# **TECHNICAL INSTRUCTIONS**

# FOR

# WARRANTY ENHANCEMENT PROGRAM ZH6

# **CERTAIN 2005 THROUGH 2010 MODEL YEAR TACOMA**

# FRAME REPLACEMENT

# **UPDATED 3-1-2018**

### Update 3-1-18

- Frame part numbers corrected

### Update 2-15-18

- Parts information updated

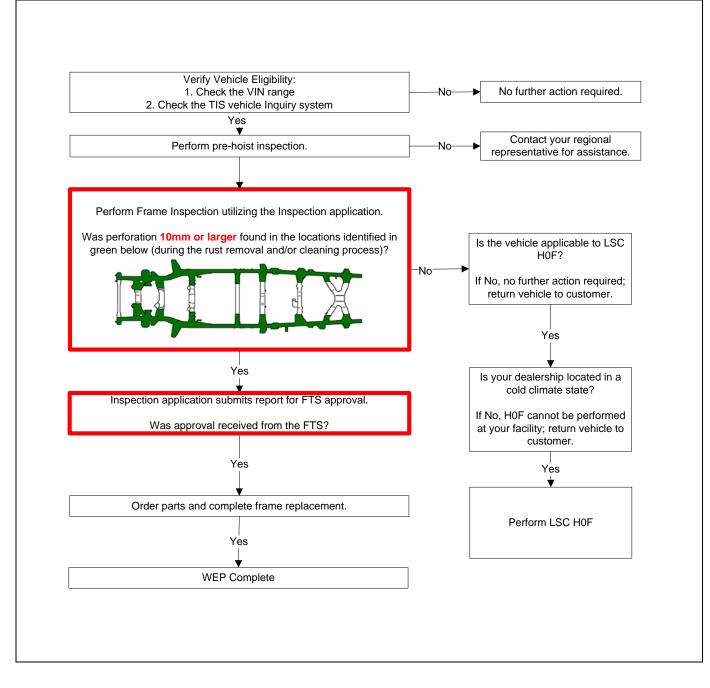
The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this recall are required to successfully complete the most current version of the E-Learning course "Safety Recall and Service Campaign Essentials". To ensure that all vehicles have the repair performed correctly; technicians performing this repair are required to currently hold <u>at least one</u> of the following certification levels:

- Certified Technician (any specialty)
- Expert Technician (any specialty)
- Master Technician
- Master Diagnostic Technician

Final repair must be signed off and validated by a MDT, Shop Foreman or Service Manager using the Frame Replacement Inspection Form.

It is the dealership's responsibility to select technicians with the above certification level or greater to perform this recall repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

# I. OPERATION FLOWCHART



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# **II. PREPARATION**

# A. TOOLS & EQUIPMENT

- A/C service equipment
- Alignment rack
- Brake bleeder
- Engine hanger

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- 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<sup>®</sup> T55H socket
- Socket wrench 36mm
- Hexagon wrench 8, 10
- Deep socket wrench 10, 12, 14, 17, 19mm
- Union Nut Wrench 10mm
- Weights
- Drill

# **B. SUPPLIES**

- Toyota Genuine ATF WS or DEXRON<sup>®</sup> III (DEXRON<sup>®</sup> 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 <a href="http://toyota-frame-parts-lookup.imagespm.info">http://toyota-frame-parts-lookup.imagespm.info</a> 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	(RCB 2WD 2TR 5MT or 4AT 05-08MY)	1	Frame	8
04001-76204	(ACB 2WD 2TR 5MT or 4AT 05-08MY)	1	Frame	8
04001-76304	(ACB 2WD 1GR 6MT 05-08MY)	1	Frame	8
04001-76404	(RCB 4WD 2TR 5MT 05-08MY)	1	Frame	8
04001-76504	(ACB 4WD 2TR 5MT 05-08MY)	1	Frame	8
04001-76604	(ACB 4WD 1GR 6MT or 5AT 05-08MY)	1	Frame	8
04001-76704	(DCB 4WD 1GR 6MT or 5AT 05-08MY)	1	Frame	8
04001-77604	(RCB Prerunner 4WD 2TR 5MT 05-08MY)	1	Frame	8
04001-76904	(ACB 2WD 2TR 5MT 05-08MY)	1	Frame	8
04001-77104	(ACB 2WD 1GR 5AT 05-08MY)	1	Frame	8
04001-77204	(ACB 2WD 1GR 6MT 05-08MY)	1	Frame	8
04001-77304	(DCB 2WD 1GR 5AT 05-08MY)	1	Frame	8
04001-77404	(DCB 2WD 1GR 5AT Super Long 05-08MY)	1	Frame	8
04001-77504	(DCB 2WD 1GR 5AT super long 05-08MY)	1	Frame	8
04006-63104	(RCB 2WD 2TR 5MT or 4AT 09 -10 MY)	1	Frame	8
04006-63204	(ACB 2WD 2TR 5MT or 4AT 09 -10 MY)	1	Frame	8
04006-63304	(ACB 2WD 1GR 6MT 09 -10 MY)	1	Frame	8
04006-63404	(RCB 4WD 2TR 5MT 09 -10 MY)	1	Frame	8
04006-63504	(ACB 4WD 2TR 5MT 09 -10 MY)	1	Frame	8
04006-63604	(ACB 4WD 1GR 6MT or 5AT 09 -10 MY)	1	Frame	8
04006-63704	(DCB 4WD 1GR 6MT or 5AT 09 -10 MY)	1	Frame	8
04006-63804	(RCB Prerunner 2WD 2TR 5MT 09-10 MY)	1	Frame	8
04006-63904	(ACB 2WD 2TR 5MT 09-10 MY)	1	Frame	8
04006-64104	(ACB 2WD 1GR 5AT 09-10 MY)	1	Frame	8
04006-64204	(ACB 2WD 1GR 6MT 09-10 MY)	1	Frame	8
04006-64304	(DCB 2WD 1GR 5AT 09-10 MY)	1	Frame	8
04006-64404	(DCB 2WD 1GR 5AT Super Long 09-10 MY)	1	Frame	8
04006-64504	(DCB 4WD 1GR 5AT Super Long 09-10 MY)	1	Frame	8

# Individual Parts (Continued):

Part Number	Part Description	Quantity	Illustration Name	Page
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 (05-08MY)	1	Brake Tubes	12,15
47325-04170	Tube, RR Brake, No.5 (05-08MY)	1	Brake Tubes	13,16
47325-04180	Tube, RR Brake, No.5 (05-08MY)	1	Brake Tubes	14,17
47325-04190	Tube, RR Brake, No.5 (09-10MY)	1	Brake Tubes	
47325-04200	Tube, RR Brake, No.5 (09-10MY)	1	Brake Tubes	
47325-04210	Tube, RR Brake, No.5 (09-10MY)	1	Brake Tubes	
47326-04130	Tube, RR Brake, No.6 (05-08MY)	1	Brake Tubes	12,15
47326-04140	Tube, RR Brake, No.6 (05-08MY)	1	Brake Tubes	13,16
47326-04150	Tube, RR Brake, No.6 (05-08MY)	1	Brake Tubes	14,17
47326-04160	Tube, RR Brake, No.6 (09-10MY)	1	Brake Tubes	
47326-04170	Tube, RR Brake, No.6 (09-10MY)	1	Brake Tubes	
47326-04180	Tube, RR Brake, No.6 (09-10MY)	1	Brake Tubes	
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
48210-04370	Spring Assy, RR RH	1	Rear Suspension	11
48210-04380	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-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
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 90469-A0004	Clamp	3	Brake Tubes	12,15
90469-A0004 90469-A0004	Clamp	4	Brake Tubes	14,17
51900-35410	Carrier Assy, Spare Wheel	4	Spare Tire Carrier	8
51900-35420	Carrier Assy, Spare Wheel	1	Spare Tire Carrier	8
5114A-04010	Seal, Frame Side Rail, RH*	1	No Illustration	N/A
5114A-04010 5114B-04010	Seal, Frame Side Rail, KH	1	No Illustration	N/A N/A
90178-A0024	Nut w/Flange*	2	No Illustration	N/A
90119-A0024	Bolt with Washer*	2	No Illustration	N/A N/A
90080-46327	Clip	2	No Illustration	N/A N/A
	Clip nd mounting hardware are only needed for frames th	_		

\*Note Frame seal and mounting hardware are only needed for frames that do not come with them previously installed.

