DEN-JET HIGH PRESSURE WATER BLASTERS



CD100-300&500 WATER BLASTER Diesel Driven IMPELLER BOOSTER PUMP

User Guide Maintenance Guide Spare-parts book



RTH Renders Technischer Handel Böttcherweg 27 25355 Barmstedt

 Telefon:
 +49
 4122
 -55
 444

 Mobil:
 +49
 172
 -411
 30
 90

 Fax:
 +49
 4122
 -95
 38
 64

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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Model: Data:	CD100-300	CD100-500
Pressure [Bar]	300	500
[Psi]	4350	7250
Flow [L/min]	135	80
US Gpm	35,5	21
Power [Hp]	100	100
[Kw]	75	75
Fuel	Diesel	Diesel
Engine Speed [Rpm min ⁻¹]	1800	1800
Dimensions LxWxH [mm]	2110 x 1110 x 1655	2110 x 1110 x 1655
Weight [Kg]	1500	1500

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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 Diesel driven high-pressure water blaster machine(s):

CD100-300 & 500 sea water

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: January 2017

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.

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.

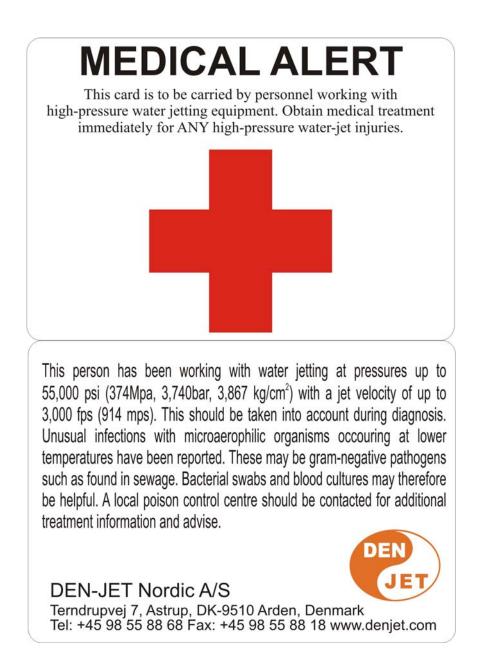
Before service or repair: Make sure the machine is turned off, and pressure is released from the system by pulling the trigger after shutting down the machine. The machine should be disconnected from the main power supply by pulling out the electrical plug.

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:

EYE PROTECTION	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.
HEAD PROTECTION	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.
HAND PROTECTION	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.
TOE-CAPS METATARSAL GUARDS 30%	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.
FOOT PROTECTION	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.
PROTECTIVE CLOTHING	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 themselves or other personnel.

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.



Mount the ³/₄" high-pressure hose on to the Water-blaster by screwing the swivel on to the 3/4" high-pressure head fitting on the un-loader with hand wheel near the high pressure pump. Always use two wrenches when tightening the hoses.

Prepare the water supply for the Water-blaster, by attaching a 1.1/2" vacuum resistant hose to the supplied low pressure on the machine. The impeller pump will be able to draw in water to the pump. A prefilter must be mounted at the suction end of the hose. The pump needs to be started a few times to prime.

Fill the diesel tank with clean diesel fuel for automotive use, the tanks fuel capacity is approximately 130 Liter.

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. Do not run the machine without supply water. Running dry may damage feed pump and/or high pressure parts.

If using gun: 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.

If using other valve-less accessories f.eks drain cleaning with hose and hose nozzle: Tighten the hand wheel on the high pressure un-loader valve until desired pressure is reached. Do not exceed beyond the rated pressure.

Before shutting down the pump, loosen un-loader hand wheel. After shut down of the Waterblaster, 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). Turn key counter clockwise to stop.
- b) Low engine oil-pressure shut down.
- c) Engine over heating
- d) Low booster pump pressure.

Check	Task
Daily	Check the oil level on the crankcase of the pump, sight glass.
Inspection	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.
	Check high pressure connections for leakage.
	NEVER tighten connections under pressure.
	Check high pressure hoses for wear and cracks.
	Replace if necessary.
	Check the oil level on the crankcase of the engine.
	Replenish if low.
	Check the air intake grille and outlet grille, Open top louvers.
	Clean for dust if necessary. Do NOT Cover when running.
	Check fan belts.
	Tighten / Exchange if loose or damaged.
	Check fuel and cooling system hoses.
	Replace if damaged.
	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.
	Inlet water temperature must be below 45°C

Check	Task
Daily inspection	To check if the bag water-filter cartridge is clogged and needs cleaning
of water filter	/ changing: Notice the low pressure gauge on the operation panel. If
	the gauge shows a pressure Below 1 bar the filter should be OK, if the
	gauge shows one bar or above clean / change filter
	Filter change interval depends on water quality.
Daily inspection	The strainer filters (if there is any) must be taken out and flushed when
of water tank	dirty. The time between cleaning depends on water quality.
strainers	



Maintenance, pump:

Maintenance	Task
Lubrication	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.
	Use a Industrial purpose 220 Oil (+20°C to 65°C Ambient temp.) Examples: Shell Tellus 220, Esso Nuto 220, Texaco Regal EP220 Statoil: Loadway XA220
	Use an Industrial purpose 150 Oil (+5°C to 30°C Ambient temp.) Use an Industrial purpose 100 Oil (-20°C to 5°C Ambient temp.)
	<i>Quantity:</i> 10 (8+2) <i>Liter including reduction gearbox.</i>
	Fill up until the oil level is visible in the middle of the sight glass.
Renewal of oil	 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.
	Notice: Always dispose of the used oil in a proper manner.
Cleaning	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.
Storage	Keep the unit frost free, or flush the pump thoroughly with non alcoholic antifreeze fluid.Take of minus pole on battery for long time storage.Maintenance charge battery regularly.

Problem	Repair
When the key is	Start battery not charged enough to crank engine.
turned the engine	
will not crank	Charge battery (12 Volt)
The engine cranks	Empty diesel tank, clogged diesel fuel filter.
but will not start.	Emply dieser land, clossed dieser fuer filler.
	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	The strain filter is blocked or dirty or the water supply from the tap
and the Water- blaster works	is insufficient. Air in the Suction hose.
irregularly.	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	The Gun valve is stuck by dirt and indicate
continues jetting at	That the filter or hoses has not been clean before assembly
high pressure when	Replace gun rep kit and ensure that system is flushed at low
trigger is released.	pressure before mounting nozzle
The Water-blaster is	The check value in the up loader out let fitting is stuck or leaking
running at high	<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 when	pressure slowly before opening fully.
trigger is released	Clean the check-valve in the un-loader out-let fitting.
and no jetting.	Replace the O-ring.
The Water-blaster	Leakage from: Safety valve, hose connections, trigger-gun. The
does not reach the	pump sucks air. The high-pressure nozzle is worn or too big in size.
right working	or safety valve is not correctly adjusted, or is worn. Rupture disc is
pressure when the	burst. Plungers packing are worn.
trigger handle is	Turn of the water blocker. Inspect for leakage, Benless the possile
activated.	Turn of the water-blaster. Inspect for leakage. Replace the nozzle. Set the safety valve, repair if necessary. Change rupture disc.
	Change packing.
	change Langue.
The Water-blaster	There is dirt in the valves.
works with	
approximately 2/3 of	Turn off the Water-blaster. Dismantle the pump head and the
the maximum	valves, remove the dirt and check to ensure the valve discs are
pressure, and the	moving freely and fits tight and smooth to their seats.
high-pressure hose is	
vibrating.	

Problem	Repair			
Excessive water	Packing is worn			
leakage from under				
the pump	Replace packing.			
	(Always replace O-ring as-well)			
Noisiness	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.			
	Inspect the low-pressure water supply. Tighten hose clips. Replace springs. Clean the valves. Replace the bearings.			
Water in the oil	The Oil-seal is worn out. High moisture in the air (condensing inside the crankcase) The high pressure seals are completely worn out.			
	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 / cleaning the bag filter cartridge:

Stop pump and engine. Unscrew the 4 hexagon screws on top of the round filter cartridge located at the pump end of the frame.

Take out the filter bag cartridge. Empty and clean the bag. Discard the bag if damaged. Flush the filter housing with water. Refit cleaned or new filter bag into the filter housing, ensure the length of the filter is correct, measured against the discarded bag. Clean and put O-ring back in place. Mount the filter housing and tighten the hexagon screws.

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

Overhauling and adjusting un-loader valve:

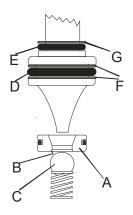
Dismantle the safety valve and overhaul by refitting the parts supplied in the repair kit(s). Please refer to the spare-part page for the safety valve on page 33&34

Re-adjust the safety valve by running the machine with a correctly sized nozzle. Pull the trigger / activate blasting, and start tighten the Hand Wheel until there is no leak from the safety valve.

