COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PA	RAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
TCM, Internal Fault	P0605	ROM checksum or RAM error	Calculated checksum differs from	Number of failed calculations: 2				Immediately	Immediately
			stored.					Continuous	
Lost communication with	U0100	Frame missing from ECM	Detect no Status CAN frame from		DS Active CAN ¹		TRUE	4 sec	Immediately
ECM (Engine)			ECM		Ignition Emergency mode		ON >3sec. FALSE	Continuous	
Invalid data from ECM	P1895	Engine Torque signal is indicated	Invalid Torque data from ECM		DS Active CAN ¹		TRUE	4 sec	Immediately
		invalid			Ignition Emergency mode		ON >3sec. FALSE	Continuous	
					No DTC set		U0100		
				•	110 2 10 000				
Solenoid S1		Circuit continuity check	Short-cut ground	4	DS Active ²		TRUE	500 msec	Immediately
	P0986	-	Not connected or short-cut Ubatt	4	Emergency mode		FALSE	Continuous	
					Time after solenoid	output change	> 25 IIIS		
Solenoid S2	P0973	Circuit continuity check	Short-cut ground		DS Active ²		TRUE	500 msec	Immediately
Colonola C2	P0974	Orical continuity criccic	Not connected or short-cut Ubatt	1	Emergency mode		FALSE	Continuous	immediately
				= -	Time after solenoid	output change	> 25 ms		
		I.		·	1 2		TTO UT	Izon	
Solenoid S3	P0976 P0977	Circuit continuity check	Short-cut ground Not connected or short-cut Ubatt	4	DS Active ²		TRUE FALSE	500 msec Continuous	Immediately
	F0977		Not connected of short-cut obatt		Emergency mode Time after solenoid	output change		Continuous	
Solenoid S4		Circuit continuity check	Short-cut ground		DS Active ²		TRUE	500 msec	Immediately
	P0980		Not connected or short-cut Ubatt		Emergency mode		FALSE	Continuous	
				-	Time after solenoid	output change	> 25 ms		
Solenoid S5	P0982	Circuit continuity check	Short-cut ground	I	Ino 4 // 2		TRUE	500 msec	Immodiately
Solellold SS	P0983	Circuit continuity check	Not connected or short-cut Ubatt	1	DS Active ² Emergency mode		FALSE	Continuous	Immediately
	. 0000		The commeded of chore out obdit		Time after solenoid	output change	> 25 ms	Continuous	
				<u> </u>					
Torque Converter Clutch	P0741	Comparison of engine speed and	(Engine Speed - Transmission	> 100rpm	No Shiftina Control ⁶			12 sec	Immediately
Slips		transmission input speed	Input Speed)		Throttle		> 20%	Continuous	
					abs(1-SpeedABS/Tr abs(1-SpeedABS/Tr		< 10% < 10%		
					Shift Position	ans. input	RANGE D, 4, 3, 2, M	1	
					2		(defined)		
					Engine Speed		< 4000 rpm		
					SLU target current		>= 1000mA		
					Time after shifting		> 0,5 sec		
					Battery voltage		> 10,5 V	4	
					DS Active ²		TRUE FALSE		
					Emergency mode		EΔISE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0501 P0705 P0711 P0712 P0713 P0716 P0717 P0721 P0722 P0725 P0786 P0787 P0788 P0961 P0962 P0963 P0973 P0974 P0976 P0977 P0979 P0980 P0980 P0982 P0983 P0985 P0986 P1820 P1820 P1820 P1820 P1826 P2762 P2763 P2764		
Torque Converter Clutch Stuck On		Comparison of engine speed and transmission input speed	(Engine Speed - Transmission Input speed)	< 50rpm		U0001 U0100 U0121 >= <= 240 Nm <= 3000rpm	12 sec Continuous	Immediately
					Time after changing to Shift Time after IG ON or a reset of the Time after shifting control	>8.0 sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUN
					(Shift position	RANGE_D,M,L		
					((defined) or >75 sec		
						with over 5km/h and		
						RANDE_D,L		
						(undefined) fulfilled		
					E			
					Engine Speed	>= 400 rpm		
					IG voltage	>= 10.5 V		
					DS Active ²	TRUE		
					Emergency mode	FALSE		
					No DTC set	P0721		
						P0722		
						P0716		
						P0717		
						P0705		
						P0985		
						P0986		
						P0973		
						P0974		
						P0976		
						P0977		
						P0979		
						P0980		
						P0982		
						P0983		
						P0961		
						P0962		
						P0963		
						P0786		
						P0787		
						P0788		
						P2762		
						P2763		
						P2764		
						U0001		
						U0100		
						P1820		
						P0725		
						P1895		
						P0711		
						P0712		
						P0713		
	D0704	Cina di annatino di anta alla	Ohant and amound an array	1		TDUE	40.5	lancan a alia (.)
essure solenoid SLU	P2764	Circuit continuity check	Short-cut ground or open	400 mA		TRUE FALSE		Immediatel
			Current (AD	<92 mA < 68)	Emergency mode	FALSE	Continuous	
			IVD	> 00)				
	P2762		Terminal short		Emergency mode	FALSE	2,75 sec	Immediate
			Error current	> 80 mA	Oil temperature	> 20°C	Continuous	
					System voltage	11 -18 V		
					System voltage change	< 0,2V		1

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY	PARAMETERS	CONDITIONS	TIME REQUIRED	MIL ILLUM
					Output current ta	rget	> 853mA and not changed during		
					DS Active ²		detection TRUE		
					DO Active				
					No DTC set		P0711		
							P0712		
						ı	P0713		
	D0700		Object of the Head		2		TOUE	0	1
	P2763		Short-cut Ubatt	- 4050 A	DS Active ²		TRUE FALSE	2 sec	Immediately
			Measured Current (AD	> 1356 mA > 1000)	Emergency mod	1	FALSE	Continuous	
			(AD	> 1000)			<u> </u>		
Pressure solenoid SLT	P0962	Circuit continuity check	Short-cut ground or open		DS Active ²		TRUE	12.5 sec	Immediately
recours colonial CET	. 0002	on our continuity of look	Current	<92 mA	Emergency mod	9	FALSE	Continuous	iiiiiiodiatory
			(AD	< 68)			. 7.202	Continuous	
			(
	P0961		Terminal short		Emergency mod	ė	FALSE	2.75 sec	Immediately
			Error current	> 80 mA	Oil temp		> 20°C	Continuous	•
					System voltage		11 -18 V		
					System voltage of		< 0,2V		
					Output current ta	rget	> 853mA and not		
							changed during		
							detection		
					DS Active ²	1	TRUE		
					N 570 /		D0744		
					No DTC set		P0711		
							P0712 P0713		
				+			P0713		
	P0963		Short-cut Ubatt		DS Active ²		TRUE	2 sec	Immediately
	1 0303		Measured Current	> 1356 mA	Emergency mod	2	FALSE	Continuous	iiiiiiediately
			(AD	> 1000)	Emergency mod	Ĭ	TALOL	Continuous	
			- K		L.	l			
Timing solenoid SLS	P0787	Circuit continuity check	Short-cut ground or open		DS Active ²		TRUE	12.5 sec	Immediately
_			Current	<92 mA	Emergency mod	е	FALSE	Continuous	-
			(AD	< 68)					
	P0786		Terminal short	Error current > 80 mA	Emergency mod	Э	FALSE	2.75 sec	Immediately
					Oil temp		> 20°C	Continuous	
					System voltage		11 -18 V		
					System voltage of	nange	< 0,2V		
					Output current ta	rget	> 853mA and not		
							changed during		
					DS Active ²		detection TRUE		
					DO ACTIVE				
					No DTC set		P0711		
					110 2 70 300		P0712		
				1		1	P0713		
	-							1	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	P0788		Short-cut Ubatt		DS Active ²	TRUE	2 sec	Immediately
			Measured Current	> 1356 mA	Emergency mode	FALSE	Continuous	,
			(AD	> 1000)				
Shift Malfunction	P0780	Shift time check	Shift time is too long, too short or	"tie up" occurs	No Multiplex Shifting ⁸		Detected 5 times	Immediately
				·		. 0000	during DCY	,
					Oil temperature	> 60°C	-	
					Emergency mode	FALSE		
					DS_Active ²	TRUE	Continuous	
					Shift position	D, 4, 3, L, or M		
					No DTC set	P0721		
						P0722	_	
						P0716	_	
						P0717		
						P0705		
						P0985		
						P0986		
						P0973		
						P0974		
						P0976		
						P0977		
						P0979		
						P0980		
						P0982		
						P0983		
						P0961		
						P0962		
						P0963		
						P0786		
						P0787		
						P0788		
						P2762		
						P2763	1	
						P2764	╡	
						U0001	1	
						U0100	₹	
						P1820	₹	
						P0725	╡	
						P1895	1	
						P0711	+	
						P0711 P0712	1	
						P0712 P0713	-	
						P1896	1	
						F 1090	╡	
						P2159	=	
						P0501 U0121	4	
	<u> </u>					00121		
CAN Bus Off Counter	U0001	CAN controller continuity check	CAN controller Bus Off is		Inc. 4.11 - 0441	TRUE	12,7sec (9-5)	Immediately
	00001	CAN CONTROLLE CONTINUITY CHECK			DS_Active_CAN ¹	INUE	12,7580 (8-0)	iiiiiieuiaiely
Overrun	<u> </u>		detected					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY F	PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Counter reaches	7	Time after Ignition of the controller	ON or a reset	>3 sec	28sec (9-3)	
								Continuous	
									1-
Transmission input speed	P0717	Circuit continuity check	Condition 1 (no pulse)	0	No Shifting Contro	ol ^o		Speed dependent	Immediately
sensor			No of pulses from input sensor	0	Not garage shiftin	g control (N-D)		(e.g 4 sec at 100 km/h)	
			No of pulses from output sensor	3000	B1 not released			KIII/II)	
					outRpm * GearRa	tioExpected	> 600 rpm		
					Shifter position		D,4,3,2,M	Continuous	
			Condition 2 (no pulse)		CurrentGear	- f D. D N.	>= 2	30sec	
			Transmission Input Speed		Time since chang to others if vehicle 66km/h and oilten	e speed <=	>10 Sec	Continuous	
			SpeedABS	>20km/h	Time since chang to others if vehicle or oiltemp. > 20°C	e from P, R or N e speed >66km/h			
					DS Active ²		TRUE		
					Emergency mode		FALSE		
					N 570 /		D0=0=		
					No DTC set		P0705 P0721 (only condition		
							1)		
							P0722 (only condition 1)		
			Condition 3 (no pulse)		DS Active ²		TRUE	30sec	
			NCIM-voltage (AD-value)	AD<45 or AD>545	Emergency mode		FALSE	Continuous	
	P0716		Pulses incorrect		No Shifting Contro	ol ⁶		10 sec	Immediately
	(only				Not garage shiftin	g control ⁷ (N-D)		Continuous	
	Saab 9-		abs(1-SpeedABS/ Transmission	> 15%	B1 not released				
	3)		Input Speed)		LockUp	0/ 10 00)	ON		
					abs(1-outRpmAB		< 5%		
					abs(1-outRpmAB	S/ outRpmEG)	< 5%		
					Time after shifting		>8 sec		
					Time after changi	ng to	>8 sec		
			_	<u> </u>	Gear		>= 2ND		
					Range		Other than P and N and R		
					EgRpm		> 400rpm		
	1				Spinning ¹¹		FALSE		
	-				DS_Active ²		TRUE		
					Emergency mode		FALSE	1	
					SpeedABS		>30km/h		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS		ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							P0711		
							P0712		
							P0713		
							P0721		
							P0722		
							P0725		
							P0741		
							P0786		
							P0787		
							P0788		
							P0961		
							P0962		
							P0963		
							P0973 P0974		
							P0976		
							P0977		
							P0979		
							P0980		
							P0982		
							P0983		
							P0985		
							P0986		
							P1820		
							P1895		
							P2762		
							P2763		
							P2764		
							U0121		
							-		
Invalid signal from ECM	P1820	Accelerator pedal position signal is invalid	Data from ECM indicated as invalid		DS_Active ²		TRUE	4 sec	Immediately
					Time after Ignitio	n ON or reset of	>3 sec	Continuous	
					CAN controller.				
