



Body Builder, I-Shift Transmission VNL Section 4

I-Shift Transmission

This information provides the 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 the illustrations are typical but may not reflect all the variations of assembly.

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

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Contents:

- "Specifications", page 2
- "Transmission oil cooler", page 4
- "I-Shift Transmission Gear Ratios", page 5

Specifications

Lubrication and oil capacity

Service fill

Transmission type	Oil capacity (l)	Oil capacity (qt)	Notes
AT2612	16	16.9	
ATO2612	16	16.9	

If a Power Take-Off (PTO) or an oil cooler is fitted, 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/D2	0.8	0.8	
Single Power Take-Off PTR-FL/DM	0.8	0.8	
Double Power Take-Off PTRD-D3/D4	1.1	1.1	
Oil cooler TC-MWOH2	0.8	0.8	Transmission mounted
ASO-ULC/ASO-C	1.6	1.7	



CAUTION

Risk of component damage:

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

Transmission



CAUTION

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

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

Note: Failure to adhere to all the preceding safety practices can lead to the voiding of all the applicable component warranties and component damage.

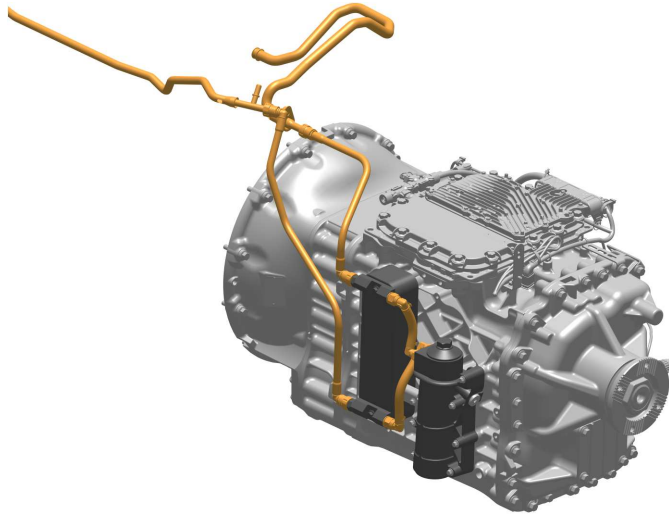
- 1 Adequate tool clearance and suitable access openings for the transmission adjustments must be provided. The transmission removal provisions must be considered.
- 2 The oil cooler lines must not be twisted, bent, or restricted. All the cooler lines must be properly retained with adequate clips.
-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

Notes

Transmission oil cooler

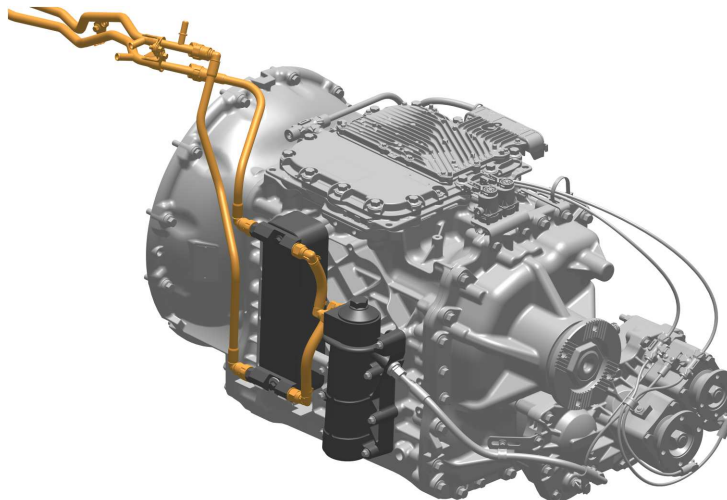
Some variants of the transmission feature an oil cooler that is mounted directly to the transmission. It uses an engine thermostat-controlled coolant circuit. The coolant is drawn from the engine block to supply coolant to the oil plate heat exchanger. The oil is circulated between the plate cooler and the oil filter. The coolant lines pass over the flywheel housing.

If the battery cables must be disconnected for service, they must be clipped and properly rerouted over the flywheel housing. The battery cables must not touch the transmission oil coolant lines. If it touches, it damages the coolant lines.



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



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I-Shift Transmission Gear Ratios

Transmission Models (AT2612 and ATO2612)

Gear	ASO-C, ARSO- MSR Di- rect drive	ASO-C, URSO Direct drive	ASO-C, ARSO- MSR Over- drive	ASO-C, URSO Over- drive	ASO- ULC, ARSO- MSR Di- rect drive	ASO- ULC, URSO Direct drive	ASO- ULC, ARSO- MSR Over- drive	ASO- ULC, URSO Over- drive	UASO Direct drive	UASO Over- drive
Crawler 1	19.38	19.38	17.54	17.54	32.04	32.04	32.04	32.04	N/A	N/A
Crawler 2	N/A	N/A	N/A	N/A	19.38	19.38	19.38	19.38	N/A	N/A
1st	14.94	14.94	11.73	11.73	14.94	14.94	11.73	11.73	14.94	11.73
2nd	11.73	11.73	9.21	9.21	11.73	11.73	9.21	9.21	11.73	9.2
3rd	9.04	9.04	7.09	7.09	9.04	9.04	7.09	7.09	9.04	7.09
4th	7.09	7.09	5.57	5.57	7.09	7.09	5.57	5.57	7.09	5.57
5th	5.54	5.54	4.35	4.35	5.54	5.54	4.35	4.35	5.54	4.35
6th	4.35	4.35	3.41	3.41	4.35	4.35	3.41	3.41	4.35	3.41
7th	3.44	3.44	2.70	2.70	3.44	3.44	2.70	2.70	3.44	2.7
8th	2.70	2.70	2.12	2.12	2.70	2.70	2.12	2.12	2.7	2.12
9th	2.08	2.08	1.63	1.63	2.08	2.08	1.63	1.63	2.08	1.63
10th	1.63	1.63	1.28	1.28	1.63	1.63	1.28	1.28	1.63	1.28
11th	1.27	1.27	1.00	1.00	1.27	1.27	1.00	1.00	1.27	1
12th	1.00	1.00	0.79	0.79	1.00	1.00	0.79	0.79	1	0.79
RC	-37.49	N/A	-2.053	N/A	-37.49	N/A	-37.49	N/A	N/A	N/A
R1	-17.48	-17.48	-13.73	-13.73	-17.48	-17.48	-13.73	-13.73	-17.48	-13.73
R2	-13.73	-13.73	-10.78	-10.78	-13.73	-13.73	-10.78	-10.78	-13.73	-10.78
R3	-8.26	-4.02	-4.72	-3.16	-8.62	-4.02	-8.62	-3.16	-4.02	-3.16
R4	-4.02	-3.16	-3.16	-2.48	-4.02	-3.16	-3.16	-2.48	-3.16	-2.48
R5	-3.16	N/A	-2.48	N/A	-3.16	N/A	-2.48	N/A	N/A	N/A

Abbreviations:

ASO-C – Crawler

ASO-ULC – Ultra low crawler

UASO – Without auxiliary speed operation

ARSO-MSR – Multi speed reverse

URSO – Without reverse speed operation.

Notes

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