

X52

External forces and moments

Crankshaft type : Full crank pin

Rating R1 : 1810 kW/Cyl. / 105 rpm / Standard Tier2 Tuning

Engine Type		5X52	6X52	7X52	8X52
Speed		105 rpm	105 rpm	105 rpm	105 rpm
Power		9050 kW	10860 kW	12670 kW	14480 kW
Crank type		FCV2	FCV2	FCV2	FCV1
Massmoments / Forces					
Free Forces					
F1v	[±kN]	0	0	0	0
F1h	[±kN]	0	0	0	0
F2v	[±kN]	0	0	0	0
F4v	[±kN]	0	0	0	0
External Moments					
M1v	[±kNm]	116	0	69	231
M1h	[±kNm]	116	0	69	233
M2v	[±kNm]	1380	960	279	0
M2v *)	[±kNm]	525	473	-	-
M4v	[±kNm]	9	67	189	77
Lateral H-Moments M_{LH}					
Ord.1	[±kNm]	0	0	0	0
Ord.2	[±kNm]	0	0	0	0
Ord.3	[±kNm]	0	0	0	0
Ord.4	[±kNm]	0	0	0	0
Ord.5	[±kNm]	1002	0	0	0
Ord.6	[±kNm]	0	779	0	0
Ord.7	[±kNm]	0	0	641	0
Ord.8	[±kNm]	0	0	0	469
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	119	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	49	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	97	0	58	194
Ord.2	[±kNm]	63	44	13	0
Ord.3	[±kNm]	110	198	217	278
Ord.4	[±kNm]	35	271	769	313
Ord.5	[±kNm]	0	0	58	726
Ord.6	[±kNm]	15	0	9	0
Ord.7	[±kNm]	124	0	0	22
Ord.8	[±kNm]	75	52	4	0
Ord.9	[±kNm]	4	87	10	9
Ord.10	[±kNm]	0	23	65	0
Ord.11	[±kNm]	1	0	32	41
Ord.12	[±kNm]	11	0	2	8
Torque variation	[±kNm]	1055	816	668	492

*) with iELBA applied at FE + DE

The values for other engine ratings are available on request

The resulting lateral guide force at the crosshead can be estimated as follows: FL=MLH x 0.287 [kN]

X52

External forces and moments

Crankshaft type : Full crank pin

Rating R1 : 1810 kW/Cyl. / 105 rpm / Delta Tier2 Tuning

Engine Type		5X52	6X52	7X52	8X52
Speed		105 rpm	105 rpm	105 rpm	105 rpm
Power		9050 kW	10860 kW	12670 kW	14480 kW
Crank type		FCV2	FCV2	FCV2	FCV1
Massmoments / Forces					
Free Forces					
F1v	[±kN]	0	0	0	0
F1h	[±kN]	0	0	0	0
F2v	[±kN]	0	0	0	0
F4v	[±kN]	0	0	0	0
External Moments					
M1v	[±kNm]	116	0	69	231
M1h	[±kNm]	116	0	69	233
M2v	[±kNm]	1380	960	279	0
M2v *)	[±kNm]	525	473	-	-
M4v	[±kNm]	9	67	189	77
Lateral H-Moments M_{LH}					
Ord.1	[±kNm]	0	0	0	0
Ord.2	[±kNm]	0	0	0	0
Ord.3	[±kNm]	0	0	0	0
Ord.4	[±kNm]	0	0	0	0
Ord.5	[±kNm]	974	0	0	0
Ord.6	[±kNm]	0	751	0	0
Ord.7	[±kNm]	0	0	618	0
Ord.8	[±kNm]	0	0	0	453
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	114	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	46	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	96	0	57	192
Ord.2	[±kNm]	76	53	15	0
Ord.3	[±kNm]	107	194	212	271
Ord.4	[±kNm]	34	264	751	305
Ord.5	[±kNm]	0	0	56	707
Ord.6	[±kNm]	15	0	9	0
Ord.7	[±kNm]	120	0	0	22
Ord.8	[±kNm]	72	50	4	0
Ord.9	[±kNm]	4	83	9	8
Ord.10	[±kNm]	0	22	62	0
Ord.11	[±kNm]	1	0	31	39
Ord.12	[±kNm]	10	0	2	8
Torque variation	[±kNm]	1024	786	642	474

*) with iELBA applied at FE + DE

The values for other engine ratings are available on request

The resulting lateral guide force at the crosshead can be estimated as follows: FL=MLH x 0.287 [kN]