					Emergency mod	e	FALSE		
					No DTC set		U0100		
Trans. Output speed sensor	D0722	Circuit continuity chack	Condition 1 (No pulse)	T	Income to the			6000 pulses	Immediately
Trans. Output speed sensor	F 07 22	Circuit continuity check	No of pulses from output sensor	0	Not in Neutral co No Shifting Cont	ntrol		0000 puises	iiiiiieulately
								0	
			No of pulses from input sensor	6000	Not garage shifti	na control' (N-D)	TDUE	Continuous	
					DS Active ² Trans.Output Sp	and anloydated	TRUE >300rpm (only		
						eeu calculateu			
			Condition 2 (No pulso)	 	from ABS Selected gear		Condition 1) D, 4, 3, 2, M	30 sec	Immediately
			Condition 2 (No pulse)		Time since chan	ge from P, R or N	210 sec	Continuous	minieulaleiy
					to others if vehic		7 10 360	Continuous	
					66km/h and oilte				
						ge from P, R or N	>2.5 sec		
						ge from P, R of N le speed >66km/h	- 4,0 300		
					or oiltemp. > 20°				

OMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM
					Emergency mode	FALSE		
			Transmission Output Speed	0				
			SpeedABS	>20km/h	No DTC set	U0121		
						P0705 P0716 (only Condition		
						1)		
						P0717 (only Condition		
						1)		
		-	Short to Ubatt or GND		DS_Active ²	TRUE	30sec	Immediatel
						FALSE	Continuous	
					Zmergeney meas		001111111111111111111111111111111111111	
	P0721	·	Incorrect rpm		B1 not released		10 sec	Immediate
	(only		abs(1-SpeedABS/ Transmission	> 15 %	No Shifting Control ⁶		Continuous	
	Saab 9-		Output Speed)		Not garage shifting control ⁷ (N-D)			
	3)				abs(1-outRpmABS/ outRpmNC)	< 5 %		
					Time after shifting control ⁶	>8 sec		
					Time after shifting control ⁶ Time after changing to	>8 sec		
					GearSelector = RANGE_D,4,3,2			
					Gear	>= 2ND		
					Range	other than P and N and		
					EgRpm	> 400rpm		
					Spinning ¹¹	FALSE		l
					DS_Active ²	TRUE		
						FALSE		
					Emergency mode SpeedABS	> 30km/h		
					Эрееильз	> JUNIII/II		
					No DTC set	P0716		
						P0717]
						P0705		
						P0985		
						P0986		
						P0973 P0974		
						P0974 P0976		
						P0977		
						P0979		1
						P0980		
						P0982]
						P0983		
						P0741		
						P0961		
						P0962		
						P0963 P0786		l
						P0788		
				 		P2762		
						P2763		I

COMPONENT/ SYSTEM FAL		MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	A THRESHOLD VALUE	SECONDARY	PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							P2764		
							P1820		
							P0725		
							P1895		
							U0121		
							P0711		
							P0712		
							P0713		
Gear error, hydraulic fault	P0730	Rationality, (Calculation of actual	Condition 1		No Shifting Cont	rol ⁶		12 sec	Immediately
, ,		gear ratio is not correct)			Not garage shifti	na control ⁷ (N-D)			,
		,	B : : : : : : : : : : : : : : : : : : :						
			Driving on 4th gear and abs(1-	. 000/	Transmission Ou	itput Speed	>= 500rpm	0	
			GRCurrent/GRExpected)	> 20%	Time after chang	ing to Sniπ	>8.0 sec	Continuous	
					position == RANGE_D,4,3,2	(defined)			
					Time after shiftin	g control	>0.5 sec >= 20°C		
					Oil temperature Shift position		RANGE_D,4,3,2(define		
					Shirt position		d)		
					Engine speed		> 400 rpm		
					IG voltage		>= 10.5 V		
					brake		OFF		
					Spinning ¹¹		FALSE		
					DS_Active ²		TRUE		
			0		Emergency mod- abs(1 - SpeedAl	e 	FALSE < 10 %		
			Condition 2		Throttle	BS / SpeedSP)	> 10 %		
			Driving on 5th gear - gear ratio	1.504 ± 4%	THOME		2 TU 70		
			Driving on our gear - gear ratio	1.304 1 4 70	No DTC set		P0721		
					NO DIO SCI		P0722		
							P0716		
							P0717		
							P0705		
							P0985		
							P0986		
							P0973		
							P0974		
							P0976		
							P0977		
							P0979		
							P0980		
							P0982 P0983		
			+	+		1	P0961		
							P0962		
							P0963		
				+			P0786		
				<u> </u>			P0787		
							P2762		
			1	- 			P2763		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETER	S ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P2764		
						U0001		
						U0100		
						P1820		
						P0725		
						P1895		
						P1896		
						P0711		
						P0712		
						P0713		
						P2159		
						P0501		
						U0121		
Transmission range switch	P0705	Check of switch output pattern	Failure combination of signals		DO A. II. 2	TRUE	5 sec	Immediately
Transmission range switch	F0703	Check of switch output pattern	from Gear Selector range switch		DS_Active ²	IKOL	Continuous	iiiiiieulaleiy
			Illoili Geal Selector range switch				Continuous	
Transmission oil	P0711	Rationality	Oil temperature change less than	10 (AD value)	Oil temp sensor	10< AD < 1000	10 min	Two DCY
temperature sensor		. tationality	on temperature on angeness and	10 (1.12 14.140)	Oil temp	< 20 °C	Continuous	
tomporatare dericer					Gear Selector	≠ (P, R or N)	1	
					DS Active ²	TRUE		
					Emergency mode	FALSE	=	
					Vehicle speed	> 40 km/h once	-	
					vernicie speed	7 40 KIII/II ONCE	-	
					No DTC set	P0705		
	P0712	Circuit continuity check	Short-cut ground		DS_Active ²	TRUE	5 min	Two DCY
		,	Voltage	< 50 mV	Emergency mode	FALSE	Continuous	
			(AD	< 10)	Emergency mode	TALOL	Continuous	
			(7.5)	,	<u> </u>	.		
	P0713	Circuit continuity check	Short-cut Ubat or open circuit		DS Active ²	TRUE	12 sec	Two DCY
			AD	> 1000	Emergency	FALSE	Continuous	
					mode	1		
					Driving time	>10 min		
				•		•		
Gear error, hydraulic fault	P0731	Rationality	(Transmission Input Speed -	>300rpm	Not garage shifting control ⁷ (N-	D)	10 sec	Immediately
			Transmission Output Speed X		IG voltage	>= 10.5V	Continuous	
			GRExpected)		Engine speed	>(T/M input rev + 150)	
			(Transmission Input Speed -	<100rpm	ignie speed	for 150msec	·	
			Transmission Output Speed X	,		continuously.		
			GRExpected(2nd))		InTorgo no ACC 10	30Nm <=	1	
			, , , , , , , , , , , , , , , , , , , ,		InTorqe_noACC ¹⁰	InTorg noACC <		
						200Nm		
					T/M input rev	>Table1 ⁴	1	
					T/M output rev	>Table1 ⁴		
					current Gear	1	+	
					Time after changing to shift	>8.0sec		
					position == RANGE D,4,3,2	0.0000	1	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY	SECONDARY PARAMETERS		TIME REQUIRED	MIL ILLUM
					Time after shiftin	a control ⁷	>0.5 sec		
					Oil temperature	9 0011010	>= 20°C		
					Engine speed		>400rpm		
					Shiftposition		RANGE_D,4,3,2(define		
					Offitposition		d) or		
							RANGE_D,4,3,2(undefi		
							ned) for 75sec.		
