



IMPACT SERIES REGULATOR

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OPERATOR'S GUIDE

1. IMPACT SERIES REGULATOR

1.1 OVERVIEW

Impact Series Regulator controls the length of the impact series of the hammer by forcing the hammer to pause once the maximum allowed impact length time is reached. This allows the hammer and the tool to cool down and prevents them from overheating, which prolongs the component lifetime.

Impact Series Regulator is installed under the carrier's cabin into the carrier's pilot circuit. The main components of the device consist of a control unit, a directional valve, and a pressure sensor. The control unit receives readings from the pressure sensor during hammer operation. When the readings indicate that an impact series has reached the maximum time limit, the control unit forces the hammer to pause. The control unit does this by switching the pilot circuit flow to the tank via the directional valve.

Note: Impact Series Regulator requires a supply voltage of 24 VDC.

Note: The operating temperature of the control unit is -40...+85 °C.

The duration of a continuous impact series is limited to 15 seconds, which is the maximum recommended impact length time of a hammer. The hammer pauses for either 5 seconds (default) or 2 seconds (optional), depending on the set operating mode.

Impact Series Regulator operates independently. The operator is only required to use the pedal to restart the hammer. See “Operation” on page 10.

The operator can also select the operating mode or disable the device. See “Selecting the operating mode” on page 10.

Note: The dealer is responsible for confirming with the carrier dealer whether installing Impact Series Regulator to the carrier has an effect on the warranty of the carrier. Sandvik cannot be held responsible if the warranty of the carrier expires due to installing Impact Series Regulator to the carrier.

MAIN PARTS AND CONNECTIONS

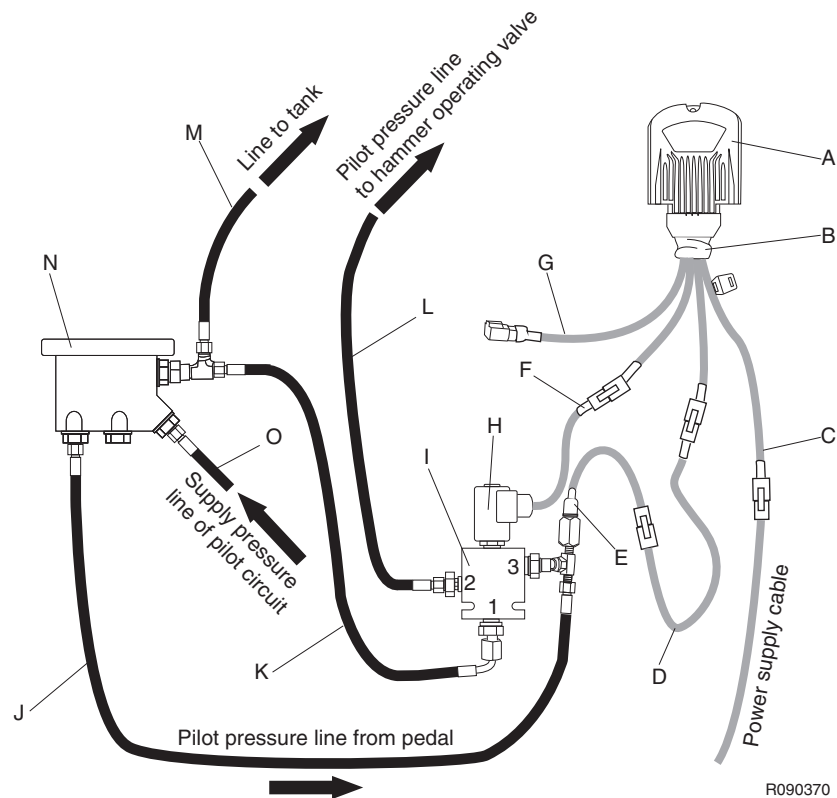


Fig. 1. Main parts and connections of Impact Series Regulator

- A. Control unit
- B. Main cable
- C. Power supply cable
- D. Pressure sensor cable
- E. Pressure sensor
- F. Valve cable
- G. Selection cable
- H. Directional valve
- I. Valve block
- J. Pilot pressure line from pedal
- K. Tank line of directional valve
- L. Pilot pressure line to hammer operating line
- M. Line to tank
- N. Pedal
- O. Supply pressure line of pilot circuit

LOCATION OF IMPACT SERIES REGULATOR

Impact Series Regulator is installed below the pedal under the carrier's cabin.

