

# TOYOTA CUSTOMER SERVICES

Volume: XVI  
Number: TC09-021  
Date: 08/26/2009  
☒ Action  
☒ Retain  
☐ Information

## INTEROFFICE MEMORANDUM

To: All Region/Private Distributor General Managers/Vice Presidents  
From: Gary Smith,  
Corporate Manager, Service Technology & Compliance  
Subject: Safety Recall (Special Service Campaign) – 90H  
Certain '09 – '10 Corolla, Corolla Matrix and '08 – '09 Scion xD Vehicles Equipped with 2ZR-FE  
(1.8 liter) engine  
Brake System Vacuum Port (Phase 1 – 19 Cold States)

Toyota will initiate a **Special Service Campaign** on the brake system vacuum port for certain '09 – '10 Corolla, Corolla Matrix and '08 – '09 Scion xD vehicles equipped with 2ZR-FE (1.8 liter) engines. This program will be launched in three phases. The first phase will be launched as a **Safety Recall** in **19 cold states** that have severe and prolonged cold weather conditions ("19 cold states"). The second and third phases will be launched as a customer satisfaction **Special Service Campaign** (SSC) in the **remaining 31 states**.

### Background:

On August 26, 2009, Toyota filed a Defect Information Report (DIR) with the National Highway Traffic Safety Administration (NHTSA) regarding the brake system vacuum port on '09 – '10 Corolla, Corolla Matrix and '08 – '09 Scion xD vehicles equipped with 2ZR-FE (1.8 liter) engines, registered in the following 19 cold states:

*Alaska, Colorado, Idaho, Illinois, Iowa, Kansas, Maine, Michigan, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New York, North Dakota, South Dakota, Vermont, Wisconsin and Wyoming*

### Condition:

- If the vehicle is operated in extremely low temperatures, there is a possibility that condensed moisture from a positive crankcase ventilation (PCV) port may seep into the brake system vacuum port ("port") and freeze. The port is located inside the intake manifold and provides vacuum assist for the brakes.
- Should this condition continue, ice may slowly accumulate at the port and in the worst case, ultimately plug the port. As a result, power assist to the brakes would gradually decrease (eventually to zero), and the increased pedal pressure required could lead to greater vehicle stopping distances.

The following vital information is provided to inform you and your staff of the owner notification phase of the campaign and your degree of involvement.

#### 1. Dealer Letter Mailing Date

The attached Dealer Letter will be sent to the Toyota dealers in the 19 cold states in late August, 2009. A separate notification will be sent to dealers in the remaining 31 states advising them of the DIR filing and their involvement in Phase 2 or 3. We request that dealers outside of the 19 cold states not order parts until their phase is launched.

#### 2. Owner Notification Mailing Date

The owner notification will commence in early September, 2009, approximately one week after the dealer notification.

#### **Two different owner letters will be sent:**

- Phase 1 owner letters will be mailed to owners of Corolla, Corolla Matrix and Scion xD vehicles registered in the affected 19 cold states encouraging owners to have the campaign performed as soon as possible.
- Phase 2 & Phase 3 owner letters will be sent to owners in the remaining 31 states advising them of the need to have the modification performed only if the vehicle will be operated in these cold states. Samples of both owner letters are included in this package. The VINs for phases 2 and 3 will be activated in TIS as that specific phase is launched.

3. **Number of Vehicles Involved**

There are approximately 95,700 vehicles involved in phase 1.

4. **Region/District Summary Reports**

For your reference, the following summary reports are included for the CSOM and Director of Service:

- Region/PD Summary Report that provides an overview of the entire Region/PD for this SSC.
- District Summary Report that indicates the number of involved vehicles per dealership in each district for this campaign.

cc: Region/Private Distributor Assistant General Managers  
Region/Private Distributor Customer Service Operations Managers  
Region/Private Distributor Service Managers/Directors/VPs  
Region/Private Distributor Parts Managers/Directors/VPs  
Region/Private Distributor Customer Services Field Managers  
Region/Private Distributor Technical Services and Training Managers  
Region/Private Distributor District Service and/or Parts Managers  
Region/Private Distributor Customer Relations Managers  
Region/Private Distributor PDC Managers  
Region/Private Distributor Field Technical Specialists  
Region/Private Distributor Service Training Specialists  
Region/Private Distributor Vehicle Operations Managers  
All NAPC General Managers  
All TMS Sales Administration Managers  
All TMS Product Quality & Service Support Managers  
All Field Product Engineers

K. Aoki	T. Doi	E. Matsuda	R. Specht
J. Beseda	D. Esmond	K. Kusakawa	J. Stempkowski
G. Borst	W. Fay	M. Michels	S. Sugawara
R. Broughman	N. Fein	I. Miller	M. Templin
G. Bryan	F. Fontanella	T. Morrison	J. Tetherow
W. Burns	Y. Funo	T. Nakagami	P. Uribe
D. Camden	S. Haag	D. Pettitt	A. Vaish
B. Carter	J. Hanson	R. Pflughaupt	R. Waltz
G. Christoff	K. Higgins	C. Reynolds	S. Yamaguchi
J. Colon	M. Hosoe	C. Roberts	M. Yamanami
B. Cooper	R. Ito	R. Sakai	N. Yamamoto
R. Daly	M. King	D. Sakakibara	H. Yoshihashi
D. Danzer	J. Lang	M. Setta	D. Zellers
F. Davidson	J. Lentz	A. Smith	



To: All Toyota Dealer Principals, Service Managers, Parts Managers

Subject: Safety Recall (Special Service Campaign) – 90H  
Certain '09 – '10 Corolla, Corolla Matrix and '08 – '09 Scion xD Vehicles Equipped with 2ZR-FE (1.8 liter) Engines  
Brake System Vacuum Port (Phase 1 – 19 cold states)

Toyota will initiate a Special Service Campaign on the brake system vacuum port for certain '09 – '10 Corolla, Corolla Matrix and '08 – '09 Scion xD vehicles equipped with 2ZR-FE (1.8 liter) engines. This program will be launched in three phases. The first phase will be launched as a **Safety Recall** in **19 cold states** that have severe and prolonged cold weather conditions ("19 cold states"). The second and third phases will be launched as a customer satisfaction **Special Service Campaign (SSC)** in the **remaining 31 states**.

#### Background:

On August 26, 2009, Toyota filed a Defect Information Report (DfR) with the National Highway Traffic Safety Administration (NHTSA) regarding the brake system vacuum port on '09 – '10 Corolla, Corolla Matrix and '08 – '09 Scion xD vehicles equipped with 2ZR-FE (1.8 liter) engines, registered in the following 19 cold states:

*Alaska, Colorado, Idaho, Illinois, Iowa, Kansas, Maine, Michigan, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New York, North Dakota, South Dakota, Vermont, Wisconsin and Wyoming*

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The following vital information is provided to inform you and your staff of the owner notification phase of the campaign and your degree of involvement.

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- Phase 2 & Phase 3 owner letters will be sent to owners in the remaining 31 states advising them of the need to have the modification performed only if the vehicle will be operated in these cold states. Samples of both owner letters are included in this package. The VINs for phases 2 and 3 will be activated in TIS as that specific phase is launched.

#### 2. Vehicles in Dealer Stock

Dealers are requested to perform SSC procedures on any vehicles in their stock prior to sale or lease. Vehicle SSC completion can be verified through TIS.

### 3. Dealer/Owner Lists

Affected vehicle VIN lists (VIN only due to Privacy Laws) for SSC 90H have been distributed to each dealership's Service and Parts Managers. These lists are based upon the dealership's Primary Marketing Area (PMA) or selling dealership where applicable. Based upon our records, a dealership which does not have an affected vehicle in their PMA will receive a report indicating so.

### 4. Number and Identification of Involved Vehicles

There are approximately 95,700 vehicles involved in phase 1.

Model	WMI	Year	VIN Range	
			VDS	Range
Corolla	1NX	2009	BU40E	Z001002 – Z165305
		2010	BU4EE	Z165312 – Z216294
	2T1	2009	BU40E	C001054 – C191051
		2010	BU4EE	C185955 – C241463
	JTD	2009	BL40E	9017763 – 9095008
				J000111 – J055039
		2010	BU4EE	9093922 – 9102968
				J054618 – J057553
Corolla Matrix	2T1	2009	KU40E	C001057 – C191049
		2010	KU4EE	C191054 – C241053
xD	JTK	2008	KU104	J000116 – J032918
		2009	KU104	J032919 – J049777

Please note that not all vehicles in the VIN range are affected by this SSC. If a dealership in the 19 cold states is contacted by an owner of an involved vehicle, who has not yet received a notification, please **verify eligibility by confirming through Dealer Daily/TIS prior to performing repairs**. Dealers should perform the repair as outlined in the Technical Instructions on TIS.

### 5. Parts Ordering

If your dealership is located within one of the 19 Cold States, order the necessary parts through your facing PDC. Please refer to the table below and the Technical Instructions for part number information.

- Corolla & Corolla Matrix

Part Number	Part Description	Quantity
04009-13137	Intake Air Connector Kit	1

- Scion xD

Part Number	Part Description	Quantity
04009-13137	Intake Air Connector Kit	1
04009-14137	Air Cleaner Hose	1

NOTE: There are only 95,700 Corolla, Corolla Matrix and Scion xD vehicles operating in the 19 cold states.

A UIO by state matrix is listed below to inform dealers of the number of vehicles in their area.

STATE	UIO
AK	686
CO	5,058
IA	3,594
ID	1,225

STATE	UIO
IL	18,227
KS	3,277
ME	2,369
MI	5,970

STATE	UIO
MN	7,816
MT	815
ND	552
NE	1,534

STATE	UIO
NH	3,631
NV	4,025
NY	26,327
SD	503

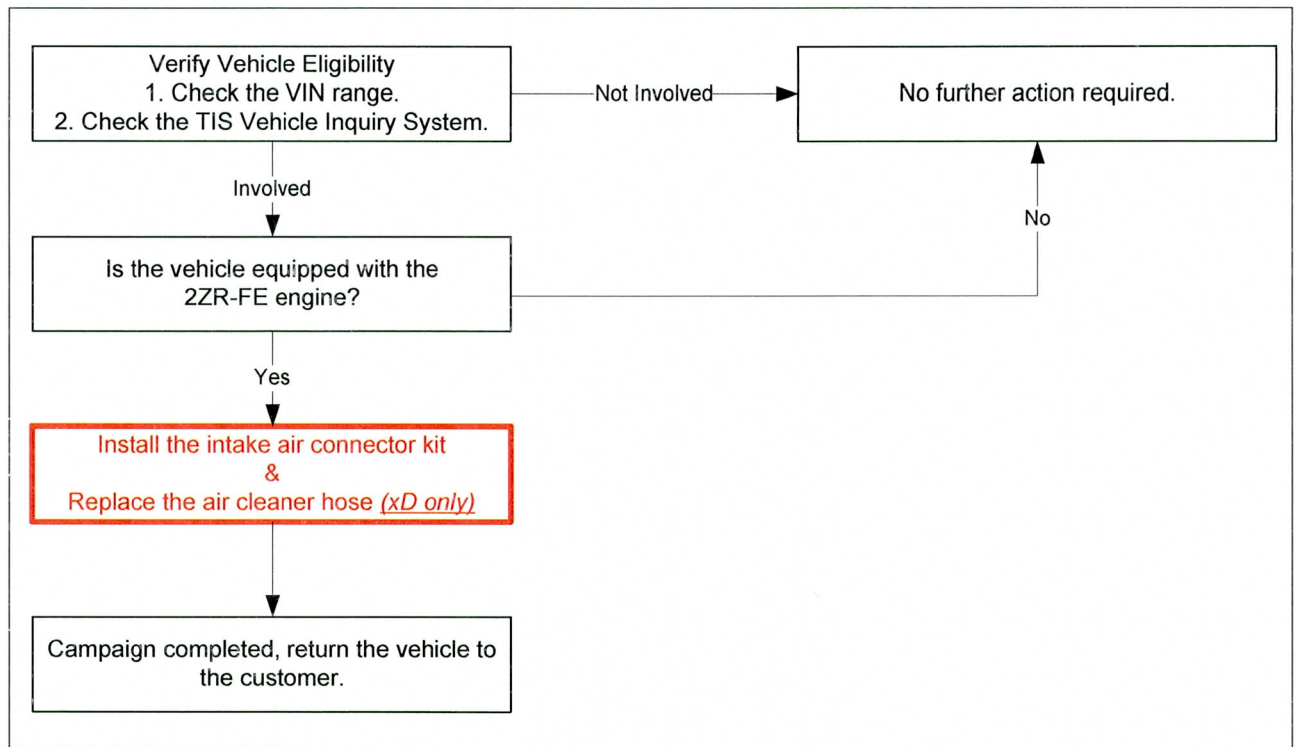
STATE	UIO
VT	1,471
WI	8,201
WY	424



## 6. Repair Procedures

Refer to TIS for Technical Instructions.