					DO 4 11 2		TRUE		
					DS_Active ²				
					Emergency mod	e T	FALSE		
					No DTC set		P0501		
					NO DTC Set	1	P0705		
						1	P0705 P0711		
				1			P0712		
							P0713		
							P0716		
							P0717		
							P0721		
							P0722		
							P0725		
							P0786		
							P0787		
							P0788		
							P0961		
							P0962		
							P0963		
							P0973		
							P0974		
							P0976		
							P0977		
							P0979		
							P0980		
							P0982		
							P0983		
							P0985		
							P0986		
							P1820		
							P1895		
							P1896		
						1	P2159		
							P2762		
							P2763		
							P2764		
							U0001		
							U0100		
	<u> </u>		<u> </u>				U0121		
	P0732	Rationality	Calculated ratio for 2nd gear	>20%	No Shifting Cont	rol ⁶		12 sec	Immediatel
	1 0732	Tationality	difference from expected	2070					IIIculatei
			umerence nom expected		Not garage shifti	ng control' (N-D)		Continuous	
					Throttle		> 10%		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY	PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Current gear		2		
					Time after chang	ing to Shift	>8.0 sec		
					position ==	ing to Chilt	0.0 300		
					RANGE_D,4,3,2	(dofined)			
					Time after shifting	g control ⁷	>0.5 sec		
					Oil temperature		>= 20°C		
					Shift position		RANGE_D,4,3,2(define		
							d)		
					Engine speed		> 400 rpm		
					IG voltage		>= 10.5 V		
					Brake		OFF		
					Spinning ¹¹		FALSE		
					DS_Active ²		TRUE		
					Emergency mode		FALSE		
					Emergency mode))() / T	< 10 %		
					abs(1 - SpeedAl	35 / Hans.	< 10 %		
					Output Speed)				
					Transmission Ou	tput Speed	>= 500rpm		
					No DTC set		P0501		
							P0705		
							P0711		
							P0712		
							P0713		
							P0716		
							P0717		
							P0721		
							P0722		
							P0725		
							P0786		
							P0787		
							P0788		
							P0961 P0962		
							P0963		
l							P0973		
							P0974		
							P0976		
							P0977		
							P0977 P0979		
							P0980		
							P0982		
							P0983		
							P0985		
							P0986		
							P1820		
							P1895		
							P1896		
							P2159		
							P2762		
	1						F2102		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY	PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM
							P2763		
							P2764		
							U0001		
							U0100		
							U0121		
	P0733	Rationality	Calculated ratio for 3rd gear	>20%	No Shifting Cont			12 sec	Immediately
			difference from expected		Not garage shifti	na control ⁷ (N-D)		Continuous	
					Throttle		> 10%		
					Current gear		3		
					Time after change	ging to Shift	>8.0 sec		
					position ==				
					RANGE_D,4,3,2	(defined)			
					Time after shifting	g control ⁷	>0.5 sec		
					Oil temperature		>= 20°C		
					Shift position		RANGE_D,4,3,2(define d)		
					Engine speed		> 400 rpm		
					IG voltage		>= 10.5 V		
					Brake		OFF		
					Spinning ¹¹		FALSE		
					DS_Active ²		TRUE		
					Emergency mod	Δ	FALSE		
					abs(1 - SpeedA	BS / Trans	< 10 %		
					Output Speed)	DO / Trails.	10 /0		
					Transmission Ou	utput Speed	>= 500rpm		
					No DTC set		P0501		
							P0705		
							P0711		
							P0712		
					<u> </u>		P0713		
							P0716		
							P0717		
							P0721		
							P0722		
							P0725		
							P0786		
							P0787		
							P0788		
							P0961		
							P0962		
							P0963		
							P0973		
					<u> </u>		P0974		
							P0976		
							P0977		
							P0979		
	l	l			1		P0980		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0982		
						P0983		
						P0985		
						P0986		
						P1820		
						P1895		
						P1896		
						P2159		
						P2762		
						P2763		
						P2764		
						U0001		
						U0100		
						U0121		
	P0734	Rationality	Calculated ratio for 4th gear	>20%	No Shifting Control ⁶		12 sec	Immediately
			differendes from expected.		Not garage shifting control ⁷ (N-D)		Continuous	
					Throttle	> 10%		
					Current gear	4		
					Time after changing to Shift	>8.0 sec		
					position ==			
					RANGE_D,4,3,2(defined)			
					Time after shifting control ⁷	>0.5 sec		
					Oil temperature	>= 20°C		
					Shift position	RANGE_D,4,3,2(define	!	
						d)		
					Engine speed	> 400 rpm		
					IG voltage	>= 10.5 V		
					Brake	OFF		
					-1- 3	FALSE		
						TRUE		
					Emergency mode	FALSE		
					abs(1 - SpeedABS / Trans.	< 10 %		
					Output Speed)			
					Transmission Output Speed	>= 500rpm		
					No DTC set	P0501		
						P0705		
						P0711		
						P0712		ļ
						P0713		
						P0716		l
						P0717		
						P0721		
						P0722		ł
						P0725 P0786		ł
						P0787		
			Ī			P0788		I

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY	PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							P0961		
							P0962		
							P0963		
							P0973		
							P0974		
							P0976		
							P0977		
							P0979		l
							P0980		I
							P0982		l
							P0983		l
							P0985		l
							P0986		l
							P1820		l
							P1895		
							P1896		
							P2159		l
							P2762		l
							P2763		
							P2764		
							U0001		
							U0100		
				1			U0121		
	P0735	Rationality	Calculated ratio for 5th gear	>20%	No Shifting Contr	-ol6		12 sec	Immediately
	P0735	Rationality	Calculated ratio for 5th gear difference from expected	>20%	No Shifting Contr				Immediately
	P0735	Rationality	Calculated ratio for 5th gear difference from expected	>20%	Not garage shiftir			12 sec Continuous	Immediately
	P0735	Rationality		>20%	Not garage shiftir Throttle		> 10%		Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear	ng control ⁷ (N-D)	> 10% 5		Immediately
	P0735	Rationality		>20%	Not garage shiftir Throttle Current gear Time after changi	ng control ⁷ (N-D)			Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position ==	ng control ⁷ (N-D)	> 10% 5		Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after change position == RANGE_D,4,3,2(ing to Shift (defined)	> 10% 5 >8.0 sec		Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position ==	ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec		Immediately
	P0735	Rationality		>20%	Not garage shiftin Throttle Current gear Time after changi position == RANGE_D,4,3,2(Time after shifting Oil temperature	ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec >= 20°C	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after change position == RANGE_D,4,3,2(ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position	ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d)	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position Engine speed	ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position Engine speed IG voltage	ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position Engine speed IG voltage Brake	ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position Engine speed IG voltage	ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2() Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning ¹¹	ing to Shift (defined)	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning ¹¹ DS_Active ²	ing to Shift (defined) g control ⁷	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE TRUE	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning ¹¹ DS_Active ² Emergency mode	ing to Shift (defined) g control ⁷	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE TRUE FALSE	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after change position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning ¹¹ DS_Active ² Emergency mode abs(1 - SpeedAE	ing to Shift (defined) g control ⁷	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE TRUE	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2() Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning ¹¹ DS_Active ² Emergency mode abs(1 - SpeedAE Output Speed)	ing to Shift (defined) g control ⁷	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE TRUE FALSE < 10 %	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after change position == RANGE_D,4,3,2(Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning ¹¹ DS_Active ² Emergency mode abs(1 - SpeedAE	ing to Shift (defined) g control ⁷	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE TRUE FALSE	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after change position == RANGE_D,4,3,2() Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning11 DS_Active2 Emergency mode abs(1 - Speed) Cutput Speed) Transmission Ou	ing to Shift (defined) g control ⁷	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE TRUE FALSE < 10 % >= 500rpm	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after changing position == RANGE_D,4,3,2() Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning ¹¹ DS_Active ² Emergency mode abs(1 - SpeedAE Output Speed)	ing to Shift (defined) g control ⁷	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE TRUE FALSE < 10 % >= 500rpm P0501	Continuous	Immediately
	P0735	Rationality		>20%	Not garage shifting Throttle Current gear Time after change position == RANGE_D,4,3,2() Time after shifting Oil temperature Shift position Engine speed IG voltage Brake Spinning11 DS_Active2 Emergency mode abs(1 - Speed) Cutput Speed) Transmission Ou	ing to Shift (defined) g control ⁷	> 10% 5 >8.0 sec >0.5 sec >= 20°C RANGE_D,4,3,2(define d) > 400 rpm >= 10.5 V OFF FALSE TRUE FALSE < 10 % >= 500rpm	Continuous	Immediately

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY	PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							P0713		
							P0716		
							P0717		
							P0721		
							P0722		
							P0725		
							P0786		
							P0787		
							P0788		
							P0961		
							P0962		
							P0963		
							P0973		
							P0974		
							P0976		
							P0977		
							P0979		
							P0980		
							P0982		
							P0983		
							P0985		
							P0986		
							P1820		
							P1895		
							P1896		
							P2159		
							P2762		
							P2763		
							P2764		
							U0001		
							U0100		
							U0121		
							00121		
	P0736	Rationality	Calculated ratio for Reverse gear	>20%	No Shifting Contr	ol ₆		6 sec	Immediately
			difference from expected		Not garage shifting			Continuous	
					abs(1 - SpeedAl	SS / Trans	< 10 %		
					Output Speed)	DO / Trans.	10 /0		
							_		
					Selected gear		R		
					A/T oil temp.		> 20°C		
					Throttle		> 10%		
					Engine speed	-:6	> 400 rpm		
					Time after N-R sl	піπ	8 sec		
					IG voltage	tout On a 1 1	> 10,5 V		
					Transmission Ou	tput Speed	>= 500rpm		
					Brake		OFF		
					DS_Active ²		TRUE		
					Emergency mode	Э	FALSE		
	1	Ī		I	1	I	1	I	
					No DTC set		P0501		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY	PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							P0705		
							P0711		
							P0712		
							P0713		
							P0716		
							P0717		
							P0721		
							P0722		
							P0725		
							P0786		
							P0787		
							P0788		
							P0961		
							P0962		
							P0963		
							P0973		
							P0974		
							P0976		
							P0977		
							P0979		
							P0980		
							P0982		
							P0983		
							P0985		
							P0986		
							P1820		
							P1895		
							P1896		
							P2159		
							P2762		
							P2763		
							P2764		
							U0001		
							U0100		
							U0121		
	P1731	Rationality	Calculated ratio for Reverse gear	>20%	No Shifting Contr	ol ⁶		12 sec	Immediately
			difference from expected		Mode Selector		Triptronic mode or Shift position Range_L	Continuous	
					Shift position		RANGE_D(defined)		
					A/T oil temp.		> 20°C		
					Throttle		0%		
					Engine speed		> 400 rpm		
					Time after shift to	D.4.3.2(defined)	8 sec		
					IG voltage		> 10,5 V		
					Transmission Ou		1260rpm >= outRpm >= 500rpm		
					Brake		OFF		
					DS_Active ²		TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAI	METERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUN
					Time after shifting control	ol >0	5sec		
					Current gear		engine brake		
					Current gear	151	engine brake		
					No DTC set	P05	501		
					110 10 301	P07	705		
						P07	711		
						P07	712		
						P07	713		
						P07	716		
						P07	717		
						P07	721		
						P07	722		
						P07	725		
						P07	786		
						P07	787		
						P07	788		
						P09	961		
						P09	962		
						P09	963		
						P09	973		
						P09	974		
						P09	976		
						P09 P09	977		
						P09	979		
						PUS	900		
						P09	902		
						POS POS	903		
						P09	960		
						P18	820		
						P18	895		
						P18	896		
						P21	159		
						P27	762		
						P27	763		
						P27	764		
						UO	001		
						U0 ²	100		
						U0 ²	121		
igine speed signal	P0725	Signal from ECM stated as	Engine Speed Validity	Invalid	Not lost communication	with ECM		4 sec	Immediatel
		unreliable			Ignition	ON	I > 3 sec		
					DS_Active_CAN ¹		UE	Continuous	
					Transmissio input speed	5)	00rpm (only Saab 9-		
	1				Emergency mode	FAI	LSE		
					Battery voltage	> 1	0,2 V		
te: All components/syster	n (DTCs)	have a test frequency of							
~60ms	, /		Ì		1 1				1

COMPONENT/ SYSTEM FAULT DESCRIPTION MALFUNCTION CRITERIA THRESHOLD VALUE SECONDARY PARAMETERS ENABLE CONDITIONS MILE										
DS, Active, CAN = TRUE when the start condition for CAN failure detection is fulfilled for 2.0 sec continuously. DS, Active CAN(e) = FALSE when the permission condition for CAN failure detection: soft fulfilled. Start Condition for CAN failure detection: gnition ON and 10.2V < Battery Voltage < 18V and DS, Active = TRUE when the start condition for failure detection: soft in service mode 20.5 Active = TRUE when the start condition for failure detection is fulfilled for 2.0 sec continuously. DS, Active = TRUE when the start condition for failure detection is fulfilled for 2.0 sec continuously. Start Condition for failure detection: soft fulfilled for 2.0 sec continuously. DS, Active = TRUE when the start condition for failure detection is fulfilled for 2.0 sec continuously. Start Condition for failure detection: soft fulfilled. Start Condition for	COMPONENT/ SYSTEM				MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY	PARAMETERS	TIME REQUIRED	MIL ILLUM.
