



Aktuelle Motoren  
Actual engines  
Motores actuales  
Moteurs actuels

Hatz Service Solutions

08/2024

000940524002 08.24 Printed in Germany

Nm	
<b>B   D</b>	25
<b>1 B 20   30   40   50</b>	32.5
<b>1 D 41   42   50   81   90</b>	55
<b>SW=19 mm</b>	25
<b>SW=22 mm</b>	35

<b>1 D 41   42   50</b>	62.5 - 0 - 42.5
<b>1 D 81   90</b>	62.5 - 0 - 42.5

<b>1 B 20   30   40   50</b>	23 - 0 - 23 - 0 - 30

<b>1 B 20   30   40   50</b>	I 80 ⇔ II 150

Nm							
10 Nm = 1 mkg							
<b>1 B 20   1 B 20 V</b>	25 [6]	—	21.4	—	360	11	—
<b>1 B 30   1 B 30 V</b> <b>1 B 30 E   1 B 30 VE</b>	45 [7]	—	30	—	M18 [1x]: 360 M8 [6x]: 42	11	—
<b>1 B 40   1 B 40 V</b>	45 [7]	—	41	—	42	11	—
<b>1 B 50   1 B 50 E   1 B 50 V</b>	10 + +250° [8]	—	42	—	42	11	—
<b>1 D 41   1 D 42   1 D 50</b>	50	—	40	40	68	11	—
<b>1 D 81   1 D 90   1 D 90 V</b> <b>1 D 90 E   1 D 90 VE</b>	80	—	85	75	M12 [6x]: 115 M14 [5x]: 190	11	—
<b>3 H 50 T   TI   TIC   TIC-DPF   TICD</b>	21 + +160° [10]	23	20 + +65°	—	95 [5]	—	90 [11]
<b>4 H 50 N   NO   TI   TIC   TIC-DPF   TICD</b>	21 + +160° [10]	23	20 + +65°	—	95 [5]	—	90 [11]

**[5]**

I: 1 45 Nm  
II: 2-7 95 Nm  
III: 1 95 Nm

**[>4]**

**[6]**

I: 10 Nm  
II: 30 Nm  
III: -50°  
IV: 30 Nm  
V: -50°  
VI: 25 Nm

**[7]**

I: 20 Nm  
II: 55 Nm  
III: -60°  
IV: 55 Nm  
V: -60°  
VI: 55 Nm  
VII: -60°  
VIII: 45 Nm

**[8]**

I: 10 Nm  
II: 150°  
III: -50°  
IV: 150°

	8.8	10.9	12.9
<b>M 3</b>	1.3	1.8	—
<b>M 4</b>	2.9	4.2	5.0
<b>M 5</b>	5.5	7.8	9.3
<b>M 6</b>	9.5	13.0	16.0
<b>M 8</b>	23.0	33.0	39.0
<b>M 10</b>	46.0	65.0	78.0
<b>M 12</b>	80.0	110.0	140.0
<b>M 14</b>	130.0	180.0	220.0
<b>M 16</b>	190.0	270.0	330.0
<b>M 18</b>	270.0	380.0	450.0
<b>M 20</b>	380.0	530.0	640.0

**[10]**

**4H50:** 1 - 10  
11 - 14

**3H50:** 1 - 8  
11 - 13

I: 21 Nm  
II: 80°  
III: 80°

9.5 Nm

**[11]**

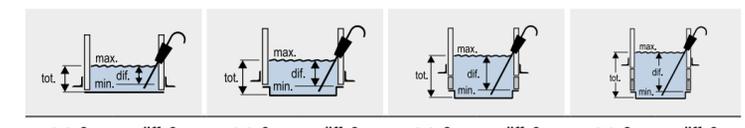
**4H50:** 1 - 10  
**3H50:** 1 - 8

I: 10 Nm  
II: 45 Nm  
III: 90 Nm

**[>3]**

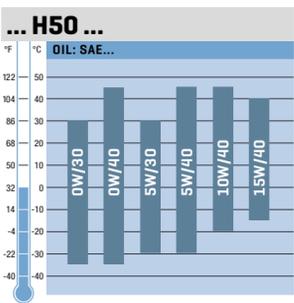
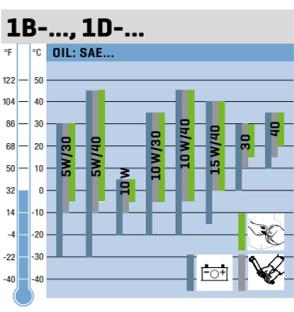
ACEA	API
B3 / E4*	CF / CH-4*
E6 / E8 E9 / E11 C3 / C4	CK-4 CJ-4
E6 / E7 / E9 C1 / C2 C3 / C4	CK-4 CJ-4 CI-4
E6 [recom.] E9 C3 / C4	CK-4 CJ-4

