



Installation Instructions Bracket and Lever Kit Ford 4R70W Transmission Part No. 40504

See "Applications" tab on this product's page at www.bmracing.com for complete vehicle & model year fitment.

This B&M Bracket and Lever Kit allows any B&M Shifter to be used on a vehicle equipped with a Ford 4R70W automatic transmission. Both selector shaft and selector lever are made of T6 Aluminum for strength and durability. To extend the life of this kit, the selector shaft and the selector lever have been hard anodized to prevent wear and corrosion. Check the parts and tools lists at the beginning of these instructions for the supplied parts and the tools required to install your B&M Bracket and Lever Kit. Installation of the B&M Bracket and Lever Kit can be accomplished by anyone with minimal mechanical experience.

INTRODUCTION

This B&M Bracket and Lever Kit can be installed in less than an hour by carefully following the instructions. Read all instructions first to familiarize yourself with parts, tools and procedure.

PARTS

SELECTOR
SHAFT



SELECTOR
LEVER



CABLE
BRACKET



M10
BOLT



M10
WASHER



SPACER
X2



M8
BOLT
X2



CABLE
SWIVEL



COTTER
PIN



TOOLS

DRIVE
1/4", 3/8"



EXTENSION
1/4", 3/8"



SOCKET
8MM
1/4"



SOCKET
10MM
1/4", 3/8"



SOCKET
13MM
1/4", 3/8"



DIAGONAL
CUTTERS



PLASTIC
MALLET



WRENCH
17MM, 21MM



TORQUE
WRENCH



STEP 1. Drain transmission fluid.

STEP 2. Disconnect shift linkage
from transmission shift lever.

STEP 3. Remove two (2) bolts and remove
Neutral Position Sensor.
NOTE: On some applications, Neutral
Position Sensor will be rotated 180 degrees
by design. The kit is designed to adapt to
both versions. Sensor to be installed in same
orientation as removed.
TOOLS:
Drive, Extension, & Socket (8mm).



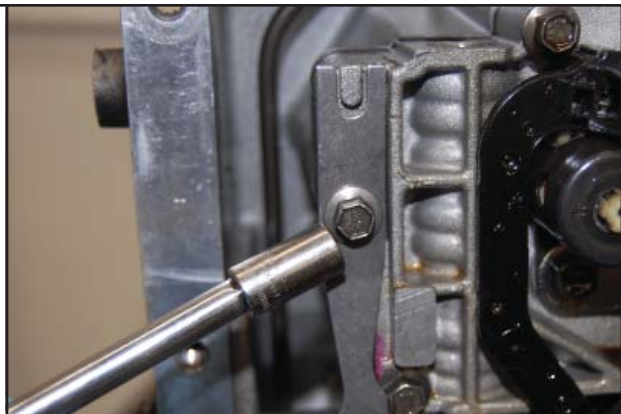
STEP 4. Remove the transmission pan, and then remove oil filter from valve body.

TOOLS: Drive, Extension, & Socket (10mm).



STEP 5. Remove one (1) bolt and remove detent spring.

TOOLS: Drive, Extension, & Socket (8mm).



STEP 6. Remove Selector Shaft/Lever Retaining Pin.

TOOL: Diagonal Cutters.

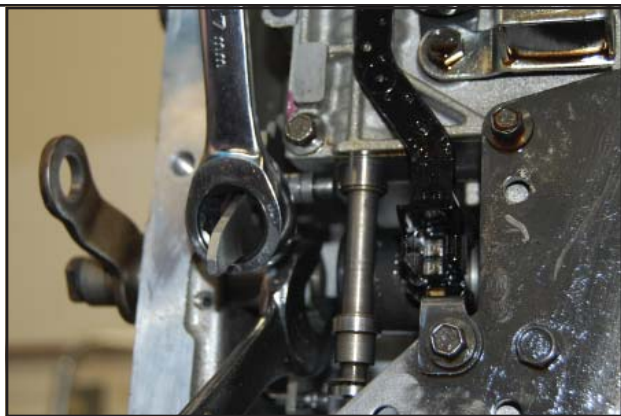
* use diagonal cutters, and transmission case for leverage, to pry pin out from case.
DO NOT CUT PIN.



STEP 7. Remove nut on inner end of shaft.

TOOLS: 21mm Wrench, and (optional: 17mm wrench).

* optional: use 17mm wrench to keep shaft from rotating, while using the 21mm wrench to loosen nut.



STEP 8. Remove selector shaft from case.



STEP 9. Slide B&M Selector Shaft into case.
Engage B&M Shaft with inner shift lever and install nut. Use B&M Selector Lever to visualize position of selector shaft.
When inner shift lever is in the park position, the selector lever should be pointed downwards and to the left.
(Refer to picture on the right.)



