Vacuum Pump (01840-02/-03)

**SP3**

Owner’s Manual
Congratulations on your choice of purchasing the SP3 Vacuum Pump! The new SP3 Vacuum Pump lets you charge and discharge most of the shock absorbers, steering dampers and front forks on the market. This machine is software controlled and you control the process on the screen at the front of the machine. The USB interface at the back of the machine also gives the opportunity to print all details.

⚠ Warning!
Make sure to read and understand all information about the vacuum pump before you start to use it.

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1 SP3 Vacuum Pump

1.1 Adapters
The SP3 Vacuum Pump is delivered with several adapters so that it can be used on most shock absorbers and steering dampers on the market. Make sure to use the appropriate adapter for your product.

<table>
<thead>
<tr>
<th>Adapter model</th>
<th>Thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kayaba MX</td>
<td>M28</td>
</tr>
<tr>
<td>Kayaba MX</td>
<td>M6</td>
</tr>
<tr>
<td>Kayaba R/T</td>
<td>M24</td>
</tr>
<tr>
<td>Kayaba R/t</td>
<td>M22</td>
</tr>
<tr>
<td>SD WP</td>
<td>M19</td>
</tr>
<tr>
<td>Showa MX</td>
<td>M27</td>
</tr>
<tr>
<td>Showa R/T</td>
<td>M18</td>
</tr>
<tr>
<td>Showa R/T reverse</td>
<td>M18</td>
</tr>
<tr>
<td>Showa Suzuki RMZ 450 2008</td>
<td>M34</td>
</tr>
<tr>
<td>WP Shock absorber</td>
<td>M9.4</td>
</tr>
<tr>
<td>Öhlins hydraulic preload adj SD 4XX</td>
<td>M4</td>
</tr>
<tr>
<td>Öhlins Rotary Steering damper SD 2.0, SD 2.1</td>
<td>M8</td>
</tr>
<tr>
<td>Öhlins Shock absorber</td>
<td>M5</td>
</tr>
<tr>
<td>Öhlins Steering damper R/T</td>
<td>M11</td>
</tr>
</tbody>
</table>

1.2 Power supply
The international code for the electric connection is IEC 320.

⚠️ Warning!
Do not use any power adapter. If the cable provided does not fit your wall socket, make sure to get a cable approved for your socket with an IEC 320 connector.

Make sure to use the appropriate SP3 Vacuum Pump for the voltage used in your country:

<table>
<thead>
<tr>
<th>Available versions</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>01840-02</td>
<td>220 V</td>
</tr>
<tr>
<td>01840-03</td>
<td>110 V</td>
</tr>
</tbody>
</table>

1.3 Setting up

1.3.1 Power
Use the provided power cord to connect the machine to the power source. Attach the air inlet hose with minimum 3 bar pressure.

1.3.2 Select a language
Set the switch at the back of the machine to ON. When you see the first screen view, press START and ENTER at the same time.
Press STOP to scroll through the available languages. Press START and ENTER to select a language and return back into the main menu.
1.4 Fill the SP3 Vacuum Pump with oil
The SP3 is delivered without oil. Before you use the pump for the first time you must fill the machine with oil.

1.4.1
Attach the blue coloured entrance and exit tube to the tank unit you want to fill, TANK 1 or TANK 2, on the front of the machine.

1.4.2
Use the Steering damper R/T adapter and connect it to the blue tube. Make sure to insert the adapter completely into an oil container. Make sure that no air can enter into the adapter and hose.

1.4.3
Press MENU until the display shows OIL RECHARGE. Press ENTER.

1.4.4
Press MENU to select tank. Press ENTER to confirm.

1.4.5
The display shows a message. When you have checked the hose and the connections press START.

1.4.6
The oil fill procedure starts. When you here a signal the tank is filled to the correct oil level and the machine will stop.
1.5 Change oil - TANK 1 or TANK 2

1.5.1
Press MENU until the display shows OIL DISCHARGE. Press ENTER to confirm.

1.5.2
Press MENU to select TANK 1 or TANK 2. Press ENTER to confirm.

1.5.3
Connect the blue tube to the machine and put the other end of the tube in an oil retainer. Press START.

1.5.4
When the machine is finished it will start to blow air and oil. Press STOP immediately.

1.5.5
Go to chapter 1.4 to fill oil.

1.6 Service and maintenance

Oil change interval
It is important to regularly change the oil in the SP3 Vacuum pump.

<table>
<thead>
<tr>
<th>Machine usage</th>
<th>Change oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10 times a day</td>
<td>1 time/ year</td>
</tr>
<tr>
<td>10 times a day or more</td>
<td>Every 6 months</td>
</tr>
</tbody>
</table>

1.6.1
Remove the front panel, 4 screws.

1.6.2
When you change the oil, fill up to the middle of the oil level window, approximately 1.25 litre.

Oil recommendation

<table>
<thead>
<tr>
<th>Oil recommendation</th>
<th>Shell</th>
<th>Q8</th>
<th>ESSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHELL</td>
<td>Tellus T32</td>
<td>Haendel 32</td>
<td>Invarol EP46</td>
</tr>
</tbody>
</table>
1.7 Control the SP3 Vacuum Pump from the computer
If you download the software for the SP3 Vacuum Pump you can control the pump from your computer. You can also organize your customer register and keep track of service intervals and more.

