

TECH TIP

2015MY-2017MY Conventional Expected Values

SUBJECT VEHICLES:

2015MY-2017MY conventional trucks with a J08E 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.

17 MY Conventional Truck J08E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	980 RPM	980 With Brake On	1500 RPM
Engine coolant temperature	179.6° F (82° C)	179.6° F (82° C)	179.6° F (82° C)	179.6° F (82° C)	179.6° F (82° C)
Engine revolution	750 rpm	750 rpm	980 rpm	980 rpm	1500 rpm
Speed	0	0	0	0	0
Intake air temperature (Intake Manifold)	122° F (50° C)	87.8° F (31° C)	131° F (55° C)	98.6° F (37° C)	129.2° F (54° C)
Intake air flow rate	24 g/s	41 g/s	32 g/s	53 g/s	54 g/s
PTO status identification	0	0	0	0	0
Actual common rail pressure	5076.3 psi (35 MPa)	5076.3 psi (35 MPa)	8992.3 psi (62 MPa)	10007.6 psi (69 MPa)	13633.55 psi (94 MPa)
Atmospheric pressure	14.4 psi (99 Kpa)	14.4 psi (99 Kpa)	14.4 psi (99 Kpa)	14.4 psi (99 Kpa)	14.4 psi (99 Kpa)
Power supply voltage	13.6 v	13.6 v	13.6 v	13.6 v	13.6 v
Intake air temperature (Air flow)	82.4°F (28°C)	82.4°F (28°C)	82.4°F (28°C)	82.4°F (28°C)	82.4°F (28°C)
Accelerator pedal position sensor 1	1.6 v	1.6 v	2.6 v	1.6 v	3.2 v
Accelerator pedal position sensor 2	3.2 v	3.2 v	4.2 v	3.2 v	4.8 v
Parking switch (CAN reception)	1	1	1	1	1
Injection quantity	12 mm3/st	19 mm3/st	10 mm3/st	21 mm3/st	12 mm3/st
Target EGR opening	35%	0%	40%	0%	43%
Target VNT opening	70%	0%	66%	0%	58%
Target engine speed	750 rpm	750 rpm	750 rpm	999 rpm	750 rpm
Target common rail pressure	5076.3 psi (35 MPa)	5076.3 psi (35 MPa)	9137.4 psi (63MPa)	10007.6 psi (69KPa)	13778.6 psi (95 Kpa)
Final accelerator opening	0	0	17%	0	31%
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	1	0
PCV closing valve time	0	0	0	0	0
DPR mode	0	0	0	0	0
DPF soot amount pilling up	0.35 g	0.35 g	0.4 g	0.4 g	0.4 g
Completion identification for pump difference learning	2	2	2	2	2
Actual VNT opening	70%	0%	65%	0%	60%
SCV last drive Duty	43%	42%	41%	39%	38%
SCV drive current value	1748 mA	1719 mA	1684 mA	1615 mA	1585 mA
SCV drive current feedback value	0	0	0	0	0

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17 MY Conventional Truck J08E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	980 RPM	980 With Brake On	1500 RPM
#1 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
#2 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
#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	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st
#5 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
#6 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
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)	255.*F (124*C)	258.8*F (126*C)	264.2*F (129*C)	267.8*F (131*C)	267.8*F (131*C)
Exhaust temperature sensor at ATC	320*F (160*C)	332.6*F (167*C)	307.4*F (153*C)	379.4*F (193*C)	323.6*F (162*C)
Exhaust gas temperature before oxidation	294.8*F (146*C)	291.2*F (144*C)	287.6*F (142*C)	314.6*F (157*C)	302*F (150*C)
PWM accelerator opening	0	0	0	0	0
Actual opening of intake throttle valve (%)	0.50%	0.50%	0.50%	0.50%	0.50%
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
Exhaust brake solenoid valve	0	1	0	1	0
Starter block relay	1	1	1	1	1
Hino start&stop enable	1	1	1	1	1
PTO accelerator sensor opening	0	0	0	0	0
PTO accelerator sensor voltage	0	0	0	0	0

