Via Overnight Mail
November 28, 2007

To: Lexus Area General Managers

From: Jerry Marcotti – Service and Parts Field Operations Manager

Subject: Special Service Campaign (SSC) 7LC (Safety Recall)
2006 Model Year Lexus IS 250/350 and GS 300 Fuel Pipe Replacement

Lexus will initiate a Safety Recall (Special Service Campaign) on certain 2006 model year Lexus IS 250/350 and GS 300 vehicles. During the manufacturing process of two specific fuel pipes located in the engine compartment, high stress areas may have been created in the pipes. Combined with other factors such as the presence of corrosive agents in fuel, a crack may form over time leading to fuel leakage.

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

Dealer / Owner Notification Date

The enclosed dealer letter will be sent to all Lexus dealers (to the attention of the service manager) on Thursday, November 29, 2007 via Next Day UPS delivery service. Lexus will begin sending the Safety Recall notification letter to owners in early December, 2007 via first class mail.

Identification of Involved Vehicles

GS 300 2WD	JTH	2006	BH96S	5000013 - 5026845
GS 300 AWD	JTH	2006	CH96S	0001014 - 0013936
IS 250 2WD	JTH	2006	BK262	2000010 - 2005190
				5000018 - 5007877
IS 250 AWD	JTH	2006	CK262	2000003 - 2001160
				5000013 - 5003623
IS 350	JTH	2006	BE262	2000000 - 2000995
				5000018 - 5002695

Note: Dealers should always consult Dealer Daily or TIS to confirm VIN eligibility and to assure that the SSC is applicable. This will verify the vehicle is involved and has not already been completed by another dealer. TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected.

Implementation at Dealerships

This SSC package sent to dealers will contain the repair instructions, warranty claim procedures, parts order information, a Special Service Tool (quantity of 2 shipped to each dealer) and each dealership's affected VIN list. All dealership associates who have a part in this campaign should be familiar with its contents.

Parts Availability and Ordering

The necessary parts can be ordered through each dealership's facing PDC. Lexus will monitor dealer orders for corrective action with any dealer who orders excessive quantities or quantities not commensurate with the vehicle mix sold by the dealer.

ALL VEHICLES	PIPE SUB-ASSY, FUEL NO. 2	04007-32131	1
ALL VEHICLES	PIPE SUB-ASSY, FUEL NO. 3	04007-32231	1
IS 250 / GS 300	GASKET	90430-08014	2
GS 300	GASKET KIT, FUEL PIPE NO. 2	04007-33231	1
IS 250	GASKET KIT, FUEL PIPE NO. 3	04007-33331	1
IS 350	GASKET KIT, FUEL PIPE NO. 4	04007-33431	1

Tools and Equipment

In addition to standard hand tools, a torque wrench, protective tape and the Techstream equipment, the following Special Service Tools (SST) are required.

- Stud Bolt - 04007-32331 (2 packages of 2 stud bolts have been included in each Service Manager's package)
- 09617-24011 (a component of SST 09612-24014, Steering Housing Overhaul Tool Kit) **OR** commercially available 22mm Crowfoot Wrench

Warranty Claim Processing Instructions

Dealers are required to submit SSC claims using the information described below.

SSC	Opcode	Description	Labor Hours
7LC	7509L1	Replace the fuel pipes	2.7

***NOTE:** Above flat rate time(s) include 0.1 hour for campaign administrative cost per unit for the dealership. Lexus warranty will only accept one claim per vehicle under the terms of the SSC. Please ensure that your dealership checks Dealer Daily or TIS to see if the vehicle has been repaired under this SSC prior to servicing a vehicle.*

Use sublet 'OF' (Other Fluids) to claim $1.00 for a small amount of vehicle oil used in the repair process.

As required by Federal Regulations, dealers must ensure that all original recalled parts removed from a vehicle are disposed of in a manner in which they cannot be reused.

The affected VIN information and operation code will be downloaded and activated for dealerships to use on November 30, 2007.

Customer Care

Lexus' usual customer care amenities (car wash, fuel fill-up and loaner vehicles) apply to this SSC. Specific details may be found in TIS in the General Procedures for Limited and Special Service Campaigns.

Please review this entire package with your staff to familiarize them with its contents so they may properly implement this campaign as well as address any owner concerns that may arise regarding this Special Service Campaign.

Thank you for your understanding. Your on-going care for these Lexus owners during this campaign protects our customers and their image of Lexus.

Enclosures

Cc: Assistant Area General Manager
Customer Satisfaction Manager
Customer Services Field Manager
Customer Services Operations Manager
District Service and Parts Operations Manager
District Technical Manager
Field Product Engineer

J. Alfonso
E. Bastien
J. Beseda
R. Broughman
J. Colon
G. Bryan
W. Burns
A. Cabito
D. Camden
J. Chernus
R. Daly
A. DeCarr
R. Dufresne
D. Esmond
N. Fein
F. Fontanella
Y. Funo
J. Hanson
J. Hollis
D. Illingworth
M. Kaminski
M. Kubota
J. Lang
J. Lentz
J. Marcotti
E. Matsuda
I. Miller
T. Minyon
G. Morino
T. Nagashino
K. Ohara
D. Pettitt
R. Pflughaupt
C. Reynolds
K. Rigberg
G. Rush
G. Soga
D. Stovall
E. Taira
M. Templin
K. Yamamoto
D. Zellers

Via Overnight Mail
November 29, 2007

Subject: **Special Service Campaign (SSC) 7LC (Safety Recall)**
2006 Model Year Lexus IS 250/350 and GS 300 Fuel Pipe Replacement

Dear Dealer Principal:

Lexus will initiate a Safety Recall (Special Service Campaign) on certain 2006 model year Lexus IS 250/350 and GS 300 vehicles. During the manufacturing process of two specific fuel pipes located in the engine compartment, high stress areas may have been created in the pipes. Combined with other factors such as the presence of corrosive agents in fuel, a crack may form over time leading to fuel leakage.

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. Additional information may be found in the attached Lexus Q&A and customer notification letter.

Owner Notification Date

Lexus will begin sending the Safety Recall notification in early December, 2007 via first class mail.

Identification of Involved Vehicles

GS 300 2WD	JTH	2006	BH96S	5000013 - 5026845
GS 300 AWD	JTH	2006	CH96S	0001014 - 0013936
IS 250 2WD	JTH	2006	BK262	2000010 - 2005190
				5000018 - 5007877
IS 250 AWD	JTH	2006	CK262	2000003 - 2001160
				5000013 - 5003623
IS 350	JTH	2006	BE262	2000000 - 2000995
				5000018 - 5002695

Note: Dealers should always consult Dealer Daily or TIS to confirm VIN eligibility and to assure that the SSC is applicable. This will verify the vehicle is involved and has not already been completed by another dealer. TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected.

Implementation at Dealerships

This SSC package contains the repair instructions, warranty claim procedures, parts order information, a Special Service Tool (quantity of 2 shipped to each dealer) and your dealership's affected VIN list. All associates who have a part in this

campaign should be familiar with its contents.

Parts Availability and Ordering

The necessary parts can be ordered through your dealership's facing PDC. Lexus will monitor dealer orders for corrective action with any dealer who orders excessive quantities or quantities not commensurate with the vehicle mix sold by the dealer.

ALL VEHICLES	PIPE SUB-ASSY, FUEL NO. 2	04007-32131	1
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GS 300	GASKET KIT, FUEL PIPE NO. 2	04007-33231	1
IS 250	GASKET KIT, FUEL PIPE NO. 3	04007-33331	1
IS 350	GASKET KIT, FUEL PIPE NO. 4	04007-33431	1

Tools and Equipment

In addition to standard hand tools, a torque wrench, protective tape and the Techstream equipment, the following Special Service Tools (SST) are required.

- Stud Bolt - 04007-32331 (2 packages of 2 stud bolts have been included in each Service Manager's package)
- 09617-24011 (a component of SST 09612-24014, Steering Housing Overhaul Tool Kit) **OR** commercially available 22mm Crowfoot Wrench

Warranty Claim Processing Instructions

Dealers are required to submit SSC claims using the information described below.

SSC	Opcode	Description	Labor Hours
7LC	7509L1	Replace the fuel pipes	2.7

***NOTE:** **Above flat rate time(s) include 0.1 hour for campaign administrative cost per unit for the dealership. Lexus warranty will only accept one claim per vehicle under the terms of the SSC. Please ensure that your dealership checks Dealer Daily or TIS to see if the vehicle has been repaired under this SSC prior to servicing a vehicle.**

Use sublet 'OF' (Other Fluids) to claim $1.00 for a small amount of vehicle oil used in the repair process.

As required by Federal Regulations, please make sure that all original recalled parts removed from a vehicle are disposed of in a manner in which they cannot be reused.

The affected VIN information and operation code will be downloaded and activated for dealerships to use on November 30, 2007.

Customer Care

Lexus' usual customer care amenities (car wash, fuel fill-up and loaner vehicles) apply to this SSC. Specific details may be found in TIS in the General Procedures for Limited and Special Service Campaigns.

Please review this entire package with your Service and Parts staff to familiarize them with its contents so they may properly implement this campaign as well as address any owner concerns that may arise regarding this Special Service Campaign.

Thank you for your understanding. Your on-going care for these Lexus owners during this campaign protects our customers and their image of Lexus.

Sincerely,

Jerry Marcotti
Service and Parts Field Operations Manager

Attachments

CC: Customer Satisfaction Manager
General Manager
Parts Manager
Sales Manager
Service Manager

Special Service Campaign (SSC) – 7LC (Safety Recall) Q&A
2006 Model Year Lexus GS 300 (2WD/AWD), IS 250 (2WD/AWD), and IS 350

Q1: What is the condition?
A1: There is a possibility that a crack may form over time in two specific fuel pipes in the engine compartment.

Q2: What is the cause of this condition?
A2: During the manufacturing process of two specific fuel pipes located in the engine compartment, high stress areas may have been created in the pipes. Combined with other factors such as the presence of corrosive agents in fuel, a crack may form over time leading to fuel leakage.

Q3: Are there any warnings that this condition exists?
A3: No, there are no warnings that this condition will occur.

Q4: Which and how many vehicles are involved?
A4: There are approximately 34,400 vehicles involved.

Affected Vehicle	Approx UIO
2006 model year GS 300	26,300 (14,100 2WD, 12,200 AWD)
2006 model year IS 250	5,430 (3,250 2WD, 2,180 AWD)
2006 model year IS 350	2,650

Q5: Are there any other Toyota or Lexus vehicles involved?
A5: No, this specific condition only affects certain 2006 model year IS 250/350 and GS 300 vehicles.

Q6: What is the production period of the affected vehicles?
A6: The affected vehicles were produced:

Model	Production Range
2006 model year GS 300 (2WD & AWD)	Mid-December 2004 – Late October 2005
2006 model year IS 250 (2WD)	Late August 2005 – Mid-December 2005
2006 model year IS 250 (AWD)	Mid-August 2005 – Mid-December 2005
2006 model year IS 350	Mid-August 2005 – Early November 2005

Q7: How many incidents of this condition have been reported?
A7: There has been 1 case of fuel leakage reported in the affected vehicles in the United States from this condition.

Q8: Have there been any accidents reported?
A8: No. There have been no accidents reported which relate to this condition.

Q9: What is Lexus going to do?
A9: Owners of the involved vehicles will receive a Safety Recall Notification by first class mail beginning in early December 2007. Any Lexus dealer will replace the fuel pipes with newly designed ones at **NO CHARGE** to the vehicle owner.

Q10: How long will the repair take?
A10: The repair will take approximately three hours. However, depending upon the dealer's work schedule, it may be necessary to make the vehicle available for a longer period of time.

Q11: What should an owner do if they experience the condition, or have immediate concerns about their vehicle?
A11: If an owner has any immediate concerns they are requested to contact their local Lexus dealer for diagnosis, and if applicable, repair.

DRAFT

Special Service Campaign 7LC
2006 Model Year IS 250/350 and GS 300 Fuel Pipe Replacement
Safety Recall Notice

Dear Lexus Customer:

This notice is being sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act. Lexus has decided that a defect, which relates to motor vehicle safety, exists in certain 2006 model year IS 250/350 and GS 300 vehicles.

What is the condition?

During the manufacturing process of two specific fuel pipes located in the engine compartment, high stress areas may have been created in the pipes. Combined with other factors such as the presence of corrosive agents in fuel, a crack may form over time leading to fuel leakage from the fuel pipe(s).

What will Lexus do?

Any Lexus dealer will replace the two involved fuel pipes with newly designed ones at NO CHARGE to you.

What should you do?

This is an important Safety Recall

Please contact your authorized Lexus dealer to make an appointment to replace the two involved fuel pipes with newly designed ones as soon as possible. The repair will take approximately three hours. However, depending upon the dealer's work schedule, i 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 no longer own the vehicle, please indicate so on the enclosed postage-paid form, providing us with the name and address of the new owner.

What if you have other questions?

Your local Lexus dealer will be more than happy to answer any of your questions and set up an appointment to perform the repair. If you require further assistance, you may contact the Lexus Customer Assistance Center at 1-800-255-3987 Monday through Friday, 5:00 am to 6:00 pm, Saturday 7:00 am through 4:00 pm Pacific Standard Time.

If you believe that the dealer or Lexus 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, D.C. 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.

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 Lexus.

Sincerely,

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

TECHNICAL INSTRUCTIONS

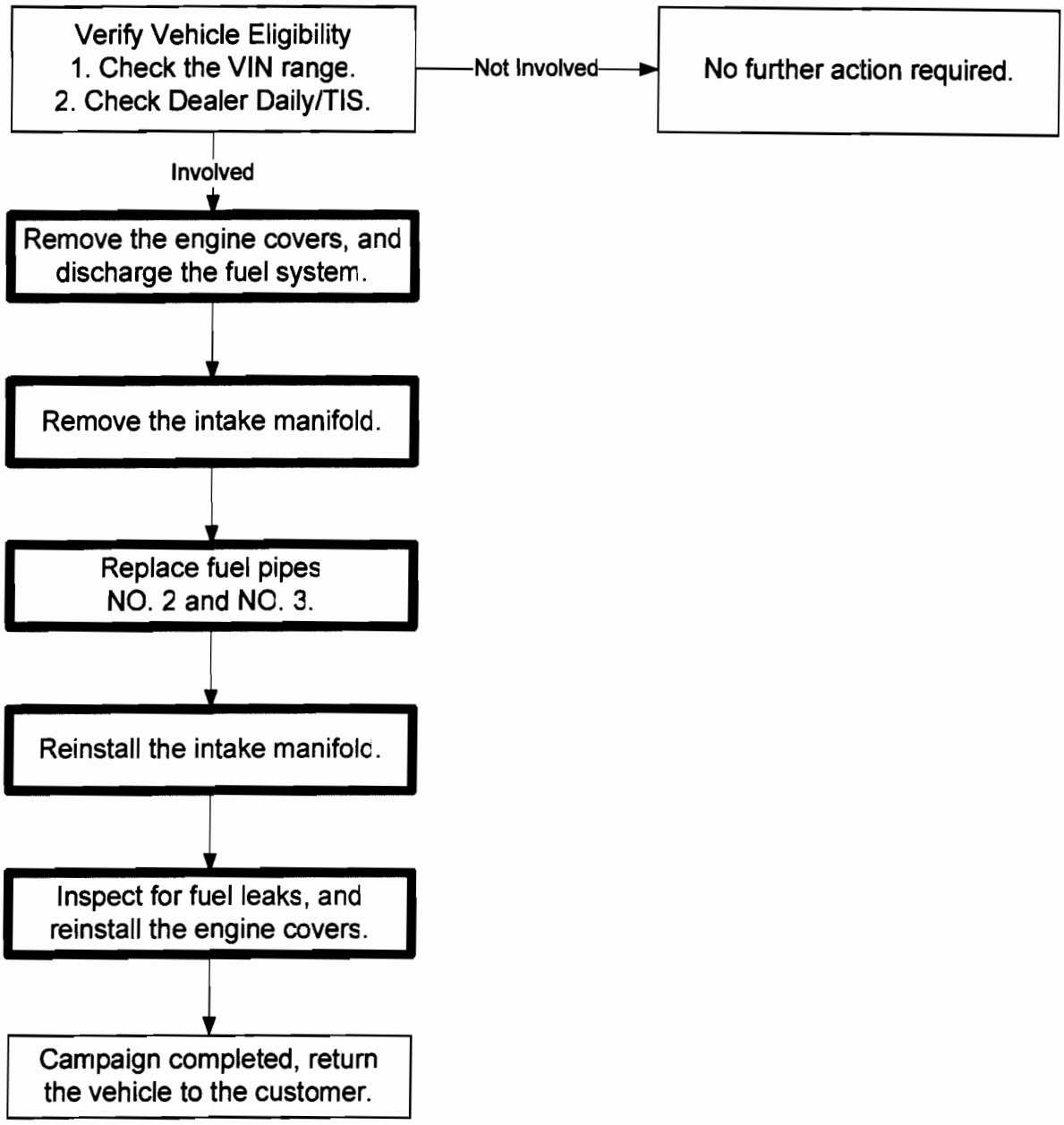
FOR

SPECIAL SERVICE CAMPAIGN 7LC

FUEL PIPE REPLACEMENT
FOR THE FOLLOWING VEHICLES

2006 GS 300
2006 IS 250
2006 IS 350

I. OPERATION FLOW CHART



II. IDENTIFICATION OF AFFECTED VEHICLES

A. AFFECTED VIN RANGE

Model	WMI	Year	VIN Range	
			VDS	Range
GS 300	JTH	2006	BH96S	5000013 – 5026845
			CH96S	0001014 – 0013936

Model	WMI	Year	VIN Range	
			VDS	Range
IS 250	JTH	2006	BK262	2000010 – 2005190
				5000018 – 5007877
			CK262	2000003 – 2001160
				5000013 – 5003623

Model	WMI	Year	VIN Range	
			VDS	Range
IS 350	JTH	2006	BK262	2000000 – 2000995
				5000018 – 5002695

NOTE:

- Not all vehicles in the VIN range may be affected.
- Check Dealer Daily/TIS 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. BACKGROUND

During the manufacturing process of two specific fuel pipes located in the engine compartment, high stress areas may have been created in the pipes. Combined with other factors such as the presence of corrosive agents in fuel, a crack may form over time leading to fuel leakage from the fuel pipe(s).

IV. PREPARATION

A. TOOLS

- Standard hand tools
- Torque wrench
- SST: Stud Bolt - 04007-32331 (2 stud bolts have been included in each Service Manager's Package.)
- SST: 09617-24011 (A component of SST 09612-24014, Steering Housing Overhaul Tool Kit) **OR** Commercially available 22 mm Crowfoot Wrench
- Protective tape

B. EQUIPMENT

- Techstream

C. MATERIALS

- Tape

D. PARTS

- **GS 300**

Model	Part Number	Part Description	Quantity
GS 300	04007-32131	Fuel Pipe Sub-Assembly No. 2	1
	04007-32231	Fuel Pipe Sub-Assembly No. 3	1
	04007-33231	Fuel Pipe Gasket Kit *	1
	90430-08014	Gasket	2

- **IS 250**

Model	Part Number	Part Description	Quantity
IS 250	04007-32131	Fuel Pipe Sub-Assembly No. 2	1
	04007-32231	Fuel Pipe Sub-Assembly No. 3	1
	04007-33331	Fuel Pipe Gasket Kit *	1
	90430-08014	Gasket	2

- **IS 350**

Model	Part Number	Part Description	Quantity
IS 350	04007-32131	Fuel Pipe Sub-Assembly No. 2	1
	04007-32231	Fuel Pipe Sub-Assembly No. 3	1
	04007-33431	Fuel Pipe Gasket Kit *	1

**** For kit contents refer to section "XIII. APPENDIX" on page 46.***

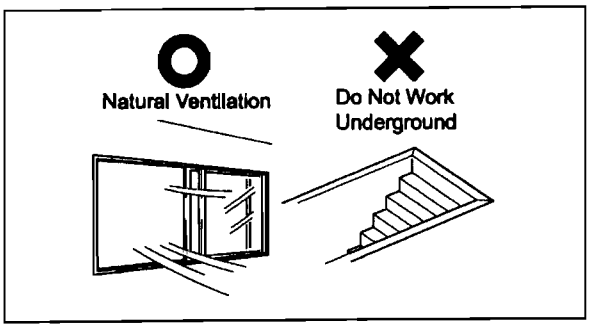
V. SAFETY PRECAUTIONS

A. PRECAUTIONS WHEN WORKING ON THE FUEL SYSTEM

STOP

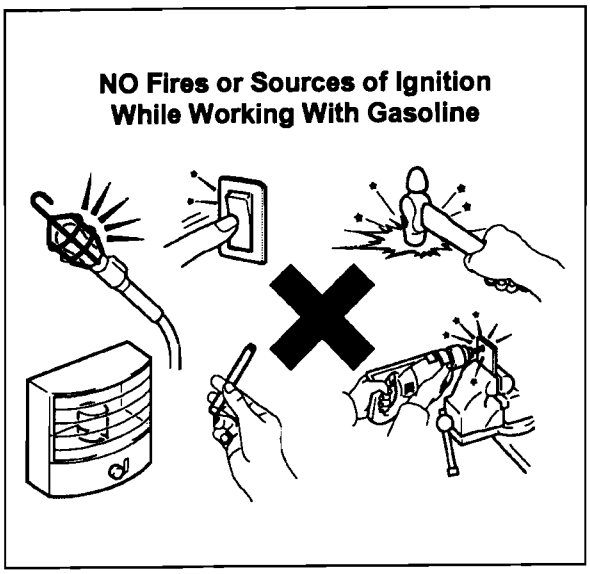
- **ALWAYS REMEMBER "SAFETY FIRST".**
- **BE EXTREMELY CAREFUL WHEN HANDLING FUEL TO PREVENT FIRES FROM OCCURRING.**
- **BEFORE REMOVING ANY FUEL SYSTEM PART, DRAIN ALL FUEL TO PREVENT SPILLING.**
- **BEFORE BEGINNING WORK ON THE FUEL SYSTEM, PERFORM THE FOLLOWING SAFETY CHECK LIST.**

B. SAFETY CHECKLIST



1. AIR VENTILATION

- ☐ Perform work in a well ventilated area.
- ☐ **DO NOT** work underground or in an area where fuel vapors may fill the room due to poor ventilation.
- ☐ Quickly clean up any spilled fuel with a dry cloth and dissipate the fuel vapors.
- ☐ Dry all cloths that have come in contact with fuel in a well ventilated area and dispose of them properly (according to applicable local regulations).



2. FIRES AND IGNITION SOURCES ARE STRICTLY PROHIBITED

- ☐ Fires and ignition sources are prohibited while working on the fuel system.
- ☐ Clearly display the sign found on the next page stating **"WORKING WITH GASOLINE, NO FIRES OR IGNITION SOURCES".**
- ☐ Smoking is prohibited near the work area.
- ☐ **DO NOT** work in areas where there are welders, grinders, drills, electric motors, heaters, etc.
- ☐ **DO NOT** use work lamps or any other electrical appliance due to the risk of sparks flying from the power switch or a rise in temperature.
- ☐ **DO NOT** use metal hammers while working, due to the risk of flying sparks.
- ☐ **DO NOT** start any engine or perform any of the above in neighboring work bays.

3. FIRE EXTINGUISHER

- ☐ Have a fire extinguisher ready and available before beginning work.

4. PREVENT STATIC ELECTRICITY

- ☐ To help prevent static electricity, lightly wet the floor with water, but not to the point where it creates a hazardous working condition.
- ☐ Place appropriate warning cones or stand signs around the area as a caution.

