



Installation Manual TWM Performance Short Shift Kit 2003 And Up Saturn Ion

It's preferable to park on a flat surface, as you may have to engage and disengage the hand brake and shift from gears to neutral. If you can't 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're working.

Estimated Installation Time: 120 minutes

- Tools required:**
- Flat head screw driver (large and small)
 - Philips head screw driver
 - Needle nose pliers
 - Ratchet
 - 8 mm socket
 - 10 mm socket
 - 12 mm socket
 - 13 mm socket
 - 7/16" socket
 - 1/8" Allen key
 - All purpose grease
 - WD-40 or any rust-remover product





1. Remove the stock shift knob by rotating the black ring at the top of the boot about $\frac{1}{4}$ to $\frac{1}{2}$ turn while pulling down. Lift up on the shift knob to remove from the shaft, this requires some effort as it is a friction fit.



2. Remove the cup holder and shifter bezel by lifting from the rear, it is held from beneath by a couple of clips that will release while lifting. Lift the bezel, but not all the way out of the car as you need to unclip the connector beneath it at the rear.



3. Unclip the 12V connector beneath the shifter bezel.



4. Locate the side panels on each side of the center console and pull on them. They are just held on with clips, but the bottom needs to be unclipped first. This will uncover 4 screws (2 on each side). Remove them using a 7 mm socket and a ratchet.



5. Unscrew the 2 screws located at the front of the console.



6. Remove this screw at the extreme front of the console, under the dashboard.



7. Pull the front seats toward the front of the car in order to access the 2 screws (one on each side) at the rear of the center console and remove the screws.



8. Remove the 2 screws, one on each side of the center console which secure the top portion of the console, at the base of the arm rest. Also, slide the leather boot up the handbrake to avoid it becoming bunched up while removing the console.



9. The top portion of the console may now be removed and set in a safe place. The front portion of this section will be freed as you lift from the rear, it is held by clips.



10. Lift the rear of the console and unplug the 12 v power connector at the rear of the console.



11. The center console can now be removed. To do this, lift the rear of the console while pushing down on the front, and then pull the center console toward the rear of the car and remove it from the car.



12. Remove the metal clip by lifting the rear end and pulling on it.



13. Remove the plastic clip holding the wiring harness.



14. Unbolt the shifter assembly using a 13 mm socket.



15. Turn the plastic ring counter-clockwise. Rotate the shifter assembly on to its side to have access to the interior of the shifter assembly. Using a long flat head screw driver, pry the 3 clips toward the center. The plastic ring should come off at this point.



16. To remove this plastic ring (it will be used on the TWM short shifter), you need to remove the shift knob. To do so, cut the tie-wrap holding the boot on the plastic boot holder. In order to slide the boot holder down, you have to turn it and align with the slots and then push it down. The shift knob can now be pulled up and removed.



17. Before the next step, you will need to re-install the 4 bolts to secure the shift assembly. Using a screw driver and a hammer, push the side arm plastic pin out using caution not to damage it.



18. To remove the shifter from the main assembly, detach the main cable from the shifter. Repeat for the side cable, but this time just loosen it by separating the plastic case surrounding it from the cable. There's a plastic leg at the end of the plastic part that needs to be unclipped and this frees the plastic case to move over the shift cable.



19. The shifter can now be removed. Remove the side arm cup and the main ball cup.



20. In order to clear room for the TWM short shifter, the stock plastic shifter assembly needs to be modified as per the illustration. To do this, remove the cables from their anchor and take the assembly out of the car. The cut-out can be made with a small saw or a Dremel-type tool. Also, make sure that you remove the tab in the middle (shown in the circle in the picture below).





21. Apply multi-purpose grease on the main ball and side arm and re-install the plastic cups on to the TWM shifter.



22. Using a small flat head screw driver, push the bushing sleeves down through the assembly and remove the rubber bushings. The TWM shifter comes with aluminium bushings, improving your shifting experience. Install these bushings below the plastic assembly with their smaller step facing up, to replace the stock rubber ones. Install the supplied washers on top of the assembly and secure with the stock bolts ensuring the steps on the





bushings are properly seated in the holes in the plastic assembly.



23. Re-install the shifter and the cables, the console and enjoy the ride!



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- Mounting hardware and bearings

