

STCBC 4th session meeting

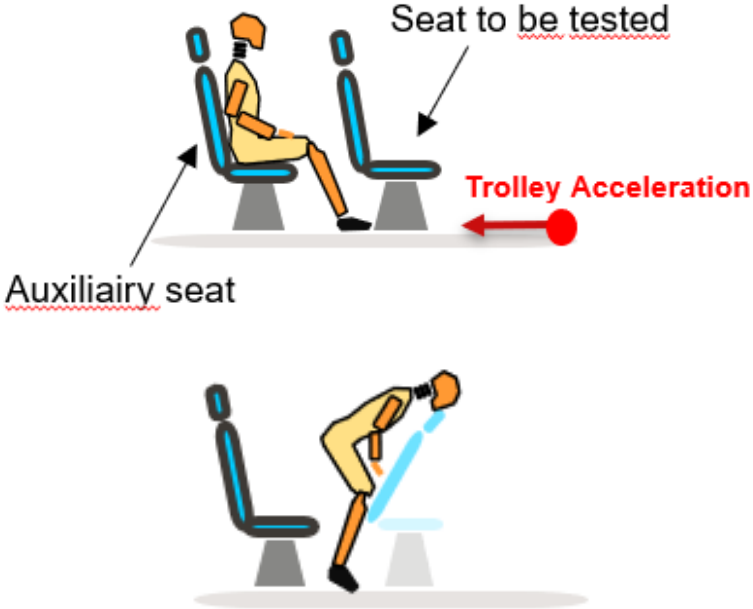
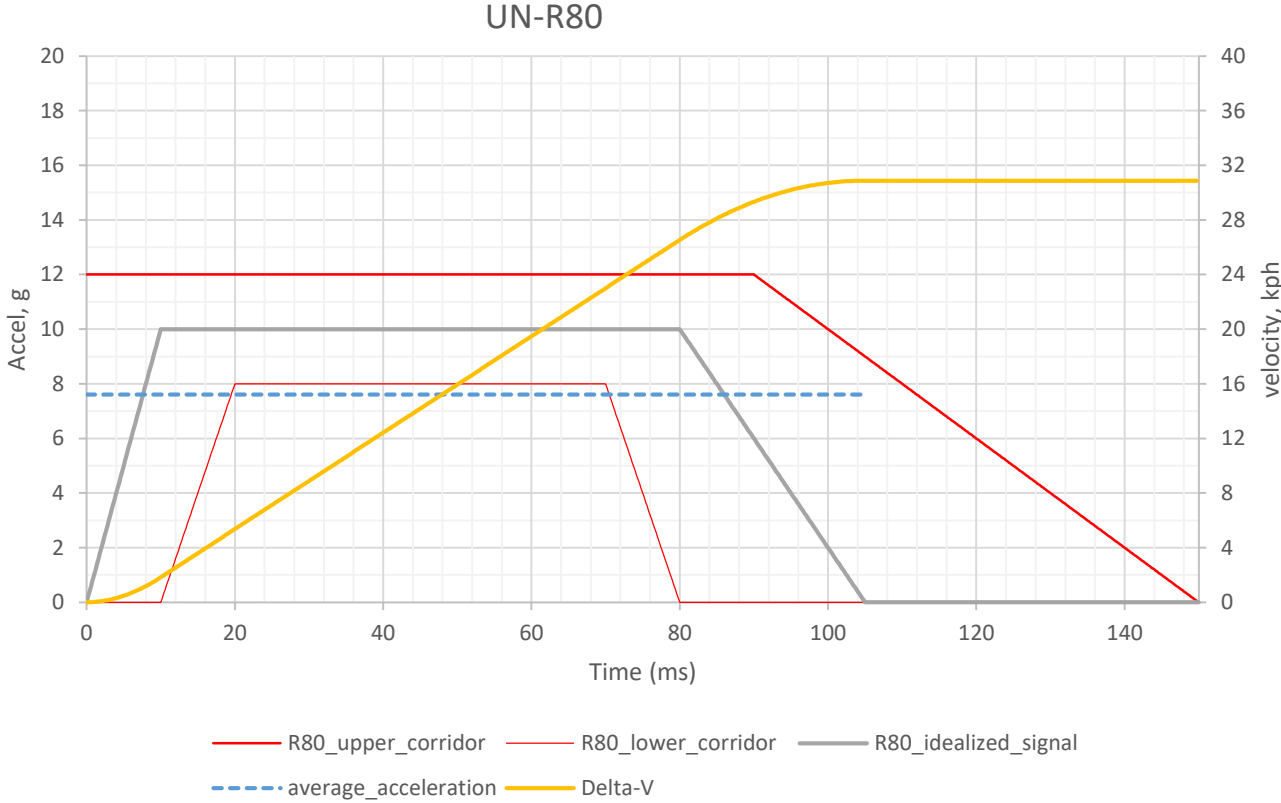
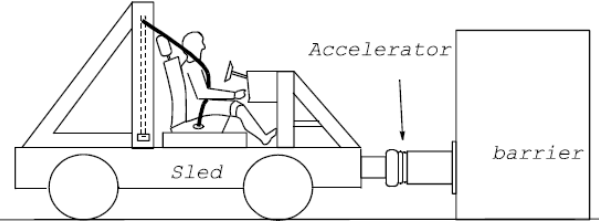
M2 vs M3 sled pulse comparison

