



TM2020 LG3 - DT12 Transmission Limits Summary Spreadsheet\_Export Linehaul/Longhaul (A85-005), and Heavy Haul (A85-027)

Revision: 03SEP21 1

	DT12-OA / OH			DT12-OC / OHE & DT12-OC / OV [-OV not available with GHG17 DD13 or DD15 engines]								DT12-OD / OVX	
Chassis:	P4 Cascadia [EUROS,GHG17,Gen5,GHG21] / WST 5700 (legacy) [GHG17]			P4 Cascadia (EUROS, GHG17, Gen5 DD13/DD15,GHG21 DD16), 11450 (DD13 EUROS only), WST 47x (Gen5 DD13 HP only), WST49x (Gen5 DD13HP,Gen5 DD15 TCO/HP, GHG17/GHG21 DD16), WST 57x (Gen5 DD13/DD15 TCO/HP, GHG21 DD16)								P4 Cascadia (EUROS,Gen5 DD15 HP,GHG17/GHG21 DD16), WST 49x (Gen5 DD15 HP, GHG17/GHG21 DD16)	
Domicile Location:	Mexico [EUROS,GHG17,Gen5,GHG21], Colombia/Peru [EUROS], Chile/Israel [GHG17, Gen5, GHG21], Costa Rica/Panama [EUROS]			Mexico [EUROS,GHG17,Gen5, GHG21] Chile [GHG17,Gen5, GHG21], Colombia/Peru [EUROS], Costa Rica/Panama [EUROS]								Mexico [EUROS,GHG17,Gen5, GHG21], Chile [GHG17,Gen5, GHG21], Colombia/Peru [EUROS], Costa Rica/Panama [EUROS]	
Terrain/Duty (between job sites):	100% Paved Roads, Smooth concrete			100% Paved Roads, Smooth concrete								100% Paved Roads, Smooth concrete	
Road Grades: Auto-Approve limit Max allowed	--- 8% <sup>2</sup> 12%			--- 8% <sup>2</sup> 12%								--- 8% <sup>2</sup> 12%	
Road Type:	Smooth Concrete / Asphalt			Smooth Concrete / Asphalt								Smooth Concrete / Asphalt	
(GCW-GVWR) Min. Diff:	20,000			20,000								20,000	
GCW Limit (Lbs): Auto-Approve	FDR's ≥ 1400 80,000	FDR's < 1835 ---	FDR's < 1920 ---	FDR's ≥ 1245 80,000	FDR's ≥ 1245 80,000	FDR's < 1440 ---	FDR's ≥ 1440 110,000	FDR's ≥ 1525 120,000	FDR's ≥ 1820 130,000	FDR's < 1710 ---	FDR's ≥ 1920 140,000	MIN GCW ≥ 140,001	
GCW Limit (Lbs): Engineering	FDR's ≥ 1515 105,000	FDR's ≥ 1835 120,000	FDR's ≥ 1930 140,000	FDR's ≥ 1440 105,000	FDR's ≥ 1440 110,000	FDR's ≥ 1440 110,000	FDR's ≥ 1525 120,000	FDR's ≥ 1820 130,000	FDR's ≥ 1920 140,000	FDR's ≥ 1710 160,000	FDR's ≥ 2115 160,000	FDR's ≥ 1820 175,000	
Load Profile <sup>1</sup> :	1 way / Both ways			1 way / Both ways								1 way only <sup>3</sup>	
Engine(s):	DD13 (EUROS,GHG17), DD13 (Gen5 TCO & HP), DD15 (GHG17), DD15 (Gen5 TCO & HP)	DD13 (EUROS,GHG17,Gen5 HP), DD15 (GHG17, Gen5 HP), DD16 (EUROS,GHG17,GHG21)	DD13 (Gen5 TCO)	DD13 (EUROS,GHG17,Gen5 HP), DD15 (GHG17), DD15 (Gen5 TCO & HP)	DD16 (GHG17, GHG21)	DD13 (EUROS,GHG17), DD13 (Gen5 HP), DD15 (GHG17, Gen5 HP), DD16 (GHG17, GHG21)	DD13 (EUROS,GHG17, Gen5 HP), DD15 (GHG17, Gen5 HP), DD16 (EUROS, GHG17, GHG21)	DD13 (EUROS,GHG17,Gen5 HP), DD15 (GHG17, Gen5 HP), DD16 (EUROS,GHG17,GHG21)	DD13 (Gen5 HP), DD15 (Gen5 HP), DD16 (EUROS,GHG17,GHG21)	DD13 (Gen5 HP), DD15 (Gen5 HP), DD16 (EUROS,GHG17,GHG21)	DD15 (Gen5 HP), DD16 (EUROS,GHG17,GHG21)	DD15 (Gen5 HP), DD16 (EUROS,GHG17,GHG21)	
Torque Limit (Lb-Ft):	1850			1850								2213	
FDR Limits: Minimum Auto-Approve	1400 (≤ 80k) 1515 (80k < GCW ≤ 105k)	---	---	1245 (GCW ≤ 80k), 1440 (80k < GCW ≤ 105k)	1245 (GCW ≤ 80k), 1440 (80k < GCW ≤ 110k)	---	---	---	---	---	---	---	1820 (140,001 ≤ GCW ≤ 175k)
Rear Transmission PTO Available:	Yes			Yes								Yes	
Side Transmission PTO Available:	No			Yes								Yes	
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com			See DDC-ENG-MAN-001 on DTNAconnect.com								See DDC-ENG-MAN-001 on DTNAconnect.com	
Transmission Cooler:	Standard (AOC)			Standard (AOC)								Standard (AOC)	
Min. Startability:	16 <sup>2</sup>			16 <sup>2</sup>								16 <sup>2</sup>	
Max Engine rpm @ Cruise:	1350 (Gen5 DD13 TCO), 1500 (Gen5 DD15 TCO), 1600 (EUROS DD13), 1625 (GHG17 DD13/DD15), 1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13HP/DD15 HP)	1600 (EUROS DD13/DD16), 1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13 HP & DD15 HP), 1800 (GHG17/GHG21 DD16)	1350 (Gen5 DD13 TCO)	1500 (Gen5 DD15 TCO), 1600 (EUROS DD13), 1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13 HP/DD15 HP)	1800 (GHG17/GHG21 DD16)	1600 (EUROS DD13), 1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	1600 (EUROS DD13/DD16), 1625 (GHG17 DD15), 1625 (Gen5 DD13 HP/Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	1600 (EUROS DD13/DD16), 1625 (GHG17 DD15), 1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	1600 (EUROS DD16), 1625 (Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	
Max Engine rpm @ Road Speed Limit:	1500 (Gen5 DD13 TCO), 1650 (Gen5 DD15 TCO), 1750 (EUROS DD13), 1775 (GHG17 DD13/DD15), 1775 (Gen5 DD13HP/DD15HP)	1750 (EUROS DD13/DD16), 1775 (GHG17 DD13/DD15), 1775 (Gen5 DD13 HP & DD15 HP), 1950 (GHG17/GHG21 DD16)	1500 (Gen5 DD15 TCO)	1650 (Gen5 DD15 TCO), 1750 (EUROS DD13), 1775 (GHG17 DD13/DD15), 1775 (Gen5 DD13 HP/DD15 HP)	1950 (GHG17/GHG21 DD16)	1750 (EUROS DD13), 1775 (GHG17 DD13/DD15), 1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	1750 (EUROS DD13/DD16), 1775 (GHG17 DD15), 1775 (Gen5 DD13 HP/Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	1750 (EUROS DD13/DD16), 1775 (GHG17 DD15), 1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	1750 (EUROS DD16), 1775 (Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	
Min. Axle Ratio (Recommended):	2.79 (≤ 80k GCW) 3.07 (> 80k GCW)	3.70 (> 105k)	3.9 (> 120k)	2.53 (≤ 80k GCW) 2.85 (> 80k GCW)	2.85	3.07	3.7	3.9	3.42	4.3	3.7	3.7	
Max. Axle Ratio (Recommended):	---			---								---	

