

TM2020 LG1 - DT12 Transmission Limits Summary Spreadsheet_Linehaul/Longhaul (A85-005, -027)

Revision: RSEF20¹

	DT12-DB / DH1-8 / DHL	DT12-OB / OH1-8 / OHL	DT12-DA / DH1 / DH		DT12-OA / OH1 / OH						
Chassis:	P4 Cascadia / WST 5700	P4 Cascadia / WST 5700	P4 Cascadia / WST 5700	P4 Cascadia / 43N WST 5700	P4 Cascadia / WST 5700 / WST 4700 [tractors only]		P4 Cascadia / WST 5700	P4 Cas / 43N WST 5700			P4 Cascadia / WST 5700 / 43N 4900
Domicile Location:	USA [incl. Puerto Rico] / Canada [GHG'17]	USA [incl. Puerto Rico] / Canada [GHG'17]	USA [incl. Puerto Rico] / Canada [GHG'17, GHG'21]		USA [incl. Puerto Rico] / Canada [GHG'17, GHG'21]						
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 Max allowed:	8% ² 12%	8% ² 12%	8% ² 12%		8% ² 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		FDR's >= 1323	FDR's < 1500	FDR's >= 1323	FDR's >= 1323	FDR's < 1500	FDR's < 1500	
Auto-Approve:	---	---	---		80,000	---	80,000	80,000	---	---	
GCW Limit (Lbs):	FDR's >= 1180	FDR's >= 1400	FDR's >= 1180		FDR's >= 1500	FDR's >= 1500	FDR's >= 1500	FDR's >= 1500	FDR's >= 1500	FDR's >= 1500	
Auto-Approve Engineering:	80,000	80,000	85,000		130,000	130,000	130,000	130,000	130,000	140,000 ⁴	
Load Profile ³ :	1 way / Both ways	1 way / Both ways	1 way / Both ways		1 way / Both ways						
Engine(s):	DD13 (GHG17)	DD13 (GHG17)	DD13 / DD15 (GHG17)	DD15 (Gen5 TCO & HP)	DD13 (GHG17)	DD15 (GHG17)	DD15 (Gen5 TCO)	DD15 (Gen5 TCO & HP)	DD15 (Gen5 TCO)	DD15 (Gen5 TCO & HP)	DD16 (GHG17)
Torque Limit (Lb-Ft):	1550	1650	1750		1750	1850	1750	1750	1850	2050	
FDR Limits:	---	---	---		---	---	---	---	---	---	
Minimum Auto-Approve:	1180 (GCW < 80k)	1400 (GCW < 80k)	1090 ³ (GCW < 80k) 1180 ² (80k < GCW < 85k)		1323 ³ (GCW < 80k) 1500 (80k < GCW < 130k) 1683 ³ (GCW > 130k)	1500 (GCW < 130k) 1683 ³ (GCW > 130k)	1323 ³ (GCW < 80k) 1500 (80k < GCW < 130k) 1683 ³ (GCW > 130k)	1323 ³ (GCW < 80k) 1500 (80k < GCW < 130k) 1683 ³ (GCW > 130k)	1500 (GCW < 110k) 1500 (80k < GCW < 130k) 1683 ³ (GCW > 130k)	1500 (GCW < 130k) 1683 ³ (GCW > 130k)	
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 (ADC)	Standard (ADC)	Standard (ADC)		Standard (ADC)						
Min. Startability:	16 ²	16 ²	16 ²		16 ²						
Max Engine rpm @ Cruise:	1625 (GHG17 DD13)	1625 (GHG17 DD13)	1625 (GHG17 DD13/DD15)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)	1625 (GHG17 DD13/DD15)	1500 (Gen5 DD15 TCO)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)	1500 (Gen5 DD15 TCO)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)	1800 (GHG17 DD16)	
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1775 (GHG17 DD13)	1775 (GHG17 DD13/DD15)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)	1775 (GHG17 DD13/DD15)	1650 (Gen5 DD15 TCO)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)	1650 (Gen5 DD15 TCO)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)	1950 (GHG17 DD16)	
Min. Axle Ratio (Auto-Approve):	2.41	2.79	2.15/2.16 ¹ 2.41 (GCW > 80k)		2.61 (< 80k GCW) ⁸ 3.07 (> 80k GCW)	3.07	2.61 (< 80k GCW) ⁸ 3.07 (> 80k GCW)	2.61 (< 80k GCW) ⁸ 3.07 (> 80k GCW)	3.07	3.07	
Max. Axle Ratio (Auto-Approve):	2.67	---	2.67		---						

NOTES:

- 1) Previous revision was dated 22MAY20.
- 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 < 140k allowed with DT12-OA/DH1/DH, but an additional DETROIT Powertrain review is required.
- 5) FDR's on DT12-DA/DH1/DH or DT12-DC/DH2/DHE < 1180 require: (2.15, 2.16, or 2.28 RAR) + (400-1750 or 455-1750 lb-ft engine rating).
- 6) FDR's on DT12-OC/DH2/DHE < 1055 require: (2.05 RAR) + (400-1850 or 455-1850 lb-ft engine rating).
- 7) Exceeding 80k GCW requires 2.41 or numerically higher RAR.
- 8) FDR's on DT12-OA/DH1/DH < 1400 require: (2.61 < RAR < 2.85) + (400/1750 or 455/1750 lb-ft engine rating).

	DT12-DC / DH2 / DHE				DT12-OC / OH2 / OHE								DT12-OD / OE2 / OVX	
Chassis:	P4 Cascadia		P4 Cascadia / WST 5700, P4 Cascadia / 43N WST 4900 & 5700 (Gen5 DD15)		WST 4700 [tractor only]				P4 Cascadia / WST 5700 [legacy] [GHG'17], P4 Cascadia / 43N WST 4900 & 43N 5700 (GHG'21)				P4 Cascadia / 43N WST 4900	
Domicile Location:	USA [incl. Puerto Rico] / Canada [GHG'17, GHG'21]				USA [incl. Puerto Rico] / Canada [GHG'17]				USA [incl. Puerto Rico] / Canada [GHG'17, GHG'21]				USA [incl. Puerto Rico] / Canada [GHG'17, GHG'21]	
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 Max allowed:	8% ² 12%				8% ² 12%				8% ² 12%				8% ² 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 < 1005		FDR's < 1185		FDR's < 1240		FDR's < 1435		FDR's < 1515		FDR's < 1835		FDR's < 1915	
Auto-Approve:	---		---		---		---		---		---		---	
GCW Limit (Lbs):	FDR's >= 1005		FDR's >= 1185		FDR's >= 1240		FDR's >= 1435		FDR's >= 1515		FDR's >= 2030		FDR's >= 1835	
Auto-Approve Engineering:	80,000		110,000		80,000		110,000		140,000		160,000		175,000	
Load Profile ³ :	1 way / Both ways				1 way / Both ways				1 way				1 way	
Engine(s):	DD13/DD15 (GHG17) Gen5 DD15 (TCO & HP)		DD13 / DD15 (GHG17) DD15 (Gen5 TCO & HP)		DD13 (GHG17)				DD13 / DD15 (GHG17) DD15 (Gen5 TCO & HP)		DD13 / DD15 (GHG17) DD15 (Gen5 TCO & HP) DD16 (GHG17)		DD15 (Gen5 HP) DD16 (GHG17)	
Torque Limit (Lb-Ft):	---		1850		1850				1850				2050	
FDR Limits:	---		---		---				---				---	
Minimum Auto-Approve:	1005 ³ (GCW < 80k)		1185 (80k < GCW < 110k)		1240 (GCW < 80k)		1435 (80k < GCW < 110k)		1515 (110k < GCW < 140k)		1835 (140k < GCW < 160k)		1515 (GCW < 160k) 1720 (460k < GCW < 175k)	
Rear Transmission PTO Available:	No [Prep Kit N/A also]		Yes		Yes				Yes				Yes	
Side Transmission PTO Available:	No		Yes		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				See DDC-ENG-MAN-001 on DTNAconnect.com	
Transmission Cooler:	None		Standard (ADC)		Standard (ADC)				Standard (ADC)				Standard (ADC)	
Min. Startability:	---		16 ²		16 ²				16 ²				16 ²	
Max Engine rpm @ Cruise:	1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)		1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)		1625 (GHG17 DD13)				1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)		1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)		1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	
Max Engine rpm @ Road Speed Limit:	1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP)		1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP)		1775 (GHG17 DD13)				1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)		1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)		1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)	
Min. Axle Ratio (Auto-Approve):	2.05 ¹⁴⁶		2.41		2.53		2.92		3.07		3.7		3.5	
Max. Axle Ratio (Auto-Approve):	2.53		2.67		---				---				---	

TM2020 LG1 - DT12 Transmission Limits Summary Spreadsheet_Export Linehaul/Longhaul & Heavy Haul (A85-005, -027)