■Copy And Display When Working

WORKING WITH GASOLINE

NO FIRES
NO IGNITION SOURCES

Supervisor _____

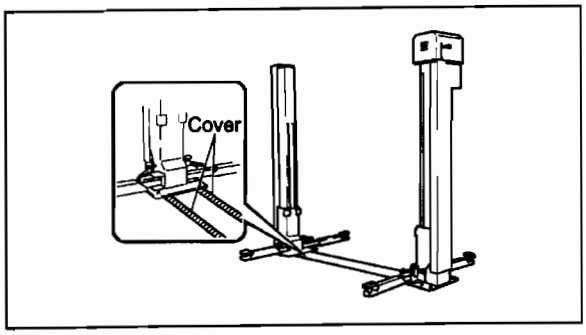
■ Copiar y exhibir al trabajar

TRABAJANDO CON GASOLINA

NINGÚN INCENDIOS

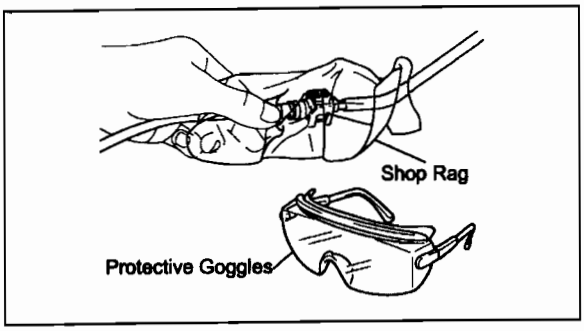
NINGUNA FUENTE DE IGNICIÓN

Supervisor _____



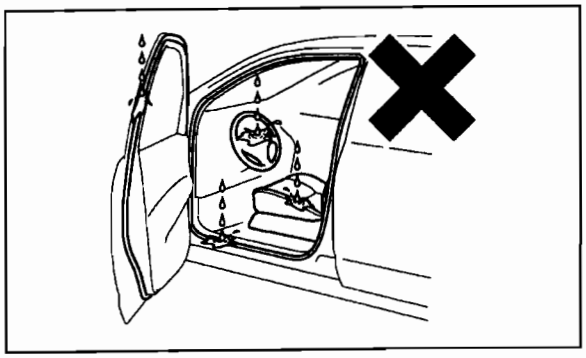
5. PRECAUTIONS WHEN USING A LIFT

- ☐ For bays equipped with auto lifts, cover all access cover joints with duct tape.
- ☐ In the event that fuel has leaked inside the auto lift, remove the access cover and clean up any spilled fuel. Dissipate fuel vapors until the smell is gone.



6. PREVENT THE FUEL FROM SPRAYING

- ☐ When disconnecting any fuel pipes or connectors there may still be some pressure remaining, even after discharging the system. To prevent the fuel from spraying, cover the pipe with a shop rag before disconnecting.
- ☐ Remember to always wear protective goggles especially when disconnecting fuel pipes.

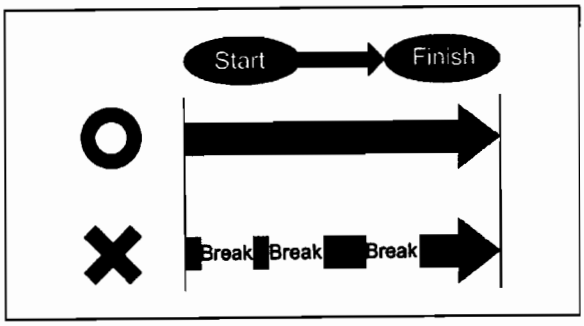


7. PREVENT THE FUEL FROM CONTACTING OTHER PARTS

- ☐ Do not allow the fuel to come in contact with any parts made of rubber or leather.

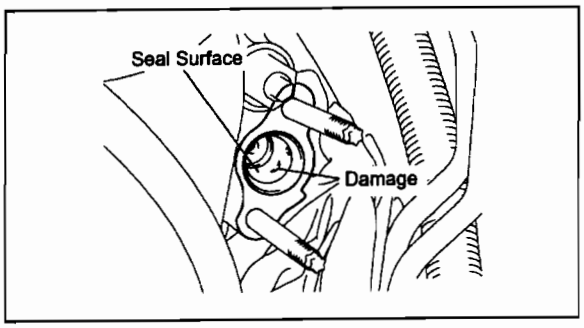
8. ASSIGN A SAFETY SUPERVISOR

- ☐ Assign a safety supervisor to be in charge of all safety precautions and fire hazards around the work area.



9. WORK SCHEDULING

- ☐ Work must be completed the same day.
- ☐ As a general rule, do not stop work midway. If work must stop midway, inform your safety supervisor.



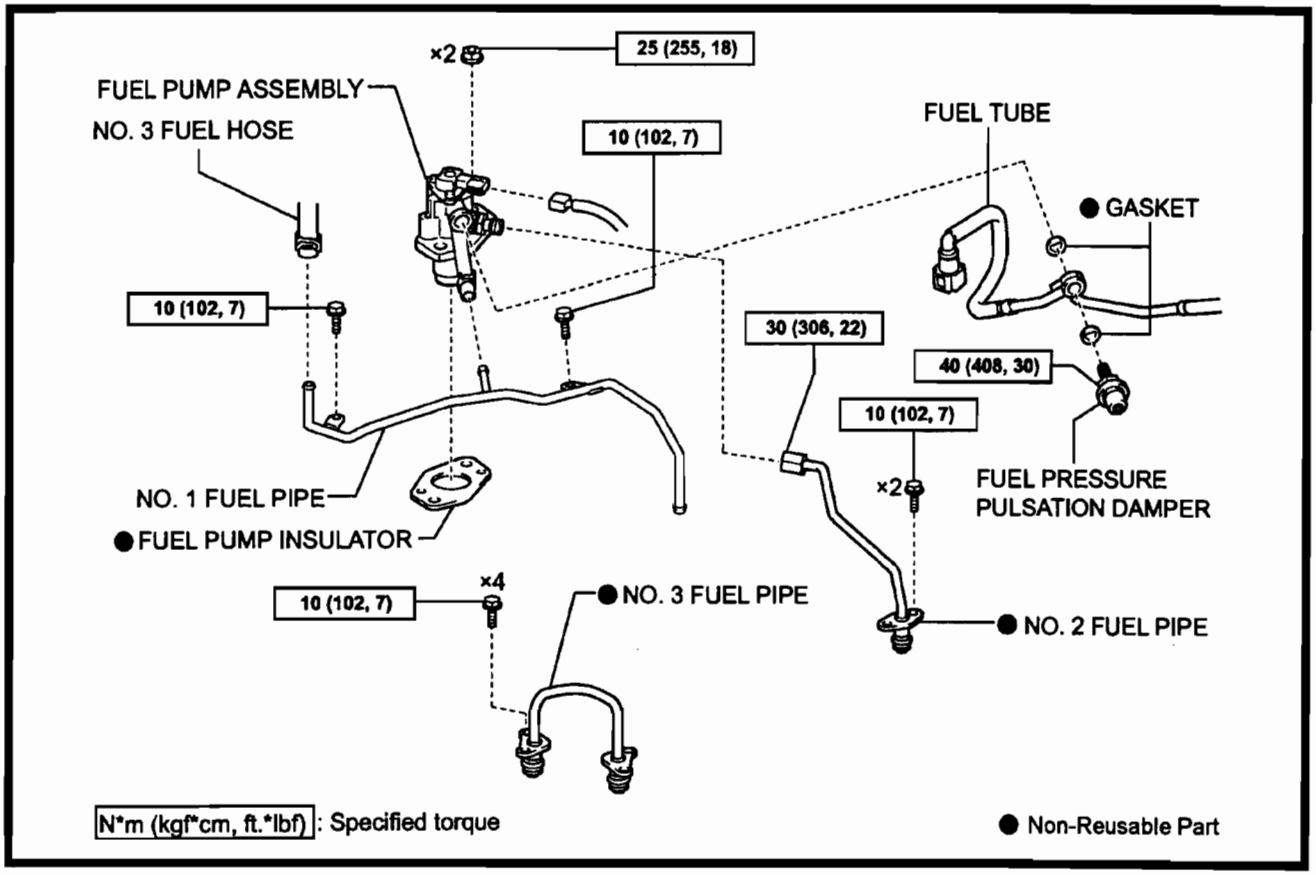
10. WHEN CONNECTING THE FUEL PIPE

- ☐ Any amount of damage or small foreign object (dust, a piece of thread, rust, etc.) may cause a fuel leak. Be thorough when inspecting and cleaning the fuel pipes and seal surface areas.

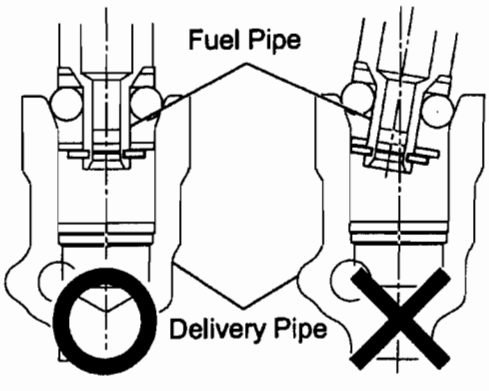
VI. WORK PROCEDURE TABLE OF CONTENTS

VII. FUEL PIPE REPLACEMENT

A. REPLACE FUEL PIPES NO. 2 AND NO. 3

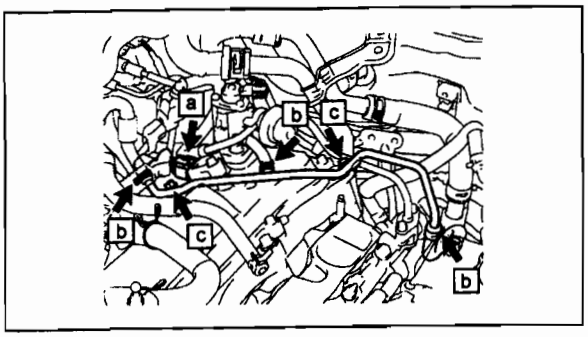


SEE VEHICLE DISASSEMBLY & REASSEMBLY WORK PROCEDURE BY MODEL SECTIONS FOR DETAILS ON VEHICLE DISASSEMBLY PRIOR TO PERFORMING FUEL PIPE REPLACEMENT.



STOP

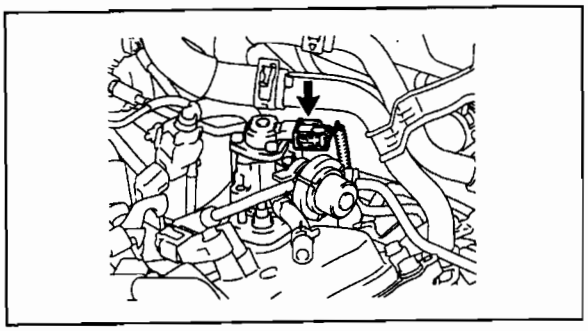
- **WHEN REMOVING OR INSTALLING THE FUEL PIPES, PULL THEM UP IN A STRAIGHT LINE TO AVOID DAMAGE TO THE DELIVERY PIPE'S SEAL SURFACE, WHICH MAY LEAD TO A FUEL LEAK.**
- **SHIFTING THE FUEL PIPES EXCESSIVELY FROM LEFT TO RIGHT WHEN REMOVING THEM, MAY DAMAGE THE DELIVERY PIPE'S SEAL SURFACE, WHICH MAY LEAD TO A FUEL LEAK.**



1. REMOVE FUEL PIPE NO. 1

a) Disconnect the ignition coil connector shown in the illustration.
b) Disconnect the 3 fuel hoses, and insert plugs into the hoses to prevent fuel from spilling onto the engine components.
c) Remove the 2 bolts, and fuel pipe No. 1.

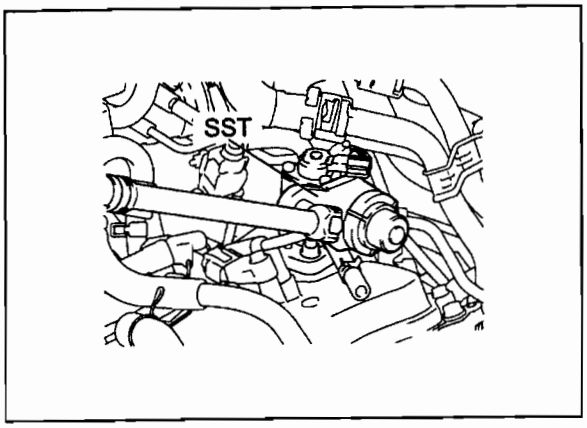
NOTE:
Clean up any spilled fuel with a shop rag or cloth.



2. REMOVE THE FUEL PRESSURE PULSATION DAMPER

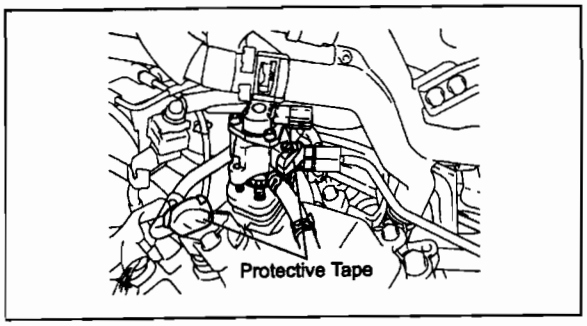
a) Disconnect the fuel pressure pulsation damper connector.

NOTE:
To prevent damage to the connector, make sure to disconnect it prior to removing the fuel pressure pulsation damper.

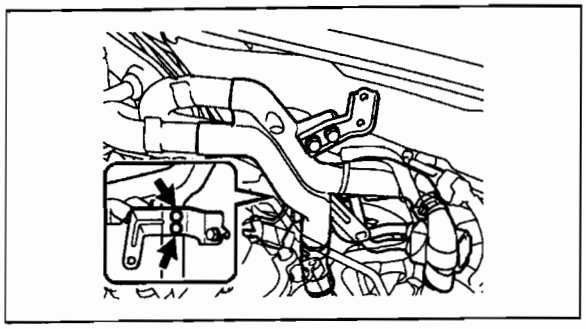


b) Using SST 09617-24011 (09612-24014) or a commercially available 22 mm crowfoot wrench, remove the fuel pressure pulsation damper and the 2 gaskets.
c) Discard the 2 gaskets.

NOTE:
- **Clean up any spilled fuel with a shop rag or cloth.**
- **DO NOT damage the fuel return pipe when removing the fuel pulsation damper.**
- **DO NOT forcefully remove the fuel pulsation damper, doing so will damage the seal surface.**
- **DO NOT blow air into the fuel pressure damper, doing so will damage the internal diaphragm.**



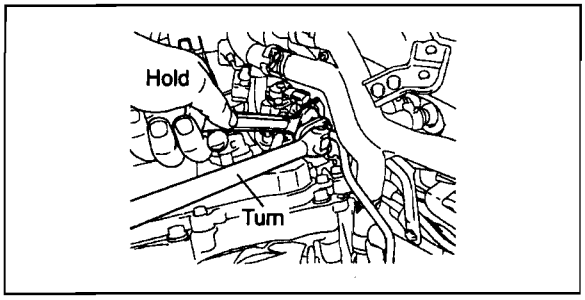
d) Tape the fuel pump and fuel tube to prevent damage to them.



3. DISCONNECT THE WATER HOSE JOINT

a) Remove the 2 bolts to disconnect the water hose joint.

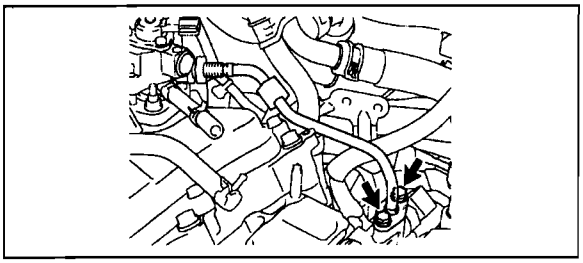
WHEN REPLACING FUEL PIPE NO. 2, *THE FUEL PUMP MUST BE REMOVED. THIS MUST BE DONE TO PREVENT SEAL DAMAGE AND THE TWISTING OF THE FUEL PIPE, FAILURE TO DO SO MAY RESULT IN A FUEL LEAK!*



4. REMOVE THE FUEL PUMP AND FUEL PIPE NO. 2

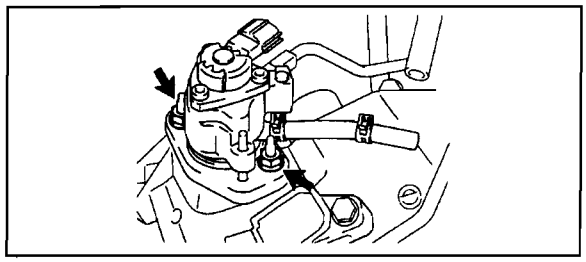
a) Hold the fuel pump union bolt in place with a wrench, and loosen the fuel pipe fitting with a union/crowfoot nut wrench.

NOTE:
- **There must be no free play in the union on the fuel pump side. If free play exist, replace the fuel pump.**
- **Clean up any spilled fuel with a shop rag or cloth.**

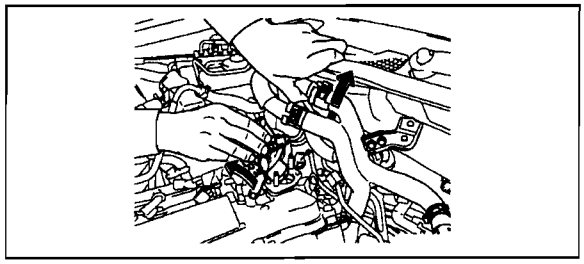


b) Remove the 2 bolts from fuel pipe No. 2 (delivery side).

NOTE:
DO NOT remove fuel pipe No. 2 from the delivery pipe. ONLY remove the bolts.

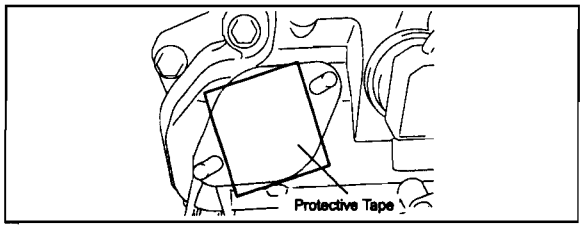


c) Remove the 2 nuts from the fuel pump assembly.

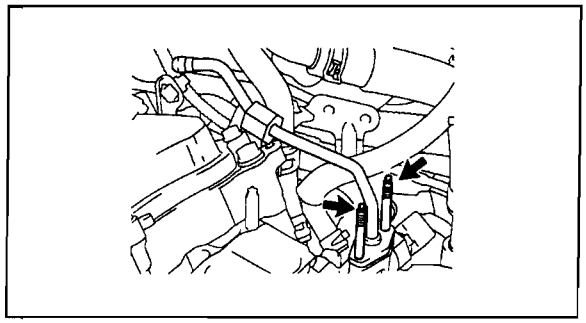


d) Move the water hose joint aside, and remove the fuel pump.
e) Remove and discard the fuel pump insulator.

NOTE:
- **Clean up any spilled fuel with a shop rag or cloth.**
- **DO NOT use excessive force when moving the water hose joint aside.**



f) Tape the fuel pump opening to prevent foreign objects from entering.

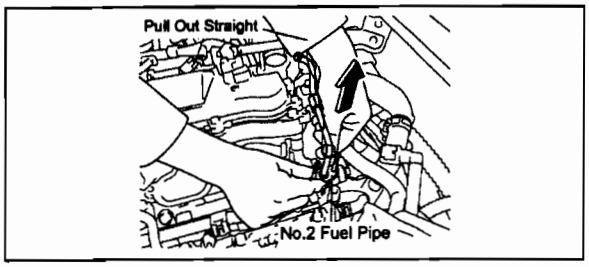


5. REMOVE FUEL PIPE NO. 2

Click here or go to TIS to watch the video to supplement the next two steps.

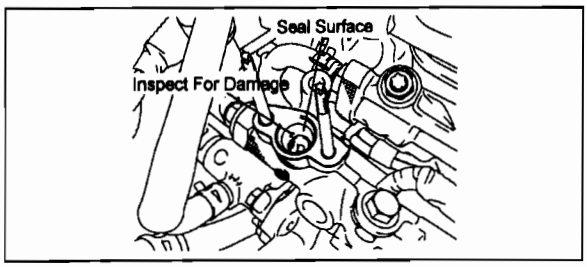
a) Insert the two stud bolts (SST 04007-32331) to the delivery pipe's bolt attachment holes, and hand tighten.

NOTE:
Insert the stud bolts with the TORX® head facing up.



b) Remove fuel pipe No. 2 from the delivery pipe.

NOTE:
Clean up any spilled fuel with a shop rag or cloth.



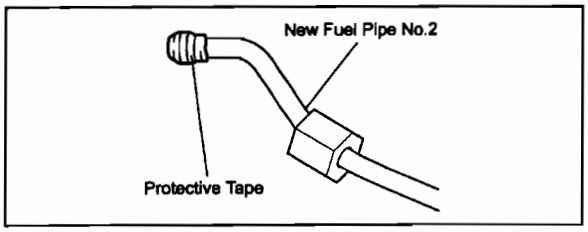
6. INSPECT THE FUEL DELIVERY PIPE

a) Clean the delivery pipe seal surface, then inspect it as shown in the illustration for any damage.

NOTE:
If the seal surface was damaged, replace the delivery pipe to prevent the risk of a fuel leak.

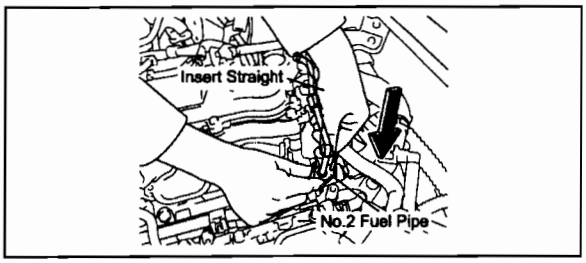
STOP

WHEN INSTALLING FUEL PIPE NO. 2 AND THE FUEL PUMP, FOLLOW THE TEMPORARY INSTALLATION, TIGHTENING AND OTHER PROCEDURES SHOWN TO PREVENT DAMAGE TO ALL SEALING SURFACES.

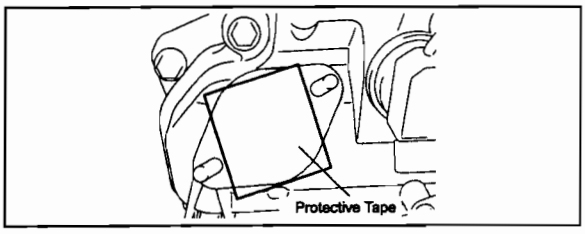


7. REINSTALL THE FUEL PUMP AND INSTALL A NEW FUEL PIPE NO. 2

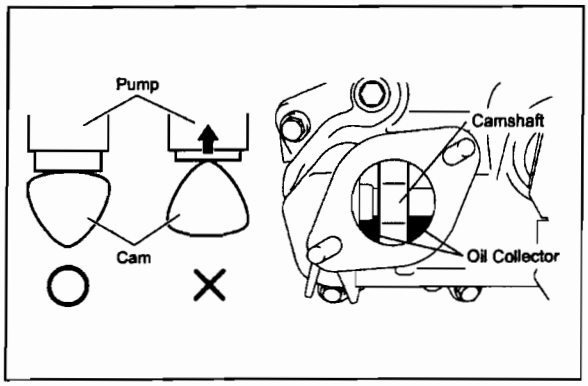
a) Place protective tape over the tapered section of the ***NEW*** fuel pipe No. 2 to prevent damage.



b) Apply gasoline to the o-ring on the ***NEW*** fuel pipe No. 2.
c) Align the fuel pipe mounting holes with the stud bolts, and gently press the fuel pipe onto the delivery pipe by hand until there is no gap between them.



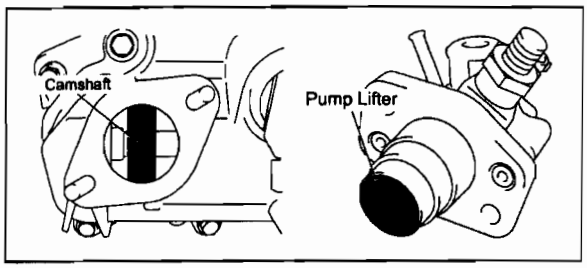
d) Remove the protective tape from the fuel pump opening, and clean the mounting surface.



