

TOYOTA

Update:

2/27/2014 - Launch of Phase 2 (CAT, CIN, & NY Regions)

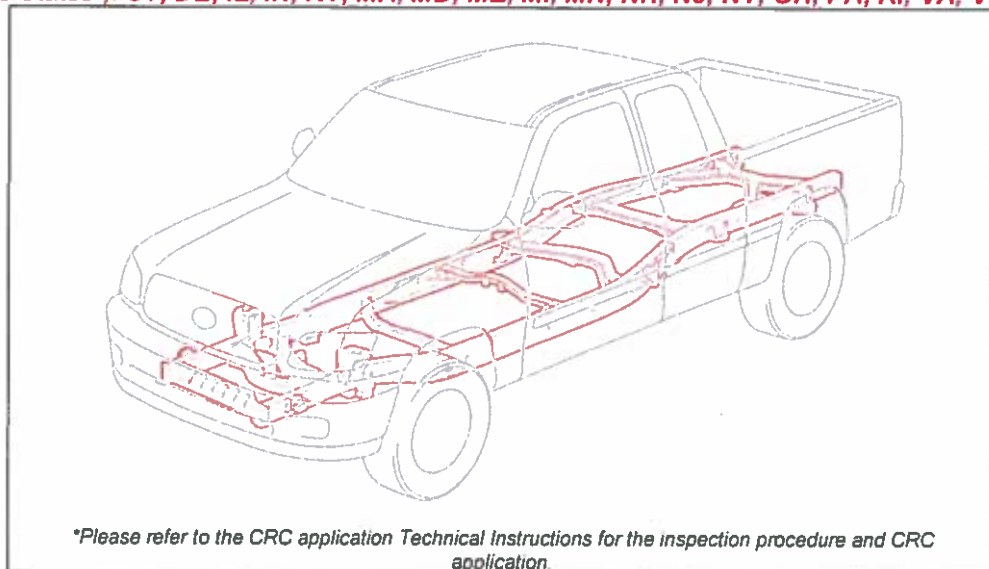
2/27/2014 - Updated Expiration Date - July 31, 2015

Toyota Motor Sales, U.S.A., Inc.
19001 South Western Avenue
Torrance, CA 90501
(310) 468-4000

To: All Cold Climate States Toyota Dealer Principals, Service Manager, and Parts Managers

Subject: Limited Service Campaign (LSC) D0D
2004 through 2006 Model Year Tundra Vehicles
Corrosion-Resistant Compound (CRC) Application

Toyota will initiate a Limited Service Campaign (LSC D0D) to inspect and, based upon Toyota's inspection criteria, apply Corrosion-Resistant Compounds (CRC) to key areas of the frame assembly of certain 2004-2006 model year Tundra vehicles without significant rust perforation until **July 31, 2015**. This campaign covers vehicles **currently registered** in the following cold climate states and the District of Columbia (D.C.) (together, "Cold Climate States"): **CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI & WV**



D0D will be rolled out on a state-by-state basis, with the first states beginning in mid-August 2013.

Condition

- Toyota has received reports that certain 2004 through 2006 model year Tundra vehicles operated in specific cold climate areas with high road salt usage may exhibit more-than-normal corrosion to the vehicle's frame.
- Toyota investigated these reports and determined that the frames in some vehicles may not have corrosion-resistant protection sufficient for use in these areas. This, combined with prolonged exposure to road salts and other environmental factors, may contribute to the development of more than normal rust in the frame of some vehicles.
- This condition is unrelated to and separate from normal surface rust which is commonly found on metallic surfaces after some years of usage and/or exposure to the environment.

Limited Service Campaign (LSC) Remedy

Over the next few months, owners of the covered vehicles will receive a notification requesting them to bring their vehicles to an authorized participating Toyota dealership in the Cold Climate States. The dealership will inspect the condition of the vehicle's frame. Based upon the results of the inspection, the dealership will do one of the following:

- If significant rust perforation is *not* found, the dealer will apply Corrosion-Resistant Compounds (CRC) to key areas of the vehicle's frame at *no charge* to the owner.
- If significant rust perforation is found, the dealer will replace the vehicle's frame at *no charge* to the owner.



Customers will have until **July 31, 2015**, to have the inspection of the vehicle's frame and the CRC application completed. If before the **July 31, 2015**, expiration date an authorized Toyota dealer (in a Cold Climate State) confirms that the vehicle's frame has significant rust perforation, the appropriate repairs must be completed within three months of the inspection date*. Please schedule all inspection and CRC appointments well in advance of the July 31, 2015, expiration date to ensure that your dealership has sufficient time to complete this Limited Service Campaign.

Please note: All vehicles must have the campaign completed by the deadlines outlined above.

*Due to facility and staffing challenges when scheduling and performing frame replacements and the production and shipping of the frames and associated parts.

1. **Owner Notification**

The owner notification will commence approximately 2 weeks after your state has been launched.

2. **Dealer/Owner Lists**

Summary Reports containing the *number* of covered vehicles in your dealership's Primary Marketing Area (PMA) have been enclosed in the dealer package. Based upon our records, a dealership which does not have a covered vehicle in their PMA will receive a report indicating so.

3. **Vehicle Coverage**

There are approximately **78,000** Tundra (certain 2004 – 2006 model year) vehicles covered by LSC D0D.

Model	WMI	Year	VIN Range		Model	WMI	Year	VIN Range	
			VDS	Range				VDS	Range
Tundra	5TB	2004	BN441	S434011 - S436017	Tundra	5TB	2005	ET381	S457048 - S498158
			BT441	S439036 - S456080				JT321	S447754 - S472168
			BT481	S439615 - S456067				JU321	S442174 - S456319
			DT441	S433661 - S466455				KT421	S446499 - S473525
			DT481	S002453 - S003285				RT341	S447755 - S472174
			DT481	S433659 - S466452				RT381	S450422 - S472171
			ET341	S433660 - S462885				RU341	S442176 - S456314
			ET381	S002454 - S003282				BT441	S466644 - S487790
			ET381	S433659 - S462884				BT481	S473536 - S487734
			JN321	S436917 - S449757				DT441	S500582 - S555074
		KT421	S441761 - S455839	DT481			S501029 - S555073		
		KT441	S439633 - S456072	ET341			S482156 - S562605		
		RN341	S436916 - S449758	ET381			S498166 - S562572		
		RT341	S439161 - S456394	JT321			S472178 - S482450		
		RT381	S439739 - S456380	JU321			S451343 - S476212		
		BT441	S450912 - S473532	KT421			S473533 - S485871		
		BT481	S447181 - S473524	RT341			S469683 - S483750		
		DT441	S450539 - S501952	RT381			S472181 - S483722		
		DT481	S449475 - S501948	RU341			S451531 - S484869		
		ET341	S447933 - S498161						

Please note that only owners of the covered vehicles registered in that specific state will be notified. VINs registered within that specific state will be loaded simultaneously on TIS and Dealer Daily.



Only vehicles currently registered in the "Cold Climate States" are covered under LSC D0D (LSC expiration date **July 31, 2015**)
Cold Climate States: CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV and also includes the District of Columbia.

A UIO state matrix is provided to inform your dealership of the number of affected vehicles in your state.

STATE	2004	2005	2006	TOTAL	STATE	2004	2005	2006	TOTAL
CT	680	677	796	2,153	NH	845	863	905	2,613
DE	169	195	246	610	NJ	1,107	1,056	1,350	3,513
IL	1,212	1,292	1,662	4,166	NY	1,797	2,020	2,493	6,310
IN	968	886	1,189	3,043	OH	1,494	1,458	2,101	5,053
KY	1,121	1,212	1,435	3,768	PA	2,152	2,469	2,953	7,574
MA	2,413	2,148	2,778	7,339	RI	329	235	302	866
MD	1,721	1,665	2,015	5,401	VA	3,027	3,087	3,485	9,599
ME	793	850	1,011	2,654	VT	581	461	611	1,653
MI	790	864	1,048	2,702	WI	1,099	1,174	1,848	4,121
MN	1,059	1,103	1,405	3,567	WV	512	480	652	1,644

4. Remedy Procedure

- If the frame passes Toyota's inspection criteria, refer to the CRC application Technical Instructions located on the C.L.E.A.N. Dealer website – <http://cleandealer.com>. Follow the **CRC Application Support** link located in the left bottom corner of the C.L.E.A.N Dealer webpage. Accessing and using this website will be similar to the procedure used previous CRC campaigns. If you are having difficulty accessing or using the website, please contact the Environmental Health and Safety (EH&S) Hotline at (877) 572-4347.
- If the frame does not pass Toyota's inspection criteria, please refer to the frame replacement Technical Instructions located on TIS.



- Verify vehicle eligibility by confirming through TIS prior to performing the repair.
- Dealers that conduct LSC D0D on vehicles not covered under this program or in a state other than the Cold Climate States **will not receive reimbursement**.

5. Parts and Material Ordering

Corrosion-Resistant Compound (CRC) and Support Material Ordering:

The necessary CRC kits can be ordered through the chemical program provided by Dealer Tire (Complete Maintenance Care).

- The kits will be directly shipped from AMREP.
- Deliveries are only scheduled on business days. Saturday deliveries are not available.
- Allow 5 business days for order processing and shipping of the CRC kit(s) to your dealership.



Please note that only dealers in the Cold Climate States for which D0D has been launched will be able to order and receive CRC kits.

Model	Part No.	Part Description	Qty/Unit
Tundra	00289 -T00KT- DS	T00-Corros Res Kit (CRC Kit)	1

The kit above includes the following parts:

- Noxudol 300S – 3 Liters
- Parker 712AM – 1 Liters



Material Safety Data Sheets (MSDS) can be located in the appendix of the CRC Application Technical Instructions

When Ordering CRC Kits Please Note:

- Each kit will contain the exact amount of CRC for one vehicle.
- The CRC kits listed will be drop-shipped from AMREP, not your local PDC. Do not order more than your immediate needs, as these materials are not returnable or refundable.
- Orders for CRC kits should be placed separately from orders of other drop ship chemicals.

(Continued →)



Only vehicles currently registered in the "Cold Climate States" are covered under LSC D0D (LSC expiration date July 31, 2015) **Cold Climate States: CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV and also includes the District of Columbia.**

(Parts and Material Ordering CONTINUED . . .)

The CRC application will entail sealing the frame with two different products. The Parker 712AM, a paraffin wax based product, will be applied inside the frame. Noxudol 300S will be applied to the external surfaces of the frame. Do not use the Noxudol® name and trademarks without the prior written consent of Soken Trade Inc. and Toyota Motor Sales, U.S.A., Inc.

Kits will be placed on Manual Allocation Control (MAC). While the CRC kits are on MAC, a representative from TMS Quality Compliance will review each order and, *if necessary*, contact the dealership's Parts Manager to verify the necessity of the order. This will ensure an adequate and balanced CRC inventory. **Do not order these kits if your dealership is not located in one of the covered states.**

If there are *special* circumstances where a dealer is having difficulty receiving its order, dealership associates may leave a voice message at: (310) 468-5516 or 1-800-233-3718, option 4, to research the order. The associate should provide the following information to expedite research of the order status:

- Dealer Information. (Dealer Code, Contact Name, Telephone Number)
- Order Reference Number.
- Customer Name and Vehicle 17-digit VIN.

The following support materials can be ordered through your dealer's facing **PDC**:

Part Number	Part Description	Qty Required
90950-01824	Frame Body-Plug	2 per vehicle
90950-01539	Frame Body-Plug	2 per vehicle

The following support materials can be ordered through the **MDC**:

Part Number	Part Description	Qty Required
00411-11004	Corrosion-Resistant Compound Customer Information Hang Tag*	1 per vehicle
00411-11005	Foam Plug Kit	1 per vehicle
00411-13003	Laminated Quick Reference Guide for the Corrosion-Resistant Compound Campaign (D0D) (Included in each Service Manager Package)	As needed
00411-13004	ASM Reference Guide – CRC Campaign	As needed

* Additional CRC Customer Information Hang Tags can be ordered in packages of 50 through the MDC.

Frame Replacement Parts Ordering (where applicable):

To assist dealers in determining the correct part number(s) to order, a website has been set up to look up part numbers by VIN.

- Go to <http://toyota-frame-parts-lookup.imagespm.info>
- **When first logging in, enter your dealer code and the default password; xxxxx.** Upon logging in, the website will ask for you to reset the password and provide an email address.
- Enter the VIN and the correct part numbers to order will be displayed.
- Order parts through the Dealer Daily Parts System
- ETAs for the parts will be available via the normal system

The website is for part(s) application reference only and will not order the part, nor will it confirm campaign applicability or completion status.

6. **Tools and Equipment**

Please refer to the appropriate Technical Instructions for a list of tools and equipment.

- CRC Application Stall Set Up
- Spray Gun Maintenance / Storage Technical Instruction
- CRC Application Technical Instruction
- Supplemental Frame Replacement Technical Instruction



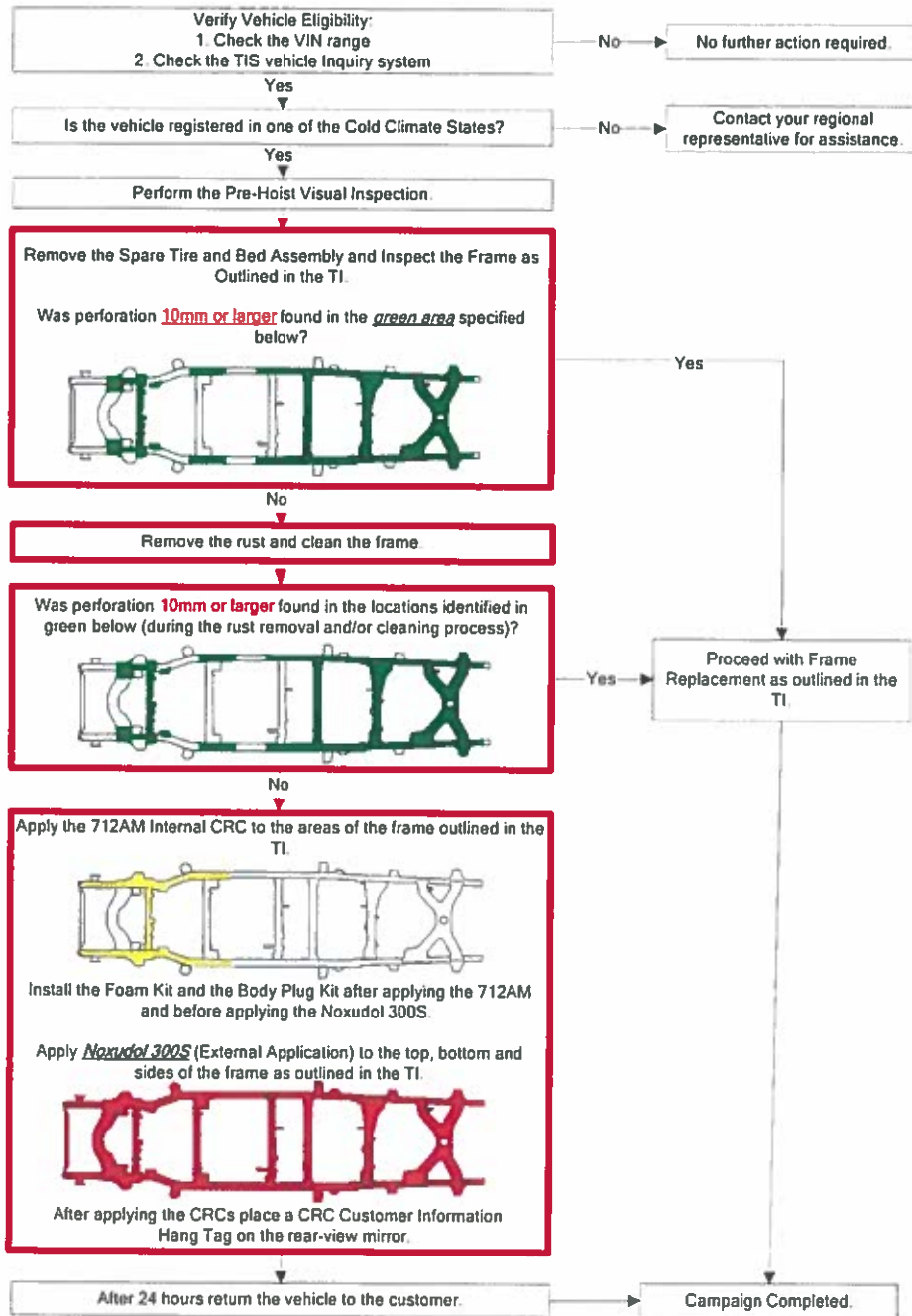
Only vehicles currently registered in the "Cold Climate States" are covered under LSC D0D (LSC expiration date **July 31, 2015**)
Cold Climate States: CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV and also includes the District of Columbia.

7. **Before You Start**

Carefully read the Campaign Dealer Information Packet and supporting material even if your dealership has previously performed CRC application campaigns.

Before starting D0D all dealer associates involved with this campaign must be properly trained using the Dealer Information Packet, Quick Reference Guides and Technical Instructions. Training should be documented in the associate training log.

8. **Warranty Processor Instructions**



Only vehicles currently registered in the "Cold Climate States" are covered under LSC D0D (LSC expiration date **July 31, 2015**)
Cold Climate States: CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV and also includes the District of Columbia.

(Warranty Processor Instructions CONTINUED . . .)

Important
!
Reminder

ONLY use the following Operation (Op.) Codes if your dealership is located in the Cold Climate States.

Important
!
Reminder

All other dealers will be debited for any claims using these Op. Codes.

Operation Codes:

Limited Service Campaign	Op. Code	Frame Inspection	Remove Bed for Rust Cleaning	Remove Rust – Clean Frame No Rust Perforation Found*	CRC Application By Dealer	CRC Application By Outside Shop	Frame Prep Incomplete Rust Perforation Found*	(2WD) Frame Replacement By Dealer Rust Perforation Found*	(4WD) Frame Replacement By Dealer Rust Perforation Found*	(2WD) Frame Replacement By Outside Shop – Rust Perforation Found*	(4WD) Frame Replacement By Outside Shop – Rust Perforation Found*	Flat Rate Hour
D0D	3628C2	✓	✓	✓	✓							8.2 hr/vehicle
	3628C3	✓	✓	✓		✓						5.3 hr/vehicle
	3628C4	✓	✓				✓	✓				41.6 hr/vehicle
	3628C5	✓	✓				✓		✓			43.6 hr/vehicle
	3628CA	✓	✓				✓			✓		4.8 hr/vehicle
	3628CB	✓	✓				✓				✓	4.8 hr/vehicle
	3628CC	✓	✓					✓				40.6 hr/vehicle
	3628CD	✓	✓						✓			42.6 hr/vehicle
	3628CE	✓	✓							✓		3.8 hr/vehicle
3628CU	✓	✓								✓	3.8 hr/vehicle	

Note: The flat rate time above includes 0.1 hours for campaign administrative cost per unit.
* Based upon Toyota's inspection criteria

Allowable Sublet for Limited Service Campaign D0D – CRC Application

- Rental Vehicle:** Use "RT" sublet type for Op. Code 3628C2 and 3628C3. During the CRC application, customers' rental car through the Toyota Rent-A-Car (TRAC) Program is available for a maximum of 3 days. Follow the Toyota Transportation Assistance Program (TTAP) guidelines.
- Sublet:** The sublet cost for Op. Code 3628C3 (CRC Application by an Outside Repair Shop) should be claimed under sublet type 'YF' using the following formula:

$$= \text{Maximum 2.9 Hours (for CRC Application)} \times \text{Dealer Hourly Rate}$$
(Under this Op. Code dealers are responsible for removing the bed, inspecting, removing rust, and cleaning the frame)
 A maximum of \$250 per vehicle may also be claimed under sublet type 'YG' for the cost of transporting vehicles to an Independent or Dealer Body Shop for Op. Code 3628C3
- Materials/Supplies:** Use "YA" sublet type for Op. Code 3628C2. A maximum of \$49/vehicle cost for preparation and application materials/supplies (fire-retardant poly sheeting (tarp), masks, tape, gloves, partitions, waste disposal, etc.) will be accepted.



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Cold Climate States: CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV and also includes the District of Columbia.

(Warranty Processor Instructions CONTINUED . . .)

Allowable Sublet for Limited Service Campaign D0D – Frame Replacement

- **Sublet:** The sublet cost for Frames Replaced at an Independent or Dealer Body Shop should be claimed under sublet type 'YF' using the following formula:

Description	Sublet Amounts
Op. Code 3628CA (2WD)	= Maximum 36.8 hours X Outside Repair Shop Rate
Op. Code 3628CE (2WD)	
Op. Code 3628CB (4WD)	= Maximum 38.8 hours X Outside Repair Shop Rate
Op. Code 3628CU (4WD)	
<ul style="list-style-type: none"> • A maximum of \$250 per vehicle may be claimed under sublet type 'YG' for the cost of transporting vehicles to an Independent or Dealer Body Shop for Op. Code 3628CA, 3628CE, 3628CB, and 3628CU. 	

- **Rental Vehicles:**

Op. Code	Description	Sublet Amounts	Sublet Type	DSPM Authorization
3628CF	Vehicle Rental 1-30 Days	Follow the Toyota Transportation Assistance Program (TTAP) Guidelines.	RT	Not Required
3628CG	Vehicle Rental 31-60* Days (For frame replacement)		RT	Required

**Rental car for frame replacement is up to 7 days. If frame replacement is delayed due to parts availability, additional time, up to a total of 30 days, may be claimed. Additional time, up to a total of 60 days, may be claimed *only* with DSPM advance written authorization.

(Submit LSC claims following the procedures described in the Toyota Warranty Policy and Procedures Manual.)

9. Customer Handling

Please consider this campaign an opportunity to assure customers that Toyota is focused on their satisfaction. Customers who receive the owner notification may contact your dealership with questions regarding the letter and/or campaign remedy. Please welcome them to your dealership and answer any questions that they may have. A Q&A is provided to assure a consistent message is communicated.

- Customers with additional questions or concerns should be instructed to please contact the Toyota Customer Experience Center (1-888-270-9371).
- If a customer has previously paid for repairs of their Tundra frame for this specific condition during the applicable period, please contact the Toyota Customer Assistance Center at 1-888-270-9371.

10. Media Contacts

For News media inquiries only:

Due to the nature of this LSC, it is imperative that all media contacts (local and national) receive a consistent message. In this regard, all media contacts must be directed to Cindy Knight (310) 468-2170, in Toyota Corporate Communications. (Please do not provide these numbers to customers or call if you are a dealer associate. Please provide these contacts to media associates only.)

As part of our dedication to continuous improvement, changes have been incorporated in the production process to ensure the highest quality products are provided to our customers.

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

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



Only vehicles currently registered in the "Cold Climate States" are covered under LSC D0D (LSC expiration date July 31, 2015)
Cold Climate States: CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV and also includes the District of Columbia.

**Certain 2004 through 2006 Model Year Tundra Vehicles
Corrosion-Resistant Compound Application to the Vehicle's Frame
Limited Service Campaign**

[VIN]

Dear Toyota Owner:

At Toyota, we are dedicated to providing vehicles of outstanding quality and value. As part of our continual efforts to meet your product expectations, Toyota is announcing a Limited Service Campaign Program, which includes your vehicle.

What is the condition?

Toyota has received reports that certain 2004 through 2006 model year Tundra vehicles operated in specific cold climate areas with high road salt use may exhibit more-than-normal corrosion to the vehicle's frame. Toyota investigated these reports and determined that the frames in some vehicles may not have corrosion-resistant protection sufficient for use in these areas. This, combined with prolonged exposure to road salts and other environmental factors, may contribute to the development of more than normal rust in the frame of some vehicles. This condition is unrelated to and separate from normal surface rust which is commonly found on metallic surfaces after some years of usage and/or exposure to the environment.

What is included in this Limited Service Campaign?

This campaign involves customers whose vehicles are currently registered in the following specific 20 Cold Climate States, listed below, and the District of Columbia which have high road salt use (together, "Cold Climate States").

CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI & WV

Any authorized participating Toyota Dealership located in the Cold Climate States will inspect the condition of your vehicle's frame. Based upon the results of Toyota's inspection*, if significant rust perforation *is not* found, Toyota will apply Corrosion-Resistant Compounds (CRC) to key areas of your vehicle's frame at **no charge** to you. The CRC application will enhance the corrosion protection of the vehicle's frame.

You must have your vehicle inspected and the CRC application completed by a participating Toyota Dealership located in the Cold Climate States no later than **July 31, 2015**. Please schedule an appointment with an authorized participating Toyota dealer well in advance of the **July 31, 2015**, expiration date to ensure that your dealership has sufficient time to complete this Limited Service Campaign on your vehicle.

If a participating Toyota Dealership, located in the Cold Climate States, confirms that your vehicle's frame has significant rust perforation*, the dealer will provide an appropriate remedy at **no charge** to you. The dealer must determine that the frame has significant rust perforation* by **July 31, 2015** in order for the cost of any necessary repairs to the vehicle's frame be covered by the Campaign (there are no mileage limitations.)

*Please see your Toyota dealership for further details.

How do you take advantage of this Limited Service Campaign?

Please contact your authorized Toyota dealer in the state of [state] and make an appointment to have your vehicle inspected and the CRC application performed as soon as possible. The inspection and CRC application will take approximately 8 hours. Based upon the dealer's work schedule, the next available CRC application appointment may be several days away.

While the CRC is being applied to your vehicle, your dealership will arrange a complimentary loaner vehicle (upon proof of adequate insurance) for up to 3 days (extra time may be provided if additional repairs are needed for this condition).

This offer is limited to your specific vehicle whose Vehicle Identification Number (VIN) is printed at the beginning of this letter and is subject to the same conditions set forth in the New Vehicle Limited Warranty section of your Owner's Manual Supplement or Owner's Warranty Information booklet. For additional information, please refer to the booklet.

This program is intended for individual customer support and only applies to warranty work performed at an authorized Toyota dealership.

If your vehicle is covered by this Limited Service Campaign, you do not need an owner letter to have the campaign completed; however, Toyota will be rolling this campaign out on a state by state basis; therefore, a received owner letter will help ensure the participating dealerships in your state have finalized the necessary preparations.

What if you have other questions?

- *Your local Toyota dealer will be more than happy to answer any of your questions and set up an appointment to perform this Limited Service Campaign.*
- You can find additional information and locate a Toyota dealer in your area by going online and visiting www.toyota.com/recall.
- If you require further assistance, you may contact the Toyota Customer Experience Center at 1-888-270-9371 Monday through Friday, 5:00 am to 6:00 pm, Saturday 7:00 am through 4:00 pm Pacific Time.

What if you have previously paid for repairs for this condition?

If you have previously paid for repairs to address this specific condition, please mail a copy of the repair order, proof-of-payment, and proof-of-ownership to the following address for reimbursement consideration:

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

Include your name, address, and telephone number(s) in your request. Please allow us 6-9 weeks to process your request.

If you no longer own this vehicle or would like to update your vehicle ownership/contact information, please go to www.toyota.com/ownersupdate. You will need your full 17-digit Vehicle Identification Number (VIN) to input the new information. If you are a vehicle lessor, please assist us by forwarding this notice to the lessee.

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

Thank you for driving a Toyota.

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

Owner Information Supplement – Corrosion Resistant Compound Application (CRC)

What do I do next?

- Please make an appointment with a participating dealership in the States of [Insert Launching State] to have your vehicle's frame inspected and, if necessary, the CRC application or other repairs performed.
- Dealerships in the following states are also authorized to apply the CRC: [Insert Previously Launched States]. You may contact a participating Toyota dealership in any of these states to have your vehicle's frame inspected and, if necessary, the CRC application or other repairs performed.
- Toyota is continuing its efforts to arrange for dealerships in the remaining Cold Climate States to be authorized to perform the Campaign.

What if I have my normal maintenance conducted at a dealership that is not authorized to apply the CRC?

We apologize for any inconvenience, but at the current time, you have the following options:

- You may have the Campaign performed at this time by a Toyota dealership in one of the states identified above;

Or

- You may choose to wait until your preferred dealership* is authorized to apply the CRC. Please periodically check with your Toyota dealership on its status.

* The dealership must be a participating authorized dealership located in one of the Cold Climate States.



Limited Service Campaign D0D (FAQ)
Certain 2004 - 2006 Toyota Tundra Vehicles *Currently* Registered in the Cold Climate States
Corrosion-Resistant Compound (CRC) Application to the Vehicle's Frame

Frequently Asked Questions

Published mid-August 2013

Q1: What is the condition?

A1: Toyota has received reports that certain 2004 through 2006 model year Tundra vehicles operated in specific cold climate areas with high road salt use may exhibit more-than-normal corrosion to the vehicle's frame. Toyota investigated these reports and determined that the frames in some vehicles may not have corrosion-resistant protection sufficient for use in these areas. This, combined with prolonged exposure to road salts and other environmental factors, may contribute to the development of more than normal rust in the frame of some vehicles. This condition is unrelated to and separate from normal surface rust which is commonly found on metallic surfaces after some years of usage and/or exposure to the environment.

Q2: What are the "Cold Climate States" with high road salt usage covered by this Limited Service Campaign (LSC)?

A2: The following states and the District of Columbia are referred to as the "Cold Climate States":

CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, and WV

Q2a: Why are some states contiguous to the Cold Climate States not included?

A2a Only portions of the listed states may exhibit the cold climate and high road salt usage which can cause this condition. To simplify the administration of this campaign and avoid confusion, Toyota has elected to include the entire state rather than a portion.

Q3: Which and how many vehicles are covered by this LSC?

A3: There are approximately 78,000 Tundra (2004 – 2006 model year) vehicles currently registered in the Cold Climate States.

Model	Model Year	Production Range	Appx. UIO
Tundra	2004-2006	Sep. 12, 2003 – Jan. 2, 2007	78,000

Q4: What is Toyota going to do?

A4: Toyota will send an owner notification by first class mail to owners of vehicles covered by this LSC.

Any authorized participating Toyota Dealership located in the Cold Climate States will inspect the condition of your vehicle's frame. Based upon the results of Toyota's inspection*, if significant rust perforation *is not* found, Toyota will apply Corrosion-Resistant Compounds (CRC) to key areas of your vehicle's frame at *no charge* to you. The CRC application will enhance the corrosion protection of the vehicle's frame.

You must have your vehicle inspected and the CRC application completed by a participating Toyota Dealership located in the Cold Climate States no later than **July 31, 2015**. Please schedule an appointment with an authorized participating Toyota dealer well in advance of the **July 31, 2015**, expiration date to ensure that your dealership has sufficient time to complete this Limited Service Campaign on your vehicle.

If a participating Toyota Dealership, located in the Cold Climate States, confirms that your vehicle's frame has significant rust perforation*, the dealer will provide an appropriate remedy at no charge to you. The dealer must determine that the frame has significant rust perforation* by **July 31, 2015** in order for the cost of any necessary repairs to the vehicle's frame be covered by the Campaign (there are no mileage limitations.)

* Per Toyota's Inspection Criteria

Q4a: How does Toyota obtain my mailing information?

A4a: Toyota uses an industry provider who works with each state's Department of Motor Vehicles (DMV) to receive registration or title information. Please make sure your registration or title information is correct.

Q4b: Do I need my owner letter to have the remedy performed?

A4b: You do not need an owner letter to have this LSC completed; however, to assist the dealer in confirming vehicle eligibility, we request that you present the owner notification at the time of your service appointment.

Toyota will be rolling out LSC D0D state by state. Therefore, we recommend that you wait to receive the owner letter to ensure that dealerships in your state have received any necessary regulatory approvals and are ready to offer this campaign. You may also contact your local Toyota dealer for additional information.

Q4c: Once the CRC application is complete, will Toyota extend the warranty on the vehicle's frame?

A4c: The CRC application is designed to enhance the corrosion resistant properties of the vehicle's frame. Additional warranty enhancements are not offered under this campaign.

Q4d: What if the vehicle's frame already exhibits excessive corrosion? Will Toyota perform the CRC application or will the vehicle be repaired?

A4d: Toyota will inspect the vehicle's frame. If the frame passes Toyota's Inspection Criteria, the CRCs will be applied to the frame. If the frame exhibits significant rust perforation (based upon Toyota's inspection criteria), Toyota will replace the vehicle's frame. The work will be performed at *no charge* to you for a limited time (see A4).

Q5: Why is Toyota only offering the CRC application to customers whose vehicles are currently registered in the Cold Climate States?

A5: Toyota is applying the CRC in areas where vehicles may experience or have experienced prolonged exposure to severe cold climates with high road salt use.

Q6: What should I do?

A6: Owners of vehicles covered by this LSC should bring their vehicle to a participating Toyota dealer located in one of the Cold Climate States for which authorization to perform the CRC application has been obtained. Customers may also contact their local Toyota dealer for additional information.

Q7: How long will the repair take?

A7: The inspection and CRC application will take approximately 8 hours. However, depending upon the dealer's work schedule, it may be necessary to make the vehicle available for a longer period of time.

Q7a: Will Toyota provide a rental vehicle until the vehicle is repaired?

A7a: The Toyota dealer will arrange a complimentary loaner vehicle (upon proof of adequate insurance) for your use at no charge for up to 3 days during the repair (extra time may be provided if additional repairs are needed for this condition).

Q7b: What if the vehicle's frame fails Toyota's inspection criteria; how long will the repair take?

A7b: The frame replacement will take approximately 40-45 hours. However, depending upon the dealer's work schedule, it may be necessary to make the vehicle available for a longer period of time.

Q8: What if I have previously paid for repairs related to this campaign?

A8: Reimbursement consideration instructions will be provided in the remedy owner letter.

Q9: What if I have additional questions or concerns?

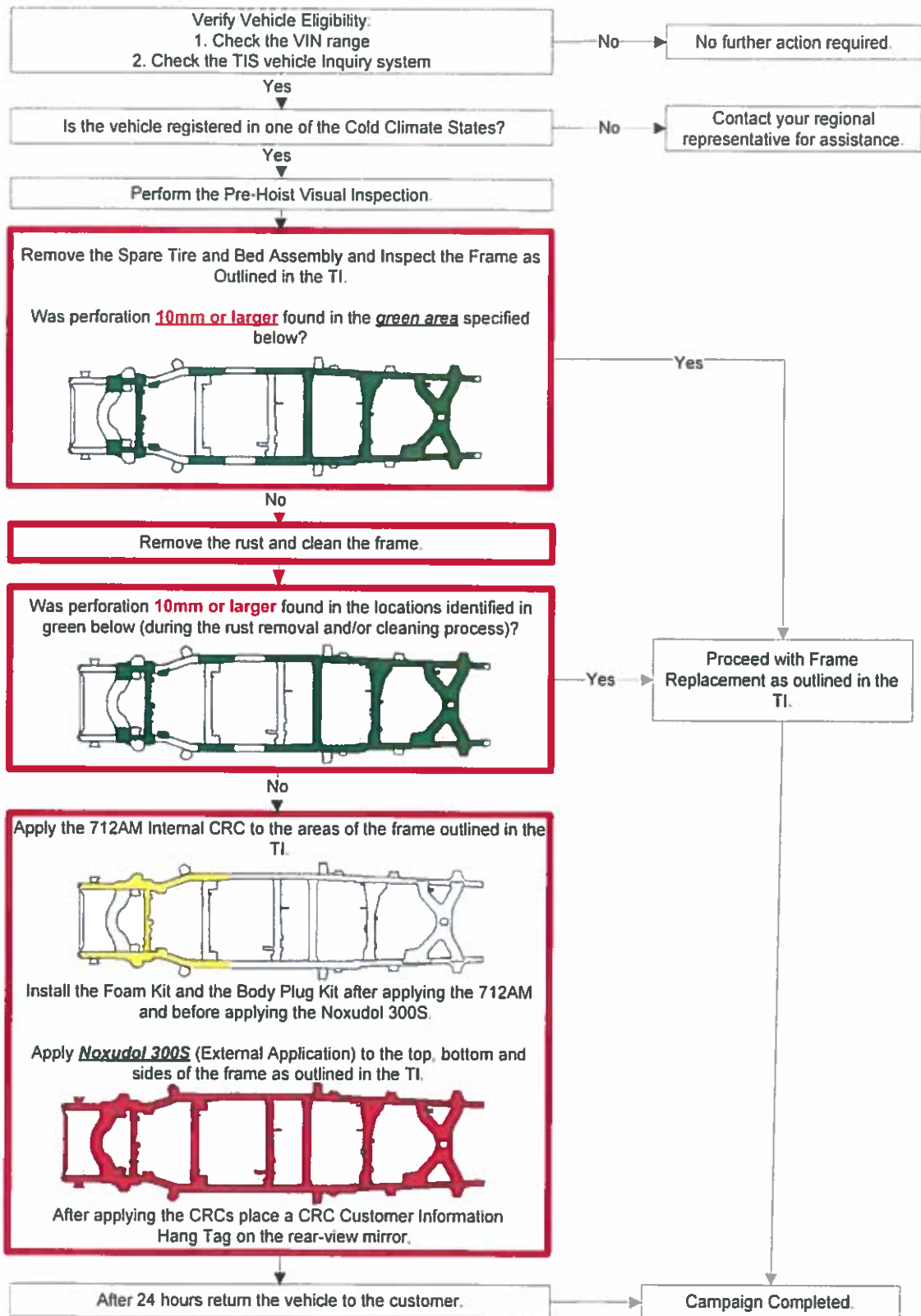
A9: Customer satisfaction is very important to Toyota. If you have additional questions or concerns, please contact the Toyota Customer Experience Center at 1-888-270-9371 Monday through Friday, 5:00 am to 6:00 pm, or Saturday 7:00 am through 4:00 pm Pacific Time.

SUPPLEMENTAL TECHNICAL INSTRUCTIONS
FOR
LIMITED SERVICE CAMPAIGN D0D

CERTAIN 2004-2006 MODEL YEAR TUNDRA

FRAME REPLACEMENT

I. OPERATION FLOWCHART



II. PREPARATION

A. TOOLS & EQUIPMENT

- Above Ground Lift (Required)
- Alignment Rack
- A/C Service Equipment with Manifold Gauges
- Brake Bleeder
- Cooling System Tester
- Engine Hanger
 - 5VZ-FE Engine (2004 MY)
 - 12282-62070 – Engine hanger No. 2 (Qty: 1)
 - 90119-10684 (90080-11443) – Bolt (Qty: 2)
 - 1GR-FE Engine (2005-2006 MY)
 - 12281-31060 – Engine hanger No. 1 (Qty: 1)
 - 12282-31040 – Engine hanger No. 2 (Qty: 1)
 - 90119-08A87 – Bolt (Qty: 4)
- Engine Hoist (Qty: 2) or Hydraulic Mini Crane (Qty: 2)
- Engine Sling Device
- Floor Jack
- Protective Gloves
- Protective Eyewear
- Ratcheting Tie Down Strap (2 in X 27 ft, Minimum Work Load Capacity: 3,000 lbs)
- Screw Jacks (QTY 2)
- Standard Hand Tools
- Special Service Tools (SST)
 - 09325-40010 - Transmission Oil Plug
 - 09520-01010 - Drive Shaft Remover Attachment
 - 09520-32040 - Slide Hammer
 - 09610-20012 - Pitman Arm Puller
 - 09617-24011 - Steering Rack Wrench or Equivalent (22MM)
 - 09628-62011 - Ball Joint Puller
 - 09709-29018 - LSPV Gauge Set
 - 09870-00005-01 - A/C Quick Joint Puller No.1 (1GR-FE Only)
 - 09922-10010 - Variable Open Wrench
- Techstream
- Torque Wrench
- Torx® T55H Socket

B. SUPPLIES

- ATF D-II or DEXRON®III (DEXRON®II) – As needed
- Hypoid Gear Oil API GL-5 SAE 75W-90 – 1.15 liter (4WD Only, Front Differential)
- MP Grease
- Marker
- ND-OIL 8 Compressor Oil – As needed
- R134a Refrigerant – As needed
- Silicon Lubricant
- Toyota DOT 3 Brake Fluid – 3 pints
- Toyota Long Life Coolant – 2 gallons
- Vinyl Tape

C. PARTS

To assist dealers in determining the correct part number(s) to order, a website has been set up to look up part numbers by VIN. Please go to <http://toyota-frame-parts-lookup.imagespm.info> select the appropriate campaign/vehicle, enter the VIN, and the correct part numbers to order will be displayed. *The website is for part(s) application reference only and won't order the parts or confirm campaign completion status.*

- The parts will need to be ordered through the Dealer Daily Parts System.
- ETAs for the parts will be available via the normal system.
- Frame ETAs will be made available on the Dealer Daily website, in the MAC reference area.

Note: When first logging in; enter your dealer code and the default password; XXXXX. Upon logging in the website will ask for you to reset the password and provide an email address.

An illustration of the parts replaced and their location(s) have been provided. Please reference the "Illustration Name" and "Page" columns in the parts tables below.

