1/2"	4
6	130 061 600 000	NYLOCK NUT, USS, 3/8-16	4
7	2760-PPRO	GROMMET, BLACK FOR 3/16 METAL	5
8	21157	RHSNBOLT 0.25-20x1.25x1.25-S	8
9	111 025 000 100	FLAT WASHER, USS, 1/4	8
10	130 042 000 000	NYLOCK NUT, USS 1/4-20	8
11	PDE-TIPS	DECAL, MULTI COLOR, TIPS	1



**KCA076**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1631-F	BASE, FLANGED, 10 X 20 FOR KCA076	1
2	613-PPRO	2-1/2" RUBBER FOOT	4
3	111 037 500 100	FLAT WASHER, USS, 3/8	8
4	105 061 601 500	HHCS, USS, GR5, 3/8-16 X 1-1/2"	4
5	130 061 600 000	NYLOCK NUT, USS, 3/8-16	4
6	PDE-TIPS	DECAL, MULTI COLOR, TIPS	1
7	2760-PPRO	GROMMET, BLACK FOR 3/16 METAL	5

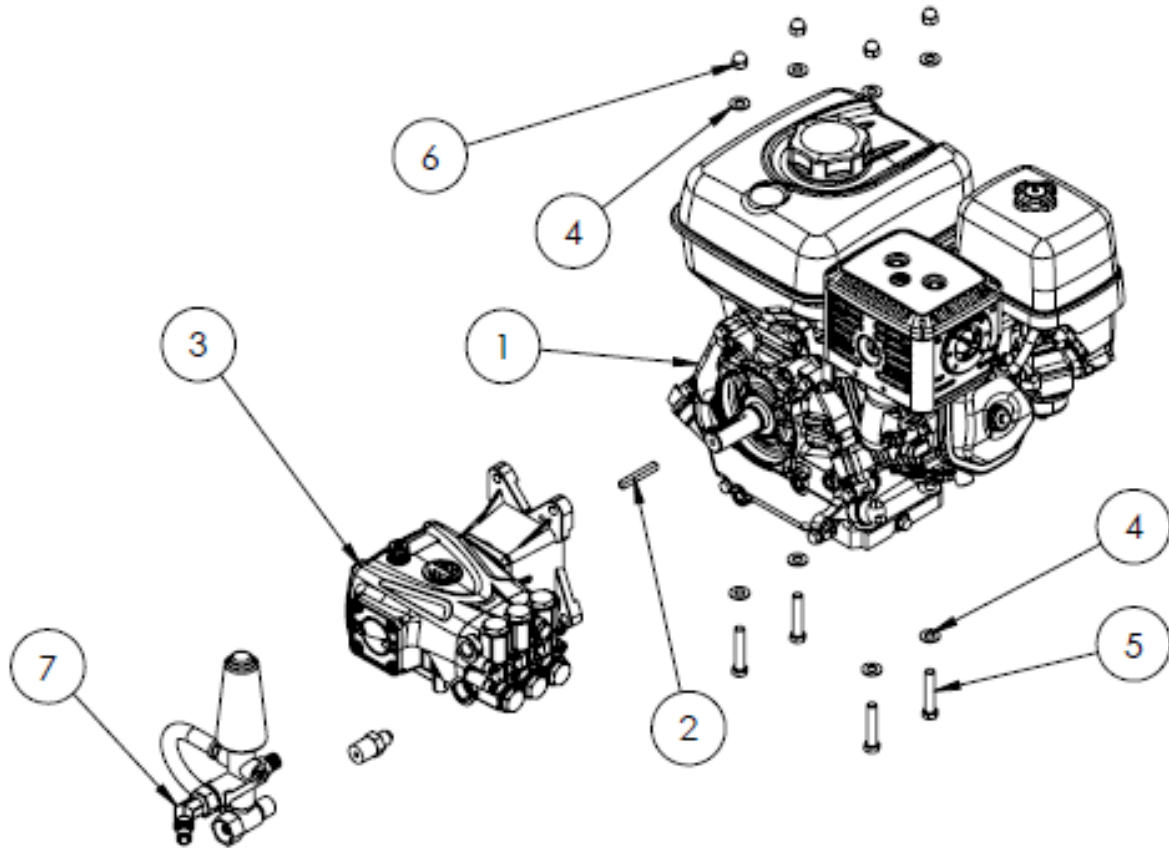
**GX200 & SH265 DIRECT DRIVE**



MODEL NUMBER	ENGINE	PUMP	PLUMBING KIT	SPRAY NOZZLES
E3027HV	GX200UTQX2	VV3G27D	KPL402	3.5
E3027HC	GX200UTQX2	4PPX30GSI	KPL057	3.5
E3027HG	GX200UTQX2	TP2530J34	KPL401	3.5
E3027KV	SH265	VV3G27G	KPL402	3.5
E2530HGI	GX200UTQX2	TP2526J34UFIL	KPL068-I	3.0
E3030HCI	GX200UTQX2	4PPX30GSI	KPL057	3.0

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GX200UTQX2	ENGINE, HONDA, 6.5 HP	1
2	4PPX30GSI	PUMP, 2.7 GPM, 3300 PSI, 3400 RPM	1
3	0187	KEYSTOCK, 3/16 X 1 3/4 LONG	1
4	KPL057	KIT, PLUMBING, 4PPX30GSI	1
5	111 031 200 100	FLAT WASHER, USS, 5/16	8
6	105 051 801 750	HHCS, 5/16-18 X 1 3/4	4
7	130 051 800 000	NUT, NYLOCK, 5/16-18	4

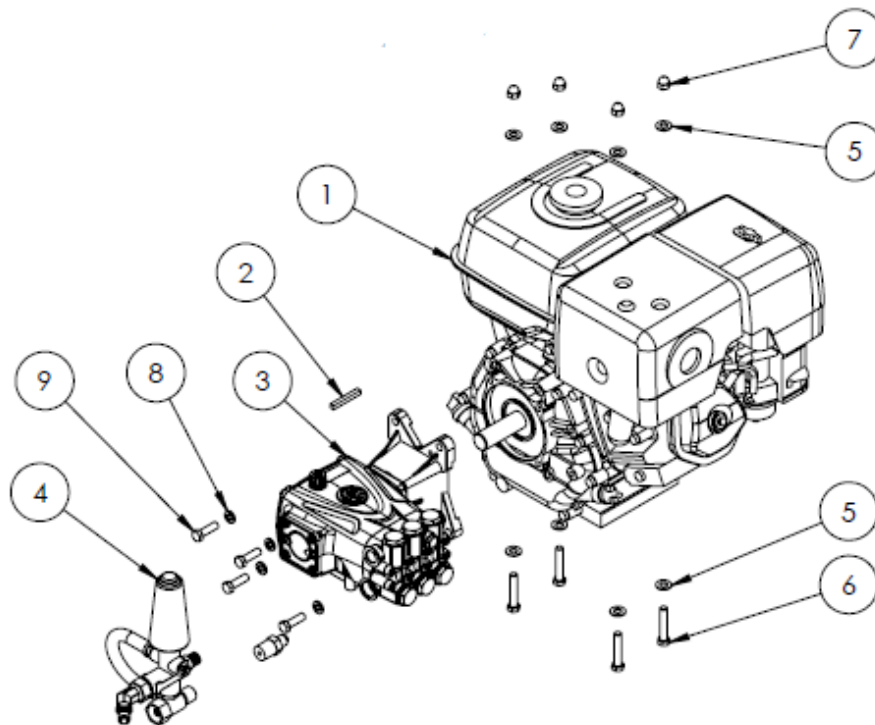
**GX270 DIRECT DRIVE**



MODEL NUMBER	ENGINE	PUMP	PLUMBING KIT	SPRAY NOZZLES
E3032HA	GX270UT2QAG2	RRV3G36D-F24	KPL400	3.5
E3032HC	GX270UT2QAG2	4SPX32G11	KPL058	3.5
E3032HG	GX270UT2QAG2	TX1508G8	KPL400	3.5
E3032HV	GX270UT2QAG2	VV3G36G	KPL400	3.5

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GX270UT2QAG2	ENGINE, HONDA, 270 CC	1
2	PKY020	KEY, DRIVE, 1/4 X 2	1
3	RRV3G36D-F24	PUMP, AR, 3GPM, 3600 PSI	1
4	111 037 500 100	FLAT WASHER, USS, 3/8	8
5	105 061 602 000	HHCS, USS, GR5, 3/8-16 X 2	4
6	130 061 600 000	NYLOCK NUT, USS, 3/8-16	4
7	KPL400	KIT, PLUMBING, VRT, DIR/GEAR, 45 DEG ELBOW	1

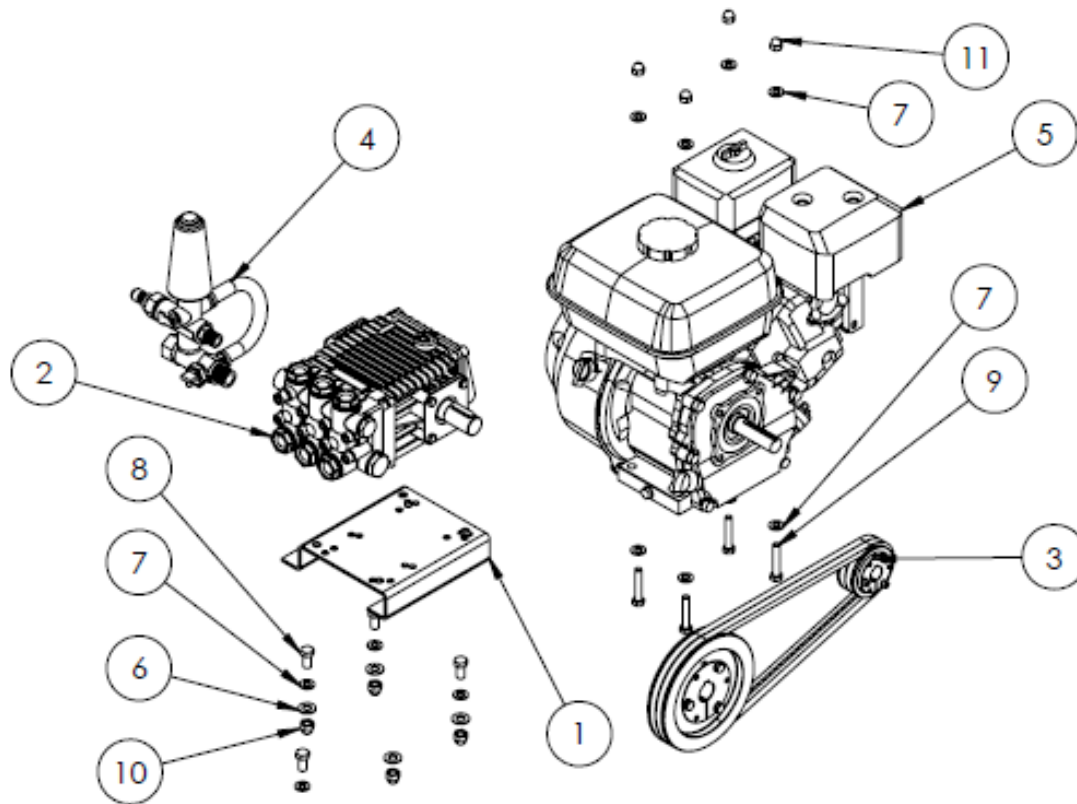
**GX390 DIRECT DRIVE**



MODEL NUMBER	ENGINE	PUMP	PLUMBING KIT	SPRAY NOZZLES
E4035HA	GX390UT2QAA2	RRV4G40D-F24	KPL400	4.0
E4035HG	GX390UT2QAA2	EZ4040G	KPL400	4.0
E4040HA	GX390UT2QAA2	RRV4G40D-F24	KPL400	3.75
E4040HAI	GX390UT2QAA2	RSV4G40HDF40EZ	KPL933	3.75
E4040HC	GX390UT2QAA2	66PPX40GG1	KPL408	4.0
E4040HG	GX390UT2QAA2	EZ4040G	KPL400	4.0
E4040HGI	GX390UT2QAA2	TX1510G8UIA	KPL932	4.0
E4040HGP	GX390UT2QAA2	PEP1313G8	KPL414-EP	4.0
E4042HCI	GX390UT2QAA2	67DX39G1I	KPL061/45	4.0
E4042HV	GX390UT2QAA2	VV4G42G	KPL400	3.75
E4042KV	PA-CH440-3149	VV4G42G	KPL400	3.75

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GX390UT2QAA2	GX390 ENGINE	1
2	PKY020	KEY, DRIVE, 1/4 X 2	1
3	RRV4G40D-F24	PUMP, DIRECT DRIVE, 4 GPM, 4000 PSI	1
4	KPL400	KIT, PLUMBING, VRT, DIR/GEAR, 45 DEG ELBOW	1
5	111 037 500 100	FLAT WASHER, USS, 3/8	8
6	105 061 602 000	HHCS, USS, GR5, 3/8-16 X 2	4
7	130 061 600 000	NYLOCK NUT, USS, 3/8-16	4
8	131 037 500 100	LOCK WASHER, 3/8	4
9	105 061 601 250	HHCS, 3/8-16 X 1 1/4 GR5	4

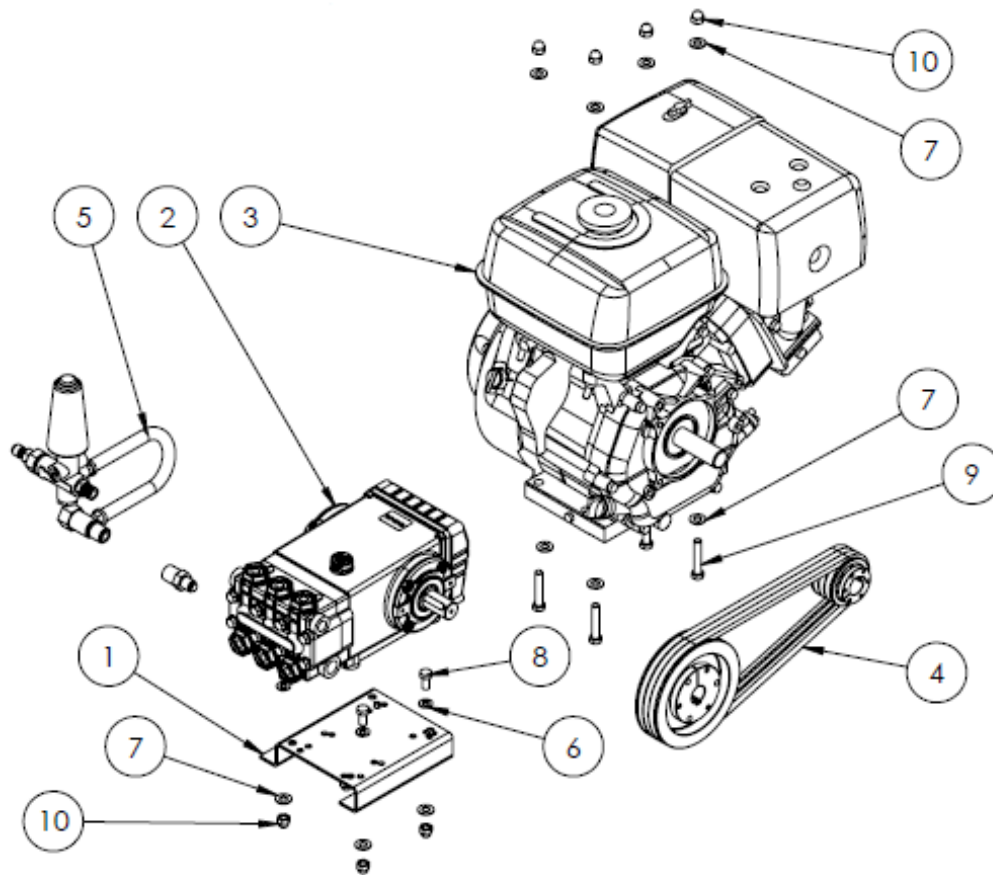
**GX200 BELT DRIVE**



MODEL NUMBER	EB3025HA	EB3025HC	EB3025HG
ENGINE	GX200UTQX2	GX200UTQX2	GX200UTQX2
PUMP	RCA3G25N	3CP1140	EZ2536S
PLUMBING KIT	KPL403	KPL411	KPL403
SPRAYNOZZLES	TPK035-GPC	TPK035-GPC	TPK033-GPC
DRIVE KIT	KDR225	KDR202	KDR205

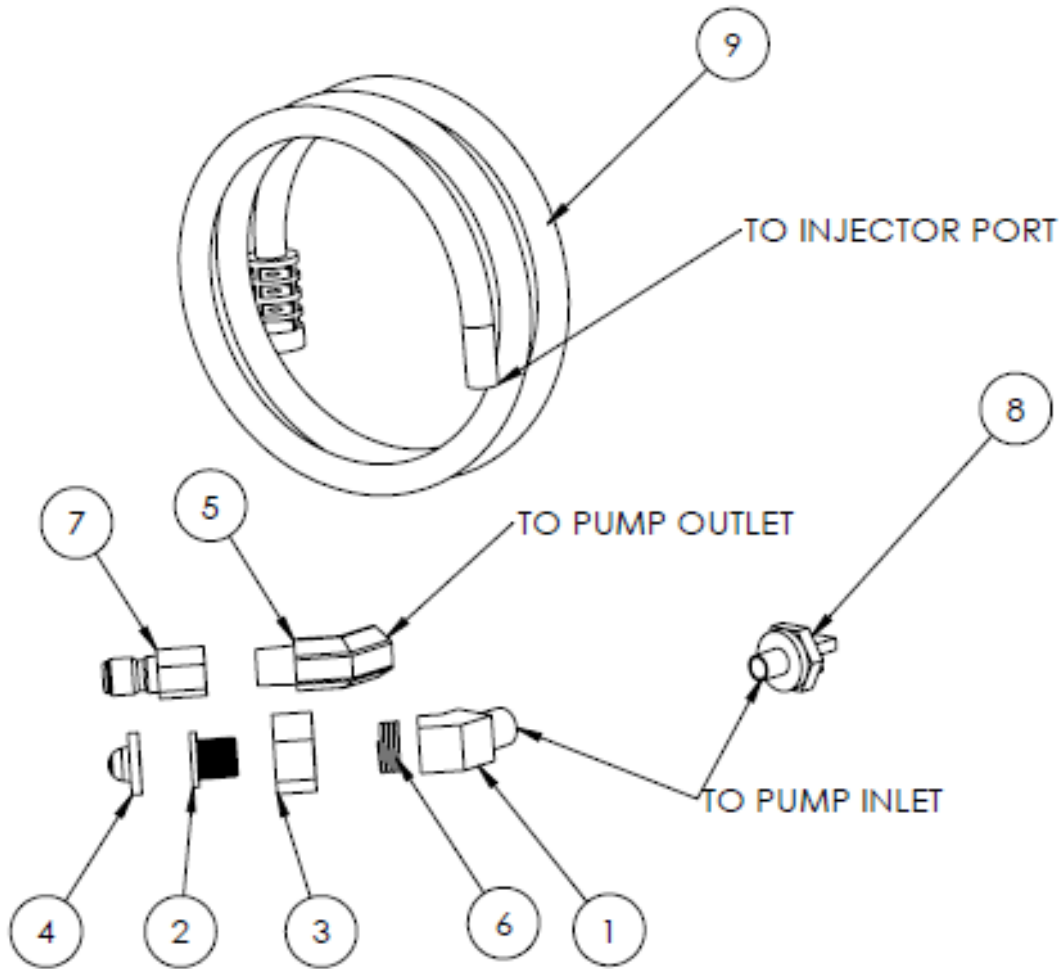
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	5104	PUMP BRACKET,MAGNUM CW BELT DRIVE	1
2	EZ2536S	PUMP. 3.6GPM, 2500 PSI, 1750 RPM	1
3	KDR205	KIT, DRIVE, GX200, 1500 RPM	1
4	KPL403	KIT, PLUMBING, VRT EZ, DURA VIEW	1
5	GX200UTQX2	ENGINE, HONDA, 6.5 HP	1
6	111 037 500 100	FLAT WASHER, USS, 3/8	4
7	111 031 200 100	FLAT WASHER, USS, 5/16	12
8	105 061 601 000	HHCS, USS, GR5, 3/8-16 X 1	4
9	105 051 801 750	HHCS, 5/16-18 X 1 3/4	4
10	130 061 600 000	NYLOCK NUT, USS, 3/8-16	4
11	130 051 800 000	NUT, NYLOCK, 5/16-18	4

**GX390 BELT DRIVE**



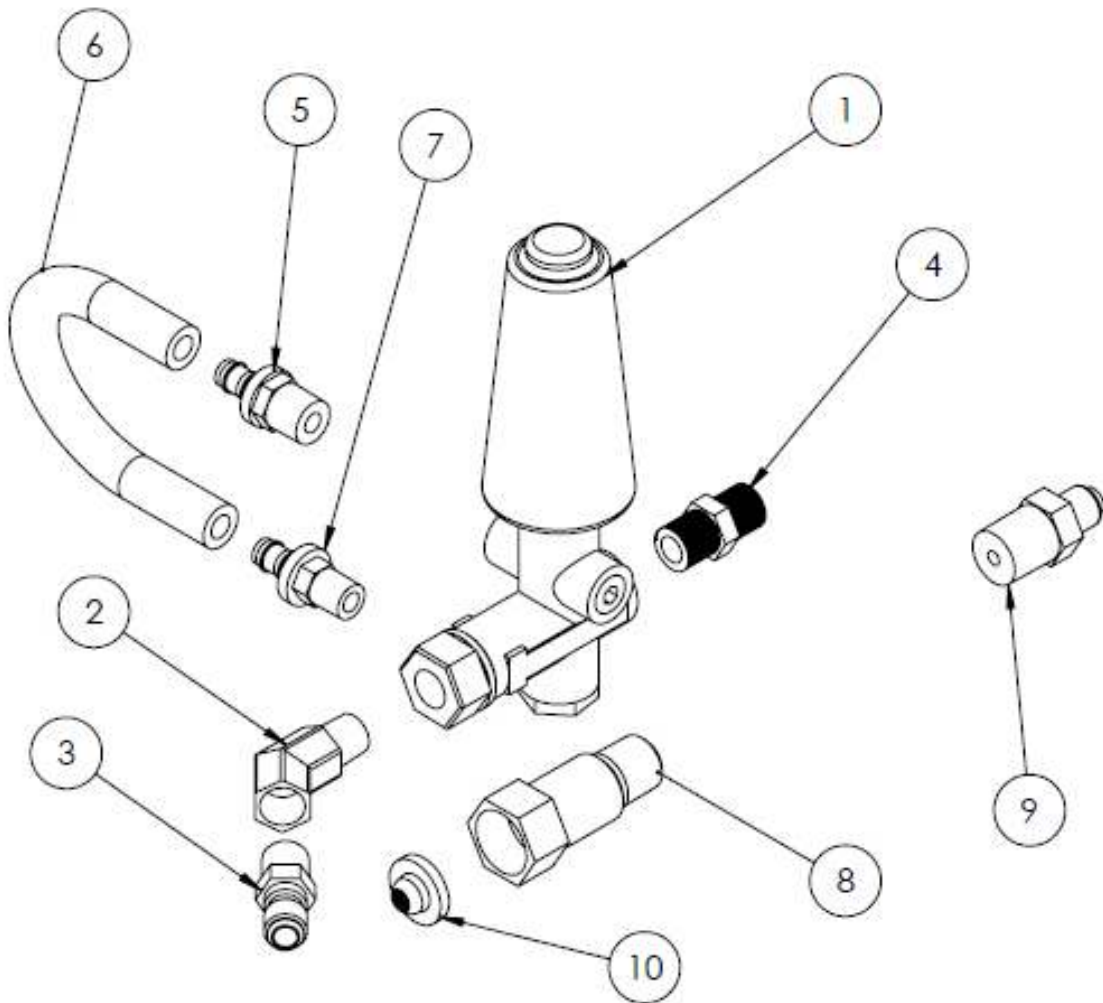
MODEL NUMBER	ENGINE	PUMP	PLUMBING KIT	DRIVE KIT	SPRAY NOZZLES
EB4035HA	GX390UT2QAA2	RKA4G35NL	KPL402	KDR345	TPK040-GPC
EB4035HC	GX390UT2QAA2	5PP3140	KPL402	KDR300	TPK040-GPC
EB4035HG	GX390UT2QAA2	TSS1511	KPL402	KDR315	TPK040-GPC
EB4040HA	GX390UT2QAA2	RKA4G35NL	KPL402	KDR345	TPK040-GPC
EB4040HC	GX390UT2QAA2	5PP3140	KPL402	KDR300	TPK040-GPC
EB4040HG	GX390UT2QAA2	HP4040	KPL402	KDR315	TPK040-GPC
EB4035HA	GX390UT2QAA2	VA4G42S	KPL403	KDR345	TPK037