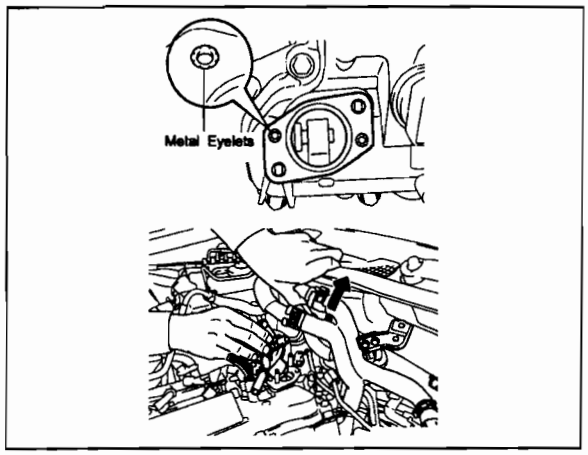
Click here or go to TIS to watch the video to supplement the step below.

e) Turn the crankshaft until the flat part of the cam lobe is facing up through the fuel pump's attachment hole, as shown in the illustration.
f) Pour 30 cc of engine oil through the fuel pump's attachment hole, and into the cylinder head oil collector.

NOTE:
This procedure makes the fuel pump and fuel pipe No. 2 installation easier.

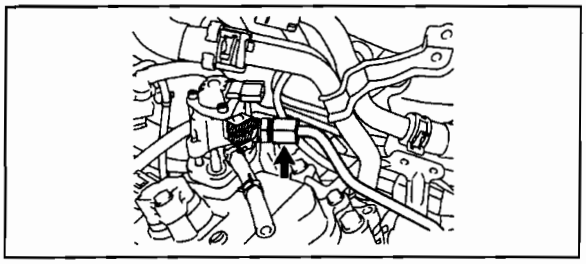


g) Apply a coat of engine oil to the fuel pump camshaft lobe, and fuel pump lifter.

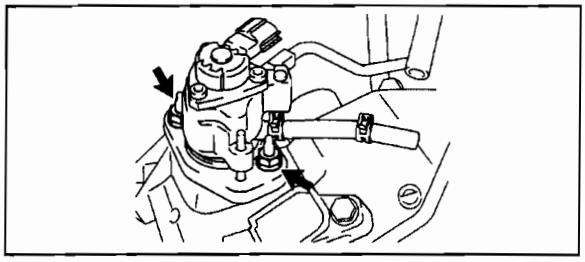


h) Install a ***NEW*** fuel pump insulator with the metal eyelets facing up.
i) Move the water hose joint aside, and reinstall the fuel pump.
j) Reinstall the 2 bolts.

NOTE:
- **Make sure the metal eyelets of the NEW fuel pump insulator are facing up.**
- **DO NOT use excessive force when moving the water hose joint aside.**

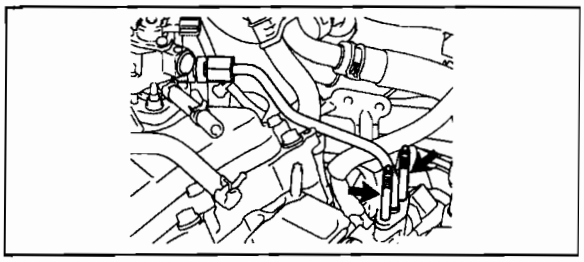


k) Remove the protective tape from the tapered section of the ***NEW*** fuel pipe No. 2, and clean the mounting surface.
l) Temporarily install fuel pipe No. 2 to the fuel pump.

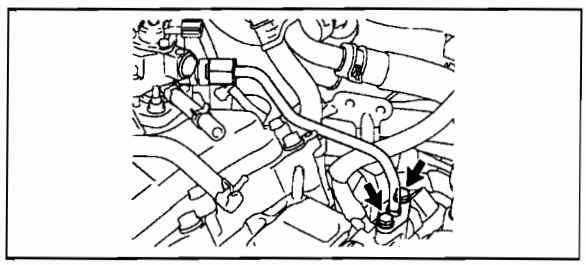


m) Install the 2 fuel pump nuts, and torque them to specification.

Torque Specification:
25 N·m (255 kgf·cm, 18 ft·lbf)

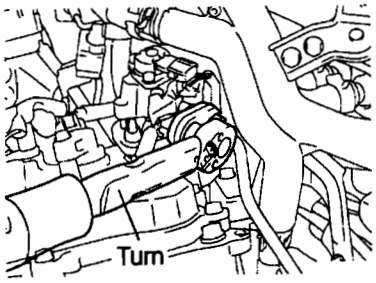


n) Remove the 2 stud bolts.



o) Clean the fuel pipe No. 2 (delivery side) bolt holes of dirt and gasoline.
p) Reinstall the 2 bolts, and torque to specification.

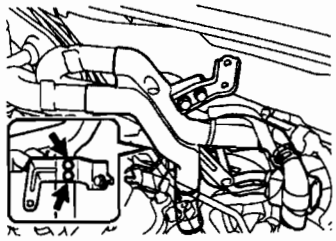
Torque Specification:
10 N·m (102 kgf·cm, 7 ft·lbf)



q) Using a 19 mm union / crowfoot nut wrench, torque the fuel pipe fitting to specification.

Torque Specification:
- **Without a Union Nut Wrench: 30 N·m (306 kgf·cm, 22 ft·lbf)**
- **With a Union Nut Wrench: 25.7 N·m (262 kgf·cm, 19 ft·lbf)**

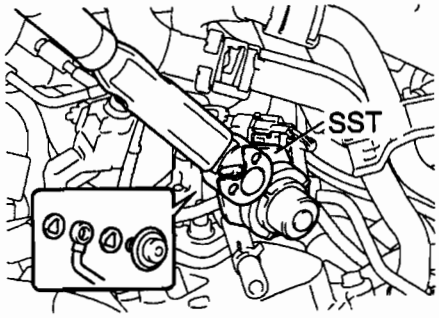
NOTE:
- **Use a torque wrench with a fulcrum length of 180 mm (7.09 in).**
- **The torque value above applies when the union nut / crowfoot wrench is parallel to the torque wrench.**



8. RECONNECT THE WATER HOSE JOINT

a) Reinstall the 2 bolts, and torque to specification.

Torque Specification:
10 N·m (102 kgf·cm, 7 ft·lbf)



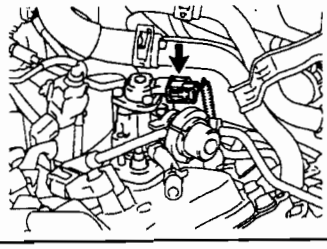
For instructions on calculating torque specifications for a non-SST extension tool, please reference section XIII. Appendix on page 46.

9. REINSTALL THE FUEL PRESSURE PULSATION DAMPER

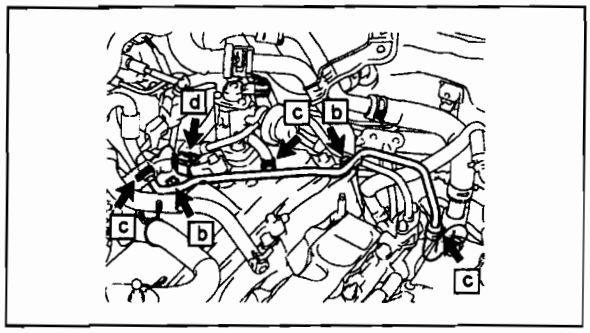
a) Remove the protective tape from the fuel pump and fuel tube, and clean their mounting surfaces.
b) Install 2 ***NEW*** gaskets, and reinstall the fuel pulsation damper by hand.
c) Torque the fuel pulsation damper to specification using SST 09617-24011 (09612-24014) or a commercially available 22 mm crowfoot wrench.

Torque Specification with SST:
With SST: 33 N·m (337 kgf·cm, 24 ft·lbf)
Without SST: 40 N·m (408 kgf·cm, 30 ft·lbf)

NOTES
- **DO NOT use a fuel pulsation damper that has been dropped, as it may not work properly.**
- **DO NOT blow air into the fuel pulsation damper. The air pressure may damage the internal diaphragm.**
- **DO NOT damage the fuel return pipe when tightening the fuel pulsation damper.**
- **Use a torque wrench with a fulcrum length of 260 mm (10.24 in).**
- **The torque value above applies when the SST / crowfoot wrench is parallel to the torque wrench.**



d) Reconnect the fuel pressure pulsation damper connector.

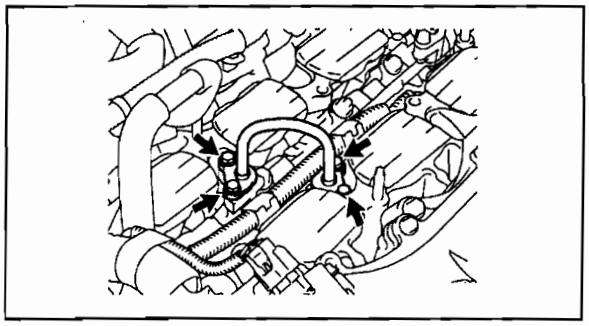


10. REINSTALL FUEL PIPE NO. 1

a) Reinstall fuel pipe No. 1.
b) Reinstall the 2 bolts and torque to specification.

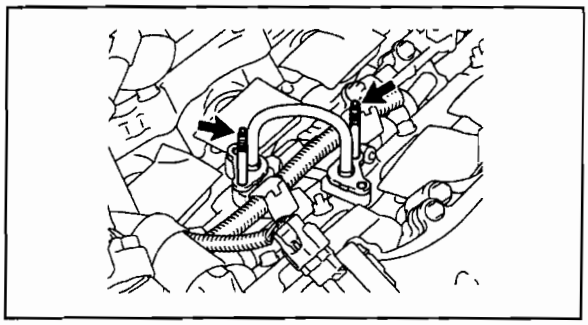
Torque Specification:
10 N·m (102 kgf·cm, 7 ft·lbf)

c) Remove the fuel hose plugs, and reconnect the 3 hoses.
d) Reconnect the ignition coil connector.



11. REMOVE FUEL PIPE NO. 3

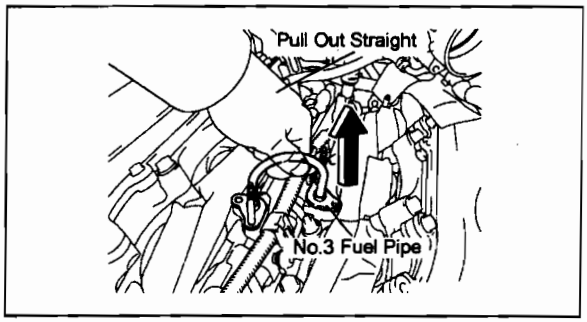
a) Remove the 4 bolts.



Click here or go to TIS to watch the video to supplement the next two steps.

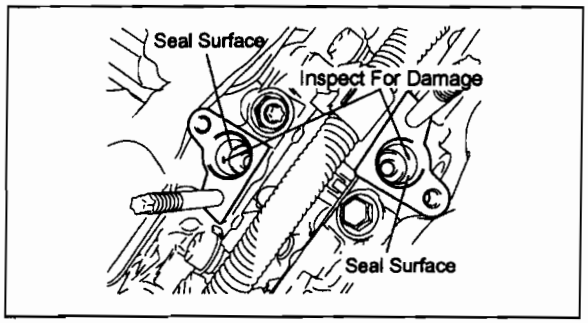
b) Insert the two stud bolts (SST 04007-32331) to the delivery pipe's bolt attachment holes, and hand tighten.

NOTE:
Insert the stud bolts with the TORX® head facing up, and diagonally from each other as shown in the illustration.



c) Remove fuel pipe No. 3 from the delivery pipes.

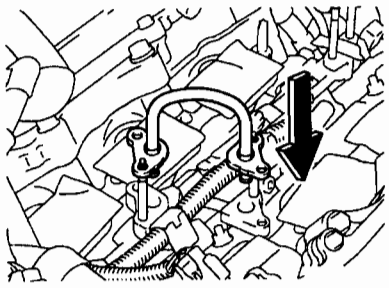
NOTE:
Clean up any spilled fuel with a shop rag or cloth.

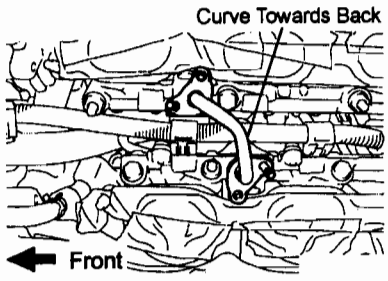


12. INSPECT THE FUEL DELIVERY PIPES

a) Clean the delivery pipes seal surfaces, and inspect them as shown in the illustration for any damage.

NOTE:
If the seal surface was damaged, replace the delivery pipe to prevent the risk of a fuel leak.



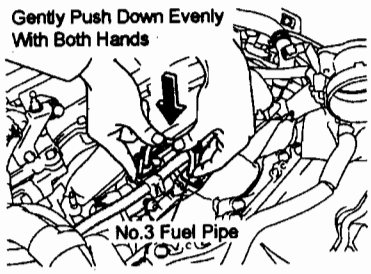


13. INSTALL A NEW FUEL PIPE NO. 3

Click here or go to TIS to watch the video to supplement the steps below.

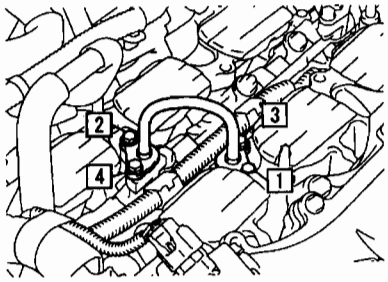
a) Apply gasoline to the o-rings on the ***NEW*** fuel pipe No. 3.
b) Align the fuel pipe mounting holes with the stud bolts.

NOTE:
- **Make sure the fuel pipe No. 3 installation orientation is correct, as shown in the illustration.**
- **DO NOT install the fuel pipe No. 3 backwards. If installed backwards it will interfere with the intake manifold.**



c) Gently press the fuel pipe onto the delivery pipes evenly with both hands, as shown in the illustration, until there is no gap between them.
d) Remove the 2 stud bolts.
e) Clean the bolt holes of dirt and gasoline.

NOTE:
Do not discard the stud bolts, as they will be reused again.



Click here or go to TIS to watch the video to supplement the step below.

f) Reinstall the 4 bolts, and torque to specification in the order shown in the illustration.

Torque Specification:
10 N·m (102 kgf·cm, 7 ft·lbf)

14. REMOVE ALL SHOP RAGS

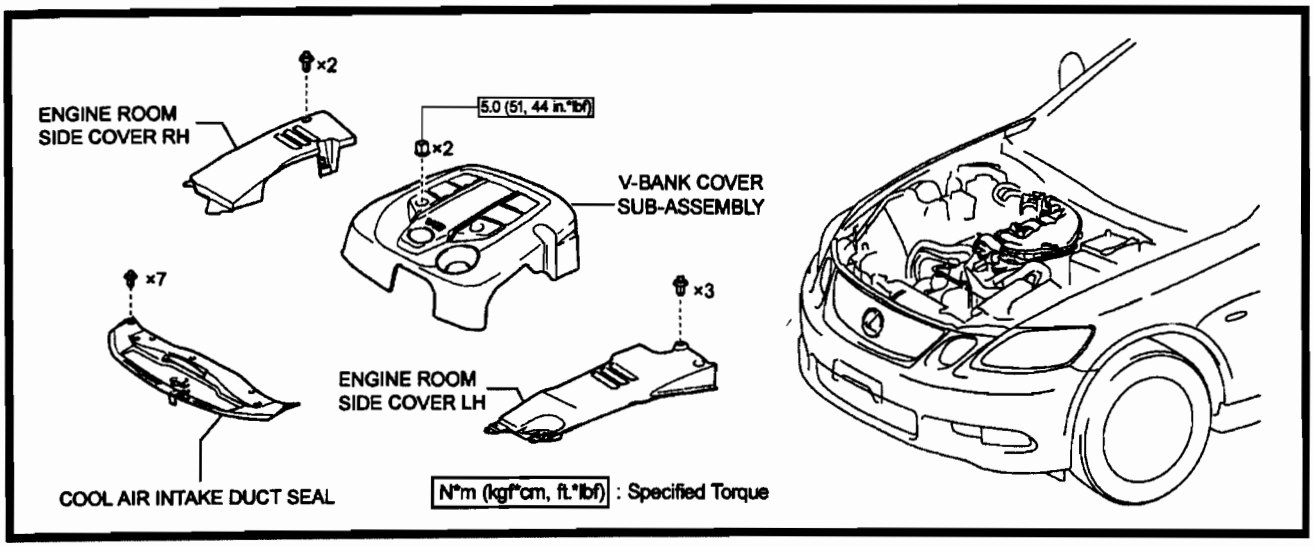
NOTE:
Before reinstalling the intake manifold, remove all shop rags.

STOP

- **SEE VEHICLE DISASSEMBLY & REASSEMBLY WORK PROCEDURE BY MODEL SECTIONS FOR DETAILS ON VEHICLE REASSEMBLY.**
- **BE SURE TO CONDUCT THE LEAK TEST PROCEDURE AS SPECIFIED IN THE REASSEMBLY PROCEDURE.**

VIII. 2006 GS 300 – WORK PROCEDURE

A. REMOVE THE ENGINE COVERS AND DISCHARGE THE FUEL SYSTEM



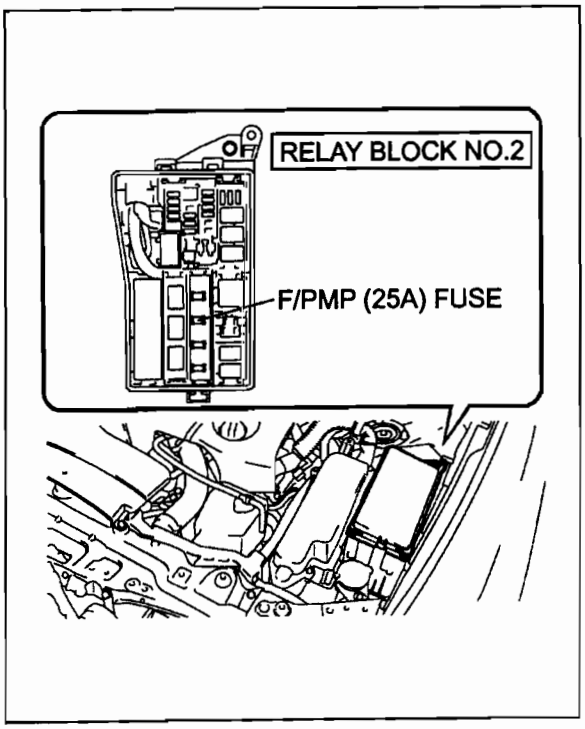
1. CHECK FOR DTCs

a) If DTC(s) are present, verify them, view and record the freeze frame data, and perform the necessary repairs.

2. REMOVE THE ENGINE ROOM COVER & V-BANK COVER SUB-ASSEMBLY

STOP

- **DO NOT DISCONNECT ANY PART OF THE FUEL SYSTEM UNTIL YOU HAVE DISCHARGED THE FUEL SYSTEM PRESSURE.**
- **EVEN AFTER DISCHARGING THE FUEL SYSTEM PRESSURE, PLACE A PIECE OF CLOTH AROUND THE FITTINGS AS YOU SEPARATE THEM TO REDUCE THE RISK OF FUEL SPRAYING ON YOURSELF, IN THE ENGINE COMPARTMENT, AND ONTO OTHER PARTS.**



3. DISCHARGE THE FUEL SYSTEM PRESSURE

a) Remove the relay block upper cover No. 2.
b) Remove the fuel pump (F/PMP) 25 amp fuse.
c) Start the engine.
d) After the engine has stopped, turn the ignition switch OFF.
e) Crank the engine again to check that it does not start.

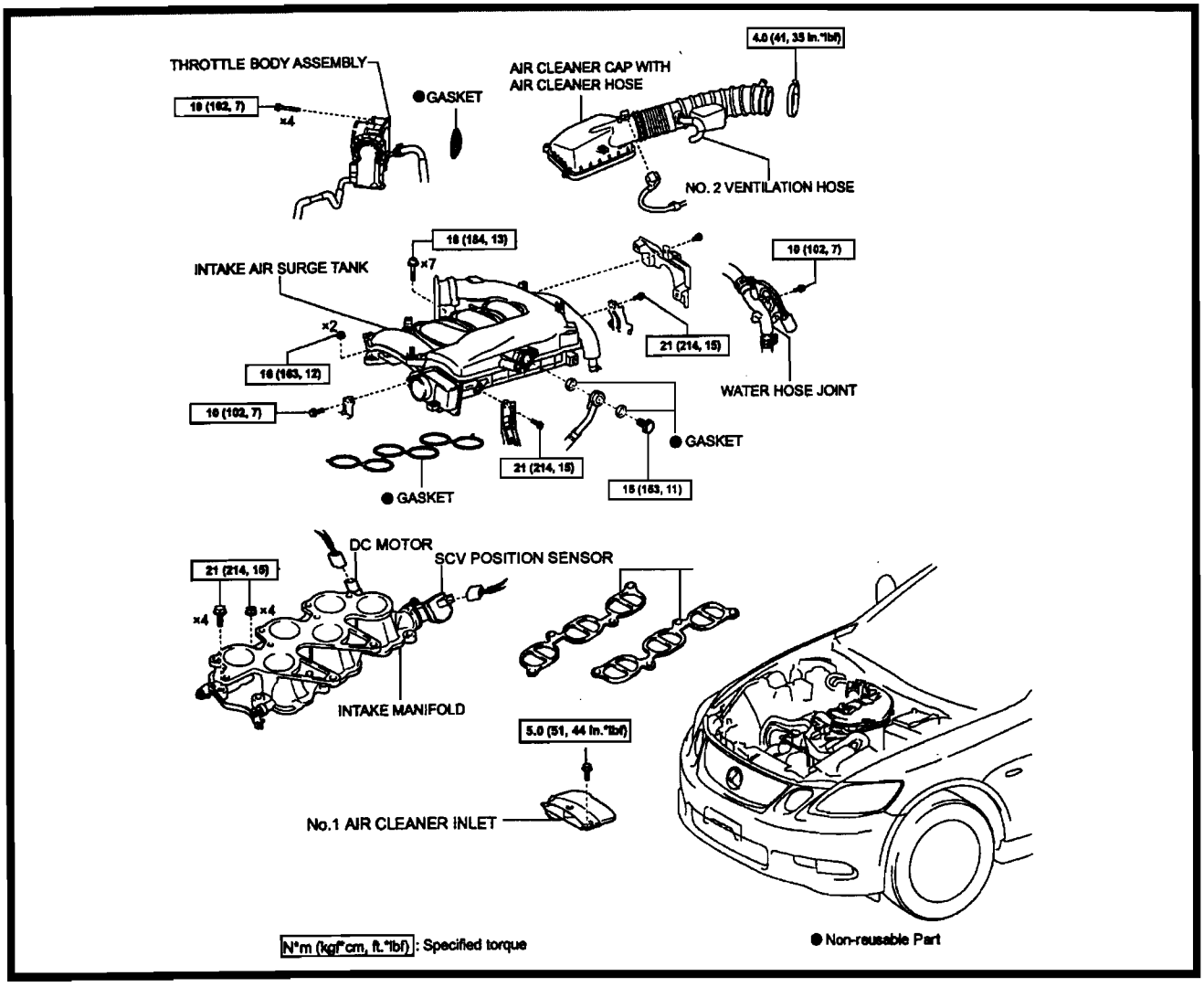
NOTE:
DTC P0171/25 and/or P0191/49 may be set.

f) Remove the fuel tank cap to discharge the fuel pressure.
g) Record the radio station presets.
h) Disconnect the negative (-) battery cable.

NOTE:
DO NOT disconnect the negative (-) battery cable until 6 minutes have elapsed. The HDD navigation system requires approximately 6 minutes to save memory and settings, after turning OFF the ignition.

i) Reinstall the fuel pump (F/PMP) 25 amp fuse.
j) Reinstall the relay block upper cover No. 2.