To download, go to:
http://world.ohlins.com/Complementary/Software/SP3 Vacuum
Download the program to your desktop. Extract all files.

Install the driver
Connect your computer to the vacuum pump and see the instructions on the screen.

Install the program
Open the folder Vacuum pump on your desktop.
Click on the setup.exe icon and see the instructions on the screen.
Press the VP icon to start the program.

1.8 Change operation time
In special cases like for example when filling large shock absorbers for special applications you may want to change operation time. This procedure can only be done in the display menu on the machine, not in the PC software.

1.8.1
Press MENU and select SHOCK BLEEDING.

1.8.2
Select TANK 1 or TANK 2.

1.8.3
Select SHOCK WITH SEPARATOR.

1.8.4
You are now in the OPEN REGISTERS CHECK SEPARATOR POSITION mode.
Press MENU and ENTER at the same time to go to the TIME SOFTWARE mode.

1.8.5
You are now in the PROGRAMMING mode.
Select ASPIRATION TIME.
To select hours and seconds: Press START
To change the values: Press STOP
To go to the FILLING TIME mode: Press START
To move inside the menu: Press START
To change the values: Press STOP
Press MENU and ENTER at the same time to confirm and exit.
2 Bleed and fill oil

2.1 Shock absorber with separating piston

2.1.1
Press MENU.
The display shows SHOCK BLEEDING.
Press ENTER.

2.1.2
Press MENU to select TANK 1 or TANK 2.
Press ENTER.

2.1.3
Press MENU until the display shows SHOCK WITH SEPARATOR.
Press ENTER.

2.1.4
Open all external adjusters on the shock absorber.
Push the separator (free piston) to the bottom.
Install the circlip to prevent the free piston from going out too far when filling.

2.1.5
Use the appropriate adapter and connect the shock absorber to the tube.
Press START.

IMPORTANT
To prevent the filling tube from being clogged make sure to hold the shock absorber below the inlet holes during vacuum mode.

2.1.6
The machine will start the bleed procedure. The procedure will continue approximately 3 minutes. After the bleed procedure is finished the machine will start to fill oil.

IMPORTANT
Repeat the fill procedure to get the most correct oil fill result. Do not drain the shock absorber from oil before you start the second fill procedure, only repeat the fill procedure from step 2.1.1.

2.1.7
After the procedure is finished the pump will stop the oil fill procedure and you will see the message POSITION SEPARATOR on the display. Place the separator in the correct position.

2.1.8
Remove the hose from the shock absorber. Fill up the fill hole with oil. Install the fill screw and pressurize the shock absorber.

2.1.9
SHOCK BLEEDING

MENU = SELECTION
ENTER = EXECUTE

TANK1

MENU = SELECTION
ENTER = EXECUTE

SHOCK WITH SEPARATOR

MENU = SELECTION
ENTER = EXECUTE

OPEN REGISTERS
CHECK SEPARATOR
POSITION
PRESS START

IMPORTANT
Shock absorber below inlet holes.
2.2 Shock absorber with bladder

2.2.1
Press MENU.
The display shows SHOCK BLEEDING.
Press ENTER.

2.2.2
Press MENU to select TANK 1 or TANK 2.
Press ENTER.

2.2.3
Press MENU until the display shows SHOCK WITH BLADDER.
Press ENTER.

2.2.4
Open all external adjusters on the shock absorber.
To prevent the bladder and end cap from being pulled into the reservoir during bleed mode you must place the reservoir tube in a vise with soft jaws, clamp around the circlip.

2.2.5
Use the appropriate adapter and connect the tube to the shock absorber.
Press START.

IMPORTANT
To prevent the filling tube from being clogged make sure to hold the shock absorber below the inlet holes during vacuum mode.

2.2.6
The machine will start the bleed procedure. After the bleed procedure is finished the machine will start to fill oil.

IMPORTANT
Repeat the fill procedure to get the most correct oil fill result. Do not drain the shock absorber from oil before you start the second fill procedure, only repeat the fill procedure from step 2.2.1.

2.2.7
Deflate the valve and disconnect the hose from the shock absorber.
Remove the reservoir tube from the vise.
2.3 Steering damper

2.3.1
Press MENU.
The display shows SHOCK BLEEDING.
Press ENTER.

2.3.2
Press MENU to select TANK 1 or TANK 2.
Press ENTER.

2.3.3
Press MENU until the display shows SHOCK WITH SEPARATOR.
Press ENTER.

2.3.4
Open all external adjusters on the steering damper.
Remove the valve and the rubber reservoir.

2.3.5
Use the appropriate adaptor and connect the tube to the steering damper.
Press START.

IMPORTANT
To prevent the filling tube from being clogged make sure to hold the steering damper below the inlet holes during vacuum mode.

2.3.6
The machine will start the bleed procedure. The procedure will continue approximately 3 minutes. After the bleed procedure is finished the machine will start to fill oil.

IMPORTANT
Repeat the fill procedure to get the most correct oil fill result. Do not drain the steering damper from oil before you start the second fill procedure, only repeat the fill procedure from step 2.3.1.

2.3.7
After the procedure is finished the pump will stop the oil fill procedure automatically.

2.3.8
Remove the hose from the steering damper. Fill up the fill hole with oil. Install the valve, the rubber reservoir and the end cap screw.