# Parts Kits:

Part Number	Part	Description		Quantity
04001-71104	Parts Kit No.1 – Co	mmon Replac	ement Kit A	1
·	The kit listed above inc	ludes the foll	owing 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 (2wd Non-PreRunner)			
	The kit listed above in	cludes the fol	lowing 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	
04006-54104	Parts Kit No.2 – Common Replacement Kit C (4WD and PreRunner)				
The kit listed above includes the following parts:					
Part Number	Part Description	Qty	Illustration Name	Page	
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-A0249	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	Pa	rt Description		Quantity
04001-71304	4 Parts Kit No.3 – JPN Source Parts kit 1 (4WD 05-08MY)			1
·	The kit listed above i	ncludes the foll	owing 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
90311-47027	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	Pa	rt Description		Quantity
04006-46104	04006-46104 Parts Kit No.3 – JPN Source Parts kit 4 (4WD 09-10MY)			1
·	The kit listed above i	ncludes the foll	owing 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
90311-47026	Seal, Type T Oil	1	Front Differential	20
90311-47027	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	t Description		Quantity		
04001-71404	Parts Kit No.4	– JPN Source F	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		

Part Number	Par	t Description		Quantity
04001-71504	Parts Kit No.5	– JPN Source P	Parts kit 3	1
Part Number	The kit listed above in Part Description		owing parts:	Paga
		Qty		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
46452-35020		2	Power Steering	20
95381-03225	Pin, Cotter	2	Fower Steering	20

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

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

Part Number Part Description						
04001-72104	04001-72104 Parts Kit No.10 – Brake Tube kit 1 (without VSC)					
	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		
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Part Number Part Description				Quantity	
04001-72204	Parts Kit No.11 – Brake Tube kit 2 (with VSC)				
The kit listed above includes the following parts:         Part Number       Part Description       Qty       Illustration Name					
47313-04200	Tube, FR Brake, No.3	1	Brake Tubes	Page 15-17	
47315-04170	Tube, FR Brake, No.5	1	Brake Tubes	15-17	
4/3/3-04//0					
47323-04170	Tube, RR Brake, No.3	1	Brake Tubes	15-17	

Part Number Part Description				Quantity
04001-72304	Parts Kit No.12 –	1		
	The kit listed above in	cludes the fo	llowing 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

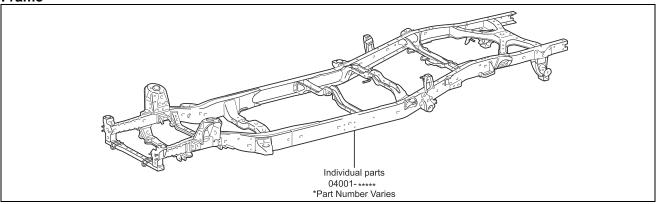
Part Number Part Description				Quantity
04001-72404	Parts Kit No.13 – Brake Tu	1		
	The kit listed above in	cludes the foll	owing parts:	
Part Number	Part Description	Qty	Illustration Name	Page
47314-04150	Tube, FR Brake, No.4	1	Brake Tubes	12-17
47316-04150	Tube, FR Brake, No.6	1	Brake Tubes	12-17
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

Part Number	Part Description			Quantity
04007-18135	Plug Hole Kit 4x4 and PreRunner (You may not use all plugs provided in the kit)			1
	The kit listed above	includes the	following parts:	
Part Number	Part Description	Qty	Illustration Name	Page
90950-01983	PLUG,HOLE	4		_
90950-01984	PLUG,HOLE	2		
90950-01987	PLUG,HOLE	8		
90950-01989	PLUG,HOLE	4		
90950-01991	PLUG, HOLE	4		
90950-01990	PLUG, HOLE	4		
90950-01992	PLUG, HOLE	2		
90950-01A24	PLUG, HOLE	2		
90950-01931	PLUG, HOLE	1		
90950-01631	PLUG, HOLE	4		
90333-20001	PLUG, HOLE	10		
90333-30002	PLUG, HOLE	28		

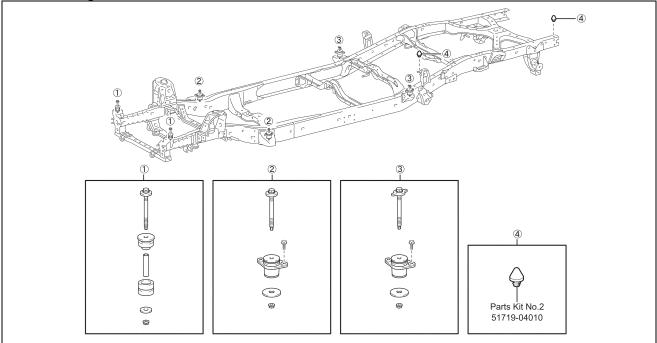
Part Number	Part Description			Quantity
04007-18235	Plug Hole Kit 4x2 (You may not use all plugs provided in the kit)			1
·	The kit listed above	includes the foll	owing parts:	
Part Number	Part Description	Qty	Illustration Name	Page
90950-01983	PLUG , HOLE	4		
90950-01984	PLUG, HOLE	2		
90950-01A09	PLUG, HOLE	2		
90950-01987	PLUG, HOLE	6		
90950-01989	PLUG, HOLE	4		
90950-01991	PLUG, HOLE	4		
90950-01990	PLUG, HOLE	4		
90950-01992	PLUG, HOLE	2		
90950-01A11	PLUG, HOLE	2		
90950-01A24	PLUG, HOLE	2		
90950-01931	PLUG, HOLE	1		
90950-01631	PLUG, HOLE	4		
90333-20001	PLUG, HOLE	2		
90333-30002	PLUG, HOLE	36		

