



Mazda Speed 3 TWM Performance Short Throw Shifter Installation Manual

Please Note: It is preferable to park on a flat surface, as you will have to engage and disengage the hand brake and shift from gears to neutral. If you cannot do so and are obliged to install the short shifter on a slightly inclined surface, place wooden blocks in front or behind the wheels to prevent the car from moving while you are working.

Estimated Installation Time: 60 Minutes

Tools Required:

- Philips head screw Driver
- 1 small and 1 large flat head screw driver
- 8mm and 10mm socket
- Ratchet with extension
- Needle nose pliers or needle nose Vice Grips
- T-20 Torx screwdriver or bit
- White lithium based grease is recommended
- The help of an assistant is recommended



1. Unscrew the stock shift knob by rotating it counter clockwise.



2. Open the storage compartment in the center console and remove the foam rubber mat in the bottom to access the 2 bolts. Use an 8mm socket and ratchet with an extension to remove the 2 bolts.



3. Lift up on the rear half of the console to begin removal. The rear portion can be removed from the car and put in a safe place.



4. Continue console removal by lifting the front of the console with the shift boot attached. The front portion of the console can now be removed and put in a safe place.



5. Unscrew the two 8mm bolts at the front of the console with an 8mm socket and ratchet or a Philips head screwdriver.



6. Remove the ashtray if your car is equipped with one by pulling up and out.



7. Remove the lighter face plate by pulling up and out. Use both hands to remove the plate, one below the small door and one above. The cables connected to the back of the plate can be left connected, simply set the face plate aside on the driver's side so it is out of the way of the center console.



8. Use a ratchet and an 8 mm socket to remove the 2 bolts exposed by removing the lighter face plate.



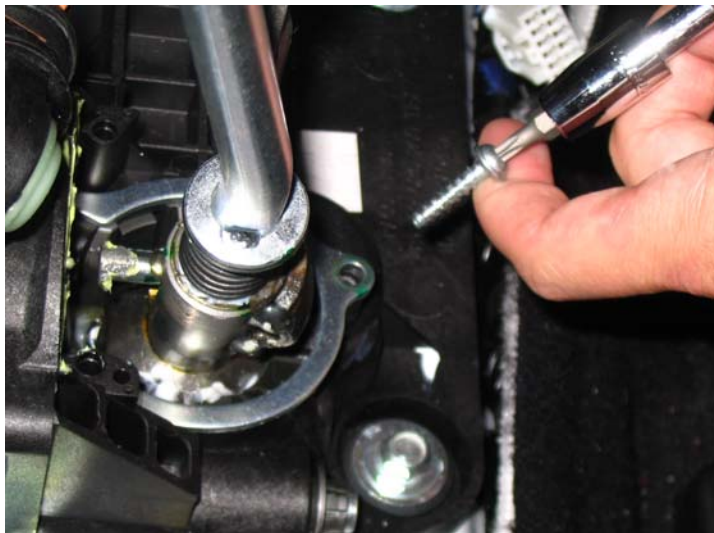
9. The center console can now be backed up a few inches to access the white plastic connector which provides power to the rear compartment in the center console. Disconnect the white plastic connector to free the center console from the harness and enable it to be removed from the car.



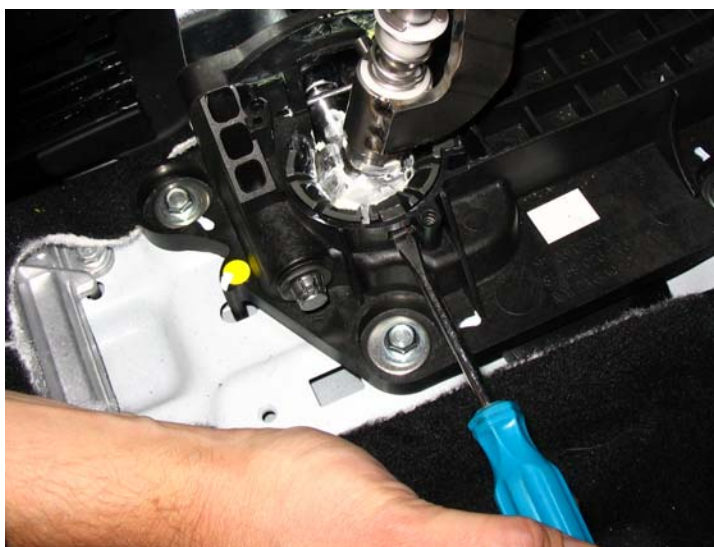
10. Remove the entire center console from the car by lifting up and back.