Revision: 8SEP20¹

	DT12-OA / OH1 / OH			DT12-OC / OH2 / OHE						DT12-OD / OE2 / OVX
Chassis ¹ :	P4 Cascadia [EUROS & GHG17] / WST 5700 [GHG17]			P4 Cascadia						P4 Cascadia
Domicile Location:	Mexico [GHG17 & EUROS] , Colombia/Peru [EUROS] , Chile/Israel [GHG17]			Mexico [EUROS, GHG17, GHG21], Chile [GHG17], Colombia/Peru [EUROS]						Mexico [EUROS, GHG17, GHG21], Chile [GHG17], Colombia/Peru [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% ² 12%			--- 8% ² 12%						--- 8% ² 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 ---	FDR's < 1440 ---	FDR's < 1525 ---	FDR's < 1820 ---	FDR's < 1920 ---	FDR's < 2115 ---	FDR's < 1820 ---
GCW Limit (Lbs): Auto-Approve Engineering	FDR's ≥ 1515 105,000	FDR's ≥ 1835 120,000	FDR's ≥ 1920 140,000	FDR's ≥ 1245 80,000	FDR's ≥ 1440 110,000	FDR's ≥ 1525 120,000	FDR's ≥ 1820 130,000	FDR's ≥ 1920 140,000	FDR's ≥ 2115 160,000	FDR's ≥ 1820 175,000
Load Profile ³ :	1 way / Both ways		1 way	1 way / Both ways						1 way only ³
Engine(s):	DD13 / DD15 (GHG17)	DD13 / DD16 (GHG17 & EUROS)		DD13 (EUROS, GHG17), DD15 (GHG17), DD15 (Gen5 TCO & HP)	DD13 (EUROS, GHG17), DD15 (GHG17), DD15 (Gen5 TCO & HP), DD16 (GHG17)	DD13 (EUROS, GHG17), DD15 (GHG17), DD16 (GHG17)	DD13 (EUROS, GHG17), DD15 (Gen5 HP), DD16 (EUROS, GHG17)	DD15 (Gen5 HP) DD16 (EUROS, GHG17)	Gen5 DD15 (HP) DD16 (EUROS, GHG17)	
Torque Limit (Lb-Ft):	1850	1850	2213	1850			2213		2213	
FDR Limits: Minimum Auto-Approve	1400 (< 80k) 1515 (80k < GCW ≤ 105k)	1835 (105k < GCW ≤ 120k)	1920 (GCW ≤ 140k)	1245 (GCW ≤ 80k)	1440 (80k < GCW ≤ 110k)	1525 (110k < GCW ≤ 120k)	1820 (120k < GCW ≤ 130k)	1920 (130k < FDR ≤ 140k)	2115 (140k < GCW ≤ 160k)	1820 (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 ²			16 ²						16 ²
Max Engine rpm @ Cruise:	1600 (EUROS DD13) 1625 (GHG17 DD13/DD15)	1600 (EUROS DD13/DD16) 1625 (GHG17 DD13) 1800 (GHG17 DD16)	1500 (Gen5 DD15 TCO) 1600 (EUROS DD13) 1625 (GHG17 DD13/DD15, Gen5 DD15 HP)	1500 (Gen5 DD15 TCO) 1600 (EUROS DD13) 1625 (GHG17 DD13/DD15, Gen5 DD15 HP) 1800 (GHG17 DD16)	1600 (EUROS DD13) 1625 (GHG17 DD13/DD15, Gen5 DD15 HP) 1800 (GHG17 DD16)	1600 (EUROS DD13/DD16) 1625 (GHG17 DD15, Gen5 DD15 HP) 1800 (GHG17 DD16)	1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	1600 (EUROS DD16) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)		
Max Engine rpm @ Road Speed Limit:	1750 (EUROS DD13) 1775 (GHG17 DD13/DD15)	1750 (EUROS DD13/DD16) 1775 (GHG17 DD13) 1950 (GHG17 DD16)	1650 (Gen5 DD15 TCO) 1750 (EUROS DD13) 1775 (GHG17 DD13/DD15, Gen5 DD15 HP)	1650 (Gen5 DD15 TCO) 1750 (EUROS DD13) 1775 (GHG17 DD13/DD15, Gen5 DD15 HP) 1950 (GHG17 DD16)	1750 (EUROS DD13) 1775 (GHG17 DD13/DD15, Gen5 DD15 HP) 1950 (GHG17 DD16)	1750 (EUROS DD13/DD16) 1775 (GHG17 DD15, Gen5 DD15 HP) 1950 (GHG17 DD16)	1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)	1750 (EUROS DD16) 1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)		
Min. Axle Ratio (Auto-Approve):	2.79 (< 80k GCW) 3.07 (> 80k GCW)	3.70 (> 105k)	3.9 (> 120k)	2.53	2.85	3.07	3.7	3.9	4.3	3.7
Max. Axle Ratio (Auto-Approve):	---			---						---

NOTES:

- 1) Previous revision was dated 22MAY20.
- 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/OH, but an additional DETROIT Powertrain review is required.