Individual Parts:

Part Number	Part Description (Model Year)	Quantity	Illustration Name	Page
04000-6310C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6320C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6330C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6340C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6350C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6360C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6370C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6380C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6390C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6410C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6420C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6430C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6440C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6450C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6460C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6470C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6480C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6490C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6510C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6520C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6530C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6540C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6550C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6560C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04000-6570C	Frame, Sub-Assy	1	Frame & Misc Parts	9
04483-0C030	Shackle Kit, Rear Spring	2	Rear Suspension	9
12157-10010	Gasket, Front Differential Filler Plug	1	Front Differential	15
16492-21050	Packing (For Radiator Drain Cock)	1	Radiator	20
17451-0D030	Gasket, Exhaust Pipe (1GR-FE)	1	Exhaust System	18
18495-38020	Retainer, Exhaust Pipe (2UZ-FE)	2	Exhaust System	18
18495-76010	Retainer, Exhaust Pipe (5VZ-FE)	1	Exhaust System	18
23232-41081	Gasket (For Fuel Pump Hose) (2UZ-FE)	1	Fuel System	17
43425-04020	Ring, Shaft Snap (For Front Drive Inner Shaft Outer)	2	Front Driveshaft	16

Individual Parts (Continued):

Part Number	Part Description (Model Year)	Quantity	Illustration Name	Page
47322-0C050	Tube, Rear Brake, No.2	1	Brake Tubes	11
47322-0C060	Tube, Rear Brake, No.2	1	Brake Tubes	11
47322-0C080	Tube, Rear Brake, No.2	1	Brake Tubes	11
47322-0C090	Tube, Rear Brake, No.2	1	Brake Tubes	11
47323-0C013	Tube, Rear Brake, No.3	1	Brake Tubes	11-12
47323-0C040	Tube, Rear Brake, No.3	1	Brake Tubes	11-12
47323-0C070	Tube, Rear Brake, No.3	1	Brake Tubes	11-12
47323-0C080	Tube, Rear Brake, No.3	1	Brake Tubes	11-12
47361-0C013	Tube, Rear Brake, No.10	1	Brake Tubes	11-12
47361-0C020	Tube, Rear Brake, No.10	1	Brake Tubes	11-12
47361-0C040	Tube, Rear Brake, No.10	1	Brake Tubes	11-12
47361-0C050	Tube, Rear Brake, No.10	1	Brake Tubes	11-12
90080-11491	Bolt (With Trailer Hitch Only)	12	Rear Bumper	20
90089-17059	Nut (With Trailer Hitch Only)	2	Rear Bumper	20
90430-12026	Gasket (For Pulsation Damper Hose)	2	Fuel System	17
90430-12026	Gasket (For Pulsation Damper Hose)	1	Fuel System	17
90430-24003	Gasket, Front Differential Drain Plug	1	Front Differential	15
90917-06057	Gasket, Exhaust Pipe (5VZ-FE)	1	Exhaust System	18
90917-06083	Gasket, Exhaust Pipe (2UZ-FE)	2	Exhaust System	18
90917-06083	Gasket, Exhaust Pipe (1GR-FE)	1	Exhaust System	18
95381-04045	Cotter Pin	2	Front Driveshaft	16
96711-19007	Packing (For Radiator Drain Cock)	1	Radiator	20

Parts Kits:

Part Number	Part Description	Quantity		
04000-57634	Parts Kit No.1 – Common Replacement kit A-4 (2004 MY)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47353-35110	Bracket, Flexible Hose No. 3	1	Brake Tubes	11-12
47354-35100	Bracket, Flexible Hose No. 4	1	Brake Tubes	11-12
48409-34020	Cam Sub-Assy, Front Suspension Toe Adjust	2	Front Suspension	10
48409-34030	Cam Sub-Assy, Front Suspension Toe Adjust, No 2	2	Front Suspension	10
48452-35020	Plate, Front Suspension Toe Adjust, No. 2	4	Front Suspension	10
48824-34030	Bracket, Front Stabilizer, No 1 RH	1	Front Suspension	10
48829-34020	Bracket, Front Stabilizer, No 1 LH	1	Front Suspension	10
77285-34031	Clamp, Fuel Tube, No 1	4	Fuel Tubes	13-14
77285-34060	Clamp, Fuel Tube, No 1	1	Fuel Tubes	13
77285-34071	Clamp, Fuel Tube, No 1	2	Fuel Tubes	13-14
77285-34080	Clamp, Fuel Tube, No 1	1	Fuel Tubes	13
77285-34260	Support, Fuel Return and Main Tube	1	Fuel Tubes	14
77285-34270	Support, Fuel Return and Main Tube	1	Fuel Tubes	13
77285-34280	Support, Fuel Return and Main Tube	2	Fuel Tubes	13-14
77285-34290	Support, Fuel Return and Main Tube	1	Fuel Tubes	13-14
77285-34300	Support, Fuel Return and Main Tube	1	Fuel Tubes	13-14
77285-34310	Support, Fuel Return and Main Tube	1	Fuel Tubes	13-14
82666-35200	Clamp	2	ABS & VSC	19
82711-16830	Clamp, Wiring Harness	3	Wire Harness Clamps	15
82711-26380	Clamp, Wiring Harness	16	Wire Harness Clamps	15
82711-3A640	Clamp, Wiring Harness	1	Wire Harness Clamps	15
82711-3F050	Clamp, Wiring Harness	3	Wire Harness Clamps	15
89515-35030	Clamp	2	ABS & VSC	19
90099-14120	O-Ring	1	Air Conditioning	19
90099-14121	O-Ring	1	Air Conditioning	19
90119-12311	Bolt	4	Rear Bumper	20
90159-60440	Screw	4	Frame & Misc Parts	9
90178-10024	Nut	4	Front Bumper	20
90179-08054	Nut	1	AT Shift Cable	20
90179-10071	Nut	4	Engine Mounting	19
90179-14019	Nut	8	Rear Suspension	9
90179-10039	Nut	6	Rear Suspension	9
90182-10004	Nut	2	Front Suspension	10
90201-14025	Washer	6	Rear Suspension	9
90201-15012	Washer	8	Rear Suspension	9
90467-13076	Clip	2	Bed Mounting	10
90468-08035	Clip	4	Brake Tubes	11-12
90904-12066	Way, No.2 (For Front Brake Tube)	1	Brake Tubes	11-12
90904-12067	Way, No.3 (For Front Brake Tube)	1	Brake Tubes	11-12
90904-12068	Way (For Front Brake Tube)	1	Brake Tubes	11-12
90949-01C06	Clamp, Brake Tube, No. 6	8	Brake Tubes	11-12
90949-01C32	Clamp	1	Brake Tubes	11
95381-03225	Cotter Pin	2	Front Suspension	10
95381-03225	Cotter Pin	2	Power Steering	16

Parts Kits (Continued):

Part Number	Part Description	Quantity		
04000-57734	Parts Kit No.2 – Common Replacement Kit A-5 (2005-2006 MY)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47353-35110	Bracket, Flexible Hose No. 3	1	Brake Tubes	11-12
47354-35100	Bracket, Flexible Hose No. 4	1	Brake Tubes	11-12
48409-34020	Cam Sub-Assy, Front Suspension Toe Adjust	2	Front Suspension	10
48409-34030	Cam Sub-Assy, Front Suspension Toe Adjust, No 2	2	Front Suspension	10
48452-35020	Plate, Front Suspension Toe Adjust, No. 2	4	Front Suspension	10
48824-34030	Bracket, Front Stabilizer, No 1 RH	1	Front Suspension	10
48829-34020	Bracket, Front Stabilizer, No 1 LH	1	Front Suspension	10
77285-34031	Clamp, Fuel Tube, No 1	3	Fuel Tubes	14
77285-34071	Clamp, Fuel Tube, No 1	2	Fuel Tubes	14
77285-34260	Support, Fuel Return and Main Tube	1	Fuel Tubes	14
77285-34280	Support, Fuel Return and Main Tube	2	Fuel Tubes	14
77285-34290	Support, Fuel Return and Main Tube	1	Fuel Tubes	14
77285-34300	Support, Fuel Return and Main Tube	1	Fuel Tubes	14
77285-34310	Support, Fuel Return and Main Tube	1	Fuel Tubes	14
82666-35200	Clamp	2	ABS & VSC	19
82711-16830	Clamp, Wiring Harness	3	Wire Harness Clamps	15
82711-26380	Clamp, Wiring Harness	16	Wire Harness Clamps	15
82711-33100	Clamp, Wiring Harness	3	Wire Harness Clamps	15
82711-3A640	Clamp, Wiring Harness	1	Wire Harness Clamps	15
82711-3F050	Clamp, Wiring Harness	3	Wire Harness Clamps	15
82711-3F400	Clamp, Wiring Harness	3	Wire Harness Clam	15
89515-35030	Clamp	2	ABS & VSC	19
90099-14120	O-Ring	1	Air Conditioning	19
90099-14121	O-Ring	2	Air Conditioning	19
90119-12311	Bolt	4	Rear Bumper	20
90159-60440	Screw	4	Frame & Misc Parts	9
90178-10024	Nut	4	Front Bumper	20
90179-08054	Nut	1	AT Shift Cable	20
90179-10071	Nut	4	Engine Mounting	19
90179-14019	Nut	8	Rear Suspension	9
90179-10039	Nut	6	Rear Suspension	9
90182-10004	Nut	2	Front Suspension	10
90201-14025	Washer	6	Rear Suspension	9
90201-15012	Washer	8	Rear Suspension	9
90467-13076	Clip	2	Bed Mounting	10
90468-08035	Clip	4	Brake Tubes	11-12
90904-12066	Way, No.2 (For Front Brake Tube)	1	Brake Tubes	11-12
90904-12067	Way, No.3 (For Front Brake Tube)	1	Brake Tubes	11-12
90904-12068	Way (For Front Brake Tube)	1	Brake Tubes	11-12
90949-01C06	Clamp, Brake Tube, No. 6	8	Brake Tubes	11-12
90949-01C32	Clamp	1	Brake Tubes	11-12
95381-03225	Cotter Pin	2	Front Suspension	10
95381-03225	Cotter Pin	2	Power Steering	16

Parts Kits (Continued):

Part Number	Part Description	Quantity		
04000-5710C	Parts Kit No.3 – Common Replacement Kit B-4	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47351-0C010	Bracket, Flexible Hose, No. 2	1	Brake Tubes	12
77285-0C010	Clamp, Fuel Tube, No. 1	1	Fuel Tubes	14
77285-0C020	Clamp, Fuel Tube, No. 1	1	Fuel tubes	14
90080-11180	Bolt	4	Spare Tire Carrier	10
90080-11180	Bolt	3	Brake Tubes, LSPV	15
90080-11180	Bolt	10	Fuel Tubes	13-14
90080-11275	Bolt	2	Front Suspension	10
90080-11373	Bolt	9	Frame & Misc Parts	9
90080-11387	Bolt	4	Engine Mounting	19
90080-11410	Bolt	2	Front Suspension	10
90080-11482	Bolt	2	Front Suspension	10
90080-11555	Bolt	2	Power Steering	16
90105-14132	Bolt	6	Rear Suspension	9
90119-A0073	Bolt	6	Rear Bumper	20
90119-A0077	Bolt	2	Fuel Tank	19
90949-A1002	Clamp, Brake Tube, No. 7	1	Brake Tubes	11-12

Part Number	Part Description	Quantity		
04000-5270C	Parts Kit No.4 – Brake Tube Kit 6 (w/o VSC for 2004 MY)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47313-0C040	Tube, Front Brake, No.3	1	Brake Tubes	11
47314-0C011	Tube, Front Brake, No.4	1	Brake Tubes	11
47316-0C060	Tube, Front Brake, No.6 (DCB)	1	Brake Tubes	11
47316-0C070	Tube, Front Brake, No.6 (ACB, RCB)	1	Brake Tubes	11
47317-0C011	Tube, Front Brake, No.7	1	Brake Tubes	11
47319-0C021	Tube, Front Brake, No.9 (ACB, RCB)	1	Brake Tubes	11
47319-0C030	Tube, Front Brake, No.9 (DCB)	1	Brake Tubes	11
47324-0C014	Tube, Front Brake, No.4	1	Brake Tubes	11
90080-11180	Bolt	5	Brake Tubes	11

Part Number	Part Description	Quantity		
04000-5730C	Parts Kit No.5 – Brake Tube Kit 6 (with VSC for 2004 MY)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47313-0C050	Tube, Front Brake, No.3 (DCB)	1	Brake Tubes	12
47313-0C060	Tube, Front Brake, No.3 (ACB, RCB)	1	Brake Tubes	12
47314-0C011	Tube, Front Brake, No.4	1	Brake Tubes	12
47316-0C051	Tube, Front Brake, No.6	1	Brake Tubes	12
47317-0C011	Tube, Front Brake, No.7	1	Brake Tubes	12
47322-0C041	Tube, Rear Brake, No.2	1	Brake Tubes	12
47325-0C041	Tube, Rear Brake, No.5	1	Brake Tubes	12
47328-0C020	Tube, Rear Brake, No.8	1	Brake Tubes	12
47329-0C010	Tube, Rear Brake, No.9	1	Brake Tubes	12
90080-11180	Bolt	6	Brake Tubes	12

Parts Kits (Continued):

Part Number	Part Description	Quantity		
04000-5740C	Parts Kit No.6 – Brake Tube Kit 8 (w/o VSC for 2005 & 2006 MY)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47313-0C040	Tube, Front Brake, No.3	1	Brake Tubes	11
47314-0C011	Tube, Front Brake, No.4	1	Brake Tubes	11
47316-0C060	Tube, Front Brake, No.6 (DCB)	1	Brake Tubes	11
47316-0C070	Tube, Front Brake, No.6 (ACB, RCB)	1	Brake Tubes	11
47317-0C020	Tube, Front Brake, No.7	1	Brake Tubes	11
47319-0C040	Tube, Front Brake, No.9 (ACB, RCB)	1	Brake Tubes	11
47319-0C050	Tube, Front Brake, No.9 (DCB)	1	Brake Tubes	11
47324-0C014	Tube, Rear Brake, No.4	1	Brake Tubes	11
90080-11180	Bolt	5	Brake Tubes	11

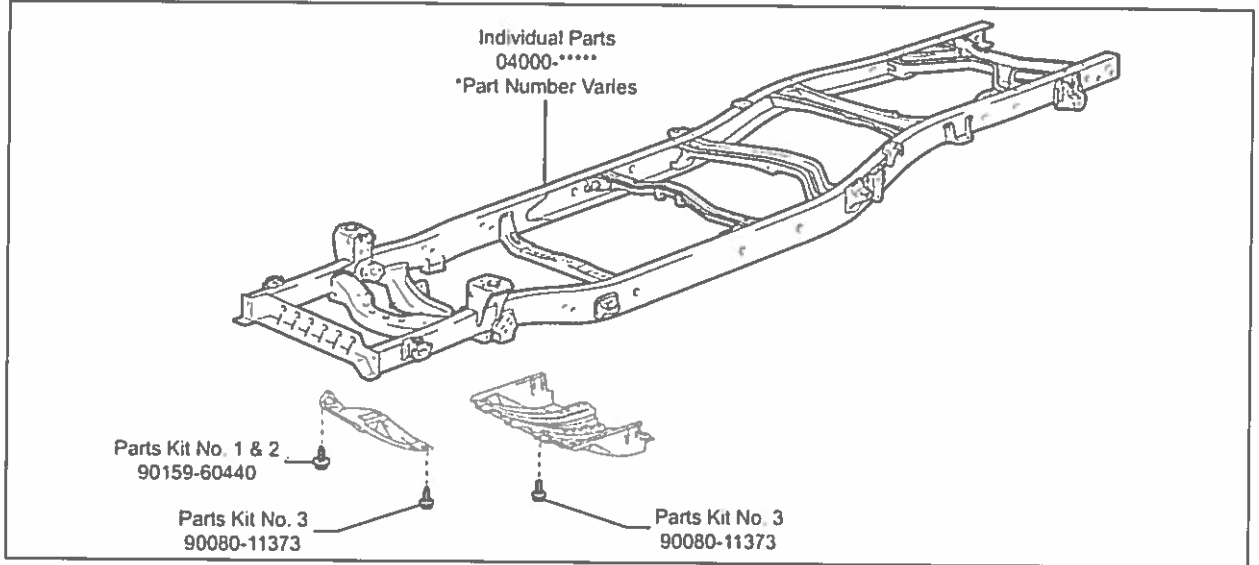
Part Number	Part Description	Quantity		
04000-5750C	Parts Kit No.7 – Brake Tube Kit 9 (with VSC for 2005 and 2006 MY)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47313-0C070	Tube, Front Brake, No.3 (ACB, RCB)	1	Brake Tubes	12
47313-0C080	Tube, Front Brake, No.3 (DCB)	1	Brake Tubes	12
47314-0C011	Tube, Front Brake, No.4	1	Brake Tubes	12
47316-0C080	Tube, Front Brake, No.6	1	Brake Tubes	12
47317-0C020	Tube, Front Brake, No.7	1	Brake Tubes	12
47322-0C100	Tube, Rear Brake, No.2	1	Brake Tubes	12
47325-0C080	Tube, Rear Brake, No.5	1	Brake Tubes	12
47328-0C020	Tube, Rear Brake, No.8	1	Brake Tubes	12
47329-0C010	Tube, Rear Brake, No.9	1	Brake Tubes	12
90080-11180	Bolt	6	Brake Tubes	12

Part Number	Part Description	Quantity		
04000-57834	Parts Kit No.8 – LSPV 3 (w/o VSC)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47910-34070	Valve Assy, Load Sensing Proportioning	1	LSPV	15
47920-34040	Spring Assy, Load Sensing	1	LSPV	15
47926-35010	Spacer, Load Sensing Valve	1	LSPV	15
47931-34020	Bracket, Load Sensing Valve	1	LSPV	15
47937-60010	Plate, Load Sensing Valve Set	1	LSPV	15
90467-31110	Clip (For Load Sensing Valve Boot)	1	LSPV	15

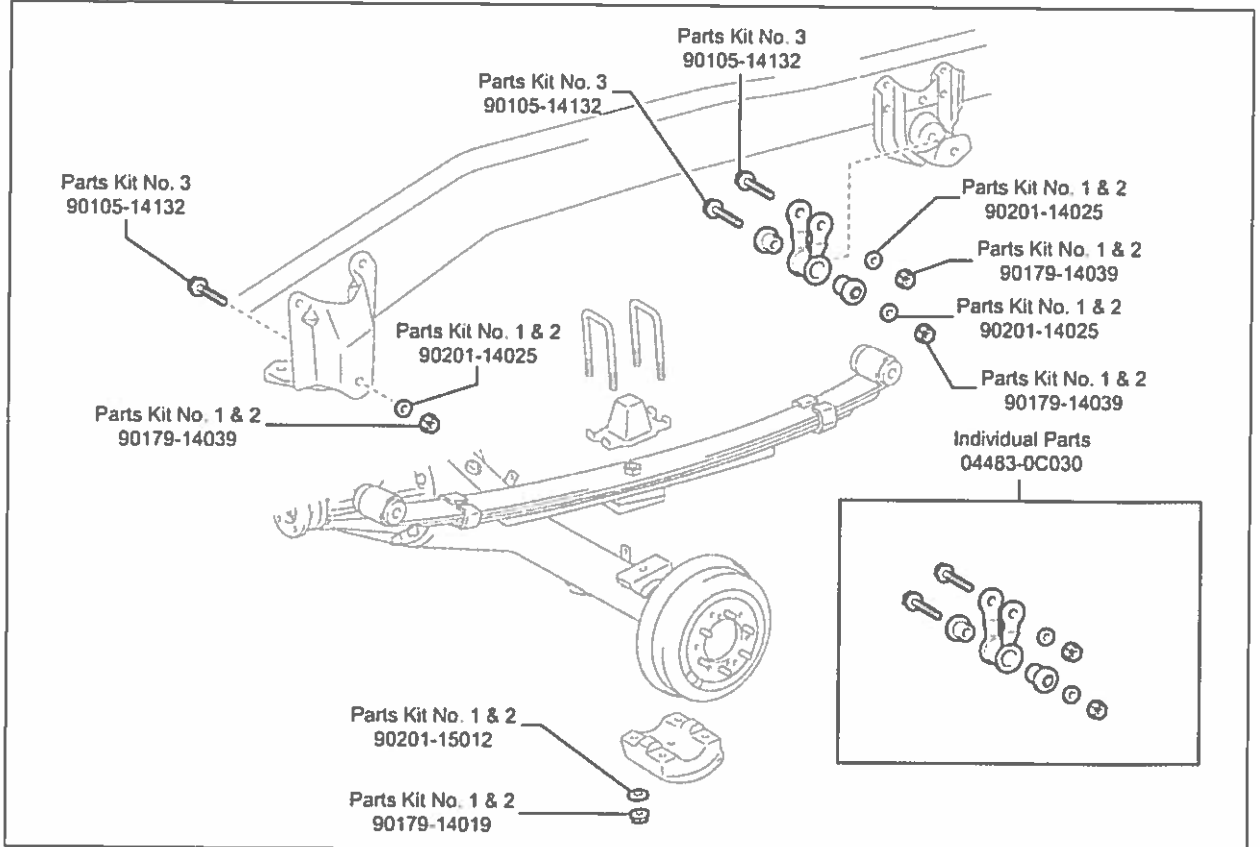
Part Number	Part Description	Quantity		
04000-57934	Parts Kit No.9 – LSPV 4 (with VSC)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration	Page
47150-34020	Valve Assy, Blend Proportioning	1	Brake Tubes	12
47191-34010	Bracket, Load Sensing Valve	1	Brake Tubes	12
90119-08A25	Bolt	2	Brake Tubes	12

D. PARTS ILLUSTRATION

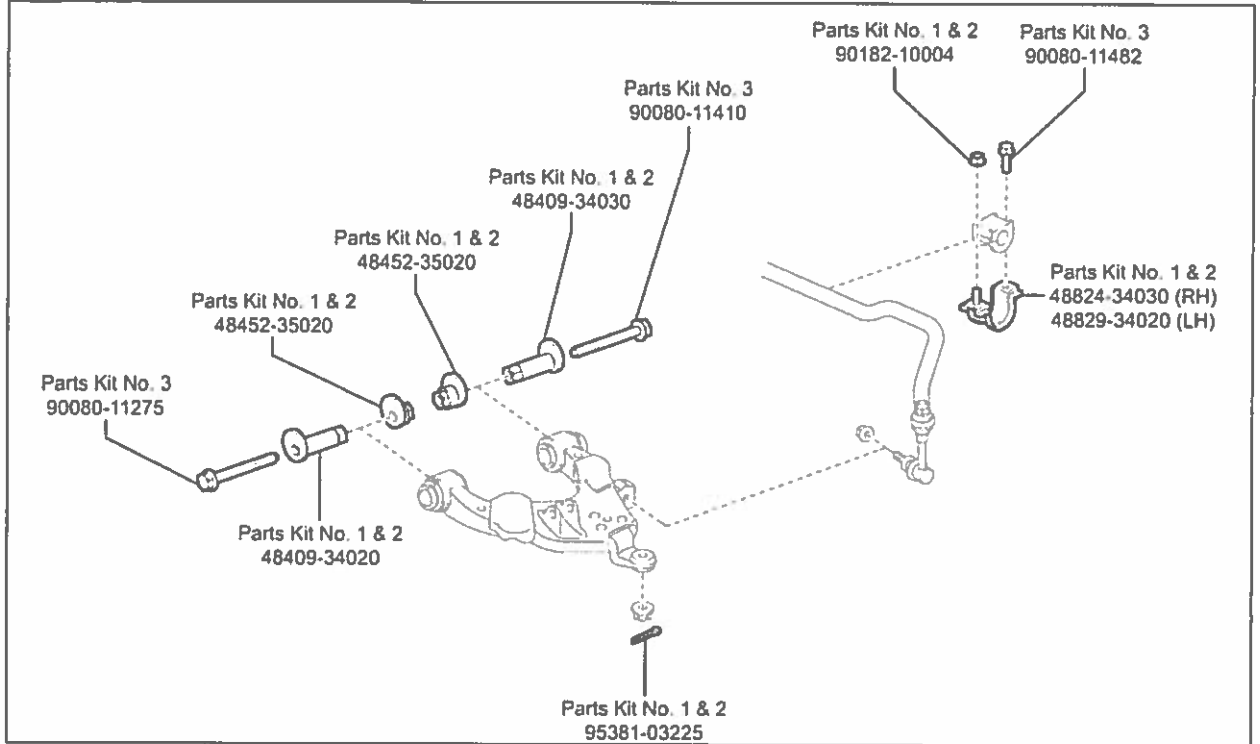
Frame & Misc Parts



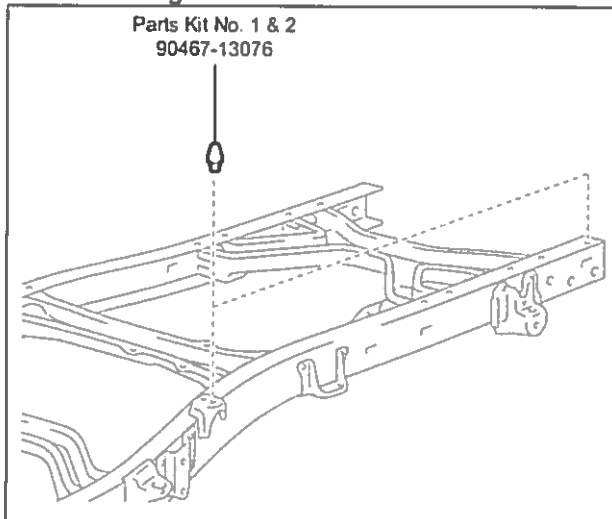
Rear Suspension



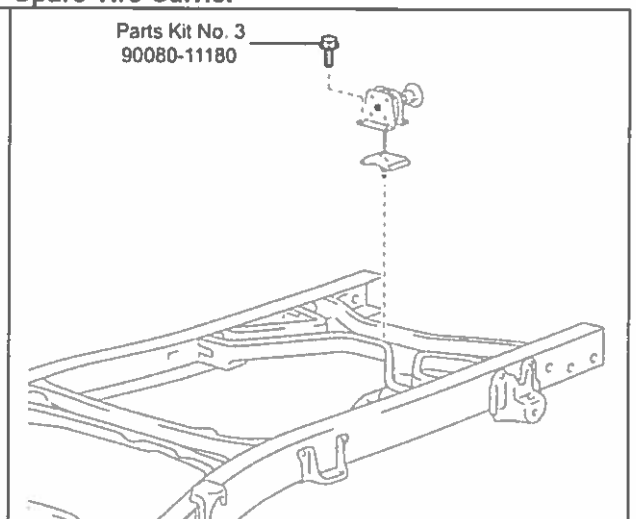
Front Suspension & Front Driveshaft



Bed Mounting

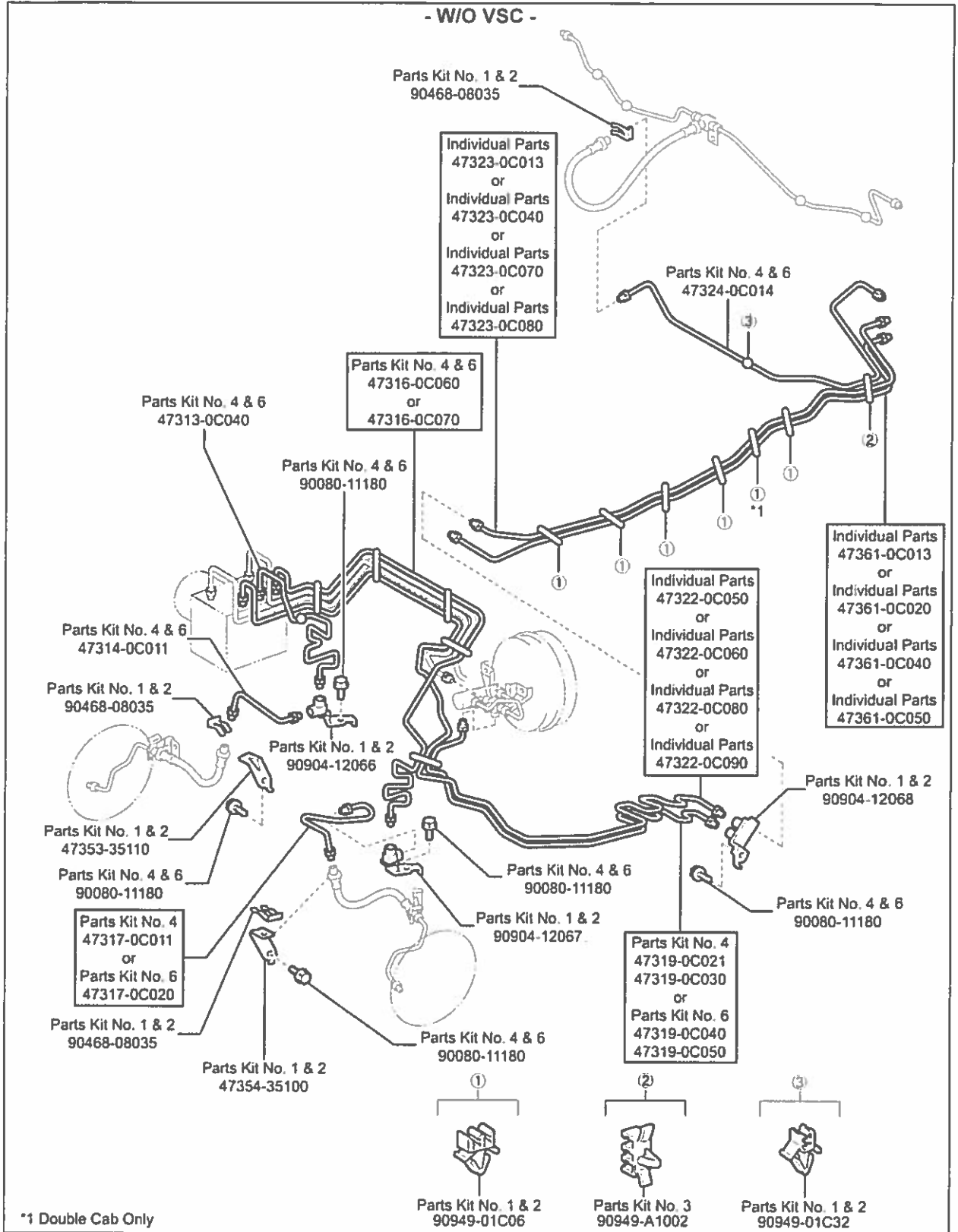


Spare Tire Carrier

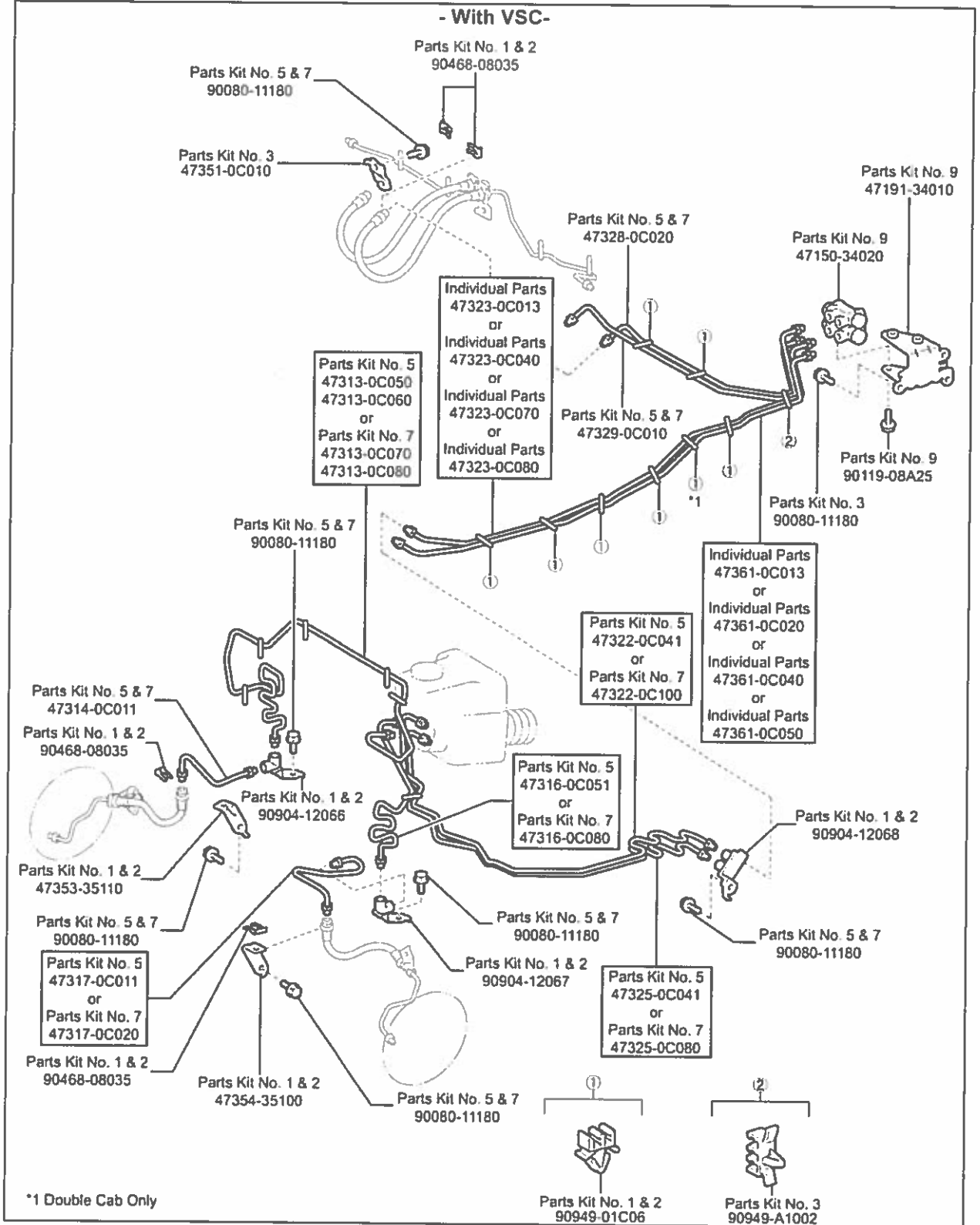


Brake Tubes

- W/O VSC -



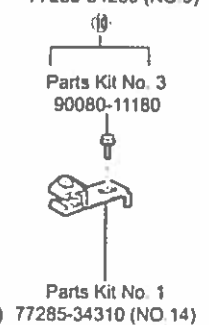
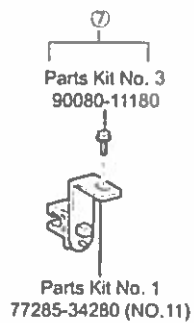
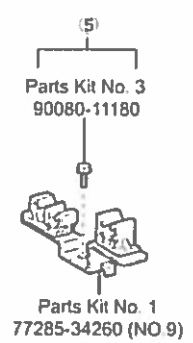
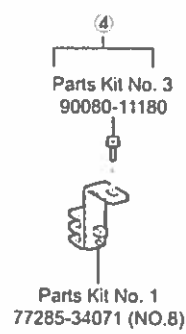
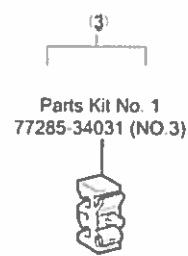
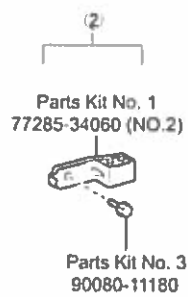
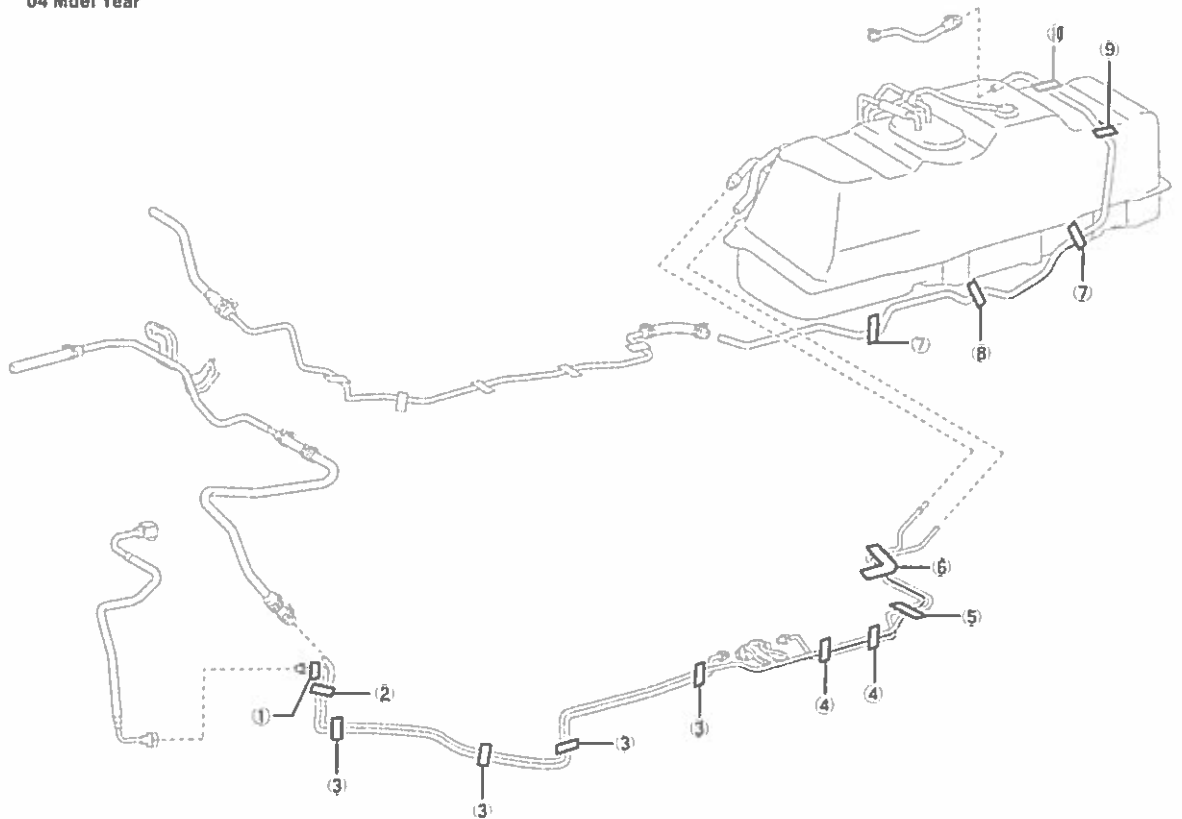
Brake Tubes Continued



Fuel Tubes

- 04 Model Year -

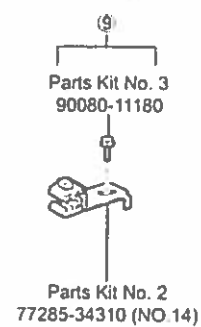
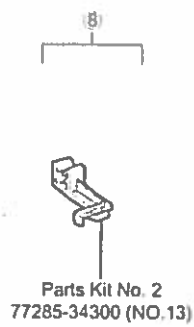
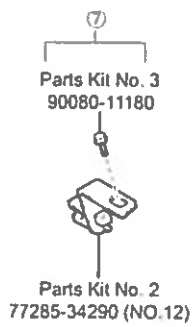
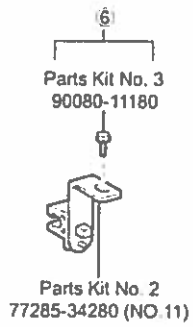
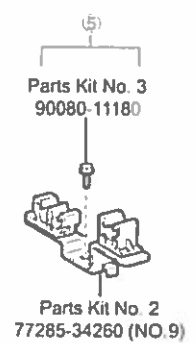
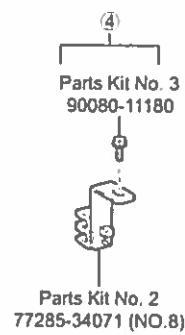
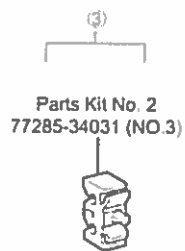
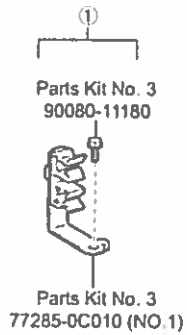
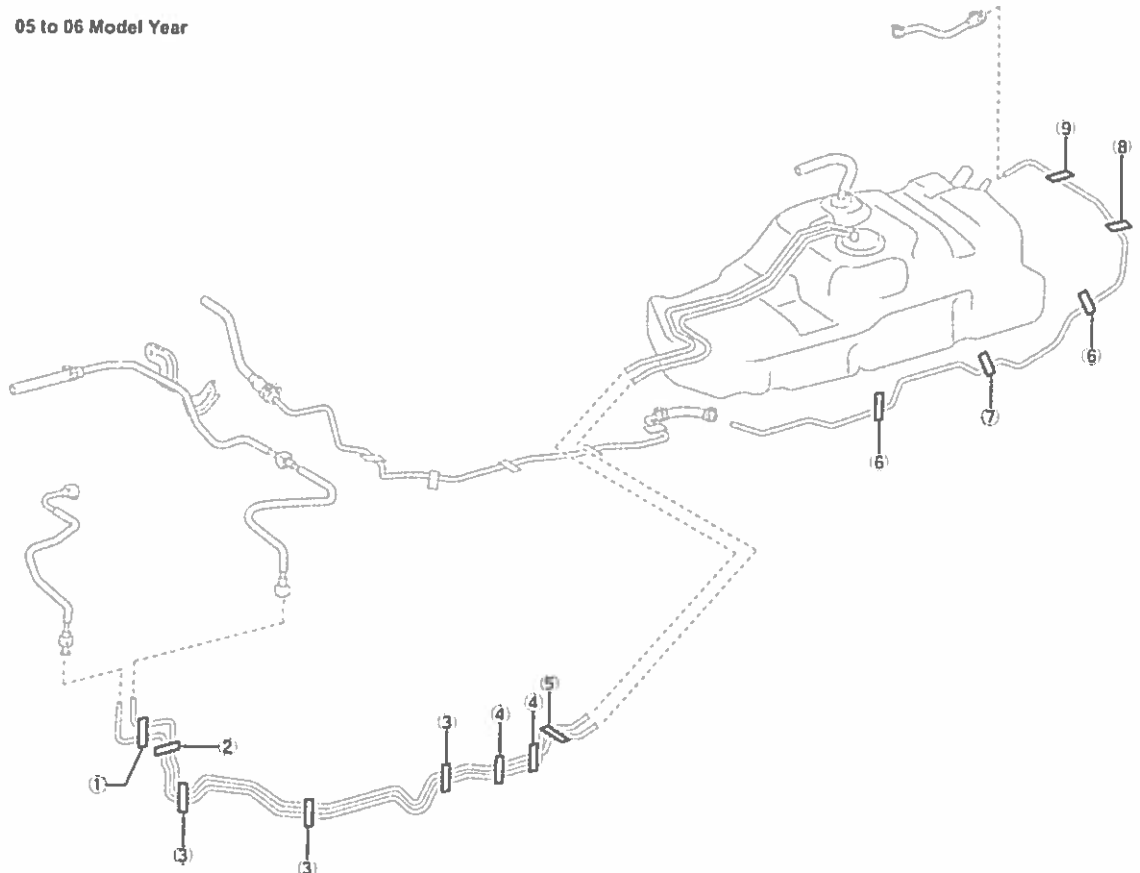
04 Model Year



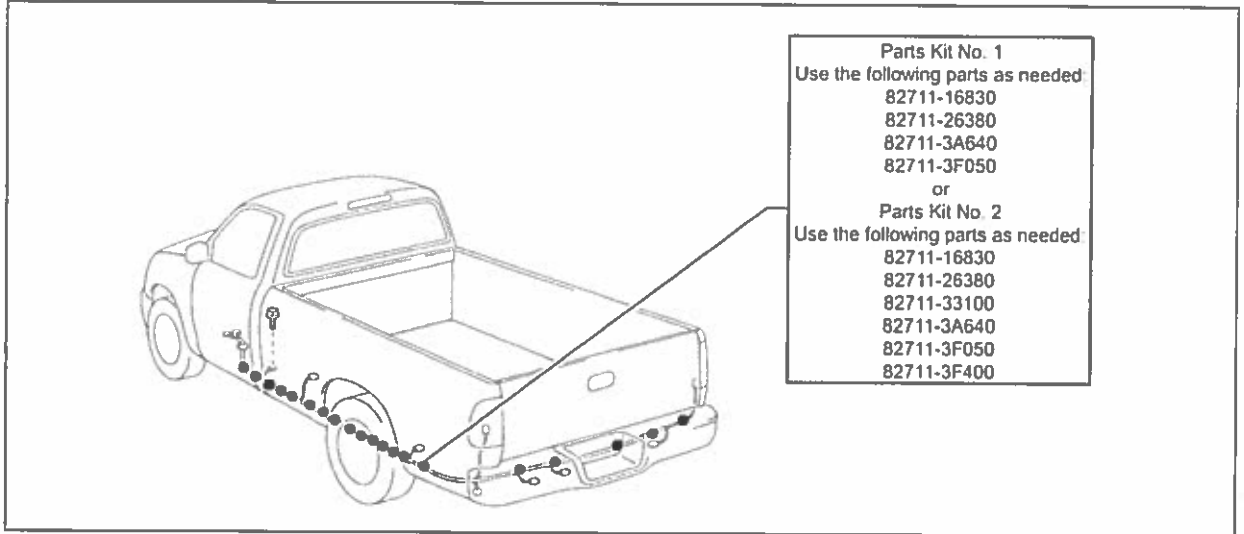
Fuel Tubes Continued...

