USED TRUCK ENGINE

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CATERPILLAR®

Caterpillar Engines with ACERT® Technology Features Summary

ACERT TECHNOLOGY LEADS THE WAY

ACERT Technology is a total systems solution concentrating on four key areas: (1) combustion technology, (2) fuel systems, (3) integrated and enhanced electronic engine controls, and (4) a simple, effective aftertreatment system. This unique solution not only enables Cat engines to meet today's clean air regulations while delivering higher customer value, it also establishes the building blocks for attaining tomorrow's more stringent standards.

- **C7 7.2 L (EPA '07) 210-300 hp, 520-860 lb-ft**
  The Cat® C7 continues to set the standard for versatility and value. Its Cat Common Rail Fuel System provides greater injection flexibility to comply with tougher 2007 emissions regulations—and increases fuel economy.

- **C9 9.3 L (EPA '07) 335-350 hp, 1150-1250 lb-ft**
  Expanded horsepower ratings, increased torque ratio options and a new integral brake make the Cat® C9 the engine of choice for heavy-duty performance in a lightweight package.

- **C13 12.5 L (EPA '07) 305-470 hp, 1150-1750 lb-ft**
  The Cat® C13 is the heavy-duty engine built for versatility. In line haul or vocational applications, it delivers a solid combination of rugged reliability, million-mile durability, low operating costs and excellent fuel economy.

- **C15 15.2 L (EPA '07) 435-625 hp, 1550-2050 lb-ft**
  The Cat® C15 continues to be the heavy-duty engine of choice for fleets and owner-operators alike. That's because it delivers a winning combination of rugged reliability, million-mile durability, low operating costs and excellent fuel economy.

- **C7 7.2 L (EPA '04) 190-330 hp, 520-860 lb-ft**
  Continuing the 3126E tradition of providing bottom-line value to the mid-range market, the Cat C7 delivers industry-leading performance, reliability and value.

- **C9 8.8 L (EPA '04) 335-350 hp, 1,050-1,100 lb-ft**
  The Cat C9 is a responsive, lightweight electronic engine that also features heavy-duty components to add exceptional durability and reliability. With both front and rear power take-off capability, it's ideal for vocational applications and regional line haul fleets.

- **C11 11.1 L (EPA '04) 305-370 hp, 1,050-1,450 lb-ft**
  Built to last with heavy-duty components and increased displacement for day cab, construction, mixer, waste hauler and other vocational applications. How rugged? It features the same block and cross-flow cylinder head as the "million-mile" Cat C13.

- **C13 12.5 L (EPA '04) 335-470 hp, 1,450-1,750 lb-ft**
  Designed to deliver high performance, rugged reliability and low operating costs, the C13 provides fleets and owner-operators alike the weight-to-horsepower ratio and overall value that's unmatched by any other engine on the road.

- **C15 15.2 L (EPA '04) 435-625 hp, 1,550-2,050 lb-ft**
  For fleets and owner-operators alike, the Cat C15 remains the heavy-duty engine of choice, delivering a level of performance, low operating cost, rugged reliability and resale value unmatched by any other engine on the road today.

Caterpillar Engines Features Summary:
- **C-16 15.8 L 575-600 hp, 1,850-2,050 lb-ft**
- **C-15 14.6 L 355-550 hp, 1,350-1,850 lb-ft**
  In addition to incorporating the best features of the 3406 platform, these engines are approximately 200 pounds lighter, have reduced noise due to the sculptured block design, and have improved reliability due to the leak-free seal design for the front cover and rear seal.

- **3406E 15.8 L 575-600 hp, 1,850-2,050 lb-ft**
  This large displacement version of the proven 14.6 L platform has improved start ability for the most severe applications and produces more power and torque for less shifting.

- **3406E 14.6 L 355-550 hp, 1,350-1,850 lb-ft**
  This engine offers unmatched one-million-mile durability and performance with features such as the deep-skirt cast iron block, articulated pistons, one-piece cylinder head, electronic unit injectors, and a full-featured electronic control module.

- **3406C 14.6 L 350-425 hp, 1,450-1,650 lb-ft**
  This proven, mechanically controlled engine has been enhanced with two-piece pistons and swirl combustion to improve durability, performance, and fuel economy.

- **C-12 12 L 335-430 hp, 1,350-1,650 lb-ft**
  In addition to incorporating many of the same durability and performance of the 3406E, the C-12 also offers low engine weight (2,070 lb) for maximum payload capacity, and the best-in class fuel economy for line haul and vocational applications.

- **C-10 10.3 L 305-370 hp, 1,050-1,350 lb-ft**
  In addition to incorporating many of the same durability and performance features of the C-12, the C-10 offers customers a value priced, lightweight (2,050 lb), lower horsepower option. Ideally suited for vocational applications.

- **3306C 10.5 L 300 hp, 1,150 lb-ft**
  This proven, mechanically controlled engine performs well in various on- and off-road vocational type applications.

- **3126B 7.2 L 175-330 hp, 420-860 lb-ft**
  Includes many heavy-duty features such as deep-skirt block, forged crankshaft, and articulated pistons. This fully electronically controlled mid-range engine provides customers with exceptional durability, performance, and economy in a lightweight package.

- **3116 6.6 L 170-300 hp, 420-735 lb-ft**
  Produced from 1989 to 1997. This lightweight, fuel efficient, mechanically controlled engine provides excellent value, increased payloads, and exceptional performance. An electronic version of this engine was produced from 1995-1997.

Cat Truck Engine Prefix Listing – by Prefix

Prefix	Model	Description	Effective Year
8TC	3406B	PEEC ATAAC	1986-1990
5YG (460 hp only)	3406B	PEEC ATAAC	1989-1990
2EK	3406B	PEEC ATAAC	1991
4CK	3406C	PEEC ATAAC	1991-1993
5EK	3406E	EUI (14.6 L)	1993
6TS	3406E	EUI (14.6 L)	1997
1LW	3406E	EUI (14.6 L)	1998
5DS	3406E	EUI (15.8 L)	1998
2WS	3406E	EUI (14.6 L)	1999
1MM	3406E	EUI (15.8 L)	1999
6NZ	C-15	EUI	2000
7CZ	C-16	EUI	2000
MBN (Bridge)	C-15	ELECTRONIC	2002
BXS	C15	ACERT	2003
MXS	C15	ACERT	2004 and Current
NXS	C15	ACERT	2006
SDP	C15	ACERT	2007 - Current
92U	3406	DIT	1973-1984
7FB	3406	MECH ATAAC	1984-1987
4MG/5KJ	3406	MECH ATAAC	1987-1990
3ZJ	3406	MECH ATAAC	1991
8PN	3406	MECH ATAAC	1995
76R	3306	ATAAC	1974-1981
63Z	3306	ATAAC	1981-1991
7RJ	3306	ATAAC	1992
9TL	3306	ATAAC	1994
4DL	G3306	NATURAL GAS	1995
2YG	3176A	EUI ATAAC	1989-1990
7LG	3176A	EUI	1991-1993
9CK	3176B	EUI	1994
KAL	C7	ACERT	2003
C7S	C7	ACERT	2007 - Current