NOTES:

- 1) Previous revision was dated 28JUL11.
- 2) Startability requirement increases 1 point for every 1% max grade above 8%.
- 3) Load Profile indicates whether vehicle will be loaded 1 way or both ways of a trip/route.
- 4) 130k < GCW's < 140k allowed with DT12-OA/OH/OH, but an additional DETROIT Powertrain review is required.

	DT12-DC / DHE [RHD]		DT12-OC / OHE & DT12-OC / OV [RHD]		DT12-OD / OVX [RHD]	
Chassis:	P4 Cascadia RHD		P4 Cascadia RHD		P4 Cascadia RHD	
Domicile Location:	Australia/New Zealand/South Africa [GHG17]		Australia / New Zealand / South Africa [GHG17]		Australia / New Zealand / South Africa [GHG17]	
Terrain/Duty (between job sites):	100% Paved Roads, Smooth concrete		100% Paved Roads, Smooth concrete		100% Paved Roads, Smooth concrete	
Road Grades: Auto-Approve limit Max allowed	--- 8% <sup>2</sup> 12%		--- 8% <sup>2</sup> 12%		--- 8% <sup>2</sup> 8%	
Road Type:	Smooth Concrete / Asphalt		Smooth Concrete / Asphalt		Smooth Concrete / Asphalt	
(GCW-GVWR) Min. Diff:	20,000		20,000		20,000	
GCW Limit (Lbs): Auto-Approve	FDR's < 1005 ---	FDR's < 1185 ---	FDR's < 1515 ---		MIN GCW ≥ 140,001	FDR's < 1915 ---
GCW Limit (Lbs): Engineering	FDR's ≥ 1005 80,000	FDR's ≥ 1185 110,000	FDR's ≥ 1515 140,000	FDR's ≥ 1515 160,000	FDR's ≥ 1625 240,000	FDR's ≥ 1915 330,000
Load Profile <sup>1</sup> :	1 way / Both ways		1 way / Both ways <sup>3</sup>		1 way only <sup>3</sup>	
Engine(s):	DD13 / DD15 (GHG17)		DD13 / DD16 (GHG17)		DD16 (GHG17)	
Torque Limit (Lb-Ft):	1850		2050		2050	
FDR Limits: Minimum Auto-Approve	1005 <sup>3</sup> (GCW ≤ 80k)	1185 (80k < GCW ≤ 110k)	1515 (GCW ≤ 160k)		1625 (140,001 ≤ GCW ≤ 240k)	1915 (240k < GCW ≤ 330k)
Rear Transmission PTO Available:	Yes		Yes		Yes	
Side Transmission PTO Available:	Yes		Yes		Yes	
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com		See DDC-ENG-MAN-001 on DTNAconnect.com		See DDC-ENG-MAN-001 on DTNAconnect.com	
Transmission Cooler:	Standard (AOC)		Standard (AOC)		Standard (AOC)	
Min. Startability:	16 <sup>2</sup>		16 <sup>2</sup>		15 <sup>2</sup>	13 <sup>2</sup>
Max Engine rpm @ Cruise:	1625 (GHG17 DD13/DD15)		1625 (GHG17 DD13) 1800 (GHG17 DD16)		1800 (GHG17 DD16)	1800 (GHG17 DD16)
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13/DD15)		1775 (GHG17 DD13) 1950 (GHG17 DD16)		1950 (GHG17 DD16)	1950 (GHG17 DD16)
Min. Axle Ratio (Recommended):	2.05	2.41	3.07		3.3	3.9
Max. Axle Ratio (Recommended):	2.28	2.67	---		---	---

TM2020 LG3 - DT12 Transmission Limits Summary Spreadsheet\_Pickup & Delivery-Shorthaul (A85-002)

