

TOYOTA

PRODUCT SUPPORT DIVISION

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☒ Action
☒ Retain
☐ Information

INTEROFFICE MEMORANDUM

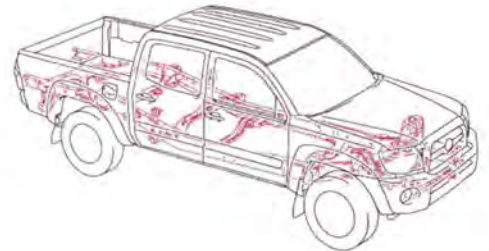
To: Toyota CAT Region General Managers/Vice Presidents
From: Bob Waltz,
Group Vice President, Product Quality and Service Support
Subject: Limited Service Campaign (LSC) E0D
2005 through 2008 Model Year Tacoma Vehicles
Corrosion-Resistant Compound (CRC) Application

Toyota will initiate a Limited Service Campaign (LSC E0D) to inspect and, based upon Toyota's inspection criteria, apply Corrosion-Resistant Compounds (CRC) to key areas of the frame assembly of certain 2005-2008 model year Tacoma vehicles without significant rust perforation until **March 31, 2016**. 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**.

E0D will be rolled out on a state-by-state basis, with the first states beginning in early May, 2014.

Condition

- Toyota has received reports that certain 2005 through 2008 model year Tacoma vehicles operated in specific cold climate areas (Cold Climate States) 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 **March 31, 2016**, to have the inspection of the vehicle's frame and the CRC application completed. If before the **March 31, 2016**, 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 **March 31, 2016**, 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. Dealer Letter Mailing Date

The attached dealer letter will be sent to all Toyota dealers:

Phase	Region	States	Dealer Date
1	Boston	Main, Massachusetts, New Hampshire, Vermont, Rhode Island	May 8, 2014
2	Cincinnati	Kentucky, Michigan, Ohio	June 23, 2014
3	Chicago	Illinois, Indiana, Minnesota, Wisconsin	August 22, 2014
4	New York	Connecticut, New Jersey, New York	September 17, 2014
5	CAT	Delaware, Maryland (D.C.), Pennsylvania, Virginia, West Virginia	November 10, 2014

2. Owner Notification

The owner notification will commence approximately 1 – 2 weeks after your region has been launched.

3. Pre-Owned Vehicles in Dealership Inventory (In-Stock Vehicles)

To ensure customer satisfaction Toyota requests that dealers conduct the LSC remedy on any used vehicles currently in dealer inventory that are covered by this LSC prior to customer delivery

4. Number and Identification of Covered Vehicles

There are approximately **160,000** Tacoma (certain 2005 – 2008 model year) vehicles covered by LSC E0D.

Model	Model Year	Production Range	Appx. UIO
Tacoma	2005-2008	Sep. 14, 2004 – May 27, 2008	160,000

5. Parts and Material Ordering

Please refer to the Dealer letter for parts and material ordering specifics.

6. Dealer/District Summary Reports

We have enclosed the following Limited Service Campaign E0D Summary Reports in the Region, Service Manager/Customer Service Operations Manager/Director of Service package:

- A District Summary Report that indicates the number of covered vehicles per dealership in each district for this Safety Recall.
- Dealer Summary Reports, containing the number of covered vehicles in each dealership's primary marketing area.

7. Media Contacts

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 this number to customers. Please provide this contact to only media associates.)

The attached Dealer Notification Letter contains additional details.

Please review this remedy notification with your staff to assure that all relevant personnel have been briefed regarding this subject.

Thank you for your cooperation.



Only vehicles currently registered in the "Cold Climate States" are covered under LSC E0D (LSC expiration date **Mar 31, 2016**)
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.

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

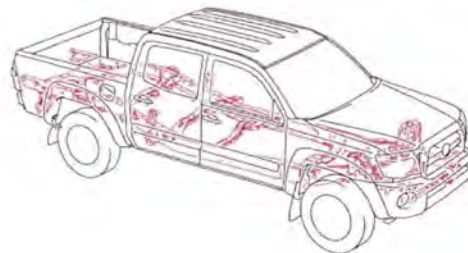
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E0D will be rolled out on a state-by-state basis, with the first states beginning in early May, 2014.

Condition

- Toyota has received reports that certain 2005 through 2008 model year Tacoma vehicles operated in specific cold climate areas (Cold Climate States) 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 **March 31, 2016**, to have the inspection of the vehicle's frame and the CRC application completed. If before the **March 31, 2016**, 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 **March 31, 2016**, 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 1 – 2 weeks after your state has been launched.

Phase	Region	States	Dealer Date
1	Boston	Main, Massachusetts, New Hampshire, Vermont, Rhode Island	May 8, 2014
2	Cincinnati	Kentucky, Michigan, Ohio	June 23, 2014
3	Chicago	Illinois, Indiana, Minnesota, Wisconsin	August 22, 2014
4	New York	Connecticut, New Jersey, New York	September 17, 2014
5	CAT	Delaware, Maryland (D.C.), Pennsylvania, Virginia, West Virginia	November 10, 2014

Toyota makes significant effort to obtain current customer name and address information from each state through industry resources when mailing owner letters. In the event your dealership receives a notice for a vehicle that was sold prior to the LSC announcement, it is the dealership's responsibility to forward the owner letter to the customer who purchased the vehicle.

Please note that only owners of the covered vehicles will be notified. If you are contacted by an owner who has not yet received a notification, please **verify eligibility by confirming through TIS prior to performing repairs**. Dealers should perform the repair as outlined in the Technical Instructions found on TIS. VINs will be loaded simultaneously with the launch of each state.

2. **Pre-Owned Vehicles in Dealership Inventory (In-Stock Vehicles)**

To ensure customer satisfaction Toyota requests that dealers conduct the LSC remedy on any used vehicles currently in dealer inventory that are covered by this LSC prior to customer delivery

3. **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.



Only vehicles currently registered in the "**Cold Climate States**" are covered under LSC E0D (LSC expiration date **Mar 31, 2016**)
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 .

4. Number and Identification of Covered Vehicles

There are approximately **160,000** Tacoma (certain 2005 – 2008 model year) vehicles covered by LSC E0D.

Model	WMI	Year	VIN Range		Model	WMI	Year	VIN Range	
			VDS	Range				VDS	Range
Tacoma	3TM	2005	JU62N	M001038 - M008091	Tacoma	5TE	2005	JU62N	Z001028 - Z099997
			KU72N	M001035 - M004841					Z100011 - Z144893
			LU42N	M001025 - M002890				KU72N	Z001030 - Z099998
			MU52N	M001026 - M001900					Z100007 - Z144860
		2006	JU62N	M007884 - M028771				LU42N	Z001003 - Z099999
			KU72N	M004775 - M010145					Z100003 - Z144901
			LU42N	M002891 - M008847				MU52N	Z001010 - Z099986
			MU52N	M001878 - M003617					Z100000 - Z144881
		2007	JU62N	M028772 - M049700				NX22N	Z001023 - Z099994
			KU72N	M010029 - M013697					Z100030 - Z144884
			LU42N	M008667 - M013600				NX62N	Z001659 - Z099610
			MU52N	M003618 - M005093					Z100147 - Z144755
		2008	JU62N	M049701 - M070800				PX42N	Z001187 - Z099909
			KU72N	M013698 - M017962					Z100855 - Z144724
			LU42N	M013601 - M020109				TU22N	Z001007 - Z099765
			MU52N	M005056 - M007830					Z100041 - Z144886
			TU62N	Z001020 - Z099968					
				Z100001 - Z144895					
			TX22N	Z001048 - Z099980					
				Z100018 - Z144900					
			TX62N	Z001181 - Z099650					
				Z100227 - Z144873					
			UU42N	Z001009 - Z099992					
				Z100004 - Z144899					
			UX42N	Z001302 - Z099989					
				Z100005 - Z144707					



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(Number and Identification of Covered Vehicles CONTINUED . . .)

Model	WMI	Year	VIN Range	
			VDS	Range
Tacoma	5TE	2006	JU62N	Z144959 - Z199999
				Z200001 - Z299988
				Z300392 - Z320618
			KU72N	Z145137 - Z199947
				Z200113 - Z299342
				Z300404 - Z320543
			LU42N	Z145030 - Z199948
				Z200064 - Z299588
				Z300154 - Z320397
			MU52N	Z145150 - Z199925
				Z200162 - Z299622
				Z300120 - Z320296
			NX22N	Z145177 - Z199921
				Z200211 - Z299999
				Z300002 - Z320613
			NX62N	Z145547 - Z199704
				Z200545 - Z299939
				Z300485 - Z320176
			PX42N	Z145459 - Z199841
				Z200453 - Z299639
				Z300105 - Z320265
			TU22N	Z144903 - Z199958
				Z200282 - Z299994
				Z300000 - Z320205
			TU62N	Z144902 - Z199943
				Z200216 - Z299993
				Z300007 - Z320213
			TX22N	Z145349 - Z199946
				Z200347 - Z299951
				Z300001 - Z320497
			TX62N	Z145234 - Z199930
				Z200446 - Z299428
				Z300318 - Z320203
			UU42N	Z144920 - Z199998
				Z200000 - Z299901
				Z300253 - Z320427
			UX42N	Z145491 - Z199863
				Z200473 - Z299666
				Z300075 - Z320247
Tacoma	5TE	2007	JU62N	Z320673 - Z399882
				Z400218 - Z469819
			KU72N	Z320671 - Z399894
				Z400197 - Z469635
			LU42N	Z320621 - Z399998
				Z400011 - Z469705
			MU52N	Z320863 - Z399736
				Z400367 - Z469726
			NX22N	Z320620 - Z399896
				Z400198 - Z469653
			NX62N	Z321207 - Z399445
				Z400637 - Z469255
			PX42N	Z320860 - Z399751
				Z400350 - Z469732
			TU22N	Z320619 - Z399797
				Z400300 - Z469759
			TU62N	Z320771 - Z399835
				Z400261 - Z469786
			TX22N	Z321110 - Z399601
				Z400492 - Z469654
			TX62N	Z321199 - Z399447
				Z400643 - Z469583
			UU42N	Z320622 - Z399999
				Z400000 - Z469869
			UX42N	Z320841 - Z399772
				Z400329 - Z469743
			JU62N	Z470196 - Z499500
				Z500104 - Z592508
			KU72N	Z470201 - Z499388
				Z500216 - Z592453
			LU42N	Z469991 - Z499273
				Z500336 - Z592675
			MU52N	Z469870 - Z499999
				Z500000 - Z592635
			NX22N	Z469871 - Z499898
				Z500255 - Z592426
			NX62N	Z469873 - Z499818
				Z501067 - Z592203
			PX42N	Z470165 - Z499997
				Z500013 - Z592599
			TU22N	Z470218 - Z499567
				Z500035 - Z592582
			TU62N	Z470195 - Z499577
				Z500029 - Z592581
			TX22N	Z469874 - Z499971
				Z500912 - Z592319
			TX62N	Z469875 - Z499819
				Z501075 - Z592204
			UU42N	Z469872 - Z499335
				Z500273 - Z592689
			UX42N	Z470171 - Z499595
				Z500008 - Z592595

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. If a dealer is contacted by an owner who has not yet received the notification, **please verify coverage by confirming through TIS.** Dealers should perform the procedure as outlined in the Technical Instructions located on TIS. **Not all vehicles in the VIN range are covered by this LSC.**



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5. 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 in 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 supplement frame replacement Technical Instructions located on TIS.
- Conduct all applicable, non-completed Safety Recall and Service Campaigns on the vehicle during the time of appointment.

6. Parts and Material Ordering

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

Please refer to the technical instructions located on the C.L.E.A.N. Dealer website (<http://cleandealer.com>) for part number and quantity information.



- Please note that only dealers in the Cold Climate States will be able to order and receive CRC kits.
- Verify vehicle eligibility by confirming through TIS prior to performing the repair.
- Dealers that conduct LSC E0D on vehicles not covered under this program or in a state other than the Cold Climate States will not receive reimbursement.

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 & launched 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.

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; xxxxxx.** Upon logging in, the website will ask for you to reset the password and provide an email address.

Note:

- *This is a generic website that covers all campaigns where frame replacement may be necessary.*
- *Your dealership may have previously used this website under LSC D0D and may have updated the password.*
- Select the appropriate campaign.
- 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.



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7. Tools and Equipment

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

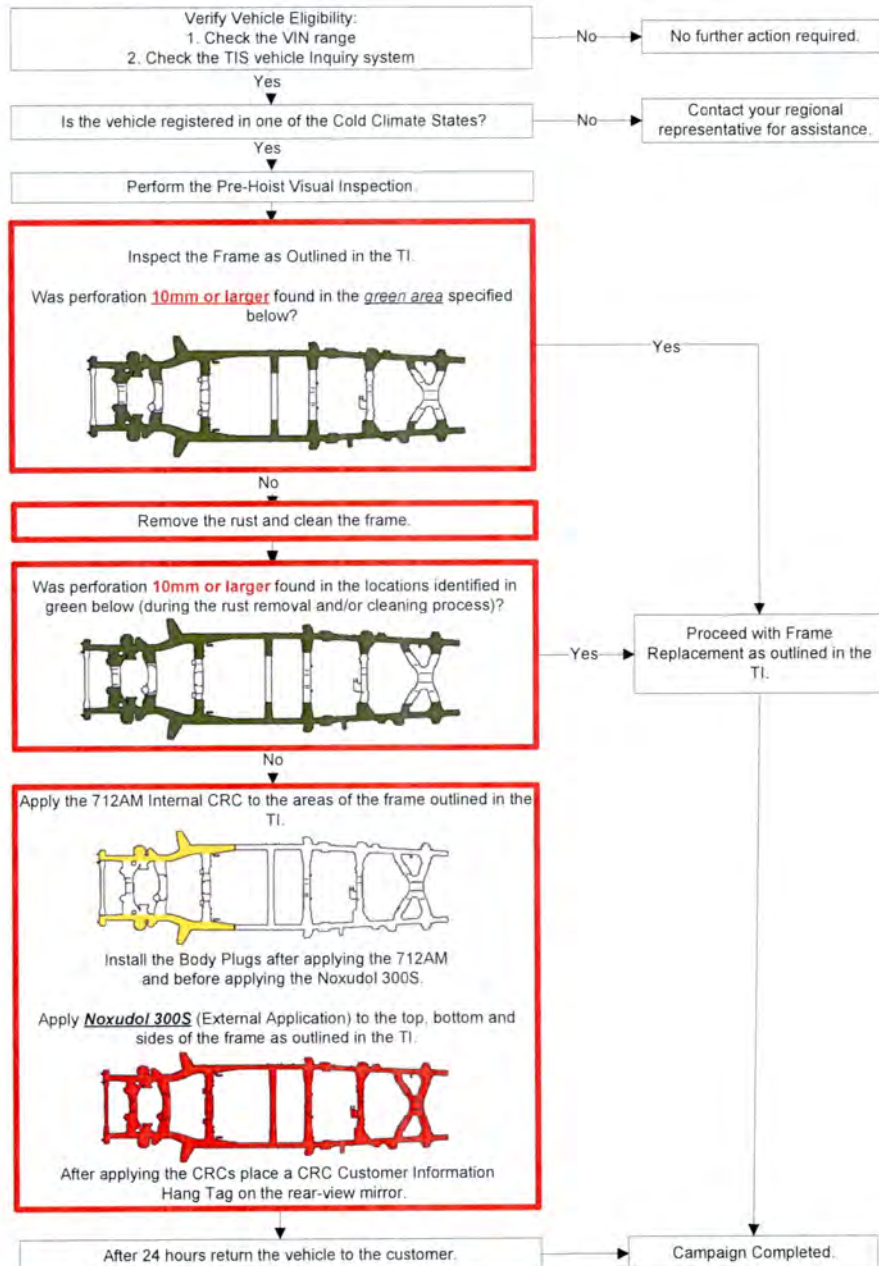
- CRC Application Stall Set Up TI
- CRC Application TI
- Spray Gun Maintenance / Storage TI
- Supplemental Frame Replacement TI

8. Before You Start

Carefully read the Campaign Dealer Information Packet (*provided during LSC D0D*) and supporting material even if your dealership has previously performed CRC application campaigns.

Before starting E0D 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.

9. Warranty Processor Instructions



Only vehicles currently registered in the "Cold Climate States" are covered under LSC E0D (LSC expiration date **Mar 31, 2016**)
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(Warranty Processor Instructions CONTINUED . . .)

Important**Reminder****ONLY use the following Operation (Op.) Codes if your dealership is located in the Cold Climate States.****All other dealers will be debited for any claims using these Op. Codes.****Important****Reminder****Operation Codes:**

	Limited Service Campaign	Op. Code	Frame Inspection	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
2005 – 2006 MY Tacoma	E0D	3605G2	✓	✓	✓							5.7 hr/vehicle
		3605G3	✓	✓		✓						2.6 hr/vehicle
		3605G4	✓				✓	✓				40.0 hr/vehicle
		3605G5	✓				✓		✓			41.6 hr/vehicle
		3605GA	✓				✓			✓		1.8 hr/vehicle
		3605GB	✓				✓				✓	1.8 hr/vehicle
2007 – 2008 MY Tacoma	E0D	3605GM	✓	✓	✓							4.7 hr/vehicle
		3605GN	✓	✓		✓						1.6 hr/vehicle
		3605GR	✓				✓	✓				39.4 hr/vehicle
		3605GS	✓				✓		✓			41.0 hr/vehicle
		3605GX	✓				✓			✓		1.2 hr/vehicle
		3605GZ	✓				✓				✓	1.2 hr/vehicle
2005 – 2008 MY Tacoma	E0D	3605GC	✓					✓				38.8 hr/vehicle
		3605GD	✓						✓			40.4 hr/vehicle
		3605GE	✓							✓		0.6 hr/vehicle
		3605GU	✓								✓	0.6 hr/vehicle

Note: The flat rate time above includes 0.1 hours for campaign administrative cost per unit.

* Based upon Toyota's inspection criteria

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(Warranty Processor Instructions CONTINUED . . .)

Allowable Sublet for Limited Service Campaign E0D – CRC Application

- **Rental Vehicle:** Use "RT" sublet type for Op. Code 3605G2, 3605G3, 3605GM, and 3605GN. During the CRC application, customers' rental car through the Toyota Rent-A-Car (TRAC) Program is available for a maximum of 2 days. Follow the Toyota Transportation Assistance Program (TTAP) guidelines.
- **Sublet:** The sublet cost for Op. Code 3605G3 and 3605GN (CRC Application by an Outside Repair Shop) should be claimed under sublet type 'YF' using the following formula:

$$= \text{Maximum 3.1 Hours (for CRC Application) X Dealer Hourly Rate}$$

(Under this Op. Code dealers are responsible for 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 3605G3 and 3605GN

- **Materials/Supplies:** Use "YA" sublet type for Op. Code 3605G2 and 3605GM. 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.

Allowable Sublet for Limited Service Campaign E0D – 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:

Claimed under sublet type 'Y' using the following formula:	
Description	Sublet Amounts
Op. Code 3605GA (2WD)	= Maximum 38.2 hours X Outside Repair Shop Rate
Op. Code 3605GE (2WD)	
Op. Code 3605GX (2WD)	
Op. Code 3605GB (4WD)	= Maximum 39.8 hours X Outside Repair Shop Rate
Op. Code 3605GU (4WD)	
Op. Code 3605GZ (4WD)	
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 3605GA, 3605GE, 3605GX, 3605GB, 3605GU, and 3605GZ .	

• **Rental Vehicles:**

Op. Code	Description	Sublet Amounts	Sublet Type	DSPM Authorization
3605GF	Vehicle Rental 1-30 Days	Follow the Toyota Transportation Assistance Program (TTAP) Guidelines.	RT	Not Required
3605GG	Vehicle Rental 31-60* Days (For frame replacement)		RT	Required

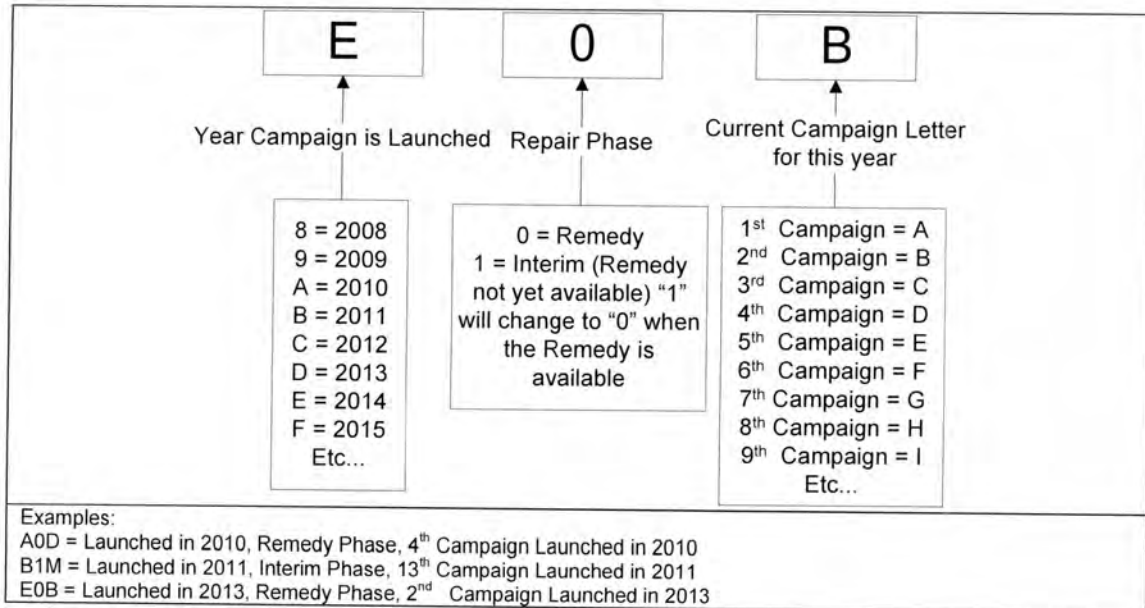
Rental car for frame replacement is up to 7 days. If frame replacement is delayed due to parts availability, additional time, up to a total of 30 days, may be claimed. Additional time, up to a total of 60 days, may be claimed **only with DSPM advance written authorization.

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



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10. Campaign Designation Decoder



11. Repair Quality Confirmation

The repair quality of covered vehicles is extremely important to Toyota. To help ensure that all vehicles have the repair performed correctly, please designate at least one associate (someone other than the individual who performed the repair) to verify the repair quality of every vehicle prior to customer delivery.

12. Media Contacts

If you are a dealership associate and have any questions, please contact your District Service/Parts Manager. **In the event you are contacted by the News media**, 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 this number to customers)

13. Customer Contacts

A FAQ is attached to help respond to any customer concerns. If the customer has any further questions, they are requested to contact the Toyota Customer Experience Center. The Toyota Customer Experience Center can be reached 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.

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 E0D (LSC expiration date **Mar 31, 2016**)
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.

**TECHNICAL INSTRUCTIONS
FOR
CORROSION-RESISTANT COMPOUND CAMPAIGN E0D**

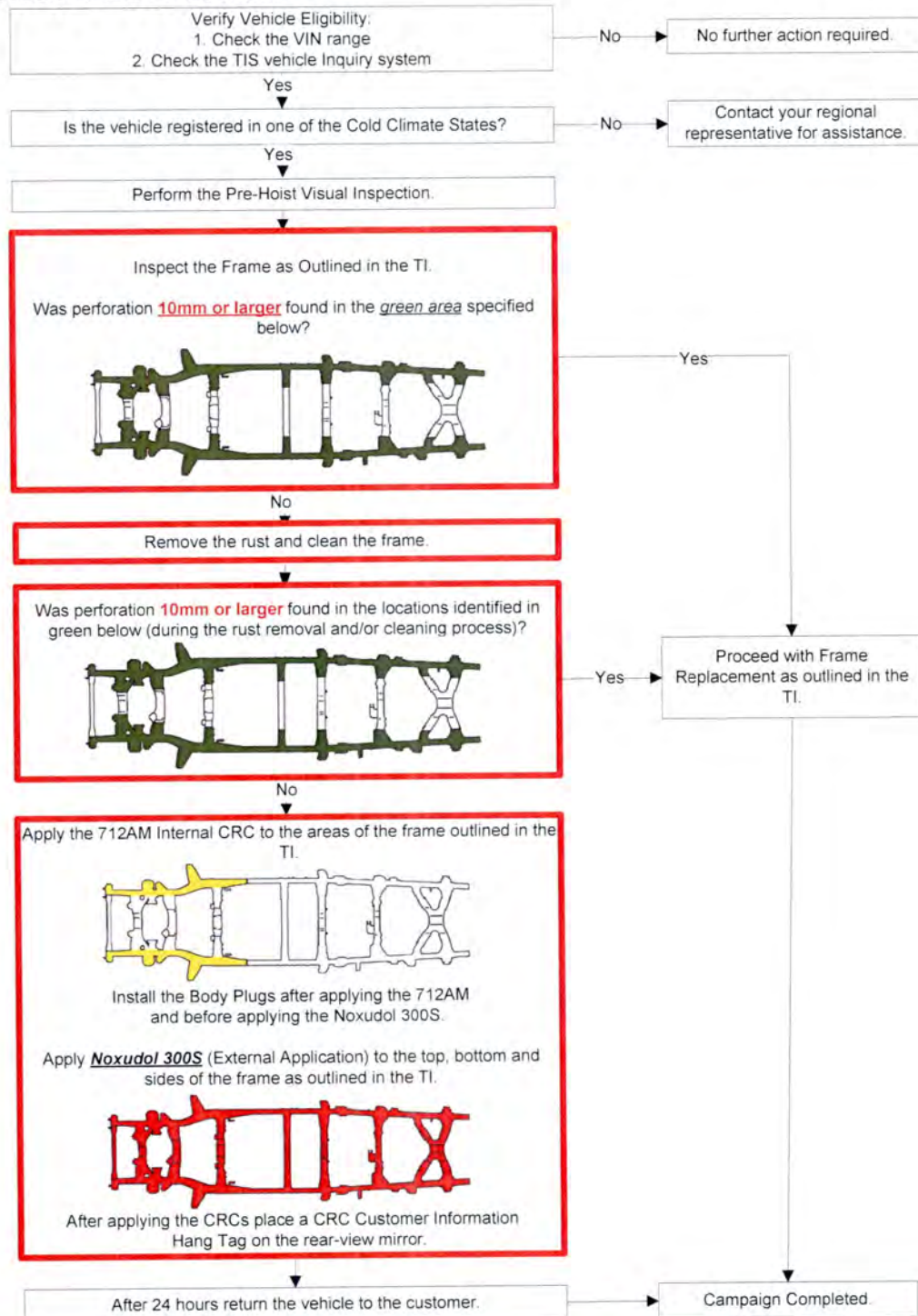
CERTAIN 2005 THROUGH 2008 MODEL YEAR TACOMA

CORROSION-RESISTANT COMPOUND APPLICATION



- For a complete list of Site Selection Guidelines and, Fire, Building, and Zoning Codes information for your state, please refer to the Dealer Information Packet. Please ensure your dealership complies with all regulations set forth in this packet.
- Keep records to comply with Federal/State/Local regulations and requirements. See the Federal, State & Local Requirements Guide and any Supplements to that Guide.

I. OPERATION FLOW CHART



Note: Ensure to 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.

II. IDENTIFICATION OF COVERED VEHICLES

A. COVERED VIN RANGE

Model	WMI	Year	VIN Range	
			VDS	Range
Tacoma	3TM	2005	JU62N	M001038 - M008091
			KU72N	M001035 - M004841
			LU42N	M001025 - M002890
			MU52N	M001026 - M001900
		2006	JU62N	M007884 - M028771
			KU72N	M004775 - M010145
			LU42N	M002891 - M008847
			MU52N	M001878 - M003617
		2007	JU62N	M028772 - M049700
			KU72N	M010029 - M013697
			LU42N	M008667 - M013600
			MU52N	M003618 - M005093
		2008	JU62N	M049701 - M070800
			KU72N	M013698 - M017962
			LU42N	M013601 - M020109
			MU52N	M005056 - M007830

Model	WMI	Year	VIN Range	
			VDS	Range
Tacoma	5TE	2005	JU62N	Z001028 - Z099997
				Z100011 - Z144893
			KU72N	Z001030 - Z099998
				Z100007 - Z144860
			LU42N	Z001003 - Z099999
				Z100003 - Z144901
			MU52N	Z001010 - Z099986
				Z100000 - Z144881
			NX22N	Z001023 - Z099994
				Z100030 - Z144884
			NX62N	Z001659 - Z099610
				Z100147 - Z144755
			PX42N	Z001187 - Z099909
				Z100855 - Z144724
			TU22N	Z001007 - Z099765
				Z100041 - Z144886
			TU62N	Z001020 - Z099968
				Z100001 - Z144895
			TX22N	Z001048 - Z099980
				Z100018 - Z144900
			TX62N	Z001181 - Z099650
				Z100227 - Z144873
			UU42N	Z001009 - Z099992
				Z100004 - Z144899
			UX42N	Z001302 - Z099989
				Z100005 - Z144707

Model	WMI	Year	VIN Range	
			VDS	Range
Tacoma	5TE	2006	JU62N	Z144959 - Z199999
				Z200001 - Z299988
				Z300392 - Z320618
			KU72N	Z145137 - Z199947
				Z200113 - Z299342
				Z300404 - Z320543
			LU42N	Z145030 - Z199948
				Z200064 - Z299588
				Z300154 - Z320397
			MU52N	Z145150 - Z199925
				Z200162 - Z299622
				Z300120 - Z320296
			NX22N	Z145177 - Z199921
				Z200211 - Z299999
				Z300002 - Z320613
			NX62N	Z145547 - Z199704
				Z200545 - Z299939
				Z300485 - Z320176
			PX42N	Z145459 - Z199841
				Z200453 - Z299639
				Z300105 - Z320265
			TU22N	Z144903 - Z199958
				Z200282 - Z299994
				Z300000 - Z320205
			TU62N	Z144902 - Z199943
				Z200216 - Z299993
				Z300007 - Z320213
			TX22N	Z145349 - Z199946
				Z200347 - Z299951
				Z300001 - Z320497
			TX62N	Z145234 - Z199930
				Z200446 - Z299428
				Z300318 - Z320203
			UU42N	Z144920 - Z199998
				Z200000 - Z299901
				Z300253 - Z320427
			UX42N	Z145491 - Z199863
				Z200473 - Z299666
				Z300075 - Z320247

Notes:

- Vehicles currently registered in the Cold Climate States* or the District of Columbia (D.C.) and have no significant corrosion found** are eligible for Corrosion-Resistant Compound (CRC) application to the frame.
- Check TIS to confirm the VIN is covered in E0D. 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, & WV

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

Model	WMI	Year	VIN Range	
			VDS	Range
Tacoma	5TE	2007	JU62N	Z320673 - Z399882
				Z400218 - Z469819
			KU72N	Z320671 - Z399894
				Z400197 - Z469635
			LU42N	Z320621 - Z399998
				Z400011 - Z469705
			MU52N	Z320863 - Z399736
				Z400367 - Z469726
			NX22N	Z320620 - Z399896
				Z400198 - Z469653
			NX62N	Z321207 - Z399445
				Z400637 - Z469255
			PX42N	Z320860 - Z399751
				Z400350 - Z469732
			TU22N	Z320619 - Z399797
				Z400300 - Z469759
			TU62N	Z320771 - Z399835
				Z400261 - Z469786
			TX22N	Z321110 - Z399601
				Z400492 - Z469654
			TX62N	Z321199 - Z399447
				Z400643 - Z469583
			UU42N	Z320622 - Z399999
				Z400000 - Z469869
			UX42N	Z320841 - Z399772
				Z400329 - Z469743
Tacoma	5TE	2008	JU62N	Z470196 - Z499500
				Z500104 - Z592508
			KU72N	Z470201 - Z499388
				Z500216 - Z592453
			LU42N	Z469991 - Z499273
				Z500336 - Z592675
			MU52N	Z469870 - Z499999
				Z500000 - Z592635
			NX22N	Z469871 - Z499898
				Z500255 - Z592426
			NX62N	Z469873 - Z499818
				Z501067 - Z592203
			PX42N	Z470165 - Z499997
				Z500013 - Z592599
			TU22N	Z470218 - Z499567
				Z500035 - Z592582
			TU62N	Z470195 - Z499577
				Z500029 - Z592581
			TX22N	Z469874 - Z499971
				Z500912 - Z592319
			TX62N	Z469875 - Z499819
				Z501075 - Z592204
			UU42N	Z469872 - Z499335
				Z500273 - Z592689
			UX42N	Z470171 - Z499595
				Z500008 - Z592595

III. PREPARATION

A. PARTS

Please be aware that **only** dealers in Cold Climate States will be allowed to order the following CRC kit.

A UIO State Matrix is listed to inform dealers of the number of vehicles in their state by model year.

State	2005	2006	2007	2008	TOTAL
CT	1,361	1,629	1,247	1,287	5,524
D.C.	86	95	70	75	326
DE	282	380	316	271	1,249
IL	1,528	2,250	1,995	2,233	8,006
IN	1,070	1,510	1,530	1,321	5,431
KY	1,769	2,133	1,890	1,692	7,484
MA	3,476	4,511	3,489	3,724	15,200
MD	2,558	3,237	2,553	2,290	10,638
ME	1,032	1,260	1,154	1,212	4,658
MI	872	894	856	716	3,338
MN	715	929	884	956	3,484

State	2005	2006	2007	2008	TOTAL
NH	1,167	1,425	1,209	1,409	5,210
NJ	2,175	2,956	2,284	2,270	9,685
NY	3,116	4,260	3,608	3,952	14,936
OH	2,239	2,622	2,565	2,604	10,030
PA	4,055	4,939	4,592	4,657	18,243
RI	577	682	590	589	2,438
VA	4,835	6,136	4,706	4,238	19,915
VT	745	1,032	799	1,075	3,651
WI	852	1,147	1,011	1,298	4,308
WV	1,095	1,639	1,453	1,618	5,805

The necessary CRC kits can be ordered through the chemical program provided by Dealer Tire (Complete Maintenance Care). The CRC kits will be shipped directly from AMREP. Your dealership should not order kits if you do not have any vehicles listed on your dealer reports until you have confirmed an appointment. However, please keep in mind it will take at least 5 business days for CRC kit delivery. Deliveries are only scheduled on business days. Saturday deliveries are not available.

Model	Part No.	Part Description	Qty/Unit
Tacoma	00289-T00KT-DS	T00-Corros Res Kit (CRC Kit)	1
The kit above includes the following parts: Noxudol 300S – 3 Liters Parker 712AM – 1 Liter 			

1. 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 these parts should be placed separately from orders of other drop ship chemicals.
- Refer to the Appendix for the Material Safety Data Sheet (MSDS).

2. When Storing the CRC Kits Please Note:

- Follow local, state and federal regulations for hazardous materials storage and disposal that are explained in the Hazardous Waste Management Section of the Federal, State and Local Requirements Guide of the Dealer Information Packet.
- Store the CRC kits at room temperature (refer to the MSDS for detailed instructions).

B. SUPPORT MATERIALS

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

Part Number	Part Description	Qty
04002-07104	Plug Kit	1

- 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
00411-140001	ASM Reference Guide – CRC Campaign	As needed
00411-140002	Laminated Quick Reference Guide for the Corrosion Resistant Compound Campaign (E0D) (Included in each Service Manager Package)	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 and D0D.*

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.C.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.

D. MATERIALS & SUPPLIES (Locally Procured by Dealer)

- Protective eyewear
- Dust mask
- Appropriate NIOSH approved respirator** (Follow all Federal, State, Local Environmental, Health and Safety Requirements such as OSHA Regulations. Please refer to the MSDS for details on the appropriate mask for each CRC.)



Example of a NIOSH-approved respirator

****Notes:**

- Refer to the MSDS located in the Appendix for additional information on respirator use.
- It is up to the individual dealership to ensure compliance with OSHA regulations.
- If you require further assistance in regards to NIOSH approved respirators, we have found 3M® to be a useful reference/source.

3M® Technical Assistance: 1-800-243-4630

3M® Customer Service: 1-800-328-1667

3M® Web Site: www.3m.com/occsafety

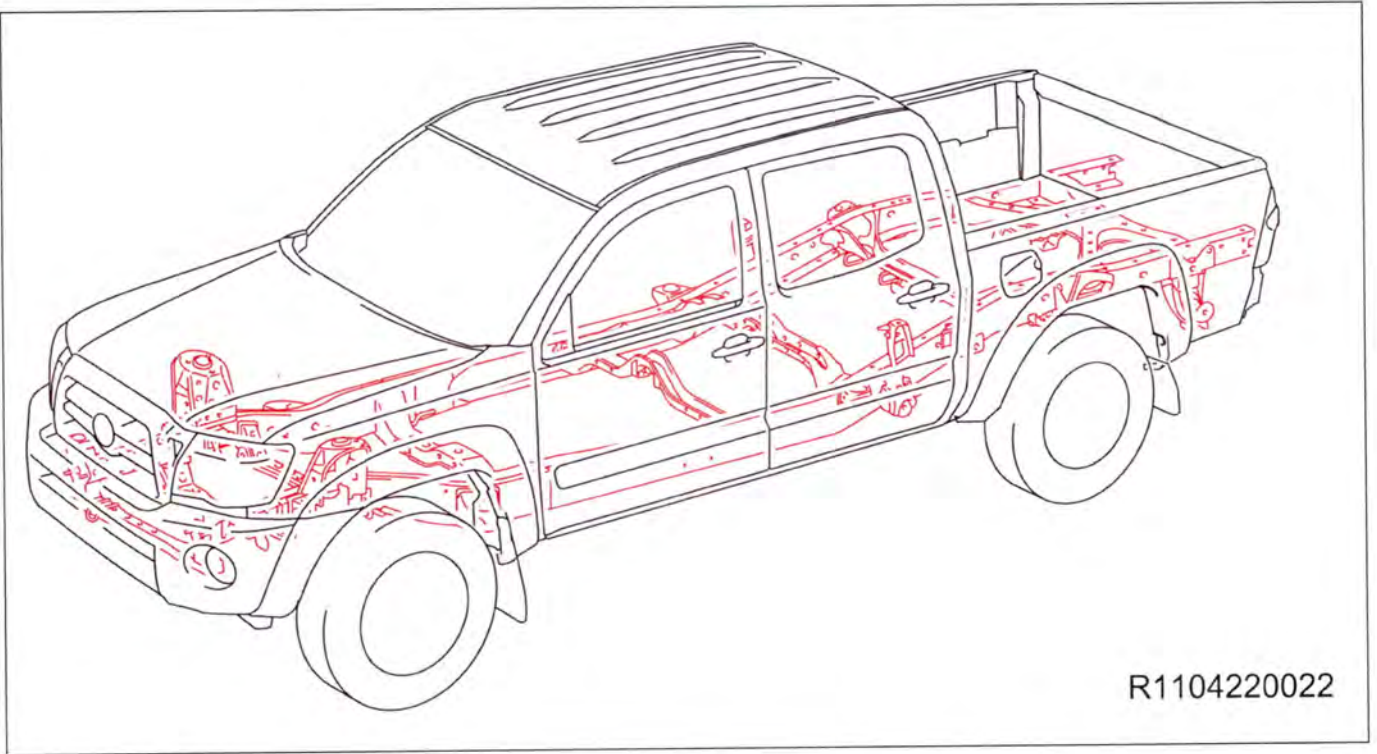
- Protective gloves
- Chemical Resistant Gloves (refer to MSDS for specific type)
- Masking tape
- Duct tape
- Fire-retardant poly sheeting (tarp) or covering (if you cannot purchase the tarp from a local supplier, please refer to **CRC Tips and Examples** located on the C.L.E.A.N. DEALER website (<http://cleanddealer.com>) for a list of possible suppliers)
- Plastic (Saran Wrap) sheet (for spray gun storage)
- Partitions (The type, size, and number of partitions used will depend on each dealer's facility.)
- Shop cloth/paper towels
- Funnel (quantity = 2)
- Plastic sheet to contain the dripping 712AM during frame application, 3m x 3m (118in x 118in)
- Garbage Bags
- Dap Bluestik Non-Toxic Reusable Adhesive Putty

IV. BACKGROUND AND COMPONENTS

Toyota has received reports that certain 2005 through 2008 model year Tacoma 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.



- Because of variations in State and local laws, dealerships conducting EOD in certain states may require government approvals prior to starting the campaign. Depending upon the state, dealerships also may be subject to restrictions on the number of vehicles to which the CRC can be applied in any single day, week, or month. Please refer to the Dealer Information Packet and any Supplements for important information about any such approvals or restrictions that may apply to your dealership. Your dealership must adhere strictly to these requirements.
- For a complete list of Site Selection Guidelines and, Fire, Building, and Zoning Codes information for your state, please refer to the Dealer Information Packet as well as any Supplements. Please ensure your dealership complies with all regulations and all issued packets/instructions.

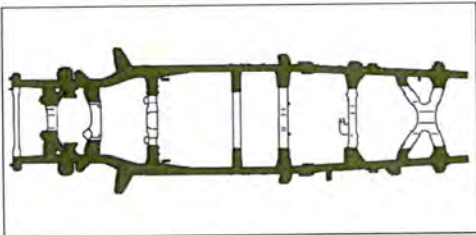


V. VEHICLE INSPECTION WORK PROCEDURE

Note: Ensure to 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. FRAME RUST CORROSION PERFORATION INSPECTION

1. VISUALLY INSPECT FOR FRAME PERFORATION AND COMPONENTS FOR CORROSION DAMAGE



- a) Visually inspect the specific area highlighted in green for visual signs of perforation before racking the vehicle.

Note: Document any vehicle damage found during the visual inspection prior to beginning work.

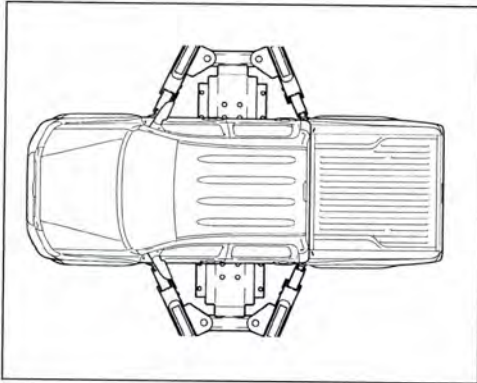
- b) If rust perforation of 10mm or larger is found in the green areas, replace the frame according to the separate Technical instructions.

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 in these Technical Instructions, the vehicle will have additional time to cool before the CRC's are applied. Please refer to the MSDS (Located in the Appendix) for flash point temperatures.

A. VEHICLE PREPARATION AND REMOVAL OF FRAME RUST



1. PREPARE THE VEHICLE

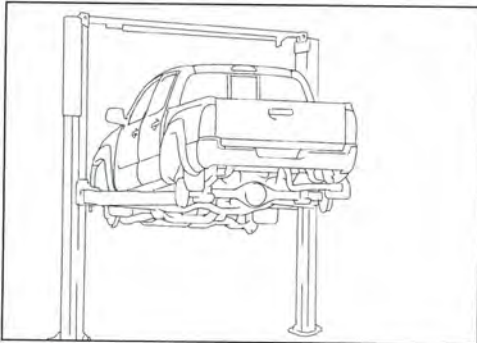
- a) It may be necessary to pressure wash the vehicle's frame, depending on its cleanliness.

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.

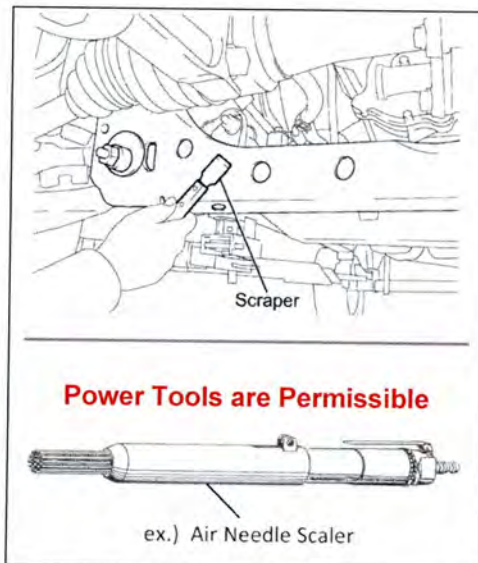
- a) Using a scraper or chisel remove all loose rust and rust scales from the frame and cross-members.

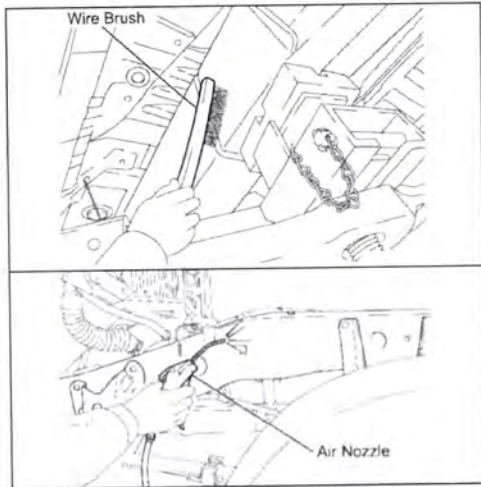
Note: The use of power tools is permissible during the cleaning process. Toyota found air scalers to work well.

