


Technical Journal			
TITLE: Transmission Control Module (TCM) Software (SW)			
REF NO: TJ 16761	ISSUING DEPARTMENT:	CAR MARKET: United States and Canada	
PARTNER: 3 US 7510 Volvo Cars North America		ISSUE DATE: YEAR MONTH DAY 2012 05 25	
FUNC GROUP: 4378	FUNC DESC: Software	Page 1 of 7	

“Fixed Right — First Time”

Reference: VIDA, TJ 20857, 24643, 23743, 25994

Attachment

File Name	File Size
Attachment TJ 16761.pdf	0.0349 MB

Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
124							2011-2011		-	0-0
134							2011-2011		-	0-0
136							2011-2011		-	0-0
156							2011-2011		-	0-0
184							1999-2006		-	0-0
275							2003-2010		-	0-0
285							2001-2007		-	0-0
295							2001-2007		-	0-0
384							2001-2008		-	0-0
544							2004-2006		-	0-0
545							2005-2006		-	0-0
872							1999-2002		-	0-0
873							1999-2002		-	0-0
874							1999-2000		-	0-0
875							1999-2000		-	0-0
876							1999-2000		-	0-0



CSC Customer Symptom Codes

Code	Description
AE	Idling/Uneven idle
DL	Warning lights and chimes/Malfunction Indicator Light ("Check engine" light) indication/no indication
EX	Warning lights and chimes/Automatic transmission indication/no indication
7Y	Automatic transmission/Gear changes take too long to complete/Unsure when/at all times
7Z	Automatic transmission/Shifts occur too early, too late, too often/Unsure when/at all times
MA	Automatic transmission/Shifts rough or jerky/Unsure when/at all times
MC	Automatic transmission/Winter mode does not work
MD	Automatic transmission/No automatic gearshift
ME	Automatic transmission/Shifts occur too early, too late, too often/When upshifting
MH	Automatic transmission/Kickdown does not work
MO	Automatic transmission/Shifts occur too early, too late, too often/When downshifting
MV	Automatic transmission/Gear changes take too long to complete/When downshifting
NB	Automatic transmission/Gear changes take too long to complete/When upshifting
ND	Automatic transmission/Shifts rough or jerky/When downshifting
NF	Automatic transmission/Shifts rough or jerky/When engaging gear at standstill
NO	Automatic transmission/Shifts occur too early, too late, too often/From Park to Reverse or Drive
NS	Automatic transmission/Shifts rough or jerky/When upshifting
OC	Manual transmission/Gear pops out
NY	Automatic transmission/Vibration



DTC Diagnostic Trouble Codes

Control Module	Code	Fault Type
TCM	012B	Permanent
TCM	012B	Intermittent
TCM	012A	Permanent
TCM	012A	Intermittent
TCM	002F	Permanent
TCM	0045	Permanent
TCM	0053	Permanent
TCM	008D	Permanent
TCM	0028	Permanent
TCM	0099	Permanent
TCM	002E	Permanent
TCM	002E	Intermittent
ECM	530D	Permanent
TCM	p074400	Permanent
TCM	p073000	Permanent
TCM	P074400	Intermittent
TCM	P073000	Intermittent
TCM	0099	Intermittent
TCM	008D	Intermittent
TCM	0053	Intermittent
TCM	0045	Intermittent
TCM	002F	Intermittent
TCM	0028	Intermittent
ECM	530D	Intermittent
TCM	002A	Permanent
TCM	002B	Intermittent
TCM	002B	Permanent
TCM	0029	Permanent
TCM	0029	Intermittent
TCM	002A	Intermittent

Note! If using a printed copy of this Technical Journal, first check for the latest online version.

NOTE! THIS DOCUMENT SUPERSEDES THE PREVIOUS VERSION OF TECHNICAL JOURNAL 16761 DATED 04-10-2012. New AW TF80SC TCM Upgrade is available to remedy a harsh 5-4 downshift and harsh engagement at a standstill on 2012 S60 T5. PLEASE UPDATE YOUR FILES.