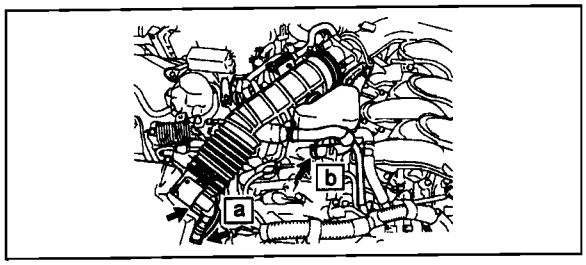
B. REMOVE THE INTAKE MANIFOLD



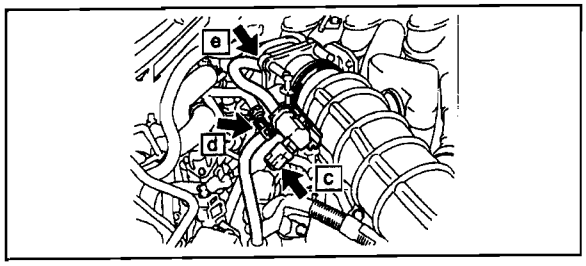
1. REMOVE THE NO. 1 AIR CLEANER INLET

a) Remove the bolt and air cleaner inlet.

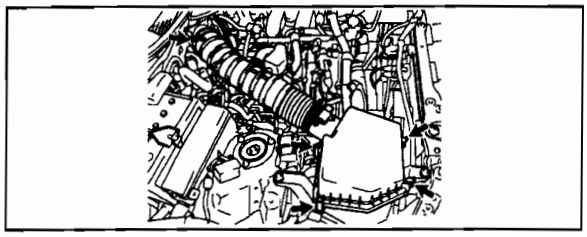
2. REMOVE THE AIR CLEANER CAP AND HOSE



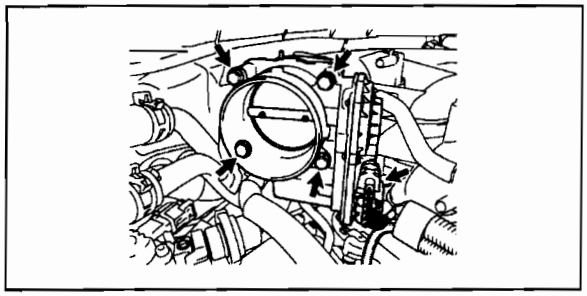
a) Disconnect the MAF meter connector, and the wire harness from the clip.
b) Disconnect the ventilation hose.



c) Disconnect the VSV connector.
d) Disconnect the fuel vapor feed hose from the VSV.
e) Disconnect the fuel vapor hose from the throttle body.



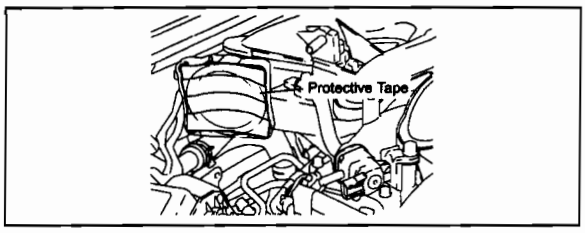
f) Loosen the air cleaner hose clamp bolt.
g) Unlatch the 4 air cleaner cap clips.
h) Remove the air cleaner cap and hose.



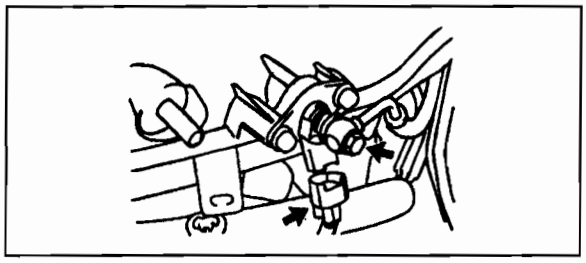
3. REMOVE THE THROTTLE BODY ASSEMBLY

a) Disconnect the throttle body connector.
b) Remove the 4 bolts, and move the throttle body assembly away from the intake air surge tank.
c) Remove and discard the throttle body gasket.

NOTE:
DO NOT disconnect the 2 water hoses.



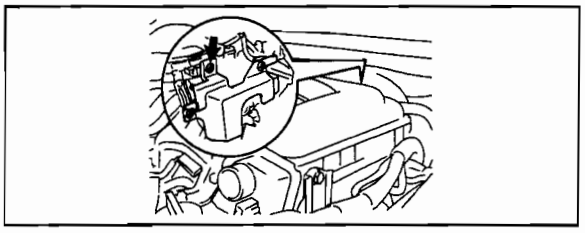
d) Tape the intake air surge tank opening to prevent foreign objects from entering it.



4. DISCONNECT THE COLD START INJECTOR

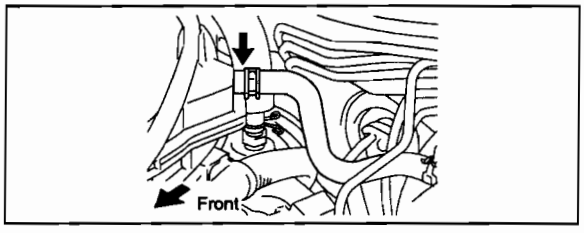
a) Disconnect the cold start injector connector.
b) Remove the bolt, the 2 washers and the fuel line.
c) Discard the 2 washers.

NOTE:
DO NOT bend or damage the fuel line.

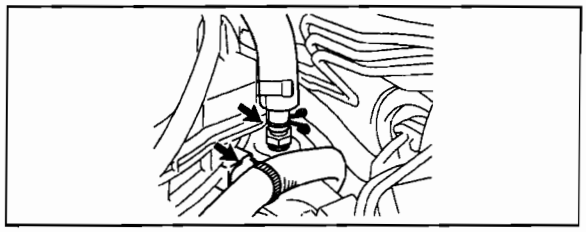


5. REMOVE THE INTAKE AIR SURGE TANK

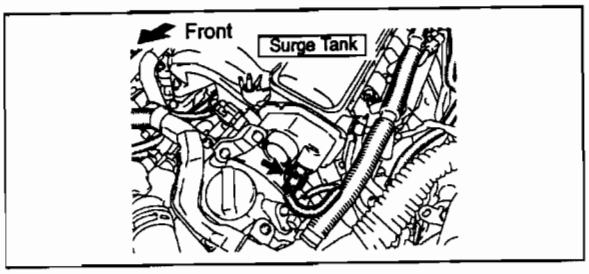
a) Remove the clip.



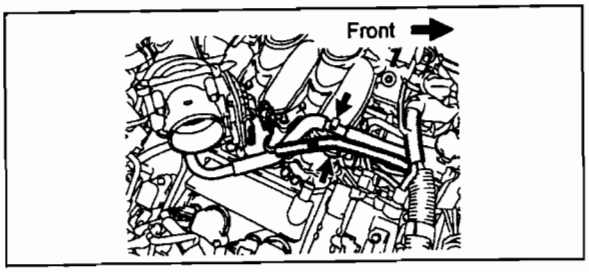
b) Disconnect the check valve hose from the intake air surge tank clip.



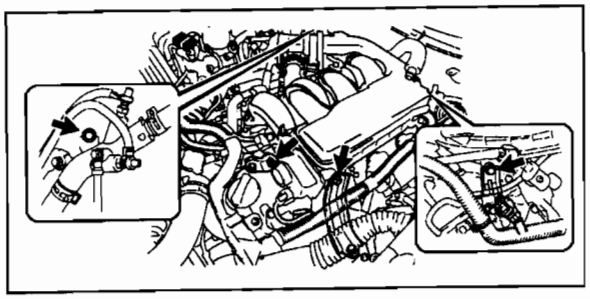
c) Disconnect the wire harness clip from the intake air surge tank.
d) Disconnect the intake air surge tank hose.



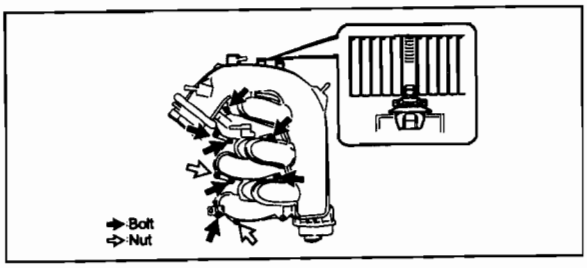
e) Disconnect the IACV connector.



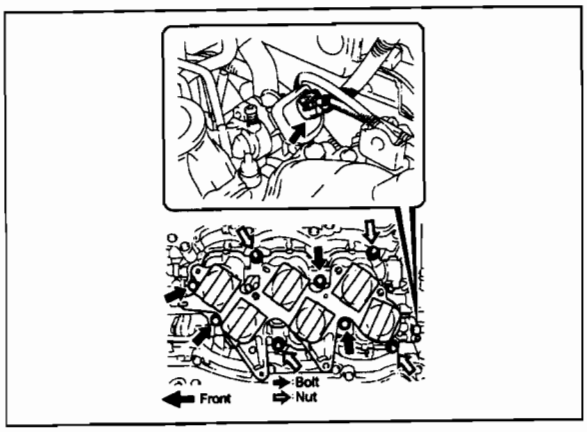
f) Disconnect the wire harness clip from the intake air surge tank.
g) Disconnect the water hose from the intake air surge tank.



h) Remove the 4 bolts from the intake air surge tank.

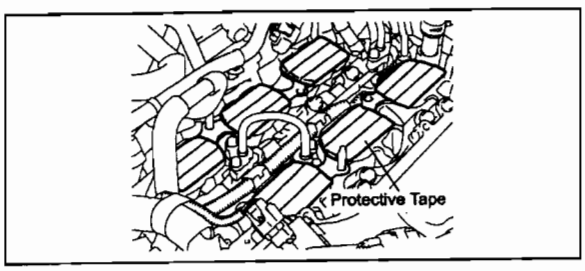


i) Remove the 2 nuts from the intake air surge tank.
j) Using a long 5 mm hex socket, remove the 7 hex bolts from the intake air surge tank.
k) Lift up the intake air surge tank and detach the DC Motor wiring harness clip.
l) Remove the intake air surge tank.
m) Remove and discard the intake air surge tank gasket.



6. REMOVE THE INTAKE MANIFOLD

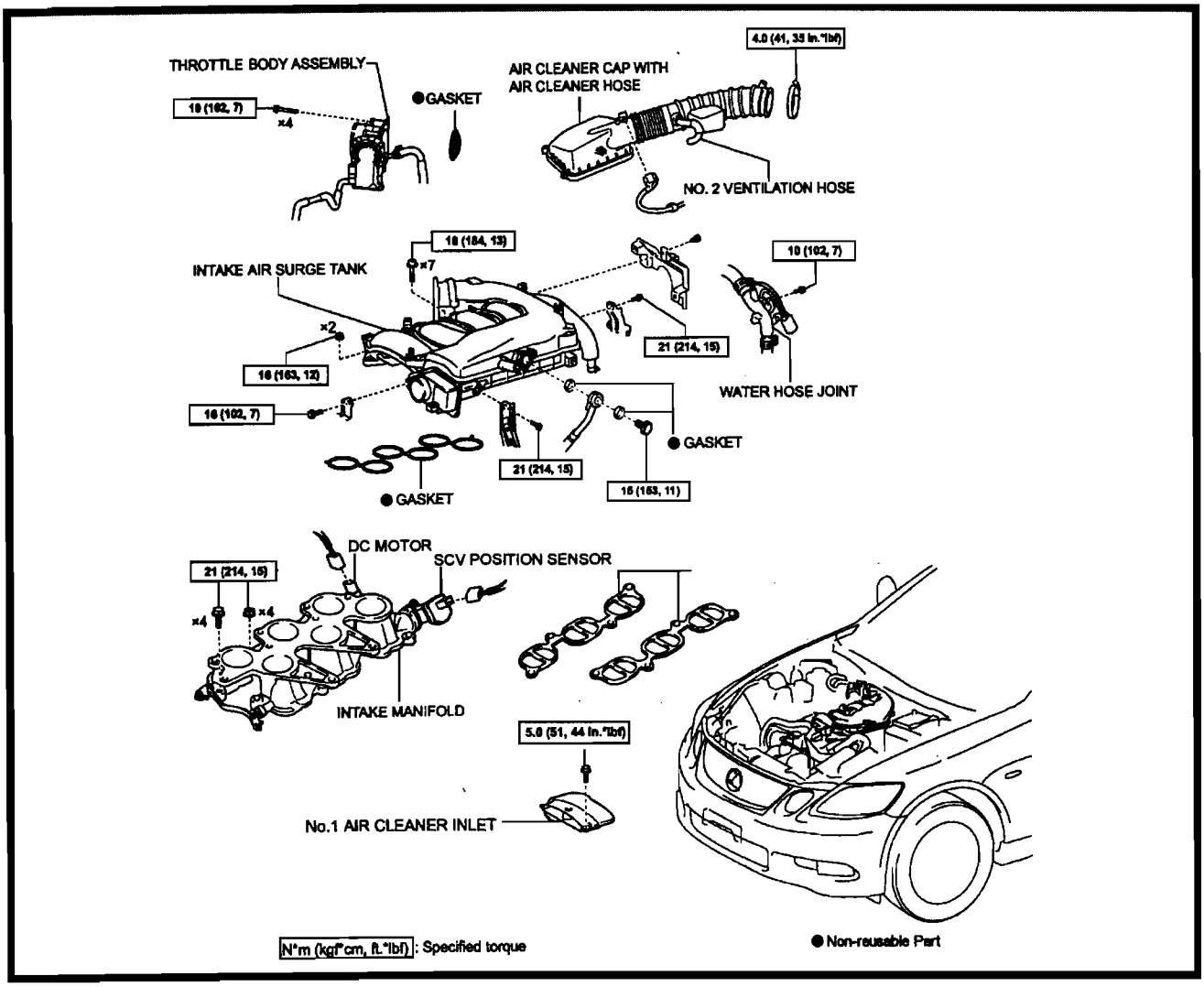
a) Tape the intake manifold openings to prevent foreign objects from entering it.
b) Disconnect the DC motor connector.
c) Disconnect the SCV position sensor connector.
d) Remove the 4 bolts and 4 nuts.
e) Remove the intake manifold.
f) Remove and discard the intake manifold gaskets.



g) Tape the cylinder head openings to prevent foreign objects from entering it.

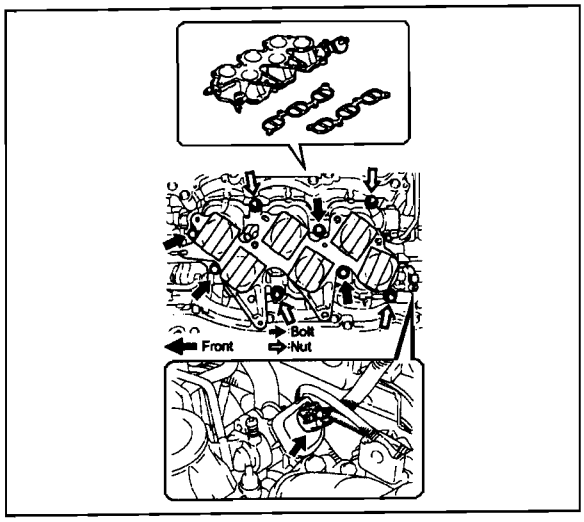
NOTE:
PROCEED TO THE FUEL PIPE REPLACEMENT WORK PROCEDURE ON PAGE 10.

C. REINSTALL THE INTAKE MANIFOLD



1. INSTALL THE INTAKE MANIFOLD

a) Remove the protective tape from the cylinder head openings, and clean the mounting surfaces.



b) Install 2 ***NEW*** gaskets.
c) Reinstall the intake manifold.
d) Reinstall the 4 bolts and 4 nuts, and torque to specification.

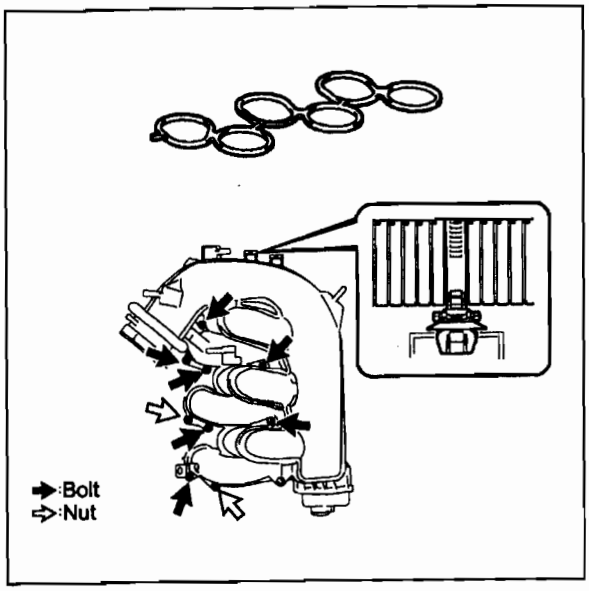
Torque Specification: 21 N·m (214 kgf·cm, 15 ft·lbf)

e) Reconnect the SCV position sensor connector.
f) Reconnect the DC motor connector.

NOTES

- **Make sure to align the intake manifold gasket with the shape of the cylinder head.**
- **When installing the intake manifold, be careful not to damage the fuel injectors.**

g) Remove the protective tape from the intake manifold openings, and clean the mounting surfaces.

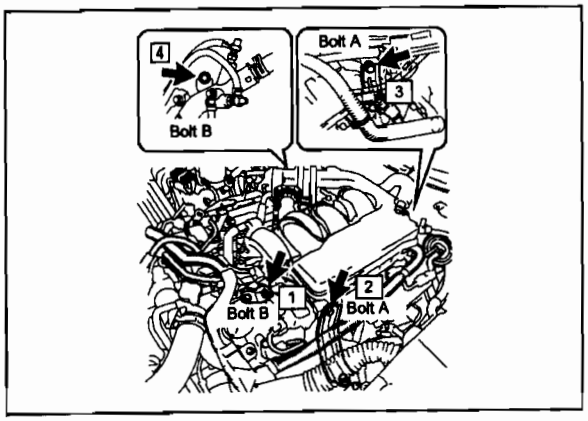


2. REINSTALL THE INTAKE AIR SURGE TANK

a) Install a ***NEW*** gasket to the intake air surge tank.
b) Reinstall the intake air surge tank, and reattach the DC Motor wiring harness clip.
c) Using a long 5 mm hex socket, reinstall the 7 hex bolts, then reinstall the 2 nuts and torque to specification.

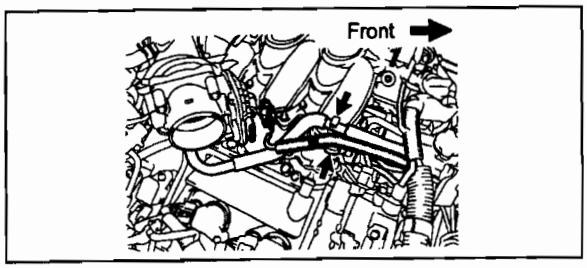
Torque Specification:
Bolt: 18 N·m (184 kgf·cm, 13 ft·lbf)
Nut: 16 N·m (163 kgf·cm, 12 ft·lbf)

NOTE:
- **Make sure to align the intake air surge tank gasket.**
- **Clean off any oil on the bolts or studs, failure to do so may result in over tightening of the fasteners.**
- **DO NOT over tighten the attachment bolts for the plastic surge tank. Doing so may break the bolt.**

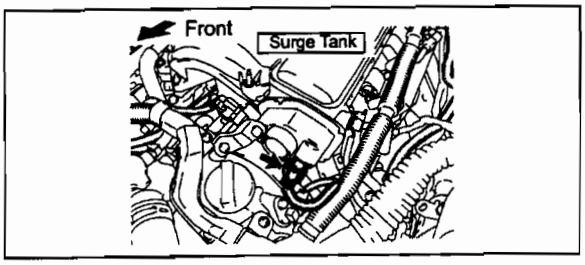


d) Reinstall the 4 bolts, and torque to specification in the order shown in the illustration.

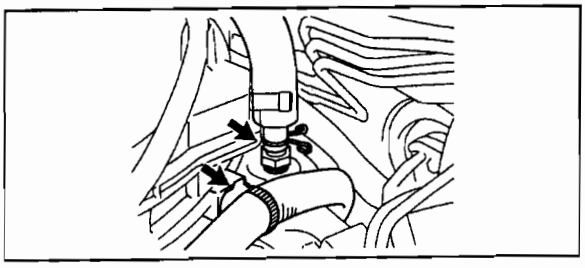
Torque Specifications:
Bolt A: 21 N·m (214 kgf·cm, 15 ft·lbf)
Bolt B: 10 N·m (102 kgf·cm, 7 ft·lbf)



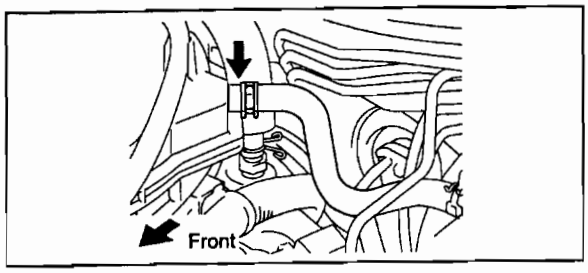
e) Reconnect the water hose to the intake air surge tank clip.
f) Reconnect the wire harness clip to the intake air surge tank.



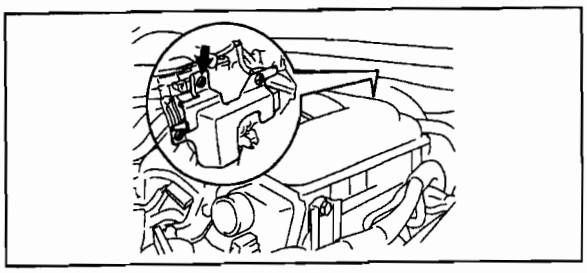
g) Reconnect the IACV connector.



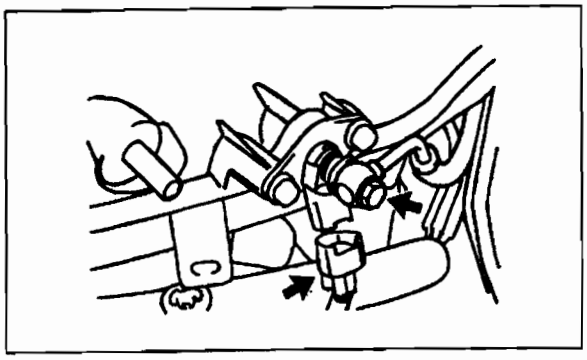
h) Reconnect the intake air surge tank hose.
i) Reconnect the wire harness clip to the intake air surge tank.



j) Reconnect the check valve hose to the intake air surge tank.



k) Reinstall the clip.



3. RECONNECT THE COLD START INJECTOR

a) Using 2 ***NEW*** washers, reinstall the bolt to the cold start injector, and torque to specification.

Torque Specification: 15 N·m (153 kgf·cm, 11 ft·lbf)

b) Reconnect the cold start injector connector.

NOTE:
DO NOT bend or damage the fuel line.

INSPECT FOR FUEL LEAKS.

STOP

Test the low pressure fuel pump within the fuel tank with the Toyota Techstream active test. Fuel leakage can be quickly inspected, due to the low pressure fuel pump being dependent on the high pressure system.

BEFORE CONNECTING THE BATTERY, DISSIPATE ALL FUEL VAPORS IN THE AREA.

