



CD-50 WATER BLASTER Diesel Driven MECHANICAL BOOSTER PUMP

**User Guide
Maintenance Guide
Spare-parts book**



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Thank you for choosing our water blaster. For your safety and correct operation, please carefully read the information and instructions in this manual before use.

NOTE: All of the information stated in this manual is based on data available at the time of printing. DEN-JET reserves the right to modify or change its products and / or specification data at any time without prior notice.

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DEN-JET warranty's is limited to repair or replacement of faulty items at the time of manufacture.

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800

Model: Data:	CD50-400	CD50-550	CD50-700	CD50-1000	CD50-1250	CD50-1380
Pressure [Bar]	400	550	700	1000	1250	1380
[Psi]	5800	8000	10150	14500	18125	20000
Flow [L/min]	45	36	25	20	15	12,5
US Gpm	11.8	9.5	6.6	5.25	4	3.3
Plunger "Ø"	Ø20	Ø18	Ø16	Ø14	Ø12	Ø12
Power [Hp]	50					
[Kw]	37					
Fuel	Diesel					
Engine Speed [Rpm]	1900-2000					
Dimensions LxWxH [mm]	1500 x 760 x 1000					
Weight [Kg]	1200					

Index:

General information	
Specification data	2
Index.....	3
Certificate(s) of conformity	4
Safety precautions	5-6
Medical emergency information	7
 Set-up & Use	
Set-up & Use.....	8
Remote control (optional)	9
Remote Junction box (optional).....	10
Check	11
 Maintenance Pump	
Lubrication	12
Cleaning	12
Storage	12
 Trouble shooting / Repair Unit	
Problem / Repair / Service	13-19
 Maintenance / Service Diesel Engine	
Lubrication	20
Fuel.....	20
Air	20
Cleaning	20
Storage / Antifreeze	20
 Trouble shooting / Repair Diesel Engine	
Problem / Repair / Service	21-22
 Spare-part lists	
CD50 Main Spare-part assembly	23-24
Diesel Tank Spare-part assembly.....	25-26
Water Tank Spare-part assembly	27-28
Motor-Pump Unit Spare-part assembly	29-30
Pump Spare-part assembly	31-36
Power end Spare-parts assembly.....	37-38
Safety Valve / Rupture disc assembly.....	39-42
Linear Actuator	43-44
Wiring diagram	45
Water Gun	46-55

Certificate of E.U conformity:

DEN-JET Nordic A/S
Terndrupvej 7, Astrup
DK-9510 Arden
Denmark

According to E.U. Machine Directive 2006/42/EC. Appendix IIA

We hereby declare that the electrical driven high-pressure water blaster machines:

CD50-400, CD50-500, CD50-700, CD50-1000, CD50-1250, CD50-1380

Has been designed, manufactured and tested to fully comply with the health and safety requirements of the E.U. machine regulations.

ANY modification or change of the machine without our prior consent will render this declaration null and void.

Appropriate E.U. regulations:	E.U. Machine Directive (2006/42/EC) Current issue.
	E.U. Low Voltage Directive (2006/95/EC)
	E.U. EMC Directive (2004/108/EC).

Coordinated standards

Used particularly:	EN 809	pr EN 1889
	EN 292 part 1 & 2	EN 60204-1
	EN 574	EN 294
		EN 50081-2
		EN 6100-6-2

Date:

Benny S. Jensen

Managing Director.

WARNING Safety Precautions:

To safeguard the operator who uses the machine and its accessories and as accident prevention and protection of bystanders and property, the following safety precautions must be observed. Always treat the water blaster in the same way as any other power driven high speed cutting tool!

Never let children or people who have not been properly instructed operate the machine.

Use the electric plug in a proper socket with ground to earth wiring. The entire electrical installation must be with earth wiring! All electrical installations must be made only by an electrician. A GFCI (Residual current device) is recommended.

Always keep the high-pressure cleaner and the belonging accessories in good working condition. Check that the machine and its accessories are free from defects, and in good working condition, with special attention to the insulation on the electric cable. In case of defect: Do NOT OPERATE THE MACHINE! Get the machine serviced.

Eye protection must be worn at all times when operating the machine to protect against repelling or ricocheting materials hitting the eyes and causing damage.

Ear protection must be worn at all times when operating the machine to protect against hear loss during operation.

Proper footwear and protective clothing must be worn at all times when using the equipment to avoid and prevent damage to the operator.

NEVER direct the jet at yourself. Do not attempt to clean your clothes or footwear with the machine. Be especially alert when pulling or releasing the trigger as sudden reaction forces will occur

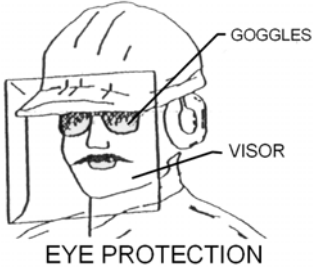



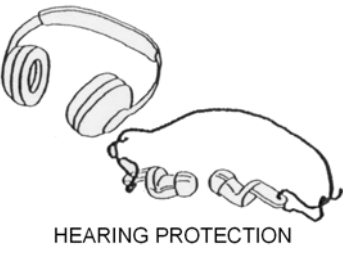
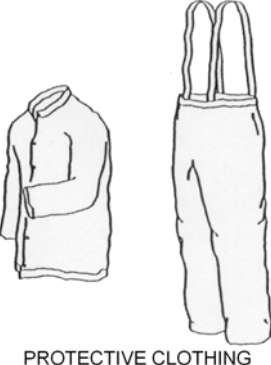
Precautions must be made to keep bystanders away from the working range. Especially when pulling the trigger as sudden reaction forces can make changes in the direction of the jet. NEVER spray-jet on humans or live animals, the high pressure jet can cause severe injury and/or death.

NEVER spray at electrical equipment, or at the machine itself.

Before service or repair: Make sure the machine is turned off, and pressure is released from the system by pulling the trigger after shutting down the machine. The machine should be disconnected from the main power supply by pulling out the electrical plug.



Safety Precautions:

The below shown protective clothing and devices should be worn both by personnel operating the water blaster system and equipment and by those working nearby:

 <p>EYE PROTECTION</p>	<p>Operators must wear visors or goggles to guard against spray and flying debris. A combination of both goggles and visor is recommended. It will protect the eyes and the face during both water-blasting as well as abrasive water-blasting.</p>
 <p>HEAD PROTECTION</p>	<p>Safety helmets must be worn at all time by personnel within the work area. Helmet material must be able to withstand mechanical shock exceeding 10G in 8ms without fracturing.</p>
 <p>HAND PROTECTION</p>	<p>Shear proof gloves must be worn by the operator at all times. A glove combination of a cloth inner lining and a water tight outer layer is preferable.</p>
 <p>FOOT PROTECTION</p>	<p>Safety boots with steel toecaps minimum 0.5mm (0.02”) thick must be worn. The toecap must cover at least 30% of the footwear length. Basic safety footwear must also be equipped with metatarsal guards to protect the instep. Safety boots are available in numerous designs.</p>
 <p>HEARING PROTECTION</p>	<p>Operators and other personnel exposed to noise levels of more than 90-dBa for more than 1 hour must wear suitable ear protection. Ear plugs or ear muffs are usually sufficient.</p>
 <p>PROTECTIVE CLOTHING</p>	<p>Waterproof clothes protect the operator only from spray and flying debris. They do NOT deflect direct jet impact. Therefore, an operator must take care never to point a water-jet either at them selves or other personnel.</p>

Medical emergency information:

Immediate medical attention should be given to personnel who sustain equipment related injuries while operating the system. In such cases, it is vital that medical personnel be apprised of all facts relevant to such injuries. Therefore, all operating personnel should be provided with waterproof emergency medical alert tags or cards, describing the nature of their work and the possibility of injury inherent in the use of water jetting equipment. The below example of a standard card can be printed out or photo copied, bend, laminated and used as medical alert tag.

<div><h1>MEDICAL ALERT</h1><p>This card is to be carried by personnel working with high-pressure water jetting equipment. Obtain medical treatment immediately for ANY high-pressure water-jet injuries.</p></div>
<p>This person has been working with water jetting at pressures up to 55,000 psi (374Mpa, 3,740bar, 3,867 kg/cm²) with a jet velocity of up to 3,000 fps (914 mps). This should be taken into account during diagnosis. Unusual infections with microaerophilic organisms occurring at lower temperatures have been reported. These may be gram-negative pathogens such as found in sewage. Bacterial swabs and blood cultures may therefore be helpful. A local poison control centre should be contacted for additional treatment information and advise.</p> <div><p>DEN-JET Nordic A/S Terndrupvej 7, Astrup, DK-9510 Arden, Denmark Tel: +45 98 55 88 68 Fax: +45 98 55 88 18 www.denjet.com</p></div>

Set-Up & Use:

Mount the ½" high-pressure hose on to the Water-blaster by screwing the swivel on to the 1/2" high-pressure fitting on the left side of the cabinet. Mount the trigger gun with lance to the ½" high-pressure hose. Always use two wrenches when tightening the hoses.

Prepare the water supply for the Water-blaster, by attaching a 1" hose to the supplied low pressure inlet coupling on the front of the cabinet. Connect the other end of the water supply hose to a fresh water tap. Open the tap. To prevent water spill always use the float valve inlet on the lower front of the machine.

Fill the diesel tank with clean diesel fuel.

Turn on the unit by turning the key to the preheating stage, wait a few seconds then turn key to start. Throttle up the engine by pulling or turning the throttle cable.

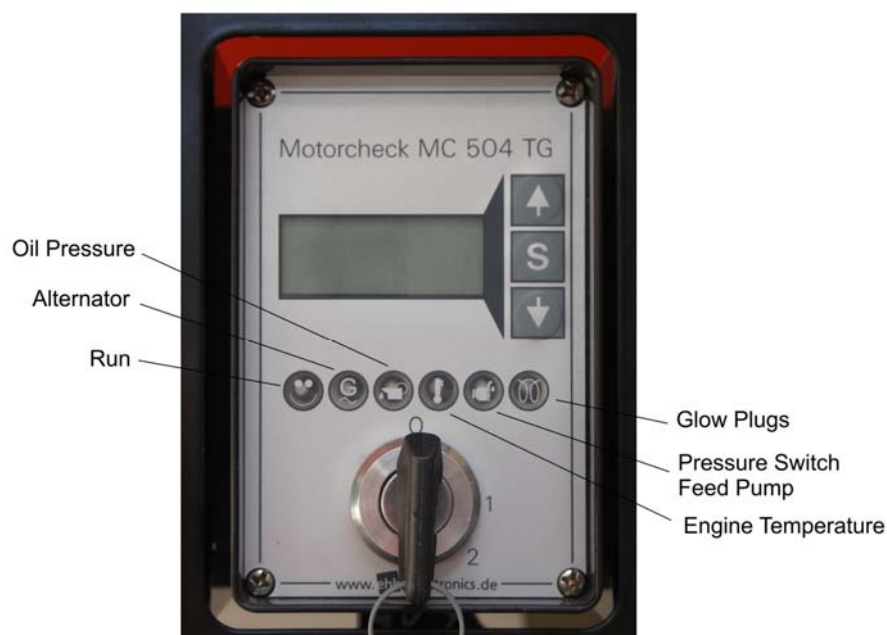
Get a firm grip with both hands on the gun handle and the lance handle. Press the trigger and start blasting. Pay special attention to the fact that energizing the gun causes reaction forces that can cause the jet to change direction.

After shut down of the Water-blaster, always release the pressure inside the high-pressure hoses by pulling the trigger on the spray-gun before dismantling the high-pressure hoses. Trapped high-pressure can cause severe injury.

Notice:

The machine is equipped with the following safety devices:

- a) Key switch for normal shut down (and start up) behind the glass door, turn key counter clockwise to stop.
- b) Emergency Stop Button, at upper corner of unit, stops the machine when pushed in. Twist to reset.
- c) Low engine oil-pressure shut down.



REMOTE CONTROL SENDER/RECEIVER (Optional)

JUNCTION BOX	REMOTE CONTROL	FUNCTION
A	-	Left: Manual Control (Junction box) Right: Remote control
Turn Key clockwise	GREEN BUTTON	Start
Turn Key counter clockwise	RED BUTTON	Stop, rotate red button to release/reset it after use
B	1	Increase rpm
C	2	Decrease rpm
D	3	Extract hose
E	4	Rewind hose
-	5	Optional
-	6	Optional

This page: Remote control, before using the remote control; make sure the junction box (next page) is set to remote control, and not manual control.

The green button starts the machine. 1 and 2 respectively increases and decreases the engines rpm.

The engine should be running with high rpm to achieve maximum pressure.

Buttons 3 and 4 is used to roll off the hose before use and for winding it in afterwards.

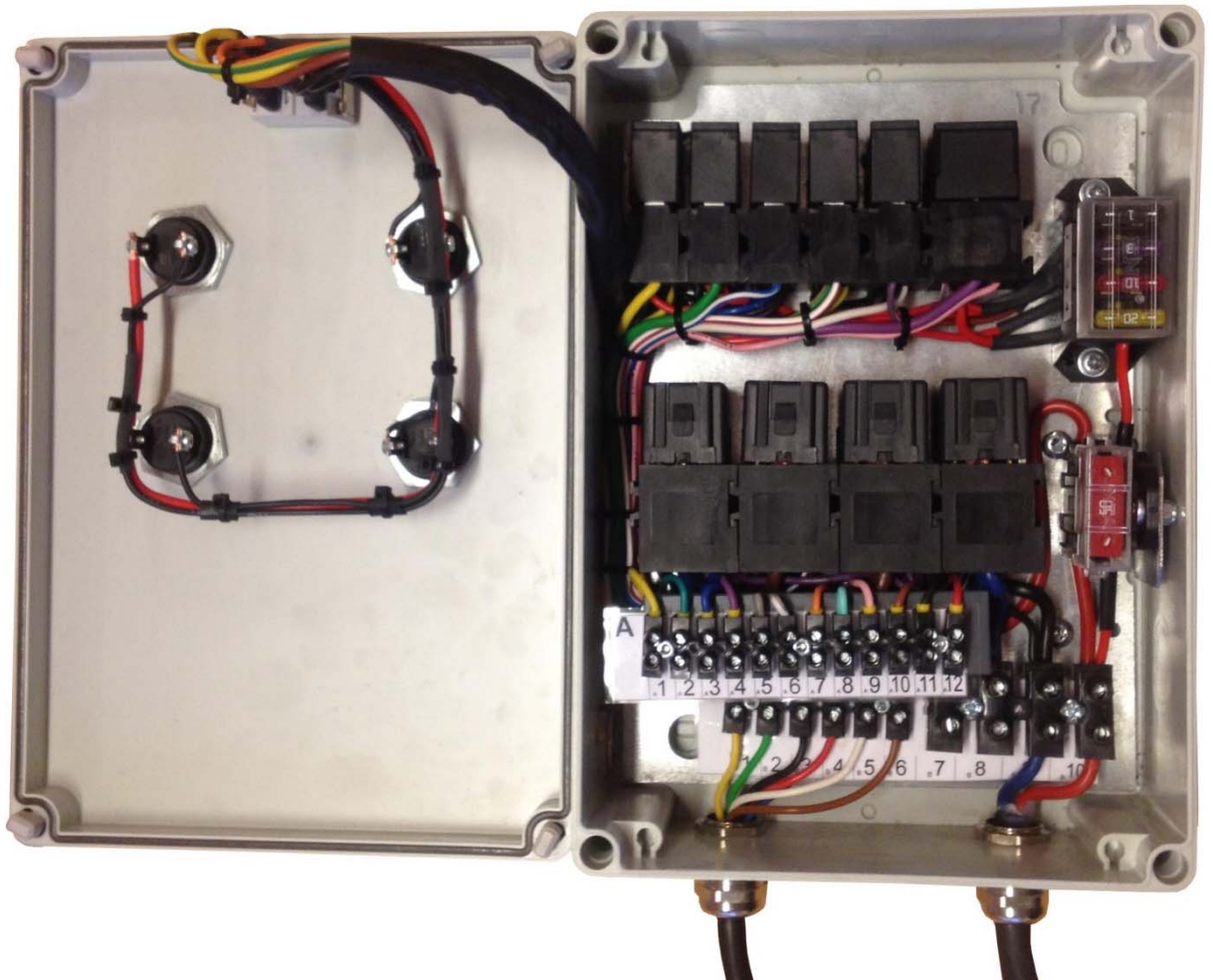
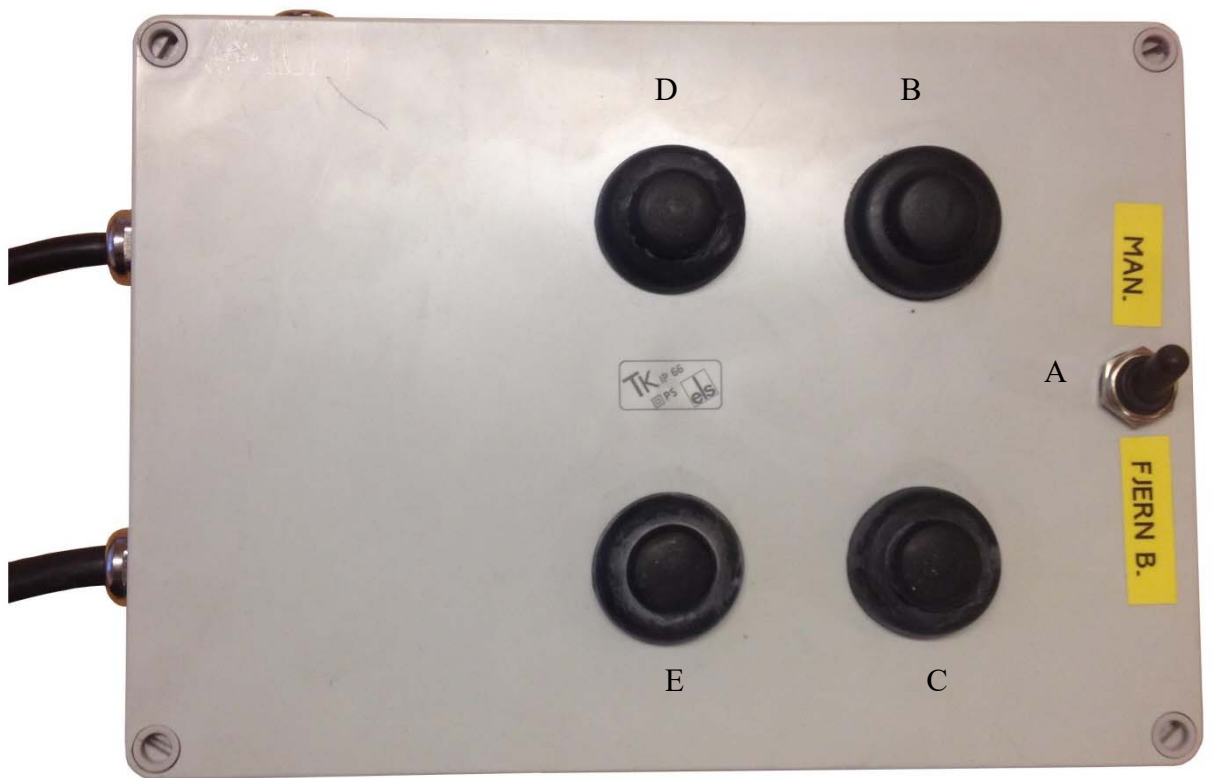
The buttons 5 and 6 is normally inactive but can be assigned to a specific task in some cases.