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	5104	PUMP BRACKET,MAGNUM CW BELT DRIVE	1
2	HP4040	PUMP, 4 @ 4000, 1450 RPM	1
3	GX390UT2QAA2	GX390 ENGINE	1
4	KDR315	KIT, DRIVE, 2.65 X 6.00, 3VX335 X 3	1
5	KPL402	PLUMBING KIT	1
6	111 031 200 100	FLAT WASHER, USS, 5/16	4
7	111 037 500 100	FLAT WASHER, USS, 3/8	12
8	105 061 601 000	HHCS, USS, GR5, 3/8-16 X 1	4
9	105 061 602 000	HHCS, USS, GR5, 3/8-16 X 2	4
10	130 061 600 000	NYLOCK NUT, USS, 3/8-16	8

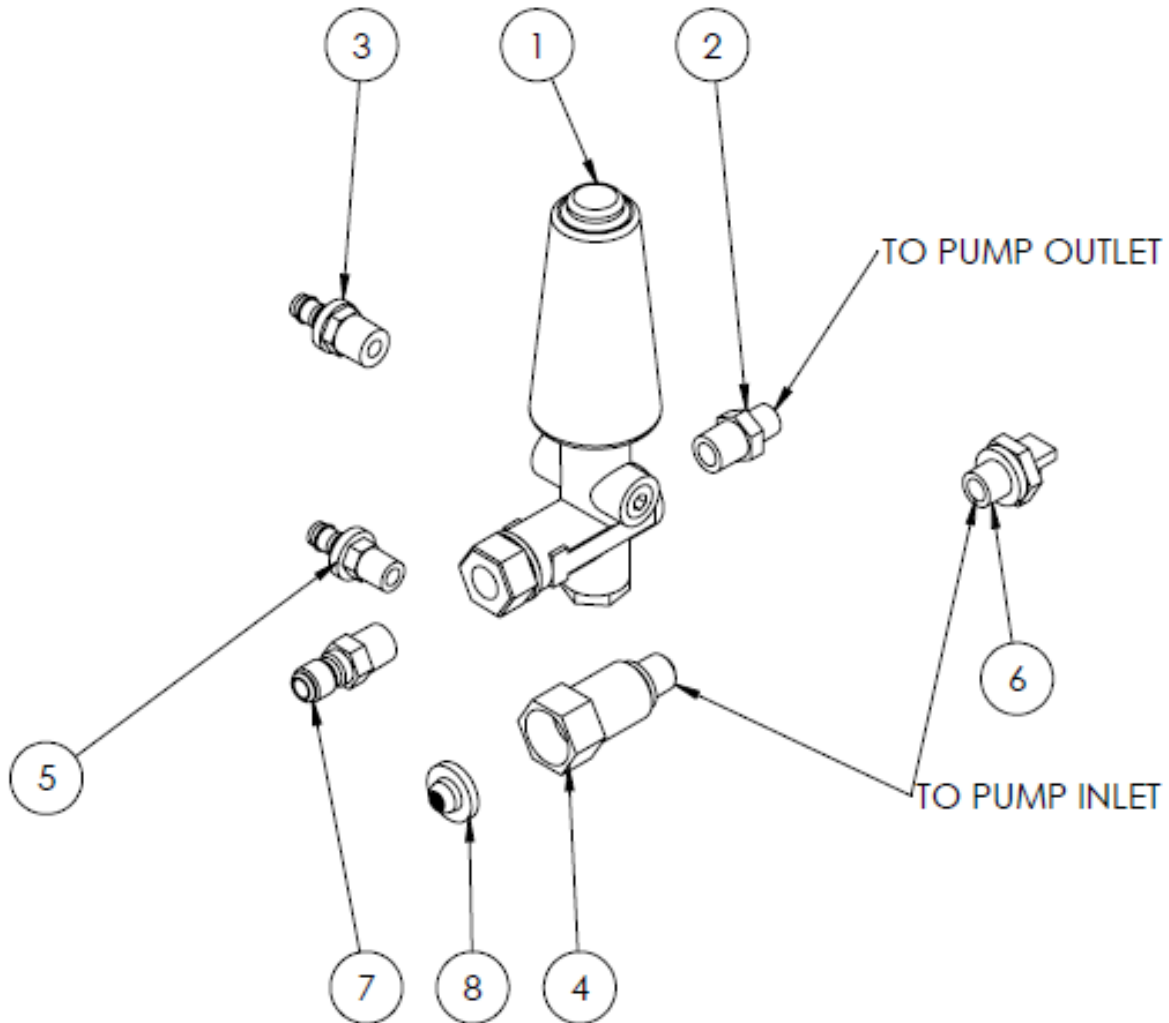


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3350-06-06	ST ELL, 45 DEG, 3/8	1
2	510031	GARDEN HOSE ADAPTER, 3/8 NPT-M	1
3	510228	GARDEN HOSE ADAPTER NUT	1
4	700004	GHA WASHER/FILTER	1
5	5503-06-06	HP ST ELL 45, 3/8F X 3/8M	1
6	720039	GHA SPRING	1
7	D10008	QC PLUG, 3/8 FEMALE	1
8	100556	THERMAL RELIEF, 1/4"	1
9	ACI900	INJECTOR HOSE ASSEMBLY	1

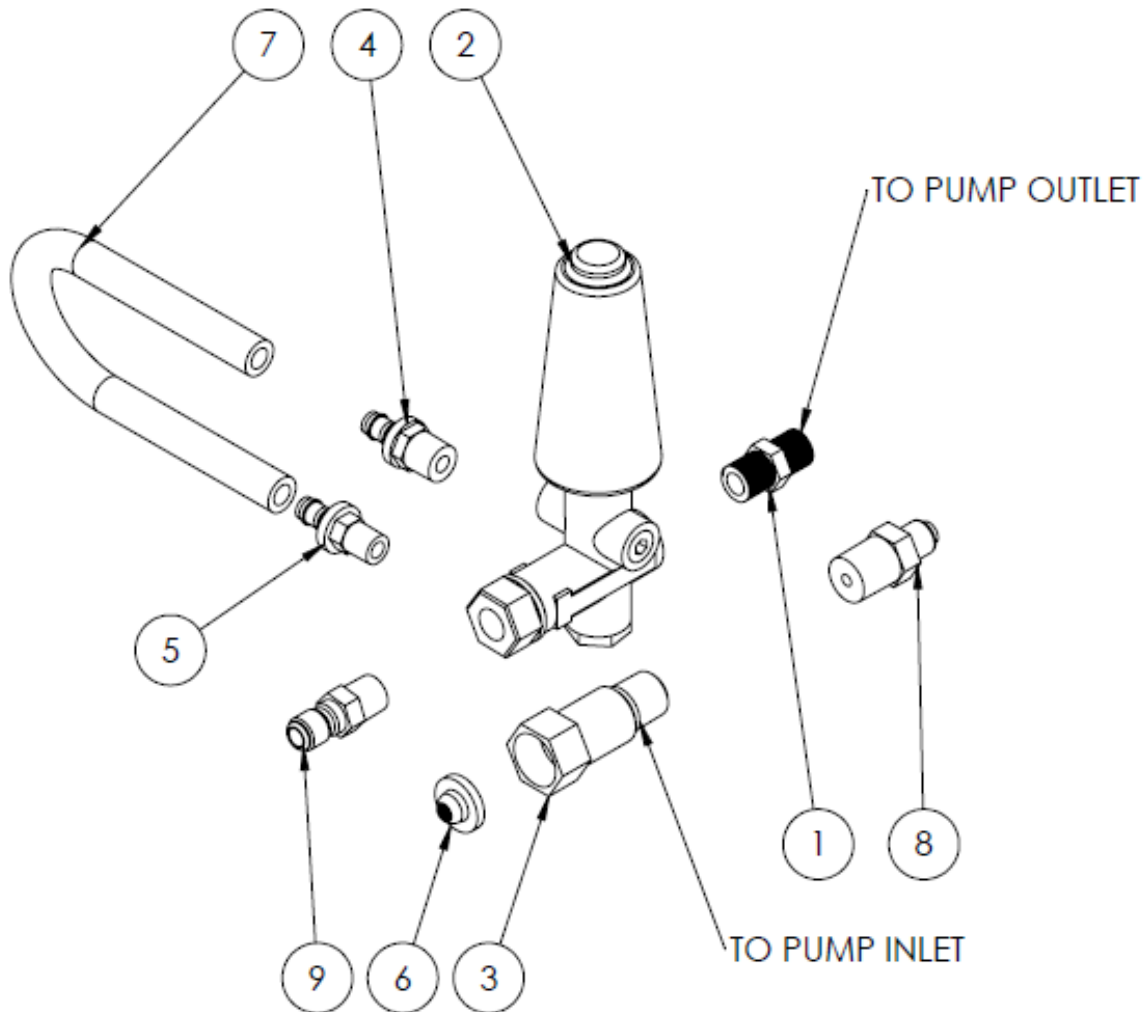
**KPL400**



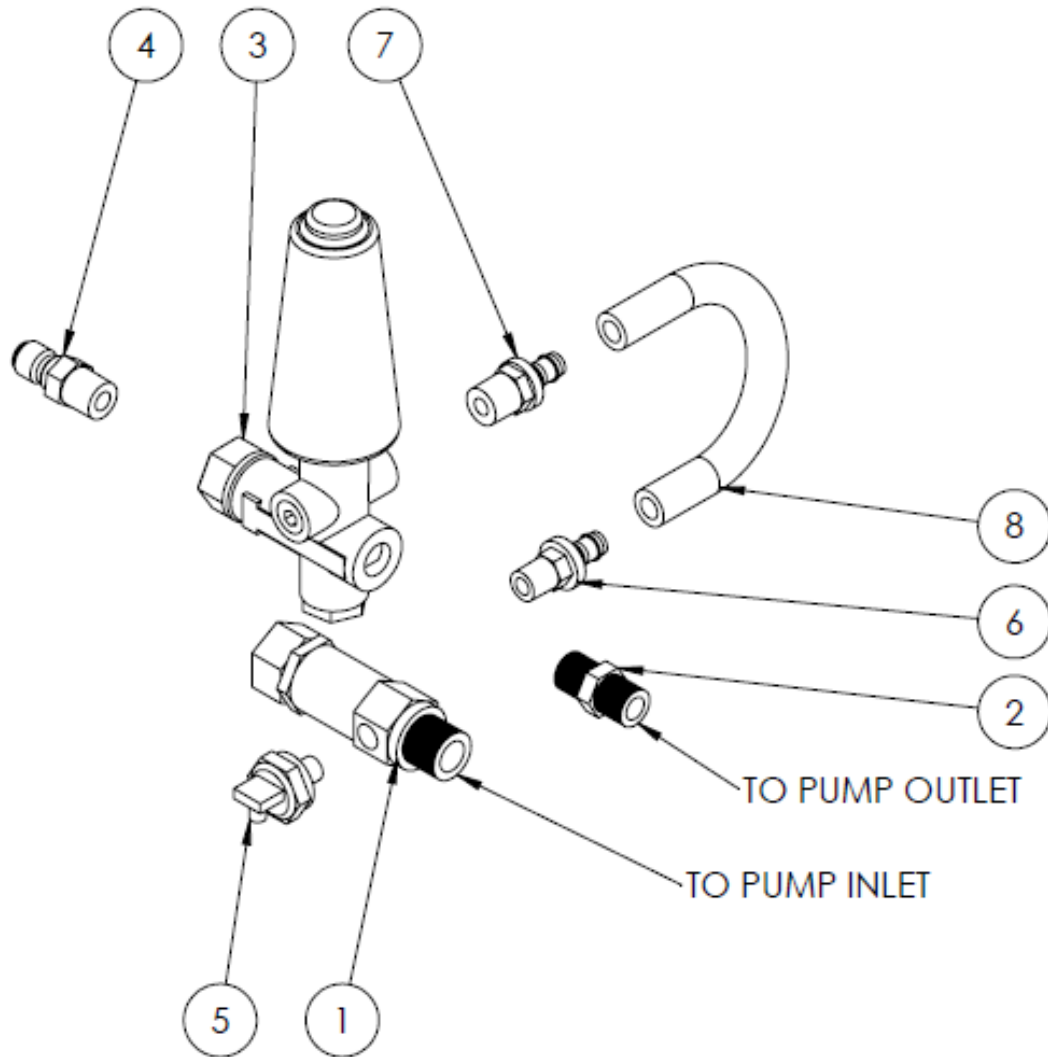
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	VRT3-310EZ	AR UNLOADER, 4500 PSI W/EZ	1
2	5503-06-06	HP ST ELL 45, 3/8F X 3/8M	1
3	D11009	QC PLUG, 3/8 MALE	1
4	5404-06-06	HEX NIPPLE, HP 6MP X 6MP	1
5	272-06-06	MALE PO HOSE BARB 3/8MPT X 3/8	1
6	3284-2503	HOSE, LOC-ON, 3/8"	1
7	272-06-04	MALE PO HOSE BARB 1/4MPT X 3/8	1
8	680017	GARDEN HOSE INLET, SHORT, 1/2"	1
9	TRV50	THERMOSENSOR, 1/2 MPT, 140F	1
10	700004	GHA WASHER/FILTER	1



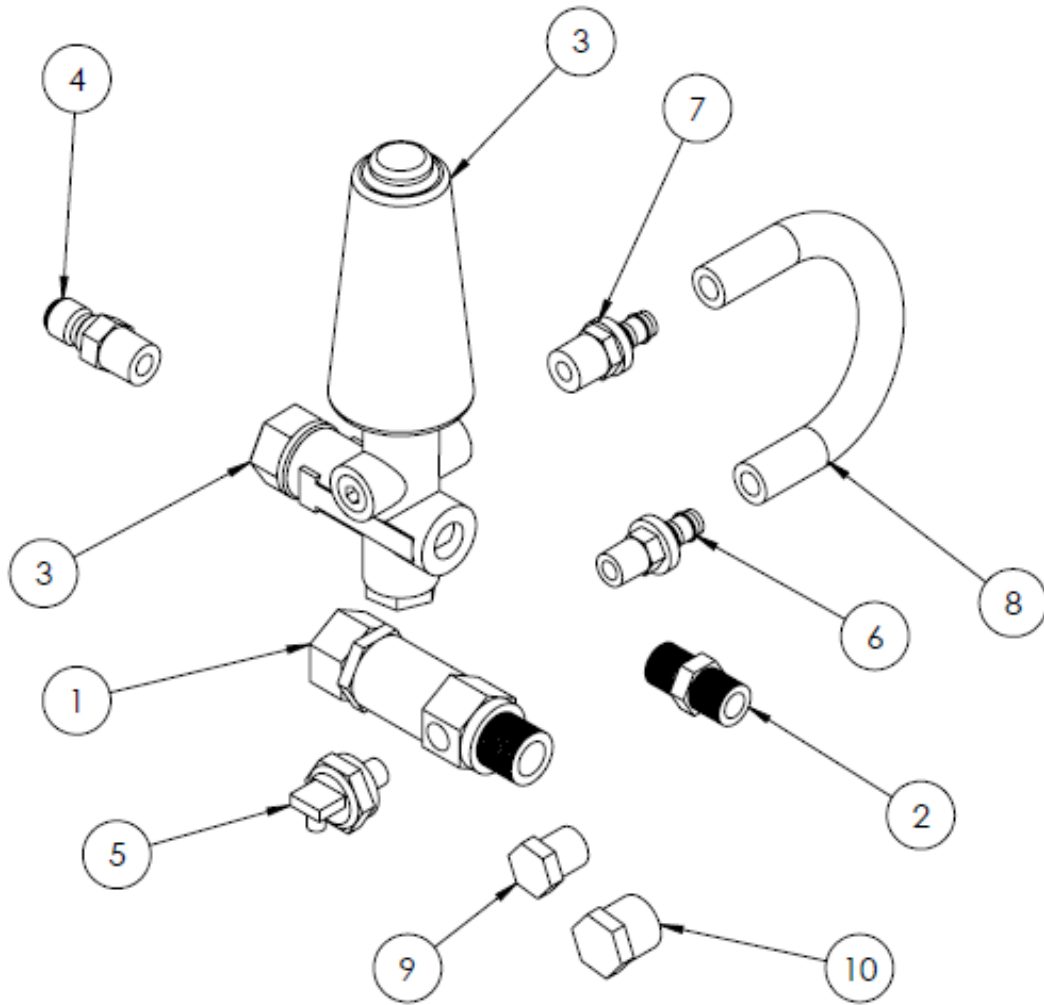
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	VRT3-310EZ	AR UNLOADER, 4500 PSI W/EZ	1
2	5404-06-04	HEX NIPPLE, HP 6MP X 4MP	1
3	272-06-06	MALE PO HOSE BARB 3/8MPT X 3/8	1
4	680007	GARDEN HOSE INLET, SHORT, 3/8"	1
5	272-06-04	MALE PO HOSE BARB 1/4MPT X 3/8	1
6	100557	THERMAL RELIEF, 3/8"	1
7	D10009	QC PLUG, 3/8 MALE	1
8	700004	GHA WASHER/FILTER	1



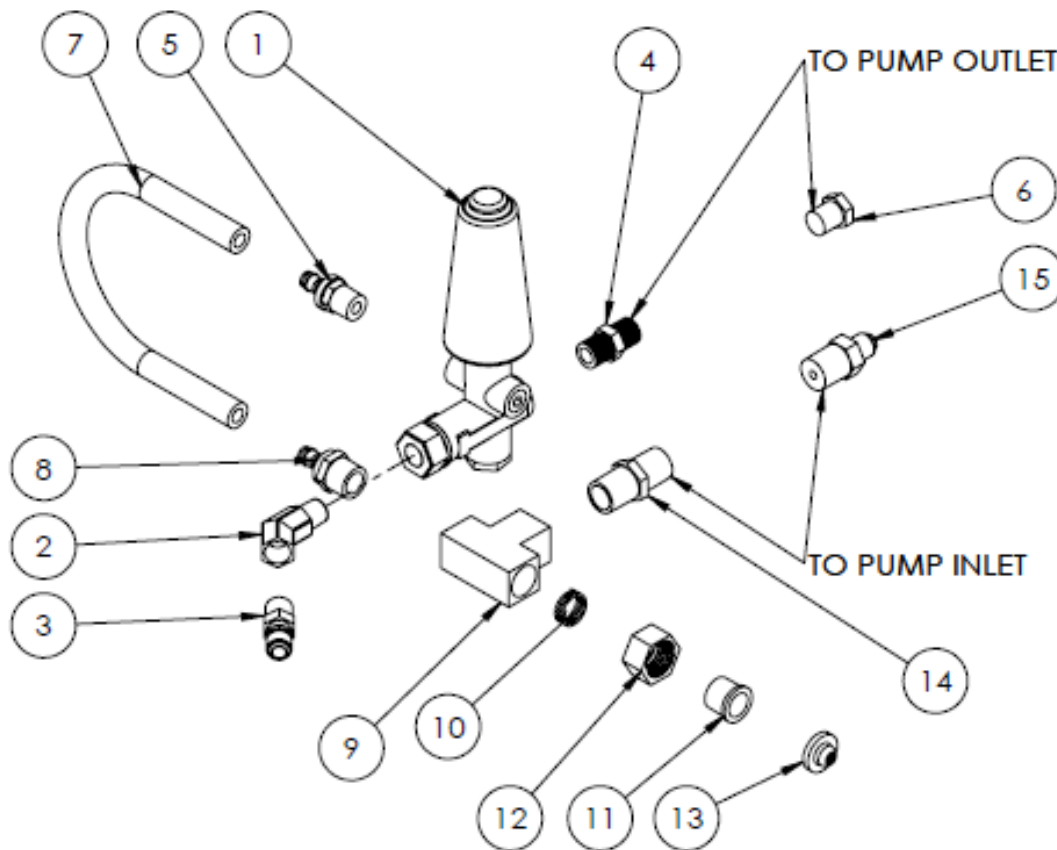
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	5404-06-06	HEX NIPPLE, HP 6MP X 6MP	1
2	VRT3-310EZ	AR UNLOADER, 4500 PSI W/EZ	1
3	680017	GARDEN HOSE INLET, SHORT, 1/2"	1
4	272-06-06	MALE PO HOSE BARB 3/8MPT X 3/8	1
5	272-06-04	MALE PO HOSE BARB 1/4MPT X 3/8	1
6	700004	GHA WASHER/FILTER	1
7	3284-2503	HOSE, LOCK ON, 3/8"	1.5 FT
8	TRV50	THERMOSENSOR, 1/2 MPT, 140F	1
9	D11009	QC PLUG, 3/8 MALE	1



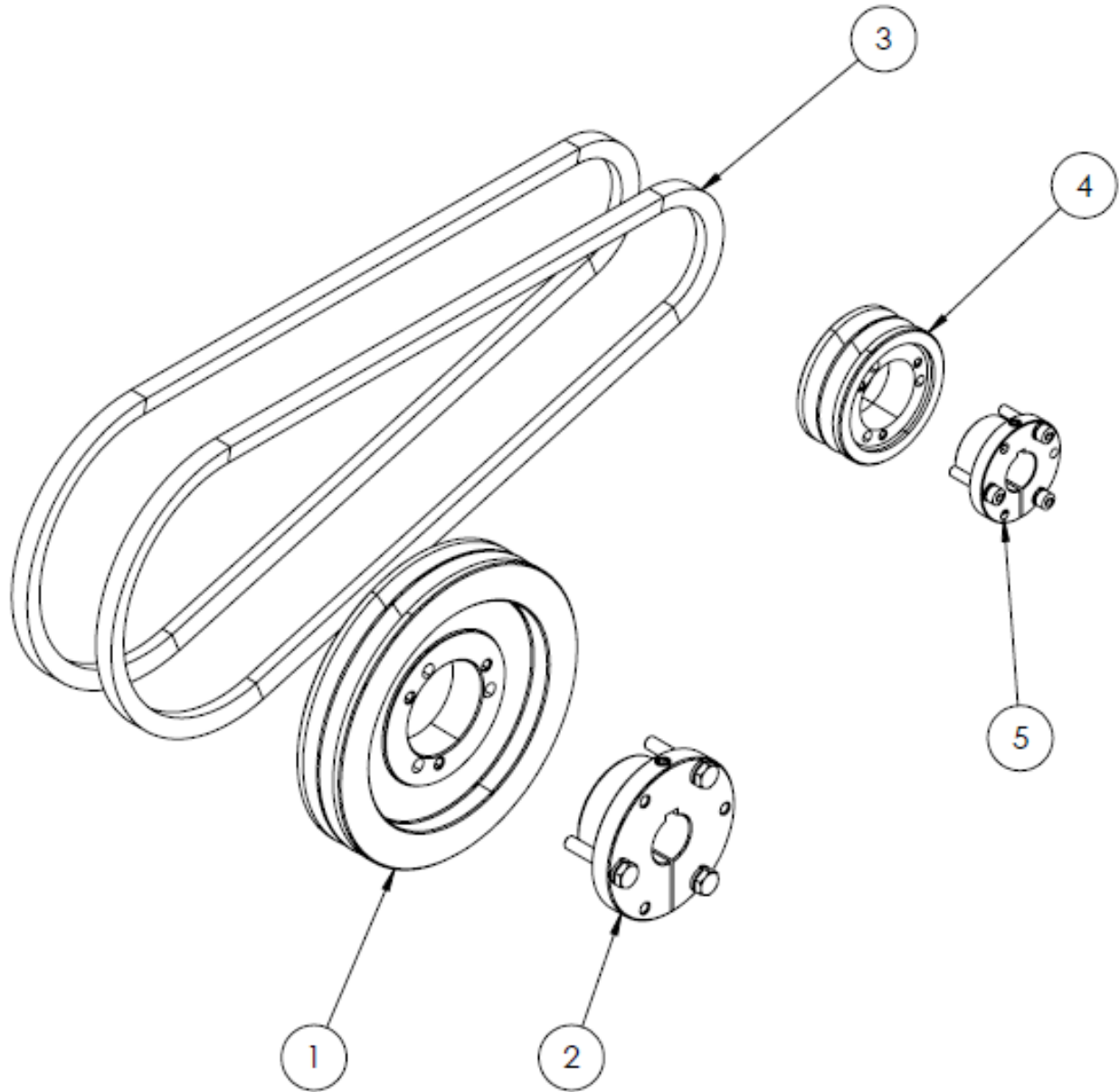
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	100651	DURAVIEW INLET FILTER, 1/2" W 1/4" BYPASS	1
2	5404-06-06	HEX NIPPLE, HP 6MP X 6MP	1
3	VRT3-310EZ	AR UNLOADER, 4500 PSI W/EZ	1
4	D11009	QC PLUG, 3/8 MALE	1
5	100556	THERMAL RELIEF, 1/4"	1
6	272-06-04	MALE PO HOSE BARB 1/4MPT X 3/8	1
7	272-06-06	MALE PO HOSE BARB 3/8MPT X 3/8	1
8	3284-2503	HOSE, LOCK-ON, 3/8, 6LOLA PLUS	1.5 FT



