
Garage9

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

Introduction (Please read this whole document carefully before starting installation).

The GTRSS Kit is fully compatible with all Jager shifters, and the original OEM stock T handle. The **GTRS System** is designed to put you in command of your driving style by allowing instant activation of the transmission kick-down relay and transmission solenoid.

By simply depressing the lock-out button of your shifter, you can invoke a more sporting performance from your 928. You can return to the stock program by releasing the button and allowing the 928's time delay relay de-energize.

Operation

**** Safety Warning ** Do not use the GTRSS button on slippery surfaces. Use caution at all times when activating the system. The increased power and torque to the rear wheels will unexpectedly result in loss of traction and control, resulting in injury or death to yourself and others.**

Activating the GTRSS results in higher fuel consumption, increased engine RPM, engine and driveline wear. Use the system only when necessary to do so.

The GTRSS activates the same relay in the transmission as the kick-down button, which is set ON at full travel of the accelerator pedal.

Provided the throttle position is sufficient, the transmission will shift down into the lowest possible gear, raising the engine RPM and accelerating the car more quickly and aggressively.

First Gear Take-off

The GTRSS button is used when starting off to invoke an aggressive launch from 1st gear, instead of the stock program 2nd gear start. If the accelerator position is maintained or increased (> xx % open) up-shifts are delayed as the engine stays in peak power range. If the accelerator position is reduced the transmission will attempt to up-shift to the highest suitable gear.

The transmission uses a cable connected to the accelerator linkage called the "Bowden cable" to sense the position of the accelerator. The adjustment of this cable determines at what position, engine RPM and load the transmission program will shift. This is discussed in more detail in subsequent sections.

Push to Pass

The GTRSS button is a fast and effective method to boost power in a passing situation. Using the button at highway speeds, operates similar to dropping the lever to "3". This action causes a kick down to 3rd gear and increased acceleration.

Low Speed Operation

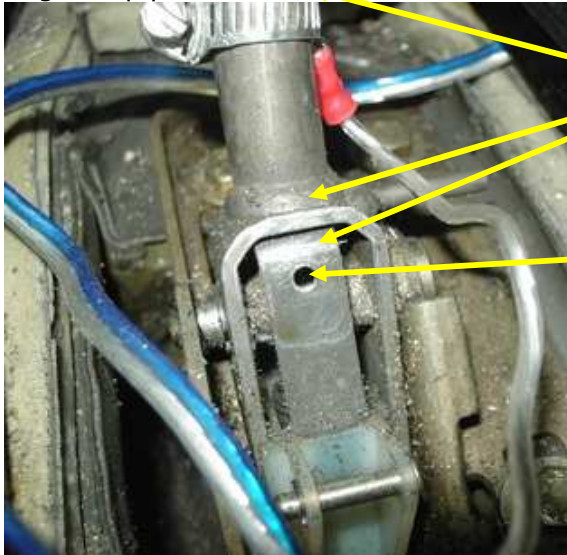
If you are rolling and use the button, be aware that the transmission might attempt to seek 1st gear, resulting in very high revs and possible slipping of the shift if the throttle is not close to fully open. If the transmission expects the throttle to be at full position and if it is not, then the transmission may be unable to engage the lower gear. Running at low speeds it is best to use the shift position to avoid unnecessary slipping or jolts. How your transmission program reacts depends on the model, adjustments and operating conditions.

Installation and Testing

1. Switch Contact Installation

Set the parking brake and do the install on a level parking area. Remove the shifter and shift plate (see shop manuals for details).

The special switch contact is installed at the base of the shifter. Use sandpaper to clean the shifter base in the area of contact. Also sand clean another spot for the ground lug connection. The ground lug may be connected to the T-handle threaded hole or using the ring clamp provided.