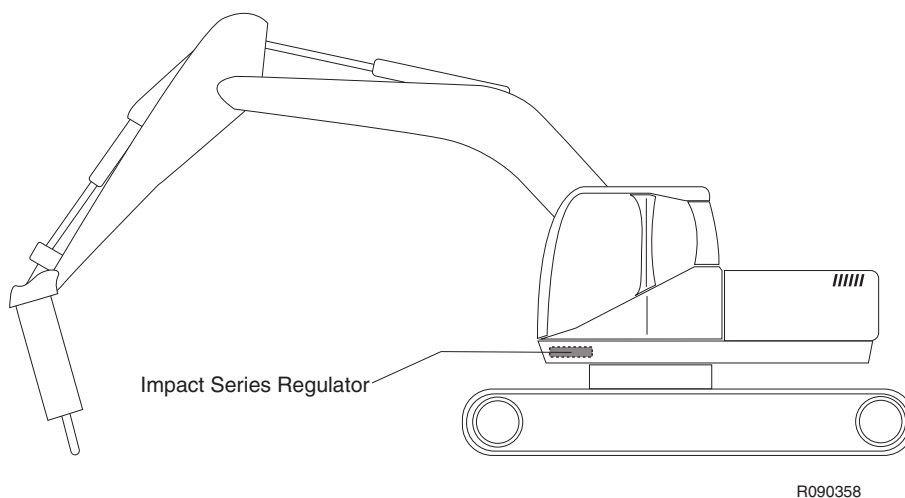


Fig. 2. Location of Impact Series Regulator

1.2 INSTALLATION

Note: Impact Series Regulator is designed to be used with hammers only. Do not install it on any other equipment.

RELEASING PRESSURE FROM THE HAMMER

Before installing Impact Series Regulator to the hydraulic pilot circuit, release the hydraulic pressure from the hammer.



Warning! The hydraulic pressure inside the hammer must always be released before making any adjustments or repairs when the hammer is connected to the carrier. Release the hydraulic pressure according to the following instructions before opening any hoses, plugs or valve covers.

1. Stop the carrier engine.
2. Operate the boom and hammer controls to release any pressure trapped inside the hoses.
3. Wait at least 10 minutes for the oil pressure to drop inside the hammer.

CONNECTING HYDRAULICS AND ELECTRONICS

1. Connect the hydraulic hoses and electrical cables. See “Main parts and connections” on page 5.
2. Connect the power supply cable to the carrier's 24 VDC power source. Pay attention to polarity! Conductor 1: 24 VDC, conductor 2: GND. Conductor identification is marked on the black insulation under the orange cable insulation.

Note: The power supply fuse is integrated in the main cable.

3. Install the desired plug to the selection cable. See “Selecting the operating mode” on page 10.

For more detailed information on connections, see ”Impact Series Regulator parts list” on page 14.

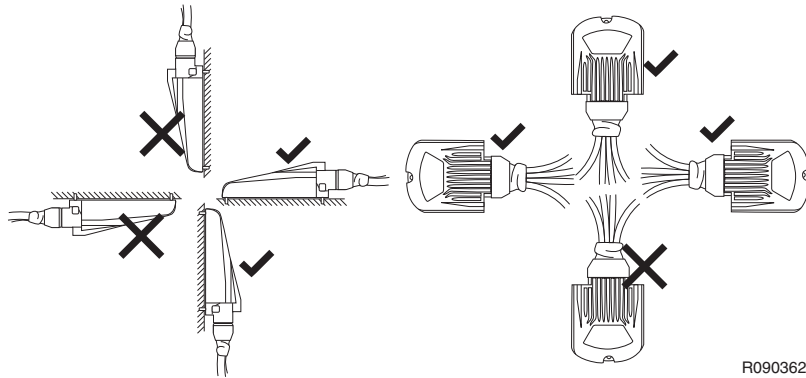
TESTING IMPACT SERIES REGULATOR OPERATION

Before mounting Impact Series Regulator under the carrier's cabin, check that the device works correctly when operating the hammer. Connect a pressure gauge to the hammer pressure line and observe the pressure gauge reading during operation.