- b) If rust perforation of 10mm or larger and/or component corrosion damage is found during the rust removal process proceed with frame replacement as outlined in the separate TI.

Notes:

- Make sure to wear protective eyewear, gloves, and a dust mask when removing rust and cleaning frame.
- Be careful not to damage the wire harness or brake lines when removing rust.
- Be extremely cautious not to injure your hands.
- DO NOT scratch or remove the identifying labels (i.e., VIN label, etc.) from the frame.





3. CLEAN THE FRAME

- Use a wire brush and remove any remaining rust or dirt from the frame.

Ensure to follow the 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.

- Use an air nozzle and remove any loose rust.

Notes:

- Make sure to wear protective eyewear, gloves, and a dust mask when performing this step.
- A slightly wet frame surface (no water droplets) is acceptable when applying the frame CRC.

Sample of Sufficient Frame Cleaning

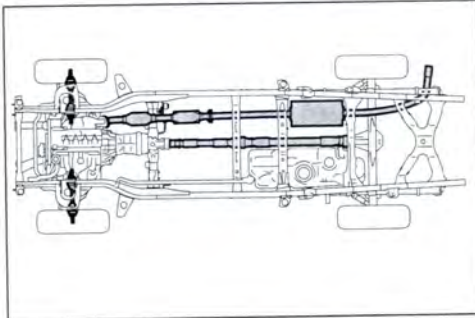
Before



After



B. VEHICLE PROTECTION



1. ATTACH MASKING MATERIALS

- Using an infrared thermometer ensure the exhaust has cooled.
- Cover the driveshaft(s) and exhaust, with fire-retardant poly sheeting (tarp) and secure with masking tape.
- Cover the front and rear brake/hub assemblies with garbage bags and secure with masking tape.

Notes:

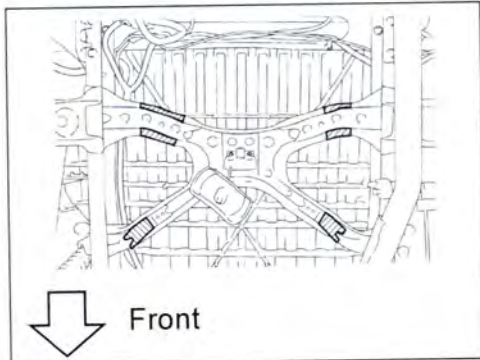
- If necessary, cover shock absorbers with masking sheets.
- Overspray onto the driveshaft may cause vehicle vibration.

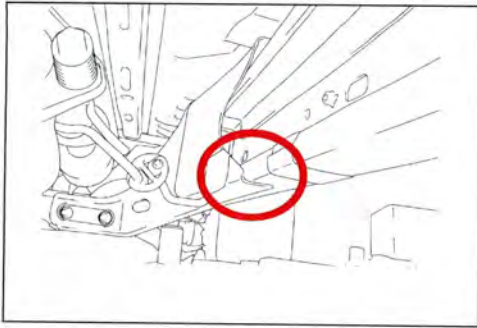
2. COVER SPARE TIRE CONTACT SURFACES ON REAR CROSS-MEMBER

- Cover the underside of the rear cross-member with duct tape where the spare tire contacts the rear cross-member.

Notes:

- Tape size/location may vary if the customer has changed spare tire size, adjust as necessary.
- Tape will not be centered on cross-member because spare tire carrier is off center.
- Tape will prevent Noxudol 300S from sticking to the tire.



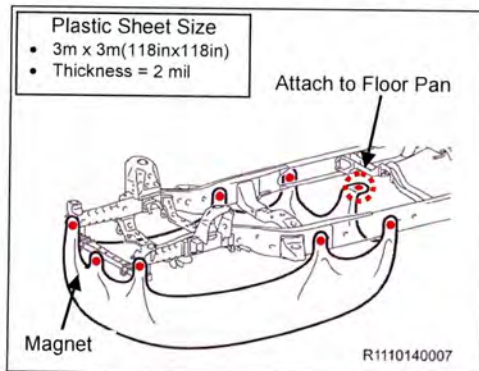


3. INSTALL BLUE STIK INTO FRAME RAIL

- Ensure all debris and loose dirt/dust is cleaned from frame rail groove.
- Knead a half piece (1/8oz. = 3.5g) of the Blue Stik and plug into the end of groove shown to prevent the 712AM from running and dripping from the frame rail groove.

Note: Install a half piece of Blue Stik in each frame rail groove before 712AM has been applied, otherwise the adhesive will not stick to the frame rail.

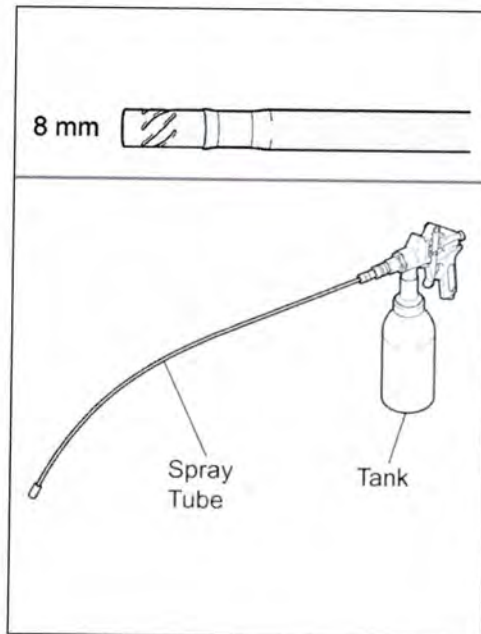
C. PREPARE FOR APPLICATION OF CORROSION-RESISTANT COMPOUND (CRC)



Note: Always utilize the correct CRC kit for Tacoma 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:

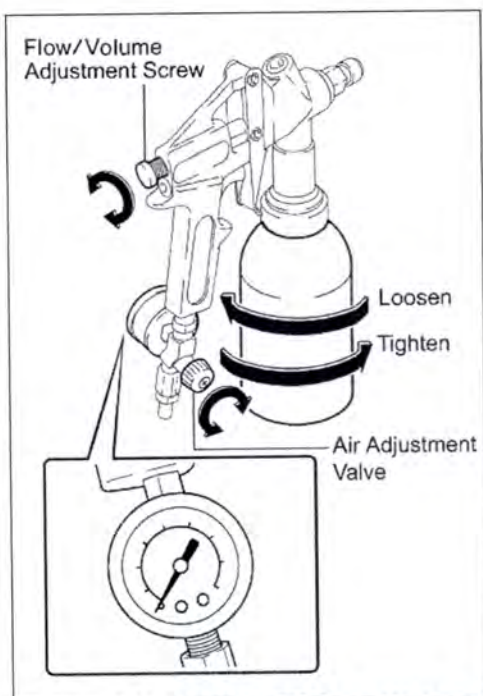
- Use a dedicated spray gun for the 712AM internal CRC.
- Make sure to wear protective eyewear, impervious gloves (Viton, PVOH, etc.) appropriate Niosh approved respirator, and refer to the MSDS located in the Appendix when handling and spraying CRC.

- 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.



e) Adjust the spray gun nozzle flow/volume.

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



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

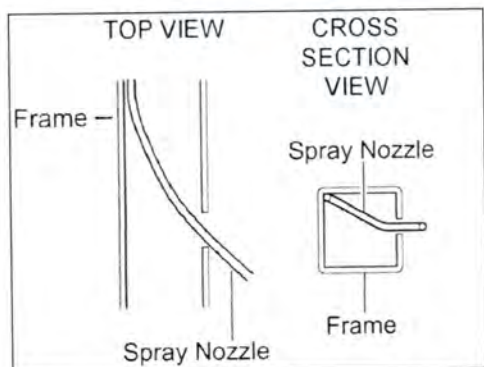
f) Adjust the air pressure regulator.

1. Place the nozzle in a clean empty box or pail.
2. Adjust the air regulator completely closed (No Air Flow).
3. Attach the air hose to gun.
4. 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).

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

D. 712AM INTERNAL FRAME CRC APPLICATION



1. 712AM INTERNAL FRAME APPLICATION

- a) Insert the spray nozzle into the selected holes located throughout the frame. Reference the next page for the location, depth, and application rate.

Note: DO NOT bend (i.e., kink) the spray nozzle.

- b) Once the location, depth, and application rate is confirmed, begin applying CRC to the internal frame.
- c) When inserting the nozzle, insert so the nozzle touches the opposite side of the frame as illustrated on the left. See Diagram 1 & 2 for applying CRC.

Note: Make sure the quick coupler on the spray tube does not come into contact with the frame when applying the 712AM. Contacting the frame with the quick coupler may lead to a hose disconnection.

- d) After the 712 AM has been applied, wipe away any wax on the frame's exterior with cloths or paper towels.

Notes:

- Follow all MSDS guidelines for the 712AM which can be found in the Appendix.
- 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.

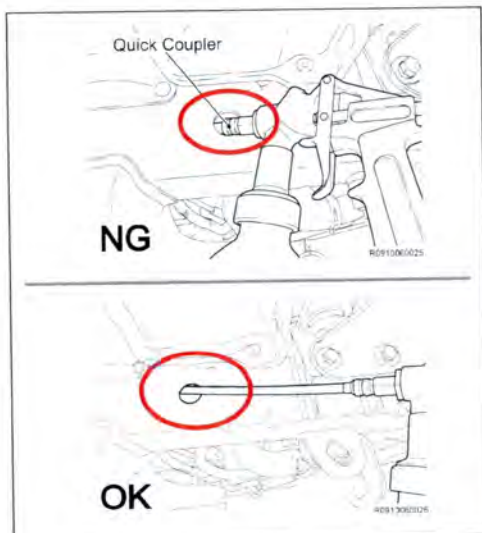
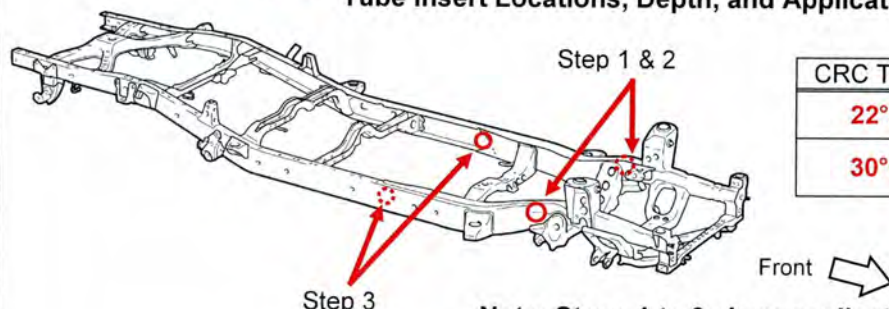




Diagram 1: Internal CRC Application

712AM Internal CRC Application
Tube Insert Locations, Depth, and Application Speed

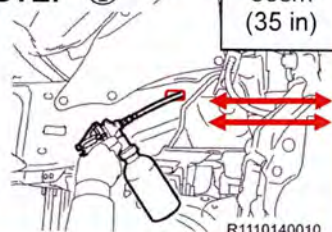


CRC Temperature	Application Speed
22°C (72°F)	0.2 m/sec (8 in/sec)
30°C (86°F)	0.3 m/sec (12 in/sec)

Note: m/sec = meters/second

Note: Steps 1 to 3 show application procedure only for the right side of the vehicle. Perform application for the left side of the vehicle in a similar manner.

STEP ①

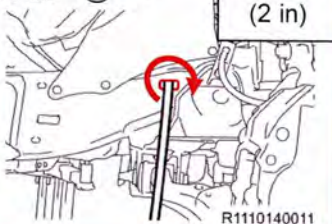


Step 1 (refer to the table above for application rate):

- While applying the 712AM, insert the nozzle 90cm (35 in) into the side-rail.
- Continue applying the 712AM while removing the nozzle.

Repeat Step 1 for a total of 2 laps

STEP ②

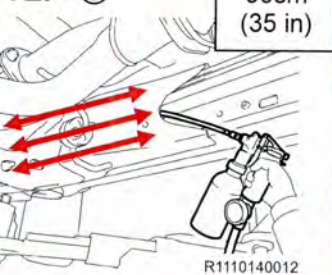


Step 2 (refer to the table above for application rate):

- 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 ③



Step 3 (refer to the table above for application rate):

- While applying the 712AM, insert the nozzle 90cm (35 in) into the side-rail. (contact the top center of the frame while inserting nozzle).
- Continue applying the 712AM while removing the nozzle.

Repeat Step 3 for a total of 3 laps



THE ENTIRE LITER OF 712AM MUST BE APPLIED TO THE FRAME OF THE VEHICLE!



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.

2. REMOVE THE PLASTIC SHEET

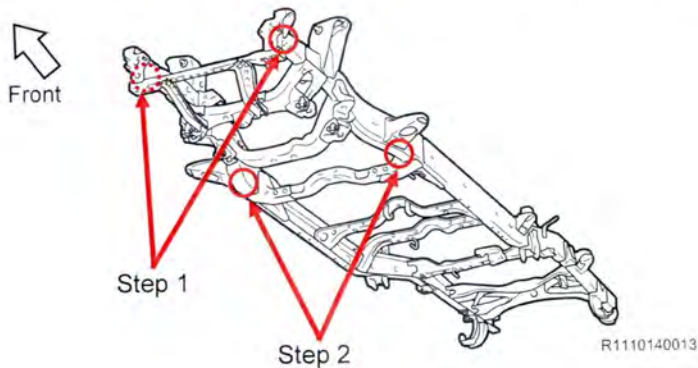
- Let the 712AM complete dripping.
- With a cloth wipe off any drips of 712AM dripping from the frame.
- Before installing the body plugs, confirm that the excess 712AM has stopped dripping from the frame.

E. INSTALLATION OF BODY PLUGS

1. INSTALL THE BODY PLUGS

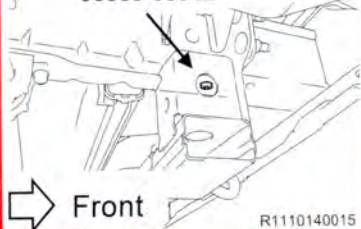
Notes:

- The illustration shows only the right side if the body plug installation points are positioned similarly for both sides.
- Install the plugs for prevention of dripping and for covering the application holes.



STEP ①

90389-05012



Step 1 (refer to the following illustration):

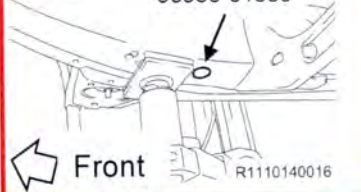
- Using 45 degree long reach needle nose pliers install the body plugs as shown into the inside of the side-rails.



90389-05012×2
TLL: 2 plugs

STEP ②

90950-01539

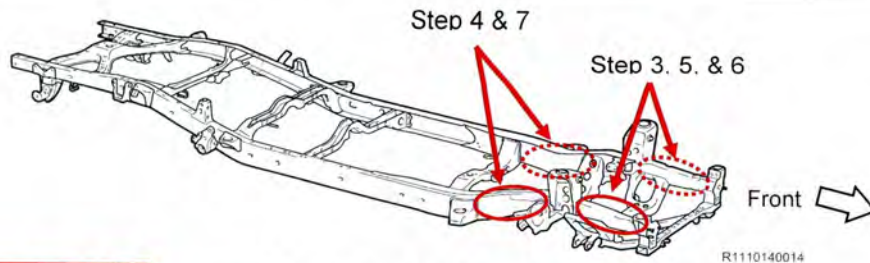


Step 2 (refer to the following illustration):

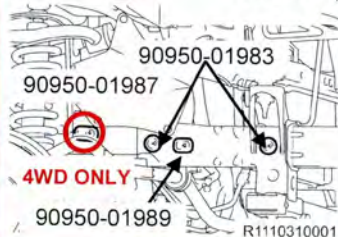
- Install the body plugs as follows into the side-rail.



90950-01539×2
TLL: 2 plugs



STEP ③ Front →



Step 3 (refer to the following illustration):

- a) Install the body plugs as follows into the side-rail.



90950-01983×4
TLL: 6 or 8 plugs

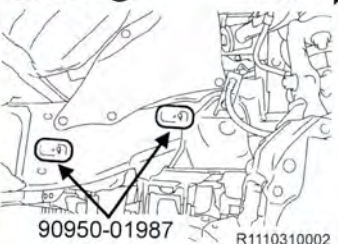


90950-01989×2



90950-01987×2

STEP ④ Front →



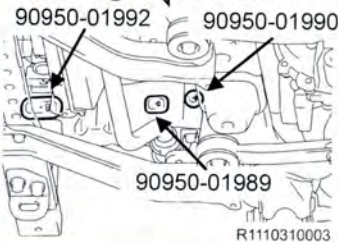
Step 4 (refer to the following illustration):

- a) Install the body plugs as follows into the side-rail.



90950-01987×4
TLL: 4 plugs

STEP ⑤ ← Front



Step 5 (refer to the following illustration):

- a) Install the body plugs as follows into the side-rail.



90950-01989×2
TLL: 6 plugs

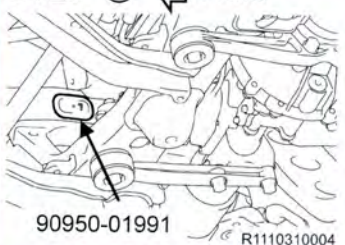


90950-01990×2



90950-01992×2

STEP ⑥ ← Front



Step 6 (refer to the following illustration):

- a) Install the body plugs as follows into the side-rail.



90950-01991×2
TLL: 2 plugs

STEP ⑦ ← Front

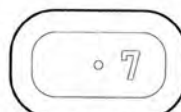


Step 7 (refer to the following illustration):

- a) Install the body plugs as follows into the side-rail.

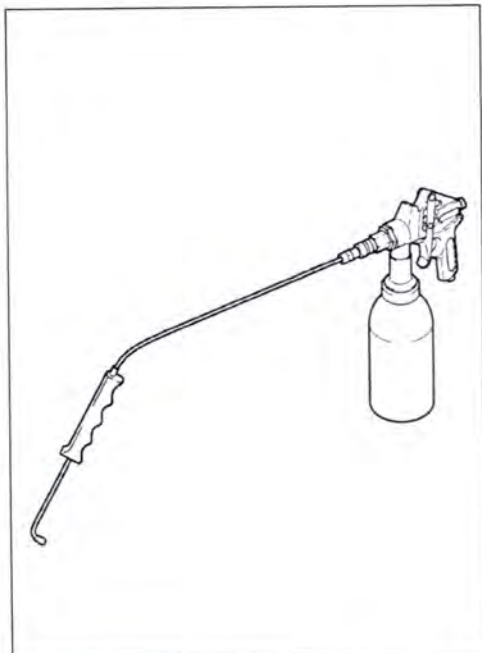


90950-01985×2
TLL: 2 or 4 plugs



90950-01991×2

F. APPLICATION OF NOXUDOL 300S EXTERNAL CRC APPLICATION

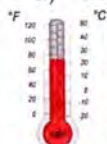


1. LOWER THE VEHICLE
2. SETTING UP THE SPRAY GUN FOR NOXUDOL 300S EXTERNAL FRAME CRC APPLICATION

Notes:

- Use a dedicated spray gun for the NOXUDOL 300S.
- Make sure to wear protective eyewear, chemical resistant gloves, appropriate NIOSH approved respirator, and refer to the MSDS located in the Appendix when handling and spraying CRC.

- a) Check the temperature of the Noxudol 300S.



If the Noxudol 300S is below 72° F, place the Noxudol 300S container in a bucket of hot water (<104° F) for 15 minutes and allow it to warm so the proper viscosity is achieved.

- b) Shake the Noxudol 300S container well so that the contents are mixed thoroughly. Settling may occur over time.
- c) Fill the dedicated tank with Noxudol 300S and attach it to the spray gun.
- d) Connect the external spray tube, as shown in the illustration.
- e) Adjust the spray gun nozzle flow/volume.
 1. Turn the adjustment screw to the fully closed position (clockwise).
 2. Then loosen the adjustment screw 3.5 turns.



Caution: Air regulator is extremely sensitive; always follow instruction to avoid damage to the gun!

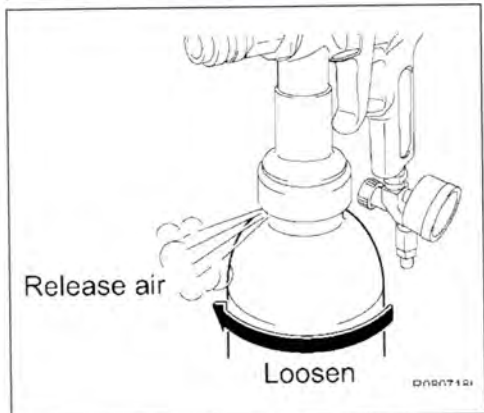
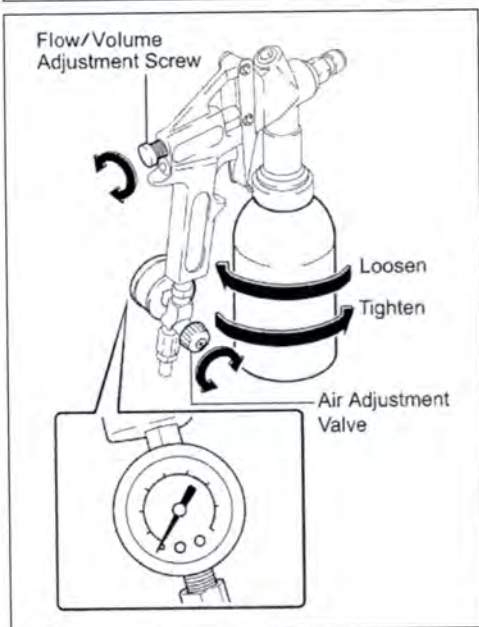
- f) Adjust the air pressure regulator.
 1. Place the nozzle in a clean empty box or pail.
 2. Completely close the air regulator (No Air Flow).
 3. Attach the air hose to the gun
 4. Fully press the spray gun trigger, and slowly adjust the air pressure to 50 psi.

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).

5. Recycle the amount sprayed out and use it during the application process.
- g) For Noxudol 300S, it will be necessary to refill the spray gun.
 1. Disconnect the air hose
 2. Loosen the bottle to slowly discharge the pressure through the threads of the bottle.
 3. After all the pressure is discharged, detach the bottle.

Notes:

- DO NOT remove the bottle until the pressure is released.
- DO NOT pull the spray gun trigger when the air hose is disconnected, this causes CRC to backflow into the air inlet.
- Thoroughly shake the Noxudol 300S liter before use.
- Apply all three liters of Noxudol 300S to the left and right frames and the cross-members. (No product is allowed to remain.)

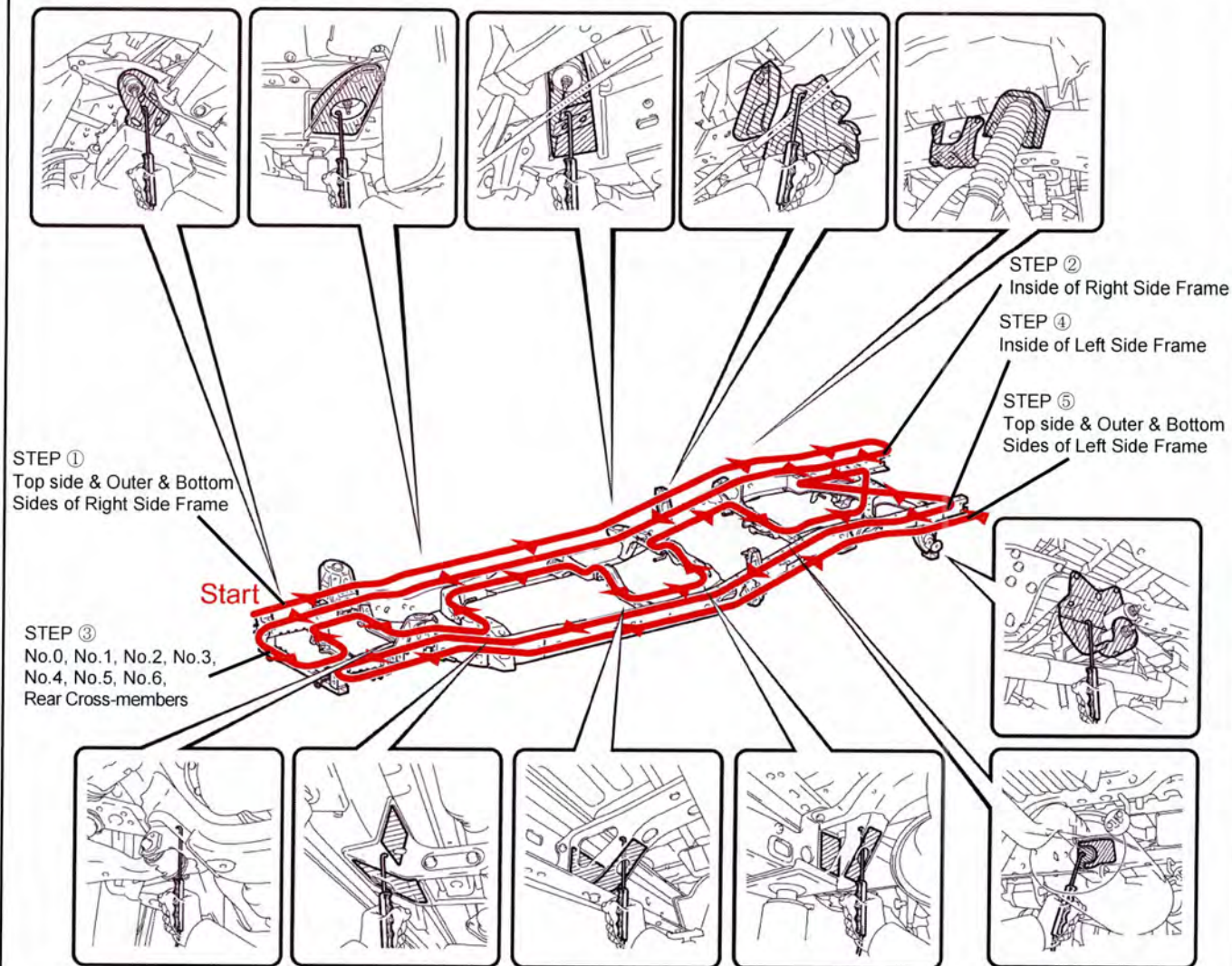


G. UNDER VEHICLE NOXUDOL 300S CRC APPLICATION

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



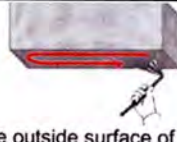
- Step ① Coat outer and bottom surfaces of right side frame. (Start from front of the vehicle)
- Step ② Coat inside surfaces of right side frame. (Start from rear of vehicle)
- Step ③ Coat No.0, No.1, No.2, No.3, No.4, No.5, No.6, and rear cross-members from front to back. (Start from front of vehicle)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



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).



Without stopping, move down and reverse direction as shown in the illustration until the section is completed. Slightly overlap each pass by 5.0cm (2.0 in.) so no gaps appear.



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.



After the entire frame has been completed, inspect and spray any areas that may have been missed.

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).

H. RESTORE THE VEHICLE



1. RESTORE THE VEHICLE

- Re-install the engine undercover.
- Re-install wheels and torque to spec.

Steel Wheel / Aluminum Wheel

Torque Spec: 113 N m (1152 kgf cm, 83 ft lbf)

- Lower the vehicle.
- For areas where the lift arms touched, remove any rust present and apply Noxudol 300S.



CONFIRM ALL 3 LITERS OF NOXUDOL 300S HAVE BEEN APPLIED TO THE EXTERNAL PORTION OF THE FRAME!



Ensure to follow the 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.

- Raise the vehicle.
- Remove all masking tape, fire retardant sheeting, and plastic coverings.
- Lower the vehicle.
- Install the spare tire.
- Remove protective tape from the identifying labels (VIN label, etc.) on the frame.
- Place a Corrosion-Resistant Compound information Hang Tag on the rear-view mirror.
- Let CRC cure approximately 24 hours before returning vehicle to customer.

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.

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. MSDS Sheets

- Noxudol 300S..... page 19
- 712AM..... page 28



MATERIAL SAFETY DATA SHEET

Noxudol 300 S

Last Updated April 18, 2011

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Noxudol 300 S
Product Codes: None
Product Use: Vehicle Underbody Coating

Synonyms: None
Chemical Name: Anti Rust Compound

Manufacturer: Auson AB
Verkstadsgatan 3
S-434 42 Kungsbacka
Sweden
www.auson.se
PHONE: +46 300-562000
FAX: +46 300-562001

US Distributor: Soken Trade Corporation
12055 Sherman Way
North Hollywood, CA
USA
www.noxudolusa.com
(800) 598-3535
(818) 308-8427

For Chemical Emergency (Spill, Leak, Fire, Exposure, or Accident) Call **CHEMTREC** Day or Night
USA or Canada: 1-800-424-9300 Outside USA or Canada: +1 703-527-3887 (collect calls ok)

PREPARED BY: MSDS Authoring Services
VERSION: 2

ISSUE DATE: April 18, 2011
SUPERSEDES DATE: March 1, 2011

2. COMPOSITION / INFORMATION ON INGREDIENTS

CONTAINING: HAZARDOUS AND/OR REGULATED COMPONENTS

<u>Chemical Name</u>	<u>Amount % by Wt.</u>	<u>CAS Number</u>	<u>OSHA PEL (ppm)</u>	<u>ACGIH STEL (ppm)</u>
Solvent-refined heavy paraffinic distillate	30-60%	64741-88-4	5	None
Petroleum sulfonate, calcium salt, calcium hydroxide and calcium carbonate dispersion	20-30%	68783-96-0	None	None
Fatty acids, tall-oil, polymers with isophthalic acid, pentaerythritol and tall oil	10-20%	68410-37-7	None	None
Paraffin and hydrocarbon waxes	10-20%	8002-74-2	None	2 (fume)
Calcium carbonate (limestone) used as filler/pigment	<2%	1317-65-3	15 for total dust; 5 for respirable fraction	10 for total dust; 3 for respirable fraction
Carbon black	1%	1333-86-4	3.5	3.5
Crystalline silica	<0.1%	14808-60-87	10/(%SiO ₂ +2) (respirable)	2.5

California Prop 65: This product may contain trace quantities of chemicals that are identified by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65") as either a carcinogenic or reproductive hazard.

HAZARDS DISCLOSURE: This product contains known hazardous materials in reportable levels as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200 except as listed above. As defined under SARA 311 and 312, this product contains known hazardous materials.



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

5. FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE PROPERTIES: Not flammable. Combustible.

AUTO IGNITION TEMPERATURE (ASTM E659):

HOT-FLAME AUTOIGNITION TEMPERATURE (AIT):

MINIMUM IGNITION TEMPERATURE: 750°F

IGNITION DELAY: 12 Seconds

BAROMETRIC PRESSURE, TORR: 766

COOL-FLAME AUTOIGNITION TEMPERATURE (CFT):

MINIMUM IGNITION TEMPERATURE: 745°F

IGNITION DELAY: 120 Seconds

BAROMETRIC PRESSURE, TORR: 766

REACTION THRESHOLD TEMPERATURE FOR PRE-FLAME (RTT):

MINIMUM REACTION TEMPERATURE: 740°F

LIMITS OF FLAMMABILITY IN GENERAL ACCORDANCE WITH ASTM E-681 AT 200°C

LOWER FLAMMABLE LIMIT (LFL): 1.81 %

UPPER FLAMMABLE LIMIT (UFL): See Note

Note: Due to the nature of the sample and its addition into the test apparatus, it is difficult to determine the upper flammable limit.

FLASH POINT: 140°C

285°F

Method Used: ASTM D93

EXTINGUISHING MEDIA: Dry chemical, foam or carbon dioxide.

UNSUITABLE EXTINGUISHING MEDIA: Water spray may be unsuitable.

FIRE & EXPLOSION HAZARDS: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Containers may explode when involved in a fire.

PRECAUTIONS FOR FIREFIGHTERS: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Toxic gases and vapors may be released if involved in a fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Not applicable

HAZARDOUS DECOMPOSITION OR COMBUSTION PRODUCTS: Not available.

6. ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Remove all sources of ignition.

PERSONAL PRECAUTIONS: Wear appropriate protective clothing (see SECTION 8). Isolate release area and deny entry to unnecessary and unprotected personnel.

ENVIRONMENTAL PRECAUTIONS: Do not allow spill to enter sewers or waterways. Do not flush to sewer.

METHODS FOR CONTAINMENT: Contain spill with sand or earth. Do not use combustible materials, such as sawdust.

METHODS FOR CLEAN-UP: Collect spilled material and non-combustible absorbent and place in a container for disposal. Clean spill area thoroughly.

OTHER INFORMATION: Report spills to authorities as required.

7. HANDLING AND STORAGE



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

the state of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65") as either a carcinogenic or reproductive hazard:

1317-65-3	CALCIUM CARBONATE (LIMESTONE)
	MG/M3
OSHA PEL-TWA:	15 FOR TOTAL DUST; 5 FOR RESPIRABLE FRACTION
OSHA PEL STEL:	NONE
OSHA PEL CEILING:	NONE
ACGIH TLV-TWA:	0 FOR TOTAL DUST; 3 FOR RESPIRABLE FRACTION
ACGIH TLV STEL:	NONE
ACGIH TLV CEILING:	NONE
1333-86-4	CARBON BLACK
	MG/M3
OSHA PEL-TWA:	3.5
OSHA PEL STEL:	NONE
OSHA PEL CEILING:	NONE
ACGIH TLV-TWA:	3.5
ACGIH TLV STEL:	NONE
ACGIH TLV CEILING:	NONE
14808-60-7	CRYSTALLINE SILICA
	MG/M3
OSHA PEL-TWA:	10/(%SIO ₂ +2) (RESPIRABLE)
OSHA PEL STEL:	NONE
OSHA PEL CEILING:	NONE
ACGIH TLV-TWA:	0.025 (RESPIRABLE)
ACGIH TLV STEL:	NONE
ACGIH TLV CEILING:	NONE

(Crystalline Silica and carbon black only present hazards as respirable particles of 10 microns or less. Both are bound in the coating and will not be released as respirable particles)

VENTILATION SYSTEM: A system of local and/or general exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

PERSONAL RESPIRATORS (NIOSH APPROVED): If respirator use is desired, or if exposure limit values are exceeded, use NIOSH approved respirator and type A filters (brown, organic substances).

SKIN PROTECTION: Avoid prolonged skin contact. Chemical resistant (nitrile) gloves recommended for operations where skin contact is likely. Wear appropriate protective clothing or boots as needed. Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

EYE PROTECTION: Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

GENERAL HYGIENIC PRACTICES: Wash thoroughly with soap and water after handling, before eating, drinking, smoking, or using toilet facilities. Do not smoke during use.



MATERIAL SAFETY DATA SHEET

Noxudol 300 S

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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.
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
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%

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

CHRONIC EFFECTS/CARCINOGENICITY: Calcium carbonate, the product itself, is not listed by NTP, IARC, or OSHA as a carcinogen. There is no reported health effects associated with prolonged exposure to pure calcium carbonate. This product contains variable quantities of crystalline silica (quartz), which is considered a hazard by inhalation. IARC has classified crystalline silica as probably carcinogenic for humans (2A). This classification is based on the findings of laboratory animal studies that were considered to provide sufficient evidence and data from human epidemiological studies that were considered to provide limited evidence for carcinogenicity.

Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. NTP and OSHA have not classified crystalline silica as a carcinogen.

Carbon black has been classified by IRAC as a Category 2B (known animal carcinogen, possible human carcinogen) material. This was based on the results of rat inhalation studies of carbon black, despite the lack of parallel evidence on humans or other animal species

MUTAGENIC OR REPRODUCTIVE/DEVELOPMENTAL EFFECTS: None expected.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: This product is not toxic or harmful to the environment.

PERSISTENCE AND DEGRADABILITY: This product is not readily degradable.

MOBILITY: Highly viscous liquid is not water soluble and is not expected to be mobile.

BIOACCUMULATION: This product is not expected to bioaccumulate.

13. DISPOSAL DATA

WASTE DISPOSAL METHOD: It is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Disposal should be in accordance with applicable federal, state, and local regulations. Local regulations may be more stringent than regional or national requirements.

RCRA INFORMATION: If this material as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

CONTAMINATED MATERIALS: Wash contaminated clothing before reuse.

14. TRANSPORTATION DATA

Domestic (Land, D.O.T.), International (Water, I.M.O.), International (Air, I.C.A.O.)

CLASS:	None
PRODUCT LABEL:	Noxudol 300 S
UN NUMBER:	None
PACKING GROUP:	None
D.O.T. SHIPPING NAME:	Consumer Commodity, ORM-D
PRODUCT RQ (LBS):	None
ERG Guide Number:	None
SUPPLEMENTAL HAZARD:	None
VESSEL STOWAGE LOCATION:	None
SHIPPING RESTRICTIONS:	None



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

Noxudol 300 S

Last Updated April 18, 2011

National Fire Protection Association (NFPA):	
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NFPA Ratings: Health: 1, Flammability: 1, Reactivity: 0

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

Protective Equipment: Goggles & shield; lab coat & apron; vent hood; proper gloves; Class B extinguisher.

Prepared By: Donato Polignone (MSDS Authoring Services)

Part Number: --

Approved By: Soken Trade Corporation

Approval Date: April 18, 2011

Supersedes Date: March 1, 2011

ADDITIONAL INFORMATION:

The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-2004)

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Soken Trade Corporation. The data on this sheet are related only to the specific material designated herein. Soken Trade Corporation assumes no legal responsibility for use or reliance upon these data.

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

END OF MSDS

MATERIAL SAFETY DATA SHEET

PARKER INDUSTRIES

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

EMERGENCY CONTACT:
CHEMTREC (800) 424-9300

HMIS HAZARD RATING

HEALTH	1
FIRE	1
REACTIVITY	0
PERSONAL PROTECTION	B

Date of Review:
Date of Preparation: November 14, 2007

Revised: March 17, 2011
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

Soybean oil polymer with isophthalic acid and pentaerythritol CAS# 66071-86-1	0.4-4	Not established
Castor oil, dehydrated, polymerized CAS# 68038-02-8	5-15	Not established
Calcium Carbonate CAS #471-34-1	5-10	OSHA PEL: 5 mg/m ³ (respirable fraction) OSHA PEL: 15 mg/m ³ (total dust) ACGIH TLV: 10 mg/m ³ ⁽¹²⁾ nuisance dust)

⁽¹²⁾ This component poses a hazard only if a dust is formed, i.e., by sawing, sanding, drilling, etc.

SECTION 3: HEALTH HAZARD INFORMATION

Primary Routes of Entry: Skin absorption, eyes (splashing).

Acute Effects: May cause eye irritation and reversible skin irritation. Prolonged skin exposure may cause dermatitis or oil acne. Breathing mists may cause dizziness or pulmonary irritation.

Chronic Overexposure:

Carcinogenicity: None of the components of this product are listed as carcinogens by NTP, IARC, or OSHA 1910(Z).

Pre-Existing Medical Conditions Aggravated by Exposure: Exposure may aggravate pre-existing respiratory or skin problems.

SECTION 4: FIRST AID PROCEDURES

Inhalation (mist): Move victim to fresh air and call emergency medical care. If not breathing, give artificial respiration; if breathing is difficult, give oxygen.

Eyes: In case of contact with material, immediately flush eyes with running water for at least 15 minutes. Seek immediate medical attention.

Skin: Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site.

Ingestion: DO NOT INDUCE VOMITING. Consult a physician. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

Flash Point: >200°C (TCC)

Explosive Limits: LEL: N/A UEL: N/A

EXTINGUISHING MEDIA: Small Fires: Dry chemical, CO₂, water spray, or regular foam. Large Fires: Water spray, fog, or regular foam. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. For massive fire in cargo area, use unmanned hose holder or monitor nozzles. If this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire.

Special Firefighting Protection/Emergency Action: Fire may produce irritating or poisonous gases. Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire. If runoff from fire control occurs, notify the appropriate authorities.

Unusual Fire/Explosion Hazards: Combustible material; may be ignited by flames. Container may explode in heat of fire.

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

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 sideshields 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.

712AM MSDS

SECTION 12: REGULATORY INFORMATION

Volatile Organic Content: (EPA Method 24)

VOC per gallon:

0.165 lbs/gal

EPA Hazardous Waste Number(s) (40CFR Part 261):

D001

EPA Hazard Category (40CFR Part 370):

DELAYED (CHRONIC)

SARA TITLE III

This product contains the following TOXIC CHEMICALS subject to the *Reporting Requirements of Sec. 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and of 40CFR Part 372:*

CHEMICAL	CAS NO.	WT %
----------	---------	------

NONE

This product contains the following EXTREMELY HAZARDOUS SUBSTANCE(S) subject to the *Emergency Planning Requirements under Sec. 301-303 (40CFR Parts 300 and 355) and Emergency Release Notification Requirements under Sec. 304:*

CHEMICAL	CAS NO.	WT %	RQ/TPQ Lbs
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NONE

(CERCLA LIST) This product contains the following HAZARDOUS SUBSTANCE(S) subject to *Emergency Release Notification Requirements under Sec. 304 (40 CFR Part 302):*

CHEMICAL	CAS NO.	WT %	Final RQ Lbs
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NONE

CALIFORNIA PROPOSITION 65

This product may contain trace quantities of the following chemicals that are identified by the State of California under the Safe Drinking Water and Toxic Reinforcement Act of 1986 ("Proposition 65") as either a carcinogenic or reproductive hazard:

CHEMICAL	CAS NO.	Estimated Concentration %
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NONE

Although the information contained herein is believed to be reliable, it is furnished without warranty of any kind. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, and storage.



Limited Service Campaign E0D - (FAQ)

Certain 2005 through 2008 Toyota Tacoma Vehicles *Currently* Registered in the Cold Climate States
Corrosion-Resistant Compound (CRC) Application to the Vehicle's Frame

Frequently Asked Questions

Published Early May 2014

Q1: What is the condition?

A1: Toyota has received reports that certain 2005 through 2008 model year Tacoma vehicles operated in specific cold climate areas (Cold Climate States) 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.

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 Campaign?

A3: There are approximately 160,000 Tacoma (2005 - 2008 model year) vehicles currently registered in the Cold Climate States.

Model	Model Year	Production Range	Appx. UIO
Tacoma	2005-2008	Sep. 14, 2004 – May 27, 2008	160,000

Q4: What is Toyota going to do?

A4: In mid-May, 2014, Toyota will send an owner notification by first class mail to owners of vehicles covered by this Limited Service Campaign (LSC).

Any authorized participating Toyota Dealership in the Cold Climate States will inspect the condition of the 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 **March 31, 2016**. Please schedule an appointment with an authorized participating Toyota dealer well in advance of the **March 31, 2016**, expiration date to ensure that your dealership has sufficient time to complete this LSC 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 **March 31, 2016** 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 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 E0D 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 the owner of the covered vehicles 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 6 hours. However, depending upon the dealer's work schedule, it may be necessary to make the vehicle available for a longer period of time.

Note: A rental vehicle will be provided while your vehicle is being repaired.

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 2 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 42 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.

Please note the dealer will need to perform this LSC before reimbursement consideration requests can be processed.

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.

**Certain 2005 through 2008 Model Year Tacoma 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 2005 through 2008 model year Tacoma 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 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 **March 31, 2016**. Please schedule an appointment with an authorized participating Toyota dealer well in advance of the **March 31, 2016**, 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 **March 31, 2016**, 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 6 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 2 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 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 and 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 all required paperwork* to the following address for reimbursement consideration and allow 6-8 weeks for processing:

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

** Please refer to the attached Reimbursement Checklist for required paperwork details.*

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.

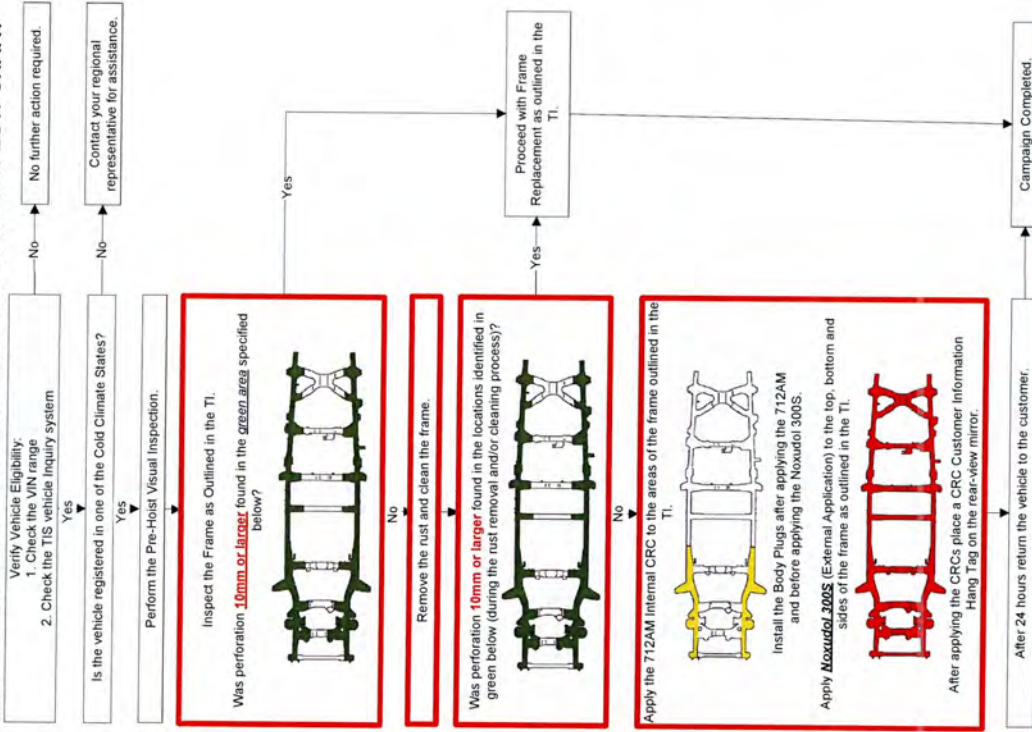
Reimbursement Checklist

- ☐ Repair Order or Invoice
 - Must include the following information
 - Mileage on the date that the repair order was created
 - Itemized breakdown of labor charges for each repair performed
 - Detailed diagnosis statement
 1. Why was the vehicle brought into the repair facility?
 2. What was the repair facility's diagnosis?
 3. What did the repair facility do to correct the concern?
- ☐ Proof-of-Payment
 - Only the Following Items are Valid Proof-of Payment
 - Copy of a cancelled check
 - Copy of a Signed Credit Card Receipt
 - Copy of a Credit Card Statement
 - (If Paid By Cash) Letter from Repair Facility, on company letterhead, signed by the manager, verifying the amount paid by cash
- ☐ Proof-of-Ownership
 - Only the following items are Valid Proof-of-Ownership
 - Copy of the Bill of Sale
 - Copy of the Title
- ☐ Name, Address and Phone Number printed on all documents

If the repair was completed prior to the Safety Recall launch or completed at an independent repair facility, Toyota requires that the vehicle visits a Toyota Dealership for inspection of the repair in order to complete the Safety Recall prior to reimbursement consideration.

