



HD 1050 B

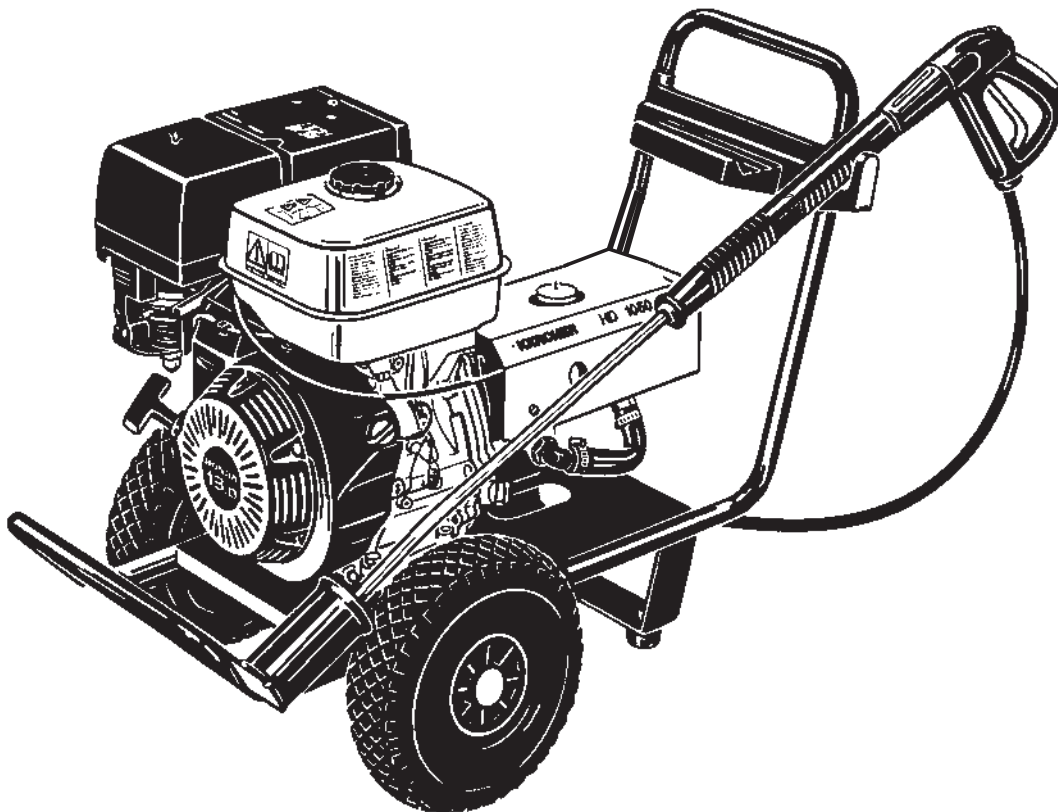
New Unit Information

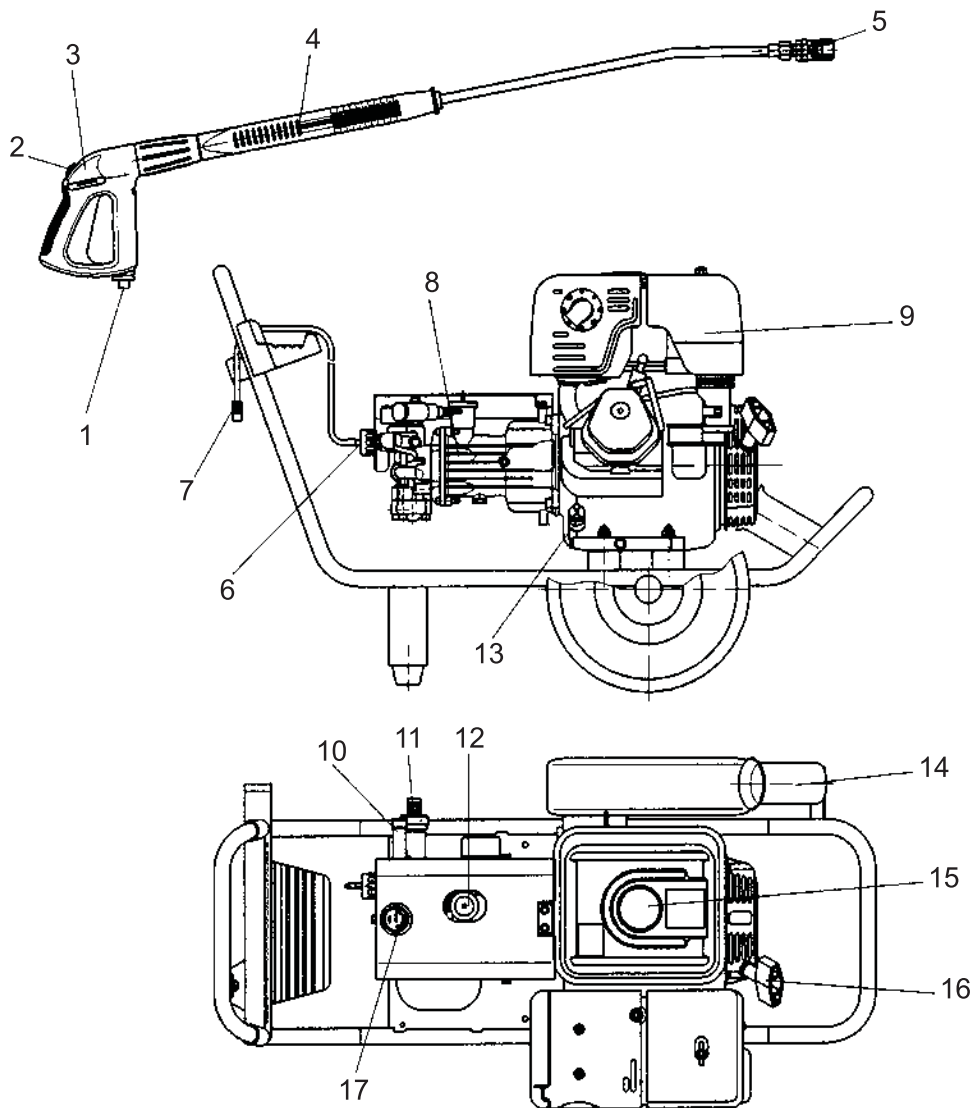
International Service Information

June 24th, 1999

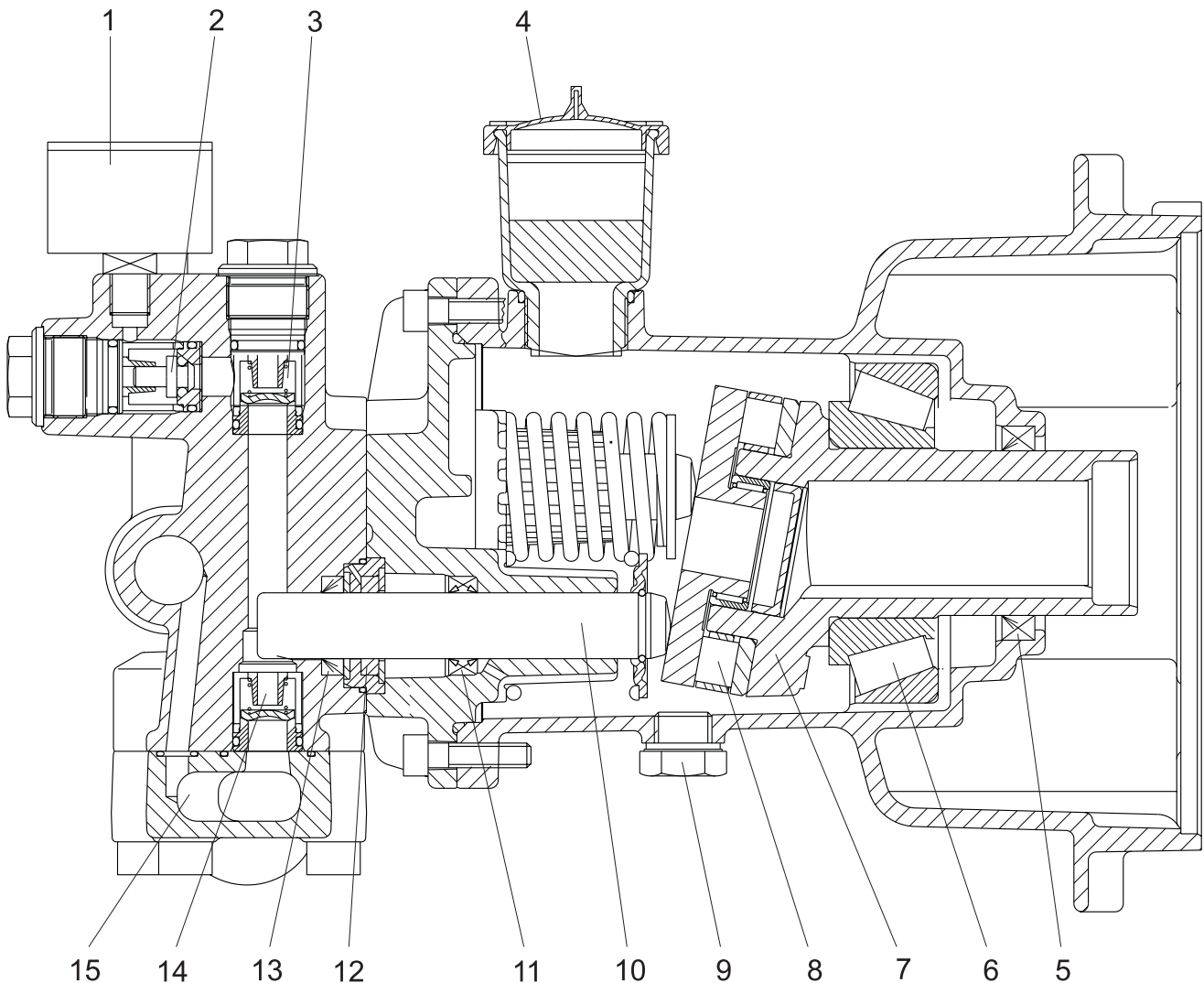
HD 1050 B

1.810-987

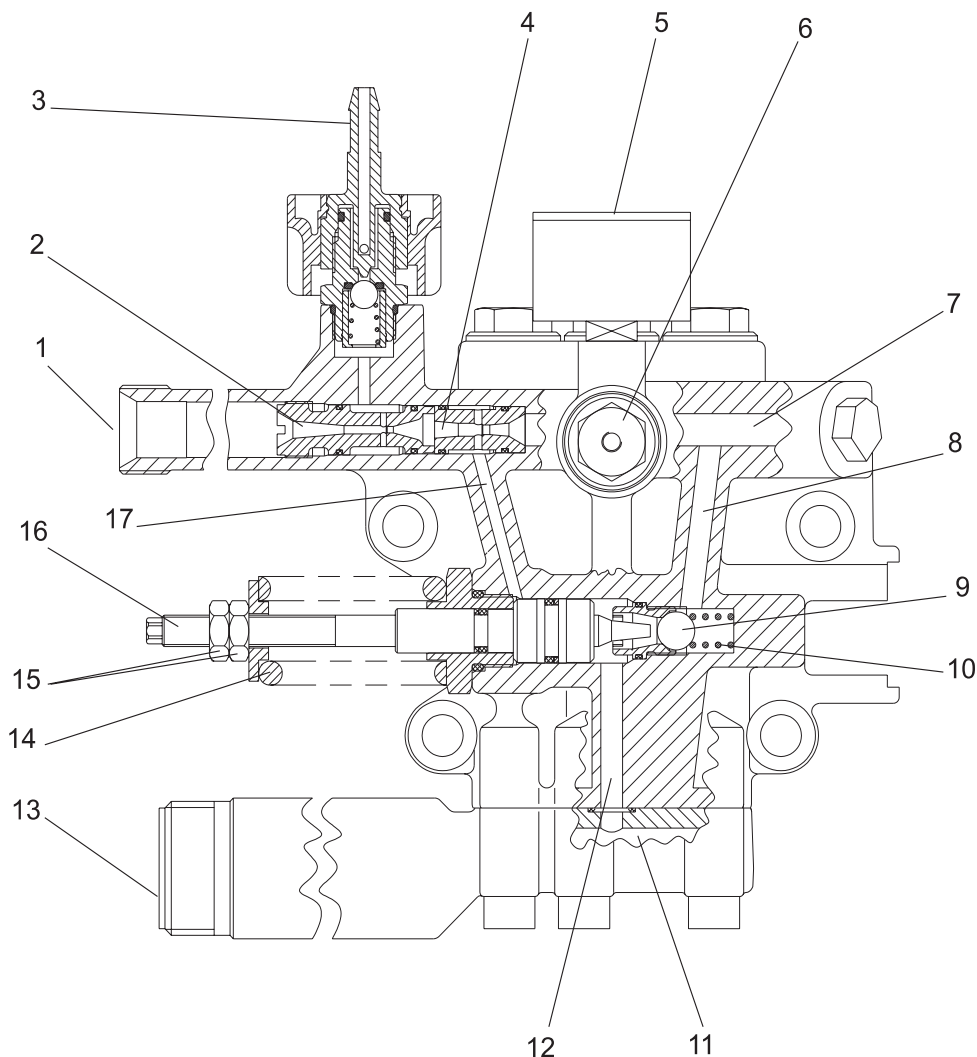


**HD 1050 B****New Unit Information****International Service Information****June 24th, 1999****Equipment**

- | | | | |
|---|-------------------------------|----|--|
| 1 | High-pressure hose connection | 10 | High-pressure connection |
| 2 | Pressure and flow control | 11 | Water connection |
| 3 | Servopress handgun | 12 | Oil reservoir |
| 4 | Spray lance | 13 | Oil dip stick, at both sides of engine |
| 5 | Three-way nozzle | 14 | Accessories bracket |
| 6 | Cleaning agent metering valve | 15 | Fuel tank |
| 7 | Cleaning agent suction hose | 16 | Recoil hand start |