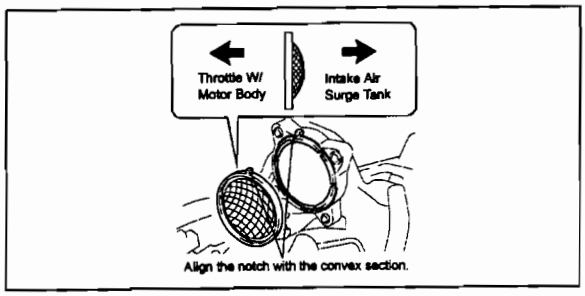
4. RECONNECT THE NEGATIVE (-) BATTERY CABLE

5. INSPECT FOR FUEL LEAKS

a) **"CHECK THE FUEL PUMP OPERATION AND TEST FOR FUEL LEAKS"** as outlined in the repair manual (TIS keyword: **"3GR-FSE FUEL: FUEL SYSTEM: ON-VEHICLE INSPECTION".**)

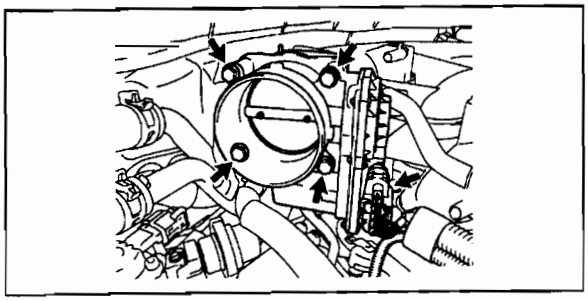
6. DISCONNECT THE NEGATIVE (-) BATTERY CABLE.

NOTE:
DO NOT disconnect the negative (-) battery cable until 6 minutes have elapsed. The HDD navigation system requires approximately 6 minutes to save memory and settings, after turning OFF the ignition.



7. REINSTALL THE THROTTLE BODY ASSEMB LY

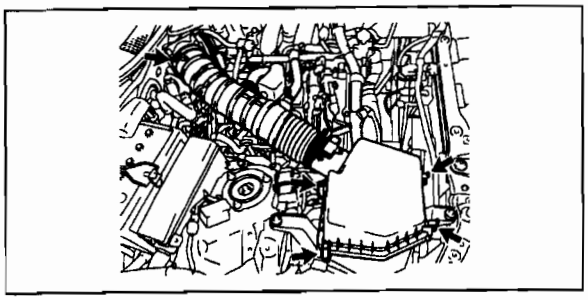
a) Remove the protective tape from the intake air surge tank opening, and clean the mounting surface.
b) Install a ***NEW*** throttle body gasket in the direction shown in the illustration.



c) Reinstall the throttle body assembly and the 4 bolts, then torque to specification.

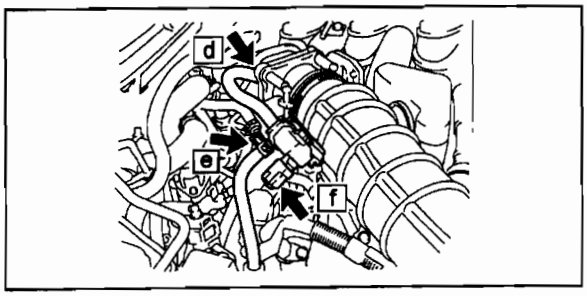
Torque Specification:
10 N·m (102 kgf·cm, 7 ft·lbf)

d) Reconnect the throttle body connector.

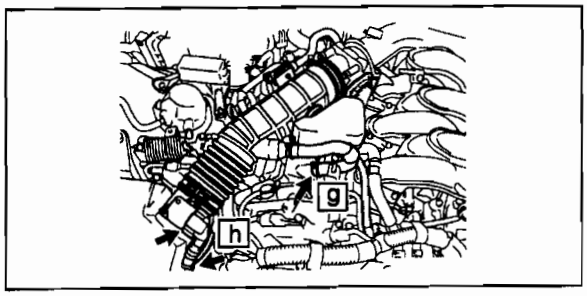


8. REINSTALL THE AIR CLEANER CAP AND HOSE

a) Reinstall the air cleaner cap and hose.
b) Latch the 4 air cleaner cap clips.
c) Tighten the air cleaner hose clamp bolt.



d) Reconnect the fuel vapor hose to the throttle body.
e) Reconnect the fuel vapor feed hose to the VSV.
f) Reconnect the VSV connector.



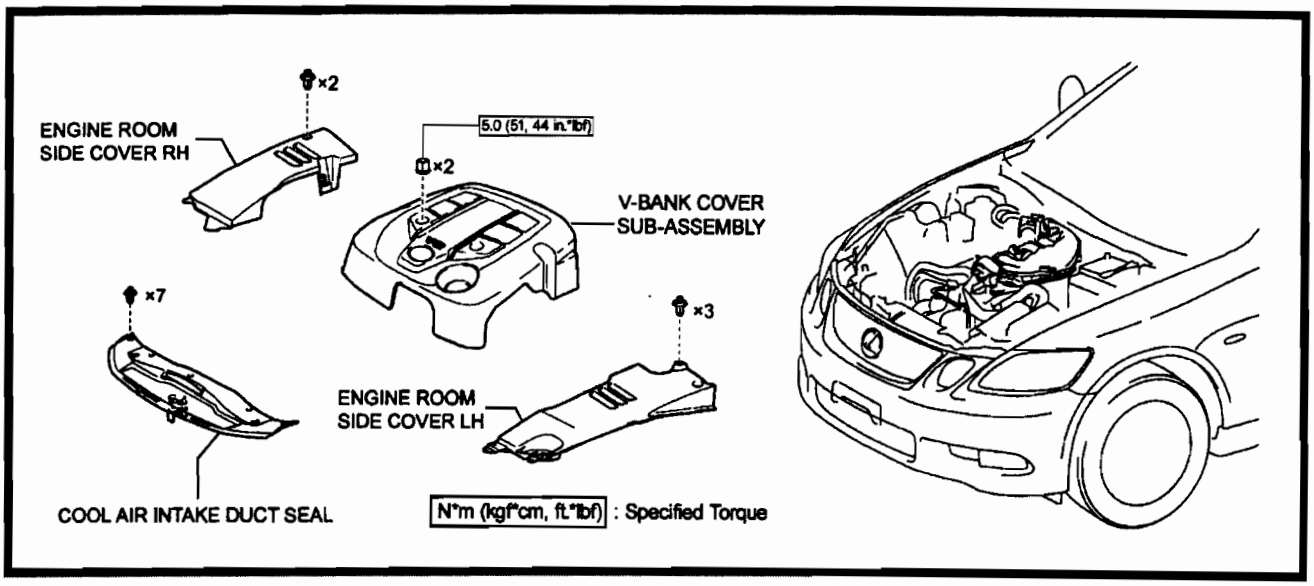
g) Reconnect the ventilation hose.
h) Reconnect the MAF meter connector, and the wire harness to the clip.

9. REINSTALL THE NO. 1 AIR CLEANER INLET

a) Reinstall the air cleaner inlet.
b) Reinstall the bolt, and torque to specification.

Torque Specification: 5.0 N·m (51 kgf·cm, 44 in·lbf)

D. INSPECT FOR FUEL LEAKS AND REINSTALL THE ENGINE COVERS



1. **REINSTALL THE FUEL TANK CAP**
2. **RECONNECT THE NEGATIVE (-) BATTERY CABLE**
3. **INSPECT FOR FUEL LEAKS**

   a) Prepare the vehicle for inspection by starting the engine, letting it run for approximately 5 seconds, and then shutting it off.
   b) Visually inspect **ALL** fuel lines and connectors for leaks.
   c) If **NO** leaks are found, re-inspect by repeating steps (a) and (b).

   NOTE:
   When preparing the vehicle for inspection the engine must be running. Cranking the engine alone may not start the high pressure fuel pump solenoids.

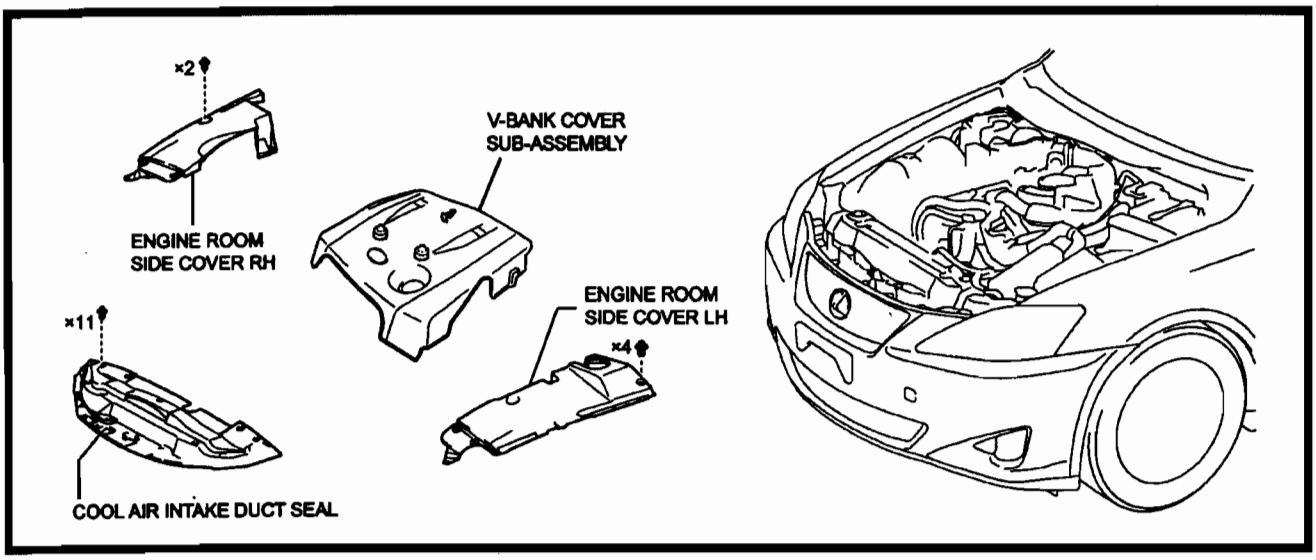
4. **REINSTALL THE V-BANK COVER SUB-ASSEMBLY & THE ENGINE ROOM COVERS**
5. **TEST DRIVE THE VEHICLE AND INSPECT FOR ABNORMAILITIES, WARNING LIGHTS AND DRIVEABILITY ISSUES**
6. **INSPECT FOR DTCs AND REPAIR AS NECESSARY**
7. **REPROGRAM THE RADIO STATION PRESETS AND SET THE CLOCK TO THE APPROPRIATE TIME**
8. **PERFORM INITIALIZATION AND CALIBRATION OF THE VARIOUS VEHICLE SYSTEMS**

   a) Perform **"INITIALIZATION"** as outlined in the repair manual (TIS keyword: **"INTRODUCTION: REPAIR INSTRUCTION: INITIALIZATION"**).

   NOTE:
   Certain systems need to be initialized after reconnecting the negative (-) battery cable.

IX. 2006 IS 250 – WORK PROCEDURE

A. REMOVE THE ENGINE COVERS AND DISCHARGE THE FUEL SYSTEM



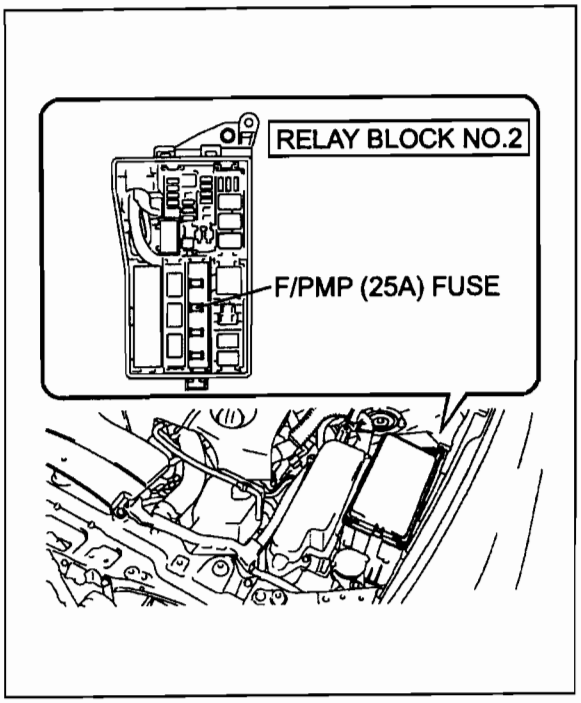
1. DTC CHECK

a) If DTC(s) are present, verify them, view and record the freeze frame data, and perform the necessary repairs.

2. REMOVE THE ENGINE ROOM COVERS & V-BANK COVER SUB-ASSEMBLY

STOP

- **DO NOT DISCONNECT ANY PART OF THE FUEL SYSTEM UNTIL YOU HAVE DISCHARGED THE FUEL SYSTEM PRESSURE.**
- **EVEN AFTER DISCHARGING THE FUEL SYSTEM PRESSURE, PLACE A PIECE OF CLOTH AROUND THE FITTINGS AS YOU SEPARATE THEM TO REDUCE THE RISK OF FUEL SPRAYING ON YOURSELF, IN THE ENGINE COMPARTMENT, AND ONTO OTHER PARTS.**



3. DISCHARGE THE FUEL SYSTEM PRESSURE

a) Remove the relay block upper cover No. 2.
b) Remove the fuel pump (F/PMP) 25 amp fuse.
c) Start the engine.
d) After the engine has stopped, turn the ignition switch OFF.
e) Crank the engine again to check that it does not start.

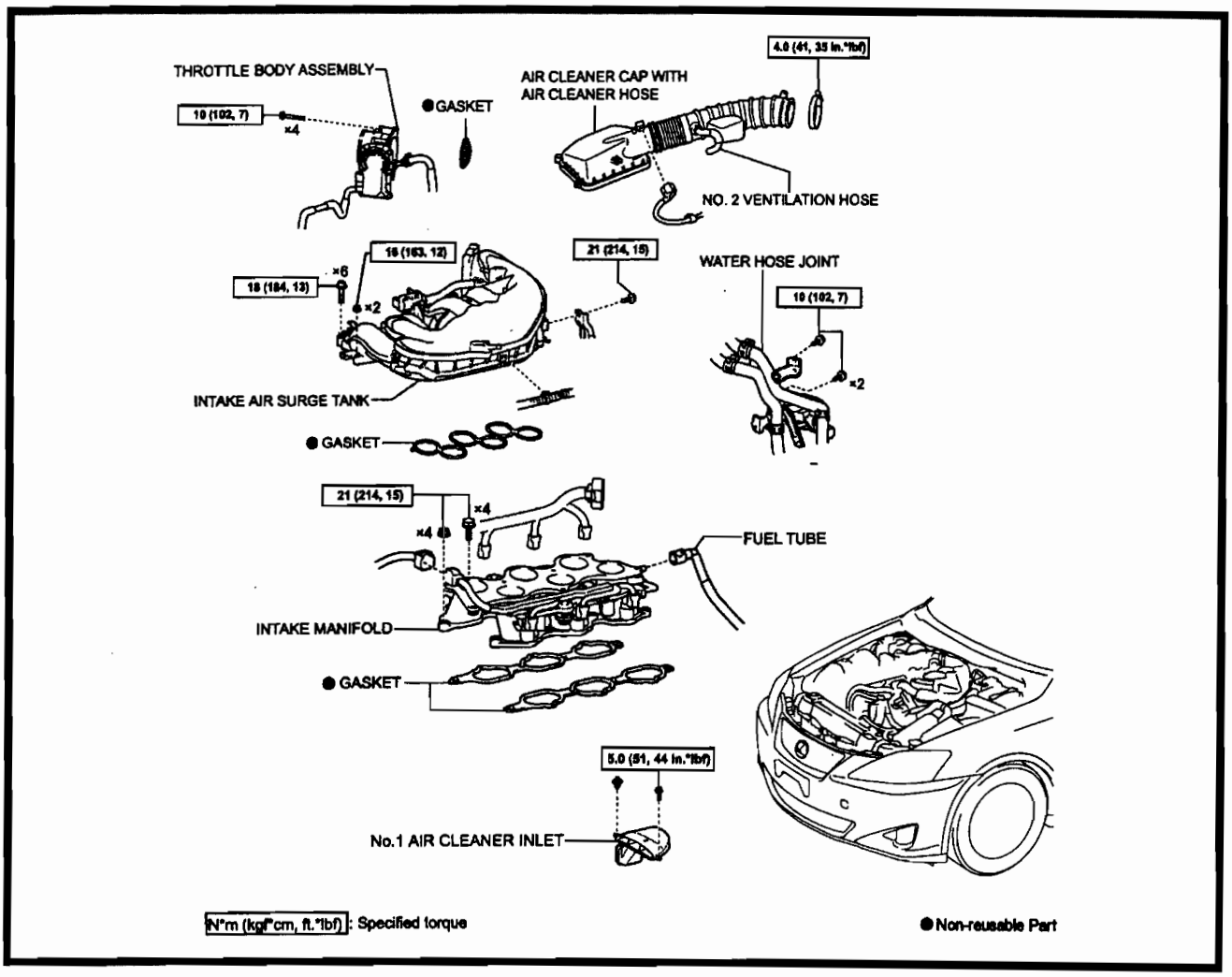
NOTE:
DTC P0171/25 and/or P0191/49 may be set.

f) Remove the fuel tank cap to discharge the fuel pressure.
g) Record the radio station presets
h) Disconnect the negative (-) battery cable.

NOTE:
DO NOT disconnect the negative (-) battery cable until 6 minutes have elapsed. The HDD navigation system requires approximately 6 minutes to save memory and settings, after turning OFF the ignition.

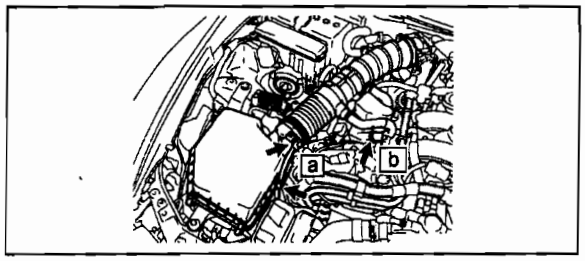
i) Reinstall the fuel pump (F/PMP) 25 amp fuse.
j) Reinstall the relay block upper cover No. 2

B. REMOVE THE INTAKE MANIFOLD



1. REMOVE THE NO. 1 AIR CLEANER INLET

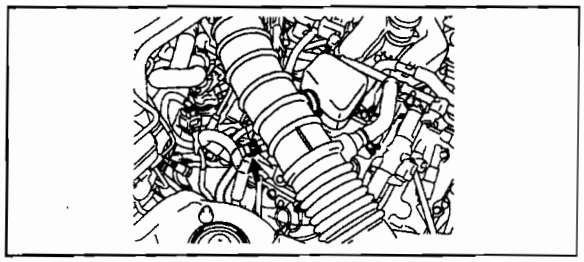
a) Remove the clip, the bolt and the air cleaner inlet.



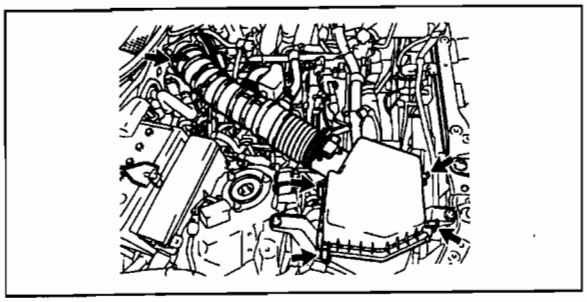
2. REMOVE THE AIR CLEANER CAP AND HOSE

a) Disconnect the MAF meter connector, and the wire harness from the clip.

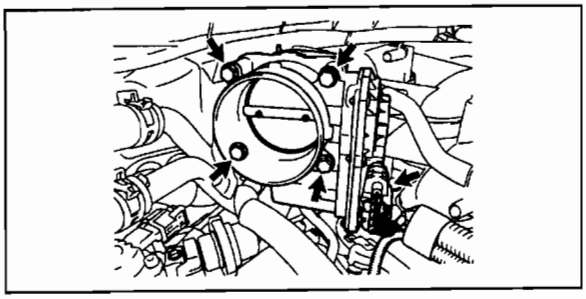
b) Disconnect the ventilation hose.



c) Disconnect the vacuum hose from the clip.



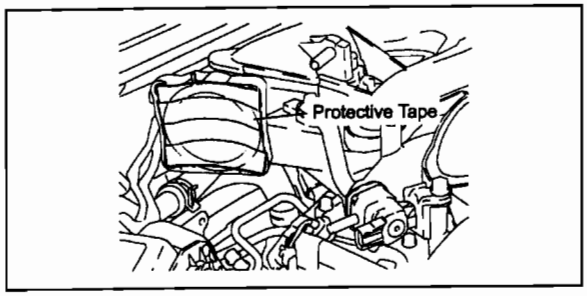
d) Loosen the air cleaner hose clamp bolt.
e) Unlatch the 4 air cleaner cap clips.
f) Remove the air cleaner cap and hose.



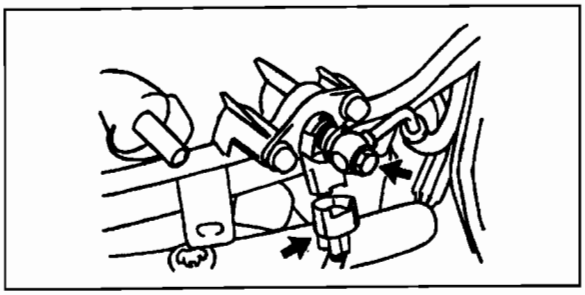
3. REMOVE THE THROTTLE BODY ASSEMBLY

a) Disconnect the throttle body connector.
b) Remove the 4 bolts, and move the throttle body assembly away from the intake air surge tank.
c) Remove and discard the throttle body gasket.

NOTE:
DO NOT disconnect the 2 water hoses.



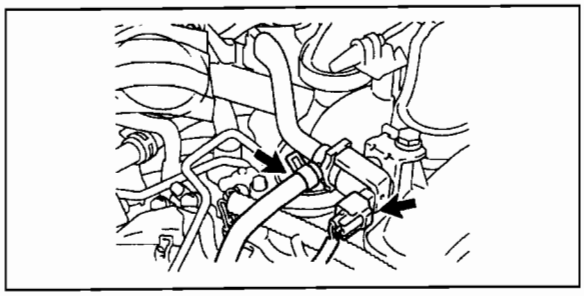
d) Tape the intake air surge tank opening to prevent foreign objects from entering it.



4. DISCONNECT THE COLD START INJECTOR

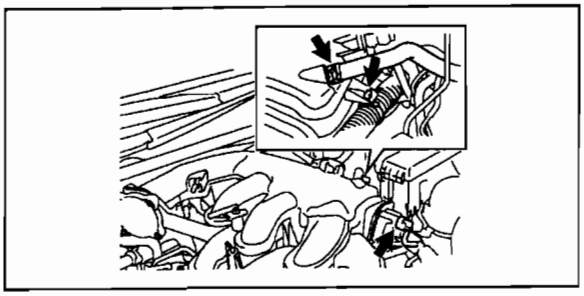
a) Disconnect the cold start injector connector.
b) Remove the bolt, the 2 washers and the fuel line.
c) Discard the 2 washers.

NOTE:
DO NOT bend or damage the fuel line.

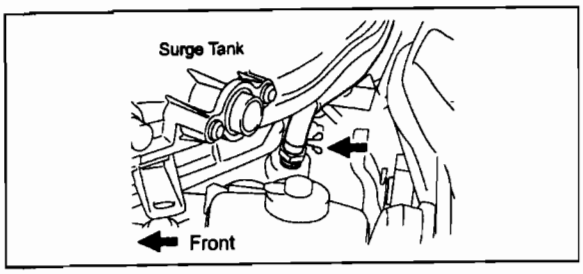


5. REMOVE THE INTAKE AIR SURGE TANK

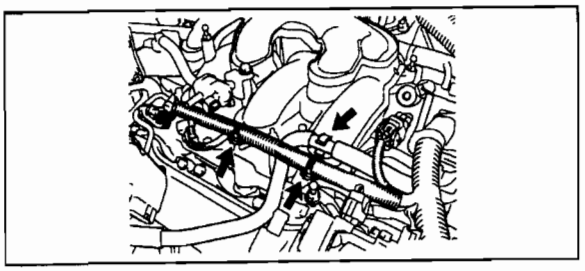
a) Disconnect the VSV connector.
b) Disconnect the fuel vapor feed hose from the VSV purge valve.