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17 MY Conventional Truck J08E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	980 RPM	980 With Brake On	1500 RPM
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
Brake switch	0	0	0	0	0
Fuel temperature	49	49	49	49	49
Target opening of intake throttle valve (%)	0	0	0	0	0
Pump current target final value	1752 mA	1726 mA	1693 mA	1640 mA	1588 mA
Turbocharger speed	0	0	0	0	0
Accelerator sensor voltage 1	0.8 v	0.8 v	0.8 v	0.8 v	0.8 v
Accelerator sensor voltage 2	1.61 v	1.61 v	1.61 v	1.61 v	1.61 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	1	1
Glow relay	0	0	0	0	0
Actual EGR opening	32%	0%	40%	0%	44%
EGR cooler outlet coolant temperature	-40	-40	-40	-40	-40
Intake air pressure	14.79 psi (102 Kpa)	14.2 psi (98 Kpa)	14.9 psi (103 Kpa)	14.2 psi (98 Kpa)	15.6 psi (108Kpa)
DPR differential pressure	1.58	1.6	1.59	1.69	1.71
DPR exhaust gas temperature (IN)	298.4°F (148°C)	289.4°F (143°C)	289.4°F (143°C)	323.6°F (162°C)	343.4°F (173°C)
DPR exhaust gas temperature (OUT)	305.6°F (152°C)	302°F (150°C)	289.4°F (143°C)	289.4°F (143°C)	311°F (155°C)
Inter cooler outlet temperature	95°F (35°C)	93.2°F (34°C)	95°F (35°C)	96.8°F (36°C)	96.8°F (36°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	13 v	13 v	13 v	13 v	13 v
EGR rate	51%	17%	53%	24%	51%
Average consumption quantity of DEF	0	0	0	0	0
DEF tank level	87%	87%	87%	87%	87%
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	87 psi (0.6 Mpa)	87 psi (0.6 Mpa)	102.9 psi (0.71 Mpa)	102.9 psi (0.71 Mpa)	150.8 psi (1.04)
Quality of DEF	32	32	32	32	32
Water temperature sensor 2 (backup)	181.4°F (83°C)	179.6°F (82°C)	181.4°F (83°C)	179.6°F (82°C)	177.8°F (81°C)
Water temperature sensor 2	181.4°F (83°C)	179.6°F (82°C)	181.4°F (83°C)	179.6°F (82°C)	177.8°F (81°C)
Target boost pressure	15.2 psi (105 Kpa)	14.3 psi (99 Kpa)	15.2 psi (105 Kpa)	14.3 psi (99 Kpa)	15.6 psi (108 Kpa)
Actual boost pressure	14.79 psi (102 Kpa)	14.2 psi (98 Kpa)	14.9 psi (103 Kpa)	14.06 psi (97 Kpa)	15.6 psi (108 Kpa)
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

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15MY-16MY Conventional Truck J08E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	980 RPM	980 With Brake On	1500 RPM
Engine coolant temperature	179.6° F (82° C)	179.6° F (82° C)	179.6° F (82° C)	179.6° F (82° C)	179.6° F (82° C)
Engine revolution	750 rpm	750 rpm	980 rpm	980 rpm	1500 rpm
Speed	0	0	0	0	0
Intake air temperature (Intake Manifold)	122° F (50° C)	87.8° F (31° C)	131° F (55° C)	98.6° F (37° C)	129.2° F (54° C)
Intake air flow rate	24 g/s	41 g/s	32 g/s	53 g/s	54 g/s
PTO status identification	0	0	0	0	0
Actual common rail pressure	5076.3 psi (35 MPa)	5076.3 psi (35 MPa)	8992.3 psi (62 MPa)	10007.6 psi (69 MPa)	13633.55 psi (94 MPa)
Atmospheric pressure	14.4 psi (99 Kpa)	14.4 psi (99 Kpa)	14.4 psi (99 Kpa)	14.4 psi (99 Kpa)	14.4 psi (99 Kpa)
Power supply voltage	13.6 v	13.6 v	13.6 v	13.6 v	13.6 v
Intake air temperature (Air flow)	82.4°F (28°C)	82.4°F (28°C)	82.4°F (28°C)	82.4°F (28°C)	82.4°F (28°C)
Accelerator pedal position sensor 1	1.6 v	1.6 v	2.6 v	1.6 v	3.2 v
Accelerator pedal position sensor 2	3.2 v	3.2 v	4.2 v	3.2 v	4.8 v
Parking switch (CAN reception)	1	1	1	1	1
Injection quantity	12 mm3/st	19 mm3/st	10 mm3/st	21 mm3/st	12 mm3/st
Target EGR opening	35%	0%	40%	0%	43%
Target VNT opening	70%	0%	66%	0%	58%
Target engine speed	750 rpm	750 rpm	750 rpm	999 rpm	750 rpm
Target common rail pressure	5076.3 psi (35 MPa)	5076.3 psi (35 MPa)	9137.4 psi (63MPa)	10007.6 psi (69KPa)	13778.6 psi (95 Kpa)
Final accelerator opening	0	0	17%	0	31%
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	1	0
PCV closing valve time	0	0	0	0	0
DPR mode	0	0	0	0	0
DPR deposit volume	0.35 g	0.35 g	0.4 g	0.4 g	0.4 g
Completion identification for pump difference learning	2	2	2	2	2
Actual VNT opening	70%	0%	65%	0%	60%
SCV last drive Duty	43%	42%	41%	39%	38%
SCV drive current value	1748 mA	1719 mA	1684 mA	1615 mA	1585 mA
SCV drive current feedback value	0	0	0	0	0