Revision: 03SEP21<sup>1</sup>

	DT12-DB / DHL			DT12-OB / OHL			DT12-DA / DH		DT12-OA / OH							
Chassis:	P4 Cascadia / WST 5700 (legacy)	P4 Cascadia	P4 Cascadia, M2-112, 1145D	P4 Cascadia / WST 5700 (legacy)	P4 Cascadia	P4 Cascadia, M2-112, 1145D	P4 Cascadia, WST 5700 (legacy)	P4 Cascadia, WST 57x	WST 4700 [GHG17 DD13 only] P4 Cascadia / WST 5700 (legacy) [GHG17 DD13/DD15/DD16 engines], P4 Cascadia & WST 57x [Gen5 DD13 & DD15, GHG21 DD16]							
Domicile Location:	USA [incl. Puerto Rico] / Canada			USA [incl. Puerto Rico] / Canada			USA [incl. Puerto Rico] / Canada		USA [incl. Puerto Rico] / Canada							
Terrain/Duty (between job sites):	100% Paved Roads, Smooth concrete			100% Paved Roads, Smooth concrete			100% Paved Roads, Smooth concrete		100% Paved Roads, Smooth concrete							
Road Grades:	---			---			---		---							
Auto-Approve limit:	8% <sup>2</sup>			8% <sup>2</sup>			8% <sup>2</sup>		8% <sup>1</sup>							
Max allowed:	12%			12%			12%		12%							
Road Type:	Smooth Concrete / Asphalt			Smooth Concrete / Asphalt			Smooth Concrete / Asphalt		Smooth Concrete / Asphalt							
(GCW-GVWR) Min. Diff:	20,000			20,000			20,000		20,000							
GCW Limit (Lbs):	FDR's < 1180			FDR's < 1400			FDR's ≥ 1090 80,000		FDR's ≥ 1325 80,000			FDR's < 1500				
Auto-Approve:	---			---			---		---							
GCW Limit (Lbs):	FDR's ≥ 1180 80,000			FDR's ≥ 1400 80,000			FDR's ≥ 1180 85,000		FDR's > 1500 105,000	FDR's ≥ 1500 110,000	FDR's ≥ 1500 140,000 <sup>4</sup>	FDR's ≥ 1500 105,000	FDR's ≥ 1500 110,000	FDR's ≥ 1500 140,000 <sup>4</sup>		
Auto-Approve:	---			---			---		---							
Load Profile <sup>3</sup> :	1 way / Both ways			1 way / Both ways			1 way / Both ways		1 way / Both ways							
Engine(s):	DD13 (GHG17)	DD13 (Gen5 TCO)	DD13 (Gen5 HP)	DD13 (GHG17)	DD13 (Gen5 TCO)	DD13 (Gen5 HP)	DD13 (GHG17) DD15 (GHG17)	DD13 (Gen5 TCO & HP) DD15 (Gen5 TCO & HP)	DD13 (Gen5 TCO)	DD15 (Gen5 TCO)	DD13 / DD15 (GHG17), DD13 (Gen5 HP), DD15 (Gen5 HP)	DD13 (Gen5 TCO)	DD15 (Gen5 TCO)	DD13 (GHG17), DD13 (Gen5 HP), DD15 (Gen5 HP)	DD16 (GHG17), DD16 (GHG21)	
Torque Limit (Lb-Ft):	1550			1650			1750		1750			1850			2050	
FDR Limits:	---			---			---		---			---			---	
Minimum Auto-Approve:	1180 (GCW ≤ 80k)			1400 (GCW ≤ 80k)			1090 (GCW ≤ 80k) 1180 (80k < GCW ≤ 85k)		1325 <sup>5</sup> (GCW ≤ 80k) 1500 (80k < FDR ≤ 105k)	1325 <sup>5</sup> (GCW ≤ 80k) 1500 (80k < FDR ≤ 110k)	1325 <sup>5</sup> (GCW ≤ 80k) 1500 (80k < FDR ≤ 130k) 1683 <sup>5</sup> (> 130k)	1500 (GCW ≤ 105k)	1500 (GCW ≤ 110k)	1500 (GCW ≤ 130k) 1683 <sup>5</sup> (GCW > 130k)		
Rear Transmission PTO Available:	Yes			Yes			Yes		Yes			Yes			Yes	
Side Transmission PTO Available:	No			No			No		No			No			No	
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com						See DDC-ENG-MAN-001 on DTNAconnect.com		See DDC-ENG-MAN-001 on DTNAconnect.com							
Transmission Cooler:	Standard (AOC)			Standard (AOC)			Standard (AOC)		Standard (AOC)							
Min. Startability:	18 <sup>2</sup>			18 <sup>2</sup>			18 <sup>2</sup>		18 <sup>2</sup>							
Max Engine rpm @ Cruise:	1625 (GHG17 DD13)	1350 (Gen5 DD13 TCO)	1625 (Gen5 DD13 HP)	1625 (GHG17 DD13)	1350 (Gen5 DD13 TCO)	1625 (Gen5 DD13 HP)	1625 (GHG17 DD13/ DD15)	1350 (Gen5 DD13 TCO), 1500 (Gen5 DD15 TCO), 1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP)	1350 (Gen5 DD13 TCO)	1500 (Gen5 DD15 TCO)	1625 (GHG17 DD13/ DD15), 1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP)	1350 (Gen5 DD13 TCO)	1500 (Gen5 DD15 TCO)	1625 (GHG17 DD13/ DD15), 1625 (Gen5 DD13 HP), 1800 (GHG21 DD16)	1800 (GHG21 DD16)	
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1500 (Gen5 DD13 TCO)	1775 (Gen5 DD13 HP)	1775 (GHG17 DD13)	1500 (Gen5 DD13 TCO)	1775 (Gen5 DD13 HP)	1775 (GHG17 DD13/ DD15)	1500 (Gen5 DD13 TCO), 1650 (Gen5 DD15 TCO), 1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP)	1500 (Gen5 DD13 TCO)	1650 (Gen5 DD15 TCO)	1775 (GHG17 DD13/ DD15), 1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP)	1500 (Gen5 DD13 TCO)	1650 (Gen5 DD15 TCO)	1775 (GHG17 DD13/ DD15), 1775 (Gen5 DD13 HP), 1950 (GHG21 DD16)	1950 (GHG21 DD16)	
Min. Axle Ratio (Recommended):	2.41			2.79			2.69 2.28		2.79 (≤ 80k GCW) 3.07 (> 80k GCW)			3.07			3.07	
Max. Axle Ratio (Recommended):	2.67			---			2.67		---							

- NOTES:  
 1) Previous revision was dated 28JUL21.  
 2) Startability requirement increases 1 point for every 1% max grade above 8%.  
 3) Load Profile indicates whether vehicle will be loaded 1 way or both ways of a trip/route.  
 4) 130k < GCW's < 140k allowed with DT12-DA/DH1/OH, but an additional DETROIT Powertrain review is required.  
 5) FDR's on DT12-OA/DH < 1400 require: (2.61 < RAR < 2.85) + (A00-1750, 425-1750, or 455-1750 lb-ft engine rating).