Make sure that the Hand Wheel 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 and adjusting safety valve:

Dismantle the 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 safety valve again.

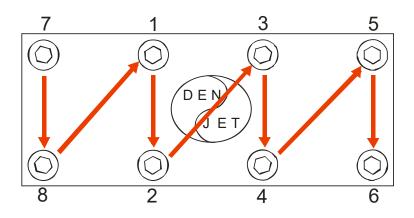


Re-adjust the safety valve by running the machine with a correctly sized nozzle. Pull the trigger and start tighten the nut for the thick black spring, until there is no leak from the safety valve.

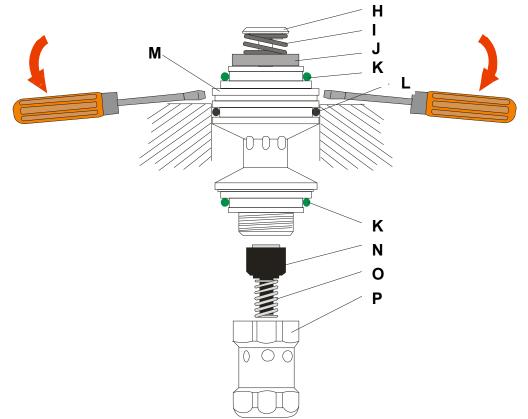
Make sure that the black spring still has movement allowance after setting the correct pressure. The correct working pressure is regulated by the size of the nozzle, and the nozzle should never be too small.

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:

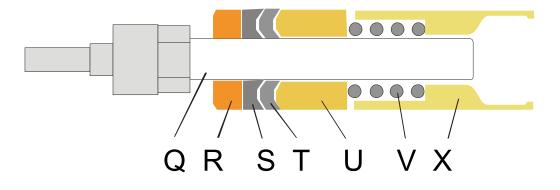


Dismantle the valve assembly by clamping on the spanner face of the valve-body M And unscrewing H and P.

Check the mating surfaces of the inlet valve disc J and the body M, and the outlet valve N and the body M. 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 is too severe for touch up, replace items. Ensure O-rings and packings K and L are in good condition, replace if worn. Re-assemble the valve, be careful not to over-tighten the screw H. Push the assembled valve back into the cylinder-head.

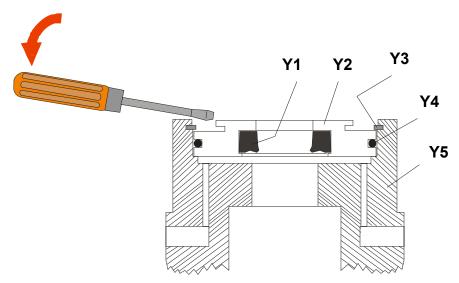
Changing Packing and Plungers:

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 R until X will follow inside each cylinder. The plungers will remain on the crossheads extensions.



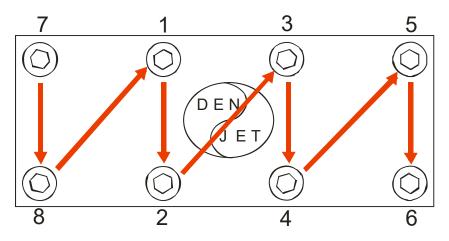
Unscrew the big retainer nut Y3 at the back of the cylinder Y 5. Remove cooling plate Y 2. Gently knock out all the internal parts in the cylinder R until X. Inspect the wear parts R, S and T replace if necessary.

Unscrew the plunger Q using the supplied orange "Z" shaped spanner. Inspect plunger surface and replace if necessary. Ensure the low pressure cooling seal Y1 is in good condition, replace both Y1 and Y4 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



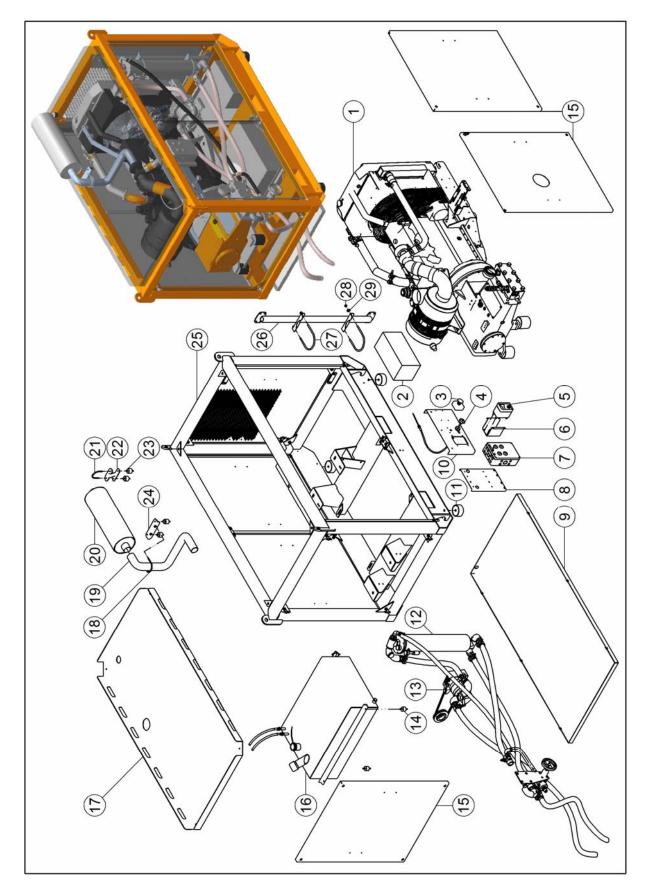
Tighten the bolts in the above shown pattern in steps of torque. (20Nm - 100Nm - and finally 200Nm) alternating between bolts

Maintenance	Task
Lubrication	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.
	Use a CC or CD Grade oil (API classification) Under normal operating temperatures -30°C to 30°C use multi grade SAE10W/30 or SAE 10W/40(part number:83600870)
	Under cold operating temperature below -30°C use multi grade SAE 5W/20 or SAE 5W/30
	Under warm operating temperature over 30°C use multi grade SAE 10W/40
	Quantity: 10 Liter, Check with dip-stick. Do not overfill. Oil should visible between marks with the machine on level ground
	Remember to refit oil drain plug. Fill up until the oil level is visible at the full mark on the oil dip stick.
Oil Filter	Change the oil filter when changing the oil. (Part number: 81001210)
Renewal of oil	Switch off the machine. Loosen the oil drain screw on sump of the engine 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 engine until visible between marks on the dip-stick.
	Notice: Always dispose of the used oil in a proper manner.
Diesel Fuel	Use fresh clean automotive quality diesel fuel. When operating in cold environments, make sure the diesel fuel are suitable for the temperature.
Air intake filter	Clean air intake filter every 50-100 hours, Exchange every 200-400 Hours. (Depending on running environment. (Filter insert part number: 81001035)
Diesel Fuel filter	Diesel fuel filters should be changed every 400 Hours (Part numbers: Pre-filter 81001212 & Main-filter: 81001213)
Cleaning	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.
Storage /Antifreeze	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 18 Liters of fluids.

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

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

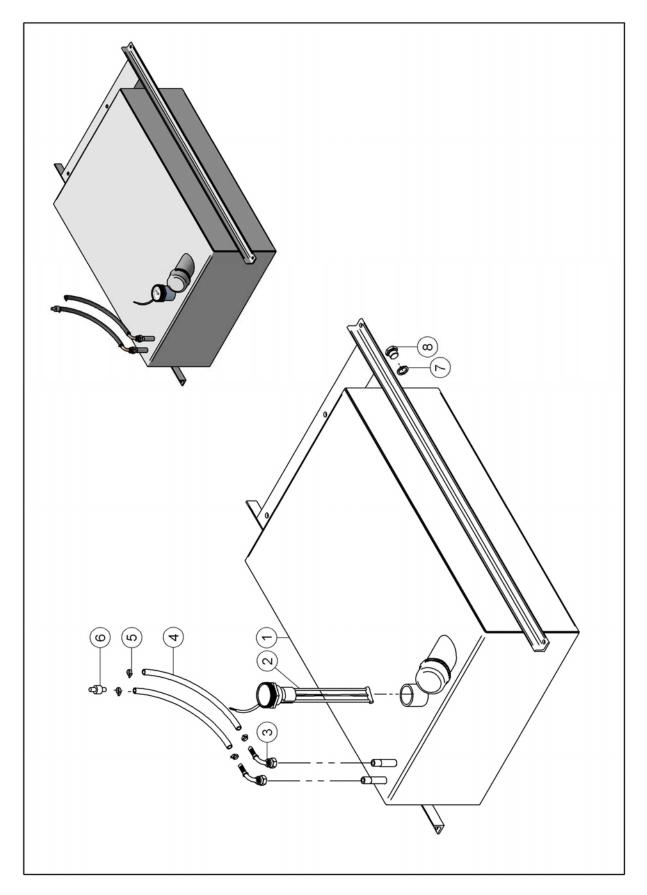
CD100-300&500 SERIES WATER-BLASTER MAIN SPARE PARTS ASSEMBLY