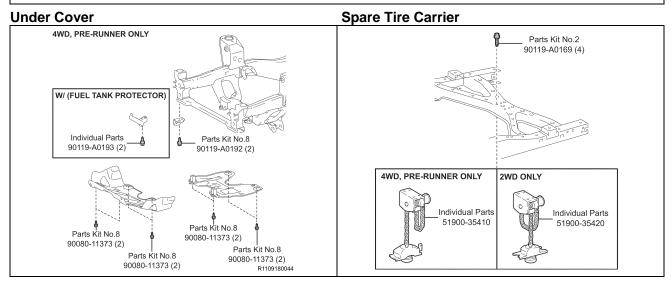
# D. PARTS ILLUSTRATION

### Frame

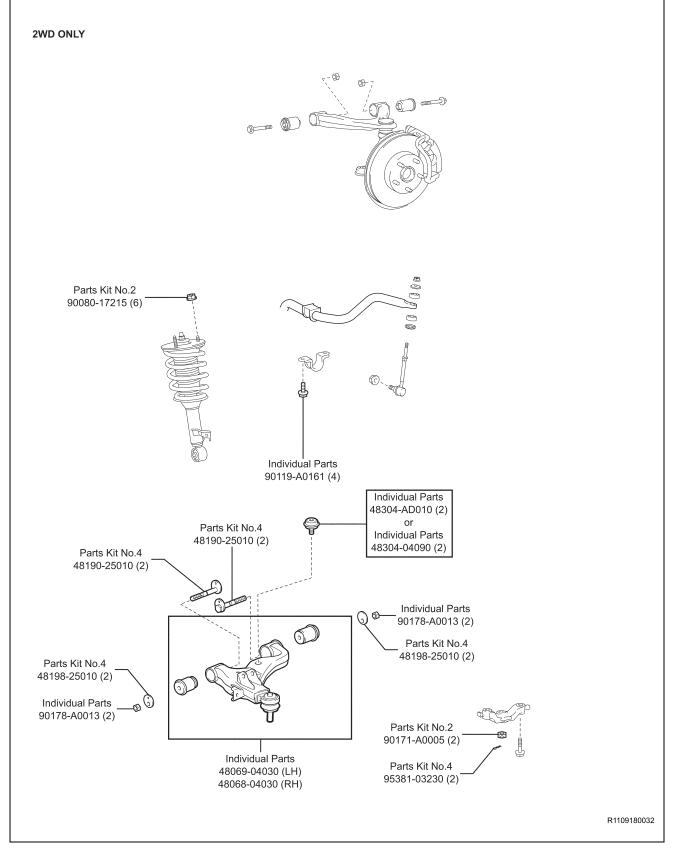


# **Cab Mounting**

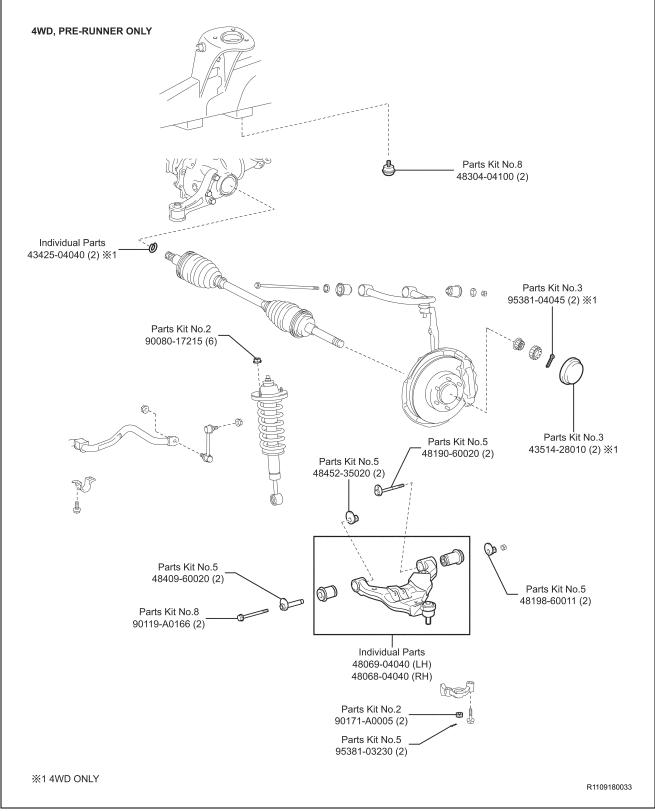




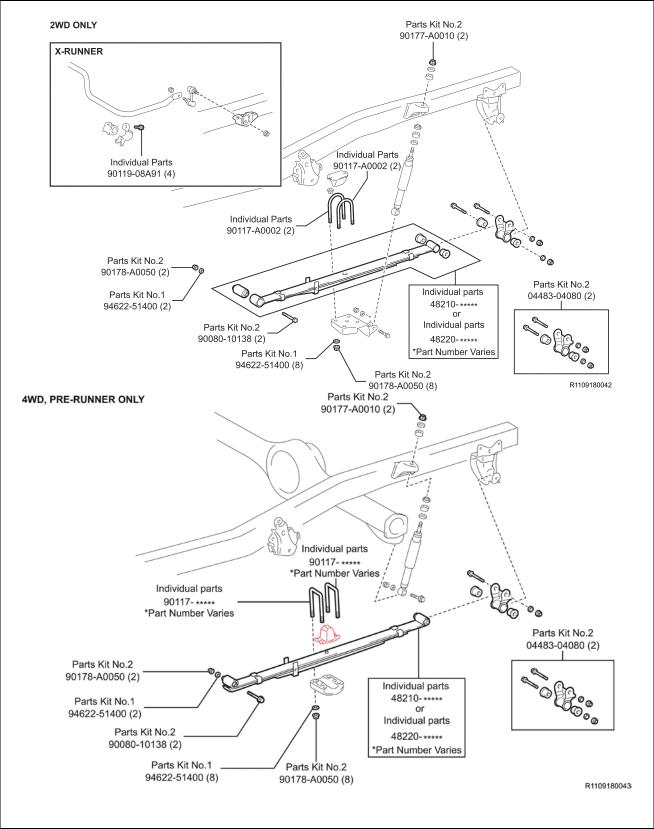
# **Front Suspension**



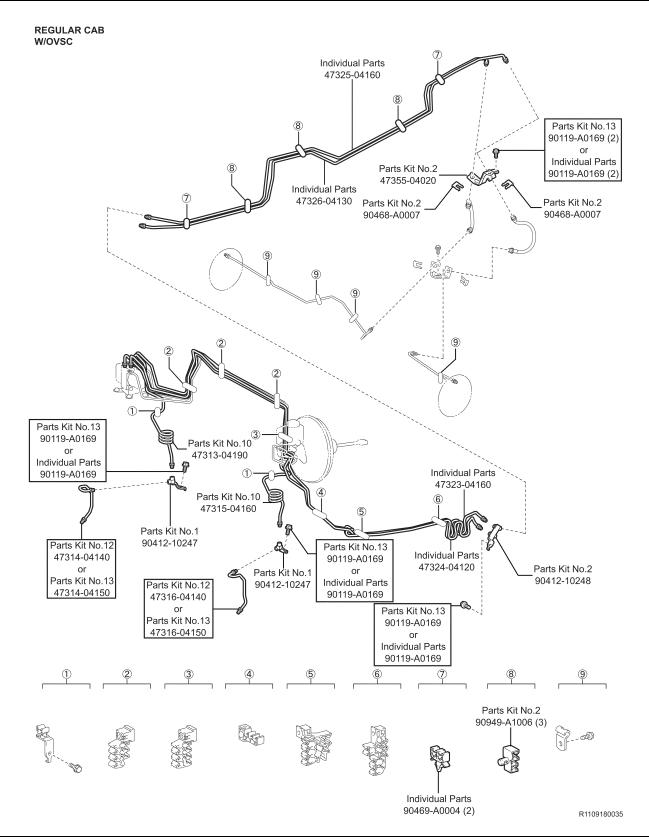
# Front Suspension Continued...