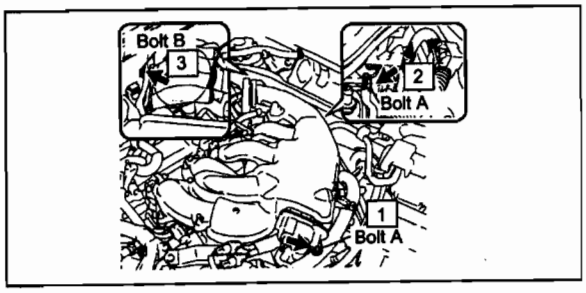
c) Disconnect the connector.
d) Disconnect the wire harness connector and hose from the intake air surge tank.



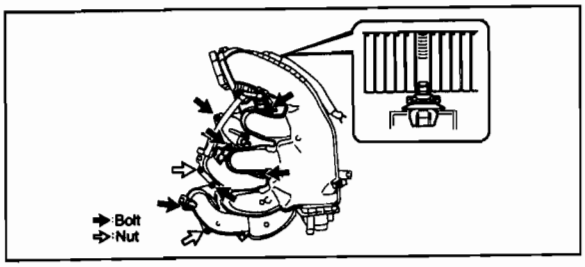
e) Disconnect the intake air surge tank ventilation hose.



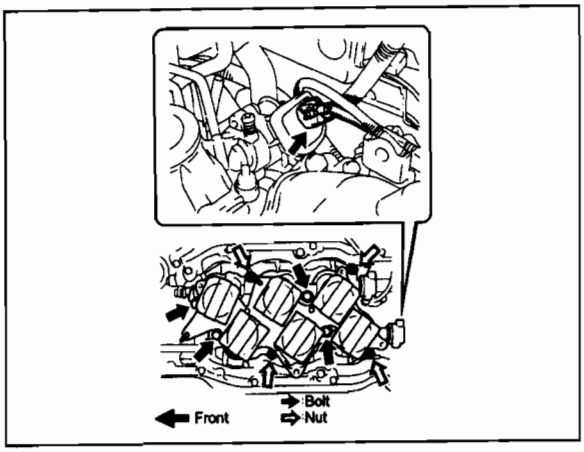
f) Disconnect the 2 wire harness clips from the intake air surge tank.
g) Disconnect the water hose from the intake air surge tank clip.



h) Remove the 3 bolts from the intake air surge tank.

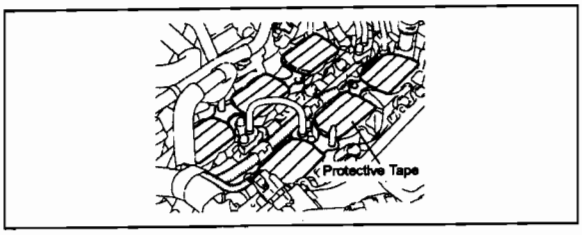


i) Remove the 2 nuts from the intake air surge tank.
j) Using a long 5 mm hex socket, remove the 6 hex bolts from the intake air surge tank.
k) Lift up the intake air surge tank and detach the DC Motor wiring harness clip.
l) Remove the intake air surge tank.
m) Remove and discard the intake air surge tank gasket.



6. REMOVE THE INTAKE MANIFOLD

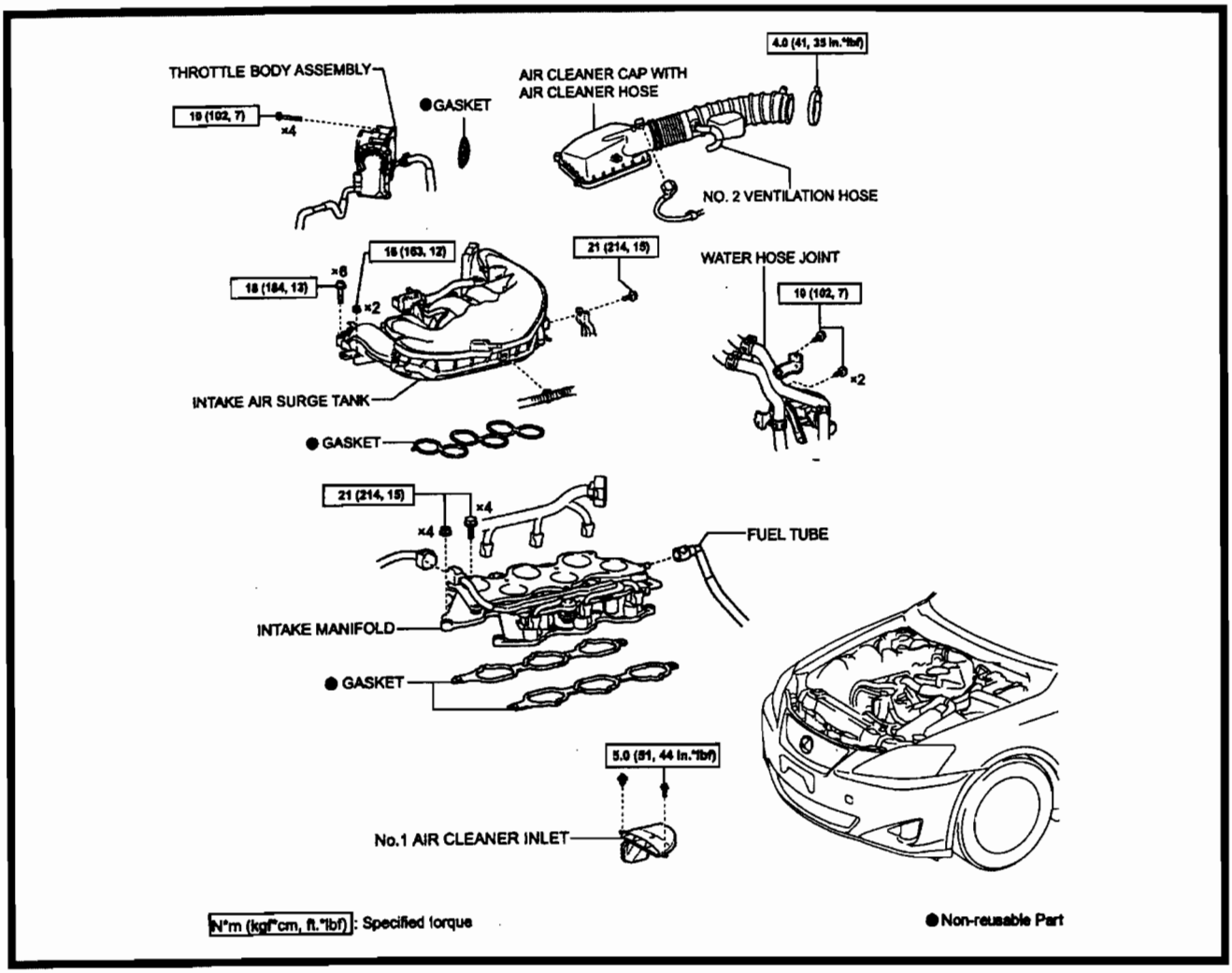
a) Tape the intake manifold openings to prevent foreign objects from entering it.
b) Disconnect the DC motor connector.
c) Disconnect the SCV position sensor connector.
d) Remove the 4 bolts and 4 nuts.
e) Remove the intake manifold.
f) Remove and discard the gaskets.



g) Tape the cylinder head openings to prevent foreign objects from entering it.

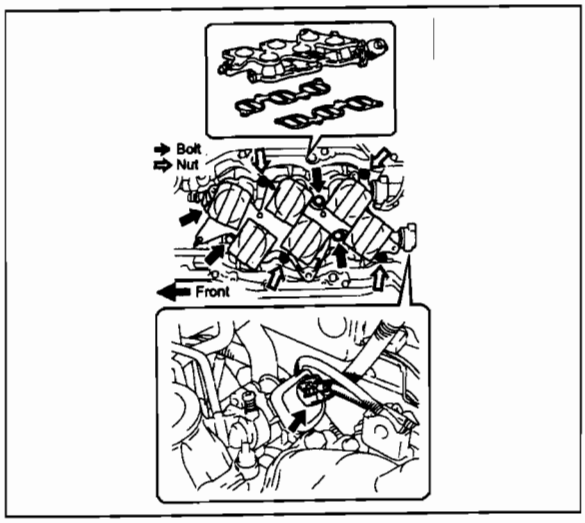
NOTE:
PROCEED TO THE FUEL PIPE REPLACEMENT WORK PROCEDURE ON PAGE 10.

C. REINSTALL THE INTAKE MANIFOLD



1. REINSTALL THE INTAKE MANIFOLD

a) Remove the protective tape from the cylinder head openings, and clean the mounting surfaces.



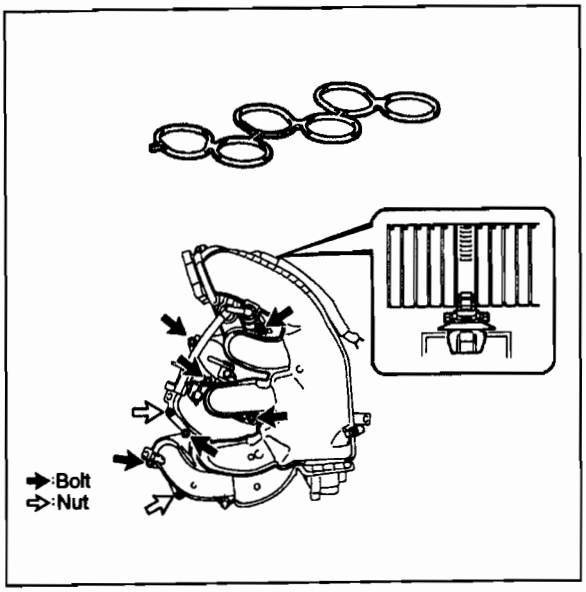
b) Install 2 ***NEW*** gaskets.
c) Reinstall the intake manifold.
d) Reinstall the 4 bolts and 4 nuts, and torque to specification.

Torque Specification: 21 N·m (214 kgf·cm, 15 ft·lbf)

e) Reconnect the SCV position sensor connector.
f) Reconnect the DC motor connector.
g) Remove the protective tape from the intake manifold openings, and clean the mounting surfaces.

NOTES

- **Make sure to align the intake manifold gasket with the shape of the cylinder head.**
- **When installing the intake manifold, be careful not to damage the fuel injectors.**



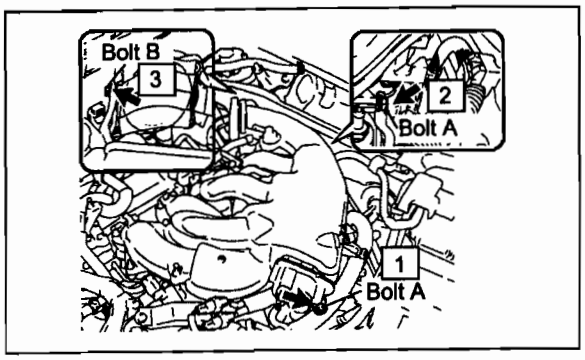
2. REINSTALL THE INTAKE AIR SURGE TANK

a) Install a ***NEW*** gasket to the intake air surge tank.
b) Reinstall the intake air surge tank, and reattach the DC Motor wiring harness clip.
c) Using a long 5 mm hex socket, reinstall the 6 hex bolts, then reinstall the 2 nuts and torque to specification.

Torque Specification:
Bolt: 18 N·m (184 kgf·cm, 13 ft·lbf)
Nut: 16 N·m (163 kgf·cm, 12 ft·lbf)

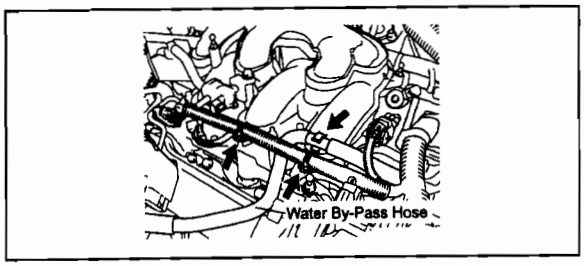
NOTES

- **Make sure to align the intake air surge tank gasket.**
- **Clean off any oil on the bolts or studs, failure to do so may result in over tightening of the fasteners.**
- **DO NOT over tighten the attachment bolts for the plastic surge tank. Doing so may break the bolt.**



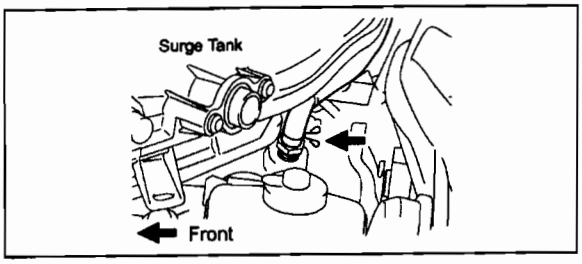
d) Reinstall the 3 bolts, and torque to specification in the order shown in the illustration.

Torque Specifications:
Bolt A: 21 N·m (214 kgf·cm, 15 ft·lbf)
Bolt B: 10 N·m (102 kgf·cm, 7 ft·lbf)

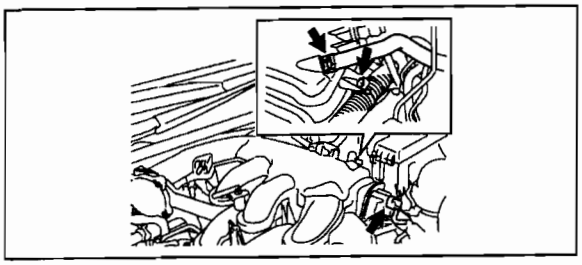


e) Reconnect the water hose to the intake air surge tank clip.
f) Reconnect the 2 wire harness clips to the intake air surge tank.

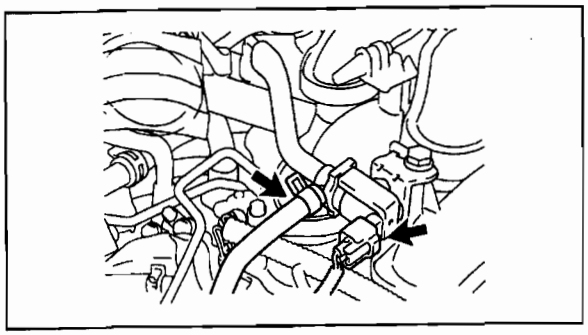
NOTE:
Make sure the water hose is positioned below the wire harness as shown in the illustration.



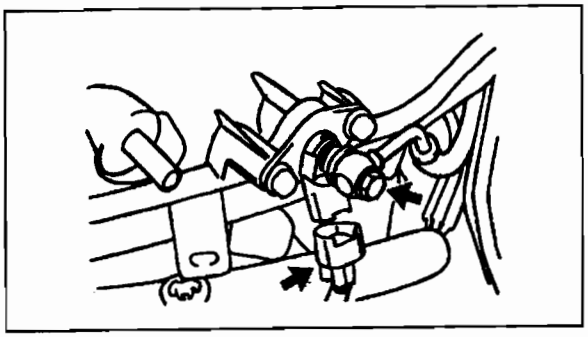
g) Reconnect the intake air surge tank ventilation hose.



h) Reconnect the wire harness connector and hose to the intake air surge tank.
i) Reconnect the connector.



j) Reconnect the fuel vapor feed hose to the VSV purge valve.
k) Reconnect the VSV connector.



3. CONNECT THE COLD START INJECTOR

a) Using 2 ***NEW*** washers, reinstall the bolt to the cold start injector, and torque to specification.

Torque Specification: 15 N·m (153 kgf·cm, 11 ft·lbf)

b) Reconnect the cold start injector connector.

NOTE:
DO NOT bend or damage the fuel line.

INSPECT FOR FUEL LEAKS.

STOP

Test the low pressure fuel pump within the fuel tank with the Toyota Techstream active test. Fuel leakage can be quickly inspected, due to the low pressure fuel pump being dependent on the high pressure system.

BEFORE CONNECTING THE BATTERY, DISSIPATE ALL FUEL VAPORS IN THE AREA.

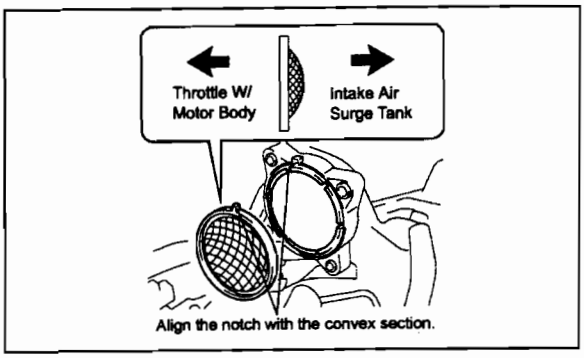
4. RECONNECT THE NEGATIVE (-) BATTERY CABLE

5. INSPECT FOR FUEL LEAKS

a) **"CHECK THE FUEL PUMP OPERATION AND TEST FOR FUEL LEAKS"** as outlined in the repair manual (TIS keyword: **"4GR-FSE FUEL: FUEL SYSTEM: ON-VEHICLE INSPECTION".**)

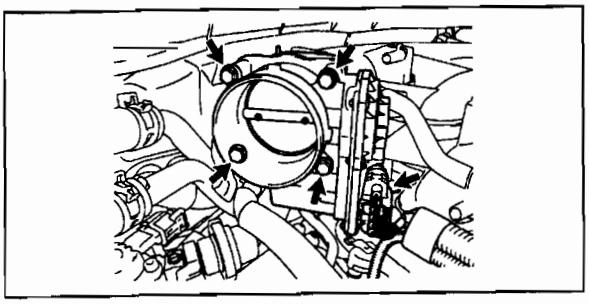
6. DISCONNECT THE NEGATIVE (-) BATTERY CABLE.

NOTE:
DO NOT disconnect the negative (-) battery cable until 6 minutes have elapsed. The HDD navigation system requires approximately 6 minutes to save memory and settings, after turning OFF the ignition.



7. REINSTALL THE THROTTLE BODY ASSEMBLY

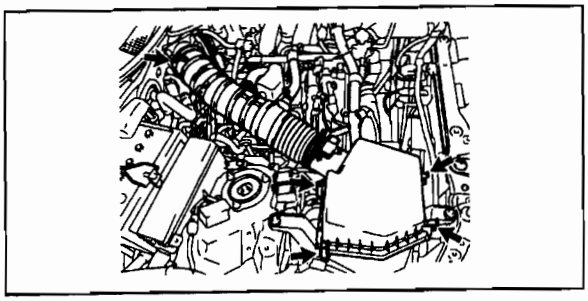
a) Remove the protective tape from the intake air surge tank opening, and clean the mounting surface.
b) Install a ***NEW*** throttle body gasket in the direction shown in the illustration.



c) Reinstall the throttle body assembly and the 4 bolts, then torque to specification.

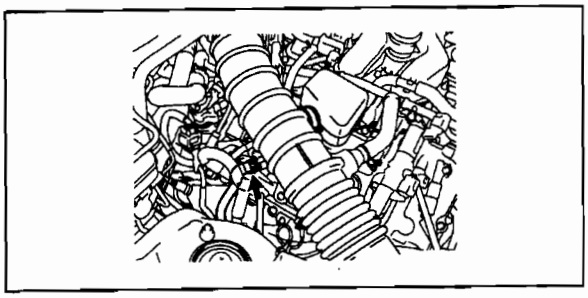
Torque Specification: 10 N·m (102 kgf·cm, 7 ft·lbf)

d) Reconnect the throttle body connector.

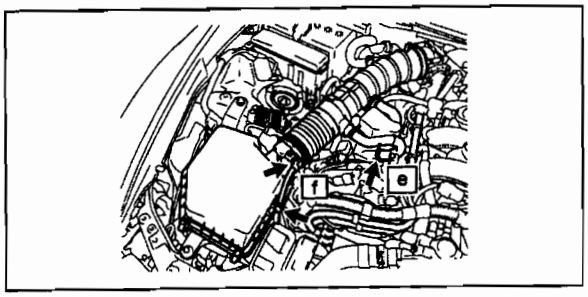


8. REINSTALL THE AIR CLEANER CAP AND HOSE

a) Reinstall the air cleaner cap and hose.
b) Latch the 4 air cleaner cap clips.
c) Tighten the air cleaner hose clamp bolt.



d) Reconnect the vacuum hose to the clip.



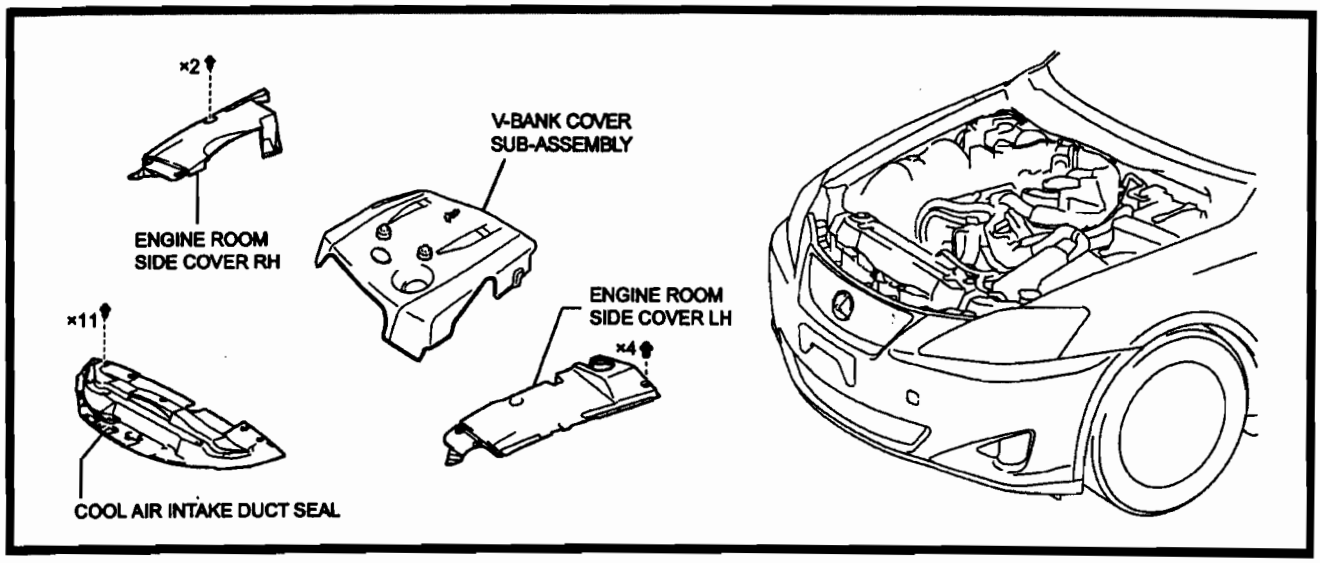
e) Reconnect the ventilation hose.
f) Reconnect the MAF meter connector, and the wire harness to the clip.

9. REINSTALL THE NO. 1 AIR CLEANER INLET

a) Reinstall the air cleaner inlet.
b) Reinstall the clip and the bolt, then torque to specification.

Torque Specification: 5.0 N·m (51 kgf·cm, 44 in·lbf)

D. INSPECT FOR FUEL LEAKS AND REINSTALL THE ENGINE COVERS



1. **REINSTALL THE FUEL TANK CAP**
2. **RECONNECT THE NEGATIVE (-) BATTERY CABLE**
3. **INSPECT FOR FUEL LEAKS**

   a) Prepare the vehicle for inspection by starting the engine, letting it run for approximately 5 seconds, and then shutting it off.
   b) Visually inspect **ALL** fuel lines and connectors for leaks.
   c) If **NO** leaks are found, re-inspect by repeating steps (a) and (b).

   NOTE:
   When preparing the vehicle for inspection the engine must be running. Cranking the engine alone may not start the high pressure fuel pump solenoids.