Prefix	Model	Description	Effective Year
9DG	C9	ACERT	2003
C9S	C9	ACERT	2007 - Current
2PN	C-10	ELECTRONIC	1995
8YS	C-10	ELECTRONIC	1998
3CS	1-11999 C-10	ELECTRONIC	1999
3CS 1	2000-UP C-10	ELECTRONIC	2000
MBJ (Bridge)	C-10	ELECTRONIC	2002
KCA	C11	ACERT	2003
1YN	C-12	ELECTRONIC	1995
9NS	C-12	ELECTRONIC	1998
2KS 1-39999	C-12	ELECTRONIC	1999
2KS 40000-UP	C-12	ELECTRONIC	2000
MBL (Bridge)	C-12	ELECTRONIC	2002
LEE	C13	ACERT	2007 - Current
KCB	C13	ACERT	2003
1WM	3126	HEUI 2 VALVE	1994
7AS 1-36236	3126B	HEUI 3 VALVE	1998
7AS 36237-UP	3126B	HEUI 3 VALVE	1999
8YL 1-99999	3126B	HEUI 3 VALVE	1999
9SZ	3126B	HEUI 3 VALVE	2001
CKM	3126E	HEUI 3 VALVE	2001
BKD (LEV)	3126E	HEUI 3 VALVE	2001
HEP	3126E	HEUI 3 VALVE	2002
DPF (Low Sulfur Only)	3126E	HEUI 3 VALVE	2002
7SF	3116	MECH ATAAC	1990
2BK	3116	MECH ATAAC	1990-1991
9GK	3116	MECH ATAAC	1993
9YN	3116	MECH ATAAC	1994
8WL	3116	HEUI	1994
02Z	3208	Turbo	1974
32Y	3208	ATAAC	1985
51Z	3208	NATURAL ASP	1986

Extended Service Coverage that goes the Distance

	Model	Serial #	Maximum Age/Miles for Eligibility	Terms
Acertify℠	C9, C11, C13, C15	LEE, MXS, NXS, C9S, 9DG, BXS, KCA, KCB, SDP	< 8 years / 800,000 miles from orginal date of delivery	24 months or 200,000 miles 36 months or 300,000 miles
	C7	WAX, C7S, KAL, SAP	< 7 years /4 00,000 miles from hours from orginal date of delivery	24 months or 100,000 miles 36 months or 100,000 miles
Advantege Plus	3306, C-10, C-12, C-15, C-16	2KS, 3CS, 6NZ, 7CZ, MBL, MBJ, MBN	< 8 years / 800,000 miles from orginal date of delivery	24 months or 200,000 miles 36 months or 300,000 miles
	3116, 3126, 3208	8YL, BES, 9SZ, CKM, HEP	< 7 years /4 00,000 miles from hours from orginal date of delivery	24 months or 100,000 miles 36 months or 100,000 miles

With the coverage you select, you have confidence that support is available when you need it. Cat's vast service network means parts are readily available - and trained technicians at one of more than 2,500 Caterpillar authorized service locations will perform repairs.

To qualify for coverage, engines must meet certain age and mileage parameters and pass a comprehensive inspection by an authorized Caterpillar Dealer. So you can buy a pre-owned engine (or extend the ESC you purchased for a new engine) with confidence about its performance today and tomorrow.

Because engines change owners, Advantage Plus and Acertify ESC does too. Increase the resale value of your on-highway engine with this transferable coverage.

Extended Coverage For Used On-Highway Vehicle Engines
Extended Service Coverage Matrix • Effective November 1, 2008

This list is for comparison purposes only and is not intended to be a definitive list of all covered components. The actual contract will govern.

ITEM	Advantage**	Advantage Plus	Acertify℠
AIR INDUCTION AND EXHAUST GROUP			
Exhaust Manifold, Studs & Gaskets	NO	YES	YES 3
Exhaust Sleeves	NO	YES	YES 3
Pre-Cooler (turbocharger) *	NO	NO	YES 3
Pre-Cooler Mounting Bracket (turbocharger)	NO	NO	YES 2 & 3
Coolant Diverter Valve or Assembly	NO	NO	YES 3
Turbocharger(s)	NO	YES 1	YES 1
Intake Manifold	YES	YES	YES 3
CYLINDER HEAD GROUP			
Cylinder Head Casting	YES	YES	YES
Cylinder Head Bolts	NO	YES	YES 3
Cylinder Head Gasket	YES	YES	YES 3
Freeze Plug	NO	YES	YES 3
Spacer Plate (block and head)	YES	YES	YES
Spacer Plate (3176)	YES	YES	NO
Intake / Exhaust Valves (includes seats, spring, insert, guide, rotocoil, retainer)	NO	YES	YES 3
Valve Mechanism (includes rocker arm, brackets, bridges, dowels, adjusting screws, nuts, shaft & push tubes)	YES	YES	YES 3
Valve Cover and Base	NO	YES	YES 3
Camshaft	YES	YES	YES
Camshaft Bearings	NO	YES	YES 3
Camshaft Lifter Assembly (followers) Clips	YES	YES	YES 3
Variable Valve Actuator (VVA) Assembly *	NO	NO	YES 3
Variable Valve Actuator (VVA) Mounting Studs	NO	NO	YES 2 & 3
LUBRICATION SYSTEM			
Oil Pan	YES	YES	YES
Oil Pump	NO	YES	YES 3
Oil Filter Base	NO	YES	YES 3
Oil Cooler Housing	YES	YES	YES
Oil Cooler Core	NO	YES	YES 3
Piston Cooling Spray Jets	NO	YES	YES 3

NOTE: Items marked "YES 1" are covered if replaced as optional components during the inspection except applicable exclusions as given in the Service Contract. Seals and gaskets are only covered if replaced at the time of the inspection in conjunction with new or REMAN Caterpillar turbocharger(s), water pump and / or injector(s).

NOTE: Items marked "YES 2"
cooler and the pre cooler mounting bracket to qualify for coverage. Dealers must confirm the latest design or replace these components at the time of inspection to receive coverage under the program.

* Coverage applies only if the pre-cooler mounting bracket and the variable valve actuator (VVAs) mounting studs are of the latest design at the time of inspection.

NOTE: Injectors must be replaced as a set.
NOTE: If the engine has more than 1 turbocharger, both must be replaced.

Extended Coverage For Used On-Highway Vehicle Engines
Extended Service Coverage Matrix • Effective November 1, 2008

This list is for comparison purposes only and is not intended to be a definitive list of all covered components. The actual contract will govern.

ITEM	Advantage**	Advantage Plus	Acertify℠
COOLING SYSTEM			
Thermostat Housing	YES	YES	YES 3
Water Pump	NO	YES 1	YES 1
Water Pump Housing	YES	YES	YES 3
ELECTRONIC SYSTEM			
Electronic Control Module (ECM)	YES	YES	YES 3
Transducer Module	NO	YES	YES 3
Road Speed Module	NO	YES	YES 3
Engine Oil Rail (EOR) Valve	NO	NO	YES 3
FRONT AND REAR COVER GROUP			
Front Housing / Covers / Plate	YES	YES	YES
Front Cover Gears	YES	YES	YES
Flywheel Housing	YES	YES	YES
Vibration Damper	NO	NO	YES
SHORT BLOCK GROUP			
Cylinder Block Casting	YES	YES	YES
Crankshaft Casting	YES	YES	YES
Bearings (crankshaft, rod, main, thrust)	NO	YES	YES 3
Connecting Rod Assembly	YES	YES	YES
Piston Assembly (includes wrist pin, retainer clips, rings)	YES	YES	YES 3
Cylinder Liner	NO	YES	YES 3
Main Bearing Cap Bolt	YES	YES	YES 3
FUEL SYSTEM			
Unit Injectors	NO	YES 1	YES 1
Timing Gears	YES	YES	YES 3
Injector Sleeves	NO	YES	YES 3
Miscellaneous			
Towing	NO	YES	YES

NOTE: Items marked "YES 3," component covered during months 1 through 12 of a 24 month contract and months 1 through 24 of a 36 months contract for Acertify coverage.

