Installation Instructions

Precision Sport Shifter

1999-2004 JEEP Wrangler
(4.0L I6 with NV3550 transmission)

Part Number 45048

This B&M Precision Sport Shifter has been designed to work on most 1999-2004 JEEP Wrangler (4.0L I6) model vehicles equipped with the NV 3550 manual transmission. It has been engineered to greatly reduce shift throw and improve shifter feel. Check the parts list and tool lists at the beginning of these instructions for the supplied parts and the tools required to install your B&M Precision Sport Shifter. Installation of the B&M Precision Sport Shifter can be accomplished by anyone with minimal mechanical experience.

INTRODUCTION

This B&M Precision Sport Shifter can be installed in less than an hour by carefully following the instructions. Read all instructions first to familiarize yourself with the parts, tools, and procedures. This kit contains all the parts necessary to install the shifter.

PARTS

B&M Precision Sport Shifter
**DISASSEMBLY**

**STEP 1.** Remove stock shift knob insert.  
*Tools: Screwdriver (flat)*

**STEP 2.** Remove stock shift knob jam nut.  
*Tools: Drive, extension, 9/16 socket*
STEP 3. Remove stock shift knob.

STEP 4. Remove shift boot.

STEP 5. Remove center console bolt a near shifter.
   Tools: Drive, extension, 10mm socket

STEP 6. Remove center console bolt b in cup holder.
   Tools: Drive, extension, 10mm socket.
STEP 7. Remove center console bolts from storage console (c).
   Tools: Drive, extension, 10mm socket

STEP 8. Remove bolts on passenger side of center console (d).
   Tools: Drive, extension, and 10mm socket

STEP 9. Remove center console.

STEP 10. Remove inner shift boot.
   Tools: Drive, extension, and 8mm socket
STEP 11. Remove 4-wheel drive shift base.
   Tools: Drive, extension, and 10mm socket

STEP 12. Remove floor plate.
   Tools: Drive, extension, and 8mm socket

STEP 13. Remove stock shifter.
   Tools: Drive, extension, 8mm socket

STEP 14. Pry pivot cup from stock shifter.
   Tool: Screwdriver (flat)
STEP 15. Press pivot cup onto B&M Precision Shifter.

STEP 16. Apply bead of silicone around perimeter of base.  
Tool: RTV Silicone

STEP 17. Install B&M Precision Shifter.  
Tools: Drive, extension, 8mm socket

STEP 18. Reinstall floor plate.  
Tools: Drive, extension, 10mm socket
STEP 19. Reinstall 4-wheel drive shift base.
   Tools: Drive, extension, 10mm socket

STEP 20. Reinstall inner shift boot.
   Tools: Drive, extension, 8mm socket


STEP 22. Install center console bolt  near shifter.
   Tool: Drive, extension, 10mm socket
STEP 23. Install center console bolt (b) in cup holder.  
   Tool: Drive, extension, 10mm socket.

STEP 24. Install center console bolts from storage console (c).  
   Tool: Drive, extension, 10mm socket

STEP 25. Install bolts on passenger side of center console (d).  
   Tools: Drive, extension, 10mm socket

STEP 26. Reinstall shift boot,
STEP 27. Install shift knob.

STEP 28. Install shift knob jam nut.
   **Tools:** Drive, extension, 9/16 socket.

STEP 29. Press insert into knob.

STEP 30. Test movement of shifter into all gears. Be sure all the parts have been securely tightened and shifter engages into each gear.
   DO NOT operate vehicle until all gears can be smoothly and fully engaged. ENJOY!
B&M’s Manual Shift Knobs are perfect when style and performance matter. Ergonomically correct and made from the highest grade materials, these sturdy knobs incorporate the latest styling as well as distinctive design. Each knob is designed to fit most vehicles equipped with a floor mounted manual gearbox stick. B&M knobs are mounted and tightly secured via an innovative stick locating/locking method that keeps the mounting method invisible. Fit up to 9/16” or 14mm thread diameter (except where noted).

These Hi-tech Button Knobs can be used to control any 12-volt function in your vehicle. They feature a momentary switch in a billet aluminum anodized knob. Suitable for nitrous or line lock systems. Fits metric thread sizes: M16x1.5, M12x1.75, M12x1.25, M10x1.5 and M10x1.25 shifter sticks. Knob measures 3.75” in height.
SuperCooler Oil Cooling Systems!

Hi-Tek Engine Cooling System

Fin & plate cooler construction
Includes 12 volt high flow fan
Pressure tested to 200psi
Units include 1/2 NPT fittings & thermal switch
Integral mounting brackets.
Suitable for all fluid cooling needs including: automatic transmission fluid, engine oil, differential fluid, power steering & turbocharger oil.

The newest addition to B&M’s line of SuperCooler transmission and engine oil coolers is the Hi-Tek cooling system. Fitted with a high quality 12 volt electric fan and built-in mounting brackets, these coolers handle tough cooling jobs. They include a thermal switch to activate the fan when the fluid temperature reaches 160 degrees F. Can be used for racing, street performance and touring.
Hi-Tek Cooling System 13-1/2" x 9" x 3-1/2" w/9-1/2" fan . 70297
Hi-Tek Cooling System 10" x 7-1/2" x 4" w/7" fan . . . . . . . 70298

SuperCooler Transmission Fluid & Engine Oil Coolers

The most efficient coolers by size & weight you can buy!
Much better cooling than ordinary ‘fin & tube’ coolers.
Resistant to damage from flying rocks or other debris.
Fits all cars & light trucks with automatic transmission.
Pressure tested to 200 PSI.
Suitable for all fluid cooling needs including: automatic transmission fluid, engine oil, differential fluid, power steering & turbocharger oil.

