## Section 08 ENGINE MANAGEMENT (4-TEC)

Subsection 03 (DIAGNOSTIC PROCEDURES)

### TPS "OUT OF RANGE" Fault

It is caused by the sensor reading going out of its allowable range. This fault can occur during the whole range of movement of the throttle.

To diagnose this fully, it is recommended to operate the throttle through its full range. It is also recommended to release the throttle quickly as this may also show up a fault that is intermittent.

POSSIBLE CAUSES	RESULT	ACTION
Check if connector is disconnected from TPS.	Yes	• Fix
Check if sensor is loose.	Yes	Fix and reset Closed Throttle and Idle     Actuator
Inspect sensor for damage or corrosion.	Yes	Replace and reset Closed Throttle and Idle Actuator.
Inspect wiring (voltage test).	Failed	Repair.
Inspect wiring and sensor (resistance test).	Failed	<ul> <li>If bad wiring, repair.</li> <li>If bad TPS, replace and reset Closed Throttle and Idle Actuator.</li> </ul>
Test sensor operation (wear test).	Failed	Replace and reset Closed Throttle and Idle Actuator

# TPS "ADAPTATION FAILURE" Fault

It is caused by the idle position moving out of an acceptable range.

Following failures can be effected by a TPS "Adaption Failure":

- Idle speed is out of range.
- Engine stops, when throttle is released quickly.
- Engine runs inconsistent in low partload or low RPM.

POSSIBLE CAUSES	RESULT	ACTION
Sensor has been replaced and TPS closed position not reset.	Yes	Reset Closed Throttle and Idle Actuator.
Throttle body has been replaced and TPS closed position not reset.	Yes	Reset Closed Throttle and Idle Actuator.
ECM has been replaced and TPS closed position not reset.	Yes	Reset Closed Throttle and Idle Actuator.
Throttle cable too tight.	Yes	Fix and reset Closed Throttle and Idle Actuator.
Sensor is loose.	Yes	Fix and reset Closed Throttle and Idle Actuator.
Throttle bracket is loose.	Yes	Fix and reset Closed Throttle and Idle Actuator.
Adjustment screw worn or loose.	Yes	Change throttle body.

# 4-TEC SYSTEM FAULT CODES CHART

	RESPONSIBLE MODULE			DECDED		MESSAGE	AGE FAULT DETECTED	FAULT	LIMP	NORMAL OPERATION
CODE	INFORMATION CENTER	MPEM	ECM	CODE	WARNING LIGHT	DISPLAYED (info ctr)	WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME MODE	RESUME WHEN
P0106	-	-	Manifold atmospheric pressure sensor out of range	15	Flash	CHK ENG	N	Y	N	Fault is recovered

#### Possible cause:

Sensing port dirty or blocked.

Sensor failure or unexpected reading at idle.

Sensor fallen out of housing or leaking inlet.

#### Service action:

Check system circuits A-12, A-28 and A-40.

Make sure that the sensor housing is correctly inserted into the manifold. Check sensor connector for:

- a) 5 volts on pin 1.
- b) 0 volt on pin 2.
- c) 0 volt on pin 3.

P0107 -	-	-	Manifold atmospheric pressure sensor shorted to ground	15	Flash	CHK ENG	N	Υ	N	Fault is recovered
P0107 F	=	_	Manifold barometric pressure sensor shorted to ground	15	Flash	CHK ENG	Y	N	N	Fault is recovered

#### Possible cause:

Sensing port dirty or blocked.

Sensor failure or unexpected reading at idle.

Sensor fallen out of housing or leaking inlet.

#### Service action:

Check system circuits A-12, A-28 and A-40.

Make sure that the sensor housing is correctly inserted into the manifold.

Check sensor connector for:

- a) 5 volts on pin 1.
- b) 0 volt on pin 2.
- c) 0 volt on pin 3.