TECH TIP

15MY-16MY Conventional Truck J08E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	980 RPM	980 With Brake On	1500 RPM
#1 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
#2 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
#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	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st	0.2 mm3/st
#5 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
#6 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
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)	255.*F (124*C)	258.8*F (126*C)	264.2*F (129*C)	267.8*F (131*C)	267.8*F (131*C)
Exhaust temperature sensor at ATC	320*F (160*C)	332.6*F (167*C)	307.4*F (153*C)	379.4*F (193*C)	323.6*F (162*C)
Exhaust gas temperature before oxidation	294.8*F (146*C)	291.2*F (144*C)	287.6*F (142*C)	314.6*F (157*C)	302*F (150*C)
PWM accelerator opening	0	0	0	0	0
Actual opening of intake throttle valve (%)	0.50%	0.50%	0.50%	0.50%	0.50%
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
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

TECH TIP

15MY-16MY Conventional Truck J08E 70 Degree Ambient Temperature					
	Idle	Idle With Brake On	980 RPM	980 With Brake On	1500 RPM
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
Fuel temperature	49	49	49	49	49
Target opening of intake throttle valve (%)	0	0	0	0	0
Pump current target final value	1752 mA	1726 mA	1693 mA	1640 mA	1588 mA
Turbocharger speed	0	0	0	0	0
Accelerator sensor voltage 1	0.8 v	0.8 v	0.8 v	0.8 v	0.8 v
Accelerator sensor voltage 2	1.61 v	1.61 v	1.61 v	1.61 v	1.61 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	1	1
Glow relay	0	0	0	0	0
Actual EGR opening	32%	0%	40%	0%	44%
EGR cooler outlet coolant temperature	-40	-40	-40	-40	-40
Intake air pressure	14.79 psi (102 Kpa)	14.2 psi (98 Kpa)	14.9 psi (103 Kpa)	14.2 psi (98 Kpa)	15.6 psi (108Kpa)
DPR differential pressure	1.58	1.6	1.59	1.69	171
DPR exhaust gas temperature (IN)	298.4°F (148°C)	289.4°F (143°C)	289.4°F (143°C)	323.6°F (162°C)	343.4°F (173°C)
DPR exhaust gas temperature (OUT)	305.6°F (152°C)	302°F (150°C)	289.4°F (143°C)	289.4°F (143°C)	311°F (155°C)
Inter cooler outlet temperature	95°F (35°C)	93.2°F (34°C)	95°F (35°C)	96.8°F (36°C)	96.8°F (36°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	13 v	13 v	13 v	13 v	13 v
EGR rate	51%	17%	53%	24%	51%
Average consumption quantity of DEF	0	0	0	0	0
DEF tank level	87%	87%	87%	87%	87%
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	87 psi (0.6 Mpa)	87 psi (0.6 Mpa)	102.9 psi (0.71 Mpa)	102.9 psi (0.71 Mpa)	150.8 psi (1.04)
Quality of DEF	32	32	32	32	32
Water temperature sensor 2 (backup)	181.4°F (83°C)	179.6°F (82°C)	181.4°F (83°C)	179.6°F (82°C)	177.8°F (81°C)
Water temperature sensor 2	181.4°F (83°C)	179.6°F (82°C)	181.4°F (83°C)	179.6°F (82°C)	177.8°F (81°C)
Target boost pressure	15.2 psi (105 Kpa)	14.3 psi (99 Kpa)	15.2 psi (105 Kpa)	14.3 psi (99 Kpa)	15.6 psi (108 Kpa)
Actual boost pressure	14.79 psi (102 Kpa)	14.2 psi (98 Kpa)	14.9 psi (103 Kpa)	14.06 psi (97 Kpa)	15.6 psi (108 Kpa)
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