| 8 | High-pressure pump | 17 | Pressure gauge |
| 9 | Engine | | |

**HD 1050 B****New Unit Information****International Service Information****June 24th, 1999****Technical features pump**

- | | | | |
|---|----------------------|----|--------------------|
| 1 | Pressure gauge | 9 | Oil drain plug |
| 2 | Non-return valve | 10 | Piston |
| 3 | Pressure valve | 11 | Oil seal |
| 4 | Oil reservoir | 12 | Low-pressure seal |
| 5 | Shaft seal | 13 | High-pressure seal |
| 6 | Swash plate bearing | 14 | Suction valve |
| 7 | Swash plate | 15 | Suction chamber |
| 8 | Axial roller bearing | | |

**HD 1050 B****New Unit Information****International Service Information****June 24th, 1999****Function of overflow valve**

- | | | | |
|---|---|----|--|
| 1 | High-pressure outlet | 10 | Spring |
| 2 | Cleaning agent injector | 11 | Suction chamber |
| 3 | Cleaning agent connection | 12 | Connection bore from overflow valve to suction chamber |
| 4 | Control pressure injector | 13 | Water connection |
| 5 | Pressure gauge | 14 | Spring |
| 6 | Screw plug for non-return valve | 15 | Adjusting screw with locking nut |
| 7 | Pressure chamber | 16 | Overflow valve spindle |
| 8 | Connection bore from pressure chamber to ball (9) | 17 | Connection bore from injector to overflow valve (control pressure) |
| 9 | Ball | | |



HD 1050 B

New Unit Information

International Service Information

June 24th, 1999

Function of overflow valve

1. Servopress handgun is open.

When the handgun is completely open, water flows from the pressure chamber (7) through the non-return valve (6) and both injectors (2+4) to the high-pressure outlet (1).

The ball (9) is pressed against the valve seat by the pump pressure, thus sealing the connection bore (12) to the suction chamber (11).

The pressure gauge (5) indicates the operating pressure.

The pressure in the connection bore (17) is approx. 30 bar less due to the injector influence (4) (control pressure).

2. Servopress handgun is partly closed.

When the handgun is partly closed, the pressure in the pressure chamber (7) does not increase. Due to the decreased water flow rate, the influence of the injector (4) is reduced so that the control pressure in the connection bore (17) increases. The increasing control pressure pushes the overflow valve spindle (16) against the spring (14) and slightly to the right. The tip of the spindle pushes the ball (9) off its seat so that part of the water can flow through the connection bores (8) and (12) to the suction chamber (11).

