

TECH TIP

2012MY-2016MY COE Expected Values

SUBJECT VEHICLES:

2012MY-2016MY COE trucks with a J05E engine.

Note: This technical tip is provided as technical information and is not authorization for a warrantable repair.

CONDITION:

During engine performance diagnostics, comparative readings from a like engine can be useful. Below are data points from a known good engine to use for comparisons.

15 MY COE Truck J05E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	900 RPM	900 With Brake On	1500 RPM
Engine coolant temperature	176°F (80°C)	176°F (80°C)	176°F (80°C)	176°F (80°C)	176°F (80°C)
Engine revolution	750 rpm	750 rpm	900 RPM	900 rpm	1500 rpm
Speed	0	0	0	0	0
Intake air temperature (Intake Manifold)	125.6°F (52°C)	96.8°F (36°C)	122°F (50°C)	104°F (40°C)	125.6°F (52°C)
Intake air flow rate	17 g/s	34 g/s	18 g/s	40 g/s	38 g/s
PTO status identification	0	0	0	0	0
Actual common rail pressure	5656.4 psi (39 MPa)	5656.4 psi (39 MPa)	7977.07 psi (55 MPa)	7977.07 psi (55 MPa)	14213.7 psi (98 MPa)
Atmospheric pressure	14.3 psi (99 Kpa)	14.3 psi (99 Kpa)	14.3 psi (99 Kpa)	14.3 psi (99 Kpa)	14.3 psi (99 Kpa)
Power supply voltage	13.75 v	13.72 v	13.76 v	14 v	14 v
Intake air temperature (Air flow)	75.2°F (24°C)	73.4°F (23°C)	78.8°F (26°C)	75.2°F (24°C)	77°F (25°C)
Accelerator pedal position sensor 1	1.6 v	1.6 v	1.6 v	1.6 v	3.3 v
Accelerator pedal position sensor 2	3.2 v	3.2 v	3.2 v	3.2 v	4.6 v
Parking switch (CAN reception)	1	1	1	1	1
Injection quantity	14.49 mm3/st	14.24 mm3/st	11 mm3/st	11 mm3/st	15 mm3/st
Target EGR opening	22%	0%	28%	0%	29%
Target VNT opening	87%	0%	85%	0%	84%
Target engine speed	750 rpm	750 rpm	900 rpm	900 rpm	750 rpm
Target common rail pressure	5656.5 psi (39 MPa)	5656.5 psi (39 MPa)	7832.03 psi (54 Kpa)	7832.03 psi (54 Kpa)	14068.66 psi (97 Kpa)
Final accelerator opening	0%	0%	0%	0%	33%
G Active identification	1	1	1	1	1
NE Active identification	1	1	1	1	1
Catalyst deterioration temporary judgment identification	0	0	0	0	0
Regeneration switch ON identification	0	0	0	0	0
Cruise cancellation identification	1	1	1	1	1
Cruise enabling identification	0	0	0	0	0
PCV closing valve time	0	0	0	0	0
DPR mode	0	0	0	0	0
DPR deposit volume	0.85 g	0.85 g	0.85 g	0.85 g	0.85 g
Completion identification for pump difference learning	2	2	2	2	2
Actual VNT opening	87%	0%	85%	0%	83%
SCV last drive Duty	50%	50%	50%	50%	47%
SCV drive current value	2046mA	2049mA	2029mA	2030mA	1925mA
SCV drive current feedback value	0	0	0	0	0

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15 MY COE Truck J05E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	900 RPM	900 With Brake On	1500 RPM
#1 Final injection quantity for FCCB Intercylinder correction	0.59 mm3/st	0.59 mm3/st	0.59 mm3/st	0.59 mm3/st	0.2 mm3/st
#2 Final injection quantity for FCCB Intercylinder correction	1.37 mm3/st	1.37 mm3/st	1.37 mm3/st	1.37 mm3/st	0.2 mm3/st
#3 Final injection quantity for FCCB Intercylinder correction	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st
#4 Final injection quantity for FCCB Intercylinder correction	-0.59 mm3/st	-0.59 mm3/st	-0.59 mm3/st	-0.59 mm3/st	0.2 mm3/st
#5 Final injection quantity for FCCB Intercylinder correction	-50 mm3/st	-50 mm3/st	-50 mm3/st	-50 mm3/st	-50 mm3/st
#6 Final injection quantity for FCCB Intercylinder correction	-50 mm3/st	-50 mm3/st	-50 mm3/st	-50 mm3/st	-50 mm3/st
VNT diagnosis information 1	0	0	0	0	0
VNT diagnosis information 2	0	0	0	0	0
EGR diagnosis information 1	0	0	0	0	0
EGR diagnosis information 2	0	0	0	0	0
Additional quantity of fuel	0	0	0	0	0
Urea tank refill identification	0	0	0	0	0
Lock-up signal	0	0	0	0	0
AMT clutch connection (CAN reception)	0	0	0	0	0
Neutral signal (CAN reception)	1	1	1	1	1
Power cut request (CAN reception)	0	0	0	0	0
Economy running requirement	0	0	0	0	0
SCR catalyst exhaust gas temperature (DCU reception)	219.2°F (104°C)	219.2°F (104°C)	219.2°F (104°C)	222.8°F (106°C)	221°F (105°C)
Exhaust temperature sensor at ATC	273.2°F (134°C)	275°F (135°C)	275°F (135°C)	275°F (135°C)	287.6°F (142°C)
Exhaust gas temperature before oxidation catalyst	251.6°F (122°C)	251.6°F (122°C)	251.6°F (122°C)	257°F (125°C)	264.2°F (129°C)
PWM accelerator opening	0	0	0	0	0
Actual opening of intake throttle valve (%)	0	0	0	0	0
Exhaust brake light	0	1	0	1	0
Preheater light	0	0	0	0	0
MIL(Check engine light)	0	0	0	0	0
WIF light	0	0	0	0	0
oil pressure lights	0	0	0	0	0
DPR regenerating indicator light	0	0	0	0	0
DPR regenerating display light	0	0	0	0	0
Engine retarder light	0	0	0	0	0
Exhaust brake solenoid valve	0	1	0	1	0
Starter block relay	1	1	1	1	1
Idle stop enabling signal	1	1	1	1	1
PTO accelerator sensor opening	0	0	0	0	0
PTO accelerator sensor voltage	0	0	0	0	0
Fuel filter water level sensor	0	0	0	0	0
Immobilizer engine injection stop request	0	0	0	0	0
ABS operations identification	0	0	0	0	0
Idle stop suspension request	0	0	0	0	0
Brake switch	0	0	0	0	0

