

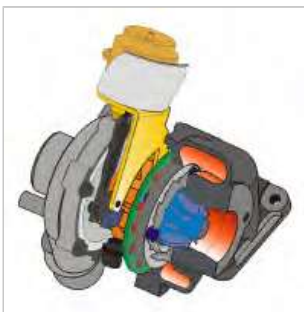
Component Location



General Description

VGT(Variable Geometric Turbocharger) is the device which increases the efficiency of turbocharger at low rpm and lasts optimum turbo efficiency at high rpm as varying the cross sectional area through which exhaust gas passes turbocharger impeller. It relieves turbo lag at low speed and increase engine power generation.

Engine speed, APS signal, MAFS and Boost pressure sensor data are inputted to ECM. ECM actuates vacuum diafragm which controls exhaust gas line as controlling VGT actuator duty to maintain optimum state of air compression.



DTC Description

P0047 is set when "0"A is detected in VGT actuator control circuit for more than 1 sec.. This code is due to open or short to ground in VGT actuator circuit, or open in VGT actuator component.

DTC Detecting Condition

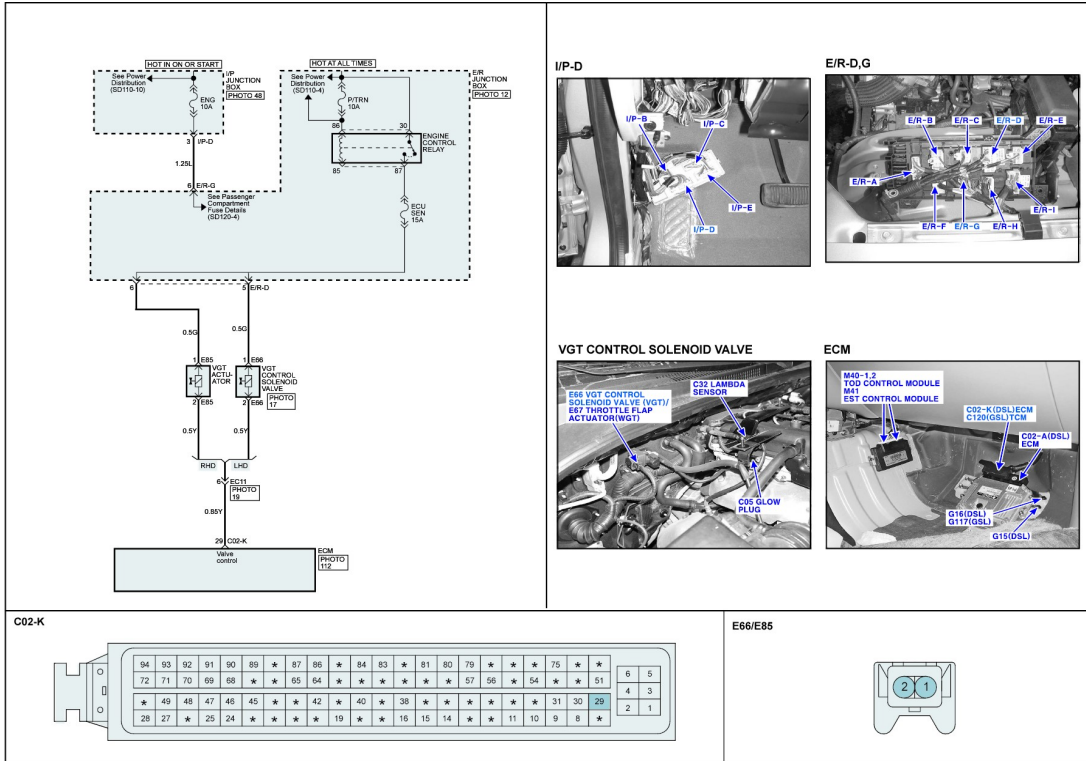
Item	Detecting Condition		Possible Cause
DTC Strategy	● Signal monitoring		● VGT actuator circuit ● VGT actuator component
Enable Conditions	● IG KEY "ON"		
Threshold Value	● Short to GND, wiring open ● Wiring open		
Diagnostic Time	● 1 sec.		
Fail Safe	Fuel Cut	NO	
	EGR Off	YES	
	Fuel Limit	YES	
	Check Lamp	NO	

Specification

VGT Actuator Component		
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Resistance	VGT Actuator Operating Hz	VGT Actuator Operating Duty
14.7 ~ 16.1Ω (20Ω)	300Hz	76% at idle, decreases as accelerating

Schematic Diagram



Signal Waveform

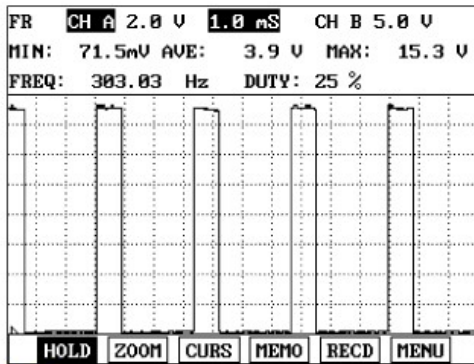


Fig.1

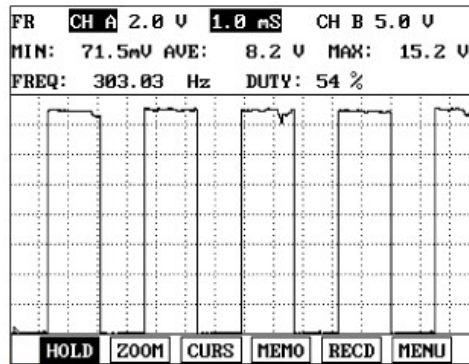


Fig.2

Fig 1) VGT actuator output waveform at 76% duty(-)duty) . Duty decreases as boost pressure increases.
 Fig 2) VGT actuator duty(-)duty) decreases as accelerating.