	DT12-OA / OH (EXPORT)			DT12-DC / DHE				DT12-OC/OHE & DT12-OC / OV [- OV n/a in WST 4700/5700 legacy chassis or with GHG17 DD13 & DD15 engines]				DT12-OC / OHE & DT12-OC / OV (EXPORT) [- OV not available with GHG17 DD13 & DD15 engines]				
Chassis:	WST 5700 [GHG17] (legacy), P4 Cas. [EUROS & GHG17]	P4 Cascadia [Gen5], WST 57x [Gen5]	WST 5700 [GHG17] (legacy), P4 Cascadia [Gen5, GHG17, EUROS], WST 57x [Gen5]	P4 Cascadia, WST 4700/5700 (legacy)	P4 Cascadia, WST 57x	M2-112, 1145D, WST 47x/49x/57x	P4 Cascadia / WST 49x/57x	P4 Cascadia, WST 57x	P4 [DD13/DD15], WST 4700 [GHG17 DD13], WST 5700 [GHG17 DD13/15], WST 49x/57x [Gen5 DD15]	P4 Cascadia, M2-112, 1145D, WST 47x/49x/57x	P4 Cascadia, M2-112, 1145D, WST 5700 (GHG17 DD16), WST 49x/57x [Gen5/GHG21]	P4 Cascadia, WST 42x/40k	P4 Cascadia	M2-112, 1145D, WST 42x/40k	P4 Cascadia, WST 57x	
Domicile Location:	Mexico [GHG17, Gen5, & EUROS-P4 only], Chile/Israel [GHG17, Gen5], Colombia/Peru [EUROS]			USA [incl. Puerto Rico] / Canada				USA [incl. Puerto Rico] / Canada				Mexico [EUROS, GHG17, Gen5, GHG21], Colombia/Peru [EUROS-P4/11450 only], Chile/Israel [GHG17, Gen5, GHG21]				
Terrain/Duty (between job sites):	100% Paved Roads, Smooth concrete			100% Paved Roads, Smooth concrete				100% Paved Roads, Smooth concrete				100% Paved Roads, Smooth concrete				
Road Grades:	---			---				---				---				
Auto-Approve limit:	8% <sup>2</sup>			8% <sup>2</sup>				8% <sup>2</sup>				8% <sup>2</sup>				
Max allowed:	12%			12%				12%				12%				
Road Type:	Smooth Concrete / Asphalt			Smooth Concrete / Asphalt				Smooth Concrete / Asphalt				Smooth Concrete / Asphalt				
(GCW-GVWR) Min. Diff:	20,000			20,000				20,000				20,000				
GCW Limit (Lbs):	FDR's > 1400 80,000	FDR's < 1835	FDR's < 1920	FDR's < 1245				FDR's > 1525 105,000		FDR's > 1525 110,000		FDR's < 1525		FDR's > 1525 110,000		
Auto-Approve:	---	---	---	---				---		---		---		---		
GCW Limit (Lbs):	FDR's > 1545 105,000	FDR's ≥ 1835 120,000	FDR's ≥ 1920 140,000	FDR's ≥ 1245 80,000				FDR's ≥ 1525 105,000		FDR's ≥ 1525 110,000		FDR's > 1525 105,000		FDR's ≥ 1525 110,000		
Auto-Approve:	---	---	---	---				---		---		---		---		
Load Profile <sup>4</sup> :	1 way / Both ways			1 way				1 way only <sup>3</sup>				1 way only <sup>3</sup>				
Engine(s):	DD13 / DD15 (GHG17)	DD13 & DD15 (Gen5 TCO & HP)	DD13 (GHG17/EUROS), DD13 (Gen5 HP), DD15 (Gen5 HP), DD16 (GHG17/EUROS)	DD13 (GHG17/EUROS), DD13 (Gen5 HP), DD15 (Gen5 HP)	DD13 (GHG17) DD15 (GHG17)	DD13 (Gen5 TCO)	DD13 (Gen5 HP)	DD15 (Gen5 TCO) DD15 (Gen5 HP)	DD13 (Gen5 TCO)	DD13 (GHG17) DD15 (GHG17) DD15 (Gen5 TCO & HP)	DD13 (Gen5 HP)	DD15 (Gen5 TCO & HP), DD16 (GHG17, GHG21)	DD13 (Gen5 TCO)	DD13 (GHG17/EUROS), DD15 (Gen5 HP), DD15 (Gen5 TCO & HP)	DD13 (Gen5 HP)	DD16 (EUROS, GHG17), DD16 (GHG21)
Torque Limit (Lb-Ft):	1850			1850				1850				2050				
FDR Limits:	---			---				---				---				
Minimum Auto-Approve:	1400 (GCW ≤ 80k) 1515 (80k < GCW ≤ 105k)	1835 (105k < GCW ≤ 120k)	1920 (GCW ≤ 140k)	1245 (GCW ≤ 80k)				1325 (GCW ≤ 80k) 1525 (80k < GCW ≤ 105k)		1525 (GCW ≤ 110k)		1525 (GCW ≤ 110k)				
Rear Transmission PTO Available:	Yes			Yes				Yes				Yes				
Side Transmission PTO Available:	No			No				No				No				
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com						See DDC-ENG-MAN-001 on DTNAconnect.com		See DDC-ENG-MAN-001 on DTNAconnect.com				See DDC-ENG-MAN-001 on DTNAconnect.com			
Transmission Cooler:	Standard (AOC)			Standard (AOC)				Standard (AOC)				Standard (AOC)				
Min. Startability:	18 <sup>2</sup>			18 <sup>2</sup>				18 <sup>2</sup>				18 <sup>2</sup>				
Max Engine rpm @ Cruise:	1600 (EUROS DD13), 1625 (GHG17 DD13/DD15)	1350 (Gen5 DD13 TCO), 1500 (Gen5 DD15 TCO), 1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP), 1625 (Gen5 DD15 HP)	1600 (EUROS DD13/DD16), 1625 (GHG17 DD13), 1625 (Gen5 DD13 HP & DD15 HP), 1800 (GHG17 DD16)	1625 (GHG17 DD13), 1625 (GHG17 DD15)	1350 (Gen5 DD13 TCO)	1625 (Gen5 DD13 HP)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)	1350 (Gen5 DD13 TCO)	1500 (Gen5 DD15 TCO), 1625 (GHG17 DD13/DD15), 1625 (Gen5 DD15 HP)	1625 (Gen5 DD13 HP)	1650 (Gen5 DD15 TCO), 1625 (Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	1350 (Gen5 DD13 TCO)	1500 (Gen5 DD15 TCO), 1600 (EUROS DD13), 1625 (GHG17 DD13/DD15), 1625 (Gen5 DD15 HP)	1625 (Gen5 DD13 HP)	1600 (EUROS DD16), 1800 (GHG17 DD16), 1800 (GHG21 DD16)	
Max Engine rpm @ Road Speed Limit:	1750 (EUROS DD13), 1775 (GHG17 DD13/DD15)	1500 (Gen5 DD13 TCO), 1650 (Gen5 DD15 TCO), 1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP)	1750 (EUROS DD13/DD16), 1775 (GHG17 DD13), 1775 (Gen5 DD13 HP & DD15 HP), 1950 (GHG17 DD16)	1775 (GHG17 DD13), 1775 (GHG17 DD15)	1500 (Gen5 DD13 TCO)	1775 (Gen5 DD13 HP)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)	1500 (Gen5 DD13 TCO)	1650 (Gen5 DD15 TCO), 1775 (GHG17 DD13/DD15), 1775 (Gen5 DD15 HP)	1775 (Gen5 DD13 HP)	1650 (Gen5 DD15 TCO), 1775 (Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	1500 (Gen5 DD13 TCO)	1650 (Gen5 DD15 TCO), 1750 (EUROS DD13), 1775 (GHG17 DD13/DD15), 1775 (Gen5 DD15 HP)	1775 (Gen5 DD13 HP)	1750 (EUROS DD16), 1950 (GHG17 DD16), 1950 (GHG21 DD16)	
Min. Axle Ratio (Recommended):	3.07			3.7				2.53				3.07				
Max. Axle Ratio (Recommended):	---			2.85				---				---				

