<b>Фт</b>	ΟΥΟΤΑ	Tech Tip	T-TT-0012-10	August, 2010	
2GR-FE Valve Timing Tips				Market USA	
Service Categor	y Hybrid System		Section Engine Mechanical		
Applicability 2GR-FE	Equipped Vehi	cles			
APPLICA	BLE VEHICLES				
2010 – 2010 – 2010 –	2011 2011 2011	Avalon Highlander Sienna	2010 – 2011 2010 – 2011 2009 – 2011	Camry RAV4 Venza	
CONDIT	ON				
This Teo 2GR-FE	ch Tip provides v engines.	valve timing inspec	ction tips and service guidelin	es for vehicles equipped with	
RECOM	<b>MENDATIONS</b>				
Figure 1. RH Ban Exhaust	RH Bank (Bank 1) Intake Camshaft Ti k (Bank 1) Camshaft Timing (	ming Gear Gear RH Bank (Bank 1) #2 Timing Chain Crankshaft	LH Bank (Bank 2 Intake Camshaft	2) Timing Gear LH Bank (Bank 2) Eth Bank (Bank 2) #2 Timing Chain	
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# ΤΟΥΟΤΑ

# Tech Tip T-TT-0012-10

August, 2010

# **2GR-FE Valve Timing Tips**

Applicability

## 2GR-FE Equipped Vehicles

#### RECOMMENDATIONS

#### Inspection

- 1. Set the No. 1 cylinder to TDC/compression
  - A. Set the timing mark to 0° on the timing chain cover by rotating the crankshaft clockwise.
  - B. Verify the timing marks on the camshaft timing gears are in general alignment with the timing marks of the camshaft bearing cap:

TIMING MARK IDENTIFICATION					
CYLINDER BANK	INTAKE GEAR MARK	EXHAUST GEAR MARK			
RH Bank (Bank 1)	Small Mark	Single Line			
LH Bank (Bank 2)	Large Mark	Double Line			





Market

USA

## HINT:

When the engine is correctly timed, the timing marks may NOT perfectly align.

#### Figure 3. RH Bank Exhaust Camshaft Timing Gear

Bearing Cap Timing Mark



**Gear Timing Mark** 

# Figure 4. RH Bank Intake Camshaft Timing Gear Bearing Cap Timing Mark



Gear Timing Mark



#### NOTE:

This relationship MUST be maintained. The intake gear is timed in relation to the crankshaft via the timing chain; the exhaust gear is timed in relation to the intake gear via the No. 2 timing chain.

