1996 6.5L (L57, L65) C/K Truck, G-Van Engine Diagnostic Parameters

96t65FYCKGyE.doc

		ACCEPTABLE	PRIMARY	SECONDARY	MONITORING		FAULT CODE
SENSED	FAULT	OPERATING	MALFUNCTION	MONITORING	TIME LENGTH	MONITORING	STORAGE
PARAMETER	CODE	·	DETECTION	PARAMETERS	AND FREQUENCY	METHOD	AND MIL
1 MONIGHEN	OODL	RATIONALITY	PARAMETERS	AND CONDITIONS	OF CHECK	WELLION	ILLUMINATION
Intake Air	P0112		Air temperature sensor	Coolant temperature < 42.5°C	Diagnostic set conditions	Air temperature sensor	
Temperature		-40°C to 152°C	voltage < 0.24 volt		true for 2 seconds	i iii ioniperatore serios.	В
Circuit Low		Detects a sensor circuit short	- same as -		Test performed		"
Input		to ground	Air temperature > 160°C		continuously	ļ	
Intake Air	P0113	0.24 volt to 4.86 volts	Air temperature sensor	Engine has been running > 8 minutes	Diagnostic set conditions	Air 1	
Temperature		-40°C to 152°C	voltage > 4.86 volt	Engine has been forming > 6 minutes	true for 2 seconds	Air temperature sensor	
Circuit High		1	1 5				В
		Detects a sensor circuit short to high	- same as -		Test performed		1
Input	D0447	voltage or a sensor circuit open	Air temperature < -40°C		continuously		ļ
Engine	P0117	0.24 volt to 4.76 volts	Coolant temperature sensor		Diagnostic set conditions	Coolant temperature	_
Coolant		-40°C .to 152°C	voltage < 0.24 volt	1	true for 2 seconds	sensor	В
Temperature			- same as -		Test performed	İ	
Circuit Low		Detects a sensor circuit short to	Coolant temperature > 160°C		continuously		
Input		ground	·				
Engine	P0118	0.24 volt to 4.76 volts	Coolant temperature sensor	Engine run limer > 8 minutes	Diagnostic set conditions	Coolant temperature	
Coolant		-40°C to 152°C	voltage > 4.76 volt	1	true for 2 seconds	sensor	В
Temperature		Detects a sensor circuit short to high	- same as -		Test performed		
Circuit High		high voltage or a sensor circuit open	Coolant temperature < -40°C		continuously		1
Input		<u> </u>					
Fuel	P0182	0.24 volts - 4.96 volts	Fuel temperature < 0.24 volts		Diagnostic set conditions	Fuel temperature	
Temperature		-28°C - 140°C	- same as -	None	true for 2 seconds	sensor	В
Sensor Circuit		Detects a sensor circuit short	Fuel temperature > 140°C		Test performed		
Low Input		to ground			continuously	1	ł
Fuel	P0183	0.24 volta - 4.96 volta	Fuel temperature > 4.96 volts	Engine running > 8 minutes	Diagnostic set conditions	Fuel temperature	
Temperature		-28°C - 140°C	- same as -		true for 2 seconds	sensor	8
Sensor Circuit		Detects a sensor short to high	Fuel temperature < -28°C		Test performed	1	
High Input		voltage or sensor circuit open			continuously	i .	
Fuel Injection	P0216	Desired liming - actual timing =<	I Desired timing - actual timing !>	Codes P0251, P0335 and P0370 clear	Diagnostic set conditions	Crank Sensor	
Timing Circuit		5 engine degrees	5 pump degrees	Engine not stalled	Irue for 2 seconds	Optical Sensors	В
Malfunction	ì	Detects a failure of timing control under		No change in engine speed > 56 RPM for	Test performed	(HRS, Cam)	
		steady state conditions		a minimum of 20.8 seconds	veleuounitroo	(11,10, 02,11)	
Lift Pump		Lift pump voltage >	Lift pump voltage <	Lift pump is commanded high	Lift pump commanded	A/D voltage input of	
Vollage Low		Ignition voltage - 4 volts	Ignition voltage - 4 volts	Company to communicate mgn	high > .5 second	lift pump voltage	В
rollaga com		agrinion tonago i a tono	ignition voltage - 4 volta		Diagnostic set conditions	Time points voltage	
1		Delegie a law voltage at the lift avera		•	true for 2 seconds	·	
		Detects a low voltage at the lift pump when the lift pump is commanded high			· · · · · · · · · · · · · · · · · · ·	1	ļ
101	DOOOE	when the lik pomp is commanded high	Circlination	Cd- 0400 D014	Test performed continuously	10	
Wastegate	P0236		Final intake manifold pressure =<	Eng. speed > 2400 RPM;		Boost Sensor	_ !
Control	ł		(Desired kPA - 20 kPa) -	Fuel rate > 20 cu.mm.			В
Range/			((100kPa - Baro) /2)	Final intake manifold pressure =<			
Performance	i			(Desired kPa + 20kPa)	ļ		
Failure				Condition 2 timer >= 10 seconds - OR - 1800 RPM < Eng. speed =< 2400 RPM;			
[1			Fuel rate > 20 cu.mm	İ		
Į	į			Final intake manifold pressure =<			
1	}			· ·			
1	- 1	Dataste a failure of wastanate central	- OR -	(110kPa) - ((100kPa - Baro)/2)			
1		Detects a failure of wastegate control	\$	Condition 3 timer >= 12.8 seconds			
		system under steady state boost conditions.	Final intake manifold pressure >	Eng. speed > 2400 RPM	Tast and and and in the last		
		Lucino made occure if any of the following	(Desired kPa + 20 kPa)	Condition 1 timer > 10 seconds	Test performed continuously	1	