CD100-300&500 SERIES WATER-BLASTER MAIN SPARE PARTS LIST

Pos.	Item No.	Qty.	Description					
1	N/A	1	MOTOR - PUMP UNIT					
2	81101015	1	BATTERY	BATTERY				
3	81101272	1	EMERGENCY BUTTON					
4	81100846	1	TROTTLE CABEL					
5	81100845	1	ENGINE CONTROLLER					
6	81000765	1	BRACKET ENGINE CONTROL-DEEP					
7	81101350	1	REMOTE CONTROL BOX	(optional)				
8	81001321	1	BRACKET FOR REMOTE CONTROL	(optional)				
9	N/A	1	DRIP PAN CD 100-300 SLIM	(optional)				
10	81000766	1	CONTROL PANEL					
11	81000935	4	RUBBER FOOT					
12	N/A		SEA WATER FILTER					
13	N/A		BOOSTER PUMP					
14	81000857	4	RUBBER DAMPENER					
15	81001616	1	DOOR COVER - SET OF 6 (optional)					
16	81000886	1	FUEL TANK					
17	81001525	1	ROOF PLATE FULL COVERAGE					
18	80100938	1	U-BOLT					
19	81001549	1	EXHAUST CONNECTOR					
20	81000929	1	MUFFLER					
21	80100753	1	U-BOLT					
22	81001673	1	BRACKET FOR EXHAUST END					
23	81000857	4	RUBBER DAMPENER					
24	81001674	1	BRACKET FOR EXHAUST INLET					
25	81001526	1	FRAME CD 100-300-SLIM					
26	81001777	1	BRACKET FOR SEAWATER FILTER					
27	80101159	2	U-BOLT					
28	80100710	4	LOCK NUT					
29	80100906	4	WASHER					
N/A	81001670	1	TIP FOR MUFFLER					

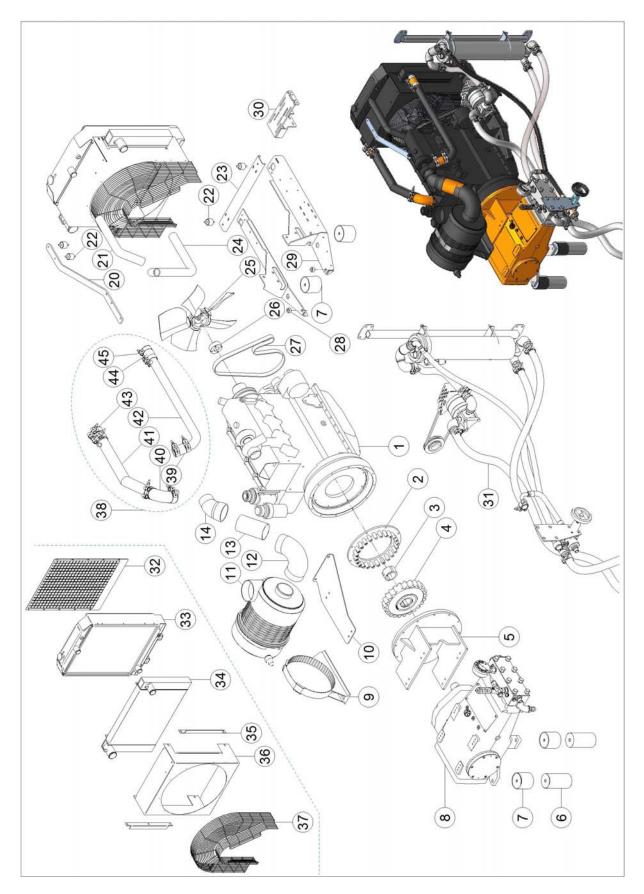
CD100-300 SERIES WATER-BLASTER FUEL TANK SPARE-PARTS ASSEMBLY



CD100-300 SERIES WATER-BLASTER FUEL TANK SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description			
N/A	81000886	1	FUEL TANK COMPLETE			
1	N/A	1	FUEL TANK WELDED			
2	81101187	1	LEVEL GAUGE			
3	84000601	2	HOSE END			
4	83400623	3m	RUBBER HOSE			
5	80100904	6	HOSE CLIP			
6	81100906	1	CONTRA VALVE			
7	80500429	1	BONDED SEAL			
8	80500617	1	PLUG			
N/A	81000857	4	RUBBER DAMPENER			
N/A	80100697	8	LOCK NUT			
N/A	80100732	8	WASHER			

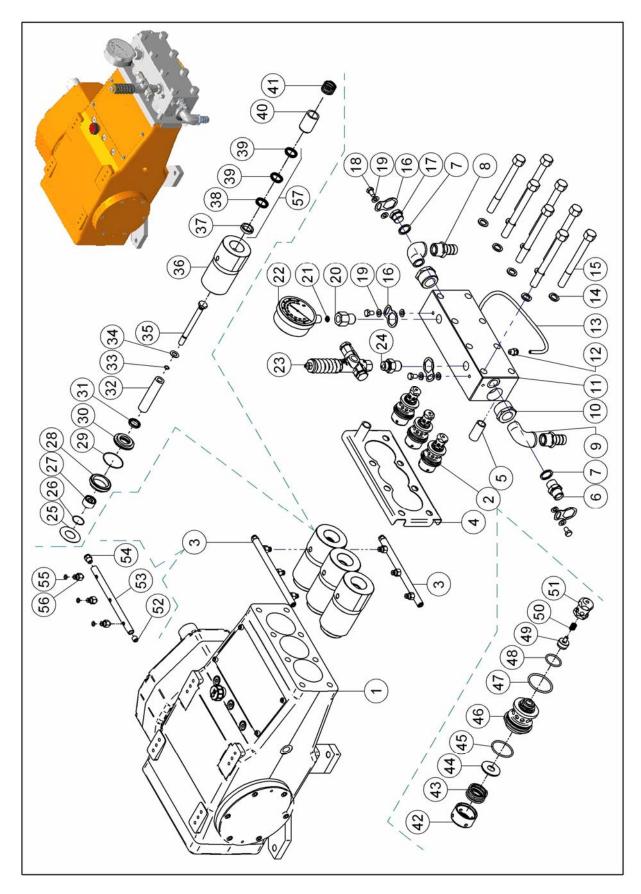
CD100-300&500 SERIES WATER-BLASTER MOTOR-PUMP UNIT SPARE PART ASSEMBLY



CD100-300&500 SERIES WATER-BLASTER MOTOR-PUMP UNIT SPARE PART ASSEMBLY

Pos.	Item No.	Qty.	Description				
1	81101175	1	ENGINE				
2	81001650	1	COUPLING FLANGE COMPLETE				
3	81000760	1	TAPER BUSH				
4	81001649	1	RUBBER ELEMENT				
5	81000772	1	BELL HOUSING				
6	81001402	2	DISTANCE BUSHING				
7	81000934	4	RUBBER FOOT				
8	81201260	1	PUMP				
9	N/A	1	AIR FILTER HOLDER				
10	81001199	1	BRACKET AIR FILTER HOLDER				
11	81000865	1	AIR FILTER (HOUSING+FILTER INSERT)				
N/A	81001035	N/A	FILTER INSERT AIR INTAKE				
12	81001318	1	ELBOW RUBBER				
13	81001337	1	REDUCER CONE				
14	81001316	1	ELBOW RUBBER				
20	81001755	1	RADIATOR SUPPORT				
21	81001228	1	RUBBER HOSE MOTOR - RADIATOR				
22	81000857	4	RUBBER DAMPENER				
23	81001709	1	TRAVERSE BRACKET FOR RADIATOR CD100/160				
24	81001227	1	RUBBER HOSE RADIATOR - MOTOR				
25	81101219	1	FAN				
26	81001298	1	BUSHING - FAN				
27	81001361	1	FAN BELT MULTI RIB				
28	81001400	2	DISTANCE BUSHING				
29	81001267	1	BRACKET HOLDER FOR RADIATOR				
30	81001200	1	BRACKET BOOSTER PUMP				
31	N/A	1	WATER SYSTEM				
32	81001334	1	RADIATOR GUARD NET				
33	81001217	1	RADIATOR				
34	81001218	1	INTERCOOLER (optional)				
35	81001332	2	WASHER PLATE				
36	81001225	1	RADIATOR GUARD				
37	81001224	1	RADIATOR NET				
38	81001450	1	AIR PIPE INTERCOOLER SYSTEM (set) (optional)				
39	83400666	1	RUBBER CONNECTOR				
40	81001202	1	ELBOW RUBBER				
41	81001668	1	PIPE				
42	81001667	1	PIPE				
43	83400667	1	RUBBER CONNECTOR				
44	83400665	1	RUBBER CONNECTOR				
45	80100891	8	CLIP				
N/A	80100938	2	CLAMP- EXHAUST				
N/A	81001210	1	OIL FILTER				
N/A	81001212	1	DIESEL FUEL PRE. FILTER				
N/A	81001213	1	DIESEL FUEL MAIN FILTER				
N/A	81101229	1	WIRING HARNESS 4 CYL (set)				
N/A	81101211	1	OIL PRESSURE SWITCH				
N/A	81101193	1	TEMPERATURE SENSOR				
N/A	81100968	1	BATTERY POLE POSITIVE				
N/A	81100969	1	BATTERY POLE NEGATIVE				
N/A	81101262	1	THERMOSTAT 83 C°				
N/A	81101263	1	GASKET THERMOSTAT				
N/A	81001082	1	DIESEL CHECK VALVE				

