

Section 4 Power Transmission

Group 41 Clutch

Engine type	B 5204/5254 S B 5252 S	B 5234 T
Pressure plate, diametermm	230	241
max. out-of-truemm	0.2	
Clutch disc		
diametermm	228 ± 1.0	240 ± 1.0
thickness when loaded, new.....mm	7.25 ± 0.3	8.0 ± 0.3
Clutch pedal, travelmm	129.2	
Clutch fork travel.....mm	17 - 22	

Tightening torques	Nm	ft. lb
Pressure plate - flywheel.....	25	18
Fasteners, master cylinder.....	25	18

Group 43 Transmission

Manual

Type	M56L	M56H
Ratios:		
1st gear	3.38 : 1	3.07 : 1
2nd gear	1.90 : 1	1.77 : 1
3rd gear	1.19 : 1	1.19 : 1
4th gear	0.87 : 1	0.87 : 1
5th gear	0.70 : 1	0.70 : 1
Reverse gear.....	3.30 : 1	3.30 : 1
Final drive (alternative ratios)	3.77 : 1	4.00 : 1
	4.00 : 1	
	4.45 : 1	

Lubricating oil

Type: Synthetic	5W/30
.....Volvo P/N (1 litre)	11 61 423-7
Oil volume.....litres	2.1

Tightening torques	Nm	ft. lb
Fasteners for		
transmission housing-bell housing.....	25	18
starter motor-transmission	40	30
bell housing-engine block.....	50	37
sleeve, release bearing.....	10	7
bracket, gear selector	25	18
reverse gear detent holder	25	18
inductive sensor	10	7
input shaft.....	50	37
ring gear, stage 1	30	22
stage 2, angle-tightening	90°	90°
lever bracket	25	18
switch for reversing light.....	25	18
wire grommet, firewall	6	4.4
Plug for draining/level control	35	26

Automatic Transmission AW 50-42

Ratios:	
1st gear	3.61:1
2nd gear	2.06:1
3rd gear	1.37:1
4th gear	0.98:1
Reverse gear	3.95:1
Final drive (alternative ratios)	2.54:1
	2.74:1
	3.16:1
System pressure	
Pos. D, idlingMPa	0.4
stall speed.....MPa	0.6
Pos. R, idlingMPa	1.2
stall speed.....MPa	1.8
Lubricant	
oil volume	7.35 - 7.60
difference between	
MAX-MIN	0.5
quality	ATF: Dexron II E, Ford Mercon

Engine	Model year	Gearbox P/N	TCM* P/N	Torque converter			Normal stall speed r/s(rpm)
				K-factor	Diam. mm	Ratio	
B 5204 S	92-93	12 08 646	35 15 259	217	241	2.3:1	37 (2200)
	94	12 08 774	35 15 259				
B 5254 S	92	12 08 561	68 49 018	217	241	2.0:1	45 (2700)
	92-93	12 08 573	68 49 758				
	92-93	"	35 15 053				
	94	12 08 776	35 15 258				
B 5252 S	93	12 08 679	35 15 054	217	241	2.0:1	43 (2600)
	93	"	91 28 384				
	94	12 08 776	35 45 863				
B 5234 T	94	12 08 560	35 45 864	206	241	1.9:1	47 (2900)

* Transmission control module

Gear changing speeds, km/h

(100 =full acceleration; KD =full acceleration + kick-down)

ECONOMY (E). Gear lever in D.								
Engine	Final drive	TCM P/N	1 – 2 100/KD	2 – 3 100/KD	3 – 4 100/KD	4 – 3 100/KD	3 – 2 100/KD	2 – 1 100/KD
B 5204 S	3.16:1	35 15 259	45/56	95/108	145/157	118/153	75/104	33/49
B 5254 S	2.74:1	68 49 018	51/60	95/120	140/182	111/175	76/113	39/49
		35 15 053	51/60	95/120	140/182	111/175	76/113	39/49
		68 49 758	52/60	103/120	145/184	119/177	80/113	38/49
		35 15 258	52/60	101/120	155/175	140/168	80/110	37/49
B 5252 S	2.54:1	35 15 054	51/67	92/122	140/180	120/165	76/110	39/49
		91 28 384	51/67	92/122	140/180	120/165	76/110	39/57
	2.74:1	35 45 863	50/60	94/111	145/175	130/170	80/105	36/49
B 5234 T	2.54:1	35 45 864	48/60	101/122	145/180	120/170	76/113	36/49