FAULT	RE	SPONSIBLE MOD	ULE	BEEPER	WARNING	MESSAGE	FAULT DETECTED	FAULT DETECTED	LIMP	NORMAL OPERATION
CODE	INFORMATION CENTER	МРЕМ	ECM	CODE	LIGHT	(info ctr)	WHILE ENGINE NOT RUNNING	WHILE ENGINE RUNNING	HOME MODE	RESUME WHEN
P0108	_	-	Manifold atmospheric pressure sensor shorted to 12 V or open circuit	15	Flash	CHK ENG	N	Y	N	Fault is recovered
P0108		_	Manifold barometric pressure sensor open circuit or shorted to 12 V	15	Flash	CHK ENG	Y	N	N	Fault is recovered
Sensing Sensor Service Checks Makes Checks a) 5 vol b) 0 vol	le cause: g port dirty or block failure or unexpect fallen out of housin e action: system circuits A-12 ure that the sensor sensor connector fo ts on pin 1. t on pin 2. t on pin 3.	ed reading at idle, ng or leaking inlet. 2, A-28 and A-40. housing is correctly	inserted into the m	anifold.		V				
P0111	-	_	Intake manifold temperature sensor functional problem	15	Flash	CHK ENG	N	Ÿ	N	Fault is recovered
Damag Servic Check	e action: the sensor for appr	d circuit wires, dam oximately 2280 to 2 1280 to 2736 ohms a	736 ohms at 19 to 2	1°C (66 to 7)	Э°F).	ector pins 7 and	d 21,			
P0112	-	-	Intake manifold temperature sensor shorted to ground	15	Flash	CHK ENG	N	Y	N	Fault is recovered
Damag Service Check	ce action: the sensor for appr	od circuit wires, dam oximately 2280 to 2 2280 to 2736 ohms a	736 ohms at 19 to 2	1°C (66 to 7	0°F).	ector pins 7 an	d 21.			
P0113	_	-	Intake manifold temperature sensor shorted to 12 V or open circuit	15	Flash	CHK ENG	N	Y	N	Fault is recovered
Service Check	ce action: the sensor for appr	ed circuit wires, dam roximately 2280 to 2 2280 to 2736 ohms	736 ohms at 19 to 2	1°C (66 to 7	0°F).	ector pins 7 an	d 21.			191

ge in cooling syster oximately 2280 to 2	maged connector or dar em. 2736 ohms at 19 to 21° at 19 to 21°C (66 to 70 Engine temperature	°C (66 to 7(	70°F).	ctor pins 11 and	127.			
	ORDINATE S		T		The second second			
4	sensor short circuit to ground	5	Flash	CHK ENG	N	Y	N	Fault is recovered
oximately 2280 to 2	2736 ohms at 19 to 21°			ctor pins 11 and	1 27.			T
	temperature sensor short circuit to 12 V	5	Flash	CHK ENG	N	Υ	N	Fault is recovered
	Engine temperature sensor open circuit	5	Flash	CHK ENG	- N	Y	N	Fault is recovered
277	age in cooling syster oximately 2280 to 2	ege in cooling system. Oximately 2280 to 2736 ohms at 19 to 21°C (66 to 70280 to 2736	ege in cooling system. Oximately 2280 to 2736 ohms at 19 to 21°C (66 to 70°E) between temperature sensor short circuit to 12 V  Engine temperature sensor open circuit	oximately 2280 to 2736 ohms at 19 to 21°C (66 to 70°F).  2280 to 2736 ohms at 19 to 21°C (66 to 70°F) between ECM conner  Engine temperature sensor short circuit to 12 V  Engine temperature sensor open circuit	ege in cooling system. Oximately 2280 to 2736 ohms at 19 to 21°C (66 to 70°F).  2280 to 2736 ohms at 19 to 21°C (66 to 70°F) between ECM connector pins 11 and Engine temperature sensor short circuit to 12 V  Engine temperature 5 Flash CHK ENG CHK	ege in cooling system. Oximately 2280 to 2736 ohms at 19 to 21°C (66 to 70°F).  2280 to 2736 ohms at 19 to 21°C (66 to 70°F) between ECM connector pins 11 and 27.  Engine temperature sensor short circuit to 12 V  Engine temperature sensor open circuit  Flash CHK N  CHK N  ENG CHK  ENG	ege in cooling system. Oximately 2280 to 2736 ohms at 19 to 21°C (66 to 70°F).  2280 to 2736 ohms at 19 to 21°C (66 to 70°F) between ECM connector pins 11 and 27.    Engine	ege in cooling system. Oximately 2280 to 2736 ohms at 19 to 21°C (66 to 70°F).  2280 to 2736 ohms at 19 to 21°C (66 to 70°F) between ECM connector pins 11 and 27.    Engine temperature sensor short circuit to 12 V

RESPONSIBLE MODULE

MPEM

Check the sensor for approximately 2280 to 2736 ohms at 19 to 21°C (66 to 70°F).

Check for approximately 2280 to 2736 ohms at 19 to 21°C (66 to 70°F) between ECM connector pins 11 and 27.