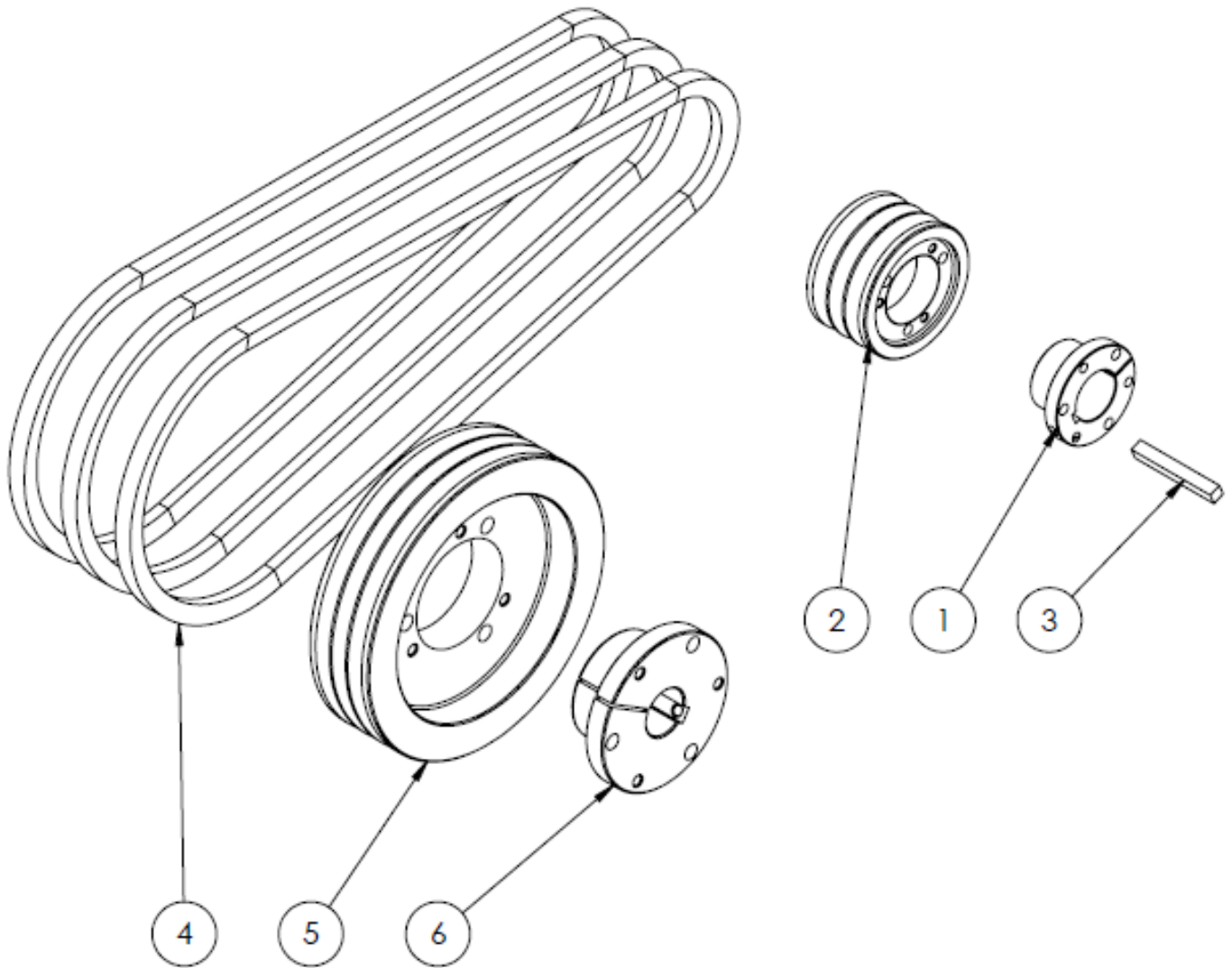
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	100651	DURAVIEW INLET FILTER, 1/2' W 1/4" BYPASS	1
2	5404-06-06	HEX NIPPLE, HP 6MP X 6MP	1
3	VRT3-310EZ	AR UNLOADER, 4500 PSI W/EZ	1
4	D11009	QC PLUG, 3/8 MALE	1
5	100556	THERMAL RELIEF, 1/4"	1
6	272-06-04	MALE PO HOSE BARB 1/4MPT X 3/8	1
7	272-06-06	MALE PO HOSE BARB 3/8MPT X 3/8	1
8	3284-2503	HOSE, LOCK-ON, 3/8, 6LOLA PLUS	1
9	3152-06	PLUG, HEX HEAD, 3/8 NPTM	1
10	3152-08	PLUG, HEX HEAD, 3/8 NPTM	1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	VRT3-310EZ	AR UNLOADER, 4500 PSI W/EZ	1
2	5503-06-06	HP ST ELL 45, 3/8F X 3/8M	1
3	D11009	QC PLUG, 3/8 MALE	1
4	5404-06-06	HEX NIPPLE, HP 6MP X 6MP	1
5	272-06-06	MALE PO HOSE BARB 3/8MPT X 3/8	1
6	3152-06	PLUG, HEX HEAD, 3/8 NPTM	1
7	3284-2503	HOSE, LOC-ON, 3/8"	1.5 FT
8	272-06-08	MALE PO HOSE BARB 1/2 MPT X 3/8 HOSE	1
9	3700-08-08-08	T, FEMALE, 1/2"	1
10	720039	GHA SPRING	1
11	510032	GARDEN HOSE ADAPTER, 1/2" NPT-M	1
12	510228	GARDEN HOSE ADAPTER NUT	1
13	700004	GHA WASHER/FILTER	1
14	3325-08-08	HEX NIPPLE, 1/2"	1
15	TRV50	THERMOSENSOR, 1/2 MPT, 140F	1

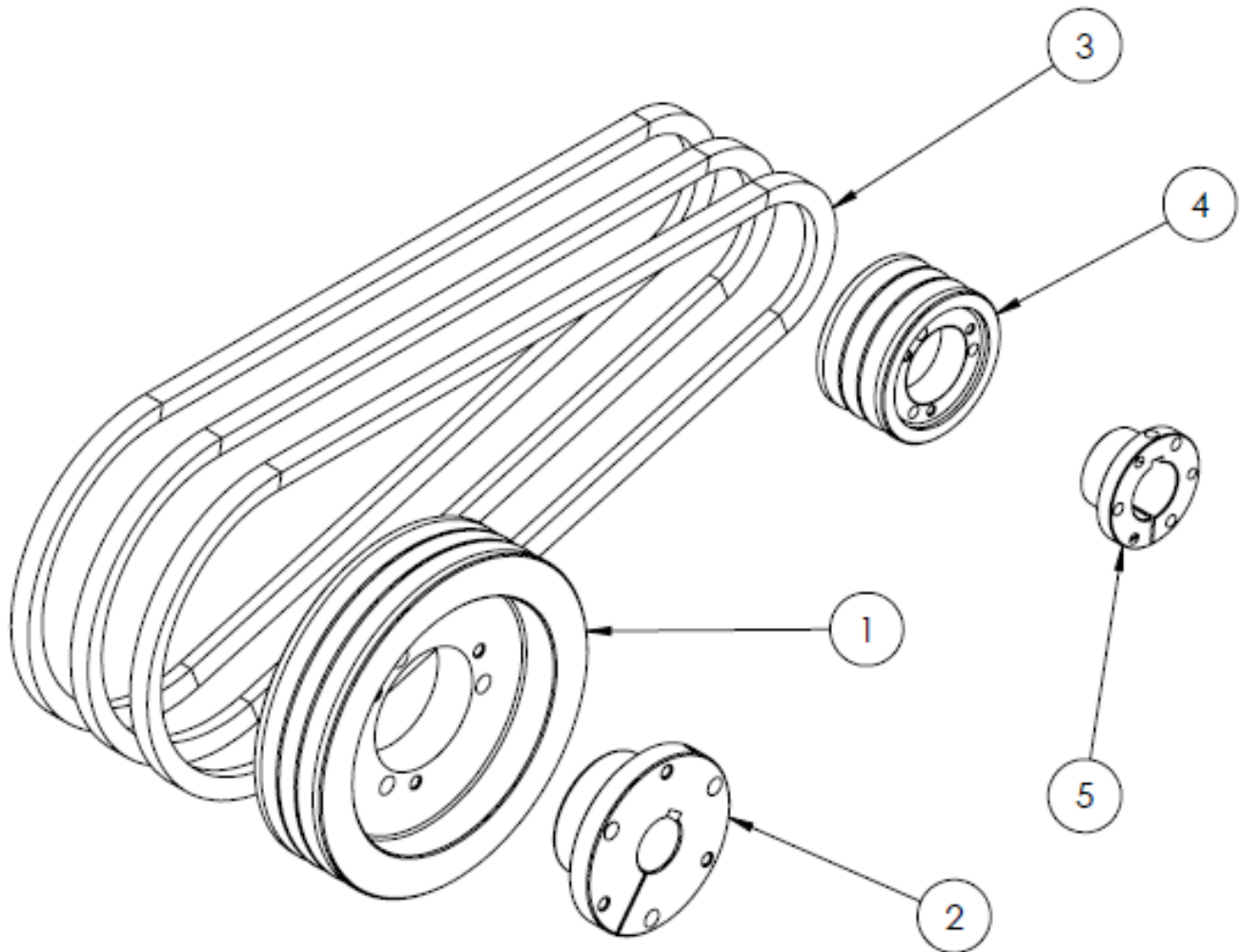


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2-3V6.00	SHEAVE, 2 GR, 6.00" DIA	1
2	SH-24MM	BUSHING, 24MM, SH	1
3	3VX335	3VX BELT 33-1/2"	2
4	2-3V2.65	SHEAVE, 2 GR, 2.65" DIA	1
5	JA-3_4	BUSHING, 3/4, JA	1

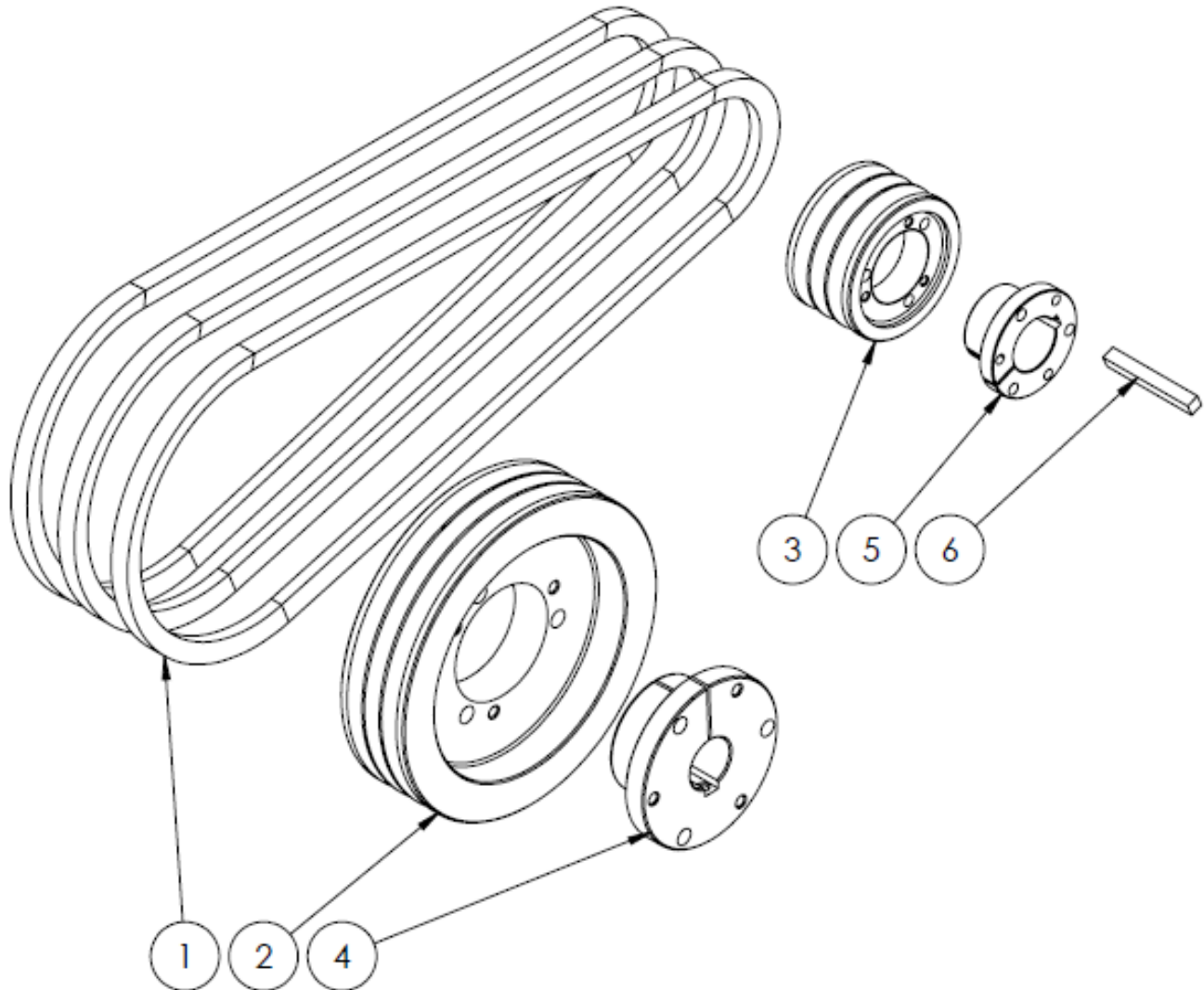


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	JA-1	BUSHING, 1", JA	1
2	3-3V2.65	SHEAVE, 2.65" OD, 3GR, JA STYLE	1
3	PKY020	KEY, DRIVE, 1/4 X 2	1
4	3VX335	3VX BELT 33-1/2"	3
5	3-3V6.00	SHEAVE, 3VX, 3GR.6.00 DIA, SDS STYLE	1
6	SDS-20MM	BUSHING, 20MM, SDS	1

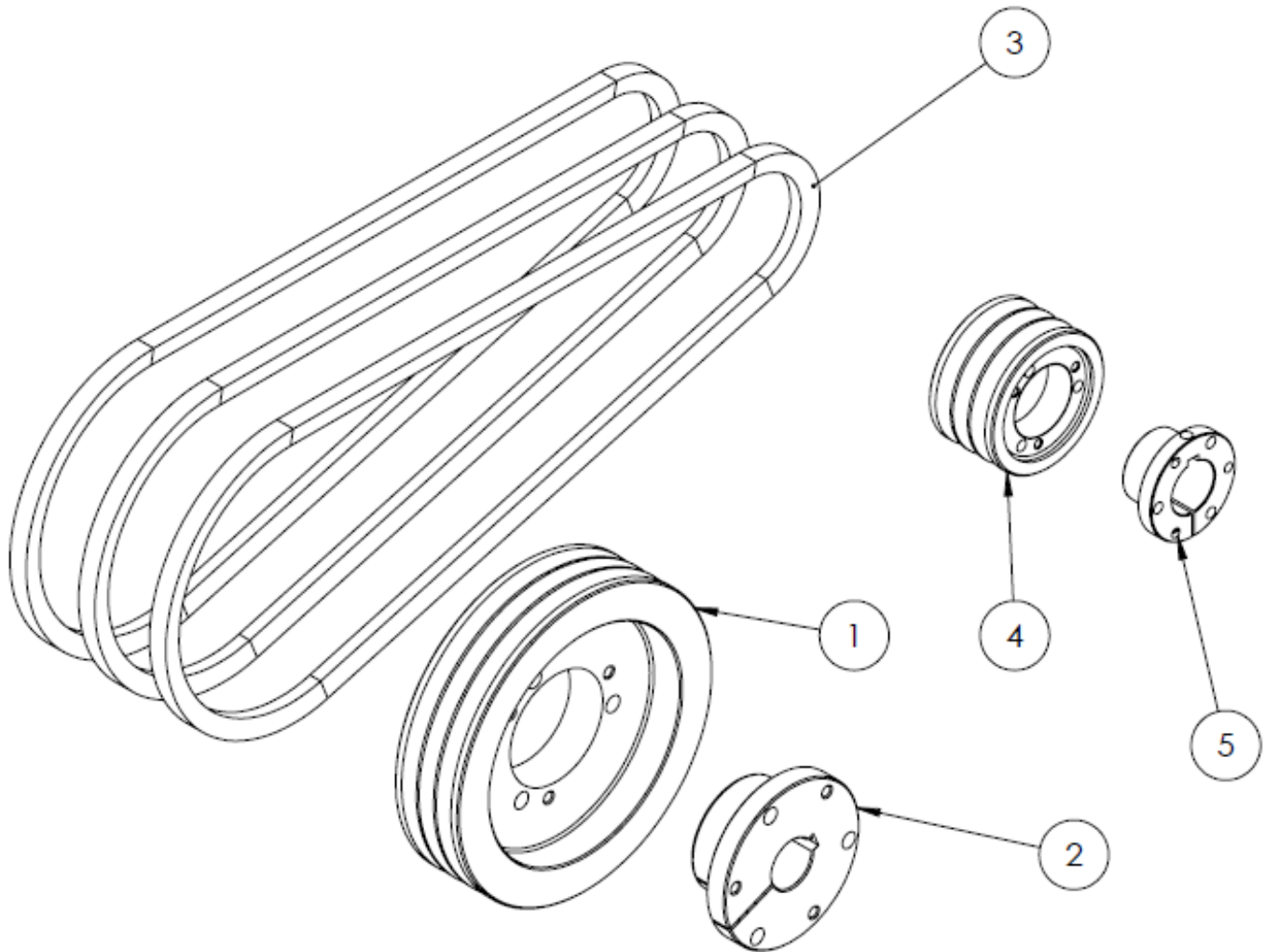
**KDR301**



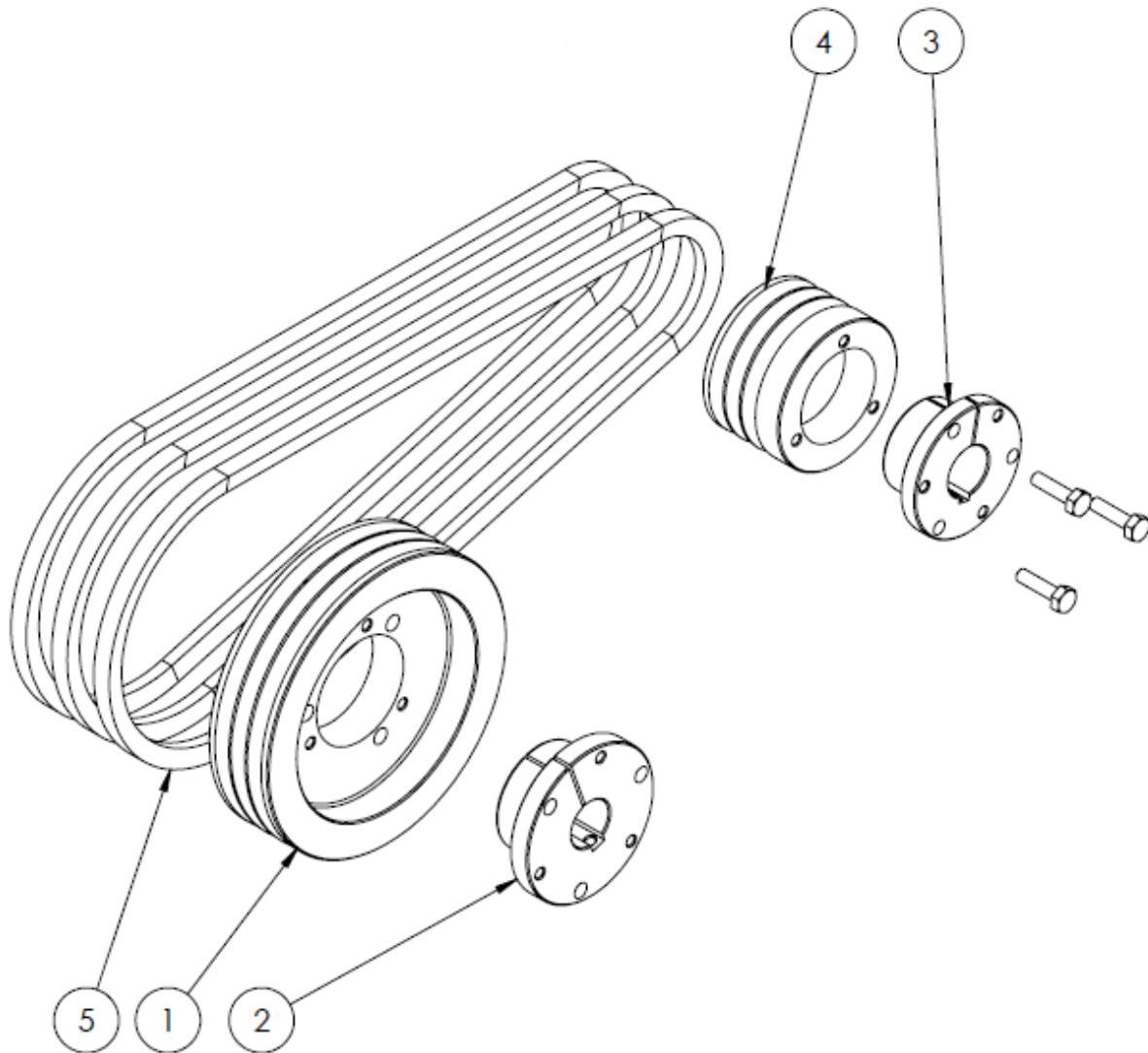
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3-3V6.00	SHEAVE, 3VX, 3GR.6.00 DIA, SDS STYLE	1
2	SDS-20MM	BUSHING, 20MM, SDS	1
3	3VX400	V BELT SUPER HC, 40"	3
4	3-3V2.65	SHEAVE, 2.65" OD, 3GR, JA STYLE	1
5	JA-1	BUSHING, 1", JA	1