## 7. Warranty Processor Instructions



The operation codes to be used for this campaign are:

SSC #	Op. Code	Description	Flat Rate Hour
90H	9521H1	Install Intake Air Tube Connector Kit (Corolla / Corolla Matrix ONLY)	0.8 hr/vehicle
	9521H2	Install Intake Air Tube Connector Kit (Scion xD ONLY)	0.9 hr/vehicle

Submit Special Service Campaign claims following the procedures described in the Toyota Warranty Policy and Procedures Manual.

**NOTE:** The above flat rate time includes 0.1 hour for administrative cost per unit for the dealership.

8. **Reimbursement for the repair to vehicle's brake system vacuum port, prior to the launch of this SSC:**

Customers may request reimbursement, if they have previously paid for the repair of their vehicle for this specific condition prior to receiving the owner letter. Customers requesting reimbursement are requested to mail a copy of their repair order, proof-of-payment, and proof-of-ownership to the following address for reimbursement consideration:

**Toyota Customers:**

Toyota Motor Sales, U.S.A., Inc.  
Toyota Customer Experience, WC10  
19001 South Western Avenue  
Torrance, CA 90509

**Scion Customers:**

Toyota Motor Sales, U.S.A., Inc.  
Scion Customer Experience, WC10  
19001 South Western Avenue  
Torrance, CA 90509

Please review this entire package with your Service and Parts staff to familiarize them with the proper step-by-step procedures required to implement this Special Service Campaign.

Thank you for your cooperation.  
TOYOTA MOTOR SALES, U.S.A., INC.



**SSC 90H - Certain 2009 – 2010 Corolla & Corolla Matrix Equipped with 2ZR-FE (1.8 liter) Engines  
Brake System Vacuum Port  
SAFETY RECALL NOTICE**

Dear Toyota Customer:

This notice is being sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act. Toyota has decided that a defect, which relates to motor vehicle safety, exists in certain 2009 – 2010 Corolla & Corolla Matrix vehicles equipped with 2ZR-FE (1.8 liter) engines.

**What is the condition?**

If the vehicle is operated in extremely low temperatures, there is a possibility that condensed moisture from a positive crankcase ventilation (PCV) port may seep into the brake system vacuum port ("port") and freeze. The port is located inside the intake manifold and provides vacuum assist for the brakes.

Should this condition continue, ice may slowly accumulate at the port and in the worst case, ultimately plug the port. As a result, power assist to the brakes would gradually decrease (eventually to zero), and the increased pedal pressure required could lead to greater vehicle stopping distances.

**What will Toyota do?**

Any Toyota dealer will install a newly designed intake air connector which will relocate the brake system vacuum port at **NO CHARGE** to the vehicle owners.

**What should you do?**

***This is an important Safety Recall***

Please contact your authorized Toyota dealer and make an appointment to conduct this repair as soon as possible. The repair will take approximately 1 hour. However, depending upon the dealer's work schedule, it may be necessary to make your vehicle available for a longer period of time.

**We request that you present this notice to the dealer at the time of your service appointment.**

If you would like to update your vehicle ownership or contact information, please go to [www.toyota.com/ownersupdate](http://www.toyota.com/ownersupdate). You will need your full 17-digit Vehicle Identification Number (VIN) to input the new information.

**What if you have other questions?**

***Your local Toyota dealer will be more than happy to answer any of your questions and set up an appointment to perform this important Safety Recall.*** If you require further assistance, you may contact the Toyota Customer Experience Center at 1-888-270-9371 Monday through Friday, 5:00 am to 6:00 pm, Saturday 7:00 am through 4:00 pm Pacific Time.

If you believe that the dealer or Toyota has failed, or is unable to remedy the defect within a reasonable time, you may submit a complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue S.E., Washington, DC 20590 or call the toll free Vehicle Safety Hot Line at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.safercar.gov>.

**What if you have previously paid for repair to your vehicle's brake system vacuum port for this specific condition?**

If you have previously paid for repair to your vehicle's brake system vacuum port for this specific condition prior to receiving this letter, please mail a copy of your repair order, proof-of-payment, and proof-of-ownership to the following address for reimbursement consideration

Toyota Motor Sales, U.S.A., Inc  
Toyota Customer Experience, WC 10  
19001 South Western Avenue  
Torrance, CA 90509

If you are a vehicle lessor, Federal law requires that any vehicle lessor receiving this recall notice must forward a copy of this notice to the lessee within ten days.

We have sent this notice in the interest of your continued satisfaction with our products, and we sincerely regret any inconvenience this condition may have caused you.

Thank you for driving a Toyota.

Sincerely,

TOYOTA MOTOR SALES, U.S.A., INC.

SAMPLE



**SSC 90H - Certain 2008 – 2009 Scion xD Vehicles**  
**Brake System Vacuum Port**  
**SAFETY RECALL NOTICE**

Dear Scion Customer:

This notice is being sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act. Scion has decided that a defect, which relates to motor vehicle safety, exists in certain 2008 – 2009 Scion xD vehicles.

**What is the condition?**

If the vehicle is operated in extremely low temperatures, there is a possibility that condensed moisture from a positive crankcase ventilation (PCV) port may seep into the brake system vacuum port ("port") and freeze. The port is located inside the intake manifold and provides vacuum assist for the brakes.

Should this condition continue, ice may slowly accumulate at the port and in the worst case, ultimately plug the port. As a result, power assist to the brakes would gradually decrease (eventually to zero), and the increased pedal pressure required could lead to greater vehicle stopping distances.

**What will Scion do?**

Any Scion or Toyota dealer will install a newly designed intake air connector which will relocate the brake system vacuum port at **NO CHARGE** to the vehicle owners.

**What should you do?**

***This is an important Safety Recall***

Please contact your authorized Scion or Toyota dealer and make an appointment to conduct this repair as soon as possible. The repair will take approximately 1 hour. However, depending upon the dealer's work schedule, it may be necessary to make your vehicle available for a longer period of time.

**We request that you present this notice to the dealer at the time of your service appointment.**

If you would like to update your vehicle ownership or contact information, please go to <http://www.scion.com/#members>. You will need your full 17-digit Vehicle Identification Number (VIN) to input the new information.

**What if you have other questions?**

***Your local Scion or Toyota dealer will be more than happy to answer any of your questions and set up an appointment to perform this important Safety Recall.*** If you require further assistance, you may contact the Scion Customer Experience Center at 1-866-707-2466 Monday through Friday, 5:00 am to 6:00 pm, Saturday 7:00 am through 4:00 pm Pacific Time.

If you believe that the dealer or Scion has failed, or is unable to remedy the defect within a reasonable time, you may submit a complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue S.E., Washington, DC 20590 or call the toll free Vehicle Safety Hot Line at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.safercar.gov>.

**What if you have previously paid for repair to your vehicle's brake system vacuum port for this specific condition?**

If you have previously paid for repair to your vehicle's brake system vacuum port for this specific condition prior to receiving this letter, please mail a copy of your repair order, proof-of-payment, and proof-of-ownership to the following address for reimbursement consideration

Toyota Motor Sales, U.S.A., Inc  
Scion Customer Experience, WC 10  
19001 South Western Avenue  
Torrance, CA 90509

If you are a vehicle lessor, Federal law requires that any vehicle lessor receiving this recall notice must forward a copy of this notice to the lessee within ten days.

We have sent this notice in the interest of your continued satisfaction with our products, and we sincerely regret any inconvenience this condition may have caused you.

Thank you for driving a Scion.

Scion,  
A Marque of Toyota Motor Sales, U.S.A., Inc.

SAMPLE





**Special Service Campaign (Safety Recall) – 90H (Phase 1)**

**Certain '09 – '10 Toyota Corolla, Corolla Matrix and '08 – '09 Scion xD Vehicles Equipped with 2ZR-FE (1.8 liter) Engines  
Brake System Vacuum Port**

**Q1: Which and how many vehicles are involved?**

A1: Certain '09 – '10 Toyota Corolla, Corolla Matrix and '08 – '09 Scion xD vehicles equipped with the 2ZR-FE (1.8 liter) engines may be affected if driven in the 19 specified cold states where extremely low temperatures exist for an extended amount of time.

There are approximately 95,700 vehicles in these states.

Model Year	Model	Engine	Approx UIO
2009 -	Corolla	2ZR-FE (1.8 liter engine)	81,100
2009 -	Corolla		5,950
2008 -	Scion xD		8,650

**Q2: What is the condition?**

A2: If the vehicle is operated in extremely low temperatures, there is a possibility that condensed moisture from a positive crankcase ventilation (PCV) port may seep into the brake system vacuum port ("port") and freeze. The port is located inside the intake manifold and provides vacuum assist for the brakes.

Should this condition continue, ice may slowly accumulate at the port and in the worst case, ultimately plug the port. As a result, power assist to the brakes would gradually decrease (eventually to zero), and the increased pedal pressure required could lead to greater vehicle stopping distances.

**Q3: What is the production period of the affected vehicles?**

A3: The affected vehicles were produced:

Model Year	Model	Engine	Production Period
2009 - 2010	Corolla	2ZR-FE (1.8 liter engine)	Late November 2007 - Late July 2009
2009 - 2010	Corolla Matrix		Early January 2008 - Mid June 2009
2008 - 2009	Scion xD		Mid June 2007 - Early June 2009

**Q4: Which are the 19 affected Cold States?**

A4: Alaska, Colorado, Idaho, Illinois, Iowa, Kansas, Maine, Michigan, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New York, North Dakota, South Dakota, Vermont, Wisconsin and Wyoming

**Q5: Are there any warnings that this condition exists?**

A5: No, there are no specific warnings that this condition exists.

**Q6: Are there any other Toyota or Lexus vehicles involved?**

A6: No, this specific condition only affects certain '09 – '10 model year Toyota Corolla, Corolla Matrix and '08 – '09 model year Scion xD vehicles equipped with 2ZR-FE (1.8 liter) engines.

**Q7: What is Toyota going to do?**

A7: Owners of the involved vehicles in the 19 affected states will receive a Safety Recall Notification by first class mail in early September, 2009. Any Toyota dealer will install a newly designed intake air connector which will relocate the brake system vacuum port at **NO CHARGE** to the vehicle owners.

**Q8: Why is it not necessary to repair vehicles driven in States other than the 19 identified Cold States in the U.S.?**

A8: This condition occurs in areas where extremely low temperatures exist for an extended amount of time. Therefore, the 19 States have been identified to be subject to such weather during the winter seasons.

Toyota will mail a Special Service Campaign notice at a later date to customers in the remaining states to inform them of the campaign. After receiving their notification, if there is a possibility for their vehicle to be operated in the 19 specified states or in the conditions described above, they may contact any authorized Toyota or Scion dealer and make an appointment to install a newly designed intake air connector that will relocate the brake system vacuum port at **NO CHARGE** to the vehicle owners.

**Q9: How long will the repair take?**

A9: The repair will take approximately 1 hour. However, depending upon the dealer's work schedule, it may be necessary to make the vehicle available for a longer period of time.

**Q10: What should an owner do if they experience the condition, or have immediate concerns about their vehicle?**

A10: If an owner has any immediate concerns they are requested to contact their local Toyota or Scion dealer for diagnosis, and if applicable, repair.