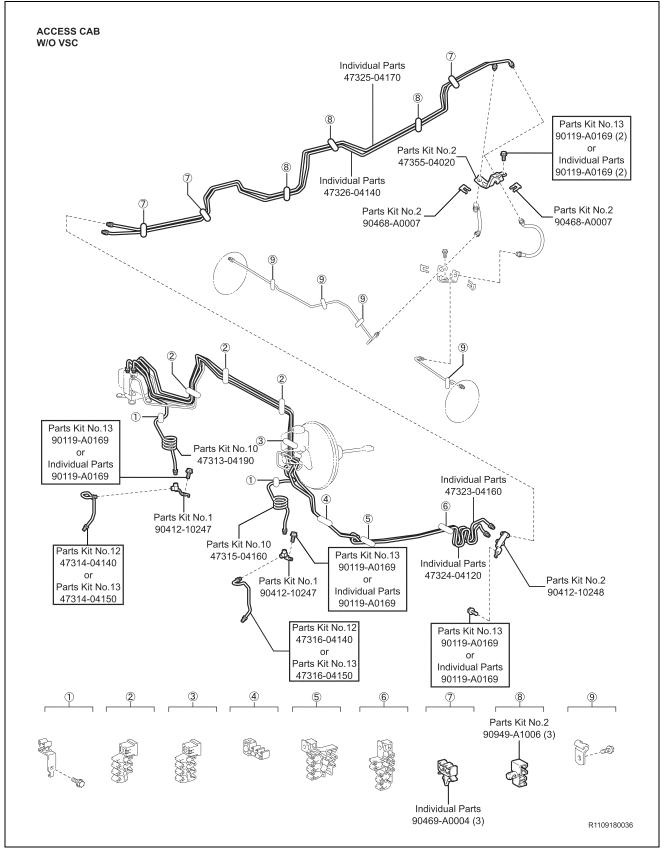


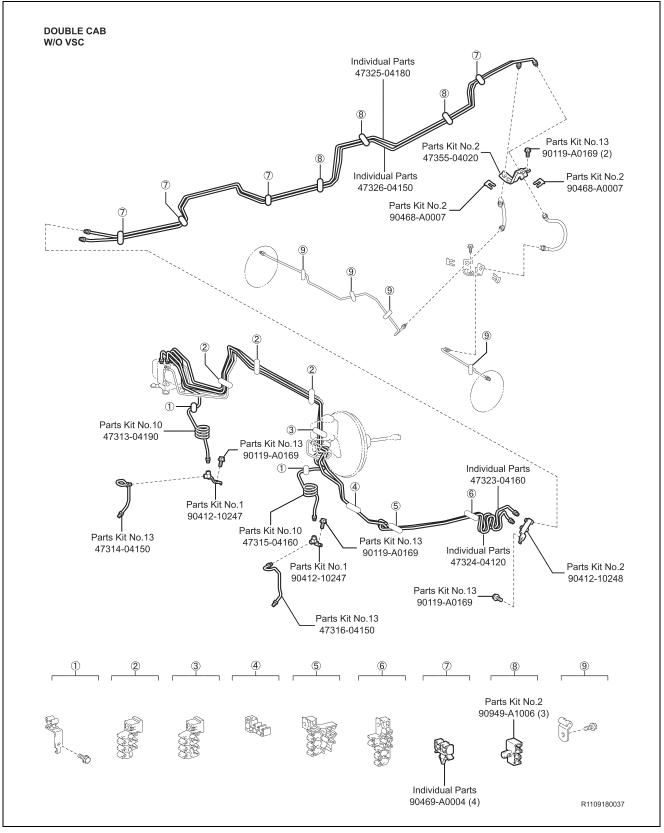
#### **Rear Suspension**

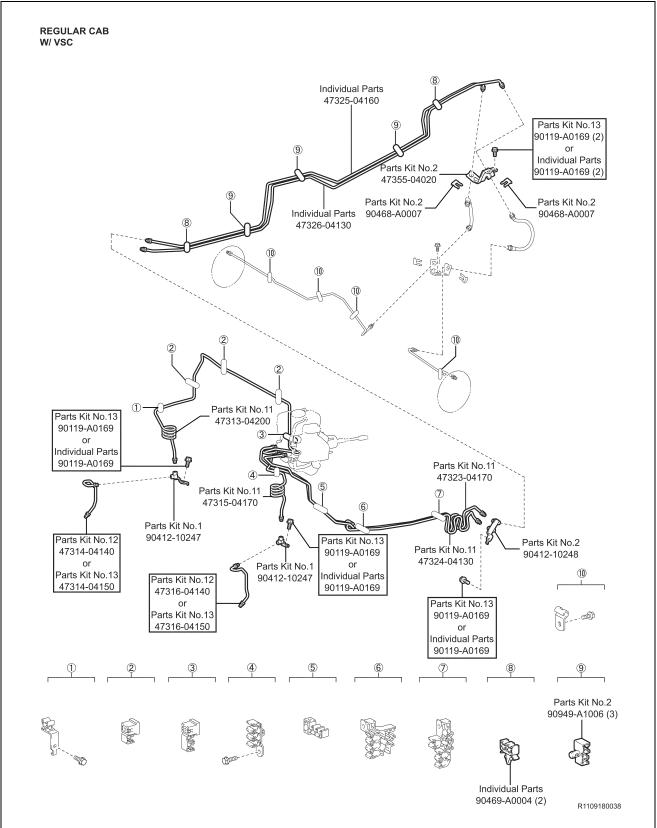


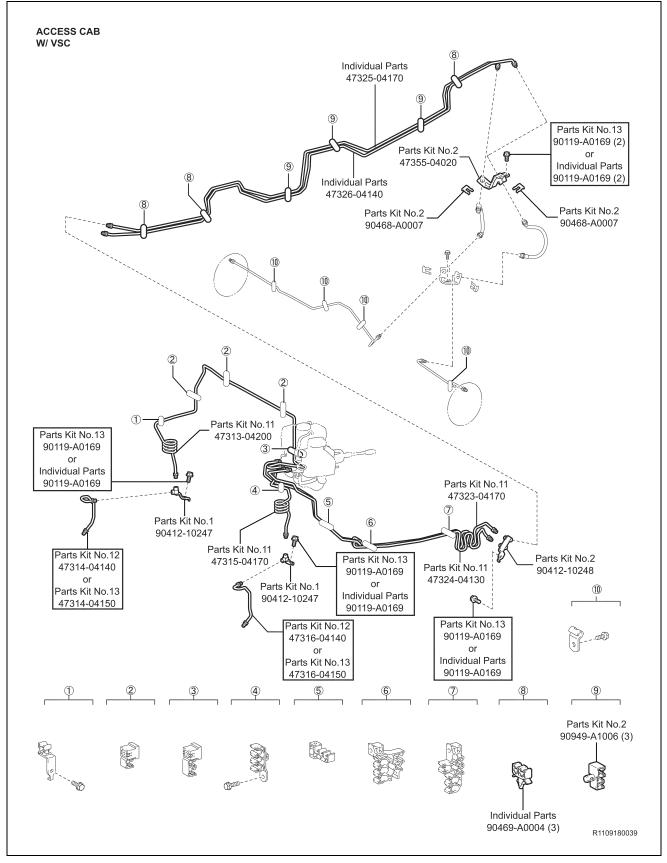
#### **Brake Tubes**

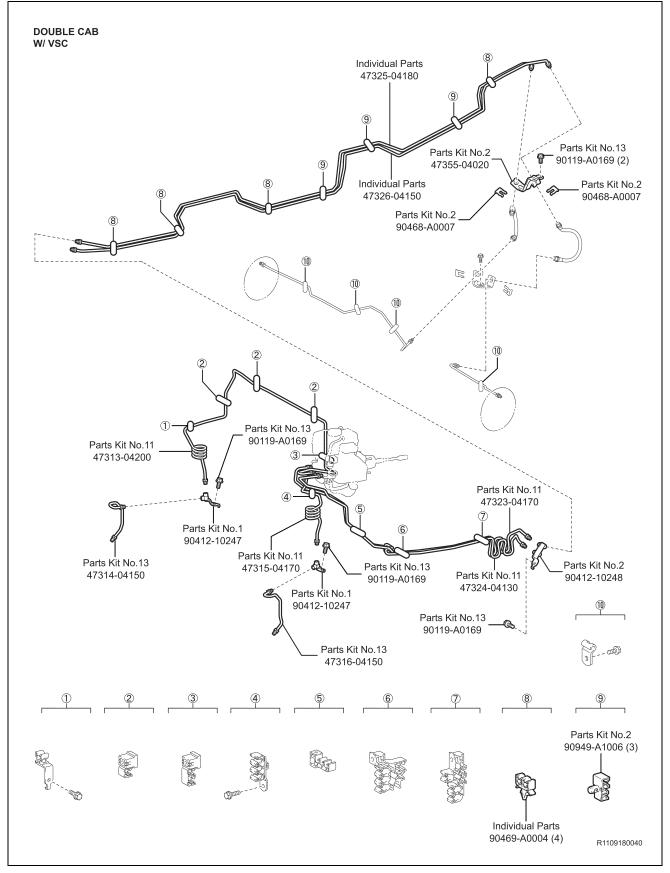


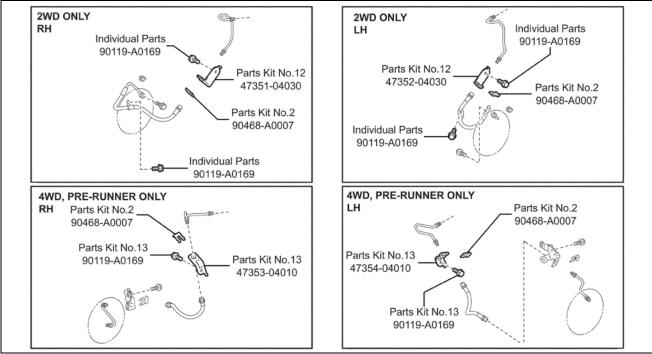




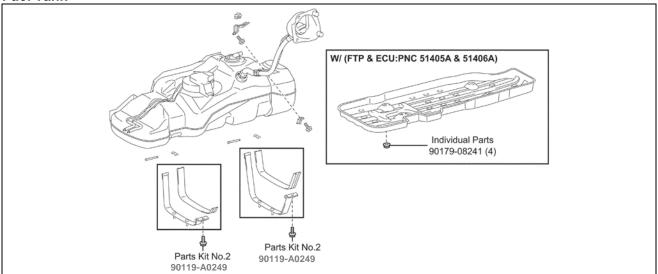




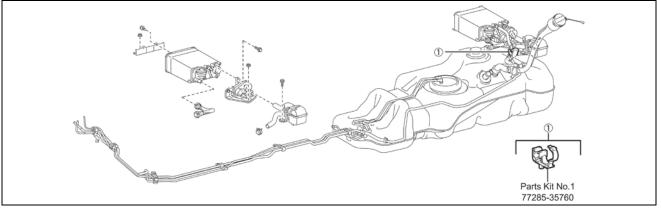


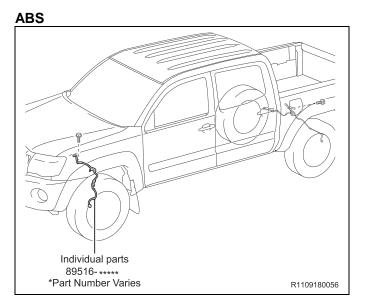


#### **Fuel Tank**

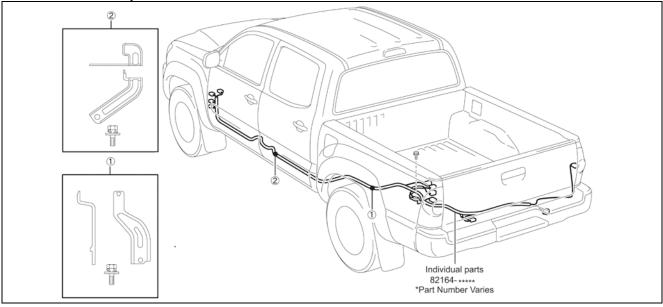


### **Fuel Tubes**

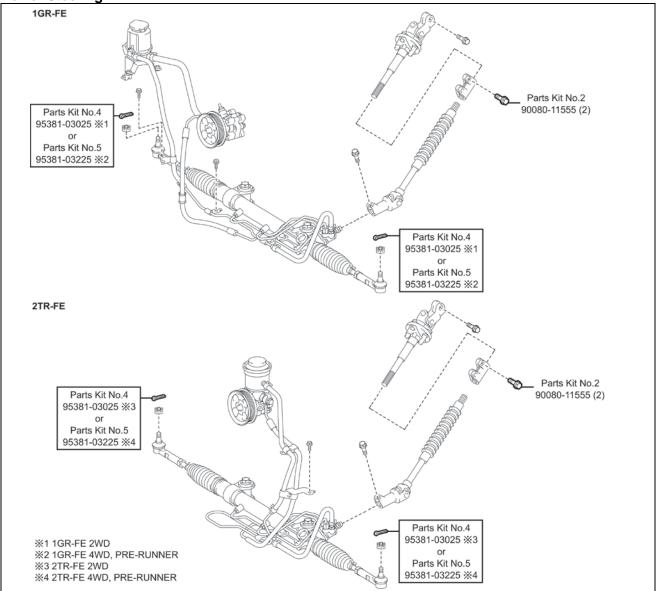




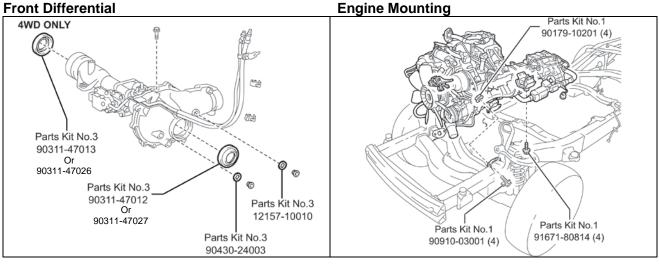




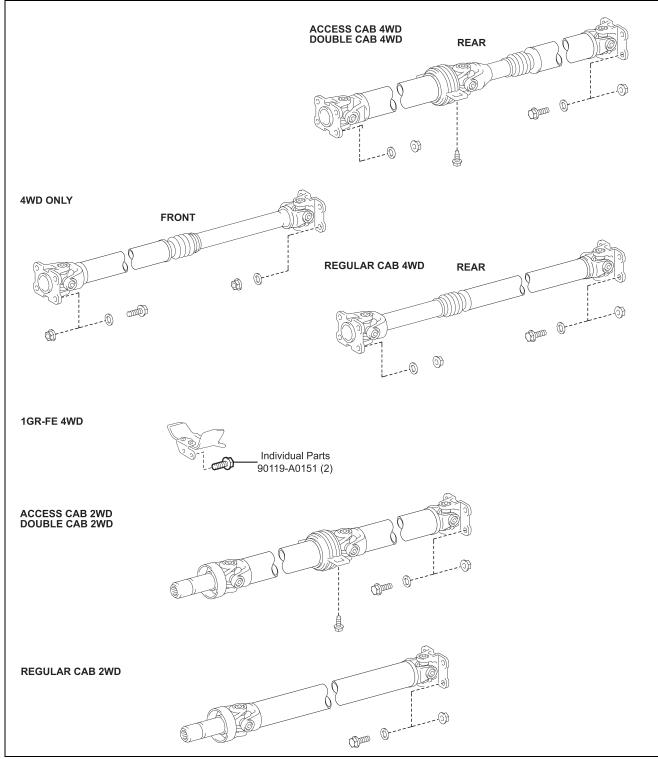
#### **Power Steering**



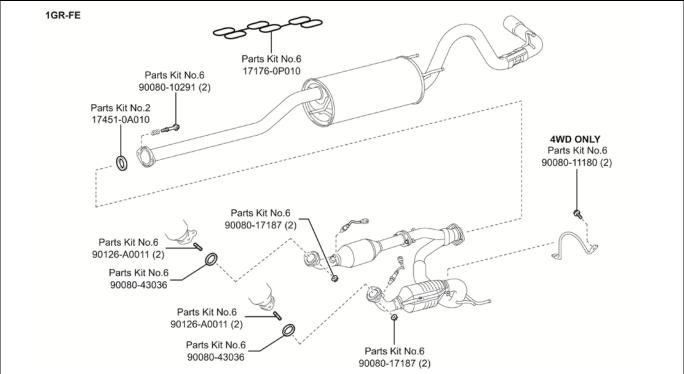
#### **Front Differential**



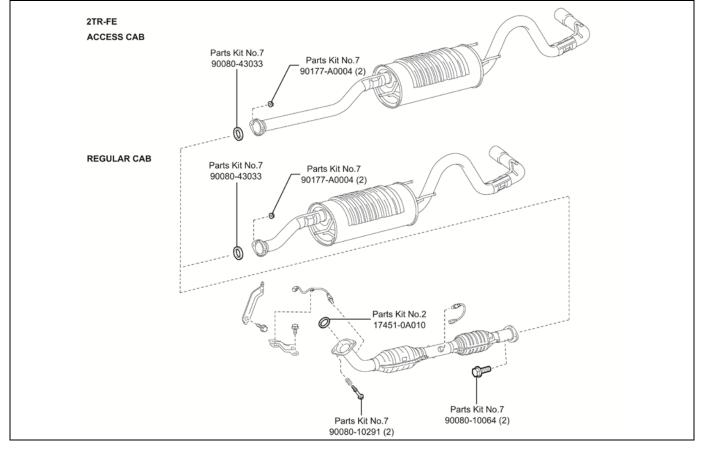
# Propeller Shaft

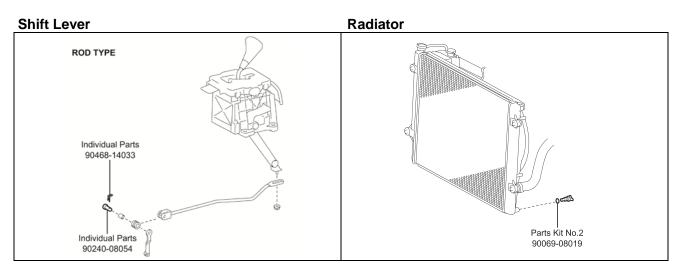


### **1GR-FE Exhaust System**

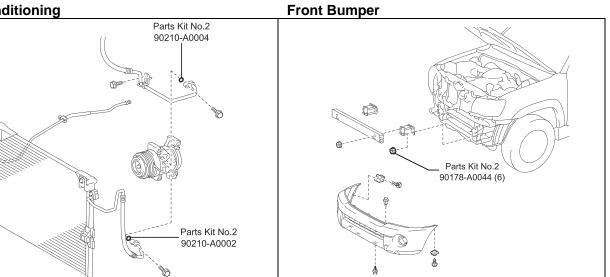


#### 2TR-FE Exhaust System

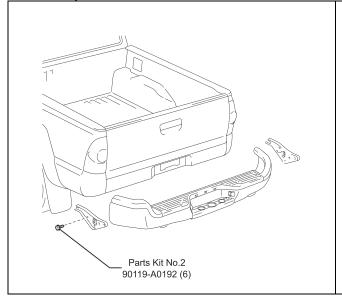




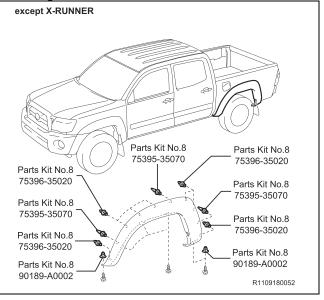
# Air Conditioning

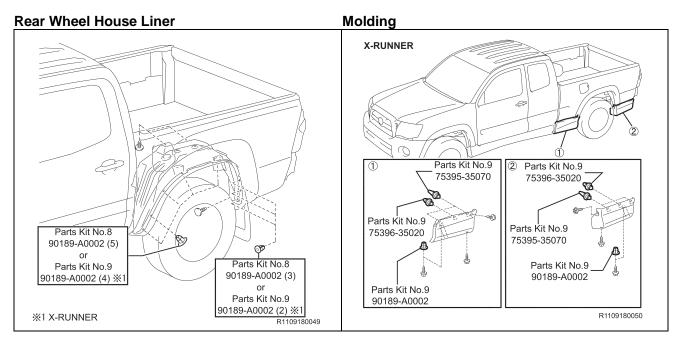


#### **Rear Bumper**

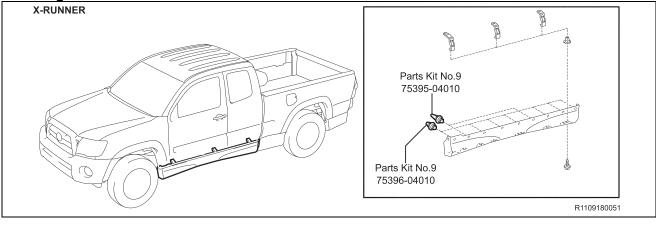


### Molding





# Moulding Continued...



# **III. FRAME INSPECTION**

- 1. PERFORM INITIAL PRE-HOIST INSPECTION
  - 1. INSPECT THE FRAME FOR EXCESSIVE FRAME CORROSION THAT COULD AFFECT THE STRUCTURAL INTEGRITY OF THE FRAME

#### 2. FRAME INSPECTION



All frame inspection must be performed using the NEW frame inspection application on TIS. Ensure you inspect the frame and properly document the inspection. Failure to perform this will result in denial of the claim.

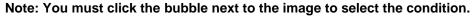