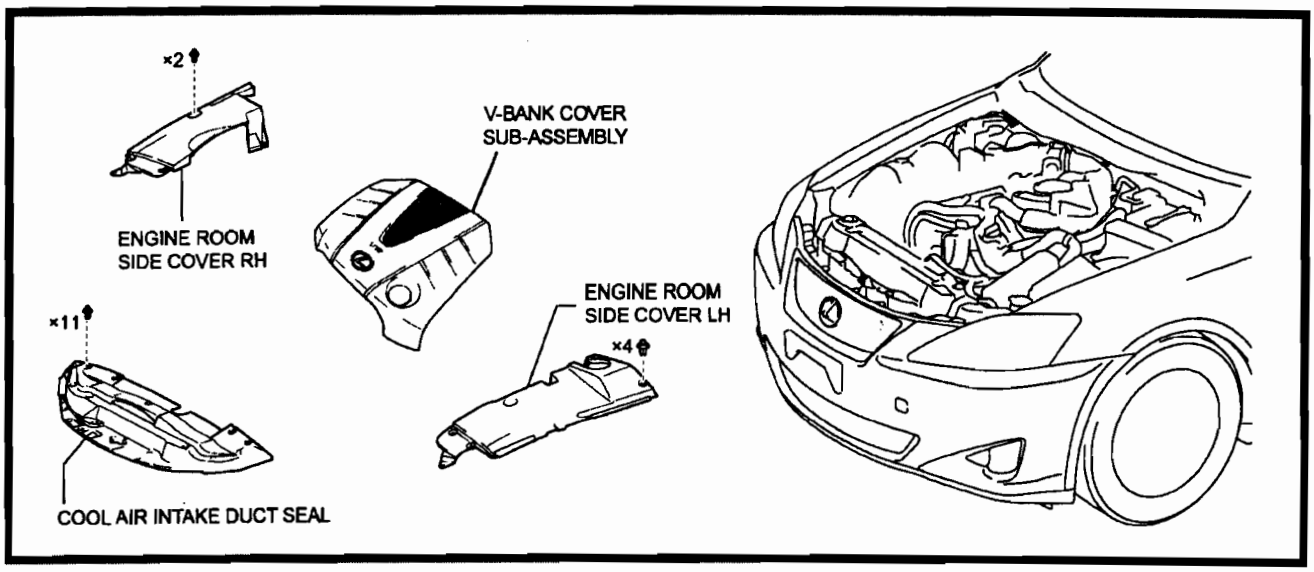
4. **REINSTALL THE V-BANK COVER SUB-ASSEMBLY & THE ENGINE ROOM COVERS**
5. **TEST DRIVE THE VEHICLE AND INSPECT FOR ABNORMAILITIES, WARNING LIGHTS AND DRIVEABILITY ISSUES**
6. **INSPECT FOR DTCs AND REPAIR AS NECESSARY**
7. **REPROGRAM THE RADIO STATION PRESETS AND SET THE CLOCK TO THE APPROPRIATE TIME**
8. **PERFORM INITIALIZATION AND CALIBRATION OF THE VARIOUS VEHICLE SYSTEMS**

   a) Perform **"INITIALIZATION"** as outlined in the repair manual (TIS keyword: **"INTRODUCTION: REPAIR INSTRUCTION: INITIALIZATION"**).

   NOTE:
   Certain systems need to be initialized after reconnecting the negative (-) battery cable.

X. 2006 IS 350 – WORK PROCEDURE

A. REMOVE THE ENGINE COVERS AND DISCHARGE THE FUEL SYSTEM



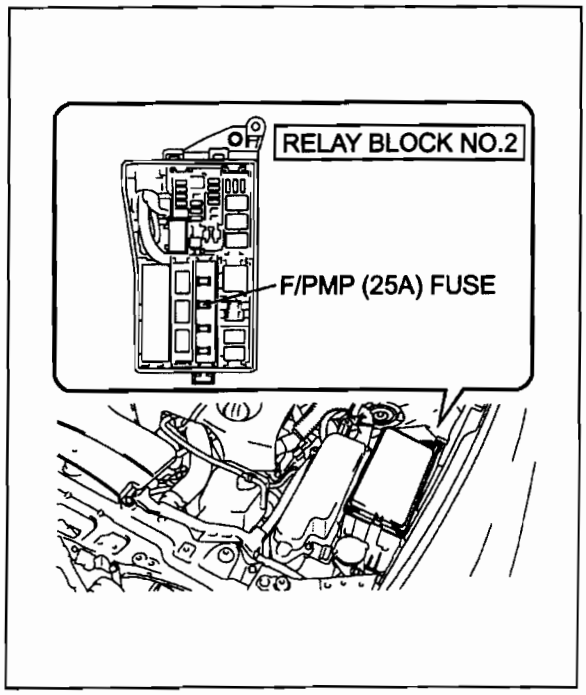
1. DTC CHECK

a) If DTC(s) are present, verify them, view and record the freeze frame data, and perform the necessary repairs.

2. REMOVE THE ENGINE ROOM COVERS & THE V-BANK COVER SUB-ASSEMBLY

STOP

- **DO NOT DISCONNECT ANY PART OF THE FUEL SYSTEM UNTIL YOU HAVE DISCHARGED THE FUEL SYSTEM PRESSURE.**
- **EVEN AFTER DISCHARGING THE FUEL SYSTEM PRESSURE, PLACE A PIECE OF CLOTH AROUND THE FITTINGS AS YOU SEPARATE THEM TO REDUCE THE RISK OF FUEL SPRAYING ON YOURSELF, IN THE ENGINE COMPARTMENT, AND ONTO OTHER PARTS.**



3. DISCHARGE THE FUEL SYSTEM PRESSURE

a) Remove the relay block upper cover No. 2.
b) Remove the fuel pump (F/PMP) 25 amp fuse.
c) Start the engine.
d) After the engine has stopped, turn the ignition switch OFF.
e) Crank the engine again to check that it does not start.

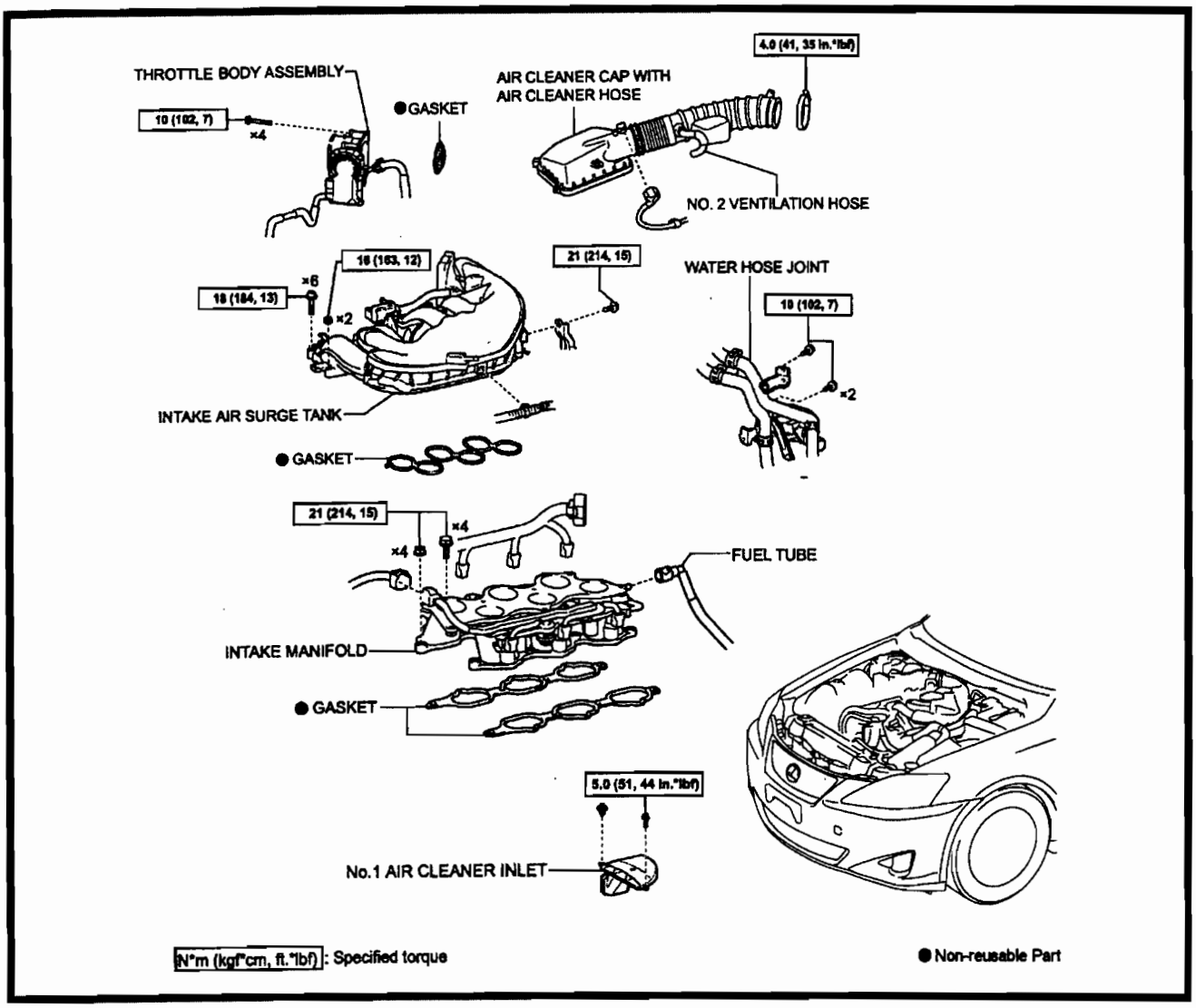
NOTE:
DTC P0171/25 and/or P0191/49 may be set.

f) Remove the fuel tank cap to discharge the fuel pressure.
g) Record the radio station presets.
h) Diconnect the negative (-) battery cable.

NOTE:
DO NOT disconnect the negative (-) battery cable until 6 minutes have elapsed. The HDD navigation system requires approximately 6 minutes to save memory and settings, after turning OFF the ignition.

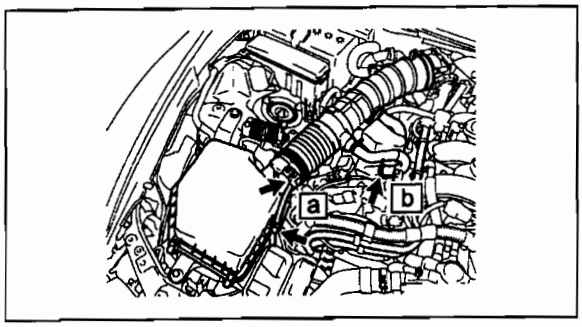
i) Reinstall the fuel pump (F/PMP) 25 amp fuse.
j) Reinstall the relay block upper cover No. 2.

B. REMOVE THE INTAKE MANIFOLD



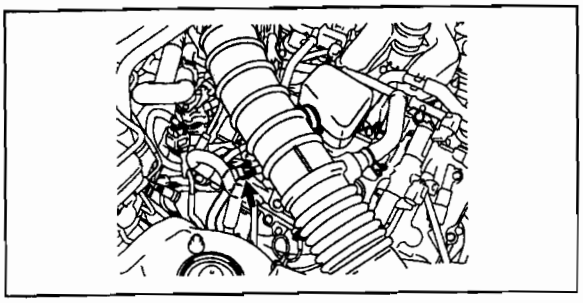
1. REMOVE THE NO. 1 AIR CLEANER INLET

a) Remove the clip, the bolt and the air cleaner inlet.

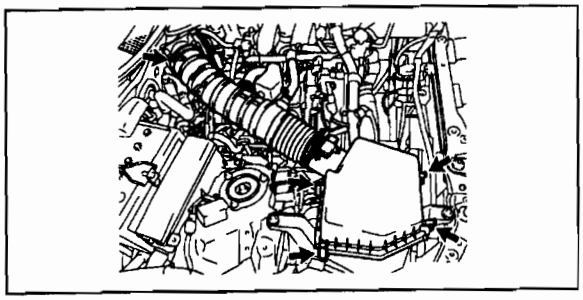


2. REMOVE THE AIR CLEANER CAP AND HOSE

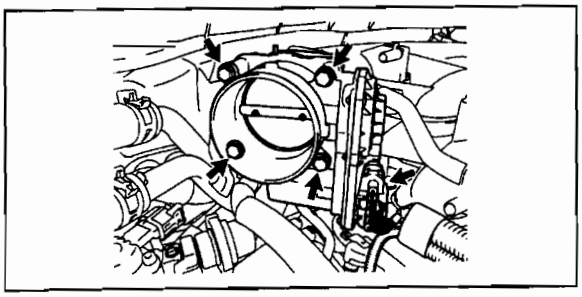
a) Disconnect the MAF meter connector, and the wire harness from the clip.
b) Disconnect the ventilation hose.



c) Disconnect the vacuum hose from the clip.



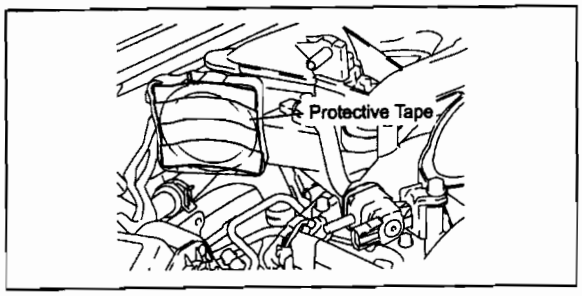
d) Loosen the air cleaner hose clamp bolt.
e) Unlatch the 4 air cleaner cap clips.
f) Remove the air cleaner cap and hose.



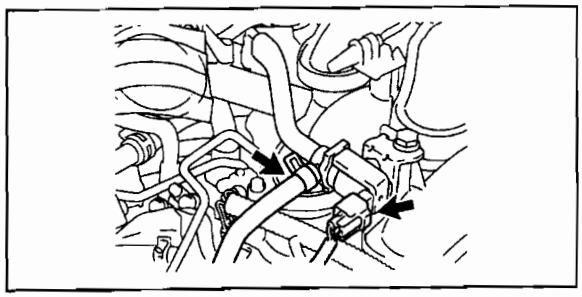
3. REMOVE THE THROTTLE BODY ASSEMBLY

a) Disconnect the throttle body connector.
b) Remove the 4 bolts, and move the throttle body assembly away from the intake air surge tank.
c) Remove and discard the throttle body gasket.

NOTE:
DO NOT disconnect the 2 water hoses.

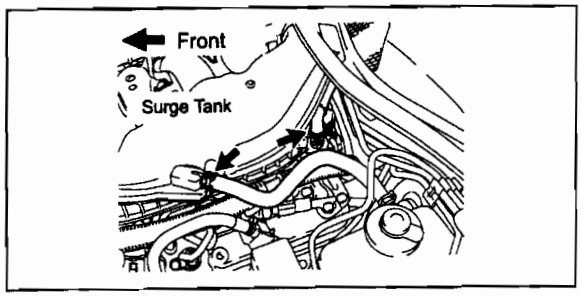


d) Tape the intake air surge tank opening to prevent foreign objects from entering it.

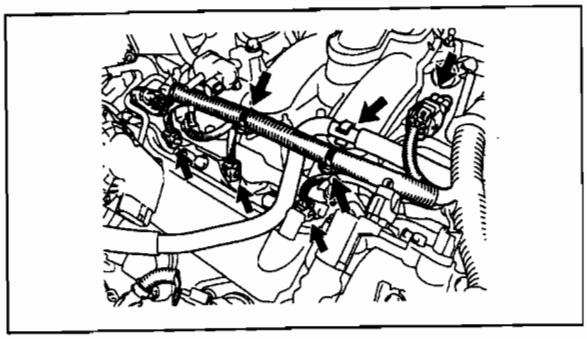


4. REMOVE THE INTAKE AIR SURGE TANK

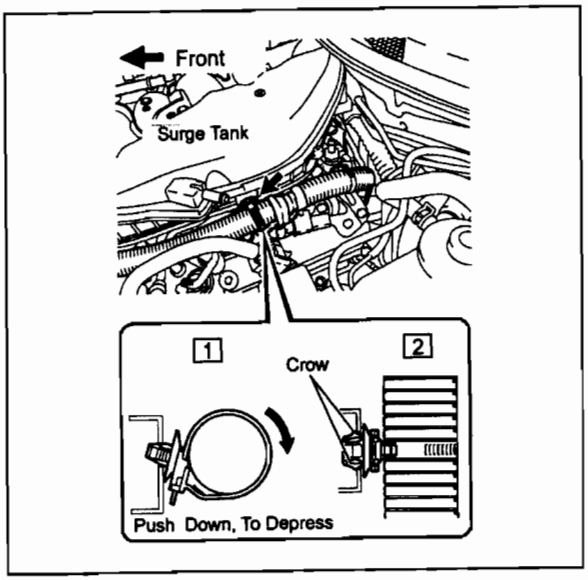
a) Disconnect the VSV connector.
b) Disconnect the fuel vapor feed hose from the VSV purge valve.



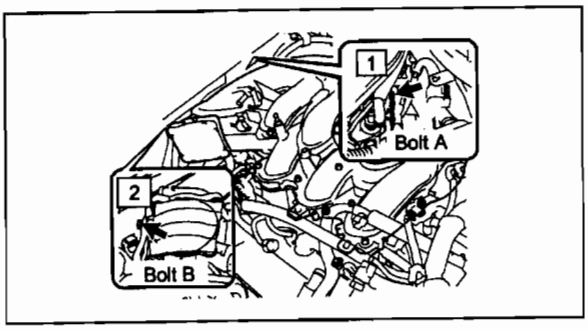
c) Disconnect the ventilation hoses.



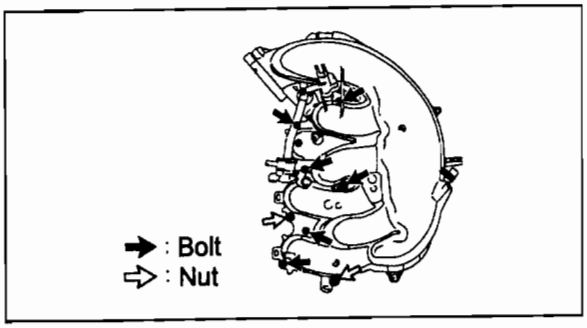
d) Disconnect the 4 connectors.
e) Disconnect the 2 wire harness clips from the intake air surge tank.
f) Disconnect the water hose from the intake air surge tank clip.



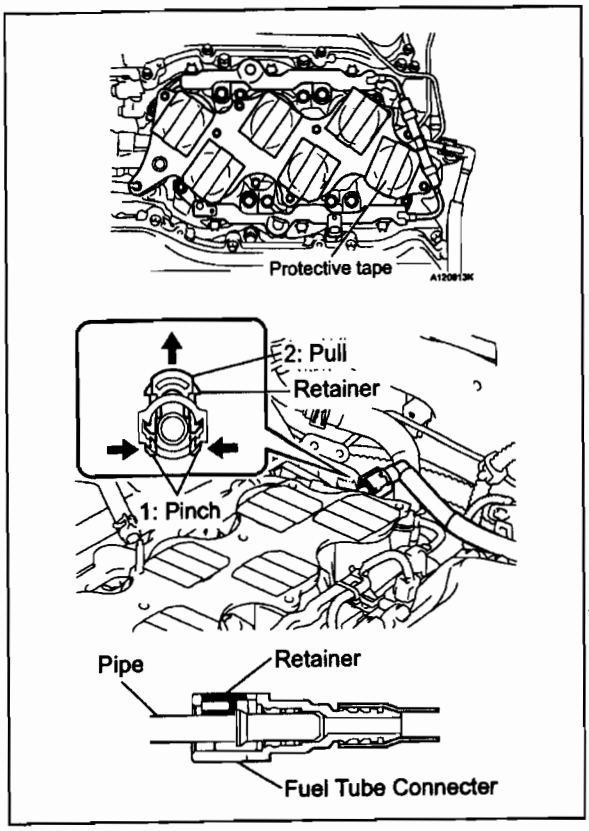
g) Disconnect the wire harness clip from the intake air surge tank.



h) Remove the 2 bolts from the intake air surge tank.



i) Remove the 2 nuts from the intake air surge tank.
j) Using a long 5 mm hex socket, remove the 6 hex bolts from the intake air surge tank.
k) Remove the intake air surge tank.
l) Remove and discard the intake air surge tank gasket.



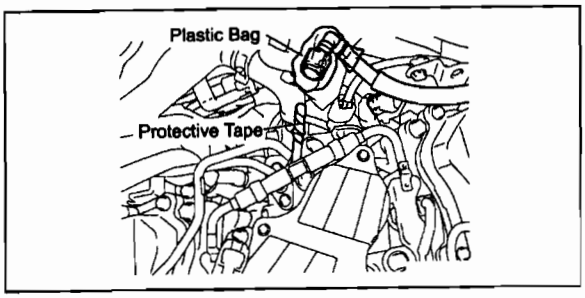
5. REMOVE THE INTAKE MANIFOLD

a) Tape the intake manifold openings to prevent foreign objects from entering it.

b) Pinch and pull the fuel tube connector retainer to disconnect it from the delivery pipe.

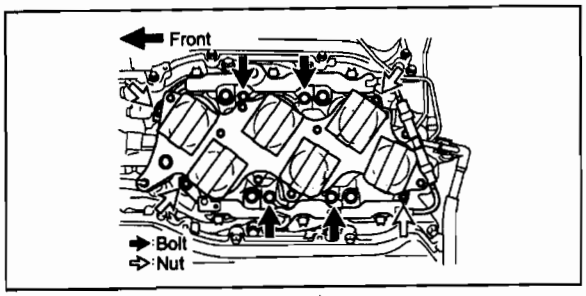
NOTES:

- **Use a rag over the fuel pipe to prevent leakage.**
- **Clean up any spilled fuel with a shop rag or cloth.**
- **Check for dirt, foreign matter and contaminants in and around the pipe and connector tube, and clean if necessary. Dirt, foreign matter and contaminants may damage the O-rings and cause fuel leaks in between the pipe and connector.**
- **Do not use any tools to separate the pipe and connector.**
- **Do not forcefully bend or twist the nylon fuel tube.**
- **If the pipe and connector are stuck together, pinch the tube with your fingers and turn it carefully to free it, then disconnect the tube.**



c) Place a plastic bag over the fuel tube connector to prevent damage, to prevent foreign objects from entering it, and to prevent fuel from spilling out.

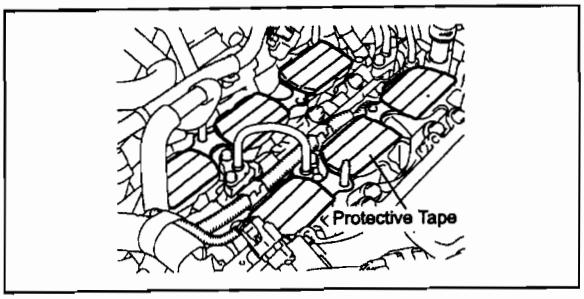
d) Tape the fuel pipe to prevent damage and to prevent foreign objects from entering it.



e) Remove the 4 bolts and 4 nuts.

f) Remove the intake manifold.