\* oder höherwertiger  
\* or higher quality  
\* o de mayor calidad  
\* ou de qualité supérieure



	tot. ℓ	diff. ℓ						
<b>1 B 20   1 B 20 V</b>	0.9	0.5	2.4	1.4	—	—	—	—
<b>1 B 30   1 B 30 V</b>	1.1	0.5	2.6	1.6	—	—	—	—
<b>1 B 30 E   1 B 30 VE</b>	1.1	0.5	2.5	1.5	—	—	—	—
<b>1 B 40   1 B 40 V   1 B 50   1 B 50 V</b>	1.5	0.8	3.2	2.2	—	—	—	—
<b>1 B 50 E</b>	1.5	0.8	3.2	2.2	—	—	—	—
<b>1 D 41   1 D 42</b>	—	—	1.2	0.4	2.8	2.0	4.4	3.6
<b>1 D 50</b>	—	—	1.5	0.5	—	—	—	—
<b>1 D 81   1 D 90   1 D 90 E</b>	—	—	1.9	0.9	3.2	2.2	4.5	3.5
<b>1 D 90 V   1 D 90 VE</b>	1.6	0.7	—	—	—	—	—	—
<b>3 H 50 T   TI   TIC   TIC-DPF   TICD</b>	5.0	0.8	—	—	—	—	—	—
<b>3 H 50 [55°]**</b>	5.9	1.0	—	—	—	—	—	—
<b>4 H 50 N   NO   TI   TIC   TIC-DPF   TICD</b>	7.0	1.0	9.0	1.0	—	—	—	—
<b>4 H 50 [50°]**</b>	7.3	1.0	—	—	—	—	—	—

\*\* mit Schräglagenpaket  
\*\* with tilt package  
\*\* con paquete de inclinación  
\*\* avec pack d'inclinaison



Oil Viscosity	1 B 20   1 B 20 V	1 B 30   1 B 30 V	1 B 30 E   1 B 30 VE	1 B 40   1 B 40 V   1 B 50   1 B 50 V	1 B 50 E	1 D 41   1 D 42	1 D 50	1 D 81   1 D 90   1 D 90 E	1 D 90 V   1 D 90 VE	3 H 50 T   TI   TIC   TIC-DPF   TICD	3 H 50 [55°]**	4 H 50 N   NO   TI   TIC   TIC-DPF   TICD	4 H 50 [50°]**
0W/30													
0W/40													
5W/30													
5W/40													
10W/40													
15W/40													
30													
40													

Coolant [OPU]***	Symbol	Volume
<b>3 H 50 T</b>		7.2 ℓ
<b>3 H 50 TI</b> <b>3 H 50 TIC</b> <b>3 H 50 TICD</b>		12.0 ℓ
<b>4 H 50 N   NO</b> <b>4 H 50 TI   TIC</b> <b>4 H 50 TICD</b>		12.5 ℓ

\*\*\* Kühlmittelspezifikation = [1]  
\*\*\* Coolant specification = [1]  
\*\*\* Especificación del refrigerante = [1]  
\*\*\* Spécification du liquide de refroidissement = [1]

<https://dsp.hatz.com/liquids>



Engine-No. / Serial-No.	In.		Ex.		I		II		III		r.p.m. ± 10 %									
	nom. mm	max. mm	nom. mm	max. mm	nom. mm	max. mm	nom. mm	max. mm	nom. mm	max. mm	850		1500		2300		3000			
	nom. mm	max. mm	nom. mm	max. mm	nom. mm	max. mm	nom. mm	max. mm	nom. mm	max. mm	nom.	min.	nom.	min.	nom.	min.	nom.	min.		
<b>1 B 20   1 B 20 V   1 B 20 R</b>	100.10-29 111.10-19 300.28-29 301.18-19	69.00	69.11	62	0.1	0.55-0.65	0±0.10	0.40	0±0.10	0.40										
100.30 111.20 300.30 301.20	0.2				0.45-0.55	0.5 neg. [2]	0.1 neg.	0.5 neg. [2]	0.1 neg.											
<b>1 B 30   1 B 30 V   1 B 30 E   1 B 30 VE</b>	101.10-24 112.10-15 302.24 303.14-15	80.00	80.11	69	0±0.10	0.40	0±0.10	0.40												
101.25-29 112.16-20 174.29 182.01-06 183.03 302.25-26 303.16-17	0.2				0.50-0.55	0.6 neg. [2]	0.2 neg.	0.6 neg. [2]	0.2 neg.											
<b>1 B 40   1 B 40 V</b>	110.10-13 117.10-13 304.12-13 305.12-13	88.00	88.13	76	0.1 [1]	0±0.10	0.40	0±0.10	0.40											
110.14-19 117.14-19 176.19 304.14 305.14	0.2				0.55-0.60	0.6 neg. [2]	0.2 neg.	0.6 neg. [2]	0.2 neg.											
<b>1 B 50   1 B 50 V   1 B 50 E</b>	124.10-16 126.10-16 177.16 184.01-05 190.10 306.10-11 307.10-11	93.00	93.11	76	0.6 neg. [2]	0.2 neg.	0.6 neg. [2]	0.2 neg.												
<b>1 D 41</b>	094.10-20 094.21-22	90.00	90.13	65	0.6±0.1	0.2	0.6±0.1	0.2												
<b>1 D 42</b>	133.10-11 155.10	90.00	90.13	70	0.6±0.1neg. [2]	0.2 neg.	0.6±0.1neg. [2]	0.2 neg.												
<b>1 D 50</b>	109.10-15 109.16-20 156.10 173.10-27	97.00	97.16	70	1.0±0.1	1.40	1.0±0.1	1.40												
<b>1 D 81</b>	073.10-27 159.27 160.27 166.27 171.27 179.10 180.10 316.27	100.00	100.16	85	0.6±0.1neg. [2]	0.2 neg.	0.6±0.1neg. [2]	0.2 neg.												
<b>1 D 90   1 D 90 V   1 D 90 E   1 D 90 VE</b>	108.10-19 108.20 113.10-17 167.20 169.20 170.17 181.10 185.01-06 188.10 189.06	104.00	104.16	85	0.3 +0.05	0.80-0.85	0±0.10	0.40	0±0.10	0.40										
<b>3 H 50 T   TI   TIC   TIC-DPF   TICD</b>	all	84.00	84.03	88	hydro [3]	0.6-0.7	0.6 neg. [2]	0.2 neg.	0.6 neg. [2]	0.2 neg.	0.1-0.2	0.5	0.2-0.35	0.6	0.6-0.8	1.0	0.25-0.5	1.0		
<b>4 H 50 N   NO   TI   TIC   TIC-DPF   TICD</b>																				



