

X35-B

External forces and moments

Crankshaft type : FCV1 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Standard Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	34	0	79	66
M1h	[±kNm]	35	0	38	71
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	312	0	0	0
Ord.6	[±kNm]	0	225	0	0
Ord.7	[±kNm]	0	0	170	0
Ord.8	[±kNm]	0	0	0	120
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	20	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	62
Ord.2	[±kNm]	22	15	4	0
Ord.3	[±kNm]	41	74	81	104
Ord.4	[±kNm]	10	81	230	93
Ord.5	[±kNm]	0	0	18	225
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	31	0	0	6
Ord.8	[±kNm]	20	14	1	0
Ord.9	[±kNm]	1	15	2	2
Ord.10	[±kNm]	0	3	10	0
Ord.11	[±kNm]	0	0	5	6
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	320	228	173	123

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: $FL = MLH \times 0.429$ [kN]

X35-B

External forces and moments

Crankshaft type : FCV1 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Delta Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	34	0	79	66
M1h	[±kNm]	35	0	38	71
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	306	0	0	0
Ord.6	[±kNm]	0	219	0	0
Ord.7	[±kNm]	0	0	165	0
Ord.8	[±kNm]	0	0	0	115
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	18	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	61
Ord.2	[±kNm]	21	15	4	0
Ord.3	[±kNm]	41	74	81	103
Ord.4	[±kNm]	10	80	227	92
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	30	0	0	5
Ord.8	[±kNm]	19	13	1	0
Ord.9	[±kNm]	1	14	2	1
Ord.10	[±kNm]	0	3	9	0
Ord.11	[±kNm]	0	0	4	5
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	314	223	168	118

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: FL=MLH x 0.429 [kN]

X35-B

External forces and moments

Crankshaft type : FCV1 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , LLT-WG Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	34	0	79	66
M1h	[±kNm]	35	0	38	71
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	307	0	0	0
Ord.6	[±kNm]	0	219	0	0
Ord.7	[±kNm]	0	0	164	0
Ord.8	[±kNm]	0	0	0	115
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	18	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	61
Ord.2	[±kNm]	22	15	4	0
Ord.3	[±kNm]	41	75	82	105
Ord.4	[±kNm]	10	80	227	92
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	30	0	0	5
Ord.8	[±kNm]	19	13	1	0
Ord.9	[±kNm]	1	14	2	1
Ord.10	[±kNm]	0	3	9	0
Ord.11	[±kNm]	0	0	4	5
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	315	222	167	118

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: FL=MLH x 0.429 [kN]

X35-B

External forces and moments

Crankshaft type : FCV1 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Delta-Bypass Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	34	0	79	66
M1h	[±kNm]	35	0	38	71
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	306	0	0	0
Ord.6	[±kNm]	0	224	0	0
Ord.7	[±kNm]	0	0	174	0
Ord.8	[±kNm]	0	0	0	126
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	24	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	7	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	30	0	18	60
Ord.2	[±kNm]	15	10	3	0
Ord.3	[±kNm]	37	67	73	94
Ord.4	[±kNm]	10	79	225	91
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	32	0	0	6
Ord.8	[±kNm]	21	14	1	0
Ord.9	[±kNm]	1	18	2	2
Ord.10	[±kNm]	0	4	12	0
Ord.11	[±kNm]	0	0	7	10
Ord.12	[±kNm]	2	0	0	1
Torque variation	[±kNm]	315	227	175	127