	DT12-DC / DH2 / DHE (RHD)		DT12-OC / OH2 / OHE (RHD)		DT12-OD / OE2 / OVX (RHD)	
Chassis ¹ :	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% ² 12%		--- 8% ² 12%		--- 8% ² 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 ---		FDR's < 1625 ---	FDR's < 1915 ---
GCW Limit (Lbs): Auto-Approve 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 ³ :	1 way / Both ways		1 way / Both ways ²	1 way only ³	1 way only ³	
Engine(s):	DD13 / DD15 (GHG17)		DD13 / DD16 (GHG17)		DD16 (GHG17)	
Torque Limit (Lb-Ft):	1850		2050		2050	
FDR Limits: Minimum Auto-Approve	1005 ³ (GCW ≤ 80k)	1185 (80k < GCW ≤ 110k)	1515 (GCW ≤ 160k)		1625 (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 ²		16 ²		15 ²	13 ²
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 (Auto-Approve):	2.05	2.41	3.07		3.3	3.9
Max. Axle Ratio (Auto-Approve):	2.28	2.67	---		---	---

TM2020 LG1 - DT12 Transmission Limits Summary Spreadsheet_Pickup & Delivery-Shorthaul (A85-002)

Revision: 8SEP20¹

	DT12-DB / DH1-8 / DHL	DT12-DB / OH1-8 / OHL	DT12-DA / DH1 / DH	DT12-OA / OH1 / OH							
Chassis:	P4 Cascadia / WST 5700	P4 Cascadia / WST 5700	P4 Cas / WST 5700 (GHG17 engines) P4 Cas / 43N WST 5700 (Gen5 DD15 TCO/HP)	P4 Cascadia / WST 5700 (GHG17 engines) P4 Cascadia / 43N WST 5700 (Gen5 DD15 + GHG17 engines)						WST 4700 [truck & tractor applications]	
Domicile Location:	USA [Incl. Puerto Rico] / Canada [GHG17]	USA [Incl. Puerto Rico] / Canada [GHG17]	USA [Incl. Puerto Rico] / Canada [GHG17]	USA [Incl. Puerto Rico] / Canada [GHG17, GHG21]						USA [Incl. Puerto Rico] / Canada [GHG17]	
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						100% Paved Roads, Smooth concrete	
Road Grades:	---	---	---	---						---	
Auto-Approve limit	8% ²	8% ²	8% ²	8% ⁴						8% ¹	
Max allowed	12%	12%	12%	12%						12%	
Road Type:	Smooth Concrete / Asphalt	Smooth Concrete / Asphalt	Smooth Concrete / Asphalt	Smooth Concrete / Asphalt						Smooth Concrete / Asphalt	
(GCW-GVWR) Min. Diff:	20,000	20,000	20,000	20,000						20,000	
GCW Limit (Lbs):	FDR's < 1180	FDR's < 1400	FDR's >= 1090	FDR's >= 1323		FDR's < 1500				(FDR's >= 1325)	(FDR's < 1500)
Auto-Approve	---	---	80,000	80,000		---				80,000	---
GCW Limit (Lbs):	FDR's >= 1180	FDR's >= 1400	FDR's >= 1180	FDR's >= 1500	FDR's >= 1500	FDR's >= 1500	FDR's >= 1500		(FDR's >= 1500)	(FDR's >= 1500)	
Auto-Approve	80,000	80,000	85,000	110,000	130,000	110,000	130,000		130,000	130,000	
Load Profile:	1 way / Both ways	1 way / Both ways	1 way / Both ways	1 way / Both ways						1 way / Both ways	
Engine(s):	DD13 (GHG17)	DD13 (GHG17)	DD13 / DD15 (GHG17) 'DD15 (Gen5 TCO & HP)	DD15 (Gen5 TCO)	DD13 / DD15 (GHG17) DD15 (Gen5 TCO & HP)	DD15 (Gen5 TCO)	DD13 (GHG17) DD15 (Gen5 TCO & HP)	DD16 (GHG17)	DD13 (GHG17)		
Torque Limit (Lb-Ft):	1550	1650	1750	1750		1850		2050		1750	1850
FDR Limits:	---	---	---	---		---		---		---	---
Minimum Auto-Approve	1180 (GCW <= 80k)	1400 (GCW <= 80k)	1090 (GCW <= 80k) 1180 (80k < GCW <= 85k)	1325 ⁵ (GCW < 80k) 1500 (80k < FDR < 110k)	1325 ⁵ (GCW <= 80k) 1500 (80k < FDR <= 130k) 1683 ⁵ (> 130k)	1500 (GCW <= 110k)	1500 (GCW <= 130) 1683 ⁵ (GCW > 130k)		1325 ⁵ (GCW <= 80k) 1500 (80k < GCW <= 130) 1683 ⁵ (GCW > 130k)	1500 (GCW <= 130) 1683 ⁵ (GCW > 130k)	
Rear Transmission PTO Available:	Yes	Yes	Yes	Yes						Yes	
Side Transmission PTO Available:	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	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)						Standard (AOC)	
Min. Startability:	18 ²	18 ²	18 ²	18 ²						18 ²	
Max Engine rpm @ Cruise:	1625 (GHG17 DD13)	1625 (GHG17 DD13)	1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)	1500 (Gen5 DD15 TCO)	1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)	1500 (Gen5 DD15 TCO)	1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)	1800 (GHG17 DD16)	1625 (GHG17 DD13)		
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1775 (GHG17 DD13)	1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP)	1650 (Gen5 DD15 TCO)	1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP)	1650 (Gen5 DD15 TCO)	1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP)	1950 (GHG17 DD16)	1775 (GHG17 DD13)		
Min. Axle Ratio (Auto-Approve):	2.41	2.79	2.41	2.79 (<= 80k GCW) 3.07 (> 80k GCW)		3.07				2.79 (< 80k GCW) 3.07 (> 80k GCW)	3.07
Max. Axle Ratio (Auto-Approve):	2.67	--	2.67	--						--	