29/10/2020

Salim Abdennadher (Renault)

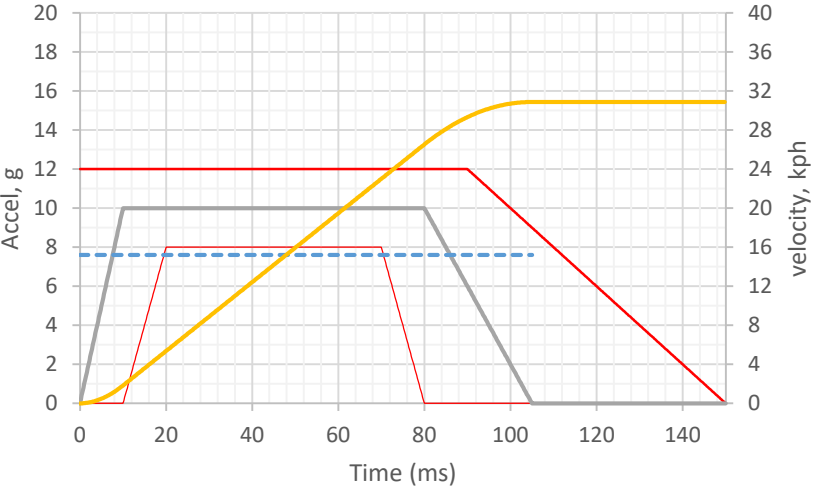
UN-R80 Dynamic sled pulse

UN-R80 specification: $30kph \leq \Delta v \leq 32 kph$,
 $6.5g \leq \text{average acceleration} \leq 8.5g$