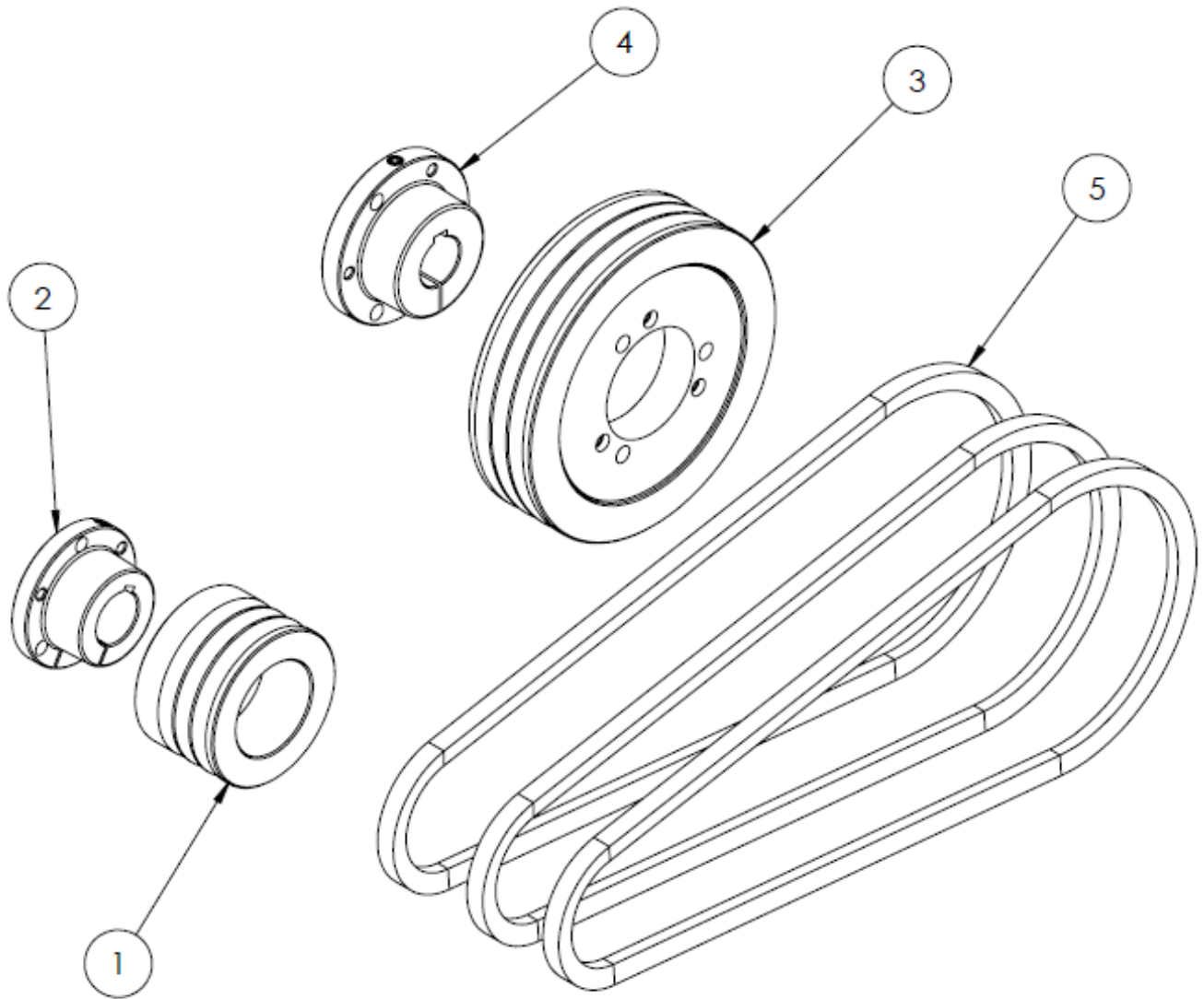
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3VX335	3VX BELT 33-1/2"	3
2	3-3V600 SDS	SHEAVE, 3VX, 3GR.6.00 DIA	1
3	3-3V2.65	SHEAVE, 2.65" OD, 3GR, JA STYLE	1
4	SDS-24MM	BUSHING, 24MM,	1
5	JA-1	BUSHING, 1", JA	1
6	PKY020	KEY, DRIVE, 1/4 X 2	1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3-3V600 SDS	SHEAVE, 3VX, 3GR.6.00 DIA	1
2	SDS-24MM	BUSHING, 24MM,	1
3	3VX400	V BELT SUPER HC, 40"	3
4	3-3V2.65	SHEAVE, 2.65" OD, 3GR, JA STYLE	1
5	JA-1	BUSHING, 1", JA	1

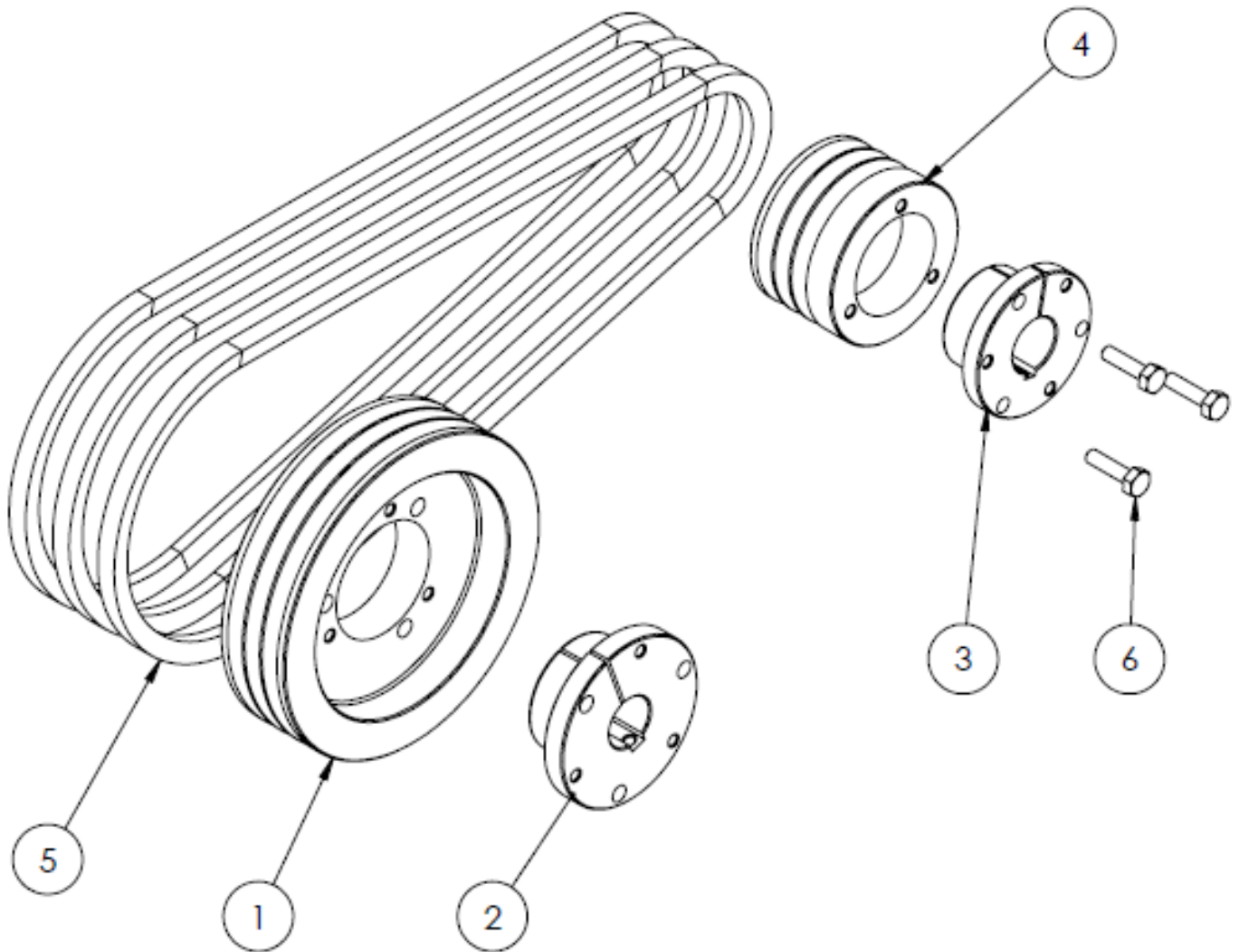


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3-3V600 SDS	SHEAVE, 3VX, 3GR.6.00 DIA	1
2	SDS-24MM	BUSHING, 24MM,	1
3	SH-1	BUSHING, SHX, 1.00" DIA	1
4	3-3V3.00	SHEAVE, 3 GR, 3.00 DIA	1
5	3VX335	3VX BELT 33-1/2"	3
6	105 042 001 000	HHCS 1/4-20 X 1.00	3



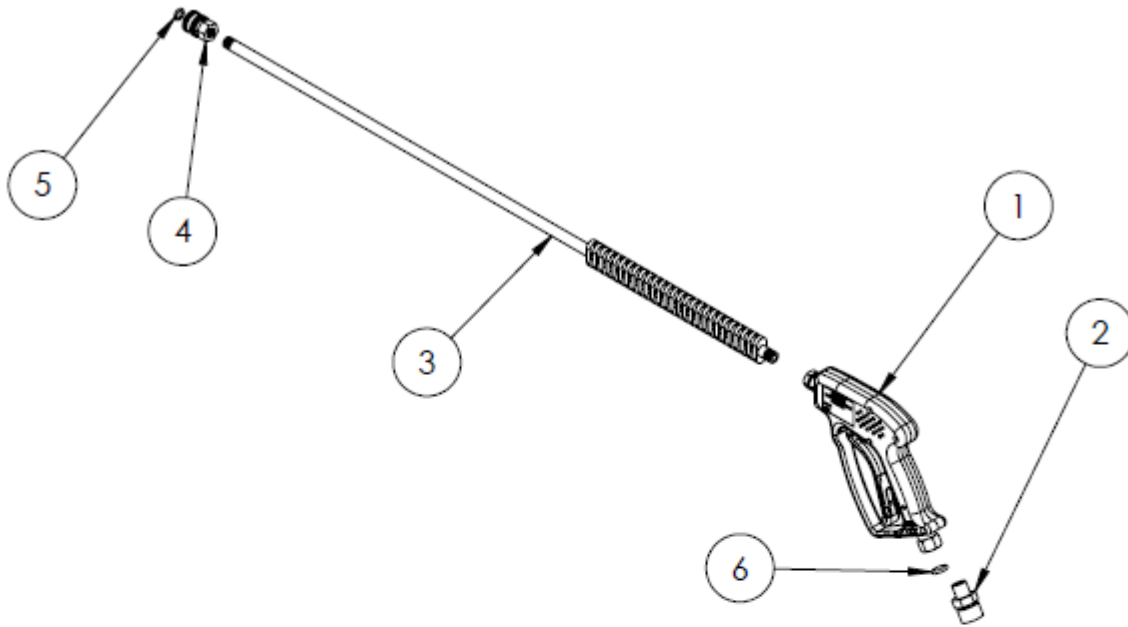
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3-3V300 SH	SHEAVE, 3VX, 3GR, 3.00 DIA	1
2	SH-1	BUSHING, SHX, 1.00" DIA	1
3	3-3V6.00	SHEAVE, 3VX, 3GR.6.00 DIA, SDS STYLE	1
4	SDS-24MM	BUSHING, 24MM,	1
5	3VX400	V BELT SUPER HC, 40"	3

**KDR352**



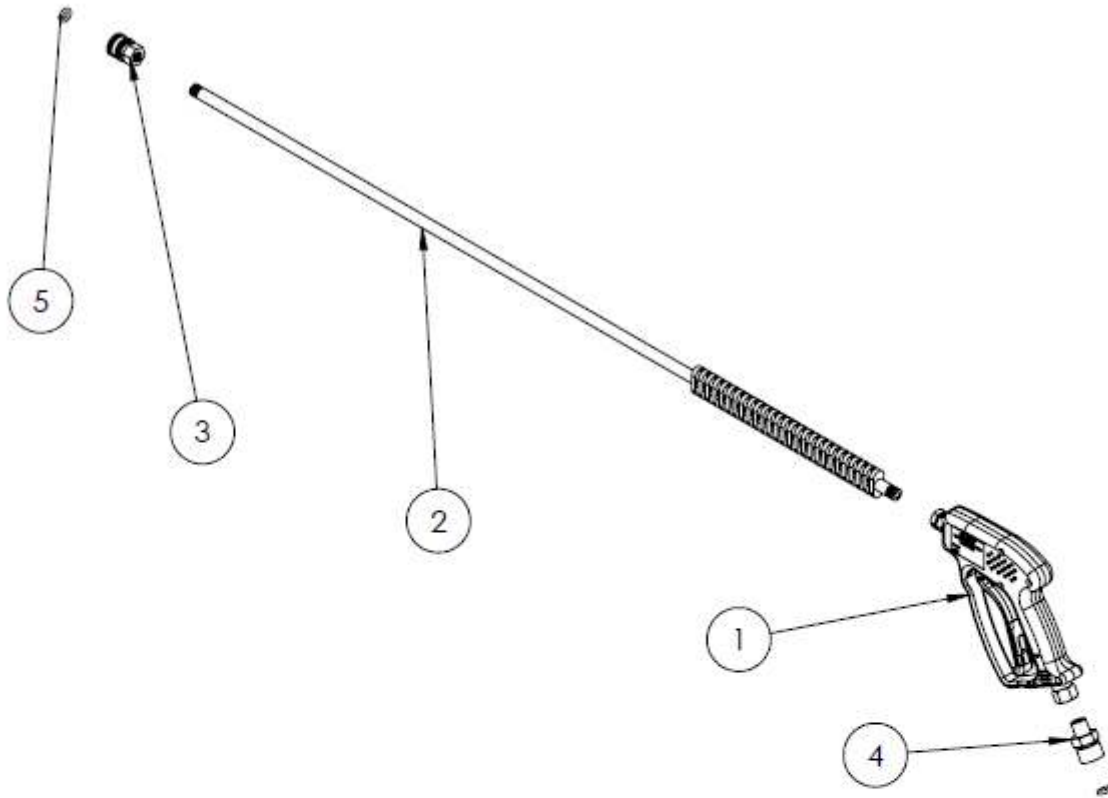
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3-3V600 SDS	SHEAVE, 3VX, 3GR.6.00 DIA	1
2	SDS-24MM	BUSHING, 24MM,	1
3	SH-1	BUSHING, SHX, 1.00" DIA	1
4	3-3V3.00	SHEAVE, 3 GR, 3.00 DIA	1
5	3VX425	V BELT, SUPER HC, 42.5"	3
6	105 042 001 000	HHCS 1/4-20 X 1.00	3

**AGU03621290C-1**

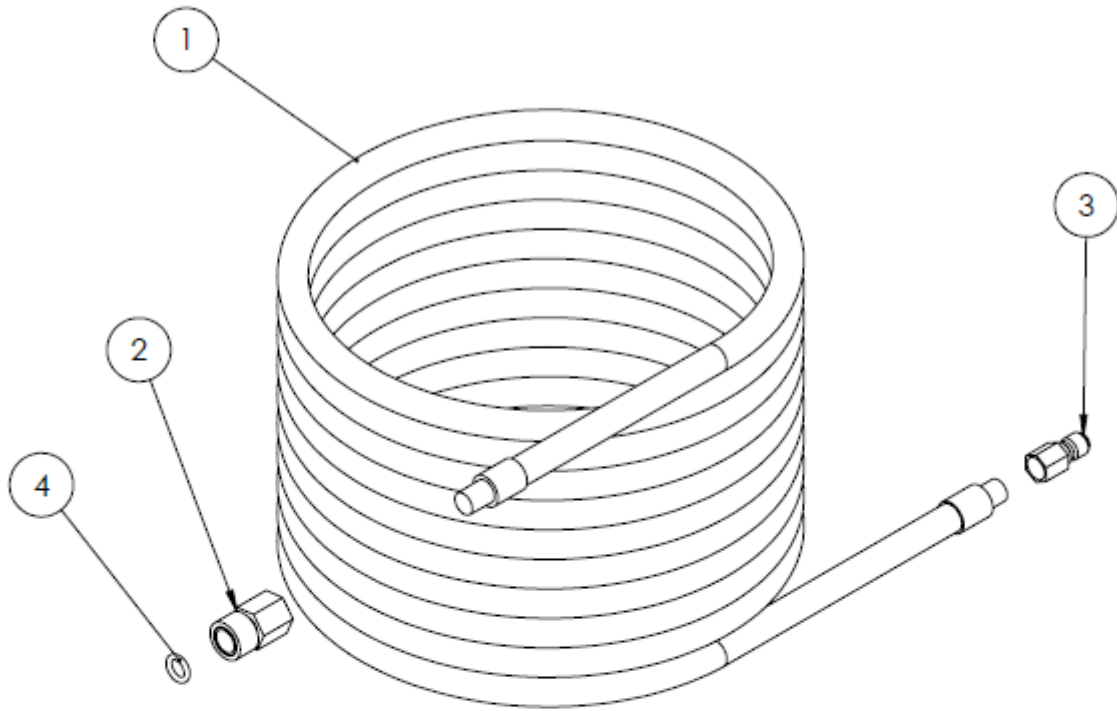


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	21290C	GUN VALVE, 10 GPM, 5000 PSI	1
2	D10004	QC SOCKET, 3/8 MALE	1
3	DL36ICS	WAND, PLATED STEEL, 36", INSULATED GRIP	1
4	D10001	QC SOCKET 3/8 FEMALE	1
5	OR-110-BN-70-BLACK	O-RING, 1/4" QC	1
6	OR-112-BN-70-BLACK	O-RING, 3/8" QC	1

AGU04221290C-I/2PC

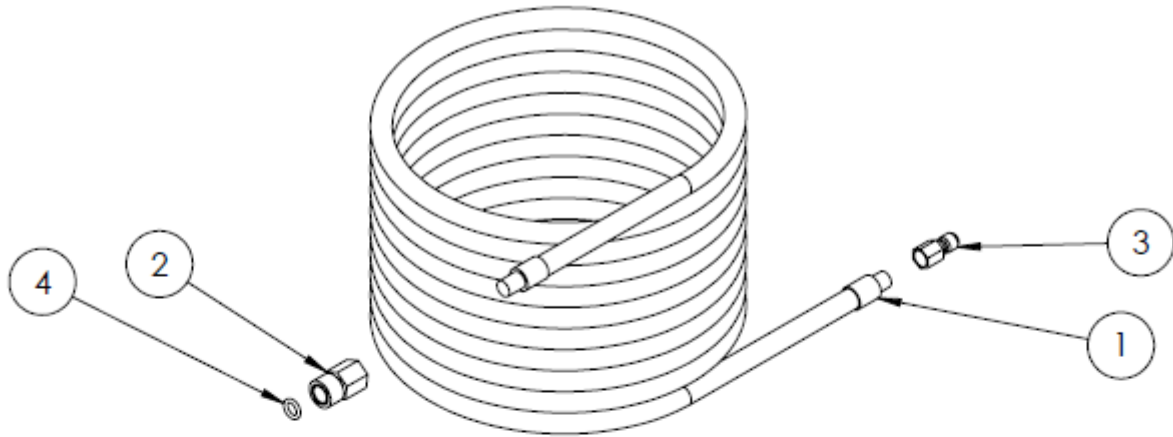


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	21290C	GUN VALVE, 10 GPM, 5000 PSI	1
2	DL42ICS	WAND, PLATED STEEL, 36", INSULATED GRIP	1
3	D10001	QC SOCKET 3/8 FEMALE	1
4	D10004	QC SOCKET, 3/8 MALE	1
5	OR-110-VT-75-BROWN	ORING, VITON FOR 1/4" QC	1
6	OR-112-VT-75-BROWN	ORING, VITON FOR 3/8" QC	1



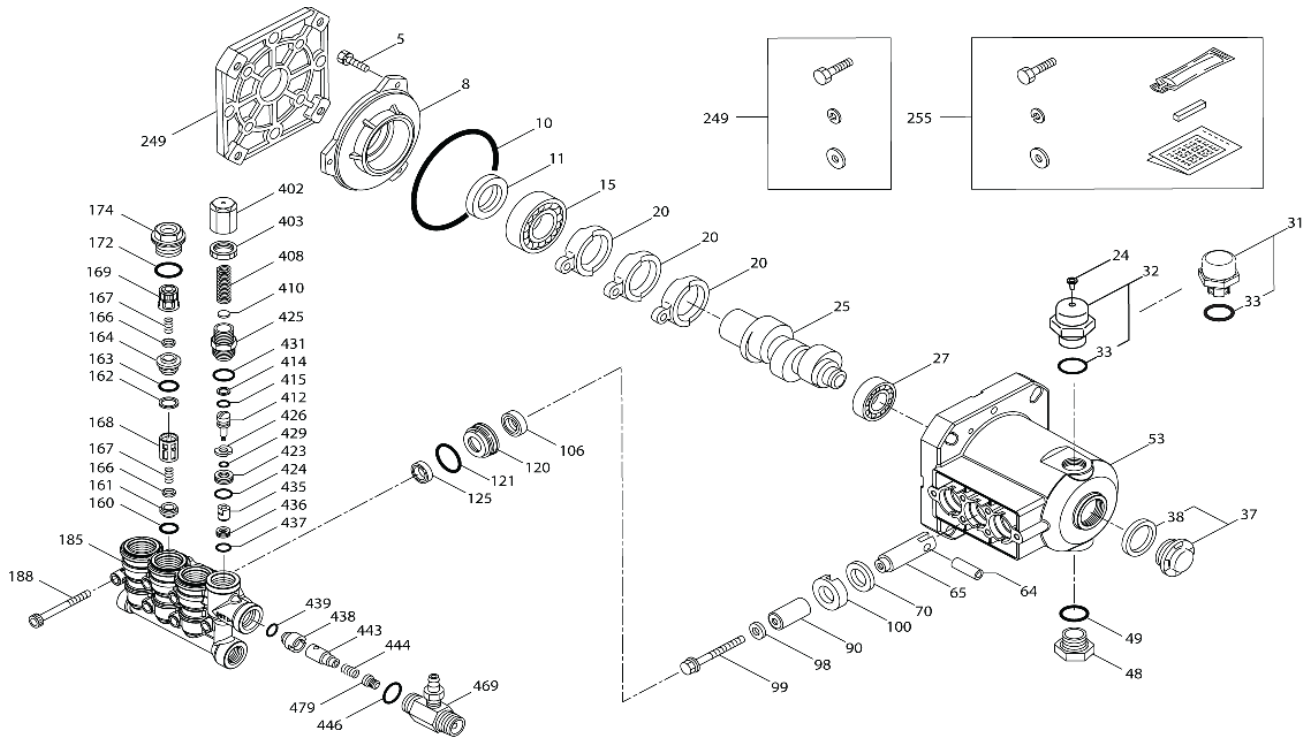
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HOS280	HOSE ASSY, 3/8" X 50', GRAY	1
2	D10003	QC SOCKET 3/8 FEMALE	1
3	D10008	QC PLUG, 3/8 FEMALE	1
4	OR-112-BN-70-BLACK	O-RING, 3/8" QC	1

**CHA0501GB**



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	AF42-06BK-050LBR	HOSE ASSY, 3/8" X 50', BLACK	1
2	D10003	QC SOCKET 3/8 FEMALE	1
3	D11008	QC PLUG, 3/8 FEMALE	1
4	OR-112-BN-70-BLACK	O-RING, 3/8" QC	1

## 4PPX30GSI



### PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY	ITEM	P/N	MATL	DESCRIPTION	QTY
5	549360	STCP R	Screw, HH (M6x14)	3	106	49816	NBR	Seal, LPS	3
8	547153	AL	Cover, Bearing	1	120	49804	BB	Case, Seal	3
10	14041	NBR	O-Ring, Bearing Cover - 70D	1	121	13976	NBR	O-Ring, Seal Case - 70D	3
11	55337	NBR	Seal, Oil - 70D	1	125	49824	BP	Seal, HPS	3
15	14488	STL	Bearing, Ball - Inner	1	160	17428	NBR	O-Ring, Inlet Seat - 80D	3
20	547048	TNM	Rod, Connecting	3	161	547077	S	Seat, Inlet	3
24	549608	LDPE	Plug, Oil Cap	1	162	48361	D	Back-up Ring, Discharge Seat	3
25	49883	CM	Crankshaft, 3450 RPM, 3/4", 6.8 mm (4PPX25GSI)	1	163	43358	NBR	O-Ring, Discharge Seat - 70D	3
	49882	CM	Crankshaft, 3450 RPM, 3/4", 7.2 mm (4PPX30GSI)	1	164	547076	S	Seat, Discharge	3
27	15710	STL	Bearing, Ball	1	166	547098	S	Valve	6
31	549726	—	Cap, Vented w/O-Ring (Rain Cap)	1	167	46865	S	Spring	6
32	547961	RTP	Cap, Oil Filler w/O-Ring	1	168	543988	PVDF	Retainer, Spring, Inlet	3
33	14179	NBR	O-Ring, Oil Filler Cap - 70D	1	169	49764	PVDF	Retainer, Spring, Discharge	3
37	92241	—	Gauge, Bubble Oil w/Gasket	1	172	142807	NBR	O-Ring, Plug - 90D	3
38	44428	NBR	Gasket, Flat Flex, Oil Gauge - 80D	1	174	547104	BB	Plug, Valve w/O-Ring (M20x1.5)	3
48	44842	NY	Plug, Drain	1	185	49763	BB	Head, Manifold w/Integral Unloader Body	1
49	14179	NBR	O-Ring, Drain Plug - 70D	1	188	549357	STCP R	Screw, HSH (M6x60)	6
53	49801	AL	Crankcase	1	249	30520	—	Assy, Adapter Mount	1
64	46229	STL	Pin, Crosshead	3	255	30516	STZP R	Assy, Bolt Mount	1
65	542402	BB	Rod, Plunger	3	283	990394	—	Kit, Oil Drain (Not Shown)	1
70	47215	NBR	Seal, Oil - 70D	3	300	76124	NBR	Kit, Seal (Incls: 106 and 125)	1
90	547091	CC	Plunger (M14x25.5)	3	310	76134	NBR	Kit, Valve (Incls: 160,161,162,163,164,166,167,168,169,172)	1
98	46730	NBR	Washer, Seal - 90D	3	400	—	—	Unloader, Integral (See Individual Parts)	1
99	542405	S	Retainer, Plunger (M6x35)	3	469	7332	BB	Injector, Chemical Fixed	1
100	46233	D	Retainer, Seal	3					

Bold Part Numbers are unique to a particular pump model. Italics are optional items[ ] Date of latest production change. R Components comply with RoHS Directive.