Quick Reference Guide for the Corrosion-Resistant Compound Campaign (E0D) Certain 2005-2008 Model Year Tacoma Vehicles

FRAME PERFORATION INSPECTION AND OPERATION FLOW CHART



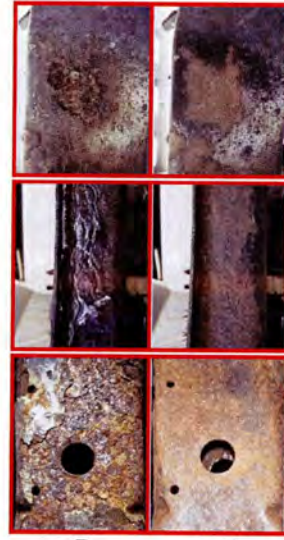
STOP Follow the entire procedure and perform all steps completely (e.g. inspection, cleaning/rust removal, CRC application, one kit per vehicle, etc.) any deviation will be subject to warranty claim debit.

MDCE 00411-140002

FRAME PREPARATION AND CLEANING

STOP 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 debris from C-Channel



Before Cleaning

After Cleaning

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 relight 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 all the body plugs and bluestik to prevent 712AM from dripping?
- ☐ Did you apply the entire liter of 712AM and the entire 3 liters of Noxudol 300S?
- ☐ Did you remove the tape covering the identifying labels (i.e. VIN label, etc.) on the frame?

712AM INTERNAL CRC APPLICATION

INSERTION LOCATIONS, DEPTH, AND APPLICATION SPEED

712AM Spray Gun Setup

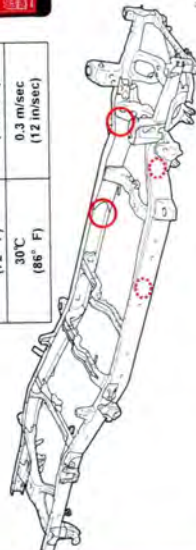
1. Turn Flow/Volume Adjustment Screw fully closed (clockwise)
2. Loosen Flow Volume Adjustment
3. Screw 1 Turns

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 m/sec (8 in/sec)
30°C (86° F)	0.3 m/sec (12 in/sec)



Note: Steps 1 through 3 show application procedure only for the right side of the vehicle. Perform application for the left side of the vehicle in a similar manner.

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

- a) While applying the 712AM, insert the nozzle 90cm (35 in) into the side-rail.
- b) Continue applying the 712AM while removing the nozzle.

Repeat Step 1 for a total of 2 laps

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

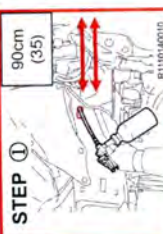
- a) Insert the nozzle 5 cm (2 in) towards the front of the frame.
- b) Move the nozzle in a circular motion while applying the 712AM.

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

Step 3 (refer to the table above for application rate):

- a) While applying the 712AM, insert the nozzle 90cm (35 in) into the side-rail. (contact the top center of the frame while inserting nozzle).
- b) Continue applying the 712AM while removing the nozzle.

Repeat Step 3 for a total of 3 laps



All CRC MUST Be Applied to the Frame for Adequate Protection



1Kit = 1 Vehicle

CRC Kit P/N: 00289-T00KT-DS

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 3.5 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.



1. Coat outer and bottom surfaces of the right side frame rail. (Start from front of the vehicle)

2. Coat inside surfaces of the right side frame rail. (Start from rear of vehicle)

3. Coat No 0, 1, 2, 3, 4, 5, and 6 cross-members, and rear cross-members from front to back. (Start from front of vehicle)

4. Coat inside surfaces of the left side frame rail. (Start from rear of vehicle)

5. Coat outer and bottom surfaces of the left side frame rail. (Start from front of vehicle)

Start



1. Start in top left corner of the section you are spraying, position spray nozzle 10 to 20 cm (4 to 8 in.) away from frame surface.



2. Apply NOXUDOL 300S to outside frame rail at a constant speed of 0.15 m/sec (6 in/sec).



3. Without stopping, move downward and across the section as shown in illustration until the section is completed. Slightly overlap each pass by 5cm (2.0 in.) so no gaps appear.



4. Once outside surface of the frame rail section is completed, spray bottom side as shown without stopping.
5. Spray remaining frame and cross-member surfaces in the same manner.



6. After vehicle has been removed from lift, clean and spray lift contact points.



7. After entire frame has had fire Corrosion Resistant Coating applied, areas that may have been missed during the application process.



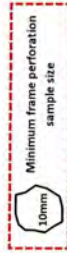
ASM Reference Guide for Corrosion-Resistant Compound Campaign (LSC E0D)

Certain 2005-2008 Model Year Tacoma Vehicles



Frame Inspection Area

The specific areas of the frame assembly below (highlighted in green) will be visually inspected for perforation of 10mm or larger.



➔ If the frame passes Toyota's inspection criteria:

- Review the CRC application process with the customer.
- If rust perforation is found during the frame preparation process (exceeding Toyota's inspection criteria), a dealership representative should inform the customer that Toyota will replace the vehicle's frame.

➔ If rust perforation, of 10mm or larger, is found in the area(s) covered by this LSC:

- Review your findings with the customer.
- Inform the customer that Toyota will replace the vehicle's frame.
- Refer to the opposite side of this guide for additional tools that can be used when discussing the frame replacement with the customer.

➔ If the frame passes Toyota's Inspection Criteria but rust perforation smaller than 10mm is found or located in an area not covered by this LSC:

- Explain that Toyota has determined rust perforation less than 10mm or located in an area not covered by this LSC does not affect the structural components of the frame.
- Review the CRC application process with the customer.
- If additional rust perforation is found during the frame preparation process (exceeding Toyota's inspection criteria), a dealership representative should inform the customer that Toyota will replace the vehicle's frame.

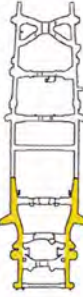
MDC# 00411-140001

Corrosion-Resistant Compound Application

Before application of the CRC, loose rust & debris will be removed from the frame. Corrosion-Resistant Compounds will be applied to the frame areas shown below:

Internal Surface CRC

Internal CRC Application Area:



Internal Application Nozzle:



8 mm

712AM Internal Surface Compound:



Post Care:

Note: Materials/plugs have been installed in strategic locations to help avoid dripping.

- If dripping occurs on concrete, the customer will need to perform the following steps:

1. Wipe up the compound as soon as possible with a paper towel.
2. Apply Simple Green® to any remaining compound.
3. Agitate area with a stiff scrub brush.
4. Wipe up the Simple Green®. Rinse with water if necessary.
5. If the spot is still visible after 24 hours, repeat steps 1-4 (Some spots may require multiple treatments to no longer be visible).

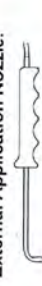
- Wash hands thoroughly if hands come into direct contact with either CRC.

External Surface CRC

External CRC Application Area:



External Application Nozzle:



Noxudol 300S External Surface Compound:



Post Care:

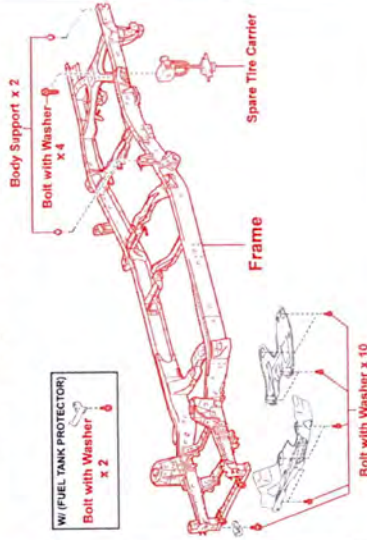
- The temperature of the frame affects the drying time.
- Please ask the customer to avoid touching the external surfaces of the frame as the surface may remain tacky to the touch for a period of time.
- Advise the customer not to wash their vehicle's undercarriage for approx. 72 hours after pickup. This will provide ample time for the CRC to cure.
- The customer may also notice a petroleum product based odor for a few days. The customer may wish to park the vehicle outside during this time.
- Inform the customer that a hang tag for post CRC application care will be on the rear-view mirror for their reference.

ASM Reference Guide for Limited Service Campaign (LSC) E0D - Covered Components: if Frame Replacement is Needed



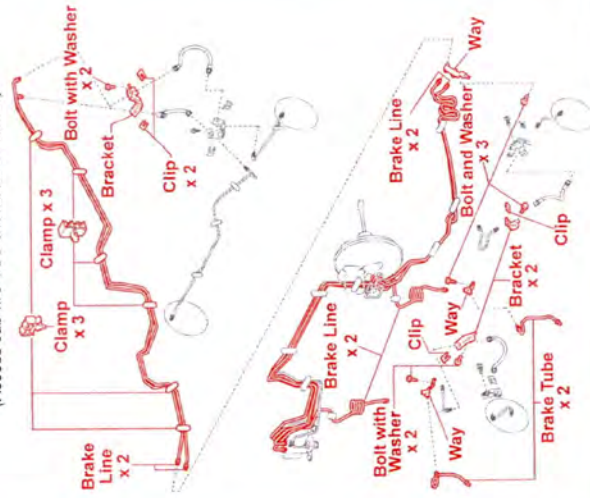
Primary Parts

Frame, Skid Plate, Spare Tire Carrier, and Body Supports



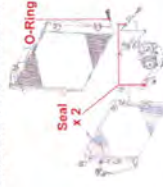
Frame Mounted Brake Lines

(Access cab w/o VSC shown for reference)

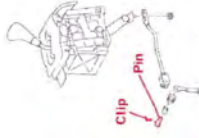


Supplemental Parts

Radiator / Air Conditioning



Shift Lever—Rod Type Only



Molding

(X-Runners have a different style of molding)



Rear Wheel House Liner



Not all grommets shown will require replacement.

Front and Rear Bumper



Wire Harness



Maintenance Items for Customer Consideration

During frame replacement, it may be advantageous for you to have other maintenance and repairs performed. Examples include:

- Shocks
- Drive Belts
- Brake Pads/Linings
- Ball Joints/Tie Rod Ends
- Etc

Note:

- Quantities and individual components can vary slightly based on model year and model configuration (e.g. 2WD vs. 4WD, regular cab vs. double cab, etc.)
- Parts provided under the campaign are in red

TECHNICAL INSTRUCTIONS

FOR

CORROSION-RESISTANT COUMPOND

APPLICATION STALL SETUP

AND

SPRAY GUN MAINTENAINCE / STORAGE

I. PREPARATION

A. MATERIALS & SUPPLIES FOR APPLICATION STALL AND APPLICATOR STORAGE (Locally Procured by Dealer)

- Masking tape
- Duct tape
- Fire-retardant poly sheeting (tarp) or covering (if you cannot purchase the tarp from a local supplier, please refer to **CRC Tips and Examples** located on the C.L.E.A.N. DEALER website (<http://cleandealer.com>) for a list of possible suppliers)
- Plastic (Saran Wrap®) sheet and Rubber Band (for spray gun storage)
- Partitions (The type, size, and number of partitions used will depend on each dealer's facility.)
- Insulated Gloves
- Shop cloth/paper towels

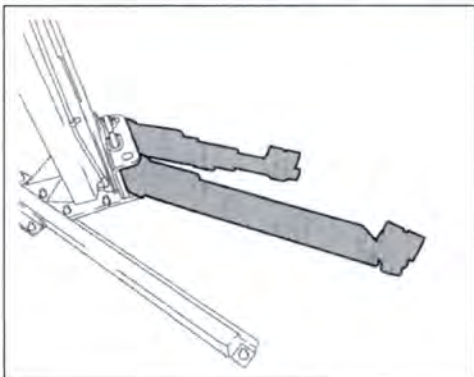
II. APPLICATION STALL SETUP WORK PROCEDURE

A. WORK AREA SETUP

1. INITIAL SETUP CONSIDERATIONS & GUIDELINES

- Work with your Service Manager to locate a dedicated work area and lift with the following requirements.
 - In well-ventilated area.
 - In an area at least 20 feet from open flames, spark-producing equipment, or drying curing, or fusion apparatuses.
 - Away from other vehicles to minimize the possibility of overspray.
 - In a location that can be sectioned off by partitions.
 - In an area that provides sufficient distance from neighboring stalls.
 - In an area that meets any minimal space requirements outlined in the appropriate campaign's Dealer Information Packet and any Supplements.
 - In a stall with a lift capable of handling a vehicle with GVWR of 10,000 lbs.
 - **A fire extinguisher, rated "B", "AB" or "ABC", must be located in an area that is within at least 30' of application area.**
 - **Important Reminder: Because of specific fire and building code requirements, make sure to review the appropriate campaign Dealer Information Packet *provided* and any Supplements to ensure that the area where you will conduct the CRC application is compliant with the requirements.**

Note: Area set up may vary depending on dealership layout, but must meet the minimum requirement set forth above. The following information is just one example of how an area might be set up for frame CRC application.



2. MASK THE LIFT SWING ARMS

- Cover the lift swing arms with fire-retardant poly sheeting (tarp).
- Secure the tarp with masking tape.

Notes:

- A two post above-ground lift is shown for reference.
- 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.

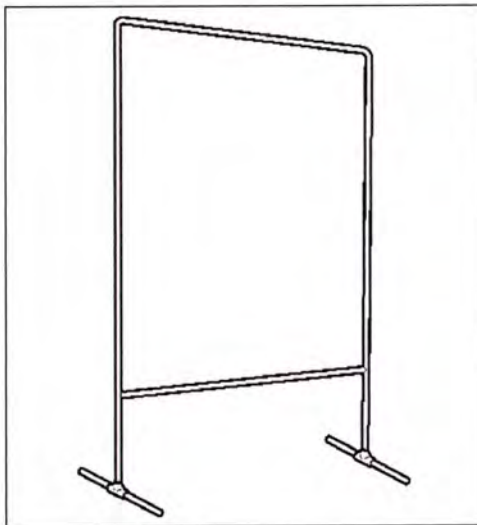


3. COVER LIFT AND FLOOR

- 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.

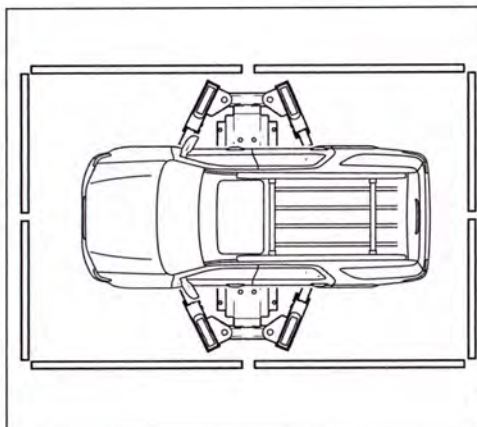


4. PARTITION SETUP

- 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.

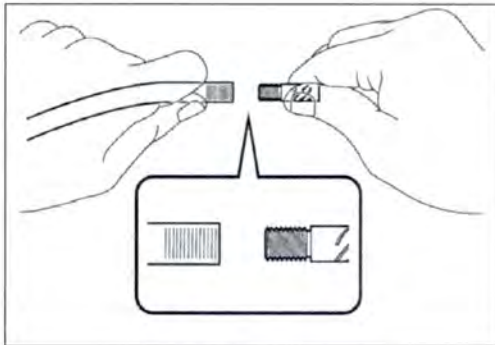
III. SPRAY GUN MAINTENANCE AND STORAGE

A. REPLACEMENT OF 712AM APPLICATOR NOZZLE

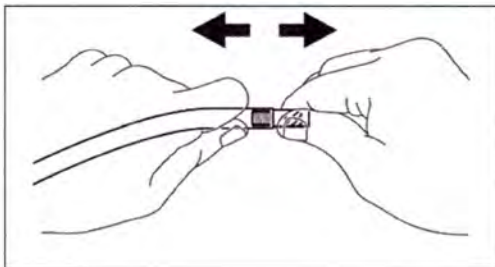


1. NOZZLE REMOVAL AND INSTALLATION

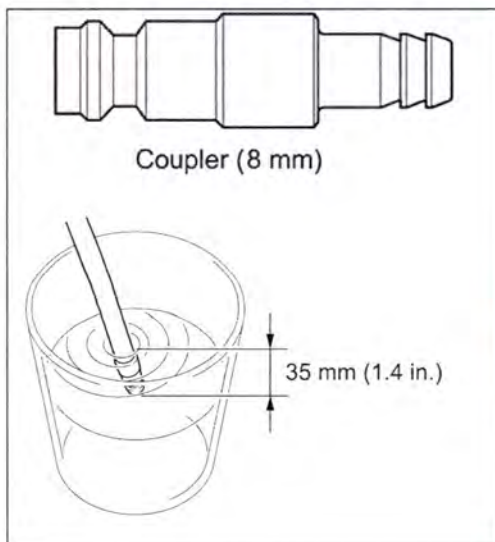
In the event the tip separates from the hose or the hose is damaged, follow these procedures for repair.



- Twist and remove the nozzle from the hose.
- Screw the nozzle onto the threaded section of the **NEW** hose at the nozzle connection.



- Holding both the nozzle and the hose pull to ensure they are securely attached.

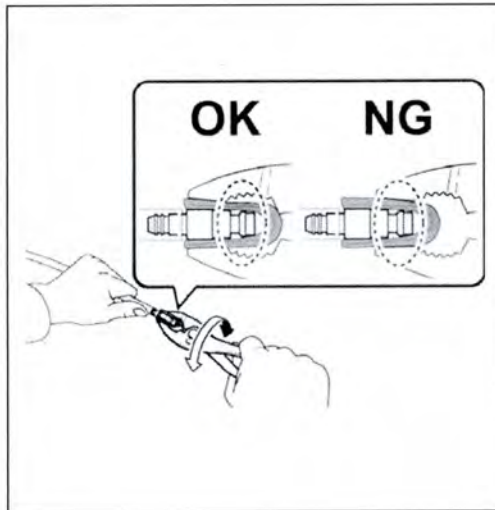


2. COUPLER REMOVAL AND INSTALLATION

- Immerse the entire coupler in 70°C (158° F) or hotter water for 10 seconds. This will loosen the coupler and allow it to be removed more easily.



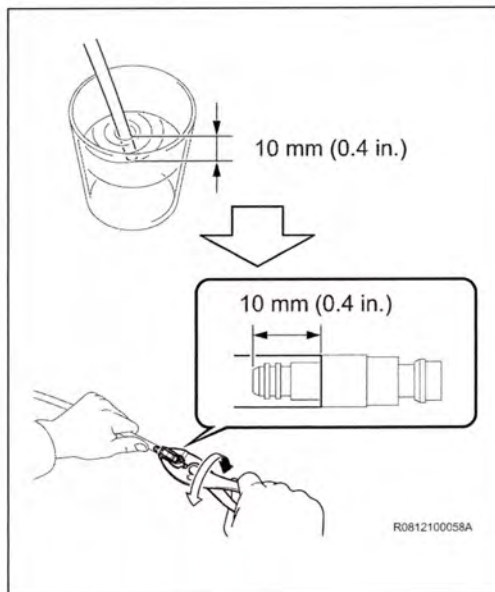
WARNING: Wear insulated gloves, while performing the coupler removal and installation process. The items may be hot.



- 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.

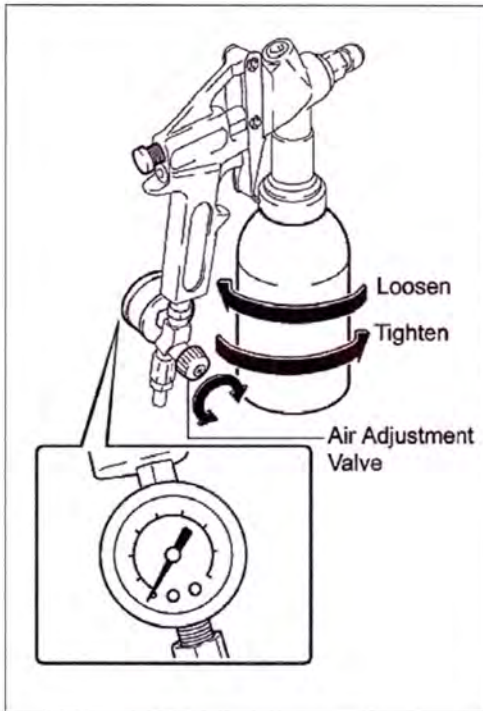
B. SPRAY GUN TROUBLESHOOTING



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.

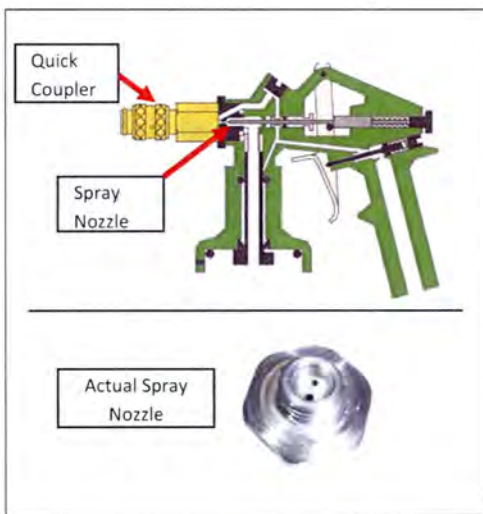


2. **REMEDY:**

- a) Disconnect the Air Hose.

Caution: Do not pull the trigger

- b) Slowly loosen the bottle to release the air pressure.
- c) Release all air pressure from the tank and tighten tank again.
- d) Turn regulator off, completely shut.
- e) Reconnect the air hose.
- f) Pull the trigger to the first stop (gun has a two stage trigger).
- g) Slowly adjust the regulator to the required air pressure (1/8 turn at a time allowing the, regulator time for the pressure to stabilize).
- h) This will apply air only to the spray nozzle and will not pick up any additional CRC in the tank.
- i) Let the gun spray (into a bucket) until the nozzle is unclogged.
- j) Release trigger and close air regulator.
- k) Fully pull trigger, to the second stop.
- l) Slowly adjust the regulator to the required air pressure, 50 psi (turn the 1/8 turn at a time allowing the, regulator time for the pressure to stabilize).
- m) Continue spraying the vehicle.



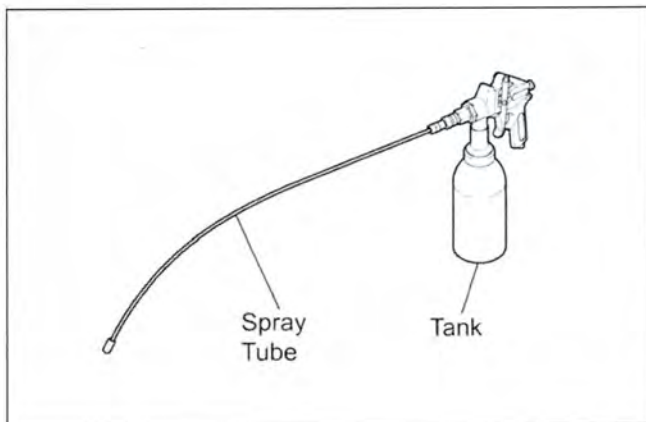
3. **IF RESETTING AIR PRESSURE IS NOT SUFFICIENT, CLEAN THE SPRAY NOZZLE WITH SHOP AIR.**

- a) Disconnect External Spray Wand.
- b) Remove Quick Coupler. (Brass Color)
- c) Remove Spray Nozzle. (Silver Colored)
- d) Clean Spray Nozzle Orifice with shop air into a bucket.
- e) Reassemble in reverse order.

Note: Ensure not to damage or loose the o-ring that is behind the spray nozzle.

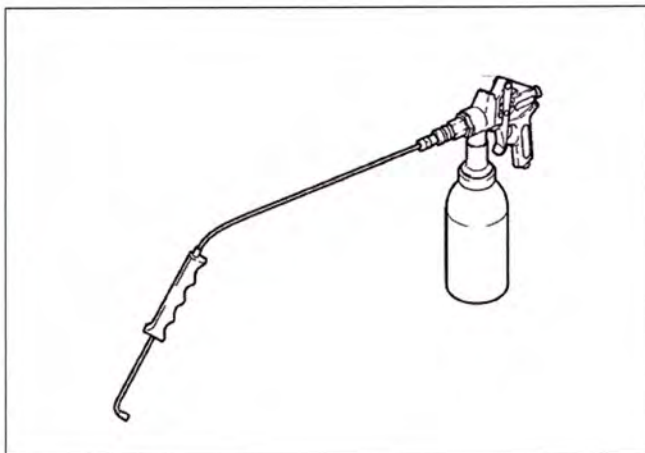
IV. SPRAY GUN STORAGE

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

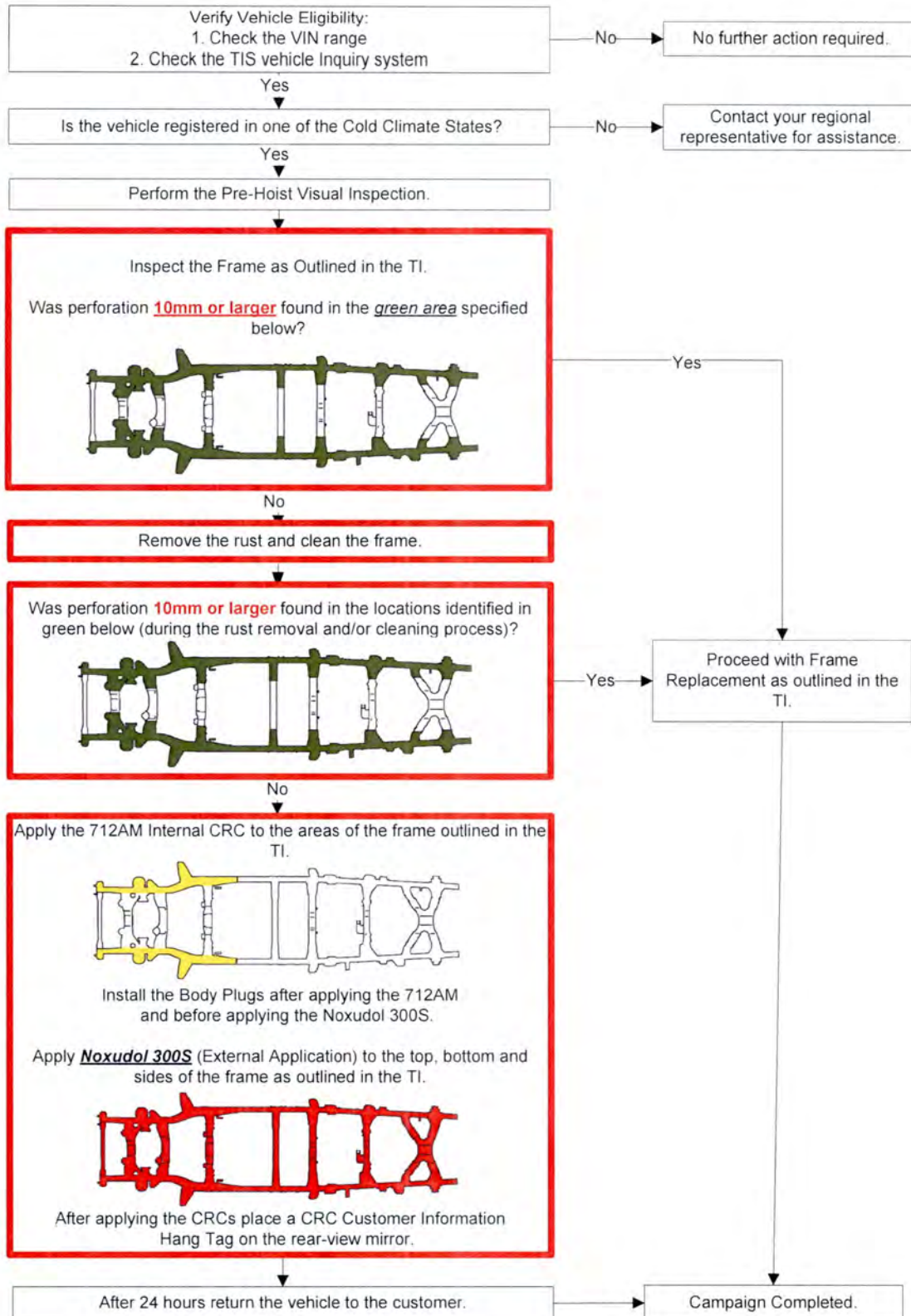
To make sure that your dealership can satisfy specific state and local requirements, please refer to your specific state Dealer Information Packet for the applicable campaign. Critical requirements are described in the Air Regulation, Air Recordkeeping, Fire, Building, and Zoning Code Sections of the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

**SUPPLEMENTAL TECHNICAL INSTRUCTIONS
FOR
LIMITED SERVICE CAMPAIGN E0D**

CERTAIN 2005 THROUGH 2008 MODEL YEAR TACOMA

FRAME REPLACEMENT

I. OPERATION FLOWCHART



II. PREPARATION

A. TOOLS & EQUIPMENT

- A/C service equipment
- Alignment rack
- Brake bleeder
- Engine hanger
 - 1GR-FE Engine
 - 12281-31060 – Engine hanger no. 1 (Qty: 1)
 - 12282-31040 – Engine hanger no. 2 (Qty: 1)
 - 90119-08A87 – Bolt (Qty: 4)
 - 2TR-FE Engine
 - 12281-75040 – Engine hanger no. 1 (Qty: 1)
 - 12281-75040 – Engine hanger no. 2 (Qty: 1)
 - 91552-A1020 – Bolt (Qty: 2)
- Engine hoist (Qty: 2) or Hydraulic mini crane (Qty 2)
- Engine sling (Qty: 2)
- Protective eyewear
- Protective gloves
- Ratcheting tie down strap (2 in X 27 ft, minimum work load capacity: 3,000 lbs)
- Special Service Tools (SST)
 - 07110-58060 – Air conditioner service tool set **or** Commercially available air conditioning manifold gauge set
 - 09325-40010 – Transmission oil plug (Transmission A340E)
 - 09610-20012 – Pitman arm puller (2WD)
 - 09628-62011 – Ball joint puller (4WD, Pre-Runner)
 - 09520-32040 – A component of SST 09520-24010, Differential side gear shaft puller
 - 09520-01010 – Drive shaft remover attachment
 - 09628-00011 – Ball joint puller
 - 09922-10010-01 – Variable open wrench
- Standard hand tools
- Techstream
- Torque wrench
- Torx® T55H socket
- Socket wrench 36mm
- Hexagon wrench 8, 10
- Deep socket wrench 10, 12, 14, 17, 19mm
- Union Nut Wrench 10mm
- Weights

B. SUPPLIES

- Toyota Genuine ATF WS or DEXRON® III (DEXRON® II) – As needed
- Hypoid gear oil API GL-5 SAE 75W-90 – 1.5 liter (**4wd Only**)
- R134a refrigerant – As needed
- Toyota DOT 3 brake fluid – 3 pints
- Toyota long life coolant – 2 gallons
- Paint Marker
- MP Grease

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, confirm campaign completion status, or confirm campaign applicability.**

- 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	Quantity	Illustration Name	Page
04001-76104	Frame, Sub-Assy	1	Frame	8
04001-76204	Frame, Sub-Assy	1	Frame	8
04001-76304	Frame, Sub-Assy	1	Frame	8
04001-76404	Frame, Sub-Assy	1	Frame	8
04001-76504	Frame, Sub-Assy	1	Frame	8
04001-76604	Frame, Sub-Assy	1	Frame	8
04001-76704	Frame, Sub-Assy	1	Frame	8
04001-77604	Frame, Sub-Assy	1	Frame	8
04001-76904	Frame, Sub-Assy	1	Frame	8
04001-77104	Frame, Sub-Assy	1	Frame	8
04001-77204	Frame, Sub-Assy	1	Frame	8
04001-77304	Frame, Sub-Assy	1	Frame	8
04001-77404	Frame, Sub-Assy	1	Frame	8
04001-77504	Frame, Sub-Assy	1	Frame	8
43425-04040	Ring, Drive Shaft Snap	2	Front Suspension	10
47323-04160	Tube, RR Brake, No.3	1	Brake Tubes	12-14
47324-04120	Tube, RR Brake, No.4	1	Brake Tubes	12-14
47325-04160	Tube, RR Brake, No.5	1	Brake Tubes	12,15
47325-04170	Tube, RR Brake, No.5	1	Brake Tubes	13,16
47325-04180	Tube, RR Brake, No.5	1	Brake Tubes	14,17
47326-04130	Tube, RR Brake, No.6	1	Brake Tubes	12,15
47326-04140	Tube, RR Brake, No.6	1	Brake Tubes	13,16
47326-04150	Tube, RR Brake, No.6	1	Brake Tubes	14,17
48068-04030	Arm Sub-Assy, Suspension LWR RH w/ Bush	1	Front Suspension	9
48068-04040	Arm Sub-Assy, Suspension LWR RH w/ Bush	1	Front Suspension	10
48069-04030	Arm Sub-Assy, Suspension LWR LH w/ Bush	1	Front Suspension	9
48069-04040	Arm Sub-Assy, Suspension LWR LH w/ Bush	1	Front Suspension	10

Individual Parts (Continued):

Part Number	Part Description	Quantity	Illustration Name	Page
48210-04370	Spring Assy, RR RH	1	Rear Suspension	11
48210-04380	Spring Assy, RR RH	1	Rear Suspension	11
48210-35A20 or 48210-04660	Spring Assy, RR RH	1	Rear Suspension	11
48210-35A30 or 48210-04640	Spring Assy, RR RH	1	Rear Suspension	11
48210-35A40 or 48210-04650	Spring Assy, RR RH	1	Rear Suspension	11
48210-AD020	Spring Assy, RR RH	1	Rear Suspension	11
48220-04160	Spring Assy, RR LH	1	Rear Suspension	11
48220-04170	Spring Assy, RR LH	1	Rear Suspension	11
48220-35020 or 48220-04300	Spring Assy, RR LH	1	Rear Suspension	11
48220-35030 Or 48220-04280	Spring Assy, RR LH	1	Rear Suspension	11
48220-35040 or 48220-04290	Spring Assy, RR LH	1	Rear Suspension	11
48220-AD020	Spring Assy, RR LH	1	Rear Suspension	11
48304-04090	Bumper Sub-Assy, FR Spring	2	Front Suspension	9
48304-AD010	Bumper Sub-Assy, FR Spring	2	Front Suspension	9
82164-04780	Wire, Frame	1	Wire Harness Clamps	19
82164-04A00	Wire, Frame	1	Wire Harness Clamps	19
82164-04A10	Wire, Frame	1	Wire Harness Clamps	19
82164-04A20	Wire, Frame	1	Wire Harness Clamps	19
82164-04A30	Wire, Frame	1	Wire Harness Clamps	19
82164-04A40	Wire, Frame	1	Wire Harness Clamps	19
82164-04A50	Wire, Frame	1	Wire Harness Clamps	19
89516-04010	Wire, Skid Control Sensor	1	ABS	19
89516-04020	Wire, Skid Control Sensor	1	ABS	19
89516-04040	Wire, Skid Control Sensor	1	ABS	19
89516-04090	Wire, Skid Control Sensor	1	ABS	19
90117-A0001	Bolt, U	4	Rear Suspension	11
90117-A0002	Bolt, U	4	Rear Suspension	11
90117-A0005	Bolt, U	4	Rear Suspension	11
90119-08A91	Bolt, w/ Washer	4	Rear Suspension	11
90119-A0151	Bolt, w/ Washer	2	Propeller Shaft	21
90119-A0161	Bolt, w/ Washer	4	Front Suspension	9
90119-A0169	Bolt, w/ Washer	9	Brake Tubes	12-18
90119-A0193	Bolt, w/ Washer	2	Under Cover	8
90178-A0013	Nut, Flange	4	Front Suspension	9
90179-08241	Nut	4	Fuel Tank	18
90240-08054	Pin, w/ Hole	1	Shift Lever	23
90468-14033	Clip	1	Shift Lever	23
90469-A0004	Clamp	2	Brake Tubes	12,15
90469-A0004	Clamp	3	Brake Tubes	13,16
90469-A0004	Clamp	4	Brake Tubes	14,17
51900-35410	Carrier Assy, Spare Wheel	1	Spare Tire Carrier	8
51900-35420	Carrier Assy, Spare Wheel	1	Spare Tire Carrier	8

Parts Kits:

Part Number	Part Description	Quantity		
04001-71104	Parts Kit No.1 – Common Replacement Kit A	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration Name	Page
77285-35760	Support, Fuel Return & Main Tube	1	Fuel Tubes	18
90179-10201	Nut	4	Engine Mounting	20
90412-10247	Way, 2	2	Brake Tubes	12-17
90910-03001	Bolt, Engine Mount	4	Engine Mounting	20
91671-80814	Bolt, Flange w/ Washer	4	Engine Mounting	20
94622-51400	Washer, Plain	10	Rear Suspension	11

Part Number	Part Description	Quantity		
04001-71204	Parts Kit No.2 – Common Replacement Kit B	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration Name	Page
04483-04080	Shackle Kit, RR Spring	2	Rear Suspension	11
17451-0A010	Gasket, Exhaust Pipe	1	Exhaust System	22
47355-04020	Bracket, Flexible Hose, No. 5	1	Brake Tubes	12-17
51719-04010	Holder, Body Support Bracket	2	Cab Mounting	8
90069-08019	Ring, O	1	Radiator	23
90080-10138	Bolt, Flange	2	Rear Suspension	11
90080-11376	Bolt, w/ Washer	2	Fuel Tank	18
90080-11555	Bolt, w/ Washer	2	Power Steering	20
90080-17215	Nut, Flange	6	Front Suspension	9,10
90119-A0169	Bolt, w/ Washer	4	Spare Tire carrier	8
90119-A0192	Bolt, w/ Washer	6	Rear Bumper	23
90171-A0005	Nut, Castle	2	Front Suspension	9-10
90177-A0010	Nut, Lock	2	Rear Suspension	11
90178-A0044	Nut, Flange	6	Front Bumper	23
90178-A0050	Nut, Flange	10	Rear Suspension	11
90210-A0002	Washer, Seal	1	Air Conditioning	23
90210-A0004	Washer, Seal	1	Air Conditioning	23
90412-10248	Way, 2	1	Brake Tubes	12-17
90468-A0007	Clip	4	Brake Tubes	12-18
90949-A1006	Clamp	3	Brake Tubes	12-17

Part Number	Part Description	Quantity		
04001-71304	Parts Kit No.3 – JPN Source Parts kit 1 (4WD)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration Name	Page
12157-10010	Gasket, Drain Plug	1	Front Differential	20
43514-28010	Cap, FR Hub Grease	2	Front Suspension	10
90311-47012	Seal, Type T Oil	1	Front Differential	20
90311-47013	Seal, Type T Oil	1	Front Differential	20
90430-24003	Gasket	1	Front Differential	20
95381-04045	Pin, Cotter	2	Front Suspension	10

Part Number	Part Description	Quantity		
04001-71404	Parts Kit No.4 – JPN Source Parts kit 2	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration Name	Page
48190-25010	Cam Assy, Camber Adjust	4	Front Suspension	9
48198-25010	Cam, Camber Adjust, No. 2	4	Front Suspension	9
95381-03025	Pin, Cotter	2	Power Steering	20
95381-03230	Pin, Cotter	2	Front Suspension	9

Parts Kits (Continued):

Part Number	Part Description	Quantity
04001-71504	Parts Kit No.5 – JPN Source Parts kit 3	1

The kit listed above includes the following parts:

Part Number	Part Description	Qty	Illustration Name	Page
48190-60020	Cam Assy, Camber Adjust	2	Front Suspension	10
48198-60011	Cam, Camber Adjust, No. 2	2	Front Suspension	10
48409-60020	Cam Assy, Camber Adjust	2	Front Suspension	10
48452-35020	Plate, Toe Adjust, No. 2	2	Front Suspension	10
95381-03225	Pin, Cotter	2	Power Steering	20
95381-03230	Pin, Cotter	2	Front Suspension	10

Part Number	Part Description	Quantity
04001-71604	Parts Kit No.6 – USA Source Parts kit 1 (1GR)	1

The kit listed above includes the following parts:

Part Number	Part Description	Qty	Illustration Name	Page
17176-0P010	Gasket, Air Surge Tank to INT Manifold	1	Exhaust System	22
90080-10291	Bolt	2	Exhaust System	22
90080-11180	Bolt, w/ Washer	2	Exhaust System	22
90080-17187	Nut, Lock	4	Exhaust System	22
90080-43036	Gasket, Exhaust Pipe	2	Exhaust System	22
90126-A0011	Stud, Hex Lobular	4	Exhaust System	22

Part Number	Part Description	Quantity
04001-71704	Parts Kit No.7 – USA Source Parts kit 2 (2TR)	1

The kit listed above includes the following parts:

Part Number	Part Description	Qty	Illustration Name	Page
90080-43033	Gasket, Exhaust Pipe	1	Exhaust System	22
90080-10064	Bolt, Flange	2	Exhaust System	22
90080-10291	Bolt	2	Exhaust System	22
90177-A0004	Nut, Lock	2	Exhaust System	22

Part Number	Part Description	Quantity
04001-71804	Parts Kit No.8 – USA Source Parts kit 3	1

The kit listed above includes the following parts:

Part Number	Part Description	Qty	Illustration Name	Page
48304-04100	Bumper Sub-Assy, FR Spring	2	Front Suspension	10
75395-35070	Clip, Outside Molding, No. 1	3	Molding	23
75396-35020	Clip, Outside Molding, No. 2	7	Molding	23
90080-11373	Bolt, w/ Washer	8	Under Cover	8
90119-A0166	Bolt, w/ Washer	2	Front Suspension	10
90119-A0192	Bolt, w/ Washer	2	Under Cover	8
90189-A0002	Grommet, Screw	8	Rear Wheel House Liner	24
90189-A0002	Grommet, Screw	2	Molding	23

Part Number	Part Description	Quantity
04001-71904	Parts Kit No.9 – USA Source Parts kit 4	1

The kit listed above includes the following parts:

Part Number	Part Description	Qty	Illustration Name	Page
75395-04010	Clip, Outside Molding, No. 1	4	Molding	24
75395-35070	Clip, Outside Molding, No. 1	4	Molding	24
75396-04010	Clip, Outside Molding, No. 2	14	Molding	24
75396-35020	Clip, Outside Molding, No. 2	2	Molding	24
90189-A0002	Grommet, Screw	6	Rear Wheel House Liner	24
90189-A0002	Grommet, Screw	2	Molding	24

Parts Kits (Continued):

Part Number	Part Description	Quantity		
04001-72104	Parts Kit No.10 – Brake Tube kit 1 (without VSC)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration Name	Page
47313-04190	Tube, FR Brake, No.3	1	Brake Tubes	12-14
47315-04160	Tube, FR Brake, No.5	1	Brake Tubes	12-14