DS, Active, CAN = TRUE when the start condition for CAN failure detection is fulfilled for 2.0 sec controlled. Start Condition for CAN failure detection: gnition ON and 10.2V < Battery Voltage < 18V and DS, Active = FALSE when the permission condition for CAN failure detection: gnition ON and 10.2V < Battery Voltage < 18V and DS, Active = FALSE when the start condition for failure detection: gnition ON and 20 S, Active = TRUE when the start condition for failure detection is fulfilled for 2.0 sec continuesly. Start Condition for CaN failure detection: gnition ON and DS, Active = FALSE when the start condition for failure detection is fulfilled for 2.0 sec continuesly. Start Condition for failure detection: gnition ON and DS, Active = FALSE when the start condition for failure detection is fulfilled for 2.0 sec continuesly. Start Condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the permission condition for failure detection: gnition ON and DS, Active = FALSE when the start condition for failure detection: gnition ON and DS, Active = FALSE when the start condition for failure detection: gnition ON and DS, Active = FALSE when the start condition for failure detection: GNIT WHITE WHEN THE W		<u> </u>								
DS, Active, CAN = TRUE when the start condition for CAN failure detection is fulfilled for 2.0 sec notifield. Start Condition for CAN failure detection: Start Condition for CAN failure detection is failure detection is failure detection in trillified for 2.0 sec notified. Start Condition for failure detection: Start Conditio	1) DS Active CAN									
detection is fulfilled for 2.0 sec continously.		en the st	art condition for CAN failure							
Start Condition for CAN failure detection:										
Ignition ON and			permission condition for CAN							
10.2V = Battery Voltage < 18V and	Start Condition for CAN fai	ilure dete	ection:							
10.2V = Battery Voltage < 18V and Not in service mode and Reading EEPROM finish Reading EEPROM	Ignition ON and									
Not in service mode and Reading EEPROM finish		3V and								
Reading EEPROM finish		ov ana								
Permission condition for CAN failure detection:	Reading EEPROM finish									
9.0V = Battery Voltage < 18V and Not in service mode		AN failu	re detection:							
9.0V = Battery Voltage < 18V and Not in service mode	Ignition ON and									
Not in service mode 2 DS_Active DS_Active = TRUE when the start condition for failure detection is fulfilled for 2.0 sec continously. DS_Active = FALSE when the permission condition for failure detection is not fulfilled. Start Condition for failure detection: Ignition ON and 10.2V < Battery Voltage < 18V and Not in service mode and Reading EEPROM finish and Egrym > 400rpm Permission condition for failure detection: Ignition ON and 9.0V < Battery Voltage < 18V and Not in service mode and Regrym > 400rpm Parmission condition for failure detection: Ignition ON and 9.0V < Battery Voltage < 18V and Not in service mode and Egrym > 400rpm 10		/ and								
DS_Active = TRUE when the start condition for failure detection is fulfilled for 2.0 sec continously. DS_Active = FALSE when the permission condition for failure detection is not fulfilled. Start Condition for failure detection: Ignition ON and 10.2V = Battery Voltage < 18V and Not in service mode and Reading EEPROM finish and Egrpm > 400rpm Permission condition for failure detection: Ignition ON and 9.0V < Battery Voltage < 18V and Not in service mode and Egrpm > 400rpm Ignition ON and 9.0V < Battery Voltage < 18V and Not in service mode and		unu								
DS_Active = TRUE when the start condition for failure detection is fulfilled for 2.0 sec continously. DS_Active = FALSE when the permission condition for failure detection is not fulfilled. Start Condition for failure detection: Ignition ON and 10.2V = Battery Voltage < 18V and Not in service mode and Reading EEPROM finish and Egrpm > 400rpm Permission condition for failure detection: Ignition ON and 9.0V < Battery Voltage < 18V and Not in service mode and Egrpm > 400rpm Ignition ON and 9.0V < Battery Voltage < 18V and Not in service mode and										
fulfilled for 2.0 sec continously. DS_Active = FALSE when the permission condition for failure detection is not fulfilled. Start Condition for failure detection: Ignition ON and 10.2V ∈ Battery Voltage < 18V and Not in service mode and Reading EEPROM finish and Egrpm > 400rpm Permission condition for failure detection: Ignition ON and 9.0V ∈ Battery Voltage < 18V and Not in service mode and Egrpm > 400rpm Ignition ON and										
DS_Active = FALSE when the permission condition for failure detection is not fulfilled. Start Condition for failure detection: [gnition ON and 10.2V < Battery Voltage < 18V and Not in service mode and Reading EEPROM finish and Egrpm > 400rpm [gnition ON and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and Not in service mode and [gnition on and 9.0V < Battery Voltage < 18V and 9.0V < Battery Volta			ndition for failure detection is							
Start Condition for failure detection:		•								
Ignition ON and		e permis	sion condition for failure							
10.2V < Battery Voltage < 18V and Not in service mode and Reading EEPROM finish and Egrpm > 400rpm Permission condition for failure detection: Ignition ON and 9.0V < Battery Voltage < 18V and Not in service mode and Egrpm > 400rpm 4) Table1: InTorque(Nm) <=190 230 >=270 InRpm(Rpm) 400 600 800	Start Condition for failure o	detection	1:							
10.2V < Battery Voltage < 18V and	Ignition ON and									
Not in service mode and Reading EEPROM finish and Egrpm > 400rpm		3V and								
Egrpm > 400rpm	Not in service mode and									
Permission condition for failure detection:	Reading EEPROM finish a	and								
Introduction ON and	Egrpm > 400rpm									
9.0V < Battery Voltage < 18V and	Permission condition for fa	ailure de	tection:							
Not in service mode and	Ignition ON and									
Not in service mode and		/ and			_					
4) Table1: InTorque(Nm) <=190	Not in service mode and									
InTorque(Nm) <=190	Egrpm > 400rpm									
InTorque(Nm) <=190										
InTorque(Nm) <=190	4) Table1:									
InRpm(Rpm) 400 600 800		<=190	230	>=2	70					
OutRpm(Rpm) 200 300 400										
	OutRpm(Rpm)	200	300	400						
							1			
5) Egtrq_LUP_FailMap (Nm)	⁵⁾ Egtrq_LUP_FailMap (Nm)	1000re	T	1		T	1			
1000rp	Trans. In. Speed		1500rpm	2000)rpm	2500rpm	3000rpm			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALU	E SECONDAR	Y PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		49 59		80	106				
TrqConv.(206KII)	46	56 66		91	121				
		e transmission is in between applied pressure has reached							
⁷⁾ "Garage Shifting"									
"Garage Shifting Control" is a changes from N to D or R un									
8) "Multiplex Shifting"									
If "BestGear" changes in shif a new shift control is started.	t control,	that shift control is stopped and							
For example: If "BestGear" c 4 shift control is stopped and		o 3rd in a 3-4 shift control,the 3-ift control is started.							
9) "Neutral Control"									
Neutral Control is activated if D with the brake pressed for		cle is at stand still and in range ds until the brake is released.							
10) "InTorque_noACC"									
Engine output torque, accele	ration ine	ertia torque not included.							