Backup fueling mode occurs if any of the following codes are sel: P0251, P0335, P0370

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T		ACCEPTABLE	PRIMARY	SECONDARY	MONITORING		FAULT CODE
SENSED	FAULT	OPERATING	MALFUNCTION	MONITORING	TIME LENGTH	MONITORING	STORAGE
PARAMETER	CODE	RANGE AND	DETECTION	PARAMETERS	AND FREQUENCY	METHOD	AND MIL
1		RATIONALITY	PARAMETERS	AND CONDITIONS	OF CHECK		ILLUMINATION
Intake	P0237	0.78 volt to 4.86 volts	Boost Pressure < 0.78 volts		Diagnostic set conditions	Boost Sensor	
Manifold [40kPa to 202kPa	- same as -	None	true for 2 seconds	1	В
Pressure			Boost Pressure < 40kPa			1	
Low Input		Detects boost sensor circuit open			Test performed continuously		j
Intake	P0238	0.78 volt to 4.86 volts	Boost Pressure > 4.86 volts	Engine Speed < 3506 RPM	Diagnostic set conditions	Boost Sensor	
Manifold		40kPa to 202kPa	- same as -		true for 2 seconds		В
Pressure		Detects boost sensor circuit short	Boost Pressure > 202kPa				
High Input		to high voltage			Test performed continuously		
Fuel Injection	P0251	Number of consecutive missing	Number of consecutive missing	Ratio of CAM to HRS = 1:64 +/- 4		Optical Sensors	
Pump cam		CAM pulses < 8	CAM pulses >= 8	1		(HRS, Cam)	A
Position		Number of CAM pulses per #1 cylinder	Number of CAM pulses per #1 cylinder	RPM < 300		Crank Sensor	
Sensor (CAM)		event = 8. This must be true for 8 #1	event <> 8 for 8 #1 cylinder events				ļ
Malfunction		cylinder events for RPM < 300 or 32 #1	Number of CAM pulses per #1 cylinder	RPM >= 300			1
		cylinder events for RPM >= 300	event <> 8 for 32 #1 cylinder events		Test performed continuously	1	
Engine	P0335	Number of consecutive missing	Number of consecutive missing	Ratio of CPS to HRS = 1:64 +/- 4		Optical Sensors	
Crankshalt		CPS pulses < 8	CPS pulses >= 8		Ì	(HRS, Cam)	A
Position		Number of CPS pulses per #1 cylinder	Number of CPS pulses per #1 cylinder	APM < 300	"	Crank Sensor	
Sensor (CPS)		event = 8. This must be true for 8 #1	event <> 8 for 8 #1 cylinder events				
Malfunction		cylinder events for RPM < 300 or 32 #1	Number of CPS pulses per #1 cylinder	RPM >= 300	"		1
		cylinder events for HPM >= 300	event <> 8 for 32 #1 cylinder events	i	Test performed continuously		
Fuel Injection	P0370	HRS pulses must be received by the	HAS free running pump			Optical Sensors	
Pump High		PCM for every 8 CAM pulses	counter = old count for > 8 consecutive	None	1	(HRS, Cam)	A
Resolution			CAM pulses				1
Angular					1	,]
Sensor (HRS)				·	ĺ		
Malfunction					Test performed continuously		İ
Glow Plug	P0380	I glowplug vollage - ignition voltage I =<.	Glowplugs commanded off &		Diagnostic set conditions	A/D glowplug voltage	
Circuit		2.0 volta	raw feedback > 4.0 v - OR -	A/D inputs settled	true for 2 seconds	input	В
Mallunction			Glowplugs commanded on &	·			
			raw feedback < 4.0 v - OR -				
	l		Glowplugs commanded on and	·			
		Detects a faulty glowplug relay circuit	Iglowplug voltage - ignition voltage! > 2 v		Test performed continuously		
EGR Control		Desired EGR - Measured EGR I =<	Desired EGR - Measured EGR > 20kPa	Engine Speed > 506 RPM	EGR Error active >	EGR Control Pressure	
ailure		20kPa		P0405 and P0406 codes not active	25.5 seconds	Sensor	В
. and c		Detects a failure of EGR control system		50kPa < Desired EGR MAP <] [
		during EGR operation		Barometric Pressure	Test performed continuously		ľ
:GR		0.24 volt to 3.96 volts	EGR control pressure signal < .24 v.		Diagnostic set conditions	EGR Control Pressure	<u> </u>
	/]		- same as -	None	true for 2 seconds	Sensor	I в I
Control	I	15 kPa to 85 kPa				1	
Control		15 kPa to 85 kPa			1	1	
ressure			EGR control pressure < 15 kPa	FGR Commanded to Vent			
		Detects EGR control pressure leedback	EGR control pressure < 15 kPa EGR control pressure signal < 2.43 v.	EGR Commanded to Vent	Test performed continuously		
Pressure ow Input		Detects EGR control pressure leedback sensor short to ground	EGR control pressure < 15 kPa EGR control pressure signal < 2.43 v. EGR control pressure < 56kPa		Test performed continuously	FGR Control Pressure	
Pressure .ow Input	P0406	Detects EGR control pressure feedback sensor short to ground 0.24 volt to 3.96 volts	EGR control pressure < 15 kPa EGR control pressure signal < 2.43 v. EGR control pressure < 56kPa EGR control pressure signal > 3.96 v.	Desired EGR control pressure < 60kPa	Diagnostic set conditions	EGR Control Pressure	8
Pressure ow Input	P0406	Detects EGR control pressure leedback sensor short to ground	EGR control pressure < 15 kPa EGR control pressure signal < 2.43 v. EGR control pressure < 56kPa			EGR Control Pressure Sensor	В

^{*} Backup fueling mode occurs if any of the following codes are set: P0251, P0335, P0370