**TECHNICAL INSTRUCTIONS**

**FOR**

**SPECIAL SERVICE CAMPAIGN 90H (SAFETY RECALL)  
FOR VEHICLES IN**

**AK, CO, IA, ID, IL, KS, ME, MI, MN, MT, ND, NE, NH, NV, NY, SD, VT, WI & WY**

**&**

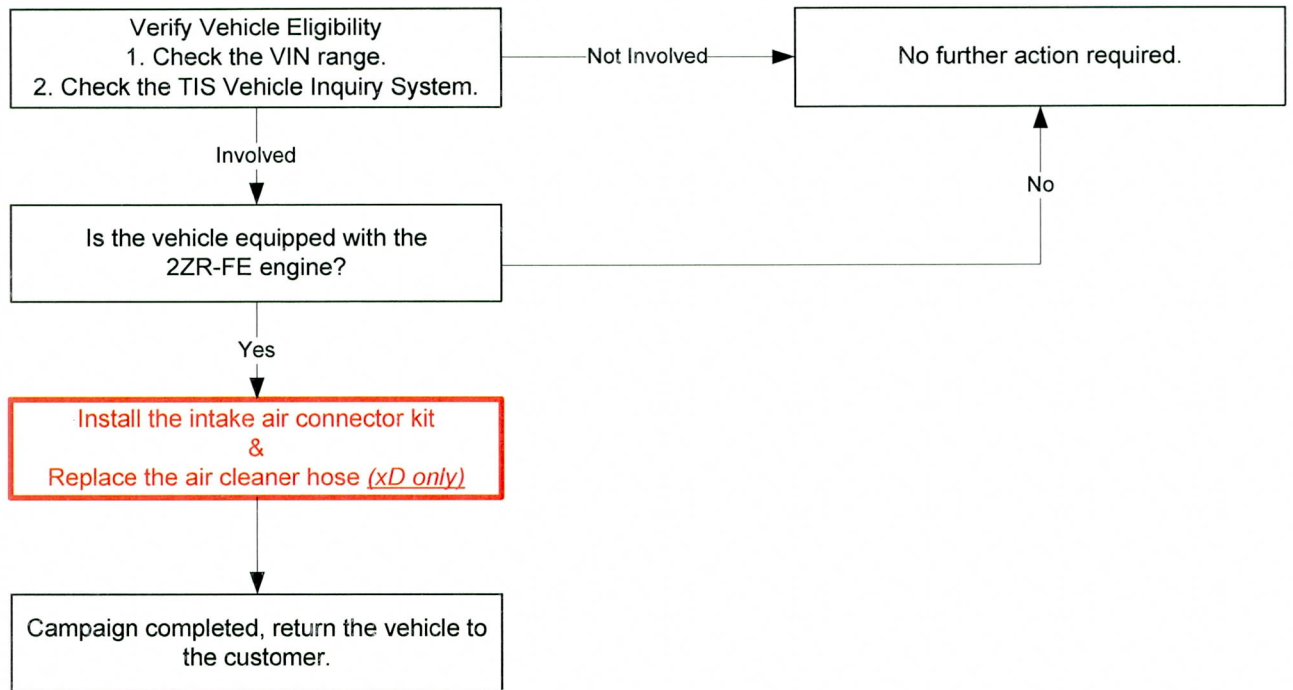
**SPECIAL SERVICE CAMPAIGN 90H  
FOR VEHICLES IN**

**AL, AR, AZ, CA, CT, DC, DE, FL, GA, HI, IN, KY, LA, MA, MD, MO, MS, NC, NJ, NM,  
OH, OK, OR, PA, RI, SC, TN, TX, UT, VA, WA, WV & THE US TERRITORIES**

**BRAKE VACUUM PORT ON THE 2ZR-FE (1.8 LITER) ENGINE**

**2009 – 2010 COROLLA & COROLLA MATRIX  
2008 – 2009 SCION xD**

## I. OPERATION FLOW CHART



## II. IDENTIFICATION OF AFFECTED VEHICLES

### A. AFFECTED VIN RANGE

Model	WMI	Year	VIN Range	
			VDS	Range
Corolla	1NX	2009	BU40E	Z001002 – Z165305
		2010	BU4EE	Z165312 – Z216294
	2T1	2009	BU40E	C001054 – C191051
		2010	BU4EE	C185955 – C241463
	JTD	2009	BL40E	9017763 – 9095008
				J000111 – J055039
		2010	BU4EE	9093922 – 9102968 J054618 – J057553
Corolla Matrix	2T1	2009	KU40E	C001057 – C191049
		2010	KU4EE	C191054 – C241053
xD	JTK	2008	KU104	J000116 – J032918
		2009	KU104	J032919 – J049777

- Check the TIS Vehicle Inquiry system to confirm the VIN is involved in this SSC. This will verify the vehicle is affected and has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or were completed by another dealer.

### III. PREPARATION

#### A. PARTS

- Corolla & Corolla Matrix

Part Number	Part Description	Quantity
04009-13137	Intake Air Connector Kit*	1

- xD

Part Number	Part Description	Quantity
04009-13137	Intake Air Connector Kit*	1
04009-14137	Air Cleaner Hose	1

\* For kit contents refer to the appendix on the last page.

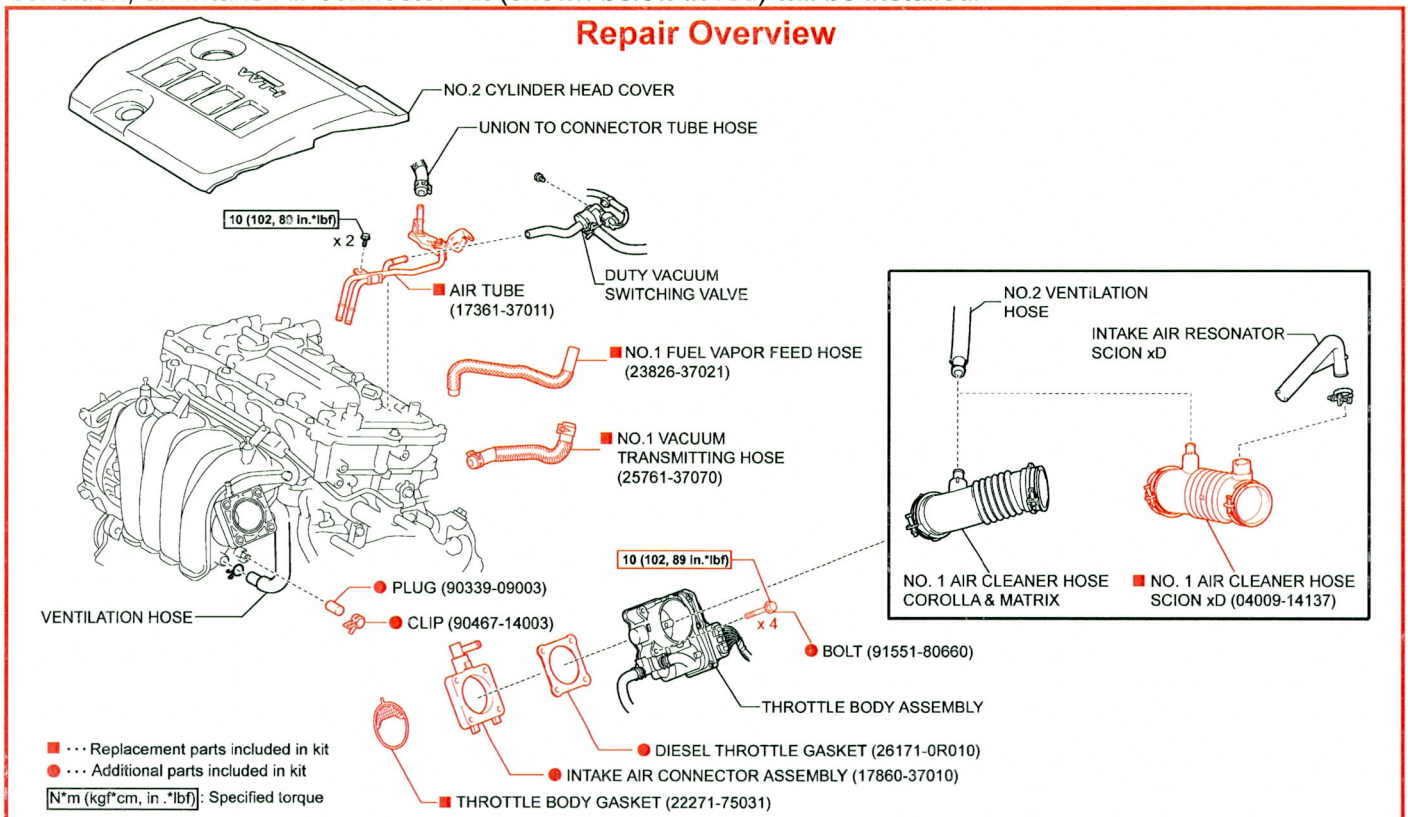
#### B. TOOLS, EQUIPMENT & MATERIALS

- Standard hand tools
- E6 TORX® socket
- Techstream scantool
- Protective tape

### IV. BACKGROUND & COMPONENTS

If the vehicle is operated in extremely low temperatures, there is a possibility that condensed moisture from a positive crankcase ventilation (PCV) port may seep into the brake system vacuum port ("port") and freeze. The port is located inside the intake manifold and provides vacuum assist for the brakes.

Should this condition continue, ice may slowly accumulate at the port and in the worst case, ultimately plug the port. As a result, power assist to the brakes would gradually decrease (eventually to zero), and the increased pedal pressure required could lead to greater vehicle stopping distances. To correct this condition, an Intake Air connector Kit (shown below in red) will be installed.



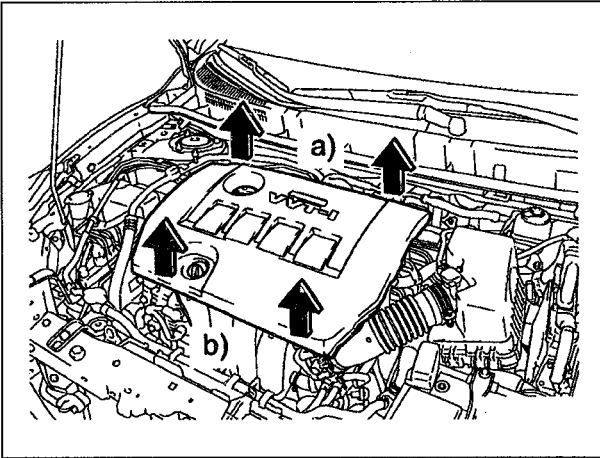


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## VI. COROLLA & COROLLA MATRIX WORK PROCEDURE

### A. REMOVAL PROCESS

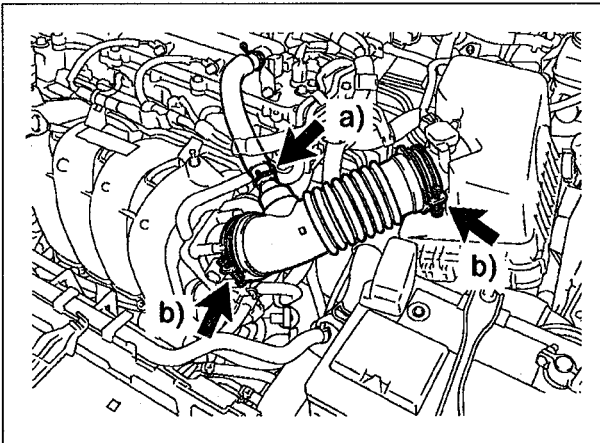


#### 1. REMOVE THE NO. 2 CYLINDER HEAD COVER

- Place both hands on the back side of the cover and lift up to disengage the 2 clips.
- Place both hands on the front side of the cover and lift up to disengage the 2 clips, and remove the cylinder head cover.

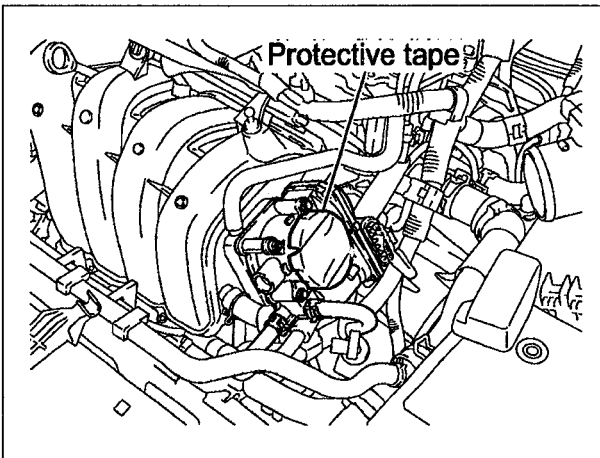
#### NOTE:

- Disengage the back side clips first
- Lifting the front and back side at once will damage the cover.

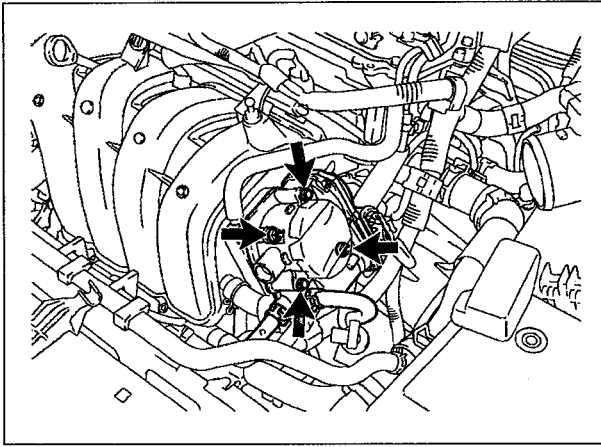


#### 2. REMOVE THE NO.1 AIR CLEANER HOSE

- Remove the clip and disconnect the ventilation hose.
- Loosen the 2 clamps and remove the No.1 air cleaner hose.