B&M SuperCoolers are 100% aluminum construction and use stamped plates sandwiched together to create one of the most efficient oil cooling devices available. Not only does this unique design provide for maximized cooling through more efficient heat dissipation but it also provides a much sturdier cooler which is practically impervious to flying rocks or other debris. The Super-Coolers intended for automatic transmission fluid also offer an additional feature known as “Low Pressure Drop”. The coolers assembled with hose barb ends include a unique bypass feature allowing a controlled amount of ATF to bypass the stacked plate core when the fluid is cold. This is beneficial in cold climate areas to guard against lube system failure. Controlled by viscosity, fluid is returned directly to the lube circuit through bypass openings in the stacked plate core. As the temperature increases, more ATF is directed through the core. This highly efficient design combines improved protection against lube system failure with the required levels of optimal heat transfer.

SuperCooler - Engine Oil/ATF 11" X 2-3/4" X1-1/2" . . . . . . . 70265*
SuperCooler - Engine Oil/ATF 11" X 8"X1-1/2" . . . . . . . . . . 70272*
SuperCooler - Engine Oil/ATF 11" X 5-3/4"X1-1/2" . . . . . 70273*
SuperCooler - Engine Oil/ATF 11" X 8"X1-1/2" . . . . . . . . . . 70266*
SuperCooler - Engine Oil/ATF 11" X 11"X1-1/2" . . . . . 70274*
SuperCooler - ATF 11" X 5-3/4" X 3/4" . . . . . . . . . . 70255
SuperCooler - ATF 11" X 7-1/2" X 3/4" . . . . . . . . . . 70268
SuperCooler - ATF 11" X 6" X 1-1/2" . . . . . . . . . . 70264

* Assembled with female 1/2” NPT fittings. 70265 & 70272 model are polished.
Heat Is The #1 Killer Of Engines & Transmissions. Protect Your Vehicle With The Most Efficient Coolers By Size & Weight Available!

Hi-Tek Engine Oil Cooler Kit
For those that demand the best! This engine oil cooler kit comes complete with CNC machined billet aluminum remote filter mount and engine oil adapter, -10 braided steel hose and stacked plate design oil cooler. Utilizing the small stacked plate oil cooler this kit is ideal for the sport compact car. This kit will fit most vehicles with spin on oil filters and 20mm X 1.5 oil filter threads and many domestic U.S. vehicles with spin on oil filter and 3/4"-16 oil filter threads. This kit is designed to remotely mount the oil filter and includes an adapter to mount to the engine block.

Hi-Tek Engine Oil Cooler Kit ............................................................... 70296

Engine Oil Coolers Systems
Without a cooler, high engine speeds and oil temperatures can break down lubricants and destroy your engine. The same rugged design, stacked plate SuperCooler is included in the engine oil cooler kits along with the necessary hardware and adapters to fit your engine. Small compact design, yet extremely efficient SuperCoolers will cool the oil reducing the risk of fluid break down.

Most GM V-8s with recessed filter..................................................... 70270
Most sport compacts with 20mm X 1.5 or 3/4"-16 oil filter threads ............................................................... 70261

Engine Oil Thermostatic Control Valve
This remote engine oil thermostat will help maintain proper oil temperatures required in today's high performance vehicles outfitted with auxiliary oil coolers. A must for street driven vehicles. When oil temperature is below 180°F, the valve bypasses 90% of the oil, allowing 10% to flow through the cooler to prevent possible air pockets. Above 180°F, the valve opens fully and flows 90% through the cooler.

Thermostatic control valve .............................................................. 70259

Cooler Selection Chart

<table>
<thead>
<tr>
<th>Part #</th>
<th>Dimensions</th>
<th>BTU Rating</th>
<th>Engineered For</th>
</tr>
</thead>
<tbody>
<tr>
<td>70255</td>
<td>11&quot; x 5-3/4&quot; x 3/4&quot;</td>
<td>9,800</td>
<td>Transmission Fluid</td>
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<tr>
<td>70268</td>
<td>11&quot; x 7-1/4&quot; x 3/4&quot;</td>
<td>13,000</td>
<td>Transmission Fluid</td>
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<td>70264</td>
<td>11&quot; x 5-3/4&quot; x 1-1/2&quot;</td>
<td>14,400</td>
<td>Transmission Fluid</td>
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<td>11&quot; x 5-3/4&quot; x 1-1/2&quot;</td>
<td>15,000</td>
<td>Transmission Fluid, Engine Oil, Powersteering Fluid, Differential Fluid, Turbo Oil</td>
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<tr>
<td>70266</td>
<td>11&quot; x 8&quot; x 1-1/2&quot;</td>
<td>20,500</td>
<td>Transmission Fluid, Engine Oil, Powersteering Fluid, Differential Fluid, Turbo Oil</td>
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<td>70274</td>
<td>11&quot; x 11&quot; x 1-1/2&quot;</td>
<td>29,200</td>
<td>Transmission Fluid, Engine Oil, Powersteering Fluid, Differential Fluid, Turbo Oil</td>
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<td>7,500</td>
<td>Transmission, Engine Oil, Powersteering Fluid, Differential Fluid, Turbo Oil</td>
</tr>
<tr>
<td>70272*</td>
<td>11&quot; x 8&quot; x 1-1/2&quot;</td>
<td>20,500</td>
<td>Transmission Fluid, Engine Oil, Powersteering Fluid, Differential Fluid, Turbo Oil</td>
</tr>
</tbody>
</table>

* Polished