CD100-500 SERIES WATER-BLASTER PUMP SPARE-PARTS ASSEMBLY



CD100-500 SERIES WATER-BLASTER PUMP SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description					
1	81200754	1	POWER END					
2	81201246	3	VALVE COMPLETE					
3	81200949	2	COOLING SYSTEM COMPLETE					
4	81201038	1	COVER FOR COOLING SYSTEM					
5	81201055	2	RETAINING RUBBER					
6	80500849	1	NIPPLE					
7	80500974	2	BONDED SEAL Part of seal kit pump	(81201256)				
8	80500227	2	HOSE NIPPLE	· · · ·				
9	80500237	2	ELBOW					
10	80500854	2	BUSHING					
11	81200950	1	CYLINDER HEAD					
12	80500095	1	QUICK COUPLING					
13	83400522	0,4M	HOSE					
14	80100797	8	WASHER					
15	80100927	8	SCREW Torque 200 Nm /3 sta	ages 20,100,200 Nm				
16	81201169	4	LOCK PLATE					
17	80500496	1	PLUG					
18	80100706	4	SCREW					
19	80100310	8	WASHER					
20	81300780	1	ADAPTOR					
21	80500413	1	COPPER					
22	81300700	1	GAUGE HP					
23	81300695	1	SAVETY VALVE					
24	81300781	1	ADAPTOR					
25	81201001	3	WASHER WIPER					
26	80200619	3	O-RING					
27	81200941	3	PLUNGER GUIDE					
28	81201156	3	RETAINER NUT					
29	80200031	3	O-RING Part of seal kit pump	(81201256)				
30	81200940	3	COOLING PLATE					
31	80200732	3	COOLING SEAL Part of seal kit pump	(81201256)				
32	81200922	3	PLUNGER SLEEVE					
33	80200101	3	O- RING Part of seal kit pump	(81201256)				
34	81200947	3	PROTECTION WASHER					
35	81200946	3	BOLT					
36	81200942	3	CYLINDER					
37	81200931	3	BACK-UP RING Part of HP seal kit (pe	os. 57)				
38	81200932	3	BACK PACKING Part of HP seal kit (po	,				
39	80200737	6	FRONT PACKING Part of HP seal kit (pos. 57)					
40	81200933	3	THROAT BUSHING					
41	80300623	3	SPRING					

CD100-500 SERIES WATER-BLASTER PUMP SPARE-PARTS KITS

Pos.	Item No.	Qty.	Desc	ription		
42	81200943	1	SUCTION VALVE CAGE			
43	80300622	1	SPRING			
44	81200935	1	SUCTION VALVE DISC			
45	80200681	1	O-RING	Part of seal kit pump (81201256)		
46	81201229	1	VALVE BODY			
47	80200811	1	O-RING	Part of seal kit pump (81201256)		
48	80200397	1	O-RING	Part of seal kit pump (81201256)		
49	81201159	1	DISCHARGE VALVE ASSYMBLY			
50	80300224	1	SPRING			
51	81200945	1	DISCHARGE VALVE GUIDE			
52	80500341	1	PLUG			
53	81201041	1	COOLING PIPE			
54	80500095	1	QUICK COUPLING			
55	80200340	3	O-RING	Part of seal kit pump (81201256)		
56	81200333	3	NIPPLE			
57	81201257	1	SEAL REP. KIT FOR 1 CYLINDER			
57	81201254	1	SEAL REP. KIT FOR COMPLETE PUMP			

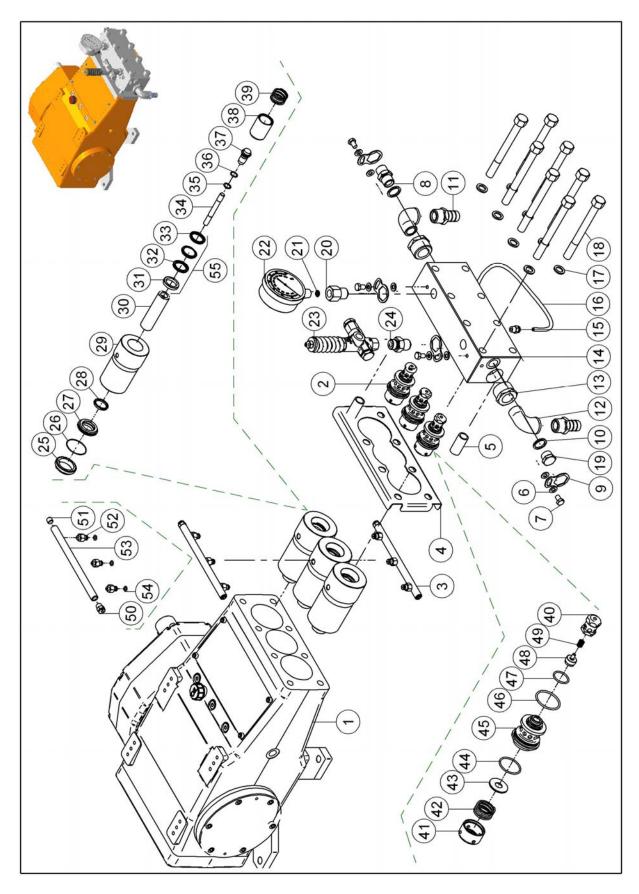
PUMP SPARE-PARTS KITS

Item No./Kit Description	Pos.	Item No.	Qty.	Description
81201256	7	80500974	2	BONDED SEAL
SEAL KIT LOW PRESSURE &	29	80200031	3	O-RING
O-RING KIT COMPLETE	33	80200101	3	O-RING
TO OVERHAUL PUMP	45	80200681	3	O-RING
	47	80200811	3	O-RING
	48	80200397	3	O-RING
	55	80200340	6	O-RING
	31	80200732	3	COOLING SEAL

Item No./Kit Description	Pos.	Item No.	Qty.	Description
POS. 57 81201257	37	81200931	1	BACK-UP RING
HIGH PRESSURE SEAL KIT COMPLETE	38	81200932	1	BACK PACKING
FOR 1 CYLINDER	39	80200737	2	FRONT BACKING

Item No./Kit Description	Pos.	Item No.	Qty.	Description
POS. 57 81201254	37	81200931	3	BACK-UP RING
HIGH PRESSURE SEAL KIT COMPLETE	38	81200932	3	BACK PACKING
TO OVERHAUL PUMP	39	80200737	6	FRONT BACKING

CD100-300 SERIES WATER-BLASTER PUMP SPAREPART ASSEMBLY



CD100-300 SERIES WATER-BLASTER PUMP SPAREPART LIST

Pos.	Item No.	Qty.		Description				
1	81200754	1	POWER END					
2	81201246	3	VALVE COMPLETE					
3	81201042	2	COOLING ASSEMBLY CO	MPLETE				
4	81201038	1	COVER FOR COOLING SY	/STEM				
5	81201055	2	RETAINING RUBBER					
6	80100310	8	WASHER					
7	80100706	4	SCREW					
8	80500881	1	NIPPLE					
9	81201169	4	LOCK PLATE					
10	80500974	2	BONDED SEAL	Part of LP seal+O-ring kit 81201265				
11	80500227	2	HOSE NIPPLE					
12	80500237	2	ELBOW					
13	80500854	2	BUSHING					
14	81200950	1	CYLINDER HEAD					
15	80500095	1	QUICK CPL.					
16	83400522	1	HOSE					
17	80100797	8	WASHER					
18	80100927	8	SCREW Torque 200 Nm /3 stages 20,100,200 Nm					
19	80500496	1	PLUG					
20	81300780	1	ADAPTOR	ADAPTOR				
21	80500413	1	COPPER SEAL					
22	81300825	1	GAUGE					
23	81300695	1	SAVETY VALVE					
24	81300781	1	ADAPTOR					
25	81201156	3	RETAINER NUT					
26	80200031	3	O-RING	Part of LP seal+O-ring kit 81201265				
27	81201235	3	COOLIN PLATE					
28	80200810	3	COOLING SEAL	Part of LP seal+O-ring kit 81201265				
29	81201236	3	CYLINDER					
30	81200938	3	PLUNGER SLEEVE					
31	81201233	3	BACK-UP RING	Part of HP seal kit 81201266 (pos. 55)				
32	81201234	3	BACK PACKING	Part of HP seal kit 81201266 (pos. 55)				
33	80200739	6	FRONT PACKING Part of HP seal kit 81201266 (pos. 55)					
34	81201002	3	PLUNGER STUD BOLT					
35	80200755	3	BACK-UP RING	Part of LP seal+O-ring kit 81201265				
36	80200608	3	O-RING	Part of LP seal+O-ring kit 81201265				
37	81201003	3	PLUNGER NUT					
38	81201241	3	CYLINDER BUSHING					
39	80300638	3	SPRING					
40	81200945	3	DISCHARGE VALVE GUID	E				