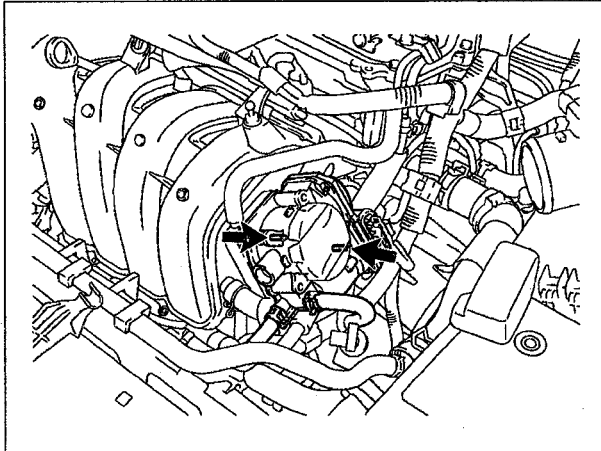


- Place protective tape over the throttle body opening to prevent foreign objects from entering.



### 3. REMOVE THE THROTTLE BODY ASSEMBLY

- a) Remove the 2 bolts and 2 nuts.

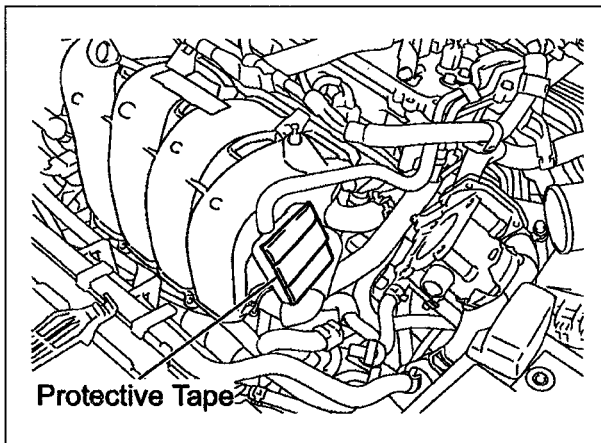


- b) Using an E6 TORX® socket, remove the 2 stud bolts and the throttle body assembly.

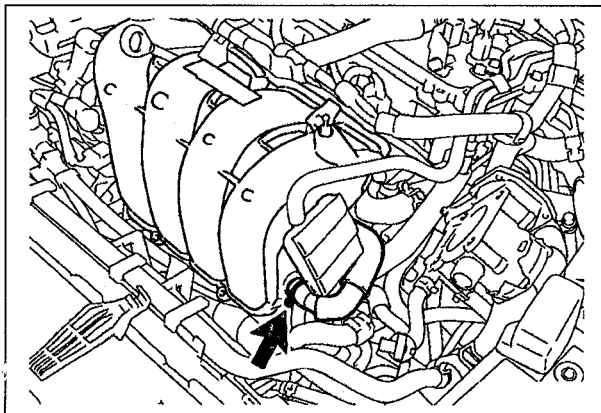
#### NOTE:

**DO NOT** disconnect the throttle body assembly connector and water bypass hoses from the throttle body assembly.

- c) Remove the throttle body gasket.

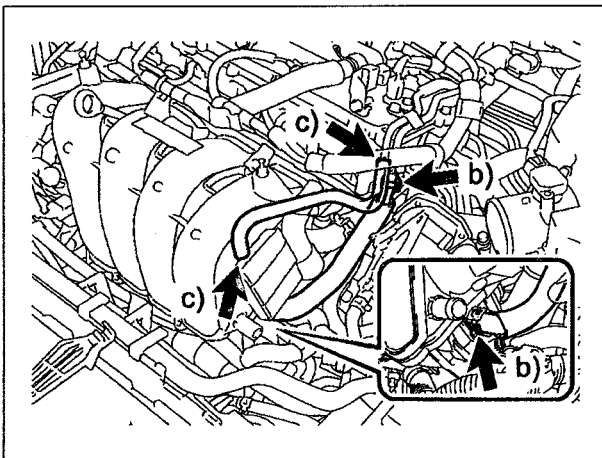


- d) Place protective tape over the intake manifold opening to prevent foreign objects from entering.

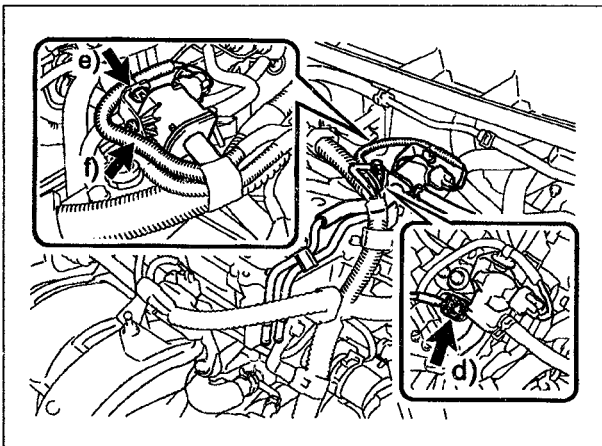


### 4. REMOVE THE AIR TUBE

- a) Remove the clip and disconnect the ventilation hose.



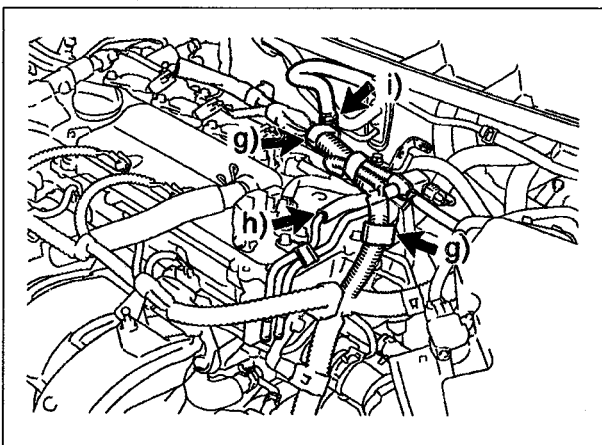
- b) Remove the 2 clips and disconnect the No.1 vacuum transmitting hose.
- c) Remove the No.1 fuel vapor feed hose.



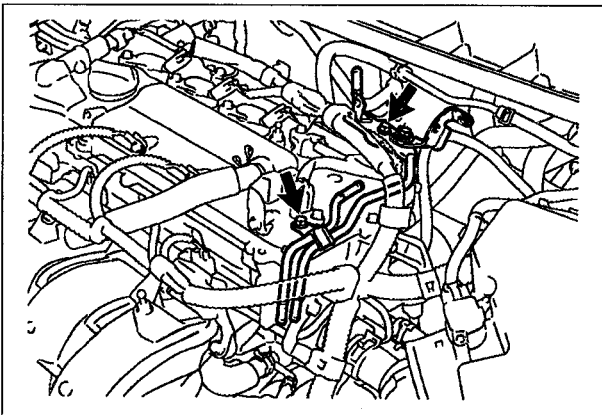
- d) Disconnect the crank position sensor connector.
- e) Disconnect the wire harness clip.
- f) Remove the screw and the vacuum switching valve.

**NOTE:**

**If the screw cannot be removed, remove the bracket bolt for the duty vacuum switching valve instead.**



- g) Disconnect the 2 wire harness clips.
- h) Disconnect the duty cycle vacuum switching valve fuel vapor feed hose from the air tube.
- i) Remove the clip and disconnect the union to connector tube hose.



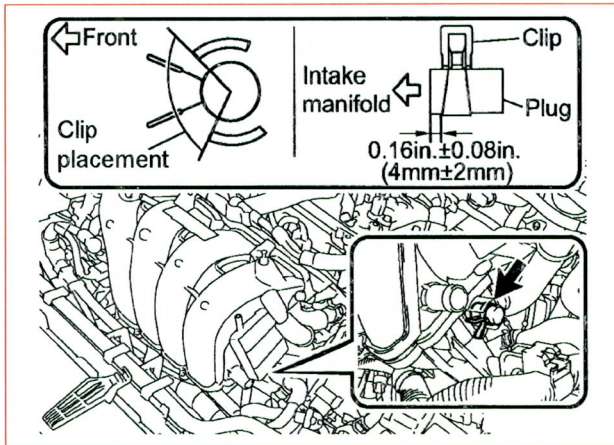
- j) Remove the 2 bolts.
- k) Remove the air tube, while ensuring that it does not come in contact with the crank position sensor and wire harness.

**NOTE:**

**Damage to the crank position sensor and wire harness may occur if contacted by the air tube during removal.**

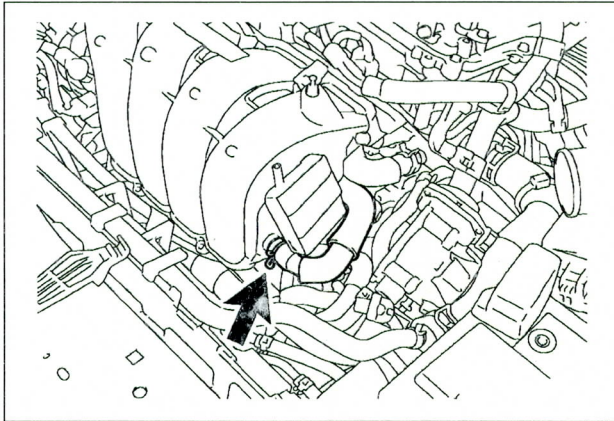


## B. INSTALLATION PROCESS



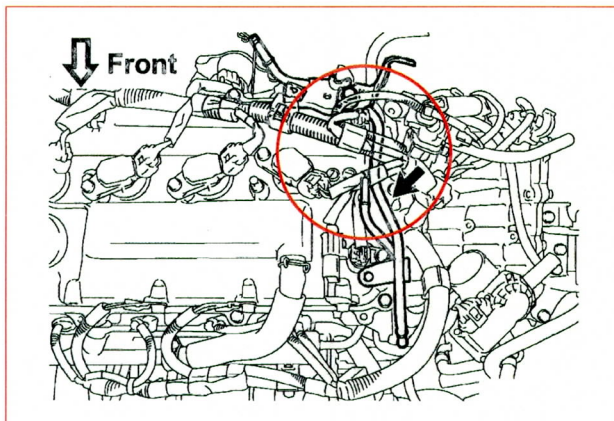
### 1. INSTALL THE PLUG

- Install the **NEW** plug to the intake manifold's No.1 vacuum transmitting hose connection point.
- Install a **NEW** clip as shown in illustration.



### 2. RECONNECT THE VENTILATION HOSE

- Reconnect the ventilation hose and reinstall the clip.

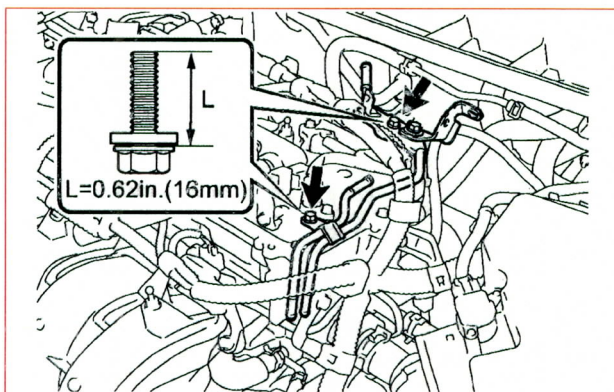


### 3. INSTALL THE NEW AIR TUBE

- Install the **NEW** air tube.

#### NOTE:

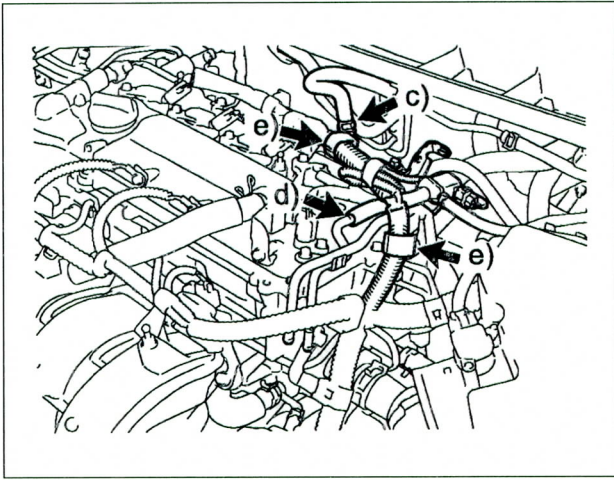
- Make sure not to pinch the wire harness when installing the air tube.
- Set the air tube underneath the wire harness as shown in illustration.