**TM2020 LG3 - DT12 Transmission Limits Summary Spreadsheet\_Recreation (A85-016)**

Revision: 03SEP21<sup>1</sup>

	DT12-OB / OHL	DT12-OA / OH							DT12-OC/ OHE & OV [-OV not available with WST 5700 legacy chassis or GHG17 DD13 & DD15 engines]					
Chassis:	P4 Cascadia, WST 5700 (legacy)	P4 Cascadia & WST 5700 (legacy) [GHG17 DD13/DD15/DD16], P4 Cascadia & 43N WST 57x (Gen5 DD13 TCO/HP & DD15 TCO/HP, DD16-GHG21, WST 49x [Gen5 DD13 HP, DD15 TCO/HP, DD16-GHG21])							P4 Cascadia & WST 5700 (legacy) [GHG17 DD13/DD15/DD16], P4 Cascadia & 43N WST 57x (Gen5 DD13 TCO/HP & DD15 TCO/HP, DD16-GHG21, WST 49x [Gen5 DD13 HP, DD15 TCO/HP, DD16-GHG21])					
Domicile Location:	USA (incl. Puerto Rico), Canada	USA (incl. Puerto Rico) / Canada							USA (incl. Puerto Rico) / Canada					
Terrain/Duty (between job sites):	100% Paved Roads, Smooth concrete	100% Paved Roads, Smooth concrete							100% Paved Roads, Smooth concrete					
Road Grades:	---	---							---					
Auto-Approve limit:	8% <sup>2</sup>	8% <sup>2</sup>							8% <sup>2</sup>					
Max allowed:	12%	12%							12%					
Road Type:	Smooth Concrete / Asphalt	Smooth Concrete / Asphalt							Smooth Concrete / Asphalt					
(GCW-GVWR) Min. Diff:	5,000	5,000							5,000					
GCW Limit (Lbs):	FDR's < 1400	FDR's < 1400			FDR's < 1500				FDR's < 1240	FDR's < 1435	FDR's < 1435	FDR's < 1515	FDR's < 2030	FDR's < 1835
Auto-Approve:	FDR's ≥ 1400	FDR's ≥ 1500	FDR's ≥ 1500	FDR's ≥ 1500	FDR's ≥ 1500	FDR's ≥ 1500	FDR's ≥ 1500	FDR's ≥ 1240	FDR's ≥ 1435	FDR's ≥ 1435	FDR's ≥ 1515	FDR's ≥ 2030	FDR's ≥ 1835	
GCW Limit (Lbs):	80,000	130,000	105,000	110,000	130,000	105,000	110,000	80,000	105,000	110,000	140,000	140,000	160,000	
Auto-Approve Engineering:	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	140,000 <sup>4</sup>	
Load Profile <sup>3</sup> :	1 way / Both ways	1 way / Both ways							1 way / Both ways			1 way	1way / Both ways	1 way
Engine(s):	DD13 (GHG17)	DD13 / DD15 (GHG17), DD13 (Gen5 HP), DD15 (Gen5 HP)	DD13 (Gen5 TCO)	DD15 (Gen5 TCO)	DD13 (GHG17), DD13 (Gen5 HP), DD15 (Gen5 HP)	DD13 (Gen5 TCO)	DD15 (Gen5 TCO)	DD16 (GHG17, GHG21)	DD13 / DD15 (GHG17), DD13 (Gen5 TCO & HP), DD15 (Gen5 TCO & HP)	DD13 (Gen5 TCO)	DD13 / DD15 (GHG17), DD13 (Gen5 HP), DD15 (Gen5 TCO & HP), DD16 (GHG17, GHG21)	DD13 / DD15 (GHG17), DD13 (Gen5 HP), DD15 (Gen5 HP), DD16 (GHG17, GHG21)	DD13 / DD15 (GHG17), DD13 (Gen5 HP), DD15 (Gen5 HP), DD16 (GHG17, GHG21)	
Torque Limit (Lb-Ft):	1650	1750			1850			2050	1850			2050		
FDR Limits:	---	---	---	---	---	---	---	---	---	---	---	---	---	
Minimum Auto-Approve:	1400 (GCW < 80k)	1400 (GCW ≤ 80k) 1500 (80k < GCW ≤ 130k) 1683 <sup>4</sup> (GCW > 130k)	1400 (GCW ≤ 80k) 1500 (80k < GCW ≤ 105k)	1400 (GCW ≤ 80k) 1500 (80k < GCW ≤ 110k)	1500 (GCW ≤ 130k) 1683 <sup>4</sup> (GCW > 130k)	1500 (GCW ≤ 105k)	1500 (GCW ≤ 110k)	1500 (GCW ≤ 80k) 1500 (80k < GCW ≤ 130k) 1683 <sup>4</sup> (GCW > 130k)	1240 (GCW ≤ 80k)	1435 (80k < GCW ≤ 105k)	1435 (80k < GCW ≤ 110k)	1515 (GCW ≤ 140k)	2030 (GCW ≤ 140k)	1835 (140k < GCW ≤ 160k)
Rear Transmission PTO Available:	Yes	Yes							Yes					
Side Transmission PTO Available:	No	No							Yes					
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com	See DDC-ENG-MAN-001 on DTNAconnect.com							See DDC-ENG-MAN-001 on DTNAconnect.com					
Transmission Cooler:	Standard (AOC)	Standard (AOC)							Standard (AOC)					
Min. Startability:	16 <sup>2</sup>	16 <sup>2</sup>							16 <sup>2</sup>					
Max Engine rpm @ Cruise:	1625 (GHG17 DD13)	1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP)	1350 (Gen5 DD13 TCO)	1500 (Gen5 DD15 TCO)	1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP)	1350 (Gen5 DD13 TCO)	1500 (Gen5 DD15 TCO)	1800 (GHG17/GHG21 DD16)	1350 (Gen5 DD13 TCO)	1500 (Gen5 DD15 TCO), 1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13 HP & DD15 HP), 1800 (GHG17/GHG21 DD16)	1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13 HP & DD15 HP), 1800 (GHG17/GHG21 DD16)	1625 (GHG17 DD13/DD15), 1625 (Gen5 DD13 HP & DD15 HP), 1800 (GHG17/GHG21 DD16)		
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1775 (GHG17 DD13/DD15), 1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP)	1500 (Gen5 DD13 TCO)	1650 (Gen5 DD15 TCO)	1775 (GHG17 DD13/DD15), 1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP)	1500 (Gen5 DD13 TCO)	1650 (Gen5 DD15 TCO)	1950 (GHG17/GHG21 DD16)	1500 (Gen5 DD13 TCO), 1650 (Gen5 DD15 TCO), 1775 (Gen5 DD13 HP & DD15 HP)	1500 (Gen5 DD13 TCO)	1650 (Gen5 DD15 TCO), 1775 (GHG17 DD13/DD15), 1775 (Gen5 DD13 HP & DD15 HP), 1950 (GHG17/GHG21 DD16)	1775 (GHG17 DD13/DD15), 1775 (Gen5 DD13 HP & DD15 HP), 1950 (GHG17/GHG21 DD16)		
Min. Axle Ratio (Recommended):	2.79	2.79 (≤ 80k GCW) 3.07 (> 80k GCW)			3.07				2.53	2.92		3.07	4.1	3.7
Max. Axle Ratio (Recommended):	---	---							---					