View Tech Bulletins 002, 024, 036, 043, 055, 074 and 083 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BP=Special Poly-Blend CC=Ceramic CM=Chrome-moly D=Acetal

LDPE=Low Density Polyethylene NBR=Medium Nitrile (Buna-N) NY=Nylon PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite

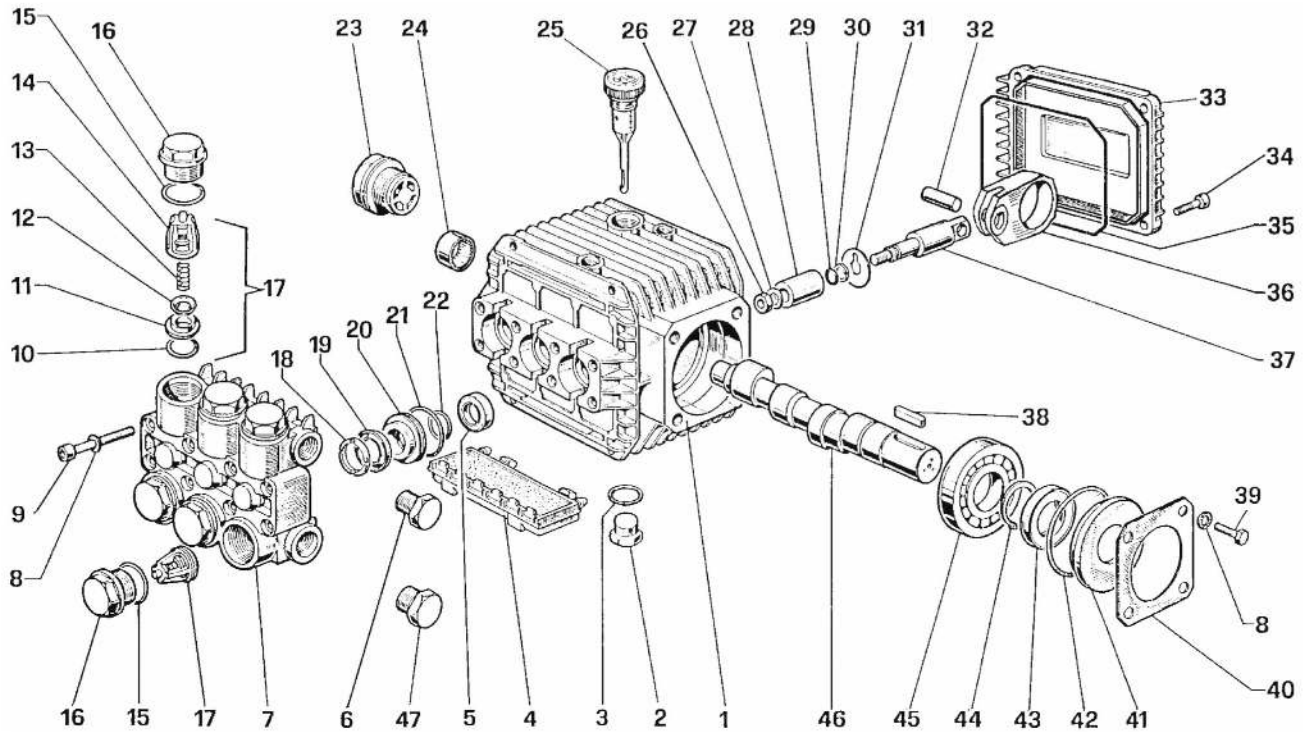
S=304SS STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength

NOTE: Discard Key which may come standard with most motors and use only the key included in this kit.

Center raised pilot guide on the Adapter Plate assures proper alignment of pump and engine. Before mounting pump onto engine inspect engine for recessed seal and bearing guide to permit adapter to completely seat into recess and four bosses to be flush with engine face.



## TP2530J34



### PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	51010622	Crankcase	1	18.	51100051	Head Ring, 15mm	3	35.	90391700	Cover Gasket	1	1	
2.	98210050	Plug, 3/8-BSPP	1	19.	90262000	Packing, 15mm	3	36.	51030122	Connecting Rod	3	3	
3.	90383300	O-ring, .549 x .103	2	20.	51080070	Packing Retainer	3	37.	51050056	Plunger Guide	3	3	
4.	51209051	Protector	1	21.	90360400	O-ring, .989 x 0.07086	3	38.	91487700	Key	1	1	
5.	710002	Oil Seal	3	22.	90383500	O-ring, .594 x .103	3	39.	99180700	Screw, M6x10	4	4	
6.	98204100	Plug	1	23.	97596800	Sight Gauge	1	40.	50150074	Side Bearing Cover	1	1	
7.	51120441	Manifold	1	24.	91801500	Needle Bearing	1	41.	50211551	Spacer	1	1	
8.	203510	Washer, M6.4, Schnorr	8	25.	98210300	Oil Dip Stick	1	42.	90409700	O-ring, Ø55.56x3.53	1	1	
9.	99194300	Screw, M6 x 40	8	26.	92221600	Nut, M8	3	43.	90163400	Oil Seal, Ø25x42x7	1	1	
10.	701115	O-ring, .674 x .103	6	27.	44211570	Washer, Ø8	3	44.	90063500	Circlip	1	1	
11.	36200366	Valve Seat	6	28.	51040009	Plunger, 15 mm	3	45.	91832800	Crankshaft Bearing	1	1	
12.	36711501	Valve Plate	6	29.	90357300	O-ring, Ø5.28x1.78	3	46.	51022465	Crankshaft, TP2520J34	1	1	
13.	94737600	Spring	6	30.	660024	Back-up Ring	3		51020665	Crankshaft, TP2526J34	1	1	
14.	36202551	Valve Cage	6	31.	96707000	Washer, Flinger	3		51020165	Crankshaft, TP2533J34	1	1	
15.	701002	O-ring, .797 x .103	6	32.	97731000	Connecting Rod Pin	3	47.	98210000	Plug, 3/8 BSP	1	1	
16.	98221600	Valve Cap	6	33.	51160022	Crankcase Cover	1						
17.	36711501	Valve Assembly	6	34.	99186700	Screw	4						

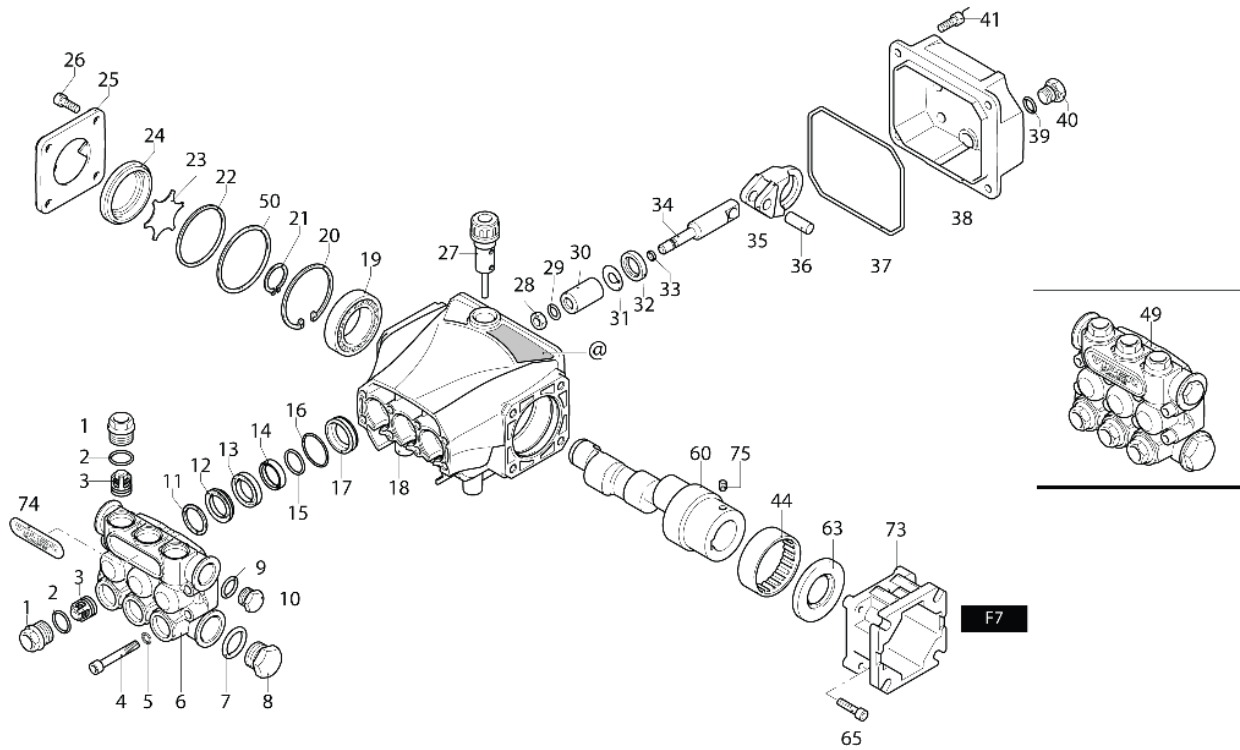
### REPAIR KITS

KIT NO.	K83	K86	K96	97	123
ITEM NO's INCLUDED IN KIT	5	20, 21, 22	18, 19, 20, 21, 22	18, 19, 21, 22	10, 11, 12, 13, 14 (17)
NUMBER OF ASSEMBLIES IN KIT	3	3	1	3	6
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	1	3	3

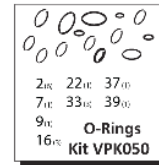
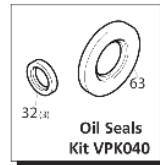
### TORQUE SPECS\*

Position	Ft. Lbs.	Nm
2	29.5	40
6	14.8	20
9	8.9	12
16	59.0	80
23	8.9	12
26	14.8	15
34	7.4	10
39	7.4	10
47	29.5	40

\* Decrease torque by 20% if threads are lubricated

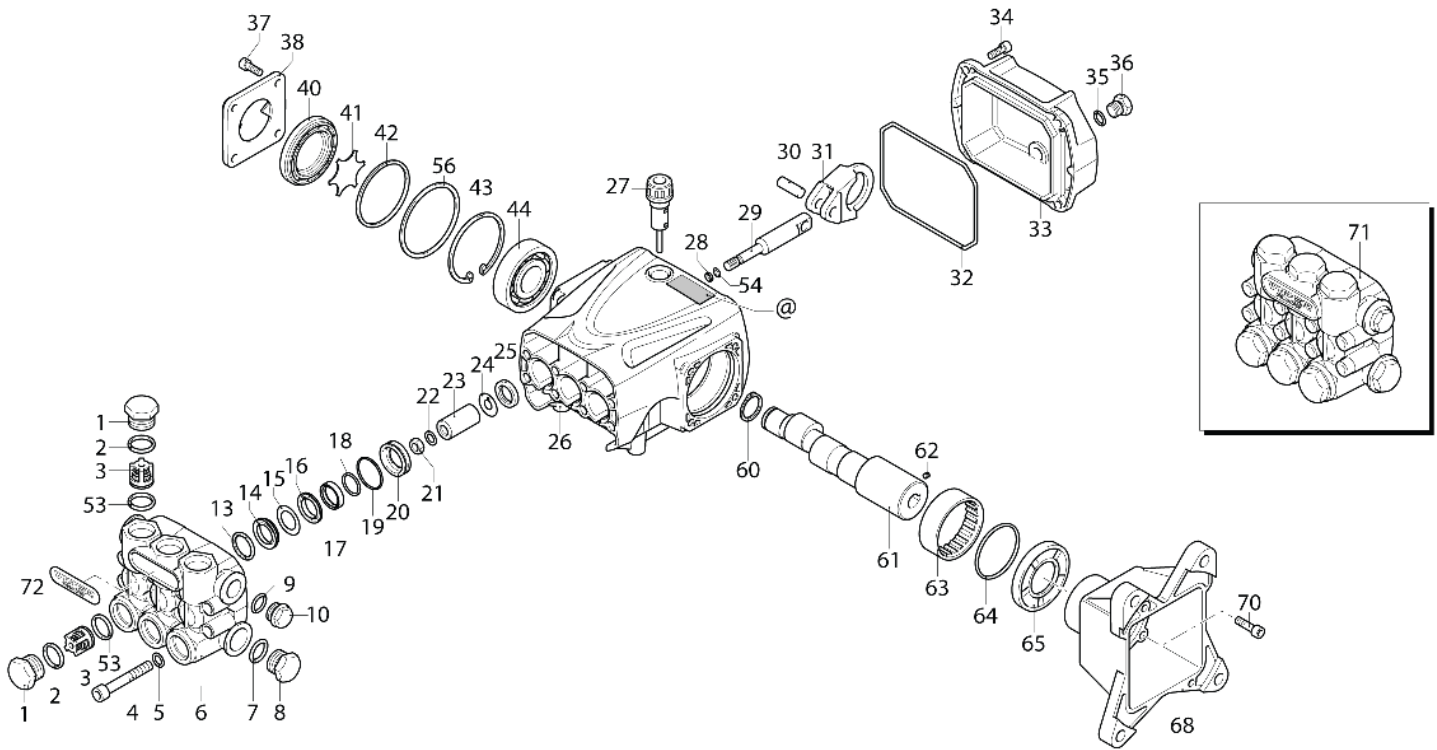


### Repair Kits

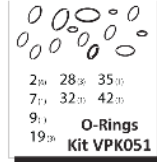
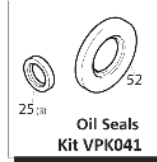
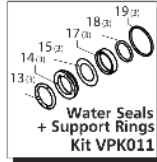


Pos	Code	Description	Qty	Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	VP3201950	Plug	(217 in/lbs) 6	18	VP3200010	Pump body	1	37	VP2760280	O-Ring $\varnothing$ 101.27x2.62	1
2	VP1200690	O-Ring $\varnothing$ 15.6x1.78	6	19	VP1780490	Bearing	1	38	VP3201920	Cover	1
3	VP2769050	Complete valve	6	20	VP1260790	Ring $\varnothing$ 52	1	39	VP820510	O-Ring $\varnothing$ 10.82x1.78	1
4	VP800410	Screw M6x40	(92 in/lbs) 8	21	VP1780550	Ring $\varnothing$ e 20	1	40	VP880581	Plug 1/4" G	(177 in/lbs) 1
5	VP1381550	Washer	8	22	VP395081	O-Ring $\varnothing$ 47.30x2.62	1	41	VP3200220	Screw 6x16	(71 in/lbs) 4
6	VP3201940	Head	1	23	VP3200090	Plate	1	44	VP1321190	Bearing	1
7	VP180101	O-Ring $\varnothing$ 17.5x2	1	24	VP3200080	Level gauge	1	49	VP3209201	Head assembly	1
8	VP820361	Plug 1/2" G	(354 in/lbs) 1	25	VP3200070	Support	1	50	VP3201860	Ring $\varnothing$ 51.8x0.5	1
9	VP740290	O-Ring $\varnothing$ 14x1.78	1	26	VP1200430	Screw M6x16	(92 in/lbs) 4	60	VP3200350	Crankshaft	1
10	VP1980740	Plug 3/8" G	(221 in/lbs) 1	27	VP880130	Plug	1	63	VP480671	Ring	1
11	VP2760220	Ring	3	28	VP1260110	Nut M8	(106 in/lbs) 3	65	VP1200430	Screw M6x16	(92 in/lbs) 4
12	VP1342761	Water seal	3	29	VP1260100	Washer	3	73	VP1320050	Flange F7	1
13	VP3200160	Piston guide	3	30	VP1260120	Piston	3	74	VP3220860	Sticker	1
14	VP3200690	Gasket	3	31	VP1260091	Plate	3	75	VP820440	Screw M6x6	1
15	VP3200700	Ring	3	32	VP1260460	Oil seal	3		AR64516	Oil	1
16	VP770590	O-Ring $\varnothing$ 21.95x1.78	3	33	VP480480	O-Ring $\varnothing$ 4.48x1.78	3			OIL CAPACITY- 12.68OZ	
17	VP3200150	Piston guide	3	34	VP3200060	Piston	3			Legend	
				35	VP3200040	Connecting-rod	3			$\varnothing$ 15	
				36	VP1780050	Pin	3			VV3G27G	

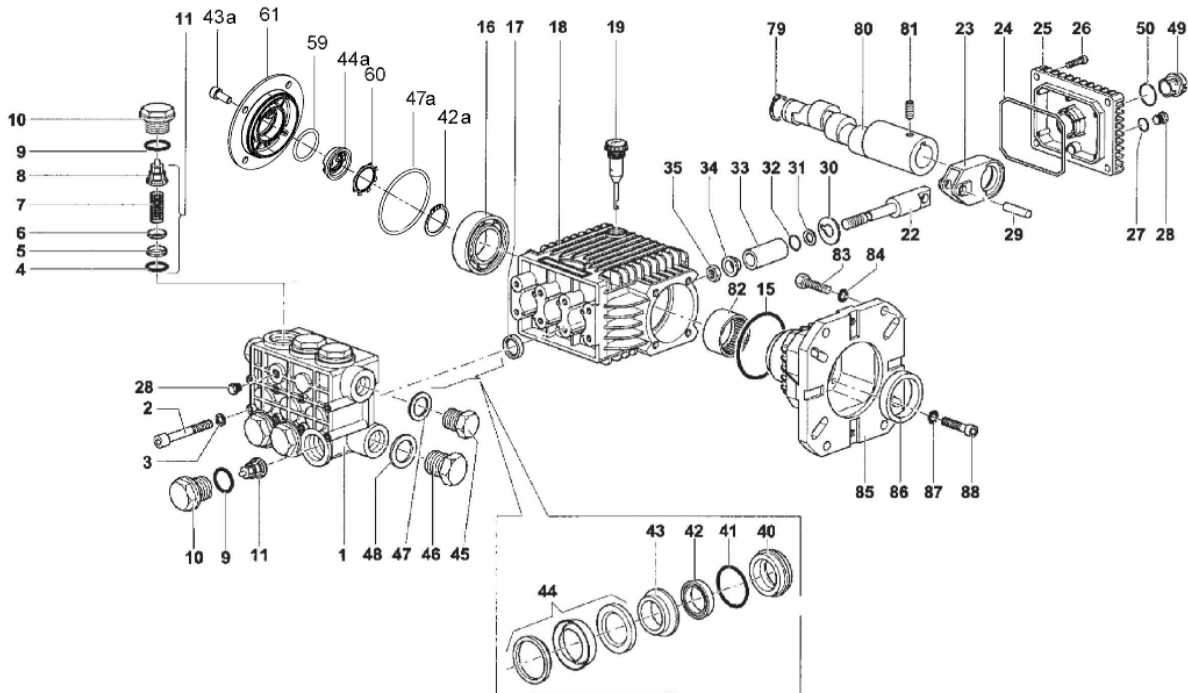
## VV4G42G



### Repair Kits



Pos	Code	Description	Qty	Pos	Code	Description	Qty	Legend			
1	VP960850	Plug	(478 in/lbs) 6	24	VP1260091	Plate	3	For ○	For ●		
2	VP960162	O-Ring Ø 17.86x2.62	6	25	VP1260091	Oil seal	3	VV3G36G	VV4G42G		
3	VP889052	Complete valve	6	26	VP3220010	Pump body	1	44	VP1981210	Bearing	1
4	VP800860	Screw M 8x55	8	27	VP880130	Plug	(44 in/lbs) 1	53	VP880830	O-Ring Ø 15.54x2.62	6
5	VP1381850	Washer	8	28	VP480480	O-Ring Ø 4.48x1.78	3	54	VP1080550	Ring	3
6	VP3220850	Head	1	29	VP3220060	Piston	3	56	VP3220780	Ring Ø 61.8x57.8x0.5	1
7	VP180101	O-Ring Ø 14.5x2	1	30	VP3220070	Pin	3	60	VP1260770	Ring øe 25	1
8	VP820361	Plug 1/2" G	(354 in/lbs) 1	31	VP3220040	Connecting-rod	3	61	VP3220240	Crankshaft	○1
9	VP740290	O-Ring Ø 14x1.78	1	32	VP651540	O-Ring Ø 107.62x2.62	1	61	VP3220460	Crankshaft	●1
10	VP1980740	Plug 3/8" G	(221 in/lbs) 1	33	VP3220830	Cover	1	62	VP820440	Screw M6x6	1
13	VP2760220	Ring	3	34	VP3200220	Screw 6x16	(71 in/lbs) 4	63	VP3220260	Bearing	1
14	VP1342761	Water seal	3	35	VP820510	O-Ring Ø 10.82x1.78	1	64	VP3220430	Ring Ø 56.87x1.78	1
15	VP3200680	Ring	3	36	VP880581	Plug 1/4" G	(133 in/lbs) 1	65	VP3220270	O-Ring	1
16	VP3220150	Piston guide	3	37	VP1200430	Screw M6x16	(92 in/lbs) 4	66	VP780060	Screw M6x25	(92 in/lbs) 4
17	VP3200690	Gasket	3	38	VP3200070	Support	1	68	VP3220250	Flange	1
18	VP3200700	Ring	3	40	VP3220080	Level gauge	1	70	VP780330	Screw M6x20	(92 in/lbs) 4
19	VP770260	O-Ring Ø 23.52x1.78	3	41	VP3200090	Plate	1	71	VP3229206	Head assembly	1
20	VP3220140	Piston guide	3	42	VP650560	O-Ring Ø 56.82x2.62	1	72	VP3220860	Sticker	1
21	VP1260110	Nut M8	(106 in/lbs) 3	43	VP200390	Ring Øi 62	1				
22	VP1260100	Washer	3								
23	VP1780070	Piston	3								
									AR64516	Oil	2
										OIL CAPACITY - 16.13OZ	



## PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1.	63120041	Manifold, 15 mm	1	27.	701013	O-ring	1	47a.	90389800	O-ring Ø 56.82x2.62	1
2.	99319200	Screw, M8 x 65	8	28.	98204100	Plug, 1/4" G	2	48.	96751400	Washer, M21.5	1
3.	96701400	Lockwasher, M8.4	8	29.	97733500	Connecting Rod Pin	3	49.	63210051	Oil Level Indicator	1
4.	701115	O-ring	6	30.	96707500	Flinger Washer	3	50.	90405100	O-ring	1
5.	36200366	Valve Seat	6	31.	660024	Anti-extrusion Ring	3	59.	90385900	O-ring Ø 25.07x2.62	1
6.	36200176	Valve Plate	6	32.	701009	O-ring	3	60.	90067100	Stop Ring	1
7.	94737600	Spring	6	33.	52040009	Ceramic Plunger, 15mm	3	61.	58150122	Side Cover	1
8.	36202551	Valve Cage	6	34.	44211570	Bushing	3	79.	90063500	Retaining Ring	1
9.	701002	O-ring	6	35.	92221600	Nut, M8	3	80.	63027765	Crankshaft, 6.5	1
10.	98222600	Valve Cap	6	40.	63080070	Seal Retn'r, 15mm	3		63028065	Crankshaft, 8	1
11.	36711501	Valve Assembly	6	41.	90360800	O-ring	3		63028265	Crankshaft, 9	1
16.	91832900	Ball Bearing	2	42.	90260800	Seal, LP,15mm	3		63028465	Crankshaft, 10	1
17.	90159500	Oil Seal	3	42a.	90063500	Stop Ring Ø 25	1	81.	99179000	Screw, M6x6	1
18.	63010022	Crankcase	1	43.	63216070	Int. Ring,15mm	3	82.	91856800	Roller Bearing	1
19.	98210300	Oil Dip Stick	1	43a.	99183700	Screw M6x14	8	83.	99334600	Screw, 3/8 x 1"	4
22.	63050066	Plunger Guide	3	44.	90261200	Packing Assy,15mm	3	84.	96710400	Washer	4
23.	63030022	Connecting Rod	3	44a.	53210851	Oil Level Indicator	1	85.	10051822	Flange, 1", Gas Engine	1
24.	90392000	O-ring, Cover	1	45.	98210000	Plug, 3/8" G	1	86.	9016900	Oil Seal	1
25.	63160022	Rear Crankcase Cover	1	46.	98217600	Plug, 1/2" G	1	87.	203510	Washer	4
26.	99183700	Screw, M6 x 14	4	47.	96738000	Washer, M17.5	1	88.	99191200	Screw, M6 x 30	4