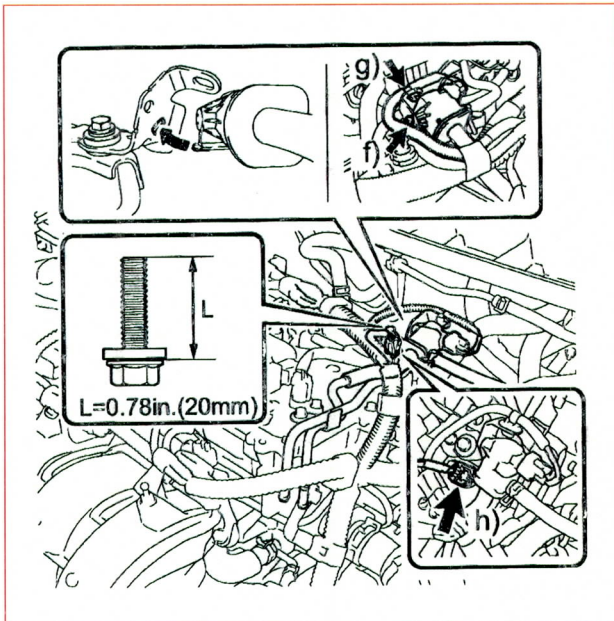
- Reinstall the 2 air tube bolts and torque to 10 N·m (102 kgf·cm, 89 in·lbf).

#### NOTE:

- The bolt for the air tube bracket is shorter [L = 0.62 in. (16 mm)] than the one for the duty vacuum switching valve [L = 0.78 in. (20 mm)].
- If the bracket bolt for the duty vacuum switching valve was removed, make sure to use the correct one during reinstallation.



- c) Reconnect the union to connector tube hose and reinstall the clip.
- d) Reconnect the duty cycle vacuum switching valve fuel vapor feed hose.
- e) Reconnect the 2 wire harness clips.

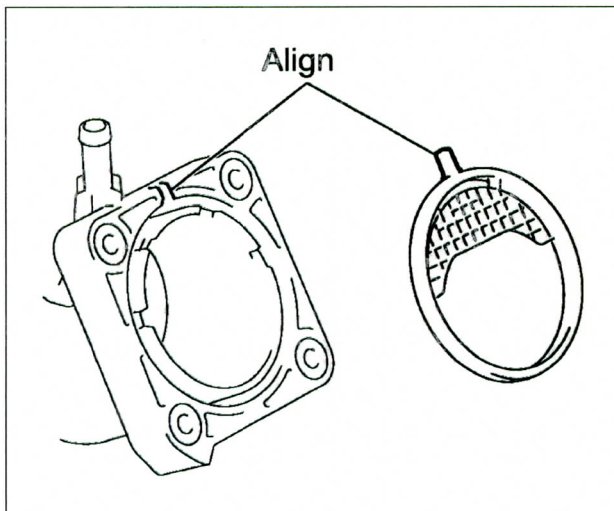


- f) Reinstall the vacuum switching valve and screw.

**NOTE:**

- If the bracket bolt for the duty vacuum switching valve was removed reinstall it and torque to 5.9 N·m (60 kgf·cm, 52 in·lbf).
- Make sure to use the correct bolt, as the one for the duty vacuum switching valve is longer [L = 0.78 in. (20 mm)] than the one for the air tube bracket [L = 0.62 in. (16 mm)].

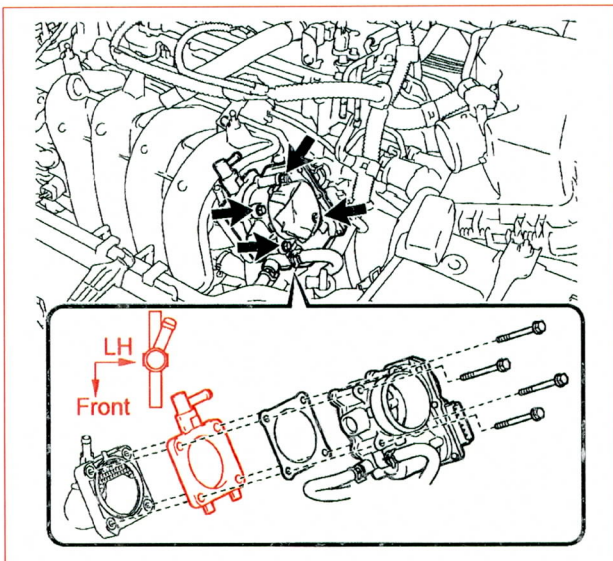
- g) Reconnect the wire harness clip.
- h) Reconnect the crank position sensor connector.



**4. REINSTALL THE THROTTLE BODY ASSEMBLY**

- a) Remove the protective tape.
- b) Install the **NEW** throttle body gasket.

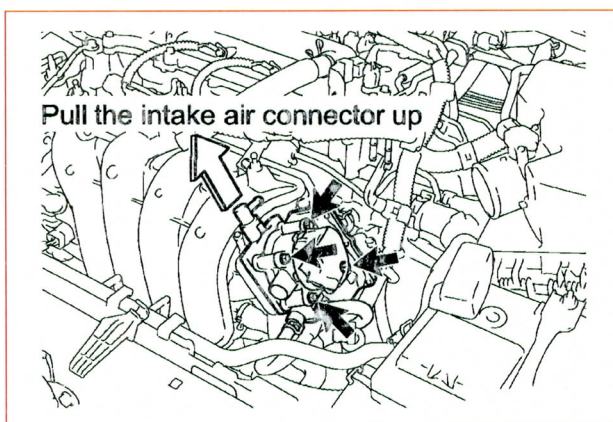




- c) Reinstall the throttle body assembly with a **NEW** intake air connector, **NEW** gasket and 4 **NEW** bolts in the order shown in the illustration.
- d) Verify that the gasket is properly positioned.

**NOTE:**

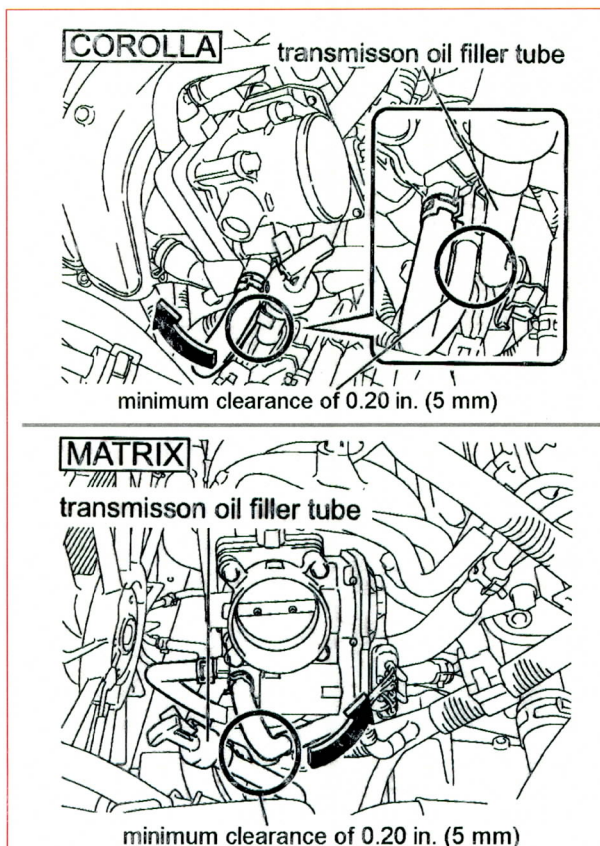
**Make sure the orientation of the intake air connector is correct during installation.**



- e) While pulling up the intake air connector, install the 4 bolts and torque to **10 N·m (102 kgf·cm, 89 in·lbf)**.

**NOTE:**

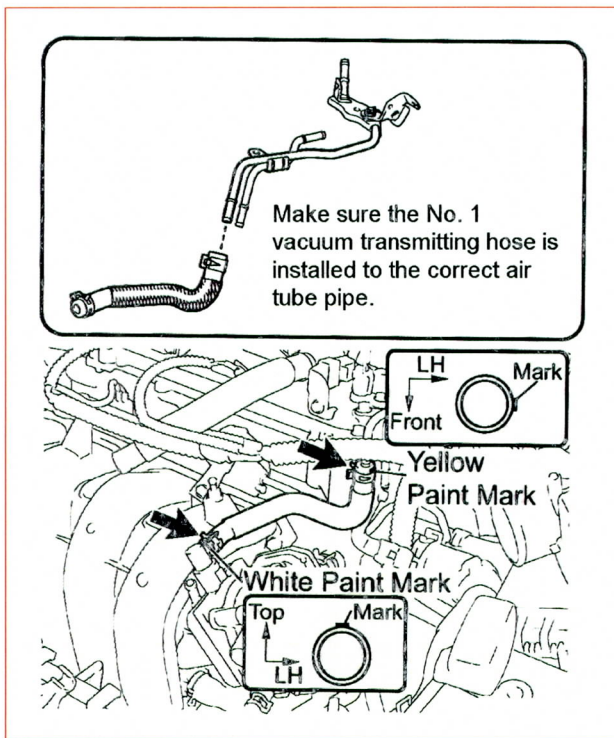
**Pulling up on the intake air connector while tightening the bolts will ensure a tight seal with the gasket.**



**5. INSPECT THE WATER HOSE CLEARANCE (AUTOMATIC TRANSMISSION ONLY)**

- a) Inspect the clearance between the water by-pass hose and the transmission oil filler tube. The clearance should be **0.20 in. (5 mm)** or more. If not, twist the water hose as needed to increase the clearance.



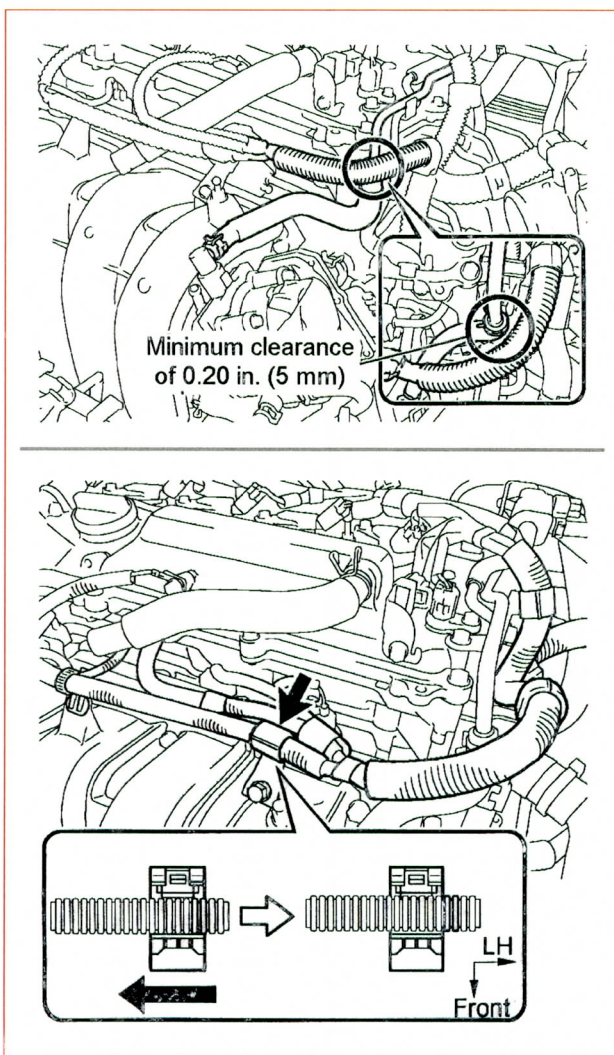


## 6. INSTALL THE NEW NO. 1 VACUUM TRANSMITTING HOSE

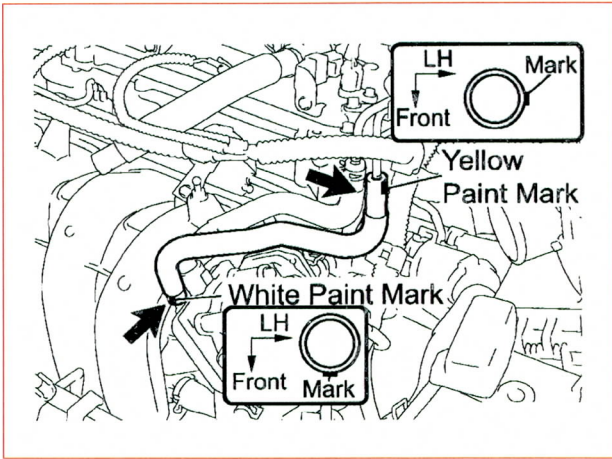
- Using 2 **NEW** clips, install the **NEW** No.1 vacuum transmitting hose so that its **yellow paint mark** faces outward, and the **white paint mark** faces upward as shown in the illustration.