## 1. ACCESS INSPECTION APPLICATION

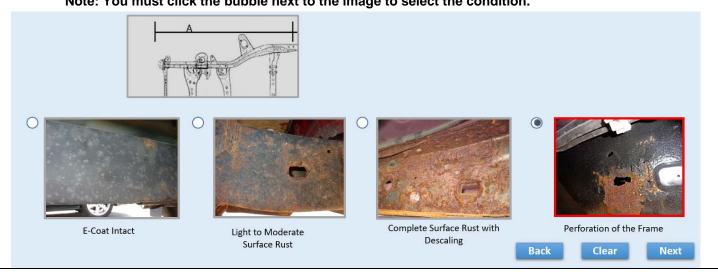
- a. Run the VIN in TIS and click on the Warranty Tab
- b. Click on the "Frame Inspection" link on TIS

○ Library ○ Diagnostics ○ Tech Ass	istance 🖲 Vehicle Inquiry					
Vehicle Identification Number Search						
Enter a 17 Digit VIN below to search for app VIN: STE TU62N 55Z048758	licable information: lear Lookup					
Vehicle Information						
Division: TOYOTA	Model: Tacoma	Grad	e: PRERUNNER		Model Year: 2005	
Drive Type: 2WD Date of First Use: 03/23/2005	Body Type: Access Cab Production Date: 02/04/2005		ne Family: V6 - 1 t Code: Z - FREMO	GR DNT PLANT - NUMMI	Engine No: 1GR0650306 Transmission: 5AT	
VIN: 5TE-TU62N-55Z048758	Electronic Parts Catalog	Flat Rate Manua	<u>1</u>	Standard Equipment [+]		
Exterior Color: 0209, BLACK SAND PEARL		Interior Color: * Interior Trim Co			Interior Fabric: *, *	*
Accessories: BU: BUCKET SEATS CQ: CONVENIENCE #3 WR: SLIDING REAR WINDOW	PACKAGE EM: POWER REMOTE OUTER MIRRO	OR - BLACK FE: 5	0 State Emissions	LF: FOG LAMPS LX: SI	R5 PACKAGE WITH CHROME	SN: SR5 Package
Campaign StruigetHiltony ToyotaCare	Warranti) Dite History Diagnostic Report					
Service Campaign						$\sim$
Campaign Description: Safety Rec: Completion Status: Not Compl [Show Documents] Tech Cert Requirements:	ll E02 - Remedy Notice Certain 2005-2011 Mode eted	el Year Tacoma Pre-	Runner and 4x4 Ve	hicles Rear Leaf Spring	C	Frame Inspection
Maint Certified	Expert	HY Master	MDT	Special Courses	Addnl Info	]
	( )	~	~	(SC15A)	Remedy launched for vehicles in Boston, New York, CAT, Cincinnati, Denver, Portland and Chicago regions.	
			~	(SC15A)	vehicles in Boston, New York, CAT, Cincinnati,	