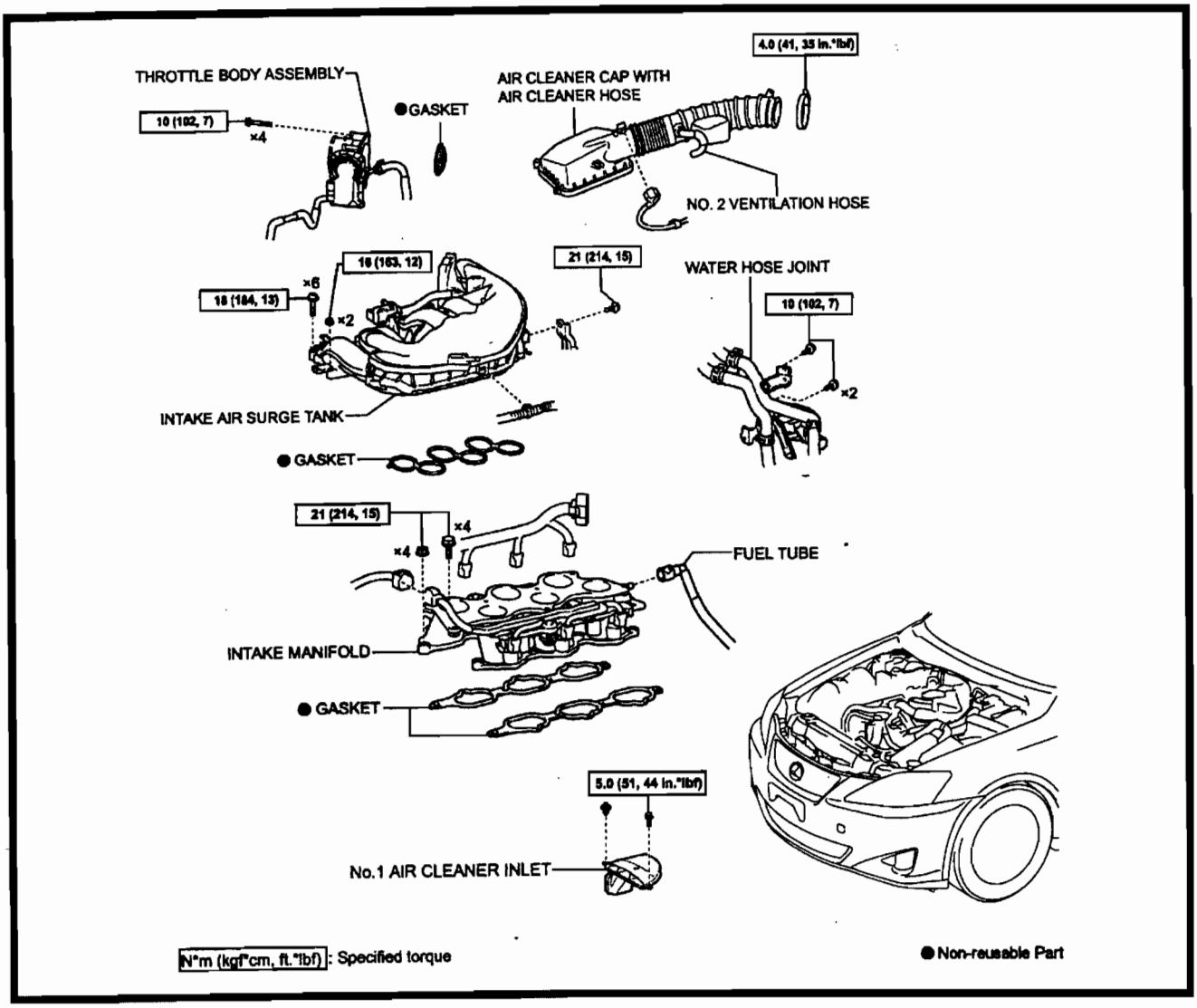
g) Remove and discard the 2 intake manifold gaskets.



h) Tape the cylinder head openings to prevent foreign objects from entering it.

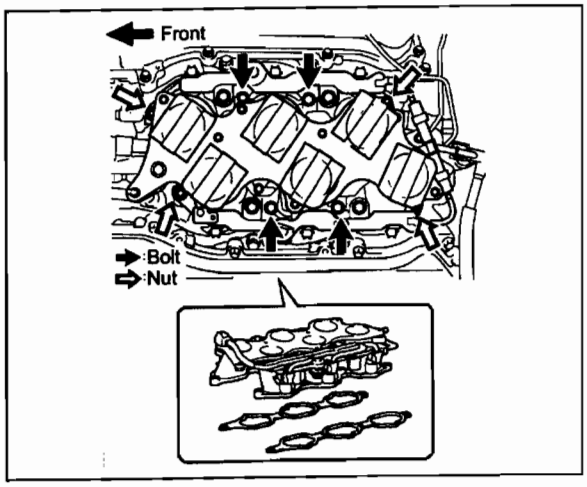
NOTE:
PROCEED TO THE FUEL PIPE REPLACEMENT WORK PROCEDURE ON PAGE 10.

C. REINSTALL THE INTAKE MANIFOLD



1. INSTALL THE INTAKE MANIFOLD

a) Remove the protective tape from the cylinder head openings, and clean the mounting surfaces.

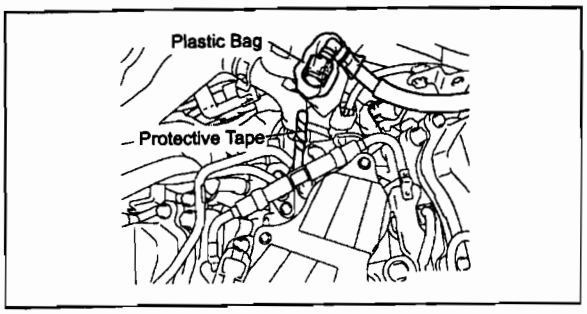


b) Install 2 ***NEW*** gaskets.
c) Reinstall the intake manifold.
d) Reinstall the 4 bolts and 4 nuts, and torque to specification.

Torque Specification:
21 N·m (214 kgf·cm, 15 ft·lbf)

NOTES

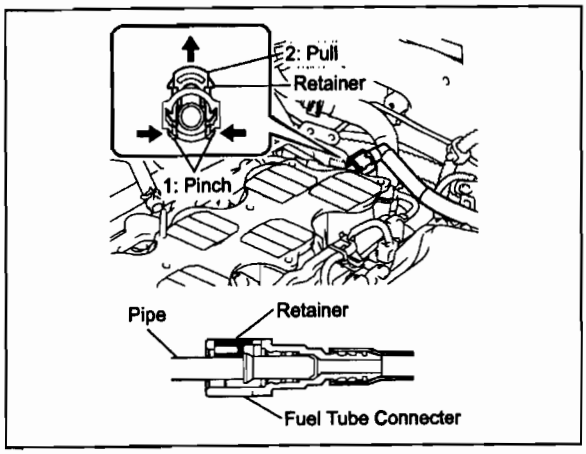
- **Make sure to align the intake manifold gasket with the shape of the cylinder head.**
- **When installing the intake manifold, be careful not to damage the fuel injectors.**



e) Remove the plastic from the fuel tube connector.
f) Remove the tape from the fuel pipe, and clean the attachment surfaces.

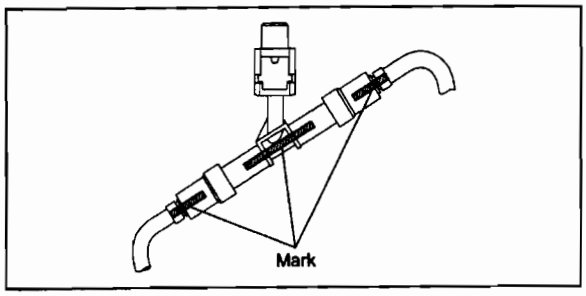
NOTES:

- **Check the fuel tube connector and pipe for dirt, foreign objects and contaminants.**
- **DO NOT forcefully bend or twist the nylon fuel tube.**



g) Reconnect the fuel tube connector to the delivery pipe, and push the retaining clip in to lock the connector.

NOTE:
Check that the fuel tube and the delivery pipe are securely connected by pulling on them.



h) After connecting the fuel tube, make sure the marks on the delivery pipes are lined up as shown in the illustration.

INSPECT FOR FUEL LEAKS.

STOP

Test the low pressure fuel pump within the fuel tank with the Toyota Techstream active test. Fuel leakage can be quickly inspected, due to the low pressure fuel pump being dependent on the high pressure system.

BEFORE CONNECTING THE BATTERY, DISSIPATE ALL FUEL VAPORS IN THE AREA.

2. **RECONNECT THE NEGATIVE (-) BATTERY CABLE**

3. **INSPECT FOR FUEL LEAKS**

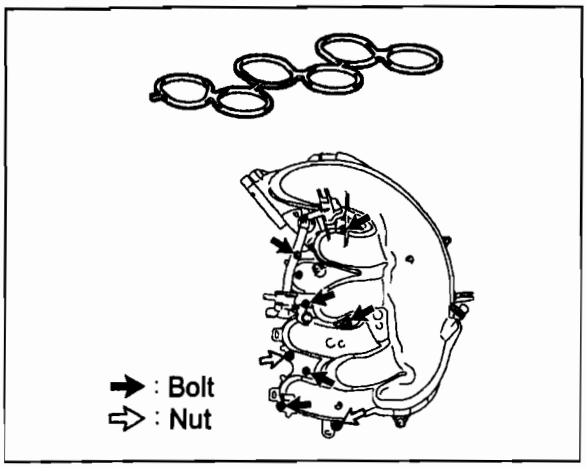
   a) **"CHECK THE FUEL PUMP OPERATION AND TEST FOR FUEL LEAKS"** as outlined in the repair manual (TIS keyword: **"2GR-FSE FUEL: FUEL SYSTEM: ON-VEHICLE INSPECTION"**.)

4. **DISCONNECT THE NEGATIVE (-) BATTERY CABLE.**

   NOTE:
   DO NOT disconnect the negative (-) battery cable until 6 minutes have elapsed. The HDD navigation system requires approximately 6 minutes to save memory and settings, after turning OFF the ignition.

5. **REINSTALL THE INTAKE AIR SURGE TANK**

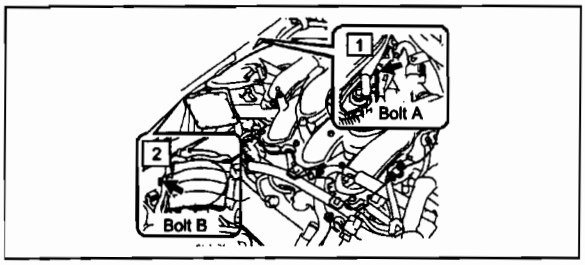
   a) Remove the protective tape from the intake manifold openings, and clean the mounting surfaces.



b) Install a ***NEW*** gasket to the intake air surge tank.
c) Reinstall the intake air surge tank.
d) Using a long 5 mm hex socket, reinstall the 6 hex bolts, then reinstall the 2 nuts and torque to specification.

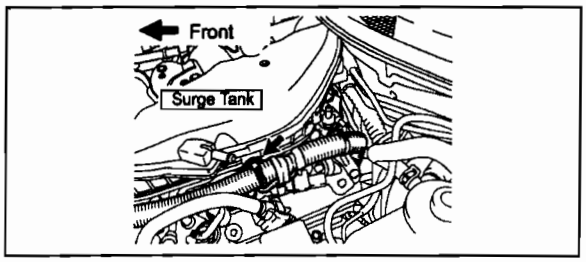
Torque Specification:
Bolt: 18 N·m (184 kgf·cm, 13 ft·lbf)
Nut: 16 N·m (163 kgf·cm, 12 ft·lbf)

NOTE:
- **Make sure to align the intake air surge tank gasket.**
- **Clean off any oil on the bolts and studs, failure to do so may result in over tightening of the fasteners.**
- **DO NOT over tighten the attachment bolts for the plastic surge tank. Doing so may break the bolt.**

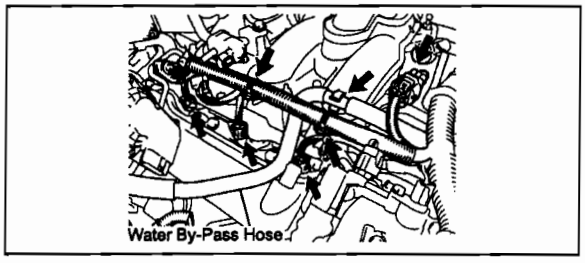


e) Reinstall the 2 bolts, and torque to specification in the order shown in the illustration.

Torque Specifications:
Bolt A: 21 N·m (214 kgf·cm, 15 ft·lbf)
Bolt B: 10 N·m (102 kgf·cm, 7 ft·lbf)

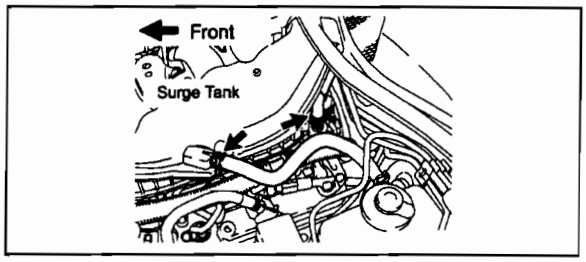


f) Reconnect the wire harness clip to the intake air surge tank.

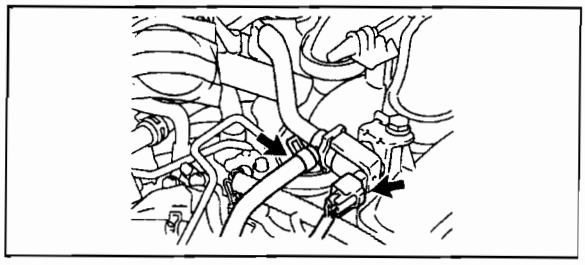


g) Reconnect the water hose to the intake air surge tank clip.
h) Reconnect the 2 wire harness clips to the intake air surge tank.
i) Reconnect the 4 connectors.

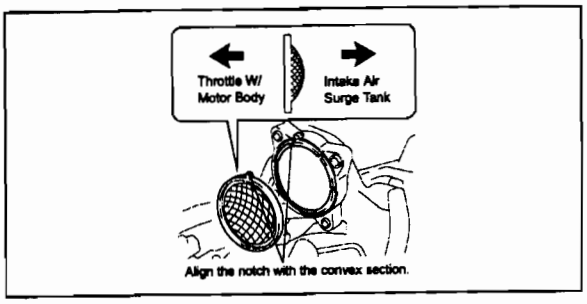
NOTE:
Make sure the water hose is positioned below the wire harness as shown in the illustration.



j) Reconnect the ventilation hoses.

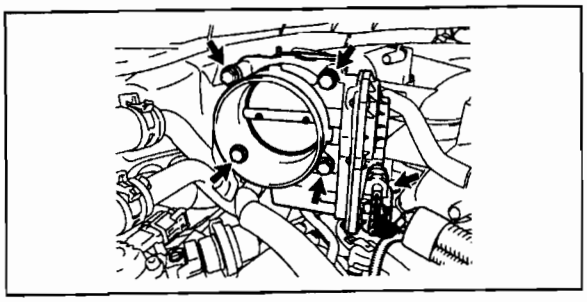


k) Reconnect the fuel vapor feed hose to the VSV purge valve.
l) Reconnect the VSV connector.



6. REINSTALL THE THROTTLE BODY ASSEMBLY

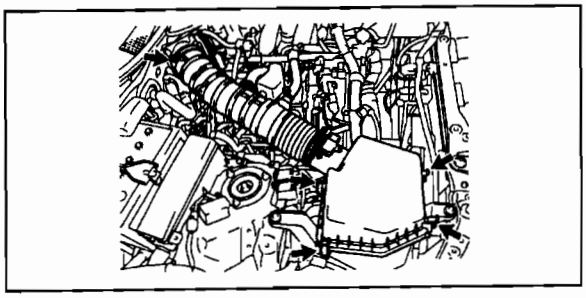
a) Remove the protective tape from the intake air surge tank opening, and clean the mounting surface.
b) Install a ***NEW*** throttle body gasket in the direction shown in the illustration.



c) Reinstall the throttle body assembly and the 4 bolts, then torque to specification.

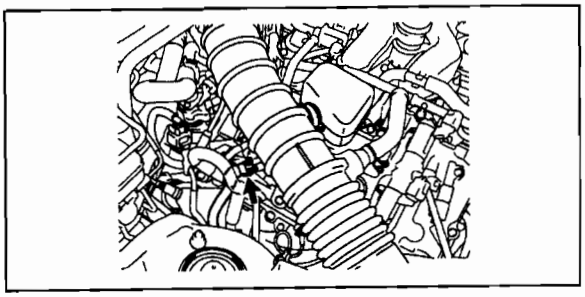
Torque Specification: 10 N·m (102 kgf·cm, 7 ft·lbf)

d) Reconnect the throttle body connector.

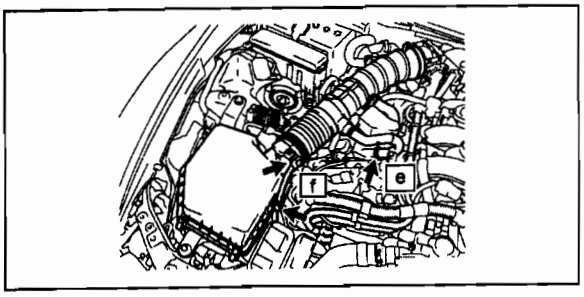


7. REINSTALL THE AIR CLEANER CAP AND HOSE

a) Reinstall the air cleaner cap and hose.
b) Latch the 4 air cleaner cap clips.
c) Tighten the air cleaner hose clamp bolt.



d) Reconnect the vacuum hose to the clip.



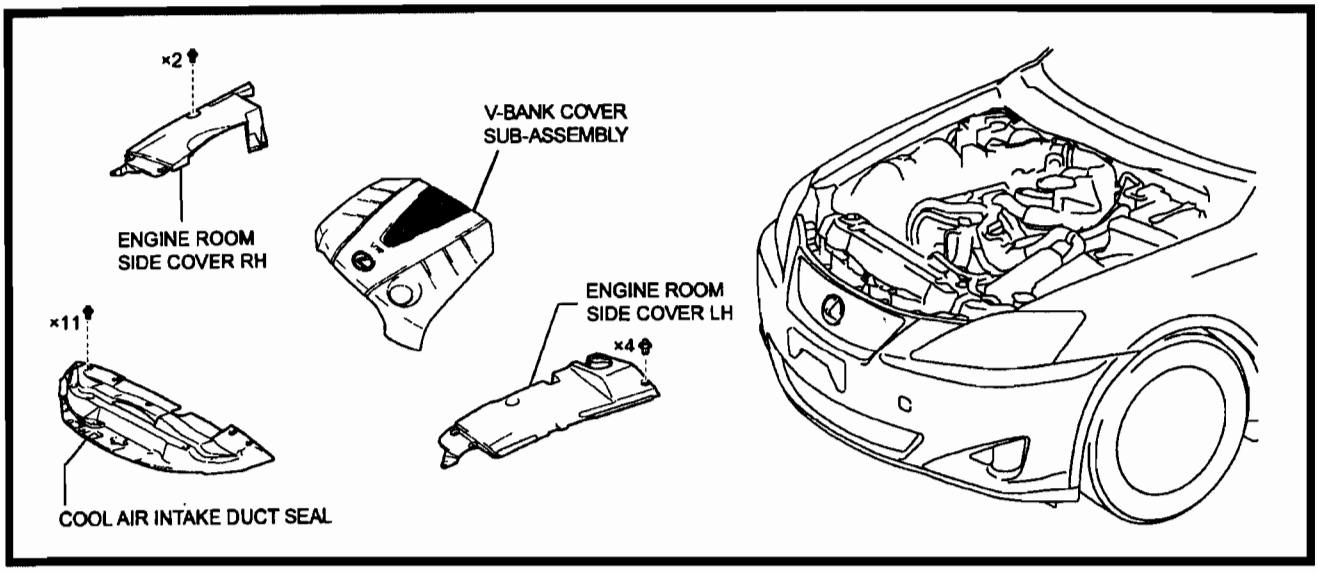
e) Reconnect the ventilation hose.
f) Reconnect the MAF meter connector, and the wire harness to the clip.

8. REINSTALL THE NO. 1 AIR CLEANER INLET

b) Reinstall the air cleaner inlet.
c) Reinstall the clip and the bolt, then torque to specification.

Torque Specification: 5.0 N·m (51 kgf·cm, 44 in·lbf)

D. INSPECT FOR FUEL LEAKS AND REINSTALL THE ENGINE COVERS



1. **REINSTALL THE FUEL TANK CAP**
2. **RECONNECT THE NEGATIVE (-) BATTERY CABLE**
3. **INSPECT FOR FUEL LEAKS**

   a) Prepare the vehicle for inspection by starting the engine, letting it run for approximately 5 seconds, and then shutting it off.
   b) Visually inspect **ALL** fuel lines and connectors for leaks.
   c) If **NO** leaks are found, re-inspect by repeating steps (a) and (b).

   NOTE:
   When preparing the vehicle for inspection the engine must be running. Cranking the engine alone may not start the high pressure fuel pump solenoids.

4. **REINSTALL THE V-BANK COVER SUB-ASSEMBLY & THE ENGINE ROOM COVERS**
5. **TEST DRIVE THE VEHICLE AND INSPECT FOR ABNORMAILITIES, WARNING LIGHTS AND DRIVEABILITY ISSUES**
6. **INSPECT FOR DTCs AND REPAIR AS NECESSARY**
7. **REPROGRAM THE RADIO STATION PRESETS AND SET THE CLOCK TO THE APPROPRIATE TIME**
8. **PERFORM INITIALIZATION AND CALIBRATION OF THE VARIOUS VEHICLE SYSTEMS**

   a) Perform **"INITIALIZATION"** as outlined in the repair manual (TIS keyword: **"INTRODUCTION: REPAIR INSTRUCTION: INITIALIZATION"**).

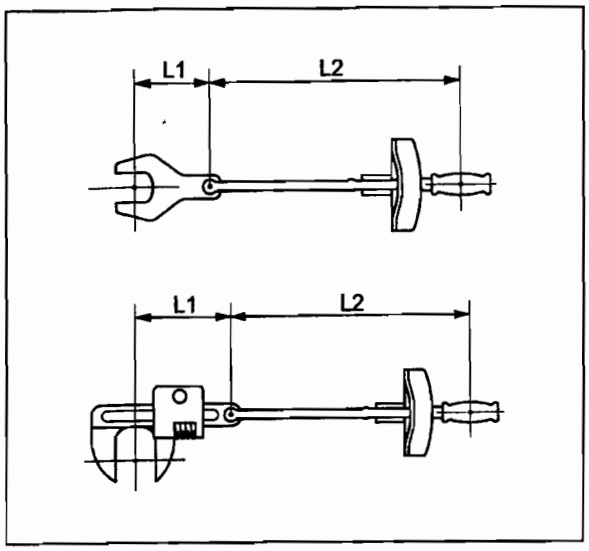
   NOTE:
   Certain systems need to be initialized after reconnecting the negative (-) battery cable.

XI. 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.

XII. APPENDIX

CALCULATING TORQUE WRENCH READINGS WHEN USING AND EXTENSION TOOL



1. CALCULATING THE TORQUE WRENCH READING

a) When attaching a torque wrench to an SST or an extension tool, the actual tightening torque required will be greater.
b) The torque wrench reading when using the required SST is listed in the repair manual and in this technical instruction. If the actual tool is different from the SST listed, calculate the torque wrench reading with the formula below.
c) Formula: $T' = T \times L2 / (L1 + L2)$

T'	Torque Wrench Reading [N·m (f·cm)]
T	Required Torque [N·m (f·cm)]
L1	SST or Length of Tool [cm]
L2	Length of Torque Wrench [cm]

PARTS KIT CONTENTS

Part Number	Part Description	Quantity
04007-33231	Fuel Pipe Gasket Kit	1
The kit listed above includes the following parts: • **17176-31020 = Gasket, Air Surge Tank to Manifold = Qty 1** • **17177-31020 = Gasket, Intake Manifold to Head = Qty 2** • **22271-31030 = Gasket, Throttle Body = Qty 1** • **23279-74010 = Gasket, Fuel Pressure Pulsation Damper = Qty 2** • **23915-46011 = Insulator, Fuel Pump = Qty 1**		

Part Number	Part Description	Quantity
04007-33331	Fuel Pipe Gasket Kit	1
The kit listed above includes the following parts: • **17176-31050 = Gasket, Air Surge Tank to Manifold = Qty 3** • **17177-31020 = Gasket, Intake Manifold to Head = Qty 2** • **22271-31030 = Gasket, Throttle Body = Qty 1** • **23279-74010 = Gasket, Fuel Pressure Pulsation Damper = Qty 2** • **23915-46011 = Insulator, Fuel Pump = Qty 1**		

Part Number	Part Description	Quantity
04007-33431	Fuel Pipe Gasket Kit	1
The kit listed above includes the following parts: • **17176-31060 = Gasket, Air Surge Tank to Manifold = Qty 1** • **17177-31060 = Gasket, Intake Manifold to Head = Qty 2** • **22271-31020 = Gasket, Throttle Body = Qty 1** • **23279-74010 = Gasket, Fuel Pressure Pulsation Damper = Qty 2** • **23915-46011 = Insulator, Fuel Pump = Qty 1**		