FAULT

CODE

INFORMATION

CENTER

FAULT

DETECTED

WHILE ENGINE

NOT RUNNING

MESSAGE

DISPLAYED

(info ctr)

BEEPER

CODE

ECM

WARNING

LIGHT

FAULT

DETECTED

WHILE ENGINE

RUNNING

NORMAL

OPERATION

RESUME

WHEN...

LIMP

HOME

MODE

	RES	SPONSIBLE MOD	ULE	Carlo IV	Vessesser	MESSAGE	FAULT	FAULT	LIMP	NORMAL
CODE	INFORMATION CENTER	МРЕМ	ECM	BEEPER CODE	WARNING LIGHT	DISPLAYED (info ctr)	DETECTED WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME MODE	OPERATION RESUME WHEN
P0122	_	-	Throttle position sensor out of range	15	Flash	CHK ENG	Y	Υ	N	Key is removed
1.0122	_	_	Throttle position sensor short circuit to ground	15	Flash	CHK ENG	Y	Y	N	Key is removed
Possibl	e cause:							-		
Damage Service Check fo Check fo With thr a) 1000 b) 2600 c) 1600 f Check fo	d sensor, damaged of or out of alignme of action: or 0 volt on sensor or 5 volts on sensor or 4.5 to 5 volts on sottle closed, check to 1100 ohms between 2400 ohms between linear resistance of the sensor of the closed of the sensor of the closed, check to 1100 ohms between linear resistance of the sensor of t	onnector pin 1. connector pin 2. sensor connector p ECM connector fo een pins 24 and 35 een pins 24 and 25 een pins 125 and 3 rise when opening	in 3. r: 3. 5. 9.	maged ECN	A pins.					
			Throttle position			-				
P0123	=	=	sensor out of range – short-circuit to 12 V or open circuit	15	Flash	CHK ENG	N	Y	N	Key is removed
Possibl	e cause:	-								
Damage Service Check fo Check fo With thr a) 1000 t b) 2600 t c) 1600 t Check fo	d or out of alignme	onnector pin 1. connector pin 2. ensor connector pi ECM connector for een pins 24 and 39 een pins 24 and 25 een pins 125 and 3 ise when opening	n 3. : 9. throttle.	maged ECM	l pins.					
P0231	-	_	Fuel pump shorted to ground or open circuit	15	Flash	CHK ENG	Y	N	N	Fault is recovered
Damaged Service Check fo Check fo Check fo	action: r approximately 1 o r damaged circuit w r approximately 1 o	hm between pins / rires. hm between pins '	ged connector or dan	imp connec						

	RES	SPONSIBLE MOD	OULE			MESSAGE	FAULT	FAULT	LIMP	NORMAL
CODE	INFORMATION CENTER	MPEM	ECM	CODE	WARNING LIGHT	DISPLAYED (info ctr)	DETECTED WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME MODE	OPERATION RESUME WHEN
P0232	_	_	Fuel pump shorted to 12 V	15	Flash	CHK ENG	N	Υ	N	Fault is recovered
Service Check for Check for Check for	e action: or approximately 1 or or damaged circuit v or approximately 1 o	ohm between pins wires. ohm between pins	ged connector or da A and D of the fuel p 1-26 and B-29. Joutput pins or ECM	oump connec					q	
P0261		-	Inj. #1 short- circuit to ground or open circuit	15	Flash	CHK ENG	N	У	N	Fault is recovered
Damage Service Check fo	action:	s between engine	naged connector or o connector pin 1 and l		85 177					
P0262	·—	-	Inj. # 1 short-circuit to 12 V	15	Flash	CHK ENG	N	Ä	N	Fault is recovered
	le cause:									
Damage Service Check fo	action:	s between engine	naged connector or connector pin 1 and l tor.							
Damage Service Check fo	action: or 11.4 to 12.6 ohms	s between engine	connector pin 1 and I			CHK ENG	N	Y	N	Fault is recovered
Damage Service Check for Check for P0264 Possible Damage Service Check for	e action: or 11.4 to 12.6 ohms or 12 volts on pin 2  le cause: ed injector, damaged	s between engine of injector connector  d circuit wires, dans between engine of	Inj. #2 short- circuit to ground or open circuit	15	tor pin 15.  Flash  Vloutput pins.	270000	N	Y	N	
Damage Service Check for Check for P0264 Possible Damage Service Check for	e action: or 11.4 to 12.6 ohms or 12 volts on pin 2  le cause: ed injector, damaged e action: or 11.4 to 12.6 ohms	s between engine of injector connector  d circuit wires, dans between engine of	Inj. #2 short- circuit to ground or open circuit	15	tor pin 15.  Flash  Vloutput pins.	270000	N N	Y	N N	