	ECTION APPLICATI		~	(SC15A)	vehicles in Boston, New York, CAT, Cincinnati, Denver, Portland and	
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2 5	ENTER VEHICLE INFORMATION	
3. E		
	a. Enter the vehicle mileage.	and the state of the second state of the
	b. Select the state from the drop-down	menu that the vehicle is registered.
	Note: Do NOT select the state the	dealership is located.
	c. Inspect the frame for CRC compound	d that could have been previously applied:
	CRC was Previously Applied: Sele NO CRC Previously Applied: Selec	
	Note: CRC could only be previously	applied to 2005 to 2008 Tacoma vehicles.
	Frame Ir	nspection Home
	User ID : 406218	Technician Name : John
	Dealer Code :	Dealer Name :
		VIN :
	Date / Time : 05/10/2016 01:41 PM PDT	
		DMY : Toyota Highlander 2015
	Vehicle Mileage: Miles	Vehicle Registered State: 🔭 🔍
		AL AZ AR CA CO
	Has the vehicle had CRC p	reviously applied to the frame?
	Click on the appropriate icon bel	ow to start the Frame Inspection process.
	CRC Previously Applied	No CRC Applied
4. II	NSPECT THE FRAME SECTIONS a. Inspect the frame in the colored area	s below and use the application to document the results of the
	inspection.	
	Note: Crossmember mounting loca	ations should be inspected 6" into the crossmember.
	Tace	oma 05 to 10
		and the second se
	h Calast Castian A	
	b. Select Section A	
	Note: The frame inspection application	n must be completed in alphabetical order.
	Click on the highlighted section of the fr	ame diagram below to start the inspection process.
		pected as instructed by the Technical Instructions.
	You must start in Section A (Front Passenger Side of	f the vehicle) and proceed to each section in alphabetical order.
		в
	Lout	Rear
		E F Back