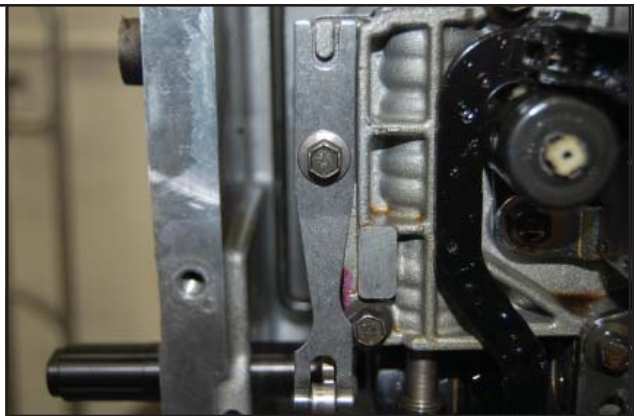
STEP 10. Install Selector Lever Retaining Pin.

TOOL: Plastic Mallet

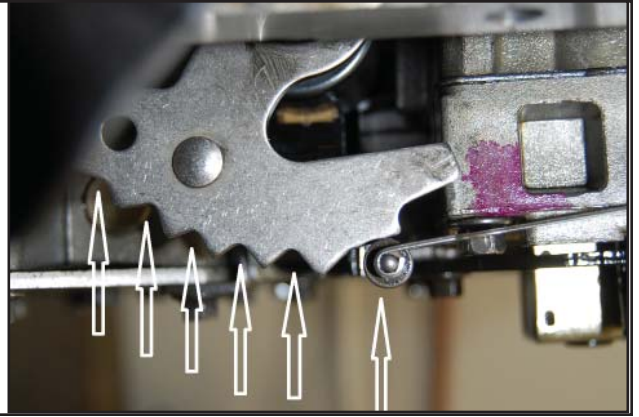
* DO NOT HAMMER PIN ALL THE WAY INTO THE CASE!
Pin should stick out from case approximately 1/4" for future removal.



STEP 11. Install Detent Spring.



STEP 12. Verify inner shift lever moves through every position.



STEP 13. Replace the oil filter. We recommend that you use a new filter unless the vehicle has very low mileage. Replace the oil pan gasket with a new gasket. Replace the original bolts except for the two that secure the cable bracket. The cable bracket is installed with the supplied bolts with spacers between the bracket and the pan. Tighten the oil pan bolts to 12-16 ft-lbs.

TOOLS: Torque Wrench, Drive, Extension, & sockets (10 & 13mm).



STEP 14. With selector shaft in neutral position, Install Neutral Position Sensor. (NOTE: replace Neutral Position Sensor in same orientation as found before removal). Align sensor to neutral position before tightening two (2) 8mm bolts.

* Use selector lever to rotate Selector Shaft to neutral position.



STEP 15. Secure B&M Selector Lever onto B&M Selector Shaft with M10 bolt and M10 washer.

TOOL: Wrench (17mm).



STEP 16. Fill transmission with proper amount of transmission fluid.



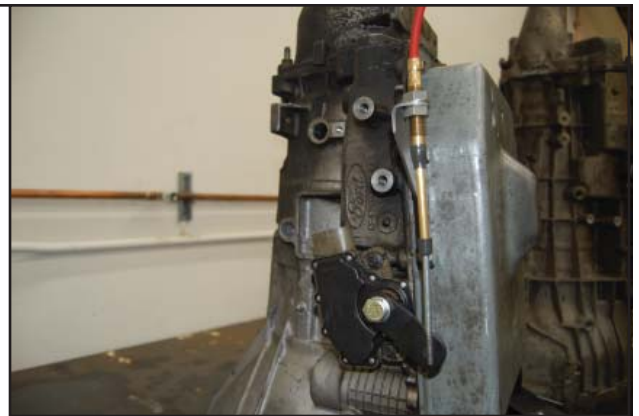
STEP 17. Remove two rubber boots, one large nut, and a large lockwasher from threaded end of shifter cable.



STEP 18. Route the cable from the shifter to the transmission as explained in the shifter installation instructions. Avoid sharp bends and route the cable away from the hot engine exhaust parts. Cable may be secured up and out of the way with nylon cable ties.



STEP 19. Slide end of cable into cable bracket, install lockwasher and large nut over end of cable. Tighten both large nuts to hold cable in this position. Install two rubber boots onto end of cable.



STEP 20. Move the transmission selector lever all of the way forward to the park position. Then move the lever rearward two positions to the neutral position. Install the swivel on to end of cable and adjust until the small end of swivel slides freely in and out of the selector lever. Move the shifter through all of the gear positions and check that the swivel slips freely in and out of the selector lever in each gear position. Note: Swivel may have to be adjusted one turn in either direction. Install cotter pin into swivel and spread key ends.



STEP 21. Start the engine and shift the transmission through all of the gear positions and then to neutral. Check the transmission fluid level, and add more fluid if necessary to bring it up to the proper level. Be sure that the shifter operates smoothly and that the transmission shifts to the correct gear.



STEP 22. INSTALL COMPLETE! ENJOY!