Next page: Junction box, the A switch should be switched to the left in order to use the junction box. To start the machine turn the key and wait a few seconds before increasing the rpm using the B button. C button is used to decrease the rpm.

Buttons D and E are used to extract and rewind the hose, if you have a model with automatic hose reel.



REMOTE JUNCTION BOX (Optional)



Set-Up & Use / Daily inspection:

Check	Task
Daily Inspection	<p><i>Check the oil level on the crankcase of the pump, sight glass.</i> Fill up if necessary. <i>Check for air-bubbles in the suction hose between tank and feed pump.</i> If there are bubbles then tighten the hose-clips. <i>Check high pressure connections for leakage.</i> NEVER tighten connections under pressure. <i>Check high pressure hoses for wear and cracks.</i> Replace if necessary. <i>Check the oil level on the crankcase of the engine.</i> Replenish if low. <i>Check the air intake grill.</i> Clean for dust if necessary. Do NOT Cover. <i>Check fan belts.</i> Tighten / Exchange if loose or damaged. <i>Check fuel and cooling system hoses.</i> Replace if damaged.</p>
	<p>Notice: To prevent damage to hoses, avoid letting the high-pressure hoses rub against sharp edges for example manholes or getting squeezed in door openings etc. Replace if necessary.</p>
	<p>Inlet water temperature must be below 60°C (140°F)</p>
Check	Task
Daily inspection of water filter	<p><i>To check if the fine water-filter cartridge are clogged and needs changing: Notice the two small pressure gauges on top of the round stainless steel filter. If the gauges shows the same pressure over 1 bar the filter should be OK, if the gauge on the left side shows a lower pressure than the right side gauge, filter must be changed.</i> <i>Filter change interval depends on water quality.</i></p>

Maintenance, pump:

Maintenance	Task
Lubrication	<p><i>Oil renewal on the pump crankcase is to be completed the first time after no more than 50 hours of use. Oil renewal is hereafter to be completed in every 400 hours of use. Or at least one time a year.</i></p> <p><i>Use a Industrial purpose 220 Oil</i> <i>Examples: Shell Tellus 220, Esso Nuto 220, Texaco Regal EP220</i> <i>Statoil: Lubeway XA220</i> <i>Quantity: 4 Liter</i></p> <p><i>Fill up until the oil level is visible in the middle of the sight glass.</i></p>
Renewal of oil	<p>Switch off the machine. Loosen the oil drain screw on the lower side of the pump crank-case. Let the oil drain out into a waste oil-tray. Remount the oil drain screw and pour in new oil through the oil inlet on top of the pump until visible in the oil sight glass.</p> <p>Notice: Always dispose of the used oil in a proper manner.</p>
Cleaning	<p><i>A part of keeping the machine and its accessories in good working condition is keeping it clean. But NEVER clean the machine itself with high-pressure. Do not use solvents.</i></p>
Storage	<p><i>Keep the unit frost free, or flush the pump thoroughly with non alcoholic antifreeze fluid.</i> <i>Take of minus pole on battery for long time storage.</i> <i>Maintenance charge battery regularly.</i></p>

Trouble shooting and repair, unit:

Problem	Repair
When the key is turned the engine will not crank	<i>Start battery not charged enough to crank engine.</i> Charge battery (12 Volt)
The engine cranks but will not start.	<i>Empty diesel tank, clogged diesel fuel filter.</i> Fill diesel tank Change fuel filter. If fuel supply has been stopped, manually pump fuel through to engine by means of the hand push pump on top of the diesel filter before attempting to start engine
The pressure drops and the Water-blaster works irregularly.	<i>The strain filter in the water tank is blocked or dirty or the water supply from the tap is insufficient. Air in the Suction hose.</i> Clean the strain water filter. The machine should always suck from the water-tank. Open fresh water tap fully. Tighten the hose clamps on the suction hose.
The Water-blaster continues jetting at high pressure when trigger is released. The Water-blaster is running at high pressure when trigger is released and no jetting.	<i>The Gun valve is stuck by dirt and indicate That the filter or hoses has not been clean before assembly</i> Replace gun rep kit and ensure that system is flushed at low pressure before mounting nozzle <i>The check valve in the un-loader out-let fitting is stuck or leaking.</i> The hose may still contain pressure so loosen hose and bleed pressure slowly before opening fully. Clean the check-valve in the un-loader out-let fitting. Replace the O-ring.
The Water-blaster does not reach the right working pressure when the trigger handle is activated.	<i>Leakage from: Safety valve, hose connections, trigger-gun. The pump sucks air. The high-pressure nozzle is worn or too big in size. or safety valve is not correctly adjusted, or is worn. Rupture disc is burst. Plunger packings are worn.</i> Turn of the water-blaster. Inspect for leakage. Replace the nozzle. Set the safety valve, repair if necessary. Change rupture disc. Change packings.
The Water-blaster works with approximately 2/3 of the maximum pressure, and the high-pressure hose is vibrating.	<i>There is dirt in the valves.</i> Turn off the Water-blaster. Dismantle the pump head and the valves, remove the dirt and check to ensure the valve discs are moving freely and fits tight and smooth to their seats.

Trouble shooting and repair, unit:

Problem	Repair
Excessive water leakage from under the pump	<i>Packing is worn</i> Replace packings. (Always replace O-ring as-well)
Noisiness	<i>The pump sucks air. One or more valve springs are broken or stuck. Dirt in the valves. No or too little oil in the crankcase or motor bearings worn out.</i> Inspect the low-pressure water supply. Tighten hose clips. Replace springs. Clean the valves. Replace the bearings.
Water in the oil	<i>The Oil-seal is worn out. High moisture in the air (condensing inside the crankcase) The high pressure seals are completely worn out.</i> Check or replace the oil-seals. Renewal of the crankcase oil more often. Replace the high pressure seals.

Nozzle change:

Change the nozzle when it is worn, (spray pattern becomes irregular and/or a drop in pressure occurs. Use 2 wrenches when changing nozzle. Only change to a correctly sized new nozzle. Repack nozzle thread with PTFE packing tape (if using threaded nozzles). Please notice that the size rating for one particular nozzle may differ from another, for example: The same sizes fan and straight jet may differ in pressure.

Using optional Nozzle types:

The gun can be used with different types of nozzles: Straight-jet, fan-jet and self-rotating types.

The gun is also suitable for using with wet sand-blasting.

Overhauling gun:

If the gun starts to leak or parts become damaged it can be repaired. Please refer to the main spare-parts assembly for correct position of parts during repair.

Changing the micro filter cartridge:

Drain the water from the tank as described above. Unscrew the hexagon nut on top of the round filter cartridge located beneath the water tank.

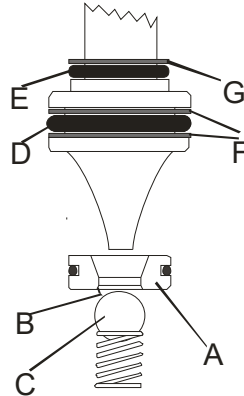
Take out the corrugated filter cartridge. Discard the cartridge. The filter cartridge absorbs dirt particles, THE CARTRIDGE IS DISPOSABLE AND CANNOT BE CLEANED.

Flush the filter housing with water. Refit a new filter cartridge into the filter housing, ensure the length of the filter is correct, measured against the discarded cartridge. Clean and put O-rings back in place. Mount the filter housing and tighten the hexagon top nut.

Remember to tighten the drain screw at the bottom of the filter housing.

Overhauling and adjusting safety / un-loader valve:

Dismantle the un-loader / safety valve and overhaul by refitting the parts supplied in the repair kit(s). Ensure the parts are put in place as shown below. Pay attention to the orientation of the valve seat A, the short seat edge B, should be facing the ball C. Assemble the un-loader / safety valve again.

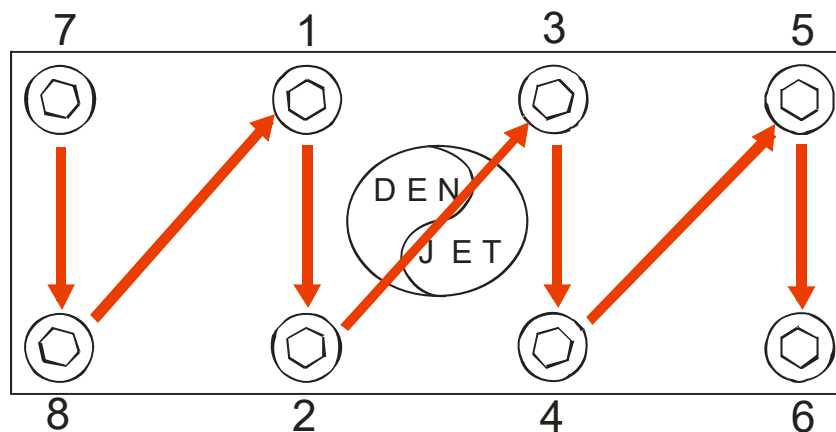


Re-adjust the safety valve by running the machine with a correctly sized nozzle. Pull the trigger and start tighten the nut for the thick black spring, until there is no leak from the safety valve.

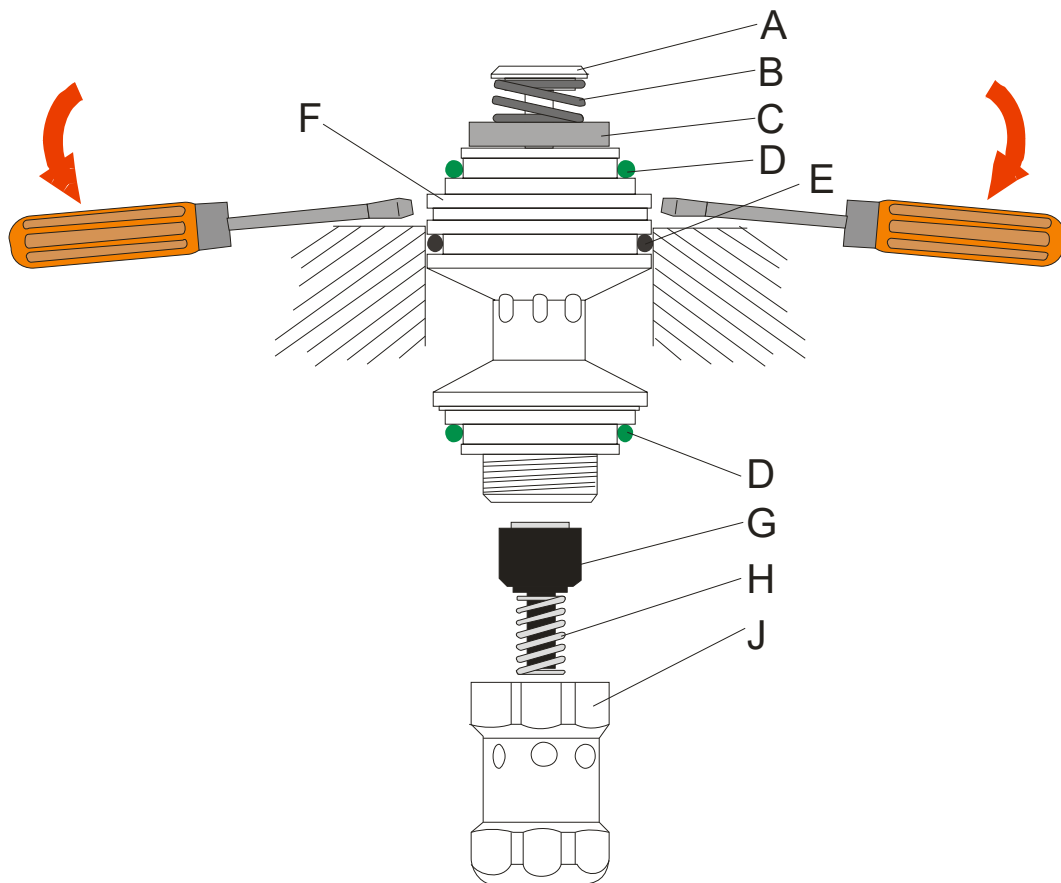
Make sure that the black spring still has movement allowance after setting the correct pressure. The correct working pressure is regulated by the size of the nozzle, and the nozzle should never be too small.

Overhauling pump, valves:

Start dismantling the front of the pump by removing water supply and cooling hoses. Loosen the cylinder head bolts in reverse order as shown:



Do not loosen one bolt entirely, loosen them bit by bit and alternate according to the pattern. Pull out the valve by applying pressure in the extraction groove with 2 flat-face screwdrivers as shown below:

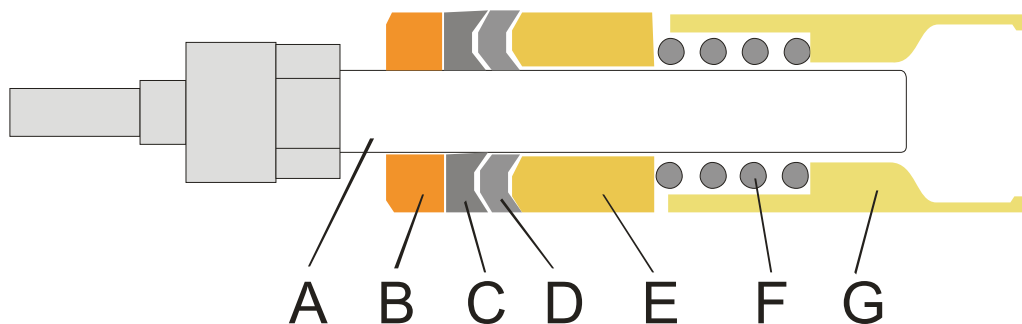


Dismantle the valve assembly by clamping on the spanner face of the valve-body F And unscrewing A and J.

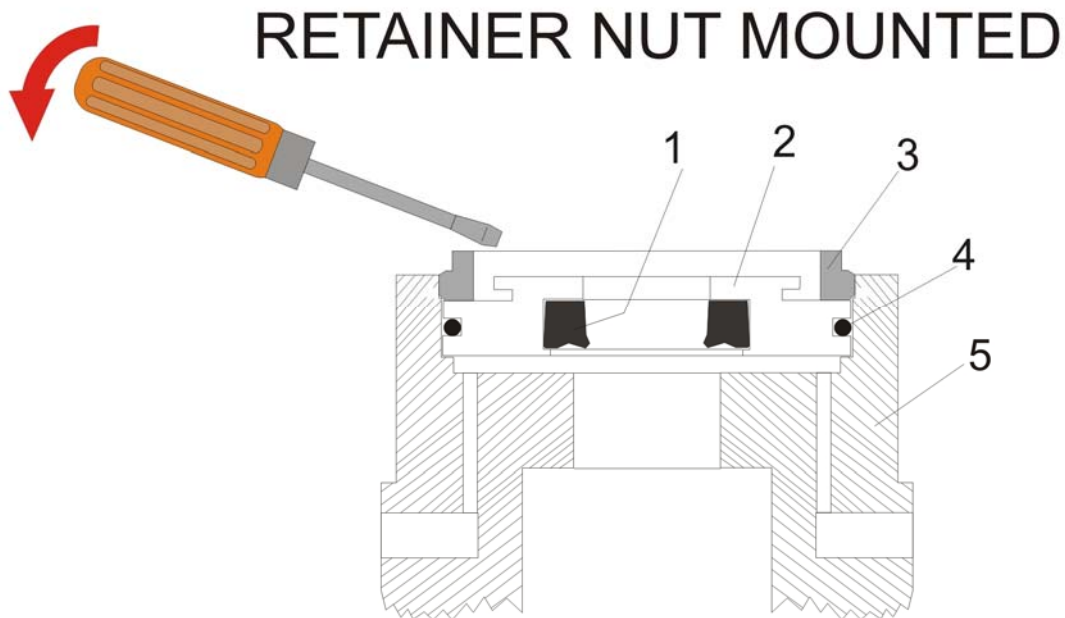
Check the mating surfaces of the inlet valve disc C and the body F, and the outlet valve G and the body F. The mating surfaces should be free from wear and tear. It is possible to touch up the mating surfaces by lapping the parts on a piece of very fine sand-paper laid out on an absolutely flat surface. If wear and tear are too severe for touch up, replace items. Ensure O-rings and packings D and E are in good condition, replace if worn. Re-assemble the valve, be careful not to over-tighten the screw A. Push the assembled valve back into the cylinder-head.