Inspect the frame section and inspect all surfaces of the frame rail and crossmember. Select the photo c. that best represents the frame condition. If perforation of 10mm or larger is identified select "Peroration of the Frame".





- d. If you selected Perforation of the Frame, the application will request more information about the size of perforation(s) and location.
- e. The section with perforation will split into 2 sub-sections to further identify the perforation location.
- f. Select the size of the perforation in each sub-section.
- Upload a photo for each area containing perforation and describe the location in the comments g. section.

Note:

- If both sub-sections have perforation, it will require two pictures to be uploaded. •
- If perforation was accidentally selected use the back button to reselect the correct frame condition.
- h. Select Next to move onto the next section.

rame Inspection	
Select Perforation Identificat	tion - NO CRC Applied
he frame section has been split into two smaller sections to help clarify to the te and size of the perforation and upload	chnical staff where the perforation is located. Please select the location an image of the perforation.
Note: If perforation is found in both areas please in	dentify both perforation locations below.
A1 A	A2 A2 A2 A2 Check the appropriate perforation size* OPerforation Found during Frame Clearing for CRC- 10mm and above
I6mm or above	$\bigcirc$ 16mm or above
○ 10 to 15mm	○ 10 to 15mm
○ None	None
Comments: frame rail next to (500 Chars) cab mount weld.	Comments: (500 Chars)
▼ IMG_1302.JPG	
	Back Clear Next

	i. Once a	all sections have been cor	mpleted, select the Submit bu	tton.
	Front		B mpleted E C C C C C C C C C C C C C	Rear Rear
NO Perfor	ation Found			
	j. If no po	erforation was not found, f	follow the directions as provid	led.
			pection Case: FI0000000001 ummary: No Perforation Found	
	The frame inspe		uccessfully. Please print a copy o R.O. for warranty claim filing.	of the inspection case and file it
Perforatio				
				our Regional Office for review. The if the frame replacement is approved for
	future			
	DO	NOT proceed with frame	e replacement or parts orde	ring until vou are provided
S	TOP with		onal Office. Approval will b	e sent to the TIS inbox for the
(	Ĵ TIS :: JOHNSOJ4!	59 - Windows Internet Explo	rer Provided by TEMA	
	Frame Inspection			
		Frame In	spection - NO CRC Applied	
8	User ID	: JOHNSOJ459	Technician Name	: James Johnson
8	Dealer Code	: 54012	Dealer Name	: CYPRESS COLLEGE
-	Date/Time	: 07/08/2017 2:12 PM PDT	VIN DMY	: 5TBRT38101S125908 : TOYOTA Tundra 2001
	Vehicle Mileage	:* 120568 Miles	Vehicle Registered State	:* VT 🔽
1				
			pection Case: FI0000000881 oration has been found in Sections	s A1.C1.C2.
	т		ew and provide feedback or author	
	Feedbac	ck and authorization will be ser	nt to your TIS Inbox when the revi	ew has been completed.
n				

# IV. FRAME REPLACEMENT WORK PROCEDURE

# A. PERFORM PRELIMINARY VEHICLE INSPECTION

- 1. Perform health check and record any preexisting DTCs
- 2. Test drive the vehicle and inspect the following vehicle functions/current operating conditions prior to vehicle repair.
- 4WD System (4WD Only)
- Interior Lights
- Exterior Lights
- HVAC System
- Audio System

D

- Power Windows
- Power Door Locks
- All Gauges, Indicators and Warning Lights
- Cooling Fans
- Etc.
- 3. Documents the current vehicle operating condition on the Frame Replacement Inspection Sheet.

## **B. SAFETY CHECKLIST & PRECAUTIONS WHEN DRAINING THE FUEL SYSTEM**

- Always remember <u>"SAFETY FIRST</u>".
  - 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

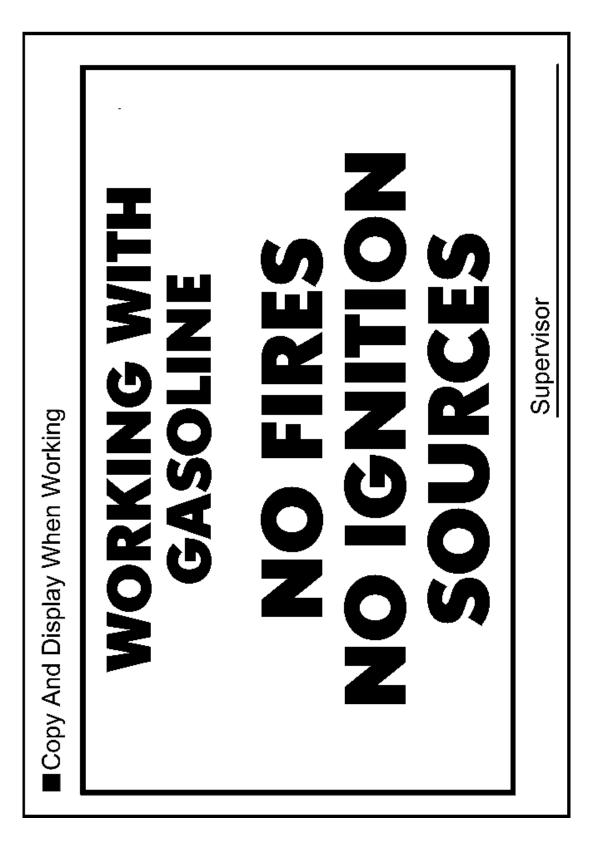
When disconnecting any fuel tubes, pipes, hoses or connectors there may still be some pressure remaining, even after discharging the system. To prevent the fuel from spraying, cover the tubes, pipes or connectors with a shop rag before disconnecting.
 Remember to always wear protective goggles especially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

# 7. PREVENT THE FUEL FROM CONTACTING OTHER PARTS

 $\hfill\square$  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.



Copiar y exhibit al trabajar          TRABAJANDO CON         GASOLINA	NINGÚN INCENDIOS	NINGUNA FUENTE DE IGNICIÓN	Supervisor
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# C. 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.