11. Use a large flat head screwdriver to pry the cable from the stock shifter using the metal tab on the shifter as an anchor point for the screwdriver. Repeat for the second cable that controls side to side movement on the shift assembly.



12. Remove the Torx head screw holding the steel retaining ring around the base of the shifter with a T-20 Torx screwdriver. Remove the ring and put in a safe place for re-installation later.



13. This step is more easily accomplished with the help of an assistant.

There are 3 tabs that need to be depressed simultaneously on the outside perimeter of the plastic cup which surrounds the main pivot ball of the shifter. Each of these tabs can be depressed individually with a small flat head screwdriver, then held in place with a paperclip or similar object.

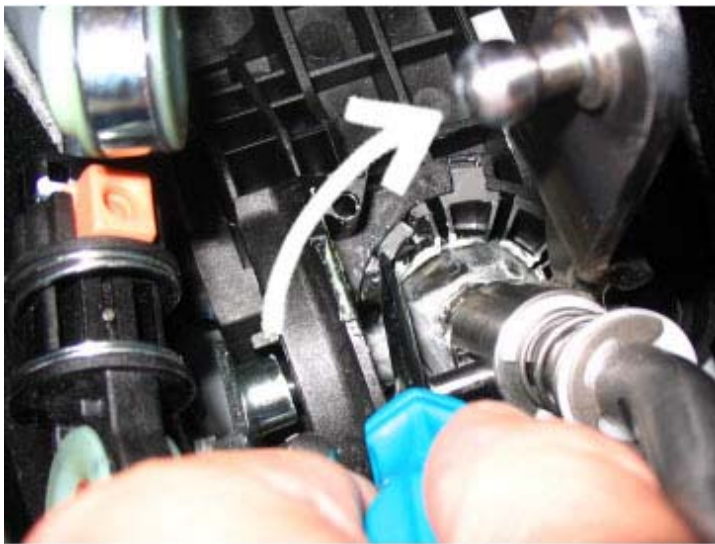
**USE CAUTION DURING THIS STEP
NOT TO BREAK THE TABS.**

The 3 tabs are pictured being depressed individually in the pictures to the left and on the next page. The first tab pictured on this page can be



accessed easily with a flat head screwdriver through a rectangular cutout in the shift assembly on the passenger side of the shift assembly.

The second tab pictured to the left can be depressed by inserting a small flat head screwdriver in the gap next to the tab. Once the screwdriver is in place it can be rotated to apply inward pressure on the tab and push it toward the shifter and away from the shift assembly wall.



The third tab can be depressed in the same manner as the second by inserting a flat head screwdriver and twisting to apply inward pressure on the tab and push it toward the shifter and away from the shift assembly wall.

Once each tab is depressed it can be held in place by inserting a paperclip between the shift assembly and the tab to keep it out of the slot which keeps the plastic cup in the shift assembly.



The last picture on the left shows the paperclips in place to keep the tabs out of the slots. Once all 3 tabs are compressed proceed to the next step.



14. With all 3 tabs depressed, ask an assistant to use needle nose pliers or needle nose vice grips to lift up on the top leg of the spring which controls side to side movement to relieve tension on the side arm of the shifter.

The shifter can now be lifted up and out of the shift assembly.



15. Remove the large grey plastic pivot cup from the shifter by pulling it down and off the bottom of the shifter.

Remove the small white cup on the pivot ball of the side arm of the shifter and put in a safe place for re-installation later.



16. Grease the main pivot ball of the TWM Performance short shifter, be sure to grease the entire ball.

Also apply grease to the small pivot ball on the side arm of the TWM shifter. TWM recommends using white lithium based grease, however most automotive grease will work well.



17. Install the large grey plastic pivot cup on to the greased TWM shifter main pivot ball.

Install the small white plastic cup on the side arm of the short shifter.



18. Now you are ready to install the TWM shifter in to the shifter assembly.

To do so, the upper leg of the spring on the driver's side of the assembly needs to be lifted above the hole on the steel side plate with needle nose pliers or needle nose vice grips as pictured to the left.

While an assistant lifts the leg of the spring to remove tension, line up the white cup on the side arm of the shifter with the hole in the steel side arm and slide it in to the hole while lowering the short shifter back into the assembly. If you find it difficult to perform this step with the small white cup installed on the side arm, remove it as it can be installed later.