### NOTE:

**Make sure the No.1 vacuum transmitting hose is installed to the correct air tube pipe.**

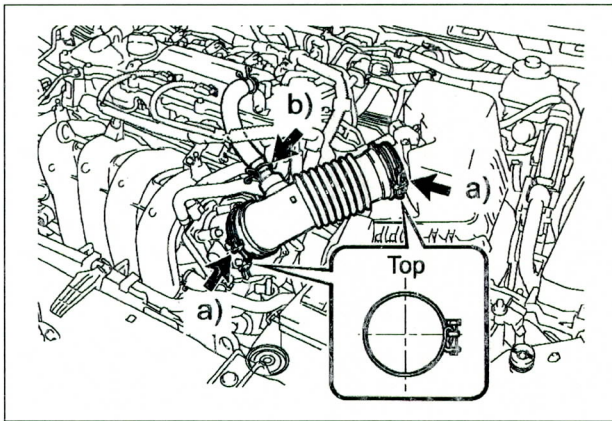


- If the clearance between the No.1 vacuum transmitting hose and the wire harness is less than **0.20 in. (5 mm)**, follow the steps below to adjust it.
  - Remove the bracket from the intake manifold.
  - Open the clip, slide the hose about 1 to 2 ribs towards the left side of the vehicle and close the clip.
  - Reinstall the bracket to the intake manifold and reinspect the clearance.



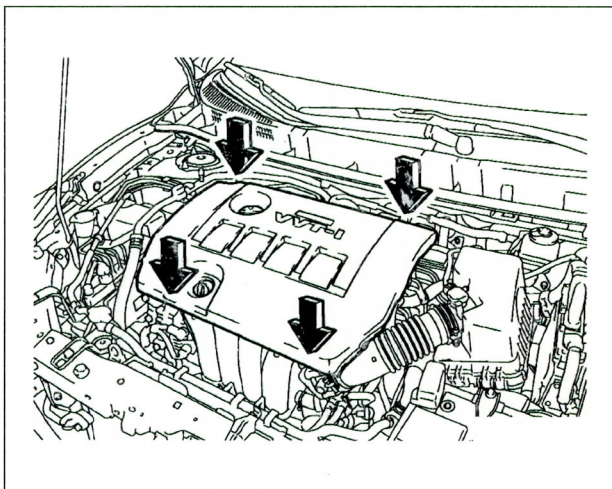
## 7. INSTALL THE NEW NO. 1 FUEL VAPOR FEED HOSE

- a) Install the **NEW** No.1 fuel vapor feed hose so that its **yellow paint mark** faces outward, and the **white paint mark** faces the front as shown in the illustration.



## 8. INSTALL THE NO.1 AIR CLEANER HOSE

- a) Reinstall the No.1 air cleaner hose and tighten the 2 clamps.
- b) Reconnect the ventilation hose and reinstall the clip.



## 9. REINSTALL THE NO. 2 CYLINDER HEAD COVER

- a) Reinstall the cylinder head cover by reattaching the 2 clips on the backside, then the 2 clips to the front side.

### NOTE:

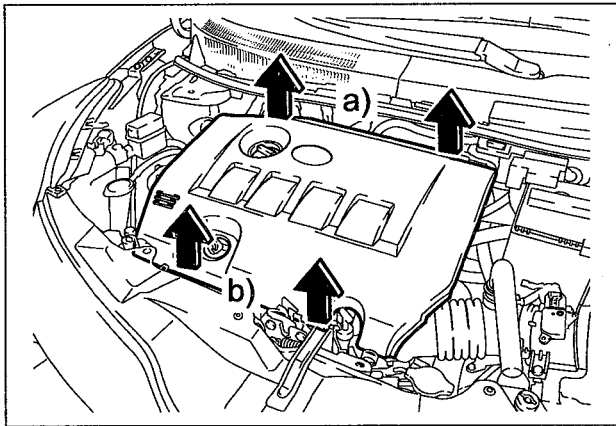
- Make sure the clips are firmly in place.
- Pushing with too much force or hitting the cover to attach the clips may damage the components.

## 10. FINAL INSPECTION

- a) Check for DTCs. If DTCs are present, confirm the code(s), view and record the freeze frame data and perform repairs as necessary.
- b) Test drive the vehicle to inspect for warning lights, drivability issues, etc.

## VII. SCION xD WORK PROCEDURE

### A. REMOVAL PROCESS

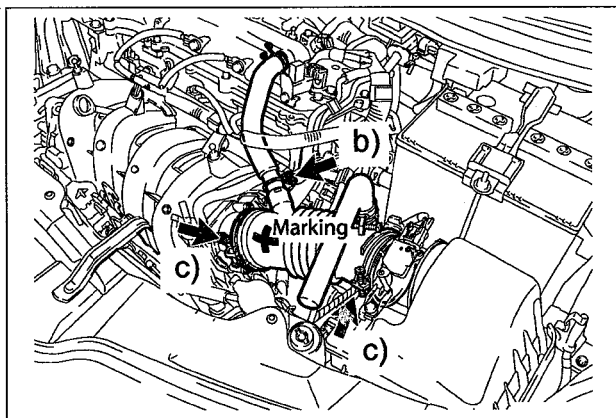


#### 1. REMOVE THE NO. 2 CYLINDER HEAD COVER

- Place both hands on the back side of the cover and lift up to disengage the 2 clips.
- Place both hands on the front side of the cover and lift up to disengage the 2 clips, and remove the cylinder head cover.

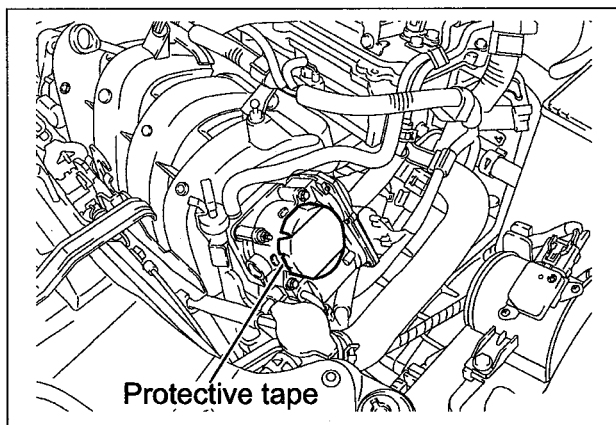
#### NOTE:

- Disengage the back side clips first
- Lifting the front and back side at once will damage the cover.

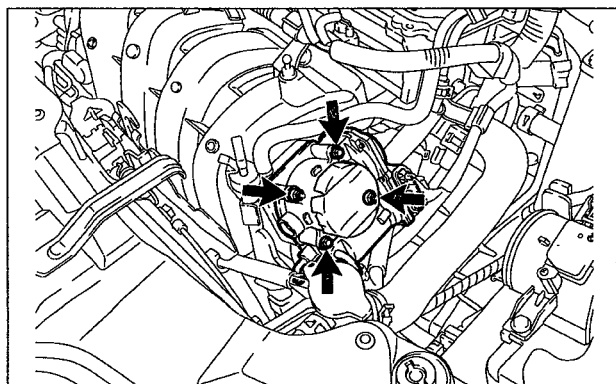


#### 2. REMOVE THE NO.1 AIR CLEANER HOSE

- Mark the No.1 air cleaner hose to assure that it is not reused.
- Remove the clip and disconnect the ventilation hose closest to the throttle body.
- Loosen the 2 clamps and remove the No. 1 air cleaner hose.



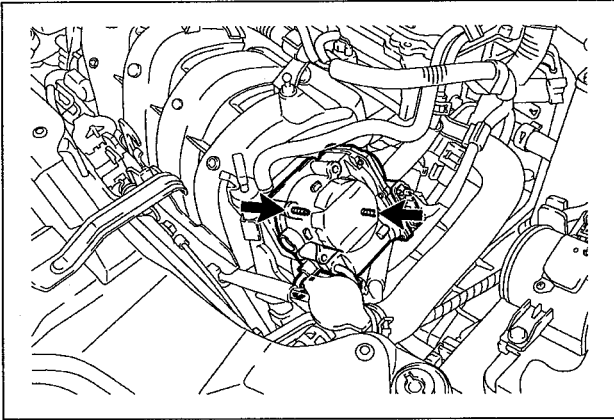
- Place protective tape over the throttle body opening to prevent foreign objects from entering.



#### 3. REMOVE THE THROTTLE BODY ASSEMBLY

- Remove the 2 bolts and 2 nuts.



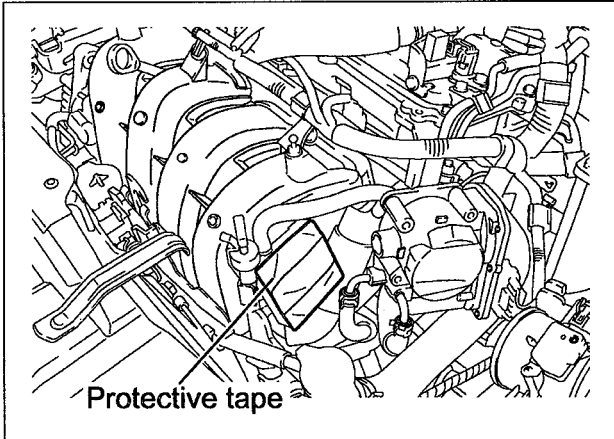


- b) Using an E6 TORX® socket, remove the 2 stud bolts and the throttle body assembly.

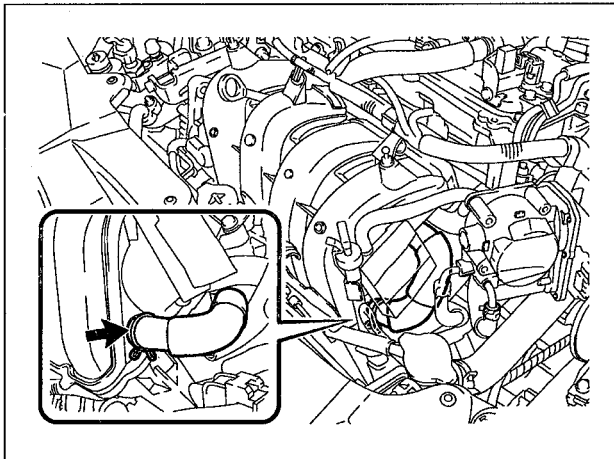
**NOTE:**

**DO NOT disconnect the throttle body assembly connector and water bypass hoses from the throttle body assembly.**

- c) Remove the throttle body gasket.

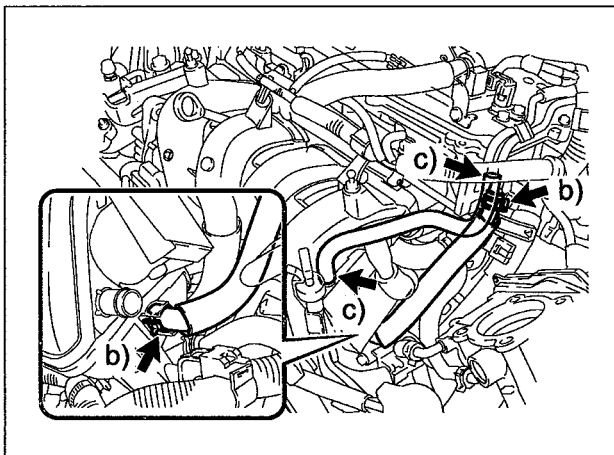


- d) Place protective tape over the intake manifold opening to prevent foreign objects from entering.

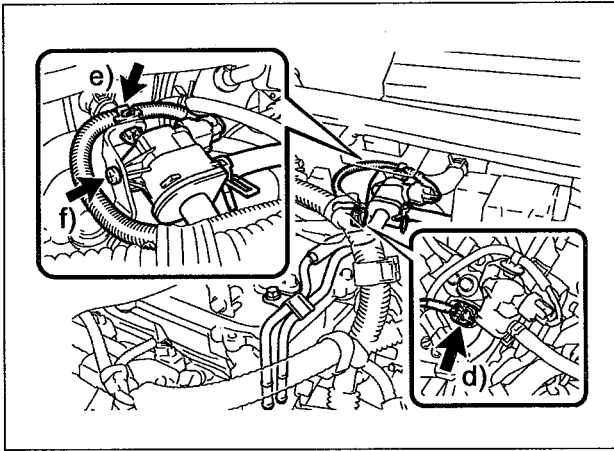


**4. REMOVE THE AIR TUBE**

- a) Remove the clip and disconnect the ventilation hose.