IMPORTANT NOTICE

All covered components must pass inspection by an authorized dealer or be replaced at the proper intervals as prescribed by the Operation and Maintenance Manual to qualify for continued coverage under this Service Contract. Failure to follow the Operation and Maintenance Manual will result in denial of coverage.

Towing: This Service Contract provides reasonable or customary towing to the nearest repairer for a mechanical breakdown or reasonable travel expenses from the nearest repairer for a mechanical breakdown under normal use during the coverage period due to a defect in material or factory workmanship. Coverage effective 11/1/08 for Advantage Plus and Acertify only.

Advantage **: Used for upgrades and transfers of existing Advantage Coverage only. Option not available effective 11/1/08.

Caterpillar offers a wide range of Extended Service Coverage (ESC) options. Your authorized Caterpillar Dealer can help you select the one that fits you best.

Overhaul Protection for On-Highway Trucks (OPT).

OPT for Trucks is an Extended Service Coverage (ESC) program from Cat that provides coverage on Caterpillar engine components that either pass inspection or are replaced at the time of the overhaul. OPT covers 100 percent of the parts and labor costs for covered component repairs due to defects in materials, factory and dealer workmanship. That gives you assurance against unexpected repair costs and offers a hedge against rising parts and labor costs.

For additional Information:

Literature Name	Cat Media #
OPT Brochure	LEYT7082
OPT Flyer	LEYT8202

Engine Up-rates

Caution: When up-rating engines, be certain to check with truck OEM to verify that vehicle cooling capacity, exhaust system, and driveline are compatible with the new engine rating.

Note: Up-rating engines across iron sets requires Caterpillar factory approval

- **Electronic (Flash) Up-rate Guidelines**

  Use engine serial number (S/N) to determine correct up-rate needs. Refer to the following up-rate charts. For further information, refer to Cat Used Truck Engine Manual or contact your local Cat distributor.

- **Factory (Flash File) Up-rate Charges**

  Heavy-Duty (C-16, C15, C-15, C13, 3406E, C-12, C11, C-10, C9):
  Refer to your Cat distributor for up-rate charge.

  Mid-Range (3116, 3126 and C7): Refer to your Cat distributor for up-rate charge.

C-12

Rating	
S/N: All 1YN (Years: 1995 to 1997)	
335-410 (425 peak) hp	> same iron set
S/N: All 9NS (Year: 1998)	
335-430 (445 peak) hp	> same iron set
S/N: All 2KS (Years: 1999 to Current)	
335-430 (445 peak) hp	> same iron set

C-10

Rating	
S/N: All 2PN (Years: 1996, 1997)	
280-325 hp (1,800 rpm)	> same iron set
280-370 hp	Injectors
S/N: All 8YS (Year: 1998)	
305-370 hp	> same iron set
S/N: All 3CS (Years: 1999 to Current)	
305-335 hp	> same iron set
335/370MT – 370 hp	Turbo

3406E, C-15, C-16

Rating	
S/N: 5EK01821-53003 (Years: 1994, 1995)	
355-403 hp	> same iron set
410 hp	Turbo
435 hp	Piston, cam
455 hp	Turbo, damper
475 hp	Turbo
500 hp	Pistons, turbo, injectors

S/N: 5EK53004-67192 (Years: 1996)

310-403 hp	> same iron set
410 hp	Turbo
435-455 hp	Pistons, turbo, cam, injectors, damper
475 hp	Pistons, turbo
500 hp	Same as 435-455 rating with different injectors
550 hp	Turbo

S/N: 5EK67193 and Up, 6TS (Year: 1997)

310-410 hp	> same iron set
435-455 hp	Pistons, turbo, cam, injectors
475-550 hp	Injectors

S/N: All 1LW (Year: 1998)

355-450 hp	> same iron set
435-550 hp	Turbo, cam, injectors

S/N: 5DS (Year: 1998)

575-600 hp	> same iron set

S/N: All 2WS (Year: 1999)
All 6NZ (C-15, Year: 2000 to 2002)

355-450 hp	> same iron set
435-550 hp	Turbo, cam, injectors

S/N: 1MM (Year: 1999)

575-600 hp	> same iron set

S/N: 7CZ (C-16, Year: 2000 to 2002)

575-600 hp	> same iron set

Note on engine years: Dates indicated are actual calendar years, not truck model years.

C-10 (Oct 2002)

Rating

S/N: MBJ00001 and UP (Years: 2002, 2003)

305-335 hp (1,050-1,250 lb-ft only)	> same iron set

C-12 (Oct 2002)

Rating

S/N: MBL01000 and UP (Years: 2002, 2003)

355-410 hp (1,350-1,450 lb-ft torque family only)*	> same iron set
335-430 hp (1,550 lb-ft torque family only)*	> same iron set
430 hp (1,650 lb-ft torque family only)*	> same iron set

S/N: MBL00001 – 00999 (Year: 2002)

335-410 hp (1,350-1,450 lb-ft torque family only)*	> same iron set
335-430 hp (1,550 lb-ft torque family only)*	> same iron set

* Note that Oct 2002 engines cannot be re-rated outside of emissions torque families.

- Multitorque ratings available, contact your Caterpillar dealer for assistance.

C-15 (Oct 2002)

Rating

S/N: MBN1 and UP (Years: 2002, 2003)

475-525 hp (1,750-1,850 lb-ft torque family only)* > same iron set
435-500 hp (1,550-1,650 lb-ft torque family only)* > same iron set

* Note that Oct 2002 engines cannot be re-rated outside of emissions torque families.

- Multitorque ratings available, contact your Caterpillar dealer for assistance.

C7 ACERT (EPA '04)

Rating

S/N: All KAL and SAP (2003-and up)

190-210 hp (520-605 lb-ft only)* > same iron set
230-250 hp (540-660 lb-ft only)* > same iron set
250-330 hp (800-860 lb-ft only)* > same iron set

- Up-rating from 210 hp to 230 hp requires iron change.
- Up-rating from 250 hp low torque to 250 hp high torque requires iron change.

C9 ACERT (EPA '04)

Rating

S/N: 9DG (2003-and up)
9DG (0-999 – S/N range)
MTB (1000 – Up S/N range)

285-400 hp (890-1,100 lb-ft only)* > same iron set

C11 ACERT (EPA '04)

Rating

S/N: All KCA (Year: 2003 and up)

305-370 hp (1,050-1,450 lb-ft only) > same iron set

- Up-rating may require changing injectors and software.

C13 ACERT (EPA '04)

Rating

S/N: All KCB (Year: 2003 and up)

335-470 hp (1,400-1,650 lb-ft and
1450/1550, 1450/1650, 1550/1750 MT only)

- Up-rating may require iron change.
- Contact Caterpillar dealer for rerate capabilities.
- KCB00508-KCB05433 > same iron set (Truck Only)
- KCB05434-KCB31144 > same iron set (Truck Only)
- KCB031145-UP > same iron set (Truck Only)

C15 ACERT (EPA '04)

Rating

S/N: BXS (Year: 2003 and up)
BXS00001 – 02034
BXS02035 – Up

435-550 hp (1,550-1,850 lb-ft and 1550/1750, 1550/1650, 1650/1850 Multi-torque only) BXS > same iron set with the S/N break for 4 point/6 point injector trim files.

S/N: MXS (Year: 2004 and up)
MXS00001 – Up

435-550 hp (1,550-1,850 lb-ft and 1550/1750, 1550/1650, 1650/1850 Multi-torque only) MXS > same iron set

600-625 hp (1,850-2,050 lb-ft) > same iron set

- Lower rated engines cannot be up-rated to 600/625 hp rating.