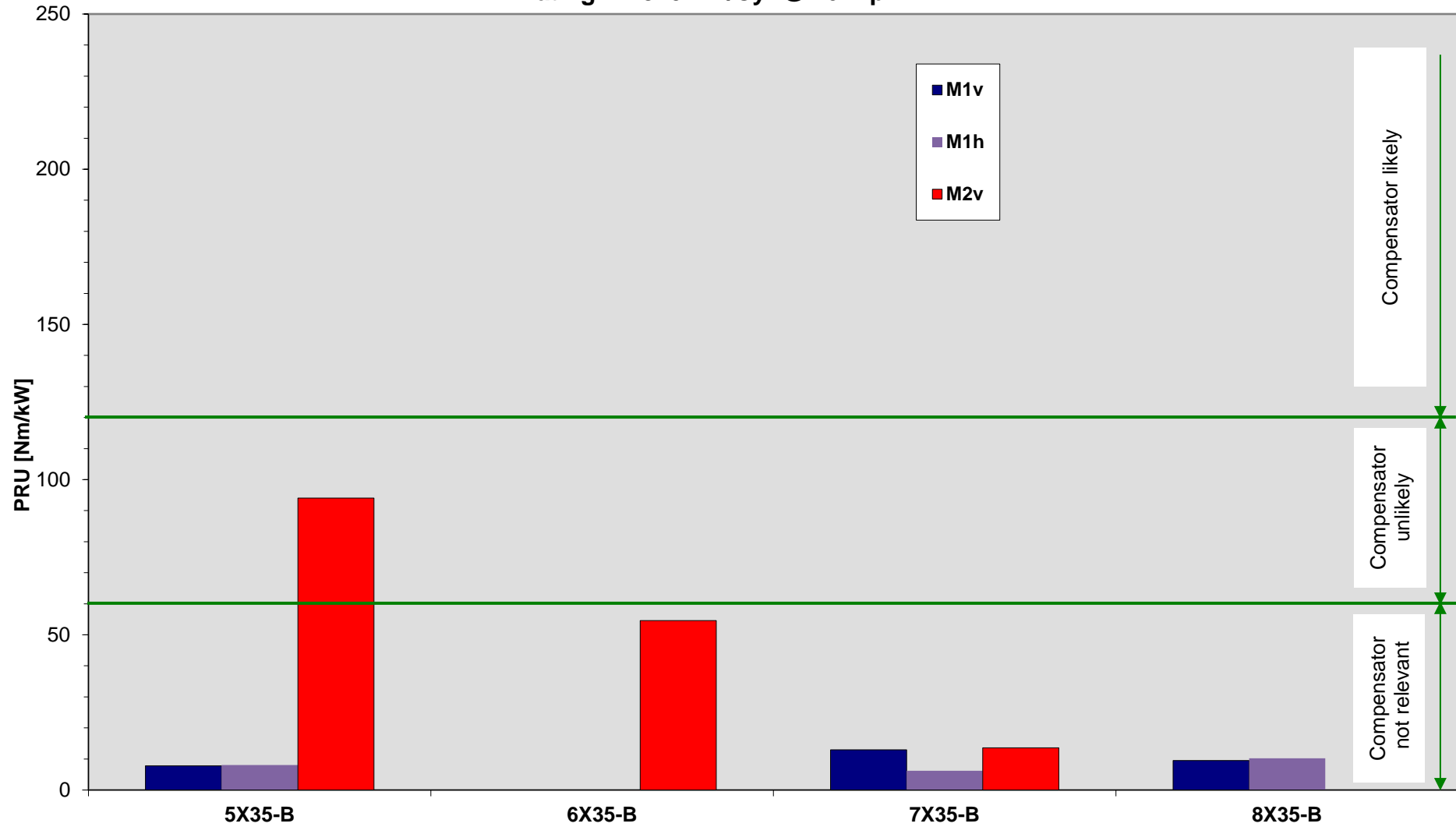
* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: $FL=MLH \times 0.429$ [kN]

5-8 X35-B / Free external mass moments Power Related Unbalance (PRU) Rating R1 870 kW/Cyl @ 167 rpm

