

BIG BORE ENGINE COMPARISON GUIDE



A NAVISTAR COMPANY

Engine Comparisons	International MaxxForce I1	Cummins ISM	Mack MP7	Volvo VE D11	International MaxxForce I3	Cat C13	Volvo VE D13	Mercedes-Benz MBE 4000	Mack MP8	Detroit Diesel DD13	Detroit Diesel DD15	Cummins ISX	CAT C15
Key Customer Metrics													
Displacement (liters)	10.5	10.8	10.8	10.8	12.4	12.5	12.8	12.8	13	12.8	14.8	14.9	15.2
Dry Weight (lbs)	2244	2206 ^A	2270	2246	2244	2610	2519	2270	2560	2574	2970	3021	3090
HP Range	330-390	280-425	345-405	325-405	410-475	305-470	335-485	350-450	425-485	350-450	455-560	385-600	435-625
Peak Torque Range (lbs. ft.)	1250-1400	1,200-1,700	1360-1560	1250-1450	1450-1700	1150-1750	1350-1650	1350-1650	1540-1700	1350-1650	1550-1850	1450-1850	1550-2050
800 RPM Torque Range (lbs. ft.)	660-830	700	—	—	830-960	—	—	—	—	—	—	—	—
Engine Retarder Rating (HP)	280	310	420	420	300	400	435	Std 200 bhp Opt 580 bhp	435	546	est. 500+	600	600
Overhaul (B50 Life)	est.1,000,000 mi	750,000 mi	est.1,000,000 mi	est. 1,000,000 mi	est. 1,000,000 mi	1,000,000 mi	est. 1,000,000 mi	850,000 mi	est. 1,000,000 mi	est. 1,000,000 mi	est. 1,200,000 mi	1,000,000 mi	1,000,000 mi
Features													
Cylinders	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six	Inline Six
Block	CGI	Gray iron	Gray iron	Gray iron	CGI	Gray iron	Gray iron	Gray iron	Gray iron	Gray iron	Gray iron	Gray iron	Gray iron
Bore x Stroke (mm)	120x155	125x147	123x152	123x152	126x166	130x157	131x158	128x166	131x158	132x156	139x163	137x169	137x171
Engine Retarder	Retarder brake	Cummins C Brake™	PowerLeash™	I-VEB Engine Brake™	Retarder brake	CAT® Compression Brake	I-VEB Engine Brake™	Premium Engine Brake	PowerLeash™	Jake® Brake	Jake® Brake	ISX Inte Brake™	CAT® Compression Brake
Engine Retarder Technology	compression & exhaust	compression	compression	compression & exhaust	compression & exhaust	compression	compression & exhaust	compression & exhaust	compression	compression	compression	compression	compression
Emission Technology	EGR-DPF	EGR-DPF	EGR-DPF	EGR-DPF	EGR-DPF	CAT ACERT CGI-DPF	EGR-DPF	EGR-DPF	EGR-DPF	SCR 2010	EGR-DPF pre 2010 SCR post 2010	EGR	CAT ACERT CGI-DPF
Fuel System	Bosch High Pressure Common Rail	Cummins MEUI	MEUI	MEUI	Bosch High Pressure Common Rail	Cat MEUI	MEUI	Electronic Unit Pump w/external injector lines	MEUI	Bosch Amplified High Pressure Common Rail	Bosch Amplified High Pressure Common Rail	Cummins MEUI	Cat MEUI
Turbo	Twin-Series (non-VG)	Holset Sliding Nozzle VGT	Holset Sliding Nozzle VGT	Sliding nozzle VGT	Twin-Series (non-VG)	Twin-Series (non-VG)	Sliding nozzle VGT	Sliding nozzle VGT	Holset Sliding Nozzle VGT	single asymmetrical	Turbocompounding—Twin fixed vane, one providing charge boost, the other geared to the crankshaft	Holset VG	Twin-Series (non-VG)
Head	One Piece	One Piece	One Piece	One Piece	One Piece	One Piece	One Piece	Individual each cylinder	One Piece	One Piece	One Piece, CGI	One Piece	One Piece
Camshaft	SOHC	Single in block	SOHC	SOHC	SOHC	Single in block	SOHC	Single in block	SOHC	DOHC	DOHC	DOHC	Single in block
Valves Per Cylinder	4	4	4	4	4	4	4	4	4	4	4	4	4
Waterpump Drive	belt driven	belt driven	belt driven	gear driven	belt driven	gear driven	gear driven	belt driven	belt driven	—	—	belt driven	gear driven
Engine Gear Drive Location	Rear	Front	Rear	Rear	Rear	Front	Rear	Rear	Rear	Rear	Rear	Front	Front
Rear PTO	Opt integ. REPTO	Opt REPTO	Opt REPTO	Opt REPTO	Opt integ. REPTO	Opt REPTO	Opt REPTO	Opt REPTO	Opt REPTO	—	—	Opt REPTO	Opt REPTO
Maintenance													
Standard LOF Service	25,000 mi	25,000 mi	35,000 mi	35,000 mi	25,000 mi	30,000 mi	35,000 mi	25,000 mi	30,000 mi	25,000-50,000 mi [†]	25,000-50,000 mi [†]	25,000 mi	30,000 mi
Oil Sump Capacity US gal (L)	11.1 (42L)	10.2 (38.6L)	9 (34L)	9.5 (36L)	11.1 (42L)	10 (38L)	9.5 (36L)	11 (42L) I	9 (34L)	9.8 (39.5L)	11.75 (45.7L)	14 (53L)	10 (38L)
Warranty													
Base	24 mo/unlimited	24 mo/250K mi	36 mo/300k mi	24 mo/250K mi	24 mo/unlimited	24 mo/unlimited	24 mo/250K mi	24 mo/unlimited	36 mo/300k mi	24 mo/unlimited	24 mo/unlimited	24 mo/250K mi	24 mo/unlimited
Emissions Comp	24 mo/unlimited	24 mo/250K mi	36 mo/300k mi	24 mo/250K mi	24 mo/unlimited	24 mo/unlimited	24 mo/250K mi	24 mo/unlimited	36 mo/300k mi	24 mo/unlimited	24 mo/unlimited	24 mo/250K mi	24 mo/unlimited
Injectors	24 mo/150K mi	24 mo/125K mi	36 mo/300k mi	24 mo/250K mi	24 mo/150K mi	24 mo/150K mi	24 mo/250K mi	24 mo/100K mi	36 mo/300k mi	24 mo/200K mi	24 mo/200K mi	24 mo/125K mi	24 mo/150K mi

^A Dry weight does not include engine brake. Add 100 lbs for comparison.

[†] Based on using Detroit Diesel lube oil and oil analysis program. Severe Duty is up to 30,000 annual miles and a vehicle that averages less than 5 miles per gallon (mpg). Short Haul is between 30,000 and 60,000 annual miles and a vehicle that averages between 5 and 6 mpg. Long Haul is over 60,000 annual miles and a vehicle that averages greater than 6 mpg