

Garage9

Jager Engineering Inc.
9593 Sproat Place
Port Alberni, B.C. Canada V9Y 9V5
(250) 724-1408
veronique@jageng.com

Shift Knob Series Installation & Use

The Tip Shift Knob series is designed to provide a manual-like feel and superior shifting ergonomics for automatic equipped 928's.

SAFETY: Jager Engineering/Garage9 assumes no liability to any party for any loss or damage caused during use. It is your responsibility to operate safely at all times, and take appropriate measures to ensure safe usage. Under no circumstances should the mechanical safety interlocks be defeated or changed in anyway. All assemblies are carefully tested for function before shipment. If for some reason the lock-out button binds or fails to operate properly please contact us immediately. For protection against inadvertent use while the car is stationary, remove the actuator. The actuator contains magnetic material. Follow all normal precautions for handling of magnets.

Installation
See last page.

Using Your TIP Shifter

Use your thumb to depress the top button for normal shifting.

4 Speed Transmissions: For aggressive 0 to 60 MPH runs, slow the car to a near stop in the "2" position. This puts the 4 speed trans into 1st gear. Use the pad of your hand & thumb to keep the button depressed. Commence acceleration. To invoke a shift to second gear, quickly move the lever to position "3" then immediately BACK to "2". You should now be pulling hard in second gear. To complete the assault on your top speed shift to "3" and very shortly thereafter when you reach your mark move the lever to "D".

DO: Operate safely at all times.

For protection against theft or accidental operation remove the center plunger & store.

Cleaning Suggestions:

Leather shifters are pre-coated with a leather protector. As such, leather shifters should not need any cleaning. Due to regular use, leather shifters will take on a nice patina. Using a good quality leather conditioning cream is acceptable (once or twice a year) but certainly not necessary.

There are certain areas of a 928 that have to be "sorted", to extract full enjoyment of the car. Most shops aren't aware or don't care. We believe a lot of the performance complaints on a 928 may be traced back to one or more of these adjustments. The following checks and tweaks will make sure you are getting the most out of your super car.

Problem: DOCILE Takeoffs

While a 928 is geared for speed, overall it should really rock, especially the S4's. Check your throttle cable has not stretched. I've seen cars with 55,000 miles that don't reach full throttle position due to cable slack. The 928 cable must pull a sizable load, so it can stretch with miles. Here's how I check:

1. Turn the throttle to wide open (WOT) using your hand and mark the lever's position, relative to the mounting plate. Now use the pedal. The marks should be pretty close.
2. If not, adjust the cable to remove slack from the pedal. On one S4 (100K Miles) I had to fashion a spacer to remove all the slack that had developed.

Also make sure the accelerator pedal engages the transmission kick-down switch at full throttle. On my first S4 the pedal was completely missing the switch and had to be modified. WITH ENGINE OFF: There should be a subtle clicking of the switch on full depression of the accelerator.

Problem: Incorrect Upshifts (late or early), No Downshifts

A cable from the accelerator linkage back to the transmission controls the transmission operating pressure based on throttle position. If this cable is not adjusted properly, you'll encounter this problem. The cable should be installed without any play or tension. Just right. Err to the side of no tension and a bit of play. If there is constant tension, the transmission will operate with too low of a pressure, thinking the throttle is down when it's not.

Likewise if there is too much play, the transmission will operate with too high of a pressure, upshift early and harsher than normal.

Problem: Docile Takeoffs, Slushy Shifts, Shifting too Harshly.

The vacuum modulator is responsible for controlling transmission pressure based on engine load. If there is no vacuum present, the transmission moves its modulating pressure to FULL. If there is a lot of vacuum, the pressure is reduced (LOW) accordingly. A small key in the center of the vacuum modulator valve, either under a small black cap or the hose connection (early models) allows adjustment of the base value for the modulating pressure. For snap off the line and firmer 2-3 shifts, or to compensate for wear, raise the pressure by turning the key clockwise 1/2-1.0 turns. We've found that too high a pressure, while giving more aggressive acceleration, causes harsh shifts in the upper range when hot, and detrimentally changes the shift points. Ideally the transmission pressures should be set according to the shop manual specifications using the proper monitoring instruments by a qualified shop.

If you are getting really harsh shifts, then check the vacuum modulator, the pipe connections at both ends and the condition of the line in between using a vacuum pump.

Problem: Hot Console, Hot air ingress at Console.

Worse with the sunroof or windows open, hot air ingress is due to improper sealing of the shift lever hole. There is a "foamie" pad used in a compression fit above the TT, that seals the cabin from the underside of the car. In S4's the cats tend to really heat this area - like a mini blast furnace, degrading the foam. A small compromise in the seal is all that is required to allow air to blow in from the high pressure region of the underside of the car, to the low pressure area of the cabin. A temporary seal can be cut using a closed cell foam to reduce the air flow significantly and inserted under the console, but ultimately the "foamie" should be replaced.

Installation Directions

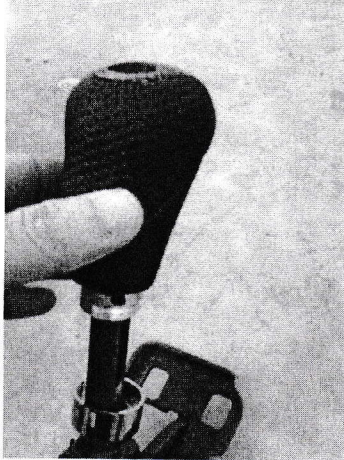
1. Remove the existing T-Handle by removing the two screws at the base of the shift handle. Remove the black plastic plunger in the center of the metal shift arm.
2. Carefully unwrap your new Jager GT shifter.
3. Remove the bottom piece by unscrewing....place aside for the moment.
4. Using the tool provided, screw in the 3 provided set screws to the bottom of the shifter...do not screw in all the way....just enough so they stay.



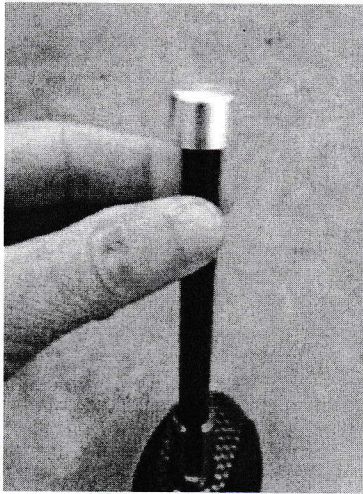
5. Take the bottom piece and slide onto the shift arm.



6. Slide the shifter onto the shift arm.



7. Insert the ALNICO magnetic plunger into the hole on the top of the shift knob.
IMPORTANT – Separate the plastic shift plate pins from the shaft to allow the ALNICO plunger to slide through and seat with the interlock mechanism. Allow the pins to return to the grooves in the shift arm.



8. Adjust the “ride height” of the knob so the black interlock button is not too high, but not too low. You can experiment with a height that suits you best.



9. The shift knobs are machined to precise tolerances and require only moderate pressure from the set screw(s). Carefully turn in the set screw(s) just enough to prevent the knob from twisting under normal hand pressure. With automatics there is primarily push pull force on the handle. **DO NOT OVER-TIGHTEN.** NOTE: the set screws may mark the shifting arm

10. Once the shifter is on and the set screws have been tighten, slide the bottom piece up and gently screw to the base of the shifter.