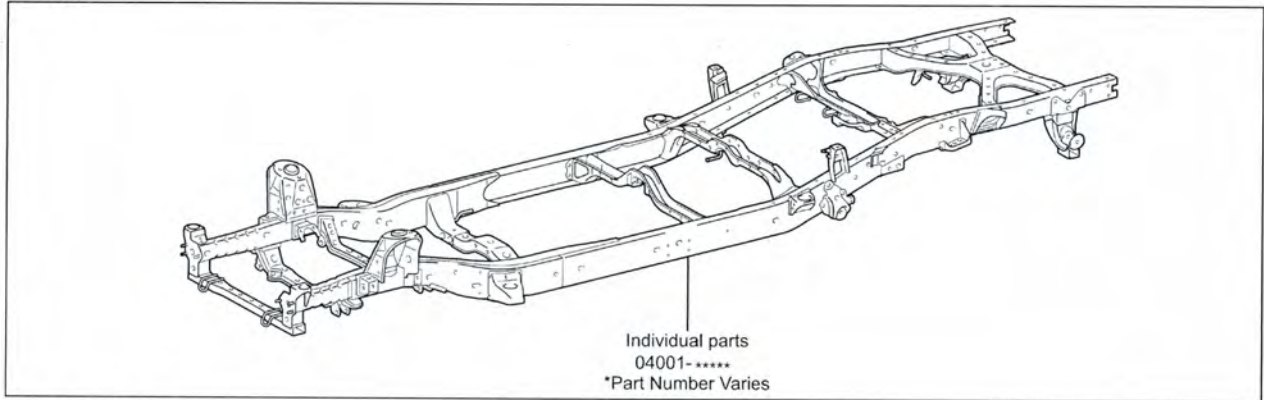
Part Number	Part Description	Quantity		
04001-72204	Parts Kit No.11 – Brake Tube kit 2 (with VSC)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration Name	Page
47313-04200	Tube, FR Brake, No.3	1	Brake Tubes	15-17
47315-04170	Tube, FR Brake, No.5	1	Brake Tubes	15-17
47323-04170	Tube, RR Brake, No.3	1	Brake Tubes	15-17
47324-04130	Tube, RR Brake, No.4	1	Brake Tubes	15-17

Part Number	Part Description	Quantity		
04001-72304	Parts Kit No.12 – Brake Tube kit 3 (for 2WD)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration Name	Page
47314-04140	Tube, FR Brake, No.4	1	Brake Tubes	12,13,15,16
47316-04140	Tube, FR Brake, No.6	1	Brake Tubes	12,13,15,16
47351-04030	Bracket, Flexible Hose, RH	1	Brake Tubes	18
47352-04030	Bracket, Flexible Hose, LH	1	Brake Tubes	18

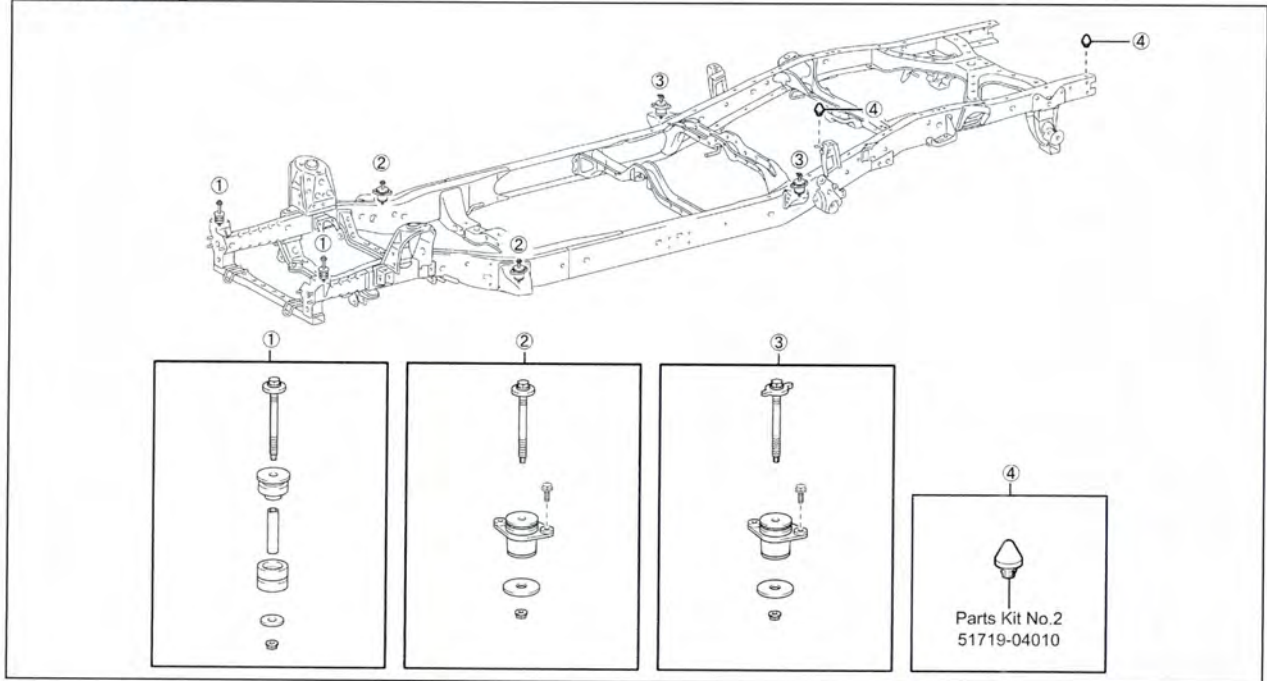
Part Number	Part Description	Quantity		
04001-72404	Parts Kit No.13 – Brake Tube kit 4 (for 4WD, PRE-RUNNER)	1		
The kit listed above includes the following parts:				
Part Number	Part Description	Qty	Illustration Name	Page
47314-04150	Tube, FR Brake, No.4	1	Brake Tubes	12-17
47316-04150	Tube, FR Brake, No.6	1	Brake Tubes	12-17
47353-04010	Bracket, Flexible Hose, No. 3	1	Brake Tubes	18
47354-04010	Bracket, Flexible Hose, No. 4	1	Brake Tubes	18
90119-A0169	Bolt, w/ Washer	7	Brake Tubes	12-18

D. PARTS ILLUSTRATION

Frame



Cab Mounting



Under Cover

4WD, PRE-RUNNER ONLY

W/ (FUEL TANK PROTECTOR)

Individual Parts
90119-A0193 (2)

Parts Kit No.8
90119-A0192 (2)

Parts Kit No.8
90080-11373 (2)

Parts Kit No.8
90080-11373 (2)

Parts Kit No.8
90080-11373 (2)

Parts Kit No.8
90080-11373 (2)

R1109180044

Spare Tire Carrier

Parts Kit No.2
90119-A0169 (4)

4WD, PRE-RUNNER ONLY

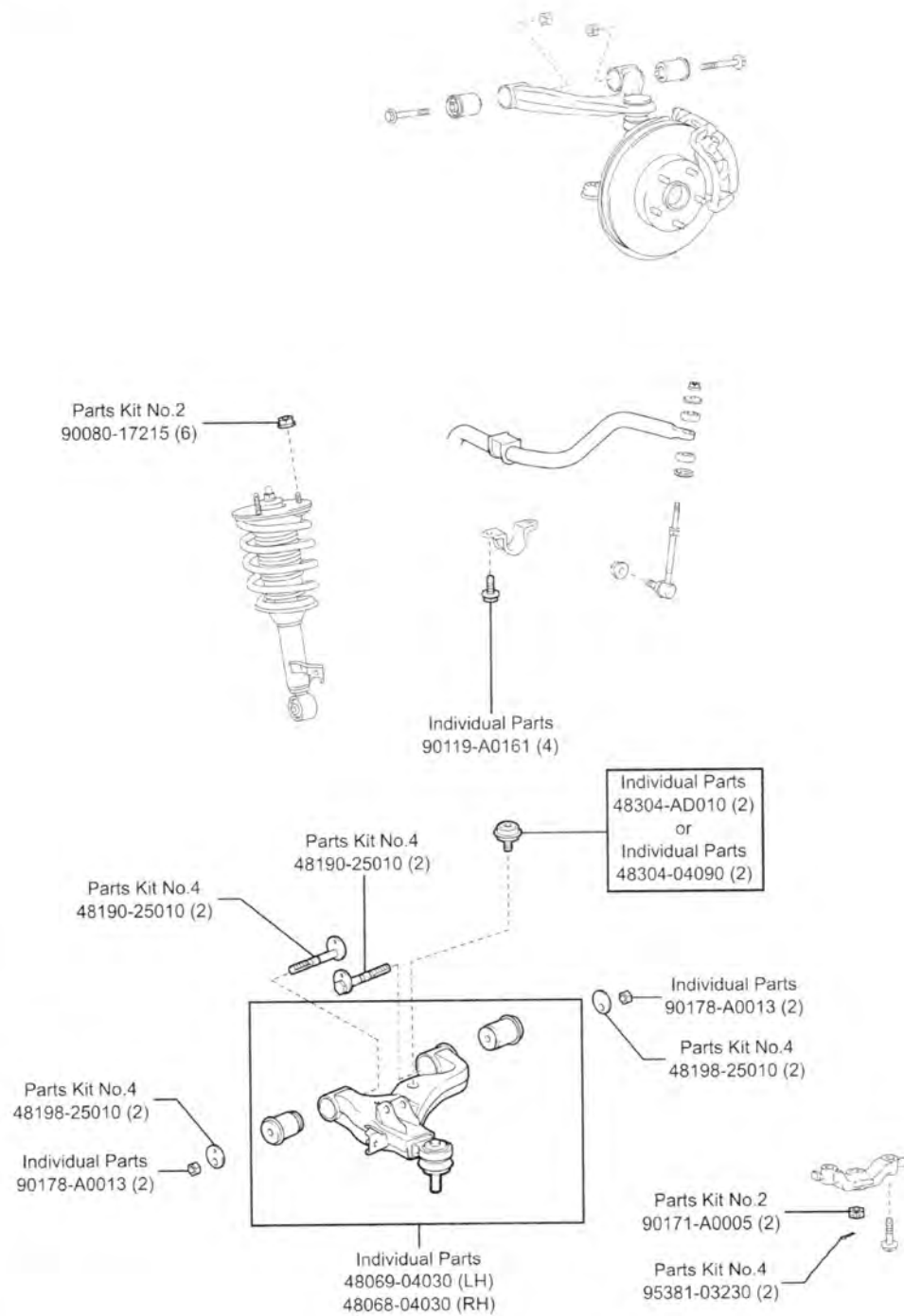
2WD ONLY

Individual Parts
51900-35410

Individual Parts
51900-35420

Front Suspension

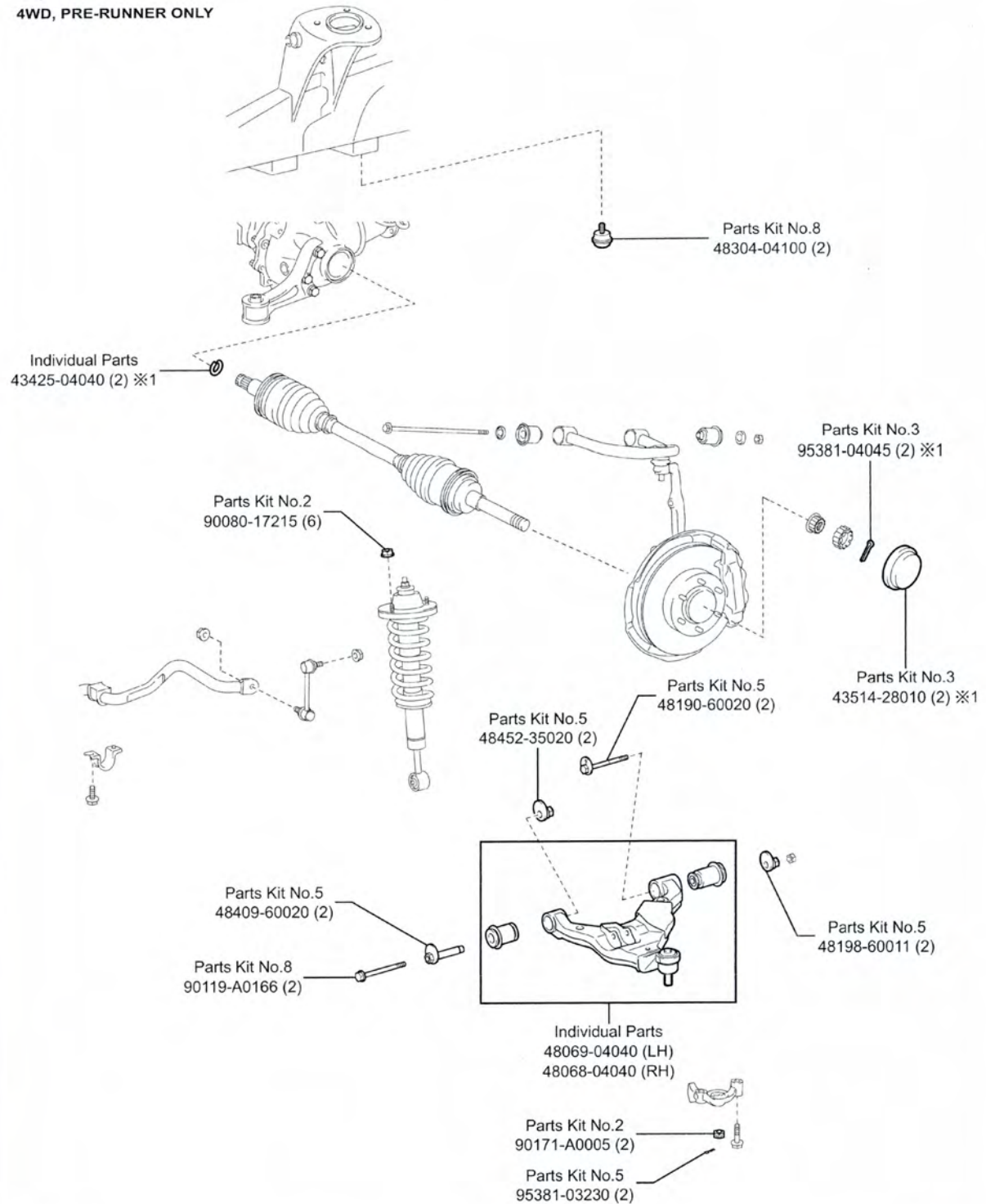
2WD ONLY



R1109180032

Front Suspension Continued...

4WD, PRE-RUNNER ONLY



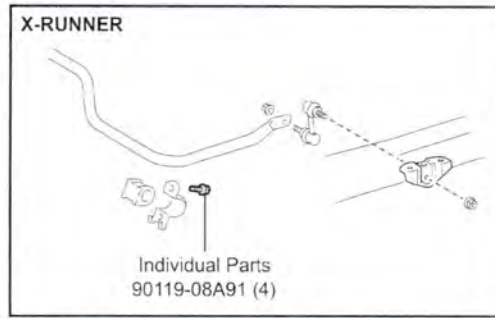
※1 4WD ONLY

R1109180033

Rear Suspension

2WD ONLY

X-RUNNER



Parts Kit No.2
90178-A0050 (2)
Parts Kit No.1
94622-51400 (2)

Individual Parts
90117-A0002 (2)

Parts Kit No.2
90080-10138 (2)

Parts Kit No.1
94622-51400 (8)

Individual Parts
90117-A0002 (2)

Parts Kit No.2
90177-A0010 (2)

Individual parts
48210-*****
or
Individual parts
48220-*****
*Part Number Varies

Parts Kit No.2
04483-04080 (2)

R1109180042

4WD, PRE-RUNNER ONLY

Parts Kit No.2
90178-A0050 (8)
Parts Kit No.2
90177-A0010 (2)

Individual parts
90117-*****
*Part Number Varies

Individual parts
90117-*****
*Part Number Varies

Parts Kit No.2
90178-A0050 (2)

Parts Kit No.1
94622-51400 (2)

Parts Kit No.2
90080-10138 (2)

Parts Kit No.1
94622-51400 (8)

Parts Kit No.2
90178-A0050 (8)

Individual parts
48210-*****
or
Individual parts
48220-*****
*Part Number Varies

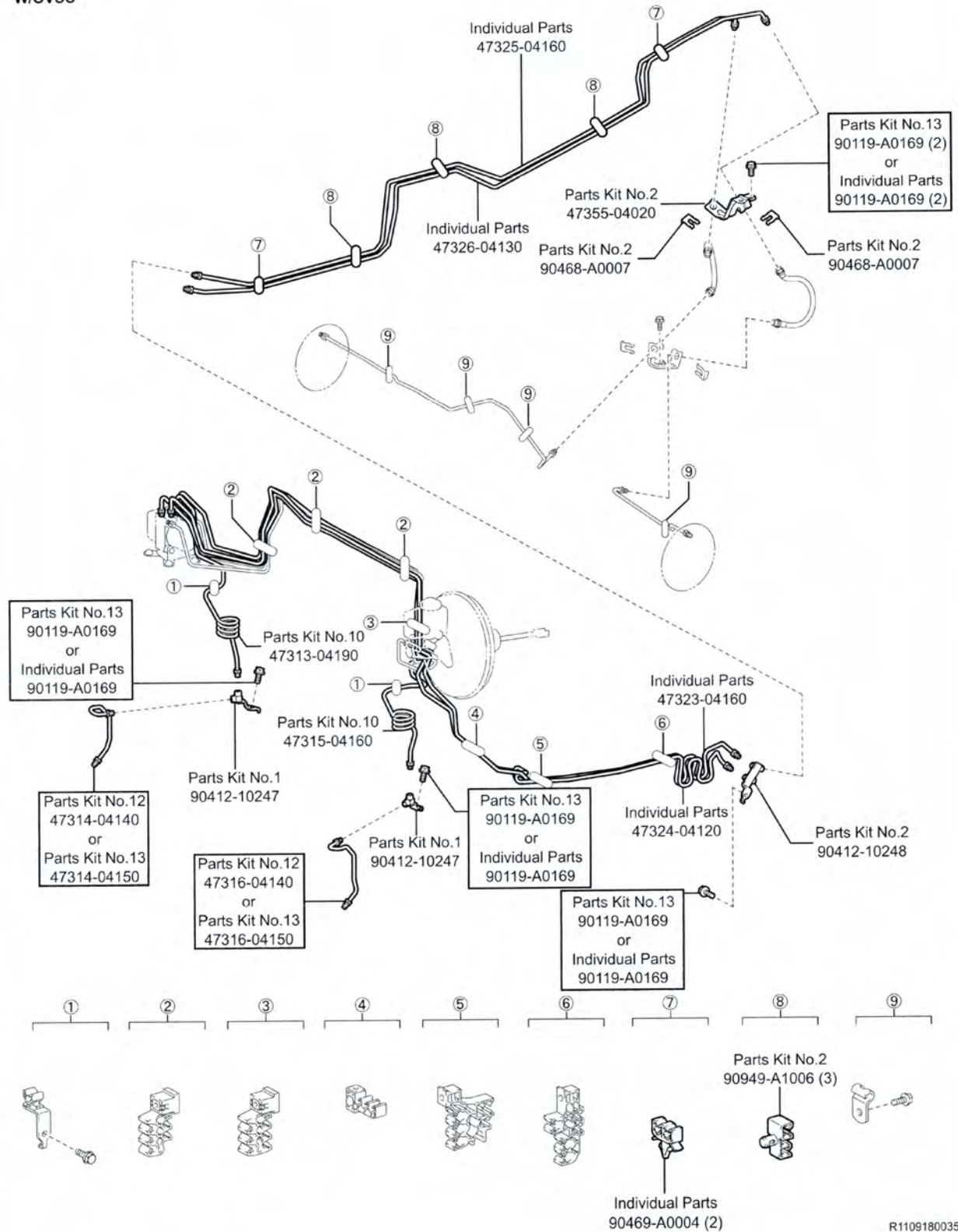
Parts Kit No.2
04483-04080 (2)

R1109180043

***When replacing the leaf spring from a 3 leaf stack (original spring configuration) to a 4 leaf stack replacement spring, the bump stop is required to be changed. The parts website will indicate when the bump stops should be ordered and installed.**

Brake Tubes

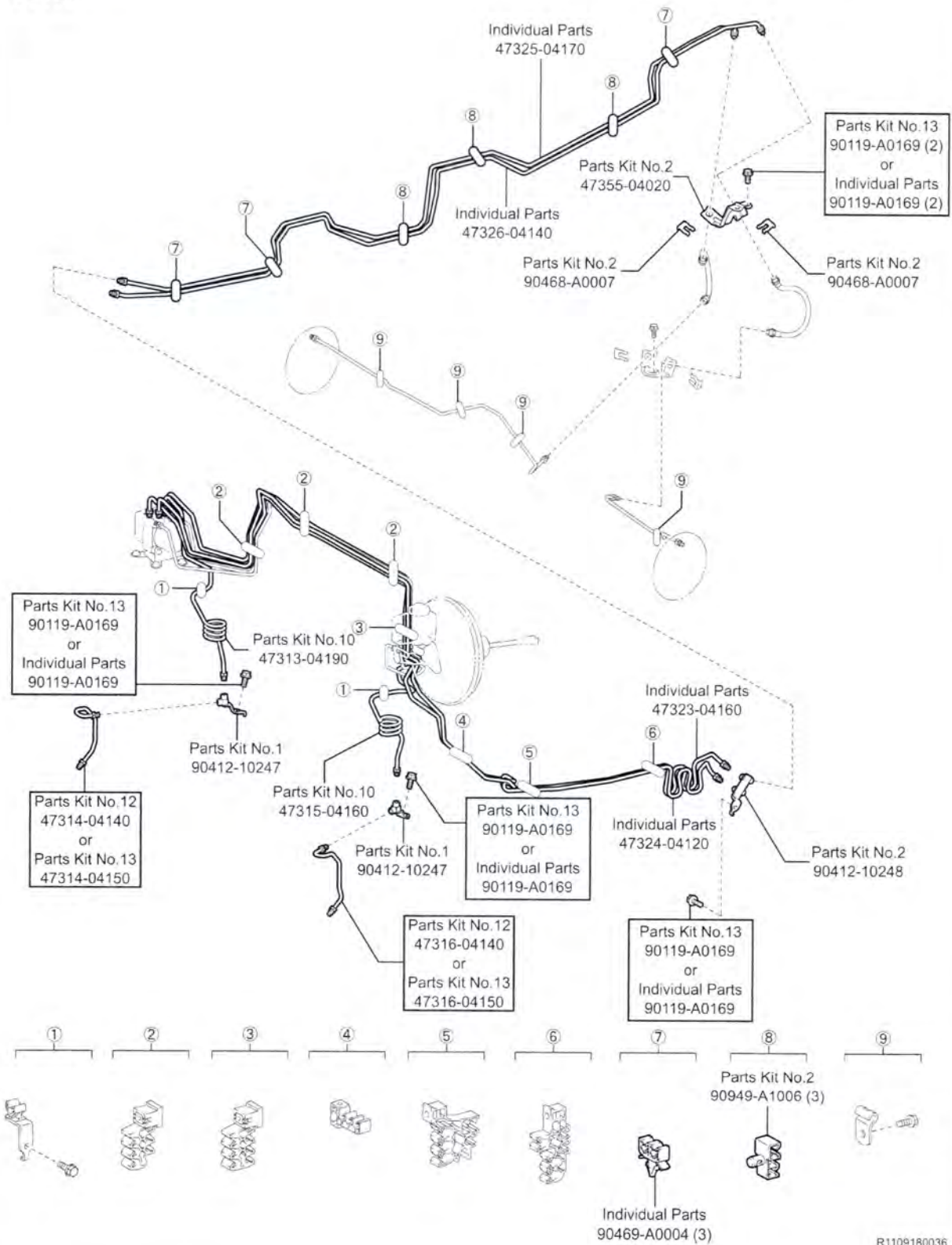
REGULAR CAB
W/OVSC



R1109180035

Brake Tubes Continued...

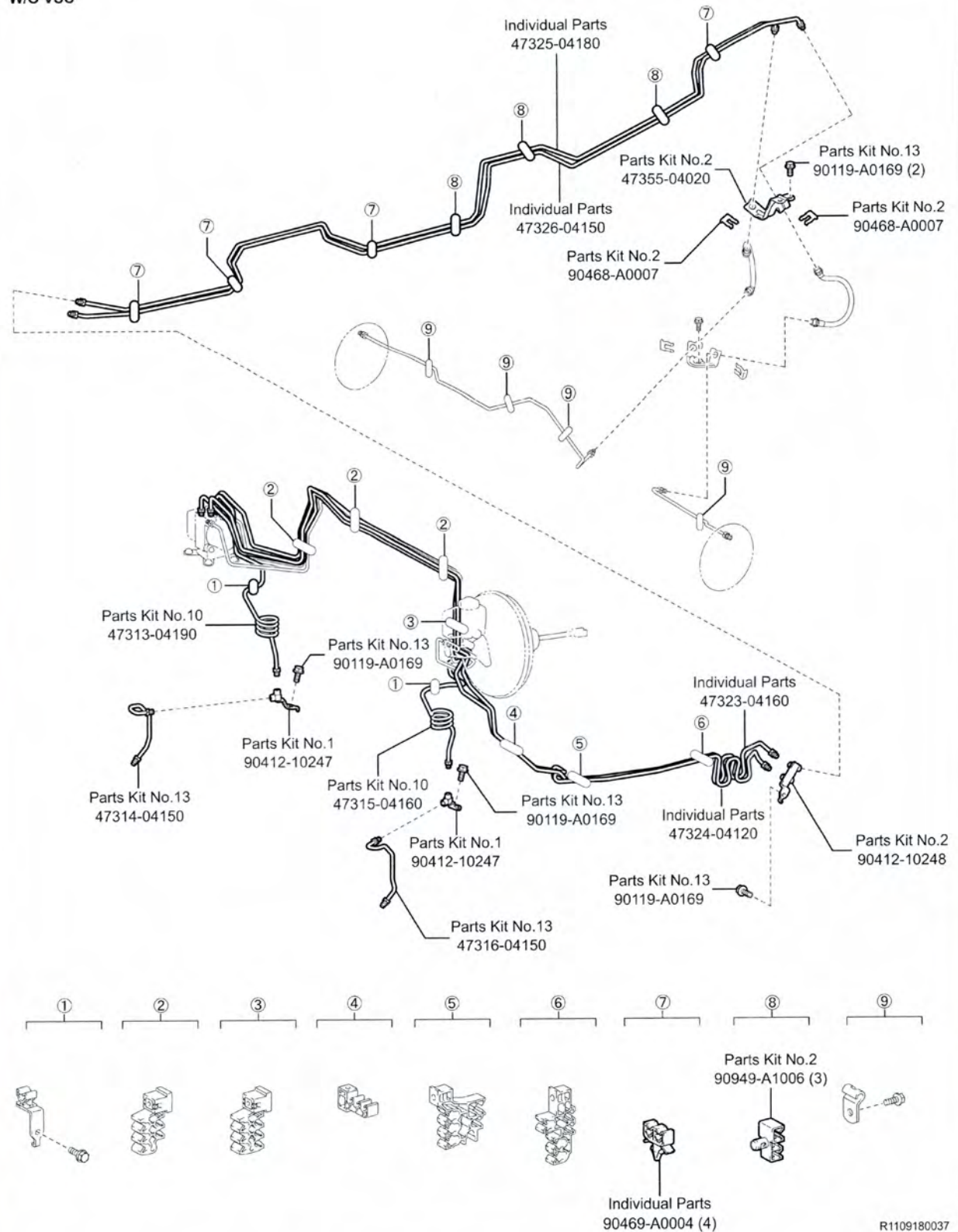
ACCESS CAB
W/O VSC



R1109180036

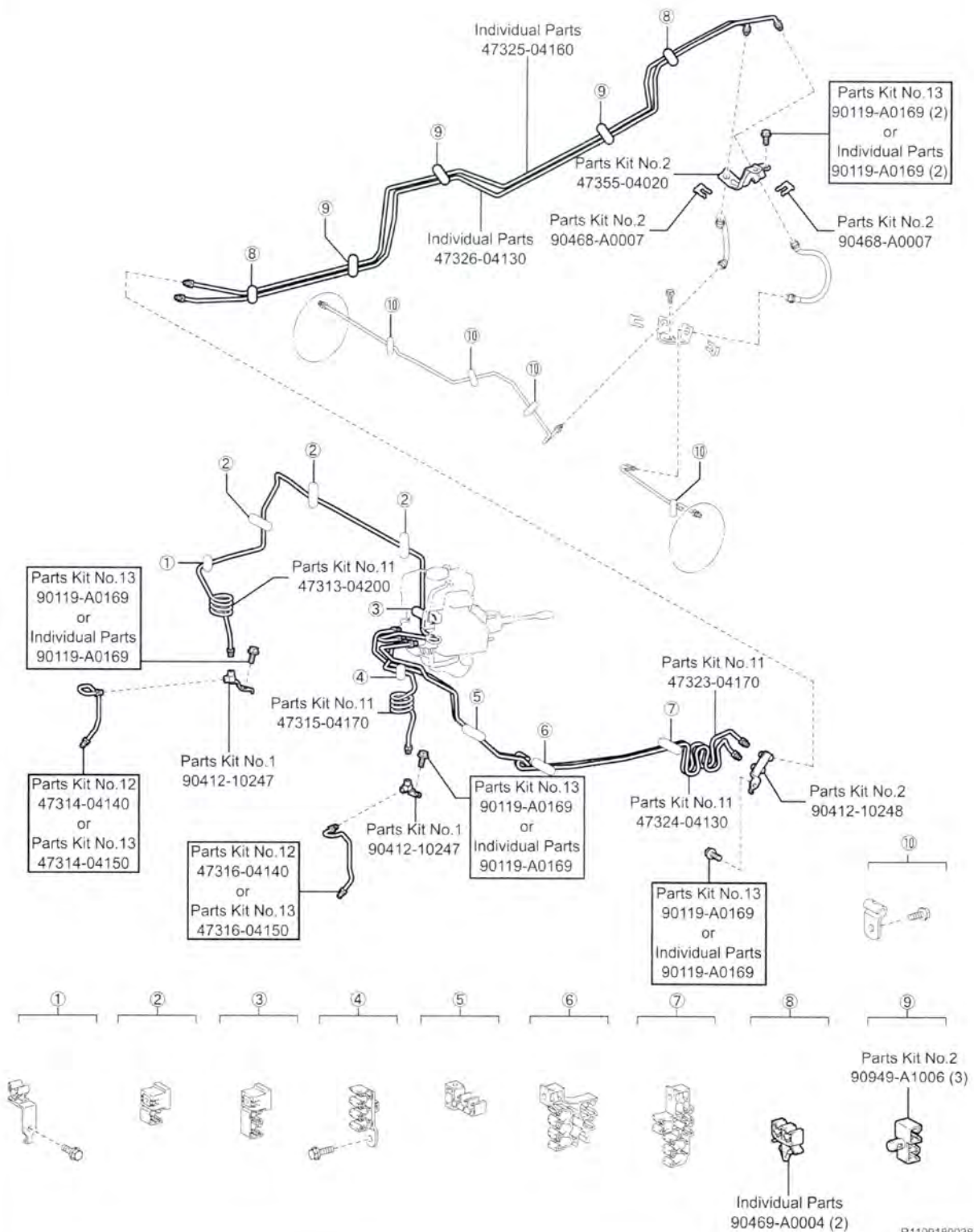
Brake Tubes Continued...

DOUBLE CAB
W/O VSC



Brake Tubes Continued...

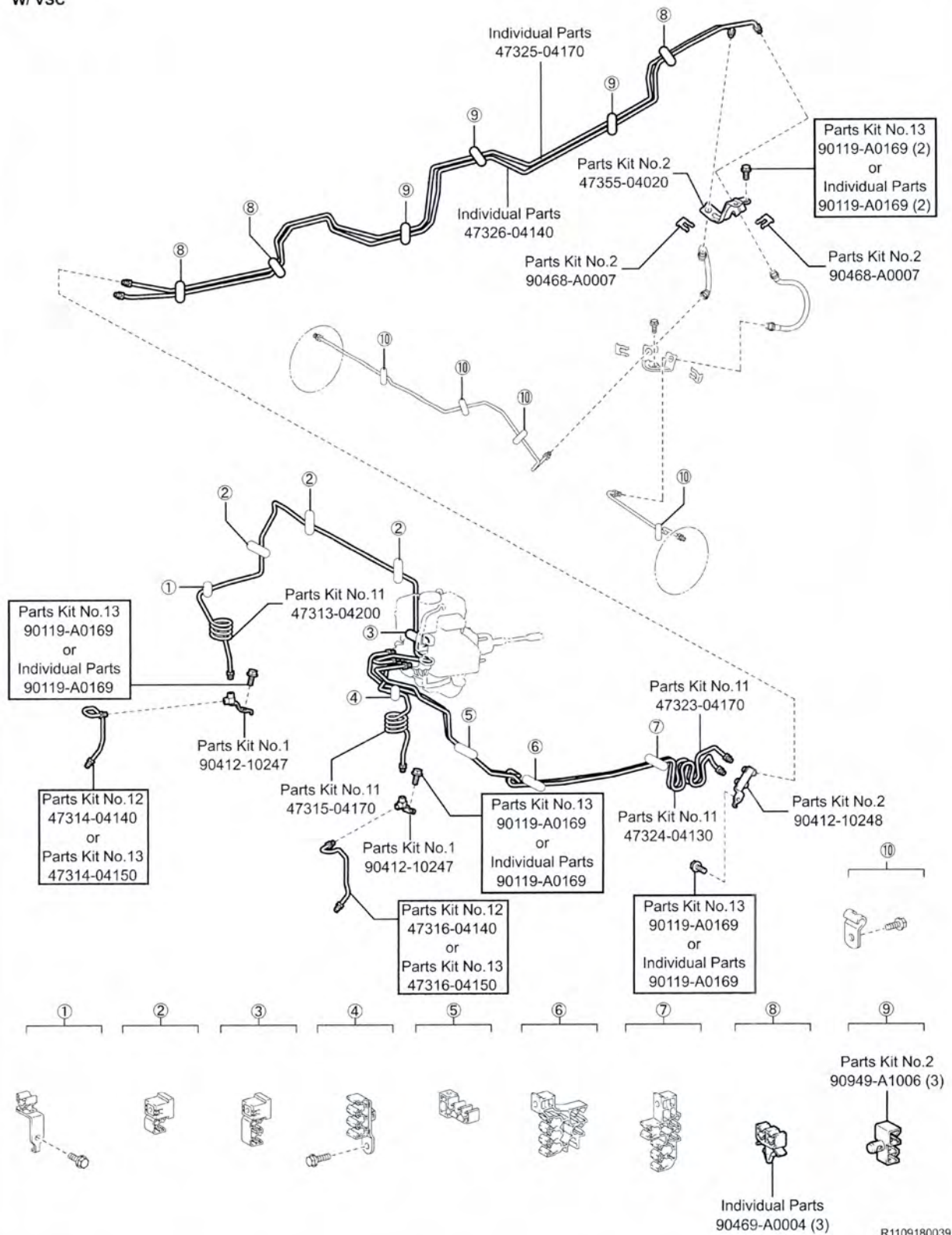
REGULAR CAB
W/ VSC



R1109180038

Brake Tubes Continued...

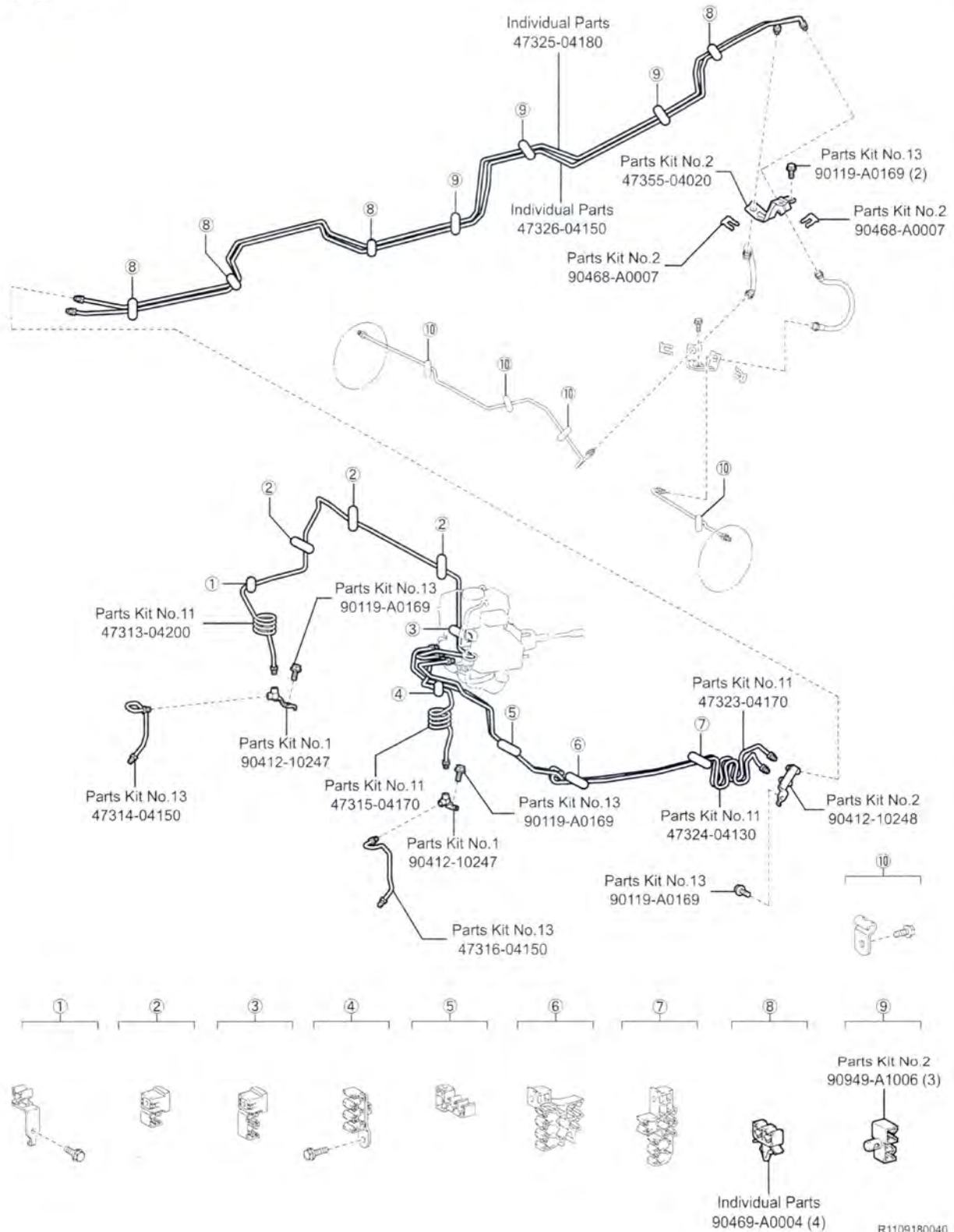
ACCESS CAB
W/ VSC



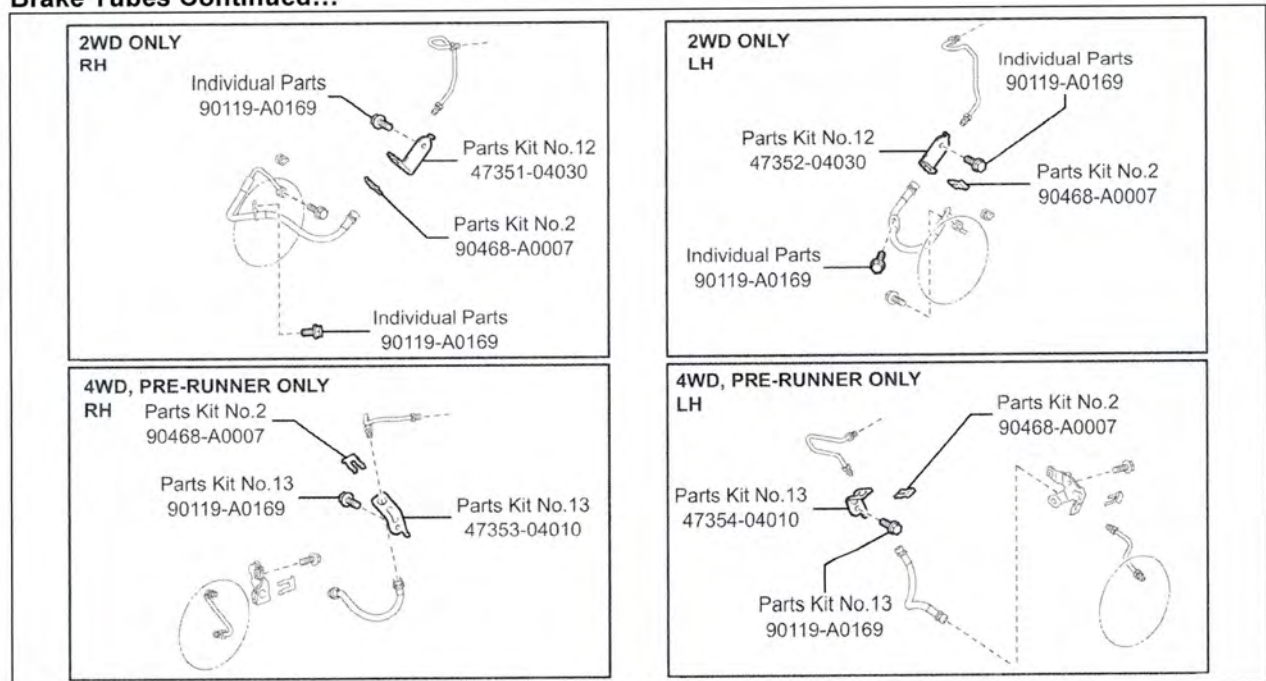
R1109180039

Brake Tubes Continued...

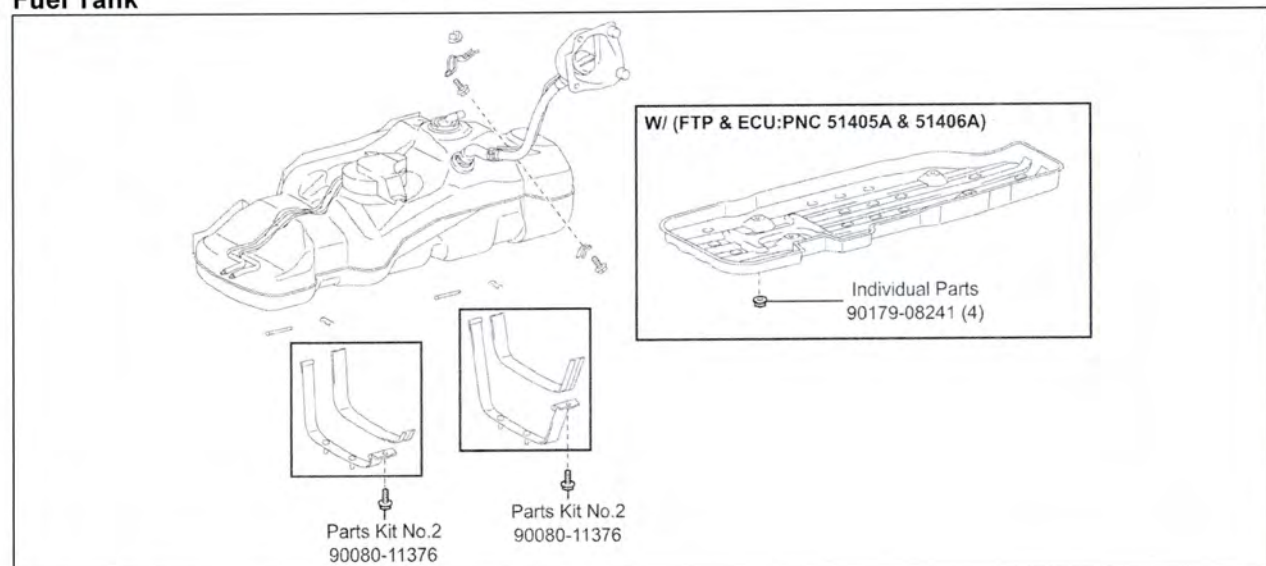
DOUBLE CAB
W/ VSC



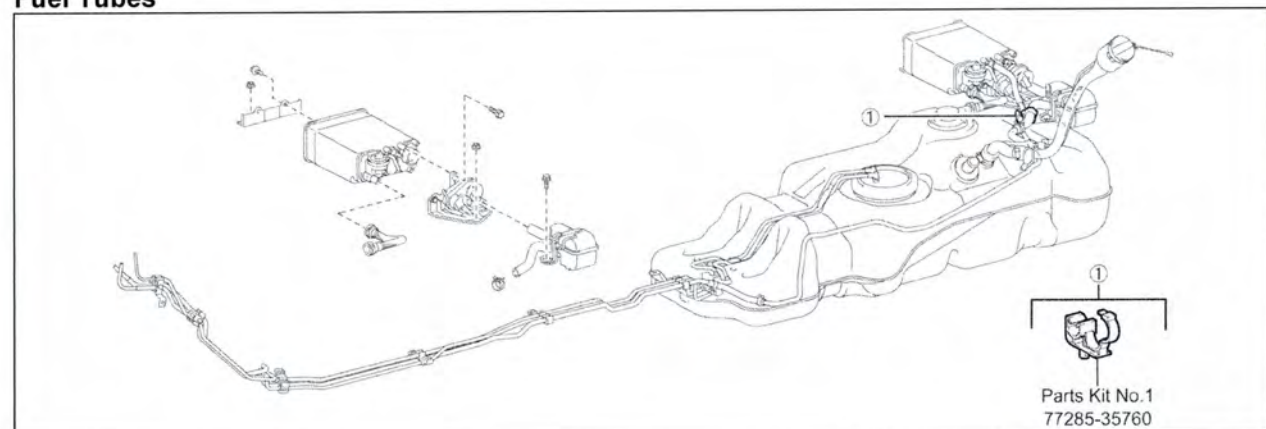
Brake Tubes Continued...