C7 ACERT (EPA '07)

Rating

S/N: ALL C7S (Year: 2007 and UP)

210 hp (520-620 lb-ft torque family only)	> same iron set
230 hp (560-660 lb-ft torque family only)	> same iron set
250 hp (660-800 lb-ft torque family only)	> same iron set
275-300 hp (800-860 lb-ft torque family only)	> same iron set
330-360 hp (860-925 lb-ft torque family only)	> same iron set

C9 ACERT (EPA '07)

Rating

S/N: ALL C9S (Year: 2007 and UP)

335-365 hp (1150-1250 lb-ft torque family only)	> same iron set
400-425 hp (1250-1350 lb-ft torque family only)	> same iron set

C13 ACERT (EPA '07)

Rating

S/N: LEE00001-05879 (Year: 2007)

305-370 hp (1150-1550 lb-ft torque family only)	> same iron set
380-525 hp (1450-1750 lb-ft torque family only)	> same iron set

S/N: LEE05880-13143 (Year: 2007, 2008)

305-370 hp (1150-1550 lb-ft torque family only)	> same iron set
380-410 hp (1450-1550 lb-ft torque family only)*	> same iron set
430-525 hp (1550-1750 lb-ft torque family only)	> same iron set

S/N: LEE13144 and UP (Year: 2008 and UP)**

- Emission Family 1

305-335 hp (1150-1250 lb-ft torque family only)	> same iron set

- Emission Family 2

350-370 hp (1350-1550 lb-ft torque family only)	> same iron set
380-410 hp (1450-1550 lb-ft torque family only)	> same iron set
430-470 hp (1550-1750 lb-ft torque family only)	> same iron set

* 430/1650 PSO file available
** Uprates between emissions families are prohibited

C15 ACERT (EPA '07)

Rating

S/N: ALL SDP (Year: 2007 and UP)

435-550 hp (1550-1850 lb-ft torque family only)	> same iron set
600-625 hp (1850-2050 lb-ft torque family only)	> same iron set

Oil Change Interval Recommendations

EPA '07 C7/C9 ACERT - Maximum Permissible Oil Change Intervals

Oil Capacity of the Engine in quarts (liters)	Light Duty >10 mpg	Medium Duty 8 to 10 mpg	Heavy Duty 6 to 8 mpg	Severe Service <6 mpg
	Oil Change Interval in Miles (Kilometers)			
20 (18)	10,800 (17,380)	8,640 (13,905)	6,480 (10,430)	4,320 (6,950)
26 (25)	15,000 (24,140)	12,000 (19,300)	9,000 (14,500)	6,000 (9,660)
34 (32)	19,200 (30,900)	15,360 (24,720)	11,520 (18,540)	7,680 (12,360)

Refer to Operation & Maintenance Manual (SEBU8083) for more details

EPA '07 C13 ACERT with Standard (Deep) Sumps Maximum Permissible Oil Change Intervals

C-13:	Severe Duty	Normal	Light Duty
Fuel Consumption	<6 mpg	6 to 7 mpg	>7 mpg
GVW	more than 80,000 lb	80,000 lb or less	80,000 lb or less
Minimum Oil Oil Sump Capacity	41 qt	41 qt	41 qt
Idle Time	>40%	20% to 40%	<20%
Miles	20,000	30,000	40,000

Refer to Operation & Maintenance Manual (SEBU8087) for more details

EPA '07 C15 ACERT with Standard (Deep) Sumps Maximum Permissible Oil Change Intervals

C-15:	Severe Duty	Normal	Light Duty
Fuel Consumption	<5.5 mpg	5.5 to 6.5 mp	>6.5 mpg
GVW	more than 80,000 lb	80,000 lb or less	80,000 lb or less
Minimum Oil Oil Sump Capacity	41 qt	41 qt	41 qt
Idle Time	>40%	20% to 40%	<20%
Miles	20,000	30,000	40,000

Refer to Operation & Maintenance Manual (SEBU8087) for more details

Oil Change Interval Recommendations

EPA '04 C7 ACERT - Maximum Permissible Oil Change Intervals

"Oil Capacity of the Engine in > Quarts (Liters)	Light Duty 10 mpg	Medium Duty 8 to 10 mpg	Heavy Duty 6 to 8 mpg	Severe Service <6 mpg
	Miles (Kilometers)			
20 (18)	12,000 (19,320)	10,000 (16,000)	8,000 (12,890)	6,000 (9,670)
22 (21)	13,200 (21,260)	11,000 (17,710)	8,800 (14,170)	6,800 (10,960)
24 (23)	14,400 (23,190)	12,000 (19,320)	9,600 (15,460)	7,600 (12,230)
26 (25)	15,600 (25,110)	13,000 (20,930)	10,400 (16,750)	8,400 (13,530)
28 (27)	16,800 (27,040)	14,000 (22,540)	11,200 (18,040)	9,200 (14,810)
30 (28)	18,000 (28,980)	15,000 (24,000)	12,000 (19,320)	10,000 (16,100)
32 (30)	19,200 (30,900)	16,000 (25,760)	12,800 (20,510)	10,800 (17,380)
34 (32)	20,400 (32,850)	17,000 (27,370)	13,600 (21,900)	11,600 (18,670)
36 (34)	21,600 (34,770)	18,000 (28,980)	14,400 (23,190)	12,400 (19,970)
38 (36)	22,800 (36,700)	19,000 (30,590)	15,200 (24,470)	13,200 (21,260)
40 (38)	24,000 (38,640)	20,000 (32,200)	16,000 (25,760)	14,000 (22,540)
42 (40)	25,200 (40,580)	21,000 (33,810)	16,800 (27,050)	14,800 (23,830)

Refer to Operation & Maintenance Manual (SEBU7766) for more details

EPA '04 C9 ACERT - Maximum Permissible Oil Change Intervals

"Oil Capacity of the Engine in > Quarts (Liters)	Light Duty 10 mpg	Medium Duty 8 to 10 mpg	Heavy Duty 6 to 8 mpg	Severe Service <6 mpg
	Miles (Kilometers)			
20 (18)	12,000 (19,320)	10,000 (16,000)	8,000 (12,890)	6,000 (9,670)
22 (21)	13,200 (21,260)	11,000 (17,710)	8,800 (14,170)	6,800 (10,960)
24 (23)	14,400 (23,190)	12,000 (19,320)	9,600 (15,460)	7,600 (12,230)
26 (25)	15,600 (25,110)	13,000 (20,930)	10,400 (16,750)	8,400 (13,530)
28 (27)	16,800 (27,040)	14,000 (22,540)	11,200 (18,040)	9,200 (14,810)
30 (28)	18,000 (28,980)	15,000 (24,000)	12,000 (19,320)	10,000 (16,100)
32 (30)	19,200 (30,900)	16,000 (25,760)	12,800 (20,510)	10,800 (17,380)
34 (32)	20,400 (32,850)	17,000 (27,370)	13,600 (21,900)	11,600 (18,670)
36 (34)	21,600 (34,770)	18,000 (28,980)	14,400 (23,190)	12,400 (19,970)
38 (36)	22,800 (36,700)	19,000 (30,590)	15,200 (24,470)	13,200 (21,260)
40 (38)	24,000 (38,640)	20,000 (32,200)	16,000 (25,760)	14,000 (22,540)
42 (40)	25,200 (40,580)	21,000 (33,810)	16,800 (27,050)	14,800 (23,830)

Refer to Operation & Maintenance Manual (SEBU7292) for more details

EPA '04 C11/C13 ACERT with Shallow Sumps
Maximum Permissible Oil Change Intervals