NOTES:

- 1) Previous revision was dated 22MAY20.
- 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/OH, but an additional DETROIT Powertrain review is required.
- 5) FDR's on DT12-OA/OH1/OH < 1400 require: (2.61 < RAR < 2.85) + (400/1750 or 455/1750 lb-ft engine rating).

	DT12-OA / OH1 / OH (EXPORT)			DT12-DC / DH2 / DHE			DT12-OC / OH2 / OHE				DT12-OC / OH2 / OHE (EXPORT)	
Chassis:	P4 Cascadia [EUROS & GHG17] / WST 5700 [GHG17]			P4 Cascadia, WST 4700/5700 (Legacy)	P4 Cascadia, WST 5700 (Legacy)	P4 Cascadia / 43N WST 4900 / 43N WST 5700	P4 Cascadia, WST 4700/5700 (Legacy)	P4 Cascadia, WST 5700 (Legacy)	P4 Cascadia / 43N WST 4900 / 43N WST 5700	P4 Cascadia, WST 5700/43N 4900	P4 Cascadia	
Domicile Location:	Mexico [GHG17 & EUROS], Colombia/Peru [EUROS], Chile/Israel [GHG17]			USA [Incl. Puerto Rico] / Canada [GHG17, GHG21]			USA [Incl. Puerto Rico] / Canada [GHG17, GHG21]				Mexico [EUROS, GHG17], Chile [GHG17], Colombia/Peru [EUROS]	
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% ²			8% ²			8% ²				8% ²	
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	FDR's < 1835	FDR's < 1920	FDR's < 1245			FDR's < 1525				FDR's < 1525	FDR's < 1600
Auto-Approve	80,000	---	---	---			---				---	---
GCW Limit (Lbs):	FDR's >= 1515	FDR's >= 1835	FDR's >= 1020	FDR's >= 1245			FDR's >= 1525				FDR's >= 1525	FDR's >= 1600
Auto-Approve	105,000	120,000	140,000	80,000			110,000				110,000	110,000
Load Profile:	1 way / Both ways			1 way			1 way only ³				1 way only ³	
Engine(s):	DD13 / DD15 (GHG17), DD15 (Gen5 TCO & HP)	DD13 (GHG17/EUROS), DD15 (Gen5 HP), DD16 (GHG17/EUROS)	DD13 / DD16 (GHG17/EUROS) DD15 (Gen5 HP)	DD13 (GHG17)	DD15 (GHG17)	DD15 (Gen5 TCO & HP)	DD13 (GHG17)	DD15 (GHG17)	DD15 (Gen5 TCO & HP)	DD16 (GHG17)	DD13 (EUROS), DD15 (GHG17), DD15 (Gen5 TCO & HP)	DD16 [EUROS, GHG17]
Torque Limit (Lb-Ft):	1850	1850	2213	1850			1850				1850	2213
FDR Limits:	---	---	---	---			---				---	---
Minimum Auto-Approve	1400 (GCW <= 80k) 1515 (80k < GCW <= 105k)	1835 (105k < GCW <= 120k)	1920 (GCW <= 140k)	1245 (GCW <= 80k)			1525 (GCW <= 110k)				1525 (GCW <= 110k)	1600 (GCW <= 110k)
Rear Transmission PTO Available:	Yes			Yes			Yes				Yes	
Side Transmission PTO Available:	No			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				See DDC-ENG-MAN-001 on DTNAconnect.com	
Transmission Cooler:	Standard (AOC)			Standard (AOC)			Standard (AOC)				Standard (AOC)	
Min. Startability:	18 ²			18 ²			18 ²				18 ²	
Max Engine rpm @ Cruise:	1500 (Gen5 DD15 TCO) 1600 (EUROS DD13) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)	1600 (EUROS DD13/DD16) 1625 (GHG17 DD13) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)	1625 (GHG17 DD13/DD15)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)	1625 (GHG17 DD13/DD15)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)	1800 (GHG17 DD16)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)	1800 (GHG17 DD16)	1500 (Gen5 DD15 TCO) 1600 [EUROS DD13] 1625 (GHG17 DD15) 1625 (Gen5 DD15 HP)	1600 [EUROS DD16] 1800 (GHG17 DD16)
Max Engine rpm @ Road Speed Limit:	1750 (EUROS DD13) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15HP)	1750 (EUROS DD13/DD16) 1775 (GHG17 DD13) 1775 (Gen5 DD15HP) 1950 (GHG17 DD16)	1775 (GHG17 DD13/DD15)	1775 (GHG17 DD13/DD15)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)	1775 (GHG17 DD13/DD15)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)	1950 (GHG17 DD16)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)	1950 (GHG17 DD16)	1650 (Gen5 DD15 TCO) 1750 [EUROS DD13] 1775 (GHG17 DD15) 1775 (Gen5 DD15 HP)	1750 [EUROS DD16] 1950 (GHG17 DD16)
Min. Axle Ratio (Auto-Approve):	3.07	3.7	3.9	2.53			3.07				3.07	3.23
Max. Axle Ratio (Auto-Approve):	--			2.85			--				--	