CD100-300 SERIES WATER-BLASTER PUMP SPAREPART LIST

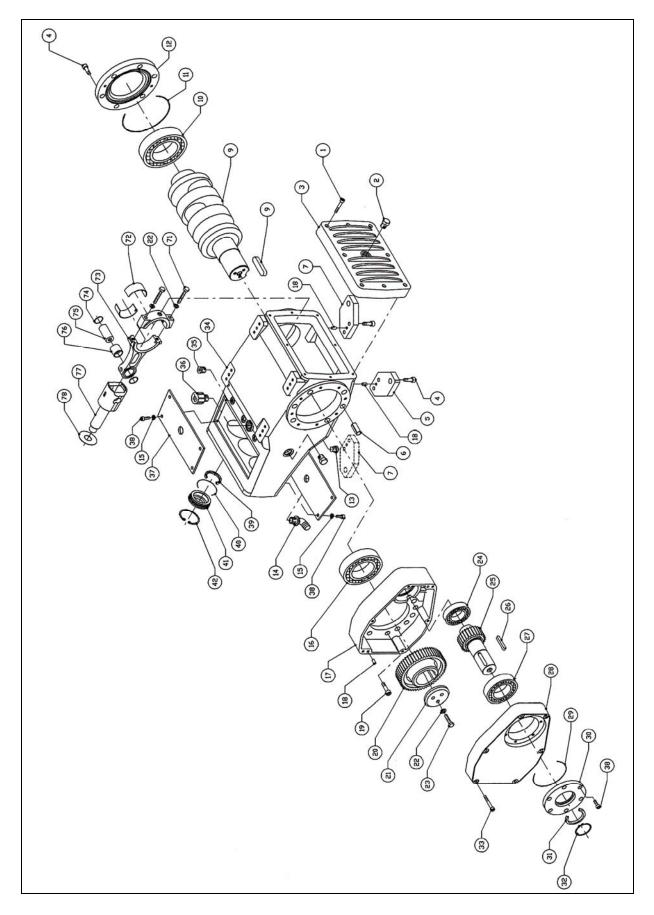
Pos.	Item No.	Qty.	Description				
41	81200943	3	SUCTION VALVE CAGE				
42	80300622	3	SPRING FOR SUCTION VAL	VE			
43	81200935	3	SUCTION VALVE DISC				
44	80200681	3	O-RING	Part of LP seal+O-ring kit 81201265			
45	81201229	3	VALVE BODY				
46	80200811	3	O-RING	Part of LP seal+O-ring kit 81201265			
47	80200397	3	O-RING	Part of LP seal+O-ring kit 81201265			
48	81201159	3	DISCHARGE VALVE ASSEM	BLY			
49	80300224	3	SPRING				
50	80500095	2	QUICK CPL.				
51	80500341	2	PLUG ALLEN				
52	81201044	6	NIPPLE				
53	81201041	2	COOLING PIPE				
54	80200340	6	O-RING	Part of LP seal+O-ring kit 81201265			
55	81201266	1	SEAL KIT HP COMPLETE				

PUMP SPARE-PARTS KITS

Item No./Kit Description	Pos.	Item No.	Qty.	Description
	10	80500974	2	BONDED SEAL
	26	80200031	3	O-RING
81201265	28	80200810	3	COOLING SEAL
SEAL LOW PRESSURE AND	35	80200755	3	BACK-UP RING
O-RING KIT COMPLETE	36	80200608	3	O-RING
TO OVERHAUL PUMP	44	80200681	3	O-RING
	46	80200811	3	O-RING
	47	80200397	3	O-RING
	54	80200340	6	O-RING

Item No./Kit Description	Pos.	Item No.	Qty.	Description
POS. 55	31	81201233	3	BACK-UP RING
81201266 SEAL KIT HP COMPLETE	32	81201234	3	BACK PACKING
TO OVERHAUL PUMP	33	80200739	6	FRONT PACKING