Engine-No. / Serial-No.	bar		psi		bar		psi	
	bar	psi	bar	psi	bar	psi	bar	psi
	bar	psi	bar	psi	bar	psi	bar	psi
<b>1 B 20</b>	100 [10 - 22]							
<b>1 B 20V</b>	111 [10 - 12]	200+12	2900+175					
<b>1 B 20</b>	100 [23 - 29] 300 [28 - 29]	250+12	3625+175					
<b>1 B 20V</b>	111 [13 - 19] 301 [18 - 19]							
<b>1 B 20</b>	100 [30 - 34] 300 [30 - 31]			200+10	2900+145			
<b>1 B 20V</b>	111 [20 - 24] 301 [20 - 24]							
<b>1 B 30</b>	101 [10 - 16]	180+8	2610+115					
<b>1 B 30</b>	101 [17 - 24] 302 [24]	220+12	3190+175					
<b>1 B 30V</b>	112 [10 - 15] 303 [14 - 15]							
<b>1 B 30</b>	101 [25 - 29] 302 [25 - 26]			200+10	2900+145			
<b>1 B 30V</b>	112 [16 - 20] 303 [16 - 17]							
<b>1 B 30 E, VE</b>	182 [01 - 06] 183 [03]							
<b>1 B 30 DOC</b>	174.29	200+10	2900+145					
<b>1 B 40</b>	110 [10 - 13] 304 [12 - 13]	220+12	3190+175					
<b>1 B 40 V</b>	117 [12 - 13] 305 [14]							
<b>1 B 40</b>	110 [14 - 19] 304 [14]			200+10	2900+145			
<b>1 B 40 V</b>	117 [14 - 19] 305 [14]							
<b>1 B 40 DOC</b>	176.19	200+10	2900+145					
<b>1 B 50</b>	124 [10 - 16] 306 [10 - 11]			200+10	2900+145			
<b>1 B 50 V</b>	126 [10 - 16] 307 [10 - 11]							
<b>1 B 50 E</b>	184 [01-05]	225+12	3260+175					
<b>1 B 50 DOC</b>	177.16	200+10	2900+145					
<b>1 D 41 S,Z,T,U,C</b>	094 [10 - 17]	200+8	2900+115					
<b>1 D 41 S,Z,T,U,C</b>	094 [18 - 20]	225+12	3260+175					
<b>1 D 41 S,Z,C</b>	094 [21 - 22]			225+8	3260+115			
<b>1 D 42 S,Z,C</b>	133 [10 - 11] 155 [10] 157 [10]			225+8	3260+115			

**[1]**

Anleitung zum Dieselmotor  
Manual for diesel engine  
Manual para el motor diésel  
Notice Monteur diesel

**[2]**

pos. neg.

**[3]**

Reparaturbuch  
Repair Manual  
Manual de Reparaciones  
Livret de réparation

**[4]**

**VDI/VDE 2862-2**  
Bitte beachten - Kategorie A-Verschraubung!  
Please note - Category A screw connection!  
Atención - Conexión roscada de categoría A!  
Veuillez noter que - Catégorie A - Raccord à vis!