

SERVICE BULLETIN

APPLICABILITY

ALL 1992 LEGACY A/T AND 1992 SVX

DATE

12-10-92

SUBJECT: EFFECTS OF LOW RVP FUEL ON COLD STARTABILITY/DRIVEABILITY

The Clean Air Act of 1990 required that fuel volatility of gasoline sold at retail be reduced at summer months (June through September 15). In 1992, the EPA implemented Phase II requirement which further lowered the acceptable vapor pressure to 9.0 psi. In some areas, the regulation requires vapor pressure be no greater than 7.8 psi. Volatility is the term used to describe the fuel's ability to vaporize, or change from a liquid to a vapor. Low volatility gasoline helps reduce hydrocarbon emissions from evaporated fuel. "RVP" is the abbreviation for "Reid Vapor Pressure", a method used to measure fuel vapor pressure. This requirement is needed to protect our environment and improve air quality.

The downside of this regulation is its effect on engine cold starting and cold drive away during summer months. This complaint only occurs for a very short period after start-up and does not severely hamper the driveability. It is important that our customers are aware of the availability of these low RVP fuels and their effect. The few moments of engine roughness are a small inconvenience when the overall improvement of the atmosphere is considered. We all have an obligation to improve air quality and we are sure that Subaru customers wish to share in this endeavor to improve our air quality.

Our investigation has proven that there is variation in fuel quality and vapor pressure among retail gasoline supplies. In many cases, the cold start complaint can be reduced or eliminated by changing fuel brands or stations.

In the interest of customer satisfaction, we have developed a ROM for the ECU of 1992 Legacy automatic transmission and SVX vehicles whose owners cannot accept the effects of low RVP fuel. Installation of the ROM should only be performed after explanation of the above to the owner and after trying a different brand of fuel.

This ROM will not totally alleviate the complaint. Also, there is no countermeasure available for manual transmission Legacy or other models. Our experience shows that these vehicles have few complaints and they can be resolved using a different brand of fuel.

Naturally, you must confirm that the engine is operating properly by basic checks of mechanical and fuel management systems prior to installing the ROM.

This ROM will also help reduce the occurrence of source detonation or "pinging" on 92MY Legacys.

CAUTION

VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.

Subaru Service Bulletins are intended for use by professional technicians ONLY. They are written to inform those technicians of conditions that may occur in some vehicles, or to provide information that could assist in the proper servicing of the vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do the job correctly and safely. If a condition is described, DO NOT assume that this Service Bulletin applies to your vehicle, or that your vehicle will have that condition.

ROM INSTALLATION PROCEDURES

1. Remove battery negative terminal.
2. Hands must be clean and free of dirt and grease prior to handling ROM.
3. Remove static charge from your body by momentarily touching an earth ground, such as a cold water pipe, metal building support beam or clean metal area of vehicle.
4. Remove ECU and its top cover by removing 6 Phillips head screws.
5. Locate the ROM socket and remove the protective tape.
6. Align the notch in the new ROM with the notch in the ROM socket. See illustration. **It is very important that the notches are located on the same side to prevent permanent damage to the control unit.** Insert the ROM pins into the socket receptacles as follows:
 - a) Install the pins on one side of the ROM.
 - b) Using a pencil (non-metallic) laid sideways against the unseated pins, press in on the pencil until the pins line up. Make sure all pins are aligned.
 - c) Press down on the ROM to fully seat it into the socket.
7. Locate the tan resistor. See illustration. Remove the resistor by carefully cutting the two leads near the circuit board. This resistor must be removed to activate the ROM. **Do not remove the resistor using a solder iron. This will damage the board.**

NOTE: If the "TAN" resistor is not found in the location as illustrated, and a ROM chip was already found in the ROM board, **DO NOT** cut any other resistors because permanent damage to the ECU will occur.
8. Reinstall the ECU cover.
9. Reinstall the ECU.
10. Reinstall the negative battery terminal.
11. Clear memory using Select Monitor. Turn the ignition key to the "ON" position. Do not start the engine. If the check engine light is **not** illuminated, re-check ROM installation. **DO NOT** start vehicle.

These ROMs are available in limited supply through your RDC.

Flat Rate Information

This operation can be claimed under the Subaru Limited Warranty, if applicable, using the following information:

PART NUMBER	APPLICABILITY	OPERATION NUMBER	TIME	FAILURE CODE
2267711040	1992 SVX	B445-001.	0.5	UEC-48
22677AA020	1992 LEGACY A/T	C445-301	0.4	

