

TRANSMISSION CONTROL SOFTWARE UPDATE



Technical Service Bulletins (TSBs) should be among your very first resources when servicing a vehicle. TSBs can be just as important and helpful as scan tools and test drives. And in some cases they can give you solutions to problems you didn't even know were there. Of course some TSBs point to issues that are covered under factory warranty or recall campaigns. And in these cases it's honorable and good business to direct the owner of the vehicle back to his dealership for the specified repair, typically at no cost.

But in most instances TSBs will help you in your daily diagnostic and repair work, and they represent a resource you should rely on. The best place to find the most up-to-date TSBs for Volvos is on their website volvotechinfo.com or on Volvo VIDA.

Customers may complain of a variety of shift quality issues, including soft shifts, slipping, or harsh shifts. These may be caused by problems with hardware or software, but mechanical issues are rare. Most often problems are related to electronic shift control.

BEGIN WITH THE BASICS

Certainly the place to start, with transmission issues, as well as with virtually any customer complaint, is to discuss with the motorist, in detail, exactly what their concerns are, and what symptoms they are experiencing. And you'll want to explore all the angles that may prove helpful in your diagnosis. Does the problem occur when the ambient temperature is hot or cold? Does it occur when the engine is hot or cold? Is it present only after hot

soak? Does it happen more when going uphill or when the engine is under load?

There are other questions you might ask. Does the problem occur when the transmission is shifted manually? Do any other symptoms manifest themselves at the same time, like a change in engine sound, or perhaps a "hiccup" in any instrument readings? Are symptoms more common on the highway or in stop-and-go driving? Are symptoms intermittent or repeatable? Is there a MIL illuminated, indicating the likely presence of what are likely to be helpful DTCs? These questions and more will become important pieces of evidence.

Similarly, a road test may well prove valuable in pinpointing specific trouble areas. You and your technicians are more likely than the owner to glean helpful information from a road test, since you will have driven far more vehicles similar to this one, so you'll know what's normal and what's not. If customer input and your test drive point to a specific issue, certainly you should look for TSBs that address that specific problem. Further, a test drive using a scan tool or Volvo DiCE will reveal if there are DTCs stored in the TCM and/or ECM. If codes are present, you can follow the appropriate diagnostic procedure for those codes.

BE SURE SOFTWARE IS CURRENT

In any event, you'll want to check to see if the vehicle has the latest software updates installed. You can do so using the Volvo VIDA system. Before VIDA 2015 became available,

it was necessary to purchase and try to install the TCM software to see if it would load. If the latest updates were already present, loading would stop and you'd get a message saying that the latest TCM software was already installed. This was an inefficient and time-consuming process.

Now, of course, you can use the online version of VIDA to detect the software status and diagnose likely transmission problems. You can also find additional information by accessing the .pdf viewing library. If there are no indications of catastrophic transmission problems and no DTCs pointing to a specific fault, you may well find success in performing a software update and fluid change.

When draining the fluid in high mileage vehicles, you may observe that the fluid is very black. This is not necessarily an indication of an internal transmission failure, but may only signify that the fluid has not been changed regularly.

While the capacity of transmissions in 5-cylinder Volvos is typically more than four quarts, you may only get four quarts when draining. If the oil is particularly dark or if you find significant amounts of water or debris, you may want to replace the oil, drive the vehicle for an extended test drive shifting up and down through the gears, and then drain that oil and replenish it with new. It is critical to use only the oil specified for these vehicles, and you can be sure of getting the proper oil from the parts department of your local Volvo dealership. ●

DTC DIAGNOSTIC TROUBLE CODES

CONTROL MODULE	CODE	FAULT TYPE
TCM	P089500	Intermittent
	012B	
	012A	
	002F	
	0045	
	0053	
	008D	
	0028	
	0099	
	002E	
ECM	530D	Intermittent
TCM	p074400	Intermittent
	p073000	
	002A	
	002B	
	0029	

NOTE! New AW TF80SC (Gen II) TCM upgrade is available to remedy a rough shift from 5th to 4th gear, and/or shift shock after standing still at brake pedal release, and/or harsh engagement during the neutral to drive (N-D) shift, and/or set Transmission Control Module (TCM) DTC P089500. This applies to all vehicles with the Gen II AW TF80 SC.

IT IS IMPORTANT TO NOTE:

1. The ECM and TCM should always have the latest SW before returning the car to the customer.
2. Just because there is a TCM or ECM upgrade available, it doesn't necessarily mean the customer's symptom will be remedied by the upgrade. If the transmission-related complaint is not listed in the attached chart, further fault tracing is required for a proper repair!

SERVICE:

If the vehicle fits in the model year or chassis range for the symptom in the attachment, download a TCM upgrade unless otherwise stated in the attached document.

Vehicle	Complaint/Symptom	Reset Adaptation to Zero	Adaptive Test Drive
AW 6 Speed (TF80SC)			
2012-2013 S60 T5 (Structure week 201046-201247) 2011-2013 S60 T6 (Structure week 201020-201244) 2011-2013 XC60/XC70/S80 (Structure week 201020-201246) 2013 XC90 (Structure week 201220-201246)	A TCM upgrade is available to remedy a rough shift from 5th to 4th gear, and/or shift shock after standing still at brake pedal release, and/or harsh engagement during the neutral to drive (N-D) shift, and/or set Transmission Control Module (TCM) DTC P089500. The customer may notice a difference in shift feeling after the download that will improve as the car is driven for a few days.	Yes	Yes
2011 S60 T6 (Structure week 201120-201146)	If a 2011 S60 T6 (structure week 201020-201046) does not have SPORT mode already, performing a TCM Upgrade will give this car SPORT mode.	No	No
2011- S80/XC60/ XC70 Eng 94 (PZEV) only	The customer may notice a difference in shift feeling after the download. SW is available 2011W49 for vehicles built between 2011W33 and 2011w40. SW is available 2011W31 for all other structure week.	No	No
2011- S80/XC60/XC70 Eng 94 (PZEV) only	The customer may notice a difference in shift feeling after the download. SW is available 2011W49 for vehicles built between 2011W33 and 2011w40. SW is available 2011W31 for all other structure week.	No	No
2011 S60 T6/S80/XC70/ XC60	Lock-up release and 4-3 downshift programming have been altered and the temporary protection mode has been removed.	No	No
2010 XC90 Chassis 532101-568100	While the engine is warming up (cold start), the winter mode function on the gearbox will not be activated if selected by the driver. There will be no "W" in the Driver Information Module (DIM) or any indication on the winter mode button on the shifter panel. The Transmission Control Module (TCM) Software (SW) has been changed during structure week 2010w20 (See chassis ranges to the left).	No	No
2005-2007 XC90 V8	General shift quality Soft, harsh or long 1-2 Upshift Delayed engagement when moving shifter to 'R' or 'D' Power-On Downshift Response, especially after coast-down (ECM should also be upgraded for maximum response improvement) TCM DTC P074400 (This DTC indicates that the engine has stalled on one or more occasions. Fault trace the vehicle accordingly.) TCM DTC P073000	No	No
2007 XC90 3.2	Delayed upshifts after releasing the accelerator pedal. Excessive engine braking during coasting.	No	No