\* 53150001 Oil Level Indicator Assembled W/O Screws and O-ring

## REPAIR KITS

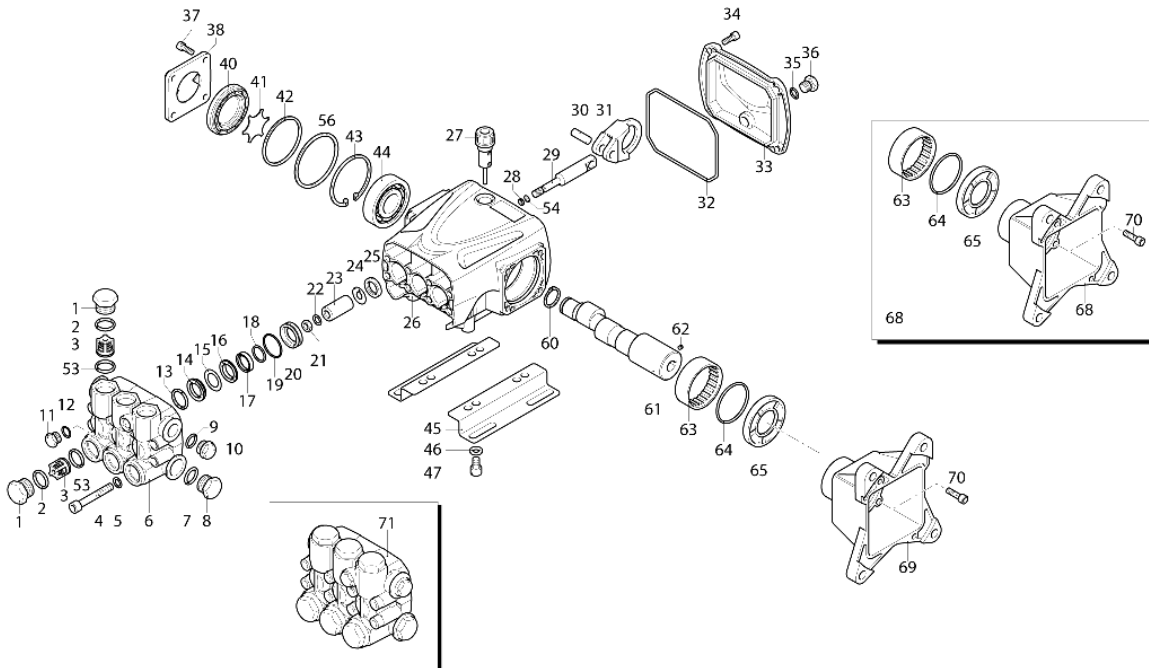
KIT NO.	K123	K124	K159	K160	K162	K164	K166
ITEM NO's INCLUDED IN KIT	4, 5, 6, 7, 8 (11)	9, 10	17	42, 44	40	43	40, 41, 42, 43, 44
NUMBER OF ASSEMBLIES IN KIT	6	6	3	3	3	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3	3	3	3	1

## TORQUE SPECS\*

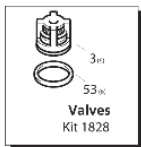
Pos.	Ft/lb	Nm
2	14.7	20
10	95.9	130
12	7.3	10
26	7.3	10
28	14.7	20
35	11.0	15
45	29.4	40
46	29.4	40
83	14.7	20
88	7.3	10

\* Decrease torque by 20% if threads are lubricated

## RRV4G42G-F24

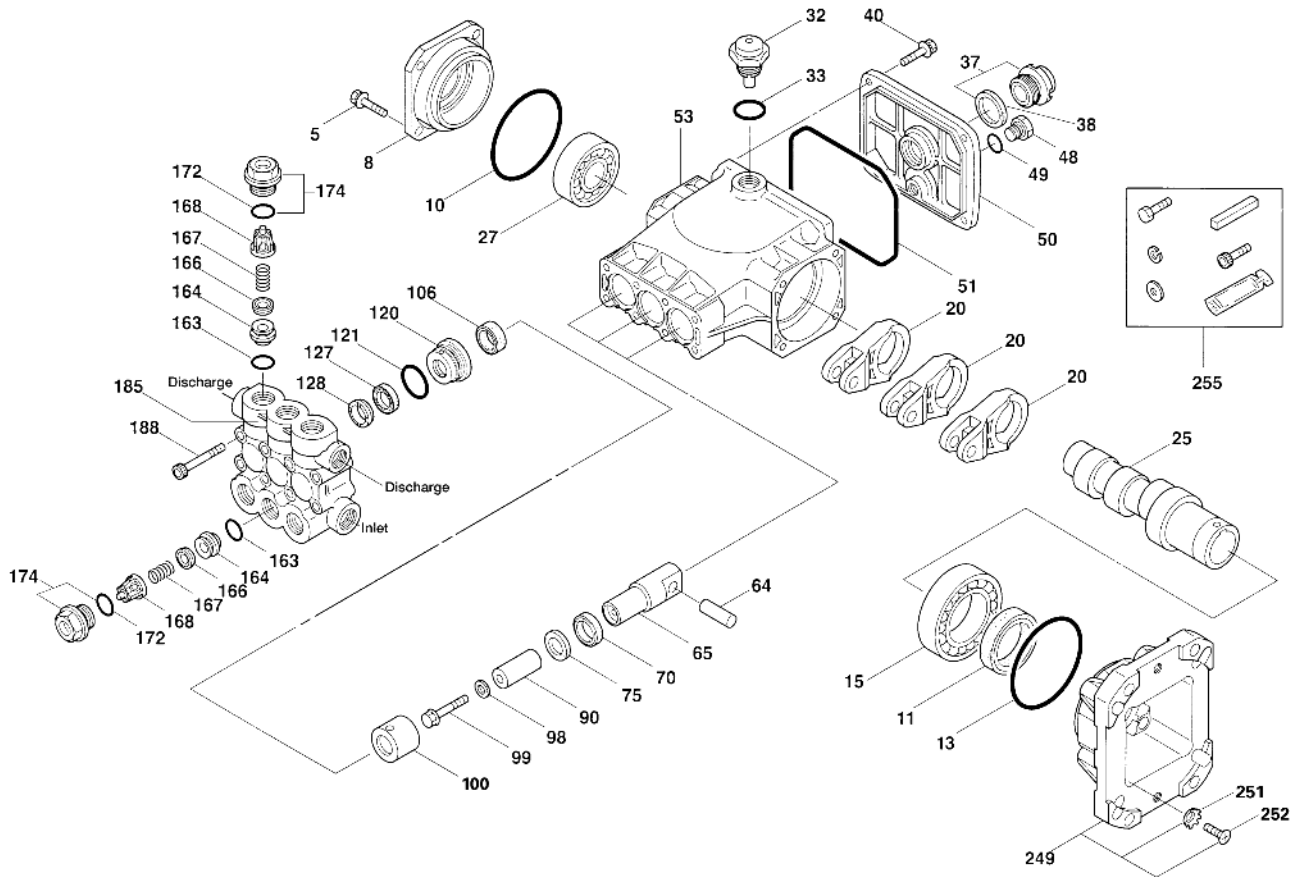


### Repair Kits



Pos	Code	Description	Qty	Pos	Code	Description	Qty	Legend
	960090	Valve Cap (478 in/lbs)	6	34	3200220	Screw TCEI 6x16 (71 in/lbs)	4	For ○ RRV3G36D
	960850	Valve Cap SST (478 in/lbs)	6	35	820510	O-Ring ∅ 10.82x1.78	1	For ● RRV3.5G36D
	9600909	Valve Cap - threaded 1/4" brass (478 in/lbs)	6	36	880581	Plug 1/4" G (133 in/lbs)	1	For ◆ RRV4G36D
	9608507	Valve Cap - threaded 1/4" SST (478 in/lbs)	6	37	1200430	Screw M 6x16 (92 in/lbs)	4	For ■ RRV4G40D
2	960160	O-Ring ∅ 17.86x2.62	6	38	3200070	Cover	1	
3	889052	Complete valve	6	40	3220080	Oil indicator	1	
4	800860	Screw M 8x55 (225 in/lbs)	8	41	3200090	Disc	1	
5	1381850	Washer	8	42	650560	O-Ring ∅ 56.82x2.62	1	
6	3220090	Head	1	43	200390	Snap ring	1	
7	180101	O-Ring ∅ 17.5x2	1	44	1981210	Bearing	1	
8	820361	Plug 1/2" G (354 in/lbs)	1	45	3200210	Base	2	
9	740290	O-Ring ∅ 14x1.78	1	46	1322640	Washer	4	
10	1980740	Plug 3/8" G (221 in/lbs)	1	47	850250	Screw M 8x12	4	
11	880581	Plug 1/4" G (133 in/lbs)	1	53	880830	O-Ring ∅ 15.54x2.62	6	
12	820510	O-Ring ∅ 10.82x1.78	1	54	1080550	Ring	3	
13	2760220	Ring	3	56	3220780	O-Ring ∅ 61.8x0.5	1	
14	1342761	Gasket	3	60	1260770	Circlip	1	
15	3200680	Ring	3	61	3220240	Crankshaft - Hollow Shaft ■◆	1	
16	3220150	Piston guide	3	62	3220450	Crankshaft - Hollow Shaft ●	1	
17	3200690	Gasket	3	63	3220460	Crankshaft - Hollow Shaft ○	1	
18	3200700	Ring	3	64	820440	Grub screw M 6x6	1	
19	770260	O-Ring ∅ 23.52x1.78	3	65	3220260	Bearing	1	
20	3220140	Piston guide	3	66	3220430	O-Ring ∅ 56.87x1.78	1	
21	1260110	Nut M 8 (106 in/lbs)	3	68	3220270	Oil Seal	1	
22	1260100	Washer	3	69	780060	Screw M 6x25 (92 in/lbs)	4	
23	1780070	Piston	3	70	32202650-1	Flange assembly	1	
24	1260091	Spacer	3	71	3220250	Flange	1	
25	1260460	Ring	3		780330	Screw M 6x20 (92 in/lbs)	4	
26	3220010	Pump body	1		42638	Complete head assembly ◆●○	1	
27	880130	Plug (44 in/lbs)	1		3229203	Complete head assembly ■	1	
28	480480	O-Ring ∅ 4.48x1.78	3					
29	3220060	Piston	3					
30	3220070	Conrod pin	3					
31	3220040	Conrod	3					
32	651540	O-Ring ∅ 107.62x2.62	1					
33	3220030	Rear cover	1					
					AR64516	Oil	2	

OIL CAPACITY - 13.35 OZ



## PARTS LIST

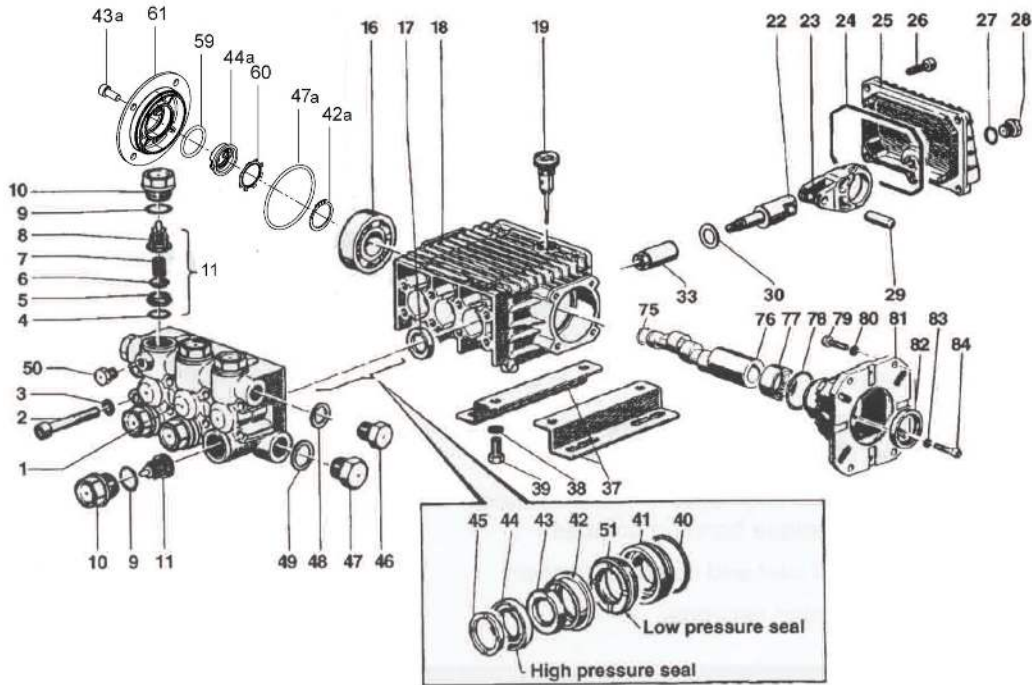
ITEM	P/N	MATL	DESCRIPTION	QTY	ITEM	P/N	MATL	DESCRIPTION	QTY
5	125824	STCP R	Screw, HHC (M6x16)	4	98	46730	NBR	Washer Seal, Plunger Retainer - 90D	3
8	48259	AL	Cover, Bearing	1	99	48201	SS	Retainer, Plunger	3
10	14028	NBR	O-Ring, Bearing Cover - 70D	1	100	48755	NY	Retainer, Seal	3
11	125351	NBR	Seal, Oil, Crankshaft - 70D	1	106	45188	NBR	Seal, LPS w/S-Spg	3
13	14037	NBR	O-Ring, Bearing Cover	1	120	48759	BB	Case, Seal	3
15	146421	STL	Bearing, Ball - Inner	1	121	13980	NBR	O-Ring, Seal Case - 70D	3
20	48843	TNM	Rod, Connecting	3	127	48758	SNG	V-Packing	3
25	48839	CM	Crankshaft (11.4 mm)	1	128	48757	NY	Adapter, Male	3
27	14480	STL	Bearing, Ball - Outer	1	163	17547	NBR	O-Ring, Seat - 85D	6
32	46798	—	Cap, Domed, Oil Filler	1	164	45790	S	Seat	6
33	14179	NBR	O-Ring, Filler Cap - 70D	1	166	46429	S	Valve	6
37	92241	—	Gauge, Oil Bubble w/Gasket - 80D	1	167	43750	S	Spring	6
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1	168	† 44565	PVDF	Retainer, Spring	6
40	125824	STCP R	Screw, HHC (M6x16)	4	172	17616	NBR	O-Ring, Valve Plug - 80D	6
48	25625	STCP	Plug, Drain (1/4"x19BSP)	1	174	48760	BB	Plug, Valve w/O-Ring	6
49	23170	NBR	O-Ring, Drain Plug - 70D	1	185	48846	BB	Head, Manifold	1
50	48862	AL	Cover, Rear	1	188	126512	STCP R	Screw, HSH (M8x65)	8
51	14048	NBR	O-Ring, Rear Cover	1	196	46690	BB	Plug, Discharge HSH 3/8" NPTM (Not Shown)	1
53	48830	AL	Crankcase	1	249	48841	AL	Flange, Adapter	1
64	46404	CM	Pin, Crosshead	3	251	126746	STCP R	Lockwasher, Conical (M8)	4
65	48845	BB	Rod, Plunger	3	252	46403	STZP	Screw, FH (M8x25)	4
70	48911	NBR	Seal, Oil, Crankcase	3	255	30510	STZP	Assy, Bolt Mount	1
75	48754	NBR	Slinger, Barrier	3	300	76118	NBR	Kit, Seal (Incls: 106 and 127)	1
90	48752	CC	Plunger (M14x47)	3	310	76157	NBR	Kit, Valve (Incls: 163,164,166,167,168)	2

Italics are optional items.

R Components comply with RoHS Directive. † Production parts different from service parts. View Tech Bulletins 024, 060, 074, 083, and 101 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CM=Chrome-moly NBR=Medium Nitrile (Buna-N) NY=Nylon S=304SS

SNG=Special Blend (Buna) SS=316SS STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength



**PARTS LIST**

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	44120641	Manifold		1	26.	99183700	Screw		5	47a.	90389800	O-ring Ø 56.82x2.62		1
2.	99317500	Screw		8	27.	701013	O-ring		1	48.	96738000	Washer		1
3.	96701400	Washer		8	28.	98204100	Cap Screw		1	49.	96751400	Washer		1
4.	701115	O-ring	123	6	29.	97734000	Pin		3	50.	98196600	Cap Screw		1
5.	36200366	Valve Seat	123	6	30.	96696700	Washer		3	51.	90260300	Seal, Low Pressure	153,156	1
6.	36711501	Valve	123	6	33.	44040266	Plunger, 13 mm		3	59.	90385900	O-ring Ø 25.07x2.62		1
7.	94737600	Spring	123	6	37.	50200074	Rail		2	60.	90067100	Stop Ring		1
8.	36202551	Valve Cage	123	6	38.	96701600	Washer		4	61.	58150122	Side Cover		1
9.	701002	O-ring	124	6	39.	99303700	Nut		4	75.	90063500	Retaining Ring		1
10.	98222600	Cap Screw	124	6	40.	90361200	O-ring	156	3	76.	44022165	Crankshaft (EZ4040G)		1
11.	36711501	Valve Assembly	123	6	41.	44080370	Packing Retainer	156	3		44021265	Crankshaft (EZ4035G34)		1
16.	91832800	Ball Bearing		1	42.	44216270	Intermediate Ring	156	3		44020965	Crankshaft (EZ4030G34)		1
17.	90161400	Oil Seal	23	3	42a.	90063500	Stop Ring Ø 25		1	77.	91856800	Roller Bearing		1
18.	44010022	Crankcase		1	43.	90507600	Packing	153,156	3	78.	90409700	O-ring		1
19.	98210300	Oil Dip Stick		1	43a.	99183700	Screw M6x14		4	79.	99275500	Screw, 5/16 x 1		4
22.	44050166	Piston Guide		3	44.	90260200	Packing	153,156	3		99334500	Screw, 3/8 x 1		4
23.	44030022	Connecting Rod		3	44a.	53210851	Oil Level Indicator		1	80.	203476	Washer, 8 mm		4
24.	90392000	O-ring		1	45.	44100251	Head Ring	156	3		96710400	Washer, 10 mm		4
25.	44160022	Rear Cover		1	46.	98210000	Cap Screw		1	81.	10051822	Gas Flange		1
26.	99183700	Screw		5	47.	98217600	Cap Screw		1	82.	90169000	Oil Seal		1
27.	701013	O-ring		1	47a.	90389800	O-ring Ø 56.82x2.62		1	83.	203510	Washer		4
25.	44160022	Rear Cover		1	48.	96738000	Washer		1	84.	99191200	Screw		4

\* 53150001 Oil Level Indicator Assembled W/O Screws and O-ring

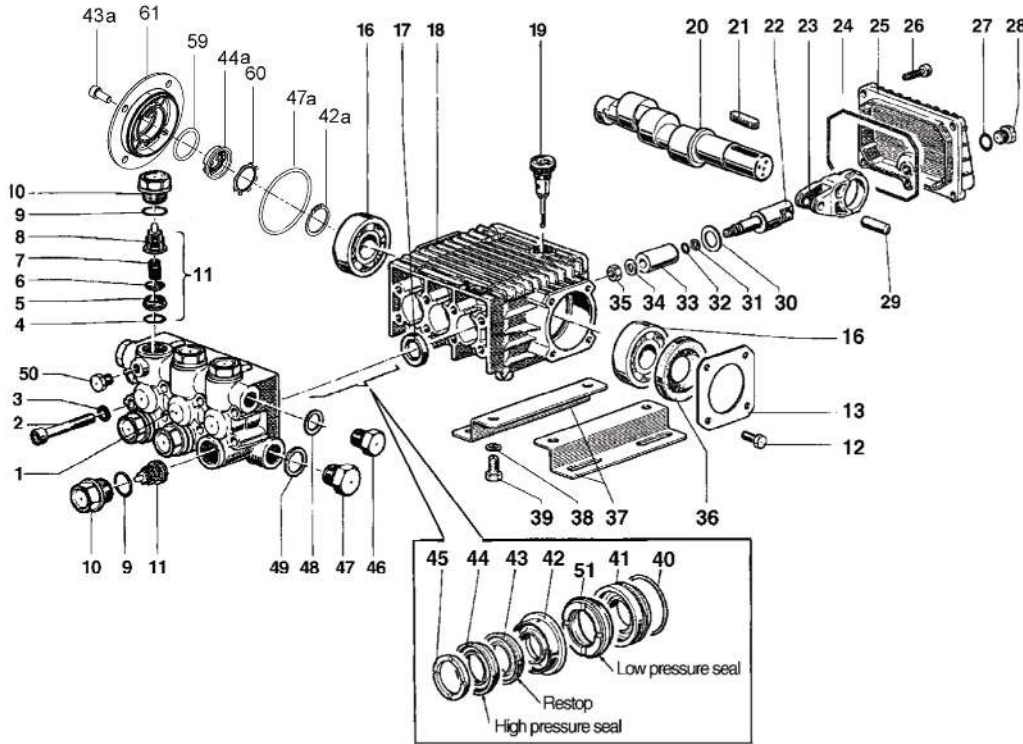
**REPAIR KITS**

KIT NO.	K23	K123	K124	K153	K156
ITEM NO's INCLUDED IN KIT	17	4, 5, 6, 7, 8, (11)	9, 10	43, 44, 51	40, 41, 42, 43, 44, 45 51
NUMBER OF ASSEMBLIES IN KIT	3	6	6	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3	3	1

**TORQUE SPECS\***

Pos.	Ft/lb	N-M
2	14.7	20
10	95.9	130
12	7.3	10
26	7.3	10
28	14.7	20
46	29.4	40
47	29.4	40
50	9.6	13
79	14.7	20
84	7.3	10

\* Decrease torque by 20% if threads are lubricated



## PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	44120441	Manifold, 18 mm		1	21.	91489200	Key		1	42.	44216170	Intern. Ring, 18 mm	128,131	3
	44120041	Manifold, 15 mm			22.	44050066	Plunger Guide		3		52216670	Intern. Ring, 15 mm	89,130	
2.	99317500	Screw		8	23.	44030022	Connecting Rod		3	42a.	90063500	Stop Ring Ø 25		1
3.	96701400	Washer		8	24.	90392000	O-ring		1	43.	90268300	Packing, 18mm	127,131	3
4.	701115	O-ring	123	6	25.	44160022	Rear Cover		1		90262200	Packing, 15mm	88,130	
5.	36200366	Valve Seat	123	6	26.	99183700	Screw		5	43a.	99183700	Screw M6x14		4
6.	36711501	Valve	123	6	27.	701013	O-ring		1	44.	90268200	Packing, 18mm	127,131	3
7.	94737600	Spring	123	6	28.	98204100	Cap Screw		1		90262000	Packing, 15mm	88,130	
8.	36202551	Valve Cage	123	6	29.	97734000	Pin		3	44a.	53210851	Oil Level Indicator		1
9.	701002	O-ring	124	6	30.	96735000	Washer		3	45.	44100151	Head Ring, 18mm	129,131	3
10.	98222600	Cap Screw	124	6	31.	660024	Anti-extrusion Ring		3		51100051	Head Ring, 15mm	90,130	
11.	36711501	Valve Assembly	123	6	32.	701501	O-ring		3	46.	98210000	Cap Screw		1
16.	91832900	Ball Bearing		1	33.	44040109	Plunger, 18 mm		3	47.	98217600	Cap Screw		1
	91833000	Ball Bearing (EZ3042S)				52040009	Plunger, 15 mm)			47a.	90389800	O-ring Ø 56.82x2.62		1
17.	90161400	Oil Seal	23	3	34.	44211570	Bushing		3	48.	96738000	Washer		1
18.	44010022	Crankcase		1	35.	92221600	Nut		3	49.	96751400	Washer		1
19.	98210300	Oil Dip Stick		1	36.	90164100	Oil Seal		1	50.	98196600	Cap Screw		1
20.	44020035	Crankshaft (EZ3040S)		1	40.	90361200	O-ring, 18mm	126,131	3	51.	90268400	Seal, Low Pressure, 18 mm	127,131	3
	44020335	Crankshaft (EZ2536S, EZ2545S)				90361200	O-ring, 15 mm	125,130			90261700	Seal, Low Pressure, 15 mm	88,130	3
	44020635	Crankshaft (EZ2542S, EZ2555S, EZ3042S)			41.	44080170	Packing Retainer, 18mm)	126,131	3	59.	90385900	O-ring Ø 25.07x2.62		1
						44080070	Packing Retainer, 15mm	125,130		60.		Stop Ring		1
										61.		Side Cover		1