- 05 to 06 Model Year -

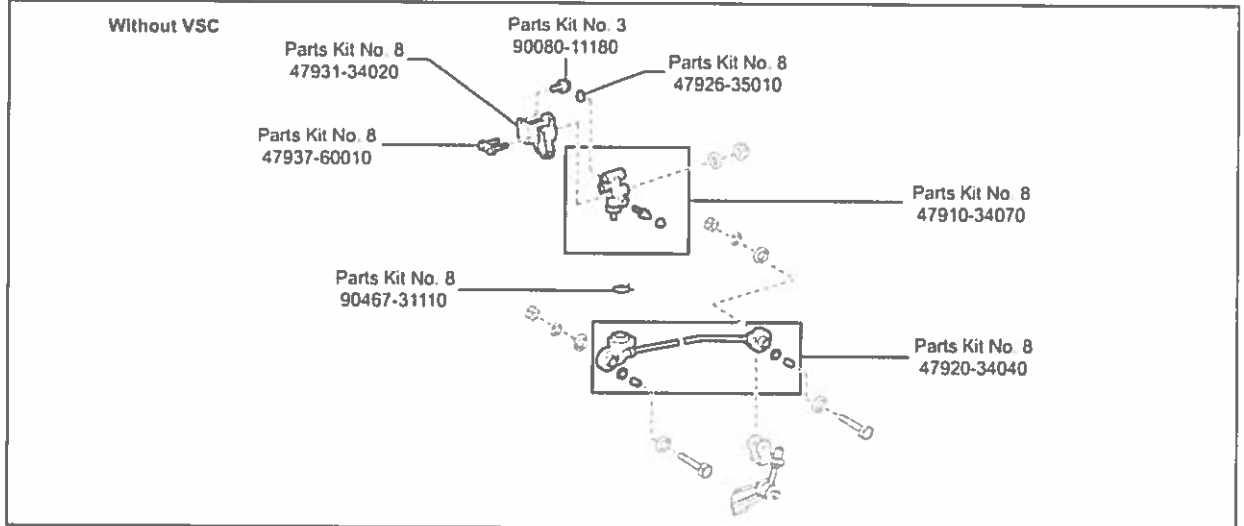
05 to 06 Model Year



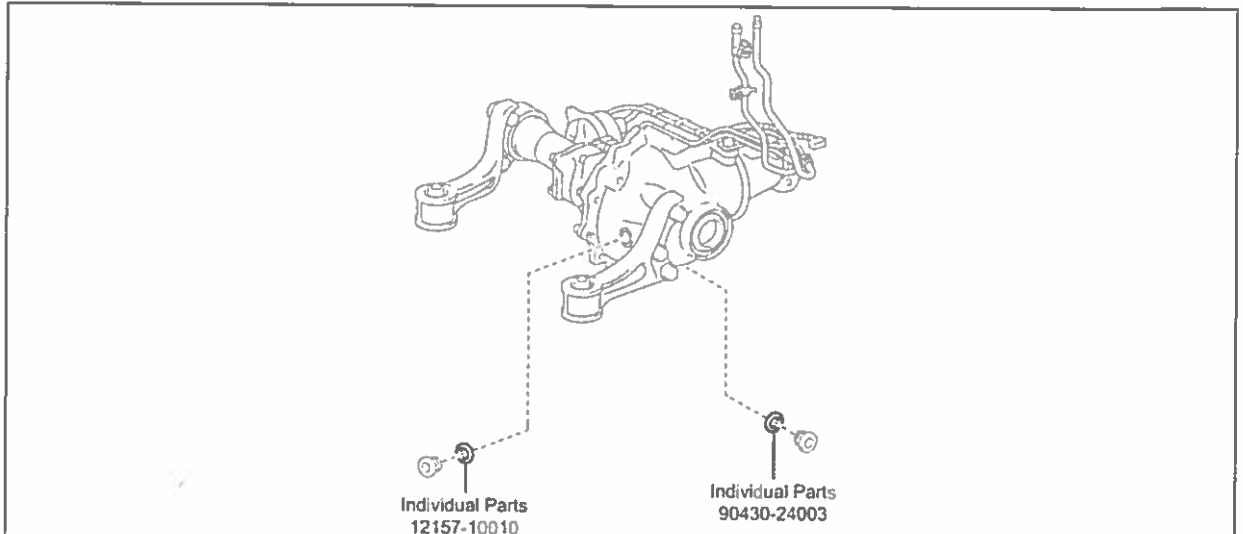
Wire Harness Clamps



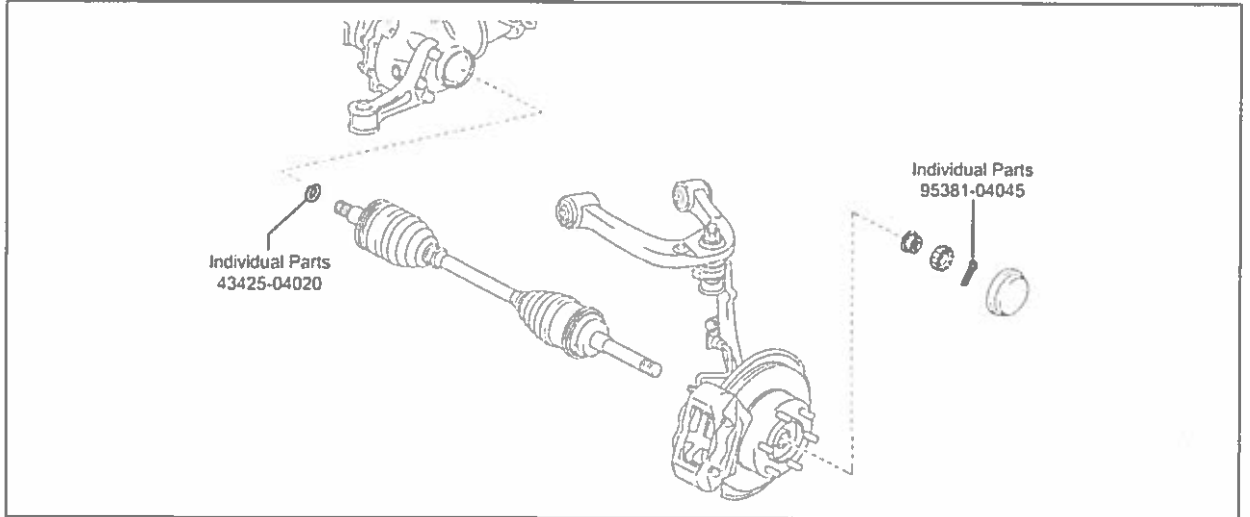
LSPV



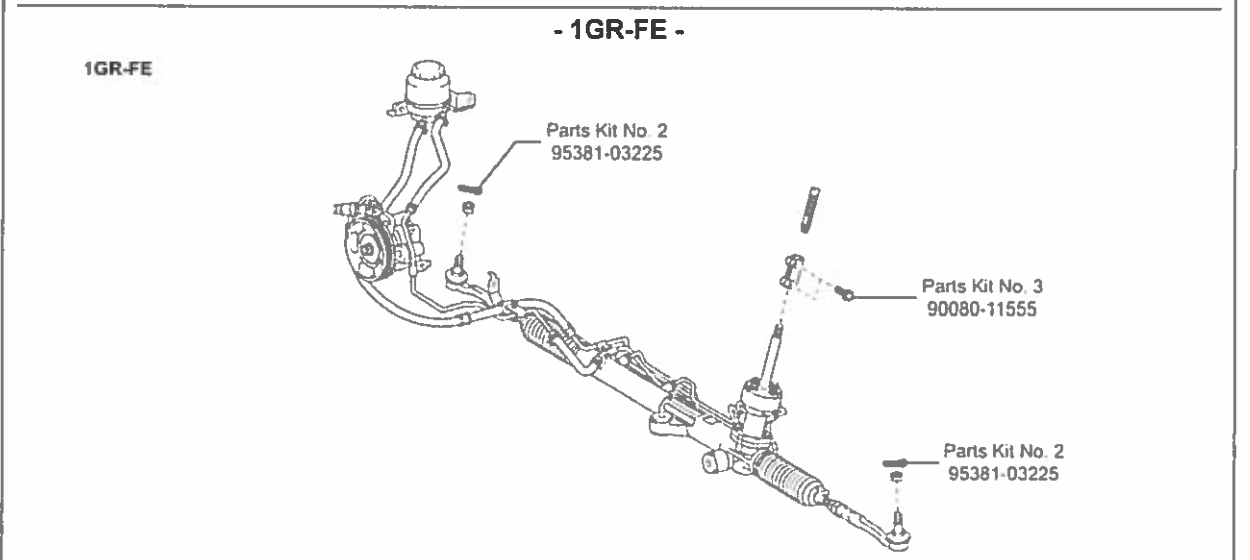
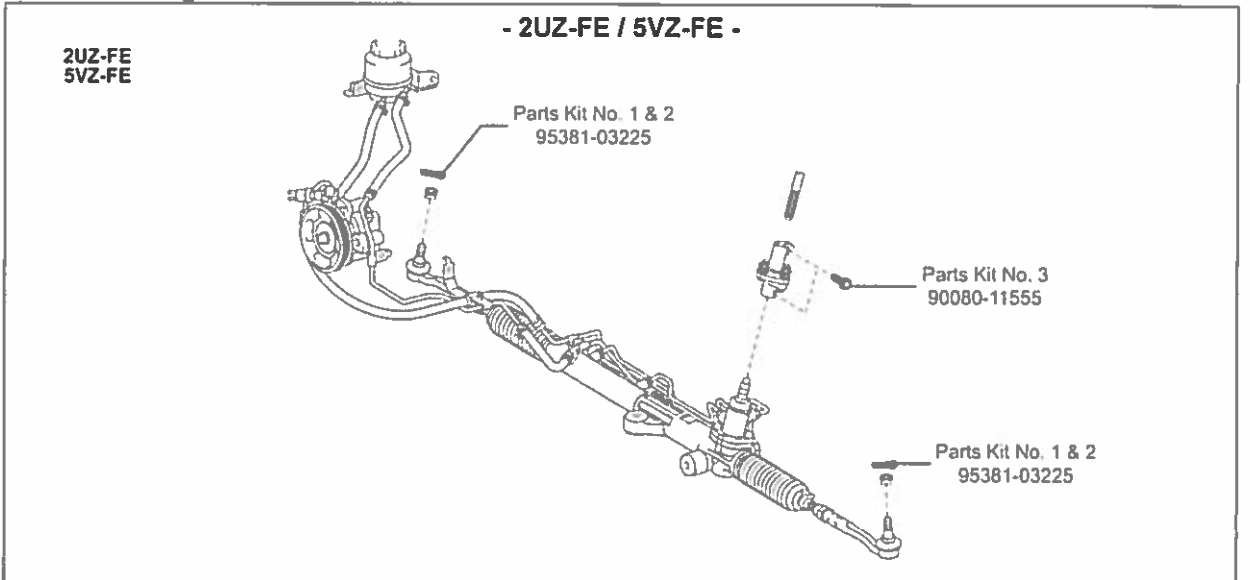
Front Differential



Front Driveshaft



Power Steering



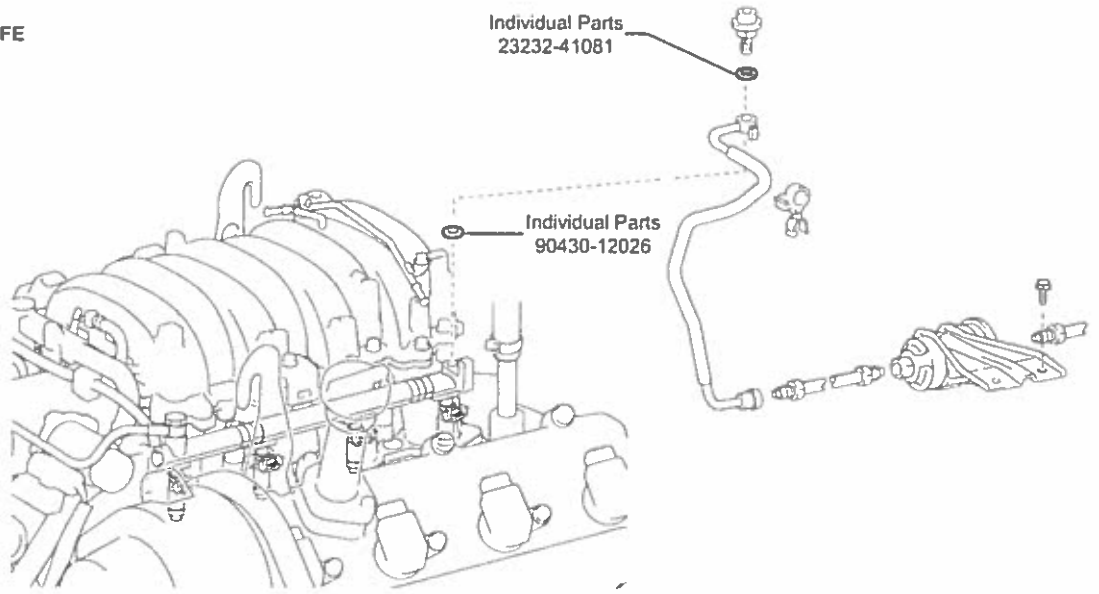
Fuel System

- 2UZ-FE -

2UZ-FE

Individual Parts
23232-41081

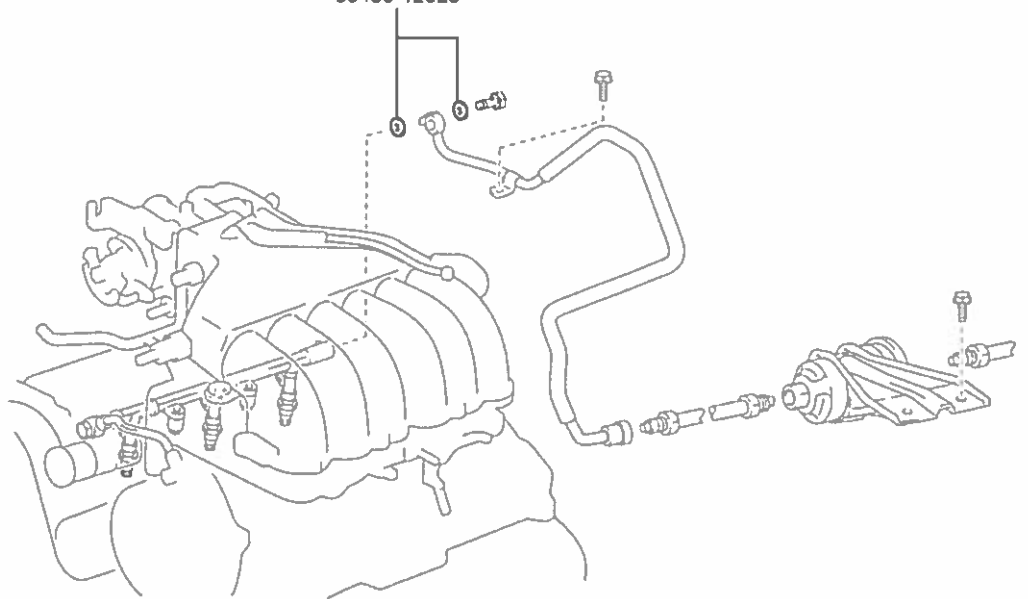
Individual Parts
90430-12026



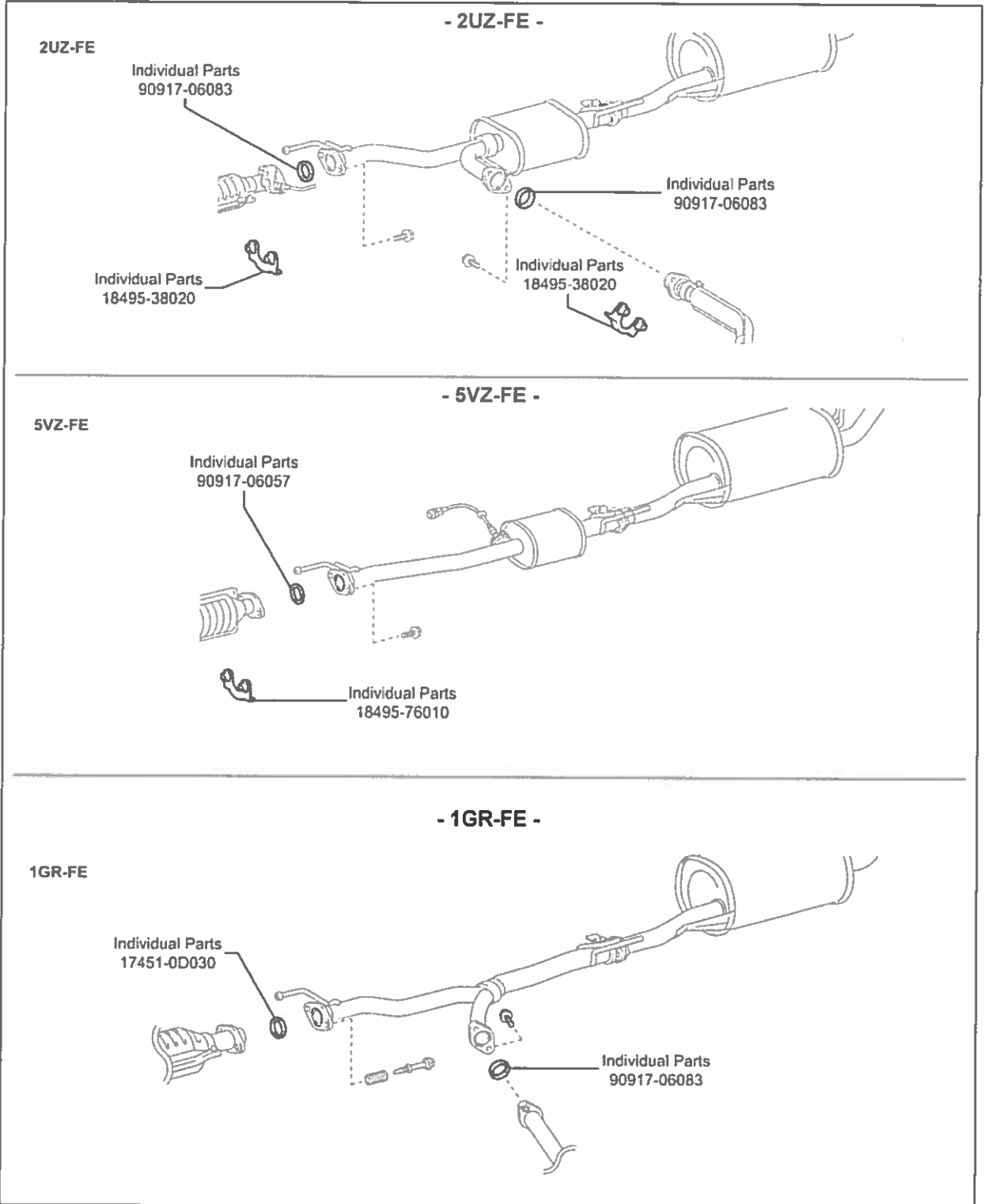
- 5VZ-FE -

5VZ-FE

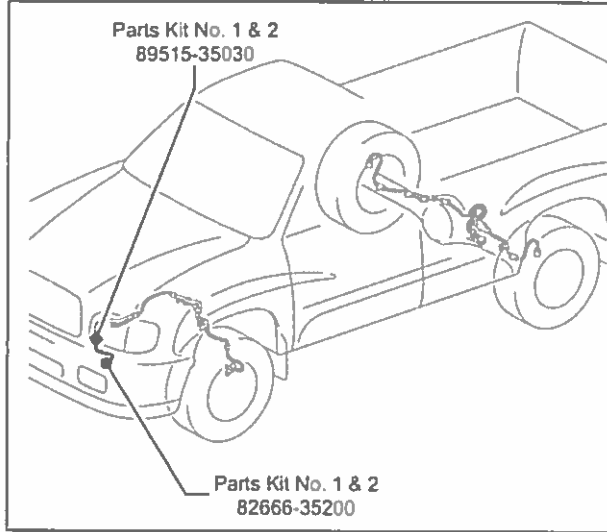
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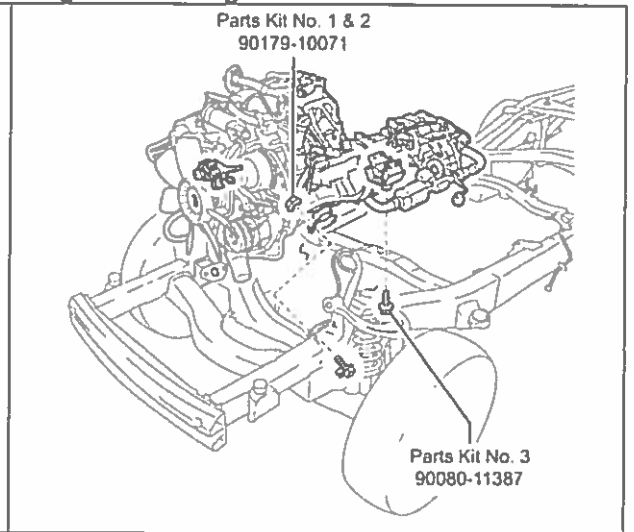
Exhaust System



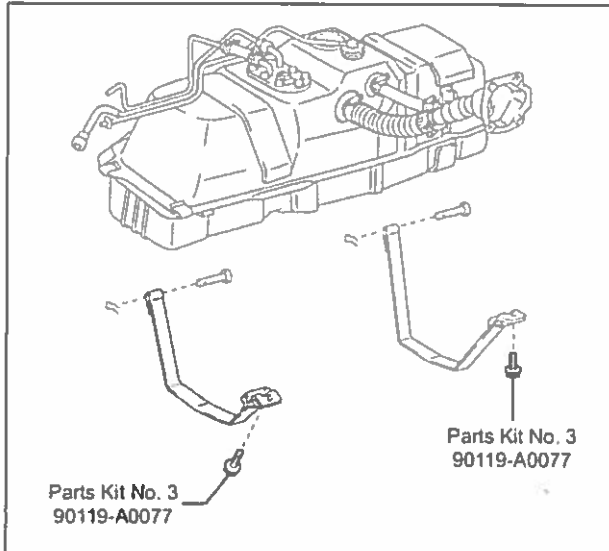
ABS



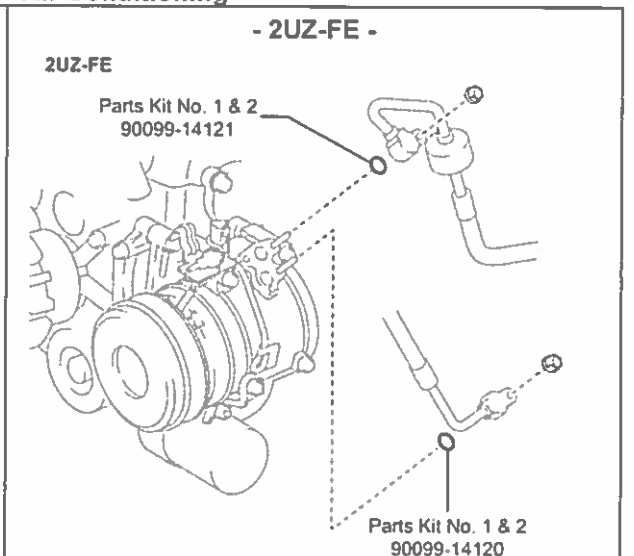
Engine Mounting



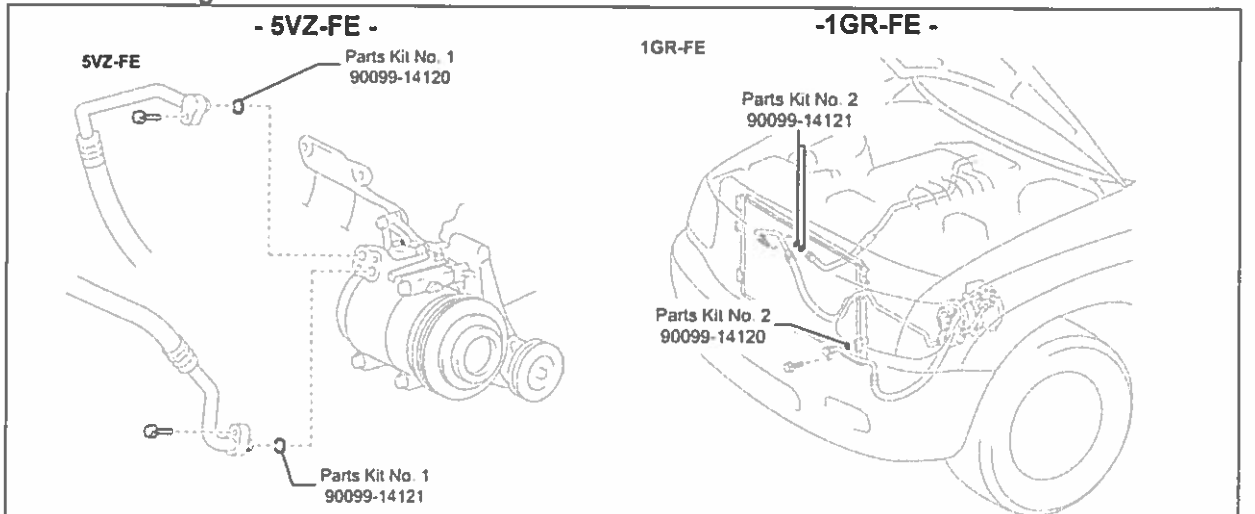
Fuel Tank



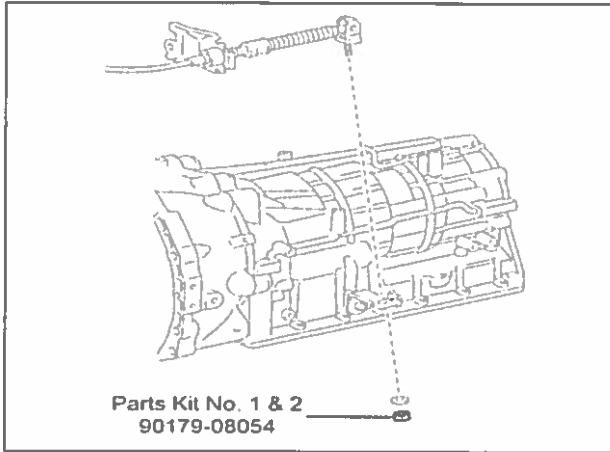
Air Conditioning



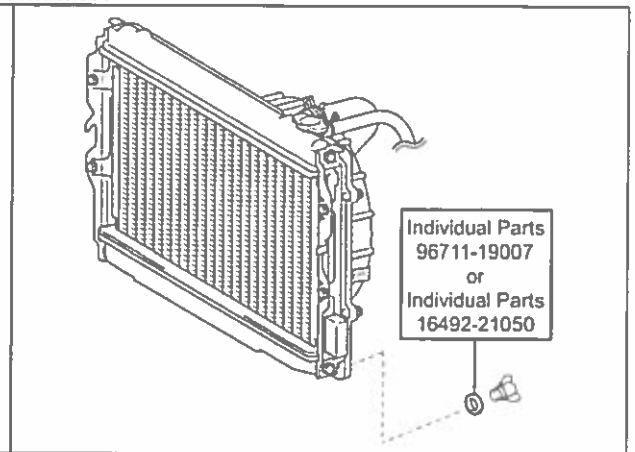
Air Conditioning



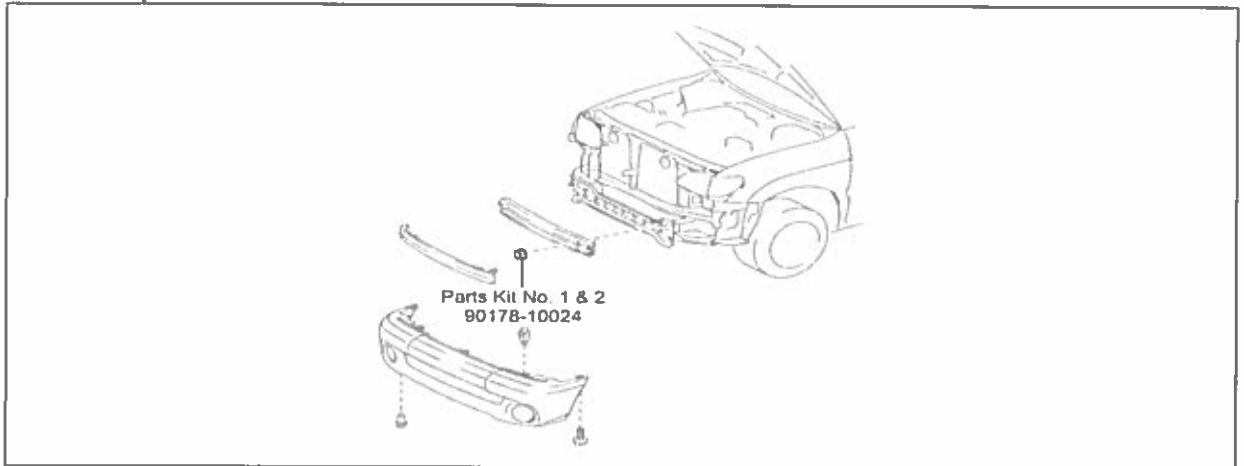
AT Shift Cable



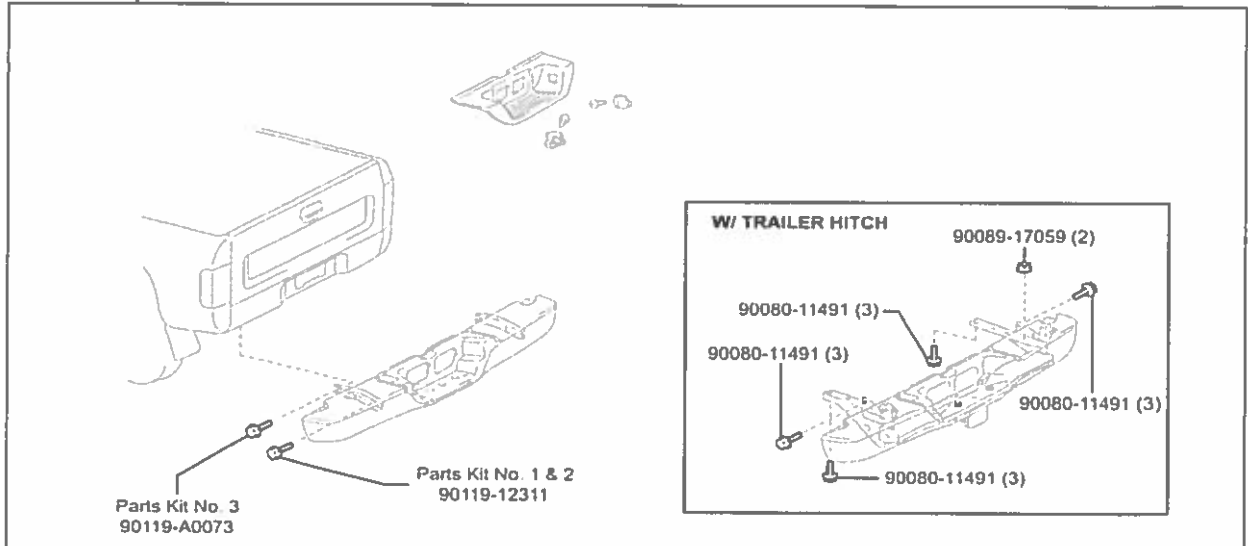
Radiator



Front Bumper



Rear Bumper



III. VEHICLE INSPECTION WORK PROCEDURE

A. PERFORM INITIAL PRE-HOIST INSPECTION

B. REMOVE THE BED ASSY



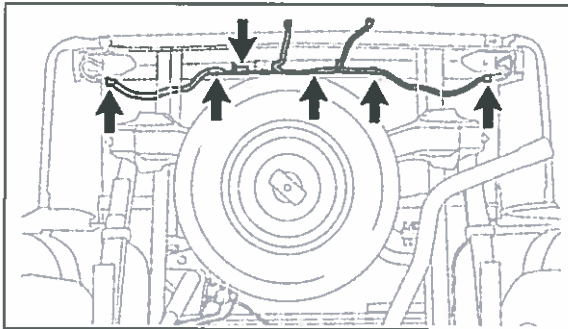
- If the frame is heavily corroded, **ONLY** raise the vehicle high enough to remove the tires.
- For added safety and support, place jack stands under the front and rear portions of the frame.
- **DO NOT** work directly underneath the vehicle when performing bed assy removal.

1. CENTER THE VEHICLE BETWEEN THE LIFT ARMS

- Verify the vehicle is aligned with the center point of the lift and with the front wheels are pointed straight to prevent interference and damage to the frame and/or lift.

2. REMOVE THE FOLLOWING PARTS

- License Plate Lights
- Center Rear Bumper Pad
- Rear Bumper Assy
- Trailer Hitch (If Equipped)
- Rear Mudguards (If Equipped)
- Side Step Assy (If Equipped)
- Fuel Tank Filler Pipe Shield
- Spare Tire

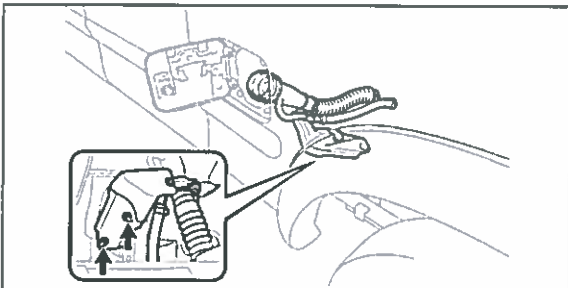


3. REMOVE THE WIRE HARNESS

- Disconnect the connectors.
- Disconnect the clamps and the wire harness from the bed assembly.

NOTE:

- The number of connectors may differ depending on the vehicle specification.
- Be careful not to damage the wire harness clamps when removing them.



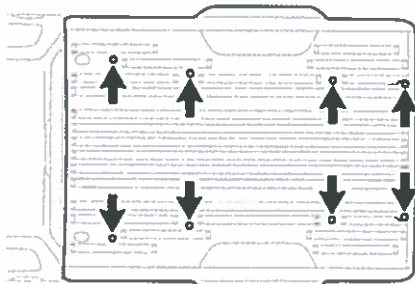
4. DISCONNECT THE FUEL INLET PIPE

- Remove the 2 nuts and disconnect the fuel inlet pipe.

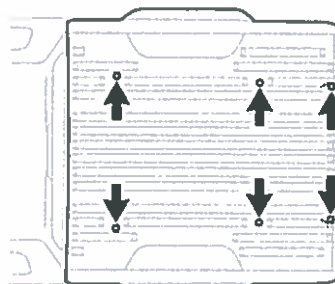
5. REMOVE THE BED ASSEMBLY

- Using a Torx® T55H Socket, remove the Torx® bolts from the bed assembly.

- Regular Cab: 8 Torx® bolts



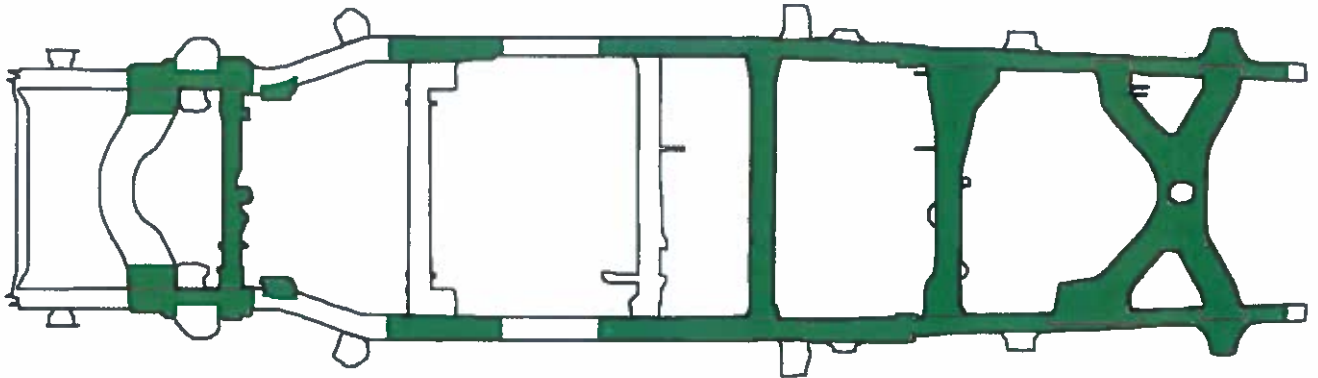
- Access Cab / Double Cab: 6 Torx® bolts




NOTE: Using 4 or more people, evenly support the bed to remove the bed assembly from the frame.

C. VISUALLY INSPECT THE FRAME

1. VISUALLY INSPECT THE SPECIFIC AREAS (HIGHLIGHTED IN GREEN) OF THE FRAME ASSEMBLY AS SHOWN FOR VISIBLE SIGNS OF PERFORATION.



Judgment Criteria	Result	Action
Perforation (hole) of 10 mm or more 	NG	<ul style="list-style-type: none"> Replace the frame Proceed to section IV. VEHICLE CONDITION INSPECTION below to begin the frame replacement process.
Perforation (hole) of less than 10 mm	OK	<ul style="list-style-type: none"> Apply Corrosion-Resistant Compound (CRC) to the vehicles frame according to the separate Technical Instruction.

NOTE: Use protective eyewear and gloves when performing the under vehicle inspection because rusted metal may flake off.

IV. VEHICLE CONDITION INSPECTION

A. VISUALLY INSPECT THE INTERIOR AND EXTERIOR OF THE VEHICLE AND NOTE ANY DAMAGES PRIOR TO BEGINNING WORK

V. FRAME REPLACEMENT WORK PROCEDURE



- Due to the size and weight of the frame, only **above-ground lifts** are to be utilized when performing the frame replacement on 2004 – 2006 Tundra Vehicles. If a dealership is not equipped with above-ground lifts, the frame replacement may need to be sublet to a body shop or other dealership business.
- The actual vehicle specs, equipment and parts required may differ than what is shown. Please use the correct specifications and parts for the model you are working on.
- For additional repair information, please reference the appropriate repair manual in TIS for the vehicle you are working on.
- As you disassemble the vehicle you may encounter parts that are in need of replacement, which are not covered by this repair procedure. If this is the case, please take the time to inform the customer that these parts can be replaced with no or minimal labor cost.

B. SAFETY CHECKLIST & PRECAUTIONS WHEN DRAINING THE FUEL SYSTEM



- Always remember "**SAFETY FIRST**".
- Be extremely careful when handling fuel to prevent fires from occurring.
- Before beginning work on the fuel system, perform the following safety check list.
- Before removing any fuel system part, drain all fuel to prevent spilling.

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 engines 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.

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

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.

■ 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**

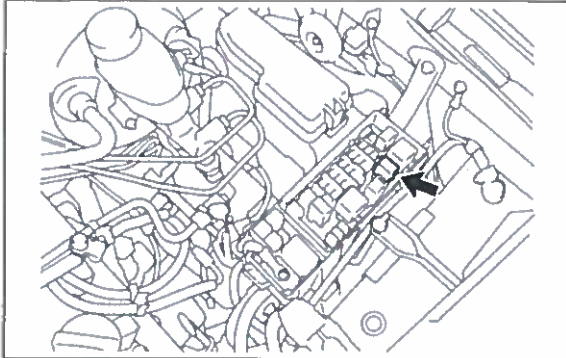
Supervisor

C. DEPRESSURIZE THE FUEL SYSTEM PRESSURE AND EVACUATE A/C REFRIGERANT



- The actual vehicle specs, equipment and parts required may differ than what is shown. Please use the correct specs and parts for the model you are working on.
- For additional repair information, please reference to the appropriate repair manual.
- **DO NOT** disconnect any part of the fuel system until you have discharged the fuel pressure.
- Even after discharging the fuel pressure, place a piece of cloth around the lines, pipe, hoses, and connectors as you separate them to reduce the risk of fuel spraying on yourself, in the engine compartment, and onto other parts.

1. CHECK FOR DTCs TO DETERMINE VEHICLE ORIGINAL OPERATING CONDITION



2. REMOVE THE FUEL PUMP RELAY

- a) Remove the junction block cover.
- b) Remove the fuel pump relay.

3. DISCHARGE THE FUEL SYSTEM PRESSURE

- a) Start the engine.
- b) After the engine has stopped, turn the ignition switch OFF.
- c) Crank the engine again to check that it does not start.

NOTE: Make sure to follow the procedure listed above; this prevents a large amount of gasoline from leaking out of the high pressure fuel line when it is disconnected.

4. EVACUATE THE A/C REFRIGERANT

D. PREPARATION FOR REMOVAL OF THE BODY ASSY

1. RECORD THE RADIO STATION PRESETS
2. DISCONNECT THE NEGATIVE (-) BATTERY TERMINAL CABLE

Note: if the vehicle is equipped with power seats, you will need to access the front seat bolts prior to disconnecting the battery in order to lift the seat to access the chassis wire.



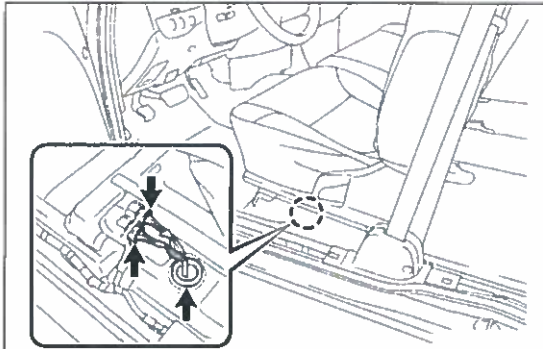
- Wait at least 90 seconds after disconnecting the negative (-) battery terminal from the battery to prevent the SRS System from deploying (i.e. airbag, seat belt pretensioner, etc.).

3. REMOVE THE FOLLOWING INTERIOR PARTS TO PREPARE THE CAB FOR REMOVAL AND ACCESS WIREHARNES CONNECTORS/CAB MOUNTING BOLTS

- Front Door Scuff Plate LH/RH (RH side for 5VZ-FE Only)
- Left Rear Door Scuff Plate (Access/Double Cab Only)
- Right Rear Door Scuff Plate (5VZ-FE Access Cab Only)
- Cowl Side Trim Board LH/RH
- Manual Trans Shift Lever (*Manual Trans Only*)
- Front Seat Bolts LH/RH (RH side for 5VZ-FE Only)
- Glove Compartment Door
- Lower No.2 Instrument Finish Panel
- No.4 Heater To Register Duct
- Transfer Case Shift Lever (5VZ-FE 4WD)

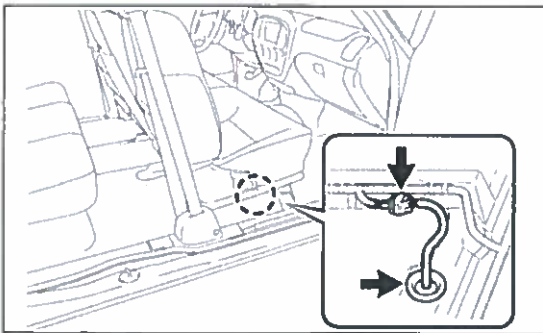


- The actual vehicle specs, equipment and parts required may differ than what is shown. Please use the correct specs and parts for the model you are working on.
- For additional repair information, please reference to the appropriate repair manual.