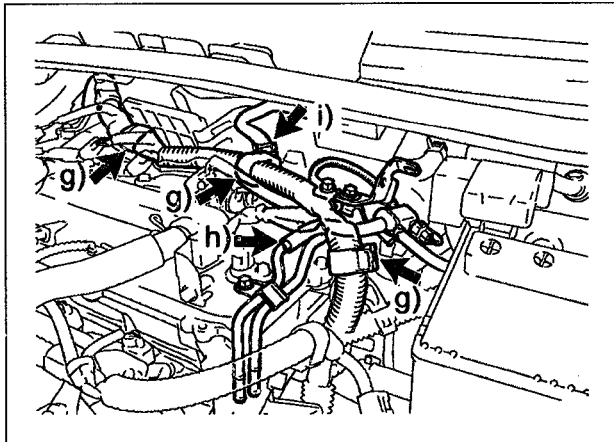
- b) Remove the 2 clips and disconnect the No.1 vacuum transmitting hose.  
c) Remove the No.1 fuel vapor feed hose.



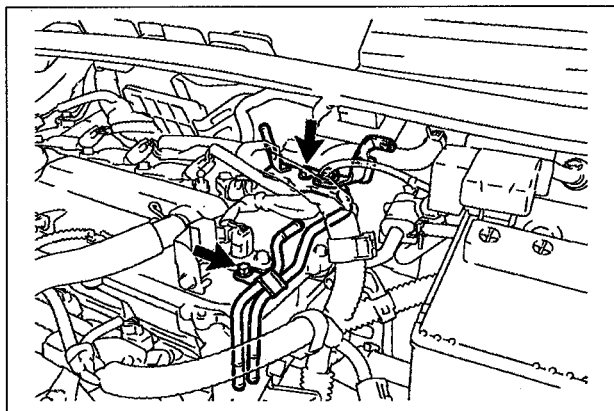
- d) Disconnect the crank position sensor connector.
- e) Disconnect the wire harness clip.
- f) Remove the screw and the vacuum switching valve.

**NOTE:**

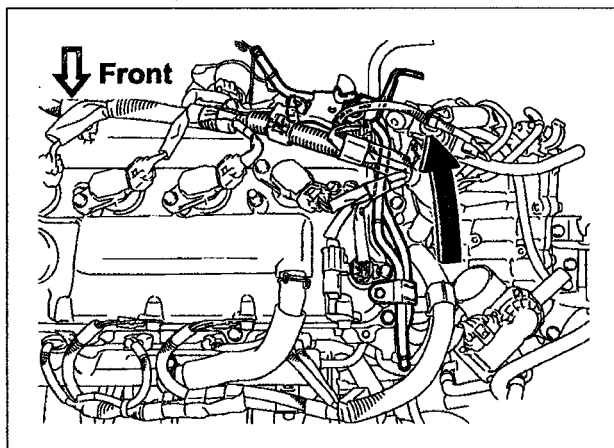
If the screw cannot be removed, remove the bracket bolt for the duty vacuum switching valve instead.



- g) Disconnect the 3 wire harness clips.
- h) Disconnect the duty cycle vacuum switching valve fuel vapor feed hose from the air tube.
- i) Remove the clip and disconnect the union to connector tube hose.



- j) Remove the 2 bolts.

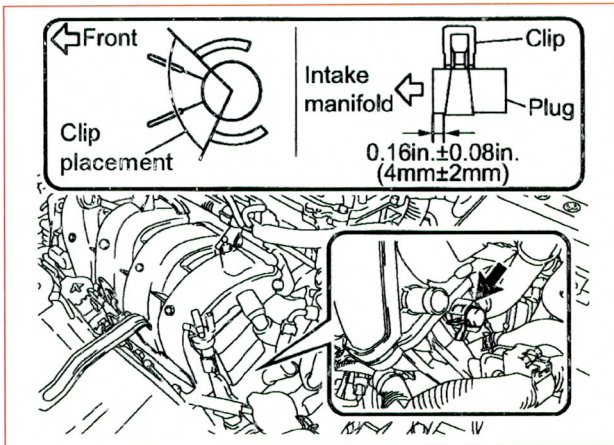


- k) Remove the air tube by moving it towards the rear of the vehicle, and ensuring that it does not come in contact with the crank position sensor and wire harness.

**NOTE:**

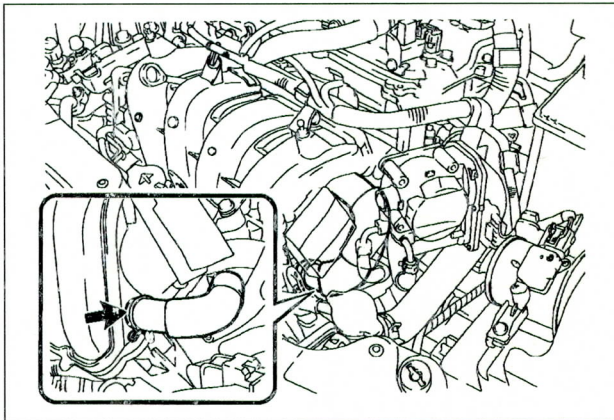
Damage to the crank position sensor and wire harness may occur if contacted by the air tube during removal.

## B. INSTALLATION PROCESS



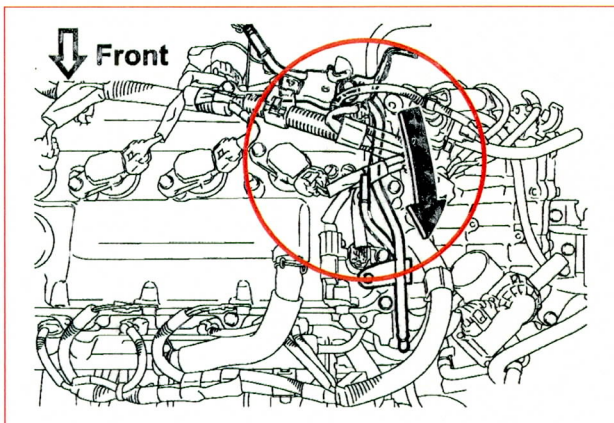
### 1. INSTALL THE PLUG

- Install the **NEW** plug to the intake manifold's No.1 vacuum transmitting hose's connection point.
- Install a **NEW** clip as shown in the illustration.



### 2. RECONNECT THE VENTILATION HOSE

- Reconnect the ventilation hose and reinstall the clip.



### 3. INSTALL THE NEW AIR TUBE

- Install the **NEW** air tube.

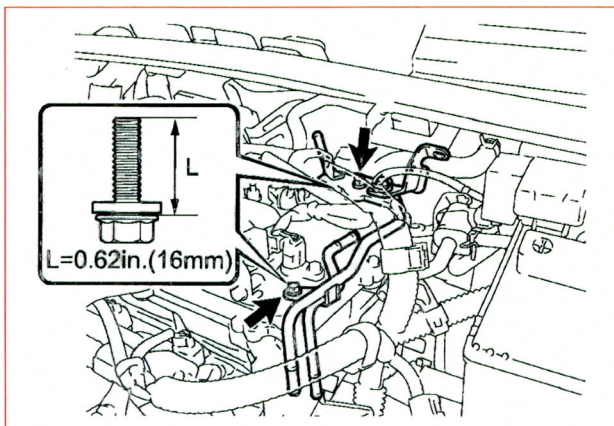
#### NOTE:

- Make sure not to pinch the wire harness when installing the air tube.
- Set the air tube underneath the wire harness as shown in Illustration.

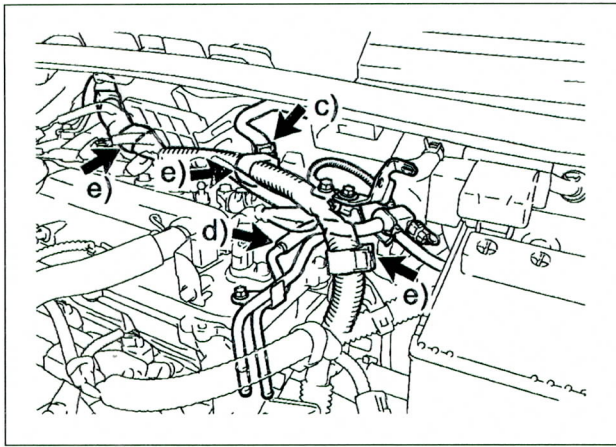
- Reinstall the 2 air tube bolts and torque to 10 N·m (102 kgf·cm, 89 in·lbf).

#### NOTE:

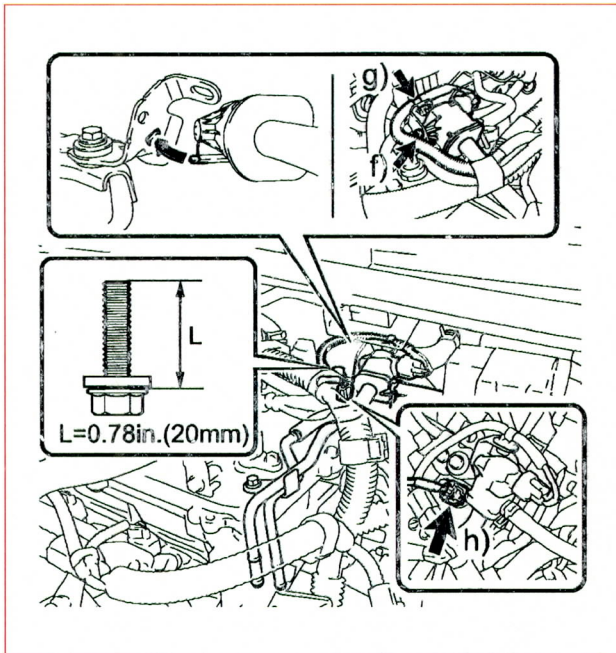
- The bolt for the air tube bracket is shorter [L = 0.62 in. (16 mm)] than the one for the duty vacuum switching valve [L = 0.78 in. (20 mm)].
- If the bracket for the duty vacuum switching valve was removed, make sure to use the correct bolt during reinstallation.







- c) Reconnect the union to connector tube hose and reinstall the clip.
- d) Reconnect the duty vacuum switching valve fuel vapor feed hose.
- e) Reconnect the 3 wire harness clips.

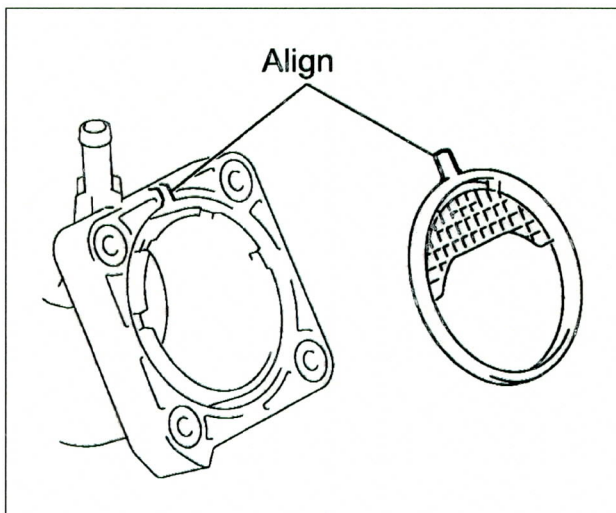


- f) Reinstall the vacuum switching valve with the screw.

**NOTE:**

- If the bracket bolt for the duty vacuum switching valve was removed reinstall it and torque to 5.9 N·m (60 kgf·cm, 52 in·lbf).
- Make sure to use the correct bolt, as the one for the duty vacuum switching valve is longer [L = 0.78 in. (20 mm)] than the one for the air tube bracket [L = 0.62 in. (16 mm)].

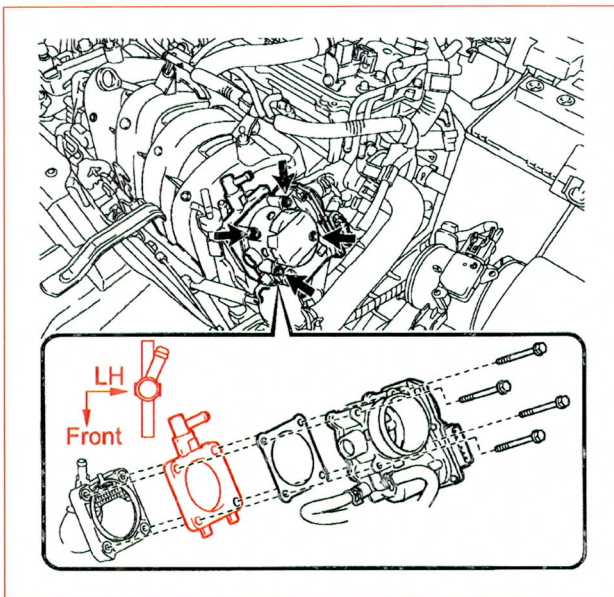
- g) Reconnect the wire harness clip.
- h) Reconnect the crank position sensor connector.



