Installation Instructions

Short Throw Shifter

BMW E30, E36, E46 and E36 including M3

Part Number 45125 & 45126

This **B&M Short Throw Shifter** has been designed to work on most BMW E30, E36, E46, and E39 including M3 models equipped with a manual transmission. It has been engineered to greatly reduce shift throw and improve shifter feel. Part Number 45125 is a full race version shifter that directly links the driver to the transmission without compromise. Part Number 45126 is an isolated version of the race shifter, damping some of the vibration and noise associated with race vehicles. A complete description high-lighting the benefits and construction of each shifter is provided at the end of these instructions. Check the tool list on page 2 of these instructions for the tools required to install your **B&M Short Throw Shifter.** Installation of the **B&M Short Throw Shifter** can be accomplished by anyone with minimal mechanical experience.

INTRODUCTION

The **B&M Short Throw Shifter** can be installed in less than an hour by carefully following the instructions. Read all instructions first to familiarize yourself with the parts and procedures. This kit contains all the parts necessary to install the shifter. When installing your **B&M Short Throw Shifter** there are several other **B&M** products you may wish to consider:
B&M Manual Shifter Knobs: #80537 (Round Billet - Polished), **#80538** (Round Billet - Blue) and **#80539** (Round Billet - Black). These sturdy knobs are ergonomically designed to better fit your hand during hard-core performance driving. These knobs incorporate an innovative stick locating/locking method that allows the knob to fit on virtually any manual transmission stick.

DISASSEMBLY

We suggest the vehicle be allowed to cool for an hour or two before you begin since you will be working around the exhaust system.
STEP 1. Remove the knob from the shift lever by pulling it sharply upwards.
STEP 2. Unclip the shift lever boot from the center console and remove the boot over the shift lever. Where applicable, remove the foam insulation. Remove the rubber boot holding the shifter.
STEP 3. Raise and support the vehicle. The vehicle should be raised so there is at least 2 feet of ground clearance for ease of installation and safety. **CAUTION:** MAKE SURE THE VEHICLE IS RIGIDLY AND SECURELY SUPPORTED, JACK STANDS, WHEEL RAMPS OR A HOIST WORK BEST, DO NOT USE JACKS ALONE.
STEP 4. Working under the vehicle, pry the securing clip from the end of the gear selector rod pin. Remove the selector rod pin from the eye on the end of the shift lever, and set aside the washers and the securing clip as they will be reused **(See Figure #1).**
STEP 5. It is now necessary to release the shift lever lower bearing retaining ring from the selector arm **(See Figure #1).** A special BMW tool is available for this purpose, but two screwdrivers, with the tips engaged in opposite slots in the bearing ring can be used instead. To unlock the bearing ring, turn it a quarter-turn counterclockwise.
STEP 6. The bearing can now be pushed up through the housing, and the shift lever can be withdrawn from inside the vehicle.

ASSEMBLY

STEP 7. The **B&M Short Throw Shifter** comes ready to be install in most E30, E36, E46, and E39 except M3 models. For the M3 application, use two small flat head screw drivers to adjust (much like a key ring) the spiral retaining rings to the upper groove position **(See Figure #2).** Note: It will be necessary to move the top ring above