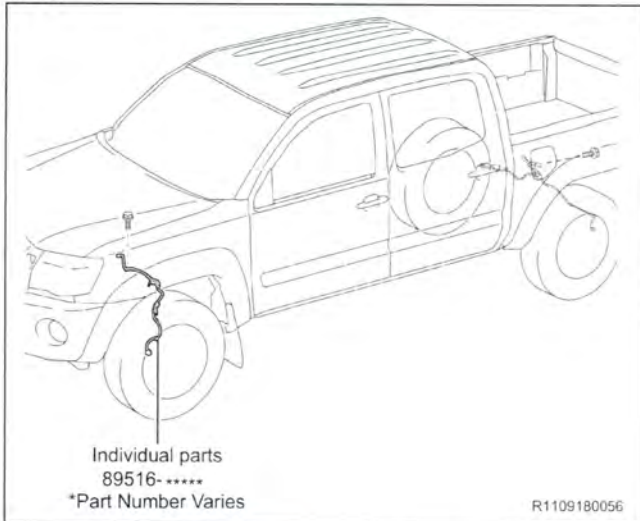
Fuel Tank



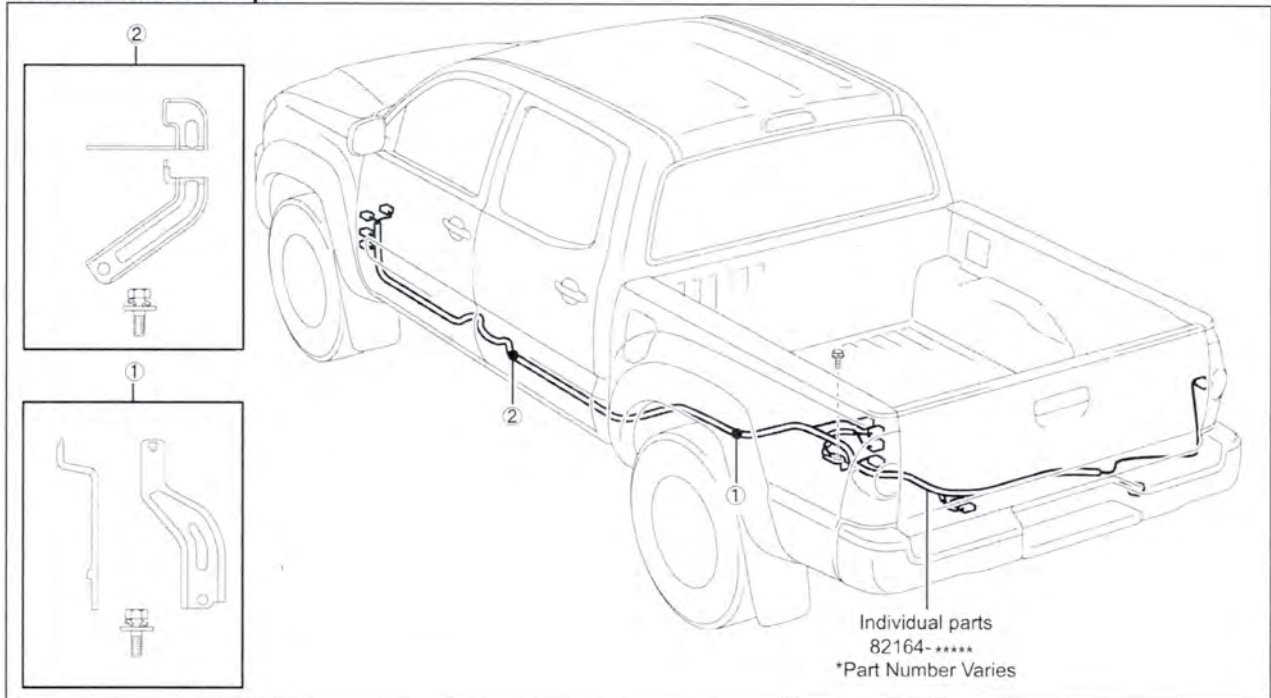
Fuel Tubes



ABS



Wire Harness Clamps



Power Steering

1GR-FE

Parts Kit No.4
95381-03025 ※1
or
Parts Kit No.5
95381-03225 ※2

Parts Kit No.2
90080-11555 (2)

Parts Kit No.4
95381-03025 ※1
or
Parts Kit No.5
95381-03225 ※2

2TR-FE

Parts Kit No.4
95381-03025 ※3
or
Parts Kit No.5
95381-03225 ※4

Parts Kit No.2
90080-11555 (2)

Parts Kit No.4
95381-03025 ※3
or
Parts Kit No.5
95381-03225 ※4

※1 1GR-FE 2WD
※2 1GR-FE 4WD, PRE-RUNNER
※3 2TR-FE 2WD
※4 2TR-FE 4WD, PRE-RUNNER

Front Differential

4WD ONLY

Parts Kit No.3
90311-47013

Parts Kit No.3
90311-47012

Parts Kit No.3
12157-10010

Parts Kit No.3
90430-24003

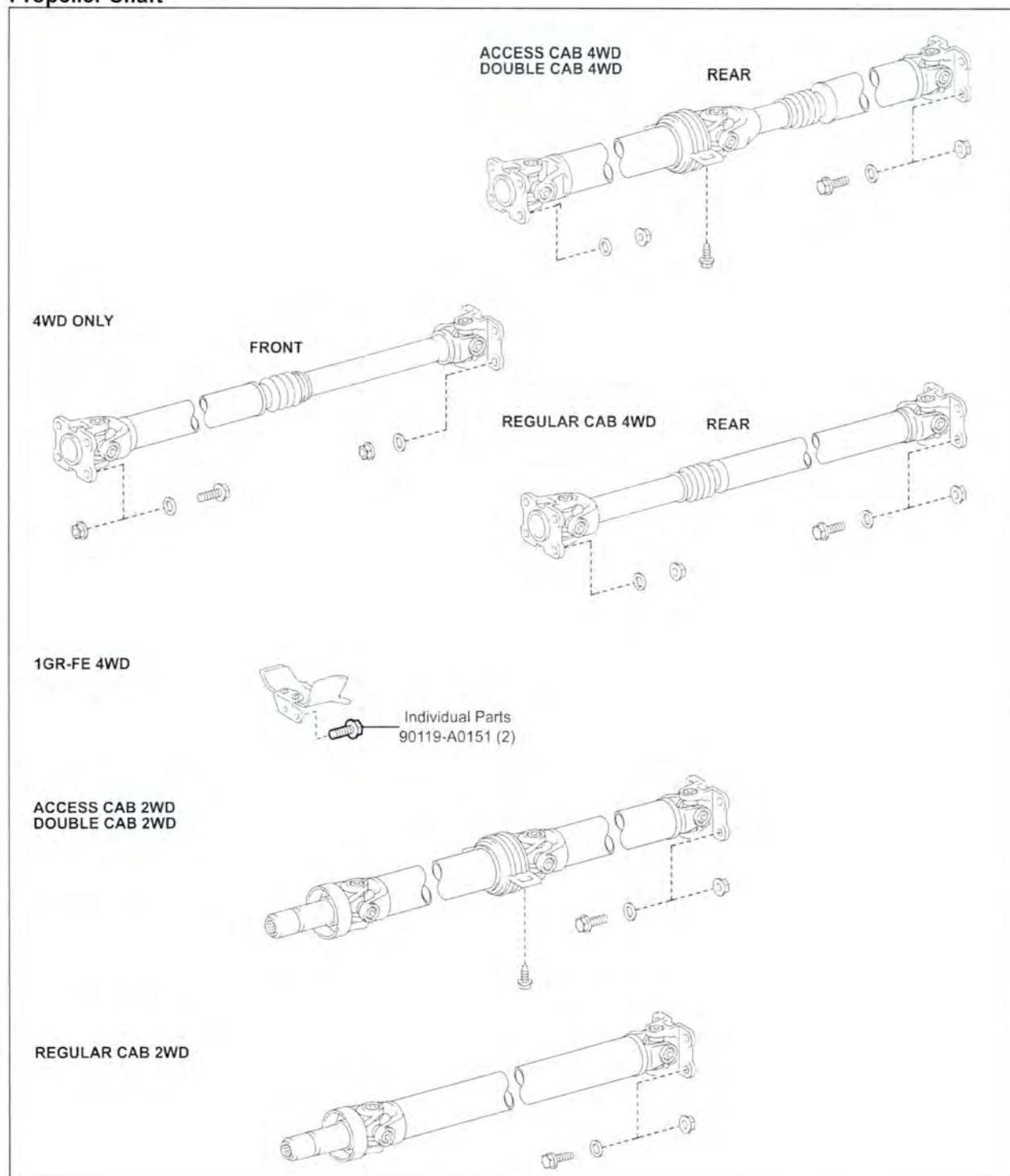
Engine Mounting

Parts Kit No.1
90179-10201 (4)

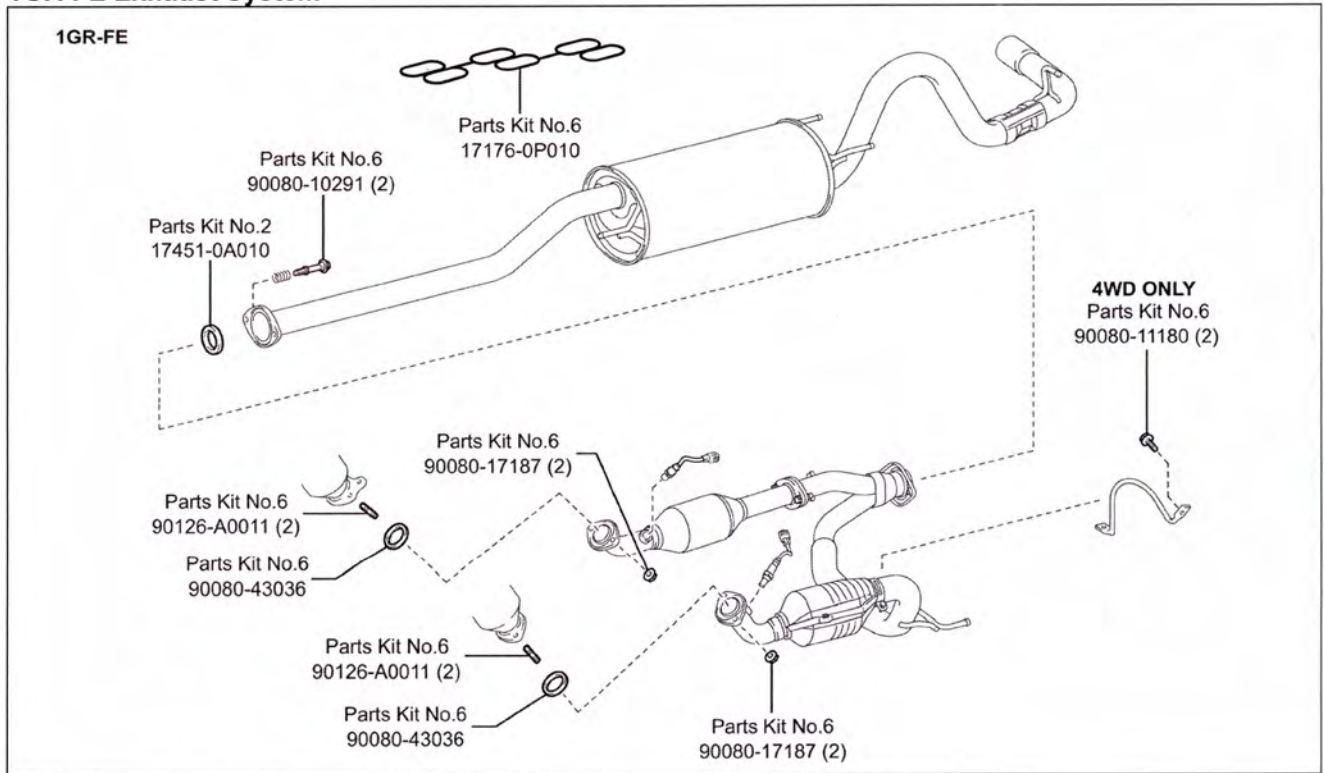
Parts Kit No.1
90910-03001 (4)

Parts Kit No.1
91671-80814 (4)

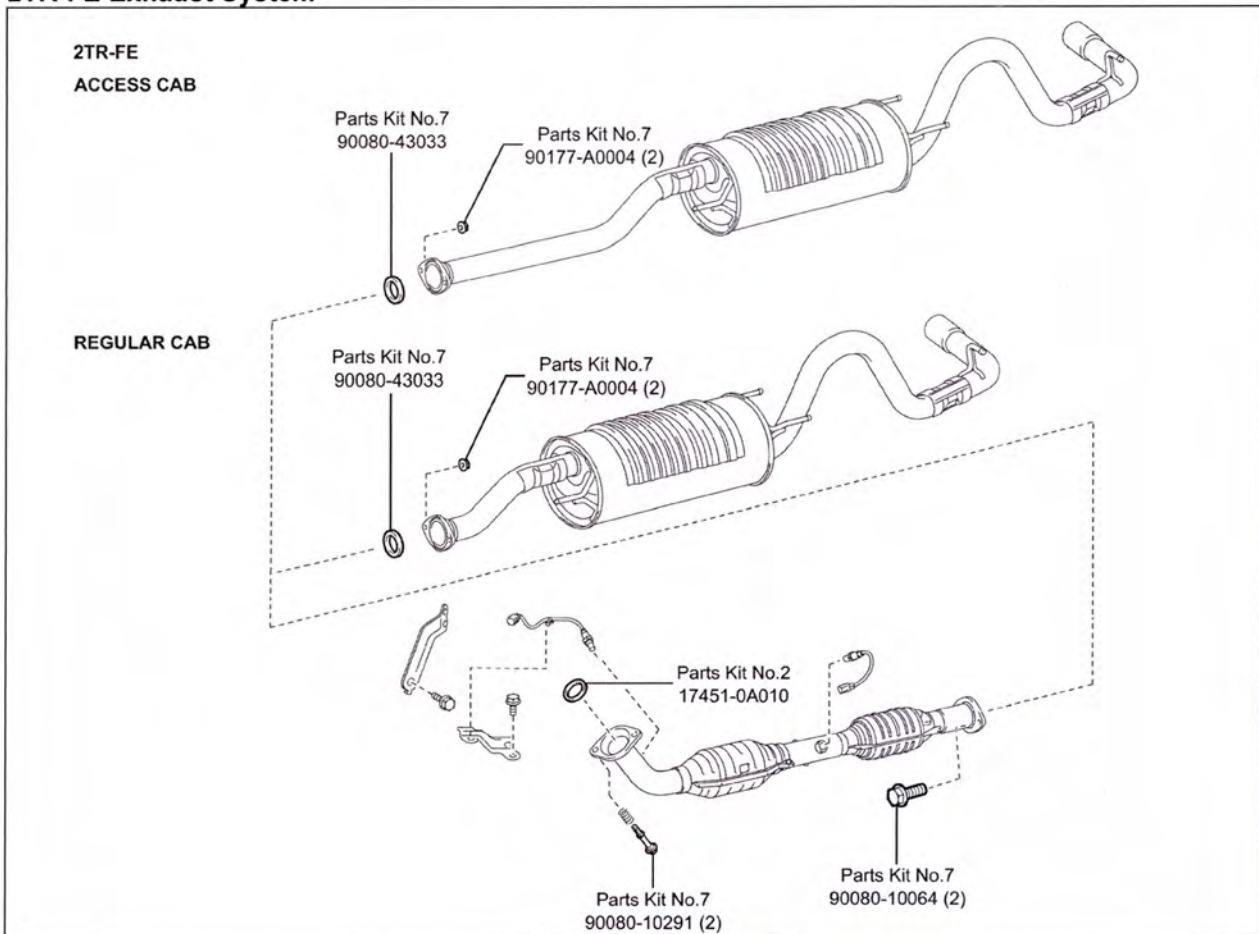
Propeller Shaft



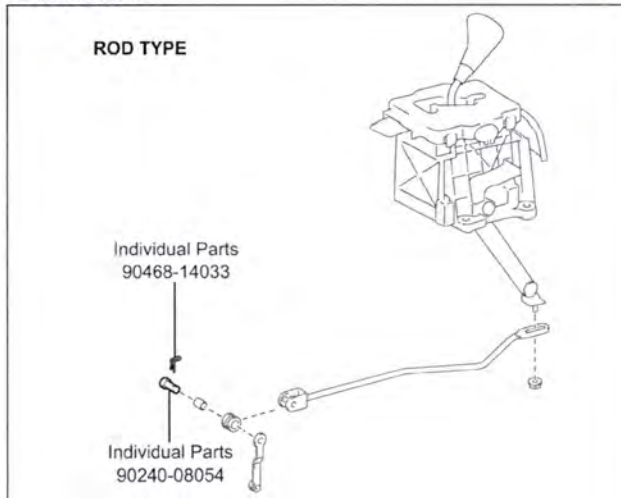
1GR-FE Exhaust System



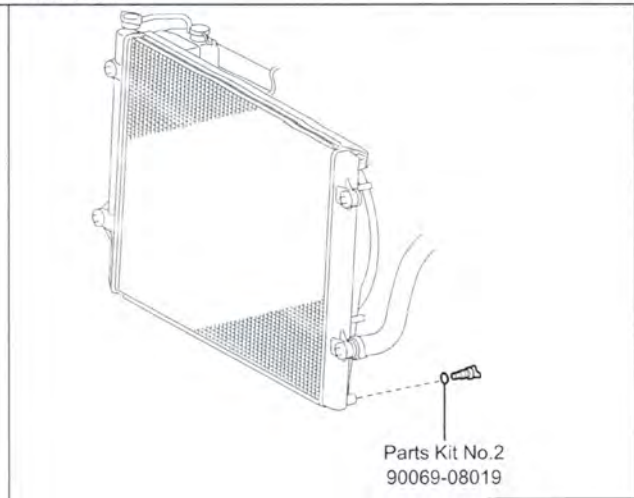
2TR-FE Exhaust System



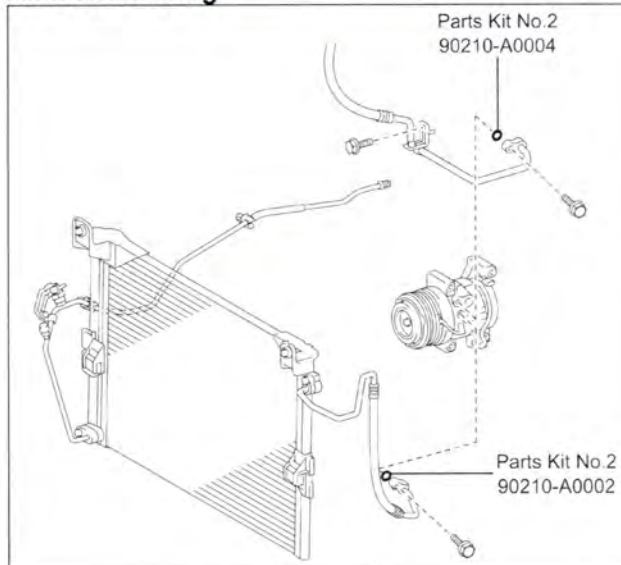
Shift Lever



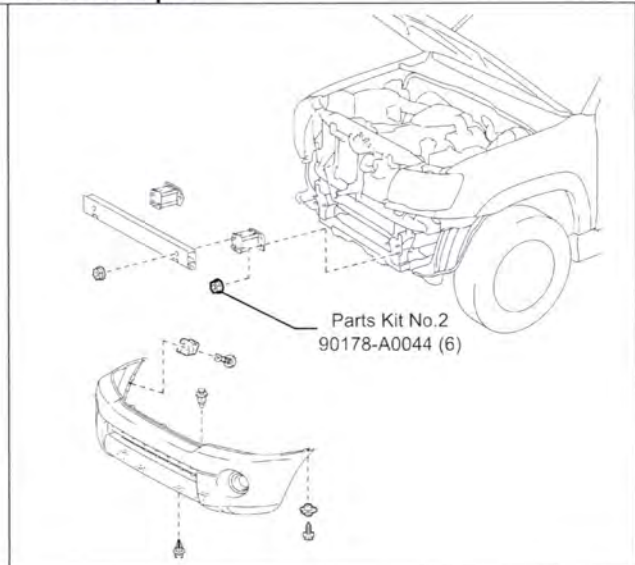
Radiator



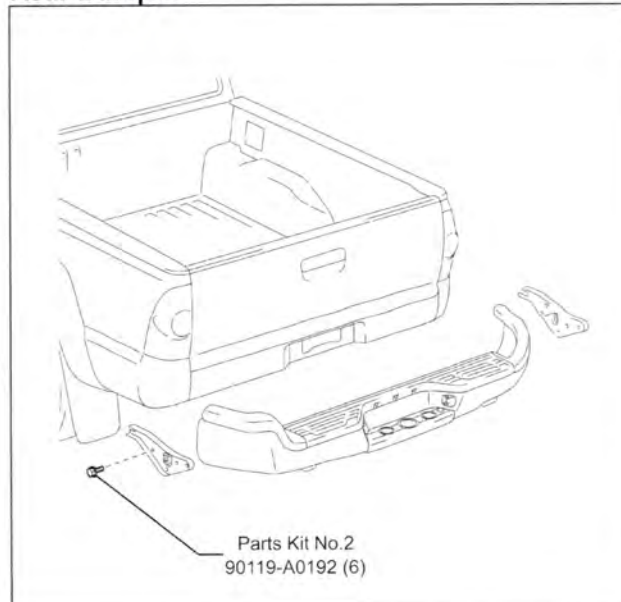
Air Conditioning



Front Bumper

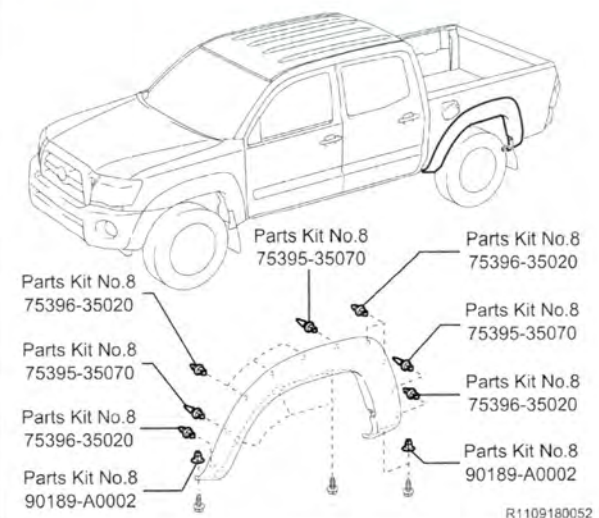


Rear Bumper



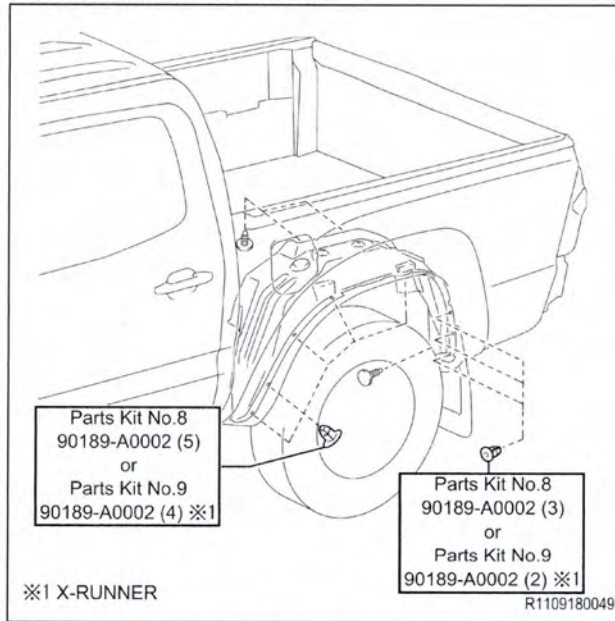
Molding

except X-RUNNER

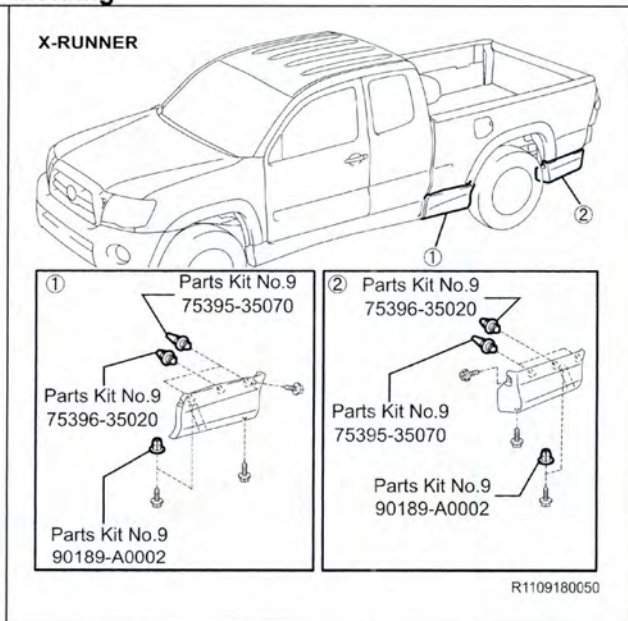


R1109180052

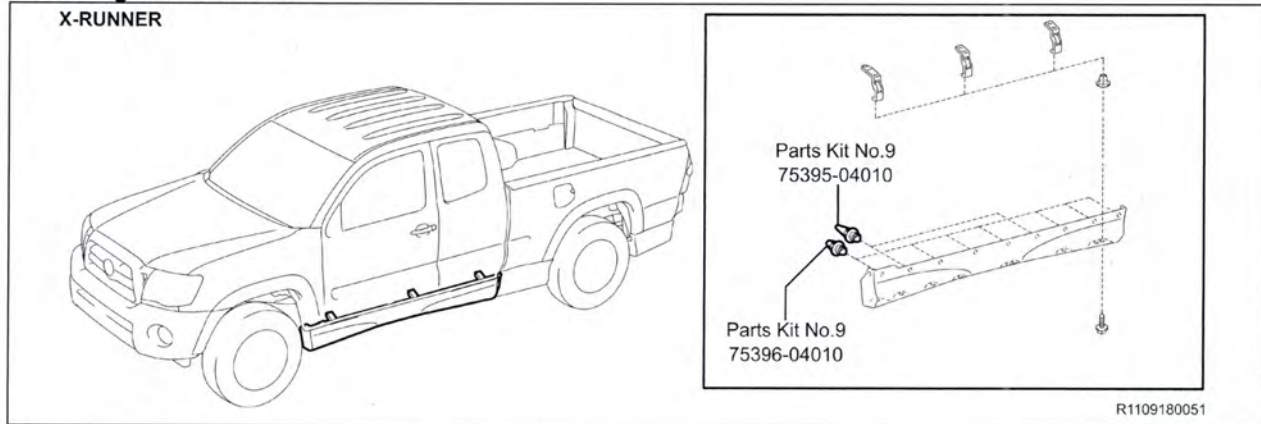
Rear Wheel House Liner



Molding

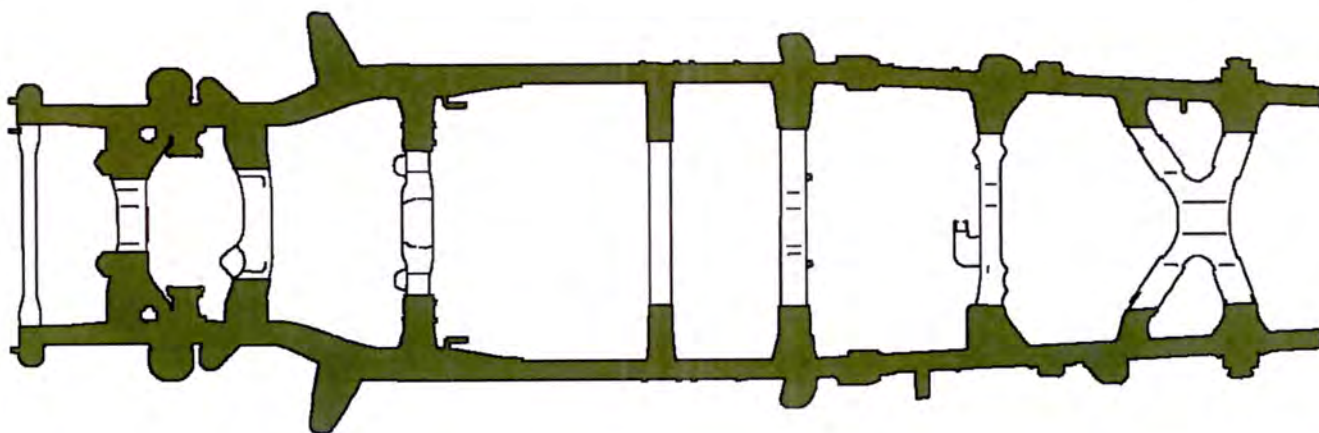


Moulding Continued...



III. FRAME INSPECTION

1. PERFORM INITIAL PRE-HOIST INSPECTION



2. VISUALLY INSPECT THE FRAME

- Remove the spare tire.
- Visually inspect the specific areas (highlighted in **green**) of the frame assembly as shown for visible signs of perforation.

Judgement Criteria	Result	Action
Perforation (hole) of 10 mm or more	NG	- Replace the frame - Proceed to section IV. VEHICLE INSPECTION below to begin the frame replacement process.
No perforation or perforation (hole) of less than 10 mm	OK	Apply corrosion-resistant compound according to the separate Technical Instruction

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

IV. VEHICLE INSPECTION



- Visually inspect both the vehicle interior and exterior. Note any damage found during the visual inspection prior to beginning work.
- 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 minimal labor cost.

V. FRAME REPLACEMENT WORK PROCEDURE

A. 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

B. REMOVE THE BED ASSY



- If the frame is perforated, **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.
- 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 found on TIS for the vehicle you are working on.

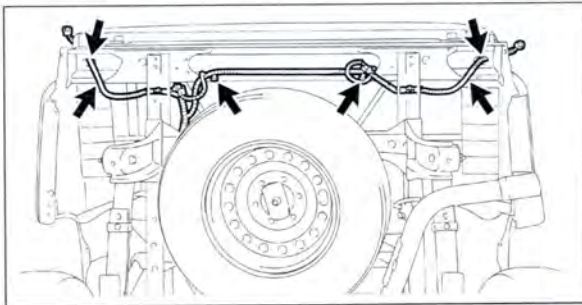
1. CENTER THE VEHICLE BETWEEN THE LIFT ARMS

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

2. REMOVE THE FOLLOWING PARTS

- Rear Bumper Assy
- Rear Tail/Combination Light LH/RH
- Rear Mudguard LH/RH (If Equipped)
- Side Step Assy LH/RH (If Equipped)
- Rocker Panel Molding LH/RH (If Equipped)
- Body Rocker Panel Molding Assy LH (If Equipped)
- Outside LH Back Door Molding Sub-Assy (If Equipped)
- Quarter Panel Wheel Opening Molding LH
- Left Rear Wheel Well Liner

NOTE: Be careful not to damage the rear tail/combination lights when removing them.

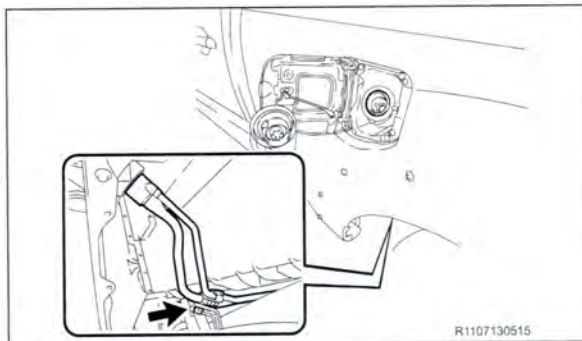


3. REMOVE THE WIRE HARNESS

- a) Disconnect the clamps, connectors and the frame wire harness from the bed assy.

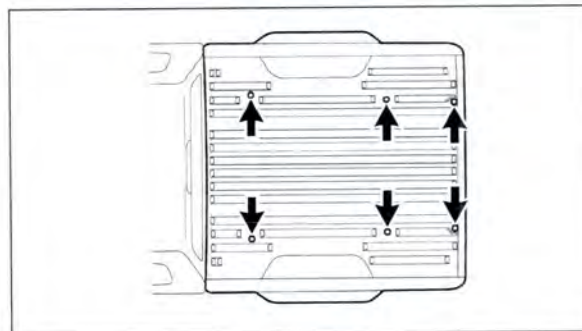
NOTE:

- 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 SUB-ASSY

- a) Remove the bolt and disconnect the fuel inlet pipe sub-assy.



5. REMOVE THE BED ASSY

- a) Using a Torx® T55H Socket, remove the 6 Torx® bolts from the bed assy.

NOTE:

- Use 4 or more people to remove the bed assy from the frame.
- Evenly support the bed assy when removing it.
- Be careful not to damage the filler tubes when removing the bed.

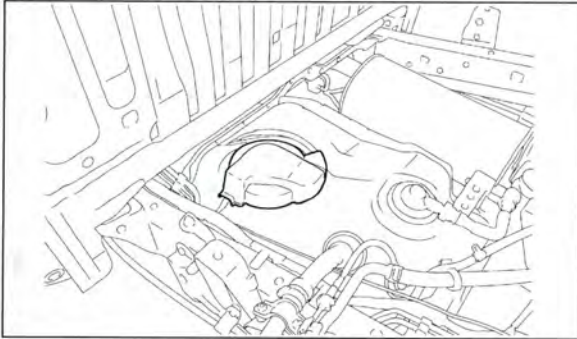
C. DISCHARGE THE FUEL SYSTEM PRESSURE



- **DO NOT** disconnect any part of the fuel system until you have discharged the fuel system pressure.
- Even after discharging the fuel system pressure, place a piece of cloth around the tubes, 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.
- For additional repair information, please reference the appropriate repair manual in TIS for the vehicle you are working on.

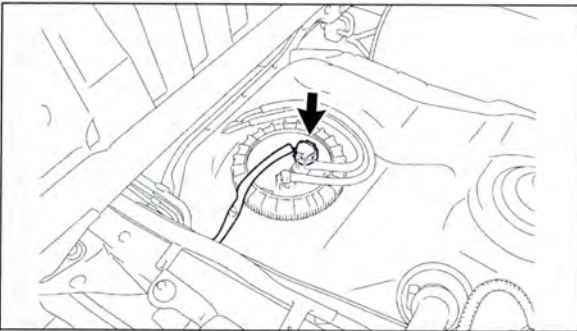
1. CHECK FOR DTCs

2. RECORD THE RADIO STATION PRESETS



3. DISCHARGE THE FUEL SYSTEM PRESSURE

- a) Remove the No. 2 fuel tank protector. *(If Equipped)*



- b) Disconnect the fuel pump connector.
c) Start the engine.
d) After the engine has stopped, turn the ignition switch OFF.
e) Crank the engine again to check that it does not start.

NOTE: Please make sure to follow the procedure listed above. This will prevent a large amount of gasoline from spilling out when high pressure fuel tube is disconnected.

4. DISCONNECT THE NEGATIVE (-) BATTERY TERMINAL

NOTE: Wait 90 seconds after the negative (-) terminal cable is disconnected from the battery before proceeding. Doing so will prevent the SRS from being deployed (i.e. airbag, seat belt pretensioner, etc.).

D. REMOVE THE CAB BODY ASSY



- If the frame is perforated, **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 vehicle when performing cab 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 the appropriate repair manual in TIS for the vehicle you are working on.

1. REMOVE THE ENGINE UNDER COVERS

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

2. EVACUATE THE REFRIGERANT FROM THE AIR CONDITIONING SYSTEM

3. DRAIN THE FOLLOWING FLUIDS

- Coolant (including engine block)
- Brake Fluid
- Clutch Fluid (*Manual Transmission Vehicles Of 1GR-FE Only*)
- Front Differential Fluid (4WD Only)

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

4. REMOVE THE FOLLOWING BODY COMPONENTS

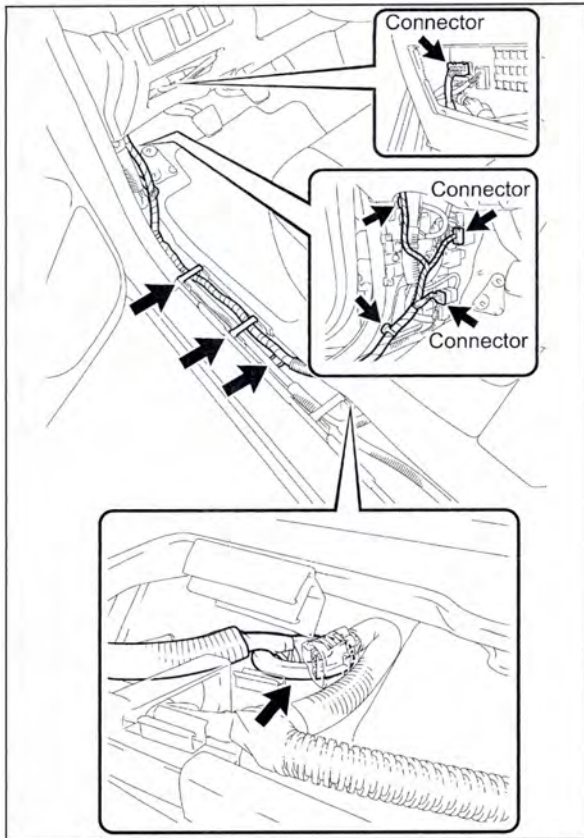
- Radiator Grille
- Front Bumper Filler LH/RH
- Front Fender Mudguard LH/RH
- Front Bumper Assy
- Front Bumper Reinforcement
- Front No.2 Bumper Extension Sub-assy LH/RH

5. REMOVE THE FOLLOWING INTERIOR COMPONENTS

- Front Door Scuff Plate LH/RH
- Front Floor Footrest
- Cowl Side Trim Board LH/RH



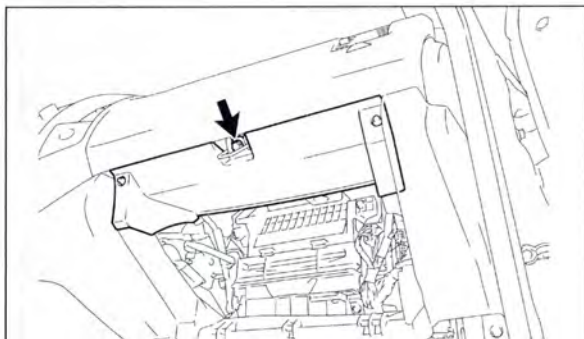
6. REMOVE THE INSTRUMENT PANEL BOX



7. DISCONNECT THE FRAME WIRE HARNESS

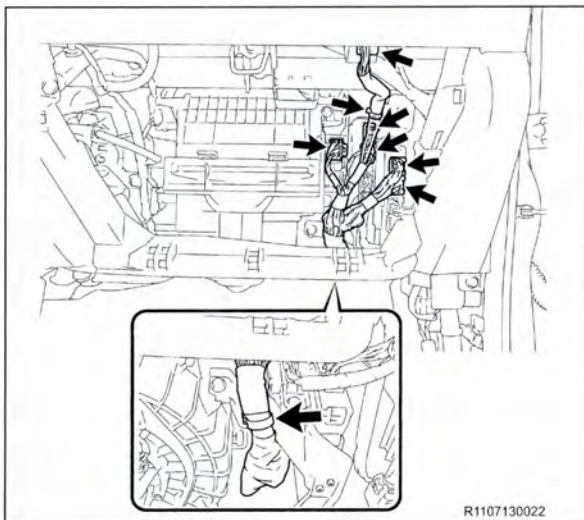
- a) Disconnect the 5 clamps.
- b) Disconnect the connector(s).
- c) Remove the frame wire harness grommet from the cab assy.
- d) Pull out the frame wire harness from the vehicle cab assy.

NOTE: The number of connectors may differ depending on the model.



8. REMOVE THE GLOVE BOX AND LOWER INSTRUMENT PANEL FINISH PANEL

- a) Remove the glove box.
- b) Remove the bolt and the lower instrument panel finish panel.



9. DISCONNECT THE ENGINE WIRE HARNESS

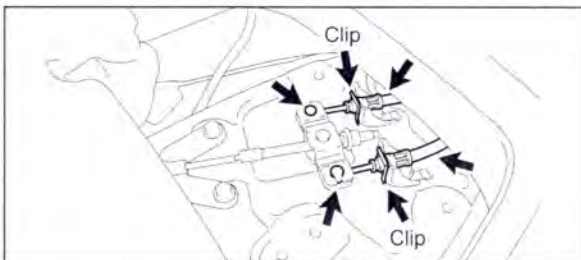
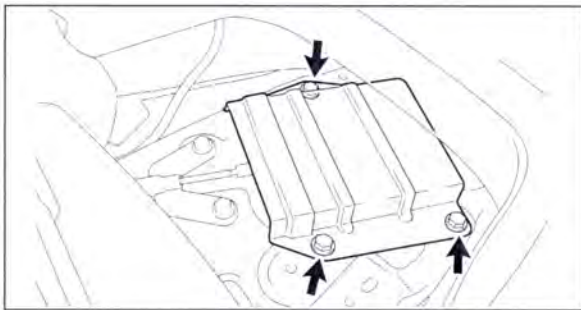
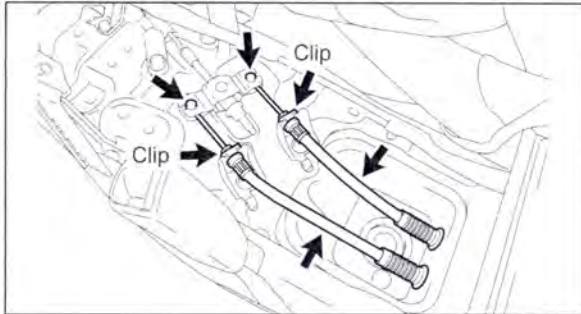
- a) Disconnect each connector and clamp from the ECM and remove the engine wire harness.

NOTE: The number of connectors may differ depending on the model.

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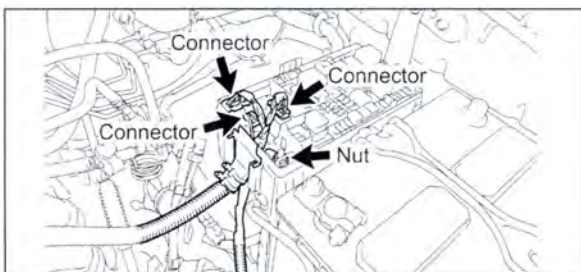
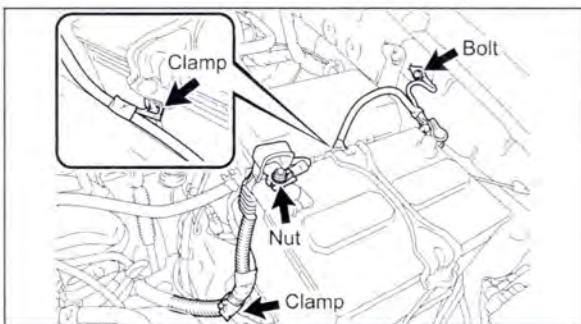
10. REMOVE THE FOLLOWING PARTS

- Rear Console Box (*for Separate Seat Type*)
- Front Console Box
- Voltage Inverter Assy (*If Equipped*)
- Manual Transmission Shift Lever (*Manual Trans Vehicles Only*)



12. REMOVE THE FOLLOWING PARTS

- V-Bank Cover (*1GR-FE Only*)



11. DISCONNECT THE PARKING BRAKE CABLES

For Separate Seat Type:

- Remove the 2 clips.
- Disconnect the 2 parking brake cables.

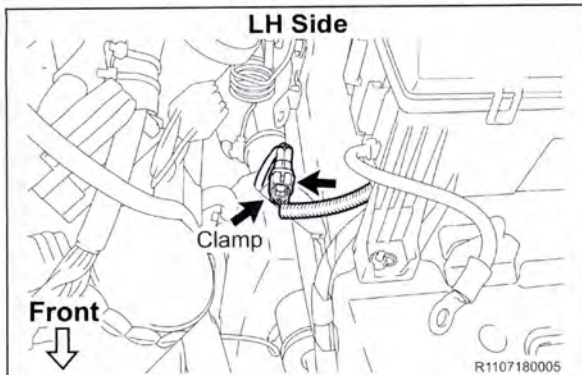
For Bench Seat Type:

- Turn back the floor carpet.
- Remove the 3 bolts and the parking brake cable joint protector.

- Remove the 2 clips.
- Disconnect the 2 parking brake cables.

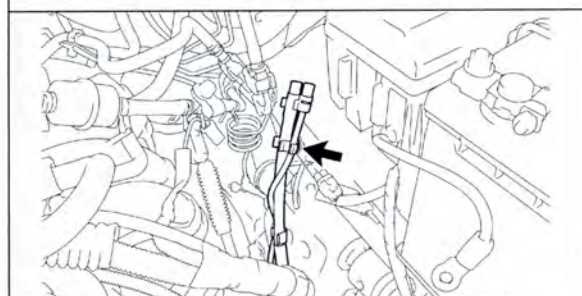
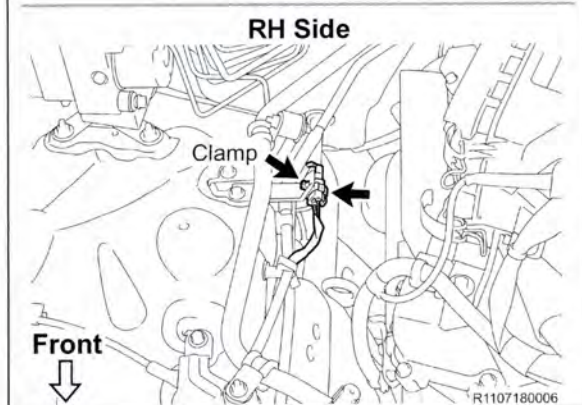
13. DISCONNECT THE NO.2 ENGINE WIRE HARNESS

- Remove the nut and disconnect the (+) positive battery cable.
- Remove the bolt and disconnect the ground wire.
- Disconnect the 2 clamps.
- Remove the No.1 upper relay block cover.
- Disconnect the 3 connectors.
- Remove the nut and disconnect the fuse box wire harness.