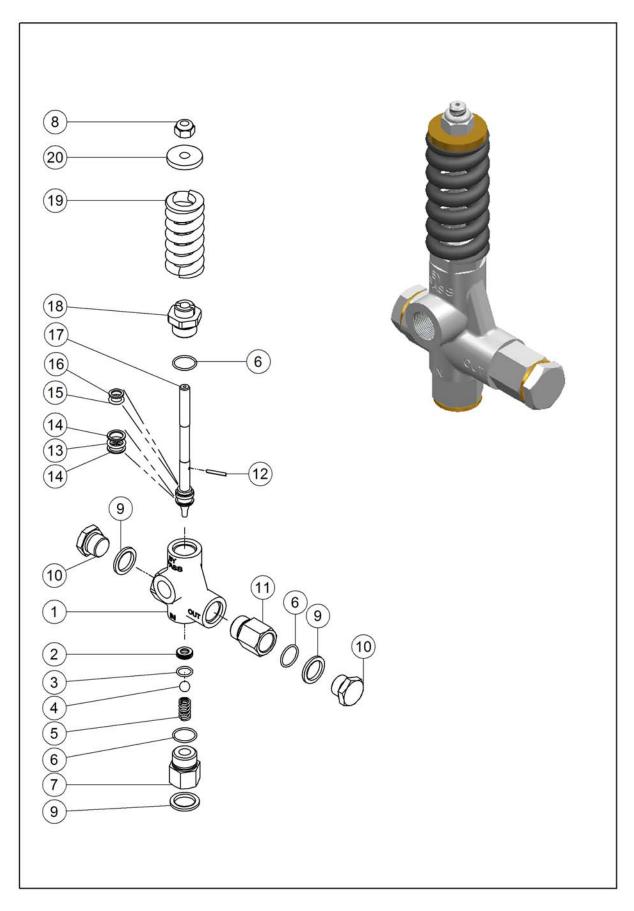
CD100-300/500 SERIES WATER-BLASTER POWER END SPARE-PARTS ASSEMBLY



CD100-300/500 SERIES WATER-BLASTER POWER END SPARE-PARTS LIST

1 80100383 8 SCREW 2 81201004 1 SACK COVER POWER END 4 80100581 4 SCREW 5 81201005 1 PUMP FOOT BRACKET 'A' 6 81201006 2 POSITIONING PIN 7 81201007 1 PUMP FOOT BRACKET 'B' 8 8120090 1 KEY 9 81201008 1 CRANK SHAFT 10 8400611 1 BEARING CRANKSHAFT CLOSED END 11 8000675 1 O-RING 12 8120109 1 SIDE COVER CLOSED END 13 8000612 1 BEARING CRANKSHAFT GEAR-BOX END 14 N/A N/A N/A 15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR WHEEL 20 81201017 1 RING GRAWHEEL 21 81201017 1	Pos.	Item No.	Qty.	Description				
3 81201004 1 BACK COVER POWER END 4 80100591 4 SCREW 5 81201005 1 PUMP FOOT BRACKET "A" 6 81201007 1 PUMP FOOT BRACKET "B" 8 81200990 1 KEY 9 81201008 1 CRANK SHAFT 10 80400611 1 BEARING CRANKSHAFT CLOSED END 11 80200752 1 -CRAING 12 81201009 1 SIDE COVER CLOSED END 13 #00500429 1 +BONDED SEAL 14 N/A N/A N/A 15 80100650 & WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER GEAR WHEEL 22 81201014 1 PINION GEAR AXLE 28 81201015 1	1	80100383	-	•				
3 81201004 1 BACK COVER POWER END 4 80100591 4 SCREW 5 81201005 1 PUMP FOOT BRACKET "A" 6 81201006 1 PUMP FOOT BRACKET "B" 8 81200980 1 KEY 9 81201008 1 CRANK SHAFT 10 80400611 1 BEARING CRANKSHAFT CLOSED END 11 80200752 1 -CRING 12 81201009 1 SIDE COVER CLOSED END 13 #80500429 1 +BONDED SEAL 14 N/A N/A N/A 15 80100650 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER GEAR AXLE 22 801007780 1 SCREW 22 801007780 1	2	81200365	2	SIGHT GLASS				
4 80100591 4 SCREW 5 81201005 1 PUMP FOOT BRACKET 'A' 6 81201007 1 PUMP FOOT BRACKET 'B' 8 81200990 1 KEY 9 8121008 1 CRANK SHAFT 10 80400611 1 BEARING CRANKSHAFT CLOSED END 11 80200752 1 O-RING 12 8121009 1 SIDE COVER CLOSED END 13 80500617 PLUG +80500429 1 BEARING CRANKSHAFT GEAR-BOX END 14 N/A N/A N/A 15 80100512 1 GEAR-BOX HOUSING 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201012 1 RING GEAR WHEEL 21 81201012 1 RING GEAR WHEEL 22 80100778 1 SCREW 23 801007791 WASHER								
5 81201005 1 PUMP FOOT BRACKET 'A' 6 81201007 1 POISTIONING PIN 7 81201007 1 PUMP FOOT BRACKET 'B' 8 81200990 1 KEY 9 81201008 1 GRANK SHAFT 10 80400611 1 BEARING CRANKSHAFT CLOSED END 11 80200752 1 O-RING 12 81201009 1 SIDE COVER CLOSED END 13 80500617 1 PLUG 400500229 1 DEAR N/A 14 N/A N/A N/A 15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201011 6 POSITIONING PIN 18 81201011 6 POSITIONING PIN 19 80100778 1 SCREW 20 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER			4	SCREW				
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7 81201007 1 PUMP FOOT BRACKET "B" 8 81200990 1 KEY 9 8121008 1 CRANK SHAFT 10 80400611 1 BEARING CRANKSHAFT CLOSED END 11 80200752 1 O-RING 12 8121009 1 SIDE COVER CLOSED END 13 80500617 1 PLUG 14 N/A N/A N/A 15 80100529 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201011 6 POSITIONING PIN 18 81201011 6 POSITIONING PIN 19 80100778 8 SCREW 20 81201013 1 RING GEAR WHEEL 21 81201013 1 INRE BEARING PINION GEAR AXLE 23 801007780 1 SCREW 24 80400613 1 INRE BEARING PINION GEAR AXLE 25 81201014 1<			-					
8 81200990 1 KEY 9 81201008 1 CRANK SHAFT 10 80400611 1 BEARING CRANKSHAFT CLOSED END 11 80200752 1 O-RING 12 81201009 1 SIDE COVER CLOSED END 13 #80500429 1 PLUG 14 N/A N/A N/A 15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201011 1 GEAR-BOX HOUSING 18 81201012 1 RING GRAR WHEEL 21 81201013 1 COVER GEAR WHEEL 22 80100779 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200015 1 COVER GEAR BOX 29 80200751 1			1					
9 81201008 1 CRANK SHAFT 10 80400611 1 BEARING CRANKSHAFT CLOSED END 11 80200752 1 O-RING 12 81201009 1 SIDE COVER CLOSED END 13 80500617 1 PLUG +80500429 + BONDED SEAL 14 14 N/A N/A 15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201012 1 RING GEAR WHEEL 21 81201012 1 RING GEAR WHEEL 22 801007780 1 SCREW 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81201016 1 CUPER GEAR BOX 29 80200354 1 O-RING								
10 80400611 1 BEARING CRANKSHAFT CLOSED END 11 80200752 1 O-RING 12 81210009 1 SIDE COVER CLOSED END 13 80500617 1 PLUG 14 N/A N/A N/A 15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201011 1 GEAR-BOX HOUSING 18 81201012 1 RING GEAR WHEEL 20 81201012 1 RING GEAR WHEEL 22 80100779 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200191 1 KEY 27 80400613 1 O-RING 30 81201014 1 OUTER BEARING PINION GEAR AXLE 28 81201015 1 <td></td> <td></td> <td></td> <td></td>								
11 80200752 1 O-RING 12 81201009 1 SIDE COVER CLOSED END 13 #80500429 1 +BONDED SEAL 14 N/A N/A N/A 15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201011 6 POSITIONING PIN 19 80100778 8 SCREW 20 81201012 1 RING GEAR WHEEL 21 81201079 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200991 1 KEY 27 80400614 1 OUTER BEARING PINION GEAR AXLE 28 81201015 1 COVER GEAR BOX 29 80200354 1								
12 81201009 1 SIDE COVER CLOSED END 13 80500617 1 PLUG 14 N/A N/A N/A 15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201011 6 POSITIONING PIN 19 80100778 8 SCREW 20 81201013 1 COVER GEAR WHEEL 21 81000780 1 SCREW 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200091 1 KEY 27 80400613 1 OUTER BEARING PINION GEAR AXLE 28 81201015 1 COVER GEAR BOX 29 80200751 1 OLI EB COVER PINION AXLE 31 80200751 1<			-					
11 80500617 PLUG 14 N/A N/A N/A 15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201011 6 POSITIONING PIN 19 80100778 8 SCREW 20 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER GEAR WHEEL 22 80100779 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INRE BEARING PINION GEAR AXLE 26 81201014 1 PINION GEAR AXLE 26 81201014 1 OUTER BEARING PINION GEAR AXLE 28 81201014 1 OUTER BEARING PINION GEAR AXLE 28 81201014 1 OUTER BEARING PINION AXLE 31 80200554 1 O-RING 32 80100781 6			-					
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15 80100659 8 WASHER 16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201011 6 POSITIONING PIN 19 80100778 8 SCREW 20 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER GEAR WHEEL 22 80100779 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200991 1 KEY 27 80400614 1 OUTER BEARING PINION GEAR AXLE 28 81201016 1 SIDE COVER FINION AXLE 30 81201016 1 SIDE COVER PINION AXLE 31 80200751 1 OIL SEAL RING 32 80100782 1 CIR-CLIP 33 80100781 </td <td>13</td> <td>+80500429</td> <td>1</td> <td>+ BONDED SEAL</td>	13	+80500429	1	+ BONDED SEAL				
16 80400612 1 BEARING CRANKSHAFT GEAR-BOX END 17 81201010 1 GEAR-BOX HOUSING 18 81201011 6 POSITIONING PIN 19 80100778 8 SCREW 20 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER GEAR WHEEL 22 80100779 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200991 1 KEY 27 80400614 1 OUTER BEARING PINION GEAR AXLE 28 81201015 1 CUVER GEAR BOX 29 80200354 1 O-RING 30 81201016 1 SIDE COVER PINION AXLE 31 80200751 1 OIL SEAL RING 32 80100782 1 CIR-CLIP 33 80100781	14	N/A	N/A	N/A				
17 81201010 1 GEAR-BOX HOUSING 18 81201011 6 POSITIONING PIN 19 80100778 8 SCREW 20 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER GEAR WHEEL 22 80100779 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200991 1 KEY 27 80400614 1 OUTER BEARING PINION GEAR AXLE 28 81201015 1 COVER GEAR BOX 29 80200354 1 O-RING 30 81201016 1 SIDE COVER PINION AXLE 31 80200751 1 OIL SEAL RING 32 80100782 1 CIR-CLIP 33 80100781 6 SCREW 34 81201017 1 <td< td=""><td>15</td><td>80100659</td><td>8</td><td>WASHER</td></td<>	15	80100659	8	WASHER				
18 81201011 6 POSITIONING PIN 19 80100778 8 SCREW 20 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER GEAR WHEEL 22 80100779 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200991 1 KEY 27 80400614 1 OUTER BEARING PINION GEAR AXLE 28 81201015 1 COVER GEAR BOX 29 80200354 1 O-RING 30 81201016 1 SIDE COVER PINION AXLE 31 80200751 1 OL SEAL RING 32 80100782 1 CIR-CLIP 33 80100781 6 SCREW 34 81201017 1 CRANK CASE 35 80500893 6 PLUG </td <td>16</td> <td>80400612</td> <td>1</td> <td>BEARING CRANKSHAFT GEAR-BOX END</td>	16	80400612	1	BEARING CRANKSHAFT GEAR-BOX END				
19 80100778 8 SCREW 20 81201012 1 RING GEAR WHEEL 21 81201013 1 COVER GEAR WHEEL 22 80100779 1 WASHER 23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 8120091 1 KEY 27 80400614 1 OUTER BEARING PINION GEAR AXLE 28 81201015 1 COVER GEAR BOX 29 80200354 1 O-RING 30 81201016 1 SIDE COVER PINION AXLE 31 80200751 1 OIL SEAL RING 33 80100782 1 CIR-CLIP 33 80100781 6 SCREW 34 81201017 1 CRANK CASE 35 80500893 6 PLUG 36 812001018 2 COVER FOR CROSS-	17	81201010	1	GEAR-BOX HOUSING				
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23 80100780 1 SCREW 24 80400613 1 INNER BEARING PINION GEAR AXLE 25 81201014 1 PINION GEAR AXLE 26 81200991 1 KEY 27 80400614 1 OUTER BEARING PINION GEAR AXLE 28 81201015 1 COVER GEAR BOX 29 80200354 1 O-RING 30 81201016 1 SIDE COVER PINION AXLE 31 80200751 1 OIL SEAL RING 32 80100782 1 CIR-CLIP 33 80100781 6 SCREW 34 81201017 1 CRANK CASE 35 80500893 6 PLUG 36 81200349 1 OIL FILLER BREATHER 37 81201018 2 COVER FOR CROSS-HEADS 38 80100382 8 SCREW 39 80200651 3 O-RING 41 81201019 3 OIL SEA	21	81201013	1	COVER GEAR WHEEL				
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Image: State of the s	28	81201015	1	COVER GEAR BOX				
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77 81200985 3 CROSS HEAD 78 81201001 3 WASHER WIPER	-							
78 81201001 3 WASHER WIPER								
1-78 81200754 1 POWER END COMPLETE	1-78	81200754	1	POWER END COMPLETE				