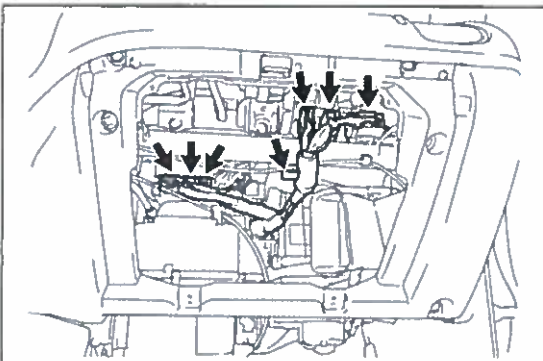
4. DISCONNECT THE FRAME WIRE CONNECTORS

- a) Fold back the floor carpet and disconnect the oxygen sensor wire harness connector.
- b) Disconnect the oxygen sensor wire harness grommet.
- c) Pull out the frame wire harness from the vehicle cab.



5. DISCONNECT THE OXYGEN SENSOR WIRE HARNESS CONNECTOR (5VZ-FE ONLY)

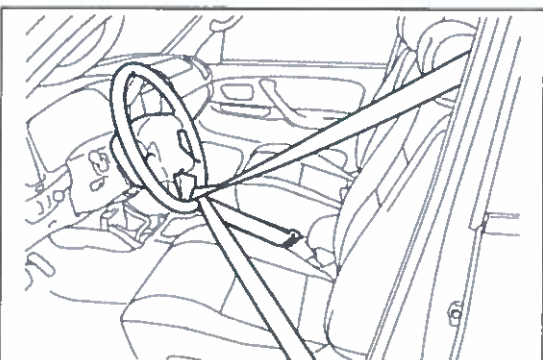
- a) Fold back the floor carpet and disconnect the connector(s).
- b) Disconnect the frame wire harness grommet.
- c) Pull out the oxygen sensor wire harness from the vehicle cab.



6. DISCONNECT THE ENGINE WIRE HARNESS

- a) Disconnect the connectors and clamp.

NOTE: The number of connectors will differ depending on the vehicle specs.



7. SECURE THE STEERING WHEEL

- a) Make sure the front wheels are in a straight-ahead position and the steering wheel is centered.
- b) Using the seat belt, hold the steering wheel in position as shown in the illustration, in order to prevent damage to the spiral cable.

8. DISCONNECT THE A/C DISCHARGE HOSE AND SUCTION HOSE



- Place jack stands under the front and rear portions of the frame to support the frame.
- **DO NOT** work directly underneath vehicle when preparing the vehicle for cab body assy removal, unless noted.
- The actual vehicle specs, equipment and parts required may differ than what is shown. Please use the correct specs and parts for the model you are working on.
- For additional repair information, please reference to the appropriate repair manual for the vehicle you are working on.

9. LIFT VEHICLE

10. REMOVE THE FOLLOWING PARTS UNDER VEHICLE COMPONENTS

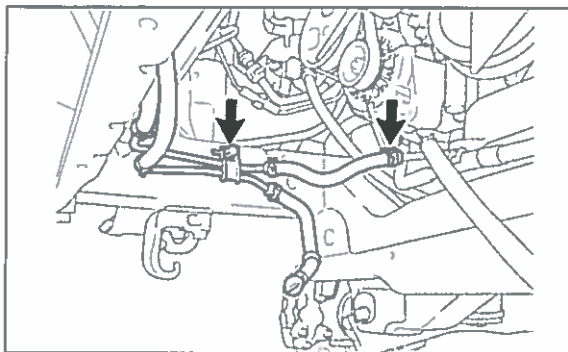
- No.1 Engine Under Cover

NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.

11. DRAIN THE FOLLOWING FLUIDS

- Engine Coolant (including the engine block)
- Clutch Fluid (*Manual Transmission Only*)
- Brake Fluid
- Front Differential Oil (*4WD Only*)

Note: **DO NOT** remove the radiator cap while the radiator and engine are hot, as doing so may cause the coolant to spray out causing potential injuries.



12. REMOVE THE OIL COOLER PIPE (2UZ-FE/1GR-FE ONLY)

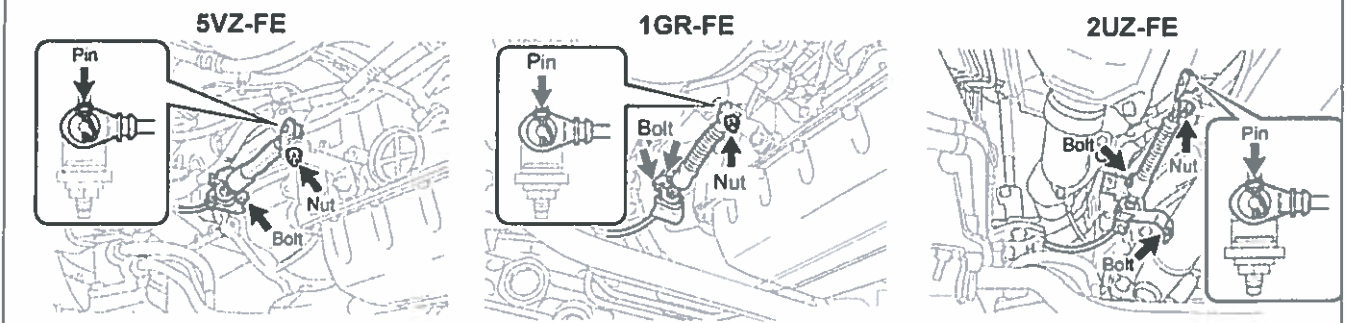
- Disconnect the hose.
- Remove the bolt and oil cooler pipe.

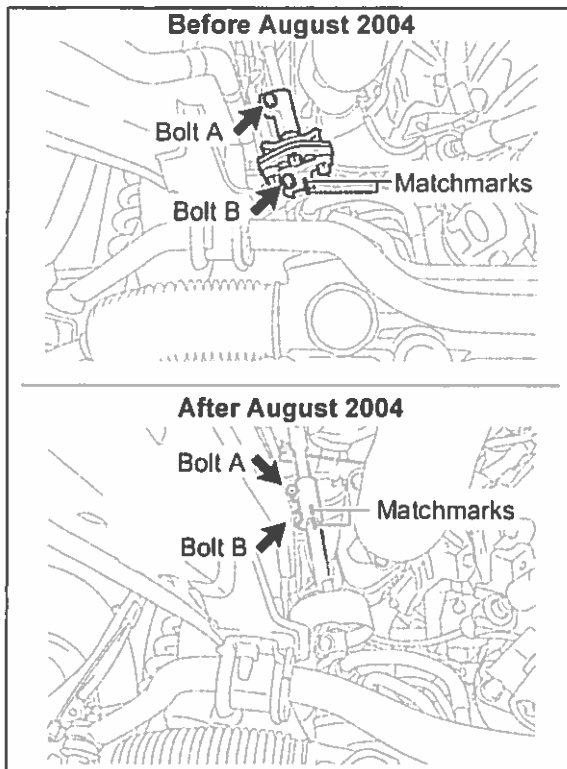
13. DISCONNECT THE TRANSMISSION SHIFT CABLE

- Remove Heat Shield (*2UZ-FE*)
- Remove the pin and washer.
- Remove the bolt(s) and disconnect the shift cable.

NOTE:

- If the pin is difficult to remove, remove the nut and then the cable.
- Use precaution when performing this step, as you will need to work underneath the vehicle.



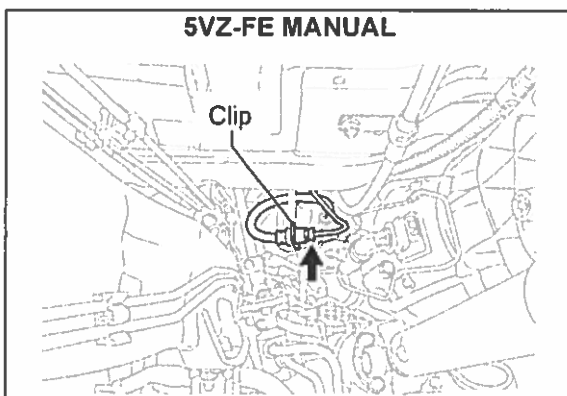


14. REMOVE THE NO. 2 STEERING INTERMEDIATE SHAFT

NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.

- a) Place match marks on the No.2 intermediate shaft and control valve shaft.
- b) Loosen bolt "A" and remove bolt "B".
- c) Slide the No.2 steering intermediate shaft and remove it.

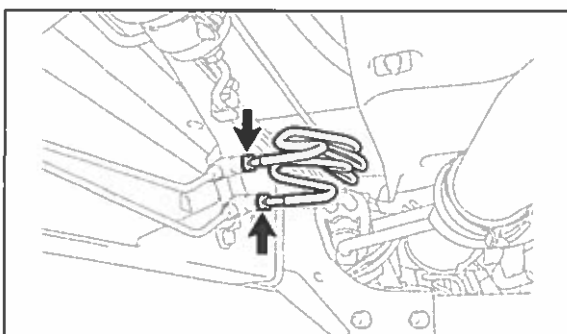
NOTE: If the No. 2 intermediate shaft assy. is stuck, tap it from below with a brass hammer to disconnect it.



15. DISCONNECT THE CLUTCH MASTER CYLINDER TUBE (5VZ- FE MANUAL TRANSMISSION VEHICLES ONLY)

NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.

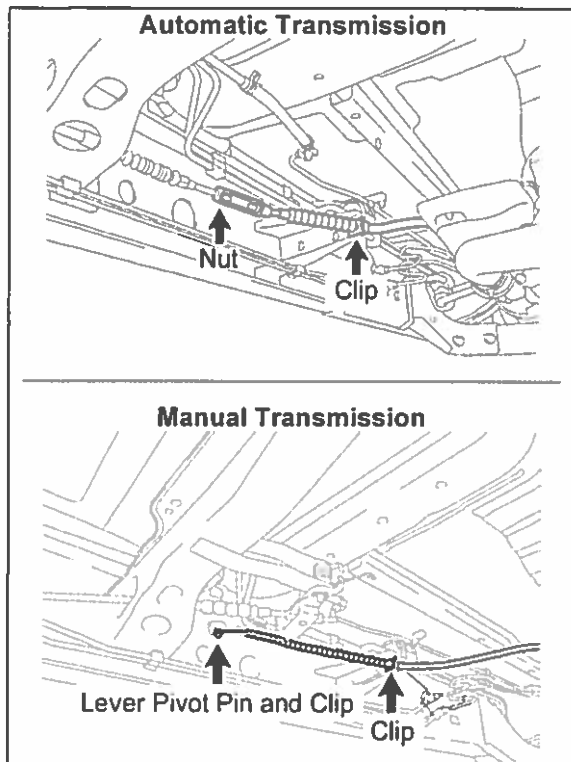
- a) Disconnect the clutch master cylinder tube.
- b) Remove the clip and disconnect the clutch hose.



16. DISCONNECT THE REAR BRAKE TUBES

- a) Using a flare nut wrench, disconnect the 2 rear brake tubes.

NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.



17. DISCONNECT THE NO. 1 PARKING BRAKE CABLE

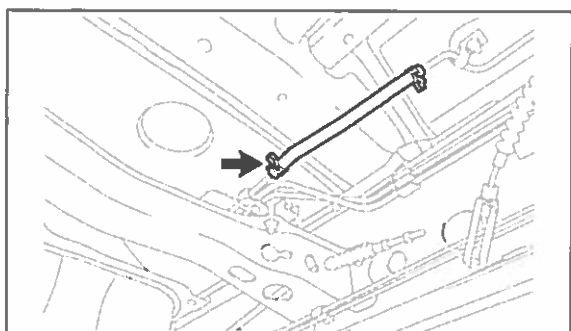
For Automatic Transmission Vehicles:

- a) Loosen the nut and separate the No.1 parking brake cable.
- b) Remove the clip and the No.1 parking brake cable.

For Manual Transmission Vehicles:

- a) Remove the clip and lever pivot pin.
- b) Remove the clip and the No.1 parking brake cable.

NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.



18. DISCONNECT THE NO.1 FUEL HOSE

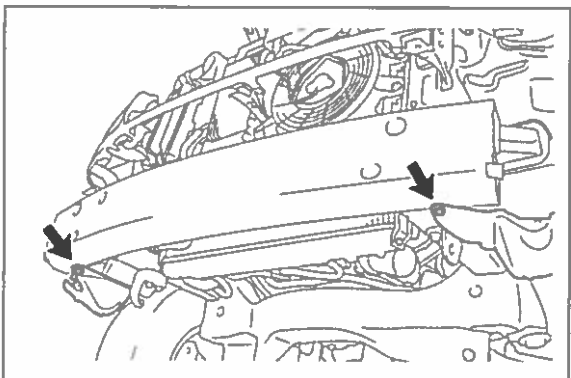
- a) Remove the clip and disconnect the No.1 fuel hose.

NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.

19. LOWER THE VEHICLE PART WAY DOWN

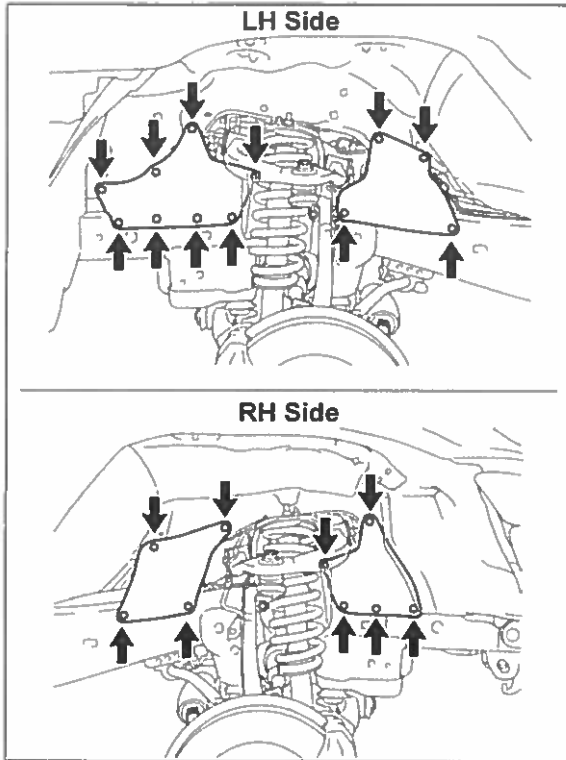
20. REMOVE THE FOLLOWING COMPONENTS

- Front Wheels
- Front Fender Mudguard LH/RH (*If Equipped*)
- Front Bumper Assy
- Front Bumper Energy Absorber



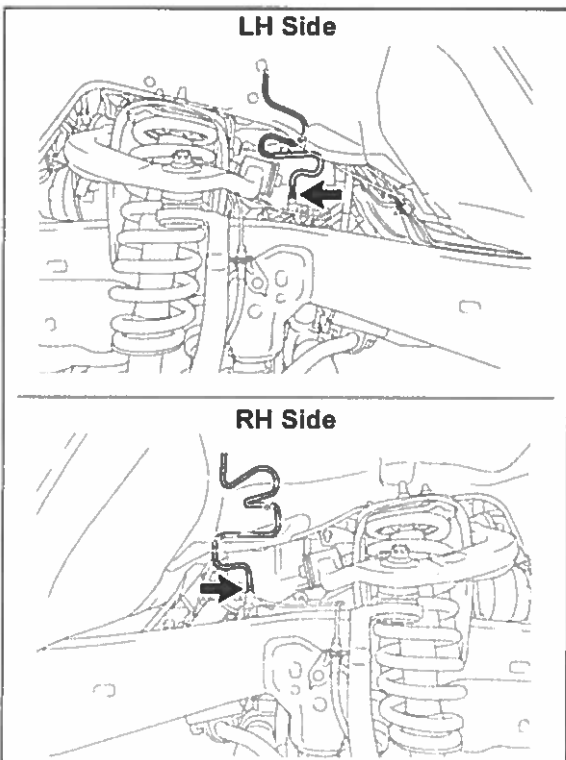
21. DISCONNECT THE FRONT FENDER LINERS

- a) Remove the 2 screws and disconnect the front fender liners from the front bumper reinforcement.



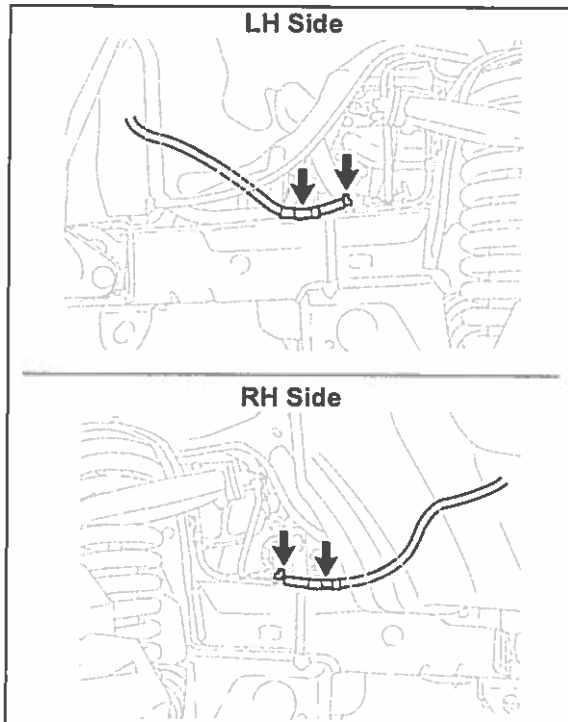
22. REMOVE THE FRONT FENDER APRON SEALS

- a) Remove the 21 clips and 4 front fender apron seals.



23. DISCONNECT THE FRONT BRAKE TUBES

- a) Disconnect the front brake tube.
- b) Repeat the procedure on the opposite side.



24. DISCONNECT THE FRONT SPEED SENSOR CONNECTORS

- a) Disconnect the clamp and front speed sensor connector.
- b) Repeat the procedure on the opposite side.

25. REINSTALL FRONT WHEELS

26. LOWER THE VEHICLE TO THE GROUND

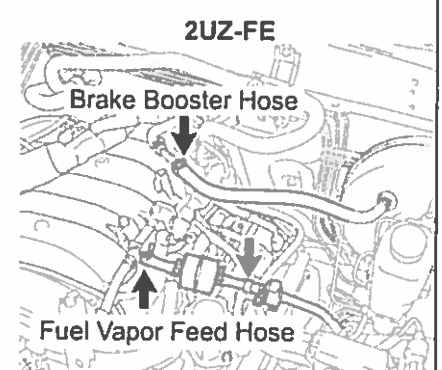
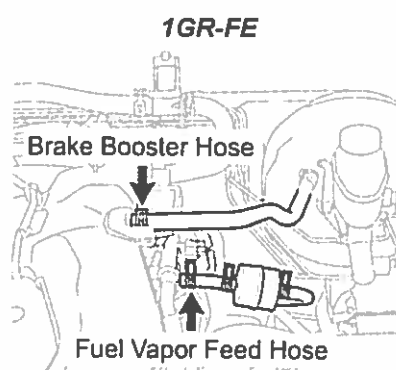
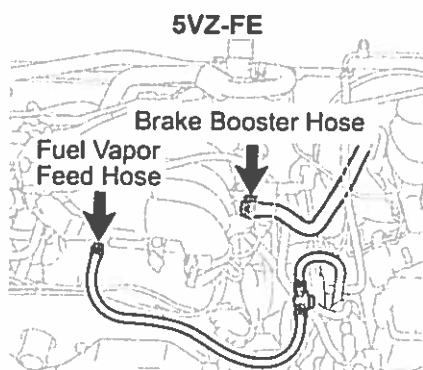
27. REMOVE/DISCONNECT THE FOLLOWING PARTS FROM ENGINE COMPARTMENT AREA

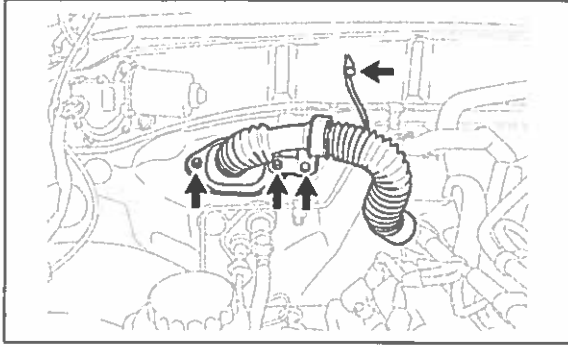
- Throttle Body Cover
- V-Bank Cover (*1GR-FE Only*)
- Air Cleaner Assy & Hose
- Disconnect Accelerator Control Cable(*5VZ-FE Only*)
- Coolant/Heater Hoses (engine side)
- Fan Shroud
- External Trans Cooler (*If Equipped*)
- Radiator Assy
- A/C Compressor Discharge & Suction Hoses

NOTE: After disconnecting the automatic transmission oil cooler hoses and A/C lines, plug them and cap the fittings to prevent oil from spilling out and debris from entering the system.

28. DISCONNECT THE FOLLOWING ENGINE COMPARTMENT HOSES

- a) Disconnect the brake booster hose.
- b) Disconnect the fuel vapor feed hose.

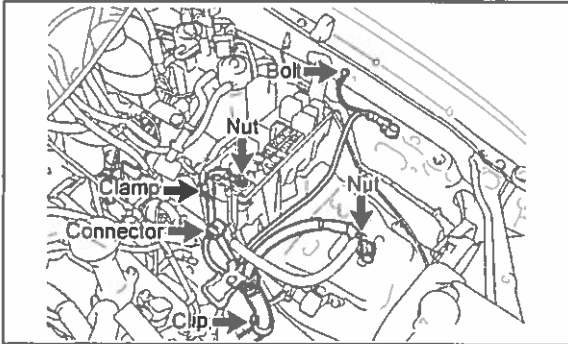




29. DISCONNECT THE ENGINE WIRE HARNESS

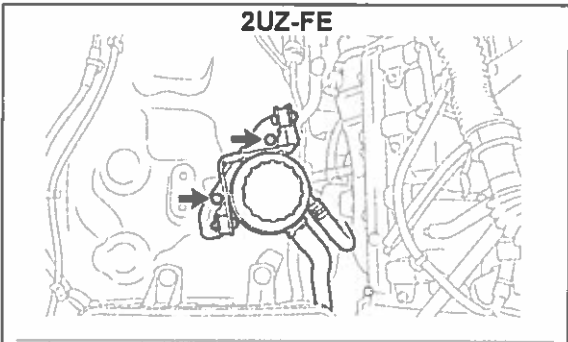
- a) Remove the bolt and disconnect the ground wire from cowl panel.
- b) Remove the bolt and the 2 nuts holding the engine wire harness connector from the cowl panel.
- c) Gently pull the engine wire harness out from body assembly.

Note: Ensure all connectors have been previously disconnected from the glove compartment to ensure you do not damage the wire harness.



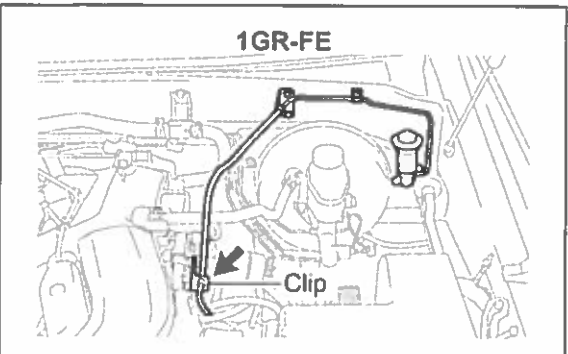
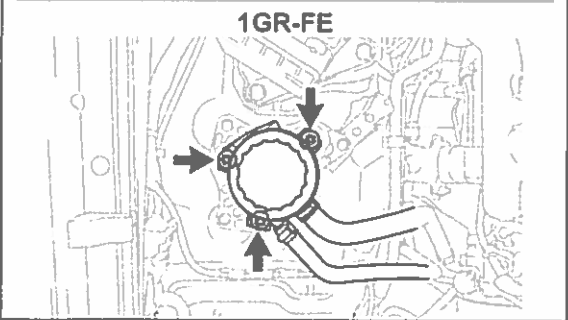
30. DISCONNECT THE NO.2 ENGINE WIRE HARNESS

- a) Remove the relay box cover.
- b) Disconnect the connector and clamp.
- c) Remove the bolt and disconnect the ground wire.
- d) Remove the nut and disconnect the positive (+) battery cable.
- e) Remove the clip and disconnect the No.2 engine wire harness.



31. DISCONNECT THE POWER STEERING PUMP OIL RESERVOIR (2UZ-FE/1GR-FE ONLY)

- a) Remove the 2 nuts and disconnect the vane pump oil reservoir (*2UZ-FE Only*).
- b) Remove the 3 nuts and disconnect the vane pump oil reservoir (*1GR-FE Only*).



32. DISCONNECT THE CLUTCH MASTER CYLINDER TUBE (1GR-FE MANUAL TRANSMISSION VEHICLES ONLY)

NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.

- c) Disconnect the clutch master cylinder tube.
- d) Remove the clip and disconnect the clutch hose.

E. REMOVAL OF THE BODY ASSY

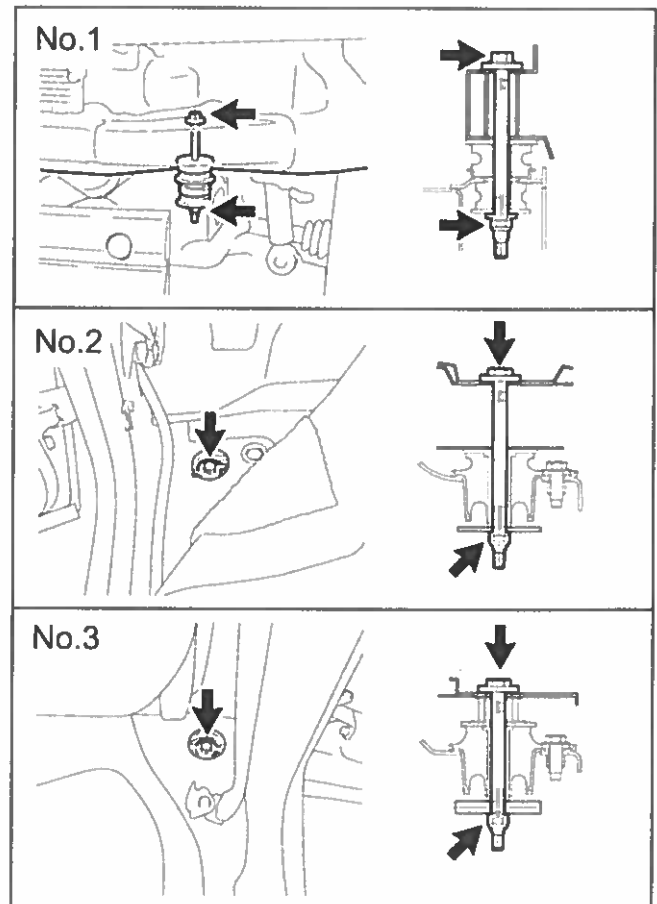
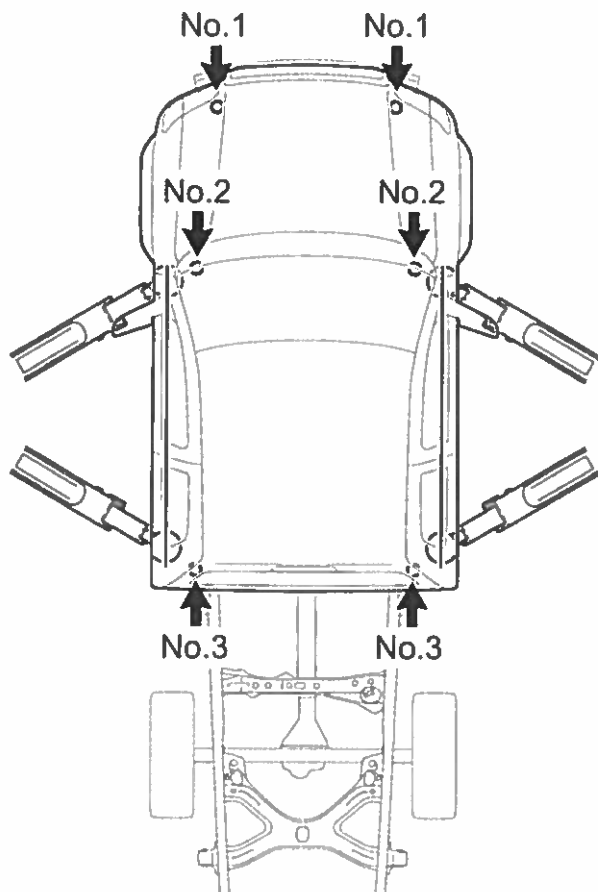
33. REMOVE THE CAB BODY ASSY USING AN ABOVE GROUND LIFT

Note: Before rolling chassis out, mark the location of the tires on the floor, this will help align the chassis when the cab is reinstalled.

- Remove the 6 nuts and 6 washers.
- Set the lift arms under the cab body assy. so they **DO NOT** interfere with the frame or cab mounts.
- Check that all wire harnesses, hoses, cables and the steering shaft are disconnected.
- Lift the cab assy up slowly, making sure it does not interfere with anything while being raised.
- Raise the cab assy high enough so that the top of the engine clears the lowest point of the cab assy.
- Pull the frame assy out from under the cab assembly.
- Lower the cab assy all the way down and leave it on the lift.

NOTE:

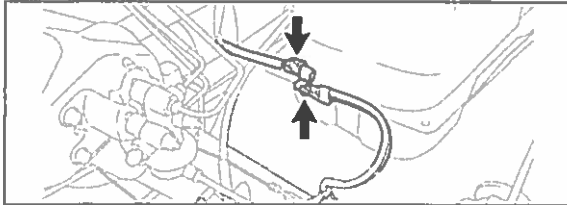
- Center the cab assy weight on the lift arms so that it does not slant/tilt to one side.
- Raise the cab assy slightly off the frame and verify that it is held securely by the lift arms.
- DO NOT** work directly underneath the vehicle when pulling the frame assy out from under it.
- DO NOT** remove the cab mount bolts, as they will be used as guides during the cab assy. reinstallation process.



F. DISASSEMBLE THE FRAME

1. PLACE THE FRAME ON A 2ND LIFT

- a) Place the frame on the 2nd lift, and secure it with a ratcheting tie down strap. This will prevent the frame from tilting or falling off as parts are removed.
- Ratcheting Tie Down: Qty: 1
 - Dimensions: 2 in X 27 ft
 - Minimum Work Load Capacity: 3,000 lbs



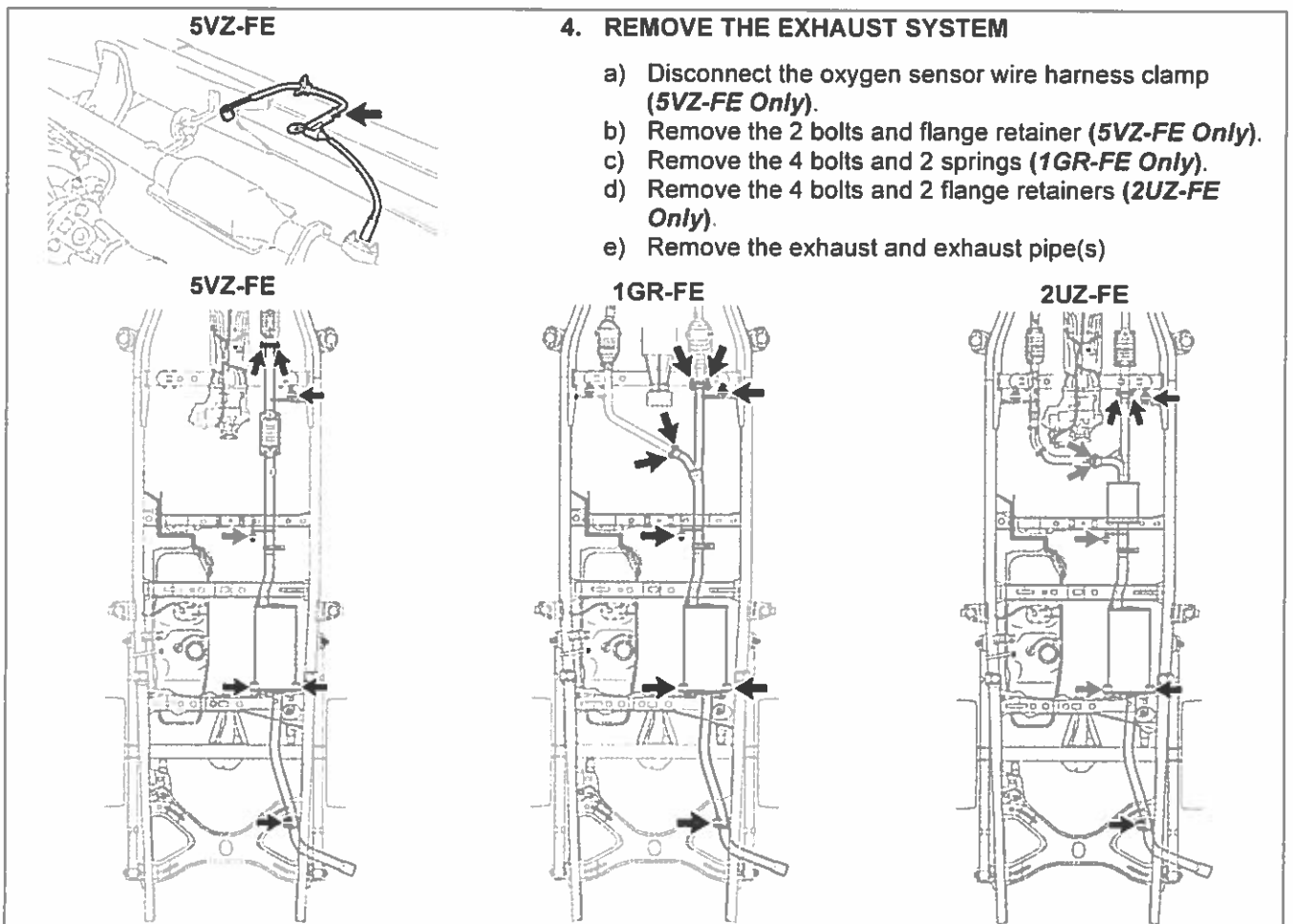
2. DISCONNECT THE REAR SPEED SENSOR CONNECTOR

- a) Remove the nut and disconnect the rear speed sensor connector.

3. REMOVE THE FOLLOWING PARTS

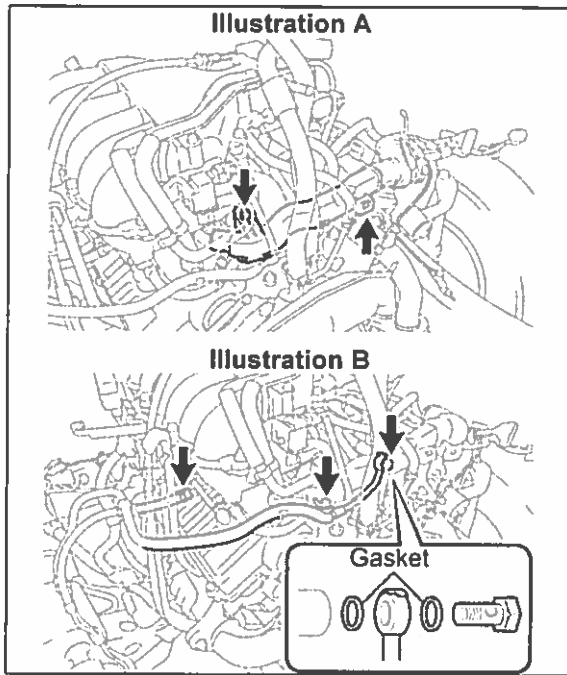
- Front Propeller Shaft (*4WD Only*)
- Rear Propeller Shaft
 - Insert SST 09325-40010 into transmission after the rear propeller shaft is removed to prevent oil leakage (*2WD Only*).
- Fuel Tank Straps
- Fuel Tank
- Charcoal Canister Assy

NOTE: Place match marks on the front (if equipped) and rear propeller shafts before removal.



4. REMOVE THE EXHAUST SYSTEM

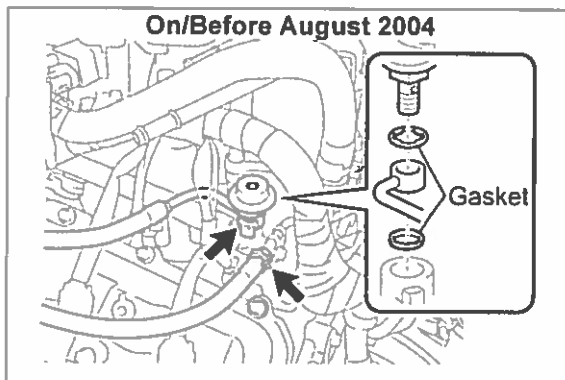
- a) Disconnect the oxygen sensor wire harness clamp (*5VZ-FE Only*).
- b) Remove the 2 bolts and flange retainer (*5VZ-FE Only*).
- c) Remove the 4 bolts and 2 springs (*1GR-FE Only*).
- d) Remove the 4 bolts and 2 flange retainers (*2UZ-FE Only*).
- e) Remove the exhaust and exhaust pipe(s)



5. DISCONNECT THE FUEL PIPES AND HOSES

For 5VZ-FE Vehicles:

- Remove the bolt and wire harness clamp (Illustration A).
- Remove the bracket bolt (Illustration B).
- Remove the union bolt and the main fuel pipe (Illustration B).
- Remove the 2 gaskets (Illustration B).
- Remove the clip and disconnect the fuel return hose (Illustration B).

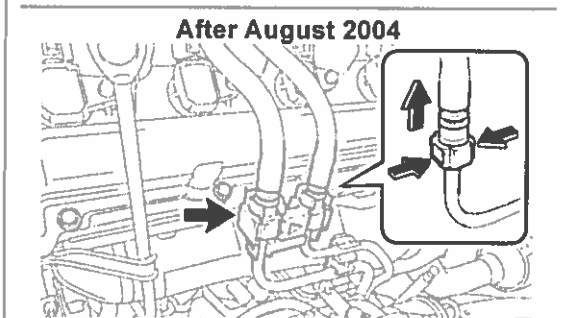


For 2UZ-FE Vehicles Produced On Or Before August 2004)

- Remove the pulsation damper with SST 09612-24011, and disconnect the main fuel hose.
- Remove the 2 gaskets.
- Remove the clip and disconnect the fuel return hose.

NOTE:

- Put a shop towel under the delivery pipe to catch any spilled fuel.
- Slowly loosen the pulsation damper.

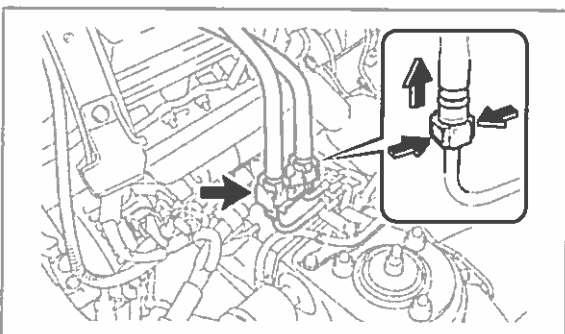


For 2UZ-FE Vehicles Produced After August 2004)

- Remove the fuel pipe clamp.
- Disconnect the 2 fuel pipes.

NOTE:

- Be sure to remove them by hand.
- When the connector and the pipe are stuck, pinch the fuel pipe with fingers and push the fuel tube connector to the fuel pipe by pressing the release buttons, then pull the connector out.



For 1GR-FE Vehicles:

- Remove the fuel pipe clamp.
- Disconnect the 2 fuel pipes.

NOTE:

- Be sure to remove them by hand.
- When the connector and the pipe are stuck, pinch the fuel pipe with fingers and push the fuel tube connector to the fuel pipe by pressing the release buttons, then pull the connector out from the pipe. Do not use any tools at this time.

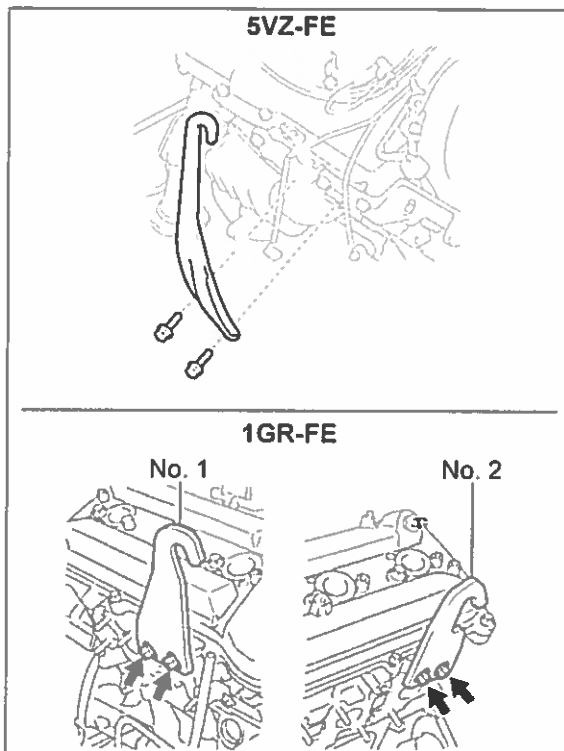
6. REMOVE THE DRIVE BELT

7. REMOVE AND SET A SIDE THE POWER STEERING PUMP ASSY

- Remove the drive belt.
- Disconnect the connector (*5VZ-FE / 1GR-FE Only*).
- Remove the 2 bolts and the nut (*2UZ-FE Only*) or the bolt and the nut (*5VZ-FE Only*) or the 2 bolts (*1GR-FE Only*) and the power steering vane pump.

NOTE:

- DO NOT disconnect the power steering pump hoses or lines.
- Make sure to keep the power steering pump reservoir in an upright position to prevent the fluid from leaking out.



8. REMOVE THE ENGINE AND TRANSMISSION ASSY.

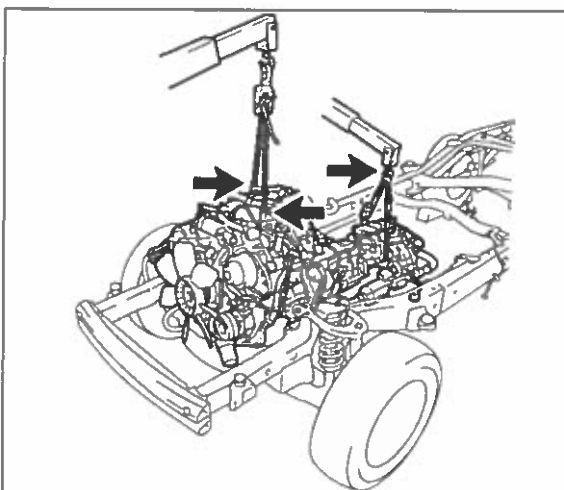
- Disconnect and remove the necessary items/parts to prepare the engine and transmission assy for removal.
- Install the engine hanger(s) (*5VZ-FE / 1GR-FE Only*).