C-15:	Severe Duty	Normal	Light Duty
Fuel Consumption	<6 mpg	6 to 7 mp	>7 mpg
GVW	more than 80,000 lb	80,000 lb or less	80,000 lb or less
Minimum Oil Oil Sump Capacity	33.5 qt	33.5 qt	33.5 qt
Idle Time	>40%	20% to 40%	<20%
Miles	15,000	20,000	25,000

Refer to Operation & Maintenance Manual (SEBU7695) for more details

EPA '04 C11/C13 ACERT with Deep Sumps (Standard)
Maximum Permissible Oil Change Intervals

C-15:	Severe Duty	Normal	Light Duty
Fuel Consumption	<6 mpg	6 to 7 mp	>7 mpg
GVW	more than 80,000 lb	80,000 lb or less	80,000 lb or less
Minimum Oil Oil Sump Capacity	39.8 qt	39.8 qt	39.8 qt
Idle Time	>40%	20% to 40%	<20%
Miles	20,000	30,000	40,000

Refer to Operation & Maintenance Manual (SEBU7695) for more details

EPA '04 C15 ACERT with Deep Sumps (Standard)
Maximum Permissible Oil Change Intervals

C-15:	Severe Duty	Normal	Light Duty
Fuel Consumption	<5.5 mpg	5.5 to 6.5 mp	>6.5 mpg
GVW	more than 80,000 lb	80,000 lb or less	80,000 lb or less
Minimum Oil Oil Sump Capacity	39.8 qt	39.8 qt	39.8 qt
Idle Time	>40%	20% to 40%	<20%
Miles	20,000	30,000	40,000

Refer to Operation & Maintenance Manual (SEBU7695) for more details

Oil Change Interval Recommendations

3406E Prior to 1998: 15,000-Mile Change Interval*

3406E, C-15, C-16:	**Severe Duty**	**Normal**	**Light Duty**
Fuel Consumption	<5.5 mpg	5.5 to 6.5 mpg	>6.5 mpg
GVW	80,000 lb	80,000 lb	80,000 lb
Idle Time	>40%	20 to 40%	<20%
Oil Class	CI-4	CI-4	CI-4
Change Interval	20,000 mi	30,000 mi	40,000 mi

3306 and 3406C: 15,000-Mile Change Interval*

3176, 3176B: 15,000-Mile Change Interval*

C-10, C-12:	**Severe Duty**	**Normal**	**Light Duty**
Fuel Consumption	<5.5 mpg	5.5 to 6.5 mpg	>6.5 mpg
GVW	80,000 lb	80,000 lb	80,000 lb
Idle Time	>40%	20 to 40%	<20%
Oil Class	CI-4	CI-4	CI-4
Change Interval	15,000 mi	20,000 mi	30,000 mi

C-18: 12,500-Mile Change Interval*

3116 – 7SF and Up:	**Severe Duty**	**Normal**	**Luberfiner**
Change Interval	3,000 mi	6,000 mi	10,000 mi

3116 and 3126:	**21 qt**	**34 qt**	**33 qt**	**48 qt**
Engine hp		**Change interval**		
250 and below	6,000 mi	12,000 mi	10,000 mi	15,000 mi
Above 250	6,000 mi	12,000 mi	6,000 mi	12,000 mi

Standard 21 qt Sump equipped with 14 qt Luberfiner.
Standard 33 qt Sump equipped with 14 qt Luberfiner.

3126B Normal Oil Change Intervals*

22 qt – 12,000 mi
30 qt – 15,000 mi
22 qt with 14 qt Luberfiner – 15,000 mi
30 qt with 14 qt Luberfiner – 18,000 mi

* Heavy and severe applications. Refer to Operation & Maintenance Manual.

Notes

Cat Powered Used Truck Engine Checklist

Stock # _____ **VIN** _____

Item

- ❑ Verify existing coverage package if applicable
- ❑ Complete inspection for Advantage:
  Change oil and fuel filter with genuine Cat Parts
  Take Scheduled Oil Sampling (S•O•S)
- ❑ Access original owner maintenance records
- ❑ Download "Lifetime" and "Fleet Trip" information to verify actual miles and driving history
- ❑ Flash in latest software version
- ❑ Reset customer parameters
- ❑ Take Scheduled Oil Sampling (S•O•S)
- ❑ Identify coverage program that best suits the customer's needs -
  For more information visit http://finance.cat.com
- ❑ Provide new owner with Cat truck engine owner Web Site address:
  http://ohe.cat.com (see back cover for detailed information)
- ❑ Provide correct Operation & Maintenance Manual of engine

Eng. Model _____ **Eng. S/N**_____

Results

- Current miles:_____mi
- Delivery date:_____
- Coverage type: _____
- Coverage:_____ yrs/ _____mi
- Oil change interval: _____mi
- Repairs:

Engine Electronics

- Total miles: _____mi
- Average fuel economy: _____mi/gal
- Average road speed: _____mi/hr
- Percent idle time:_____ %
- Software date:_____ / _____
- Rating:_____hp, _____lb-ft
- Transmission capability: _____lb-ft

- Oil sample results:

Caterpillar Preventive Maintenance Products for Truck Engines

EPA '07 Engines

FILTER TYPE	PART #
C7 (C7S)	
Engine Oil, Advanced High Efficiency, Spin-on	1R1807
Fuel Secondary, Advanced High Efficiency, Spin on	1R0751
Fuel - Water Separator, Spin On	175-2949
C9 (C9S)	
Engine Oil, Advanced High Efficiency, Spin on	1R1808
Fuel Secondary, Advanced High Efficiency, Spin on	1R0751
Fuel - Water Separator, Spin On	175-2949
C13 (LEE)	
Engine Oil, Advanced High Efficiency, Spin on, (2)	249-2347
Fuel Secondary, Advanced High Efficiency, Spin on	1R0749
Fuel Water Separator, Spin On	256-8753
Crankcase Ventilation Filter (CV)	296-8325
C15 (SDP)	
Engine Oil, Advanced High Efficiency, Spin-on	1R1808
Fuel Secondary, Advanced High Efficiency, Spin on	1R0749
Fuel Water Separator, Spin On	256-8753
Crankcase Ventilation Filter (CV)	296-8325

CRS Parts for EPA '07 Engines

C13, C15	
CRS Nozzle Cleaner (if needed)	308-1504
CRS Spark Plug	295-3099

EPA '04 Engines

C7	
Engine Oil, Advanced High Efficiency, Spin on	1R1807
Fuel Secondary, Advanced High Efficiency, Spin on	1R0751
Fuel - Water Separator, Spin On	175-2949
C9	
Engine Oil, Advanced High Efficiency, Spin-on	1R1808
Fuel Secondary, Advanced High Efficiency, Spin on	1R0751
Fuel - Water Separator, Spin On	175-2949
C11, C13, C15	
Engine Oil, Advanced High Efficiency, Spin on	1R1808
Fuel Secondary, Advanced High Efficiency, Spin on	1R0749
Fuel - Water Separator, Spin On	256-8753

Filters for Cat On-Highway Transmissions

CX28	
Filter Assembly - Non PTO - Spin-on	126-1815
Filter Assembly - PTO - Spin-on	102-2828
Element - PTO Cartridge	280-7427
Element - Non PTO Cartridge	280-7424
CX31 and CX35	
Filter - Ultra High Efficiency	126-1817
Element - Filter	249-2329