CD100-300&500 SERIES WATER-BLASTER SAFETY VALVE SPARE-PARTS ASSEMBLY



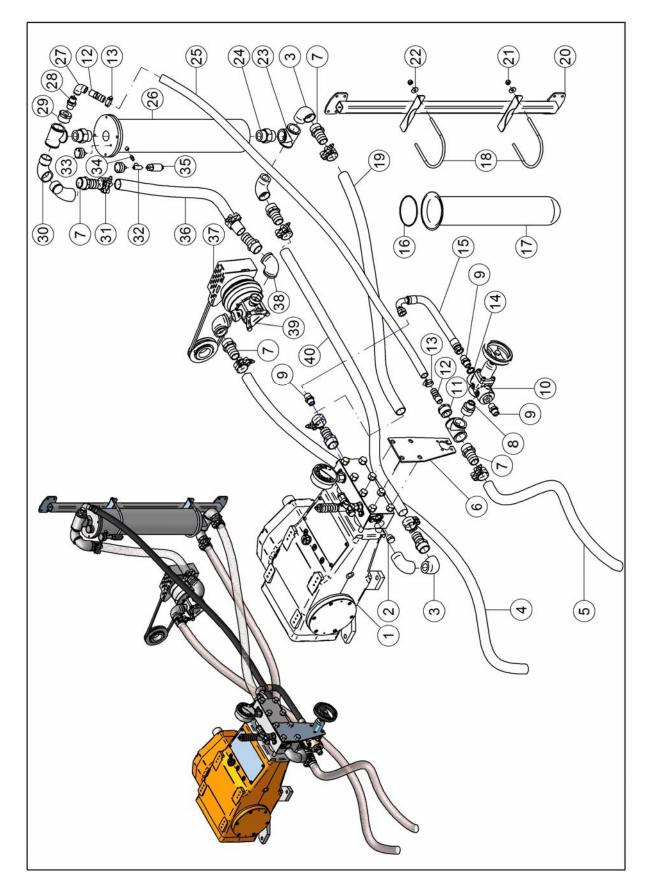
CD100-300&500 SERIES WATER-BLASTER SAFETY VALVE SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description					
1	81300676	1	VALVE HOUSING					
2	81300595	1	VALVE SEAT	Part of safety valve rep. kit (81300554)				
3	80200597	1	O-RING	Part of safety valve rep. kit (81300554)				
4	81300559	1	BALL	Part of safety valve rep. kit (81300554)				
5	80300555	1	SPRING					
6	80200599	3	O-RING	Part of safety valve rep. kit (81300554)				
7	80500692	1	ADAPTOR					
8	80100259	1	LOCK NUT					
9	80500429	3	BONDED SEAL					
10	80500617	2	PLUG					
11	81300289	1	OUTLET FITTING					
12	81300551	1	PIN					
13	80200606	1	O-RING	Part of safety valve rep. kit (81300554)				
14	80200605	2	BACK UP RING	Part of safety valve rep. kit (81300554)				
15	80200598	1	O-RING	Part of safety valve rep. kit (81300554)				
16	80200604	1	BACK UP RING	Part of safety valve rep. kit (81300554)				
17	81300548	1	PISTON					
18	81300292	1	PISTON HOUSING					
19	80300549	1	SPRING					
20	81300550	1	SPRING GUIDE					

SAFETY VALVE REPAIR KIT

Item No./Kit Description	Pos.	Item No.	Qty.	Description
	2	81300595	1	VALVE SEAT
81300554	3	80200597	1	O-RING
REP. KIT	4	81300559	1	BALL
SAFETY VALVE	6	80200599	3	O-RING
	13	80200606	1	O-RING
	14	80200605	2	BACK UP RING
	15	80200598	1	O-RING
	16	80200604	1	BACK UP RING

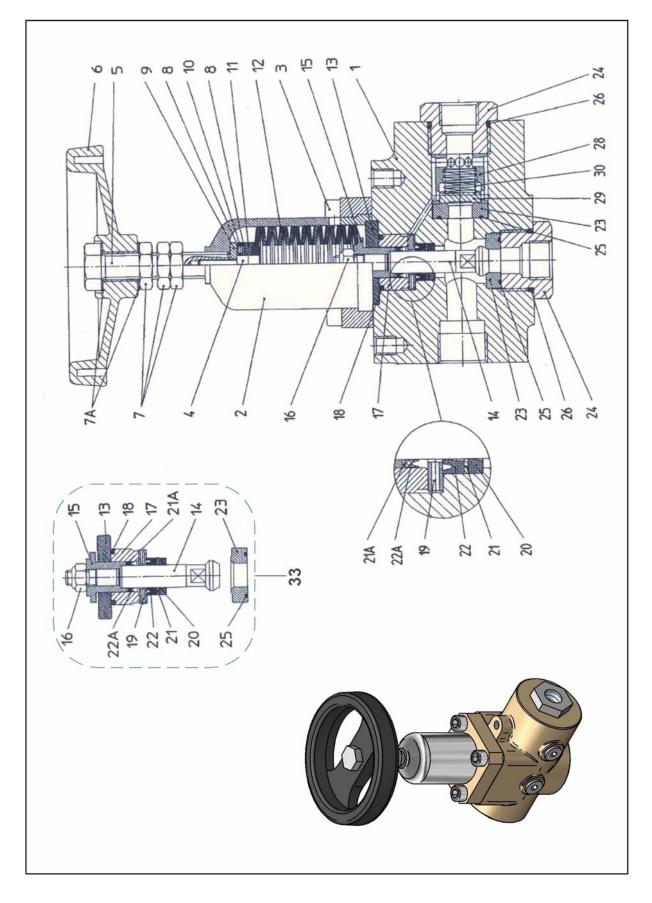
CD100-300&500 SERIES WATER-BLASTER WATER SYSTEM SPARE-PARTS ASSEMBLY



CD100-300&500 SERIES WATER-BLASTER WATER SYSTEM SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description			
1	81201260	1	PUMP			
2	80500496	1	PLUG			
3	80500672	4	ELBOW			
4	83400618	10m	HOSE SUCTION			
5	83400618	2m	HOSE			
6	81001617	1	BRACKET UNLOADER CD100-300			
7	80500729	8	HOSE NIPPLE			
8	80500809	1	NIPPLE			
9	80500849	3	NIPPLE			
10	81300704	1	UNLOADER (see details page 37)			
11	80500854	1	BUSHING			
12	80500695	2	HOSE NIPPLE			
13	80100527	2	HOSE CLIPS			
14	80500974	1	BONDED SEAL			
15	81401750	1	HOSE			
16	80200653	1	O-RING			
17	81000821	1	FILTER BAG (disposable)			
18	80101159	2	U-BOLT			
19	83400618	1,5m	HOSE			
20	81001777	1	BRACKET FOR FILTER			
21	80100710	4	LOCK NUT			
22	80100906	4	WASHER			
23	80500943	3	TEE			
24	80500944	2	NIPPLE			
25	83400658	2m	HOSE			
26	81000813	1	FILTER HOUSING			
27	80501025	1	ELBOW			
28	80500931	1	NIPPLE WITH RESTRICTOR			
29	80500682	1	BUSHING			
30	80500807	2	ELBOW			
31	80100756	8	HOSE CLIP			
32	80501029	1	TEE			
33	81300631	2	GAUGE			
34	80500675	1	NIPPLE			
35	81100844	1	PRESSURE SWITCH			
36	83400622	1,5m	HOSE WITH NETTING			
37	81001399	1	GUARD BOOSTER PUMP			
38	80500728	2	ELBOW			
39	N/A	1	BOOSTER PUMP SYSTEM			
40	83400618	1,5m	HOSE			