Changing Packing and Plungers:

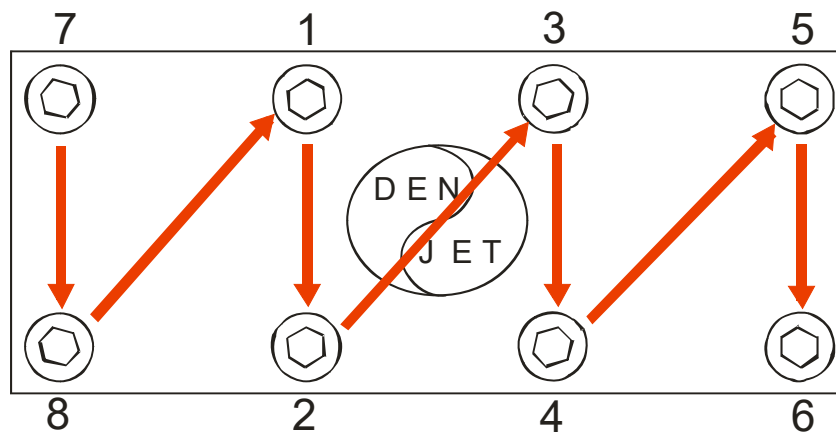
Take of the cylinder-head as explained earlier. Remove the cooling pipes on top and below on the cylinders. Gently, to prevent plunger damage, pull out the cylinders one by one, the parts B until G will follow inside each cylinder . The plungers will remain on the crossheads extensions.



Unscrew the big hexagon retainer nut “3” at the back of the cylinder support “5”. Use a screw driver to gently pry out the cooling plate assembly “2” Seal assembly “C” needs replacement every time when the pump has been disassembled after running. Unscrew the plunger “A” using the supplied orange –Z- shaped spanner. Inspect plunger surface and replace if necessary. Ensure the low pressure cooling seal “1” is in good condition, replace both seal “1” and o-ring “4” if worn.



Assemble parts, paying attention to place position and orientation.
Remember to put back cooling pipes and cover plate before tightening the cylinder head



Tighten the bolts in the above shown pattern in steps of torque.
(20Nm - 60Nm - 80Nm – and finally 120Nm) alternating between bolts

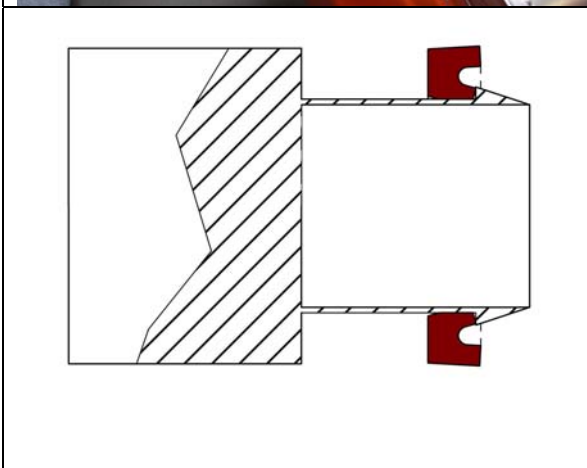
Procedure for Seal Extraction



Take the oil out



Turn to get the right position



Take the seal off



Put the new seal in place using just fingers



Hammer it gently and equally

Maintenance / Service, Diesel Engine:

Maintenance	Task
Lubrication	<p><i>Oil renewal on the engine crankcase is to be completed the first time after no more than 50 hours of use. Oil renewal is hereafter to be completed in every 200 hours of use. Or at least one time a year.</i></p> <p><i>Use a CC or CD Grade oil (API classification)</i> <i>Under normal operating temperatures -30°C to 30°C use multigrade SAE10W/30 or SAE 10W/40 (part number:83600870)</i> <i>Under cold operating temperature below -30°C use multigrade SAE 5W/20 or SAE 5W/30</i> <i>Under warm operating temperature over 30°C use multigrade SAE 10W/40</i> <i>Quantity: fill up with oil until oil level is just below the “full” mark on the dip stick</i></p> <p><i>Remember to refit oil drain plug.</i> <i>Fill up until the oil level is visible at the full mark on the oil dip stick.</i></p>
Oil Filter	<p><i>Change the oil filter when changing the oil.</i> <i>(Part number: 81001047)</i></p>
Renewal of oil	<p><i>Switch off the machine. Loosen the oil drain screw on the lower side of the pump crank-case. Let the oil drain out into a waste oil-tray. Remount the oil drain screw and pour in new oil through the oil inlet on top of the pump until visible in the oil sight glass.</i></p> <p>Notice: Always dispose of the used oil in a proper manner.</p>
Diesel Fuel	<p><i>Use fresh clean automotive quality diesel fuel. When operating in cold environments, make sure the diesel fuel are suitable for the temperature.</i></p>
Air intake filter	<p><i>Clean air intake filter every 50-100 hours, Exchange every 200-400 Hours. (Depending on running environment.</i> <i>(Part number: 81001034)</i></p>
Diesel Fuel filter	<p><i>Diesel fuel filter should be changed every 400 Hours</i> <i>(Part number: 81001048)</i></p>
Cleaning	<p><i>A part of keeping the machine and its accessories in good working condition is keeping it clean. But NEVER clean the machine itself with high-pressure. Do not use solvents.</i></p>
Storage /Antifreeze	<p><i>Always run the engine with glycol based antifreeze mixture in the cooling system, also in hot weather. Mix accordingly with manufactures specifications to obtain the desired antifreeze temperature. Change every 2 years. The unit is protected to -30°C at delivery. The cooling system contains approximately 10 Liters of fluids.</i></p>

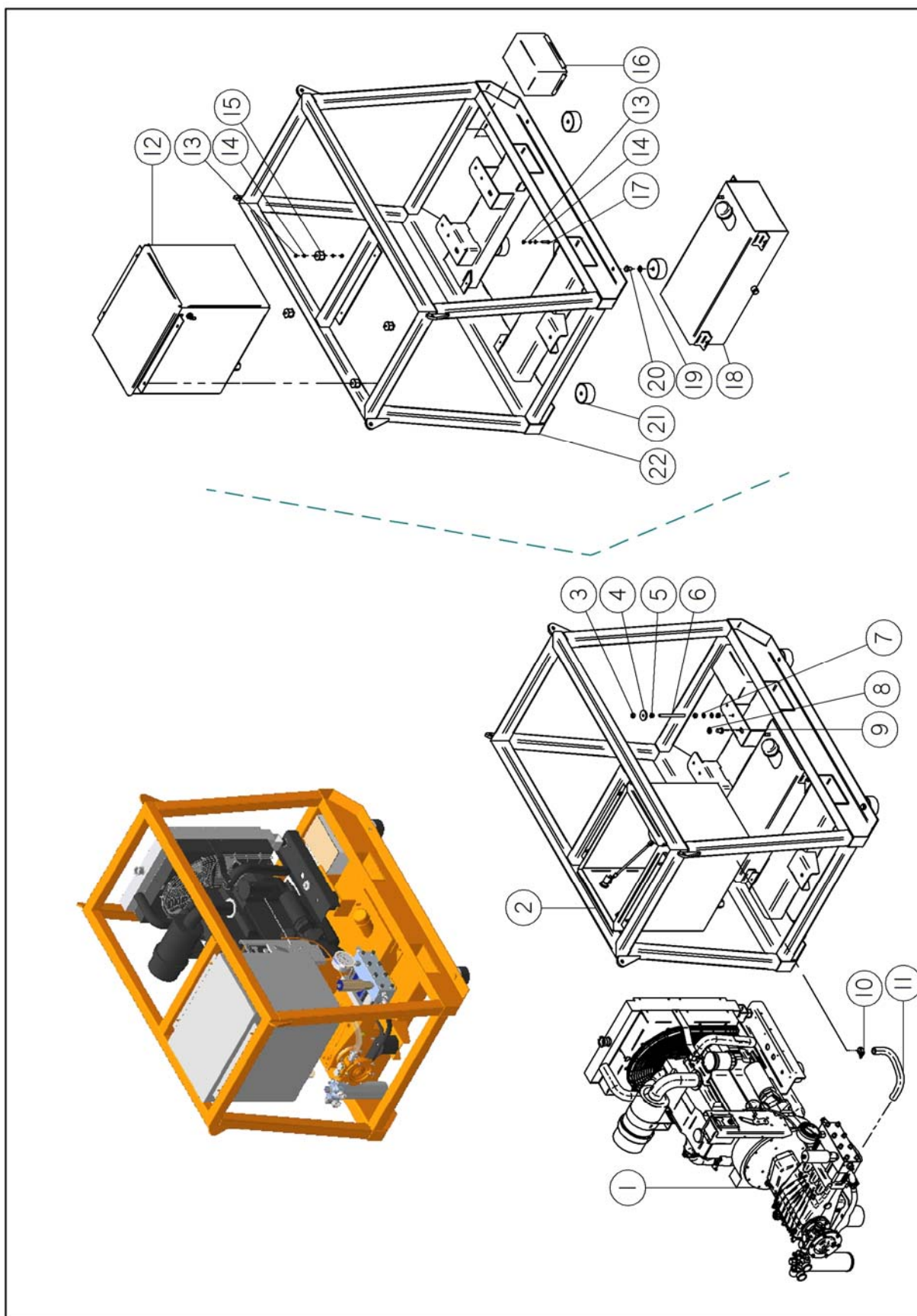
Trouble shooting / Repair, Diesel Engine:

Problem	Cause / Repair
Exhaust smoke is black	<p><i>The load is too heavy for the engine.</i> Reduce load. <i>Air intake filter dirty.</i> Clean or replace air filter. <i>Bad fuel injector nozzle(s)</i> Check nozzles, replace if spray pattern is faulty. <i>Intake/exhaust valves needs adjusting.</i> <i>Motor is worn.</i></p>
Exhaust smoke is white	<p><i>When running in cold weather and before the engine is warm white smoke is normal.</i> <i>Cylinder head gasket leaking.</i> Check cause of cooling water leak into engine. <i>Wrong injection timing.</i> Set timing correctly. <i>Air intake filter dirty.</i> Clean or replace filter. <i>Dirty fuel filter.</i> Change filter. <i>Air in fuel line, leak in fuel pipe.</i> Tighten or replace faulty fuel line. <i>Leakage around injectors.</i> Tighten or replace seal.</p>
Exhaust smoke is blue	<p><i>Oil level in crankcase too high.</i> Drain oil until correct level. <i>Too much oil fog in air breather / crankcase ventilation.</i> Check breather valve/ Valve seal. Replace breather valve and / or tube.</p>
Engine is not running smoothly	<p><i>Air somewhere in fuel line</i> Tighten or replace faulty fuel line. <i>Fault in speed-regulating governor.</i> <i>Faulty injector nozzle(s)</i> <i>Faulty Diesel distributor pump.</i></p>
Engine temperature too High.	<p><i>Low level in radiator / cooling system.</i> CAUTION when opening. Steam boiling water may escape. Fill up radiator. <i>Blocked air intake outlet grille.</i> Remove obstruction. <i>Engine is overloaded.</i> Reduce Load. <i>Fan belt (water pump belt) is broken.</i> Replace fan belt. <i>Electric fan is not running.</i> Fault in electric circuit Faulty thermostat in lower cooling hose. <i>Fuel injection timing wrong (Retarded)</i> Set correct timing. <i>Water cooling system pump faulty.</i> Replace pump.</p>

Trouble shooting / Repair, Diesel Engine:

Problem	<i>Cause / Repair</i>
Engine is not charging the battery	<i>Fault in the alternator / Alternator circuit</i> Find fault and rectify. Battery is faulty.
Engine stops suddenly	<i>Run out of fuel</i> Fill up with fuel, hand pump to prime. <i>Air in fuel line.</i> Bleed air. Hand pump to prime. <i>Fuel filter clogged.</i> Change fuel filter. <i>Fuel feed pump faulty</i> Check pump, replace if faulty. <i>Engine is stuck.</i>
Abnormal noise	<i>Fan is touching metal.</i> Make clearance. <i>Valve clearance too big.</i> Adjust valves. <i>Injection timing wrong (too advanced).</i> Adjust timing. <i>Badly worn engine bearings.</i>

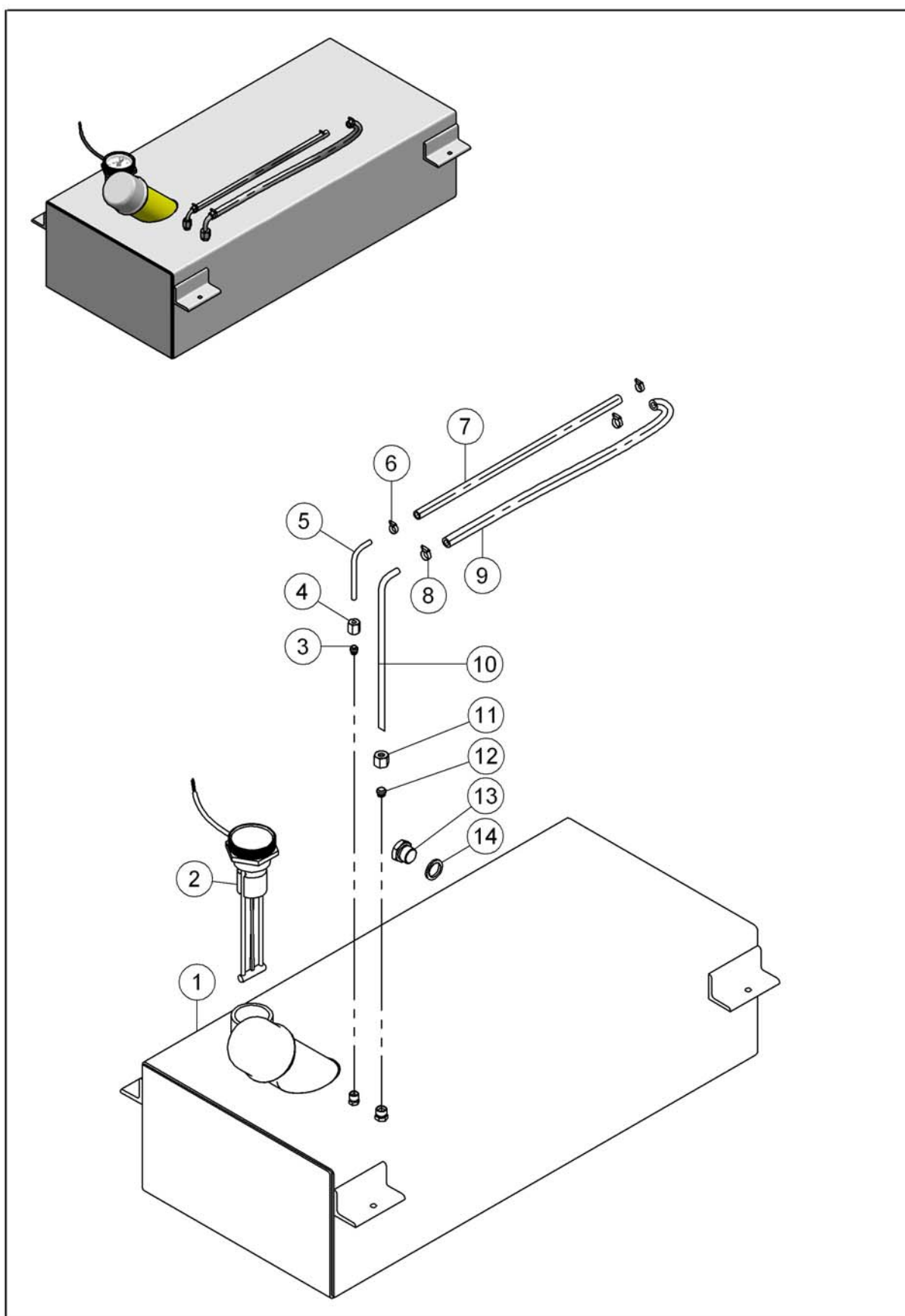
CD50 SERIES WATER-BLASTER MAIN SPARE-PARTS ASSEMBLY



**CD50 SERIES WATER-BLASTER
MAIN SPARE-PARTS LIST**

Pos.	Item No.	Qty.	Description
1	N/A	1	UNIT CD50
2	N/A	1	FRAME ASSY.
3	80100381	4	LOCK NUT M12 Zn
4	N/A	2	WASHER WIDE
5	80000511	4	NUT
6	80100842	6	THREADED ROD
7	80100799	4	WASHER
8	80100637	2	WASHER
9	80100872	2	SCREW
10	80100527	1	HOSE CLIPS
11	83400524	1	HOSE SUCTION
12	N/A	1	WATER TANK CD50
13	80100697	12	LOCK NUT
14	80100606	16	WASHER
15	81000857	4	RUBBER DAMPENER
16	81100990	1	BATTREY
17	80100704	4	SCREW
18	81000965	1	DIESEL TANK CD50
19	80100637	4	WASHER
20	80100872	4	SCREW
21	81000935	4	RUBBER FOOT
22	81000954	1	OPEN FRAME CD50
N/A	81101272	1	EMERGENCY STOP