**DESCRIPTION:**

The TCM SW packages in the attached document are available to correct the complaints / symptoms listed in the attachment.

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. Other TJs may have to be referenced for more information.

VOLVO STANDARD TIMES GUIDE (VSTG) INFO:

Operation number 36004-2 - Control module, software download- See VSTG

If the attached chart has another op-code, claim that op-code in addition to 36004-2.

- Claims may be submitted under the new car warranty when there is a documented customer complaint using claim type: 01
- Labor times are valid at the time of release and are subject to change.

To view TJ attachment continue to next page:

Volvo Car Customer Service

		TJ Instruction	
		TJ No 16761	
			Date May-12 Issue 14
Title	Transmission Control Module (TCM) Software (SW)		



Vehicle	Complaint / Symptom	Reset Adaptation to Zero	Adaptive Test Drive
AW 6 Speed (TF80SC)			
2012 S60 T5	Refer to TJ 25994 for additional information and a detailed adaptation test drive that must be followed. A TCM Upgrade is available to remedy a harsh 5-4 downshift and harsh engagement at a standstill. 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-S80/XC60/ XC70 Eng 94 (PZEV) only	Refer to TJ 24643 for all oil consumption related complaints. An ECM/TCM Upgrade is available to reduce oil consumption. 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	Refer to TJ 23743 for additional information. 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 gear box 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 occasion. 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
GM4T65			
1999-2006 S80 2003-2005 XC90	A possible deviation between ECM and TCM signals might create a gearratio DTC's to be set. A new TCM SW is developed with improved base pressure functionality. The SW is released as a TCM upgrade. Improved fault tracing methods in VIDA from 2011C. IMPORTANT! Before updating the TCM with new SW, check DTC's. If other DTC's than gear ratio fault exist, (0028, 0029, 002A, 002B), start by fault tracing them according to VIDA. The new functionality in the SW will only improve the gearbox for gear ratio faults. After the software download, follow this adaptation procedure: 1: The gearbox oil temperature needs to be at least 40 degrees C 2: Check which gear is setting the gear ratio fault 3: Use the manual mode to "lock" the gearbox in the gear with the ratio fault. (If the vehicle does not have GearTronic, use lower gears on the shifter, 1=highest gear 1st, 2=highest gear 2nd, 3=highest gear 3rd, D=highest gear 4th). 4: Drive the car with "locked" gear, steady acceleration pedal, push the pedal slowly so the engine torque is increased. Repeat this until the ratio difference is increased. Hint: Use the smart tool in VIDA, (for fault tracing the gear ratio fault). Start to read in the vehicle, go to DIAGNOSTICS and let the car be read out <i>before</i> going to INFORMATION. Otherwise there may not be any values visible in the smart tool. If the DTC is set during the adaptation, restart the car and continue to adapt according to the instruction. If the DTC is still set after several tries and further fault tracing does not help to find another root cause besides the transmission, refer to TJ 19278. VSTG OPERATION NUMBER: Adaption gearbox/gear ratio: 98372-2	Yes	Yes
2003-2005 XC90	This TCM SW should be used when the customer is complaining of gearbox related symptoms, when any parts are replaced in the gearbox, or when the complete gearbox is replaced. This TCM SW has modified torque handling at 1-2 and 2-3 shifts to reduce the shift force. With this download, the adaptation in the gearbox is reset, and therefore it is important to do a re-adaptation of the gearbox. IMPORTANT: Adaptation instruction for GM transmission: 1: Let the car stand on idle until the gearbox temperature have reach 40° C (122 °F) or higher. 2: Drive the car in D-position with steady acceleration pedal, start from low pedal position, and let the car shift up. 3: Repeat step 2 until the shifts feels ok. 4: Increase the pedal position, and let the car shift up. 5: Repeat step 4 until the shifts feels ok.	Yes	Yes
1999-2001 S80	TCM DTCs (Diagnostic Trouble Code) 0028, 002F, 0045, 0053, 008D, 0099 ECM(Engine Control Module) 530D DIM (Driver Information Module) message with no DTC Harsh 1-2 upshift, 4-2-4 shift and garage shifts Geartronic Downshift Shudder Engine RPM Oscillations During Highway Driving	Yes	No
2002-2004 S80 2003-2005 XC90	TCM DTC 0028 TCM DTC 0099 (Reset Adaptation to Zero before clearing code) 1-2 Upshift Quality: Slipping, Harshness, Delay, Hesitation 2-1 Downshift Shock	Yes	No