TM2020 LG1 - DT12 Transmission Limits Summary Spreadsheet_Recreation (A85-016)

Revision: 8SEP20¹

	DT12-OB / OH1-8 / OHL	DT12-OA / OH1 / OH					DT12-OC / OH2 / OHE				
Chassis:	P4 Cascadia / WST 5700	P4 Cascadia / WST 5700, P4 Cascadia / 43N WST 5700 (Gen5 DD15 TCO & HP only)					P4 Cascadia / WST 5700 (legacy)				
Domicile Location:	USA (incl. Puerto Rico) / Canada [GHG'17]	USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]					USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]				
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% ² 12%	8% ² 12%					8% ² 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 80,000		FDR's < 1500			FDR's < 1240	FDR's < 1435	FDR's < 1515	FDR's < 2030	FDR's < 1835
Auto-Approve	----	----		----			----	----	----	----	----
GCW Limit (Lbs):	FDR's ≥ 1400 80,000	FDR's ≥ 1500 130,000	FDR's ≥ 1500 110,000	FDR's ≥ 1500 130,000	FDR's > 1500 110,000	FDR's ≥ 1500 130,000	FDR's ≥ 1240 80,000	FDR's ≥ 1435 110,000	FDR's ≥ 1515 140,000	FDR's ≥ 2030 140,000	FDR's ≥ 1835 160,000
Auto-Approve Engineering	140,000 ⁴	140,000 ⁴	110,000	140,000 ⁴	110,000	140,000 ⁴					
Load Profile %:	1 way / Both ways	1 way / Both ways					1 way / Both ways				
Engine(s):	DD13 (GHG17)	DD13 / DD15 (GHG17) DD15 (Gen5-TCO & HP)	DD15 (Gen5 TCO)	DD13 (GHG17) DD15 (Gen5-TCO & HP)	DD15 (Gen5 TCO)	DD16 (GHG17)	DD13 / DD15 (GHG17) DD15 (Gen5 TCO & HP)	DD13 / DD15 (GHG17) DD15 (Gen5 TCO & HP) DD16 (GHG'17)	DD13 / DD15 (GHG17) DD15 (Gen5 TCO & HP) DD16 (GHG'17)	DD13 / DD15 (GHG17) DD15 (Gen5-TCO & HP) DD16 (GHG'17)	DD13 / DD15 (GHG17) DD15 (Gen5-TCO & HP) DD16 (GHG'17)
Torque Limit (Lb-Ft):	1650	1750	1850	1850	2050	2050	1850		2050		
FDR Limits:	---	---	---	---	---	---	---	---	---	---	---
Minimum Auto-Approve	1400 (GCW < 80k)	1400 (GCW ≤ 80k) 1500 (80k < GCW ≤ 130k) 1683 ⁴ (GCW > 130k)	1323 (GCW ≤ 80k) 1500 (80k < GCW ≤ 110k)	1500 (GCW ≤ 80k) 1500 (80k < GCW ≤ 130k) 1683 ⁴ (GCW > 130k)	1500 (GCW ≤ 110k)	1500 (GCW < 80k) 1500 (80k < GCW < 130k) 1683 ⁴ (GCW > 130k)	1240 (GCW ≤ 80k)	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 ²	16 ²					16 ²				
Max Engine rpm @ Cruise:	1625 (GHG17 DD13)	1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)	1500 (Gen5 DD15 TCO)	1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP)	1500 (Gen5 DD15 TCO)	1800 (GHG17 DD16)	1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)		1500 (Gen5 DD15 TCO) 1625 (GHG17 DD13/DD15) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)		
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP)	1650 (Gen5 DD15 TCO)	1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP)	1650 (Gen5 DD15 TCO)	1950 (GHG17 DD16)	1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)		1650 (Gen5 DD15 TCO) 1775 (GHG17 DD13/DD15) 1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)		
Min. Axle Ratio (Auto-Approve):	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 (Auto-Approve):	---	---					---				