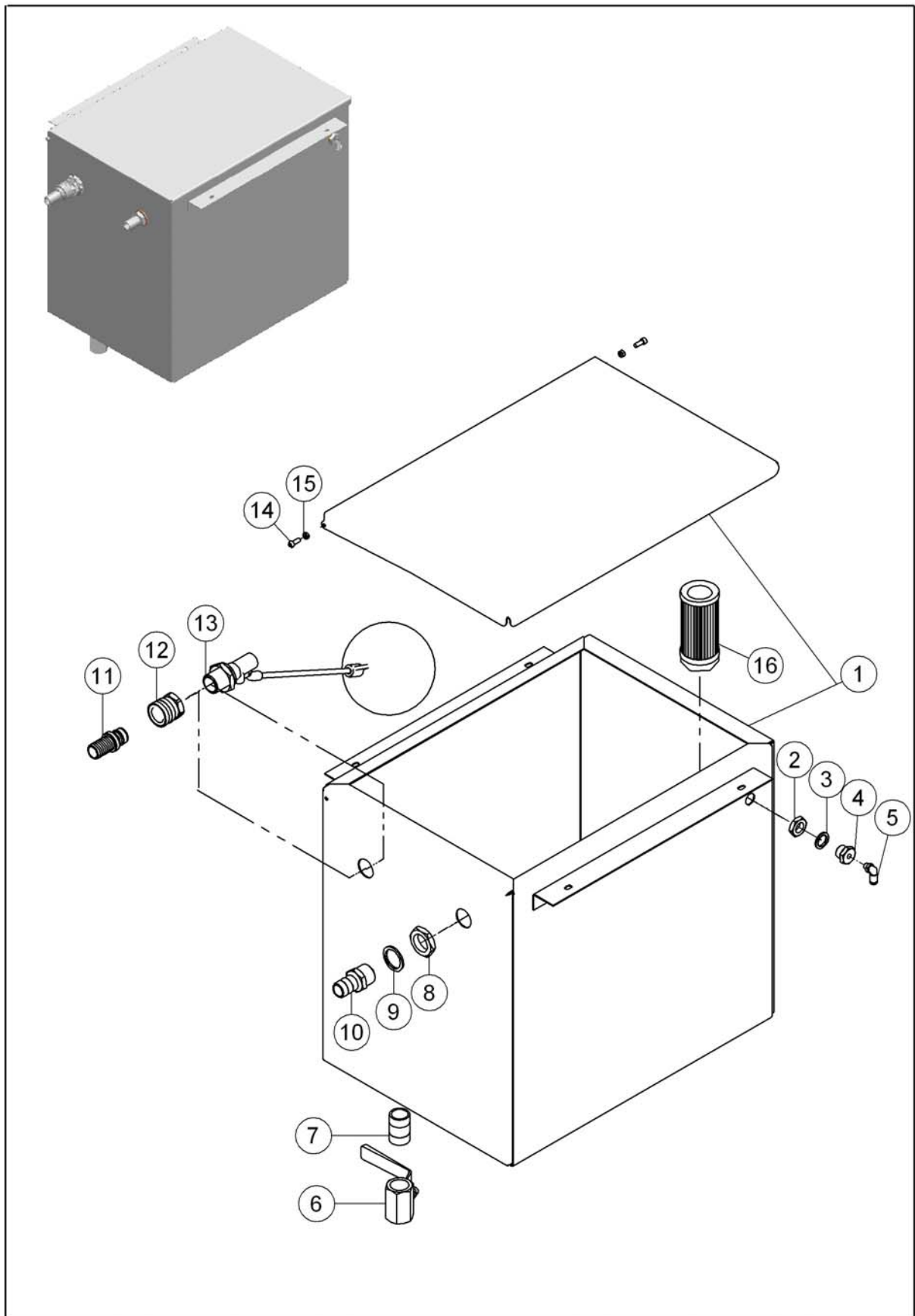
CD50 SERIES WATER-BLASTER DIESEL TANK SPARE-PARTS ASSEMBLY



**CD50 SERIES WATER-BLASTER
DIESEL TANK SPARE-PARTS LIST**

Pos.	Item No.	Qty.	Description
1	81001403	1	DIESEL TANK CD50 WELDED
2	81101186	1	LEVEL GAUGE W/SWITCH
3	80501074	1	FERRULE Ø6
4	80501075	1	SWIVEL NUT
5	83100647	1	HYDRAULIC PIPE Ø6
6	80100905	2	HOSE CLIP
7	83400625	1	HOSE
8	80100904	2	HOSE CLIP
9	83400624	1	HOSE
10	83100648	1	HYDRAULIC PIPE Ø8
11	80501077	1	SWIVEL NUT
12	80501076	1	FERRULE Ø8
13	80500617	1	PLUG
14	80500429	1	BONDED SEAL

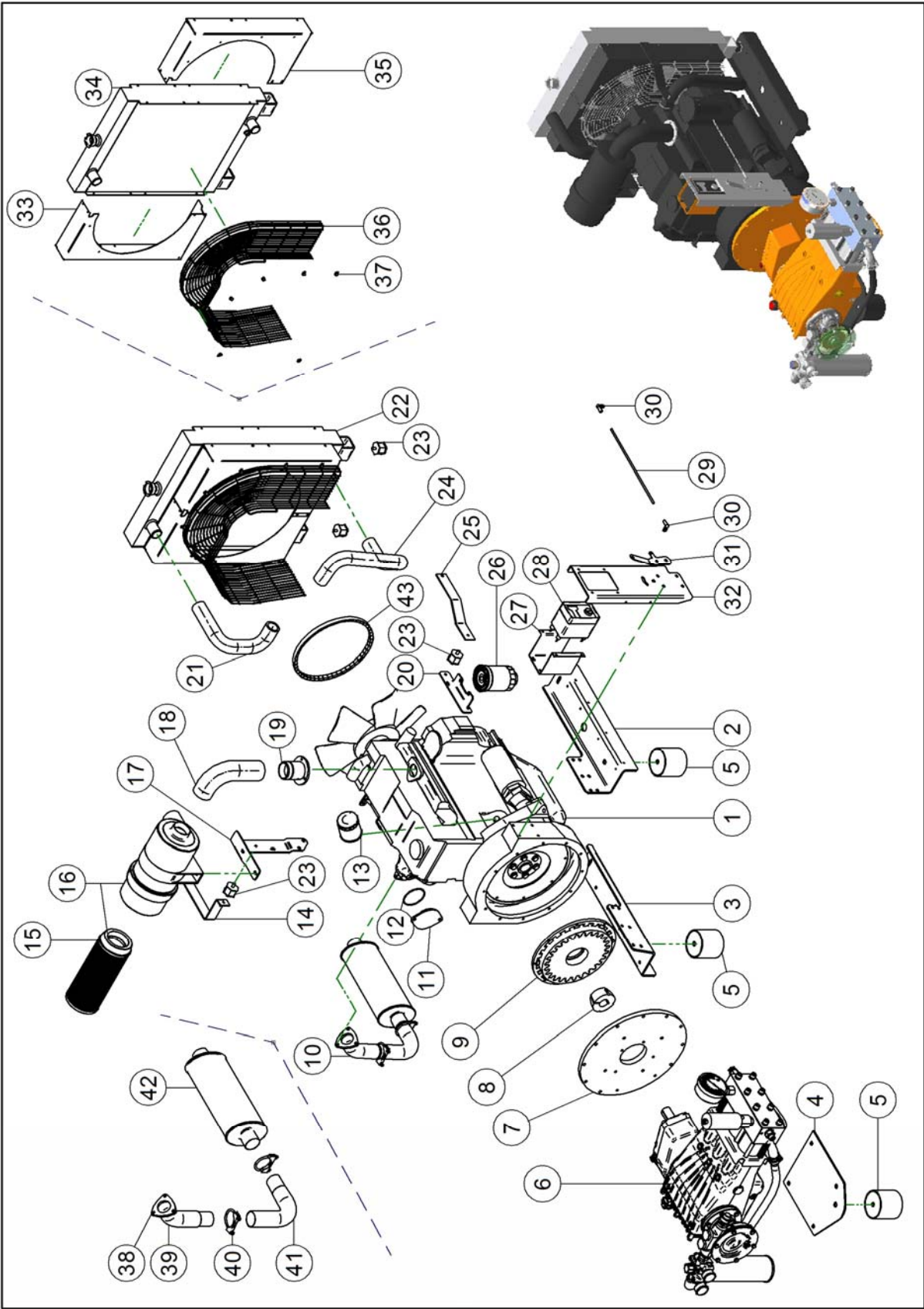
CD50 SERIES WATER-BLASTER WATER TANK SPARE-PARTS ASSEMBLY



**CD50 SERIES WATER-BLASTER
WATER TANK SPARE-PARTS LIST**

Pos.	Item No.	Qty.	Description
1	81000978	1	WATER TANK CD50
2	80100632	1	CONTRA NUT
3	80500429	1	BONDED SEAL
4	80500606	1	BUSHING
5	80500279	1	ELBOW SWIVEL
6	80500660	1	BALL VALVE
7	80500908	1	NIPPLE
8	80100405	1	CONTRA NUT
9	80500975	1	BONDED SEAL
10	80500227	1	HOSE NIPPLE
11	80501065	1	QUICK COUPLING
12	80501066	1	QUICK COUPLING MALE
13	81000428	1	FLOAT VALVE
14	80100052	2	SCREW ALLEN
15	80100053	2	LOCK NUT
16	81000902	1	FILTER

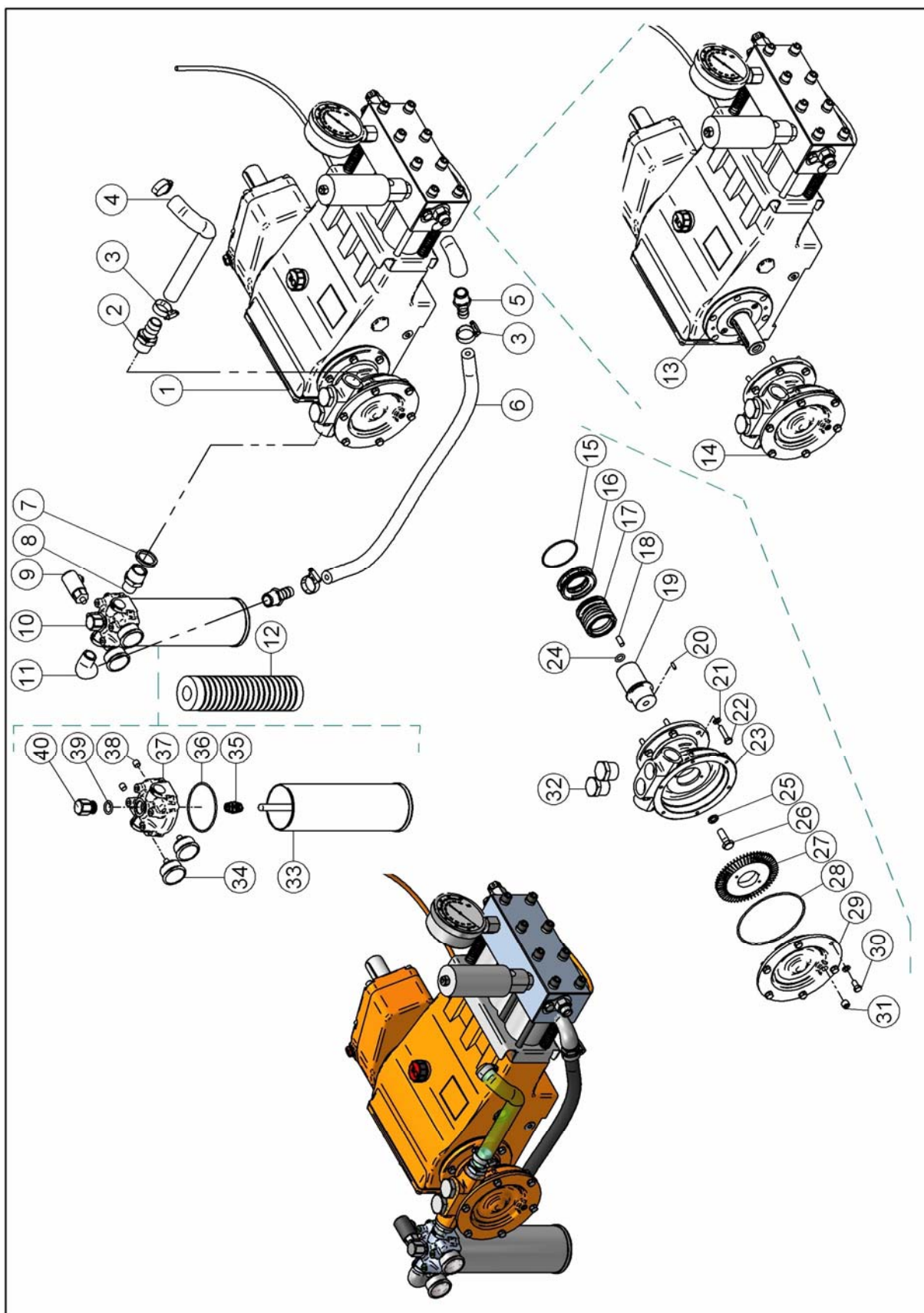
**CD50 SERIES WATER-BLASTER
MOTOR-PUMP UNIT SPARE-PARTS ASSEMBLY**



CD50 SERIES WATER-BLASTER MOTOR-PUMP UNIT SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description
1	81100954	1	ENGINE TOYOTA
2	81001010	1	HOLDER BRACKET LEFT
3	81001011	1	HOLDER BRACKET RIGHT
4	81001012	1	HOLDER BRACKET PUMP
5	81000934	3	RUBBER FOOT
6	N/A	1	PUMP C50 W GEARBOX,BOOST PUMP
7	81000842	1	BELL HOUSING
8	81000269	1	TAPER BUSH
9	81001272	1	COUPLING P/N (81001271 & 81001284)
N/A	81001271	1	RUBBER ELEMENT FOR COUPLING
N/A	81001284	1	FLANGE FOR COUPLING
10	N/A	1	EXHAUST COMPLETE (pos. 38,39,40.41.42)
11	81001751	1	BLIND COVER PTO ENGINE
12	80200695	1	O-RING
13	81001047	1	OIL FILTER
14	81001074	1	BRACKET RADIATOR SUPPORT (part 1 see pos. 25)
15	81001034	1	FILTER INSERT AIR INTAKE
16	81000861	1	AIR INTAKE FILTER COMPLETE
17	81001058	1	HOLDER BRACKET AIR FILTER
18	81001071	1	RUBBER ELBOW
19	81000966	1	AIR INLET PIPE FLANGE
20	81001059	1	HOLDER BRACKET DIESEL FILTER
21	81001073	1	RUBBER HOSE MOTOR-RADIATOR
22	N/A	1	RADIATOR COMPLETE (pos.33.34.35.36.37)
23	81000857	4	RUBBER DAMPENER
24	81001072	1	RUBBER HOSE RADIATOR-MOTOR
25	81001074	1	BRACKET RADIATOR SUPPORT (part 2 see pos. 14)
26	81001048	1	FUEL FILTER
27	81000765	1	BRACKET ENGINE CONTROL
28	81100845	1	ENGINE CONTROLLER
29	80100864	1	THREADED ROD
30	80100870	2	ANGULAR BALL CONNECTION
31	81001404	1	GAS HANDLE
32	81000962	1	BRACKET FOR ENGINE CONTROLLER
33	81000972	1	RADIATOR GUARD RIGHT
34	81000981	1	RADIATOR
35	81000971	1	RADIATOR GUARD LEFT
36	81000982	1	RADIATOR NET
37	81100993	7	WIRE CLAMP RUBBER
38	81001018	1	FLANGE TOYOTA EXHAUST
39	81001015	1	EXHAUST PIPE BEND 45°
40	81000969	2	U-CLAMP
41	81001016	1	EXHAUST PIPE BEND 90°
42	81001017	1	EXHAUST MUFFLER
43	81000862	1	FAN BELT