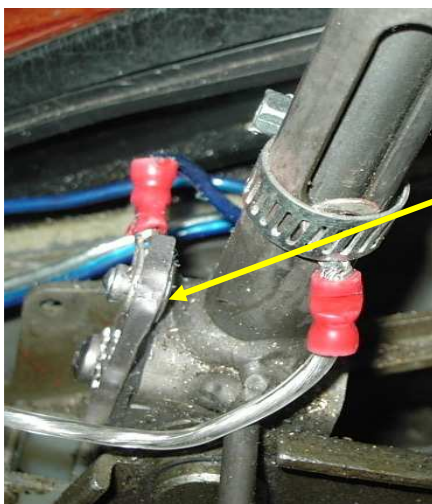


Sand clean for good electrical contact

Drilled & tapped contact mounting hole

Note: Wire colors are different from shown in pictures. On actual kit these wires are RED for the shifter contact signal and BLACK for the ground to the shifter lever.

Push the shifter lever down and block in the fully depressed position. Now carefully position the contact so the rivet just makes contact with the ledge at the shifter base. Mark the location where the 9/64" hole should be drilled. First drill a small hole on the mark a much smaller bit for more accuracy.

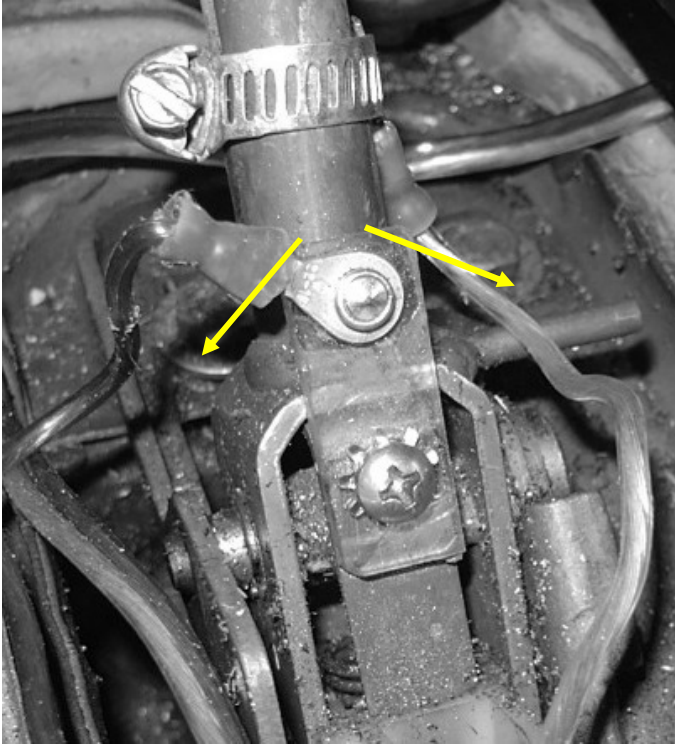


Rivet heat just makes contact with shifter base in fully depressed position.

Follow that with a 9/64" drill bit. The shifter mechanism is made from hardened steel, so be patient and use a lubricating fluid such as water or light oil when drilling.

Tap the hole using the 8-32 tap provided. Because of the restricted space, we found it possible to tap in by using a set of Vise-Grips to hold the tap. A proper tapping too may also be used of course.

Note: Wire colors are different from shown in pictures. On actual kit these wires are RED for the shifter contact signal and BLACK for the ground to the shifter lever.



Remove the console side panel and panel for the central electric panel. Route the wires under the center console. Mount the shifter contact using the 8-32 screw and toothed washer as shown above. **Do not over tighten.** The contact may be adjusted by moving the switch plate to one side or the other (arrows). Rotating the contact to one side will cause the switch to engage sooner, when the button is depressed.

Secure the ground lead to the shifter base with the ring clamp.

Be sure to lubricate the shifter mechanism and cable for smooth operation. A light grease or quality lubricant such as LPS#2 works well in this application.

2. Relay & Harness Installation

With the console side panel and cover panel for the central electric panel removed, mount the GTRSS relay using the 3M Dual lock squares provided. The relay may be "piggybacked" onto another lower profile relay as shown. Route the wires to the "Add a Fuse" location selected and to the connector where the kick-down contacts are inserted.