NOTES:

- 1) Previous revision was dated 22MAY20.
- 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 LG1 - DT12 Transmission Limits Summary Spreadsheet_Transfer Refuse (A85-001)

Revision: 8SEP20¹

Chassis:	DT12-DC / DV2 / DV			DT12-OC / OV2 / OV			
	P4 Cascadia, WST 4700/5700 (legacy)	P4 Cascadia, WST 5700 (legacy)	P4 Cascadia, 43N WST 4900 & 5700	P4 Cascadia, WST 4700/5700 (legacy)	P4 Cascadia, WST 5700 (legacy)	P4 Cascadia, 43N WST 4900 & 5700	P4 Cascadia, WST 5700 (legacy), 43N 4900
Domicile Location:	USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]			USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]			
Road Grades:	---			---			
Auto-Approve limit	8% ²			8% ²			
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 ³ :	1 way / Both Ways ³			1 way / Both Ways ³			
Engine(s):	DD13 (GHG17)	DD15 (GHG17)	DD15 (Gen5 TCO & HP)	DD13 (GHG17)	DD15 (GHG17)	DD15 (Gen5 TCO & HP)	DD16 (GHG17)
Torque Limit [Lb-Ft]:	1850			1850			2050
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)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)		1625 (GHG17 DD13/DD15)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP)		1800 (GHG17 DD16)
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13/DD15)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)		1775 (GHG17 DD13/DD15)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP)		1950 (GHG17 DD16)
Min. Axle Ratio (Auto-Approve):	2.41			3.2			
Max. Axle Ratio (Auto-Approve):	2.67			--			

NOTES:

1) Previous revision was dated 22MAY20.

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 LG1 - DT12 Transmission Limits Summary Spreadsheet_Logging (A85-012)

Revision: 8SEP20¹

	DT12-OC / OV2 / OV				DT12-OD / OE2 / OVX	
Chassis:	WST 4700		43N WST 4900		43N WST 4900	
Domicile Location:	USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]				USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]	
Road Grades:	---				---	---
Auto-Approve limit	8% ²				8% ²	8%
Max allowed	12%				12%	8%
(GCW-GVWR) Min. Diff:	20,000				20,000	
GCW Limit [Lbs]:	FDR's < 1430		FDR's < 1575		FDR's < 1550	FDR's < 1700
Auto-Approve	----		----		----	----
GCW Limit [Lbs]:	FDR's ≥ 1430		FDR's ≥ 1575	FDR's ≥ 1575	FDR's ≥ 1550	FDR's ≥ 1700
Auto-Approve	140,000		110,000	140,000	175,000	250,000
Load Profile ³ :	1 way only ³				1 way only ³	
Engine(s):	DD13 (GHG17)	DD15 (Gen5 TCO & HP) DD16 (GHG17)	DD15 (Gen5 TCO)	DD16 (GHG17)	DD15 (Gen5 HP) DD16 (GHG17)	
Torque Limit [Lb-Ft]:	1850			2050	2050	
FDR Limits:	---		---	---	--	--
Minimum Auto-Approve	1430 (GCW ≤ 140k)		1575 (GCW ≤ 110k)	1575 (GCW < 140k)	1550 (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)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	1500 (Gen5 DD15 TCO)	1800 (GHG17 DD16)	1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)	1650 (Gen5 DD15 TCO)	1950 (GHG17 DD16)	1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)	
Min. Axle Ratio (Auto-Approve):	3.2				3.42	4.1
Max. Axle Ratio (Auto-Approve):	--				--	--

NOTES:

1) Previous revision was dated 22MAY20.