X52

External forces and moments

Crankshaft type : Full crank pin

Rating R1 : 1810 kW/Cyl. / 105 rpm / LowLoad Tier2 Tuning

Engine Type		5X52	6X52	7X52	8X52
Speed		105 rpm	105 rpm	105 rpm	105 rpm
Power		9050 kW	10860 kW	12670 kW	14480 kW
Crank type		FCV2	FCV2	FCV2	FCV1
Massmoments / Forces					
Free Forces					
F1v	[±kN]	0	0	0	0
F1h	[±kN]	0	0	0	0
F2v	[±kN]	0	0	0	0
F4v	[±kN]	0	0	0	0
External Moments					
M1v	[±kNm]	116	0	69	231
M1h	[±kNm]	116	0	69	233
M2v	[±kNm]	1380	960	279	0
M2v *)	[±kNm]	525	473	-	-
M4v	[±kNm]	9	67	189	77
Lateral H-Moments M_{LH}					
Ord.1	[±kNm]	0	0	0	0
Ord.2	[±kNm]	0	0	0	0
Ord.3	[±kNm]	0	0	0	0
Ord.4	[±kNm]	0	0	0	0
Ord.5	[±kNm]	974	0	0	0
Ord.6	[±kNm]	0	751	0	0
Ord.7	[±kNm]	0	0	618	0
Ord.8	[±kNm]	0	0	0	453
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	114	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	45	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	96	0	57	192
Ord.2	[±kNm]	76	53	15	0
Ord.3	[±kNm]	107	194	212	272
Ord.4	[±kNm]	34	264	751	305
Ord.5	[±kNm]	0	0	56	708
Ord.6	[±kNm]	15	0	9	0
Ord.7	[±kNm]	120	0	0	22
Ord.8	[±kNm]	73	50	4	0
Ord.9	[±kNm]	4	83	9	8
Ord.10	[±kNm]	0	22	62	0
Ord.11	[±kNm]	1	0	31	39
Ord.12	[±kNm]	10	0	2	8
Torque variation	[±kNm]	1025	786	643	474

*) with iELBA applied at FE + DE

The values for other engine ratings are available on request

The resulting lateral guide force at the crosshead can be estimated as follows: FL=MLH x 0.287 [kN]

X52**External forces and moments**

Crankshaft type : Full crank pin

Rating R1 : 1810 kW/Cyl. / 105 rpm / DeltaBypass Tier2 Tuning

Engine Type		5X52	6X52	7X52	8X52
Speed		105 rpm	105 rpm	105 rpm	105 rpm
Power		9050 kW	10860 kW	12670 kW	14480 kW
Crank type		FCV2	FCV2	FCV2	FCV1
Massmoments / Forces					
Free Forces					
F1v	[±kN]	0	0	0	0
F1h	[±kN]	0	0	0	0
F2v	[±kN]	0	0	0	0
F4v	[±kN]	0	0	0	0
External Moments					
M1v	[±kNm]	116	0	69	231
M1h	[±kNm]	116	0	69	233
M2v	[±kNm]	1380	960	279	0
M2v *)	[±kNm]	525	473	-	-
M4v	[±kNm]	9	67	189	77
Lateral H-Moments M_{LH}					
Ord.1	[±kNm]	0	0	0	0
Ord.2	[±kNm]	0	0	0	0
Ord.3	[±kNm]	0	0	0	0
Ord.4	[±kNm]	0	0	0	0
Ord.5	[±kNm]	980	0	0	0
Ord.6	[±kNm]	0	759	0	0
Ord.7	[±kNm]	0	0	627	0
Ord.8	[±kNm]	0	0	0	464
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	119	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	50	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	96	0	57	192
Ord.2	[±kNm]	75	52	15	0
Ord.3	[±kNm]	106	191	209	268
Ord.4	[±kNm]	34	265	754	306
Ord.5	[±kNm]	0	0	57	712
Ord.6	[±kNm]	15	0	9	0
Ord.7	[±kNm]	121	0	0	22
Ord.8	[±kNm]	74	52	4	0
Ord.9	[±kNm]	4	86	10	9
Ord.10	[±kNm]	0	23	65	0
Ord.11	[±kNm]	2	0	33	42
Ord.12	[±kNm]	11	0	2	9
Torque variation	[±kNm]	1030	792	650	483

*) with iELBA applied at FE + DE

The values for other engine ratings are available on request

The resulting lateral guide force at the crosshead can be estimated as follows: FL=MLH x 0.287 [kN]

5-8 X52 / Free external mass moments
Power Related Unbalance (PRU)
Rating R1 1810 kW/Cyl @ 105 rpm

Crankshaft type: Full crank pin