SPORT (S). Gear lever in D.								
Engine	Final drive	TCM P/N	1 – 2 100/KD	2 – 3 100/KD	3 – 4 100/KD	4 – 3 100/KD	3 – 2 100/KD	2 – 1 100/KD
B 5204 S	3.16:1	35 15 259	56/56	107/108	157/157	140/153	90/104	45/49
B 5254 S	2.74:1	68 49 018	60/62	120/120	184/184	174/177	111/113	49/49
		35 15 053	60/62	120/120	184/184	174/177	111/113	49/49
		68 49 758	58/61	112/120	175/184	168/177	107/113	49/49
		35 15 258	58/60	112/120	167/175	160/168	107/110	49/49
B 5252 S	2.54:1	35 15 054	63/67	112/122	176/180	165/175	98/114	45/49
		91 28 384	63/67	112/122	176/180	165/175	98/114	45/60
	2.74:1	35 45 863	56/60	104/111	170/175	165/170	100/105	49/49
B 5234 T	2.54:1	35 45 864	59/60	116/118	176/180	165/170	106/111	45/49

WINTER (W). Gear lever in D.								
Engine	Final drive	TCM P/N	1 – 2 KD	2 – 3 KD	3 – 4 100/KD	4 – 3 100/KD	3 – 2 KD	2 – 1 KD
B 5204 S	3.16:1	35 15 259	56	108	72/157	56/130	80	35
B 5254 S	2.74:1	68 49 018	60	120	90/184	70/160	85	35
		35 15 053	60	120	90/184	70/160	85	35
		68 49 758	60	120	90/184	70/160	85	35
		35 15 258	60	120	95/175	70/160	85	35
B 5252 S	2.54:1	35 15 054	67	122	87/180	65/165	87	38
		91 28 384	67	122	87/180	60/170	105	38
	2.74:1	35 45 863	60	111	74/175	60/170	105	49
B 5234 T	2.54:1	35 45 864	60	118	92/180	65/170	87	38

Mechanical lockup (LOCK-UP), km/h. Gear lever in D . (Tolerance $\pm 10\%$)									
			ECONOMY (E)						
Engine	Final drive	TCM P/N	2		3		4		
			100%	KD	100%	KD	100%	KD	
			in/out	in/out	in/out	in/out	in/out	in/out	
B 5204 S	3.16:1	35 15 259	72/50	80/75	95/85	131/116	145/135	157/153	
B 5254 S	2.74:1	68 49 018	55/49	55/49	86/80	120/113	116/112	182/175	
		35 15 053	55/49	55/49	86/80	120/113	116/112	182/175	
		68 49 758	56/49	60/49	101/95	120/113	138/128	184/177	
		35 15 258	48/43	60/49	96/89	120/110	138/128	175/168	
B 5252 S	2.54:1	35 15 054	49/45	55/49	85/80	122/110	127/120	180/165	
		91 28 384	49/45	67/57	85/80	122/110	127/120	180/165	
	2.74:1	35 45 863	45/42	60/49	94/87	111/105	135/130	175/170	
B 5234 T	2.54:1	35 45 864	-	-	-	-	222/215	222/215	