3. Servopress handgun is completely closed.

When the handgun is completely closed, the pressure in the pressure chamber (7) increases. The increased control pressure pushes the overflow valve spindle (16) via the connection bore (17) against the spring (14) completely to the right. The tip of the spindle pushes the ball (9) off its seat, so that the entire water volume can flow through the connection bores (8) and (12) to the suction chamber (11).

As soon as the handgun is closed, the non-return valve (6) closes. Therefore the complete pressure in the system between handgun and non-return valve (6) is trapped.

The pump continues running in circulation mode.

4. Servopress handgun is opened.

When the handgun is opened, the entire pressure in the system decreases.

The overflow valve spindle (16) is pushed back to its original position to the left via the spring (14). The spring (10) and the pump pressure of the connection bore (8) push the ball (9) back onto the valve seat.

The connection bore (8) is thereby closed and the operating pressure can be built up again.



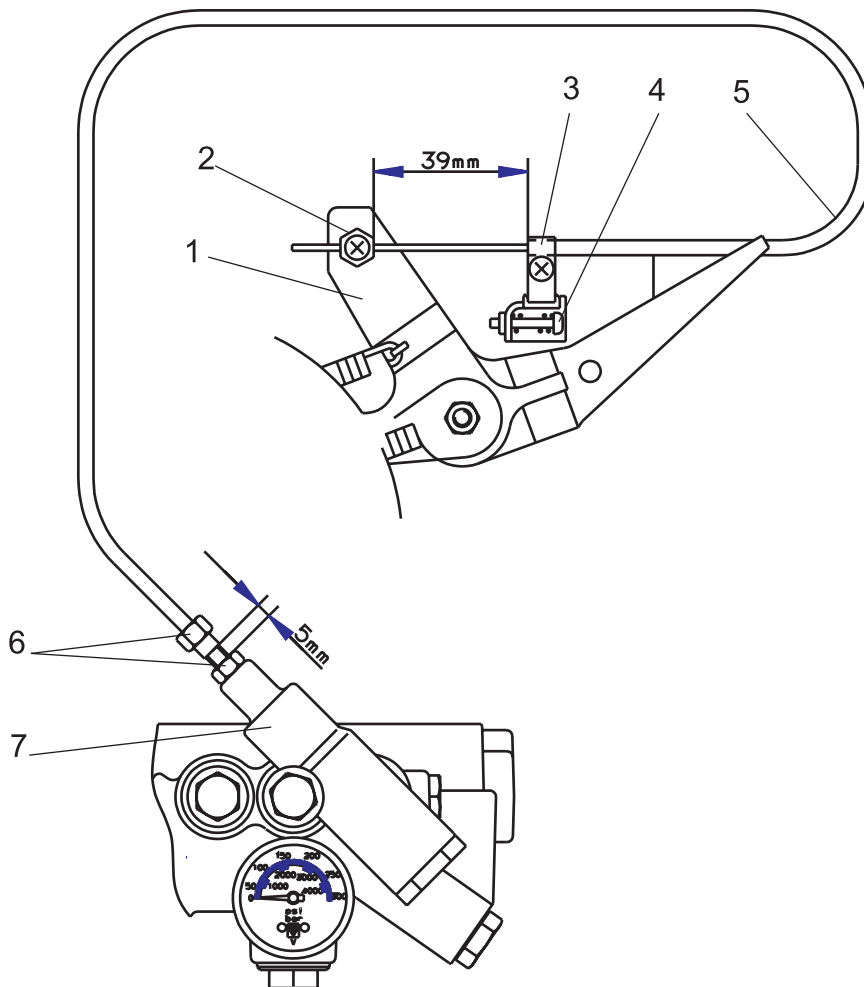
HD 1050 B

New Unit Information

International Service Information

June 24th, 1999

Adjustment of the bowden cable



- 1 Throttle lever
- 2 Inner bowden cable clamping screw
- 3 Outer bowden cable clamp
- 4 Throttle lever stop screw
- 5 Bowden cable
- 6 Adjusting screw with locking nut
- 7 r.p.m. regulator

1. Switch off engine and release pressure.
2. Back off stop screw (4) as much as possible.
3. Fasten bowden cable (5) as indicated. The front end of the outer bowden cable must be flushly mounted with the clamp (3).