Crankshaft type: Forged FCV1



X35-B

External forces and moments

Crankshaft type : FCV2 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Standard Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	36	0	80	70
M1h	[±kNm]	33	0	39	67
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	312	0	0	0
Ord.6	[±kNm]	0	225	0	0
Ord.7	[±kNm]	0	0	170	0
Ord.8	[±kNm]	0	0	0	120
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	20	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	62
Ord.2	[±kNm]	22	15	4	0
Ord.3	[±kNm]	41	74	81	104
Ord.4	[±kNm]	10	81	230	93
Ord.5	[±kNm]	0	0	18	225
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	31	0	0	6
Ord.8	[±kNm]	20	14	1	0
Ord.9	[±kNm]	1	15	2	2
Ord.10	[±kNm]	0	3	10	0
Ord.11	[±kNm]	0	0	5	6
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	320	228	173	123

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: $FL = MLH \times 0.429$ [kN]

X35-B

External forces and moments

Crankshaft type : FCV2 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Delta Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	36	0	80	70
M1h	[±kNm]	33	0	39	67
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	306	0	0	0
Ord.6	[±kNm]	0	219	0	0
Ord.7	[±kNm]	0	0	165	0
Ord.8	[±kNm]	0	0	0	115
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	18	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	61
Ord.2	[±kNm]	21	15	4	0
Ord.3	[±kNm]	41	74	81	103
Ord.4	[±kNm]	10	80	227	92
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	30	0	0	5
Ord.8	[±kNm]	19	13	1	0
Ord.9	[±kNm]	1	14	2	1
Ord.10	[±kNm]	0	3	9	0
Ord.11	[±kNm]	0	0	4	5
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	314	223	168	118

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: FL=MLH x 0.429 [kN]

X35-B

External forces and moments

Crankshaft type : FCV2 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , LLT-WG Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	36	0	80	70
M1h	[±kNm]	33	0	39	67
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	307	0	0	0
Ord.6	[±kNm]	0	219	0	0
Ord.7	[±kNm]	0	0	164	0
Ord.8	[±kNm]	0	0	0	115
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	18	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	61
Ord.2	[±kNm]	22	15	4	0
Ord.3	[±kNm]	41	75	82	105
Ord.4	[±kNm]	10	80	227	92
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	30	0	0	5
Ord.8	[±kNm]	19	13	1	0
Ord.9	[±kNm]	1	14	2	1
Ord.10	[±kNm]	0	3	9	0
Ord.11	[±kNm]	0	0	4	5
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	315	222	167	118

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: FL=MLH x 0.429 [kN]

X35-B

External forces and moments

Crankshaft type : FCV2 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Delta-Bypass Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	36	0	80	70
M1h	[±kNm]	33	0	39	67
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	306	0	0	0
Ord.6	[±kNm]	0	224	0	0
Ord.7	[±kNm]	0	0	174	0
Ord.8	[±kNm]	0	0	0	126
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	24	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	7	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	30	0	18	60
Ord.2	[±kNm]	15	10	3	0
Ord.3	[±kNm]	37	67	73	94
Ord.4	[±kNm]	10	79	225	91
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	32	0	0	6
Ord.8	[±kNm]	21	14	1	0
Ord.9	[±kNm]	1	18	2	2
Ord.10	[±kNm]	0	4	12	0
Ord.11	[±kNm]	0	0	7	10
Ord.12	[±kNm]	2	0	0	1
Torque variation	[±kNm]	315	227	175	127