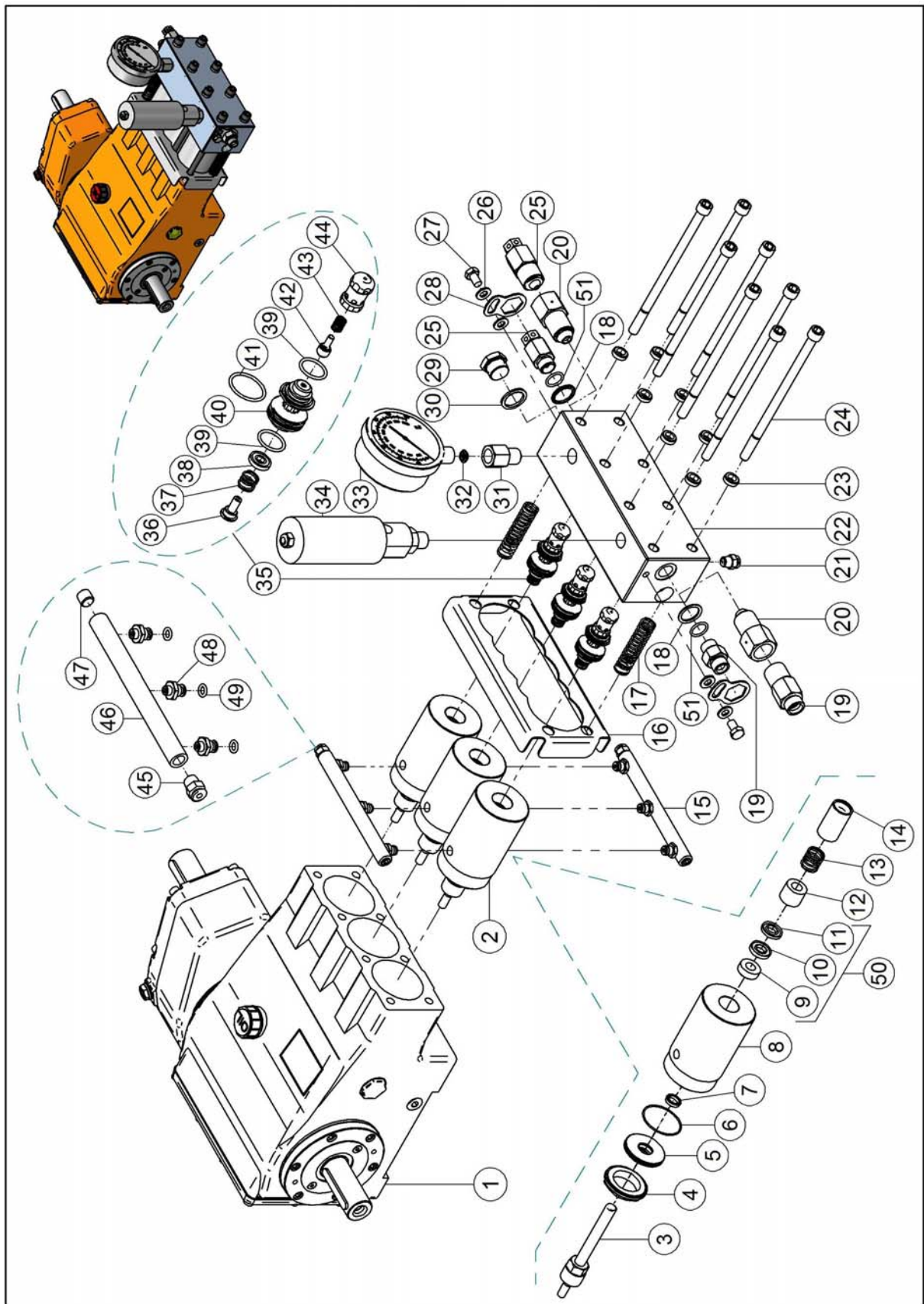
CD50 SERIES WATER-BLASTER PUMP UNIT SPARE-PARTS ASSEMBLY



CD50 SERIES WATER-BLASTER PUMP UNIT SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description
1	81201414	1	PUMP COMPLETE Ø12 W/BOOSTER PUMP
1	81201121	1	PUMP COMPLETE Ø12 W/BOOSTER PUMP
1	81201072	1	PUMP COMPLETE Ø14 W/BOOSTER PUMP
1	81201120	1	PUMP COMPLETE Ø16 W/BOOSTER PUMP
1	81201119	1	PUMP COMPLETE Ø18 W/BOOSTER PUMP
1	81201118	1	PUMP COMPLETE Ø20 W/BOOSTER PUMP
2	80500227	1	HOSE NIPPLE
3	80100527	4	HOSE CLIPS
4	83400524	1m	HOSE SUCTION
5	80500436	2	HOSE NIPPLE
6	83400599	1m	RUBBER HOSE
7	80501412	1	DISTANCE BUSHING
8	80500260	1	NIPPLE
9	81100844	1	PRESSURE SWITCH
10	81000647	1	FILTER
11	80500437	2	ELBOW
12	81000523	1	FILTER INSERT
13	N/A	1	PUMP COMPLETE Ø12
13	N/A	1	PUMP COMPLETE Ø14
13	N/A	1	PUMP COMPLETE Ø16
13	N/A	1	PUMP COMPLETE Ø18
13	N/A	1	PUMP COMPLETE Ø20
14	81200158	1	BOOSTER PUMP COMPLETE
15	80200407	1	O-RING
16	81200163	1	DRAIN BUSHING
17	80200157	1	MECHANICAL SEAL
18	81200164	1	KEY
19	81200173	1	AXLE ADAPTOR
20	81200165	1	KEY
21	80100732	12	WASHER
22	80100704	6	SCREW
23	81200160	1	HOUSING BOOSTER PUMP
24	80200634	1	O-RING
25	80500971	1	BONDED SEAL
26	80100168	1	SCREW
27	81200172	1	IMPELLER
28	80200568	1	O-RING
29	81200162	1	END COVER
30	80100703	6	SCREW
31	80500341	1	PLUG ALLEN
32	80500607	2	PLUG
33	81000572	1	HOUSING FOR FILTER
34	81300631	2	GAUGE
35	80300604	1	DISTANCE SPRING
36	80200878	1	O-RING
37	81000650	1	COVER
38	80500094	2	PLUG ALLEN
39	80200491	1	O-RING
40	81000649	1	TOP SCREW

CD50 SERIES WATER-BLASTER PUMP SPARE-PARTS ASSEMBLY



**CD50 SERIES WATER-BLASTER
PUMP SPARE-PARTS LIST**

Pos.	Item No.	Qty.	Description
1	81201192	1	POWER END WITH GEAR
2	n/a	3	CYLINDER
3	81201188	3	PLUNGER Ø12MM CD50-1380
3	81200266	3	PLUNGER Ø12MM CD50-1250
3	81200206	3	PLUNGER Ø14MM CD50-1000
3	81200299	3	PLUNGER Ø16MM CD50-700
3	81200304	3	PLUNGER Ø18MM CD50-550
3	81200779	3	PLUNGER Ø20MM CD50-400
4	81200966	3	RETAINER NUT FOR COOLING PLATE
5	81200465	3	COOLING PLATE Ø12 CD50-1250/1380
5	81200215	3	COOLING PLATE Ø14 CD50-1000
5	81200347	3	COOLING PLATE Ø16 CD50-700
5	81200328	3	COOLING PLATE Ø18 CD50-550
5	81200794	3	COOLING PLATE Ø20 CD50-400
6	80200222	3	O-RING
7	80200466	3	COOLING SEAL Ø12 CD50-1250/1380
7	80200272	3	COOLING SEAL Ø14 CD50-1000
7	80200337	3	COOLING SEAL Ø16 CD50-700
7	80200329	3	COOLING SEAL Ø18 CD50-550
7	80200671	3	COOLING SEAL Ø20 CD50-400
8	81201428	3	CYLINDER
9	81200461	3	BACK UP RING Ø12 CD50-1250/1380
9	81200203	3	BACK UP RING Ø14 CD50-1000
9	81200467	3	BACK UP RING Ø16 CD50-750
9	81200457	3	BACK UP RING Ø18 CD50-550
9	81200782	3	BACK UP RING Ø20 CD50-400
10	81200412	3	PACKING BACK Ø12 CD50-1250/1380
10	81200271	3	PACKING BACK Ø14 CD50-1000
10	81200343	3	PACKING BACK Ø16 CD50-750
10	81200327	3	PACKING BACK Ø18 CD50-550
10	81200783	3	PACKING BACK Ø20 CD50-400
11	81200411	3	PACKING FRONT Ø12 CD50-1250/1380
11	81200213	3	PACKING FRONT Ø14 CD50-1000
11	81200344	3	PACKING FRONT Ø16 CD50-700
11	81200326	3	PACKING FRONT Ø18 CD50-550
11	81200784	3	PACKING FRONT Ø20 CD50-400
12	81200462	3	PACKING SUPPORT Ø12 CD50-1250/1380
12	81200214	3	PACKING SUPPORT Ø14 CD50-1000
12	81200345	3	PACKING SUPPORT Ø16 CD50-700
12	81200325	3	PACKING SUPPORT Ø18 CD50-550
12	81200781	3	PACKING SUPPORT Ø20 CD50-400
13	80300225	3	PACKING SPRING Ø12MM, Ø14MM, Ø16MM & Ø18MM
13	80300605	3	PACKING SPRING Ø20MM
14	81200463	3	CYLINDER BUSHING Ø12 CD50-1250/1380
14	81200204	3	CYLINDER BUSHING Ø14 CD50-1000
14	81200346	3	CYLINDER BUSHING Ø16 CD50-700
14	81200229	3	CYLINDER BUSHING Ø18 CD50-550
14	81200780	3	CYLINDER BUSHING Ø20 CD50-400
15	81200334	2	COOLING PIPE ASSEMBLY
16	81200335	1	COVER FOR COOLING SYSTEM
17	80300661	2	SPRING

Part of seal kit plunger
pos. 46

CD50 SERIES WATER-BLASTER PUMP SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description
18	80500696	2	BONDED SEAL RING
19	80500375	1	NIPPLE ½"BSPP M OUTLET
19	80500657	1	NIPPLE M24 OUTLET
19	80500760	1	NIPPLE M22 OUTLET
19	80500318	1	NIPPLE 1.1/8"UNF- M24x1.5 OUTLET (for CD50 – 1380 only)
20	80500681	2	ADAPTOR (for CD50 – 1380 only)
21	80500095	1	QUICK COUPLING
22	81200210	1	PUMP HEAD
22	81201230	1	PUMP HEAD (for CD50 – 1380 only)
23	80101077	8	WASHER
24	80101031	8	SCREW Torque: 20Nm - 60Nm - 80Nm – and finally 120Nm
25	81300644	1	RUPTURE DISC ASSEMBLY
25	81300643	1	RUPTURE DISC ASSEMBLY 1.1/8"UNF (for CD50 – 1380 only)
26	80100310	4	WASHER
27	80100706	2	SCREW
28	81200494	2	LOCK PLATE
29	80500496	1	PLUG
30	80500974	1	BONDED SEAL
31	81300408	1	NIPPLE ADAPTOR
32	80500413	1	COPPER SEAL
33	81300497	1	GAUGE
34	81300498	1	SAFETY VALVE
34	81300774	1	SAFETY VALVE FOR CD50-1380 ONLY
35	81200208	3	VALVE COMPLETE (pos. 36 to 44)
36	81200216	3	SCREW SUCTION VALVE
37	80300223	3	SPRING SUCTION VALVE Part of valve rep. kit 81200709
38	81200218	3	SUCTION VALVE DISC Part of valve rep. kit 81200709
39	80200226	6	O-RING Part of valve rep. kit 81200709
40	81200207	3	VALVE BODY
41	80200339	3	O-RING Part of valve rep. kit 81200709
42	81200464	3	DISCHARGE VALVE ASSEMBLY Part of valve rep. kit 81200709
43	80300224	3	SPRING DISCHARGE VALVE Part of valve rep. kit 81200709
44	81200209	3	DISCHARGE VALVE GUIDE
45	80500095	1	QUICK COUPLING
46	81200332	1	COOLING PIPE
47	80500341	1	PLUG
48	81200333	3	NIPPLE FOR COOLING PIPE
49	80200340	3	O-RING
50	PAGE 36	3	SEAL KIT PLUNGER (3 required to overhaul pump)
81	80200828	2	O-RING
N/A	83400522	0,5m	HOSE
N/A	83400522	0,5m	HOSE

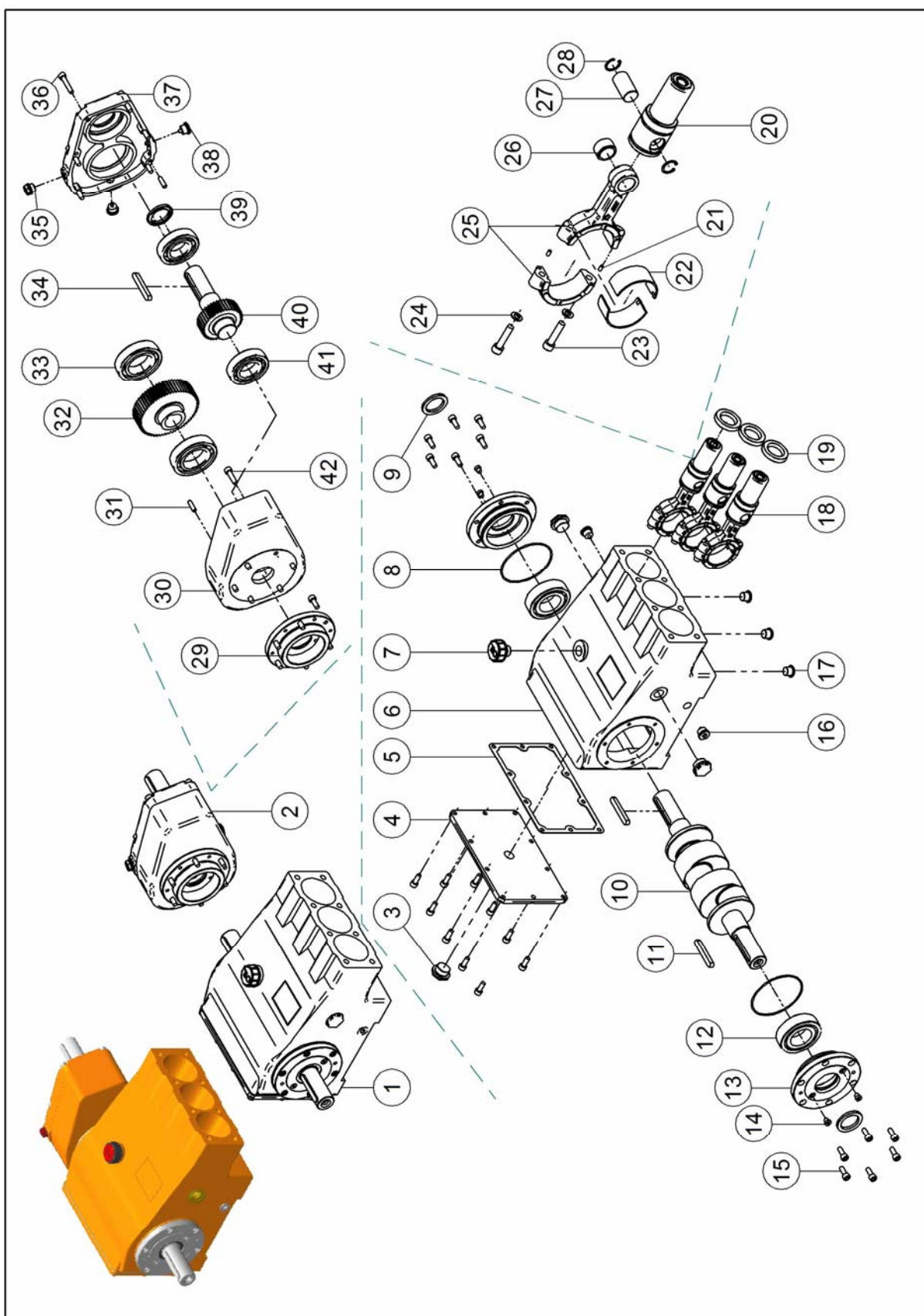
***) Part-number is applicable for machines after serial number 0400890109 and 406120109 being produced from Jan 2009.**

PUMP SPARE-PARTS KITS

Item No./Kit Description *	Pos.	Item No.	Qty.	Description
81200698 / SEAL KIT PLUNGER Ø12 CD50-1250/1380 Pos. 50	9	81200461	1	BACK UP RING
	10	81200412	1	PACKING BACK
	11	81200411	1	PACKING FRONT
81200697 / SEAL KIT PLUNGER Ø14 CD50-1000 Pos. 50	9	81200203	1	BACK UP RING
	10	81200271	1	PACKING BACK
	11	81200213	1	PACKING FRONT
81200699 / SEAL KIT PLUNGER Ø16 CD50-700 Pos. 50	9	81200467	1	BACK UP RING
	10	81200343	1	PACKING BACK
	11	81200344	1	PACKING FRONT
81200700 / SEAL KIT PLUNGER Ø18 CD50-500 Pos. 50	9	81200457	1	BACK UP RING
	10	81200327	1	PACKING BACK
	11	81200326	1	PACKING FRONT
81200900* / SEAL KIT PLUNGER Ø20 CD50-400 Pos. 50	9	81200782	1	BACK UP RING
	10	81200783	1	PACKING BACK
	11	81200784	1	PACKING FRONT

Item No./Kit Description	Pos.	Item No.	Qty.	Description
81200709 / VALVE REP. KIT PUMP CD50 3 required to overhaul pump	37	80300223	1	SPRING SUCTION VALVE
	38	81200218	1	SUCTION VALVE
	39	80200226	2	O-RING
	41	80200339	1	O-RING
	42	81200464	1	DISCHARGE VALVE ASSY.
	43	80300224	1	SPRING DISCHARGE VALVE

