

Volvo Chassis - Automated Manual Transmission (AMT, I-Shift) Repair Strategy; Component Inspection And Reuse Guidelines And Instructions; Required Tasks When Disassembling An AMT For Repair - For use with Service News SNV20-001a



> Internal Content

This solution should be used together with SNV20-001a

NOTE: Duplicated or excessive labor charged to a claim due to a component failure that is missed during initial diagnosis and teardown may be denied by warranty.

Inspection

- Operation 4311-06-02-01 Transmission Reuse or Replacement Guidelines, found under the Service tab in Impact, should be used for guidance when inspecting the components below. This operation contains very detailed information on what are and are not acceptable appearances, conditions and specifications for each component.

- Individual components removed during disassembly for repair should be inspected and replaced as necessary.

- All major areas of the transmission should be inspected **prior to making repair decisions** to prevent items from being overlooked:

Several of the items listed below may already have been inspected during the diagnostic process

- Control Housing Assembly
- Main shaft and countershaft components in the main gearbox
- Input shaft, radial and/or axial play
- Rear of gearbox and range housing assembly

- The PTO cover or range housing assembly should be removed as necessary to complete inspection

- If a significant amount of debris is found in the gearbox:

- Remove the range housing assembly
- Remove the lubrication pipe (lube tube) from the main shaft
 - Check for a buildup of metal flakes inside the main shaft that is also visible in the lubrication pipe and on the o-rings.

; Live UI

- **If this condition is observed the main box and oil cooler must be replaced.**

- **NOTE:** A loose or failed high range synchronizer cone does not automatically warrant replacement of the complete synchronizer assembly or range housing if the short gearbox is being replaced.

Repair

AS OF 26 MARCH 2019: Per SNV19-020e an eService case is required prior to utilizing any of the information below. The eService case MUST INCLUDE a THOROUGH description of the initial symptoms AND findings from the Inspection section.

The charts below outline the correct repair path for the most AMT issues encountered. Once the failure is identified, refer to the correct description at the top of each chart for the proper components that should be used for each repair. If the secondary (yellow) option needs to be used due to progressive damage or parts availability, eService will advise on how to proceed.

- **Green** - Denotes the typical repair for the given failure. This option should be considered first.

- **Yellow** - Denotes the secondary option if progressive (additional) damage is found upon inspection or if there are issues with parts availability

- **NOTE:** Tech support should be contacted via eService for further review if a secondary option is required due to parts availability **ONLY**.

All Components

All Components

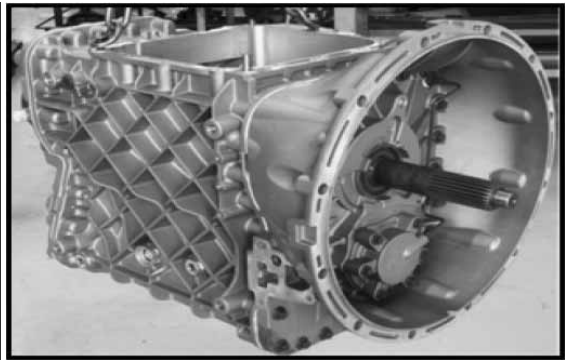
	Remanufactured							
	Basic	Short	Range Housing	Synchro Repair Kit	Control Housing, Without TECU	Control Housing, With TECU	TECU ONLY	Internal Cable Harness
Lubrication								
Low Lube	x							
Oil Leak Resulting in Catastrophic Failure	x							
Wear and Breakage								
Gear Engaging Tooth Damage	x	x						
Excessive Output Shaft Play	x		x					
Loss of Input/Main Shaft Preload	x	x						
Broken Shift Rod					x			
Shift Fork Broken					x			
Split Synchro Detent Plunger Failure	x	x						
Screws Loose or Missing in GCU					x			
Towing	x	x						
Loose/Broken Range Cone	See Chart Below							
Noise								
Gear Whine	x	x						
Grinding: Range Shift High to Low AND Low to High			x	x				
Grinding: Range Shift Low to High ONLY			x	x				
Grinding: Range Shift High to Low ONLY			x	x				
Fault Codes (DTCs) and Data Link								
Fault(s): Jumping Out of Gear (Splitter)		x			x			
Fault(s): Jumping Out of Gear (1-R)		x			x			x
Fault(s): Jumping Out of Gear (2-3)		x			x			x
Fault(s): Jumping Out of Gear (Range)			x					
Loss of Communication							x	

Range Cone (HRC)

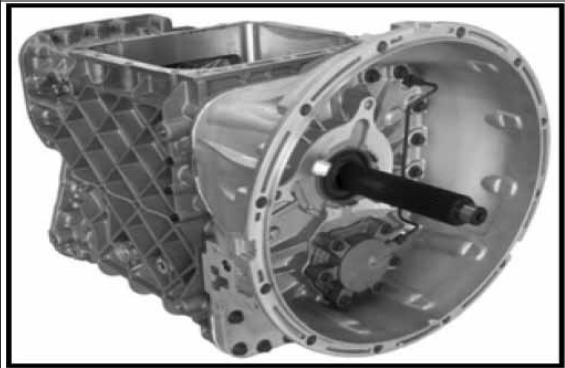
	Remanufactured			
	Basic	Short	Range Housing	Synchro Repair Kit
Loose HRC ONLY			x	x
Loose HRC With Damaged Friction Ring			x	x
Broken HRC			x	x
Broken HRC With Damaged Friction Ring	x		x	x
Worn/Damaged Friction Ring			x	x
HRC With Main Box Gear Damage	x	x		
HRC With Main & Auxiliary Box Gear Damage	x			
HRC With Auxiliary Box Gear/Housing Damage			x	x