To install the Add-a Fuse, select a circuit on the same power bus (Bus #15 energized with Key on) as the Kick down circuit. The Central Electric Panel (CEP) is fed from the top bus. The lower contact of the fuse is the protected side. Always feed off the bottom of the fuse. The Add-a fuse must be aligned to point toward the driver, with the wire coming from the bottom. Suggested locations are

Model Year	Suggested Fuse Location	Kick down Connect#1	Kick down Connect #2
83/84	Not ATO/ATC – Re-wire to suitable power source	A5 (Black)	K1 (Grey/Brown)
85-89	Choose one of 7 through 13 (Buss 15)	B 14 (Black/Violet)	G 25 (Grey/Brown)
90-95	Telephone #43	N 23 (Grey/Brown)	O 23 (Black/Violet)

Note: For 90 & up do not pull Fuse #39 and turn the key to ON, as this will trip the Airbag module into a fault condition.

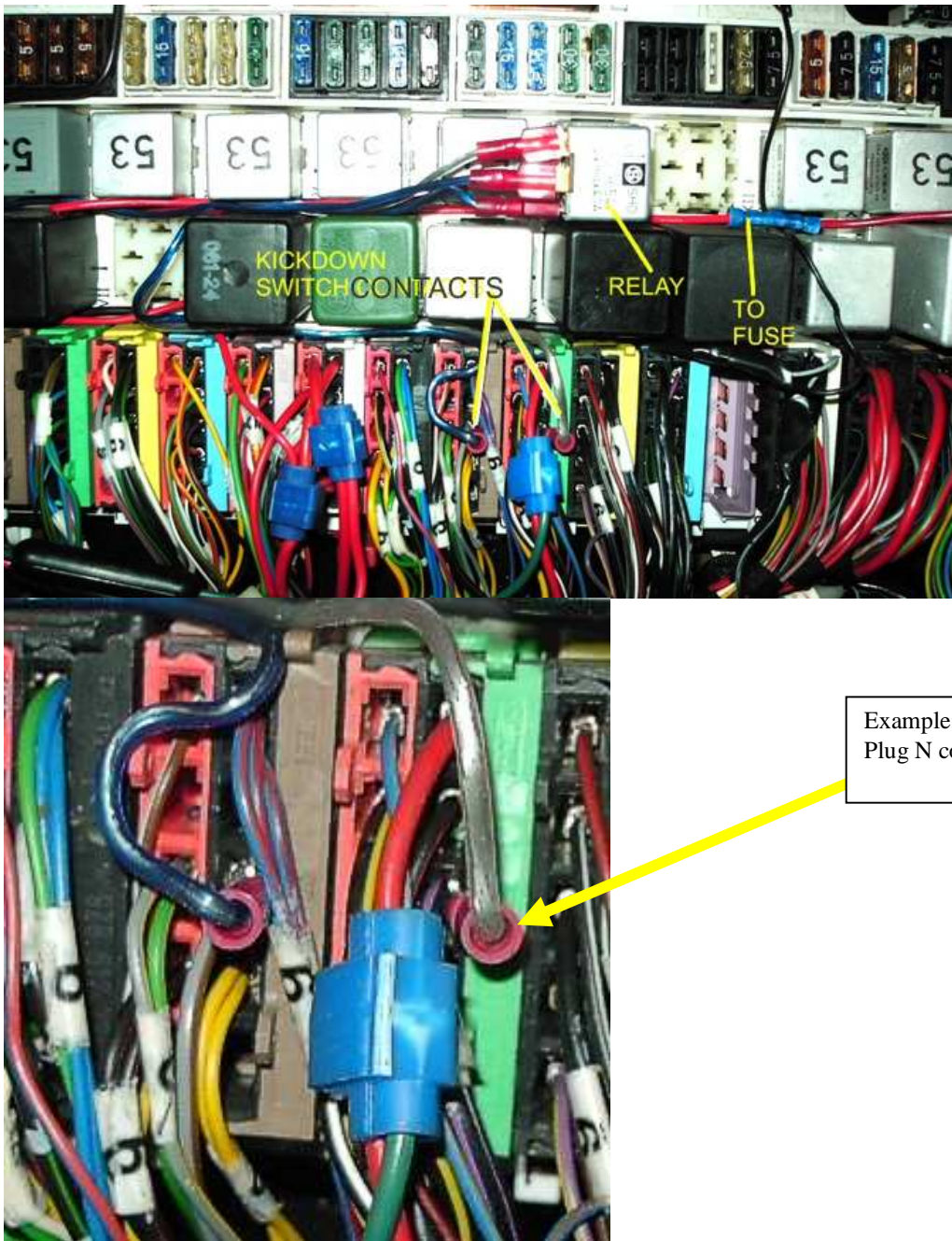
Secure the ground lead to a suitable location. The ground point above the electrical panel may be used. We used the bolt that holds the panel bracket to the floor.