For 5VZ-FE Vehicles:

12282-62070 = Engine Hanger No. 1, Qty: 1
90119-10684 (90080-11443) = Bolt, Qty: 2

For 1GR-FE Vehicles:

12281-31060 = Engine hanger No. 1, Qty: 1
12282-31040 = Engine hanger No. 2, Qty: 1
90119-08A87 = Bolt, Qty: 4



- Remove the engine and transmission assy.

NOTE:

- When removing the engine and transmission assy, ALWAYS use 2 engine hoists or mini cranes to lift it.
- DO NOT use 1 engine hoist or mini crane to lift the engine and transmission assy, as the unbalanced weight may lead to an accident or injury.
- ONLY use engine hoists or mini cranes that can properly support the weight of the engine and transmission assy.
- Carefully adjust the 2 engine hoists or mini cranes used so that the engine and transmission assy is properly balanced.

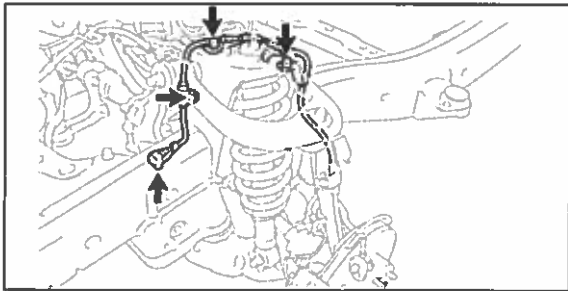
9. REMOVE THE 4 WHEELS



10. DISCONNECT THE FRONT BRAKE HOSE

- a) Disconnect the front brake tube from the brake hose.
- b) Remove the clip and disconnect the front brake hose.
- c) Repeat the procedure on the opposite side.

NOTE: Plug the brake hose to ensure no debris enters.



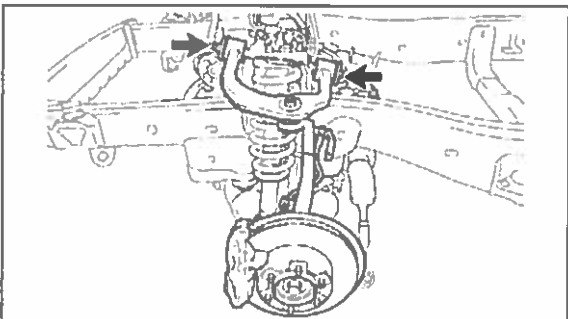
11. DISCONNECT THE FRONT SPEED SENSOR WIRE HARNESS

- a) Remove the 2 bolts, 2 clamps and the connector.
- b) Repeat the procedure on the opposite side.

12. REMOVE THE FOLLOWING PARTS

- Front Stabilizer Bar
- Front Axle Shaft Nut (*4WD Only*)
- The Tie Rod End
 - Remove the cotter pin and nut.
 - Using the SST 09610-20012, disconnect the tie rod end.
- Lower Ball Joint
 - Remove the cotter pin and nut.

Using the SST 09628-62011, disconnect the lower ball joint.



13. REMOVE THE FRONT SUSPENSION UPPER ARM AND STEERING KNUCKLE ASSY

- a) Remove the bolt, nut, 2 washers and front suspension upper arm and steering knuckle assy.
- b) Repeat the procedure on the opposite side.

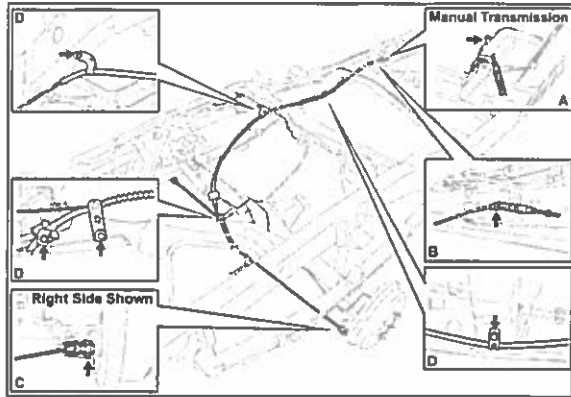
NOTE: If the drive shaft is difficult to disconnect, tap the drive shaft loose with a plastic hammer.

14. REMOVE THE FOLLOWING PARTS

- Front Shock Absorber
- Power Steering Link Assembly w/ Power Steering Vane Pump
- Front Drive Shaft (*4WD Only*)
- Front Differential Carrier (*4WD Only*)

NOTE:

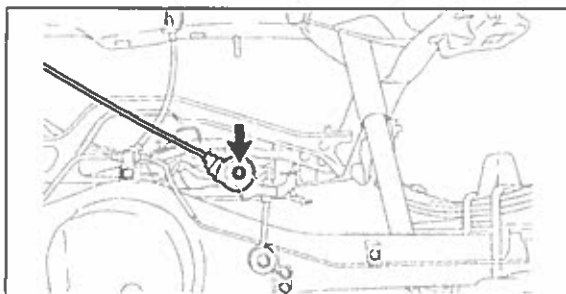
- When removing the power steering link with the vane pump attached, have one person support the power steering link and the other support the vane pump.
- Make sure to keep the power steering pump reservoir in an upright position to prevent the fluid from leaking out.
- If the drive shaft is difficult to remove tap it with a plastic hammer.
- Be careful not to damage the dust cover and oil seal.



15. REMOVE THE NO.2 PARKING BRAKE CABLE

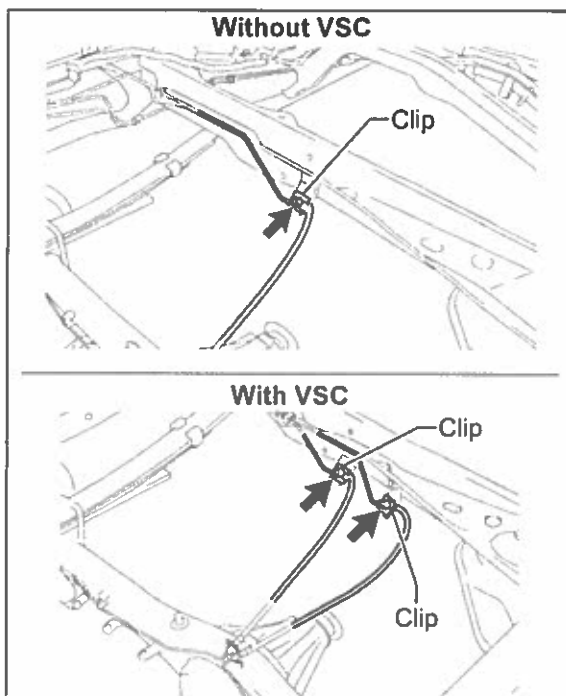
- a) Remove the No. 2 parking brake cable adjustment nut (*Manual Transmission Vehicles Only*).
- b) Remove the clip.
- c) Remove the 2 clips and 2 pins.
- d) Remove the 4 bolts and No.2 parking brake cable.

16. REMOVE THE PARKING BRAKE INTERMEDIATE LEVER (MANUAL TRANSMISSION VEHICLES ONLY)



17. DISCONNECT THE LOAD SENSING SPRING ASSY (LSPV EQUIPPED VEHICLES ONLY)

- a) Remove the bolt, washer, nut and disconnect the load sensing spring assy.



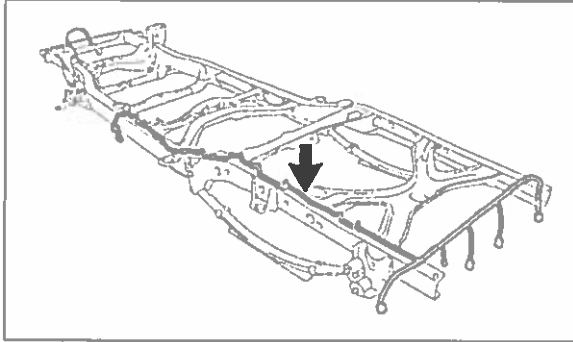
18. DISCONNECT THE BRAKE HOSE

- a) Disconnect the No.4 rear brake tube.
- b) Remove the clip and disconnect the brake hose.
- c) Repeat the procedure on the opposite side (*VSC Equipped Vehicles Only*).

NOTE: Plug the brake hose(s) to ensure no debris enters.

19. REMOVE THE FOLLOWING PARTS

- Rear Stabilizer Bar (*If Equipped*)
- Rear Shock Absorbers
- Rear Differential Assy
- Spare Tire Carrier

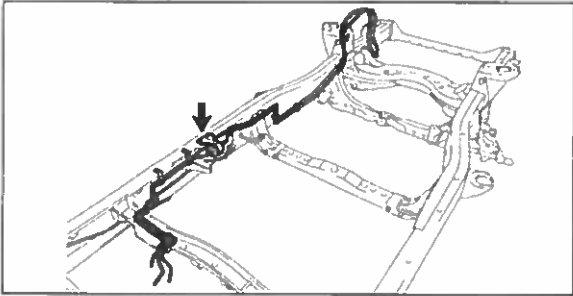


20. REMOVE THE FRAME WIRE HARNESS

- a) Remove the bolt and disconnect the ground wire (*If Equipped*).
- b) Disconnect the clamps and remove the frame wire harness.

NOTE:

- The number of wire harness clamps will differ depending on the vehicle specification.
- Take care not to damage or break the wire harness clamps during removal.

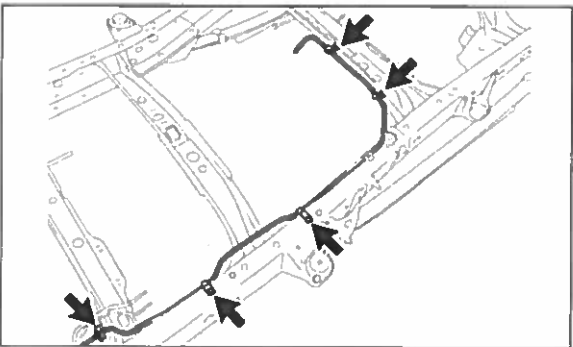


21. REMOVE THE FUEL TUBES

- a) Remove the bolts, clamps and fuel tubes.

NOTE:

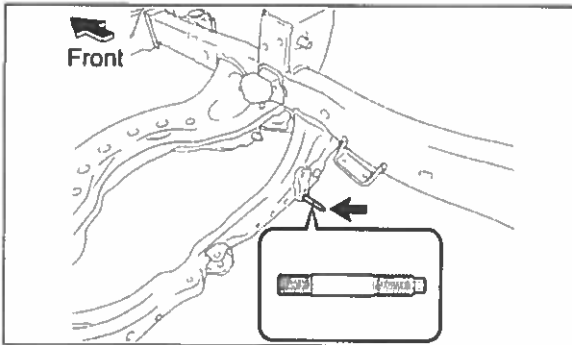
- The number of fuel tube clamps will differ depending on the vehicle specification.
- If the fuel tube clamp(s) are damaged replace them.



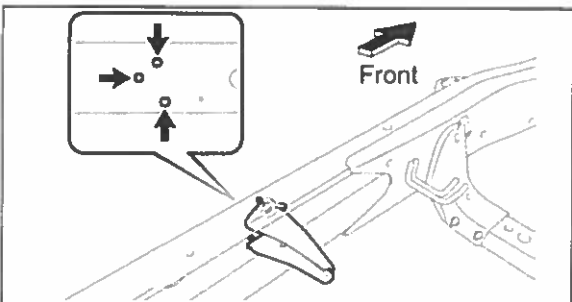
22. REMOVE THE CHARCOAL CANISTER TUBE

- a) Remove the bolts, clamps and canister to front side member tube.

NOTE: The number of clamps will differ depending on the vehicle spec.

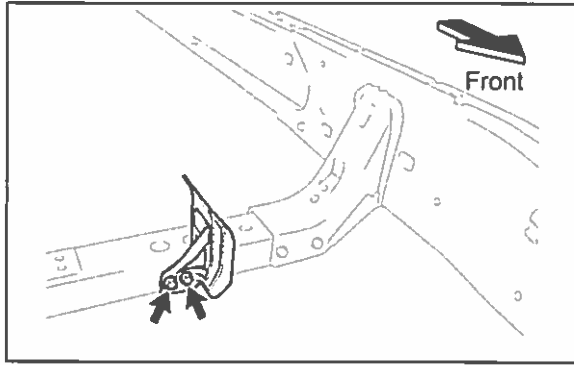


23. REMOVE THE STUD BOLT



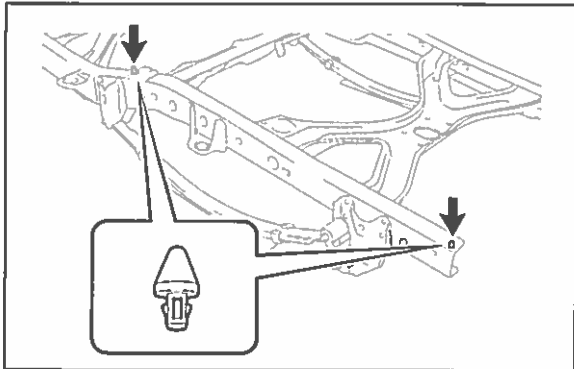
24. REMOVE THE PARKING BRAKE CABLE SUPPORT BRACKET

- a) Remove the 3 nuts and parking brake cable support bracket.



25. REMOVE THE PROPELLER SHAFT HEAT INSULATOR (ONLY FOR VEHICLES PRODUCED AFTER AUGUST 2004)

- a) Remove the 2 bolts and propeller shaft heat insulator.



26. REMOVE THE CLIPS

27. REMOVE THE FOLLOWING PARTS

- Transport / Toe Hooks (Qty: 2)
- Front Bumper Reinforcement
- Front Suspension Lower Arm
- Front Spring Bumper
- Cab Mounts (Qty: 6)
- Rear Leaf Springs

28. REMOVE THE FRAME FROM THE LIFT

- a) Remove the ratcheting tie down strap and the frame from the lift.

G. ASSEMBLE THE NEW FRAME

1. PLACE THE NEW FRAME ON THE LIFT

- a) Place the **NEW** frame on the lift, and secure it with a ratcheting tie down strap. This will prevent the frame from tilting or falling off as parts are installed.

- Ratcheting Tie Down: Qty: 1
 - Dimension: 2 in X 27 ft
 - Minimum Work Load Capacity: 3,000 lbs

2. REINSTALL THE REAR LEAF SPRINGS

- a) Reinstall the rear leaf spring with all **NEW** parts (shackle, bushings, bolts, washers & nuts) and torque to spec.

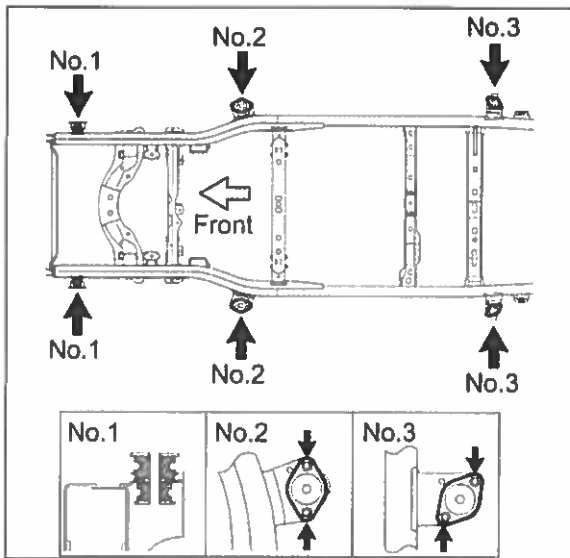
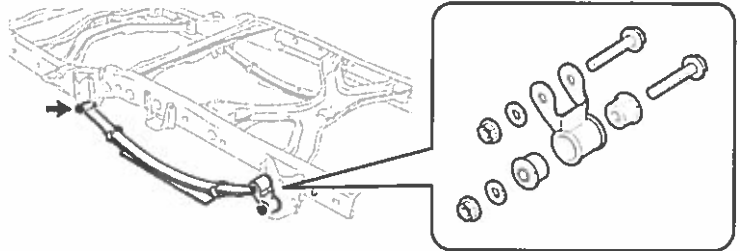
Torque Spec: 170 N·m (1733 kgf·cm, 125 ft·lbf)

- b) Repeat the procedure on the opposite side.

NEW Replacement Parts

Rear Spring Bumper

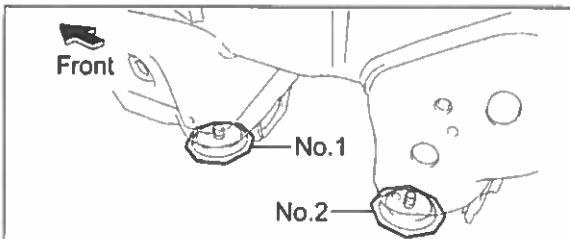
Part Number	Part Name	Kit #	Qty
04483-0C030	Shackle Kit, Rear Spring	NA*	2
90105-14132	Bolt	3	6
90179-14039	Nut	1-2	6
90201-14025	Washer	1-2	6



3. REINSTALL THE CAB MOUNTS

- a) Reinstall cab mounts No. 1.
 b) Reinstall cab mounts No. 2 & No. 3 with 2 bolts each, and torque to spec.

Torque Spec: 61 N·m (622 kgf·cm, 45 ft·lbf)



4. REINSTALL THE FRONT SPRING BUMPER

- a) Install the No. 1 and No. 2 front spring bumpers to the frame and torque to spec.

Torque Spec: 31 N·m (316 kgf·cm, 23 ft·lbf)

- b) Repeat the procedure on the opposite side.

5. REINSTALL THE FRONT SUSPENSION LOWER ARM

- a) Reinstall the front suspension lower arm with 2 **NEW** bolts, 2 **NEW** toe adjustment plates 2 **NEW** toe adjustment cam, then torque to spec.

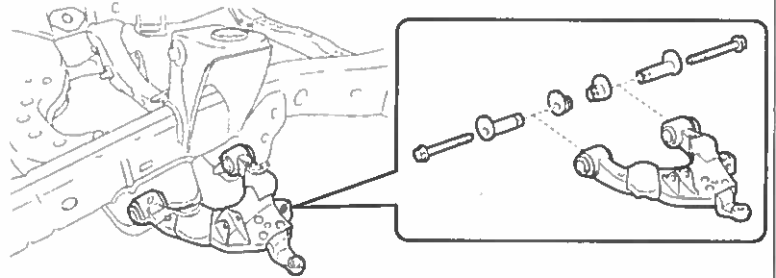
Torque Spec: 140 N·m (1427 kgf·cm, 103 ft·lbf)

- b) Repeat the procedure on the opposite side.

NEW Replacement Parts

Lower Control Arm Cam Assy.

Part Number	Part Name	Kit #	Qty
48409-34020	Cam Sub-Assy, Toe Adjust	1-2	2
48409-34030	Cam Sub-Assy, Toe Adjust No. 2	1-2	2
48452-35020	Plate, Toe Adjust No. 2	1-2	4
90080-11275	Bolt w/ Washer	3	2
90080-11410		3	2



NEW Replacement Parts

Front Bumper Reinforcement

Part Number	Part Name	Kit #	Qty
90178-10024	Nut	1-2	4

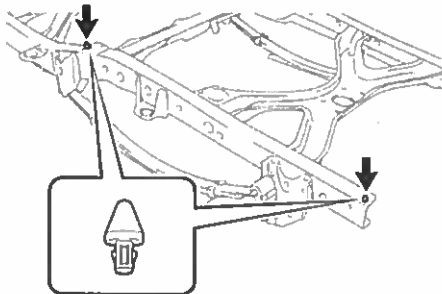
6. REINSTALL THE FOLLOWING PARTS

- Front Bumper Reinforcement
 - Reinstall with 4 **NEW** nuts.
 - **Torque Spec: 50 N·m (509 kgf·cm, 36 ft·lbf)**

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90467-13076	Clip	1-2	2

7. INSTALL THE **NEW** CLIPS



NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
47351-0C010	Bracket, Flexible Hose No. 2	3	1
90080-11180	Bolt	5,7	1

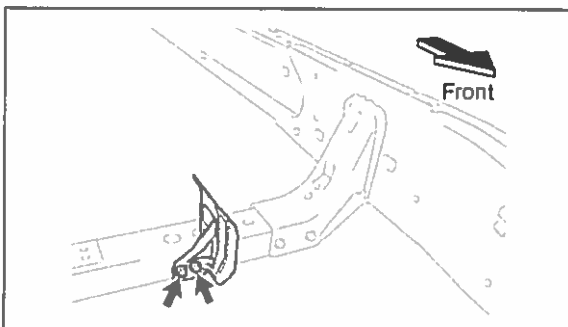
8. INSTALL THE **NEW** NO.2 FLEXIBLE HOSE BRACKET (VSC EQUIPPED VEHICLES ONLY)

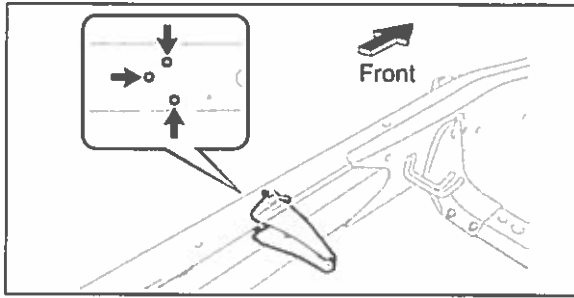
- a) Install the **NEW** No.2 flexible hose bracket with the **NEW** bolt.

9. REINSTALL THE PROPELLER SHAFT HEAT INSULATOR (VEHICLES PRODUCED AFTER AUGUST 2004)

- a) Reinstall the propeller shaft heat insulator with the 2 bolts, and torque to spec.

Torque Spec: 16 N·m (163 kgf·cm, 12 ft·lbf)

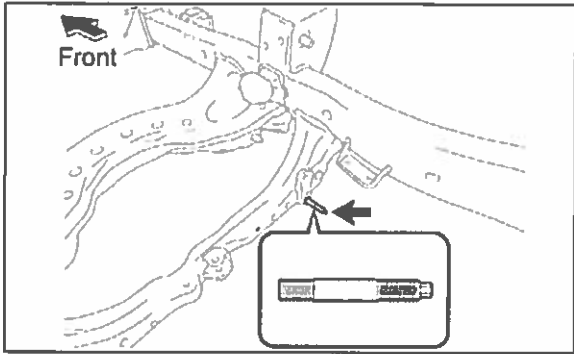




10. REINSTALL THE PARKING BRAKE CABLE SUPPORT BRACKET

- a) Reinstall the parking brake cable support bracket with the 3 nuts, and torque to spec.

Torque Spec: 13 N·m (132 kgf·cm, 10 ft·lbf)



11. REINSTALL THE STUD BOLT

- a) Reinstall the stud bolt and torque to spec.

Torque Spec: 20 N·m (203 kgf·cm, 14 ft·lbf)

12. INSTALL THE NEW REAR BRAKE TUBES

- a) Install the **NEW** rear brake tubes with the **NEW** clamp(s) and the **NEW** bolt, then torque to spec.

Torque Spec: Bolt - 28 N·m (285 kgf·cm, 20 ft·lbf)

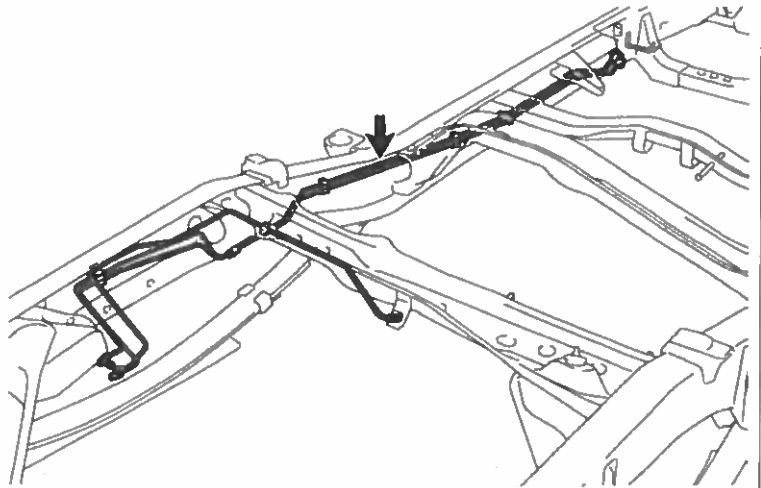
Brake Tube - 15 N·m (153 kgf·cm, 11 ft·lbf)

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
47323-0C013	Tube, Rear Brake	NA*	1
47323-0C040	No.3** (04 MY)	NA*	1
47323-0C070	Tube, Rear Brake	NA*	1
47323-0C080	No.3** (05-06 MY)	NA*	1
47324-0C014	Tube, Rear Brake No.4 - Without VSC	4,6	1
47328-0C020	Tube, Rear Brake No.8 - With VSC	5,7	1
47329-0C010	Tube, Rear Brake No.9 -With VSC	5,7	1
47361-0C013	Tube, Rear Brake	NA*	1
47361-0C020	No.10** (04 MY)	NA*	1
47361-0C040	Tube, Rear Brake	NA*	1
47361-0C050	No.10** (05-06 MY)	NA*	1
90080-11180	Bolt	4-7	1
90904-12068	Way, (for front brake tube)	1-2	1
90949-01C06	Clamp, Brake Tube No.6	1-2	8
90949-01C32	Clamp -Without VSC	1-2	1
90949-A1002	Clamp, Brake Tube No.7	3	1

*Individual Part(s)

**Only 1 part used. The part number varies depending on the KIT #



13. REINSTALL THE CHARCOAL CANISTER TUBE

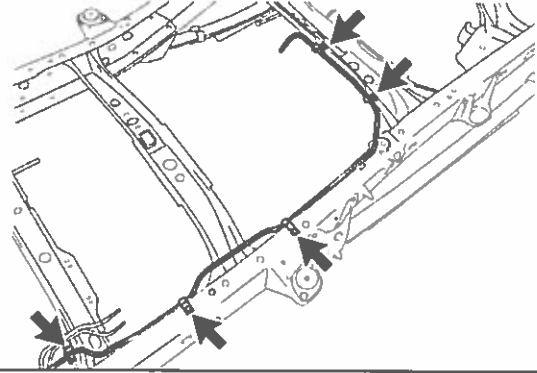
a) Reinstall the charcoal canister tube with **NEW** clamps and **NEW** bolts, then torque to spec.

Torque Spec: 29 N·m (295 kgf·cm, 21 ft·lbf)

NOTE: The number of clamps will differ depending on the vehicle spec.

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
77285-34280	Clamp, Fuel Tube No.1	1-2	2
77285-34290		1-2	1
77285-34300		1-2	1
77285-34310		1-2	1
90080-11180	Bolt	3	4



14. REINSTALL THE FUEL TUBES

a) Reinstall the fuel tubes with the **NEW** clamps and **NEW** bolts, then torque to spec.

Torque Spec: Filter Bracket Bolt - 20 N·m (203 kgf·cm, 14 ft·lbf)

Clamp Bolt - 29 N·m (295 kgf·cm, 21 ft·lbf)

NOTE: The number of clamps will differ depending on the vehicle spec.

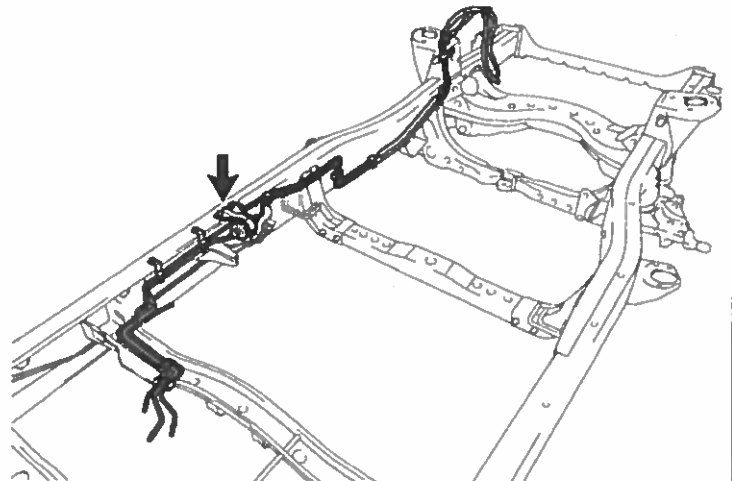
NEW Replacement Parts

2004 MY

Part Number	Part Name	Kit #	Qty
77285-34031	Clamp, Fuel Tube No.1	1	4
77285-34060		1	1
77285-34071		1	2
77285-34080		1	1
77285-34260		1	1
77285-34270		1	1
90080-11180	Bolt	3	6

2005-2006 MY

Part Number	Part Name	Kit #	Qty
77285-0C010	Clamp, Fuel Tube No.1	3	1
77285-0C020		3	1
77285-34031		2	3
77285-34071		2	2
77285-34260		2	1
77285-34280		2	2
90080-11180	Bolt	3	5



15. REINSTALL THE FRAME WIRE HARNESS

- Reconnect the clamps to reinstall the frame wire harness.
- Reconnect the ground wire with the bolt and torque to spec.

Torque Spec: 30 N·m (305 kgf·cm, 22 ft·lbf)

NOTE:

- If the wire harness clamp(s) are damaged, repair them following the steps below.
- The number of wire harness clamps will differ depending on the vehicle spec.

NEW Replacement Parts

2004 MY

Part Number	Part Name	Kit #	Qty
82711-16830	Clamp, Wiring Harness	1	3
82711-26380		1	16
82711-3A640		1	1
82711-3F050		1	3

2005-2006 MY

Part Number	Part Name	Kit #	Qty
82711-16830	Clamp, Wiring Harness	2	3
82711-26380		2	16
82711-33100		2	3
82711-3A640		2	1
82711-3F050		2	3
82711-3F400		2	3

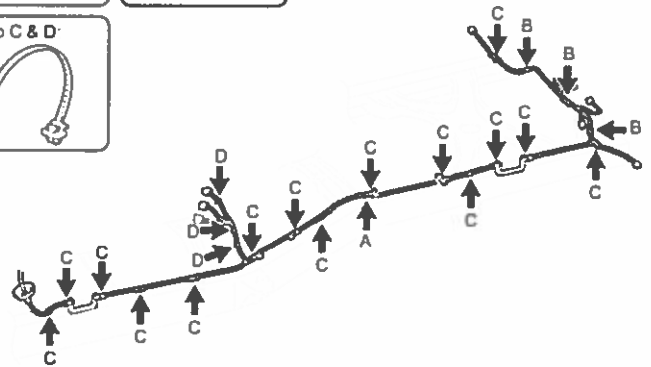
Clamp A



Clamp B



Clamp C & D



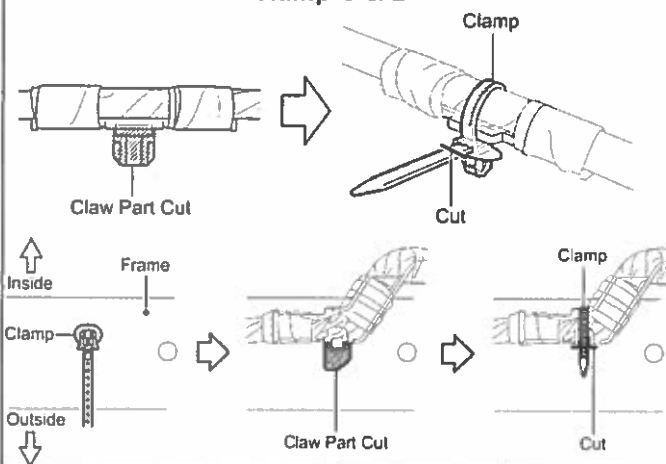
Clamp A & B



REPAIR PROCEDURE FOR CLAMP A & B

- Remove the damaged clamp.
- Install the **NEW** clamp to the frame wire harness with vinyl tape as shown in the illustration.

Clamp C & D



REPAIR PROCEDURE FOR CLAMP C & D

- Install the replacement **NEW** clamp to the frame in the direction shown in the illustration.
- Cut the damaged clamp as shown in the illustration.
- Route the clamp through the cutout area of the damaged clamp and fasten securely.

NEW Replacement Parts

Rear Differential Housing

Part Number	Part Name	Kit #	Qty
90179-14019	Nut	1-2	8
90201-15012	Washer	1-2	8

16. REINSTALL THE FOLLOWING PARTS

- Rear Differential Assy
 - Reinstall with the 4 U-bolts, 2 spring seats, 2 spring bumpers, 8 **NEW** mounting nuts and 8 **NEW** washers, then torque to spec.
 - **Torque Spec: 133 N·m (1356 kgf·cm, 98 ft·lbf)**
- Rear Shock Absorber
 - Reinstall with the bolt, 2 nuts, 3 retainers and 2 cushions, then torque to spec.
 - **Torque Spec: Bolt - 87 N·m (887 kgf·cm, 64 ft·lbf)**
Nut - 20 N·m (203 kgf·cm, 14 ft·lbf)
 - Repeat the procedure on the opposite side.
- Rear Stabilizer Bar (*If Equipped*)
 - Reinstall with the 2 brackets and 4 bolts, then torque to spec.
 - **Torque Spec: 29 N·m (295 kgf·cm, 21 ft·lbf)**
 - Reconnect the stabilizer bar links with the 4 nuts, then torque to spec.
 - **Torque Spec: 50 N·m (509 kgf·cm, 36 ft·lbf)**

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90468-08035	Clip	1-2	2

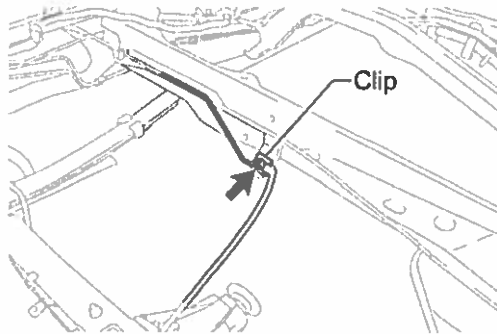
17. RECONNECT THE BRAKE HOSE

- a) Reconnect the brake hose with a **NEW** clip.
- b) Reconnect the No.4 rear brake tube and torque to spec.

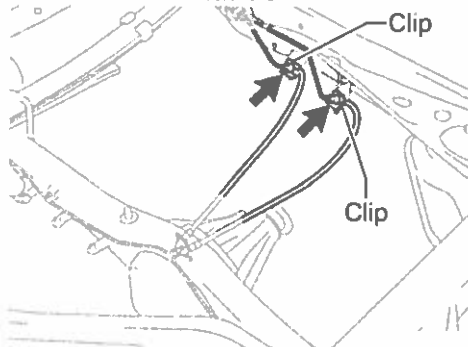
Torque Spec: 15 N·m (153 kgf·cm, 11 ft·lbf)

- c) Repeat the procedure on the opposite side (**VSC Equipped Vehicles Only**).

Without VSC

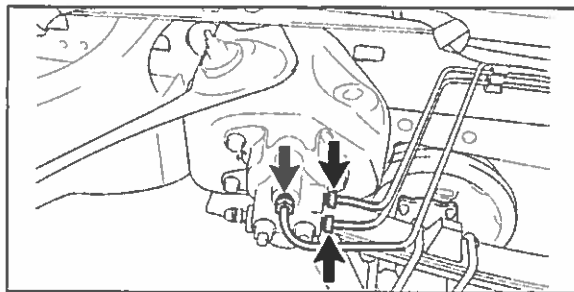
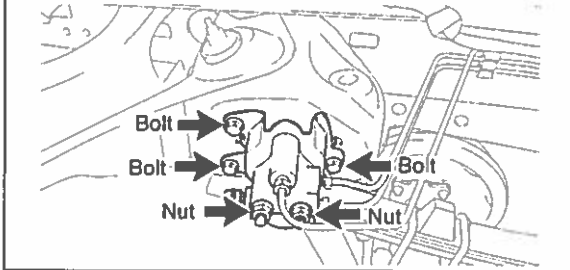


With VSC



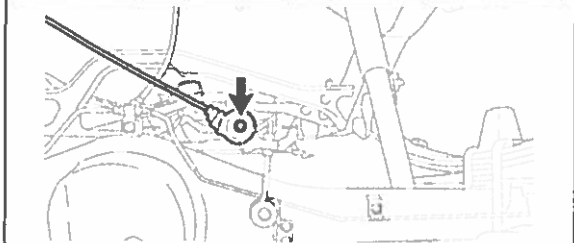
NEW Replacement Parts

Part Number	Part Name	Kit.#	Qty
47910-34070	LSPV Valve	8	1
47926-35010	Spacer, LSPV	8	1
47931-34020	Bracket, LSPV	8	1
47937-60010	Plate, LSPV Set	8	1
90080-11180	Bolt	3	3



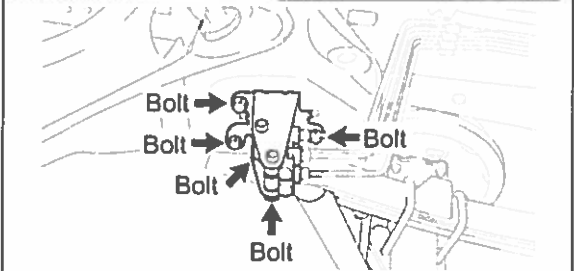
NEW Replacement Parts

Part Number	Part Name	Kit.#	Qty
47920-34040	Spring Assy, LSPV	8	1
90467-31110	Clip (for LSPV Boot)	8	1



NEW Replacement Parts

Part Number	Part Name	Kit.#	Qty
47150-34020	Valve Assy, Blend Proportioning	9	1
47191-34010	Bracket, Load Sensing Valve	9	1
90080-11180	Bolt	3	3
90119-08A25	Bolt	9	2



18. INSTALL THE NEW LSPV AND LOAD SENSING SPRING (LSPV EQUIPPED VEHICLES ONLY)

- a) Install the **NEW** LSPV with the following **NEW** parts and reuse all other components, then torque to spec.

**Torque Spec: Bolt - 29 N·m (295 kgf·cm, 21 ft·lbf)
Nut - 30 N·m (305 kgf·cm, 22 ft·lbf)**

- b) Connect the 3 **NEW** rear brake tubes to the **NEW** LSPV and torque to spec.

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

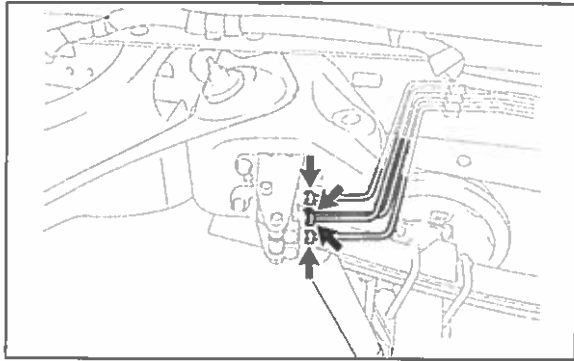
- c) Install the **NEW** load sensing spring with a **NEW** clip and reuse all other components, then torque nut to spec.

Torque Spec: 18 N·m (183 kgf·cm, 13 ft·lbf)

19. INSTALL THE NEW BLEND PROPORTIONING VALVE (VSC EQUIPPED VEHICLES ONLY)

- a) Install the **NEW** blend proportioning valve **NEW** parts and reuse all other components, then torque to spec.

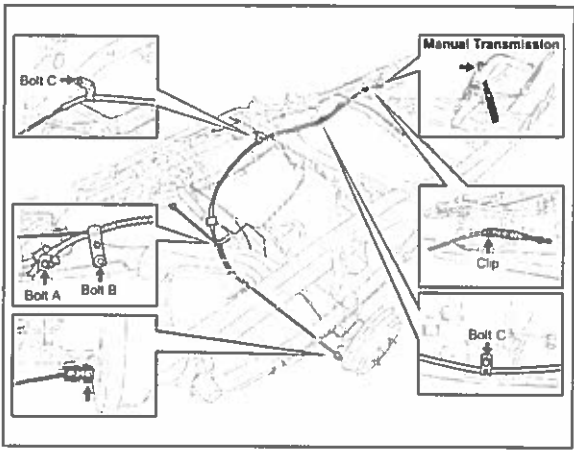
Torque Spec: 29 N·m (295 kgf·cm, 21 ft·lbf)



- b) Connect the 4 **NEW** rear brake tubes to the **NEW** blend proportioning valve and torque to spec.

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

20. REINSTALL THE PARKING BRAKE INTERMEDIATE LEVER (MANUAL TRANSMISSION VEHICLES ONLY)



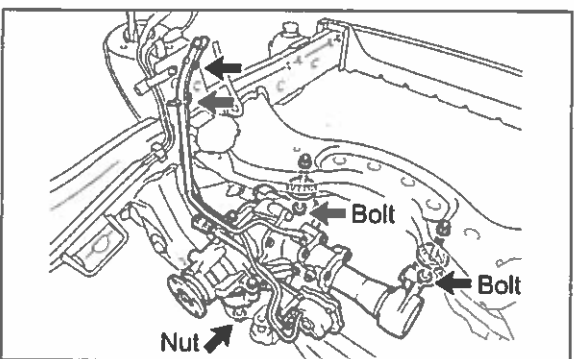
21. REINSTALL THE NO.2 PARKING BRAKE CABLE

- a) Reinstall the No.2 parking brake cable with the 4 bolts, and torque to spec.

**Torque Spec: Bolt A - 13 N·m (132 kgf·cm, 10 ft·lbf)
 Bolt B - 16 N·m (163 kgf·cm, 12 ft·lbf)
 Bolt C - 26 N·m (265 kgf·cm, 19 ft·lbf)**

- b) Reinstall the 2 pins and 2 clips.
- c) Reinstall the clip.
- d) Reinstall the No. 2 parking brake cable adjustment nut and torque to spec (*Manual Transmission Vehicles Only*).

Torque Spec: 13 N·m (132 kgf·cm, 10 ft·lbf)



22. REINSTALL THE FRONT DIFFERENTIAL CARRIER (4WD ONLY)

- a) Reinstall the front differential carrier with the 2 bolts, 4 stoppers and 3 nuts, then torque to spec.

**Torque Spec: Bolt - 137 N·m (1397 kgf·cm, 101 ft·lbf)
 Nut - 87 N·m (887 kgf·cm, 64 ft·lbf)**

- b) Reinstall the breather tube with the 2 clips.

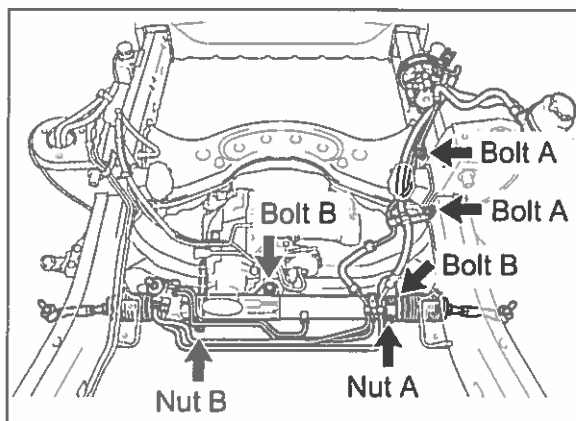
23. REINSTALL THE FRONT DRIVE SHAFT (4WD ONLY)

- a) Install a **NEW** snap ring.
- b) Reinstall the front drive shaft.