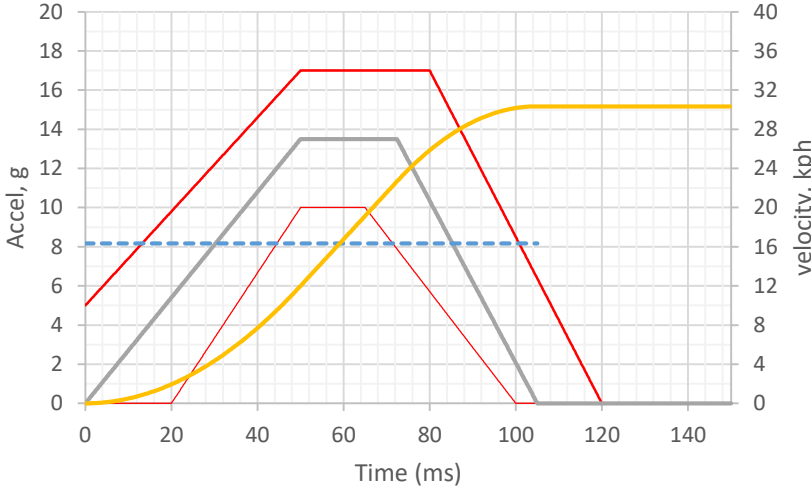


UN-R80 vs UN-R100 M2 vs UN-R100 M3 sled pulses

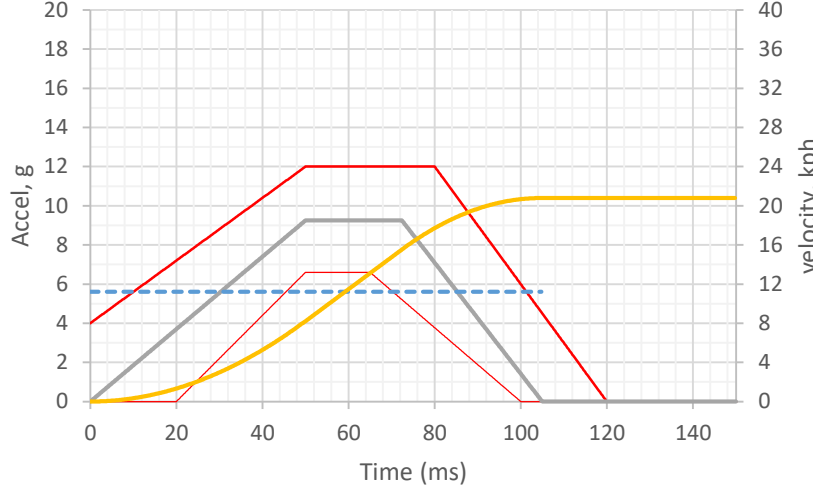
UN-R80



UN-R100-M2



UN-R100-M3

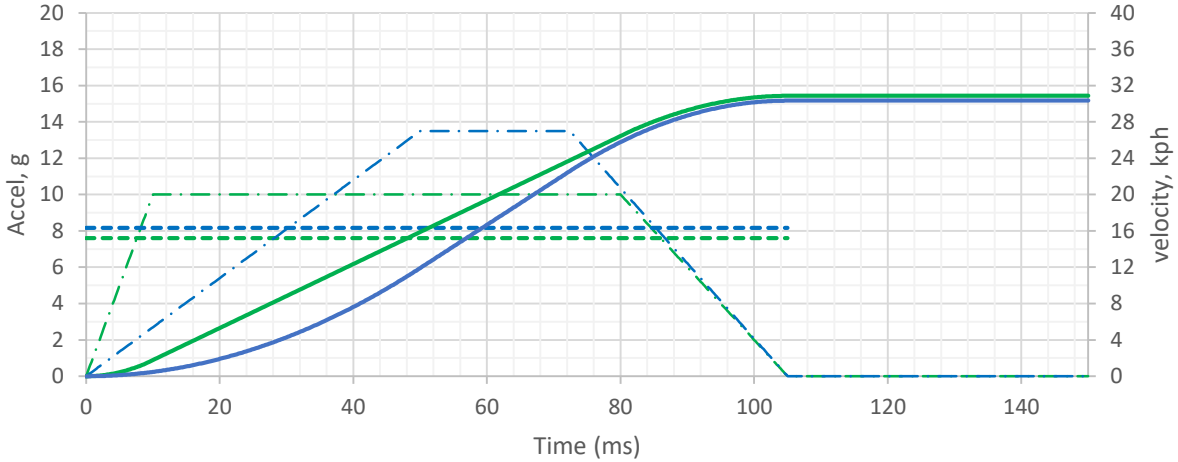


— upper_corridor
 — lower_corridor
 — idealized_signal
- - - average_acceleration
 — Delta-V

Δv and average acceleration corridors are not specified in UN-R100
 Current hypothesis: pulse duration same as UN-R80 idealized signal.

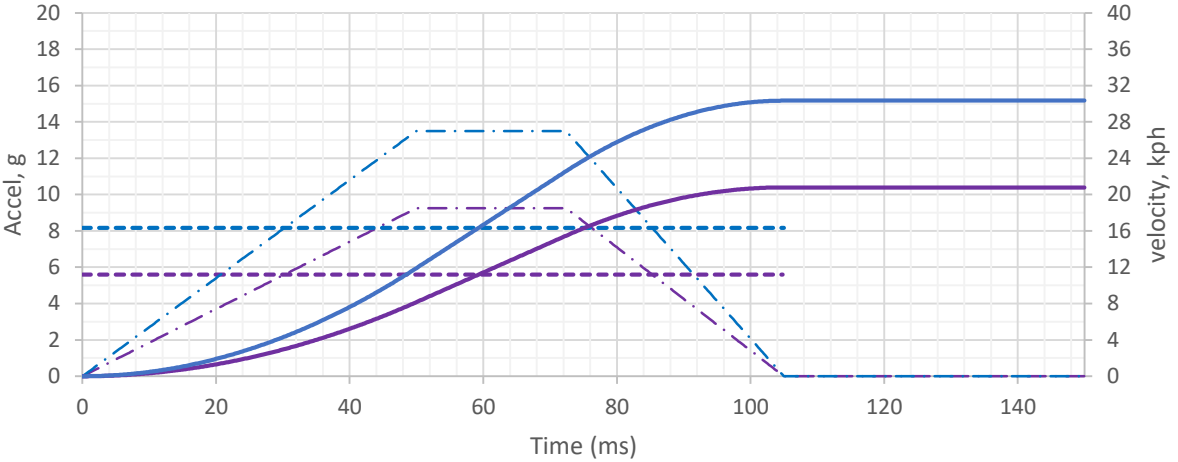
UN-R80 vs UN-R100 M2 vs UN-R100 M3 sled pulses

Pulse_severity R80 vs R100-M2



- - - R80_signal - - - R80_Average_Accel - - - R100-M2_signal
- - - R100-M2_Average_Accel — R80_Delta-V — R100-M2_Delta-V

Pulse_severity M2 vs M3



- - - R100-M3_signal - - - R100-M3_Average_Accel - - - R100-M2_signal
- - - R100-M2_Average_Accel — R100-M3_Delta-V — R100-M2_Delta-V

Mid corridor	UN-R80	UN-R100 M1	UN-R100 M2	UN-R100 M3	R100 M2/R80 ratio	M2/M3 ratio
Δv (kph)	30.9	56	30.3	20.8	0.98	1.46
Max Accel (g)	10	24	13.5	9.25	1.35	1.46
Average Accel (g)	7.6	15	8.2	5.6	1.07	1.46

→ UN-R100 M2 pulse \geq UN-R80
 → UN-R100 M2 pulse $>$ M3 pulse