FAULT	RE	SPONSIBLE MOD	ULE	BEEPER	WARNING	MESSAGE	FAULT DETECTED	FAULT DETECTED	LIMP	NORMAL
CODE	INFORMATION CENTER	МРЕМ	ECM	CODE	LIGHT	DISPLAYED (info ctr)	WHILE ENGINE NOT RUNNING	WHILE ENGINE RUNNING	HOME MODE	OPERATION RESUME WHEN
P0267	_	sille.	Inj. # 3 short-circuit to ground or open circuit	15	Flash	CHK ENG	N	Y	N	Fault is recovered
Damage Service Check for	e action: or 11.4 to 12.6 ohm		naged connector or d connector pin 3 and E							
P0268	-	-	Inj. # 3 short-circuit to 12 V	15	Flash	CHK ENG	N	Y	N	Fault is recovered
Damage Service Check for	e action: or 11.4 to 12.6 ohm		aged connector or d onnector pin 3 and E			110				
P0326			Knock sensor out of range	15	Flash	CHK ENG	N	Ý	N	Key is removed
Damage Service	action:		crank position sensor - wrong engine RPM detected	· · · · · · · · · · · · · · · · · · ·		ween system c CHK ENG	ircuits A-9 and A-23	_	3 - S	_
Damage Service For the (	action: CPS, check for 190	to 290 ohms betwee	iged connector, dama en terminals A-5 and rminal 4 on engine ( No CPS signal,	A-19 of EC	77.		efer to camshaft po	sition sensor.		
P0337	==	-	but CAPS signal detected	15	Flash	CHK ENG			12.00	<u>-</u>
Damage Service Check fo	action: r 190 to 290 ohms		ged connector, dama A-5 and A-19 of ECN ne.	18 0 - K. 18 0 V 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1 V		d tooth wheel.				
P0337	=	-	No CPS signal, but CAPS signal detected	15	Flash	CHK ENG	N	N	Ñ	Fault is recovered
Damage Service	action:		ged connector, dama	- 190		d tooth wheel.				

-A111-	RES	PONSIBLE MO	DULE	DECREE	MAIA DALING	MESSAGE	FAULT	FAULT	LIMP	NORMAL
FAULT CODE	INFORMATION CENTER	MPEM	ECM	BEEPER CODE	WARNING LIGHT	DISPLAYED (info ctr)	DETECTED WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME MODE	OPERATION RESUME WHEN
P0339	_	-	Crank signal fault not plausible with cam signal	15	Flash	CHK ENG	s <del></del>	-	-	-
Damage Service For the Corthe C	action: CPS, check for 190 to CAPS, check for 12 v	o 290 ohms betw olts on sensor co	naged connector, dam een terminals A-5 and onnector pin 3. terminal 4 on engine	d A-19 of EC	1020	ed tooth wheel.		=		
P0344	_	=	Cam phase sensor signal missing	15	Flash	CHK ENG	N	Y	N	Engine is stopped
Service or the C or the C	action: PS, check for 190 to APS, check for 12 v	290 ohms betw olts on sensor co	terminal 4 on engine	I A-19 of EC	- 1.00.120.100.100.100.1 <del>0</del> 0.4					
0351	-	=	Ignition coil #1 open circuit or shorted to ground or to 12 V	15	Flash	CHK ENG	Ñ	Y	5000	Engine is stopped
amage <b>ervice</b> theck fo	action:	between engine	ed connector or dama connector pin 1 and E		As A de BAT BOLL TO					
P0352			Ignition coil #2 open circuit or shorted to ground or to 12 V	15	Flash	CHK ENG	N	٧	5000	Engine is stopped
amageo ervice heck fo	action:	between engine	ed connector or dama							
0353	_	±1	Ignition coil #3 open circuit or shorted to ground or to 12 V	15	Flash	CHK ENG	N	Υ	5000	Engine is stopped
amageo <b>ervice</b> heck fo	action:	between engine	ed connector or dama connector pin 3 and E	3/4	.55 - 50				= Cmr	