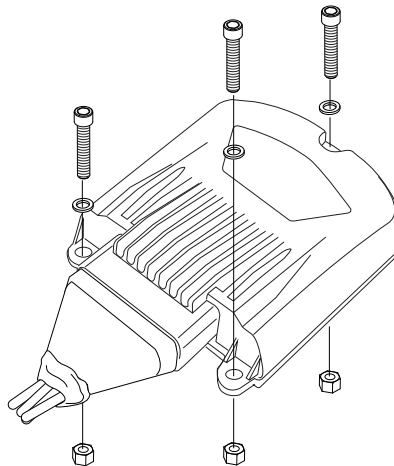
If the hammer does not pause according to the set operating mode or it does not operate at all, check the connections.

MOUNTING THE CONTROL UNIT

1. Position the control unit either the bottom side or the connector's side down.



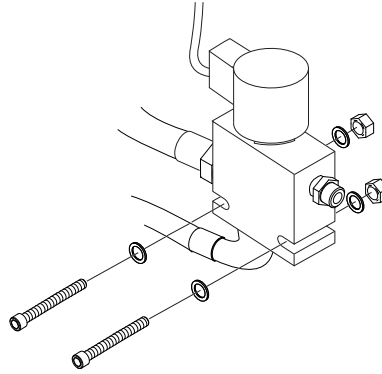
2. Fasten the control unit to the structures under the carrier's cabin with M5 hexagonal socket screws (3 pcs), M5 washers (3 pcs) and M5 hexagonal nuts (3 pcs).



Note: Mount the control unit with the connector side down to prevent the connectors from coming in contact with water and other fluids.

MOUNTING THE VALVE BLOCK

Fasten the valve block with two M6 hexagonal screws (2 pcs), M6 washers (4 pcs) and M6 hexagonal nuts (2 pcs) to the structures under the carrier's cabin. See the figure.



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Note: After mounting the control unit and the valve block, secure the loose cables to the structures.

1.3 OPERATION

Impact Series Regulator mainly operates independently. However, when Impact Series Regulator stops the hammer, the hammer will not automatically start again after the pause. To start the hammer again, lift the pedal and push it down.

Note: If other accessories are used in the same circuit, Impact Series Regulator must be turned off. Disable Impact Series Regulator by connecting the bypass selection plug to the selection cable. For more information, see "Selecting the operating mode".

SELECTING THE OPERATING MODE

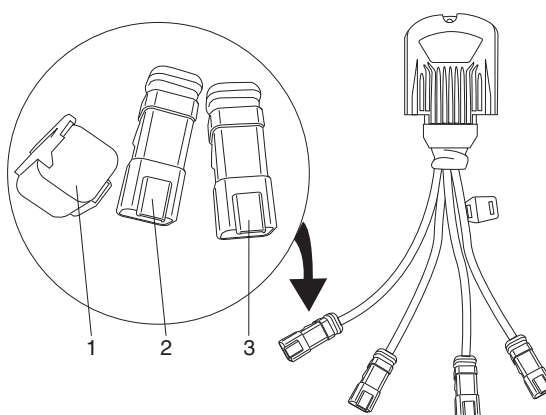
There are two operating modes for Impact Series Regulator:

- The default mode sets an operating time ratio of 75%: the hammer operates 15 seconds and then pauses for 5 seconds.
- The optional mode sets an operating time ratio of 88%: the hammer operates 15 seconds and then pauses for 2 seconds.