Pictures and descriptions of common replacement parts can be found below:

	Basic Transmission
	- Same as complete, but doe

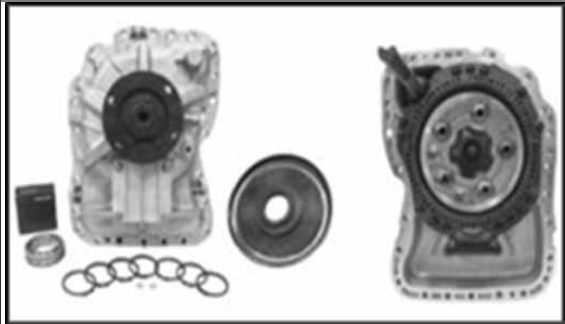


s not include the CCA, TECU,
or Top Cover Assembly & Sol
enoid



Short Transmission

Same as Basic, but without R
ange Shift Assembly



Range Housing Assembly



Tags k53011517 reuse guidelines

Related links and attachments

SNV20-001a



Feedback

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to help improve the content of this article



To: U.S. and Canada Volvo Dealer Principals
U.S. and Canada Volvo General Managers
U.S. and Canada Volvo Service Managers
U.S. and Canada Volvo Warranty Managers

Bulletin: SNV20-001a
Date: January 29, 2020
Valid to: Until Further Notice
Replaces: SNV20-001 and
SNV15-020b
Action Required? Yes

From: Greg Holderfield – Director, Technical Support Services

Subject: Dealer Tech Support Pre-Authorization of All I-Shift Repairs

This letter is to emphasize and clarify procedures currently in place for I-Shift related repairs.

- Where initial diagnosis determines the I-Shift needs to be removed for final diagnosis, proceed in accordance with CBR Solution **K53011517** *Volvo Chassis - Automated Manual Transmission (AMT, I-Shift) Repair Strategy - Section Inspection*.
- Clutch components, including the CCA, are excluded from this policy and an eService case is not required.
- For dealers who identify input shaft repair is solely appropriate and they are authorized to perform such, an eService case does not need to be submitted.
- For all other situations, initiate an eService case with Dealer Tech Support **prior to making any repair decisions** and report all findings.
- Dealer Tech Support will provide direction on how to continue with diagnostics, repair methods and swing unit options.
- Input shaft kit repair procedure will be utilized whenever possible.
- For simple AMT related repairs not requiring transmission removal, proceed without an eService case in accordance with existing SRTs and Warranty policies.
- For diagnostic time up to 4 hours, a diagnostic timesheet is not required. In cases where the diagnostic time exceeds such, a timesheet is required for approval regardless of technician level.
- To ensure full consideration and prompt payment of your claim, file the claim in accordance with the above referenced CBR Solution and applicable Warranty policies.

Our ambition is to optimize all I-Shift repairs and streamline warranty claim processing. We believe this will support you to make repairs with confidence, to submit warranty claims with assurance, and above all to increase our customers' Uptime.

If you have any questions or need additional information, please contact your DSM or you may call the Dealer Technical Support team at 800-888-2039.



To: U.S. and Canada Volvo Dealer Principals
U.S. and Canada Volvo General Managers
U.S. and Canada Volvo Service Managers

From: Greg Holderfield – Director, Product Reliability

Subject: Tech Support Pre-Authorization of All I-Shift Repairs

Bulletin: SNV19-020e
Date: March 26, 2019
Valid to: Until Further Notice
Replaces: SNV19-020d and
SNV15-020b
Action Required? Yes

This letter is to emphasize and clarify procedures currently in place for I-Shift related repairs.

- Where initial diagnosis determines the I-Shift needs to be removed for final diagnosis, proceed in accordance with CBR Solution **K53011517** *Volvo Chassis - Automated Manual Transmission (AMT, I-Shift) Repair Strategy - Section Inspection*.
- Initiate an eService case with Tech Support **prior to making any repair decisions** and report all findings.
- Tech Support will provide direction on how to continue with diagnostics, repair methods and swing unit options.
- Input shaft kit repair procedure will be utilized whenever possible.
- For simple AMT related repairs not requiring transmission removal, proceed without an eService case in accordance with existing SRTs and Warranty policies.
- For diagnostic time up to 4 hours, a diagnostic timesheet is not required. In cases where the diagnostic time exceeds such, a timesheet is required for approval regardless of technician level.
- To ensure full consideration and prompt payment of your claim, file the claim in accordance with the above referenced CBR Solution and applicable Warranty policies.

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