\* 53150001 Oil Level Indicator Assembled W/O Screws and O-ring

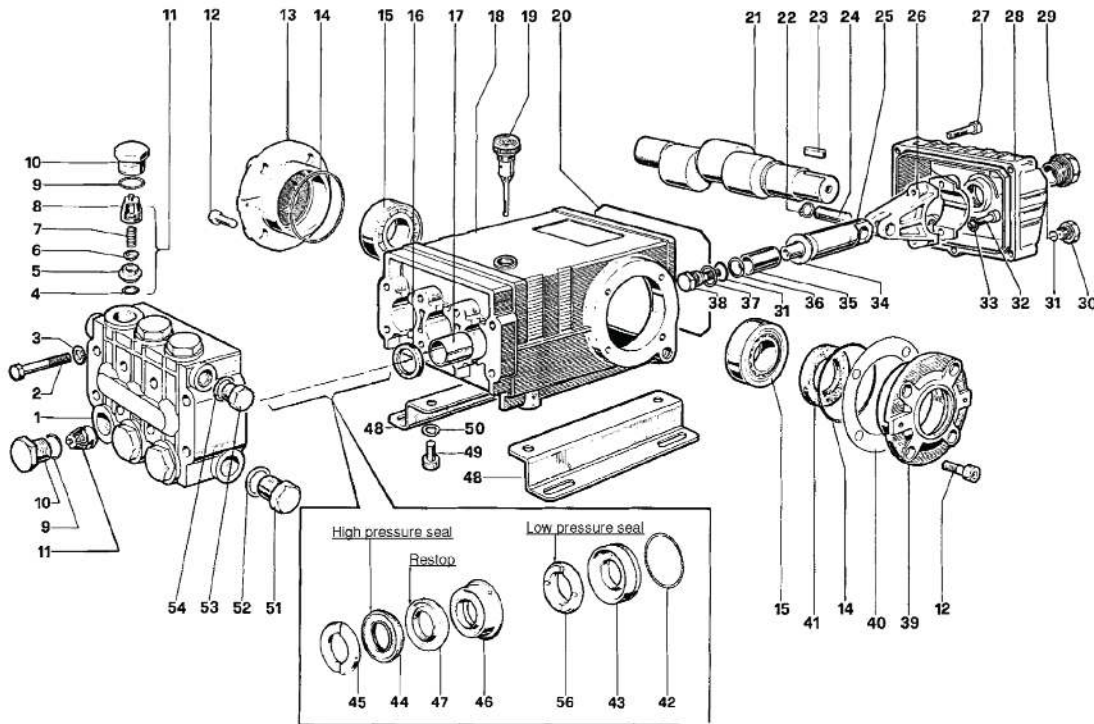
## REPAIR KITS

KIT NO.	All K23	(15mm) (18 mm) K88 or K127	(15mm) (18 mm) K89 or K128	(15mm) (18 mm) K90 or K129	All K123	All K124	(15mm) (18 mm) K125 or K126	(15mm) (18 mm) K130 or K131
ITEM NO's INCLUDED IN KIT	17	43, 44, 51	42	45	4, 5, 6, 7, 8 (11)	9, 10	40, 41	40, 41, 42, 43, 44, 45, 51
NUMBER OF ASSEMBLIES IN KIT	3	3/6	3	6	6	6	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3	3	3	3	3	1

## TORQUE SPECS\*

Pos.	Ft/lb	N-M
2	14.7	20
10	95.9	130
12	7.3	10
26	7.3	10
28	14.7	20
35	11.0	15
39	14.7	20
46	29.4	40
47	29.4	40
50	9.6	13

\* Decrease torque by 20% if threads are lubricated



## PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	47121741	Manifold		1	19.	98210600	Oil Dip Stick		1	37.	96728000	Washer	6	3
2.	99320600	Screw, M8 x 70		8	20.	90392200	O-ring, Cover		1	38.	47219566	Screw, Plunger	6	3
3.	96702000	Washer, M8.4		8	21.	47021735	Crankshaft, TSS1021		1	39.	47150022	Cover, Crankcase		3
4.	701115	O-ring, .674 x .10		1		47021835	Crankshaft, TSS1511		1	40.	97567800	Shim		2
5.	36200366	Seat, Valve		1	22.	90055700	Ring, Snap		6	41.	90164800	Seal, Oil	3	1
6.	36200176	Plate, Valve		1	23.	91489000	Key		1	42.	90361600	O-ring, 1.364x.070	10,28	3
7.	94737600	Spring		1	24.	97738000	Pin, Wrist		3	43.	47080570	Retainer, Packing	10,28	3
8.	36200251	Guide, Valve		1	25.	47050554	Guide, Plunger		3	44.	90270500	Packing	28,69	3
9.	701002	O-ring, .797x.103		4,5	26.	47030001	Connecting Rod		3	45.	47100051	Ring, Head, M20	7,28	3
10.	98222800	Cap		4	27.	99191200	Screw, M6x30		5	46.	47216970	Intermed. Ring	28, 71	3
11.	36703201	Valve Assembly		1	28.	47160122	Cover, Crankcase		1	47.	90270400	Restop Ring	28,69,71	3
12.	99303900	Screw, M8 x 16		8	29.	97596800	Oil Indicator		1	48.	47200074	Pump Feet		2
13.	47150122	Cover, Crankcase Side		1	30.	98204100	Cap		1	49.	99364400	Screw, M10 x 18		4
14.	701147	O-ring, 2.675x.103		2	31.	701013	O-ring, .426x.070	6	4	50.	96710600	Washer, M10.2		4
15.	640047	Bearing, Roller		2	32.	99309900	Screw, M8 x 35		6	51.	98217600	Cap		1
16.	90162500	Seal, Oil		2	33.	96701400	Washer, M8.4		6	52.	96751400	Washer, M21.5		1
17.	90912600	Bushing		3	34.	96728600	Washer, M14	6	3	53.	98210000	Cap		1
18.	47010522	Crankcase		1	35.	47040409	Plunger, 20 mm		3	54.	96738000	Washer, M17.5		1
					36.	660067	Ring, Back-up	6	3	56.	90271000	Seal, Low Press, 20 mm	28, 69	3

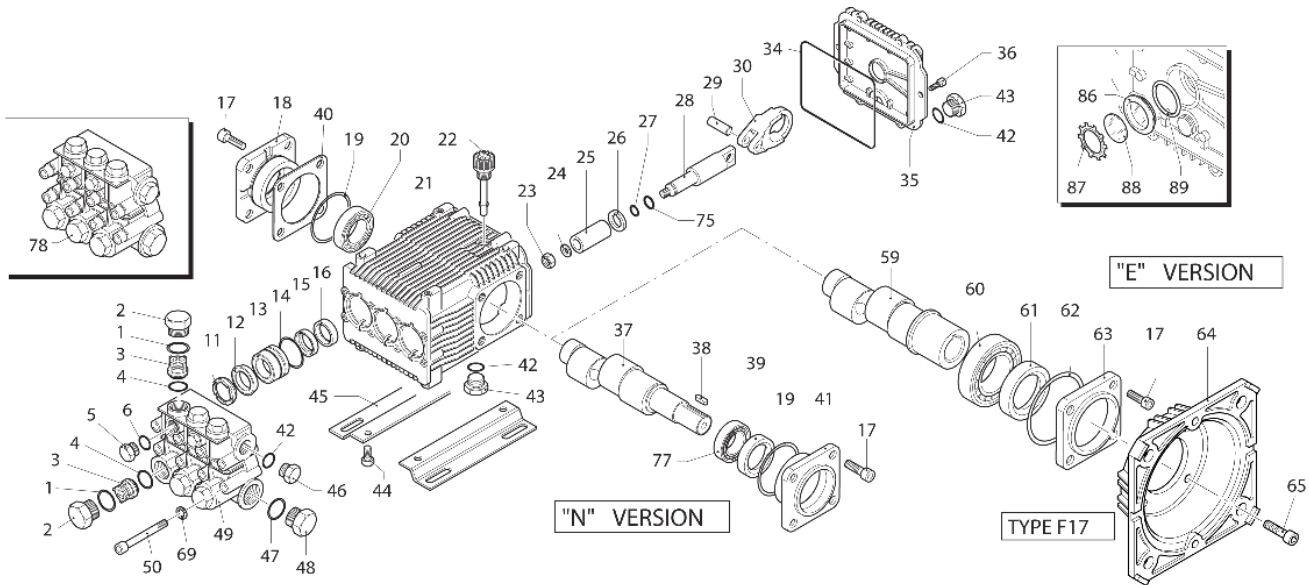
## REPAIR KITS

KIT NO.	K01	K02	K03	K04F	K06	K07	K10	K28	K69	K71
ITEM NO's INCLUDED IN KIT	4,5,6 7,8 (11)	16	41	9, 10	31,34,36 37,38	45	42, 43	42, 43 44, 45 46,47,56	44, 47 56	46, 47
NUMBER OF ASSEMBLIES IN KIT	6	3	2	6	3	6	3	1	3	3
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	-	3	3	3	3	1	3	3

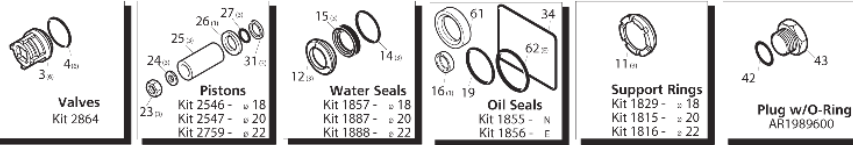
## TORQUE SPECS\*

Pos.	Ft/lb	N-M
2	22.1	30
10	95.9	130
12	14.7	20
27	7.3	10
29	8.8	12
30	14.7	20
32	14.7	20
38	14.7	20
49	29.4	40
51	29.4	40

## RKA4G35NL



### Repair Kits



### Special Parts / Kits

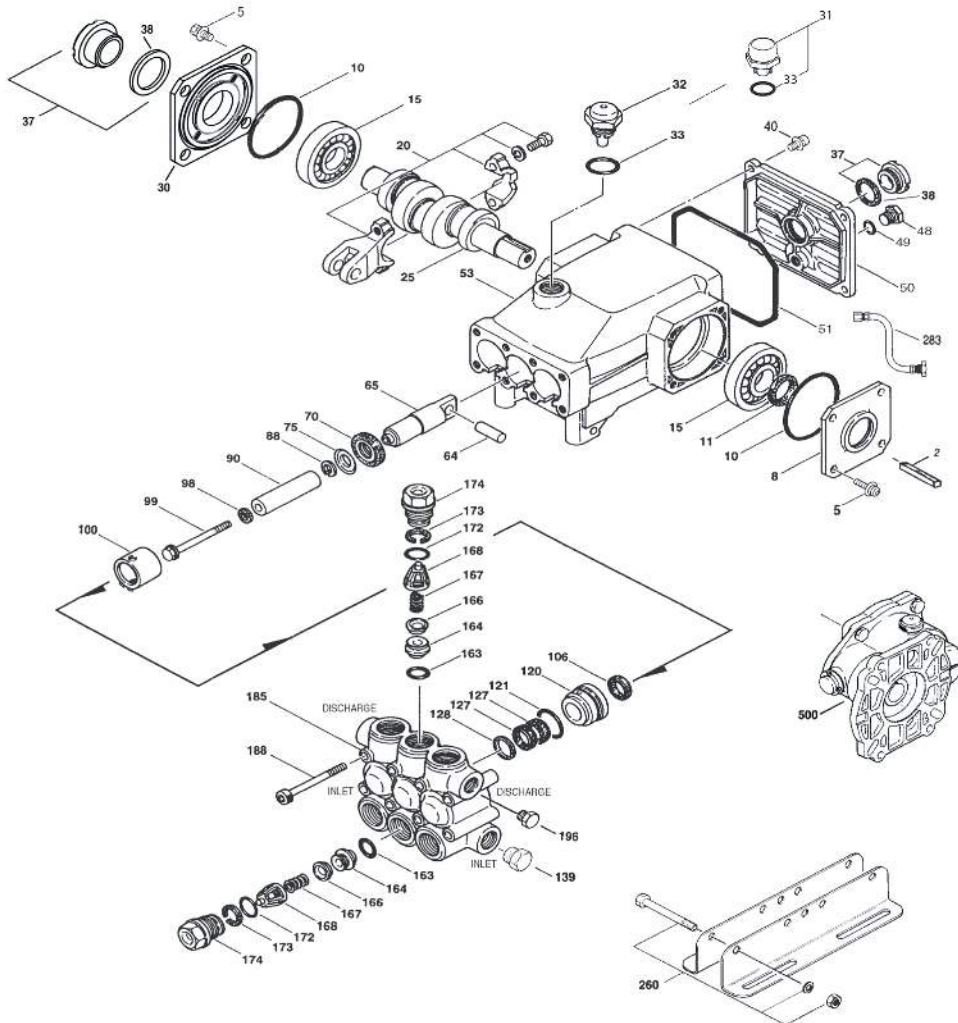
Code	Description	Qty
2809	Viton water seals ø18	1
2810	Viton water seals ø20	1
2811	Viton water seals ø22	1
42213	Kit for up to 180° F ø18 High Temp	1
2820	Kit for up to 180° F ø20 High Temp	1
1837	Rail Kit 5/8" - 2 Rails & 4 Bolts (N only)	1
2633	Rail Kit 1-3/4" - 2 Rails & 4 Bolts (N only)	1
2633H	Rail Kit 2-5/8" - 2 Rails & 4 Bolts (N only)	1
42149	Single Cylinder Piston Kit ø18	1

Pos	Code	Description	Qty	Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	960160	O-Ring ø17.86x2.62	6	30	1383020	Con rod - Bronze > 3000 PSI	3	61	621170	Oil seal	1
2	960090	Valve cap - Brass (478 in/lbs)	6	31	1383050	Con rod - Aluminum < 3000 PSI	3	62	1380220	O-Ring ø72.75x1.78	1
3	960850	Valve cap - SS (478 in/lbs)	6	34	1780510	O-Ring	1	63	1380210	Complete cover	1
4	1380740	Valve cap - NP (478 in/lbs)	6	35	1789010	Complete cover	1	64	1591	Electric Flange F17	1
5	960090T	Valve cap - 1/4" threaded - Brass (478 in/lbs)	1	36	1343510	Bolt M6x14 (89 in/lbs)	6	65	620610	Bolt	4
6	960850T	Valve cap - 1/4" threaded - SS (478 in/lbs)	1		2280100	Crankshaft 24mm	1	69	1381850	Washer	8
7	1389051	Complete valve	6		2280090	Crankshaft 24mm	1		1389270	Complete pump head - Brass ø18	1
8	880830	O-Ring ø15.54x2.62	6		2280070	Crankshaft 24mm	1		1389272	Complete pump head - NP ø18	1
9	880581	Plug 1/4" G - Brass	2		2280060	Crankshaft 24mm	1		1389271	Complete pump head - NP ø18	1
10	1380690	Plug 1/4" G NP	2		2280110	Crankshaft 24mm - NL	1		1389208	Complete pump head - Brass ø20	1
11	820510	O-Ring ø10.82x1.78	2	38	1380520	Key	1		1389212	Complete pump head - NP ø20	1
12	960110	Support ring ø18	3	39	180340	Oil seal	1		1389268	Complete pump head - Brass ø22	1
13	840300	Support ring ø20	3		1380120	Shim 0.10 mm	1-3		1389269	Complete pump head - NP ø22	1
14	840320	Support ring ø22	3		1380130	Shim 0.20 mm	1-3	75	1080401	Back-up ring	3
15	1382740	High pressure packing ø18	3		1380530	Shim 0.25 mm	1-3	77	840370	Bearing	1
16	840290	High pressure packing ø20	3		1382810	Shim 0.05 mm	1-3	86	1260250	Oil sight glass	1
17	840330	High pressure packing ø22	3	41	1380040	Open bearing support (217 in/lbs)	1	87	1260430	Snap ring	1
18	1380090	Piston guide ø18	3	42	740290	O-Ring ø14x1.78	3	88	1780690	Contrast disc	1
19	1380150	Piston guide ø20	3	43	1980740	Plug 3/8" G	2	89	1140450	O-Ring ø20.24x2.62	1
20	1380160	Piston guide ø22	3	44	1260470	Bolt M8x10	4				
21	961240	O-Ring ø31.47x1.78	3		1380141	Rail 5/8" (N Version only)	2		AR64516	Oil	1
22	880330	Low pressure seal ø18	3		Z-Bracket 1.34	Rail 1-3/4" (N Version only)	2			OIL CAPACITY - 15 OZ	
23	840280	Low pressure seal ø20	3		Z-Bracket	Rail 2-5/8" (N Version only)	2				
24	840340	Low pressure seal ø22	3		1980740	Plug 3/8" G	1				
25	1383130	Oil seal	3	45	1981180	Plug 3/8" G NP	1				
26	850370	Bolt M8x16 (217 in/lbs)	8	46	180101	O-Ring ø17.5x2	1				
27	1380050	Closed bearing support	1	47	820361	Plug 1/2" G	1				
28	640030	O-Ring ø59.99x2.62	2	48	960870	Plug 1/2" G NP	1				
29	2280240	Bearing	1		1381071	Pump head - Brass ø18	1				
30	1382770	Pump housing	1		1381070	Pump head - NP ø18	1				
31	880130	Vented oil cap	1		1380020	Pump head - Brass ø20	1				
32	962010	Nut M8 (106 in/lbs)	3		1380680	Pump head - NP ø20	1				
33	962000	Washer ø8.1	3		1383010	Pump head - Brass ø21	1				
34	1380940	Ceramic piston ø18	3		1383310	Pump head - NP ø22	1				
35	1380930	Ceramic piston ø20	3	50	820150	Head bolt M8x70 (217 in/lbs)	8				
36	1382360	Ceramic piston ø22	3		2280260	Hollow shaft ø1-1/8" (N Version only)	1				
37	1380950	Slinger	3		2280200	Hollow shaft ø1-1/8" (N Version only)	1				
38	600180	O-Ring ø7.66x1.78	3		2280270	Hollow shaft ø1-1/8" (N Version only)	1				
39	1380920	Guiding piston	3		2280280	Hollow shaft ø1-1/8" (N Version only)	1				
40	1380060	Piston pin	3	60	1380320	Bearing	1				

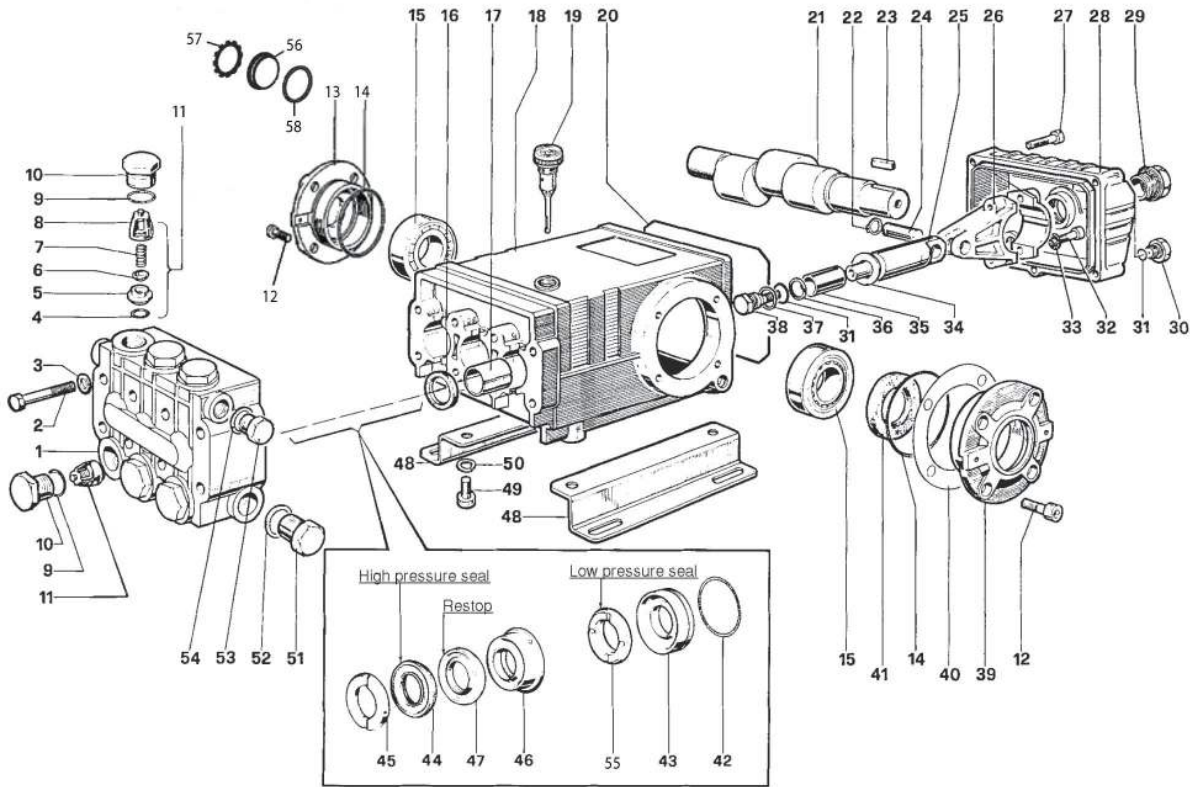
### Legend

Ø 18	Ø 18	Ø 20	Ø 22
For ○	For ●	For ■	For ▨
RKA3.5G22	RKA4G20	RKA5.5G13	RKA6.5G13
RKA3.5G25	RKA4G30A	RKA5.5G20H	RKA6.5G20H
RKA3.5G30H	RKA4G30	RKA5.5G26H	
RKA3.5G40H	RKA4G30H	RKA5.5G30H	
	RKA4G35H		For ★
	RKA4G40H		RKA7G13
			RKA7G20H
For □			
RKA4.5G17			
RKA4.5G25H	For ◆		
RKA4.5G30H	RKA4G35NL		
RKA4.5G35H			
RKA4.5G40H			

↗ Over 3600psi



ITEM	PART NUMBER	DESCRIPTION	QTY	ITEM	PART NUMBER	DESCRIPTION	QTY
2	30057	Key (M6x6x25)	1	99	48201	Retainer, Plunger w/Stud (M6)	3
5	96031	Screw, HHC, Sems (M8x16)	8	100	46749	Retainer, Seal	3
8	46910	Cover, Bearing	1	106	43316	Seal, LPS w/S-Spg	3
10	14028	O-Ring, Bearing Cover - 70D	2	120	46888	Case, Seal (Press-in-style)	3
11	43222	Seal, Oil, Crankshaft - 70D	1	121	13978	O-Ring, Seal Case - 70D	3
15	14480	Bearing, Ball	2	127	43319	V-Packing	6
20	48742	Rod, Connecting Assy	3	128	46618	Adapter, Male	3
25	48368	Crankshaft, Single End, M16.5	1	139	22179	Plug, Inlet (1/2"NPTM)	1
30	49776	Cover, Bearing	1	163	17547	O-Ring, Seat - 85D	6
31	127409	Cap, Vented w/O-Ring (Rain Cap)	1	164	45790	Seat	6
32	46798	Cap, Oil Filler, Domed	1	166	46429	Valve	6
33	14179	O-Ring, Oil Filler Cap - 70D	1	167	43750	Spring	6
37	92241	Gauge, Oil, Bubble w/Gasket - 80D	2	168	44565	Retainer, Spring	6
38	44428	Gasket, Flat, Oil Gauge - 80D	2	172	17549	O-Ring, Valve Plug - 70D	6
40	125824	Screw, HHC, Sems (M6x16)	4	173	48365	Back-up-Ring, Valve Plug	6
48	25625	Plug, Drain (1/4"x19BSP)	1	174	45900	Plug, Valve	6
49	23170	O-Ring, Drain Plug - 70D	1	185	46886	Manifold, Head	1
50	46940	Cover, Rear	1	188	126513	Screw, HSH (M8x70)	8
51	14044	O-Ring, Rear Cover	1	196	22187	Plug, Discharge (3/8"NPTM)	1
53	48617	Crankcase	1	255	30243	Mount, Direct	1
64	46746	Pin, Crosshead	3	260	30611	Mount, Rail, Assy	1
65	48458	Rod, Plunger	3	283	34334	Kit, Oil Drain (3/8" x 24")	1
70	46838	Seal, Oil, Crankcase - 70D	3	299	814843	Head, Complete	1
75	43900	Slinger, Barrier	3	300	899410	Kit, Seal (Incls: 106,127)	1
88	45697	Washer, Keyhole (M18x10)	3	310	899110	Kit, Valve (Incls: 163,164,166,167,168,172,173)	2
90	46884	Plunger (M16x50)	3	400	7850	Modular Unloader (See Individual Data Sheet)	1
98	46730	Washer, Seal - 90D	3	500	8076	Gearbox(See Individual Data Sheet)	1