Legacy Engines

FILTER TYPE	PART #
3116 (2FR, 9LN)	
Engine Oil, Advanced High Efficiency, Spin-on	1R1807
Engine Oil, Standard Efficiency, Spin-on	1R0739
Fuel Secondary, Advanced High Efficiency[1], Spin on	1R0750
Fuel Secondary, Advanced High Efficiency[2], Spin on	1R0751
3116 (2BK, 7SF, 8WL, 9YN)	
Engine Oil, Advanced High Efficiency, Spin-on	1R1807
Engine Oil, Standard Efficiency, Spin-on	1R0739
Fuel Secondary, Advanced High Efficiency, Spin-on	1R0750
Fuel Primary, Standard Efficiency, Spin-on	1R0740
3116 (9GK)	
Engine Oil, Advanced High Efficiency, Spin on	1R1807
Engine Oil, Standard Efficiency, Spin on	1R0739
Fuel Secondary, Advanced High Efficiency[1], Spin on	1R0750
Fuel Secondary, Advanced High Efficiency[2], Spin on	1R0751
Fuel Primary, Standard Efficiency, Spin On	1R0740
3126, 3126B, 3126E	
Engine Oil, Advanced High Efficiency, Spin on	1R1807
Engine Oil, Standard Efficiency, Spin On	1R0739
Fuel Secondary, Advanced High Efficiency, Spin on	1R0751
Fuel - Water Separator, Spin On	175-2949
3176	
Engine Oil, Advanced High Efficiency, Spin on	1R1808
Engine Oil, Standard Efficiency, Spin on	1R0716
Fuel Secondary, Advanced High Efficiency, Spin on	1R0749
Fuel Secondary, Standard Efficiency, Spin on	1R1712
Engine Oil, Standard Efficiency (2), Spin on	1R0713
Engine Oil, Standard Efficiency (2), Spin on	1R0714
Fuel Secondary, Advanced High Efficiency, Spin on	1R0750
Fuel Primary, Standard Efficiency, Spin On	1R1740
3306	
Engine Oil, Advanced High Efficiency, Spin-on	1R1807
Engine Oil, Standard Efficiency, Spin On	1R0739
Fuel Secondary, Advanced High Efficiency, Spin-on	1R0750
Fuel Primary, Standard Efficiency, Spin On	1R1740
Fuel - Water Separator, Spin On	256-8753
3406, 3406B, 3406C, 3406E, C-10/C-12, C-15/C-16	
Engine Oil, Advanced High Efficiency, Spin on	1R1808
Engine Oil, Standard Efficiency, Spin On	1R0716
Fuel Secondary, Advanced High Efficiency, Spin on	1R0749
Fuel Secondary, Standard Efficiency, Spin On	1R1712
Fuel - Water Separator, Spin On	256-8753

Advanced high efficiency fuel and oil filters are the preferred maintenance option for superior contamination control.

[1] Thread size for the 1R0750 is 1-14-UNS-2B
[2] Thread size for the 1R0751 is 7/8-14-UNF-2B

Fluids for Cat© On-Highway Engines

Diesel Engine Oils

All 2007 Engine Models	Cat DEO-ULS	Part Number	Quantity	Application
	15W-40 CJ-4	291-3866	1 Gallon (3.785 liters)	Required for diesel engines with low sulfur fuel
		291-3868	5 Gallon (19 liters)	
		291-3869	55 Gallon (208 liters)	
All pre-2007 Engine Models	***Available for Canadian dealers only**			
Cat DEO™ Engine Oil	15W-40 CI-4	3E9715	1 Quart	All diesel engines
		248-7518	1 Gallon	
		3E9713	5 Gallon	
		3E9712	55 Gallon	
		3E9902	*4 Liter	
		3E9848	*20 liter	
	10W-30 CI-4	3E9709	5 Gallon	
		3E9708	55 Gallon	
		3E9844	*20 Liter	
Cat DEO SYN™ Synthetic Engine Oil	5W-40	248-7519	1 Gallon	
		141-3341	55 Gallon	
Cat Artic DEO SYN	0W-30	228-6071	20 Liter	
		228-6073	205 Liter	
Synthetic Automatic Transmission Fluid				
Cat ATF-HD		301-2232	1 Gallon	CX28, CX31 & CX35 transmission
		287-1531	5 Gallon	
		287-1532	55 Gallon	
Coolant Products				
Cat ELC™ Extended life coolant Extends coolant life to 600,000 miles (1,000,000 km) or 6 years with extender added at half-life	Premix 50/50 *Ball valve Group 232-4452 for 275 gallon Tote	101-2844	1 Gallon	All Diesel Engines
		129-2151	5 Gallon	
		101-2845	55 Gallon	
		222-1534	275 Gallon*	
	Premix 50/50 with Embitterment** Embitterment is used to reduce the risk of poisoning, particularly to children and animals.	238-8648	1 Gallon	
		238-8649	5 Gallon	
		238-8650	55 Gallon	
	Concentrate	119-5150	1 Gallon	
	Concentrate with Embitterment**	238-8647	1 Gallon	
Cat ELC Extender Use at half-life of ELC		119-5152	1 Quart	
		210-0786	1 Gallon	
Cat DEAC™ Conventional coolant	Concentrate	8C3684	1 Gallon	
		8C3686	55 Gallon	
	Concentrate with Embitterment**	238-8651	1 Gallon	
		238-8653	55 Gallon	
Cat SCA Supplemental coolant additive		6V3542	8 oz.	
		8T1589	16 oz.	
		3P2044	1 Quart	
		8C3680	5 Gallon	
		5P2907	55 Gallon	
Coolant Flush - Radiator Cleaner	Fast Acting	4C4609	8 oz.	
		4C4610	1 Quart	
		4C4611	1 Gallon	
		4C4612	5 Gallon	
	Standard	6V4511	5 Gallon	
	Radiator Cleaner	4C4613	55 Gallon	
Coolant Conditioner Test Kit	Tests nitrite level	4C9301	100 strips in kit	ELC, DEAC, NGEC
Refill Test Kits		4C9297	50 strips	
		286-2578	10 strips	

Maintenance Kits for Cat On-Highway Engines

Cat Preventive Maintenance Kits							
Engine	Kit Part Number	Oil Filter	Adv High Efficiency Fuel Filter	S·O·S℠ Oil Analysis Sample Kit (Oil Sample Kit)	Fuel/Water Separator (Primary Fuel Filter)	DEAC Spin-on Filter	SCA (Liquid Additive) for DEAC (Conventional Coolant)
Kits for Use with ELC (No DEAC Spin-on filter or SCA/liquid additive required with ELC)							
3116, 3126/B/E	**173-5325**	1R0739	1R0751	4C4600			
3116, 3126/B/E, C7	**283-9819**	1R1807	1R0751	4C4600	175-4929		
3176, 3406/B/C/E, C-10, C-12, C-15, C-16	**173-4431**	1R0716	1R0749	4C4600			
3176, 3406/B/C/E, C-10, C-12, C-15, C-16 C11, C13, C15	**283-9820**	1R1808	1R0749	4C4600	256-8793		
3176, 3406, C-10, C-12, C-15, C-16	**285-5241**	1R0716	1R0749		256-8753		
3176, 3406, B, C, E, C-10, C-12, C-15, C-16, C11, C13, C15	**283-9821**	1R1808	1R0749		256-8753		
Kits for Use with DEAC (Conventional Coolant)							
3116(2FR,9LN,9GK), 3126/B/E	**173-5326**	1R0739	1R0751	4C4600			6V3542 8oz Conditioner
3176, 3406, C-10, C-12, C-15, C-16	**163-1129**	1R0716	1R0749			9N3368	
	163-1128	1R0716	1R0749				8T1589 16oz Conditioner
	163-1127	1R0716	1R0749	4C4600		9N3368	
	163-1126	1R0716	1R0749	4C4600			8T1589 16oz Conditioner