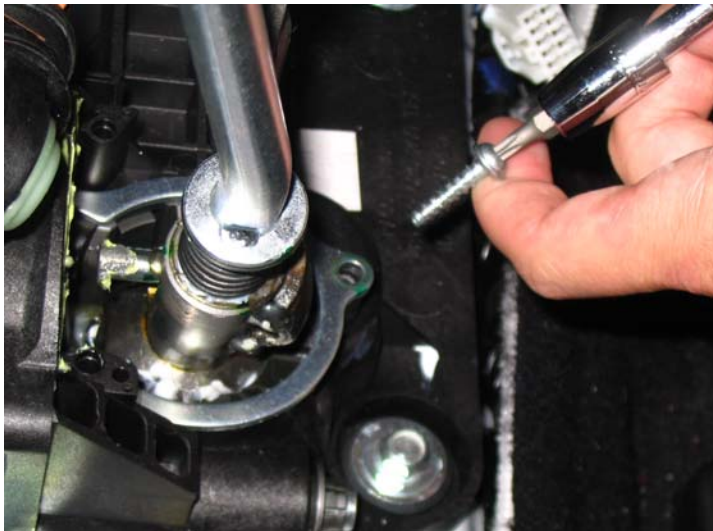


Be sure that when the spring is released the upper leg rests in the groove in the side arm of the shifter. Push down on the shifter to ensure that the clips on the grey plastic cup seat properly in the slots in the shift assembly. You should hear the clips pop back in when the grey cup is in position.



19. If you chose not to install the shifter with the white plastic cup installed on the side arm in the previous step, it can be installed now. Insert it in to the hole on the steel side plate so it lines up with small pivot ball on the shifter's side arm.

Once it is in place, give it a firm tap to pop it on to the small pivot ball on the shifter side arm. This can be done with the handle of a screwdriver or a small hammer.



20. Re-install the steel retaining ring around the base of the shifter with a T-20 Torx screwdriver.



20. Note: Steps 20 to 25 are only to be performed if you have purchased the optional shifter base bushings.

With the shifter cables still disconnected from the shifter, use a 10mm socket and ratchet to remove the 4 bolts holding the shift assembly to the floor pan of the car. Put the bolts in a safe place for re-installation later.



21. Use a flat head screwdriver to pry the 4 steel inserts out of the rubber bushings at each corner of the shifter assembly. Work your way around each bushing prying upward to slide them out.



22. Lift the corner of the shift assembly just enough to place your hand beneath it. With the other hand, use your finger or thumb to push the rubber bushing out through the bottom of the shift assembly while pulling on the bushing from under the assembly. Repeat for all 4 corners of the shift assembly until all the bushings have been removed.



23. Lift the shifter assembly and line up all four bushings with the bolt holes in the floor, make sure the smaller diameter of the bushings faces upward.

Lower the shifter assembly on to the bushings ensuring that the smaller diameter on the bushings goes in to the holes in the plastic shifter assembly.

If the bushings do not line up with the holes in the shift assembly perfectly they can be adjusted by sliding a finger or screwdriver beneath the assembly to adjust them.



24. With all the bushings lined up with the holes in the assembly, place the washers provided with the kit on top of the shift assembly above the bushings.



25. Re-install the four bolts and tighten down with a 10mm socket and ratchet. Be sure the shift assembly remains properly seated on the bushings as you tighten the assembly down. This is most easily accomplished if you just finger tighten all 4 bolts at first, then tighten them down when you are sure the assembly is well seated on the bushings.



26. Re-install both shifter cables on to the pivot balls of the TWM shifter. They can be pressed on by hand.



27. Apply grease to the shift assembly where the reverse lock guide pin touches it in first and second gear.



28. Re-install the center console by reversing steps 1 to 10 and you're ready to drive.

Legal Disclaimer

TWM Performance is not responsible for the misuse, incorrect installation, or failure of any product we sell or manufacture.

Under no circumstances, including but not limited to negligence, will TWM Performance be liable for special or consequential damages that result from the use or inability to use our products. TWM Performance does not assume responsibility for any damage to the user, passenger or vehicle resulting from the operation of a TWM Performance product.

TO PROTECT USERS FROM INJURY OR DEATH. THE USER ASSUMES ALL RISKS.

Autocrossing, track events, and high speed driving are all dangerous activities - always drive responsibly and safely.

Warranty

Installation of some TWM Performance products may or may not void factory warranties. Always keep OEM equipment that has been replaced in case work is required at the dealer or the vehicle is sold.

This warranty covers the **original purchasing consumer**. This warranty is limited to repair or replacement by TWM Performance of any TWM Performance product that fails because of a defect in materials or workmanship.

Warranty does not cover the following:

- Damage incurred to related vehicle components
- Regular day to day wear on vehicle
- Shipping costs for replacements
- Installation costs and vehicle down time
- Products that have been modified, incorrectly installed or misused.
- Mounting hardware and bearings