¹¹⁾ Spinning									
Spinning = 1 if Transversal a signal)	cceleration	on > 0.7G (input from ABS							
		on parameter < 0.7G for 2sec.							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Internal Control Module Memory	P0601	Check Sum Error	Detectin of differences between the result of the checksum calculation executed after IG ON and the correct checksum. If there are differences from the correct checksum value stored in the FLASH ROM, a second calculation is made.		Ignition	OFF->ON (only at Transmission computer initialization function)	2 times	2nd
Lost communication with	U0100	Frame missing from ECM	No CAN status frame from ECM		Diagnostic Service "Disable Norma	al Communication" not		2nd
ECM (Engine)			detected		detected Engine speed	> 400 rpm once within the driving cycle	Continuous	
					Ignition	ON >3 sec		
					DS_Active_CAN ²	TRUE		
CAN Bus Off Counter	U0001	CAN controller continuity check	Receiving "BUS OFF" state from		Ignition	ON >3 sec	8 times	2nd
Overrun			CAN controller		DS_Active_CAN ²	TRUE		
Invalid data from ECM	P1895	Engine Torque signal is indicated	TCM receives Engine Torque	"Invalid"	Diagnostic Service "Disable Norma	al Communication" not	4 sec	2nd
		invalid	Actual Validity		detected	I	Continuous	
					Emergency mode	FALSE		
					Ignition	ON >3 sec TRUE		
					DS_Active_CAN ²	TRUE		
					No DTC set	U0100		
Solenoid S1	P0985	Circuit continuity check	Short-cut ground		DS Active ³	TRUE	500 msec	2nd
			Detected signal of the S1 monitor when S1 driver outputs the	"OFF" signal (0V)	Time after solenoid output changed	>10 ms	Continuous	
			"ON"signal (12V)		Emergency mode	FALSE		
	P0986		Not connected or short-cut Ubatt					
			Detected signal of the S1 monitor when S1 driver outputs the "OFF" signal (0V)	"ON" signal (12V)				
Solenoid S2	P0973	Circuit continuity check	Short-cut ground		DS_Active ³	TRUE	500 msec	2nd
			Detected signal of the S2 monitor when S2 driver outputs the	"OFF" signal (0V)	Time after solenoid output changed	>10 ms	Continuous	
			"ON"signal (12V)		Emergency mode	FALSE	1	
	P0974		Not connected or short-cut Ubatt		Emergency mode	TALOL	-	
			Detected signal of the S2 monitor when S2 driver outputs the "OFF" signal (0V)	"ON" signal (12V)				
			3 - (- /					
Torque Converter Clutch	P0741	Comparison of engine speed and transmission input speed	Converter is slipping with active lock-up on.		DS_Active ³	TRUE	12 sec	2nd

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	P0742		Abs(EngineSpeed - Transmission Input Speed)	< 30 rpm for 2.0 sec continuously	ends Engine Torque Engine Speed Time after SLU target current (_ir) >= 1000 mA abs(1- SpeedABS / Transmission Output Speed calculated from Transmission Input Speed) Time after shifting control ⁹ ends Oil temperature Lock-up No DTC set DS_Active ³ Fdetect_inh ⁴		4sec	2nd
Pressure solenoid SLU	P2764	Circuit continuity check	Short-cut ground or open			>= 20°C	500 ms	2nd
riessuie solenola SLU	r2104	Circuit continuity check	Current (AD	<23 mA <15)	DS_Active ³ Emergency mode	FALSE	Continuous	121IU

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					No DTC set	P2763 for 1 sec and		
						over		
	P2762		Terminal short		No Shifting Control ⁹		2,75 sec	2nd
			Error current	> 80 mA	Emergency mode	FALSE	Continuous	
					Oil temperature	> 20°C		
					System voltage change	< 0,2V	_	
					System voltage	11 -18 V > 835mA and	_	
					SLU Output current target	constant.		
					DS_Active ³	TRUE	1	
					DS_Active	IIIOL		
					No DTC set	P0711		
						P0712		
	P2763		Short-cut Ubatt (+B)			P0713 TRUE	500 ms	2nd
	P2/63		. ,		DS_Active ³			2110
			Measured Current	> 1,333 mA	Emergency mode	FALSE	Continuous	
			(AD	> 1000)	N. BTO	D070454		
					No DTC set	P2764 for 1 sec and over		
	P2759		Feed Back Current Stuck(Electrical)		IG voltage	> 10.5 V	1 sec	2nd
			sum_ie	>20000	Input AD value	< 1000(1333mA)		
			"ie" is added to "sum_ie" every 10 msec.		Emergency mode	FALSE		
			"ie" : Difference of "ir" and "ifb". "ir" : Target current		DS_Active ³	TRUE	=	
			"ifb": Feedback current		No DTC set	P2763		
1			"sum ie" is cleared as follows:		140 15 10 300	P2764		
			(1) or (2) or (3)				1	
			(1): Detection window = FALSE					
			(2): -50 mA <= ie <= 50 mA					
			(3): ie value cahnges from "ie <					
			0mA" ("ie >0mA") to "ie >0mA" ("ie					
Drogouro octavatid OLT	DOOCO /	Directit continuity =	< 0mA").		3	TDUE	500 mg	Ond
Pressure solenoid SLT	P0962	Circuit continuity check	Short-cut ground or open		DS_Active ³	TRUE	500 ms	2nd
			Current	<23 mA	Emergency mode	FALSE	Continuous	
			(AD	<15)				
					No DTC set	P0963 for 1 sec and over		
	P0961		Terminal short		No Shifting Control ⁹	IOACI	2.75 sec	2nd
			Error current	> 80 mA	Emergency mode	FALSE	Continuous	
			Life carrent	- 00 11/1	Oil temperature	> 20°C	Continuous	
					System voltage change	< 0,2V	1	
					System voltage	11 -18 V	1	
					SLT Output current target	> 835mA and	1	
						constant.		
	1				DS Active ³	TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					No DTC set	P0711	-	
					10 2 10 001	P0712		
						P0713		
	P0963		Short-cut Ubatt (+B)		DS_Active ³	TRUE	500 ms	2nd
			Measured Current	> 1,333 mA	Emergency mode	FALSE	Continuous	
			(AD	> 1000)				
					No DTC set	P0962 for 1 sec and		
	P0748		Feed Back Current		IG voltage	over > 10.5 V	1 sec	2nd
	FU/46		Stuck(Electrical)		id voltage	> 10.5 V	1 Sec	ZIIU
			sum ie	>20000	Input AD value	< 1000(1333mA)		
			"ie" is added to "sum_ie" every		Emergency mode	FALSE	1	
			10 msec.					
			":-" - D:ff		DS_Active ³	TRUE		
			"ie": Difference of "ir" and "ifb". "ir": Target current					
			"ifb": Feedback current		No DTC set	P0962	-	
			"sum_ie" is cleared as follows:		110 5 1 0 001	P0963		
			(1) or (2) or (3)					
			(1): Detection window = FALSE					
			(2): -50 mA <= ie <= 50 mA				-	
			(3): ie value cahnges from "ie < 0mA" ("ie >0mA") to "ie >0mA" ("ie					
			OmA").					
Timing solenoid SLC1	P0966	Circuit continuity check	Short-cut ground or open		DS_Active ³	TRUE	500 msec	2nd
			Current	<23 mA	Emergency mode	FALSE	Continuous	
			(AD	<15)				
					No DTC set	P0967 for 1 sec and		
	P0965		Terminal short			over	2.75 sec	2nd
	P0965				No Shifting Control ⁹			2110
			Error current	> 80 mA	Emergency mode	FALSE	Continuous	
	I				Oil temperature System voltage change	> 20°C < 0,2V	1	
						11 -18 V		
					System voltage SLC1 Output current target	11 -18 V > 835mA and		
					System voltage SLC1 Output current target	> 835mA and constant.		
					System voltage	> 835mA and		
					System voltage SLC1 Output current target DS_Active ³	> 835mA and constant.		
					System voltage SLC1 Output current target	> 835mA and constant.		
					System voltage SLC1 Output current target DS_Active ³	> 835mA and constant. TRUE P0711 P0712 P0713		
	P0967		Short-cut Ubatt (+B)		System voltage SLC1 Output current target DS_Active ³	> 835mA and constant. TRUE P0711 P0712	500 msec	2nd
	P0967		Measured Current	> 1,333 mA	System voltage SLC1 Output current target DS_Active ³ No DTC set	> 835mA and constant. TRUE P0711 P0712 P0713	500 msec Continuous	2nd
	P0967		` '	> 1,333 mA > 1000)	System voltage SLC1 Output current target DS_Active ³ No DTC set DS_Active ³ Emergency mode	> 835mA and constant. TRUE P0711 P0712 P0713 TRUE FALSE		2nd
	P0967		Measured Current	*	System voltage SLC1 Output current target DS_Active ³ No DTC set DS_Active ³	> 835mA and constant. TRUE P0711 P0712 P0713 TRUE FALSE P0966 for 1 sec and		2nd
	P0967		Measured Current	*	System voltage SLC1 Output current target DS_Active ³ No DTC set DS_Active ³ Emergency mode	> 835mA and constant. TRUE P0711 P0712 P0713 TRUE FALSE		2nd 2nd

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUN
			sum ie	>20000	input AD value	< 1000(1333mA)		
			"ie" is added to "sum_ie" every 10 msec.		Emergency mode	FALSE	=	
			"ie": Difference of "ir" and "ifb".		DS_Active ³	TRUE		
			"ir": Target current					
			"ifb": Feedback current		No DTC set	P0966		
			"sum_ie" is cleared as follows:			P0967		
			(1) or (2) or (3)					
			(1): Detection window = FALSE					
			(2): -50 mA <= ie <= 50 mA					
			(3): ie value cahnges from "ie < 0mA" ("ie >0mA") to "ie >0mA" ("ie < 0mA").					
Timing solenoid SLC2	P0970	Circuit continuity check	Short-cut ground or open		DS Active ³	TRUE	500 msec	2nd
9		,	Current	<23 mA	Emergency mode	FALSE	Continuous	
			(AD	<15)	Emergency mode	FALSE	Continuous	
			(AD	(10)	No DTC set	P0971 for 1 sec and	=	
P096	P0969		Terminal short		No Shifting Control ⁹	over	2.75 sec	2nd
			Error current	> 80 mA	Emergency mode	FALSE	Continuous	2.10
			Lifor current	> 00 IIIA	Oil temperature	> 20°C	Continuous	
					System voltage change	< 0,2V	-	
					System voltage	11 -18 V	1	
					SLC2 Output current target	> 835mA and	1	
						constant.		
					DS_Active ³	TRUE	=	
					No DTC set	P0711	=	
						P0712		
						P0713		
	P0971		Short-cut Ubatt (+B)		DS_Active ³	TRUE		2nd
			Measured Current	> 1,333 mA	Emergency mode	FALSE	Continuous	
			(AD	> 1000)	No DTC set	P0970 for 1 sec and over	_	
	P0798		Feed Back Current		IG voltage	> 10.5 V	1 sec	2nd
			Stuck(Electrical) sum ie	>20000	Input AD value	< 1000(1333mA)	1	
			"ie" is added to "sum_ie" every	20000	Emergency mode	FALSE	†	
			10 msec.					