Mechanical lockup (LOCK-UP), km/h. Gear lever in D . (Tolerance $\pm 10\%$)									
			WINTER (W)						
Engine	Final drive	TCM P/N	3		4				
			100%	KD	100%	KD			
			in/out	in/out	in/out	in/out			
B 5204 S	3.16:1	35 15 259	52/48	112/80	72/56	157/130			
B 5254 S	2.74:1	68 49 018	65/60	95/85	90/85	184/160			
		35 15 053	65/60	95/85	90/85	184/160			
		68 49 758	65/60	120/85	90/85	184/177			
		35 15 258	64/60	120/85	95/85	175/160			
B 5252 S	2.54:1	35 15 054	62/57	95/85	87/83	180/165			
		91 28 384	62/57	95/85	87/83	180/165			
	2.74:1	35 45 863	-	111/105	90/82	175/170			
B 5234 T	2.54:1	35 45 864	-	-	222/215	222/215			

Mechanical lockup (LOCK-UP), km/h. Gear lever in D . (Tolerance $\pm 10\%$)									
			SPORT (S)						
Engine	Final drive	TCM P/N	2		3		4		
			100%	KD	100%	KD	100%	KD	
			in/out	in/out	in/out	in/out	in/out	in/out	
B 5204 S	3.16:1	35 15 259	80/75	80/75	131/116	131/116	157/149	157/153	
B 5254 S	2.74:1	68 49 018	54/52	54/52	95/86	95/86	140/130	140/130	
		35 15 053	54/52	54/52	95/86	95/86	140/130	140/130	
		68 49 758	60/58	61/58	110/107	120/113	165/160	165/160	
		35 15 258	58/53	60/49	112/107	120/110	167/160	175/168	
B 5252 S	2.54:1	35 15 054	49/45	55/49	112/98	122/114	176/165	180/175	
		91 28 384	49/45	67/60	112/98	122/114	176/165	180/175	
		35 45 863	56/49	60/49	104/100	111/105	170/165	175/170	
B 5234 T	2.54:1	35 45 864	-	-	-	-	222/215	222/215	

Components

Transmission control module (TCM)		
Engine	Volvo P/N	Aisin Warner P/N
B 5204 S	35 15 259	50 40 301 019 D
B 5254 S	68 49 018	50 40 301 022 D
	68 49 758	50 40 301
	35 15 053	50 40 301 023 A
	35 15 258	50 40 301
B 5252 S	35 15 054	50 40 301 020 K
	91 28 384	50 40 301
	35 45 863	50 40 301
B 5234 T	12 08 560	50 40 301

Gear position sensor	
- Volvo P/N	35 15 264-4
- Aisin Warner P/N	50 40 320 002 J
Mode selector	
- Volvo P/N	35 45 004-8
Solenoids:	
Gearchange solenoid 1 (S1) and 2 (S2)	
- Volvo P/N	35 15 268-5
- Aisin Warner P/N	50 40 310 001 S
Lock-Up solenoid (SL)	
- Volvo P/N	35 15 269-3
- Aisin Warner P/N	50 40 313 001 L
System pressure solenoid (STH)	
- Volvo P/N	35 15 271-9
- Aisin Warner P/N	50 40 315 001 Z
Engine speed (RPM) sensor	
- Volvo P/N	35 15 266-9
- Aisin Warner P/N	50 40 330 003 B
Oil temperature sensor	
- Volvo P/N	35 15 267-7
- Aisin Warner P/N	50 40 352 002 J
Resistance at	
+150° C (302°F).....Ω	27
0° C (32°F).....Ω	2000

Tightening torques	Dim.	Nm	ft. lb
Torque converter housing-engine	M 10	48	35
Drive plate - torque converter.....	M 8	28	21
Transmission - oil filler pipe, bracket	M 8	24	18
Transmission - bracket for gear selector wire.....	M 8	25	18
Shaft - lever for gear selector wire	M 8	16	12
Nipple, coolant pipe.....	M 14	30	22
Plug, oil drainage.....	M 18	40	30

Group 46 Drive shafts

Tightening torques	Nm	ft. lb
Driveshaft nuts (Note: Use Loctite 638 on the splines according to service manual)		
stage 1	120	59
stage 2angle tightening	60°	60°
Driveshaft, right, bearing cap	25	18