F 4 1 1 1 T	RE	SPONSIBLE MOD	ULE	DEEDED	WARNING	MESSAGE	FAULT DETECTED	FAULT DETECTED	LIMP	NORMAL OPERATION
CODE	INFORMATION CENTER	MPEM	ECM	BEEPER	LIGHT	DISPLAYED (info ctr)	WHILE ENGINE NOT RUNNING	WHILE ENGINE RUNNING	HOME MODE	RESUME WHEN
P0461	_	Fuel level sensor circuit out of range	_	4	Flash	SENSOR	- Y	Y	N	Fault is recovered
Damage <b>Servic</b> e	e action:		aged connector or da			S.				
P0462		Fuel level sensor shorted to ground	-	4	Flash	SENSOR	Y	Y	N	Fault is recovered
Damago <b>Servic</b>	e action:		aged connector or da		EM output pin	S.				
P0463	_	Fuel level sensor circuit shorted to 12 V or open	-	4	Flash	SENSOR	Y	°Y.	N	Fault is recovered
ossib	le cause: ed sensor, damage	circuit d circuit wires, dama	aged connector or da	amaged MP	EM output pin:	S.				
Possib Damag Servic	ed sensor, damage e action:	5 - Anna Panes	aged connector or dand battery ground.  DLA output stage cutoff memory	amaged MP	EM output pin	CHK		_	_	
Possib Damag Servic Check v	ed sensor, damage e action:	d circuit wires, dama	DLA output stage cutoff memory difference				- ү			Fault is
Possib Damag Servic Check v	ed sensor, damage e action:	d circuit wires, dama	DLA output stage cutoff memory difference	15	Off	CHK ENG	— Y	N N	77.5	Fault is recovered Fault is recovered
Possib Damag Servic Check v	ed sensor, damage e action:	d circuit wires, dama	DLA output stage cutoff memory difference DLA output stage fault	15	Off	CHK ENG N/A		190	N	recovered Fault is
Possib Damag Servic Check v  Possib Damag Servic Check f Check f Check f	ed sensor, damage e action: voltage between sy  voltage between sy  ele cause: ed actuator, damage e action: for approximately 5 for damaged circuit for approximately 5	ed circuit wires, dama	DLA output stage cutoff memory difference DLA output stage fault DLA open circuit	15 15 15 damaged Ed	Off Off Off CM output pins B and C of t	CHK ENG N/A N/A N/A	Y	N	N N	recovered Fault is recovered Fault is

EALUE	RES	PONSIBLE M	ODULE			MESSAGE	FAULT	FAULT	LIMB	NORMAL
CODE	INFORMATION CENTER	MPEM	ECM	BEEPER CODE	WARNING LIGHT	DISPLAYED (info ctr)	DETECTED WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME MODE	OPERATION RESUME WHEN
P0520	:	==	Oil pressure switch functional problem	5	Off	CHK ENG	Y	Y	2500	Fault is recovered
Engine Service Check n	e action: esistance at 0 RPM a	nd above 3500	sor, damaged circuit wi RPM. PSI), the resistance is i			r damaged ECN	Λ pins.			
P0544		=	Exhaust gas temperature sensor functional problem	5	Flash	CHK ENG	N	Y	N	Fault is recovered
Damage <b>Service</b>	action:		at temperature of 19 t  Exhaust gas temperature sensor shorted			en system circ	uits A-10 and A-26.	Y	N	Fault is
amage <b>ervice</b>	action:		to ground naged connector or dar				e leading			recovered
heck fo	r approximately 2280	) to 2736 ohms	at temperature of 19 t	o 21°C (66 t	o 70°F) betwe	en system circi	uits A-10 and A-26.			
0546	_	_	Exhaust gas temperature sensor shorted to 12 V	5	Flash	CHK ENG	N	Y	N	Fault is recovered
	_	=	Exhaust gas temperature open circuit	5	Flash	CHK ENG	Y/N	Y	N	Fault is recovered
amaged ervice heck for	action:		naged connector or dan at temperature of 19 to		STORES STREET	en system circu	its A-10 and A-26.			
0562 ossible	cause:	14)	too low	15	Flash	N/A	N	Y	N	Fault is recovered
attery fa <b>ervice</b> heck fus heck sys	ailure, rectifier failure action:	positive (+) batt		nal connect	ion, damaged	AC generator o	r damaged connecto	ors.		