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 LG1 - DT12 Transmission Limits Summary Spreadsheet
Construction / Farm (A85-011, -009)**

Revision: 8SEP20¹

	DT12-OC / OV2 / OV				DT12-OD / OE2 / OVX
Chassis:	WST 4700		43N WST 4900		43N WST 4900
Domicile Location:	USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]				USA (incl. Puerto Rico) / Canada [GHG'17]
Road Grades:	---				---
Auto-Approve limit	8% ²				8% ²
Max allowed	12%				12%
(GCW-GVWR) Min. Diff:	20,000				20,000
GCW Limit [Lbs]: Auto-Approve	FDR's < 1430 ---	FDR's < 1565 ---	FDR's < 1430 ---	FDR's < 1565 ---	FDR's < 1565 ---
GCW Limit [Lbs]: Auto-Approve	FDR's ≥ 1430 80,000	FDR's ≥ 1565 140,000	FDR's ≥ 1430 80,000	FDR's ≥ 1565 110,000	FDR's ≥ 1565 140,000
Load Profile ³ :	1 way only ³				1 way only ³
Engine(s):	DD13 (GHG17)	DD15 (Gen5 TCO & HP) DD16 (GHG17)	DD15 (Gen5 TCO)		DD15 (Gen5 HP) DD16 (GHG17)
Torque Limit [Lb-Ft]:	1850	2050	1850		
FDR Limits: Minimum Auto-Approve	---	--	---	--	--
	1430 (GCW ≤ 80k)	1565 (GCW ≤ 140k)	1430 (GCW < 80k)	1565 (80k < GCW ≤ 110k)	1565 (GCW ≤ 140k)
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	20		20
Max Engine rpm @ Cruise:	1625 (GHG17 DD13)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	1500 (Gen5 DD15 TCO)		1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)	1625 (Gen5 DD15 TCO)		1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)
Min. Axle Ratio (Auto-Approve):	3.2	3.42	3.2	3.42	3.42
Max. Axle Ratio (Auto-Approve):	--				--

NOTES:

1) Previous revision was dated 22MAY20.

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 LG1 - DT12 Transmission Limits Summary Spreadsheet_Mining / Oil Field (A85-013, -007)

Revision: **8SEP20**¹

	DT12-OC / OV2 / OV			DT12-OD / OE2 / OVX	
Chassis ¹ :	WST 4700	43N WST 4900	43N WST 4900	43N WST 4900	
Domicile Location:	USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]			USA (incl. Puerto Rico) / Canada [GHG'17, GHG'21]	
Road Grades:	---			---	
Auto-Approve limit	8% ²			8% ²	
Max allowed	20%			12%	
(GCW-GVWR) Min. Diff :	20,000			20,000	
GCW Limit [Lbs]:	FDR's < 1610		FDR's < 1870	FDR's < 1735	FDR's < 1820
Auto-Approve	----		----	----	----
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 ³ :	1 way only ³			1 way only ³	
Engine(s):	DD13 (GHG17)	DD15 (Gen5 DD15 TCO & HP) DD16 (GHG17)	DD15 (Gen5 DD15 HP) DD16 (GHG17)	DD15 (Gen5 DD15 HP) DD16 (GHG17)	
Torque Limit [Lb-Ft] :	1850	2050	2050	2050	
FDR Limits :	---			--	--
Minimum Auto-Approve	1610 (GCW ≤ 110k)		1870 (110k < GCW < 140k)	1735 (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)	1500 (Gen5 DD15 TCO) 1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	1625 (Gen5 DD15 HP) 1800 (GHG17 DD16)	
Max Engine rpm @ Road Speed Limit:	1775 (GHG17 DD13)	1650 (Gen5 DD15 TCO) 1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)	1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)	1775 (Gen5 DD15 HP) 1950 (GHG17 DD16)	
Min. Axle Ratio (Auto-Approve):	3.7		3.8	4.1	4.3
Max. Axle Ratio (Auto-Approve):			--	--	--

NOTES:

- 1) Previous revision was dated 22MAY20.
- 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

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