**PARTS LIST**

ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.
1. 47120841	Manifold		1	21. 47021835	Crankshaft		1	41. 90164800	Seal, Oil	3	1
2. 99320600	Screw, M8 x 70		8	22. 90055700	Ring, Snap		6	42. 90361600	O-Ring, 1.364 x .070	10, 28	3
3. 96702000	Washer, M8.4		8	23. 91489000	Key		1	43. 47080570	Retainer, Packing	10, 28	3
4. 90384100	O-Ring, .674 x .103		6	24. 97738000	Pin, Wrist		3	44. 90270500	Packing	28, 69	3
5. 36200366	Seat, Valve	1	6	25. 47050554	Guide, Plunger		3	45. 47100051	Ring, Head, M20	7, 28	3
6. 36200176	Plate, Valve	1	6	26. 47030001	Rod, Connecting		3	46. 47216970	Intermed. Ring	28, 71	3
7. 94737600	Spring	1	6	27. 99191200	Screw, M6 x 30		5	47. 90270400	Restop Ring	28, 69, 71	3
8. 36200251	Guide, Valve	1	6	28. 47160122	Cover, Crankcase		1	48. 47200074	Pump Feet		2
9. 90384700	O-Ring, .797 x .103	4, 5	6	29. 97596800	Oil Indicator		1	49. 99364400	Screw, M10 x 18		4
10. 98222000	Cap	4	6	30. 98204100	Cap		1	50. 96710600	Washer, M10.2		4
11. 36703201	Valve Assembly	1	6	31. 90358500	O-Ring, .426 x .070	6	4	51. 98217600	Cap		1
12. 99303900	Screw, M8 x 16		8	32. 99309900	Screw, M8 x 35		6	52. 96751400	Washer, M21.5		1
13. 47151222	Side Cover		1	33. 96701400	Washer, M8.4		6	53. 98210000	Cap		1
14. 701147	O-ring		2	34. 96728600	Washer, M14	6	3	54. 96738000	Washer, M17.5		1
15. 640047	Bearing, Roller		2	35. 47040409	Plunger, (20 mm)		3	55. 90271000	Seal, Low Press., 20mm	28, 69	3
16. 90162500	Seal, Oil	2	3	36. 90506700	Ring, Back-up	6	3	56. 70211801	Oil Sight Glass		1
17. 90912600	Bushing		3	37. 96728000	Washer	6	3	57. 90075600	Retainer Clip		1
18. 47010522	Crankcase		1	38. 47219566	Screw, Plunger	6	3	58. 90387700	O-ring, 39.34 x 2.62		1
19. 98210600	Oil Dip Stick		1	39. 47150022	Cover, Crankcase		1				
20. 90392200	O-Ring, Cover		1	40. 97567800	Shim		2				

**REPAIR KITS**

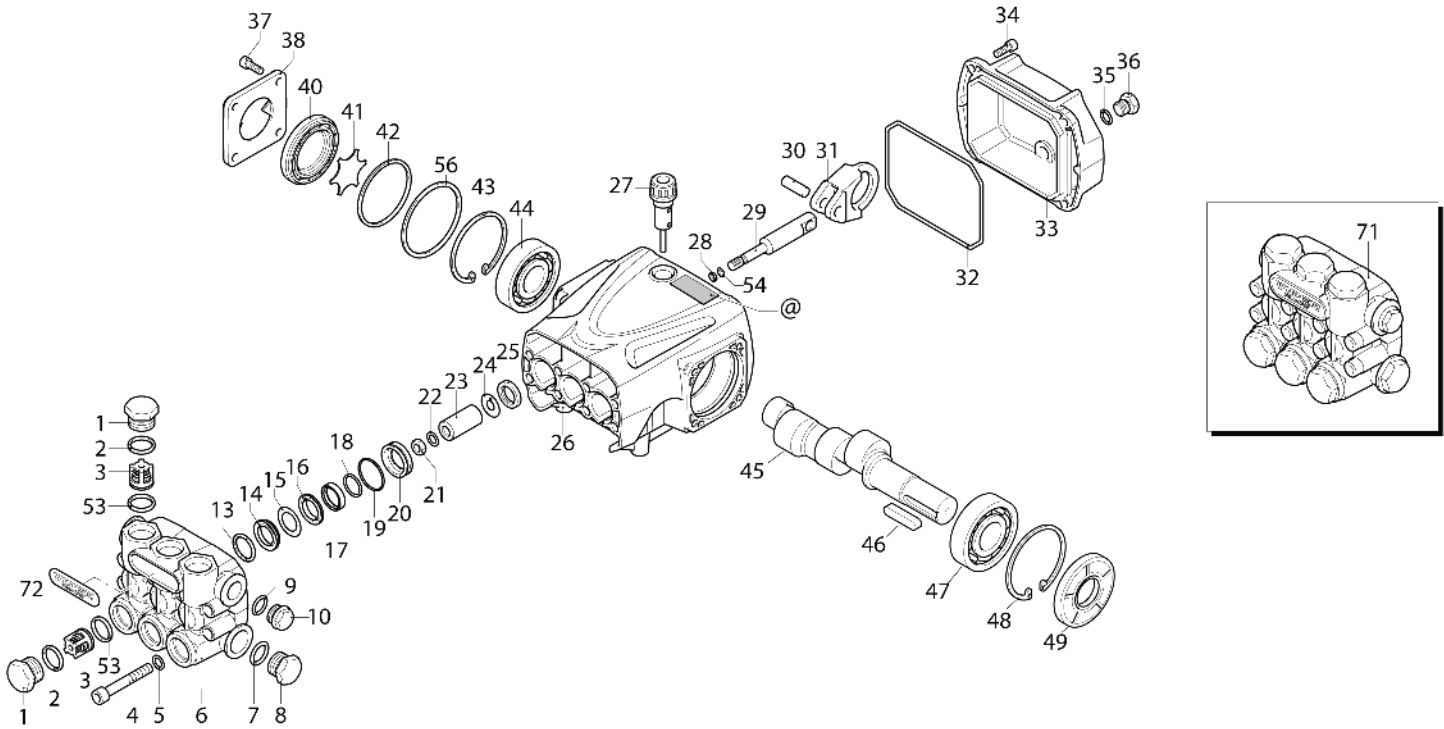
KIT NO.	1	2	3	4	5	6	7	10	28	69	71
ITEM NO.s INCLUDED IN KIT	4, 5, 6, 7, 8 (11)	16	41	9, 10	9, 10	31, 34, 36, 37, 38	45	42, 43	42, 43, 44, 45, 46, 47, 56	44, 47, 56	46, 47
NUMBER OF ASSEMBLIES IN KIT	6	3	2	6	6	3	6	3	1	3	3
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	-	3	3	3	3	3	1	3	3

**TORQUE SPECS\***

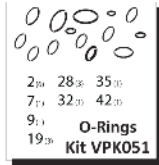
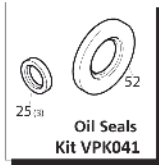
Position	Ft.-lbs.
2	22.1
10	73.7
12	14.7
27	7.3
29	13.2
30	14.7
32	14.7
38	14.7
49	29.4
51	29.4
53	29.4

\*Decrease torque by 20% if threads are lubricated.

## VA4G42S



### Repair Kits



Pos	Code	Description	Qty	Pos	Code	Description	Qty	Legend	
1	VP960850	Plug	(478 in/lbs) 6	24	VP1260091	Plate	3		
2	VP960162	O-Ring $\varnothing$ 17.86x2.62	6	25	VP1260091	Oil seal	3		
3	VP889052	Complete valve	6	26	VP3220010	Pump body	1	44	VP1981210 Bearing
4	VP800860	Screw M 8x55	8	27	VP880130	Plug	(44 in/lbs) 1	45	32203600 Crankshaft - Solid Shaft
5	VP1381850	Washer	8	28	VP480480	O-Ring $\varnothing$ 4.48x1.78	3	46	3200230 Key
6	VP3220850	Head	1	29	VP3220060	Piston	3	47	1981210 Bearing
7	VP180101	O-Ring $\varnothing$ 14.5x2	1	30	VP3220070	Pin	3	48	200390 Circlip i 62
8	VP820361	Plug 1/2" G	(354 in/lbs) 1	31	VP3220040	Connecting-rod	3	49	3220280 Snap Ring
9	VP740290	O-Ring $\varnothing$ 14x1.78	1	32	VP651540	O-Ring $\varnothing$ 107.62x2.62	1	71	VP3229206 Head assembly
10	VP1980740	Plug 3/8" G	(221 in/lbs) 1	33	VP3220830	Cover	1	72	VP3220860 Sticker
13	VP2760220	Ring	3	34	VP3200220	Screw 6x16	(71 in/lbs) 4		
14	VP1342761	Water seal	3	35	VP820510	O-Ring $\varnothing$ 10.82x1.78	1		
15	VP3200680	Ring	3	36	VP880581	Plug 1/4" G	(133 in/lbs) 1	AR64516	Oil 2
16	VP3220150	Piston guide	3	37	VP1200430	Screw M6x16	(92 in/lbs) 4		OIL CAPACITY- 16.13oz
17	VP3200690	Gasket	3	38	VP3200070	Support	1		
18	VP3200700	Ring	3	40	VP3220080	Level gauge	1		
19	VP770260	O-Ring $\varnothing$ 23.52x1.78	3	41	VP3200090	Plate	1		
20	VP3220140	Piston guide	3	42	VP650560	O-Ring $\varnothing$ 56.82x2.62	1		
21	VP1260110	Nut M8	(106 in/lbs) 3	43	VP200390	Ring $\varnothing$ i 62	1		
22	VP1260100	Washer	3						
23	VP1780070	Piston	3						

## Unloader adjustments

### INTERGRAL UNLOADER



Fig. 1

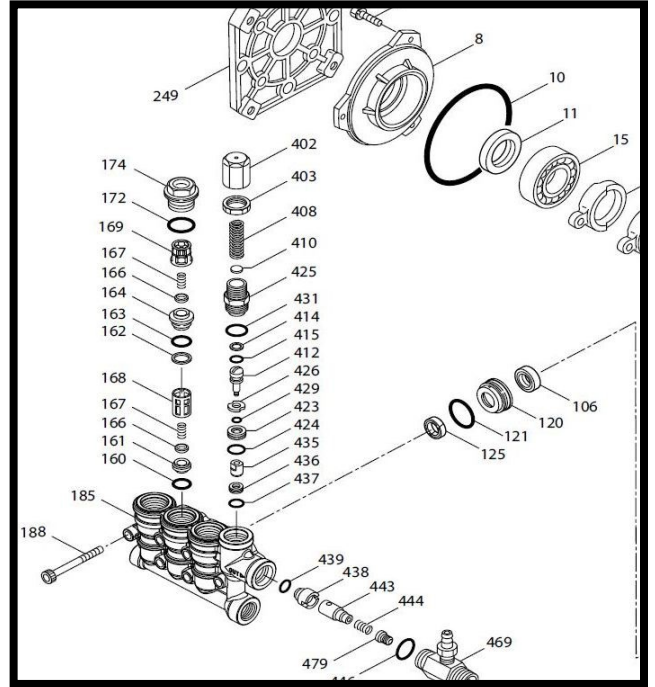


Fig. 2

### Adjustment procedure for Unloader.

Install test pressure gauge with fully open valve on the pump outlet.

Install high pressure hose, gun and lance with new high pressure nozzle on the test pressure gauge.

Loosen counter nut (pos. 403, fig 2)

Start machine with fully open gun.

Adjust to specified pressure on adjustment screw (pos. 402, fig 2). Read pressure on test manometer.

Adjustment is done by the adjustment screw (pos. 402 fig. 2) counterclockwise until the pressure just starts to drop. Then turn the adjustment screw (pos. 402 fig. 2) clockwise until you reach the full pressure again.

When pressure is adjusted correct, tighten counter nut (pos. 403, fig. 2)

For products with a data sheet\* find the correct test values with tolerances in the product data sheet. Data is to be found in the Technical Data. See section "B"

For older products without data sheet use the below general rule.

Pressure Under Load (With Trigger Pulled And Correct Nozzle) Should Match Factory Specified Pressure.

No Load Pressure Should Not Be In Excess Of 10% Of Working Pressure\*\*.

**\*\*Example : 4000 PSI in Bypass + 10 % Should Not Exceed 4400 PSI**

## Unloader adjustments

### VRT3-310EZ UNLOADER



Fig. 1

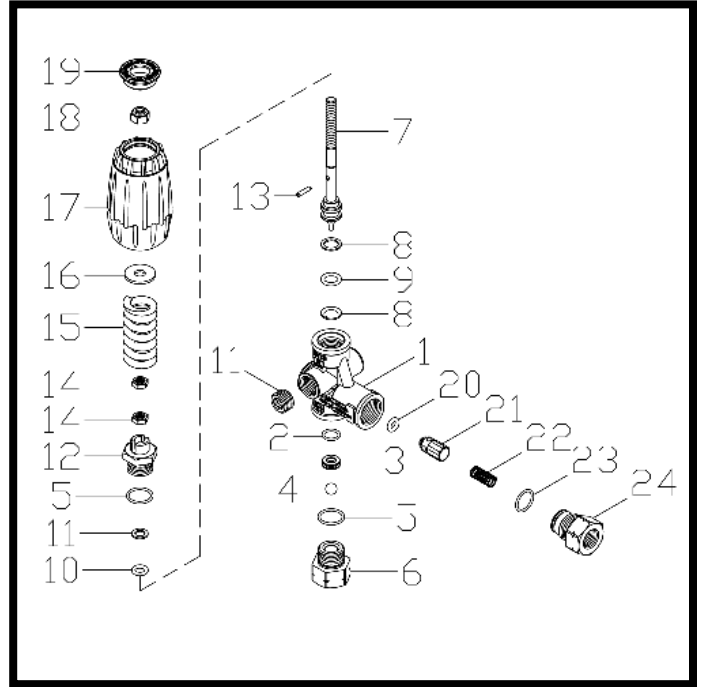


Fig. 2

### Adjustment procedure for Unloader.

- Install test pressure gauge with fully open valve on the pump outlet.
- Install high pressure hose, gun and lance with new high pressure nozzle on the test pressure gauge.
- Turn the black handle clockwise all the way to the stop.
- Start machine with fully open gun.
- Adjust to specified pressure on adjustment screws (pos. 14, Fig. 2). Read pressure on test manometer.
- (For adjustment on the adjustment nuts (pos 14, Fig. 2).

Stop the engine, dismount pos. 19, pos 18 and pos. 17. For dismounting pos. 17 turn it all the way Counterclockwise. Dismount pos. 16 and pos. 15. Now you have access to the adjustment nuts.

When the pressure is correct adjusted, tighten counter nut (pos. 14, Fig. 2), and mount pos.15, 16, 17, 18 and 19.

Nut pos. 18, must be turned clockwise until the threads are aligned with the top surface of the nut. DO NOT TURN IT ALL THE WAY DOWN.

For products with a data sheet\* find the correct test values with tolerances in the product data sheet. Data is to be found in the Technical Data. See section "B"

For older products without data sheet use the below general rule.

Pressure Under Load (With Trigger Pulled And Correct Nozzle) Should Match Factory Specified Pressure.

No Load Pressure Should Not Be In Excess Of 10% Of Working Pressure\*\*.

**\*\*Example : 4000 PSI in Bypass + 10 % Should Not Exceed 4400 PSI**

## Belt Tension Adjustments



Fig. 1

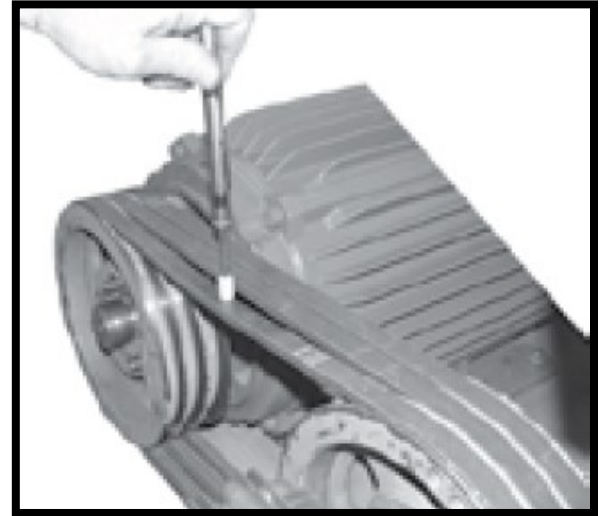


Fig. 2

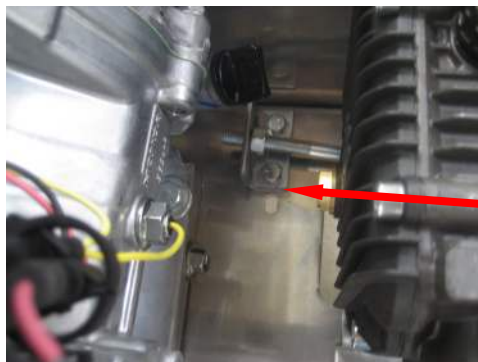


Fig. 3

Adjust the belts by loosening the 4 bolts holding the pump to the frame.

Move the pump by turning the nut on the adjustment bolt.

**IMPORTANT:**

Be sure the pump and engine pulleys are aligned when finished adjustment.

### Adjustment procedure for Belt Tension.

It is important the belts are adjusted correct.

If the belt tension is too high there might be a risk of destroying the pump bearings.

If the belt tension is too low, the belts are slipping on the pulleys which will destroy the belts.

One way to adjust the belt tension is to use a "Belt Tension Gauge", as shown on fig. 2.

### The Belt tension specification is:

Press on the belts (as shown on fig. 2.) with 7-10 kg. Pressure, and the belts should move approx. 20 mm.

PROBLEM	PROBABLE CAUSE <small>(The most recurring probable cause is listed first)</small>	REMEDY <small>(Repairs should only be made by a qualified technician)</small>
<b>Power System: Gasoline or Diesel Engine Powered</b>		
Engine will not start or crank over	<ul style="list-style-type: none"> <li>-Battery dead.</li> <li>-Dirty battery connection.</li> <li>-Battery cables disconnected.</li> <li>-Engine, pump, or gearbox is seized.</li> <li>-Key-switch, solenoid and starter on engine defective</li> </ul>	<ul style="list-style-type: none"> <li>-Charge or replace battery, add electrolyte if battery is new.</li> <li>-Clean connections / Carefully check polarity.</li> <li>-Connect or replace damaged cables.</li> <li>-Replace or repair seized part.</li> <li>-Repair or replace.</li> </ul>
Engine will not start but will crank over	<ul style="list-style-type: none"> <li>-Engine power switch is off or defective.</li> <li>-Low oil shut down is activated.</li> <li>-Low water switch engaged or defective (not on all models).</li> <li>-Low on fuel.</li> <li>-Fuel filter is clogged.</li> <li>-Engine flooded or starved.</li> </ul>	<ul style="list-style-type: none"> <li>-Check engine power switch.</li> <li>-Add oil to engine, check more frequently.</li> <li>-Add water to bulk tank feeding pressure washer.</li> <li>-Fill with appropriate fuel, bleed injector pump on diesel engine.</li> <li>-Replace or clean fuel filter</li> <li>-Choke only as required.</li> </ul>
Engine bogs down under load whenever spray gun is triggered	<ul style="list-style-type: none"> <li>-Engine needs to be repaired or replaced.</li> <li>-Operating in high elevation.</li> <li>-Carbon deposits on cylinder head</li> </ul>	<ul style="list-style-type: none"> <li>-See engine manual or engine dealer.</li> <li>-Lower the pressure on the unit and check for correct engine speed (RPM).</li> <li>-Remove head and wire brush deposits.</li> </ul>
Battery keeps losing voltage (For 12v systems)	<ul style="list-style-type: none"> <li>-Battery voltage low.</li> <li>-RPM too low.</li> <li>-Engine charging system faulty.</li> </ul>	<ul style="list-style-type: none"> <li>-Have battery checked and load test, charge if low and replace if necessary.</li> <li>-Engine RPM should be 3600 RPM with no load.</li> <li>-Check engine charging system must have 10 to 25 amp output.</li> </ul>

PROBLEM	PROBABLE CAUSE (The most recurring probable cause is listed first)	REMEDY (Repairs should only be made by a qualified technician)
<b>Pumping System</b>		
Trigger gun leaks or will not shut off	-Debris in gun valve assembly.	-Clean valve assembly or replace gun.
Pump runs but has low spray pressure	<ul style="list-style-type: none"> <li>-Water turned off.</li> <li>-Nozzle is not installed, is plugged, or sized incorrectly</li> <li>-Inlet chemical injection valve is open without the end of the pickup tube inserted into detergent.</li> <li>-Priming of pump after run dry.</li> <li>-Dual wand valve is open.</li> <li>-Leaky discharge hose or quick coupler. Water sprays out around nozzle.</li> <li>-Inlet strainer clogged.</li> <li>-Belt slippage.</li> <li>-Unloader valve worn or improperly adjusted.</li> <li>-Air leak in inlet plumbing.</li> <li>-EZ start valve is leaking.</li> </ul>	<ul style="list-style-type: none"> <li>-Turn water on.</li> <li>-Install nozzle, clean or replace with proper size</li> <li>-Close soap valve or submerge detergent pickup tube into solution.</li> <li>-Crack open fitting on high-pressure outlet of pump.</li> <li>-Close dual wand valve and install high-pressure nozzle.</li> <li>-Replace hose, quick coupler, or o-ring in the quick coupler.</li> <li>-Clean and check more frequently.</li> <li>-Tighten or replace with correct belt</li> <li>-Install pressure gauge on pump head to adjust pressure.</li> <li>-Check valve seat on unloader.</li> <li>-Reseal fittings and inspect inlet hoses for air leaks.</li> </ul>
Pump runs but there is erratic, fluctuating pressure	<ul style="list-style-type: none"> <li>-Inadequate incoming water supply.</li> <li>-Stuck inlet or discharge valves.</li> <li>-Restricted inlet or air entering the inlet plumbing on pump.</li> <li>-Leaking High Pressure seals</li> <li>-Leaking Low Pressure seals</li> </ul>	<ul style="list-style-type: none"> <li>-Remove hose to check for internal leaks. Increase water supply flow.</li> <li>-Clean out or replace worn valves.</li> <li>-Check fittings and hose for airtight seal, clean inlet strainer screen.</li> <li>-Replace seals.</li> <li>-Pressure feed the pump &amp; replace seals if water leaks from pump head.</li> </ul>
Excessive crankshaft play or loud, knocking noise in pump	-Broken or worn bearing or connecting rod in crankcase	-Replace pump or bearing.
Oil leaking from pump	-Loose drain plug or damaged seal	-Locate point of oil leakage and replace damaged o-ring/seal.
Water is emitted from the chemical pickup tube	-Check-valve malfunctioning.	-Repair or replace check-valve.
Inlet injection will not siphon chemical	<ul style="list-style-type: none"> <li>-Check valve in strainer clogged.</li> <li>-Chemical valve not open or clogged.</li> <li>-Strainer not submerged in solution.</li> <li>-Detergent hose cut or kinked.</li> </ul>	<ul style="list-style-type: none"> <li>-Clean or replace valve. Rinse after each use.</li> <li>-Open chemical valve or clean.</li> <li>-Submerge strainer and replenish chemical.</li> <li>-Inspect hose, replace as necessary.</li> </ul>
Downstream injector will not siphon chemical	<ul style="list-style-type: none"> <li>-Brass knob on injector is closed.</li> <li>-Unit not in low-pressure mode.</li> <li>-Soap solution is too thick.</li> <li>-Detergent hose cut or kinked.</li> <li>-Strainer plugged or not submerged.</li> <li>-Internal injector parts corroded or stuck.</li> <li>-Outlet water temperature too high.</li> </ul>	<ul style="list-style-type: none"> <li>-Open by turning counter clockwise.</li> <li>-Open dual wand or install low-pressure tip.</li> <li>-Dilute or use different solution.</li> <li>-Inspect hose, replace as required.</li> <li>-Check screen on strainer pickup tube.</li> <li>-Disassemble, clean or replace.</li> <li>-Use with cold water (150° Maximum)</li> </ul>
Pressure relief relieving water	-Unloader failure/Coil overheating/Excessive pressure.	-Turn machine off, wait a few minutes and restart. If problem continues, take in for repair.