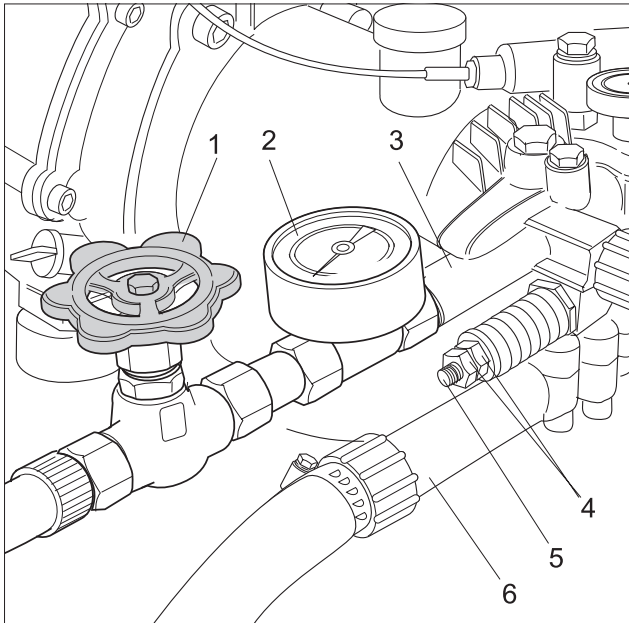
HD 1050 B

New Unit Information

International Service Information

June 24th, 1999

Adjustment overflow valve



- 1 Shut-off valve
- 2 Test pressure gauge
- 3 High-pressure outlet
- 4 Adjusting screw with locking nut
- 5 Overflow valve spindle
- 6 Water inlet connection

Note

Before any adjustments the high-pressure nozzle, air filter and spark plug must be checked for damage or wear. All defective parts must be replaced.

1. Mount test pressure gauge (2), shut-off valve (1), high-pressure hose and servopress handgun on high-pressure outlet (3).

The unit pressure gauge is not to be used to check the operation pressure because it measures too inaccurate !

2. Set servopress handgun to maximum water volume and operate the unit.
3. Close shut-off cock (1) slowly until flow rate has achieved 6,7 to 7,5 litres/min. (see technical data). This corresponds to the smallest servopress setting (flow rate measured by litres).
4. Now set adjusting screw (4) to operation pressure 208 to 212 bar (see technical data) and check with test pressure gauge.

Increase spring tension: pressure increases.

Decrease spring tension: pressure decreases.

5. Open shut-off valve completely. Close and open servopress handgun several times.
6. Repeat step 3 and 4 and adjust once more if required.
7. Finally secure the adjusting screw with locking nut (4) and seal with safety paint.