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15 MY COE Truck J05E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	900 RPM	900 With Brake On	1500 RPM
Fuel temperature	51	51	51	51	51
Target opening of intake throttle valve (%)	0	0	0	0	0
Pump current target final value	1815 mA	1817 mA	1798 mA	1707 mA	1707 mA
Turbocharger speed	0	0	0	0	0
Accelerator sensor voltage 1	0.78 v	0.78 v	0.78 v	1.64 v	1.64 v
Accelerator sensor voltage 2	1.59 v	1.59 v	1.59 v	2.43 v	2.43 v
Start switch	0	0	0	0	0
Neutral switch	1	1	1	1	1
Stop light switch	0	0	0	0	0
DPR manual regeneration switch	0	0	0	0	0
Oil pressure warning switch	0	0	0	0	0
Engine stop switch	0	0	0	0	0
PTO switch	0	0	0	0	0
Power cut system switch	0	0	0	0	0
Key switch	1	1	1	1	1
Idle switch	1	1	1	0	0
Glow relay	0	0	0	0	0
Actual EGR opening	22%	0%	28%	29%	29%
EGR cooler outlet coolant temperature	0	0	0	0	0
Intake air pressure	14.6 psi (101 Kpa)	14.4 psi (99 Kpa)	14.6 psi (101 Kpa)	15.6 psi (108Kpa)	15.6 psi (108Kpa)
DPR differential pressure	0	0	0	0	0
DPR exhaust gas temperature (IN)	251°F (122°C)	249.8°F (121°C)	248°F (120°C)	251°F (122°C)	251°F (122°C)
DPR exhaust gas temperature (OUT)	237.2°F (114°C)	235.4°F (113°C)	235.4°F (113°C)	237.2°F (114°C)	239°F (115°C)
Inter cooler outlet temperature	93.2°F (34°C)	93.2°F (34°C)	93.2°F (34°C)	91.4°F (33°C)	87.8°F (31°C)
Sensor power supply voltage 1	5 V	5 V	5 V	5 V	5 V
Sensor power supply voltage 2	5 V	5 V	5 V	5 V	5 V
Air flow sensor power supply voltage	14 V	13 V	14 V	13 V	13 V
EGR rate	34%	0%	47%	0%	48%
Average consumption quantity of DEF	0 L/h	0 L/h	0 L/h	0 L/h	0 L/h
DEF tank level	100%	100%	100%	100%	100%
DPR inlet O2 density	21%	21%	21%	21%	21%
DPR outlet O2 density	21%	21%	21%	21%	21%
Fuel cut valve	1	1	1	1	1
Additional pressure on fuel	82.6 psi (0.57MPa)	82.6 psi (0.57MPa)	94.3 psi (0.65MPa)	94.3 psi (0.65MPa)	145.04 psi (1.0 Kpa)
Quality of DEF	38	88	38	38	38
Water temperature sensor 2 (backup)	177.8°F (81°C)	177.8°F (81°C)	177.8°F (81°C)	177.8°F (81°C)	177.8°F (81°C)
Water temperature sensor 2	176°F (80°C)	176°F (80°C)	176°F (80°C)	176°F (80°C)	174.2°F (79°C)
Target boost pressure	14.5 psi (100 Kpa)	14.5 psi (100 Kpa)	14.5 psi (100 Kpa)	14.5 psi (100 Kpa)	15.6 psi (108Kpa)
Actual boost pressure	14.5 psi (100 Kpa)	14.5 psi (100 Kpa)	14.5 psi (100 Kpa)	14.5 psi (100 Kpa)	15.6 psi (108Kpa)
NOx level(before catalyst)	-0.18	-0.18	-0.18	-0.18	-0.18
NOx level(after catalyst)	-0.18	-0.18	-0.18	-0.18	-0.18
DPR differential pressure	0%	0%	0%	0.00%	0%