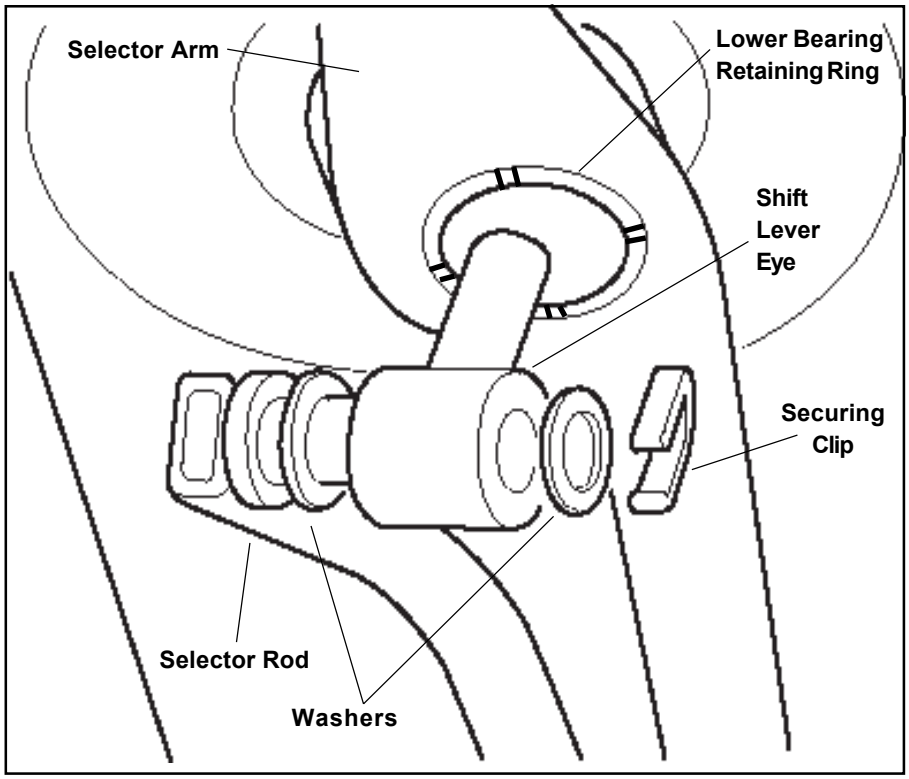


Figure #1

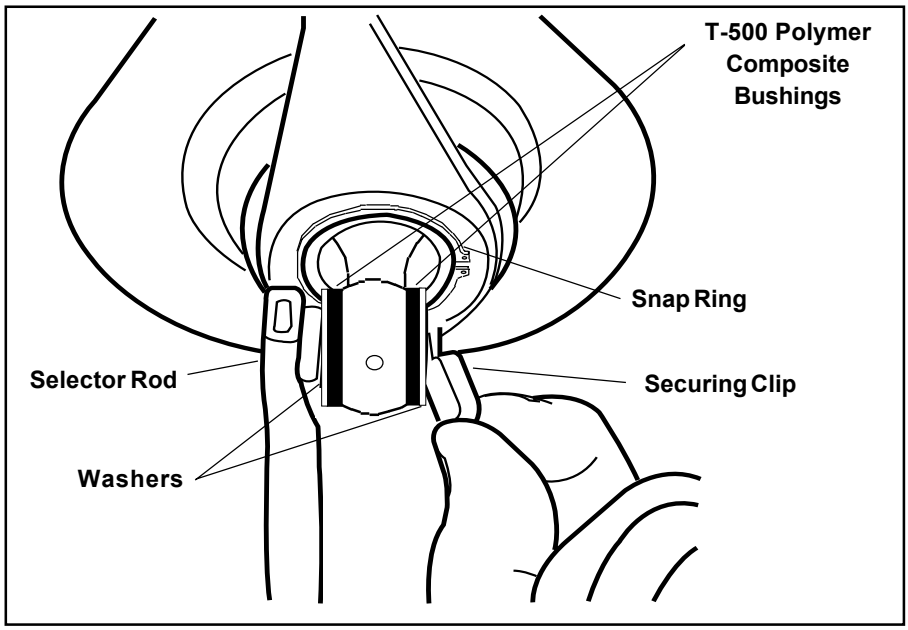


Figure #3

Parts List

1 B&M Short Throw Shifter
1 Large Snap Ring
1 Small Spiral Retaining Ring
2 Teflon Bushings
1 Tie Wrap
1 Lithium Grease Packet
2 O-Rings (extra)
1 Instruction Sheet

Tools List

2 Medium Flat Head Screwdrivers or BMW tool
External Snap Ring Pliers
2 Small Flat Head Screwdriver
Hydraulic Jack or Hoist
Jackstands or Wheel Ramps

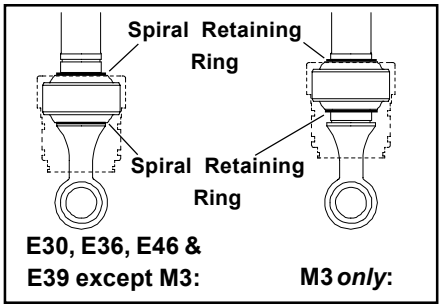


Figure #2

the top groove to the upper portion where the stick bends in order to access the lower ring.

STEP 8. Thoroughly clean the inner portion of the gear selector arm housing. Using the supplied lithium grease, generously lubricate this area and the o-rings on the blue shifter pivot extension of the **B&M Short Throw Shifter**.

STEP 9. Insert the **B&M Short Throw Shifter** into the gear selector arm housing. Make sure the blue shifter pivot extension sits flush in the gear selector arm housing (extra o-rings have been supplied if the installed o-rings should become damaged). Install the supplied snap ring into the bottom groove of the shifter pivot extension using the external snap ring pliers. Verify that the snap ring has fully engaged the groove of the shifter pivot extension **(See Figure #3).**

STEP 10. Using the supplied lithium grease, lubricate the selector rod pin. Gently insert the selector rod pin through the T-500 polymer composite bushings in the shifter and install the washers that were set aside earlier.