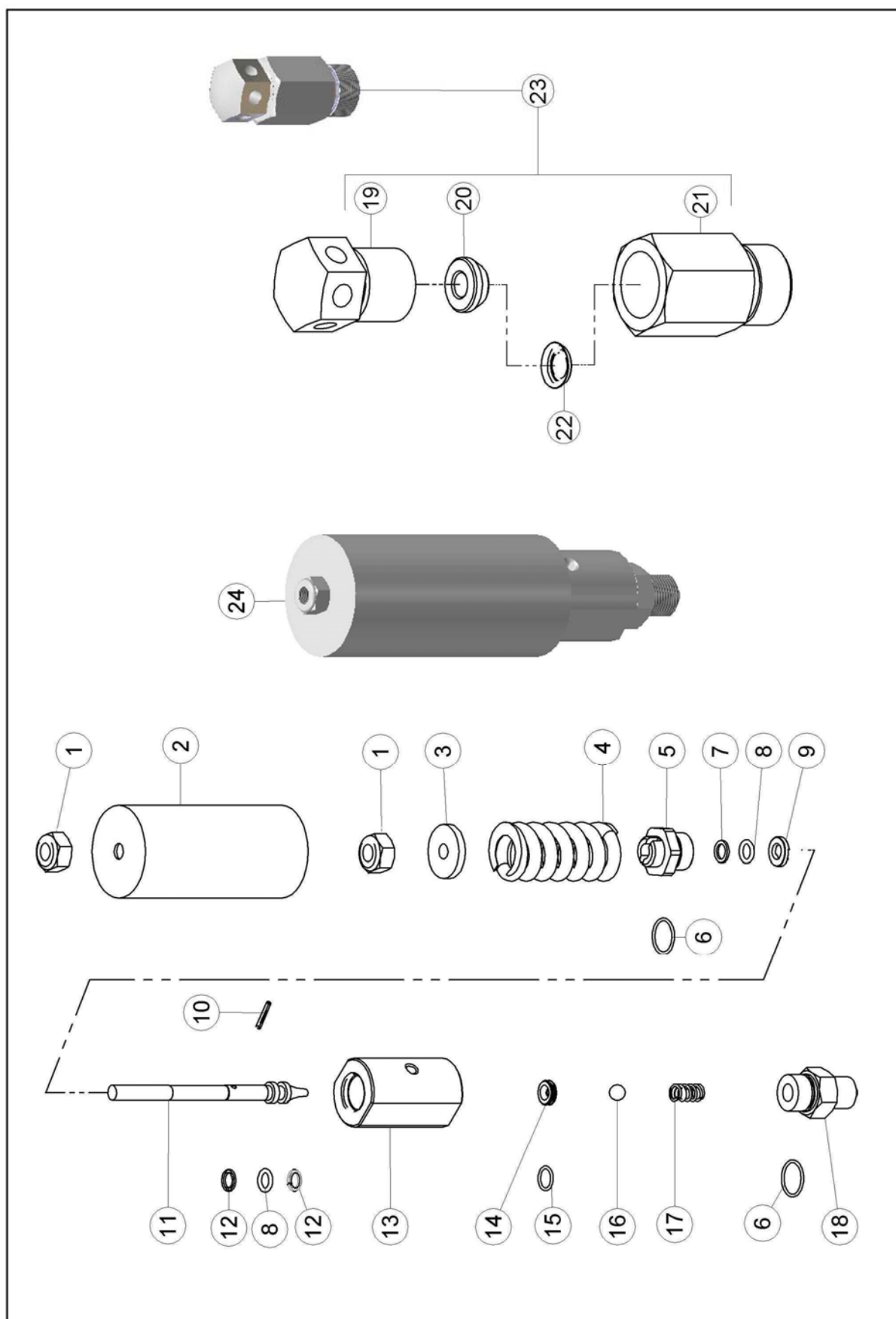
CD50 SERIES WATER-BLASTER POWER END SPARE-PARTS ASSEMBLY



**CD50 SERIES WATER-BLASTER
POWER END SPARE-PARTS LIST**

Pos.	Item No.	Qty.	Description
N/A	81201192	N/A	POWER END WITH GEAR
1	81200202	1	POWER END
2	81201463	1	GEAR BOX COMPLETE
3	81200365	3	OIL LEVEL GLASS
4	81200369	1	OIL COVER
5	81200371	1	PACKING
6	81200348	1	BODY
7	81200349	1	OIL FILL
8	80200354	2	O-RING
9	80200353	2	SEAL
10	81200359	1	CRANK SHAFT
11	81200368	1	KEY
12	80400355	2	BEARING
13	81200352	2	COVER
14	81200358	4	PLUG
15	80100194	22	SCREW
16	81200350	2	PLUG OIL DRAIN
17	81200351	3	PLUG
18	N/A	3	ARM (see details)
19	80200595	3	SEAL
20	81200360	3	GUIDE PISTON
21	81200370	6	PIN
22	81200364	6	BEARING SHELL
23	80100367	6	SCREW
24	80100170	6	WASHER
25	81200366	3	CONNECTING ROD
26	81200362	3	BUSHING
27	81200361	3	PIN
28	80300363	6	SNAP RING
29	81200352	1	FLANGE FOR GEAR BOX
30	81201458	1	HOUSING FOR GEAR BOX
31	81201459	2	PIN
32	81201460	1	CROWN GEAR WHEEL
33	80400627	2	BEARING
34	81200368	1	KEY PUMP C40
35	81201461	1	PLUG
36	80100746	6	SCREW
37	81201464	1	COVER FOR GEAR BOX HOUSING
38	81200350	2	PLUG OIL DRAIN
39	80200353	1	SEAL POWER END
40	81201462	1	PINION
41	80400628	2	BEARING
42	80100860	6	SCREW

CD50 SERIES WATER-BLASTER **SAFETY VALVE & RUPTURE DISC SPARE-PARTS ASSEMBLY**



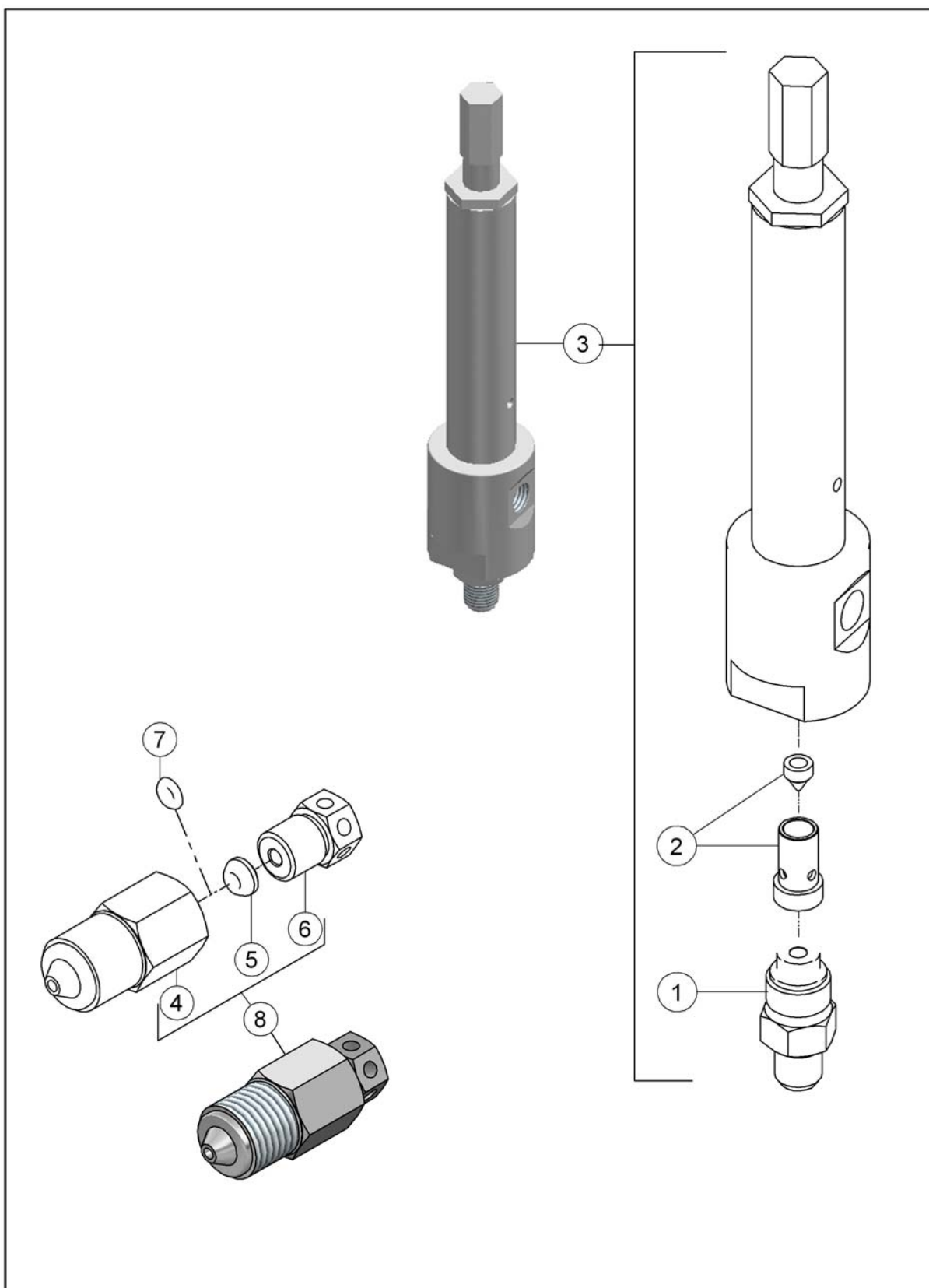
CD50 SERIES WATER-BLASTER SAFETY VALVE SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description
1	80100449	2	NUT
2	81300453	1	COVER
3	81300550	1	SPRING GUIDE
4	80300549	1	SPRING BLACK
5	81300451	1	PISTON HOUSING
6	80200599	2	O-RING Part of rep. kit 81300630
7	80200604	1	BACK UP RING Part of rep. kit 81300630
8	80200598	2	O-RING Part of rep. kit 81300630
9	81300415	1	WASHER
10	81300551	1	PIN
11	81300450	1	PISTON
12	80200452	2	BACK-UP RING Part of rep. kit 81300630
13	81300410	1	SAFETY VALVE HOUSING
14	81300414	1	SEAT Part of rep. kit 81300630
15	80200597	1	O-RING Part of rep. kit 81300630
16	81300559	1	BALL Part of rep. kit 81300630
17	80300555	1	SPRING
18	81300409	1	NIPPLE ADAPTOR
N/A	81300630	1	REP. KIT SAFETY VALVE
19	81300641	1	RUPTURE DISC THRUST SCREW
20	81300642	1	RUPTURE DISC SEAT
21	81300640	1	RUPTURE DISC HOLDER
22	81300645	1	RUPTURE DISC 11000 PSI WHITE W.P. 500 BAR
22	81300646	1	RUPTURE DISC 15000 PSI BLANK W.P. 800 BAR
22	81300677	1	RUPTURE DISC 18000 PSI GREEN W.P. 1000 BAR
22	81300647	1	RUPTURE DISC 21000 PSI YELLOW W.P. 1250 BAR
22	81300702	1	RUPTURE DISC 25000 PSI PURPLE W.P. 1380 BAR
23	81300644	1	RUPTURE DISC ASSEMBLY W/O RUPTURE DISC
24	81300498	1	SAFETY VALVE COMPLETE

SAFETY VALVE REPAIR KIT

Item No./Kit Description	Pos.	Item No.	Qty.	Description
81300630 REP. KIT SAFETY VALVE	6	80200599	2	O-RING
	7	80200604	1	BACK UP RING
	8	80200598	2	O-RING
	12	80200452	2	BACK-UP RING
	14	81300414	1	SEAT
	15	80200597	1	O-RING
	16	81300559	1	BALL

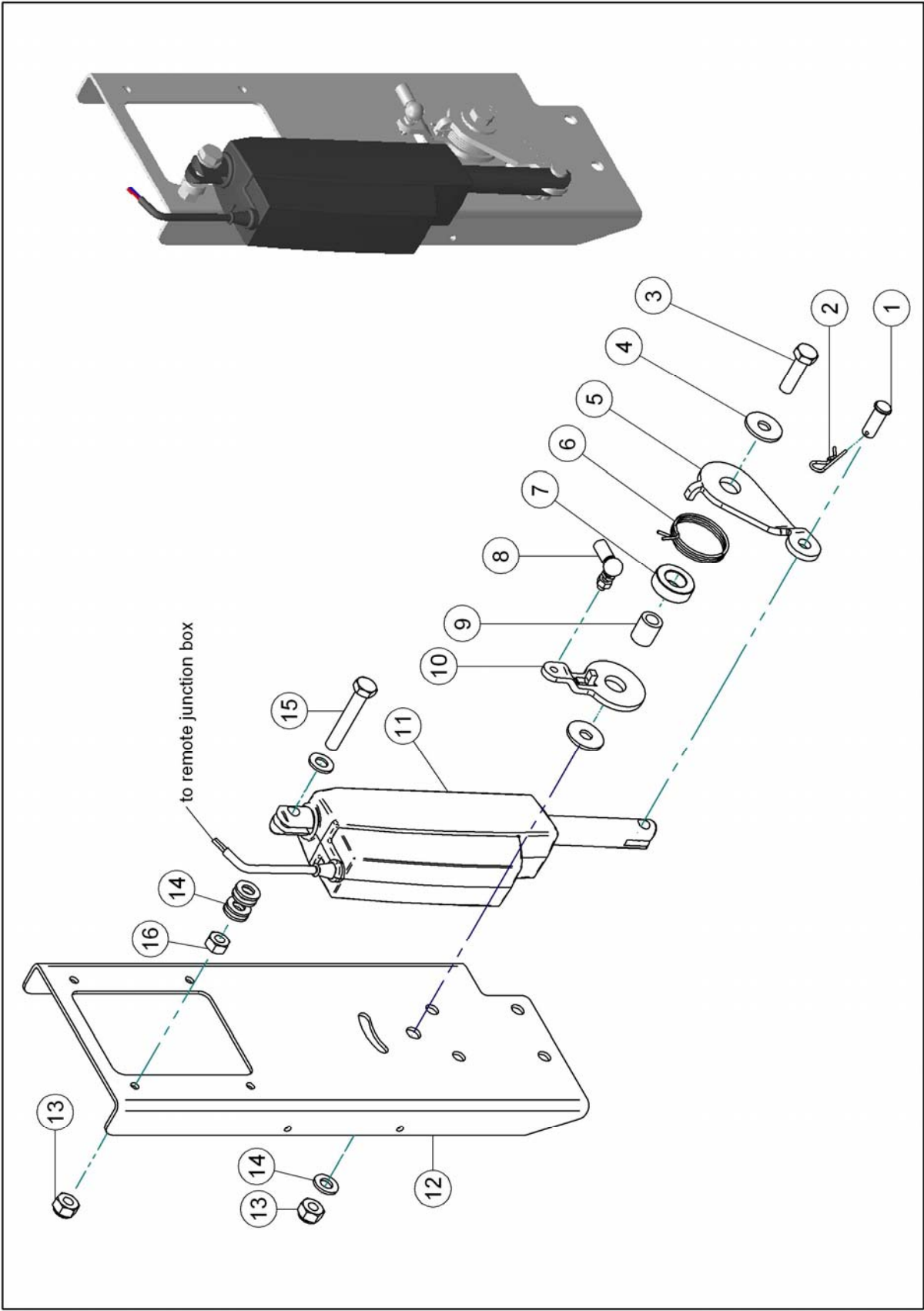
**CD50-1380 WATER-BLASTER
RELIEF VALVE SPAREPART ASSEMBLY**



**CD50-1380 WATER-BLASTER
RELIEF VALVE SPAREPART ASSEMBLY LIST**

Pos.	Item No.	Qty.	Description
1	81300775	1	ADAPTOR
2	81300776	1	REP KIT FOR RELIEF VALVE
3	81300774	1	RELIEF VALVE 11-21KPSI (for CD50 – 1380 only)
4	81300639	1	RUPTURE DISK HOLDER 1.1/8UNF
5	81300642	1	RUPTURE DISC SEAT
6	81300641	1	RUPTURE DISC THRUST SCREW
7	81300702	1	RUPTURE DISC 25000 PSI PURPLE WP 1380 BAR
8	81300643	1	RUPTURE DISC ASSEMBLY W/O RUPTURE DISC (for CD50-1380 only)

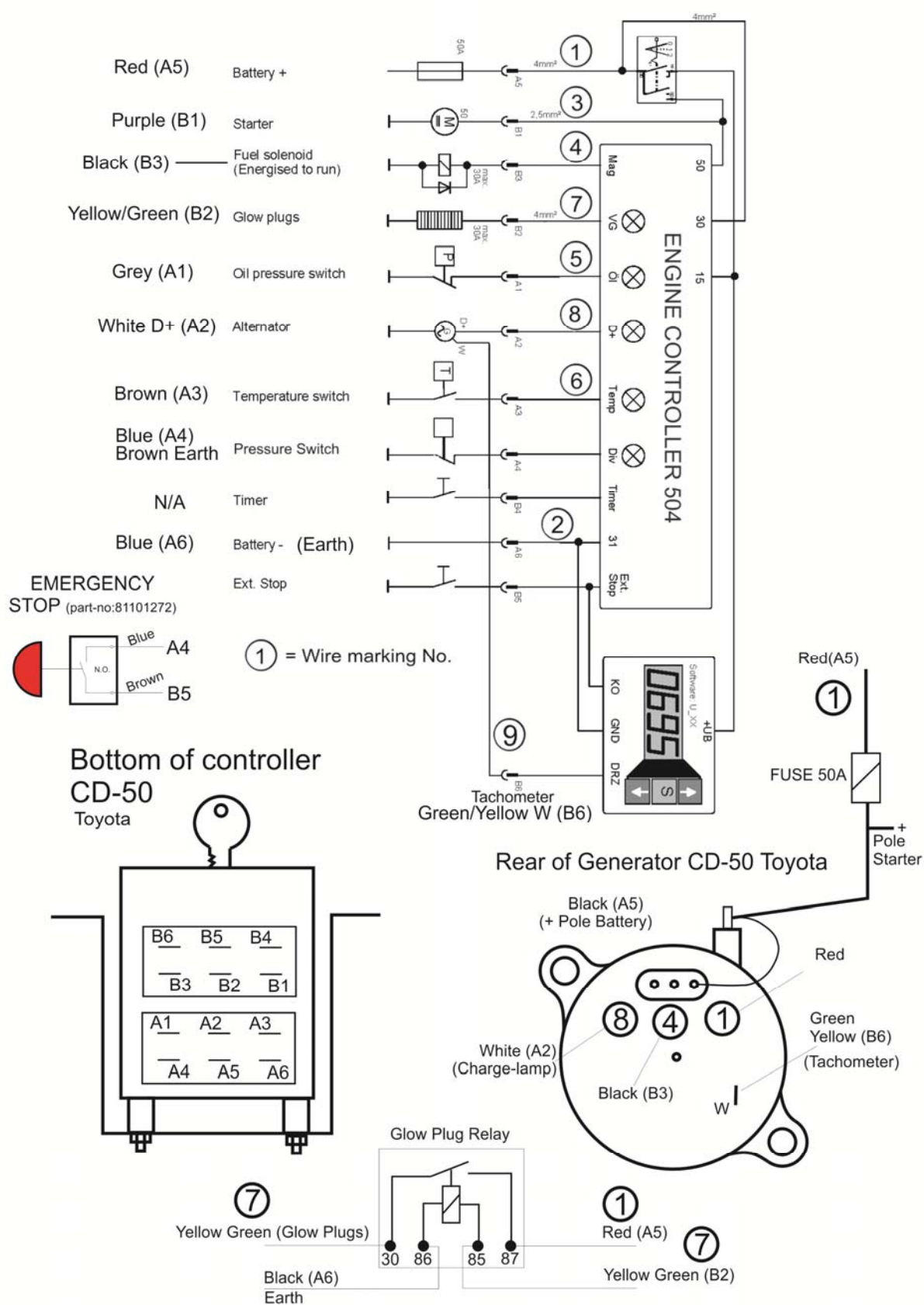
**LINEAR ACTUATOR
SPARE-PARTS ASSEMBLY**