**NOTES:**

- 1) Previous revision was dated 28JUL21.
- 2) Startability requirement increases 1 point for every 1% max grade above 8%.
- 3) Load Profile indicates whether vehicle will be loaded 1 way or both ways of a trip/route.
- 4) 130k < GCW's ≤ 140k allowed with DT12-OA (OH1), but an additional DETROIT Powertrain review is required.

**TM2020 LG3 - DT12 Transmission Limits Summary Spreadsheet\_Transfer Refuse (A85-001)**

Revision: 03SEP21 <sup>1</sup>

	DT12-DC / DV					DT12-OC / OV					
Chassis:	P4 Cascadia, WST 4700 (legacy), WST 5700 (legacy)	P4 Cascadia, WST 5700 (legacy)	P4 Cascadia, WST 57x	M2-112, 114SD, WST 47x	P4 Cascadia, WST 49x & 57x	P4 Cascadia, WST 4700 (legacy), WST 5700 (legacy)	P4 Cascadia, WST 5700 (legacy)	M2-112, 114SD, WST 47x & 49x	P4 Cascadia, WST 57x	P4 Cascadia, WST 49x & 57x	WST 5700 (legacy).
Domicile Location:	USA (incl. Puerto Rico) / Canada					USA (incl. Puerto Rico) / Canada					
Road Grades:	---					---					
Auto-Approve limit	8% <sup>2</sup>					8% <sup>2</sup>					
Max allowed	12%					12%					
(GCW-GVWR) Min. Diff:	20,000					20,000					
GCW Limit [Lbs]:	FDR's < 1185					FDR's < 1575					
Auto-Approve	----					----					
GCW Limit [Lbs]:	FDR's ≥ 1185					FDR's ≥ 1575					
Auto-Approve	80,000					110,000					
Load Profile <sup>3</sup> :	1 way / Both Ways <sup>3</sup>					1 way / Both Ways <sup>3</sup>					
Engine(s):	DD13 (GHG17)	DD15 (GHG17)	DD13 (Gen5 TCO)	DD13 (Gen5 HP)	DD13 (Gen5 HP), DD15 (Gen5 HP)	DD13 (GHG17)	DD15 (GHG17)	DD13 (Gen5 HP)	DD13 (Gen5 TCO)	DD15 (Gen5 HP), DD16 (GHG21)	DD16 (GHG17)
Torque Limit [Lb-Ft]:	1850					1850					
FDR Limits:	---					---					
Minimum Auto-Approve	1185 (GCW ≤ 80k)					1575 (GCW ≤ 110k)					
Rear Transmission PTO Available:	Yes					Yes					
Side Transmission PTO Available:	Yes					Yes					
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com					See DDC-ENG-MAN-001 on DTNAconnect.com					
Transmission Cooler:	Standard (AOC)					Standard (AOC)					
Min. Startability:	22					22					
Max Engine rpm @ Cruise:	1625 (GHG17 DD13/DD15)	1350 (Gen5 DD13 TCO)	1625 (Gen5 DD13 HP)	1625 (Gen5 DD13 HP & DD15 HP)		1625 (GHG17 DD13/DD15)	1625 (Gen5 DD13 HP)	1350 (Gen5 DD13 TCO)	1625 (Gen5 DD15 HP), 1800 (GHG21 DD16)	1800 (GHG17 DD16)	
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13/DD15)	1500 (Gen5 DD13 TCO)	1775 (Gen5 DD13 HP)	1775 (Gen5 DD13 HP & DD15 HP)		1775 (GHG17 DD13/DD15)	1775 (Gen5 DD13 HP)	1500 (Gen5 DD13 TCO)	1775 (Gen5 DD15 HP), 1950 (GHG21 DD16)	1950 (GHG17 DD16)	
Min. Axle Ratio (Recommended):	2.41					3.2					
Max. Axle Ratio (Recommended):	2.67					--					