NOTE: Be careful not to damage the dust cover and oil seal.

- c) Repeat the procedure on the opposite side.

NEW Replacement Parts			
Part Number	Part Name	Kit #	Qty
43425-04020	Ring, Shaft Snap (For Front Drive Shafts) * Individual Part	NA*	2

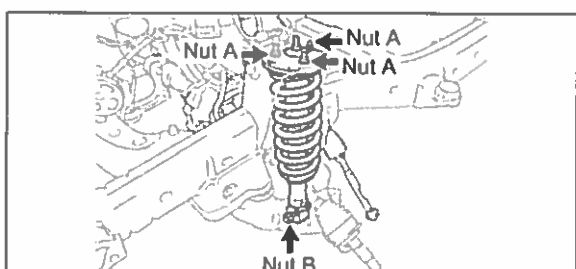


24. REINSTALL THE POWER STEERING LINK ASSEMBLY W/ POWER STEERING VANE PUMP

- a) Reinstall the power steering link assembly w/ power steering vane pump with the bolts and nuts, then torque to spec.

Torque Spec: Bolt A - 29 N·m (295 kgf·cm, 21 ft·lbf)
 Bolt B - 165 N·m (1682 kgf·cm, 121 ft·lbf)
 Nut A - 165 N·m (1682 kgf·cm, 121 ft·lbf)
 Nut B - 130 N·m (1325 kgf·cm, 95 ft·lbf)

NOTE: When reinstalling the power steering link and vane pump, have one person support the power steering link and the other support the vane pump keeping the reservoir upright to prevent fluid leakage.

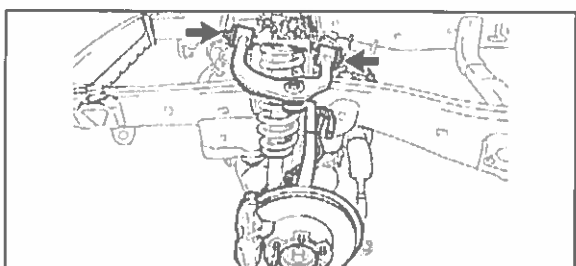


25. REINSTALL THE FRONT SHOCK ABSORBER

- a) Reinstall the front shock absorber with the bolt and 4 nuts, then torque to spec.

Torque Spec: Nut A - 64 N·m (652 kgf·cm, 47 ft·lbf)
 Nut B - 135 N·m (1376 kgf·cm, 99 ft·lbf)

- b) Repeat the procedure on the opposite side.



26. REINSTALL THE FRONT SUSPENSION UPPER ARM AND STEERING KNUCKLE ASSY

- a) Reinstall the front suspension upper arm and steering knuckle assy with the bolt, nut and 2 washers, then torque to spec.

Torque Spec: 98 N·m (999 kgf·cm, 72 ft·lbf)

- b) Repeat the procedure on the opposite side.

27. REINSTALL THE FOLLOWING PARTS

- Lower Ball Joint
 - Reinstall lower ball joint with the nut & torque to spec.
 - **Torque Spec:** 140 N·m (1427 kgf·cm, 103 ft·lbf)
 - Install the **NEW** cotter pin.
 - Repeat the procedure on the opposite side.
- The Tie Rod End
 - Reinstall the tie rod end with nut & torque to spec.
 - **Torque Spec:** 91 N·m (927 kgf·cm, 67 ft·lbf)
 - Install the **NEW** cotter pin.
 - Repeat the procedure on the opposite side.
- Front Axle Shaft Nut (**4WD Only**)
 - Temporarily reinstall the front axle nut.
 - Nut will be tightened when the vehicle is completed.
 - Repeat the procedure on the opposite side.
- Front Stabilizer Bar
 - Reinstall the stabilizer bar with 2 **NEW** brackets, 2 **NEW** bolts and 2 **NEW** nuts, then torque to spec.
 - **Torque Spec:** 37 N·m (377 kgf·cm, 27 ft·lbf)
 - Reconnect the stabilizer bar links with the 2 nuts, then torque to spec.
 - **Torque Spec:** 69 N·m (703 kgf·cm, 50 ft·lbf)

NEW Replacement Parts

Lower Ball Joint

Part Number	Part Name	Kit #	Qty
95381-03225	Cotter Pin	1-2	2

Tie Rod End

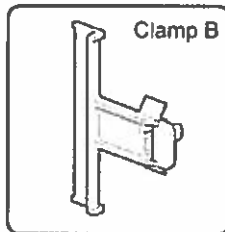
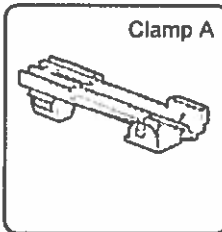
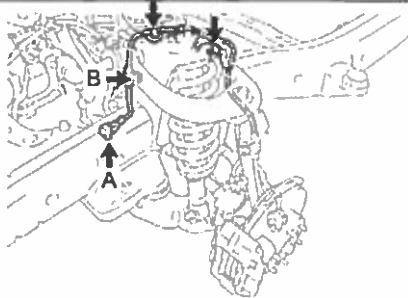
Part Number	Part Name	Kit #	Qty
95381-03225	Cotter Pin	1-2	2

Front Stabilizer Bar

Part Number	Part Name	Kit #	Qty
48824-34030	Bracket, Front Stabilizer No1 RH	1-2	1
48829-34020	Bracket, Front Stabilizer No1 LH	1-2	1
90080-11482	Bolt	3	2
90182-10004	Nut	1-2	2

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
82666-35200	Clamp	1-2	2
89515-35030	Clamp	1-2	2



28. RECONNECT THE FRONT SPEED SENSOR WIRE HARNESS

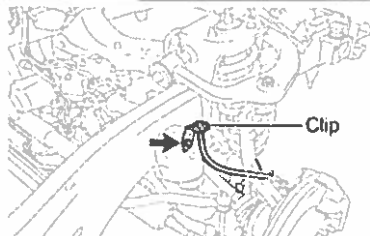
- Reinstall the front speed sensor wire harness with 2 bolts and 2 **NEW** clamps, then torque to spec.

Torque Spec: 8.0 N·m (81 kgf·cm, 70 in·lbf)

- Repeat the procedure on the opposite side.

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
47353-35110	Bracket, Flexible Hose No.3	1-2	1
47354-35100	Bracket, Flexible Hose No.4	1-2	1
90080-11180	Bolt	4-7	2
90468-08035	Clip	1-2	2



29. RECONNECT THE FRONT BRAKE HOSE

- Install a **NEW** bracket with a **NEW** bolt and torque to spec.

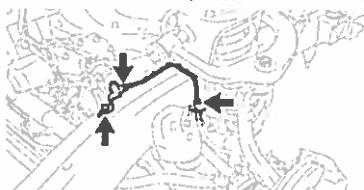
Torque Spec: 28 N·m (285 kgf·cm, 20 ft·lbf)

- Reinstall the front brake hose with the **NEW** clip.
- Repeat the procedure on the opposite side.

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
47314-0C011	Tube, Front Brake No. 4	4-7	1
47317-0C011	Tube, Front Brake No. 7**	4-5	1
47317-0C020		6-7	1
90080-11180	Bolt	4-7	2
90904-12066	Way, No.2 (FRT Brake Tube)	1-2	1
90904-12067	Way, No.3 (FRT Brake Tube)	1-2	1

**Only 1 Part is used. Part number varies depending on Kit #



30. INSTALL THE **NEW** FRONT BRAKE TUBE & **NEW** WAY

- Temporarily install the **NEW** front brake tube and **NEW** way.
- Install the **NEW** bolt to the **NEW** front way and torque to spec.

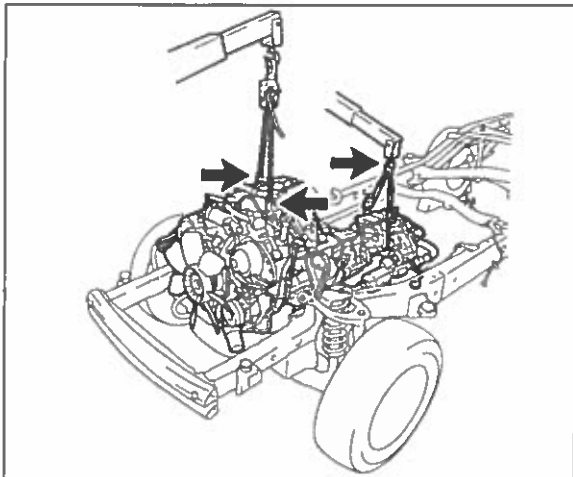
Torque Spec: 28 N·m (285 kgf·cm, 20 ft·lbf)

- Repeat the procedure on the opposite side.

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

- Repeat the procedure on the opposite side.

31. REINSTALL THE WHEELS



32. REINSTALL THE ENGINE AND TRANSMISSION ASSY

- a) Reinstall engine and transmission assy.

NOTE:

- When reinstalling the engine & transmission assy, **ALWAYS** use 2 engine hoists/mini cranes to lift it.
- **DO NOT** use 1 engine hoist/mini crane to lift the engine and transmission assy, as the unbalanced weight may lead to an accident or injury.
- **ONLY** use engine hoists/mini cranes that can properly support the weight of the engine & transmission assy.
- Carefully adjust the 2 engine hoists/mini cranes used so that the engine and transmission assy is properly balanced.

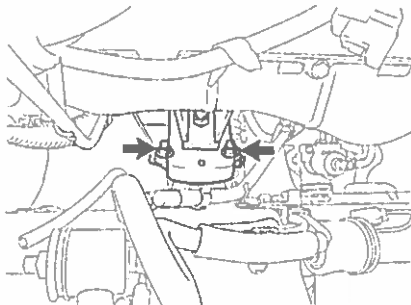
- b) Attach the engine mounts with the 4 bolts and 4 **NEW** nuts, then torque to spec.

Torque Spec: 38 N·m (387 kgf·cm, 28 ft·lbf)

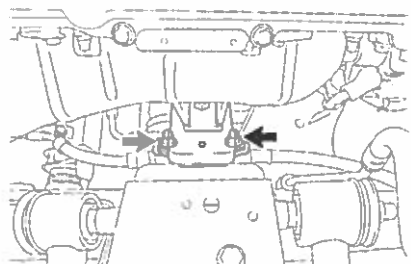
NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90179-10071	Nut	1-2	4

Left Side

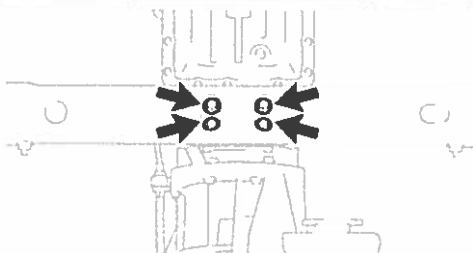


Right Side



NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90080-11387	Bolt	3	4



- c) Attach the transmission mount with 4 **NEW** bolts and torque to spec.

Torque Spec: 18 N·m (183 kgf·cm, 13 ft·lbf)

- d) Remove the bolt(s) and the engine hangers (**5VZ-FE / 1GR-FE Only**).
- e) Reinstall the items/parts that were removed during the engine and transmission assy removal.

33. REINSTALL THE POWER STEERING PUMP ASSY

- a) Reinstall the power steering vane pump with the 2 bolts and the nut (**2UZ-FE Only**) or the bolt and the nut (**5VZ-FE Only**) or with the 2 bolts (**1GR-FE Only**), then torque to spec.

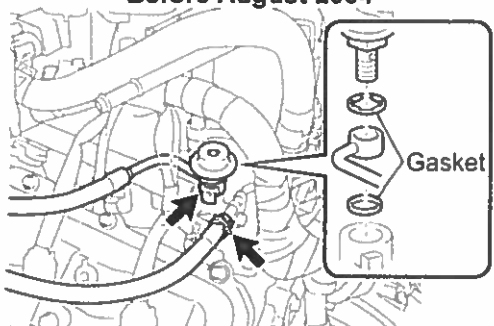
Torque Spec: 2UZ-FE Without Cooler - 44 N·m (450 kgf·cm, 33 ft·lbf)
 2UZ-FE With Cooler - 28 N·m (285 kgf·cm, 20 ft·lbf)
 1GR-FE - 21 N·m (214 kgf·cm, 15 ft·lbf)

- b) Reconnect the connector (**5VZ-FE / 1GR-FE Only**).
 c) Reinstall the drive belt.

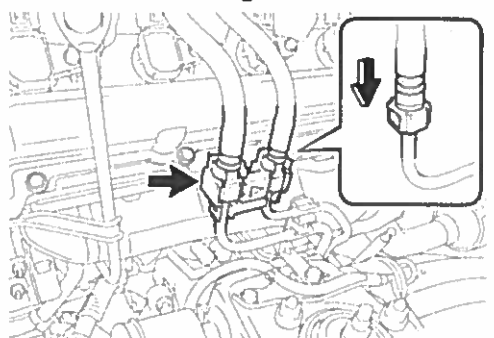
NEW Replacement Parts			
Part Number	Part Name	Kit #	Qty
23232-41081	Gasket (Fuel Pump Hose)	NA*	1
90430-12026	Gasket (Pulsation Damper Hose)	NA*	1

*Individual part(s)

Before August 2004



After August 2004



34. RECONNECT THE FUEL TUBES AND HOSES

For 2UZ-FE Vehicles:

(Only For Vehicles Produced On Or Before August 2004)

- a) Reconnect the fuel return hose with the clamp.
 b) Reconnect the fuel main hose with the 2 **NEW** gaskets and the pulsation damper, then torque to spec with SST 09617-24011.

Torque Spec: 39 N·m (397 kgf·cm, 29 ft·lbf)

For 2UZ-FE Vehicles:

(Only For Vehicles Produced After August 2004)

- a) Reconnect the 2 fuel pipes.
 b) Reinstall the fuel pipe clamp.

NOTE:

- Match the axis of the connector with the axis of the pipe, and push into the connector until the connector makes a "click" sound. In case that the connection is tight, apply a little amount of fresh engine oil on the tip of the pipe.
- After having finished the connection, check if the pipe and the connector are securely connected by pulling them

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90430-12026	Gasket (Pulsation Damper Hose)	NA*	2

*Individual part(s)

Illustration A

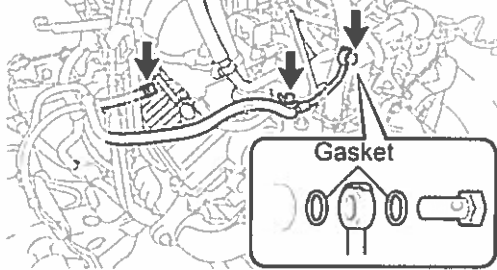
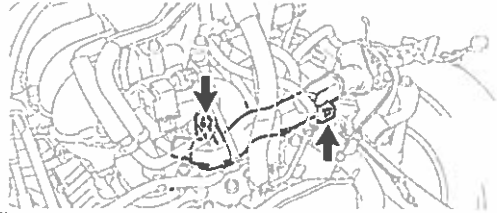


Illustration B



For 5VZ-FE Vehicles:

- Reconnect the fuel return hose with the clamp (**Illustration A**).
- Temporarily reconnect the main fuel pipe with the union bolt and 2 **NEW** gaskets (**Illustration A**).
- Reinstall the bracket bolt and torque to spec (**Illustration A**).

Torque Spec: 8.0 N·m (81 kgf·cm, 70 in·lbf)

- Torque the union bolt to spec (**Illustration A**).

Torque Spec: 34 N·m (346 kgf·cm, 25 ft·lbf)

- Reinstall the wire harness clip and bolt (**Illustration B**).

For 1GR-FE Vehicles:

- Reconnect the 2 fuel pipes.
- Reinstall the fuel pipe clamp.

NOTE:

- Match the axis of the connector with the axis of the pipe, and push into the connector until the connector makes a "click" sound. In case that the connection is tight, apply a little amount of fresh engine oil on the tip of the pipe.
- After having finished the connection, check if the pipe and the connector are securely connected by pulling them.

35. REINSTALL THE CHARCOAL CANISTER ASSY

- Reinstall the charcoal canister assy with the 4 bolts and torque to spec.

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

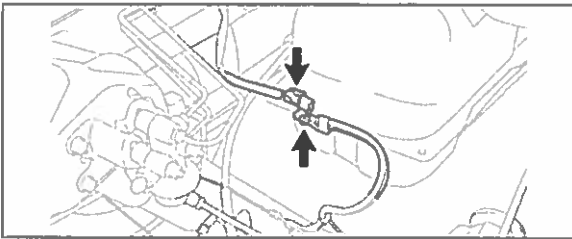
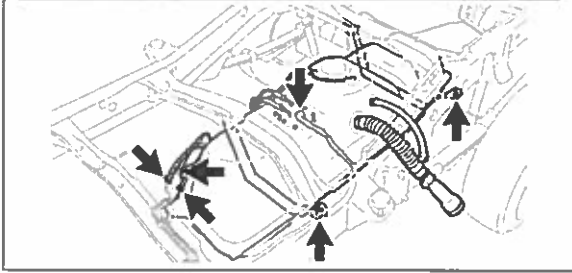
- Reconnect the fuel hose.

36. REINSTALL THE FUEL TANK STRAPS

- Reinstall the fuel tank straps with the 2 pins and 2 clips.

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90119-A0077	Bolt	3	2



37. REINSTALL THE FUEL TANK

- Reinstall the fuel tank with the 2 **NEW** bolts and torque to spec.

Torque Spec: 62 N·m (632 kgf·cm, 46 ft·lbf)

- Reinstall the fuel tubes.

38. RECONNECT THE REAR SPEED SENSOR CONNECTOR

- Reconnect the rear speed sensor connector with the nut, and torque to spec.

Torque Spec: 13 N·m (132 kgf·cm, 10 ft·lbf)

39. REINSTALL THE EXHAUST SYSTEM

- Install **NEW** exhaust pipe gasket(s).
- Reinstall the exhaust with exhaust pipe supports.
- Reinstall **NEW** flange retainer(s) with bolts and torque to spec. (**2UZ-FE 4 Bolts, 5VZ-FE 2 Bolts**)

Torque Spec: 48 N·m (489 kgf·cm, 35 ft·lbf)

- Using a vernier caliper, measure the free length of the exhaust spring. (**1GR-FE Only**)

Minimum length: 40.5 mm (1.5945 in.)

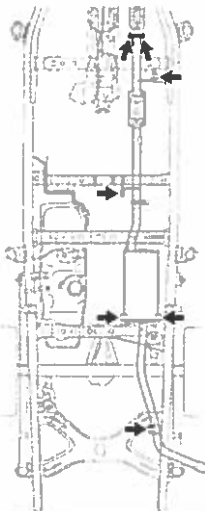
NOTE: If the free length is less than the minimum spec, replace the spring.

- Reinstall the 2 bolts and 2 springs and torque to spec. (**1GR-FE Only**)

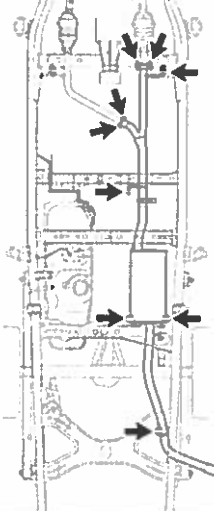
Torque Spec: 43 N·m (438 kgf·cm, 31 ft·lbf)

5VZ-FE				1GR-FE				2UZ-FE			
Part Number	Part Name	Kit #	Qty	Part Number	Part Name	Kit #	Qty	Part Number	Part Name	Kit #	Qty
18495-76010	Retainer, Exhaust Pipe	NA*	1	17451-0D030	Retainer, Exhaust Pipe	NA*	1	18495-38020	Retainer, Exhaust Pipe	NA*	1
90917-06057	Gasket, Exhaust Pipe	NA*	1	90917-06083	Retainer, Exhaust Pipe	NA*	1	90917-06083	Retainer, Exhaust Pipe	NA*	1

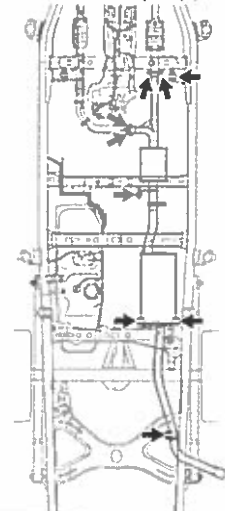
*Individual part(s)

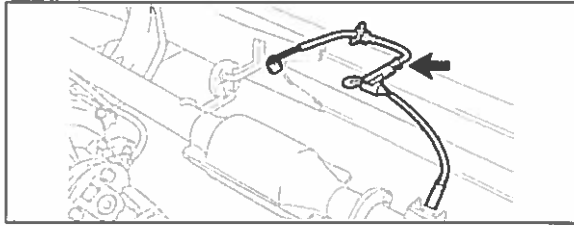


*Individual part(s)

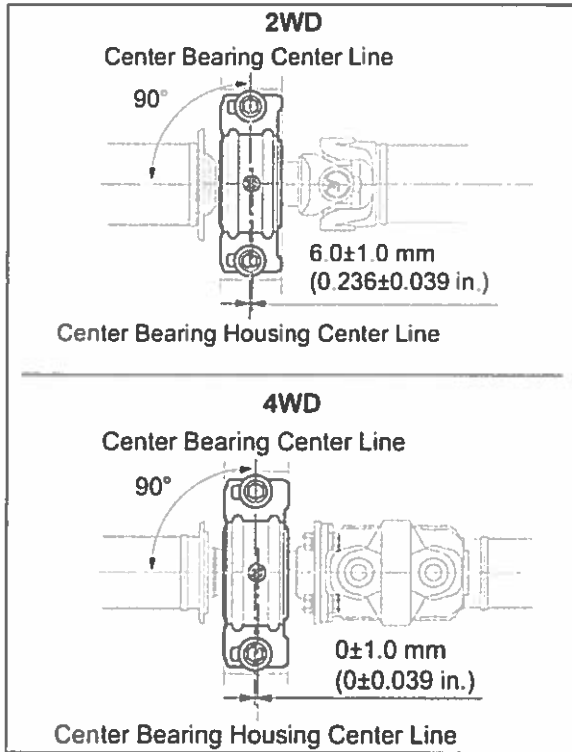


*Individual part(s)





- a) Reconnect the oxygen sensor wire harness clamp.



40. REINSTALL THE REAR PROPELLER SHAFT

- a) Remove the **SST 09325-40010 (2WD Only)**.
b) Referencing the matchmarks, reinstall the propeller shaft to the the transmission / transfer case and torque to spec.

Torque Spec:

- For Vehicles Produced On Or Before August 2004 - 74 N·m (750 kgf·cm, 54 ft·lbf)
- For Vehicles Produced After August 2004 - 88 N·m (897 kgf·cm, 65 ft·lbf)

- c) Reinstall the center support bearing to the frame as shown in the illustration with 2 bolts and torque to spec.

Torque Spec: 40 N·m (408 kgf·cm, 30 ft·lbf)

- d) Referencing the matchmarks, reinstall the propeller shaft to the rear differential with 4 bolts, 4 washers and 4 nuts, then torque to spec.

Torque Spec:

- For Vehicles Produced On Or Before August 2004 - 74 N·m (750 kgf·cm, 54 ft·lbf)
- For Vehicles Produced After August 2004 - 88 N·m (897 kgf·cm, 65 ft·lbf)

41. REINSTALL THE FRONT PROPELLER SHAFT (4WD ONLY)

- a) Referencing the matchmarks, install the front propeller shaft to the transfer case and the front differential with 8 bolts, 8 washers and 8 nuts, then torque to spec.

Torque Spec:

- For Vehicles Produced On Or Before August 2004 - 74 N·m (754 kgf·cm, 54 ft·lbf)
- For Vehicles Produced After August 2004 - Fr Diff Side - 74 N·m (754 kgf·cm, 54 ft·lbf)
Rr T/F Side - 88 N·m (897 kgf·cm, 65 ft·lbf)

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90080-11180	Bolt	3	4

42. REINSTALL THE SPARE TIRE CARRIER

- a) Reinstall the spare wheel carrier with the 4 **NEW** bolts and torque to spec.

Torque Spec: 20 N·m (203 kgf·cm, 14 ft·lbf)

- b) Reinstall the spare tire.

43. REMOVE THE FRAME FROM THE LIFT

- a) Remove the ratcheting tie down strap from the frame.
b) Lower the frame to the ground.

D. REINSTALL THE CAB BODY ASSY

NEW Replacement Parts			
Without VSC			
Part Number	Part Name	Kit #	Qty
47313-0C040	Tube, Front Brake No.3	4,6	1
47316-0C060	Tube, Front Brake No.6** (DCB)	4,6	1
47316-0C070	Tube, Front Brake No.6** (ACB, RCB)	4,6	1
47319-0C021	Tube, Front Brake No.9** (04 MY)	4	1
47319-0C030		4	1
47319-0C040	Tube, Front Brake No.9** (05-06 MY)	6	1
47319-0C050		6	1
47322-0C050	Tube, Front Brake No.2** (04 MY)	NA*	1
47322-0C060		NA*	1
47322-0C080	Tube, Front Brake No.2** (05-06 MY)	NA*	1
47322-0C090		NA*	1

*Individual part(s)
 **Only 1 part is used. The part number varies depending on Kit #.

With VSC			
Part Number	Part Name	Kit #	Qty
47313-0C050	Tube, Front Brake No.3** (04 MY)	5	1
47313-0C060		5	1
47313-0C070	Tube, Front Brake No.3** (05-06 MY)	7	1
47313-0C080		7	1
47316-0C051	Tube, Front Brake No.6**	5	1
47316-0C080		7	1
47322-0C041	Tube, Front Brake No.2**	5	1
47322-0C100		7	1
47325-0C041	Tube, Front Brake No.5**	5	1
47325-0C080		7	1

**Only 1 part is used. Part number varies depending on Kit #.

1. INSTALL THE NEW ENGINE COMPARTMENT BRAKE TUBES

Without VSC:

- a) Install the **NEW** No. 3, No. 6 & No. 9 front brake tubes.
- b) Install the **NEW** No. 2 rear brake tubes.
- c) Torque all brake tubes to spec.

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

With VSC:

- a) Install the **NEW** No. 3 & No. 6 front brake tubes.
- b) Install the **NEW** No. 2 & No. 5 rear brake tubes.
- c) Torque all brake tubes to spec.

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

2. REINSTALL THE CAB BODY ASSEMBLY

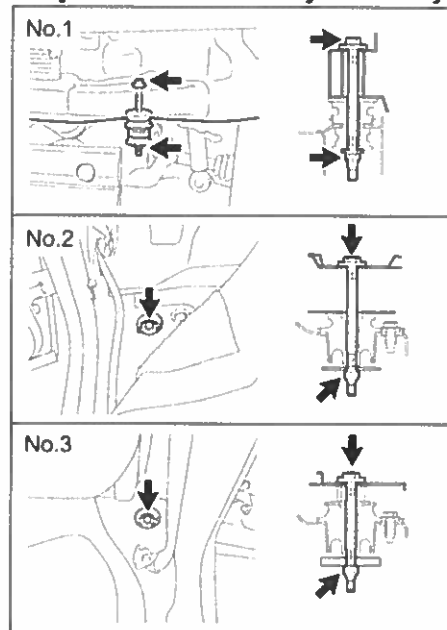
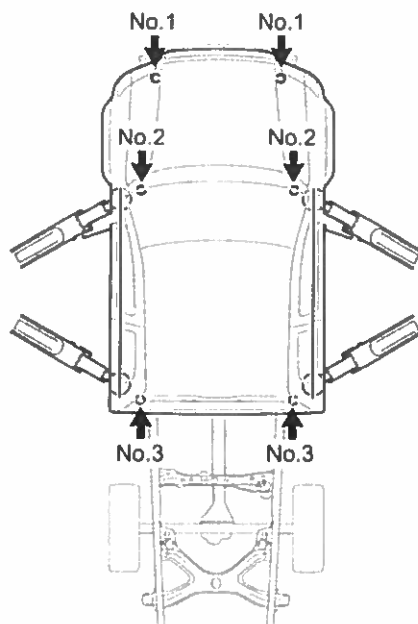
- Raise the cab assy high enough so that the top of the engine clears the lowest point of the cab.
- Push the frame under the cab assy and line up the tires with the marks previously placed on the floor.
- Lower the cab assy slowly, making sure it does not interfere with anything.
- Adjust the vehicle's frame as needed to align the cab mounts with the cab assy bolts.
- Once the cab assy is set on the mounts, secure it to the frame with 6 bolts, 6 nuts, 6 washers and torque to spec.

Torque Spec:

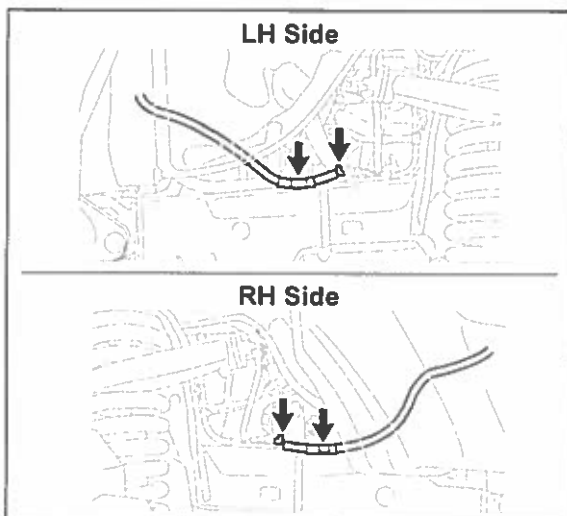
- Regular Cab and Access Cab / Double Cab No.1 and No.2 Nut - 47 N·m (479 kgf·cm, 34 ft·lbf)
- Double Cab No.3 Nut - 67 N·m (683 kgf·cm, 49 ft·lbf)

NOTE:

- DO NOT work directly underneath the vehicle when pushing the frame under the cab assy.
- Slowly lower the cab body assembly making sure that the wire harness, steering shaft & hoses do not interfere.
- With 2 to 3 people checking for interference, slowly lower the cab body assembly to the frame.

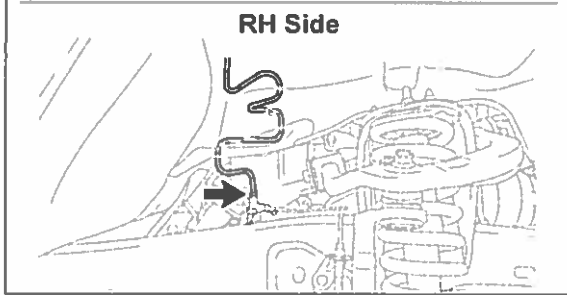
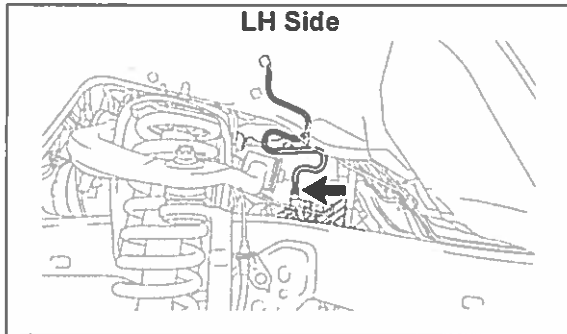


- READJUST LIFT ARMS AND LIFT VEHICLE
- REMOVE THE FRONT WHEELS



- RECONNECT THE FRONT SPEED SENSOR CONNECTORS

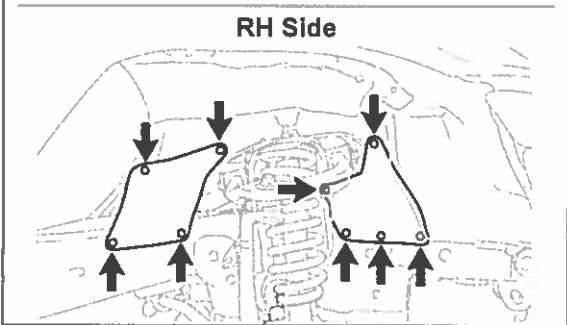
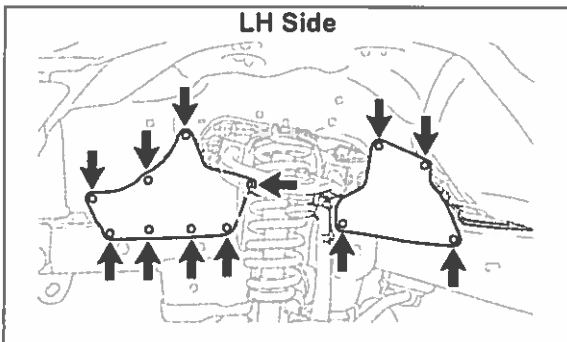
- Reconnect the front speed sensor connector.
- Reinstall the clamp.
- Repeat the procedure on the opposite side.



6. RECONNECT THE FRONT BRAKE TUBES

- a) Reconnect the front brake tube and torque to spec.
- b) Repeat the procedure on the opposite side.

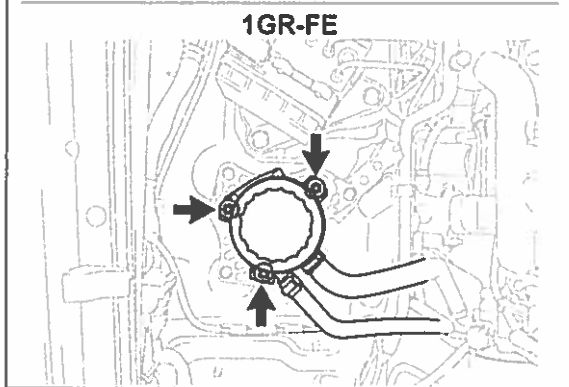
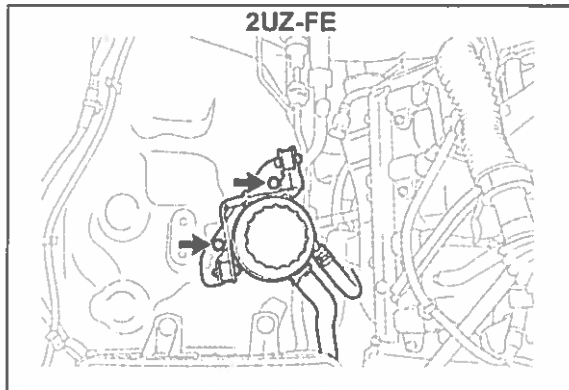
Torque Spec: 15 N·m (153 kgf·cm, 11 ft·lbf)



7. REINSTALL THE FRONT FENDER APRON SEALS

- a) Reinstall the 4 front fender apron seals with the 21 clips.

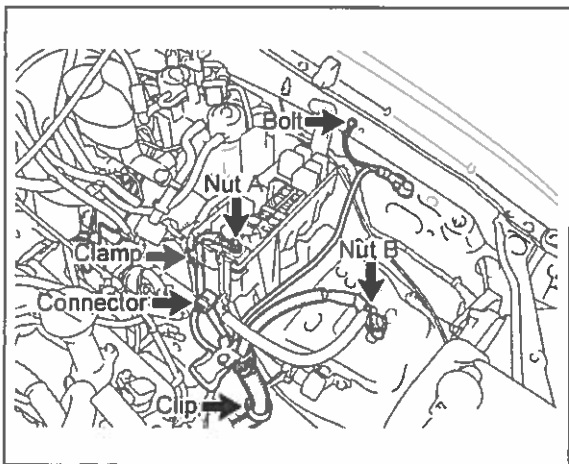
8. LOWER THE VEHICLE ON THE LIFT



9. RECONNECT THE VANE PUMP OIL RESERVOIR (2UZ-FE / 1GR-FE ONLY)

- a) Reinstall the vane pump oil reservoir with the 2 nuts and torque spec (*2UZ-FE Only*).
- b) Reinstall the vane pump oil reservoir with the 3 nuts and torque spec (*1GR-FE Only*).

Torque Spec: 8.0 N·m (81 kgf·cm, 70 in·lbf)



10. RECONNECT THE NO.2 ENGINE WIRE HARNESS

- a) Reinstall the clip and reconnect the No.2 engine wire harness.
- b) Reconnect the (+) positive battery cable with the 2 nuts and torque to spec.

**Torque Spec: Nut A - 10 N·m (102 kgf·cm, 7 ft·lbf)
Nut B - 13 N·m (132 kgf·cm, 10 ft·lbf)**

- c) Reconnect the ground wire with the bolt and torque to spec.

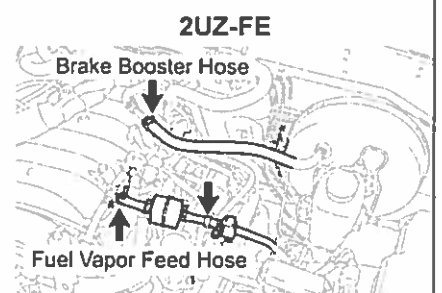
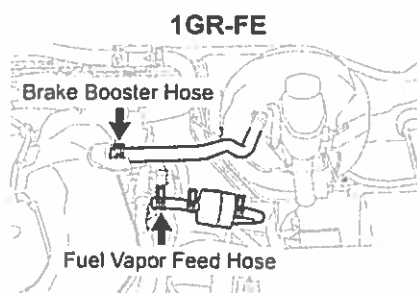
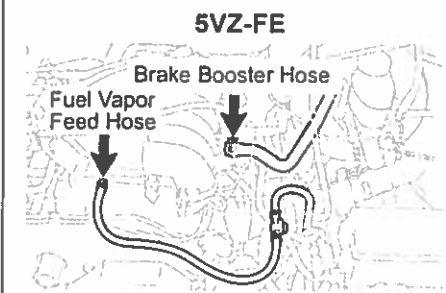
Torque Spec: 8.0 N·m (81 kgf·cm, 70 in·lbf)

- d) Reconnect the clamp and connector.
- e) Reinstall the relay block cover.

11. RECONNECT THE HOSES

- a) Reconnect the fuel vapor feed hose.
- b) Reconnect the brake booster hose.

NOTE: The number of hoses will differ depending on the vehicle specification.



**NEW Replacement Parts
Radiator**

Part Number	Part Name	Kit #	Qty
16492-21050	Packing (radiator drain cock) 2UZ-FE and 1GR-FE	NA*	1
96711-19007	Packing (radiator drain cock) 5VZ-FE	NA*	1

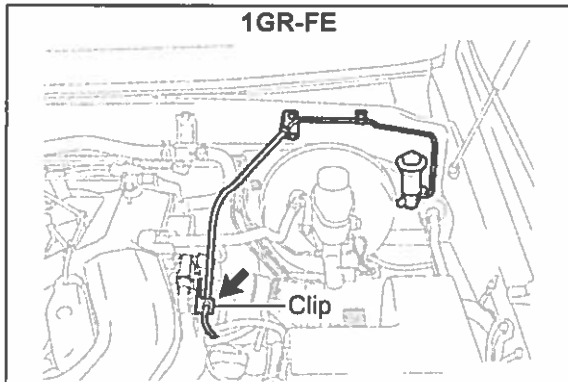
*Individual part(s)

12. REINSTALL RADIATOR

- Radiator
 - Install the **NEW** radiator drain cock plug O-ring.
 - Tighten the radiator drain cock plug.
 - Install the radiator with the 4 bolts and torque to spec.
 - **Torque Spec: 12 N·m (122 kgf·cm, 9 ft·lbf)**

13. REINSTALL THE FOLLOWING PARTS

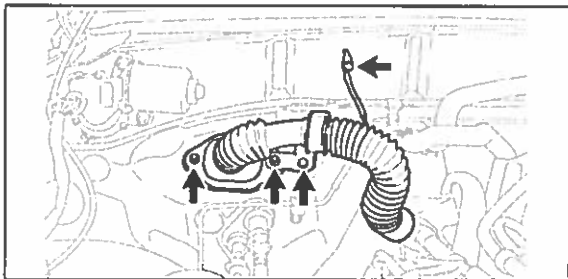
- Throttle Body Cover
- V-Bank Cover (**1GR-FE Only**)
- Air Cleaner Assy & Hose
- External Trans Cooler (If Equipped)
- Accelerator control cable (**5VZ-FE Only**)



**14. RECONNECT THE CLUTCH MASTER CYLINDER TUBE
(1GR-FE MANUAL TRANSMISSION VEHICLES ONLY)**

- a) Reconnect the clutch hose to the bracket with the clip.
- b) Reconnect the clutch master cylinder tube and torque to spec.

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



15. RECONNECT ENGINE WIRE HARNESS

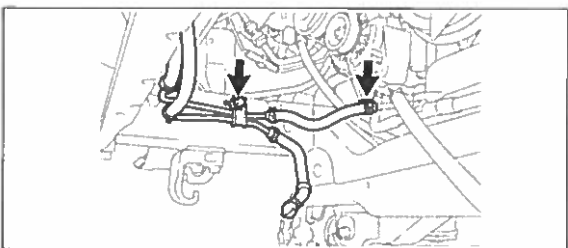
- a) Feed the connectors through the bulk head
- b) Reinstall the 2 nuts that hold the engine wire harness container to the cowl panel.
- c) Reinstall the bolt.
- d) Reinstall the ground wire and bolt and torque to spec.

Torque Spec: 8.0 N·m (81 kgf·cm, 70 in·lbf)

16. REINSTALL THE FRONT BUMPER

- Front Bumper Assy - Resin Bumper Only
 - Reinstall with the bolts and torque to spec.
 - **Torque Spec: 7.0 N·m (71 kgf·cm, 62 in·lbf)**
- Front Bumper Assy - Steel Bumper Only
 - Reinstall with the side mounting brackets, bolts and nuts, then torque to spec.
 - **Torque Spec: Bolt - 58 N·m (591 kgf·cm, 42 ft·lbf)**
Nut - 12 N·m (122 kgf·cm, 9 ft·lbf)

17. LIFT THE VEHICLE



**18. REINSTALL THE OIL COOLER PIPE
(2UZ-FE / 1GR-FE ONLY)**

- a) Reinstall the oil cooler pipe with the bolt and torque to spec.

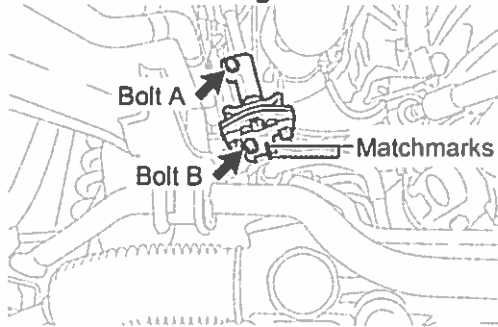
Torque Spec: 12 N·m (122 kgf·cm, 9 ft·lbf)

- b) Reconnect the hose.