FALLE	RESPONSIBLE MODULE			DECDER	WARNING	MESSAGE	FAULT	FAULT	LIMP	NORMAL
FAULT CODE	INFORMATION CENTER	MPEM	ECM	BEEPER	WARNING LIGHT	DISPLAYED (info ctr)	DETECTED WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME MODE	OPERATION RESUME WHEN
P0563	_	_	Battery voltage too high	15	Flash	N/A	N	Υ	N	Fault is recovered
Battery t	le cause: failure, rectifier fai e action: or regulator-rectifie		minal connection.							
P0600	_	_	CAN communication problem detected by EMS	15	Flash	N/A	γ	Υ.	N	Fault is recovered
Diagnos <b>Service</b> Check sy	ed circuit wires, dar tic connector cap n a action: ystem circuits 1-16 diagnostic connec	ot connected. & 1-17, 1-10 & 1-	damaged ECM output	pins.						
P0600	_	-	CAN communication problem MPEM message missing	15	Flash	N/A	·Y	Y	Ñ	Fault is recovered
Damage <b>Service</b>	le cause: d circuit wires, dan e action: ystem circuits 2-10		or damaged ECM outp	ut pins.						
P0601	_	O <del>r</del>	TPS learns unlikely or checksum fault	15	Flash	CHK ENG		_	-	_
ECM not Service Check ca Check id Check th	e cause: t coded, damaged f e action: able adjustment. lle stop for wear. rrottle angle at idle osed TPS.		itialized.							
P0601	_		Module call monitoring	15	Flash	CHK ENG	_	_	_	
Damage <b>Service</b> Key on a	action:		8							

FALLE	RESPONSIBLE MODULE		DECREE	IMADNING	MESSAGE	FAULT	FAULT	LIMP	NORMAL	
CODE	INFORMATION CENTER	MPEM	ECM	BEEPER	WARNING LIGHT	DISPLAYED (info ctr)	WHILE ENGINE NOT RUNNING		HOME MODE	OPERATION RESUME WHEN
P0602	7—	447	ECU not coded	15	Flash	CHK ENG			Ş	-
ECM not Service	le cause: ot coded or damaged e action: vice action available		symptom 142.							
P0604	2-1		RAM faulty	15	Flash	CHK ENG	-	=		=
Damage Service	le cause: ed ECM. e action: vice action available	for fault P0604, s	ymptom 136.							
P0605		= 7	EEPROM faulty	15	Flash	CHK ENG	-		=	-
	ed ECM. e action: //ice action available	for fault P0605, s			T	CUIV				T
P0605		_	Checksum fault EEPROM	15	Flash	CHK ENG		-	-	-
	ed ECM. e action: vice action available	for fault P0605, s	Coding ID	15	Flash	СНК				
Possible Damage Service	lle cause: ed ECM. e action: vice action available	e for fault P0605, s	checksum fault		7) 50-800-1	ENG				
P0605	_		Coding checksum fault	15	Flash	CHK ENG	-		-	-
Damage Service	ed ECM. e action: vice action available	of fault P0605, s					- 72- 72-7			
P0605			Programming checksum fault	15	Flash	CHK ENG	572	_		
Damage Service	le cause: ed ECM. e action: vice action available	e for fault P0605, s				275 (175)				×

	RESPONSIBLE MODULE					MESSAGE	DETECTED	FAULT	LIMP	NORMAL
CODE	INFORMATION CENTER	МРЕМ	ECM	BEEPER CODE	WARNING	DISPLAYED (info ctr)	WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME	OPERATION RESUME WHEN
P0608	-	_	Sensor 5 V power supply short to ground	15	Flash	CHK ENG	Y	Y	N	Fault is recovered
Intake possessors Service Check for	le cause: oressure sensor or T s power line shorted e action: for MAPS or TPS fail for MAPS or TPS cir	ed to ground.								
P0608	-	-	Sensor 5 V power supply short to 12 V	15	Flash	CHK ENG	Y	Y	N	Fault is recovered
Intake po Sensors Service Check fo	le cause: oressure sensor or T is power line shorted e action: or MAPS or TPS fail for MAPS or TPS cir	ed to battery.	1 2		T.	T orw	T, V. Land		T	I contain
P0616 -		3 <del>=0</del>	Starter relay shorted to ground	5	Flash	CHK ENG	N (fault detected while cranking)	Y	N	Fault is recovered
		-	Starter relay open circuit	5	Flash	CHK ENG	Y	Y	N	Key is removed
Damage Service Verify 10	e action: 0 A fuse.	ged circuit wires, dan 2 of the starter relay	smaged connector or one.  By.  Starter relay shorted to 12 V	damaged EC	CM output pins	CHK	Y/N (sometimes when pressing the Start/Stop	N	N	Fault is recovered
Damage Service	e action:	ged circuit wires, dan	maged connector or over the second of the se	damaged EC	CM output pins	СНК	switch)			
Possibl No initia Service Check ca	le cause: alisation after throte action: able adjustment. dle stop for wear.	ttle body or ECM rej	failure	10/4		ENG				
		e plate is against the	a throttle stop.							