			"ie": Difference of "ir" and "ifb".		DS_Active ³	TRUE		
			"ir": Target current				1	
			"ifb": Feedback current		No DTC set	P0970	1	
			"sum_ie" is cleared as follows:			P0971	4	
			(1) or (2) or (3) (1): Detection window = FALSE			ļ	-	
			TO DETECTION WINDOW = FALSE		•	i e		I

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			(3): ie value cahnges from "ie < 0mA" ("ie >0mA") to "ie >0mA" ("ie < 0mA").					
Timing solenoid SLC3	P2720	Circuit continuity check	Short-cut ground or open		DS_Active ³	TRUE	500 msec	2nd
g co.oo.u c_cc			Current	<23 mA	Emergency mode	FALSE	Continuous	
			(AD	<15)	No DTC set	P2721 for 1 sec and over	Continuous	
	P2719		Terminal short		No Shifting Control ⁹	ovei	2.75 sec	2nd
			Error current	> 80 mA	Emergency mode	FALSE	Continuous	1
			Error carron	30 110 1	Oil temperature	> 20°C	Continuous	
					System voltage change	< 0,2V		
					System voltage	11 -18 V		
					SLC3 Output current target	> 835mA and constant.		
					DS_Active ³	TRUE		
					No DTC set	P0711	=	
					110 5 10 001	P0712	-	
						P0713		
	P2721		Short-cut Ubatt (+B)		DS_Active ³	TRUE	500 msec	2nd
			Measured Current (AD	> 1,333 mA > 1000)	Emergency mode	FALSE	Continuous	
			,	,	No DTC set	P2720 for 1 sec and over		
	P2716		Feed Back Current Stuck(Electrical)		IG voltage	> 10.5 V	1 sec	2nd
			sum ie	>20000	Input AD value	< 1000(1333mA)		
			"ie" is added to "sum_ie" every 10 msec.		Emergency mode	FALSE	1	
			"ie" : Difference of "ir" and "ifb".		DS_Active ³	TRUE		
			"ir" : Target current					
			"ifb": Feedback current		No DTC set	P2720		
			"sum_ie" is cleared as follows:			P2721		1
			(1) or (2) or (3)					
			(1): Detection window = FALSE					
			(2): -50 mA <= ie <= 50 mA					
			(3): ie value cahnges from "ie < 0mA" ("ie >0mA") to "ie >0mA" ("ie					
			< 0mA").					
Timing solenoid SLB1	P2729	Circuit continuity check	Short-cut ground or open		DS_Active ³	TRUE	500 msec	2nd
			Current	<23 mA	Emergency mode	FALSE	Continuous	1
			(AD	<15)	No DTC set	P2730 for 1 sec and	_	
	D0777		To a state of a		1	over	0.75	01
	P2728		Terminal short		No Shifting Control ⁹		2.75 sec	2nd
			Error current	> 80 mA	Emergency mode Oil temperature	FALSE > 20°C	Continuous	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					System voltage change	< 0,2V		
					System voltage	11 -18 V		
					SLB1 Output current target	> 835mA and		
						constant.		
					DS_Active ³	TRUE		
					N. DTO	D0744		
					No DTC set	P0711 P0712		
						P0713		
	P2730		Short-cut Ubatt (+B)		DS Active ³	TRUE	500 msec	2nd
	2750		Measured Current	> 1,333 mA	Emergency mode	FALSE	Continuous	Ziid
			(AD	> 1,000)	Emergency mode	FALSE	Continuous	
			(AD	2 1000)	No DTC set	P2729 for 1 sec and		
						over		
	P2725		Feed Back Current Stuck(Electrical)		IG voltage	> 10.5 V	1 sec	2nd
			sum_ie	>20000	Input AD value	< 1000(1333mA)		
			"ie" is added to "sum_ie" every 10 msec.		Emergency mode	FALSE		
			"ie": Difference of "ir" and "ifb".		DS_Active ³	TRUE		
			"ir" : Target current					
			"ifb": Feedback current "sum ie" is cleared as follows:		No DTC set	P2729 P2730		
			(1) or (2) or (3)			P2/30		
			(1): Detection window = FALSE				-	
			(2): -50 mA <= ie <= 50 mA					
			(3): ie value cahnges from "ie <					
			0mA" ("ie >0mA") to "ie >0mA" ("ie < 0mA").					
Gear error, hydraulic fault	P0729	Rationality	Calculation of actual gear ratio for		No Shifting Control ⁹		12 sec	2nd
			6th gear is not correct. (Condition A or Condition B)		Not in neutral control ¹⁰		Continuous	
			Condition A		Not garage shifting control ¹¹ (N-D c	or N-R)		
			abs(1-GRCurrent/GRExpected)	> 20%	Throttle (A only)	>= 10%		
			Condition B		Transmission Output Speed (A)	>= 500rpm		
			abs(1-Gear Ratio Current/ 4th Gear Ratio)	<4%	Transmission Output Speed (B)	>=250rpm		
			or		Current gear	6		
			abs(1-Gear Ratio Current/ 5th Gear Ratio)	<4%	Engine Torque_noACC ⁸ (B only)	>=80Nm		
					DS_Active ³	TRUE		
					Fdetect_Inh ⁴	FALSE		
					Shift position	RANGE_D(defined)]	
					Time after changing to Shift position = RANGE D(defined)	8.0 sec		
					Time after garage shift control ¹¹ end	1.0 sec	1	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Time after neutral control ¹⁰ end	1.0 sec		
					Time after shifting control ⁹ end	0.5 sec		
					Oil temperature	>= 20°C		
					Brake	OFF		
					abs(1-SpeedABS/Trans. Output Speed)	< 10%		
					QS_AirSuction ⁵	FALSE		
					No DTC set	P0703	-	
						P0716		
						P0717	=	
						P0721 P0722	-	
	P0731	Rationality	Calculation of actual gear ratio for		Not garage shifting control ¹¹ (N-D o		12 sec	2nd
	0751	rationality	1st gear is not correct.		Not in neutral control ¹⁰	or N-R)	Continuous	ZIIG
					No Shifting Control ⁹			
			abs(1 - GRCurrent/ 2nd	< 4%	Current Gear	GEAR 1ST or		
			GearRatio)			GEAR 1STEB		
			or		Transmission Output Speed	1350 rpm >= outRpm >= 250 rpm		
			abs(1 - GRCurrent/ 3rd GearRatio)	< 4%	EngineTorque_noACC8	>=100Nm (GEAR 1ST)		
			or		EngineTorque_noACC8	>= 80 Nm (GEAR 1STEB)		
			abs(1 - GRCurrent/ 4th GearRatio)	< 4%	DS_Active ³	TRUE	•	
					Fdetect_Inh ⁴	FALSE	-	
					Shift position	RANGE_D(defined)		
					Time after changing to Shift position = RANGE D(defined)	8.0 sec		
					Time after garage shift control ¹¹	1.0 sec		
					end Time after neutral control ¹⁰ end	1.0 sec		
					Time after shifting control ⁹ end	0.5 sec		
					Oil temperature	>= 20°C]	
					Brake	OFF		
					abs(1-SpeedABS/Trans.Output Speed)	< 10%		
					QS_AirSuction ⁵	FALSE		
					No DTC set	P0703	-	
					INO D I C SEL	P0703 P0716	1	
						P0717	1	
						P0721]	
						P0722		-
	P0732	Rationality	Calculation of actual gear ratio for		No Shifting Control ⁹		12 sec	2nd

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			2nd gear is not correct. (Condition A or Condition B)		Not in neutral control ¹⁰	•	Continuous	
			Condition A		Not garage shifting control ¹¹ (N-D	or N-R)		
			abs(1-GRCurrent/GRExpected)	>20%	Throttle (A only)	>= 10%		
			Condition B		Transmission Output Speed (A)	>= 500rpm		
			abs(1-Gear Ratio Current/ 1st Gear Ratio)	<4%	Transmission Output Speed (B)	>=250rpm		
			or		Current gear	2		
			abs(1-Gear Ratio Current/ 3rd Gear Ratio)	<4%	Engine Torque_noACC ⁸ (B only)	>=80Nm		
			or		DS_Active ³	TRUE		
			abs(1-Gear Ratio Current/ 4th Gear Ratio)	<4%	Fdetect_Inh ⁴	FALSE		
			or		Shift position	RANGE_D(defined)		
			abs(1-Gear Ratio Current/ 6th Gear Ratio)	<4%	Time after changing to Shift position = RANGE_D(defined)	8.0 sec		
					Time after garage shift control ¹¹ end	1.0 sec		
					Time after neutral control ¹⁰ end	1.0 sec		
					Time after shifting control ⁹ end	0.5 sec		
					Oil temperature	>= 20°C		
					Brake abs(1-SpeedABS/Trans. Output	OFF < 10%	-	
					Speed) QS_AirSuction ⁵	FALSE		
					No DTC set	P0703 P0716	_	
						P0717	1	
ĺ						P0721	1	
						P0722	<u> </u>	
	P0733	Rationality	Calculation of actual gear ratio for		No Shifting Control ⁹		12 sec	2nd
			3rd gear is not correct. (Condition A or Condition B)		Not in neutral control ¹⁰		Continuous	
			Condition A		Not garage shifting control ¹¹ (N-D			
			abs(1-GRCurrent/GRExpected)	>20%	Throttle (A only)	>= 10%		
			Condition B		Transmission Output Speed (A)	>= 500rpm	1	
			abs(1-Gear Ratio Current/ 1st Gear Ratio)	<4%	Transmission Output Speed (B)	>=250rpm		
	or ab	or		Current gear	3			
		abs(1-Gear Ratio Current/ 4th Gear Ratio)	<4%	Engine Torque_noACC ⁸ (B only)	>=80Nm			
			or		DS_Active ³	TRUE		
	a	abs(1-Gear Ratio Current/ 5th Gear Ratio)	<4%	Fdetect_Inh⁴	FALSE			

Shift position	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Time after neutral control 1.0 sec							RANGE_D(defined)		
Time after garage shift control 1.0 sec							8.0 sec		
End end end control 1.0 sec							1.0 sec		
Time after helitory part of the control of the co							1.0 000		
Distance Service Ser							1.0 sec		
Distance Service Ser						Time after shifting control ⁹ end	0.5 sec		
Bask1-SpeedABS/Trans. Output < 10%							>= 20°C		
Speedy FALSE									
OS_AirSuction ⁵ FALSE							< 10%		
No DTC set							FALSE		
P0734 Rationality Calculation of actual gear ratio for No Shifting Control® P0721 P0721 P0721 P0721 P0721 P0721 P0722 12 sec 2nd P0722 12 sec P0722 12 sec P0722						QO_Allouction			
P0717 P0721 P0722 P072						No DTC set	P0703		
P0724 Rationality									
P0734 Rationality Calculation of actual gear ratio for Ath gear is not correct. (Condition A or Condition B) Condition A abs(1-GRCurrent/GRExpected) Condition B Transmission Output Speed (A) ≥= 500rpm abs(1-Gear Ratio Current/ 1st									