14. DISCONNECT THE SKID CONTROL SENSOR WIRE HARNESS

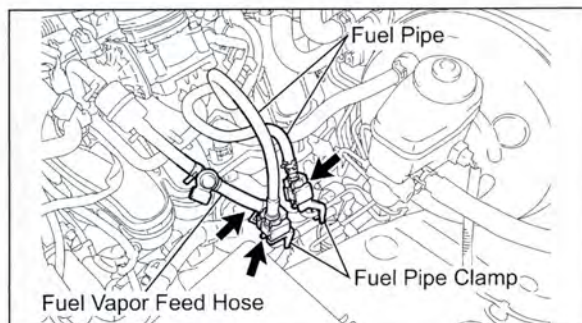
- Disconnect the harness clamp and front skid control sensor connector.
- Repeat the procedure on the opposite side.



15. DISCONNECT THE FRONT DIFFERENTIAL BREATHER TUBES (4WD ONLY)

- Disconnect the front differential breather tubes.

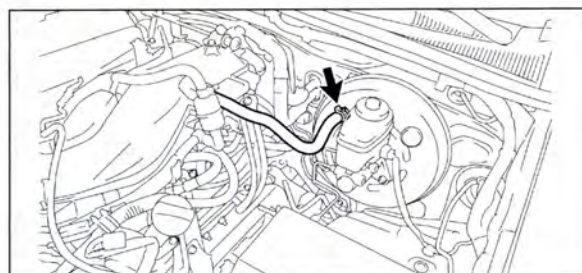
NOTE: There may be 2 front differential breather tubes depending on the vehicle model.



16. DISCONNECT THE FUEL PIPES AND VAPOR FEED HOSE

- Remove the 2 fuel pipe clamps.
- Disconnect the No. 1 and No. 2 fuel pipe.

NOTE: Put a shop towel under the fuel pipe to catch any spilled fuel.

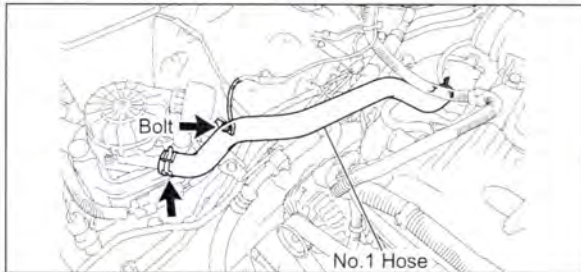


17. DISCONNECT THE VACUUM HOSE

- Disconnect the vacuum hose.

18. REMOVE THE FOLLOWING PARTS

- Radiator Support To Frame Seal
- Radiator Inlet Hose
- Radiator Outlet Hose
- Fan Shroud
- Radiator Assy

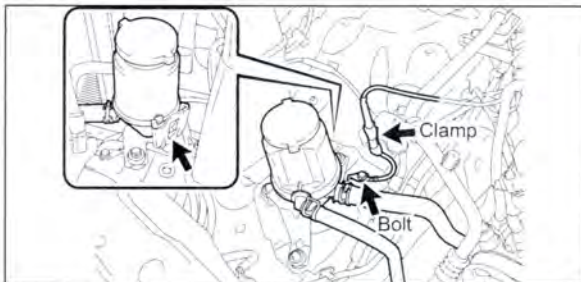


19. DISCONNECT THE NO.1 HOSE (2TR-FE ONLY)

- Disconnect the No.1 hose.

20. DISCONNECT THE GROUND WIRE (2TR-FE ONLY)

- Remove the bolt and disconnect the ground wire.

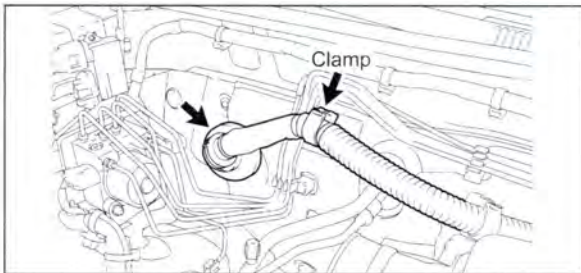


21. DISCONNECT POWER STEERING PUMP OIL RESERVOIR ASSY (1GR-FE ONLY)

- Disconnect power steering pump oil reservoir assy.

22. DISCONNECT THE GROUND WIRE (1GR-FE ONLY)

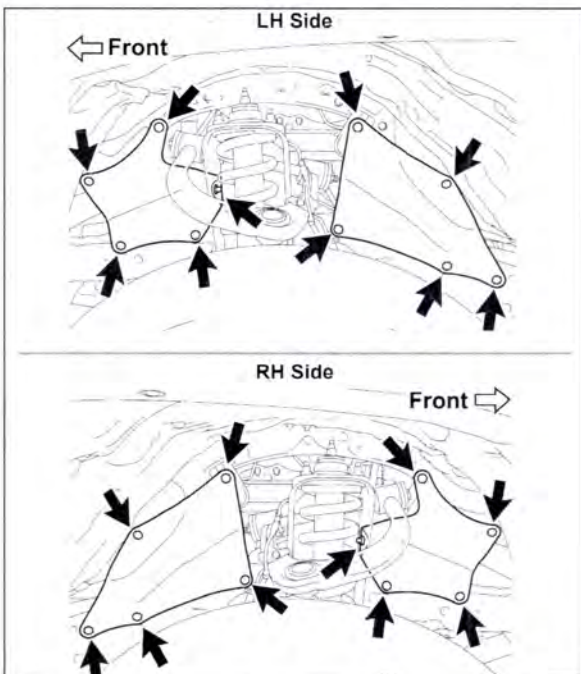
- Remove the bolt and disconnect the clamp and the ground wire.



23. DISCONNECT THE ENGINE WIRE HARNESS

- Disconnect the clamp.
- Remove the engine wire harness container from the cowl panel.

24. DISCONNECT THE WATER / HEATER HOSES, ENGINE SIDE



25. REMOVE THE FRONT FENDER APRON SEALS

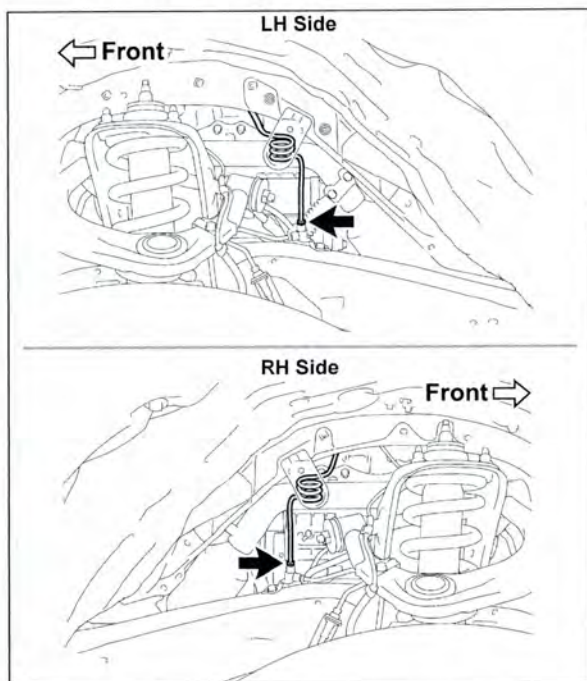
4WD, Pre-Runner Only (Shown):

- Remove the 20 clips and 4 front fender apron seals.

2WD Only:

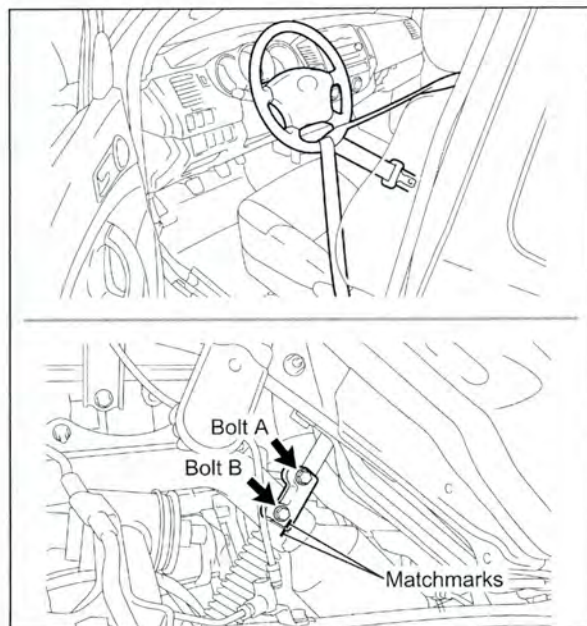
- Remove the 22 clips and 4 front fender apron seals.

26. DISCONNECT THE AIR CONDITIONING DISCHARGE AND SUCTION HOSES FROM THE COMPRESSOR



27. DISCONNECT THE FRONT BRAKE TUBES

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

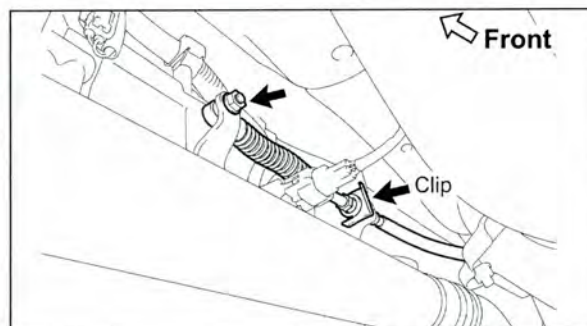


28. DISCONNECT THE STEERING SLIDING YOKE

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.
- Using the seat belt, hold the steering wheel in position as shown in the illustration, in order to prevent damage to the spiral cable.
- Place match marks on the steering sliding yoke and No.2 intermediate shaft.
- Loosen bolt (A) and remove bolt (B).
- Disconnect the steering sliding yoke from the No.2 intermediate shaft.

NOTE: If the steering sliding yoke is stuck, tap it from below with a brass hammer to disconnect it.



29. DISCONNECT THE SHIFT CABLE (AUTO TRANS ONLY)

Cable Type:

- Remove the clip.
- Remove the nut and disconnect the shift cable.

Rod Type:

- Remove the pin and clip, disconnect the shift cable.

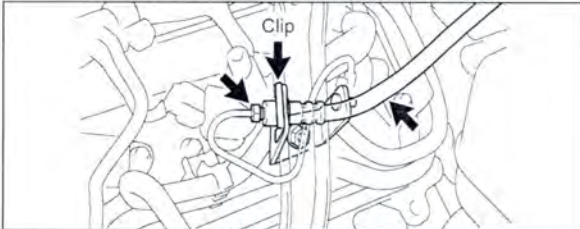
NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.



**30. DISCONNECT THE CLUTCH RELEASE CYLINDER ASSY
(2TR-FE MANUAL TRANS ONLY)**

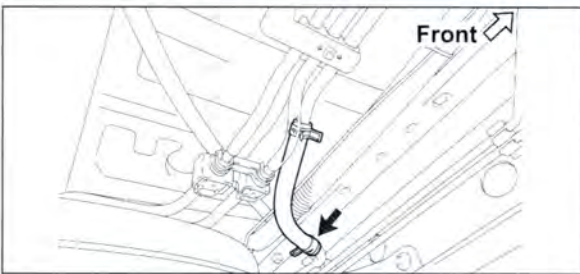
- a) Remove the bolt and disconnect the clutch hose.
- b) Remove the 2 bolts and disconnect the clutch release cylinder.

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



**31. DISCONNECT THE NO.1 CLUTCH HOSE
(1GR-FE MANUAL TRANS ONLY)**

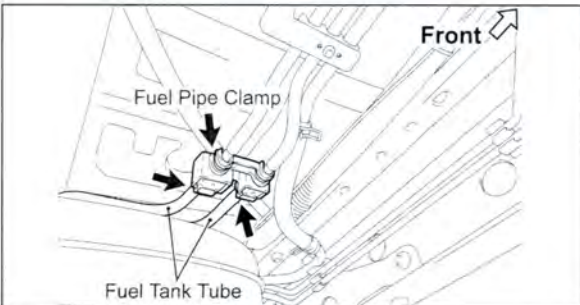
- a) Disconnect the clutch release cylinder tube from the clutch hose.
- b) Remove the clip and disconnect the clutch hose.



32. DISCONNECT THE NO.2 FUEL HOSE

- a) Remove the clip and disconnect the No.2 fuel hose.

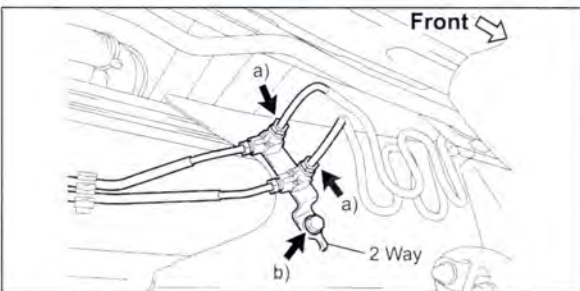
NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.



33. DISCONNECT THE FUEL TANK TUBES

- a) Remove the fuel pipe clamp.
- b) Disconnect the 2 fuel tank tubes.

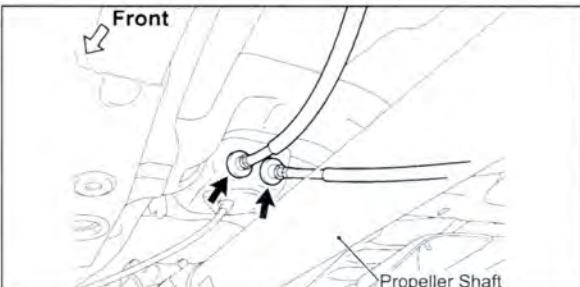
NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.



34. DISCONNECT THE REAR BRAKE TUBES

- a) Disconnect the 2 rear brake tubes.
- b) Remove the bolt and disconnect the 2 way.

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



35. DISCONNECT THE PARKING BRAKE CABLES

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

36. REMOVE THE FOLLOWING PARTS

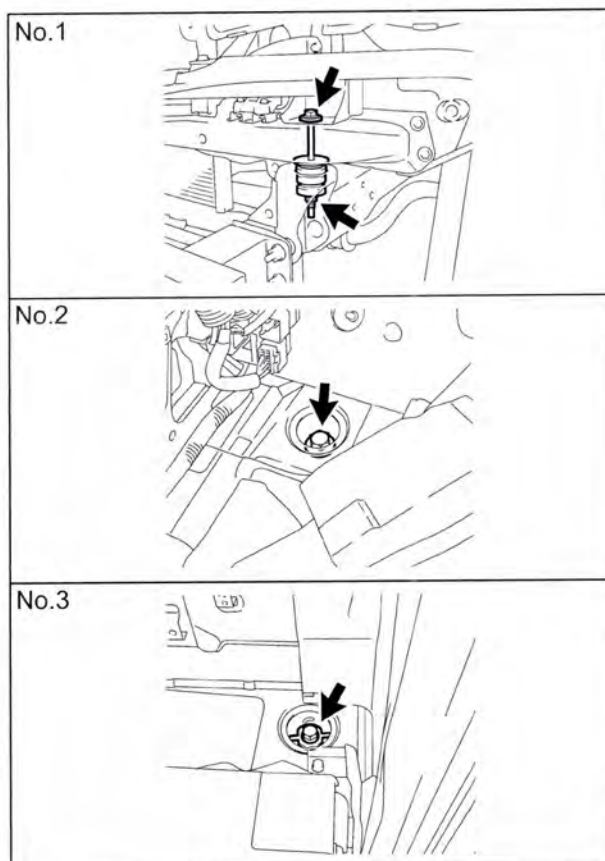
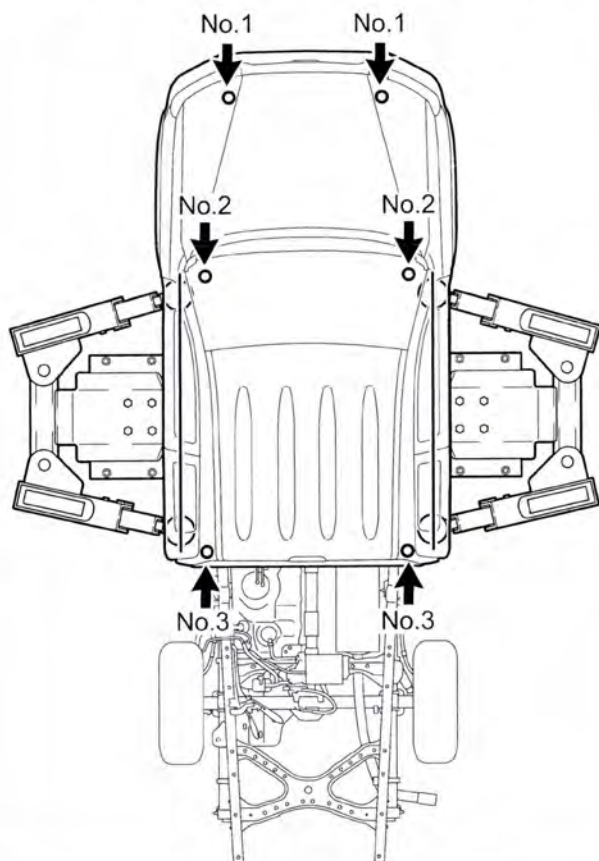
- Floor Board No.1/No.2 (*Access Cab Only*)
- Seat Floor Box (*Access Cab Only*)
- Rear Floor Side Service Hole Cover LH/RH (*Access Cab Only*)
- Luggage Compartment Side Tray (*Double Cab Only*)
- No.1 w/ Box Speaker Assy (*If Equipped*)

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

- 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.
- Mark the location of the tires so it will be easier to install the cab onto the new frame.
- 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 vehicle.
- 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.
- The center of gravity of the cab body may become nose heavy depending on placement of the lift arm which could cause the cab to fall when lifted. To prevent this, use weights to establish a balance and secure the cab body to the lift arm using ratchet tie down belts.
- **DO NOT** work directly underneath the vehicle when pulling the frame assy out from under.
- **DO NOT** remove the cab mount bolts, they will be used as guides during cab assy reinstallation.



E. DISASSEMBLE THE FRAME

1. PLACE THE FRAME ON A LIFT

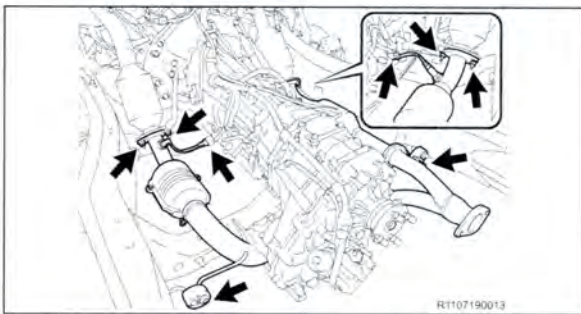
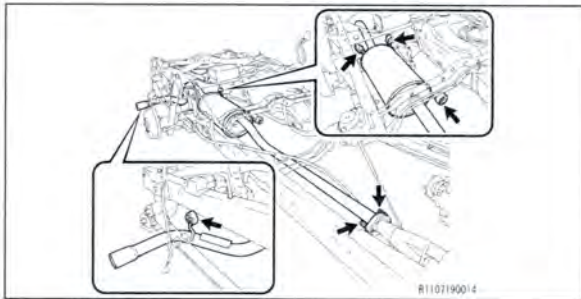
- Place the frame on the lift, and secure it with a ratcheting tie down strap. This will prevent the frame from tilting or falling off as parts are removed.

- **Ratcheting Tie Downs: Qty 1 (Length: 2 in X 27 ft and Min. Work Load Capacity: 3,000 lbs)**

2. REMOVE THE FOLLOWING PARTS

- Wheels
- Front Propeller Shaft Assy (4WD Only)
- Rear Propeller Shaft Assy
 - Insert **SST 09325-40010** into trans after the Rear Prop Shaft is removed to prevent oil leakage (2WD Only)
- Propeller Shaft Heat Insulator (If Equipped)
- Exhaust Pipe Stopper Bracket (If Equipped)

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

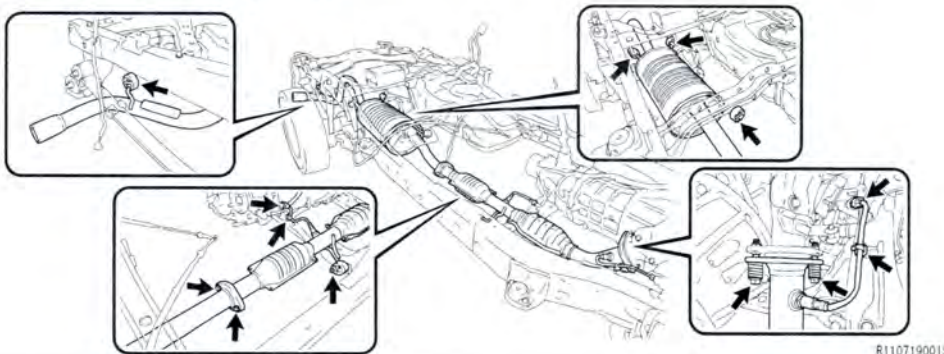


3. REMOVE THE EXHAUST SYSTEM (1GR-FE ONLY)

- Remove the 2 bolts and 4 exhaust pipe supports.
- Remove the center exhaust pipe assy and exhaust pipe supports.
- Remove the exhaust pipe gasket.
- Disconnect the 2 oxygen sensor connectors.
- Remove the 6 nuts and 2 exhaust pipe supports.
- Remove the front exhaust pipe assy and exhaust pipe supports.
- Remove the 2 exhaust pipe gaskets.

4. REMOVE THE EXHAUST SYSTEM (2TR-FE ONLY)

- Remove the 2 bolts and 4 exhaust pipe supports.
- Remove the center exhaust pipe assy and exhaust pipe supports.
- Remove the exhaust pipe gasket.
- Disconnect the 2 oxygen sensor connectors.
- Disconnect the 2 oxygen sensor wire harness clamps.
- Remove the 2 bolts and exhaust pipe support.
- Remove the front exhaust pipe assy and exhaust pipe supports.
- Remove the 2 exhaust pipe gaskets.



5. REMOVE THE FOLLOWING PARTS

- No.1 Fuel Tank Protector Assy (If Equipped)
- Fuel Tank Strap
- Fan /V-belt
- Fuel Tank
- Charcoal Canister Assy

6. REMOVE AND SET ASIDE THE POWER STEERING PUMP ASSY

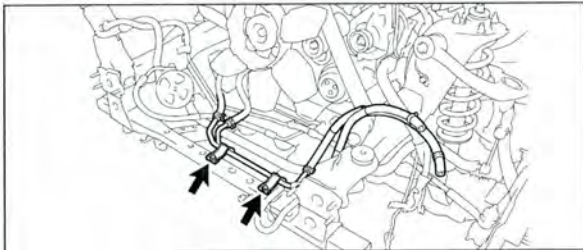
- Disconnect the connector.
- Disconnect the clamp. (1GR-FE Only)
- Remove the bolt and disconnect the ground wire. (1GR-FE Only)
- Remove the 2 bolts and the power steering vane pump.

NOTE:

- DO NOT disconnect the power steering pump hoses or tubes.
- Keep the power steering pump reservoir upright to prevent the fluid from leaking out.

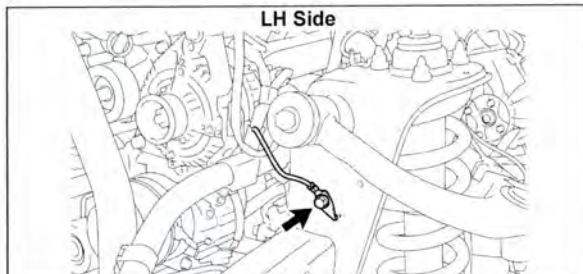
7. REMOVE THE FOLLOWING PARTS

- Intake Air Surge Tank (1GR-FE Only)
- Intake Air Connector (2TR-FE Only)



8. DISCONNECT THE OIL COOLER TUBE (AUTO TRANS ONLY)

- Remove the bolts and disconnect the oil cooler tube.



9. REMOVE THE ENGINE AND TRANSMISSION ASSY

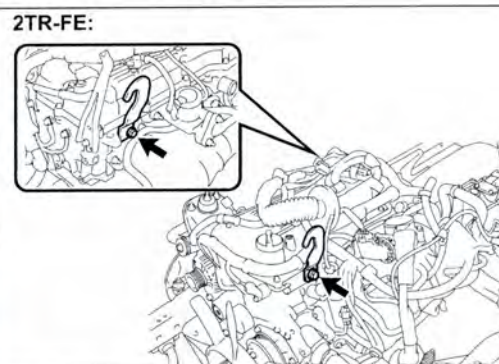
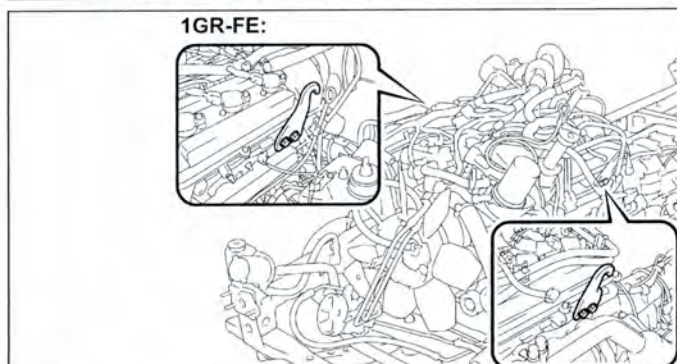
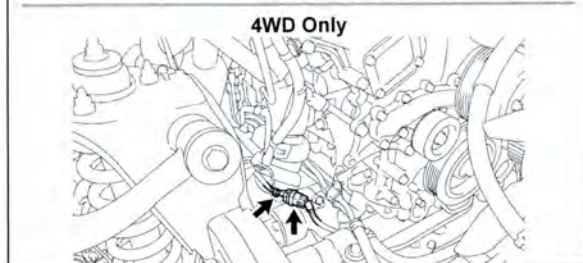
- Remove the bolt and disconnect the ground wire. (LH Side)
- Disconnect the connector and clamp. (4WD Only)
- Disconnect and remove the necessary items/parts to prepare the engine and transmission assy for removal.
- Install the engine hanger.

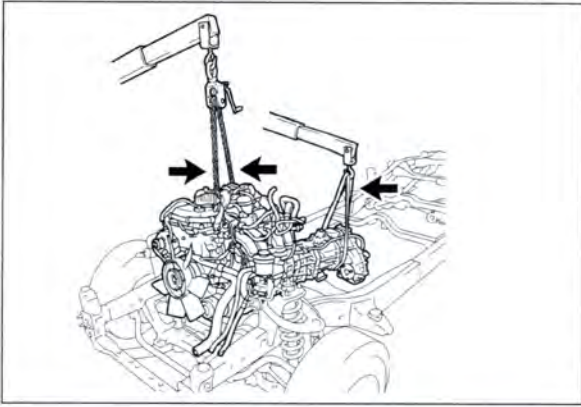
For 1GR-FE:

12281-31060 = No.1 Engine Hanger
12282-31040 = No.2 Engine Hanger
90119-08A87 = 4 Bolts

For 2TR-FE:

12281-75040 = No.1 Engine Hanger
12281-75040 = No.2 Engine Hanger
91552-A1020 = 2 Bolts

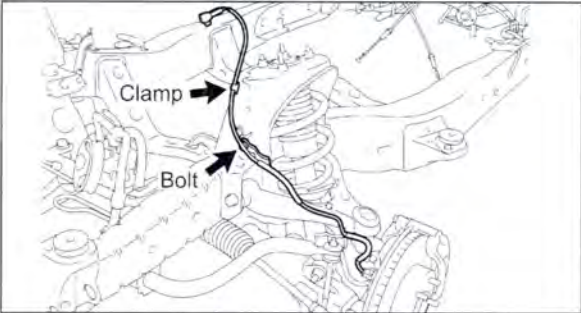




e) Remove the engine and transmission assy.

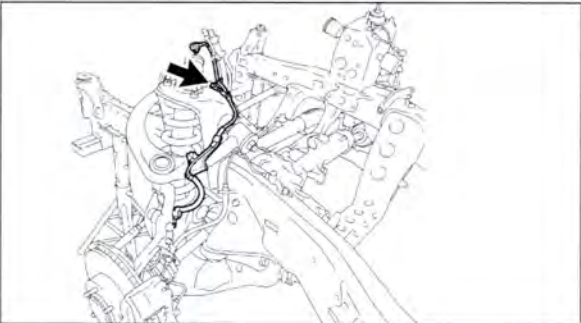
NOTE:

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



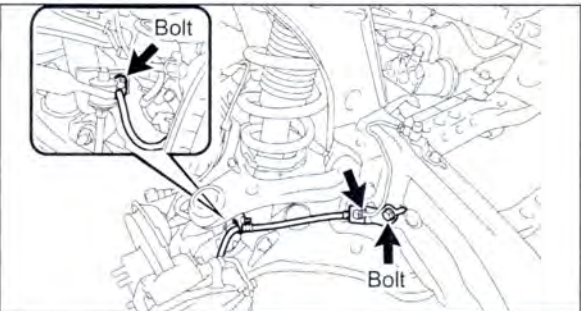
10. DISCONNECT THE FRONT SKID CONTROL SENSOR WIRE HARNESS (2WD ONLY)

- Remove the bolt, disconnect the clamp and skid control sensor wire harness.
- Repeat the procedure on the opposite side.



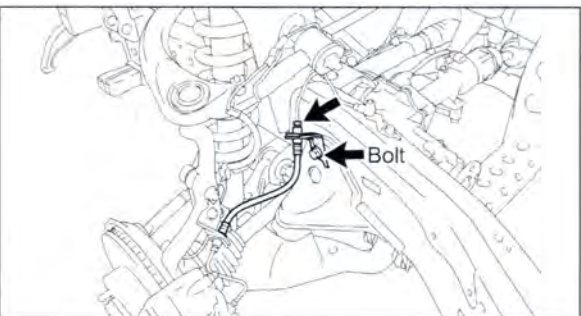
11. DISCONNECT THE FRONT SKID CONTROL SENSOR WIRE HARNESS (4WD, PRE-RUNNER ONLY)

- Remove the bolt and disconnect the skid control sensor wire harness.
- Repeat the procedure on the opposite side.



12. DISCONNECT THE FRONT BRAKE HOSE (2WD ONLY)

- Disconnect the front brake tube from the brake hose.
- Remove the 2 bolts and disconnect the front brake hose and flexible hose bracket.
- Repeat the procedure on the opposite side.



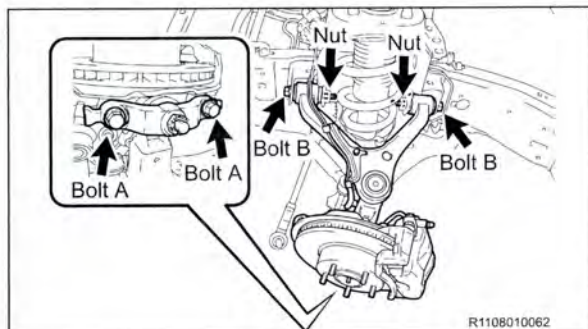
13. DISCONNECT THE FRONT BRAKE HOSE (4WD, PRE-RUNNER ONLY)

- Disconnect the front brake tube from the brake hose.
- Remove the bolt and disconnect the front brake hose and flexible hose bracket.
- Repeat the procedure on the opposite side.

14. REMOVE THE FOLLOWING PARTS

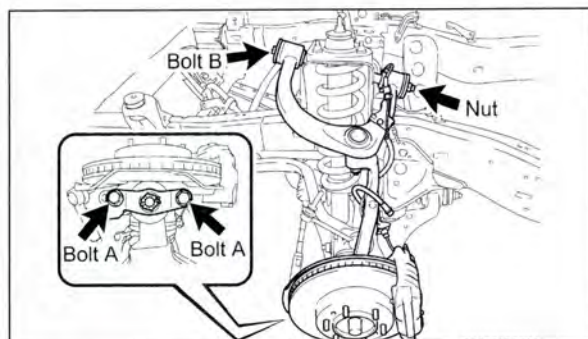
- Front Axle Hub Grease Cap (4WD Only)
- Front Axle Shaft Nut (4WD Only)
- Tie Rod End*
- Front Stabilizer Link Assy

* SST 09610-20012 (2WD), SST 09628-62011 (4WD, Pre-Runner) disconnect the tie rod end.



15. REMOVE THE FRONT SUSPENSION UPPER ARM AND STEERING KNUCKLE ASSY (2WD ONLY)

- Remove the 2 bolts (A).
- Remove the 2 bolts (B), 2 nuts, 2 washers and front suspension upper arm w/ steering knuckle.
- Repeat the procedure on the opposite side.



16. REMOVE THE FRONT SUSPENSION UPPER ARM AND STEERING KNUCKLE ASSY (4WD, PRE-RUNNER ONLY)

- Remove the 2 bolts (A).
- Remove the bolt (B), nut, 2 washers and front suspension upper arm w/ steering knuckle.
- Repeat the procedure on the opposite side.

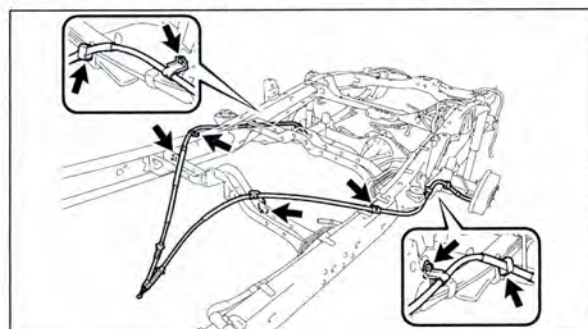
NOTE: If the drive shaft is difficult to disconnect, tap the drive shaft loose with a plastic hammer.

17. REMOVE THE FOLLOWING PARTS

- Front Drive Shaft Assy (4WD Only)*
 - Front Suspension Member Brace Sub-Assembly
 - Front Stabilizer Bar
 - Front Shock Absorber Assy
 - Power Steering Link Assy w/ Pump
 - Front Differential Carrier (4WD Only)
 - Lower Ball Joint**
 - Front Spring Bumper***
- *SST 09520-24010 (09520-32040), 09520-01010
 - **SST 09628-00011
 - ***SST 09922-10010-01

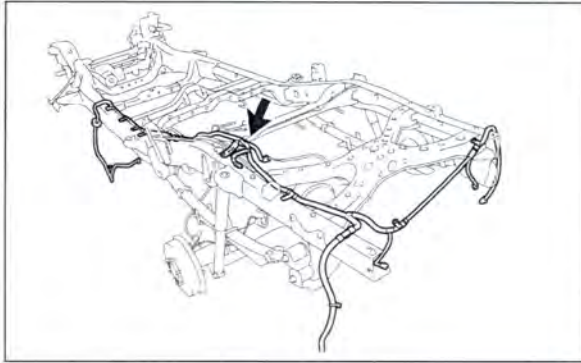
NOTE:

- When removing the power steering link with the pump, have one person support the power steering link and the other support the pump and keep it upright to avoid fluid leakage.
- 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.



18. REMOVE THE PARKING BRAKE CABLES

- Remove the 8 bolts and parking brake cables.

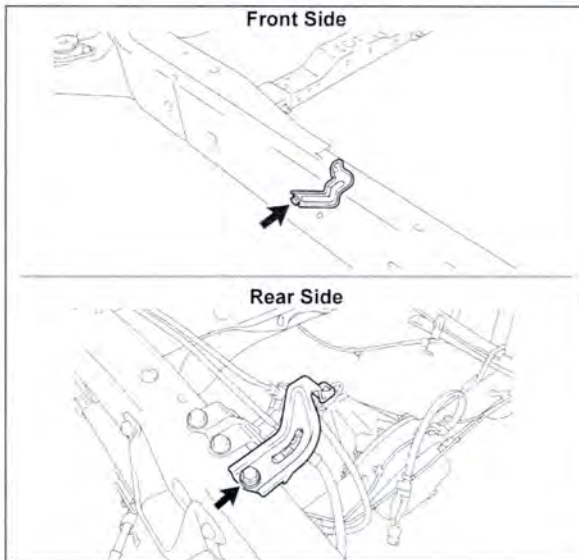


19. REMOVE THE FRAME WIRE HARNESS

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

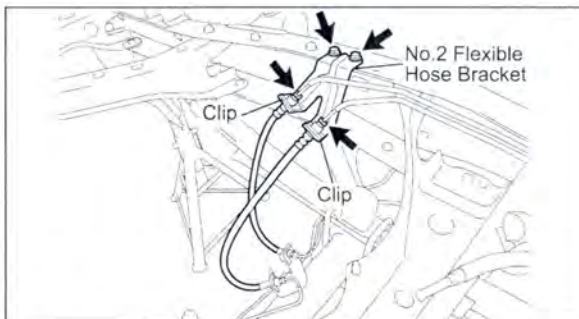
NOTE:

- 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.



20. REMOVE THE HARNESS BRACKETS

- Remove the 2 bolts and 2 brackets.



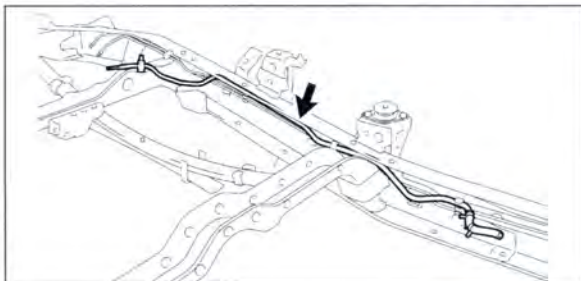
21. DISCONNECT THE BRAKE HOSE

- Disconnect the No.5 rear brake tube.
- Disconnect the No.6 rear brake tube.
- Remove the 2 clips and 2 bolts, disconnect the brake hose and the No.2 flexible hose bracket.

22. REMOVE THE FOLLOWING PARTS

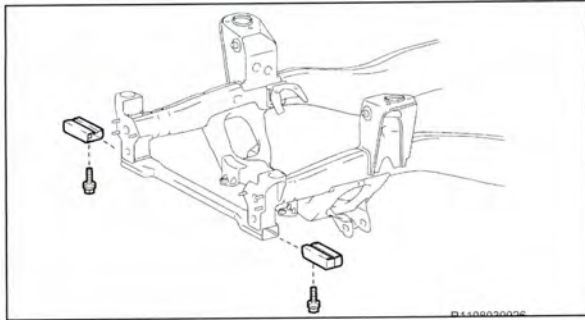
- Rear Stabilizer Bar *(If Equipped)*
- Rear Shock Absorber Assy
- Rear Differential Assy
- No.1 Rear Spring Bumper *(2WD Only)*

NOTE: Cut the rear differential "U" bolts off if the nuts cannot be removed.



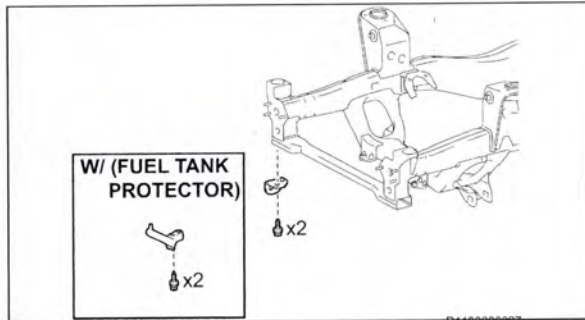
23. REMOVE THE NO.2 CHARCOAL CANISTER PIPE

- Disconnect the clamps and remove the No.2 charcoal canister pipe.



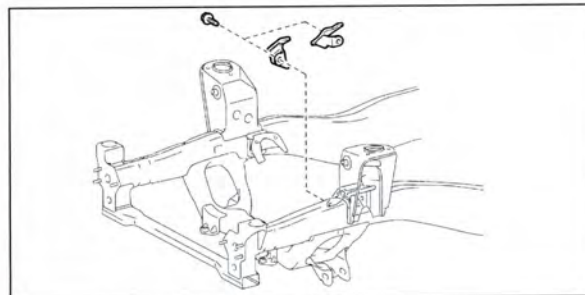
24. REMOVE THE FRAME AUXILIARY CROSSMEMBER EXTENSIONS (IF EQUIPPED)

- a) Remove the 2 bolts and frame auxiliary crossmember extensions.



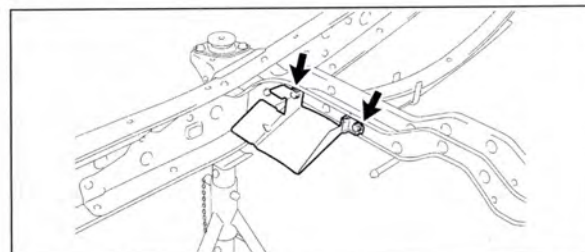
25. REMOVE THE HOOK

- a) Remove the 2 bolts and hook.



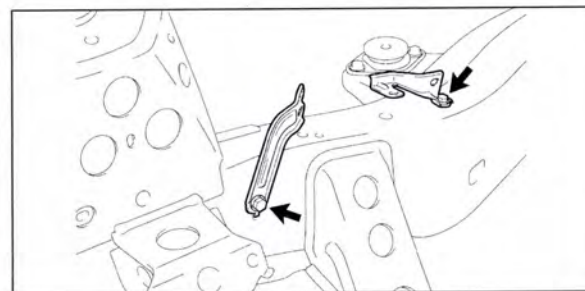
26. REMOVE THE REAR ENGINE MOUNTING REINFORCES (1GR-FE ONLY)

- a) Remove the 2 bolts and 2 rear engine mounting reinforces.



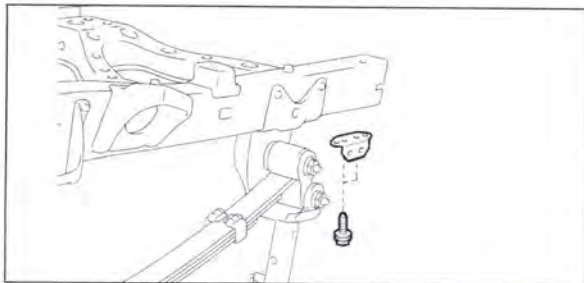
27. REMOVE THE PARKING BRAKE CABLE HEAT INSULATOR (IF EQUIPPED)

- a) Remove the 2 bolts and parking brake cable heat insulator.



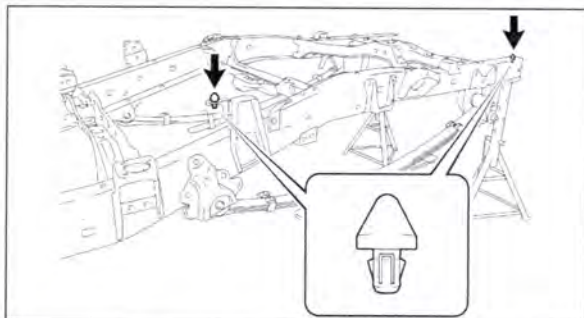
28. REMOVE THE OXYGEN SENSOR BRACKETS (2TR-FE ONLY)

- a) Remove the 2 bolts and 2 brackets.



29. REMOVE THE NO.1 RECEIVER HITCH ATTACHMENT REINFORCEMENT (IF EQUIPPED)

- a) Remove the 2 bolts and No.1 receiver hitch attachment reinforcement.



30. REMOVE THE CLIPS

31. REMOVE THE FOLLOWING PARTS

- Front Suspension Lower Arm
- Cab Mounts (QTY:6)
- Rear Leaf Spring Assy

32. REMOVE THE FRAME FROM THE LIFT

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

F. ASSEMBLE THE NEW FRAME

1. PLACE THE **NEW** FRAME ON THE LIFT

- 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 Downs: Qty 1 (Length: 2 in X 27 ft and Min. Work Load Capacity: 3,000 lbs)**

2. INSTALL THE **NEW** REAR LEAF SPRINGS

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

Torque Spec: 120 N·m (1224 kgf·cm, 89 ft·lbf)

- Repeat the procedure on the opposite side.

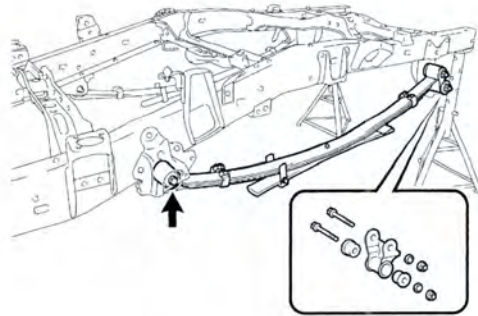
NEW Replacement Parts

Part #	Part Name	Kit #	Qty
04483-04080	Shackle Kit, RR Spring	2	2
90080-10138	Bolt, Flange	2	2
90178-A0050	Nut, Flange	2	2
94622-51400	Washer, Plain	1	2
Varies**	Spring Assy, RR RH	NA*	1
Varies**	Spring Assy, RR LH	NA*	1

*Individual Part(s)

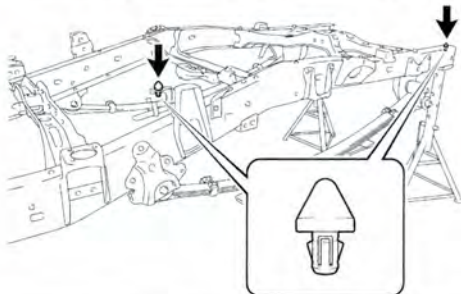
**Only 1 part used, part number varies by vehicle type.

