

Reference these instructions to install the Polish Powertrain POLPWR-001 Water Divider, designed for the BMW M10 engine. Read this document in its entirety before attempting to install this part.

Step 1.

Take several photos of your existing water divider from multiple angles. Label any wires you will have to disconnect and make note of the condition of your cooling system components. With your engine completely cold (ideally, not operated within 24 hours) drain your coolant safely into an appropriate sealed container for disposal. Dispose of your old coolant with respect to local laws and guidelines. If you are not confident in your ability to safely service your cooling system, stop prior to **Step 1.** and contact a BMW specialist mechanic to carry out this procedure.

Step 2.

Undo any sensor wires from your water temperature sensor(s) in your existing Water Divider. Carefully unscrew your temperature sensors from the Water Divider while your original Water Divider is still attached to the head of the engine. If you have a factory diagnostic port, unbolt it from the timing cover and water divider stud. Secure it out of the way.

Step 3.

With sensors removed, unscrew the hose clamps on your Water Divider and remove your hoses from the two water outlets. If they appear stuck you can gently twist the hoses as you remove them. Tuck the hoses out of the way and replace them if they are bulging or badly worn.

Step 4.

The factory Water Divider is secured to the head of the engine with two studs; one stud shared with the first intake runner on the intake manifold, and one stud forward of the Water Divider inlet port on the head. Using hand tools, remove the nuts on the studs (typically 12mm and 13mm 6-point) and be prepared for coolant to drain out of the head as you relieve pressure on the Water Divider. With the nuts removed, in many cases the factory Water Divider can be removed by carefully pulling it toward the left hand side of the car (as viewed from the driver seat) and rotating it counterclockwise (as viewed from the front left wheel) on the longer of the two studs once it is clear of the stud shared with the intake manifold. It may be required that you remove or loosen the intake manifold to remove yours.

Step 5.

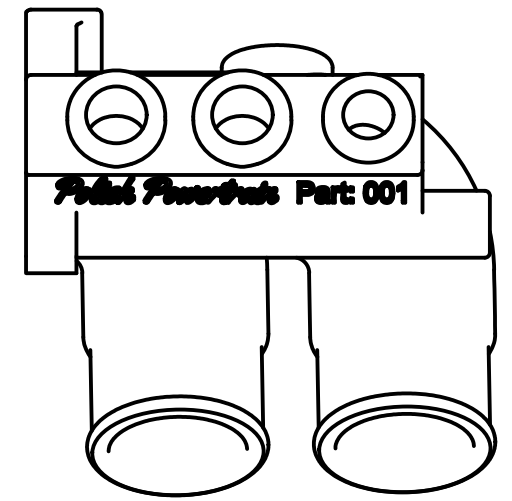
With the Water Divider removed from the engine, you will need to extract the longer of the two factory studs discussed previously. Once extracted, clean out the threaded portion of the head carefully. Use discretion when determining whether or not to chase the threads in the head, as it is aluminum and is very soft. Clean the mating surface of any gasket material, coolant, dirt, and sealant. The surface should be flat, clean, and dry to ensure a long-lasting repair.

Step 6.

Apply a thin, even layer of water pump / thermostat gasket maker / sealant to the engine side of the paper gasket. Install the gasket on the head of the engine. The gasket maker will help hold the gasket in place and ensure a good seal. Within five minutes, apply a thin, even layer of water pump / thermostat gasket maker / sealant to the mounting flange of the POLPWR-001 Water Divider. Slide the supplied 120mm M8 stud through the horizontal shaft of the Water Divider, holding the stud in place as you position the Water Divider near the head of the engine. Start to thread the stud into the head of the engine before mating the Water Divider to the gasket, checking alignment of the gasket, head, and Water Divider.

Step 7.

Once the threads are started on the stud and it is stable, mate the Water Divider to the head and gently bottom out the stud in the head of the engine. Fasten the original nuts onto the two studs, and snug them down but do not tighten them to final torque. After one hour, tighten the two nuts to 16ft/lbs.



Step 8.

Reinstall the sensors, wires, and hoses in reverse order. If you have a diagnostic port, the bracket can be bent to allow you to install it on the timing cover bolts only, skipping the stud. Replace any cooling components that are worn. After 24 hours, the cooling system can be refilled with the appropriate coolant. Make sure to follow BMW's coolant filling and air bleeding procedure and do not mix incompatible coolants. Enjoy your Polish Powertrain Water Divider. Thank you for making Polish Powertrain a part of your build!

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