



Body Builder, I-Shift Transmission VN, VHD, VAH Section 4

I-Shift Transmission

This information provides specifications for I-Shift Transmissions, available in Volvo vehicles.

Note: We have attempted to cover as much information as possible. However, this information does not cover all the unique variations that a vehicle may present. Note that illustrations are typical but may not reflect all the variations of assembly.

All data provided is based on information that was current at time of release. However, **this information is subject to change without notice.**

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Specifications

Lubrication and oil Capacity

Service Fill

Transmission type	Oil capacity (l)	Oil capacity (qt)	Notes
AT2612-C/D/F	16	16.9	
ATO2612-C/D/F	16	16.9	
ATO3112-C/D	16	16.9	

If a Power Take Off (PTO) or oil cooler is fitted to the component an additional oil volume is needed according to the following table:

Optional equipment	Oil capacity (l)	Oil capacity (qt)	Notes
Direct Power Take Off PTR-D/F	0.1	0.1	
Direct Power Take Off PTRD-F/D/D1/D1D/D2	0.8	0.8	
Oil cooler TC-MWOH2	0.8	0.8	Transmission mounted
Oil cooler TC-MWOR	1.0	1.1	Radiator mounted
ASO-ULC/ASO-C	1.6	1.7	Crawler 13 or 14 speed AMT-F only



CAUTION

Risk of component damage:

Only use VOLVO-approved synthetic transmission oil in the I-Shift transmission. Using non-approved transmission oil can result in damage to transmission components.

Note: Radiator mounted oil coolers should use lower viscosity oil 75/80. (Do not use 75/90 HD Fluid for this application)

Transmission



CAUTION

The driveshaft must be removed before towing the vehicle. Failure to remove the driveshaft may result in damage to the transmission.

Note: The final stage manufacturer has the responsibility to certify that the completed vehicle conforms to all applicable motor vehicle safety standards, as referenced in the Incomplete Vehicle Document. The following installation precautions must be followed to the extent that they apply to the intended design of the incomplete vehicle.

Note: Failure to adhere to all safety practices can lead to the voiding of all applicable component warranties, component damage, personal injury or death.

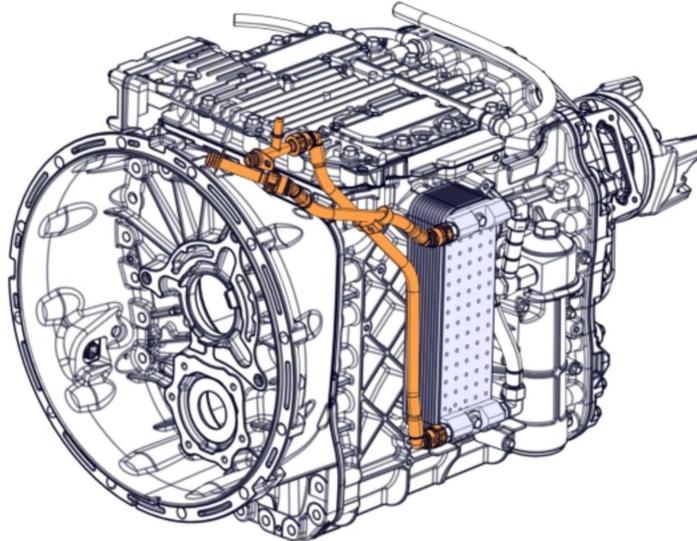
- 1 Adequate tool clearance and suitable access openings for transmission adjustments must be provided. Transmission removal provisions must be considered.
- 2 Oil cooler lines must not be kinked, bent, or restricted. All cooler lines must be properly retained with adequate clips.
- 3 Before using transmission bolts, e.g., rear cover bolts or mounting bolts, contact your local Volvo dealer for specific bolt length requirements, torque values and other constraints.
- 4 Transmission service identification tags must not be removed or destroyed. If the transmission is reworked or replaced, tag should be attached to the new transmission.
- 5 When painting the transmission, careful consideration should be given to keeping paint away from the breather and transmission output seal.
- 6 Transmission filler plugs should not be obstructed. Easy access for checking of lube level or filling is necessary.

Notes

Transmission Oil Cooler

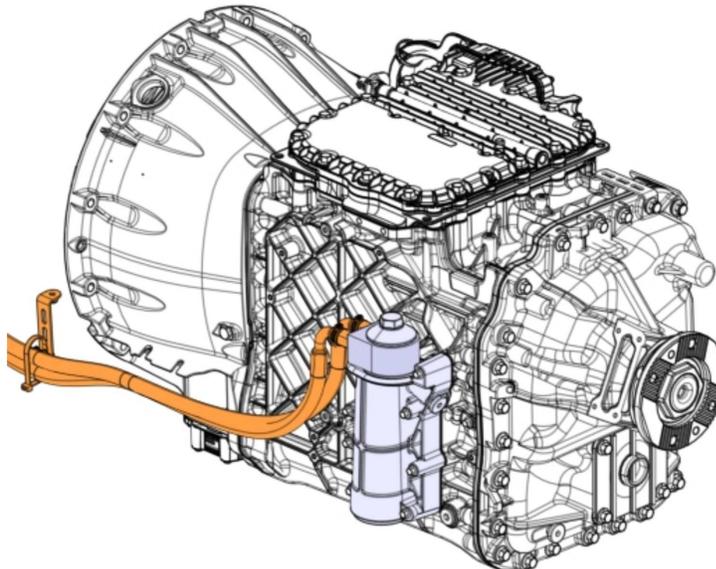
Some variants of the transmission feature an oil cooler that is mounted directly to the transmission. It uses an engine thermostat controlled coolant circuit. Coolant is pulled from the engine block to supply coolant to the oil plate heat exchanger. Oil is exchanged between the plate cooler and oil filter. The coolant piping runs over the flywheel housing.

If the battery cables need to be disconnected for service, they should be clipped and properly rerouted over the flywheel housing. The battery cables should not touch the transmission oil coolant lines else the coolant lines could abrade and fail.



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Other variants of the transmission use the vehicle's radiator to cool transmission fluid. The coolant lines do not run over the top of the flywheel housing.



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Transmission Literature

Printed copies of Allison and Eaton transmission literature are no longer available from Allison and Eaton Transmission. Therefore, Volvo Trucks North America is unable to supply this literature to its dealers.

However, service manuals and other literature for Allison and Eaton transmissions can now be accessed directly from the official internet site of this supplier.

To review or order Allison and Eaton transmission literature, please visit:

<http://www.allisontransmission.com>

<http://www.eaton.com>

I-Shift Transmission Gear Ratios

Transmission Models					
Gear	ATO 12D	ATO 12O	ATO 13D	ATO 13O	ATO 13D
Crawler 1				17.54	32.04
Crawler 2					19.38
1st	14.94	11.73	14.94	11.73	11.73
2nd	11.73	9.21	11.73	9.21	9.21
3rd	9.04	7.09	9.04	7.09	7.09
4th	7.09	5.57	7.09	5.57	5.57
5th	5.54	4.35	5.54	4.35	4.35
6th	4.35	3.41	4.35	3.41	3.41
7th	3.44	2.70	3.44	2.70	2.70
8th	2.70	2.12	2.70	2.12	2.12
9th	2.08	1.63	2.08	1.63	1.63
10th	1.63	1.28	1.63	1.28	1.28
11th	1.27	1.00	1.27	1.00	1.00
12th	1.00	0.78	1.00	0.78	0.78

Notes

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