**Replacement leaf springs will come in either 3 or 4 leaf stacks, ensure that the left and right springs contain the same amount of leaves. If replacement springs come in a 4 leaf stack, bump stop replacement is required (new bump stops will be provided)

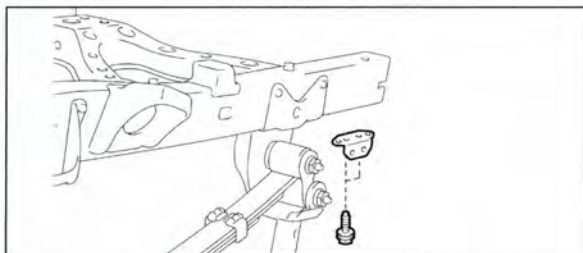


NEW Replacement Parts

Part #	Part Name	Kit #	Qty
51719-04010	Holder, Body Support Bracket	2	2



3. INSTALL THE **NEW** CLIPS



4. REINSTALL THE NO.1 RECEIVER HITCH ATTACHMENT REINFORCEMENT (IF EQUIPPED)

- Reinstall the No.1 receiver hitch attachment reinforcement with the 2 bolts and torque to spec.

Torque Spec: 45 N·m (459 kgf·cm, 33 ft·lbf)



5. REINSTALL THE NO.1 REAR SPRING BUMPER (2WD ONLY)

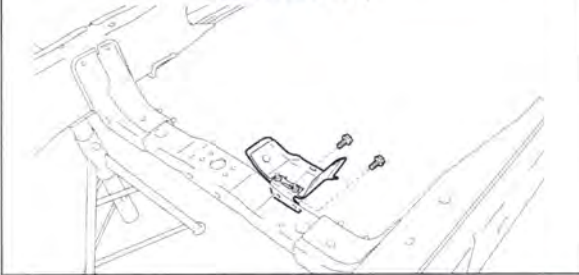
- Reinstall the rear spring bumper with the 2 nuts and torque to spec.
- Repeat the procedure on the opposite side.

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

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90119-A0151	Bolt, w/ Washer	NA*	2

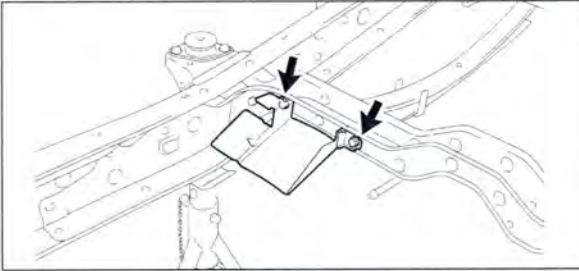
*Individual Part(s)



6. REINSTALL THE PROPELLER SHAFT HEAT INSULATOR (IF EQUIPPED)

- Reinstall the propeller shaft heat insulator with the 2 **NEW** bolts and torque to spec.

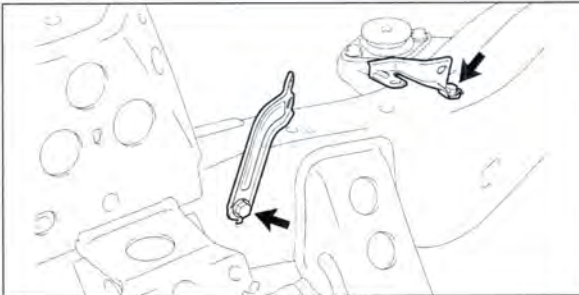
Torque Spec: 15.7 N·m (160 kgf·cm, 12 ft·lbf)



7. REINSTALL THE PARKING BRAKE CABLE HEAT INSULATOR (IF EQUIPPED)

- Reinstall the parking brake cable heat insulator with the 2 bolts and torque to spec.

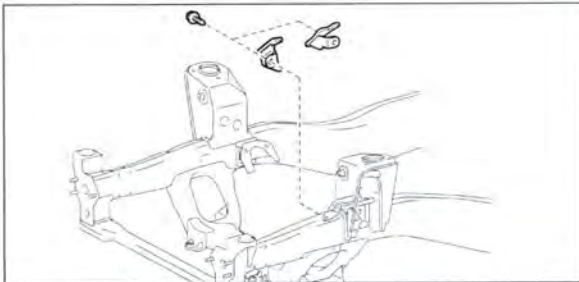
Torque Spec: 12.5 N·m (127 kgf·cm, 9 ft·lbf)



8. REINSTALL THE OXYGEN SENSOR BRACKETS (2TR-FE ONLY)

- Reinstall the 2 brackets with the 2 bolts and torque to spec.

Torque Spec: 14 N·m (143 kgf·cm, 10 ft·lbf)



9. REINSTALL THE REAR ENGINE MOUNTING REINFORCES (1GR-FE ONLY)

- Reinstall the rear engine mounting reinforces with the 2 bolts and torque to spec.

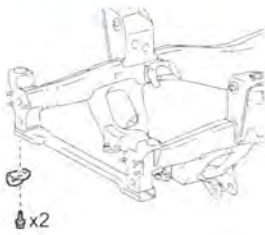
Torque Spec: 31 N·m (316 kgf·cm, 23 ft·lbf)

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90119-A0192	Bolt, w/ Washer	8	2
90119-A0193	Bolt, w/ Washer	NA*	2

*Individual Part(s)

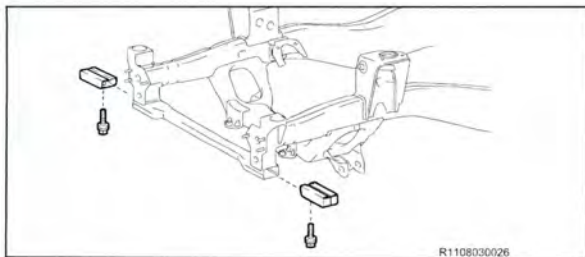
W(FUEL TANK PROTECTOR)



10. REINSTALL THE HOOK

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

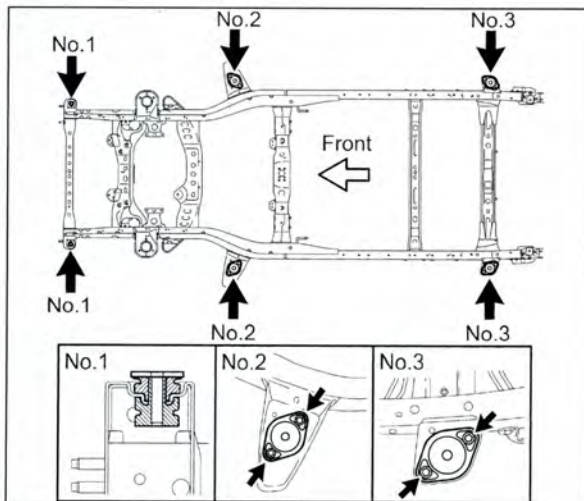
Torque Spec: 70 N·m (714 kgf·cm, 52 ft·lbf)



11. REINSTALL THE FRAME AUXILIARY CROSSMEMBER EXTENSION (IF EQUIPPED)

- Reinstall the 2 frame auxiliary crossmember extensions with the 2 bolts and torque to spec.

Torque Spec: 45 N·m (459 kgf·cm, 33 ft·lbf)



12. REINSTALL THE CAB MOUNTS

- Reinstall cab mounts No.1
- Reinstall cab mounts No.2 and No.3 with the 8 bolts and torque to spec.

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

13. INSTALL THE **NEW** FRONT SUSPENSION LOWER ARM (2WD ONLY)

- Install the **NEW** front suspension lower arm with the 2 **NEW** nuts, 2 **NEW** No.1 camber adjust cams and 2 **NEW** No.2 camber adjust cams, then torque to spec.

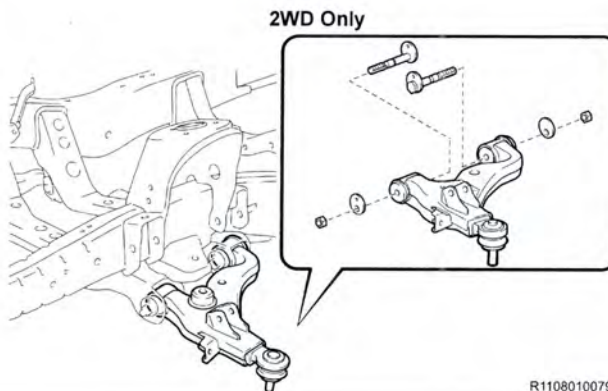
Torque Spec: 210 N·m (2141 kgf·cm, 155 ft·lbf)

- Repeat the procedure on the opposite side.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
48068-04030	Arm Sub-Assy, Suspension LWR RH w/Bush	NA*	1
48069-04030	Arm Sub-Assy, Suspension LWR LH w/Bush	NA*	1
48190-25010	Cam Assy, Camber Adjust	4	4
48198-25010	Cam, Camber Adjust No. 2	4	4
90178-A0013	Nut, Flange	NA*	4

*Individual Part(s)



R1108010079

14. INSTALL THE **NEW** FRONT SUSPENSION LOWER ARM (4WD, PRE-RUNNER ONLY)

- a) Install the **NEW** front suspension lower arm with the **NEW** bolt, nut, **NEW** toe adjust cam, **NEW** No.2 toe adjust cam, **NEW** No.1 camber adjust cam and **NEW** No.2 camber adjust cam, then torque to spec.

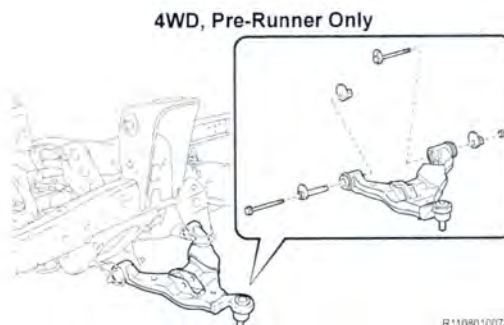
Torque Spec: 135 N·m (1377 kgf·cm, 100 ft·lbf)

- b) Repeat the procedure on the opposite side.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
48068-04040	Arm Sub-Assy, Suspension LWR RH w/Bush	NA*	1
48069-04040	Arm Sub-Assy, Suspension LWR LH w/Bush	NA*	1
48190-60020	Cam Assy, Camber Adjust	5	2
48198-60011	Cam, Camber Adjust No. 2	5	2
48409-60020	Cam Sub- Assy, Toe Adjust	5	2
48452-35020	Plate, Toe Adjust, No. 2	5	2
90119-A0166	Bolt, w/ Washer	8	2

*Individual Part(s)



R1108010078

NEW Replacement Parts (2WD Only)

Part #	Part Name	Kit #	Qty
48304-04090	Bumper, Sub-Assy FR	NA*	2
48304-AD010	Spring**	NA*	2

*Individual Part(s)

**Only 1 part used, part number varies by vehicle type.



NEW Replacement Parts (4WD, Pre-Runner Only)

Part #	Part Name	Kit #	Qty
48304-04100	Bumper, Sub-Assy FR Spring	8	2



15. INSTALL THE **NEW** FRONT SPRING BUMPER

- a) Using the **SST 09922-10010-01**, install the **NEW** front spring bumpers and torque to spec.

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

- b) Repeat the procedure on the opposite side.

16. INSTALL THE **NEW** REAR BRAKE TUBES

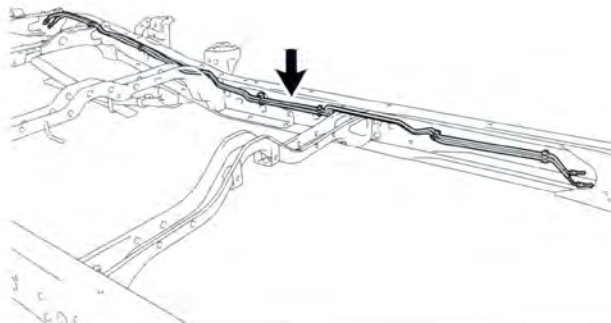
- a) Install the **NEW** rear brake tubes with the **NEW** clamp(s).

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
47325-04160	Tube, RR Brake, No.5**	NA*	1
47325-04170		NA*	1
47325-04180		NA*	1
47326-04130	Tube, RR Brake, No.6**	NA*	1
47326-04140		NA*	1
47326-04150		NA*	1
90469-A0004	Clamp (Regular Cab)	NA*	2
90469-A0004	Clamp (Access Cab)	NA*	3
90469-A0004	Clamp (Double Cab)	NA*	4
90949-A1006	Clamp	2	3

*Individual Part(s)

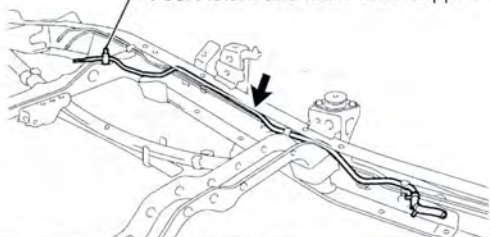
**Only 1 part used, part number varies by vehicle type.



NEW Replacement Parts

Part #	Part Name	Kit #	Qty
77285-35760	Support, Fuel Return & Main Tube	1	1

Fuel Return and Main Tube Support



17. REINSTALL THE NO. 2 CHARCOAL CANISTER PIPE

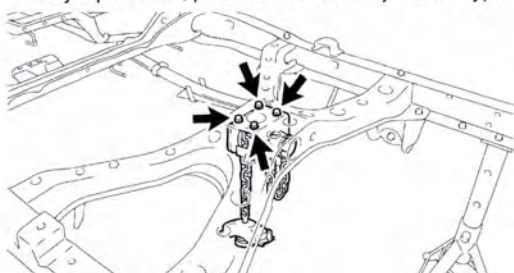
- Install the **NEW** fuel return and main tube support.
- Reinstall the No.2 charcoal canister pipe.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90119-A0169	Bolt, w/ Washer	2	4
51900-35410	Carrier Assy, Spare	NA*	1
81900-35420	Wheel**	NA*	1

*Individual Part(s)

**Only 1 part used, part number varies by vehicle type.



18. INSTALL THE NEW SPARE TIRE CARRIER ASSY

- Install the **NEW** spare tire carrier assy with the 4 **NEW** bolts and torque to spec.

Torque Spec: 20 N·m (204 kgf·cm, 15 ft·lbf)

NEW Replacement Parts

Rear Differential Assy

Part #	Part Name	Kit #	Qty
90117-A0001	Bolt, U**	NA*	4
90117-A0002		NA*	4
90117-A0005		NA*	4
90178-A0050	Nut, Flange	2	8
90178-51400	Washer, Plain	1	8
48341-04090	Bump Stop***	NA*	2

*Individual Part(s)

**Only 1 part used, part number varies by vehicle type.

*** Only replaced if leaf springs replacement springs are a 4 leaf configuration.

Rear Shock Absorber Assy

Part #	Part Name	Kit #	Qty
90117-A0010	Nut, Lock	2	2

Rear Stabilizer Bar

Part #	Part Name	Kit #	Qty
90119-08A91	Bolt, w/ Washer	NA*	4

*Individual Part(s)

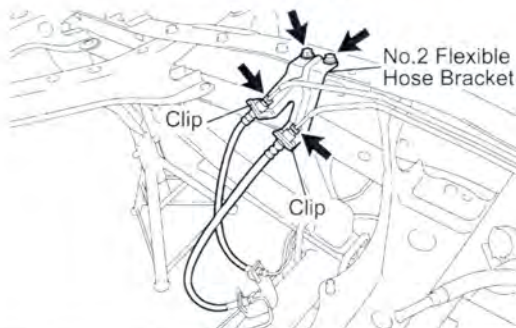
19. REINSTALL THE FOLLOWING PARTS

- Rear Differential Assy
 - Reinstall with the 4 **NEW** U-bolts, 2 spring seats, 2 spring bumpers (*If Equipped*), 8 **NEW** flange nuts and 8 **NEW** plain washers, then torque to spec.
 - Torque Spec: 50 N·m (510 kgf·cm, 37 ft·lbf)**
- Rear Shock Absorber Assy
 - Reinstall rear shock absorber assy with the bolt, nut and washer. (Lower side)
 - Torque Spec: Nut - 58 N·m (591 kgf·cm, 43 ft·lbf)**
 - Reinstall the 3 retainers, 2 cushions and **NEW** nut, then torque to spec. (Upper side)
 - Torque Spec: Nut - 20 N·m (204 kgf·cm, 15 ft·lbf)**
 - Repeat the procedure on the opposite side.
- Rear Stabilizer Bar (*If Equipped*)
 - Reinstall with the 2 brackets and **NEW** 4 bolts, then torque to spec.
 - Torque Spec: 27 N·m (275 kgf·cm, 20 ft·lbf)**
 - Reconnect the 2 stabilizer bar links with the 4 nuts, then torque to spec.
 - Torque Spec: 65 N·m (663 kgf·cm, 48 ft·lbf)**

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
47355-04020	Bracket, Flexible Hose, No. 2	2	1
90119-A0169	Bolt, W/ Washer	13 or NA*	2
90468-A0007	Clip	2	2

*Individual Part(s)



20. RECONNECT THE BRAKE HOSE

- Install the **NEW** No.2 flexible hose bracket with the 2 **NEW** bolts.
- Reconnect the 2 brake hoses with the 2 **NEW** clips.
- Reconnect the No.5, No.6 rear brake tubes and torque to spec.

Torque Spec:

Flexible hose bracket - 29 N·m (296 kgf·cm, 21 ft·lbf)

Rear brake tube - 15.2 N·m (155 kgf·cm, 11 ft·lbf)

Front Side



Rear Side



21. REINSTALL THE HARNESS BRACKETS

- Reinstall the 2 brackets with the 2 bolt and torque to spec.

Torque Spec: 14 N·m (143 kgf·cm, 10 ft·lbf)

22. INSTALL THE NEW FRAME WIRE HARNESS

- Reconnect the clamps to install the **NEW** frame wire harness.
- Reconnect the ground wire with the bolt and torque to spec.

Torque Spec: 12.7 N·m (130 kgf·cm, 9 ft·lbf)

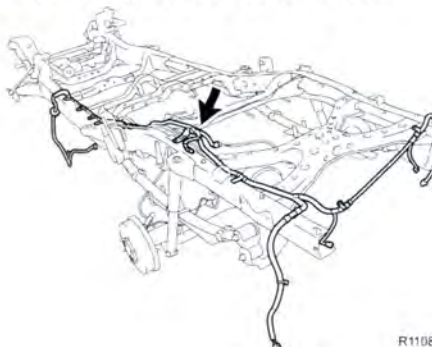
NOTE: The number of wire harness clamps will differ depending on the vehicle spec.

NEW Replacement Parts

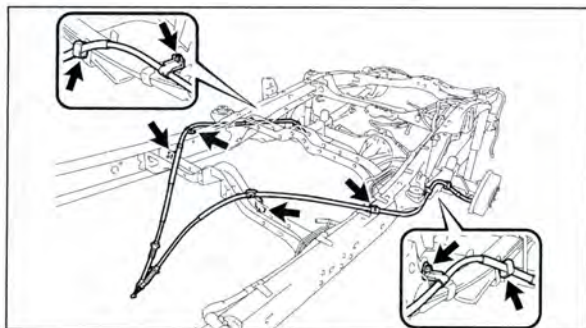
Part #	Part Name	Kit #	Qty
82164-04780	Wire, Frame**	NA*	1
82164-04A00		NA*	1
82164-04A10		NA*	1
82164-04A20		NA*	1
82164-04A30		NA*	1
82164-04A40		NA*	1
82164-04A50		NA*	1

*Individual Part(s)

**Only 1 part used, part number varies by vehicle type.



R1108010064



23. REINSTALL THE PARKING BRAKE CABLES

- a) Reinstall the 2 parking brake cables with the 8 bolts, then torque to spec.

Torque Spec: 12.5 N·m (127 kgf·cm, 9 ft·lbf)

NEW Replacement Parts

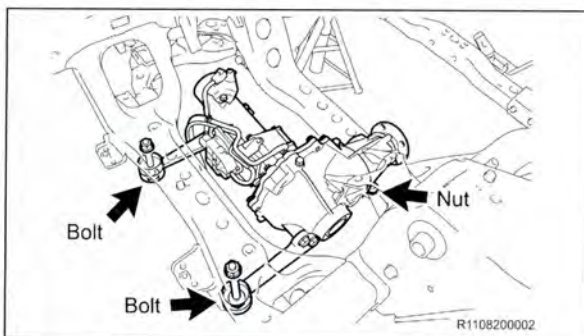
Part #	Part Name	Kit #	Qty
90171-A0005	Nut, Castle	2	2
95381-03230	Pin, Cotter	4-5	2

24. REINSTALL THE LOWER BALL JOINT

- a) Reinstall the lower ball joint with the **NEW** nut and torque to spec.

Torque Spec: 160 N·m (1632 kgf·cm, 118 ft·lbf)

- b) Install the **NEW** cotter pin.
c) Repeat the procedure on the opposite side.

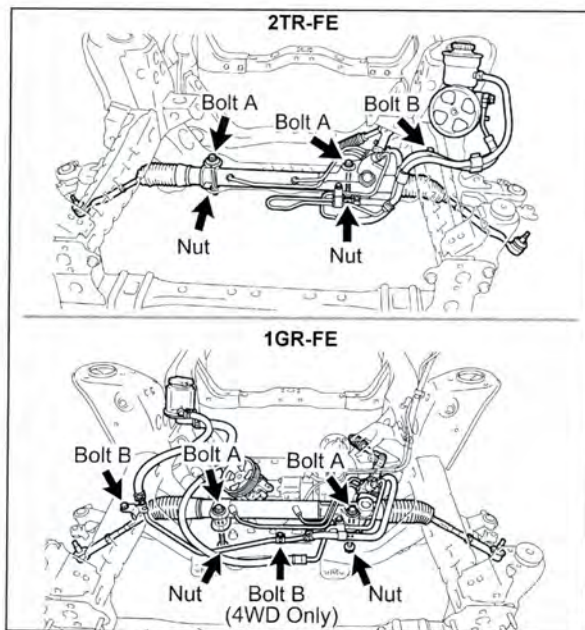


25. REINSTALL FRONT DIFFERENTIAL CARRIER (4WD ONLY)

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

Torque Spec: Except TMMTX Made
Bolt - 137.3 N·m (1400 kgf·cm, 101 ft·lbf)
Nut - 87.2 N·m (889 kgf·cm, 64 ft·lbf)

Torque Spec: TMMTX Made
Bolt - 128.5 N·m (1310 kgf·cm, 95 ft·lbf)
Nut - 81.5 N·m (831 kgf·cm, 60 ft·lbf)



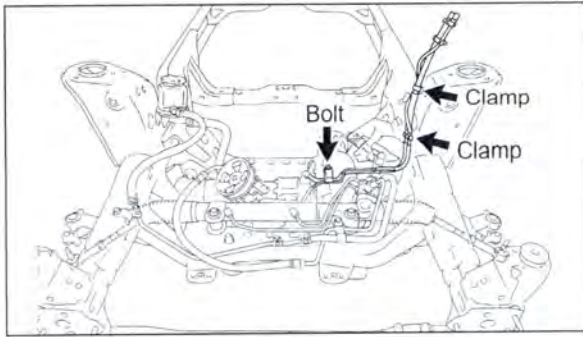
26. REINSTALL THE POWER STEERING LINK ASSY W/ POWER STEERING VANE PUMP

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

Torque Spec:
Bolt A - 92 N·m (938 kgf·cm, 68 ft·lbf)
Bolt B - 28 N·m (286 kgf·cm, 21 ft·lbf)

NOTE:

- When reinstalling the power steering link with the pump, have one person support the power steering link and the other support the pump.
- Keep the power steering pump reservoir upright to prevent the fluid from leaking out.



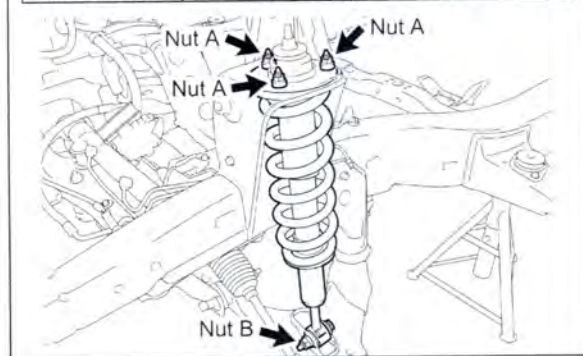
27. RECONNECT THE FRONT DIFFERENTIAL BREATHER TUBE (4WD ONLY)

- Reconnect the front differential breather tube with the bolt and 2 clamps, then torque to spec.

Torque Spec: 12.7 N·m (130 kgf·cm, 9 ft·lbf)

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90080-17215	Nut, Flange	2	6



28. REINSTALL THE FRONT SHOCK ABSORBER ASSY

- Install the 3 **NEW** nuts (A) and torque to spec.
- Reinstall the front shock absorber assy with the bolt and nut (B), then torque to spec.

Torque Spec:

Nut A - 64 N·m (653 kgf·cm, 47 ft·lbf)

Nut B - 83 N·m (846 kgf·cm, 61 ft·lbf)

- Repeat the procedure on the opposite side.

NEW Replacement Parts (2WD Only)

Part #	Part Name	Kit #	Qty
90119-A0161	Bolt, w/ Washer	NA*	4

*Individual Part(s)

29. REINSTALL THE FRONT STABILIZER BAR

- Reinstall the stabilizer bar with 2 brackets and 4 **NEW** bolts, then torque to spec. (2WD Only)
- Reinstall the stabilizer bar with 2 brackets and 4 bolts, then torque to spec. (4WD, Pre-Runner Only)

Torque Spec:

2WD - 21 N·m (214 kgf·cm, 15 ft·lbf)

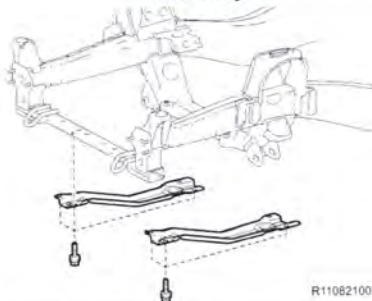
4WD, Pre-Runner - 40 N·m (408 kgf·cm, 30 ft·lbf)

30. REINSTALL THE SUSPENSION MEMBER BRACE SUB-ASSY

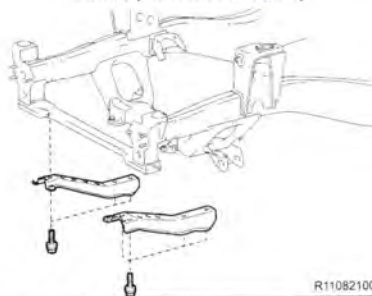
- Reinstall the suspension member brace sub-assy with 8 bolts (2WD Only) or 7 bolts (4WD, Pre-Runner Only), then torque to spec.

Torque Spec: 45 N·m (459 kgf·cm, 33 ft·lbf)

2WD Only



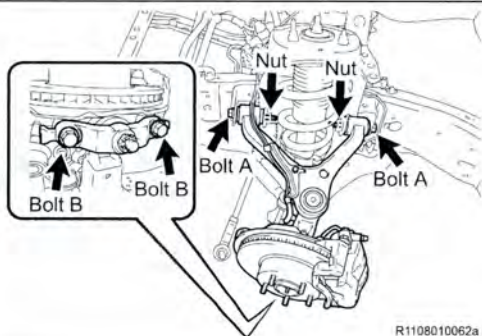
4WD, Pre-Runner Only



NEW Replacement Parts

Part #	Part Name	Kit #	Qty
43425-04040	Ring, Drive Shaft Snap	NA*	2
90311-47012	Seal, Type T Oil (LH)	3	1
90311-47013	Seal, Type T Oil (RH)	3	1

*Individual Part(s)



31. REINSTALL THE FRONT DRIVE SHAFT ASSY (4WD ONLY)

- Install a **NEW** snap ring.
- Reinstall the front drive shaft assy.
- Repeat the procedure on the opposite side.

NOTE:

- Be careful not to damage the dust cover and oil seal.
- If the oil seal is damaged, replace the **NEW** parts.

32. REINSTALL THE FRONT SUSPENSION UPPER ARM AND STEERING KNUCKLE ASSY (2WD ONLY)

- Reinstall the front suspension upper arm w/ steering knuckle with the 2 bolts (A), 2 nuts and 2 washers, then torque to spec.

Torque Spec: Bolt A - 82 N·m (836 kgf·cm, 60 ft·lbf)

- Reinstall the 2 bolts (B), then torque to spec.

Torque Spec: Bolt B - 160 N·m (1632 kgf·cm, 118 ft·lbf)

- Repeat the procedure on the opposite side.

33. REINSTALL THE FRONT SUSPENSION UPPER ARM AND STEERING KNUCKLE ASSY (4WD, PRE-RUNNER ONLY)

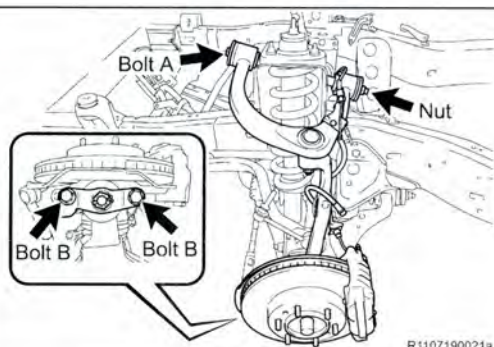
- Reinstall the front suspension upper arm w/ steering knuckle with the bolt (A), nut and 2 washers, then torque to spec.

Torque Spec: Nut - 115 N·m (1173 kgf·cm, 85 ft·lbf)

- Reinstall the 2 bolts (B), then torque to spec.

Torque Spec: Bolt B - 160 N·m (1632 kgf·cm, 118 ft·lbf)

- Repeat the procedure on the opposite side.



34. REINSTALL THE FOLLOWING PARTS

- Front Stabilizer Link (*2WD Only*)
 - Reinstall with 2 retainers, 2 cushions and nut, torque to spec.
 - Torque Spec: 19 N·m (194 kgf·cm, 14 ft·lbf)**
 - Reinstall the nut, then torque to spec.
 - Torque Spec: 69 N·m (704 kgf·cm, 51 ft·lbf)**
 - Repeat the procedure on the opposite side.
- Front Stabilizer Link (*4WD, Pre-Runner Only*)
 - Reinstall front stabilizer link with 2 nuts, torque to spec.
 - Torque Spec: 70 N·m (714 kgf·cm, 52 ft·lbf)**
 - Repeat the procedure on the opposite side.
- Tie Rod End
 - Reinstall tie rod end with nut and torque to spec.
 - Torque Spec:**
 - 2WD - 49 N·m (500 kgf·cm, 36 ft·lbf)**
 - 4WD, Pre-Runner - 91 N·m (928 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.

NEW Replacement Parts

Tie Rod End

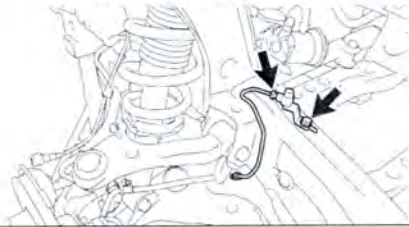
Part #	Part Name	Kit #	Qty
95381-03025	Pin, Cotter**	4	2
95381-03225		5	2

**Only 1 part used, part number varies by vehicle type.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
47314-04140	Tube, FR Brake No. 4	12	1
47316-04140	Tube, FR Brake No. 6	12	1
90119-A0169	Bolt, w/ Washer	NA*	2
90412-10247	Way, 2	1	2

*Individual Part(s)



35. INSTALL THE **NEW** FRONT BRAKE TUBE AND **NEW** WAY (2WD ONLY)

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

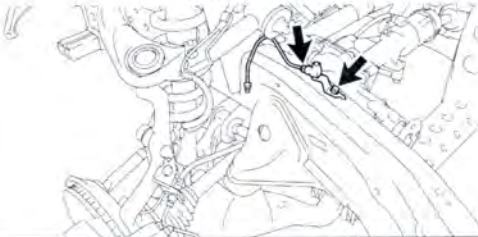
Torque Spec: 32 N·m (326 kgf·cm, 24 ft·lbf)

- Repeat the procedure on the opposite side.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
47314-04150	Tube, FR Brake No. 4	12	1
47316-04150	Tube, FR Brake No. 6	12	1
90119-A0169	Bolt, w/ Washer	13	2
90412-10247	Way, 2	1	2

*Individual Part(s)



36. INSTALL THE **NEW** FRONT BRAKE TUBE AND **NEW** WAY (4WD, Pre-Runner ONLY)

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

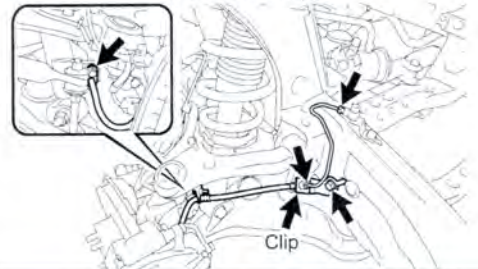
Torque Spec: 32 N·m (326 kgf·cm, 24 ft·lbf)

- Repeat the procedure on the opposite side.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
47351-04030	Bracket, Flexible Hose, RH	12	1
47352-04030	Bracket, Flexible Hose, LH	12	1
90119-A0169	Bolt, w/ Washer	NA*	4
90468-A0007	Clip	2	2

*Individual Part(s)



37. REINSTALL THE FRONT BRAKE HOSE (2WD ONLY)

- Reinstall the flexible hose bracket with the **NEW** bolt and torque to spec.

Torque Spec: 32 N·m (326 kgf·cm, 24 ft·lbf)

- Reconnect the front brake hose with a **NEW** clip.
- Reconnect the front brake tube and torque to spec.

Torque Spec: 15.2 N·m (155 kgf·cm, 11 ft·lbf)

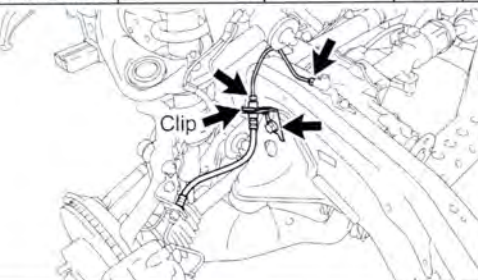
- Reinstall the **NEW** bolt and torque to spec.

Torque Spec: 32 N·m (326 kgf·cm, 24 ft·lbf)

- Repeat the procedure on the opposite side.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
47353-04010	Bracket, Flexible Hose, No. 3	13	1
47354-04010	Bracket, Flexible Hose, NO. 4	13	1
90119-A0169	Bolt, w/ Washer	13	4
90468-A0007	Clip	2	2



38. REINSTALL THE FRONT BRAKE HOSE (4WD, PRE-RUNNER ONLY)

- Reinstall the flexible hose bracket with the bolt and torque to spec.

Torque Spec: 32 N·m (326 kgf·cm, 24 ft·lbf)

- Reconnect the front brake hose with a **NEW** clip.
- Reconnect the front brake tube and torque to spec.

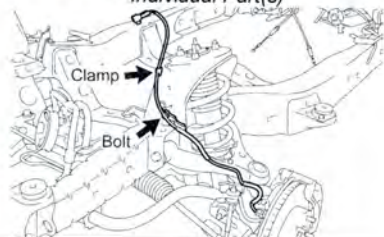
Torque Spec: 15.2 N·m (155 kgf·cm, 11 ft·lbf)

- Repeat the procedure on the opposite side.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
89516-04010	Wire, Skid Control Sensor RH	NA*	1
89516-04020	Wire, Skid Control Sensor LH	NA*	1

*Individual Part(s)



39. RECONNECT THE FRONT SKID CONTROL SENSOR WIRE HARNESS (2WD ONLY)

- Reconnect the clamp.
- Reinstall the front skid control sensor wire harness with bolt and torque to spec.

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

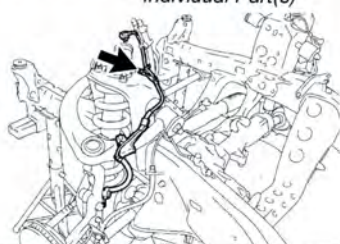
- Repeat the procedure on the opposite side.

NOTE: If the front skid control sensor wire harness and clamp are damaged, replace the **NEW** parts.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
89516-04040	Wire, Skid Control Sensor RH	NA*	1
89516-04090	Wire, Skid Control Sensor LH	NA*	1

*Individual Part(s)



40. RECONNECT THE FRONT SKID CONTROL SENSOR WIRE HARNESS (4WD, PRE-RUNNER ONLY)

- Reinstall the front skid control sensor wire harness with bolt and torque to spec.

Torque Spec: 12.5 N·m (127 kgf·cm, 9 ft·lbf)

- Repeat the procedure on the opposite side.

NOTE: If the front skid control sensor wire harness and clamp are damaged, replace the **NEW** parts.

41. REINSTALL THE WHEELS

42. REINSTALL THE ENGINE AND TRANSMISSION ASSY

- Reinstall engine and transmission assy.

NOTE:

- Use 2 engine hoists/cranes to lift engine & trans assy.
- DO NOT use 1 engine hoist/crane to lift the engine & trans assy, the unbalanced weight may lead to an accident or injury.
- ONLY use engine hoists/cranes that can properly support the weight of the engine & trans.
- Carefully adjust the 2 engine hoists/cranes used so that the engine & trans assy is balanced.

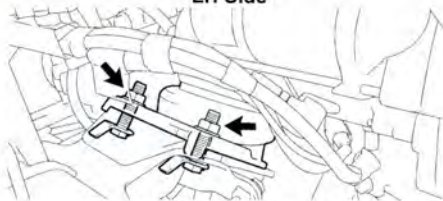
- Attach the engine mounts with the 4 **NEW** bolts and 4 **NEW** nuts, then torque to spec.

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

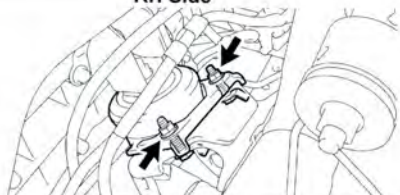
NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90179-10201	Nut	1	4
90910-03001	Bolt, Engine Mount	1	4

LH Side

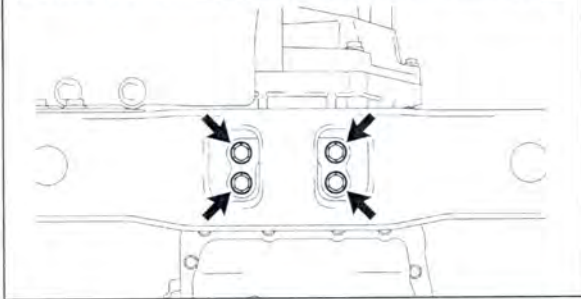


RH Side



NEW Replacement Parts

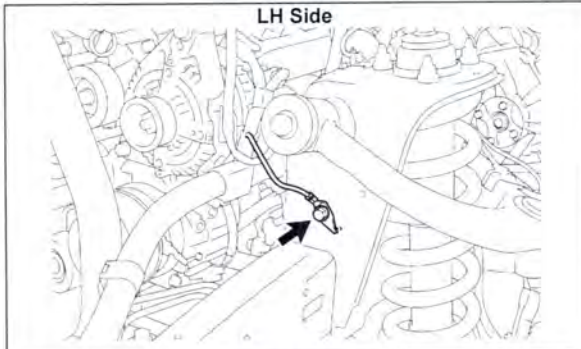
Part #	Part Name	Kit #	Qty
91671-80814	Bolt, Flange w/ Washer	1	4



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

Torque Spec: 18.5 N·m (189 kgf·cm, 14 ft·lbf)

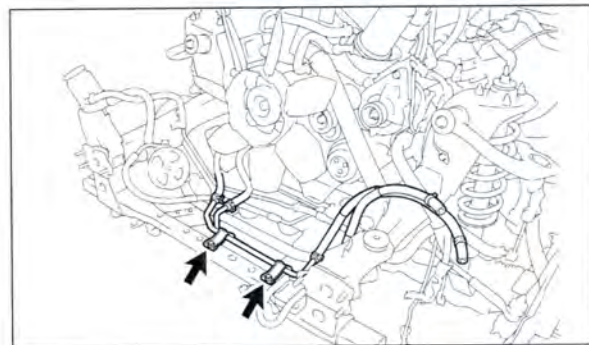
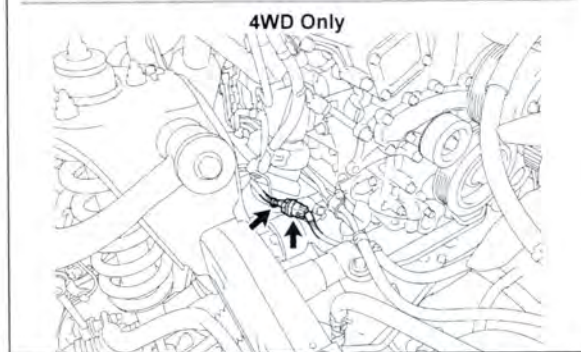
- d) Remove the bolt(s) and the engine hangers.
e) Reinstall the items/parts that were removed during the engine and transmission assy removal.



- f) Reinstall the bolt and reconnect the ground wire. (*LH Side*)

Torque Spec: 12.7 N·m (130 kgf·cm, 9 ft·lbf)

- g) Reconnect the connector and clamp. (*4WD Only*)

**43. RECONNECT THE OIL COOLER TUBE (AUTO TRANS ONLY)**

- a) Reconnect the oil cooler tube with the 2 bolts and torque to spec.

Torque Spec: 28 N·m (286 kgf·cm, 21 ft·lbf)

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
17176-0P010	Gasket, Air Surge Tank INT Manifold	6	1

44. REINSTALL THE INTAKE AIR SURGE TANK (1GR-FE ONLY)

- Install a **NEW** gasket onto the intake air surge tank.
- Using a 8mm hexagon socket, reinstall the intake air surge tank with the 4 bolts and torque to spec.

Torque Spec: 28 N·m (286 kgf·cm, 21 ft·lbf)

- Reinstall the 2 intake air surge tank nuts and torque to spec.

Torque Spec: 28 N·m (286 kgf·cm, 21 ft·lbf)

- Reinstall the 2 surge tank stays with the 4 bolts, then torque to spec.

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

- Reinstall oil baffle plate with the bolt and torque to spec.

Torque Spec: 9.0 N·m (92 kgf·cm, 80 in·lbf)

- Reinstall the throttle body bracket with the 2 bolts, then torque to spec.

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

- Reconnect the 3 wire harness clamps and hose clamp.
- Reconnect the throttle body w/ motor connector.
- Reconnect the 2 VSV connectors.
- Reconnect the ventilation hose.
- Reconnect the fuel vapor feed hose.
- Reconnect the 2 water by-pass hoses.

45. REINSTALL THE INTAKE AIR CONNECTOR (2TR-FE ONLY)

- Reinstall the intake air connector with the 3 bolts, then torque to spec.

Torque Spec: 8.0 N·m (82 kgf·cm, 71 in·lbf)

- Tighten the hose clamp bolts.
- Reconnect the vacuum hose.
- Reconnect the No.2 ventilation hose.
- Reconnect the vacuum hose.
- Reconnect the wire harness clamp.
- Reconnect the pressure sensor connector.

46. REINSTALL THE POWER STEERING PUMP ASSY

- Reinstall the bolt and reconnect the ground wire and torque to spec. (1GR-FE Only)

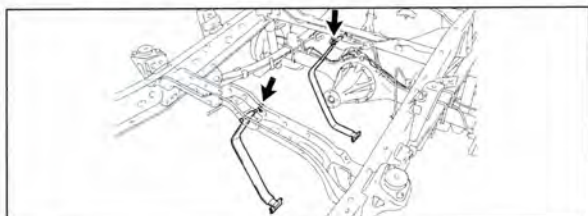
Torque Spec: 8.0 N·m (82kgf·cm, 71 in·lbf)

- Reinstall the power steering vane pump with the 2 bolts, then torque to spec.

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

- Reconnect the connector.
- Reconnect the clamp. (1GR-FE Only)

47. REINSTALL THE FAN AND GENERATOR V-BELT

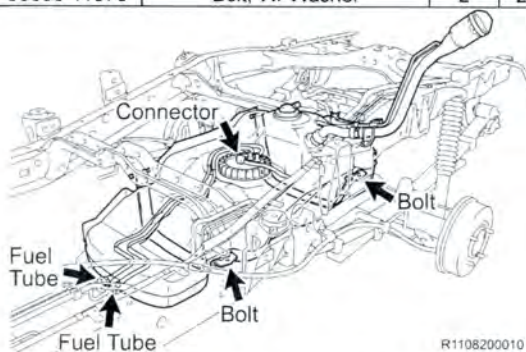


48. REINSTALL THE FUEL TANK STRAPS

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

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90080-11376	Bolt, W/ Washer	2	2



49. 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 2 fuel tubes.
- Reconnect the connector.