CD100-300&500 SERIES WATER-BLASTER UNLOADER SPARE-PARTS ASSEMBLY



CD100-300&500 SERIES WATER-BLASTER UNLOADER SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description					
	81300704	<u></u> ,	UNLOADER					
1	*	1	CASING					
2	*	1	SPRING GUIDE					
3	*	4	INNER HEXAGON SCREW					
4	80100902	1	INNER HEXAGON SCREW					
5	81300799	1	STUD BOLT					
6	81300862	1	HAND WHEEL					
7	*	1	HEXAGON NUT					
7A	*	3	DISC					
8	81300867	2	DISC					
9		2	BEARING PART 1					
	81300826							
10	81300827	1	AXIAL BEARING					
11	81300828	1	BEARINSG PART 2					
12	80101023	18	BELLEVILLE WASHER (PL/	,				
13	^	1	CENTERING DISC	Part of piston unit rep. kit (81300706)				
14	*	1	PISTON	Part of piston unit rep. kit (81300706)				
				Part of unloader rep. kit (81300705) Part of piston unit rep. kit (81300706)				
15	*	1	SEAL SUPPORT	Part of unloader rep. kit (81300705)				
				Part of piston unit rep. kit (81300706)				
16	*	1	HEXAGON NUT	Part of unloader rep. kit (81300705)				
17	*	1	CYLINDER	Part of piston unit rep. kit (81300706)				
	*			Part of piston unit rep. kit (81300706)				
18	*	1	O-RING	Part of unloader rep. kit (81300705)				
19	*	1	SPACER RING	Part of piston unit rep. kit (81300706)				
20	*	1	GUIDE RING	Part of piston unit rep. kit (81300706)				
04	*	4		Part of piston unit rep. kit (81300706)				
21		1	SUPPORT RING	Part of unloader rep. kit (81300705)				
21A	*	1	SUPPORT RING	Part of piston unit rep. kit (81300706)				
217		_ '		Part of unloader rep. kit (81300705)				
22	*	1	GROOVED SEAL RING	Part of piston unit rep. kit (81300706)				
				Part of unloader rep. kit (81300705)				
22A	*	1	GROOVED SEAL RING	Part of piston unit rep. kit (81300706)				
				Part of unloader rep. kit (81300705) Part of piston unit rep. kit (81300706)				
23	*	2	VALVE SEAT	Part of unloader rep. kit (81300705)				
24	*	2	VALVE PLUG					
				Part of piston unit rep. kit (81300706)				
25	*	2	O-RING	Part of unloader rep. kit (81300705)				
26	*	2	O-RING	Part of unloader rep. kit (81300705)				
28	*	1	SPACER PIPE					
29	*	1	VALVE PLATE Part of unloader rep. kit (81300705)					
30	*	1	VALVE SPRING Part of unloader rep. kit (81300705)					
	*	4	STOP PLUG (not shown in drawing)					
	*							
		4	COPPER GASKET (not shown in drawing)					
33	81300706	1	PISTON UNIT ASSY					
	81300705		REPAIR KIT					

* Cannot ordered separately

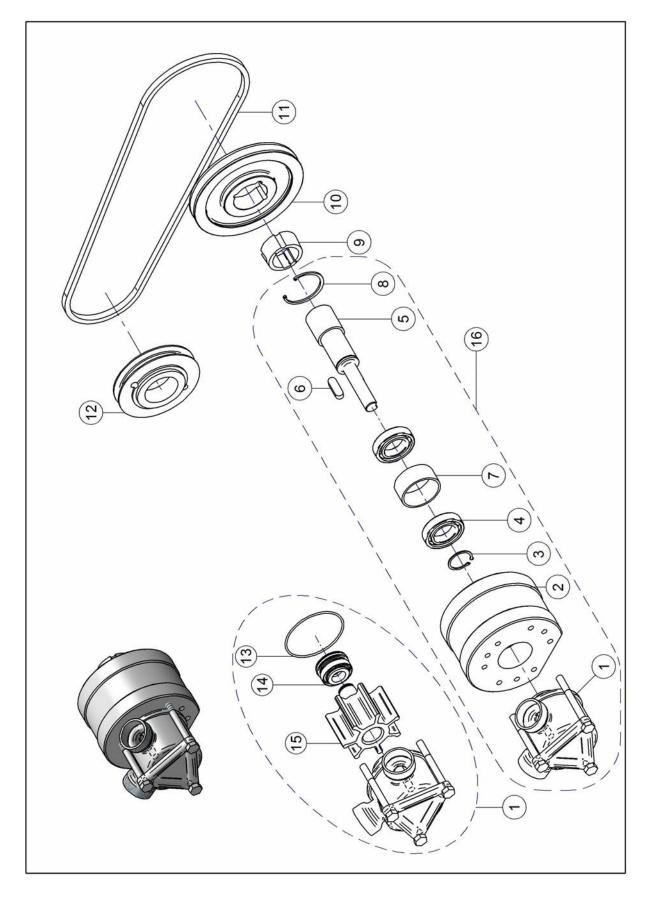
UNLOADER REPAIR KIT

Item No./Kit Description	Pos.	Item No.	Qty.	Description
	14	*	1	PISTON
	15	*	1	SEAL SUPPORT
	16	*	1	HEXAGON NUT
	18	*	1	O-RING
	21	*	1	SUPPORT RING
81300705	21A	*	1	SUPPORT RING
UNLOADER OVERHAUL	22	*	1	GROOVED SEAL RING
REP. KIT	22A	*	1	GROOVED SEAL RING
	23	*	2	VALVE SEAT
	25	*	2	O-RING
	26	*	2	O-RING
	29	*	1	VALVE PLATE
	30	*	1	VALVE SPRING

Item No./Kit Description	Pos.	Item No.	Qty.	Description
	13	*	1	CENTRING DISC
	14	*	1	PISTON
	15	*	1	SEAL SUPPORT
	16	*	1	HEXAGON NUT
	17	*	1	CYLINDER
	18	*	1	O-RING
81300706 PISTON UNIT ASSY.	19	*	1	SPACER RING
REP. KIT	20	*	1	GUIDE RING
	21	*	1	SUPPORT RING
	21A	*	1	SUPPORT RING
	22	*	1	GROOVED SEAL RING
	22A	*	1	GROOVED SEAL RING
	23	*	1	VALVE SEAT
	25	*	1	O-RING

* Cannot ordered separately

CD100-300&500 SERIES WATER-BLASTER BOOSTER PUMP SPARE-PARTS ASSEMBLY



CD100-500 SERIES WATER-BLASTER BOOSTER PUMP SPARE-PARTS LIST

Pos.	Item No.	Qty.		Descr	ription
1	81201251	1	BOOSTER PUMP	Part of booster	r pump assembly (81201718)
2	81001107	1	BELL HOUSING	Part of booster	r pump assembly (81201718)
3	80100764	1	CIRCLIP	Part of booster	r pump assembly (81201718)
4	80400604	2	BEARING	Part of booster	r pump assembly (81201718)
5	81001106	1	AXLE ADAPTOR	Part of booster	r pump assembly (81201718)
6	81100602	1	KEY	Part of booster	r pump assembly (81201718)
7	81000833	1	BUSHING	Part of booster	r pump assembly (81201718)
8	80100765	1	CIRCLIP	Part of booster	r pump assembly (81201718)
9	81000268	1	TAPER BUSH		
10	81000808*	1	PULLY		
11	81001333	1	V-BELT		
12	81000807*	1	PULLY		
13	80200844	1	O-RING RUBBER IMPELLER		Part of booster pump (81201251)
14	80200842	1	MECH.SEAL- IMPELLER PUMP		Part of booster pump (81201251)
15	81201340	1	RUBBER IMPELLER Part of booster pump (81201251)		Part of booster pump (81201251)
16	81201718	1	BOOSTER PUMP A	SSEMBLY WITH	I BEARING HOUSING

CD100-300 SERIES WATER-BLASTER BOOSTER PUMP SPARE-PARTS LIST

Pos.	Item No.	Qty.	Description		
1	81201251	1	BOOSTER PUMP	Part of booster	pump assembly (81201718)
2	81001107	1	BELL HOUSING	Part of booster	pump assembly (81201718)
3	80100764	1	CIRCLIP	Part of booster	pump assembly (81201718)
4	80400604	2	BEARING	Part of booster	pump assembly (81201718)
5	81001106	1	AXLE ADAPTOR	Part of booster	pump assembly (81201718)
6	81100602	1	KEY	Part of booster	pump assembly (81201718)
7	81000833	1	BUSHING	Part of booster	pump assembly (81201718)
8	80100765	1	CIRCLIP	Part of booster	pump assembly (81201718)
9	81000268	1	TAPER BUSH		
10	81000807*	1	PULLY		
11	81001333	1	V-BELT		
12	81000808*	1	PULLY		
13	80200844	1	O-RING RUBBER IMPELLER		Part of booster pump (81201251)
14	80200842	1	MECH.SEAL- IMPELLER PUMP		Part of booster pump (81201251)
15	81201340	1	RUBBER IMPELLEF	<u> </u>	Part of booster pump (81201251)
16	81201718	1	BOOSTER PUMP ASSEMBLY WITH BEARING HOUSING		

Wiring Diagram CD100 (Sisu Engine)