Calculation of actual gear ratio for this gear is not correct. (Condition A or Condition B) Condition A Mot in neutral control (Not in neutral control (Not in neutral control) (Not in neutral con									
4th gear is not correct. (Condition A or Condition B) Condition A a Condition B Condition A abs(1-GRCurrent/GRExpected) Condition B abs(1-Gar Ratio Current/ 1st Gear Ratio) or abs(1-Gar Ratio Current/ 5th Gear Ratio) Or abs(1-Gar Ratio) Figure Carrent/ 5th Gear Ratio Current/ 5th Gear Ratio) In the standard of the standard o		P0734	Rationality	Calculation of actual gear ratio for		No Shifting Control ⁹	<u> </u>	12 sec	2nd
abs(1-GRCurrent/GRExpected) >20% Throttle (A only) >= 10% Condition B Transmission Output Speed (A) >= 500rpm abs(1-Gear Ratio Current/ 1st <4% Transmission Output Speed (B) >= 250rpm or						Not in neutral control ¹⁰		Continuous	
abs(1-GRCurrent/GRExpected) >20% Throttle (A only) >= 10% Condition B Transmission Output Speed (A) >= 500rpm abs(1-Gear Ratio Current/ 1st <4% Transmission Output Speed (B) >= 250rpm or				Condition A		Not garage shifting control ¹¹ (N-D o	or N-R)		
abs(1-Gear Ratio Current/ 1st Gear Ratio) Or Current gear abs(1-Gear Ratio Current/ 5th Gear Ratio) Or Bright Torque_noACC® (B only) Carrent gear A Abs(1-Gear Ratio) Abs(1-Gea					>20%				
Gear Ratio Section S						Transmission Output Speed (A)	>= 500rpm		
Abs(1-Gear Ratio)					<4%	Transmission Output Speed (B)	>=250rpm		
Gear Ratio DS_Active TRUE							4		
abs(1-Gear Ratio Current/ 6th Gear Ratio) Shift position RANGE_D(defined) Time after changing to Shift position RANGE_D(defined) Time after garage shift control ¹¹ Time after garage shift control ¹¹ Time after neutral control ¹⁰ end Time after neutral control ¹⁰ end Time after shifting control ⁹ end Oil temperature Brake OFF abs(1-SpeedABS/Trans. Output Speed) QS_AirSuction ⁵ FALSE					<4%				
Gear Ratio) Shift position Time after changing to Shift position = RANGE D(defined) Time after garage shift control ¹¹ 1.0 sec end Time after neutral control ¹⁰ end Time after shifting control ⁹ end Oil temperature Brake DOFF abs(1-SpeedABS/Trans. Output Speed) QS_AirSuction ⁵ FALSE						_			
Time after changing to Shift position = RANGE D(defined) Time after garage shift control ¹¹ 1.0 sec end Time after neutral control ¹⁰ end 1.0 sec Time after shifting control ⁹ end 0.5 sec Oil temperature Brake OFF abs(1-SpeedABS/Trans. Output < 10% Speed) QS_AirSuction ⁵ FALSE					<4%				
position = RANGE_D(defined) Time after garage shift control ¹¹ 1.0 sec end Time after neutral control ¹⁰ end 1.0 sec Time after shifting control ⁹ end 0.5 sec Oil temperature >= 20°C Brake OFF abs(1-SpeedABS/Trans. Output < 10% Speed) QS_AirSuction ⁵ FALSE									
Time after garage shift control ¹¹ 1.0 sec end Time after neutral control ¹⁰ end Time after shifting control ⁹ end 0.5 sec Oil temperature >= 20°C Brake OFF abs(1-SpeedABS/Trans. Output < 10% Speed) QS_AirSuction ⁵ FALSE							8.0 sec		
Time after neutral control ¹⁰ end 1.0 sec Time after shifting control ⁹ end 0.5 sec Oil temperature >= 20°C Brake OFF abs(1-SpeedABS/Trans. Output < 10% Speed) QS_AirSuction ⁵ FALSE						Time after garage shift control ¹¹	1.0 sec		
Time after shifting control ⁹ end 0.5 sec Oil temperature >= 20°C Brake OFF abs(1-SpeedABS/Trans. Output < 10% Speed) QS_AirSuction ⁵ FALSE						Time after neutral control ¹⁰ end	1.0 sec		
Oil temperature >= 20°C Brake OFF abs(1-SpeedABS/Trans. Output < 10% Speed) QS_AirSuction ⁵ FALSE							0.5 sec		
Brake OFF abs(1-SpeedABS/Trans. Output < 10% Speed) QS_AirSuction ⁵ FALSE						<u> </u>			
Speed) QS_AirSuction ⁵ FALSE						Brake	OFF		
No DTO and DD700						QS_AirSuction ⁵	FALSE		
						N. PTO I	D0700		
No DTC set P0703 P0716						No DTC set	P0703		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM
						P0717		
						P0721 P0722		
	P0735	Rationality	Calculation of actual gear ratio for		No Shifting Control ⁹	F0722	12 sec	2nd
			4th gear is not correct. (Condition		Not in neutral control ¹⁰		Continuous	
			A or Condition B)					
			Condition A		Not garage shifting control ¹¹ (N-D o			
			abs(1-GRCurrent/GRExpected)	>20%	Throttle (A only)	>= 10%		
			Condition B		Transmission Output Speed (A)	>= 500rpm		
			abs(1-Gear Ratio Current/ 4th	<4%	Transmission Output Speed (B)			
			Gear Ratio)		, , , , , , , , , , , , , , , , , , , ,	>=250rpm		
			or		Current gear	5		
			abs(1-Gear Ratio Current/ 6th Gear Ratio)	<4%	Engine Torque_noACC ⁸ (B only)	>=80Nm		
					DS_Active ³	TRUE		
					Fdetect_Inh ⁴	FALSE		
					Shift position	RANGE D(defined)		
					Time after changing to Shift position = RANGE D(defined)	8.0 sec		
					Time after garage shift control ¹¹	1.0 sec		
					end			
					Time after neutral control ¹⁰ end	1.0 sec		
					Time after shifting control ⁹ end	0.5 sec		
					Oil temperature	>= 20°C		
					Brake	OFF		
					abs(1-SpeedABS/Trans. Output Speed)	< 10%		
					QS_AirSuction ⁵	FALSE		
					N. DTO	50-00		
					No DTC set	P0703 P0716	-	
						P0717		
						P0721		
		504	- · · · · · · · · · · · · · · · · · · ·	(a		P0722		0 1
Engine speed signal	P0725	Signal from ECM stated as unreliable	Engine Speed Validity	"Invalid"	Diagnostic Service "Disable Norma detected	ai Communication" not	4 sec	2nd
		umenable			Ignition	ON >3 sec	Continuous	
					DS_Active_CAN ²	TRUE		
					Emergency mode	FALSE		
					No DTC set	U0100		
Transmission Range	P0707	Voltage low	POS1 Voltage or POS2 Voltage	< 0.127 (AD value=26) V	Battery voltage	6.0 V < Battery Voltage	200ms	2nd
Sensor Circuit	1		1 2 2 1 3 1 3 2 4 3 1 4 3 2 4 3 1 4 3 2 4 3 1 4 3 2 4 3 1 4 3 2 4 3 1 4 3 2 4 3 1 4 3 2 4 3 1 4 3 2 4 3 1 4 3 2	(1		< 18 V		
					Diagnosis Service mode	FALSE		
	P0708	Voltage high	Input POS1 Voltage or Input	> 4.87 (AD value=997)V	Diagnosis Service mode	FALSE	200 ms	2nd
			POS2 Voltage		Battery voltage	6.0 V < Battery Voltage < 18 V	Continuous	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	P0706	Signal out of range	Input POS1 Voltage + Input POS2	<= 5V -0.29V or >= 5V +0.29V	Diagnosis Service mode	FALSE	200 ms	2nd
			Voltage		Battery voltage	6.0 V < Battery Voltage < 18 V	Continuous	
Output speed sensor circuit	P0722		No pulse		Not in neutral control ¹⁰	-	Dependent of Speed	2nd
oncare					No Shifting Control ⁹		Оресси	
			Number of pulses from Transmission Output Speed Sensor	0	Not garage shifting control ¹¹ (N-D)			
			Number of pulses from	16	DS_Active ³	TRUE		
			Transmission Input Speed Sensor		Emergency mode	FALSE		
					Shift position	RANGE_D(defined)		
					Time since change from P,R or N range to others if vehicle speed >= 66km/h and oil temperature			
					>20°C Time since change from P,R or N	2.5sec		
					range to others if vehicle speed < 66km/h and oil temperature <= 20°C	10sec		
					SpeedABS	> 300 rpm		
					No DTC set	P0501 P0706		
						P0707 P0708 P0716		
						P0717 P0748		
						P0778 P0798 P0961		
I						P0962 P0963		
						P0965 P0966		
						P0967 P0969 P0970		
						P0971 P0973		
						P0974 P0985 P0986		
						P1895 P2159		
					P2716 P2719			
						P2720 P2721		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUI
						P2725		
						P2728		
						P2729		
						P2730		
						U0001		
						U0121		
	P0721		Range/Performance, wrong pulse		Not garage shifting control ¹¹ (N-D)		10 sec	2nd
			1-SpeedABS/Transmission	> 15 %	No Shifting Control ⁹			
			Output Speed		CurrentGear	>= 2ND	1	
					1-SpeedABS/ Trans. Output	LIND		
					Speed	< 5%		
						8 sec	1	
					Time after stilling control	0 000	1	
					Time after changing to Position	8 sec		
					Shift position	RANGE_D(defined)		
					Engine speed	> 400rpm		
					Speed ABS	>= 30 km/h		
						FALSE		
					DS_Active ³	TRUE		
					Emergency mode	FALSE		
					No DTC set	P0501	=	
					No DTC set	P0706	1	
						P0707		
						P0708		
						P0711	1	
						P0712	1	
						P0713	1	
						P0725	1	
						P0741		
						P0742		
						P0748		
						P0778		
						P0798		
						P0961		
						P0962	1	
						P0963	1	
						P0965	1	
						P0966	1	
						P0967	1	
						P0969	1	
						P0970	1	
						P0971	1	
						P0973	-	
						P0973 P0974	-	
						P09/4	-	
						P0985	-	
						P0986 P1820		