Vehicle	Complaint / Symptom	Reset Adaptation to Zero	Adaptive Test Drive
AW 4 Speed (AW50-42)			
1999 S/V/C 70	Delayed 3-4 Upshift Harsh 4-3-4 Shift Hunting Between Gears While Using Cruise Control TCM DTC 0045 ECM DTC 530D	Yes	No
AW 5 Speed (AW55-50/51)			
2007-2008 S60 2007 V70 B5244S ONLY	Transmission shifts normally from 1st to 2nd but does not shift into 3rd. After cycling the ignition, the symptom is gone. This generally occurs after customer comes to a stop and puts the transmission into N while stopped.	Yes	Yes
2007 S60/V70/XC70/XC90	Slip / Flare / Harsh Shifts during the first few accelerations after a cold start.	Yes	Yes
2002-2006 S60/S80/V70/ XC70/XC90	General Shift Quality 2-3 Flare, especially when cold or after Highway Driving 3-2 Power-On Downshift Quality, after coastdown Power-On Downshift Response TCM DTC 002E, 002F Slip / Flare / Harsh Shifts during the first few accelerations after a cold start. Applies to 2005-2006	2002- 2004 No	2002- 2004 No
2001 S60/V70/ V70XC	A function called 'Neutral Control' is present on all 2001 V70 and S60 cars. It is also present on 2002 non-turbo V70 and S60 cars built before January 2002. When the vehicle comes to a stop, the Transmission Control Module (TCM) activates Neutral Control. Even though the gear selector is in the Drive position, a Neutral condition is engaged hydraulically in the transmission. Neutral Control disengages when the brake pedal is released or the throttle is applied. When the neutral control function is incorrect, there are three symptoms that can be felt in the car: 1. After coming to a complete stop and keeping the brakes applied, a "thump" can be felt in the car. It is felt about 2 seconds after coming to a stop. 2. When releasing the brake there is a harsh or double re-engagement of drive. 3. When idling in 'D' range with the brake applied, the engine speed oscillates (fluctuates). In addition to these symptoms, some cars may set a DTC 012A or 012B in the TCM; which should be erased before downloading the software. Note that Neutral Control is not active during the following: • Transmission in 'W' mode • Transmission in Geartronic mode • Gear selector in 'L' range (non-Geartronic shifter) • Operating with high AC demand (higher idle speed) In addition to correcting the Neutral Control symptoms, this Software package also improves response during Power-On Downshifts and minimizes 2-3 Shift Flare.	No	No
2000 S/V70	General Shift Quality Harsh 4-2 and 3-2 downshifts 1st gear engine braking with shifter in 'L' position Harsh Coast Down Shifts	Yes	Yes
2001 C70	General Shift Quality Harsh 4-2 and 3-2 downshifts 1st gear engine braking with shifter in 'L' position Harsh Coast Down Shifts	Yes	Yes
2002 C70	General Shift Quality 2-3 Upshift Flare Readiness (Comprehensive Flag Not Ready)	No	No
2004.5 - 2006 S40/V50	General Shift Quality Power-On Downshift Response 3-2 Power-On Downshift Quality, after coastdown Torque Converter Lock-Up Shudder TCM DTC 002E, 002F	No	No