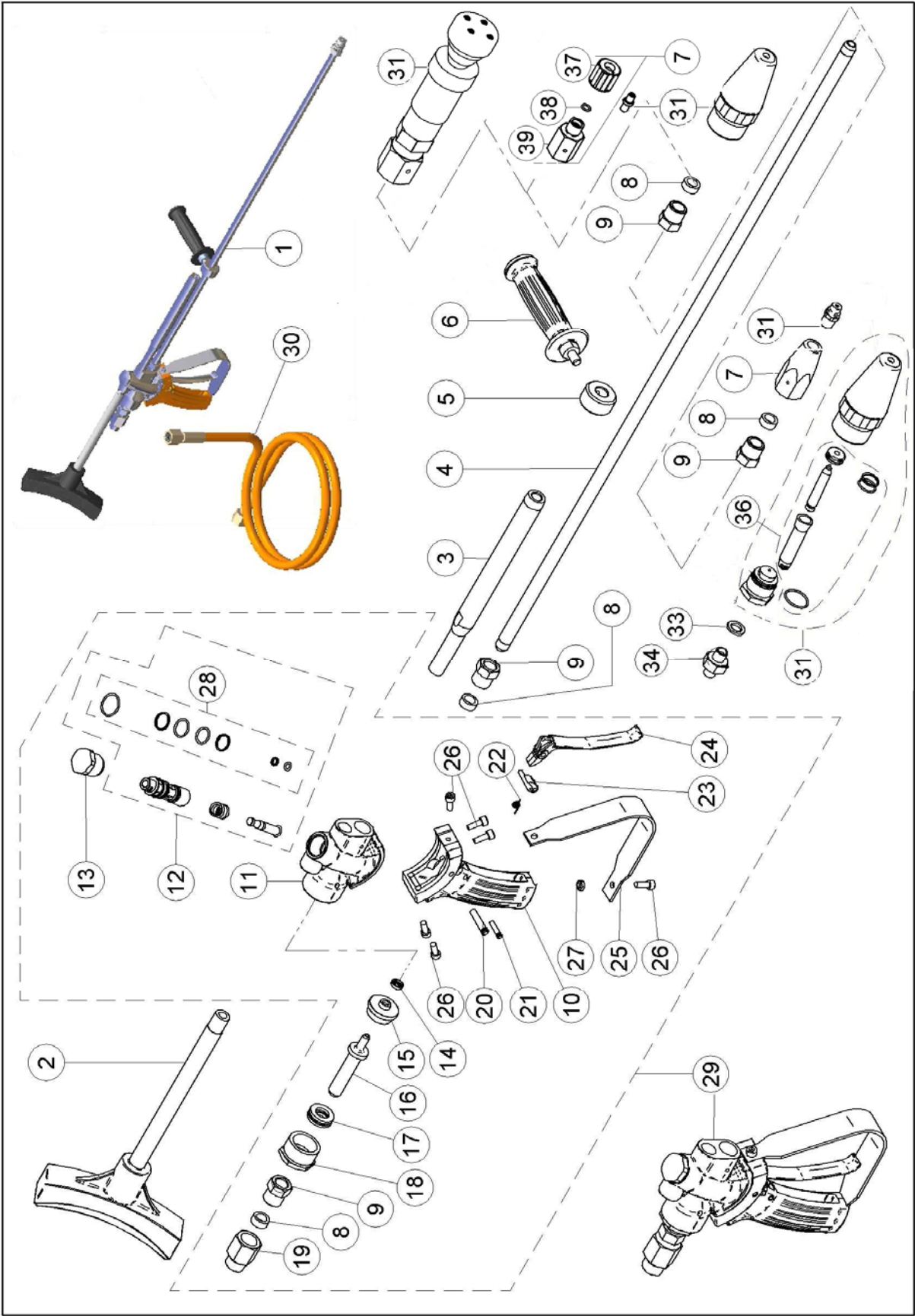
LINEAR ACTUATOR SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description
1	81101013	1	PIN LINEAR ACTUATOR
2	80100881	1	HAIR PIN
3	80100780	1	SCREW
4	80100906	2	WASHER
5	81101008	1	ARM LINEAR ACTUATOR ACTIVE
6	80300639	1	SPRING
7	81101011	1	BUSHING
8	80100870	1	ANGULAR BALL CONNECTION
9	81101010	1	SHAFT LINEAR ACTUATOR
10	81101009	1	ARM LINEAR ACTUATOR PASSIVE
11	81101003	1	LINEAR ACTUATOR
12	81000962	1	BRACKET
13	80100259	2	LOCK NUT
14	80100506	6	WASHER
15	80100786	1	SCREW
16	80100449	1	NUT
N/A	81101025	1	REMOTE JUNCTION BOX
N/A	81100997	1	REMOTE CONTROL SENDER/RECEIVER

WIRING DIAGRAM



**DUMP GUN 15&20 KPSI
SPARE-PARTS ASSEMBLY**



DUMP GUN 15 & 20 KPSI SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description
1	81400037		DUMP GUN 20KPSI W/O NOZZLE HOLDER
1	81400669		DUMP GUN 15KPSI W/O NOZZLE HOLDER
2	81400231	1	SHOULDER SUPPORT
3	81400136	1	DUMP TUBE
4	81400042	1	BARREL TUBE
5	81400076	1	HOLDER FOR SIDE HANDLE
6	81400075	1	SIDE HANDLE
7	81500129	1	NOZZLE HOLDER FOR ¼"NPT NOZZLE
7	81500128	1	NOZZLE HOLDER FOR ¼"BSP NOZZLE
7	81500046	1	NOZZLE HOLDER ASSY. FOR NOZZLE FORM 4,19 Pos. (37,38,39)
8	80500040	3	COLLAR
9	80500041	3	GLAND NUT
10	81400036	1	HANDLE
11	81400638	1	VALVE HOUSING 15 KPSI
11	81400054	1	VALVE HOUSING 20 KPSI
12	81400056	1	VALVE KIT
13	81400055	1	VALVE PLUG
14	80200627	1	SWIVEL SEAL COMPLETE
15	81400152	1	BACK-UP RING INLET SWIVEL
16	81400149	1	INLET SWIVEL SPINDLE
17	80400143	1	THRUST BEARING
18	81400151	1	RETAINER NUT INLET SWIVEL
19	81400416	1	ADAPTOR FOR HOSE END ½" BSPP
20	81400050	1	PIN FOR TRIGGER LATCH
21	81400049	1	PIN FOR SAFETY LATCH
22	80300051	1	SPRING FOR SAFETY LATCH
23	81400048	1	SAFETY LATCH
24	81400047	1	TRIGGER LATCH
25	81400058	1	TRIGGER GUARD
26	80100052	6	SCREW ALLEN
27	80100053	1	LOCK NUT
28	81400296	1	O-RING & PACKING REP KIT
29	81400668	1	TRIGGER GUN HANDLE 15KPSI
29	81400035	1	TRIGGER GUN HANDLE 20KPSI
30	81400776		HOSE (H.P) 1250 BAR 20M, W/ ½"BSP FEMALE SWIVEL
31	*	1	NOZZLE (SEE NOZZLE LIST)
32	N/A		
33	80500971	2	BONDED SEAL
34	80500651	1	NIPPLE
35	N/A		
36	*	1	REP. KIT ROTATING NOZZLE (SEE BELOW)
37	81500127	1	RETAINER NUT NOZZLE HOLDER
38	80200623	1	O-RING
39	81500027	1	NOZZLE HOLDER

*Customer's Requirements

**DUMP GUN
REPAIR KITS**

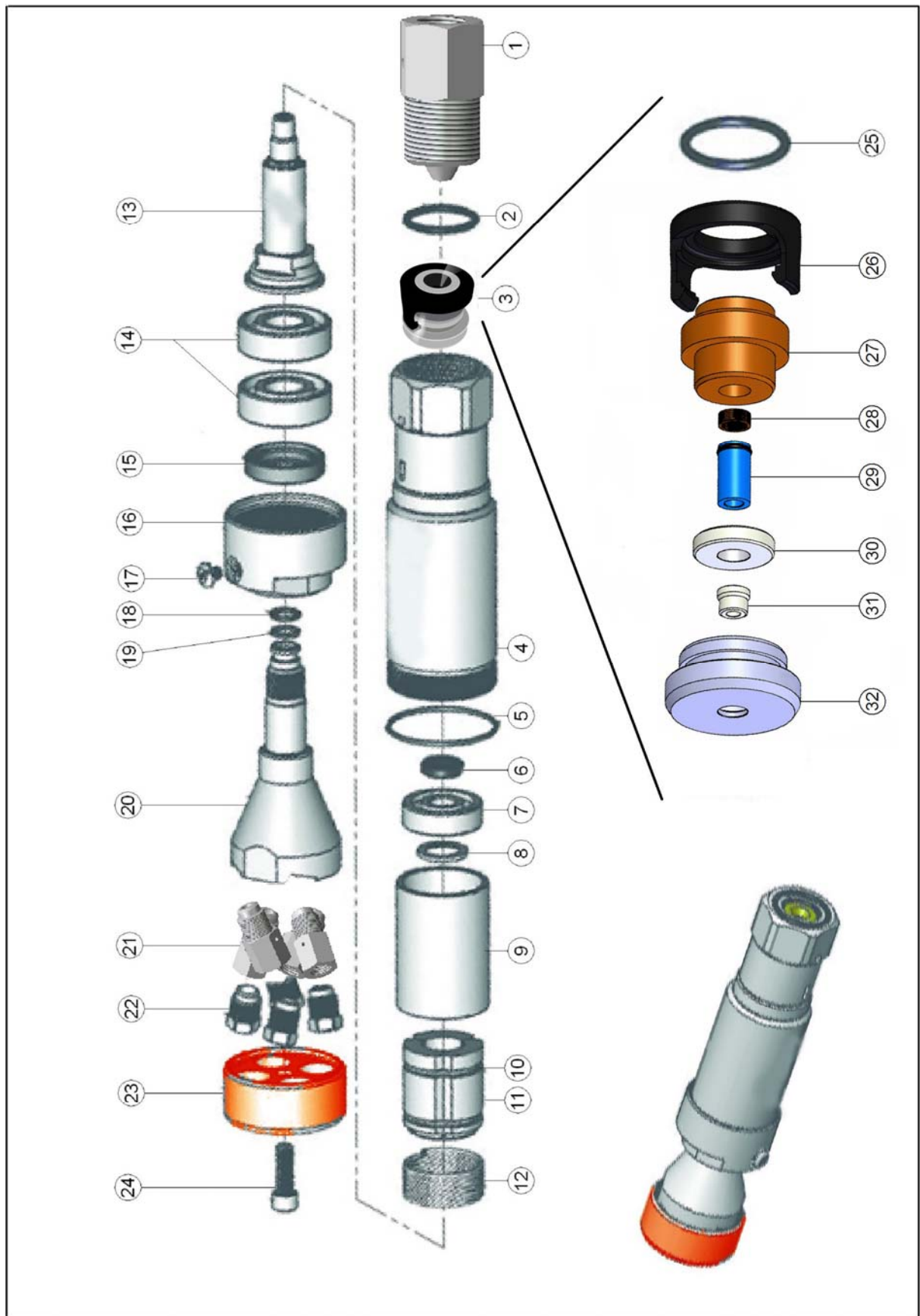
Item No./Kit Description	Item No.	Qty.	Description
Pos. 28 81400296 O-RING & PACKING REP. KIT DUMP GUN	80200060	1	BACK-UP RING
	80200059	1	O-RING
	80200610	1	O-RING
	80200232	1	BACK UP RING
	80200070	1	O-RING
	80200074	1	BACK-UP RING
	80200057	1	O-RING

Item No./Kit Description	Item No.	Qty.	Description
Pos. 12 81400056 VALVE KIT DUMP GUN	80200060	1	BACK-UP RING
	80200059	1	O-RING
	80200610	1	O-RING
	80200232	1	BACK UP RING
	80200070	1	O-RING
	80200074	1	BACK-UP RING
	81400064	1	VALVE PIN
	81400065	1	VALVE SEAT
	80300115	1	SPRING

NOZZLE LIST

Pos.	Item No.	Qty.	Description	Model
31	81500883	1	NOZZLE STRAIGHT JET 0.65mm	CD50-1380
31	81500888	1	NOZZLE FAN JET 20° 0.85mm	
31	81501029	1	ROTATING NOZZLE	
			(ultra impact-see next pages)	
31	81500733	1	NOZZLE STRAIGHT JET 0.7mm	CD50-1250
31	81500728	1	NOZZLE FAN JET 20° 0.9mm	
31	81500758	1	ROTATING NOZZLE 0.8mm	
36	81500759		Rep. Kit ROT.NOZZLE 0,8mm	
31	81500670	1	NOZZLE STRAIGHT JET 0,95mm	CD50-1000
31	81500793	1	NOZZLE FAN JET 20° 1,10mm	
31	81500855	1	ROTATING NOZZLE 0,20	
36	81500861		REP. KIT ROTATING NOZZLE	
31	81200670	1	NOZZLE STRAIGHT JET 0,95mm	CD50-800
31	81500673	1	NOZZLE FAN JET 20° 1,15mm	
31	81500697	1	ROTATING NOZZLE 0,25	
36	81500669		REP. KIT ROTATING NOZZLE	
31	81200670	1	NOZZLE STRAIGHT JET 0,95mm	CD50-700
31	81500673	1	NOZZLE FAN JET 20° 1,15mm	
31	81500697	1	ROTATING NOZZLE 0,25	
36	81500669		REP. KIT ROTATING NOZZLE	
31	81500815	1	NOZZLE STRAIGHT JET 1,5mm	CD50-500
31	81500389	1	NOZZLE FAN JET 20° 1,8mm	
31	81500619	1	ROTATING NOZZLE	
36	81500621		REP. KIT ROTATING NOZZLE	
31		1	NOZZLE STRAIGHT JET x.xmm	CD50-400
31		1	NOZZLE FAN JET xx° x.xmm	
31		1	ROTATING NOZZLE	
36			REP. KIT ROTATING NOZZLE	

ULTRA IMPACT NOZZLE 2800R SPARE-PART ASSEMBLY



ULTRA IMPACT NOZZLE 2800R SPARE-PART LIST

Pos.	Item No.	Qty.	Description
	81501029		ULTRA IMPACT 2800 ROTATING NOZZLE LOW FLOW pos.2-21,23,24
	81501030		ULTRA IMPACT 2800 ROTATING NOZZLE STANDARD pos.2-21,23,24
1	80500891	1	ADAPTOR LANCE 20-40KPSI
2	80200779	1	O-RING
3	81501748	1	OVERHAUL REP.KIT ULTRA IMPACT NOZ. NEW IMPROVED TYPE
4	81501020	1	BODY
5	80200702	1	O-RING
6	81500982	1	SHAFT SEAL
7	80400610	1	BEARING
8	81500971	1	WASHER
9	81500993	1	SLEEVE
10	81500980	1	GARTER SPRING
11	81500979	1	WEIGHTS
12	80300626	1	SPRING
13	81500992	1	SHAFT
14	80400609	2	BEARING
15	80200749	1	OIL SEAL WITH DUST LIP
16	81501019	1	CAP
17	81501018	1	PORT SCREW
18	80200487	1	O-RING
19	80200754	1	BACK-UP RING
20	81501022	1	NOZZLE HEAD STANDARD
20	81501021	1	NOZZLE HEAD LOW FLOW
21	81500944	4	NOZZLE ADAPTOR 3/8"-7/16" UNF
22*			NOZZLE FOR OTHER MODELS "See Nozzle List"
23	81500945	1	WEAR CAP FOR EXTENDED NOZZLES
23	81501451	1	WEAR CAP FOR EXTENDED NOZZLES ALUMINIUM (optional)
24	80100776	1	SCREW
25	80200059	1	O-RING
26	81501749	1	SNAP FIT HOUSING
27	81501750	1	INLET SEAT
28	81501751	1	SPRING
29	81501752	1	SEAL ASSEMBLY
30	81501753	1	SEAL RETAINER
31	81501754	1	CARBIDE SEAT
32	81501755	1	HOUSING