STEP 12. Reinstall the securing clip onto the groove of the rod pin **(See Figure #3).**

STEP 13. Carefully lower the vehicle and install the rubber boot (seal the boot to the stick using the supplied tie wrap if necessary), the foam insulation, the shifter boot and the shift knob. Slide the shifter through each gear, checking for binding or rough movement. If the shifter does not move smoothly, raise and support the vehicle and check that the washers are properly seated and that the linkage does not bind. DO NOT operate vehicle until each gear can be smoothly and fully engaged!

Short Throw Shifter

BMW E30, E36, E46 and E36 including M3

Part Number 45125
(Race Version)

High quality aerospace lithium grease lubricant resists contamination, drying, spoiling, and provides the best extreme temperature low friction lubrication available.

Fully billet 416 heat treated high strength stainless steel stick provides an uncompromised direct link to the transmission for the hard core race vehicle.

Adjustable pivot position allows for standard BMW and M3 model applications in one unit.

Oil impregnated bronze and polymer fiber composite race spherical bearing is designed for constant self lubrication for millions of cycles. Unlike the stock BMW plastic housing which relies on grease for lubrication and eventually wears to a sloppy, less-than-precision fit; this spherical bearing has been designed to out-last even the not-so-average BMW over 10 times before it even begins to show even the slightest signs of wear.

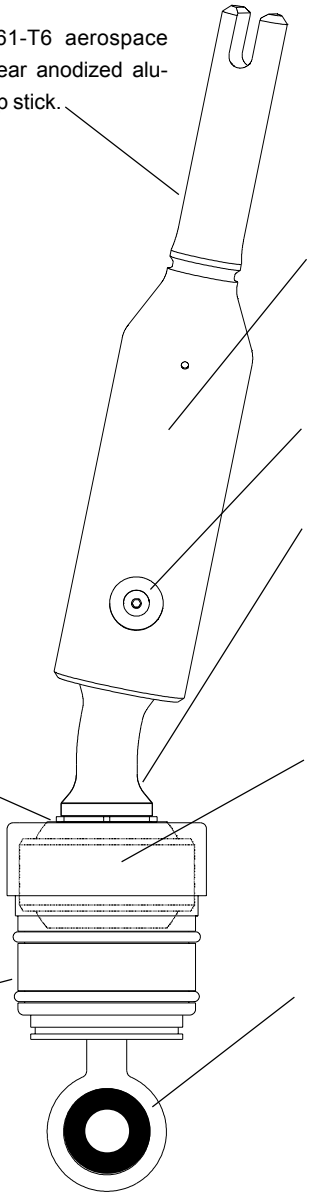
6061-T6 aerospace quality blue anodized aluminum, o-ring damped pivot extension properly repositions the fulcrum point of the shifter to maintain the original shift rod angle for smooth shifting.

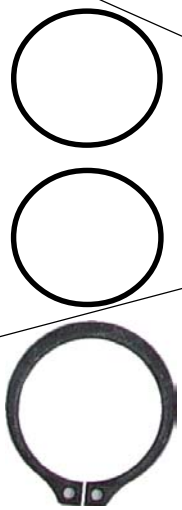
German made high precision T-500 high tempetature polymer composite Igus bushings - Unlike ball bearings that are designed specifically for high rotation and NOT axial point load forces over just a few degrees of rotation, these self lubricating bushings distribute load over the entire bushing surface and will not "flat spot" nor cause rough movement like a point loaded ball bearing eventually will.

Short Throw Shifter

BMW E30, E36, E46 and E36 including M3

Part Number 45126
(Isolated Version)





High quality aerospace lithium grease lubricant resists contamination, drying, spoiling, and provides the best extreme temperature low friction lubrication available.

Billet 6061-T6 aerospace quality clear anodized aluminum top stick.

Fully rebuildable vibration isolation system uses high compression buna-n (nitrile) o-rings that meet or exceed ASTM D200, SAE J200, and Aerospace Standard (AS) 568A for complete 6th axial damping.

Completely isolated and damped 303S stainless steel rotational load stop.

Fully billet 416 heat treated high strength stainless steel lower stick.

Adjustable pivot position allows for standard BMW and M3 model applications in one unit.

Oil impregnated bronze and polymer fiber composite race spherical bearing is designed for constant self lubrication for millions of cycles. Unlike the stock BMW plastic housing which relies on grease for lubrication and eventually wears to a sloppy, less-than-precision fit; this spherical bearing has been designed to out-last even the not-so-average BMW over 10 times before it even begins to show even the slightest signs of wear.

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