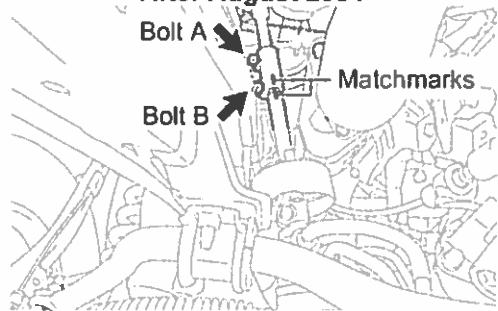
NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90080-11555	Bolt	3	2

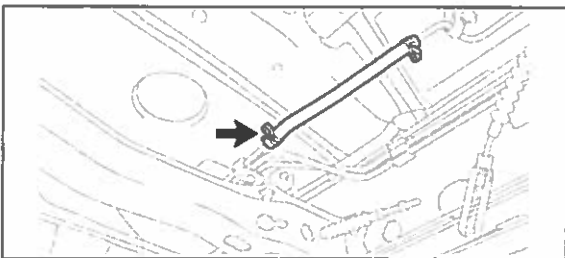
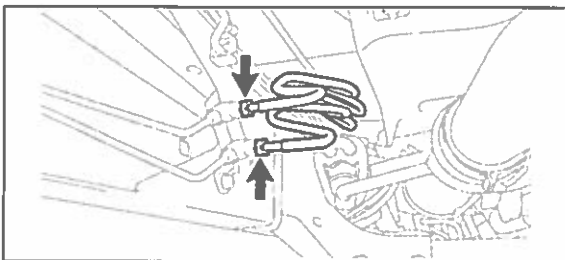
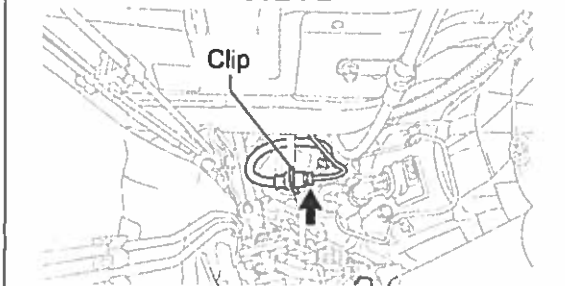
Before August 2004



After August 2004



5VZ-FE



19. RECONNECT THE NO. 2 INTERMEDIATE SHAFT

NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.

- Make sure the front wheels are in a straight-ahead position and the steering wheel is centered.
- Referencing the match marks, connect the No. 2 intermediate shaft to the control valve shaft with the **NEW** bolt "B".
- Remove bolt "A" and install the **NEW** bolt "A".
- Torque all bolts to spec.

Torque Spec: 35 N·m (356 kgf·cm, 26 ft·lbf)

- Disconnect the seat belt that is holding the steering wheel.

20. RECONNECT THE CLUTCH MASTER CYLINDER TUBE (MANUAL TRANS 5VZ-FE VEHICLES ONLY)

- Reconnect the clutch hose to the bracket with the clip.
- Reconnect the clutch master cylinder tube and torque to spec.

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

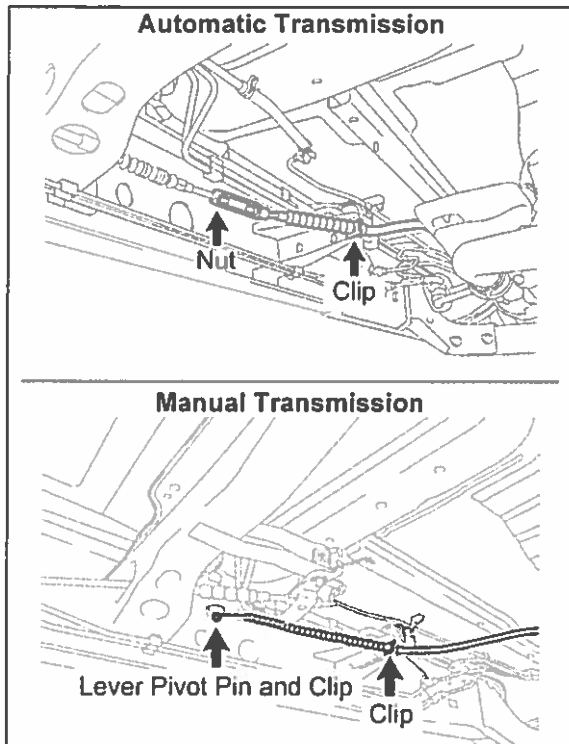
21. RECONNECT THE REAR BRAKE TUBES

- Reconnect the 2 rear brake tubes and torque to spec.

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

22. RECONNECT THE NO.1 FUEL HOSE

- Reconnect the No.1 fuel hose with the clip.



23. RECONNECT THE NO. 1 PARKING BRAKE CABLE

For Automatic Transmission Vehicles:

- Reinstall the No.1 parking brake cable assy and tighten the nut.
- Reinstall the clip.

For Manual Transmission Vehicles:

- Reinstall the No.1 parking brake cable assy with the clip.
- Reinstall the lever pivot pin and clip.

NEW Replacement Parts

Part Number	Part Name	Kit #	Qty
90179-08054	Nut	1-2	1

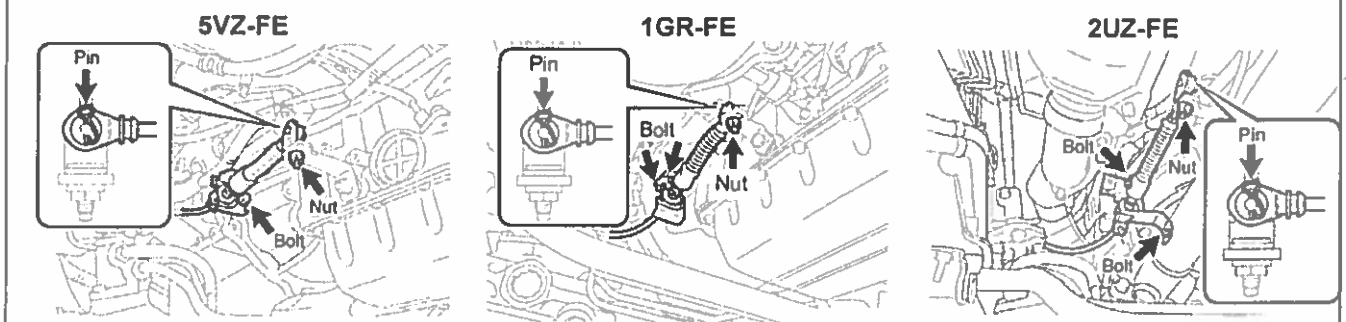
24. RECONNECT THE SHIFT CABLE

- Reconnect the shift cable with the bolt(s) and torque to spec.

Torque Spec:

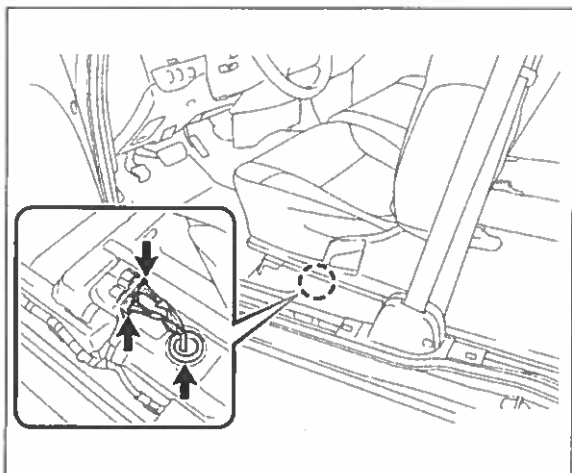
- For 2UZ-FE Vehicles Produced On Or Before August 2004 - 18 N·m (183 kgf·cm, 13 ft·lbf)
- For 2UZ-FE Vehicles Produced After August 2004 - 20 N·m (203 kgf·cm, 14 ft·lbf)
- 5VZ-FE - 71 N·m (724 kgf·cm, 52 ft·lbf)
- 1GR-FE - 20 N·m (203 kgf·cm, 14 ft·lbf)

- Reinstall the washer and pin.



25. REINSTALL FRONT WHEELS

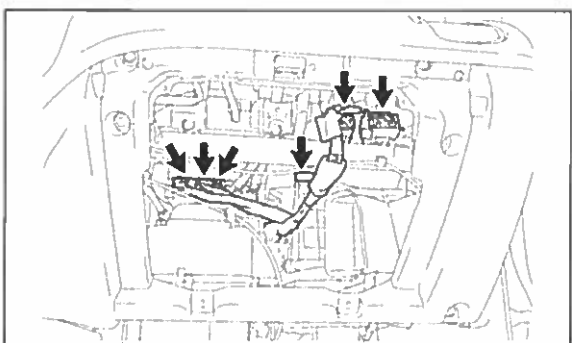
26. LOWER THE VEHICLE



27. RECONNECT THE FRAME WIRE HARNESS CONNECTOR

- Insert the frame wire harness into the cab assy.
- Reinstall the frame wire harness grommet to the cab assy.
- Reconnect the frame wire harness connector(s).
- Reinstall the left front cowl side trim panel.
- Reinstall the left access cab door scuff plate (**Access Cab Only**).
- Reinstall the left double cab door scuff plate (**Double Cab Only**).
- Reinstall the left front door scuff plate.

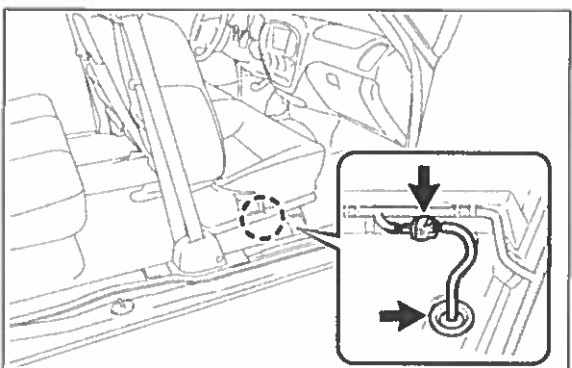
NOTE: The number of connectors will differ depending on the vehicle spec.



28. RECONNECT THE ENGINE WIRE HARNESS

- Reconnect the connectors and clamp.
- Reinstall the No. 4 heat register duct.
- Reinstall the lower No. 2 finish panel.
- Reinstall the glove box.

NOTE: The number of connectors will differ depending on the vehicle specification.



29. RECONNECT THE OXYGEN SENSOR WIRE HARNESS CONNECTOR (5VZ-FE ONLY)

- Insert the oxygen sensor wire harness into the cab assy.
- Reinstall the oxygen sensor wire harness grommet to the cab assy.
- Reconnect the oxygen sensor wire harness connector.
- Reinstall the right front cowl side trim panel.
- Reinstall the right access cab door scuff plate (**Access Cab Only**).
- Reinstall the right front door scuff plate.

30. REINSTALL THE FOLLOWING INTERIOR COMPONENTS

- Transfer Case Shift Lever (**5VZ-FE 4WD Only**)
- Manual Transmission Shift Lever (**Manual Transmission Vehicles Only**)

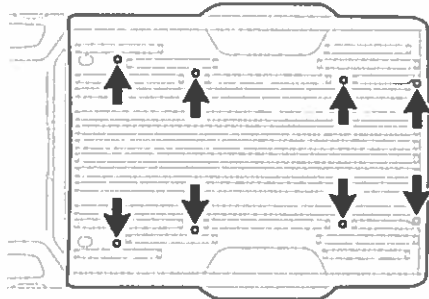
H. REINSTALL BED ASSEMBLY

1. REINSTALL THE BED ASSEMBLY

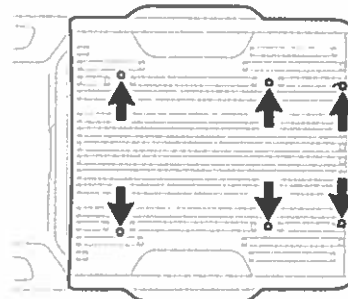
a) Using a Torx® T55H Tamper Resistant Socket, reinstall the bed assy Torx® bolts and torque to spec.

Torque Spec: 86 N·m (877 kgf·cm, 63 ft·lbf)

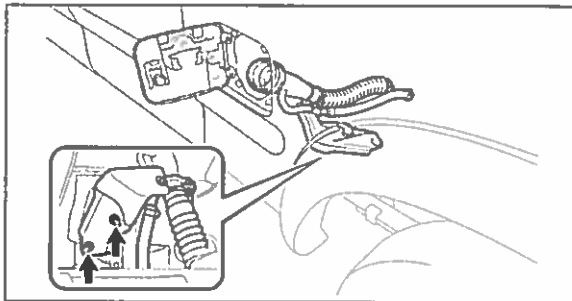
- Regular Cab: 8 Torx® bolts



- Access Cab / Double Cab: 6 Torx® bolts



NOTE: Using 4 or more people, evenly support the bed to reinstall the bed assembly on the frame ensuring not to damage or hit the fuel inlet pipe.

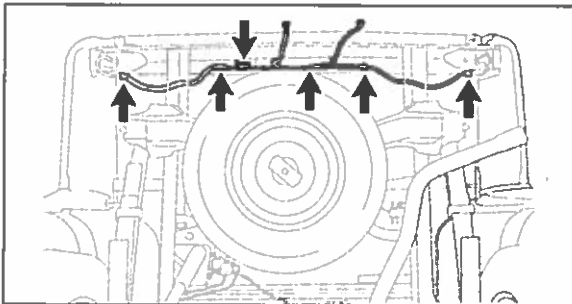


1. REINSTALL THE FUEL INLET PIPE

a) Reinstall the fuel inlet pipe with the 2 nuts and torque to spec.

Torque Spec:

- For Vehicles Produced On Or Before August 2004 - 27 N·m (275 kgf·cm, 20 ft·lbf)
- For Vehicles Produced After August 2004 - 20 N·m (203 kgf·cm, 14 ft·lbf)



2. REINSTALL THE FRAME WIRE HARNESS

- Reconnect the 4 wire harness clamps to the bed assy.
- Reconnect the connectors.

NOTE:

- The number of connectors will differ depending on the vehicle spec.
- Use new clamps if the original ones are damaged

NEW Replacement Parts

With Trailer Hitch

Part Number	Part Name	Kit #	Qty
90080-11491	Bolt	NA*	12
90089-17059	Nut	NA*	2

*Individual part(s)

Without Trailer Hitch

Part Number	Part Name	Kit #	Qty
90119-12311	Bolt	1-2	4
90119-A0073	Bolt	3	6

3. REINSTALL THE FOLLOWING PARTS

- Fuel Tank Filler Pipe Shield
- Side Step Assy (*If Equipped*)
- Rear Mudguards (*If Equipped*)
- Trailer Hitch (*If Equipped*)
- Rear Bumper Assy
 - Reinstall with 12 **NEW** bolts and 2 **NEW** nuts, then torque to spec. (*With Trailer Hitch*)
 - Reinstall with 10 **NEW** bolts and torque to spec. (*Without Trailer Hitch*)
 - **Torque Spec: 100 N·m (1019 kgf·cm, 73 ft·lbf)**
- Center Rear Bumper Pad
- License Plate Lights

I. FINAL ASSEMBLY

1. REINSTALL THE BATTERY

NEW Replacement Parts			
Front Differential			
Part Number	Part Name	Kit #	Qty
12157-10010	Gasket, Front Differential Filler Plug	NA*	1
90430-24003	Gasket, Front Differential Drain Plug	NA*	1

*Individual part(s)

2. REFILL THE FOLLOWING FLUIDS

- Brake Fluid
 - Refill Brake System with Toyota Dot 3 Brake Fluid.
 - Bleed the brake system at each wheel and torque the bleeder screws to spec.
 - **Torque Spec: 11 N·m (112 kgf·cm, 8 ft·lbf)**
- Clutch Fluid (*Manual Transmission Vehicles Only*)
 - Refill with Toyota Dot 3 Brake Fluid.
 - Bleed the clutch system & torque the bleeder screws to spec.
 - **Torque Spec: 11 N·m (112 kgf·cm, 8 ft·lbf)**
- Coolant
 - Refill with Toyota Long Life Coolant.
 - Bleed the cooling system.
- Front Differential
 - Install a **NEW** drain plug washer & torque to spec.
 - **Torque Spec: 65 N·m (662 kgf·cm, 48 ft·lbf)**
 - Refill with Hypoid Gear Oil API GL-5 75W-90.
 - Install a **NEW** filler plug washer and torque to spec.
 - **Torque Spec: 39 N·m (397 kgf·cm, 29 ft·lbf)**

3. START THE VEHICLE AND INSPECT THE FOLLOWING FOR LEAKS

- Fuel System
 - Start engine for 5 seconds, then stop engine.
 - Inspect for leaks, if no leaks restart engine and re-inspect.
- Brake System
- Clutch System (*Manual Transmission Only*)
- Front Differential System (*4WD Only*)
- Cooling System

4. RECHARGE THE A/C SYSTEM AND CHECK FOR PROPER OPERATION AND REFRIGERANT LEAKS

5. CHECK THE OPERATION OF THE FOLLOWING SYSTEMS AND ADJUST AS NEEDED



Follow the procedure outlined in the appropriate repair manual for the vehicle you are working on when checking and adjusting the operation of the systems listed below. This is an important step, and must be performed thoroughly to ensure proper operation..

- Parking Brake Travel
- Shift Control Lever (*Automatic Trans Only*)
- Clutch Pedal (*Manual Transmission Only*)
- LSPV (*LSPV Equipped Vehicles Only*)

6. CHECK ALL FLUID LEVELS AND ADJUST AS NEEDED

NEW Replacement Parts			
Part Number	Part Name	Kit #	Qty
95381-04045	Cotter Pin	NA*	2

*Individual part(s)

7. TORQUE THE FRONT AXLE NUT (4WD ONLY)

- a) Remove the front wheels.
 - b) Torque the front axle nut to spec.
- Torque Spec: 235 N·m (2396 kgf·cm, 173 ft·lb)**

- c) Reinstall the lock cap with the **NEW** cotter pin.

NOTE: If the holes for the cotter pin are not aligned, tighten the axle nut further, up to 60°.

- d) Reinstall the grease cap.
- e) Reinstall the front wheels and torque to spec.

Torque Spec: 110 N·m (1121 kgf·cm, 81 ft·lbf)

- f) Repeat the procedure on the opposite side.

8. PERFORM A WHEEL ALIGNMENT

9. CHECK THE HEADLIGHT AIM AND ADJUST AS NEEDED

NEW Replacement Parts			
Part Number	Part Name	Kit #	Qty
90080-11373	Bolt	3	9
90189-60440	Screw	1-2	4

10. REINSTALL THE ENGINE UNDER COVER

- a) Reinstall the engine under cover with **NEW** bolts and **NEW** screws and torque to spec.

Torque Spec: 29 N·m (295 kgf·cm, 21 ft·lbf)

11. CHECK FOR DTC'S AND REPAIR AS NEEDED

12. PERFORM INITIALIZATION

13. FINAL INSPECTION

- a) Check the operation of the following systems:

- 4WD System (**4WD Only**)
- Interior Lights
- Exterior Lights
- HVAC System
- Audio System
- Power Windows
- Power Door Locks
- All Gauges, Indicators and Warning Lights
- Cooling Fans
- Etc.

14. TEST DRIVE THE VEHICLE

◀ **VERIFY REPAIR QUALITY** ▶

- Confirm any DTCs and vehicle condition prior to beginning this repair
- Read all precautions as outlined on TIS before beginning repair
- Confirm your shop is equipped with the correct equipment to perform the repair (e.g. Above Ground Lift)
- Confirm all safety precautions are followed
- Confirm that the vehicle is returned to its original condition prior to delivery to the customer

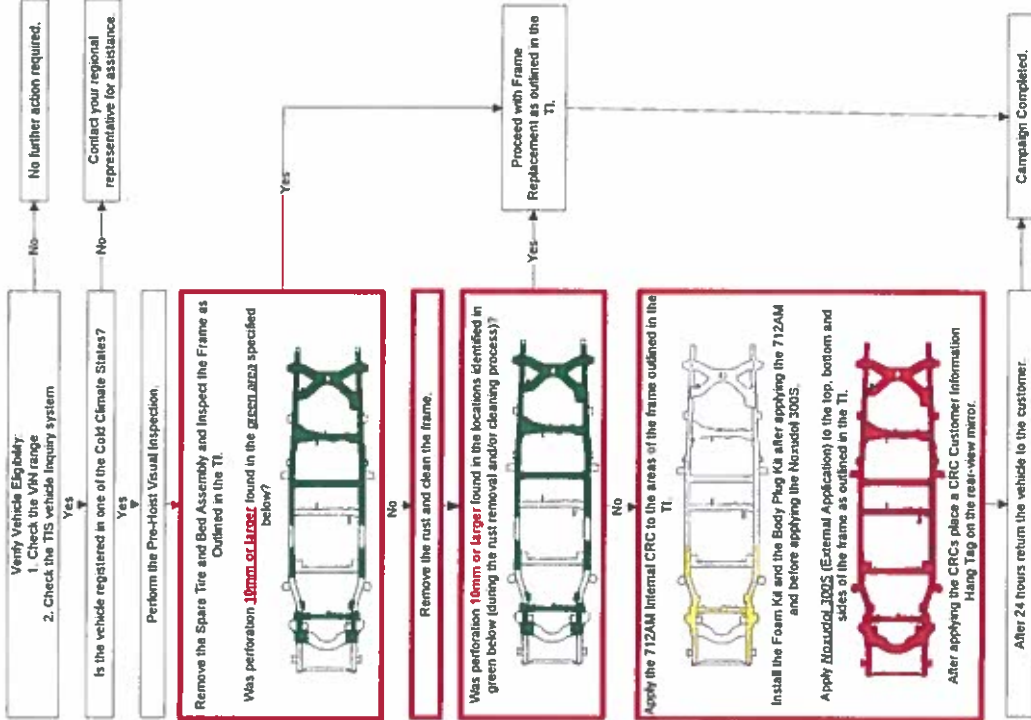
If you have any questions regarding this update, please contact your area representative.

E. APPENDIX

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. Adequate time has been provided in the repair time to cut up and dispose of the perforated frame.

Quick Reference Guide for the Corrosion-Resistant Compound Campaign (DOD) Certain 2004-2006 Model Year Tundra Vehicles

FRAME PERFORMANCE INSPECTION AND OPERATION FLOW CHART



MDCE 00411-13003

FRAME PREPARATION AND CLEANING

STOP REMOVE BED; bed assembly *must* be removed in-order to adequately clean frame and rear cross-members.

Ensure frame is cleaned so that all of the following is removed:

- o Loose Rust
- o Rust Scales
- o Debris
- o Loose E-coat
- o All collected debris in rear cross-member



Work Procedure Check List

WORK AREA

- Did you inspect the fire resistant coverings on the lift's swing arms for damage (cuts, tears, etc.) and replace as needed?
- Did you inspect the fire resistant covering on the floor for damage (cuts, tears, etc.) and replace as needed?
- Did you make sure the fire resistant covering on the floor is secure and does not create a slipping hazard?
- Did you inspect the partition(s) for damage (cuts, tears, etc.) and replace/repair as needed?

SPRAY GUN STORAGE

- Did you remove the air hose from the spray gun?
- Did you loosen the spray gun from the canister to release the air pressure, and reattach the spray gun to the canister once the air pressure has been released?
- Did you cap the 712AM nozzle with the originally equipped nozzle cap and wrap the NOXUDOL 300S nozzle with a plastic sheet secured by a rubber band?

VEHICLE PREPARATION & FRAME CORROSION-RESISTANCE COMPOUND

- Did you cover the identifying labels (i.e. VIN label, etc.) on the frame with tape?
- Did you check the exhaust with an infrared thermometer to ensure it has cooled before wrapping and spraying?
- Did you cover all rotating parts and exhaust with masking to ensure over spray does not adhere to the surfaces?
- Did you wipe off any 712AM that may be on the external frame surfaces? If this is not done NOXUDOL 300S may have difficulty adhering to these areas.
- Did you apply the NOXUDOL 300S to sections of the frame that were covered by the lift points?
- Did you install the foam pieces and body plugs to prevent 712AM from dripping?
- Did you apply the entire liter of 712AM and the entire 3 liters of Noradol 300S?
- Did you remove the tape covering the identifying labels (i.e. VIN label, etc.) on the frame?



Follow the entire procedure and perform all steps completely (e.g. inspection, cleaning/rust removal, CRC application, one kit per vehicle, etc.) any deviation will be subject to warranty claim debit.



712AM INTERNAL CRC APPLICATION, DEPTH, AND APPLICATION SPEED

712AM Spray Gun Setup

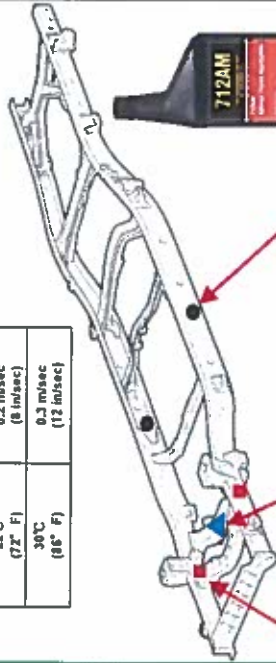
1. Turn Flow/Volume Adjustment Screw fully closed (clockwise)
2. Loosen Flow/Volume Adjustment Screw 4 Turns
3. Attach internal spray wand

STOP Air Regulator is extremely sensitive; always follow instructions to avoid damage to gun!

4. Adjust Regulator completely closed (no air flow)
5. Attach air hose to gun
6. Fully depress spray trigger and slowly adjust air pressure (1/8 turn or less) to 72.5 psi

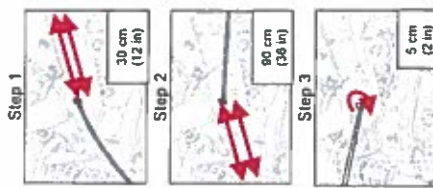
Note: Air regulator has delay and may take up to 10 seconds to stabilize.

Wax Temperature	Application Speed
22°C (72° F)	0.2 msec (8 in/sec)
30°C (86° F)	0.3 msec (12 in/sec)



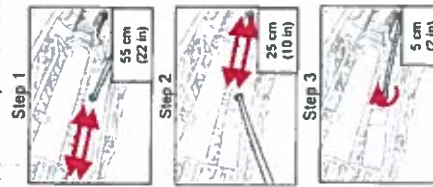
Outer Side Frame Rail Access Holes (2)

- Use 8 mm nozzle
- Insert nozzle to specified depth below
- Ensure to use a constant rate and perform all laps, indicated by the number of arrows



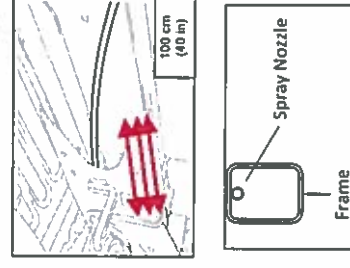
No.2 Cross-Member Access Hole (1)

- Use 8 mm nozzle
- Insert nozzle to specified depth below
- Ensure to use a constant rate and perform all laps, indicated by the number of arrows



Inner Side Frame Rail Access Channel (2)

- Use 8 mm nozzle
- Insert nozzle to specified depth below
- Ensure to use a constant rate and perform all laps, indicated by the number of arrows



NOXUDOL 300S EXTERNAL FRAME APPLICATION

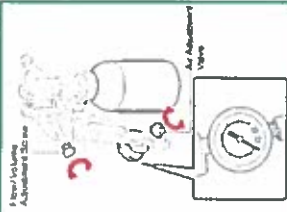
NOXUDOL 300S Gun Set Up

1. Turn Flow/Volume Adjustment Screw fully closed (clockwise)
2. Loosen Flow/Volume Adjustment Screw 2.5 Turns
3. Attach external spray wand

STOP Air Regulator is extremely sensitive; always follow instructions to avoid damage to gun!

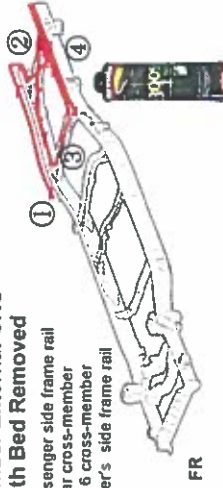
4. Adjust Regulator completely closed (no air flow)
5. Attach air hose to gun
6. Fully depress spray trigger and slowly adjust air pressure (1/8 turn or less) to 50 psi

Note: Air regulator has a delay and may take up to 10 seconds to stabilize.



Top of Cross-Member External CRC Application with Bed Removed

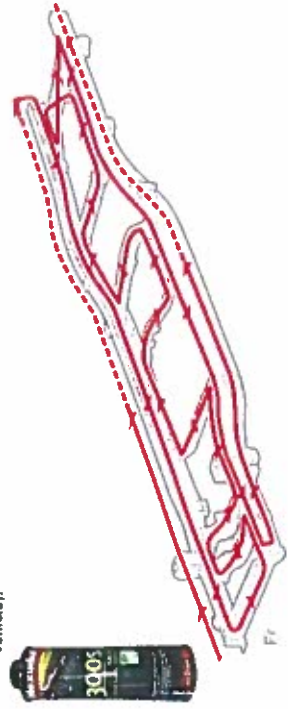
- Step 1 Coat top surface of passenger side frame rail
- Step 2 Coat top surface of rear cross-member
- Step 3 Coat top surface of No. 6 cross-member
- Step 4 Coat top surface of driver's side frame rail



Remaining Frame External CRC Application

STOP RE-INSTALL BED PRIOR TO SPRAYING REMAINING PORTIONS OF THE FRAME TO HELP REDUCE ANY OVERSPRAY

- Step 1 Coat outer and bottom surfaces of passenger side frame rail (start from front of the vehicle)
- Step 2 Coat inside surface of passenger side frame rail (start from rear of vehicle)
- Step 3 Coat cross-members (No. 0, No. 1, No. 2, No. 3, No. 4, No. 5, No. 6) and rear cross-member from front to back (start from front of vehicle)
- Step 4 Coat inside surface of drivers side frame rail (start from rear of vehicle)
- Step 5 Coat the outer and bottom surfaces of driver's side frame rail (start from front of vehicle).



All CRC MUST Be Applied to the Frame for Adequate Protection



1 Kit = 1 Vehicle

CRC Kit P/N: 00289-T00KT-DS

TECHNICAL INSTRUCTIONS

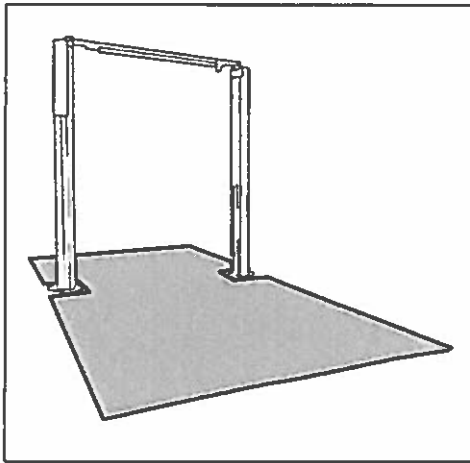
FOR

CORROSION-RESISTANT COUMPOND

APPLICATION STALL SETUP

AND

SPRAY GUN MAINTENAINCE / STORAGE

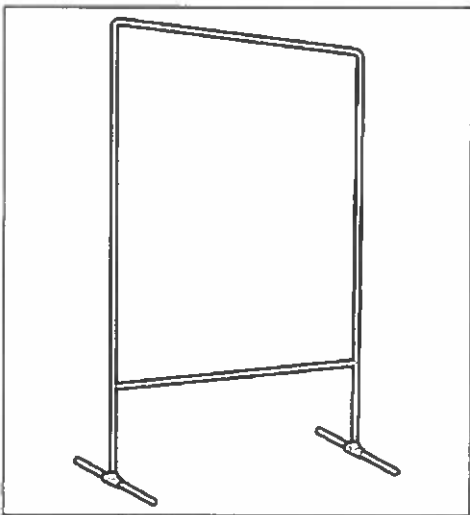


3. COVER LIFT AND FLOOR

- a) Cover any exposed section(s) of the lift with fire-retardant poly sheeting (tarp), and secure with masking tape.
- b) Place the fire-retardant tarp(s) as shown in the illustration to protect the floor.

Notes:

- When laying out the tarp on the floor, be sure it is secure and does not create a slipping hazard when walked upon.
- Inspect the tarp on a daily basis for damage (cuts, tears, etc.) and replace as necessary.
- Dispose of old tarps in accordance to all laws and regulations. Refer to the Dealer Information Packet for more info.
- A two post above-ground lift is shown for reference.

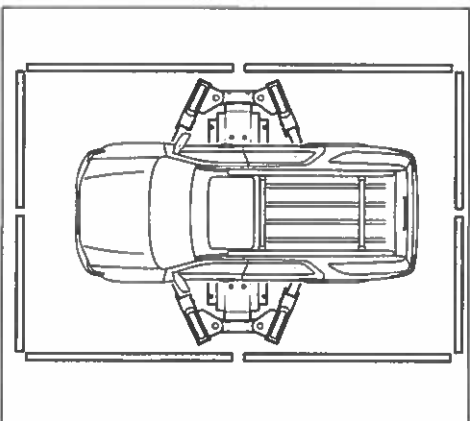


4. PARTITION SETUP

- c) Setup partitions according to the facility needs of your dealership.

Notes:

- The type, size, and number of partitions used will depend on each dealer's facility.
- Set up partitions according to the guidelines established in the Dealer Information Packet (provided at launch) and any Supplements.
- Partitions should minimize any overspray to nearby stalls, while ensuring adequate air ventilation.
- Inspect the partition(s) on a daily basis for damage (cuts, tears, etc.) and repair/replace as necessary.
- Dispose of used partitions in accordance to all laws and regulations. Refer to the Dealer Information Packet for more info.

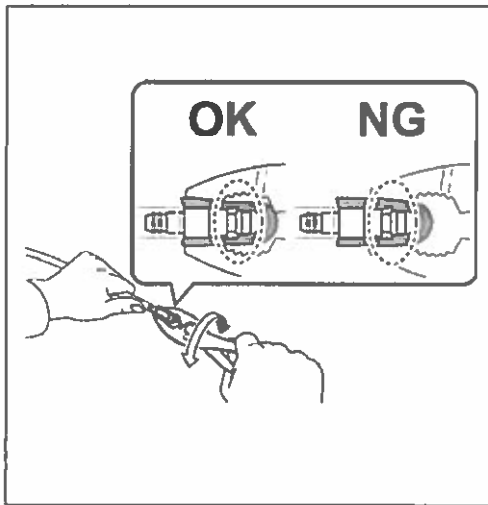


- d) Position the partitions around the vehicle to prevent overspray, as shown in the illustration.

- e) Placed partitions should be consistent with any minimum requirements outlined in the Dealer Information Packet and permit the spraying of vehicle with the following dimensions:
 - Overall Length: 250 inches
 - Overall Width: 80 inches

Note:

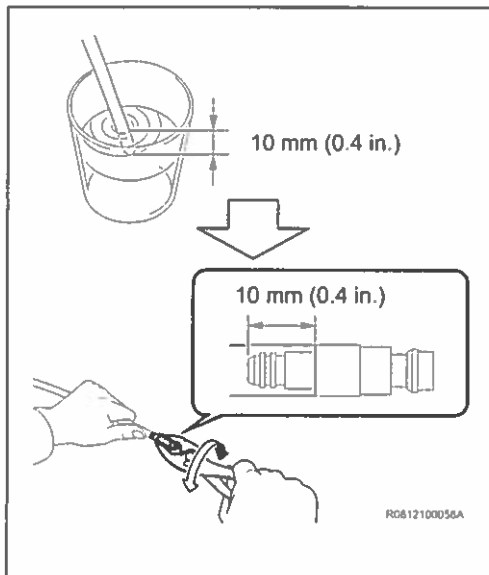
- The partitions shown are just an example of what can be used.
- The vehicle shown is just a sample, model may vary.



- b) Immediately after removing the coupler from the hot water, twist and pull to separate the coupler from the hose using pliers and a paper towel.

Notes:

- Place the paper towel between the pliers and the coupler to avoid damage.
- Be careful to place the pliers so as to not damage the connection joint for the spray guns.
- The coupler and nozzle hose may be hot.



- c) Immerse approximately 10mm (0.4 in.) of the non-threaded section of the **NEW** nozzle hose in 70°C (158°F) or above hot water for 10 seconds.

- d) Immediately after removing the nozzle hose from the hot water, install the coupler to the hose by twisting it.

Notes:

- The coupler should be inserted all the way into the hose to ensure it will not detach.
- If the hose has cooled and the coupler cannot be inserted, reheat it with hot water.
- The coupler and hose may be hot.

- e) Once the nozzle hose has cooled to room temperature, hold both the coupler and hose and pull to ensure that they do not separate.

B. SPRAY GUN TROUBLESHOOTING



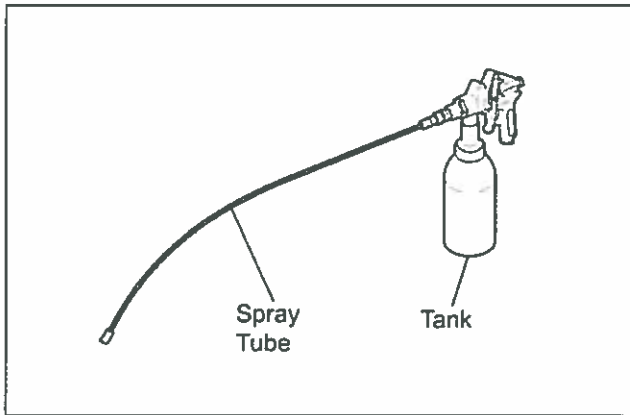
1. CONDITION: CRC FLOWS AS LIQUID (NOXUDOL 300S)

Cause: Increasing the air pressure too quickly and having to reduce the regulator pressure.

Background: This condition occurs when the bottle pressure exceeds the regulated air pressure coming into the gun.

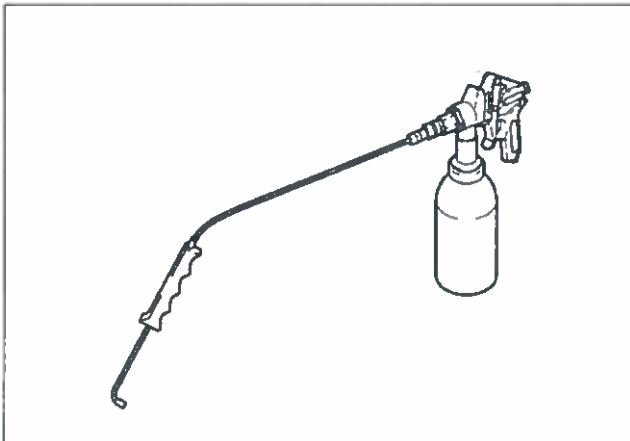
IV. SPRAY GUN STORAGE

A. SPRAY GUN STORAGE



1. 712AM INTERNAL FRAME APPLICATION SPRAY GUN:

- a) Remove the air hose from the spray gun.
- b) Loosen the spray gun from the canister to release the air pressure. To minimize exposure to the air, once the air pressure is released retighten the spray gun to the canister.
- c) Leave the spray tube on the spray gun and place the originally equipped nozzle cap on the tip.



2. NOXUDOL 300S EXTERNAL FRAME APPLICATION SPRAY GUN:

- a) Remove the air hose from spray gun.
- b) Loosen the spray gun from the canister to release the air pressure. To minimize exposure to the air, once the air pressure is released retighten the spray gun to the canister.
- c) Leave the spray tube on the spray gun and wrap the tube tip with Saran Wrap[®]. Seal the Saran Wrap[®] with a rubber band.

Note: Spray Guns do not require cleaning if they are properly stored!

RECORD-KEEPING AND OTHER REQUIREMENTS

To make sure that your dealership can satisfy specific state and local requirements, please refer to your specific state Dealer Information Packet for the applicable campaign. Critical requirements are described in the Air Regulation, Air Recordkeeping, Fire, Building, and Zoning Code Sections of the Federal, State and Local Requirements Guide and in the Site Selection Guide, all found in the Dealer Information Packet and Supplements.

**TECHNICAL INSTRUCTIONS
FOR
CORROSION-RESISTANT COMPOUND CAMPAIGN D0D**

CERTAIN 2004 THROUGH 2006 MODEL YEAR TUNDRA

CORROSION-RESISTANT COMPOUND APPLICATION

II IDENTIFICATION OF COVERED VEHICLES

A. COVERED VIN RANGE

	WMI	MY	VDS	START	FINISH
Tundra	5TB	2004	BN441	S434011	S436017
			BT441	S439036	S456080
			BT481	S439615	S456067
			DT441	S433661	S466455
			DT481	S002453	S003285
			DT481	S433659	S466449
			ET341	S433660	S462885
			ET381	S002454	S003282
			ET381	S433659	S462884
			JN321	S436917	S449755
			KT441	S439633	S456072
			RN341	S436916	S449758
			RT341	S439161	S456394
			RT381	S439739	S456380
		2005	BT441	S450912	S473532
			BT481	S447181	S473524
			DT441	S450539	S501952
			DT481	S449475	S501948
			ET341	S447933	S498161
			ET381	S457048	S498158
			JT321	S447754	S472163
			JU321	S442174	S456318
			KT421	S446499	S473525
			RT341	S447755	S472174
			RT381	S450422	S472171
			RU341	S442176	S456314

	WMI	MY	VDS	START	FINISH
Tundra	5TB	2006	BT441	S466644	S487790
			BT481	S473536	S487734
			DT441	S501358	S555074
			DT481	S501029	S555073
			ET341	S482156	S562605
			ET381	S498166	S562572
			JT321	S472178	S482450
			JU321	S451343	S476212
			KT421	S473533	S485871
			RT341	S472176	S483750
			RT381	S472181	S483722
			RU341	S451531	S484869

- Vehicles **currently registered in the Cold Climate States* or D.C.** and have no significant corrosion found**, are eligible for CRC application to the frame.
- Check TIS to confirm the VIN is covered in D0D. This will verify the vehicle is covered 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 covered or were completed by another dealer.

* CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, and WV

** Refer to section V. for inspection procedures and criteria.

B. SUPPORT MATERIALS

- The following support materials can be ordered through the dealer's facing **PDC**:

Part Number	Part Description	Qty
90950-01824	PLUG for prevention of 712AM dripping.	2 per vehicle
90950-01539	PLUG for prevention of 712AM dripping.	2 per vehicle

- The following support materials can be ordered through the **MDC**:

Part Number	Part Description	Qty
00411-11004	Corrosion-Resistant Compound Customer Information Hang Tag*	1 per vehicle
00411-11005	Foam Plug Kit	1 per vehicle
00411-13003	Laminated Quick Reference Guide for the Corrosion Resistant Compound Campaign (D0D) (Included in each Service Manager Package)	As needed
00411-13004	ASM Reference Guide – CRC Campaign	As needed

* Additional CRC Customer Information Hang Tags can be ordered in packages of 25 through the MDC.

C. STANDARD TOOLS & EQUIPMENT

- Standard hand tools
- Flat chisel
- Scraper
- Wire brush
- Air nozzle
- Infrared thermometer
- Air coupler (quantity 2)

SPECIAL EQUIPMENT

The items below were previously shipped to your dealership for previous CRC campaigns.

Note: Due to federal, state and local regulations, it is anticipated each dealer will use the same 712AM spray gun and NOXUDOL 300S spray gun that are currently being used for LSC C0D.