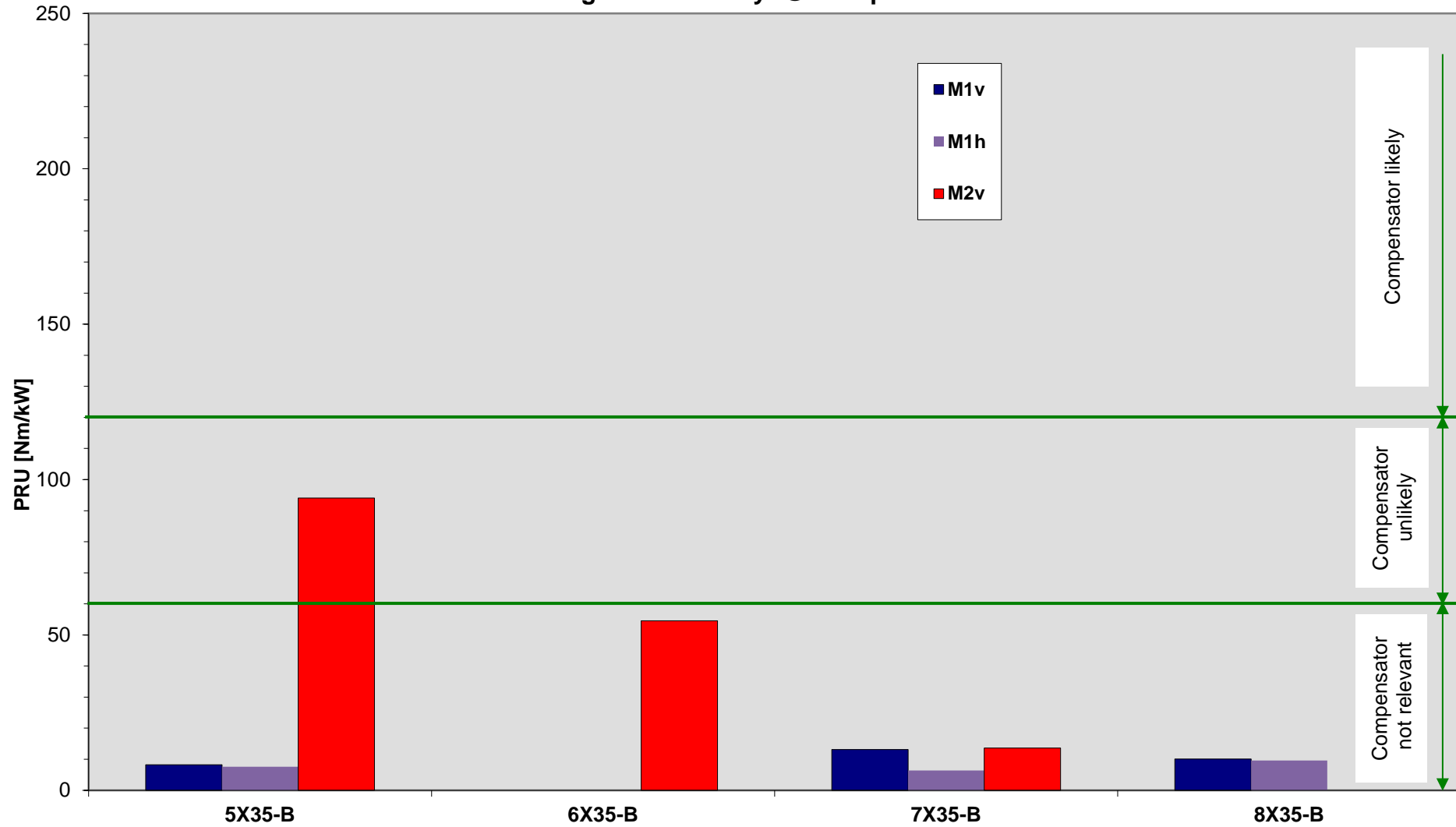
* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: $FL = MLH \times 0.429$ [kN]

5-8 X35-B / Free external mass moments Power Related Unbalance (PRU) Rating R1 870 kW/Cyl @ 167 rpm

Crankshaft type: Forged FCV2



X35-B

External forces and moments

Crankshaft type : FCV3 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Standard Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	38	0	81	74
M1h	[±kNm]	31	0	40	64
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	312	0	0	0
Ord.6	[±kNm]	0	225	0	0
Ord.7	[±kNm]	0	0	170	0
Ord.8	[±kNm]	0	0	0	120
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	20	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	62
Ord.2	[±kNm]	22	15	4	0
Ord.3	[±kNm]	41	74	81	104
Ord.4	[±kNm]	10	81	230	93
Ord.5	[±kNm]	0	0	18	225
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	31	0	0	6
Ord.8	[±kNm]	20	14	1	0
Ord.9	[±kNm]	1	15	2	2
Ord.10	[±kNm]	0	3	10	0
Ord.11	[±kNm]	0	0	5	6
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	320	228	173	123