Select the operating time ratios by installing the appropriate plug to the selection connection in the main cable. See the figure.

- When using the operating time ratio of 75%, use the terminator plug (1) to cover the connection of the selection cable.
- To select the operating time ratio of 88%, use the longer cycle selection plug (2).
- To disable Impact Series Regulator, connect the bypass selection plug (3) to the selection cable.

The plugs are labeled with parts numbers. To identify the correct plug, see "Impact Series Regulator parts list" on page 14.



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Fig. 5. Selecting the operating mode plug

1.4 TROUBLESHOOTING



Warning: The hydraulic pressure inside the hammer must be released before making any adjustments or repairs when the hammer is connected to the carrier. Release the hydraulic pressure before opening any hoses, plugs, or valve covers. See “Releasing pressure from the hammer” on page 6.

THE HAMMER DOES NOT OPERATE OR OPERATES WITHOUT PAUSING

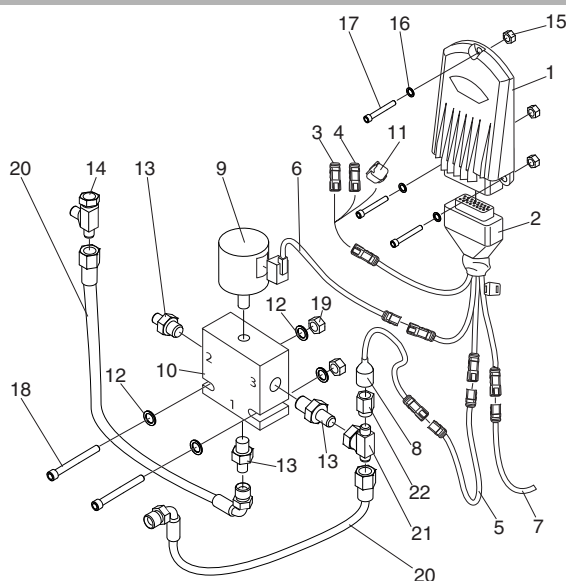
If the hammer does not operate or operates without pausing, Impact Series Regulator is not receiving power or the hydraulic pressure lines have been connected incorrectly.

Check that the lights of the control unit and the valve cable turn on while the pedal is pushed down. If the lights do not turn on, check the fuse and replace it if necessary.

If the hammer still does not operate correctly, check the connections. See “Main parts and connections” on page 5.

PARTS

1. IMPACT SERIES REGULATOR PARTS LIST



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Item	Description	Part no.	Specification	Note	Qty
Kit1	Assembly Kit (incl. parts 1-11)	176219			1
1	Pre-Installed Device	BG00971857	Control unit EPEC 3606		1
2	Harness, Wiring	BG00782294			1
3	Plug, Electric	BG00782361	Bypass selection		1
4	Plug, Electric	BG00782358	Longer cycle selection		1
5	Cable Assembly	BG00175618	Pressure sensor cable		1
6	Cable Assembly	BG00976500	Valve cable		1
7	Cable Assembly	55028691	Power supply cable Conductor 1: 24 VDC Conductor 2: GND	*	1
8	Transmitter, Pressure	55192871			1
9	Valve, Directional	88110729			1
10	Frame	88630169	Valve block		1
11	Plug, Cover	55207240	Terminator		1
Kit2	Installation kit (incl. parts 12-22)	176267			1
12	Washer		ISO 7089-6-140 HV		4
13	Connector				3
14	Union Tee		Polar teknik 6R6MXS		1
15	Hex. nut		ISO 10511-M5-8-A3G		3
16	Washer		ISO 7089-M5-200HV		3
17	Hex. socket screw		ISO 4762-M5x25-8.8-A3G		3
18	Hex. screw		ISO 4017-M6x60-8.8-A3G		2
19	Hex. nut		ISO 4032-M6-8-A3G		2
20	Hose assembly		L=1000		2
21	Union tee		Parker 6S6MXS		1
22	Test point connection				1

*) Conductor identification is marked on the black insulation under the orange cable insulation.



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