50. REINSTALL THE NO.2 FUEL TANK PROTECTOR (IF EQUIPPED)

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90179-08241	Nut	NA*	4

*Individual Part(s)

51. REINSTALL THE NO.1 FUEL TANK PROTECTOR ASSY (IF EQUIPPED)

- Reinstall the No.1 fuel tank protector assy with the 4 **NEW** nuts and torque to spec.

Torque Spec: 20 N·m (204 kgf·cm, 15 ft·lbf)

52. REINSTALL THE CHARCOAL CANISTER ASSY

- Reinstall the charcoal canister assy with the bolt and 3 nuts, then torque to spec.

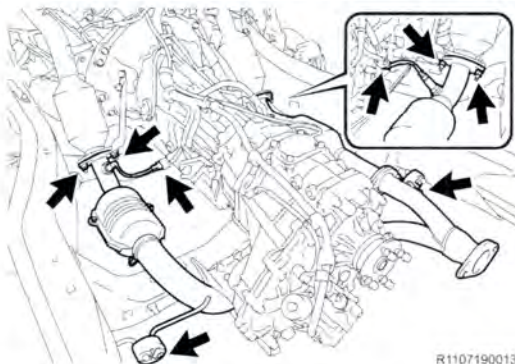
Torque Spec: 20 N·m (204 kgf·cm, 15 ft·lbf)

- Reconnect the fuel tank vent hose.
- Reconnect the fuel hose.
- Reconnect the main tube support and reconnect the filter hose.
- Reconnect the connector.
- Reinstall the bolt and reconnect the skid control sensor wire and torque to spec.

Torque Spec: 14 N·m (143 kgf·cm, 10 ft·lbf)

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90080-17187	Nut, Lock	6	4
90080-43036	Gasket, Exhaust Pipe	6	2
90126-A0011	Stud, Hex lobular	6	4



53. REINSTALL THE EXHAUST SYSTEM (1GR-FE ONLY)

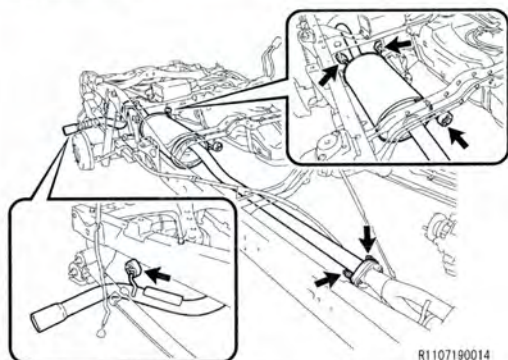
- Install the 2 **NEW** exhaust pipe gaskets.
- Reinstall the front exhaust pipe assy and 2 exhaust pipe supports.
- Install the 4 **NEW** nuts and torque to spec.
- Reconnect the 2 oxygen sensor connectors.

Torque Spec: 54.3 N·m (554 kgf·cm, 40 ft·lbf)

NOTE: If the stud bolt is damaged, replace the **NEW** parts.

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
17451-0A010	Gasket, Exhaust Pipe	2	1
90080-10291	Bolt	6	2



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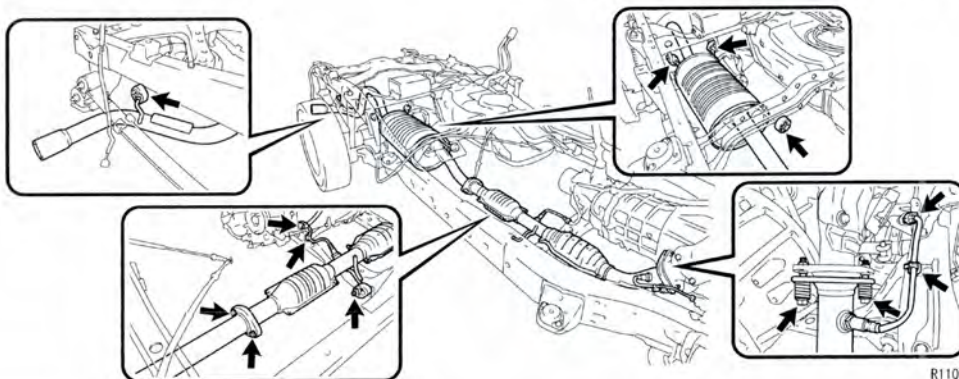
- Install the **NEW** exhaust pipe gasket.
- Reinstall the center exhaust tail pipe and 4 exhaust pipe supports.
- Install the 2 **NEW** bolts and 2 springs, then torque to spec.

Torque Spec: 43 N·m (438 kgf·cm, 32 ft·lbf)

54. REINSTALL THE EXHAUST SYSTEM (2TR-FE ONLY)

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
17451-0A010	Gasket, Exhaust Pipe	2	1
90080-10064	Bolt, Flange	7	2
90080-10291	Bolt, Flange	7	2
90080-43033	Gasket, Exhaust Pipe	7	1
90177-A0004	Nut, Lock	7	2



R1107190015

- Install the **NEW** exhaust pipe gasket.
- Reinstall the front exhaust pipe assy and exhaust pipe support.
- Install the 2 **NEW** bolts and 2 springs, then torque to spec.

Torque Spec: 43 N·m (438 kgf·cm, 32 ft·lbf)

- Reconnect the 2 oxygen sensor connectors and 2 wire harness clamps.
- Install the **NEW** exhaust pipe gasket.
- Reinstall the center exhaust tail pipe and 4 exhaust pipe supports.
- Install the 2 **NEW** bolts and torque to spec.

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

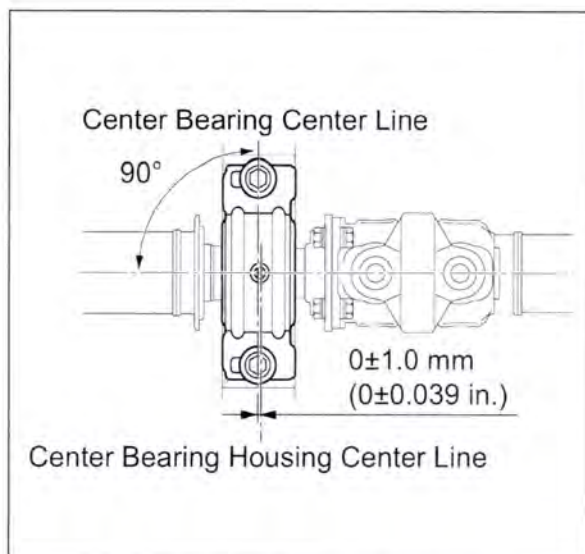
NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90080-11180	Bolt, w/ Washer	6	2

55. REINSTALL THE EXHAUST PIPE STOPPER BRACKET (IF EQUIPPED)

- Reinstall the exhaust pipe stopper bracket with the 2 bolts and torque to spec.

Torque Spec: 19 N·m (194 kgf·cm, 14 ft·lbf)



56. REINSTALL THE REAR PROPELLER SHAFT ASSY

- Remove the SST. (*2WD Only*)
- Referencing the matchmarks, reinstall the propeller shaft assy to the the transmission / transfer case.
- Reinstall the 4 washers and 4 nuts, then torque to spec. (*4WD Only*)

Torque Spec: 88.2 N·m (899 kgf·cm, 65 ft·lbf)

- Reinstall the center support bearing to the frame as shown in the illustration with 2 washer and 2 bolts, then torque to spec. (*3-Joint Type Only*)

Torque Spec: 36.2 N·m (369 kgf·cm, 27 ft·lbf)

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

Torque Spec: 88.2 N·m (899 kgf·cm, 65 ft·lbf)

57. REINSTALL THE FRONT PROPELLER SHAFT ASSY

- Referencing the matchmarks, install the front propeller shaft assy to the transfer case and the front differential with 4 bolts, 8 washers and 8 nuts, then torque to spec.

Torque Spec: 88.2 N·m (899 kgf·cm, 65 ft·lbf)

58. REINSTALL THE FOLLOWING PARTS

- Spare Tire
- Wheels

59. REMOVE THE FRAME FROM THE LIFT

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

G. REINSTALL THE CAB BODY ASSY

NEW Replacement Parts			
Part #	Part Name	Kit #	Qty
47313-04190	Tube, FR Brake No. 3**	10	1
47313-04200		11	1
47315-04160		10	1
47315-04170	Tube, FR Brake No. 5**	11	1
47323-04160		NA*	1
47323-04170		11	1
47324-04120	Tube, RR Brake No. 4	NA*	1
47324-04130	Tube, RR Brake No. 4	11	1

*Individual Part(s)

**Only 1 part used, part number varies by vehicle type.

1. INSTALL THE NEW ENGINE COMPARTMENT BRAKE TUBES

- Install the **NEW** No.3 and **NEW** No.5 front brake tubes.
- Install the **NEW** No.3 and **NEW** No.4 rear brake tubes.
- Torque all brake tubes to spec.

Torque Spec: 15.2 N·m (155 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 the tires up with the alignment marks.
- 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.

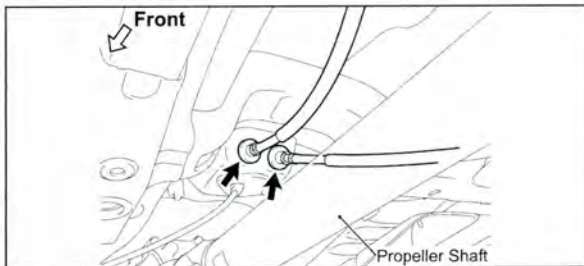
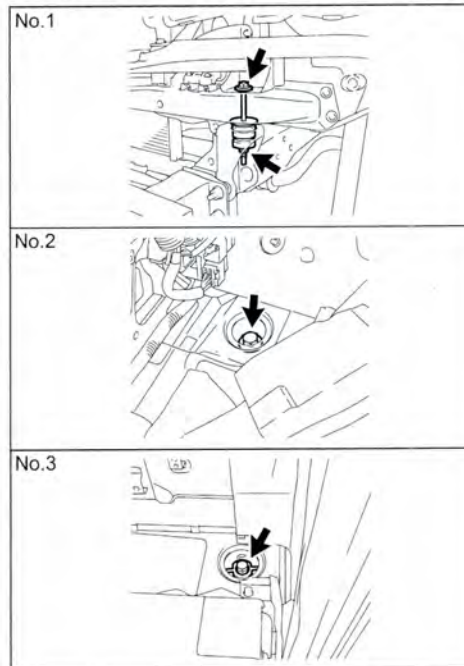
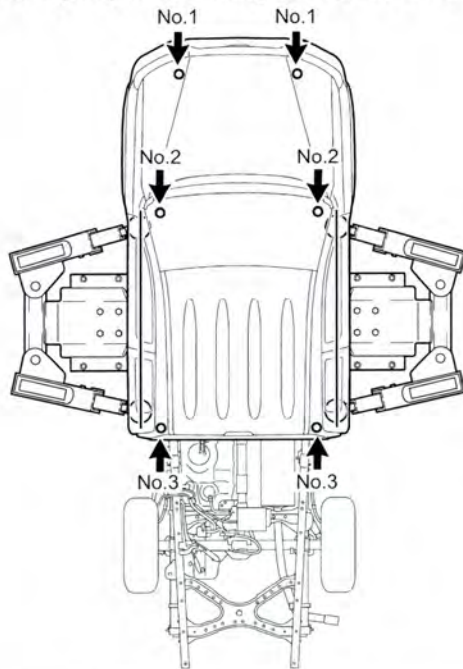
Torque Spec:

No.1 - 37.5 N·m (382 kgf·cm, 28 ft·lbf)

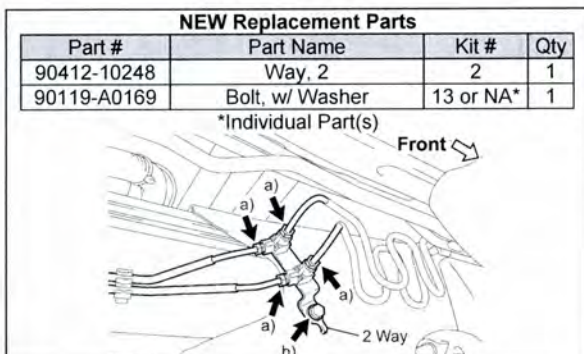
No.2, No.3 - 45 N·m (459 kgf·cm, 33 ft·lbf)

NOTE:

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



3. RECONNECT THE PARKING BRAKE CABLE



NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90412-10248	Way, 2	2	1
90119-A0169	Bolt, w/ Washer	13 or NA*	1

*Individual Part(s)

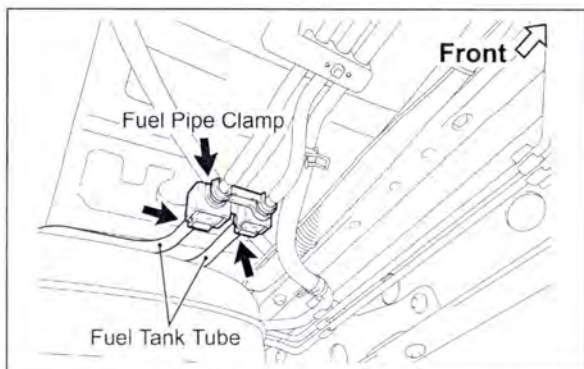
4. RECONNECT THE REAR BRAKE TUBES

- Temporarily install the 4 rear brake tubes and **NEW** 2 way.
- Install the **NEW** bolt to the 2 way and torque to spec.

Torque Spec: 32 N·m (326 kgf·cm, 24 ft·lbf)

- Reconnect the 4 rear brake tubes and torque to spec.

Torque Spec: 15.2 N·m (155 kgf·cm, 11 ft·lbf)

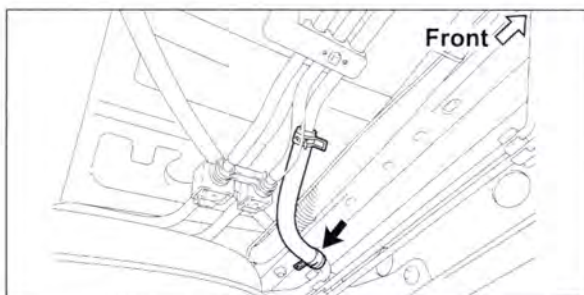


5. RECONNECT THE FUEL TANK TUBES

- Reconnect the 2 fuel tank tubes.
- Reinstall the fuel pipe clamp.

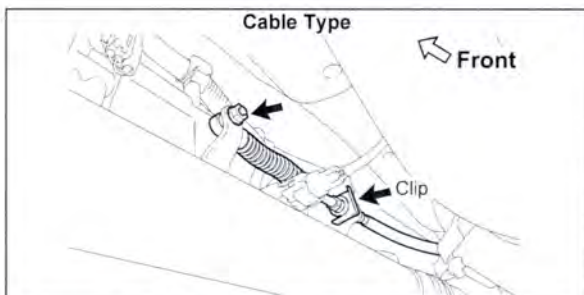
NOTE:

- Align the connector with the pipe, and push into the connector until the connector makes a "click" sound. If the connection is tight, apply a little amount of fresh engine oil on the tip of the pipe.
- Ensure the pipe and the connector are securely connected by pulling them.



6. RECONNECT THE NO.2 FUEL HOSE

- Reconnect the No.2 fuel hose with the clip



7. RECONNECT THE SHIFT CABLE (AUTO TRANS ONLY)

Cable Type:

- Reconnect the shift cable with the nut and torque to spec.

Torque Spec: 14 N·m (143 kgf·cm, 10 ft·lbf)

- Reinstall the clip.

Rod Type:

- Reconnect the shift cable with the **NEW** pin and **NEW** clip.

NEW Replacement Parts (Rod Type)

Part #	Part Name	Kit #	Qty
90240-08054	Pin, W/ Hole	NA*	1
90468-14033	Clip	NA*	1

*Individual Part(s)



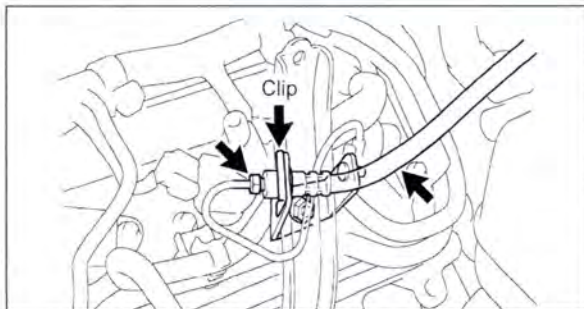
8. CONNECT THE CLUTCH RELEASE CYLINDER ASSY (2TR-FE MANUAL TRANS ONLY)

- Reconnect the clutch release cylinder with the 2 bolts and torque to spec.

Torque Spec: 11.8 N·m (120 kgf·cm, 9 ft·lbf)

- Reconnect the clutch hose with the bolt and torque to spec.

Torque Spec: 37 N·m (377 kgf·cm, 27 ft·lbf)



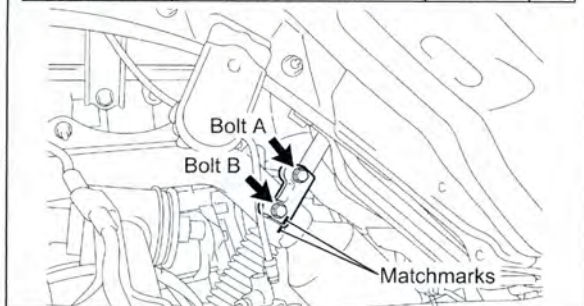
9. RECONNECT THE NO.1 CLUTCH HOSE (1GR-FE MANUAL TRANS ONLY)

- Reconnect the clutch hose with the clip.
- Reconnect the clutch release cylinder tube to the clutch hose.

Torque Spec: 15.2 N·m (155 kgf·cm, 11 ft·lbf)

NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90080-11555	Bolt, w/ Washer	2	2

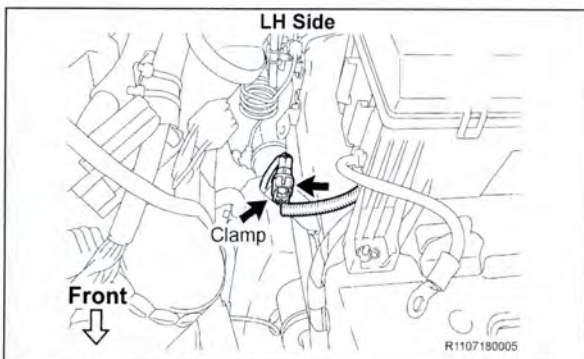


10. RECONNECT THE STEERING SLIDING YOKE

- Make sure the front wheels are in a straight-ahead position and the steering wheel is centered.
- Referencing the match marks, connect the steering sliding yoke to the control valve shaft with the **NEW** bolt (B).
- Remove bolt (A) and install the **NEW** bolt (A).
- Torque all bolts to spec.

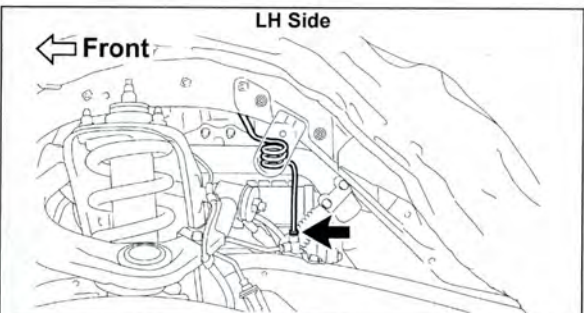
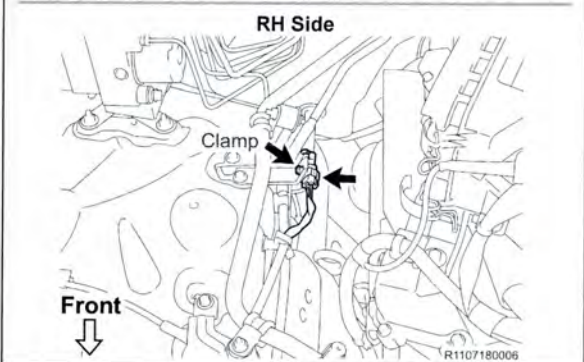
Torque Spec: 35 N·m (357 kgf·cm, 26 ft·lbf)

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



11. RECONNECT THE FRONT SKID CONTROL SENSOR WIRE HARNESS

- Reconnect the harness clamp and front skid control sensor connector.
- Repeat the procedure on the opposite side.

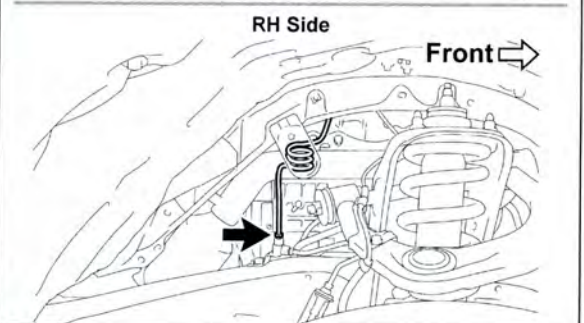


12. RECONNECT THE FRONT BRAKE TUBES

- Reconnect the front brake tube and torque to spec.

Torque Spec: 15.2 N·m (155 kgf·cm, 11 ft·lbf)

- Repeat the procedure on the opposite side.



NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90210-A0002	Washer, Seal	2	1
90210-A0004		2	1

13. RECONNECT THE AIR CONDITIONING DISCHARGE AND SUCTION HOSES TO THE COMPRESSOR

- Install a **NEW** o-ring to the A/C discharge and suction hoses.
- Reconnect the A/C discharge and suction hoses to the compressor, then torque to spec.

Torque Spec: 19 N·m (194 kgf·cm, 14 ft·lbf)

- Reconnect the cooler bracket with the bolt and torque to spec.

Torque Spec: 7.5 N·m (76 kgf·cm, 66 in·lbf)

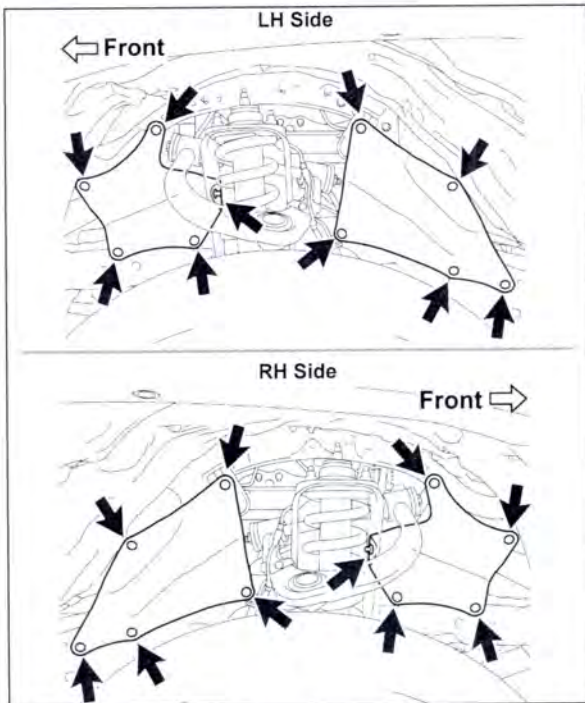
14. REINSTALL THE FRONT FENDER APRON SEAL

4WD, Pre-Runner Only (Shown):

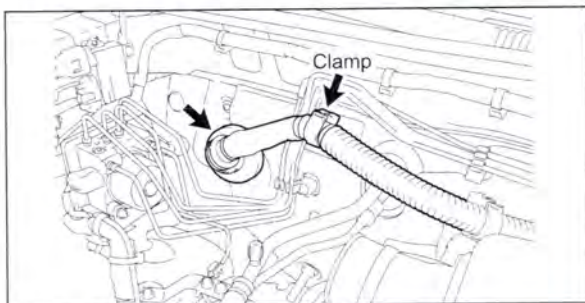
- Reinstall the 4 front fender apron seals with the 20 clips.

2WD Only:

- Reinstall the 4 front fender apron seals with the 22 clips.

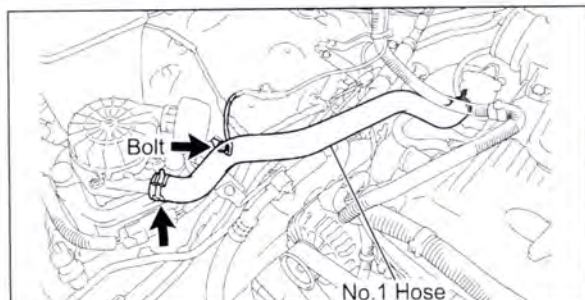


15. RECONNECT THE WATER / HEATER HOSES, ENGINE SIDE



16. RECONNECT THE ENGINE WIRE HARNES

- Reinstall the engine wire harness container to the cowl panel.
- Reconnect the clamp.



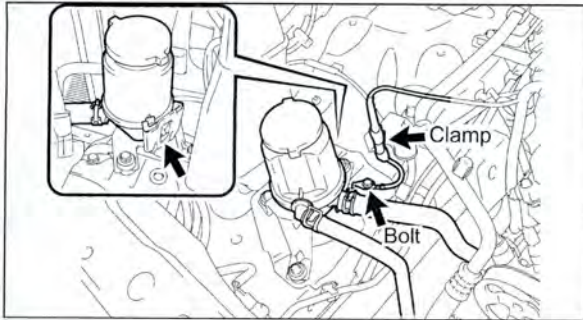
17. RECONNECT THE NO.1 HOSE (2TR-FE ONLY)

- Reconnect the No. 1 hose.

18. RECONNECT THE GROUND WIRE (2TR-FE ONLY)

- Reconnect the ground wire with the bolt.

Torque Spec: 8.3 N·m (85 kgf·cm, 73 in·lbf)



19. RECONNECT THE POWER STEERING PUMP RESERVOIR ASSY (1GR-FE ONLY)

- Reconnect the power steering pump reservoir assy.

20. RECONNECT THE GROUND WIRE (1GR-FE ONLY)

- Reconnect the ground wire with the bolt.
- Reconnect the clamp.

Torque Spec: 8.3 N·m (85 kgf·cm, 73 in·lbf)

21. REINSTALL THE FAN SHROUD

22. REINSTALL THE RADIATOR

- Install the **NEW** o-ring to the drain plug.
- Tighten the radiator drain plug.
- Reinstall the radiator with 4 bolts and torque to spec.

Torque Spec: 18 N·m (184 kgf·cm, 13 ft·lbf)

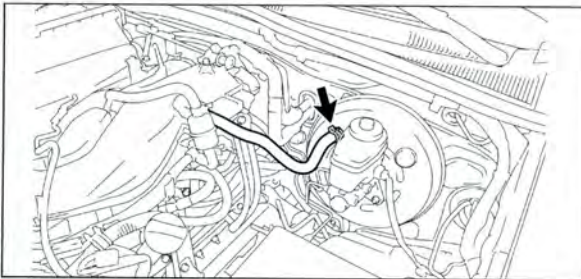
- Reinstall the automatic transmission cooler lines (*Auto Trans Only*).
- Reinstall the fan shroud with the 2 bolts.

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

23. REINSTALL THE SUPPORT TO FRAME SEAL

24. RECONNECT THE VACUUM HOSE

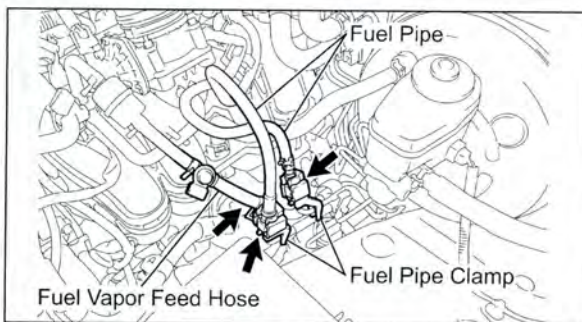
- Reconnect the vacuum hose.



25. RECONNECT THE FUEL PIPES

- Reconnect the No.1 and No.2 fuel pipe.
- Reinstall the 2 fuel pipe clamps.

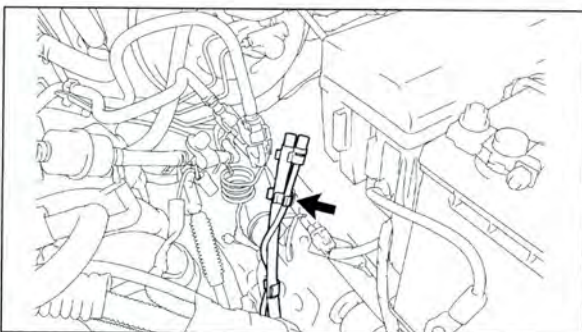
26. RECONNECT THE FUEL VAPOR FEED HOSE



27. RECONNECT THE FRONT DIFFERENTIAL BREATHER TUBES (4WD ONLY)

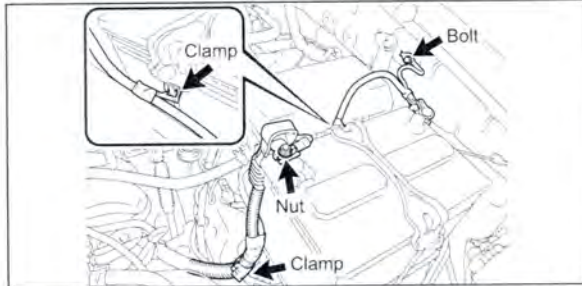
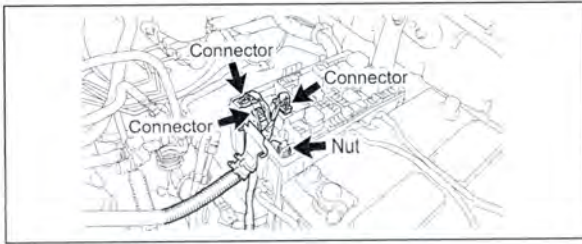
- Reconnect the front differential breather tubes.

NOTE: There may be 2 different breather tubes depending on the vehicle spec.



NEW Replacement Parts

Part #	Part Name	Kit #	Qty
90069-08019	Ring, O	2	1



28. RECONNECT THE NO.2 ENGINE WIRE HARNESS

- Reinstall fuse box wire harness with the nut and torque to spec.

Torque Spec: 12.7 N·m (130 kgf·cm, 9 ft·lbf)

- Reconnect the 3 connectors.
- Reinstall the No.1 upper relay block cover.
- Reconnect the No.2 engine wire harness to the clip.
- Reinstall the (+) positive battery cable with the nut and torque to spec.

Torque Spec: 12.7 N·m (130 kgf·cm, 9 ft·lbf)

- Reinstall the ground wire with the bolt and torque to spec.

Torque Spec: 8.3 N·m (85 kgf·cm, 73 in·lbf)

29. REINSTALL THE FOLLOWING PARTS

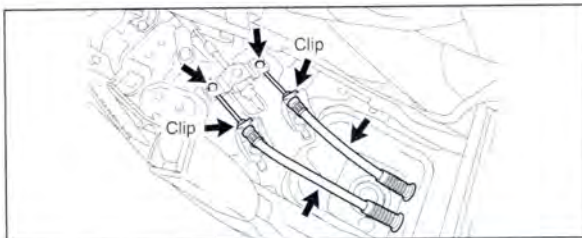
- Air Cleaner Hose and Air Cleaner Assy (*1GR-FE Only*)
 - Torque Spec:**

Air Cleaner Assy - 8.0 N·m (82 kgf·cm, 71 in·lbf)

Air Cleaner Hose - 12 N·m (122 kgf·cm, 9 ft·lbf)
- Air Cleaner Hose and Air Cleaner Assy (*2TR-FE Only*)
 - Torque Spec: 12 N·m (122 kgf·cm, 9 ft·lbf)**
- V-Bank Cover (*1GR-FE Only*)
 - Torque Spec: 7.5 N·m (76 kgf·cm, 66 in·lbf)**

30. REINSTALL THE FOLLOWING PARTS

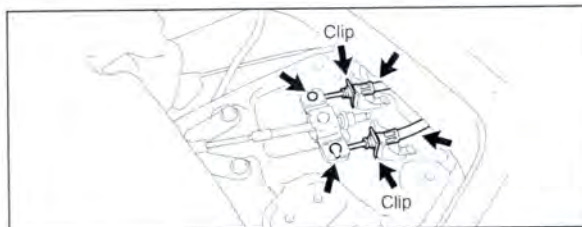
- Rear Floor Side Service Hole Cover LH/RH (*Access Cab*)
- Seat Floor Box (*Access Cab*)
- Floor Board No.1/No.2 (*Access Cab*)
- No.1 w/ Box Speaker Assy (*If Equipped*)
- Luggage compartment Side Tray (*Double Cab*)



31. RECONNECT THE PARKING BRAKE CABLES

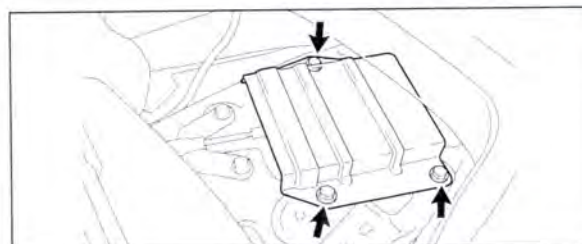
For Separate Seat Type:

- Reconnect the 2 parking brake cables.
- Reinstall the 2 clips.



For Bench Seat Type:

- Reconnect the 2 parking brake cables.
- Reinstall the 2 clips.



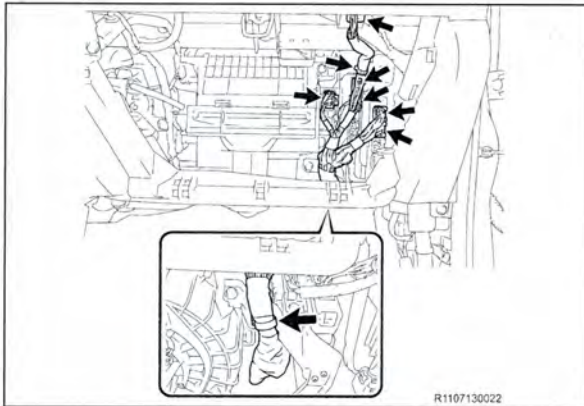
- Reinstall the parking brake cable joint protector with the 3 bolts and torque to spec.

Torque Spec: 12.5 N·m (127 kgf·cm, 9 ft·lbf)

- Turn back the floor carpet.

32. REINSTALL THE FOLLOWING PARTS

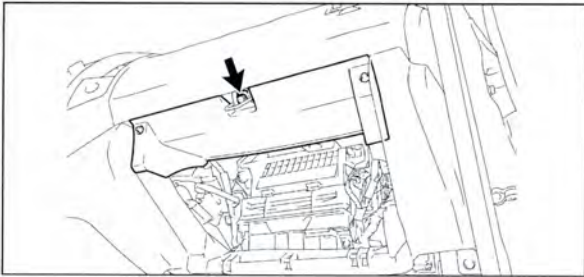
- Manual Transmission Shift Lever (*Manual Trans*)
- Voltage Inverter Assy (*If Equipped*)
- Front Console Box
- Front Console Box



33. RECONNECT THE ENGINE WIRE HARNESS

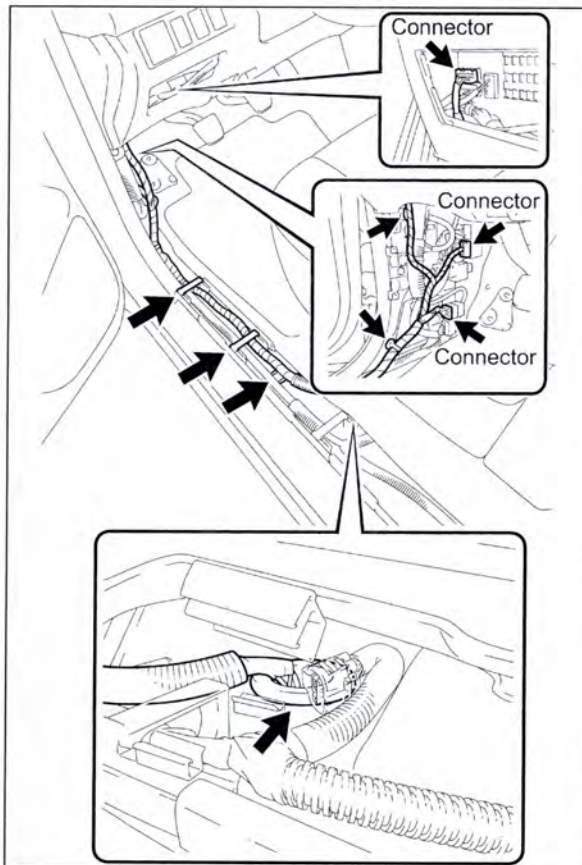
- a) Reconnect each connector and clamp to the ECM and engine wire harness.

NOTE: The number of connectors may differ depending on the model.



34. REINSTALL THE GLOVE BOX AND THE LOWER INSTRUMENT PANEL FINISH PANEL

- Reinstall the lower instrument panel finish panel with the bolt.
- Reinstall the glove box.



35. RECONNECT THE FRAME WIRE HARNESS

- Insert the frame wire harness into the cab assy.
- Reinstall the frame wire harness grommet to the cab assy.
- Reconnect the 3 connectors.
- Reconnect the 3 harness clamps.
- Reconnect the 2 clamps.

36. REINSTALL THE FOLLOWING PARTS

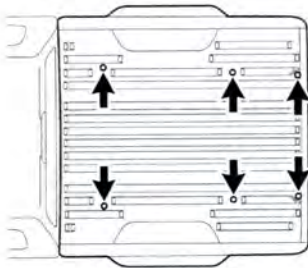
- Instrument Panel Box
- Cowl Side Trim Board LH/RH

NEW Replacement Parts

Front No.2 Bumper Extension Sub-Assy LH/RH

Part #	Part Name	Kit #	Qty
90176-A0044	Nut, Flange	2	6

H. REINSTALL THE BED ASSY



1. REINSTALL THE BED ASSY

- a) Using a Torx® T55 Socket, reinstall the bed assy Torx® bolts and torque to spec.

Torque Spec: 49 N·m (500 kgf·cm, 36 ft·lbf)

NOTE:

- Use 4 or more people to lift the bed assy.
- Evenly support the bed assy when reinstalling it.
- Be careful not to damage or hit the fuel inlet pipe when reinstalling the bed assy.

2. REINSTALL THE FUEL INLET PIPE SUB-ASSY

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

Torque Spec: 20 N·m (204 kgf·cm, 15 ft·lbf)



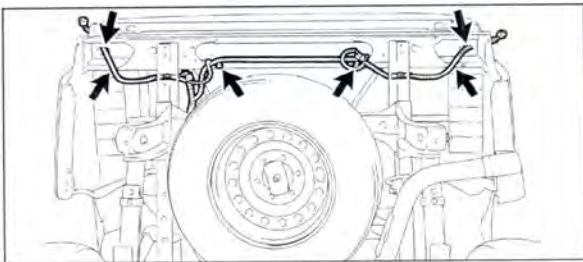
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3. RECONNECT THE FRAME WIRE HARNESS

- a) Reconnect the 6 wire harness clamps to the bed assy.

NOTE:

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



NEW Replacement Parts

Left Rear Wheel Well Liner

Part #	Part Name	Kit #	Qty
90189-A0002	Grommet, Screw (X-Runner)	9	6
90189-A0002	Grommet, Screw	8	8

Quarter Panel Wheel Opening Molding

Part #	Part Name	Kit #	Qty
75395-35070	Clip, Outside Molding, No. 1	8	3
75396-35020	Clip, Outside Molding, No. 2	8	7
90189-A0002	Grommet, Screw	8	2

Body Rocker Panel Molding Assy LH

Part #	Part Name	Kit #	Qty
75395-35070	Clip, Outside Molding, No. 1	9	2
75396-35020	Clip, Outside Molding, No. 2	9	1
90189-A0002	Grommet, Screw	9	1

Outside LH Back Door Molding Sub-Assy

Part #	Part Name	Kit #	Qty
75395-35070	Clip, Outside Molding, No. 1	9	2
75396-35020	Clip, Outside Molding, No. 2	9	1
90189-A0002	Grommet, Screw	9	1

Rocker Panel Molding LH/RH

Part #	Part Name	Kit #	Qty
75395-04010	Clip, Outside Molding, No. 1	9	4
75396-04010	Clip, Outside Molding, No. 2	9	14

Rear Bumper Assy

Part #	Part Name	Kit #	Qty
90119-A0192	Bolt, w/ Washer	2	6

4. REINSTALL THE FOLLOWING PARTS

- Left Rear Wheel Well Liner
- Quarter Panel Wheel Opening Molding LH
- Body Rocker Panel Molding Assy LH *(If Equipped)*
- Outside LH Back Door Molding Sub-Assy *(If Equipped)*
- Side Step Assy LH/RH *(If Equipped)*
- Rocker Panel Molding LH/RH *(If Equipped)*
- Rear Mudguard LH/RH *(If Equipped)*
- Rear Tail/Combination Light LH/RH
- Rear Bumper Assy
 - Reinstall the rear bumper assy with the 10 bolts and torque to spec. *(Trailer Hitch Equipped Vehicles Only)*
 - Reinstall the rear bumper assy with the 6 **NEW** bolts and torque to spec.
 - **Torque Spec: 90 N·m (918 kgf·cm, 66 ft·lbf)**

I. FINAL ASSEMBLY

1. REINSTALL THE NEGATIVE (-) BATTERY TERMINAL

NEW Replacement Parts

Front Differential

Part #	Part Name	Kit #	Qty
12157-10010	Gasket, Drain Plug	3	1
90430-24003	Gasket	3	1

2. REFILL THE FOLLOWING FLUIDS

- Brake Fluid
 - Remove the brake tubes from the master cylinder.
 - Refill with Toyota Dot 3 Brake Fluid.
 - Bleed the master cylinder.
 - Reinstall the brake tubes to the master cylinder and torque to spec.
 - **Torque Spec: 15.2 N·m (155 kgf·cm, 11 ft·lbf)**
 - Refill with Toyota Dot 3 Brake Fluid.
 - Bleed the brake system at each wheel and torque the bleeder screws to spec.
 - **Torque Spec: 10.8 N·m (110 kgf·cm, 8 ft·lbf)**
 - Clutch Fluid (*1GR-FE Manual Trans Only*)
 - Refill with Toyota Dot 3 Brake Fluid.
 - Bleed the clutch system and torque the bleeder screws to spec.
 - **Torque Spec: 10.8 N·m (110 kgf·cm, 8 ft·lbf)**
- NOTE: 2TR Manual Trans uses master cylinder reservoir for clutch.**
- Coolant
 - Refill with Toyota Long Life Coolant.
 - Bleed the cooling system.
 - Front Differential
 - Install **NEW** drain plug washer and torque to spec.
 - **Torque Spec: 64.7 N·m (660 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: 39.2 N·m (400 kgf·cm, 29 ft·lbf)**

3. START THE VEHICLE AND INSPECT THE FOLLOWING FOR LEAKS

- Fuel System
 - Start the engine and let it run for 5 seconds, then stop the engine and inspect for leaks.
 - If there are no leaks, restart the engine and re-inspect.
- Cooling System
- Brake System
- Clutch System (*1GR-FE Manual Trans Only*)
- Front Differential System

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

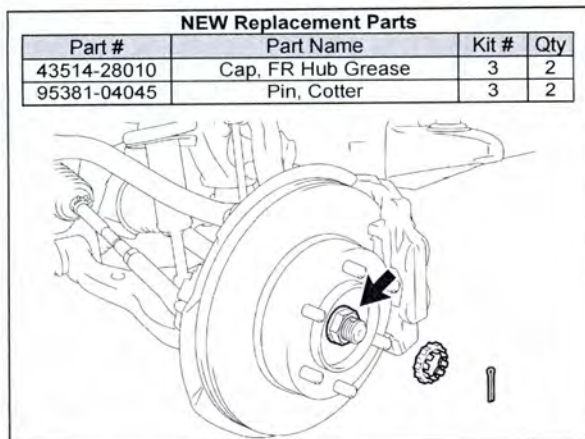
5. CHECK THE OPERATION OF THE FOLLOWING SYSTEMS AND ADJUST AS NEEDED



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

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

6. CHECK ALL FLUID LEVELS AND ADJUST AS NEEDED



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

- Remove the front wheels.
- Torque the front axle nut to spec.

Torque Spec: 235 N·m (2396 kgf·cm, 173 ft·lb)

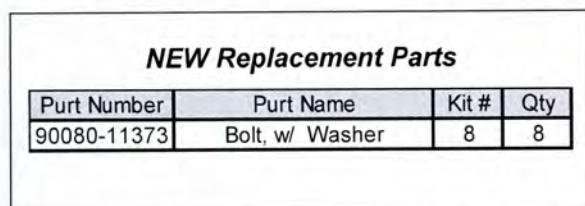
- Reinstall the lock cap with the **NEW** cotter pin.
- Reinstall the **NEW** grease cap.
- Repeat the procedure on the opposite side.
- Reinstall the front wheels and torque to spec.

Torque Spec: 113 N·m (1152 kgf·cm, 83 ft·lbf)

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

8. PERFORM A WHEEL ALIGNMENT

9. CHECK THE HEADLIGHT AIM AND ADJUST AS NEEDED



10. REINSTALL THE ENGINE UNDER COVERS

- Reinstall the engine under cover with 8 **NEW** bolts and torque to spec.

Torque Spec: 30 N·m (306 kgf·cm, 22 ft·lbf)

11. CHECK FOR DTC'S AND REPAIR AS NEEDED

12. PERFORM INITIALIZATION

13. FINAL INSPECTION

- 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

VI. 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.