Locate the Kick down switch wires on the Central Electrical Panel Connectors. The location of the connections is given in the table above. The identification is determined by Plug Letter, followed by Column # (1, 2) and Row # (1 to 5). For example Plug "N" Column 2 and the 3rd position. **NOTE:** Row 1 (e.g. x1,1 and x2,1) is at the bottom of the connector (toward the floor pan), and row 5 (e.g. x1,5 and x2,5) at the top toward the fuses.

Verify your location with the wire color. It is very easy to get it wrong, so check, then double check or have another person verify. The switch represents a "direct short" between those two points, so be careful.

We have manufactured a press-in fit style of connector, so the factory harness does not have to be permanently modified or compromised. These all-metal spades are inserted alongside the connectors imbedded in the central panel plugs. Be sure to push them in with firm but reasonable force, using needle nose pliers. The spades should slide into the connector to form a press fit connection.

This is a non-standard method of making an electrical connection and may loosen over time with vibration, depending on how well the spades are seated. Be sure to periodically check the operation of the switch.



Above: Insertion of Kick down relay contact wiring, in parallel with existing kick-down switch on accelerator pedal.



Installation of Add-a-Fuse



Ground Connection

3. Testing

With the key switch ON, the relay should audibly click when the button is depressed. Also with the driver's window open (in a garage), on release of shifter button, the actuator in the transmission can be heard deactivating as a "click" sound. Depressing the accelerator to the floor to use the stock kick down switch can duplicate the same "click" sound.

LEGAL AGREEMENT:

In consideration of the use of the System, I hereby agree as follows:

To waive any and all claims that I have or may in the future against Jager Engineering Inc. and all representatives, employees, directors or agents thereof (collectively the "*Releasees*") and to release the Releasees from any liability or loss, damages, injuries or expenses that I may suffer or that my next of kin may suffer as a result of or arising out of any aspect of my use of the System DUE TO ANY CAUSE WHATSOEVER INCLUDING NEGLIGENCE, BREACH OF CONTRACT OR WARRANTY ON THE PART OF THE RELEASEES with respect to the design, manufacture, selection, installation, maintenance or adjustment of the System or with respect to the provision of or the failure to provide any warnings, directions, instructions, or guidance as to use of the System.

TO HOLD HARMLESS AND INDEMNIFY THE RELEASEES from any loss, damage, injury or expense to any third party resulting from the use of the System.

This Agreement shall be binding upon my heirs, next of kin, executors, administrators, assigns and representatives, in the event of my death or incapacity.

This Agreement shall be governed by and interpreted in accordance with the laws of the Province of British Columbia, Canada. All proceedings involving parts to this Agreement shall be brought within the Province of British Columbia, Canada.

I HAVE READ AND UNDERSTAND THIS AGREEMENT AND AGREE THAT BY INSTALLATION OF THIS PRODUCT I AM WAIVING CERTAIN LEGAL RIGHTS WHICH I OR MY HEIRS, NEXT OF KIN, EXECUTORS, ADMINISTRATORS, ASSIGNS AND REPRESENTATIVES MAY HAVE AGAINST THE RELEASEES