**NOTES:**

- 1) Previous revision was dated 28JUL21.
- 2) Startability requirement increases 1 point for every 1% max grade above 8%.
- 3) Load Profile indicates whether vehicle will be loaded 1 way or both ways of a trip/route.

## TM2020 LG3 - DT12 Transmission Limits Summary Spreadsheet\_Logging (A85-012)

Revision: **03SEP21**<sup>1</sup>

	DT12-OC / OV			DT12-OD / OVX	
Chassis:	WST 4700 [GHG17 DD13] (legacy), 114SD & WST 47x [Gen5 DD13 HP]		WST 49x		WST 49x
Domicile Location:	USA (incl. Puerto Rico) / Canada			USA (incl. Puerto Rico) / Canada	
Road Grades:	---			---	---
Auto-Approve limit	8% <sup>2</sup>			8% <sup>2</sup>	8%
Max allowed	12%			12%	8%
(GCW-GVWR) Min. Diff:	20,000			20,000	
GCW Limit [Lbs]: Auto-Approve	FDR's < 1575 ----	FDR's < 1430 ----	FDR's < 1575 ----	MIN GCW ≥ 140,001	FDR's < 1700 ---
GCW Limit [Lbs]: Auto-Approve	FDR's ≥ 1575 140,000	FDR's ≥ 1430 110,000	FDR's ≥ 1575 140,000	FDR's ≥ 1550 175,000	FDR's ≥ 1700 250,000
Load Profile <sup>3</sup> :	1 way only <sup>3</sup>			1 way only <sup>3</sup>	
Engine(s):	DD13 (GHG17), DD13 (Gen5 HP)	DD13 (Gen5 HP), DD15 (Gen5 HP), DD16 (GHG17, GHG21)	DD16 (GHG17, GHG21)	DD15 (Gen5 HP) DD16 (GHG17, GHG21)	
Torque Limit [Lb-Ft]:	1850		2050	2050	
FDR Limits:	---	---	---	--	--
Minimum Auto-Approve	1575 (GCW ≤ 140k)	1430 (GCW ≤ 110k)	1575 (GCW ≤ 140k)	1550 (140,001 ≤ GCW ≤ 175k)	1700 (175k < GCW ≤ 250k)
Rear Transmission PTO Available	Yes			Yes	
Side Transmission PTO Available:	Yes			Yes	
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com			See DDC-ENG-MAN-001 on DTNAconnect.com	
Transmission Cooler:	Standard (AOC)			Standard (AOC)	
Min. Startability:	18			18	16
Max Engine rpm @ Cruise:	1625 (GHG17 DD13, Gen5 DD13 HP)	1625 (Gen5 DD13 HP & DD15 HP), 1800 (GHG17/GHG21 DD16)	1800 (GHG17/GHG21 DD16)	1625 (Gen5 DD15 HP) 1800 (GHG17/GHG21 DD16)	
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13, Gen5 DD13 HP)	1775 (Gen5 DD13 HP & DD15 HP), 1950 (GHG17/GHG21 DD16)	1950 (GHG17/GHG21 DD16)	1775 (Gen5 DD15 HP) 1950 (GHG17/GHG21 DD16)	
Min. Axle Ratio (Recommended):	3.2			3.42	4.1
Max. Axle Ratio (Recommended):	--			--	--

**NOTES:**

**1) Previous revision was dated 28JUL21.**

2) Startability requirement increases 1 point for every 1% max grade above 8%.

3) Load Profile indicates whether vehicle will be loaded 1 way or both ways of a trip/route.

## TM2020 LG3 - DT12 Transmission Limits Summary Spreadsheet Construction (A85-011), and Farm (A85-009)

Revision: **03SEP21** <sup>1</sup>

	DT12-OC / OV			DT12-OD / OVX
Chassis:	WST 4700 [GHG17 DD13] (legacy), 114SD & WST 47x [Gen5 DD13 HP]		WST 49x	WST 49x
Domicile Location:	USA (incl. Puerto Rico) / Canada			USA (incl. Puerto Rico) / Canada
Road Grades:	1---			---
Auto-Approve limit	8% <sup>2</sup>			8% <sup>2</sup>
Max allowed	12%			12%
(GCW-GVWR) Min. Diff:	20,000			20,000
GCW Limit [Lbs]:	FDR's < 1430	FDR's < 1565	FDR's < 1430	MIN GCW
Auto-Approve	---	---	---	≥ 140,001
GCW Limit [Lbs]:	FDR's ≥ 1430	FDR's ≥ 1565	FDR's ≥ 1430	FDR's ≥ 1755
Auto-Approve	110,000	140,000	110,000	175,000
Load Profile <sup>3</sup> :	1 way only <sup>3</sup>			1 way only <sup>3</sup>
Engine(s):	DD13 (GHG17, Gen5 HP)	DD13 (Gen5 HP), DD15 (Gen5 HP), DD16 (GHG17, GHG21)	DD13 (Gen5 HP), DD15 (Gen5 HP), DD16 (GHG17, GHG21)	DD15 (Gen5 HP) DD16 (GHG17, GHG21)
Torque Limit [Lb-Ft]:	1850	2050	1850	2050
FDR Limits:	---	--	---	--
Minimum Auto-Approve	1430 (GCW ≤ 110k)	1565 (GCW ≤ 140k)	1430 (GCW ≤ 110k)	1755 (140,001 ≤ GCW ≤ 175k)
Rear Transmission PTO Available:	Yes			Yes
Side Transmission PTO Available:	Yes			Yes
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com			See DDC-ENG-MAN-001 on DTNAconnect.com
Transmission Cooler:	Standard (AOC)			Standard (AOC)
Min. Startability:	28	20	28	20
Max Engine rpm @ Cruise:	1625 (GHG17 DD13, Gen5 DD13 HP)	1625 (Gen5 DD13 HP & DD15 HP) 1800 (GHG17/GHG21 DD16)	1625 (Gen5 DD13 HP), 1625 (Gen5 DD15 HP), 1800 (GHG17/GHG21 DD16)	1625 (Gen5 DD15 HP) 1800 (GHG17/GHG21 DD16)
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13, Gen5 DD13 HP)	1775 (Gen5 DD13 HP & DD15 HP) 1950 (GHG17/GHG21 DD16)	1775 (Gen5 DD13 HP), 1775 (Gen5 DD15 HP), 1950 (GHG17/GHG21 DD16)	1775 (Gen5 DD15 HP) 1950 (GHG17/GHG21 DD16)
Min. Axle Ratio (Recommended):	3.2	3.42	3.2	3.7
Max. Axle Ratio (Recommended):	--			--