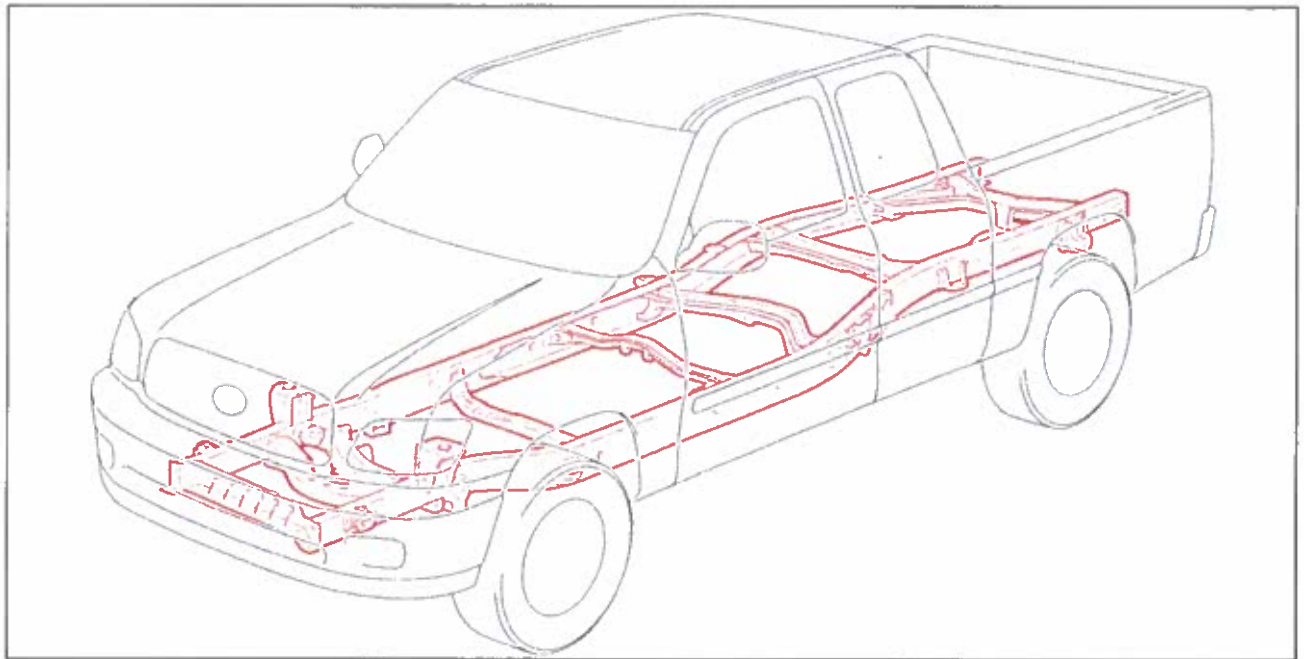
As a result, each participating dealer will have 2 total spray guns in their possession:

Equipment	Purpose	Shipping Date
Spray Gun	Noxudol 300S	Provided at the time of LSC B0D Launch
Spray Gun	712AM	Provided at the time of LSC 90D Phase 1 Launch

Magnet Kit

- 30 Rare Earth Magnets – See section VI.D.1 "Attach Plastic Sheet" for details.

*Follow the CRC Support link located in the left bottom corner of the C.L.E.A.N DEALER webpage.



V VEHICLE INSPECTION WORK PROCEDURE

Note: Follow the entire procedure and perform all steps completely (e.g. inspection, cleaning/rust removal, CRC application, one kit per vehicle, etc.) any deviation will be subject to warranty claim debit.

A. PERFORM PREHOIST INSPECTION

B. REMOVE THE BED ASSY



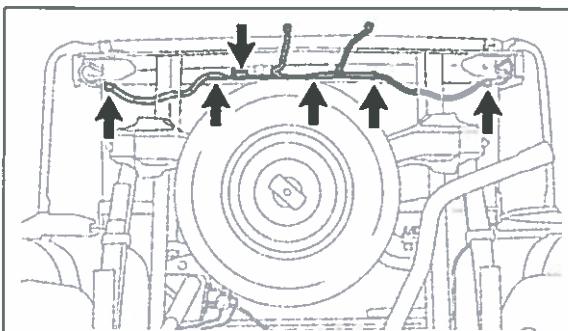
- If the frame is heavily corroded, **ONLY** raise the vehicle high enough to remove the tires.
- For added safety and support, place jack stands under the front and rear portions of the frame.
- **DO NOT** work directly underneath the vehicle when performing bed assy removal.

1. CENTER THE VEHICLE BETWEEN THE LIFT ARMS

- a) Verify the vehicle is aligned with the center point of the lift and with the front wheels are pointed straight to prevent interference and damage to the frame and/or lift.

2. REMOVE THE FOLLOWING PARTS

- | | |
|--|---|
| <ul style="list-style-type: none"> • License Plate Lights • Center Rear Bumper Pad • Rear Bumper Assy • Trailer Hitch (<i>If Equipped</i>) | <ul style="list-style-type: none"> • Rear Mudguards (<i>If Equipped</i>) • Fuel Tank Filler Pipe Shield • Spare Tire |
|--|---|



3. REMOVE THE WIRE HARNESS

- a) Disconnect the connectors.
- b) Disconnect the clamps and the wire harness from the bed assembly.

NOTE:

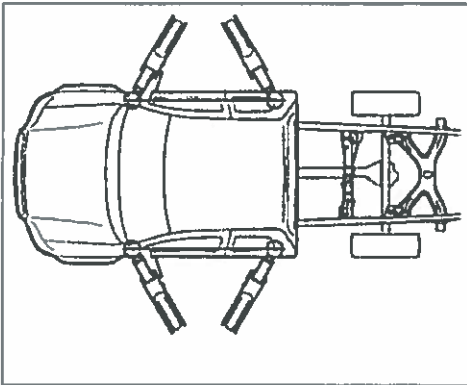
- The number of connectors may differ depending on the vehicle specification.
- Be careful not to damage the wire harness clamps when removing them.

VI FRAME APPLICATION WORK PROCEDURE



- Allow sufficient time for the vehicle and exhaust to cool down before beginning the application process. By following the FRAME APPLICATION WORK PROCEDURE the vehicle will have additional time to cool before CRC application begins.

- A. FOR SPRAY STALL SETUP AND SPRAY GUN MAINTENANCE PLEASE REFERENCE THE TI FOR CRC APPLICATION STALL SETUP AND SPRAY GUN MAINTENANCE/STORAGE
- B. VEHICLE PREPARATION AND REMOVAL OF FRAME RUST



1. PREPARE THE VEHICLE

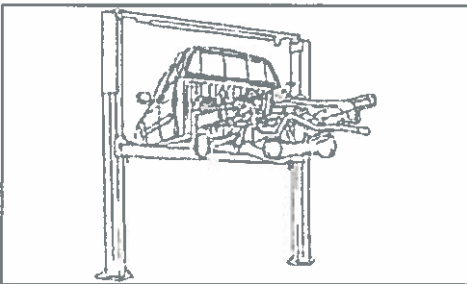
- a) It may be necessary to pressure wash the vehicle's frame, depending on its cleanliness.

Note: Time has been allotted to pressure wash the frame in the flat rate time.

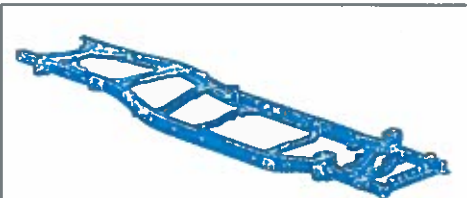
- b) Place the vehicle on the lift.



Strap the vehicle to the lift with safety straps. Once the vehicle is raised to the desired height, install screw jacks to the front and back of the vehicle.



- c) Raise up the vehicle and remove the wheels.
d) Remove the engine under cover.
e) Cover any identifying label (i.e., VIN label, etc.) on the frame with tape.
f) Cover all exposed electrical connectors with tape to protect from over spray.



2. REMOVE RUST FROM THE FRAME AND CROSS-MEMBERS.

- a) Using a scraper or chisel remove **all** loose rust and rust scales from the frame and cross-members.

Note: The use of power tools is permissible during the cleaning process. Toyota found air scalers to work well.

- b) If rust perforation of **10mm or larger** is found during the rust removal process proceed to the frame replacement.

Power Tools are Permissible



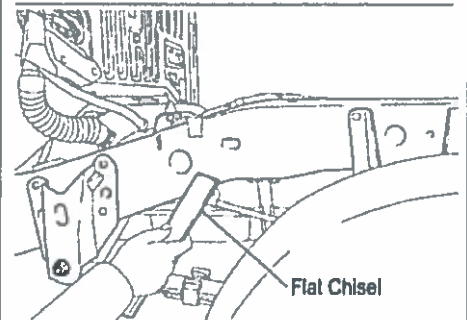
ex.) Air Needle Scaler



To adequately clean the rear cross members and frame assy, the bed & bumper assembly must be removed.

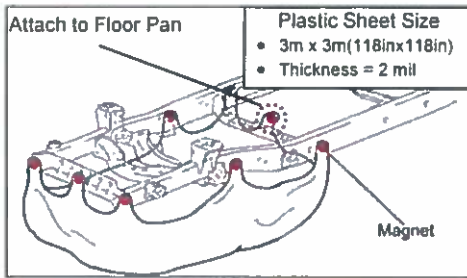
Notes:

- Wear protective eyewear, gloves, and a dust mask when removing rust and cleaning frame.
- Do not damage the wire harness/brake lines when removing rust.
- Be extremely cautious not to injure your hands.
- DO NOT scratch/remove identifying labels from the frame.



Flat Chisel

D. PREPARE FOR APPLICATION OF CORROSION-RESISTANT COMPOUND (CRC)



Note: Always utilize the correct CRC kit for Tundra CRC Application, Part Number 00289-T00KT-DS

1. ATTACH PLASTIC SHEET

- Before spraying 712AM to the internal frame, fit the plastic sheet on the frame utilizing the previously supplied magnet kit.

2. SET UP THE SPRAY GUN FOR 712AM INTERNAL CRC APPLICATION

Notes:

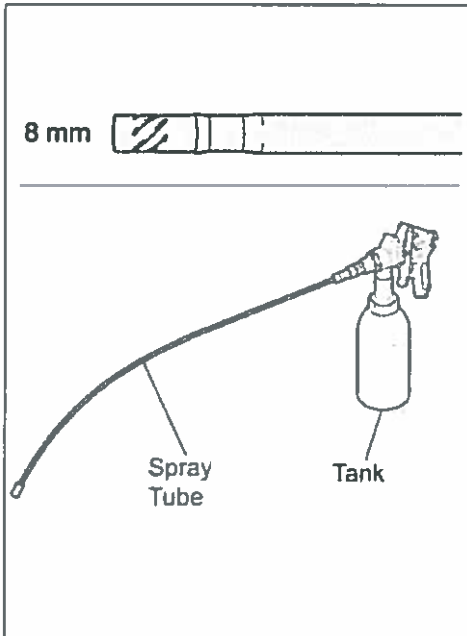
- Use a dedicated spray gun for the 712AM internal CRC.
- Make sure to wear protective eyewear, impervious gloves (Viton, PVOH, etc.) appropriate Niosh approved respirator, and refer to the MSDS located in the Appendix when handling and spraying CRC.

- Check the temperature of the 712AM.



If the 712AM is below 72° F, place the 712AM container in a bucket of hot water (<104° F) for 15 minutes and allow it to warm so the proper viscosity is achieved.

- Shake the 712AM container well so that the contents are mixed thoroughly. Settling may occur as it sits over time.
- Fill the dedicated tank with 712AM and attach it to the spray gun.
- Connect the 8mm spray tube, as shown in the illustration.



- Adjust the spray gun nozzle flow/volume.

- Turn the adjustment screw to the fully closed position (clockwise).
- Then loosen the adjustment screw 4 complete turns.

STOP The air regulator is extremely sensitive; always follow instruction to avoid damage to the gun!

- Adjust the air pressure regulator.

- Place the nozzle in a clean empty box or pail.
- Adjust the air regulator completely closed (No Air Flow)
- Attach the air hose to gun.
- Fully press the spray gun trigger, and slowly adjust the air pressure to 72.5 psi.

Note: The air regulator has a slight delay and may take up to 10 seconds before the air pressure stabilizes. Move the adjustment knob in very small increments (1/8 turn).

- Recycle the amount sprayed out and use it during the application process.

Note: DO NOT bend the spray tube.

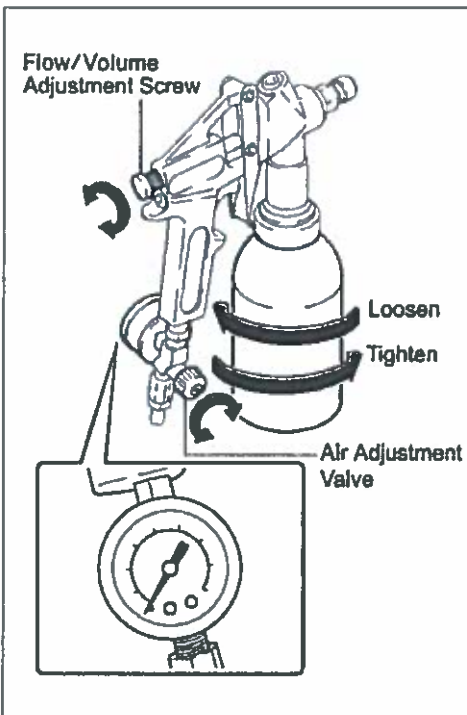
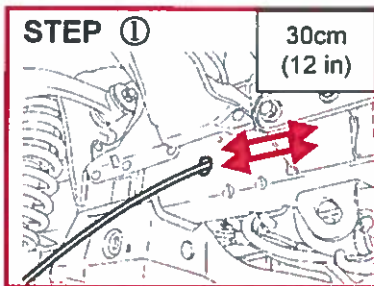
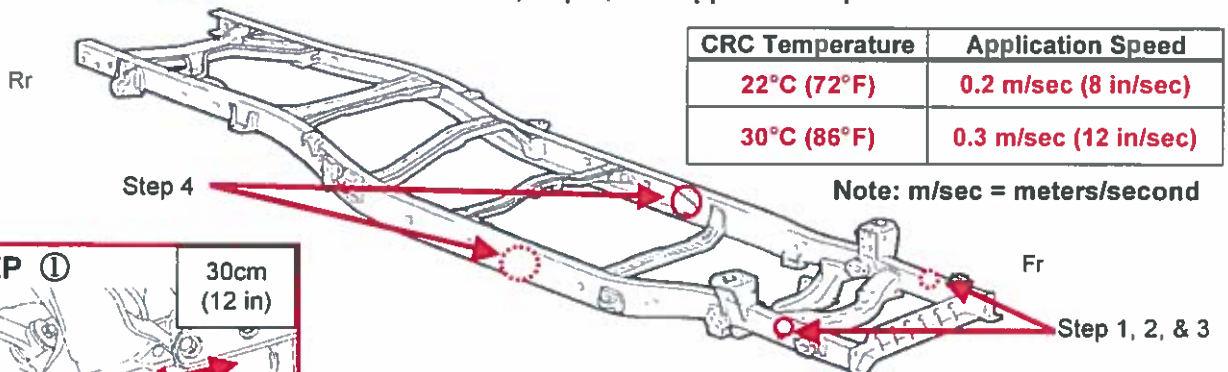




Diagram 2: Internal CRC Application

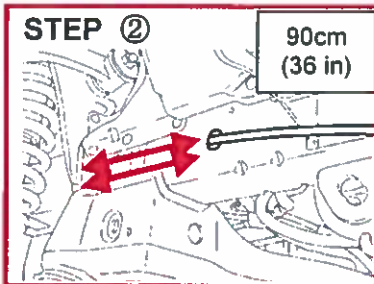
712AM Internal CRC Application

Tube Insert Locations, Depth, and Application Speed



Step 1 (refer to the table above for application rate):

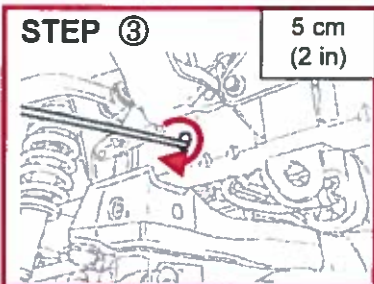
- While applying the 712AM, insert the nozzle 30cm (12 in) into the side-rail.
- Continue applying the 712AM while removing the nozzle.



Step 2 (refer to the table above for application rate):

- While applying the 712AM, insert the nozzle as far as it will go.
- Continue applying the 712AM while removing the nozzle.

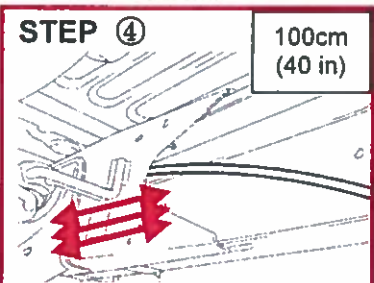
Repeat Steps 1 & 2 for a total of 2 laps



Step 3

- Insert the nozzle 5 cm (2 in.) towards the front of the frame.
- Move the nozzle in a circular motion while applying the 712AM.

Note: Make sure to only insert the nozzle 5cm (2 in) to avoid over spraying onto the engine.



Step 4 (refer to the table above for application rate):

- While applying the 712AM, insert the nozzle as far as it will go (contact the top center of the frame while inserting nozzle).
- Continue applying the 712AM while removing the nozzle.
- Repeat the step a) to c) two more times (Total: 3 laps)

Repeat Steps 1 – 4 on the opposite frame rail.



THE ENTIRE LITER MUST BE APPLIED TO THE FRAME!

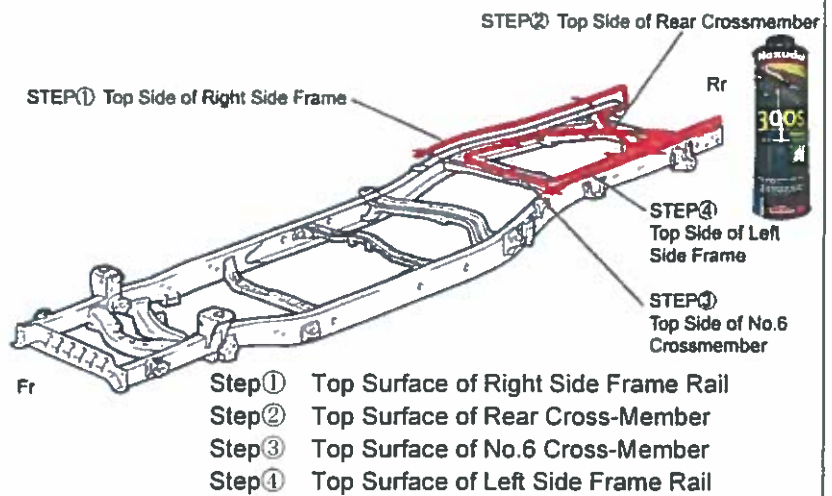
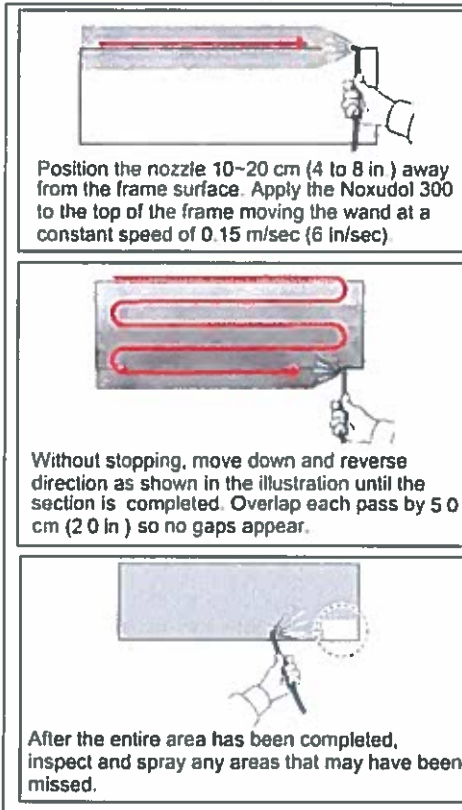


Notes:

- Follow all MSDS guidelines for the 712AM which can be found in the Appendix.
 - Only one side is given. Tube insert locations are the same for both sides.
- Follow the given application speeds when applying the 712AM to the inner surface of the frame.
 - The exact insertion point locations may vary depending on the cab configuration.

3. NOXUDOL 300S EXTERNAL WAX APPLICATION

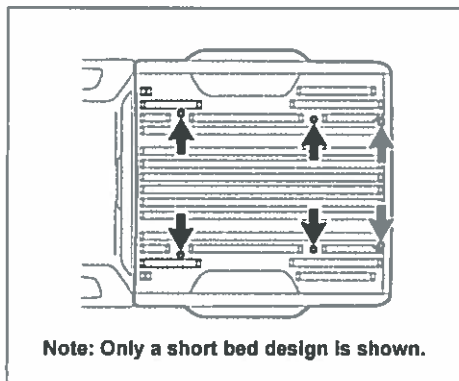
- a) Reviewing the application process for the top surface of the cross-member and frame, begin applying Noxudol 300S.



Notes:

- Discharge rate varies depending on CRC temperature. Make spray speed adjustment as needed. Do not adjust air pressure.
- A large amount of overlap is required to achieve adequate CRC thickness.
- Keep the wand positioned as close to the specified distance as possible.
- Always wear protective eyewear, chemical-resistant gloves, appropriate NIOSH approved respirator, and refer to MSDS located in the Appendix when performing this procedure.

G. PREPARE VEHICLE FOR UNDER VEHICLE NOXUDOL 300S APPLICATION



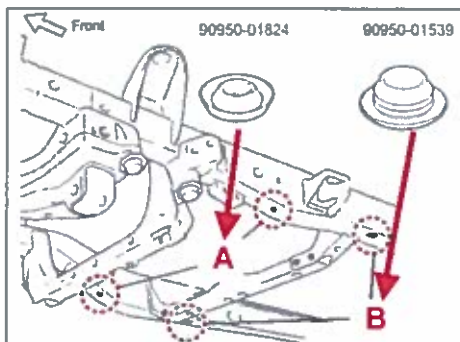
1. RE-INSTALL BED AND REAR BUMPER ASSEMBLY (See Appendix, section B)



Note: Bed assembly must be re-installed after applying Noxudol 300S to the rear portion of the frame, in order to reduce overspray from adhering to the vehicles painted surfaces.

2. RAISE THE VEHICLE
3. REMOVE PLASTIC MAGNETS AND PLASTIC SHEET
4. REMOVE ANY 712AM WAX FROM THE EXTERNAL FRAME SURFACE. ANY REMAINING 712AM WAX WILL PREVENT THE NOXUDOL 300S WAX APPLICATION FROM APPLYING.

H. INSTALLATION OF BODY PLUGS AND FOAM PLUGS




1. INSTALL THE BODY PLUGS TO STOP 712AM FROM DRIPPING FROM THE FRAME

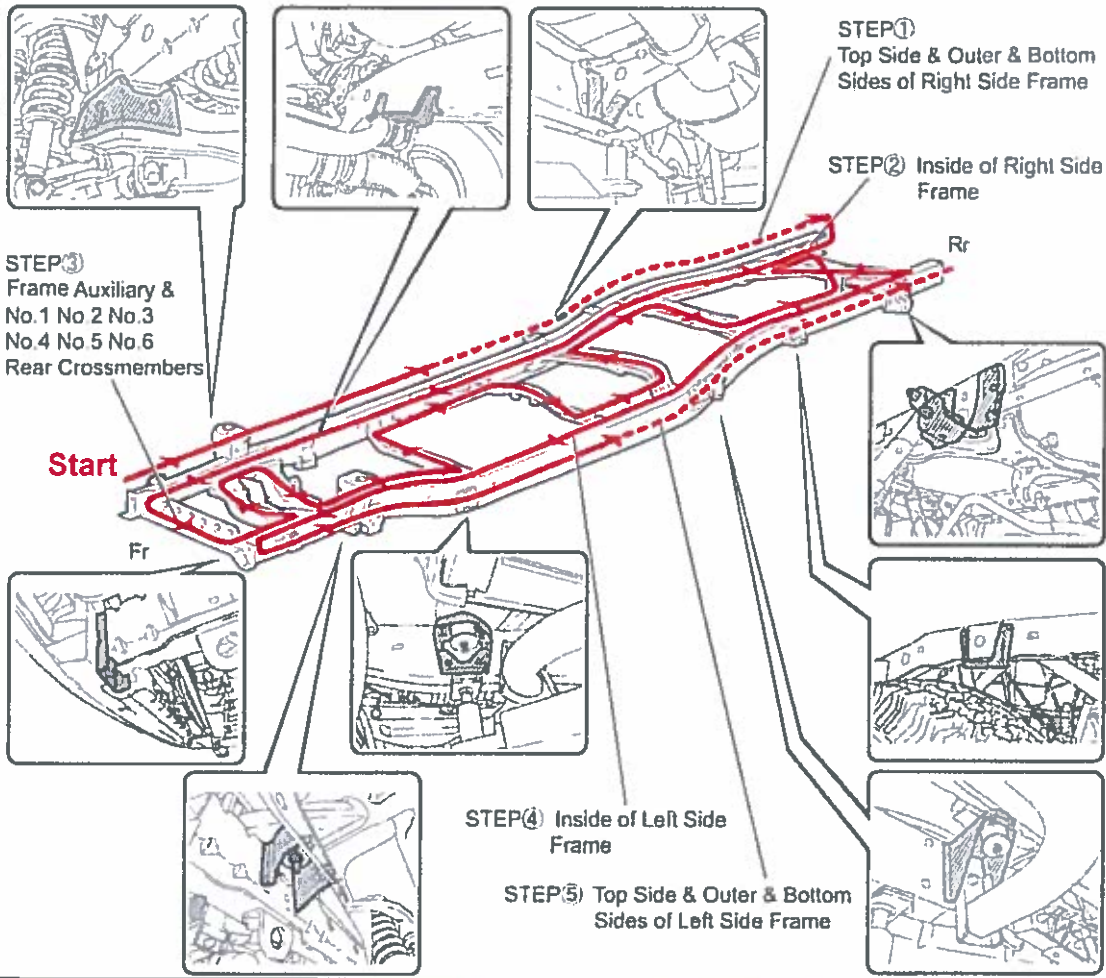
- a) With a cloth wipe off any drips of 712AM dripping from the frame.
- b) Before installing the body plugs, confirm that the excess 712AM has stopped dripping from the frame
- c) Install body plug 90950-01824 in the 2 holes identified by the **A**.
- d) Install the body plug 90950-01539 in the 2 holes identified by the **B**.

I. UNDER VEHICLE NOXUDOL 300S CRC APPLICATION

1. AFTER REVIEWING THE APPLICATION PROCESS OUTLINED BELOW, BEGIN APPLYING NOXUDOL 300S TO THE REMAINING PORTIONS OF THE EXTERNAL FRAME.



- Step① Coat outer and bottom surfaces of right side frame (Start from front of the vehicle)
- Step② Coat inside surfaces of right side frame (Start from rear of vehicle)
- Step③ Coat Frame Auxiliary, No.0, No.1, No.2, No.3, No.4, No.5, No.6 and rear cross-members from front to back (Start from front of vehicle)
- Step④ Coat inside surfaces of left side frame (Start from rear of vehicle)
- Step⑤ Coat outer and bottom surfaces of left side frame (Start from front of vehicle)



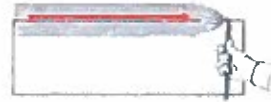



STEP① Top Side & Outer & Bottom Sides of Right Side Frame

STEP② Inside of Right Side Frame

STEP③ Frame Auxiliary & No.1 No.2 No.3 No.4 No.5 No.6 Rear Crossmembers

STEP④ Inside of Left Side Frame

STEP⑤ Top Side & Outer & Bottom Sides of Left Side Frame

			
<p>Position the nozzle 10-20 cm (4 to 8 in.) away from the frame surface. Then apply the Noxudol 300 to the outside frame rail moving the wand at a constant speed of 0.15 m/sec (6 in/sec).</p>	<p>Without stopping, move down and reverse direction as shown in the illustration until the section is completed. Slightly overlap each pass by 5.0 cm (2.0 in.) so no gaps appear.</p>	<p>Once the outside surface of the frame rail section you are working on has been completed, without stopping, spray the bottom side as shown in the illustration. Spray the remaining frame and cross-member surfaces in the same manner.</p>	<p>After the entire frame has been completed, inspect and spray any areas that may have been missed.</p>

Discharge rate varies depending on CRC temperature. Make adjustments to spray rate as needed, but do not change air pressure (air pressure must be 50 psi).

VII APPENDIX

A. 712AM & NOXUDOL 300S DISPOSAL

712AM & Noxudol 300S used in the application of the frame CRC as well as any materials, such as tarps with residue, must be disposed of in the same manner as other hazardous waste at your dealership and in accordance with all applicable local, state, and federal regulations. Please refer to the Dealer Information Packet for additional information.

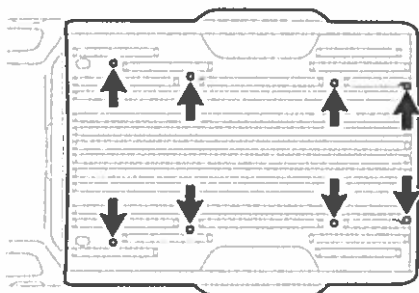
B. REINSTALL THE BED ASSY

1. REINSTALL THE BED ASSEMBLY

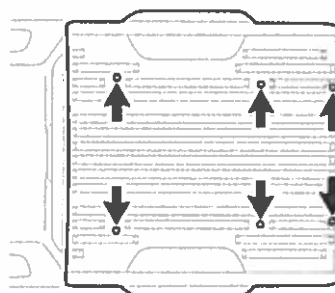
b) Using a Torx® T55H Socket, reinstall the Torx® bolts and torque to spec.

Torque Spec: 86 N·m (877 kgf·cm, 63 ft·lbf)

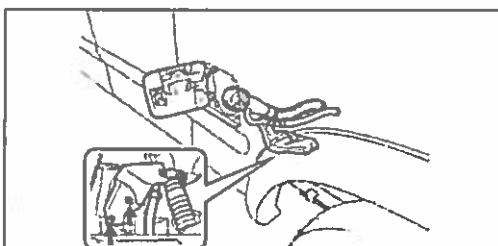
- Regular Cab: 8 Torx® bolts



- Access Cab / Double Cab: 6 Torx® bolts



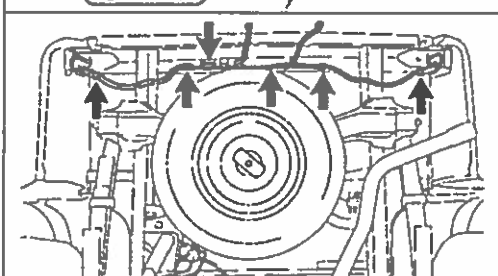
NOTE: Using 4 or more people, evenly support the bed to reinstall the bed assembly onto the frame.



2. REINSTALL THE FUEL INLET PIPE

a) Reinstall the fuel inlet pipe with the 2 nuts and torque to spec.

Torque Spec: 27 N·m (275 kgf·cm, 20 ft·lbf)



3. REINSTALL THE FRAME WIRE HARNESS

a) Reconnect the 4 wire harness clamps to the bed assy.

b) Reconnect the connectors.

NOTE:

- The number of connectors will differ depending on the vehicle spec.
- Use new clamps if the original ones are damaged.

C. MSDS Sheets

- Noxudol 300S..... page 20
- 712AM..... page 29



MATERIAL SAFETY DATA SHEET

Noxudol 300 S

Last Updated April 18, 2011

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: CAUTION! COMBUSTIBLE LIQUID.

HMIS/NFPA Rating See Section 16

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Skin contact, eye contact, inhalation and ingestion

INHALATION: High vapor concentrations may cause headache, dizziness, fatigue, nausea, and vomiting

INGESTION: May cause abdominal pain, nausea, and vomiting

SKIN CONTACT: Contact may be irritating to skin. May defat skin.

EYE CONTACT: Contact may be irritating to eyes. May cause stinging.

CHRONIC EXPOSURE: There are currently no known adverse health effects associated with chronic exposure to this product.

ACUTE HEALTH HAZARDS: Moderately irritating to the skin. Slightly irritating to the eyes. May be harmful if inhaled.

AGGRAVATION OF PRE-EXISTING CONDITIONS: Persons with pre-existing skin disorders, eye problems, or respiratory function may be more susceptible to the effects of this substance.

TARGET ORGANS: Eyes, skin, and respiratory system.

CARCINOGENICITY:

OSHA Not listed

ACGIH Not listed

NTP Not listed

IARC Not listed

POTENTIAL ENVIRONMENTAL EFFECTS: Not considered to be harmful to aquatic life.

4. EMERGENCY AND FIRST AID PROCEDURES

INHALATION FIRST AID: If inhalation is experienced or suspected, move exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms persist.

SKIN CONTACT FIRST AID: In case of contact, immediately flush skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops.

EYE CONTACT FIRST AID: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately if symptoms persist.

INGESTION FIRST AID: If swallowed, give a few tablespoons of cooking oil, sour cream, cream, or other liquid fat. Contact the poison control center. **DO NOT INDUCE VOMITING** unless directed to by a poison control center or physician. Never give anything by mouth to an unconscious person.

STATEMENT OF PRACTICAL TREATMENT: Always have plenty of water available for first aid. Get medical attention if any symptoms develop or persist.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: This product has low oral, dermal, and inhalation toxicity. Aspiration during swallowing or vomiting may severely damage the lungs.



MATERIAL SAFETY DATA SHEET

Noxudol 300 S

Last Updated April 18, 2011

RECOMMENDED STORAGE CONDITIONS: Keep in a tightly closed original container, at temperatures less than 105°F (40°C). Keep containers closed when not in use.

SHELF LIFE: See label on packaging

HANDLING (PERSONNEL): Wear appropriate personal protective equipment (see SECTION 8) Avoid contact with eyes. Avoid contact with skin or clothing. Avoid breathing vapors. Use only with adequate ventilation. Wash thoroughly with soap and water after handling. Keep away from heat, flames, and sparks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS: See Section 2 above

CAS NO.	CHEMICAL NAME
64741-88-4	Solvent-refined heavy paraffinic distillate mg/m ³
OSHA PEL-TWA	5
OSHA PEL STEL	none
OSHA PEL CEILING	none
ACGIH TLV-TWA	5
ACGIH TLV STEL	none
ACGIH TLV CEILING	none
68783-96-0	PETROLEUM SULFONATE, CALCIUM SALT, CALCIUM HYDROXIDE AND CALCIUM CARBONATE DISPERSION MG/M ³
OSHA PEL-TWA	NONE
OSHA PEL STEL	NONE
OSHA PEL CEILING	NONE
ACGIH TLV-TWA	NONE
ACGIH TLV STEL	NONE
ACGIH TLV CEILING	NONE
68410-37-7	FATTY ACIDS, TALL-OIL, POLYMERS WITH ISOPHTHALIC ACID, PENTAERYTHRITOL AND TALL OIL MG/M ³
OSHA PEL-TWA	NONE
OSHA PEL STEL	NONE
OSHA PEL CEILING	NONE
ACGIH TLV-TWA	NONE
ACGIH TLV STEL	NONE
ACGIH TLV CEILING	NONE
8002-74-2	PARAFFIN AND HYDROCARBON WAXES MG/M ³
OSHA PEL-TWA	NONE
OSHA PEL STEL	NONE
OSHA PEL CEILING	NONE
ACGIH TLV-TWA	2 (FUME)
ACGIH TLV STEL	NONE
ACGIH TLV CEILING	NONE

CALIFORNIA PROPOSITION 65: This product may contain trace quantities of chemicals that are identified by



MATERIAL SAFETY DATA SHEET

Noxudol 300 S

Last Updated April 18, 2011

9. PHYSICAL/CHEMICAL CHARACTERISTICS

FORM: Highly viscous liquid
ODOR: Slight mineral oil like odor
SOLUBILITY IN WATER: Not soluble in water
EVAPORATION RATE: (BuAc=1): Not applicable
AUTOIGNITION TEMPERATURE: >750 °F 399 °C)
pH: Not available
VISCOSITY: 500-650 Mpas - 73.4 °F (23 °C)
VOLATILE ORGANIC COMPOUNDS (VOC): 10.7 g/L using EPA Method 24
COLD FREEZE POINT (ASTM D97): +25
FREEZING POINT (ASTM D1177): This sample was too viscous to permit determination of its freeze point by ASTM 1177.

COLOR: Black
BOILING POINT: >390 °F (>200 °C)
SPECIFIC GRAVITY: 96 at 20 °C (68 °F) (Water =1)
POUR POINT (ASTM) D97): +30
FLASH POINT: 285 °F (140 °C) ASTM D93
PERCENT SOLIDS BY WEIGHT: 98.9%

VAPOR PRESSURE By Isoteniscope (ASTM D2879), torr:

32 °F	0.28
68 °F	1.0
100 °F	2.7
150 °F	11
200 °F	34
250 °F	90
300 °F	160
350 °F	270
400 °F	426
450 °F	600
485 °F	760

10. STABILITY AND REACTIVITY

STABILITY: Stable under ordinary conditions (70 °F (21 °C) and 14.7 psig (760 mmHg)), of use and storage
CONDITIONS TO AVOID: Combustible atmospheres Heat, flames, ignition sources, water (absorbs readily) and incompatibles
POLYMERIZATION: Not available
INCOMPATIBILITY WITH OTHER MATERIALS: Do not store near other combustible materials
DECOMPOSITION: Not available

11. TOXICOLOGICAL INFORMATION

EFFECTS OF EXPOSURE

ACUTE INHALATION: LC50 not available
EYES: Irritant
SKIN: Irritant
ACUTE INGESTION: LD50 not available



MATERIAL SAFETY DATA SHEET

Noxudol 300 S

Last Updated April 18, 2011

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATORY STATUS

TSCA (TOXIC SUBSTANCE CONTROL ACT): All of the components of this product are listed on the TSCA Inventory.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT): This product is NOT subject to CERCLA environmental reporting requirements, however, many states have more stringent release reporting requirements. Report spills as required under federal, state and local regulations.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): This product does not contain any chemicals subject to SARA Title III 311/312 HAZARD CATEGORIES: Slight Health Hazard, Slight Flammability Hazard

CAA (CLEAN AIR ACT): This product conforms to the VOC limits listed under Subpart B National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings under Section 183(e)(3)(C)

OTC (OZONE TRANSPORT COMMISSION): This product conforms to the VOC limits listed in Model Rule 2009 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations.

STATE REGULATIONS:

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product is known to contain chemicals currently listed as carcinogens or reproductive toxins as regulated under California Proposition 65.

California Air Resource Board (CARB) Suggested Control Measure for Automotive Coatings: This product conforms to the VOC limit for the automotive undercoating

LOCAL REGULATIONS

SCAQMD (SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT) RULE 1151: This product conforms to the VOC limits listed under Rule 1151—Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations, Appendix A

BAAQMD (BAY AREA AIR QUALITY MANAGEMENT DISTRICT) RULE 8-45: This product conforms to the VOC limits listed under Rule 8-45—Motor Vehicle and Mobile Equipment Coating Operations

INTERNATIONAL REGULATIONS:

Europe: All ingredients conform to the EU requirements.
Regulation (EC) nr. 1907/2006
EEC-directive 2006/121/2006
No label required

16. OTHER INFORMATION

Label Requirements: WARNING! COMBUSTIBLE!

Hazardous Material Information System (HMIS):	Health	1
	Flammability	1
	Reactivity	0
	Personal Protection	

MATERIAL SAFETY DATA SHEET

PARKER INDUSTRIES

16-8, NIIONBASHI 2-CHOME,
CHUO-KU, TOKYO 103-0027, JAPAN
TELEPHONE (03) 5205-1973
FAX: (03) 5205-1981

EMERGENCY CONTACT:
CHEMFIREC (800) 424-9300

HMIS HAZARD RATING

HEALTH	1
FIRE	1
REACTIVITY	0
PERSONAL PROTECTION	B

Date of Review:	Revised: March 17, 2011
Date of Preparation: November 14, 2007	By: Y. Yamada

SECTION 1: PRODUCT IDENTIFICATION

Product Name: 712AM
Chemical Family: Petroleum oil additive blend
Material Usage: Corrosion Preventive Compound

EMERGENCY OVERVIEW. Petroleum oil-based product. When product burns it releases typical hydrocarbon products of combustion. Refer to Section 3 for health effects and to Section 5 for fire hazard data.

SECTION 2: HAZARDOUS INGREDIENTS

Component	Wt%	Recommended Exposure Limits (TWA)
Microcrystalline wax CAS #64742-42-3	5-10	ACGIH TLV: 2 mg/m ³ OSHA PEL: 2 mg/m ³
Petroleum distillates, solvent dewaxed heavy paraffinic CAS #64742-65-0	5-15	ACGIH TLV: 5 mg/m ³ OSHA PEL: 5 mg/m ³
Sulfonic acids, petroleum, Calcium salts, overbased CAS #68783-96-0	5-15	ACGIH TLV: 5 mg/m ³ (oil mist) OSHA PEL: 5 mg/m ³ (oil mist)
White mineral oil, petroleum CAS #8042-47-5	50-60	ACGIH TLV: 5 mg/m ³ (oil mist) OSHA PEL: 5 mg/m ³ (oil mist)
Bentonite, quaternary ammonium compound modified CAS# 68953-58-2	0.3-1.0	Not established

712AM MSDS

SECTION 6: SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Steps to be taken in case Material is Released or Spilled: Shut off ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do it without risk.

Small Spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal.

Large Spills: Dike far ahead of liquid spill for later disposal.

SECTION 7: SAFE HANDLING INFORMATION

Precautions To Be Taken In Handling/Storage: Store in cool, well-ventilated area. Keep away from flames. Never use a torch to cut or weld on or near container.

Other Precautions: Never wear contaminated clothing. Launder or dry clean before wearing. Discard oil-soaked shoes. Wash thoroughly with soap and water (waterless hand cleaner may be helpful in removing residues) after use and before smoking or eating. Avoid excessive skin contact.

SECTION 8: EXPOSURE CONTROLS

Respiratory Protection: NIOSH-approved respirator for organic vapor and mist to control exposure where ventilation is inadequate.

Ventilation: General and local exhaust.

Personal Protective Equipment: Protective Gloves: Impervious gloves (Viton, PVOH, etc.) **Eye Protection:** Safety glasses with side shields or chemical goggles. **Other Protective Clothing or Equipment:** If splashing is anticipated, wear rubber apron and boots or other protective equipment to minimize contact.

SECTION 9: REACTIVITY HAZARD DATA

Stability: Stable

Incompatibility: Strong acids, oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, oxides of sulfur, miscellaneous hydrocarbons.

Hazardous Polymerization: Will not occur.

SECTION 10: PHYSICAL AND CHEMICAL PROPERTIES

Color:	Tan
Appearance:	Viscous Liquid
Odor:	Oil
Boiling Point (initial):	NA
Evaporation Rate (n-Butyl Acetate=1):	<<1
Vapor Pressure (mmHg @ 20°C):	3.4
Vapor Density (air=1):	NA
Solubility in Water:	Not Determined
Specific Gravity:	.9-1.0
pH:	Not Applicable
Percent Volatile by Volume:	0

SECTION 11: DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Dispose of in accordance with state, local and federal regulations. Materials may become a hazardous waste through use. If permitted, incineration may be practiced. Consider recycling solvent