Batteries				
Application	Part Number	CCA	RC (minutes)	BCI Group Size
Cat Racing Batteries - Highest CCA's in the industry - Maintenance Free* Deep Cycle and Starting battery for sleepers, reefers, transit buses, RV's and school buses. Applications with extensive key-off usage of in-cab accessories or Inverters.	175-4360	710	185	GP31 w/Stud Terminals
Starting and Deep Cycle battery for applications that include long hauls and local runs.* Industry's highest CCA Dual Purpose Truck Battery. Excellent for 4-Battery applications.	175-4370	825	190	GP31 w/Stud Terminals
Starting battery. Industry's highest CCA rating. Over-the-road applications where starts are infrequent and battery cycling is limited.*	175-4390	1000	180	GP31 w/Stud Terminals
Cat 4D and 8D Batteries - Maintenance Free - Exclusive Flat Tops				
Bus/RV/Concrete Mixers.	153-5700	1100	305	4D
Bus/RV/Concrete Mixers. Industry's Highest CCA 4D Battery.	153-5710	1365	425	4D
Bus/RV/Concrete Mixers. Industry's Highest CCA 8D Battery.	153-5720	1465	465	8D

* Longest warranty in industry, 2 year free replacement

Caterpillar Engine Parameters - Maximize your Fuel Economy

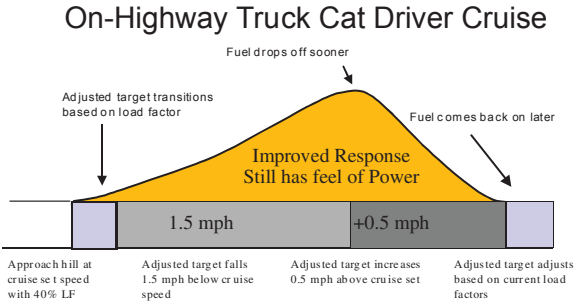
Cat Driver Cruise

Introduction

- Another tool that can enhance fuel economy is Cat Driver Cruise. Cat Driver Cruise maintains good response and drivability while maximizing fuel economy.

Features

-Focus on topography with the most impact on fuel economy.
-Decreased speed range
-Reduces driver fatigue.
-Smoother ride.
-Insensitive to GVW.
-Reduce lug back from set point to 1.5 MPH (improves performance feel)
-Reduce over run speed to set .5 MPH (improves response in traffic)
-May improve fuel economy.



Multi-Torque Ratio

Introduction

-Multi-torque (MI) provides pulling power (torque) where you need to maintain optimum engine speed at cruise speed. It provides drivers with the ability to operate in the highest possible gear to maximize fuel economy. It is approved to be used with all multi-torque Eaton transmissions.

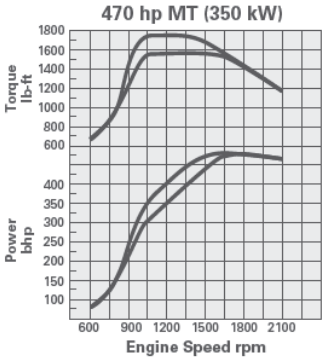
How It Works

-Allows engine to provide additional torque in higher gears.
-Determined by a ratio of engine speed versus vehicle speed in the lowest gear that higher torque is allowed.
-Set to MT-B for optimum performance

Example

-475 hp 1650/1850 lb-ft, 10 speed, 3.25 rear end, low-profile 22.5 tires
-Want higher torque in top 2 gears
-Set to MT-B, this will ensure higher torque in 9th and 10th
- RPM/MPH ratio in 9th gear = higher torque setting

*In order for Gear Down Protection to work properly make sure that all the correct limits and speeds are set appropriately.



Other Features

-A/C Switch Fan On: time should be set to 60 seconds or less for optimum fuel economy.
-Fast Idle RPM: should be set to no more than 1000 RPM
-Transmission Ratio: must be programmed in order to obtain the proper data.
-Fan Override Switch: should be set to none in order to eliminate unnecessary use of the fan.
-Fan With Engine Retarder in High Mode: should be set so that the maximum amount of retarding horsepower is available.

Gear Down Protection

Introduction

-Gear Down Protection was designed to maximize fuel economy while maintaining drivability. The suggested settings are as follows:

Lower Gears

-RPM limit normally 200 RPM above peak torque limit
- Soft limit – driver gets to 1400, engine acceleration is decreased to prompt driver to shift.
-Driver can drive through it up to Truck Engine Limit (TEL)
-Turn Off Speed indicates when transition from Lower Gears Engine RPM limit to Intermediate Gears RPM limit.

Intermediate Gears

-RPM limit normally _ way between Lower Gears RPM Limit and TEL (1750 RPM is a good starting point, but have seen this lowered to 1600)

-Soft limit again. Be careful not to set this too low as driving conditions may vary.

-Turn Off Speed indicates when transition from Intermediate Gears Engine RPM limit to Gear Down Protection RPM Limit. (45 MPH)

Gear Down Protection

- Usually top 2, sometimes 3 or 4, depends on turn on speed and transmission (10 spd/13 spd)

-Hard Limit, no driving above programmed RPM in top gears

-Don't set so low that driver can't achieve desired cruising speed

-1500-1650 RPM depending on transmission/drivetrain spec and cruise speed

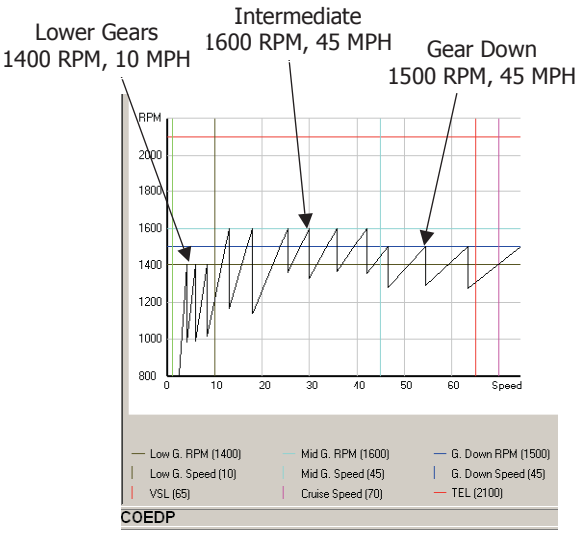
-1500 for 13 and 18 speed

-1650 for 9 and 10 speed

- Indicates transition from Intermediate limit to Gear Down Limit

- Same as Intermediate turn off speed

*For all transitions make sure they are not on shift points.
*RPM settings may vary based on driving conditions.



For additional help in programming these parameters contact your local Cat dealer, and they will utilize Design Pro for optimum set up.

MILLION MILER CLUB

The Million Miler Club was developed to acknowledge you, the owners and drivers who have logged 1,000,000 miles on your Cat powered truck. Upon membership, Caterpillar will award you with a custom designed Million Miler jacket, hat, truck decal, and program certificate.

Already a member of the Million Miler Club and have 2,000,0000 miles on your Cat powered truck? Fill out the application form below and Caterpillar will award you with a custom designed Million Miler jacket and truck decal. Caterpillar will also include a Two Million Miler hat and program certificate accompanied by a Caterpillar wristwatch.

Sound good? Join today by completing the application form below and sending it, along with proof of mileage, to the Million Miler Club!