**NOTES:**

**1) Previous revision was dated 28JUL21.**

2) Startability requirement increases 1 point for every 1% max grade above 8%.

3) Load Profile indicates whether vehicle will be loaded 1 way or both ways of a trip/route.

## TM2020 LG3 - DT12 Transmission Limits Summary Spreadsheet\_Mining (A85-013), and Oil Field (A85-007)

Revision: **03SEP21** <sup>1</sup>

	DT12-OC / OV			DT12-OD / OVX	
Chassis:	WST 4700 (legacy)	114SD & WST 47x [DD13 only], WST 49x		WST 49x	
Domicile Location:	USA (incl. Puerto Rico) / Canada			USA (incl. Puerto Rico) / Canada	
Road Grades:	---			---	
Auto-Approve limit	8% <sup>2</sup>			8% <sup>2</sup>	
Max allowed	20%			12%	
(GCW-GVWR) Min. Diff :	20,000			20,000	
GCW Limit [Lbs]:	FDR's < 1610	FDR's > 1610		MIN GCW	FDR's < 1820
Auto-Approve	----	110,000		≥ 140,001	----
GCW Limit [Lbs]:	FDR's ≥ 1610	FDR's ≥ 1870		FDR's ≥ 1735	FDR's ≥ 1820
Auto-Approve	110,000	140,000		175,000	250,000
Load Profile <sup>3</sup> :	1 way only <sup>3</sup>			1 way only <sup>3</sup>	
Engine(s):	DD13 (GHG17)	DD13 (Gen5 HP), DD15 (Gen5 DD15 HP), DD16 (GHG17, GHG21)	DD13 (Gen5 HP), DD15 (Gen5 DD15 HP), DD16 (GHG17, GHG21)	DD15 (Gen5 DD15 HP), DD16 (GHG17, GHG21)	
Torque Limit [Lb-Ft] :	1850	2050		2050	
FDR Limits :	---		---		--
Minimum Auto-Approve	1610 (GCW ≤ 110k)		1870 (110k < GCW ≤ 140k)		1735 (140,001 ≤ GCW ≤ 175k)      1820 (175k < GCW ≤ 250k)
Rear Transmission PTO Available:	Yes			Yes	
Side Transmission PTO Available:	Yes			Yes	
Major Transmission PTO Limits:	See DDC-ENG-MAN-001 on DTNAconnect.com			See DDC-ENG-MAN-001 on DTNAconnect.com	
Transmission Cooler	Standard (AOC)			Standard (AOC)	
Min. Startability:	25			23	18
Max Engine rpm @ Cruise:	1625 (GHG17 DD13)	1625 (Gen5 DD13 HP & DD15 HP), 1800 (GHG17 & GHG21 DD16)	1625 (Gen5 DD13 HP & DD15 HP), 1800 (GHG17 & GHG21 DD16)	1625 (Gen5 DD15 HP), 1800 (GHG17 & GHG21 DD16)	
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1775 (Gen5 DD13 HP & DD15 HP), 1950 (GHG17 & GHG21 DD16)	1775 (Gen5 DD13 HP & DD15 HP), 1950 (GHG17 & GHG21 DD16)	1775 (Gen5 DD15 HP), 1950 (GHG17 & GHG21 DD16)	
Min. Axle Ratio (Recommended):	3.7		3.8		4.1      4.3
Max. Axle Ratio (Recommended):	--			--	

**NOTES:**

**1) Previous revision was dated 28JUL21.**

2) Startability requirement increases 1 point for every 1% max grade above 8%.

3) Load Profile indicates whether vehicle will be loaded 1 way or both ways of a trip/route.



**DT12 Naming Nomenclature**

DTNA (CW18 2020)	DTNA (pre-CW18, 2020)	DETROIT	Description
-- DHL	DB DH1-8	DB1 DB2	DT12-DB Classic Lightweight On-Highway Direct Drive (MY2016 CO2)
-- OHL	OB OH1-8	OB1 OB2	DT12-OB Classic Lightweight On-Highway Direct Drive (MY2016 CO2)
-- DH DH	DA DH1 DH1	DA1 DA2 DA3	DT12-DA Classic On-Highway Direct Drive (MY2016 CO2) On-Highway Direct Drive (MY2017 CO2)
-- OH OH	OA OH1 OH1	OA1 OA2 OA3	DT12-OA Classic DT12-OA CO2 MY2016 DT12-OA CO2 MY 2017
DHE DV	DH2 DV2	DC1 DC1	Efficient On-Hwy Direct Drive TM2020 Vocational Direct Drive TM2020
OHE OV	OH2 OV2	OC1 OC1	Efficient On-Hwy Overdrive TM2020 Vocational Overdrive TM2020
OVX	OE2	OD1	Vocational Extreme Overdrive TM2020

**Engine Naming Nomenclature (In DT12 Limit Spreadsheet)**

Emissions Reference	Description of Engine(s)
GHG17	DD13, DD15, and DD16 engines certified for GHG17 with 1US and 2V2 ATS's.
Gen5	New DD13 & DD15 TCO and HP engine variants with GATS 2.0 Aftertreatment.
GHG21	Recalibrated DD16 engine introduced in MY2022 with GATS 2.0 Aftertreatment.