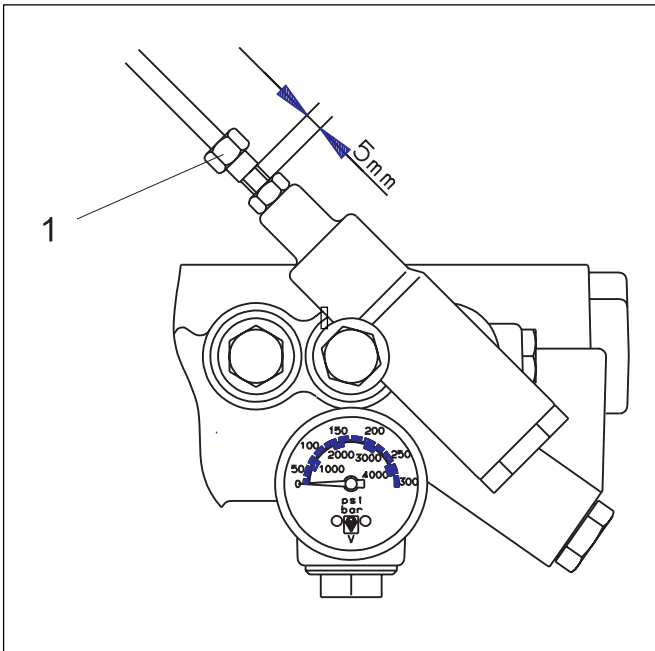
HD 1050 B

New Unit Information

International Service Information

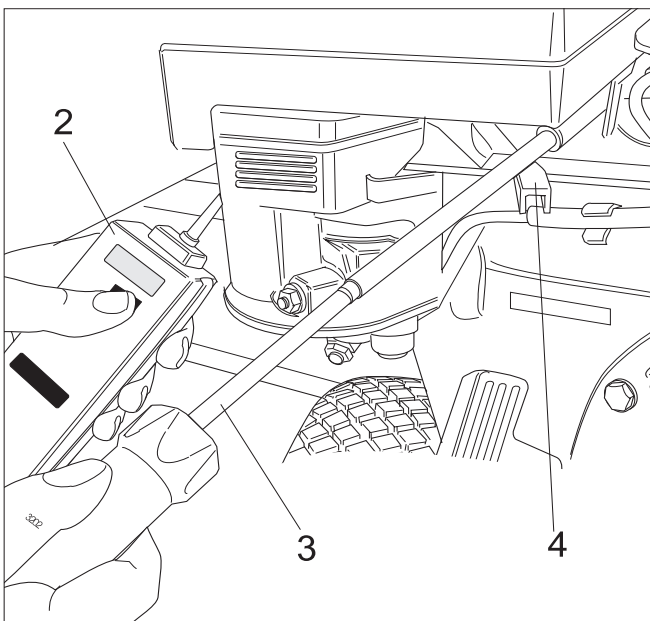
June 24th, 1999

Adjustment full-load r.p.m.

**Note:**

Before adjusting the full-load r.p.m. of the engine, the overflow valve must be adjusted.

1. Open shut-off valve completely, set servopress handgun to maximum water volume and operate the unit.
2. Set engine speed by the adjusting screw (1), the test pressure gauge indicates an operating pressure of 190 to 200 bar. With this operating pressure the corresponding operating r.p.m. must also be achieved (see technical data).
3. Close and open servopress handgun several times and check adjustment.
4. Open servopress handgun completely. In this position (full throttle) position the stop screw (see page 6 position 4) of throttle lever (6) with a long screwdriver (3) so that the distance between throttle lever and stop screw is approx. 1 mm.
The throttle lever must move freely.
5. Finally seal adjusting screw (1) and stop screw with safety paint.



- 1 Adjusting screw
- 2 r.p.m. tester
- 3 long screw driver
- 4 Throttle lever



HD 1050 B

New Unit Information

International Service Information

June 24th, 1999

Troubleshooting

Problem	Remedy
Engine does not start.	Check gasoline system / clean if required. Check spark plug / replace if required. Check oil level and oil level sensor. Check ignition system / adjust if required.
Engine r.p.m. fluctuates.	Check air filter / clean / replace if required. Eliminate any leakage in the high-pressure system: handgun, high-pressure hose, cleaning agent system, non-return valve, overflow valve and ball valve seat.
Low operating pressure and flow rate	Check high-pressure nozzle / replace if required. Check water inlet filter / clean if required. Check engine speed / adjust if required. Check spring at overflow valve / adjust if required. Eliminate any leakage in the high-pressure system (as mentioned above). Replace suction and pressure valves. Replace high and low-pressure seals.
Pump does not draw in cleaning agent.	Clean cleaning agent system and eliminate leakage. High-pressure hose is too long or its diameter too small. Note: Cleaning agent is only drawn in during full load. Replace injectors: <ul style="list-style-type: none">- Unscrew front injector as much as possible.- Then slowly pull through hand start rope. While doing so, engine must not start.- The resulting pump pressure pushes both injectors out of the high-pressure outlet.



HD 1050 B

New Unit Information

International Service Information

June 24th, 1999

Technical data

unit	technical data	circuit diagram	operating handbook	maintenance booklet	spare parts list
HD 1050 B Engine: Honda GX 390	1.810-987	-	5.956-933	-	5.958-206

The technical data sheet is on the next edition of the spare parts CD-ROM (DISIS) and in the Intranet (KMN), folder: "Central / Service Info Int'l / Technical Data".

Further operating handbooks and spare parts lists can be ordered with the corresponding part number from our Spare Parts Department.

Special tools

Shut-off valve	4.580-034	
Testing pressure gauge	4.742-025	
r.p.m. counter	6.803-012	digitalversion
	6.491-361	mechanical version