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: FL=MLH x 0.429 [kN]

X35-B

External forces and moments

Crankshaft type : FCV3 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Delta Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	38	0	81	74
M1h	[±kNm]	31	0	40	64
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	306	0	0	0
Ord.6	[±kNm]	0	219	0	0
Ord.7	[±kNm]	0	0	165	0
Ord.8	[±kNm]	0	0	0	115
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	18	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	61
Ord.2	[±kNm]	21	15	4	0
Ord.3	[±kNm]	41	74	81	103
Ord.4	[±kNm]	10	80	227	92
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	30	0	0	5
Ord.8	[±kNm]	19	13	1	0
Ord.9	[±kNm]	1	14	2	1
Ord.10	[±kNm]	0	3	9	0
Ord.11	[±kNm]	0	0	4	5
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	314	223	168	118

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: $FL = MLH \times 0.429$ [kN]

X35-B

External forces and moments

Crankshaft type : FCV3 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , LLT-WG Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	38	0	81	74
M1h	[±kNm]	31	0	40	64
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	307	0	0	0
Ord.6	[±kNm]	0	219	0	0
Ord.7	[±kNm]	0	0	164	0
Ord.8	[±kNm]	0	0	0	115
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	18	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	2	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	31	0	18	61
Ord.2	[±kNm]	22	15	4	0
Ord.3	[±kNm]	41	75	82	105
Ord.4	[±kNm]	10	80	227	92
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	30	0	0	5
Ord.8	[±kNm]	19	13	1	0
Ord.9	[±kNm]	1	14	2	1
Ord.10	[±kNm]	0	3	9	0
Ord.11	[±kNm]	0	0	4	5
Ord.12	[±kNm]	1	0	0	1
Torque variation	[±kNm]	315	222	167	118

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: FL=MLH x 0.429 [kN]

X35-B

External forces and moments

Crankshaft type : FCV3 / full crank pin

Rating R1 : 870 kW/Cyl. / 167 rpm , Delta-Bypass Tier2 Tuning

Engine Type		5X35-B	6X35-B	7X35-B	8X35-B
Speed		167 rpm	167 rpm	167 rpm	167 rpm
Power		4350 kW	5220 kW	6090 kW	6960 kW
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]	38	0	81	74
M1h	[±kNm]	31	0	40	64
M2v *)	[±kNm]	409	285	83	0
M4v	[±kNm]	3	20	56	23
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]	306	0	0	0
Ord.6	[±kNm]	0	224	0	0
Ord.7	[±kNm]	0	0	174	0
Ord.8	[±kNm]	0	0	0	126
Ord.9	[±kNm]	0	0	0	0
Ord.10	[±kNm]	24	0	0	0
Ord.11	[±kNm]	0	0	0	0
Ord.12	[±kNm]	0	7	0	0
Lateral X-Moments M_{LX}					
Ord.1	[±kNm]	30	0	18	60
Ord.2	[±kNm]	15	10	3	0
Ord.3	[±kNm]	37	67	73	94
Ord.4	[±kNm]	10	79	225	91
Ord.5	[±kNm]	0	0	18	221
Ord.6	[±kNm]	4	0	2	0
Ord.7	[±kNm]	32	0	0	6
Ord.8	[±kNm]	21	14	1	0
Ord.9	[±kNm]	1	18	2	2
Ord.10	[±kNm]	0	4	12	0
Ord.11	[±kNm]	0	0	7	10
Ord.12	[±kNm]	2	0	0	1
Torque variation	[±kNm]	315	227	175	127

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force can be calculated as follows: FL=MLH x 0.429 [kN]

5-8 X35-B / Free external mass moments Power Related Unbalance (PRU) Rating R1 870 kW/Cyl @ 167 rpm

Crankshaft type: Forged FCV3