*Please order pos.22 nozzles according to machine model

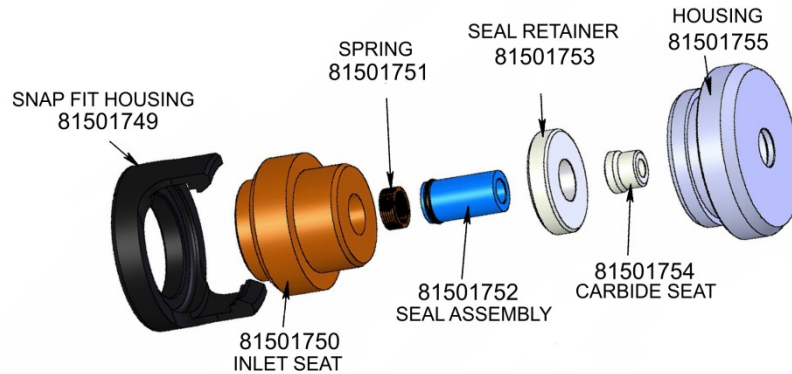
NOZZLE LIST

Pos.	Item No.	Qty.	Description	Model
22		x	NOZZLE x,xx" (x.xx) 3/8" Sapphire	CD50-1380
22	81500592	2	NOZZLE 0.018" (0,45) 3/8" Sapphire	CD50-1250
	81500614	2	NOZZLE 0.016" (0,40) 3/8" Sapphire	
22	81500961	2	NOZZLE 3/8"UNF 0.022"(0.55MM)	CD50-1000
	81500729	2	NOZZLE 3/8"UNF 0.024"(0.60MM)	
22		x	NOZZLE x,xx" (x.xx) 3/8" Sapphire	CD50-800
22		x	NOZZLE x,xx" (x.xx) 3/8" Sapphire	CD50-700
22		x	NOZZLE x,xx" (x.xx) 3/8" Sapphire	CD50-550
22		x	NOZZLE x,xx" (x.xx) 3/8" Sapphire	CD50-400

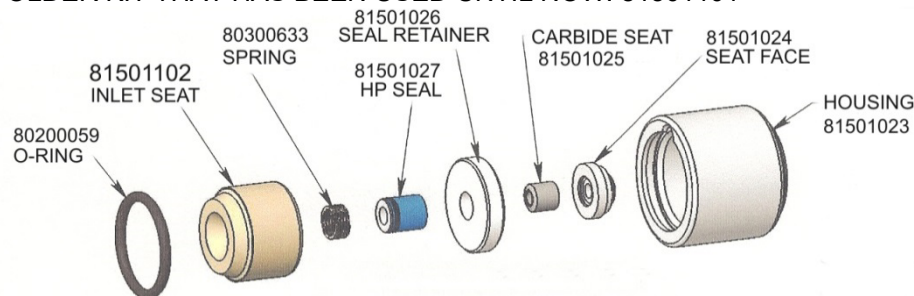
ULTRA IMPACT NOZZLE 2800R OVERHAUL KIT 81501748 ORIENTATION OF PARTS

OVERVIEW OF THE DIFFERENT DESIGNS OF REP. KIT FOR THE ULTRA IMPACT:
THE NEWEST REP. KIT WILL SUBSTITUTE THE OLDER REP. KITS

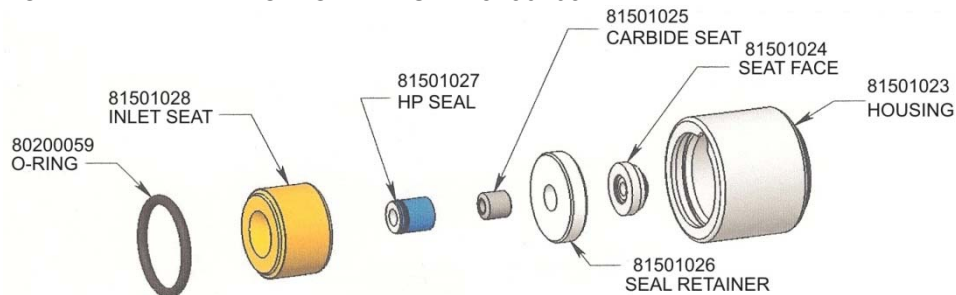
THIS IS THE NEWEST REP. KIT THAT WILL BE PUT IN TO USE AS FROM NOW: 81501748



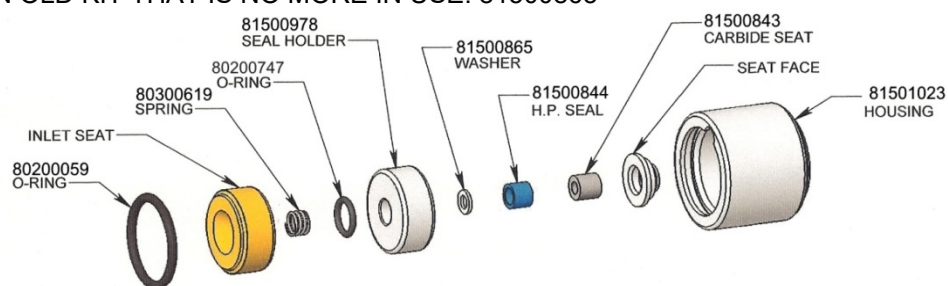
THIS IS AN OLDER KIT THAT HAS BEEN USED UNTIL NOW: 81501101



THIS IS AN OLD KIT THAT IS NO MORE IN USE: 81501057



THIS IS AN OLD KIT THAT IS NO MORE IN USE: 81500865

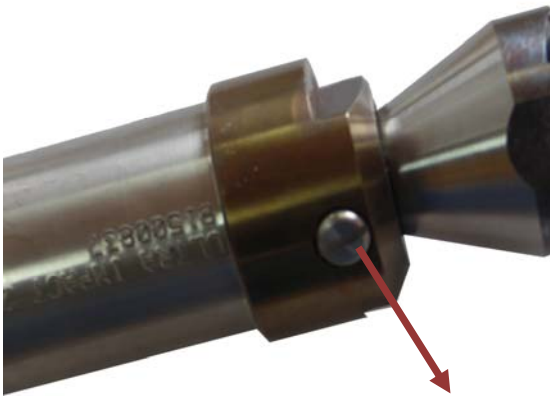


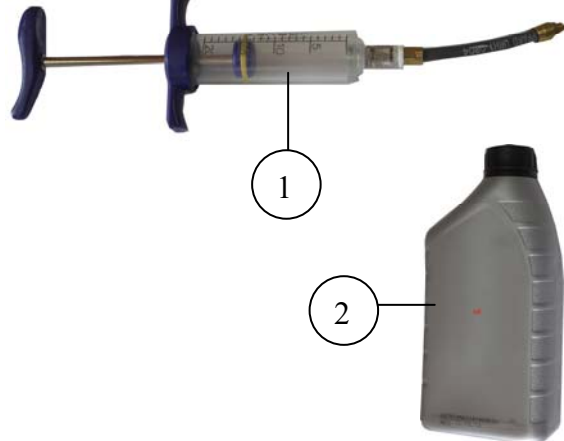
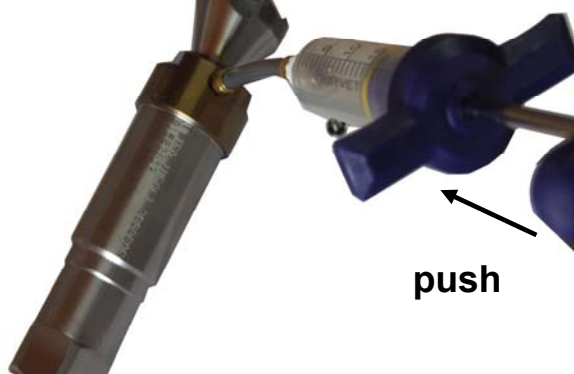
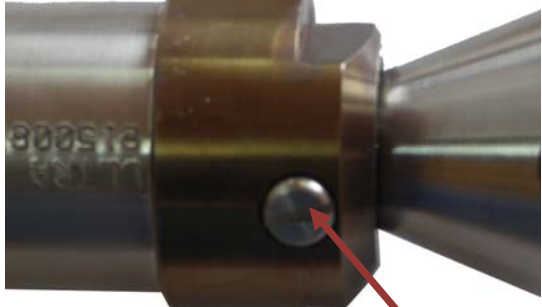


The old overhaul kit 81500896, 81501057 & 81501101 can be completely substituted with the new kit 81501748 and if a complete old rep kit is ordered, the new type kit will be delivered by default.

The internal parts of the old overhaul kit are NOT compatible or interchangeable with the new kit or vice versa. If you wish to buy internal parts to refurbish your old repair kit please refer to the above spare-parts assembly. Not all parts are available

If you are going to order almost all of the internal parts for the old repair kit, we suggest that you consider ordering a complete new repair kit 81501748, it will do a complete overhaul, as well as improve durability.

ULTRA IMPACT MAINTENANCE PROCEDURE & SPARE/PART LIST

 <p>unscrew plug</p>	
 <p>pull</p> <p>drain old oil out</p>	 <p>Discard of old oil in a proper manner fill it with new oil</p>
 <p>push</p> <p>Press new oil in</p>	 <p>Screw the plug on</p>

Pos.	Item No.	Qty.	Description
1	81501042	1	SYRING ULTRA IMPACT
2	83600613	1L	OIL

Recommended oil change / refill every 20 to 40 hours of operation.
Do **NOT** operate the Ultra Impact Nozzle without oil

OPERATION PROCEDURE FOR SINGLE JET ROTATING NOZZLE

OPERATION PROCEDURE FOR ROTATING NOZZLE

①

HOLD GUN UPRIGHT
NOZZLE FACING DOWN



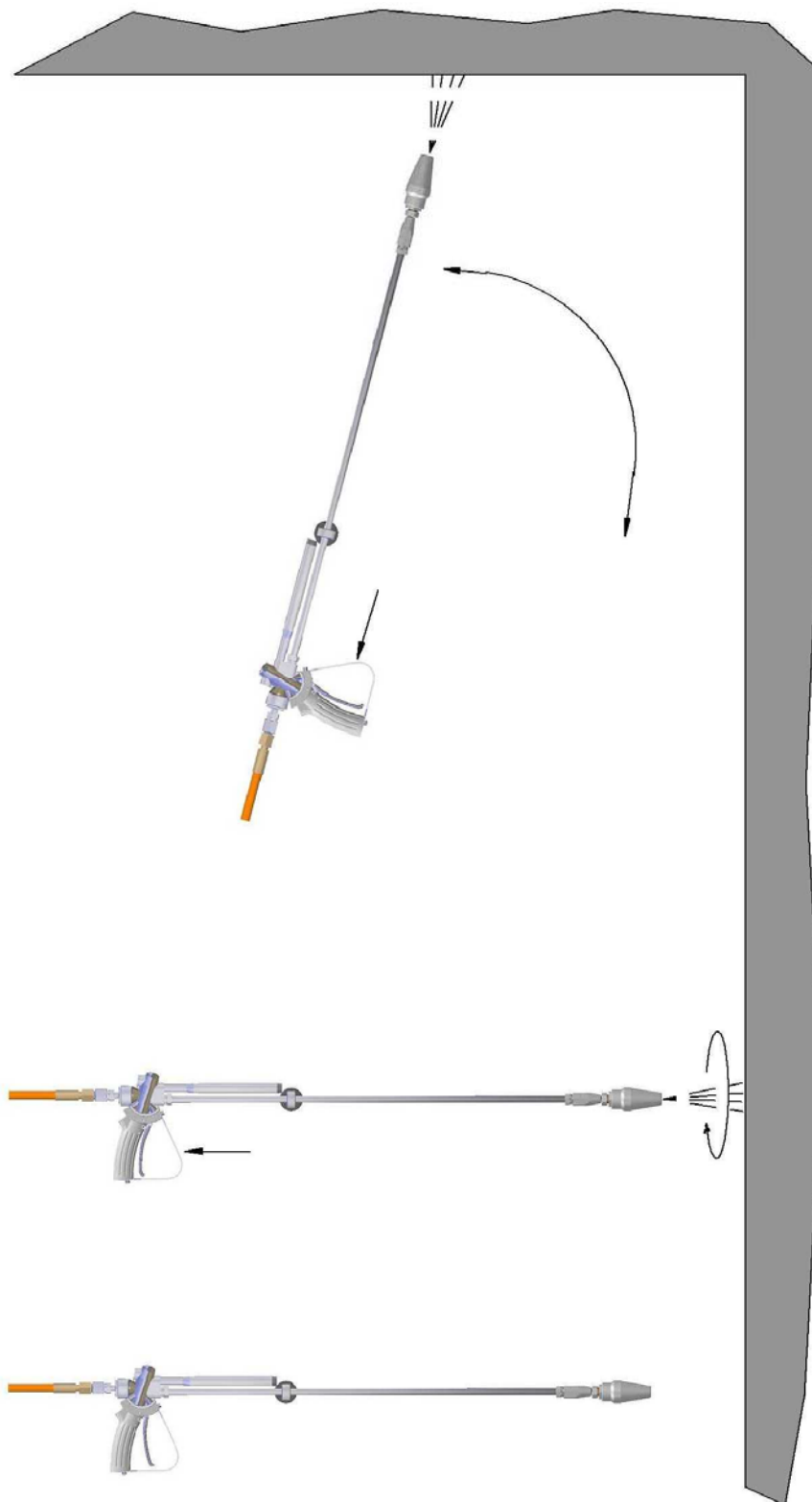
②

SQUEEZE TRIGGER
OBSERVE NOZZLE ROTATE

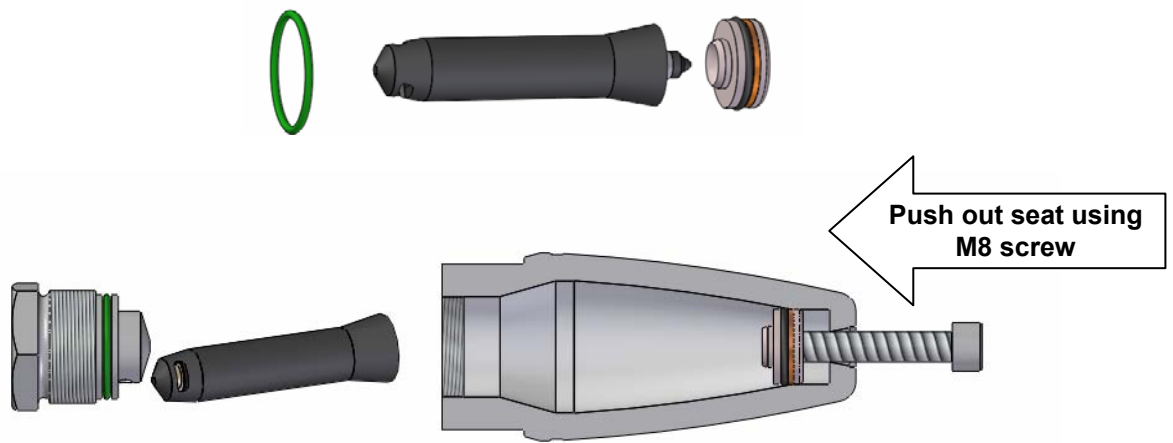


③

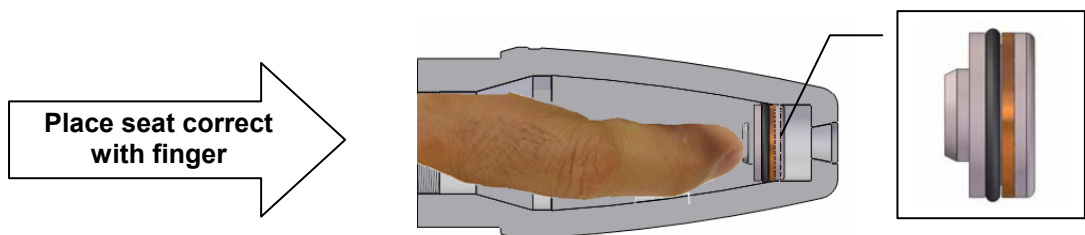
KEEP TRIGGER SQUEEZED
MOVE NOZZLE TO HORIZONTAL BLASTING POSITION



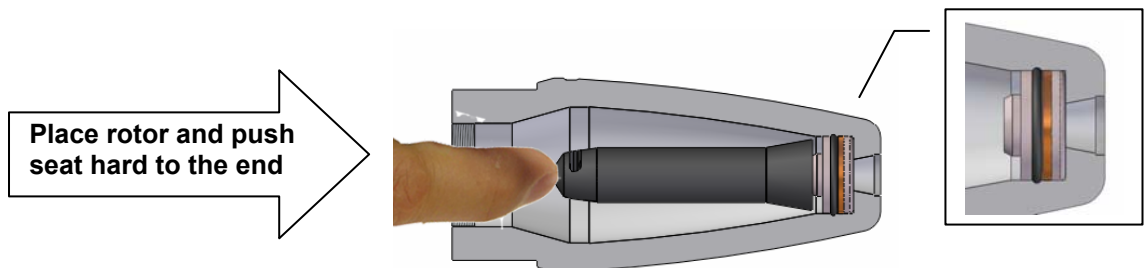
Rotating Nozzle Replacement Procedure Repair Kit



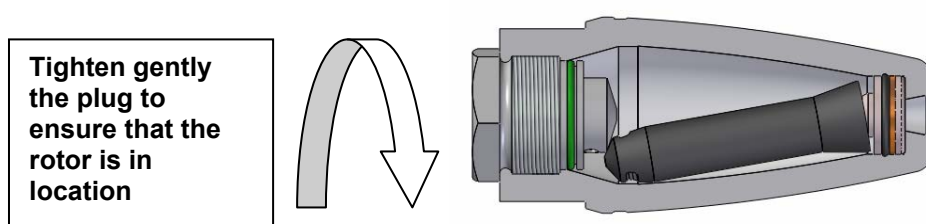
step-1



step-2



step-3



step-4