**4. REINSTALL THE THROTTLE BODY ASSEMBLY**

- a) Remove the protective tape.
- b) Install the **NEW** throttle body gasket.

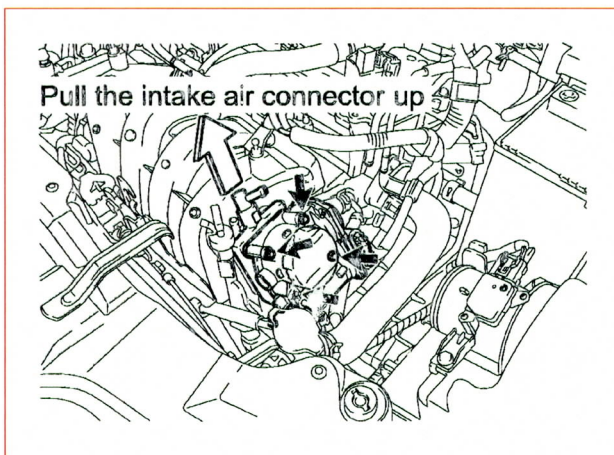




- c) Reinstall the throttle body assembly with a **NEW** intake air connector, **NEW** gasket and 4 **NEW** bolts in the order shown in the illustration.
- d) Verify that the gasket is properly positioned.

**NOTE:**

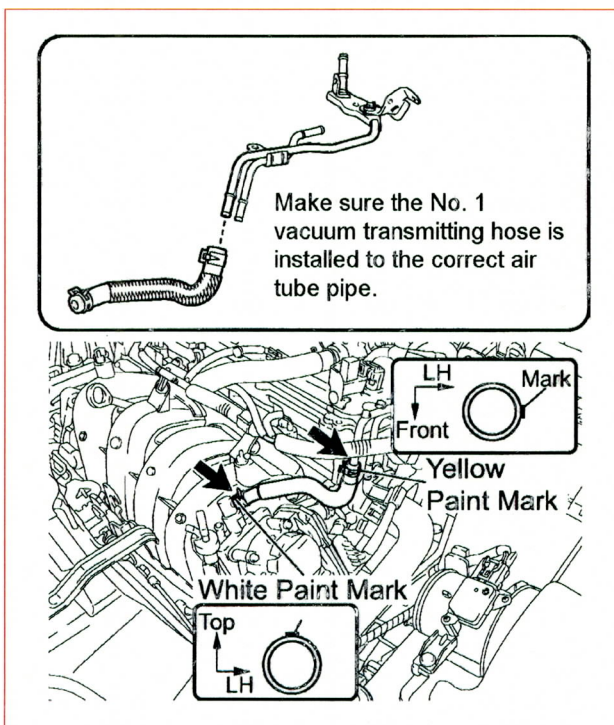
**Make sure the orientation of the intake air connector is correct during installation.**



- e) While pulling up the intake air connector, torque the 4 bolts to 10 N·m (102 kgf·cm, 89 in·lbf).

**NOTE:**

**Pulling up on the intake air connector while tightening the bolts will ensure a tight seal with the gasket.**

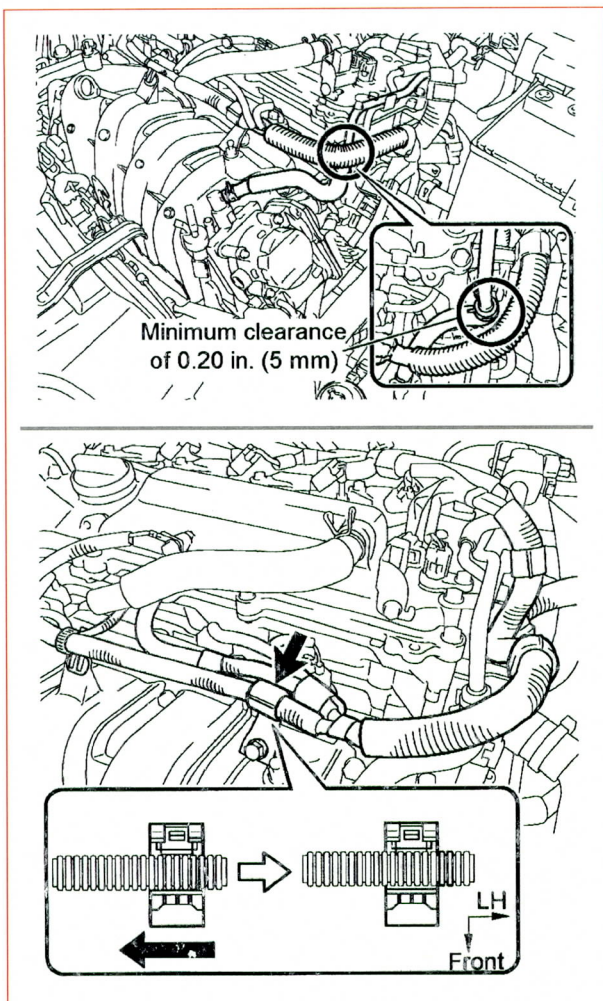


**5. INSTALL THE NEW NO. 1 VACUUM TRANSMITTING HOSE**

- a) Using 2 **NEW** clips, install the **NEW** No.1 vacuum transmitting hose so that its **yellow paint mark** faces outward, and the **white paint mark** faces upward as shown in the illustration.

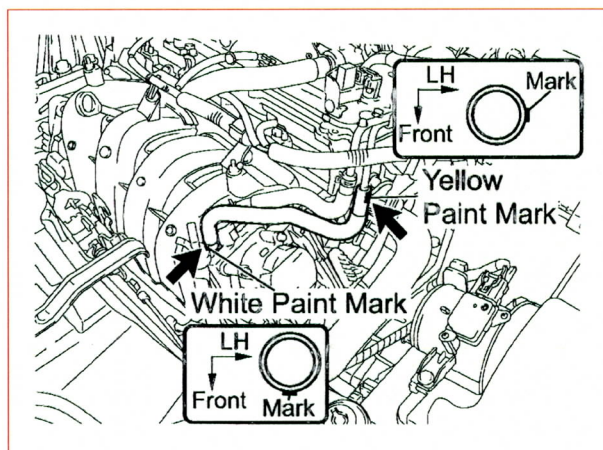
**NOTE:**

**Make sure the No.1 vacuum transmitting hose is installed to the correct air tube pipe.**



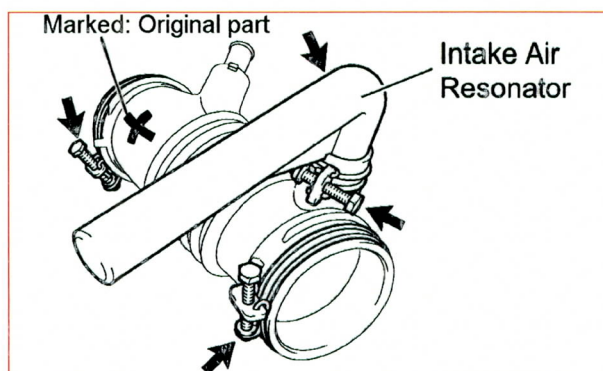
- b) If the clearance between the No.1 vacuum transmitting hose and the wire harness is less than **0.20 in. (5 mm)**, follow the steps below to adjust it.

- i. Remove the bracket from the intake manifold.
- ii. Open the clip, slide the hose about 1 to 2 ribs towards the left side of the vehicle and close the clip.
- iii. Reinstall the bracket to the intake manifold and reinspect the clearance.



## 6. INSTALL THE NEW NO. 1 FUEL VAPOR FEED HOSE

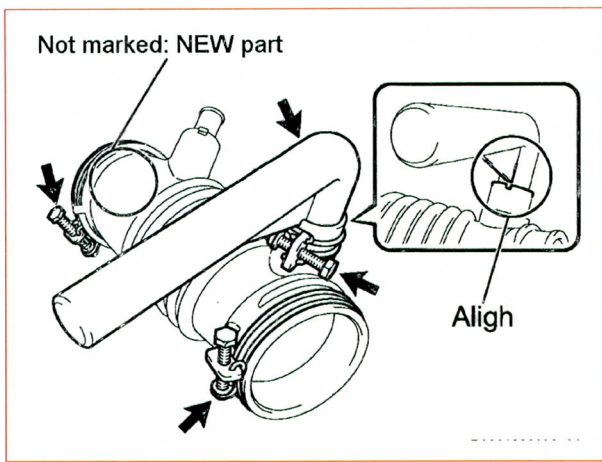
- a) Install the **NEW** No.1 fuel vapor feed hose so that its **yellow paint mark** faces outward, and the **white paint mark** faces the front as shown in the illustration.



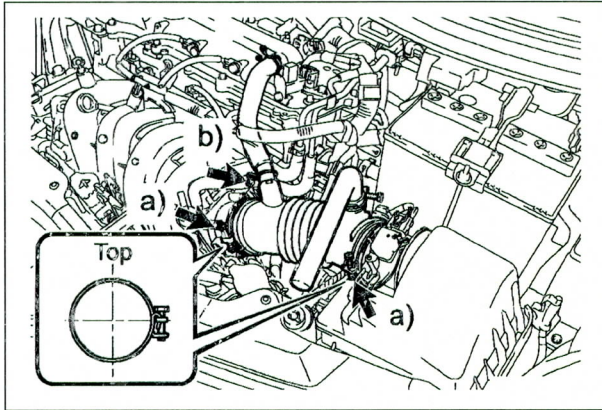
## 7. INSTALL THE NEW AIR CLEANER HOSE

- a) Remove the 3 clamps and intake resonator from the original air cleaner hose.



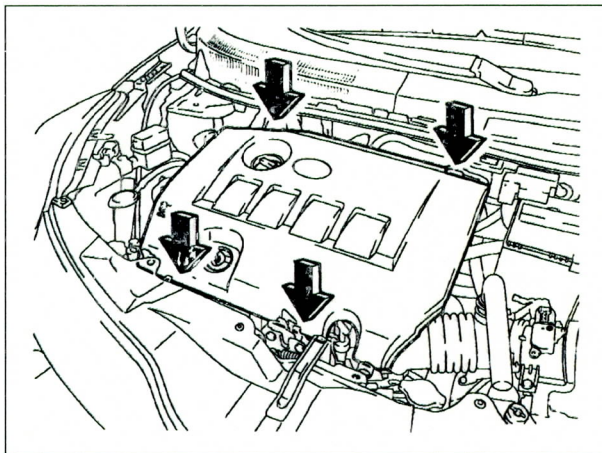


- b) Reinstall the intake resonator and clamp to the **NEW** air cleaner hose.
- c) Align the tab on the intake resonator with the groove on the **NEW** air cleaner hose and tighten the clamp.
- d) Reinstall the 2 clamps to the **NEW** air cleaner hose.



#### 8. INSTALL THE NEW NO.1 AIR CLEANER HOSE

- a) Install the **NEW** air cleaner hose and tighten the 2 clamps.
- b) Reconnect the ventilation hose and reinstall the clip.



#### 9. REINSTALL THE NO. 2 CYLINDER HEAD COVER

- a) Reinstall the cylinder head cover by reattaching the 2 clips on the backside, then the 2 clips to the front side.

##### NOTE:

- Make sure the clips are firmly in place.
- Pushing with too much force or hitting the cover to attach the clips may damage the components.

#### 10. FINAL INSPECTION

- a) Check for DTCs. If DTCs are present, confirm the code(s), view and record the freeze frame data and perform repairs as necessary.
- b) Test drive the vehicle to inspect for warning lights, drivability issues, etc.

## VIII. APPENDIX

### A. RECALLED PARTS DISPOSAL

As required by Federal Regulations, please make sure all recalled parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused.

### B. PARTS KIT CONTENTS

Kit Part Number	Kit Part Name	
04009-13137	Intake Air Connector Kit	
The kit listed above includes the following parts:		
Part Number	Part Name	Qty
17361-37011	Air Tube	1
17860-37010	Intake Air Connector Assy	1
22271-75031	Throttle Body Gasket	1
23826-37021	No.1 Fuel Vapor Feed Hose	1
25761-37070	No.1 Vacuum Transmitting Hose (Includes 2 clips)	1
26171-0R010	Diesel Throttle Gasket	1
90339-09003	Plug	1
90467-14003	Clip	1
91551-80660	Bolt	4