			1		•	IP IAZU	•	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission input speed sensor	P0717		No pulse No of pulses from Transmission Input Speed Sensor No of pulses from Transmission Output Speed Sensor	0 24	No Shifting Control ⁹ Not garage shifting control ¹¹ (N-D) DS_Active ³ Emergency mode Trans. Output Speed * CurrentGearRatio	P2159 P2716 P2719 P2720 P2721 P2725 P2728 P2729 P2730 P2759 P2762 P2763 P2764 U0001 U0121 TRUE FALSE > 600 rpm	Dependent of Speed	2nd
					Shift position CurrentGear Time since change from P,R or N range to others if vehicle speed >= 66km/h and oil temperature >20°C Time since change from P,R or N range to others if vehicle speed < 66km/h and oil temperature <= 20°C No DTC set	RANGE_D(defined) >= 2nd gear 2.5sec 10sec P0501 P0706 P0707 P0708 P0721 P0722 P0748 P0778 P0798 P0798 P0961 P0962 P0963 P0965 P0966 P0967 P0969		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	P0716		Wrong Pulse 1-speedABS/Transmission Input Speed	> 15 %	No Shifting Control ⁹ Not garage shifting control ¹¹ (N-D) 1-SpeedABS/Trans. Output Speed 1-SpeedABS/Engine Speed Time after shifting control Time after changing to Position switch = RANGE D Gear Range Engine speed Spinning ⁶ DS_Active ³ LockUpActive Emergency mode Speed ABS No DTC set	P0970 P0971 P0971 P0973 P0974 P0985 P0986 P1895 P2159 P2716 P2719 P2720 P2721 P2725 P2728 P2728 P2729 P2730 U0001 U0121 < 5 % < 5 % < 5 % < 5 % TRUE FALSE TRUE TRUE FALSE TRUE FALSE P0706 P0707 P0708 P0711 P0712 P0712 P0722 P0725 P0985 P0985 P0721 P0722 P0725	10 sec	2nd

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0748		
						P0778		
						P0798		
						P0961		
						P0962		
						P0963		
						P0965		
						P0966		
						P0967		
						P0969		
						P0970		
						P0971		
						P0973		
						P0974		
						P0985		
						P0986		
						P1820 P1895		
						P1895 P2159		
						P2716 P2719	-	
						P2719 P2720	-	
						P2721		
						P2725		
						P2728	-	
						P2729		
						P2730		
						P2759	-	
						P2762		
						P2763		
						P2764		
						U0121		
Transmission oil	P0711	Rationality	Oil temperature change less than	10 (AD value)	Oil temp	< 20°C	10 min	2nd
temperature sensor	0, 11	reationality	On temperature change less than	10 (AD value)	DS_Active ³	TRUE	10 111111	ZIIG
temperature sensor								
					AD value of oil temperature	> 10		
					AD value of oil temperature	< 1000		
					Emergency mode	FALSE		
					Range	≠ (P, R or N)		
					Vehicle Speed	> 40km/h once	-	
					No DTO and	D0706		
					No DTC set	P0706 P0707	-	
						P0707 P0708	-	
	P0712	Circuit continuity chasts	Chart out ground		DO A // 3	TRUE	200000	2nd
	P0/12	Circuit continuity check	Short-cut ground	< 10 (More than 200 °C).	_DS_Active ³	IRUE	300sec	2nd
	D0740	Circuit continuity shock	AD value of Oil Temp	< 10 (More than 200 °C).	3	TDUE	10 000	Ond
	P0713	Circuit continuity check	Short-cut Ubat or open circuit	- 1000 / 12 °C)	DS Active ³	TRUE	12 sec	2nd
lavalid simusl form FOM	Dinoc	A la tara a - a - a - a - a - a - a - a - a -	AD value of Oil temperature	> 1000 (-43 °C)	DriveTime	> 10 min	4	0
Invalid signal from ECM	P1820	Accelerator pedal position signal is	Accelerator Position Validity	"Invalid"	Diagnostic Service "Disable Norma	ai Communication" not	4 sec	2nd
		invalid			detected	ON > 2	-	
					Ignition	ON > 3sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					DS_Active_CAN ²	TRUE		
					Emergency mode	FALSE		
					No DTC set	U0100		
Neutral condition	P1701		Step 1:		Not garage shifting control ¹¹ (N-D c	or N-R)	Step1:	2nd
			abs(Engine Speed - Transmission Input Speed) Transmission Input Speed (at D	<150rpm > Transmission Output Speed x	Not in neutral control ¹⁰		at D range: 3.3 sec if (0 <= X	
			range)	(1st gear ratio at RANGE_D)	No Shifting Control ⁹		<= 1500)	
					DS_Active ³	TRUE		
			Transmission Input Speed (at R range)	> Transmission Output Speed x (reverse gear ratio at RANGE_R)	Fdetect_Inh ⁴	FALSE (except P0966)		
			Step 2:	+1000rpm	Oil temperature	>0°C	1.3 sec if (1501 <= X <= 3000)	
			Transmission Input Speed	<200rpm	Shift position	RANGE_D or	A - 3000)	
			Engine Speed	>600rpm	Time after changing to shift	RANGE R (defined) 1.0sec	0.8 sec if (3001 <= X)	
					position = RANGE_D or R(defined)		(A)	
					Time after garage shifting end	1.0sec	at R range:	
					Time after neutral control end	1.0sec	1.8 sec if (0 <= Y	
					Time after shifting control end	0.5sec	<= 1500)	
					Transmission Output Speed	<=500rpm		
					SpeedABS	<=500rpm	1.3 sec if (1501 <=	
					Lockup Current goar	FALSE 1 or 2 or 3 or 4	Y <= 3000)	
					Current gear	FALSE	0.8 sec if (3001 <=	
					QS_AirSuction ⁵		Y)	
					No DTC set	P0716		
						P0717	V = i=D=::	
						P0721 P0722	X = inRpm - outRpm X (1st gear ratio at	
							RANGE_D)	
							Y = inRpm - outRpm X (reverse	
							gear ratio at RANGE_R)	
							Step 2:	
						TDUE	0.1sec	
Neutral control	P1704		C1 apply control		DS_Active ³	TRUE	0.3sec	2nd
				>= (Transmission Input Speed at	Shift position	RANGE_D(defined)	1	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				apply start + 400rpm +				
				Transmission Output Speed x				
				gear ratio)	Fdetect_Inh ⁴	FALSE		
			C1 pressure	>=3.0kg/cm ²	Oil temperature	>=10°C		
					QS_AirSuction ⁵	FALSE		
					W 870	50540	=	
					No DTC set	P0716 P0717		
						P0721	-	
						P0722		
1) Q_NORMAL		<u> </u>	I	II.				
Q_NORMAL menas that no	failure is	detected						
2) DS_Active_CAN								
		art condition for CAN failure detection		<i>1</i> .				
DS_Active_CAN = FALSE w	hen the p	permission condition for CAN failure	detection is not fulfilled.					
Start Condition for CAN fai	ilure deta	action:						
Ignition ON and	nure uete	schon.						
10.2V < Battery Voltage < 1	8V and							
Not in service mode and								
Reading EEPROM finish								
Permission condition for C	AN failu	re detection:						
Ignition ON and	/ and							
9.0V < Battery Voltage < 18V and Not in service mode								
Not in service mode								
3) DO A-#								
	³⁾ DS_Active DS_Active = TRUE when the start condition for failure detection is fulfilled for 2.0 sec continously.							
		sion condition for failure detection is						
Start Condition for failure of	detection	1:						
Ignition ON and								
10.2V < Battery Voltage < 18V and								
Not in service mode and Reading EEPROM finish and								
-								
Egrpm > 400rpm and Egrpm	= Q_NO	KMAL'						
Permission condition for fa	ailure de	tection:						
Ignition ON and								
9.0V < Battery Voltage < 18V and								
Not in service mode and								
Egrpm > 400rpm and Egrpm	Egrpm > 400rpm and Egrpm = Q_NORMAL ¹							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
⁴⁾ Fdetech_Inh = TRUE if:								
In Emergency mode or								
spinning ⁶ = TRUE or								
within 10.0 sec after spinning detection end or								
DTC set: P0973, P0974, P0985, P0986, P0966, P0967, P0970, P0971, P2720, P2721, 2729, 2730, P0962, P0963, P2763, P0716, P0717, P0721, P0722, P0706, P0707, P0708, P0562, P0563, U0001, U0100, P1820, P1895, P0725, P0601, P0711, P0712, P0713, P0501, P2159, U0121								
⁵⁾ QS_AirSuction: Quick stop detection flag for the prevention of failure misdetection for Air suction, is set if the vehicle brakes hard.								
6) Spinning								
Spinning = 1 if Transversal acceleration > 0.7G (input from ABS signal)								
		on parameter < 0.7G for 2sec. Conti	nously. (input from ABS signal)					
7) Wheel spin condition								
(1) 300 rpm < outRpm < 300								
(2) Egtorque_noACC > 0Nm								
(3) ABS (vehicle front wheel (4) Throttle > 70 %	s average	speed - vehicle rear wheels averag	e speed) > 5.0 km/h					
(5) outRpmSpeed < -20 rpm	/sec							
{(1)and(2)and(3)}or{ (1)and(4)and(5)}continuously detected for 300 msec								
After that, Wheel spin condition = TRUE continuously 10000 msec								
8) 5 - 1 - 7								
EngineTorque_noACC Engine output torque, acceleration inertia torque not included.								
000000		12. 430 1101 11.010000						
9) Shifting Control								
"Shifting Control" is activated when the transmission is in between two gears (undefined gear ratio), until applied pressure has reached to full				lied pressure has reached to full				
10) "Neutral Control"								
Neutral Control is activated if the vehicle is at stand still and in range D with the brake pressed for 2 seconds until the brake is released.								
11)								
11) "Garage Shifting" "Garage Shifting Control" is	activated	when the range selector changes from	om N to D or B until approprieto Co	par Patio is detected				
Garage Smilling Control IS	activated	when the range selector changes from	on N to D or K until appropriate Ge	ear Railo IS delected.				