FALLE	RE	SPONSIBLE MOD	ULE	DEEDED	WARNING	MESSAGE	FAULT DETECTED	FAULT DETECTED	LIMP	NORMAL OPERATION
CODE	INFORMATION CENTER	MPEM	ECM	BEEPER CODE	LIGHT	DISPLAYED (info ctr)	WHILE ENGINE NOT RUNNING	WHILE ENGINE RUNNING	HOME MODE	RESUME WHEN
P1104	-	-	Throttle position sensor adaptation canceled	15	Flash	CHK ENG		_ = _	1=	=
Possible cause:  No initialisation after throttle body or ECM replacement or throttle idle stop drifted.  Service action:  Check cable adjustment.  Check idle stop for wear.  Make sure that the throttle plate is against the throttle stop.  Check throttle angle at idle.  Reset closed TPS.										
P1148	-	-	Fuel injector 1, 2 or 3 - safety fuel cut off detected	15	Off	CHK ENG	-	=	-	
Possible cause: Idle bypass valve wrong reference, TPS adaptation failure, TPS failure or battery voltage out of range.  Service action: Key on and off, Reset closed TPS. Check battery voltage. Replace TPS. Replace idle bypass valve.										
P1200		_	Blow by valve shorted to ground or open circuit	5	Flash	CHK ENG	Y/N	Y	5000	Fault is recovered
Blow-by Service	le cause: / valve failure, dam e action: or 1.27 to 2.47 ohn		damaged connector,	damaged E	CM pins or EC	M failure.				
P1201		-	Blow by valve shorted to 12 V	5	Flash	CHK ENG	N	N	N	N/A
Blow-by Service	le cause: / valve failure, dam e action: or 1.27 to 2.47 ohn		damaged connector,	damaged E	CM pins or EC	M failure.				
P1202		_	Oil tank pressure switch implausible or blow-by valve still closed	5	Flash	CHK ENG	N	N	N	N/A
1										
Damage Service Check for Check if Check re	e action: or 1.27 to 2.47 ohm FTOPS is connecte esistance at 0 RPM	ns between terminal d to wiring harness.	PM. At high RPM the				d ECM pins.			

	RESPONSIBLE MODULE		ULE			MESSAGE	FAULT	FAULT	LIMP	NORMAL OPERATION
CODE	INFORMATION CENTER	МРЕМ	ECM	BEEPER CODE	WARNING LIGHT	DISPLAYED (info ctr)	DETECTED WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME MODE	RESUME WHEN
P1517	Compass out of range	=	<u> </u>	15	Off	SENSOR	Y	Y	N	N/A
Damage Service Check co	e cause: d sensor, damaged e action: ompass connection or disable compa		ged connector or d	amaged MPi	EM output pin:	S.				
P1590		VTS Position Sensor Circuit — Out of Range	=	15	Off	SENSOR			N	=
Damage Service Check fo	action:	d circuit wires, dama s between system c setting page.		amaged MPI	EM output pin	s.				
P1591	:	VTS Position Sensor Circuit – Low Voltage	-	15	Off	SENSOR		=	N	
Damage Service Check fo	action:	d circuit wires, dama s between system c setting page.		amaged MP	EM output pin	S.				
P1592	9 <u></u>	VTS Position Sensor Circuit – High Voltage		15	Off	SENSOR		_	N	-
Damage Service Check fo	action:	d circuit wires, dama		amaged MPi	EM output pin:	s.				
P1593		VTS Malfunction	-	15	Off	SENSOR	_	-	N	_
Mechan	action:	or VTS mechanical	y immobilized.		1					
P1607	_	MPEM FAULT		15	N/A	_	-		N	
Damage Service	le cause: d MPEM. e action: ice action availabl	e for fault P1607.			ar er	THE SECTION				