Caterpillar Million Miler Club
Application Form

Please deliver Miler Packet To:
____ Driver ____Dealer
If neither is selected, packet will automatically be sent to the Dealer.
UPS will not deliver to PO Boxes.

_____ _____ _____
Date: Caterpillar Dealer Name Dealer Code

Dealer Address: _____
Street City State/Province Zip/Postal Code

Submitted by: _____ _____
PLEASE PRINT CLEARLY: Dealer Mgr/Contact Phone Number

Driver/Owner*: _____ _____
Printed First Name Printed Last Name

Truck Company Name _____

Address: _____
Street C ity State/Province Zip/Postal Code

Phone: _____ Email Address _____

Engine Model: _____ Serial Number: _____ Horsepower _____ Date Purchased: _____

Truck Make: _____ Model _____ VIN _____

Dealer Certified Mileage ☐

_____
Owner/Driver Signature affirming mileage is correct and allows Caterpillar to use Owner/Driver's name and the information provided in this application in promotional material and advertising.

Type of cargo, fuel mileage, service details, accessories: _____

_____

Million Miler Jacket: Circle Only **ONE** Size: S M L XL XXL XXXL XXXXL

REGION APPROVAL

Approved: _____ _____ _____
Truck Engine Business Manager Region D ate

Mail Application **AND** Proof of Mileage to:
Million Miler Club
Caterpillar Inc.
Attn: Beverly Werner
NACD Global On-Highway Dept.
100 NE Adams, AB2350
Peoria, IL 61629
OR email Werner_Beverly@Cat.com
OR fax (309) 992-7282

Attention Cat Dealer:

PLEASE attach copies of SIMS Report and/or Other proof of mileage.

If this is a driving team, please submit two applications.

*Only one Million Miler kit per engine serial number. Caterpillar Inc. reserves the right to discontinue this program at any time.

Driving Tips

TRIP PREPARATION

- Check Tire Pressure: Improperly inflated tires can reduce fuel economy. For example, tires that are 10 psi too low can decrease fuel economy by 0.5%. Low inflation also diminishes tire life expectancy.

- Reduce Trailer Gap: Minimizing trailer gap enhances truck aerodynamics, which improves fuel economy. Conversely, every 12' increase in trailer gap results in a 1% decrease in fuel economy.

- Limit "Warm-Up" Time: Excessive idling wastes fuel, adds contaminants to the oil, and adds carbons to the combustion chamber. Allow the engine to warm up during the normal walk-around inspection. The engine will approach operating temperature while driving at low rpm and low power as you begin your trip.

- Avoid Rapid Starts: Rapid starts burn excessive fuel because the engine is winding to high rpm. Instead, utilize the progressive shifting technique (see Cruise in Top gear section).

WHILE DRIVING

- Keep Vehicle Speed Down: Fuel economy drops by about one-tenth of a mile per gallon for every mph over 55 mph.

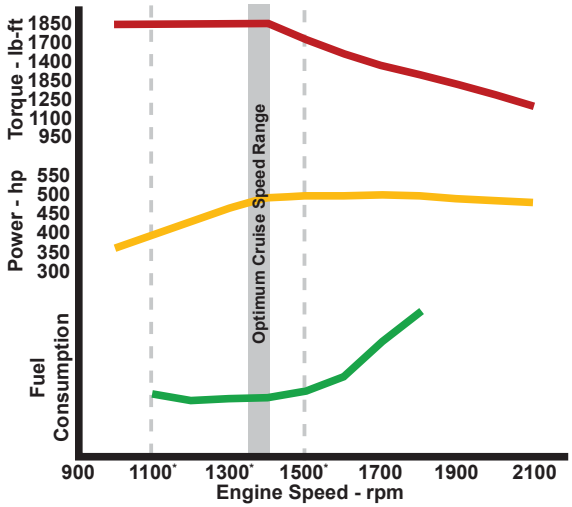
- Cruise in Top Gear
  For maximum fuel economy, utilize the following shifting parameters:
    - Operate highest gear possible / do not run one gear down
    - Keep the engine below 1500 rpm
    - Downshift around 1100-1200 rpm
    - Use progressive shifting techniques
        - Upshift around 1400-1500 rpm in upper gears
        - Upshift around 1100-1300 rpm in lower gears

- For 2007 engines, leave the regen switch in the automatic position and just drive

- All trucks with 2007 engines are required to use Ultra low Sulfur Diesel fuel.

- Use Cruise Control Whenever Possible Using cruise control helps maintain average speed and good fuel economy.

Engine Performance Example - C15 - 475 hp - 1850 rpm



*1100 to 1500 is the recommended engine operating range

- Avoid Downshifting Too Early When Climbing Grades†
  Caterpillar engines allow you to "lug the engine" (i.e., operate at 1000-1200 rpm), as long as the engine maintains road speed while climbing a grade in the 1000-1200 rpm range. In this situation, there is no need to downshift.

- Don't Run with "Fan On" While Driving, Unless Required
  The fan draws horsepower (60 to 80 hp) and reduces fuel economy. Under normal operating conditions, leave the fan switch in the automatic mode, which allows the fan to activate only when needed.

- Stay Alert to Changing Road Conditions Anticipate possible slow-downs and stops, and coast in gear as long as possible to improve overall fuel economy.

- Eliminate Idle Time
  Caterpillar engines with ACERT Technology do not require long cool down periods. Therefore, do not idle for long periods of time.
  - If the vehicle is to be parked for more than 5 minutes, shut it down
  - If idling for heating or cooling, idle between 800-1000 rpm

Please note that a reduction in idle time from 50% to 25% can improve fuel economy up to 4%.

†For heavy haul application (GVW above 80,000 lbs/36.3 metric tons) may require slightly higher shift points.

The DPF Regeneration Quick Reference Card

Regeneration Lamps	Activity	Driver Action
 DPF Lamp	Flashing	Insure DPF inhibit switch is in the “automatic / not inhibited”position. If in “automatic” continue driving.
 DPF Lamp	Solid	Continue Driving.
 DPF Lamp +  Check Engine Lamp	Solid	Perform a stationary regeneration as soon as possible. If regeneration is unsuccessful, call for service. NOTE: Continued running of the engine, if regeneration was unsuccessful, will cause automatic derating of power and may cause permanent damage to emissions control system.
 HEST Lamp	Solid	Informational Lamp, exhaust system is hot and vehicle speed is less than 5 mph. No action is required.

*Note: For a complete description of DPF Regeneration please review “The DPF Regeneration Lamps, Switches and Driver Tips” brochure LEDT 7022.

For questions contact the Caterpillar Truck Engine call center 1 (800) 447- 4986

Electronically Controlled Engines

Caterpillar engines have over 100 parameters that customers can select to alter and optimize the operation of their engines. Parameters include:

- Vehicle speed
- Engine rpm control
- Idle control
- Engine monitoring
- Transmission control
- Diagnostic event codes
- Cruise control
- Retarder control
- Dedicated PTO
- Maintenance indicators
- Cooling fan control
- Trip data

For more information, refer to "Programming Cat Electronic Truck Engines," Cat literature number LEXT0023.

Additional Contact Numbers/Web Sites

Truck Engine Call Center: (800) 447-4986

Option #1:	Customer assistance Maintenance Information Warranty coverage
Option #2:	Marine engines
Option #3:	EPG and Industrial
Option #4:	Literature requests

Secured Dealer Web Site: https://truck.cat.com

- **Advantage registration and inspection forms**

Cat Truck Engine Owner / Public Web Site: http://ohe.cat.com

- Product information
- Parts book
- Operation & Maintenance Guide
- Truck engine news
- Driving tips
- Links to truck industry and OEM home pages

Notes

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