	RE	RESPONSIBLE MODULE			WARNING	MESSAGE	FAULT DETECTED	FAULT DETECTED	LIMP	NORMAL OPERATION
CODE	INFORMATION CENTER	MPEM	ECM	CODE	LIGHT	(info ctr)	WHILE ENGINE NOT RUNNING	WHILE ENGINE RUNNING	HOME MODE	RESUME WHEN
P1675		Spare output 1 shorted to ground or open circuit	-	15	N/A	N/A	Y	Y	N	N/A
Damage <b>Service</b>	action:	naged circuit wires, da		r or damaged	MPEM autpu	t pins.	I A P			
P1676	-	Spare output 1 shorted to 12 V	_	15	N/A	N/A	Y	Υ	N	N/A
Damage Service	action:	naged circuit wires, da		r or damaged	MPEM outpu	t pins.				
P1678	_	Spare output 2 shorted to ground or open circuit	-	15	N/A	N/A	ΥΥ	Υ	N	N/A
Service	action:	sable spare output 2 in  Spare output 2 shorted to 12 V		or damaged	I MPEM outpu	t pins,	Y	Y	N	N/A
Service	action:	maged circuit wires, da sable spare output 2 in		or or damage	d MPEM outpu	rt pins.				T
P1680	19.55	Communication problem detected by MPEM	-	5	N/A	N/A	Y	Y	N	N/A
Damagi Diagno: <b>Servic</b>	le cause: ad circuit wires, da stic connector cap e action: t diagnostic conne		naged MPEM ou	tput pins.					11	
P1681	_	Communication problem – instrument cluster message missing	=	5	N/A	N/A	Y	Ÿ	N	N/A
Damag Instrum <b>Servic</b>	le cause: ed circuit wires, d ent cluster not co e action: system circuits 1-1		maged MPEM ou	tput pins.						
Check t		en pins 7 and 8 on the	instrument clust	er harness co	nnector.					

40% TWO IS	RE	RESPONSIBLE MODULE			ATTERES (1917)	MESSAGE	FAULT	FAULT	LIMP	NORMAL
FAULT CODE	INFORMATION CENTER	MPEM	ECM	BEEPER CODE	WARNING LIGHT	DISPLAYED (info ctr)	DETECTED WHILE ENGINE NOT RUNNING	DETECTED WHILE ENGINE RUNNING	HOME MODE	OPERATION RESUME WHEN
P1682	_	Communication problem - EMS message missing	2=2	5	N/A	N/A	Y	y	N	N/A
Damage Service Check s Check for Check 5	e action: ystem circuits 2-10		amaged MPEM outp	out pins. EC	M not connect	ed.				
P1683	_	1-1	COM RAM Fault	15	Flash	N/A	_	-		-
Damage Service	e action:	e for fault P1683, sy	mptom 88.							
P1690	-	VTS control up circuit open circuit or shorted to ground	s=	15	Off	N/A	Y	Y	N	N/A
Damage Service	action:		ed connector or dam 7 and 2-1 when VTS							1321
P1691	=	VTS control up circuit shorted to battery	=	15	Off	N/A	Y	Y	N	N/A
Damage <b>Service</b>	action:		ed connector or dam 7 and 2-1 when VTS							
P1692	_	VTS control down circuit open circuit or shorted to ground	_	15	Off	N/A	У	у	N	N/A
Damage Service	action:	- N - 5%	ed connector or dam 3 and 2-1 when VTS	S	o n					'n
P1693	-	VTS control down circuit shorted to battery		15	Off	N/A	y	ý	N	N/A
Damage <b>Service</b>	action:		ed connector or dam 3 and 2-1 when VTS							

# BURNT FUSE AND RELATED FAULT CODE

FUSE	RATING (A)	FAULT CODE	FAULT DETECTED WHILE ENGINE NOT RUNNING
TOPS	10	P0344, P1200	N.
Depth gauge (if so equipped) or spare fuse	2	P1675	Y
Cylinder #3 ignition coil and injection	10	P0353, P0267	N
Information center	1	P1680, P1681	N
Cylinder #2 ignition coil and injection	10	P0352, P0264	N
Cylinder #1 ignition coil and injection	10	P0351, P0261	N
Bilge pump (optional), beeper, diagnostic connector	3	P0616	Y
Spare fuse	5	P1678	Y
Electric starter, fuel pump	10	P0231	Y
MPEM	2	P0600	N
VTS (if so equipped)	7.5	P1690, P1692	N
EMS etart/eton circuit	5	None	N