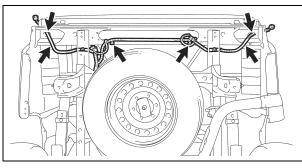
# 2. REMOVE THE FOLLOWING PARTS

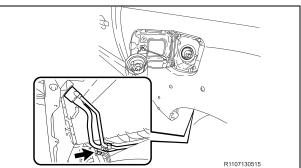
• Rear Bumper Assy

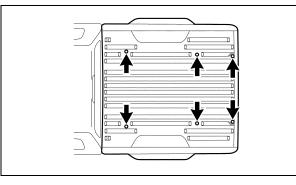
ST0

- 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 subassy.

## 5. REMOVE THE BED ASSY

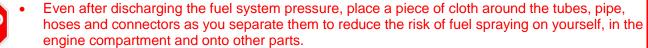
a) Using a Torx<sup>®</sup> T55H Socket, remove the 6 Torx <sup>®</sup> bolts from the bed assy.

## 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.

# D. DISCHARGE THE FUEL SYSTEM PRESSURE

• **DO NOT** disconnect any part of the fuel system until you have discharged the fuel system pressure.

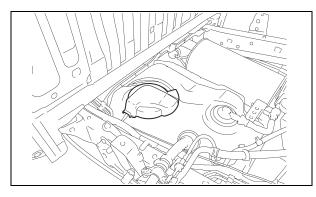


• For additional repair information, please reference the appropriate repair manual in TIS for the vehicle you are working on.

# 1. CHECK FOR DTCs

STOP

# 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.).

# E. 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)
- Clutch Fluid (Manual Transmission Vehicles Of 1GR-FE Only)

Brake Fluid

ST0

• 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.

Front Bumper Assy

## 4. REMOVE THE FOLLOWING BODY COMPONENTS

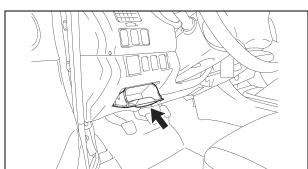
- Radiator Grille
- Front Bumper Filler LH/RH
- Front Fender Mudguard LH/RH
- 5. REMOVE THE FOLLOWING INTERIOR COMPONENTS
  - Front Door Scuff Plate LH/RH
  - Front Floor Footrest

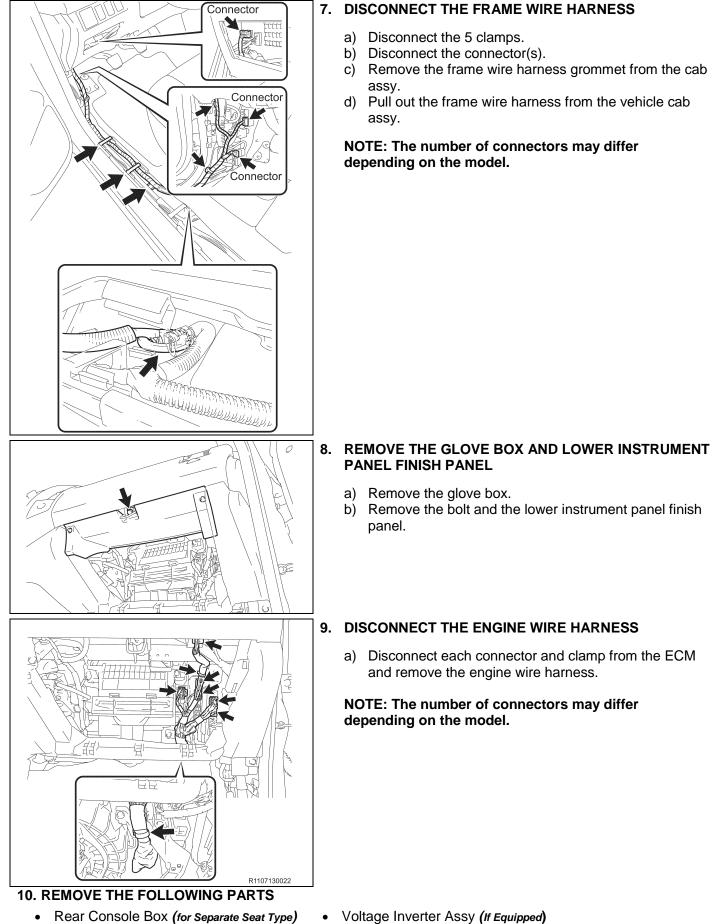
• Cowl Side Trim Board LH/RH

Front Bumper Reinforcement

6. REMOVE THE INSTRUMENT PANEL BOX

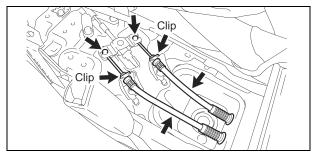
Front No.2 Bumper Extension Sub-assy LH/RH

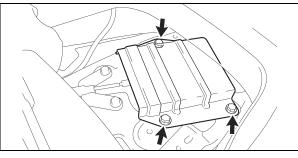


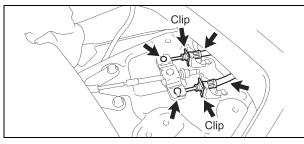


• Front Console Box

• Manual Transmission Shift Lever (Manual Trans Vehicles Only)

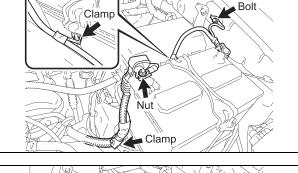


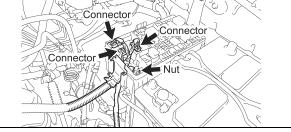




# 12. REMOVE THE FOLLOWING PARTS

• V-Bank Cover (1GR-FE Only)





# 11. DISCONNECT THE PARKING BRAKE CABLES

# For Separate Seat Type:

- a) Remove the 2 clips.
- b) Disconnect the 2 parking brake cables.

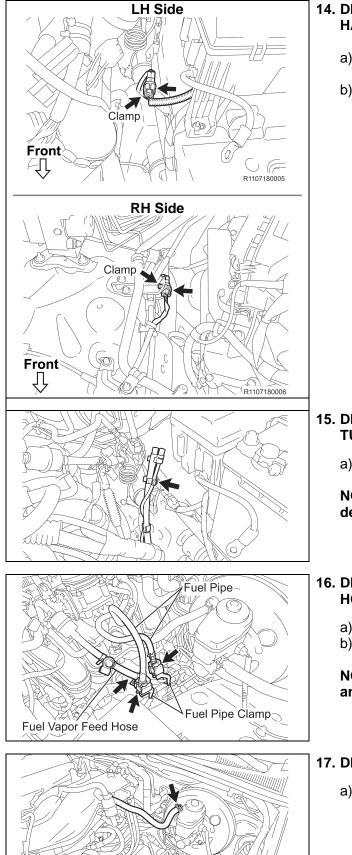
# For Bench Seat Type:

- c) Turn back the floor carpet.
- d) Remove the 3 bolts and the parking brake cable joint protector.
- e) Remove the 2 clips.
- f) Disconnect the 2 parking brake cables.

Air Cleaner Hose and Air Cleaner Assy

# 13. DISCONNECT THE NO.2 ENGINE WIRE HARNESS

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



#### 14. DISCONNECT THE SKID CONTROL SENSOR WIRE HARNESS

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

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

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

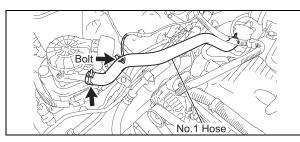
NOTE: Put a shop towel under the fuel pipe to catch any spilled fuel.

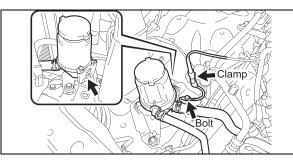
# **17. DISCONNECT THE VACUUM HOSE**

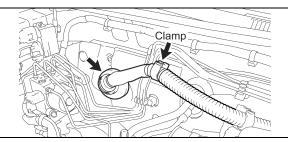
a) Disconnect the vacuum hose.

#### **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)

a) Disconnect the No.1 hose.

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

a) Remove the bolt and disconnect the ground wire.

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

a) Disconnect power steering pump oil reservoir assy.

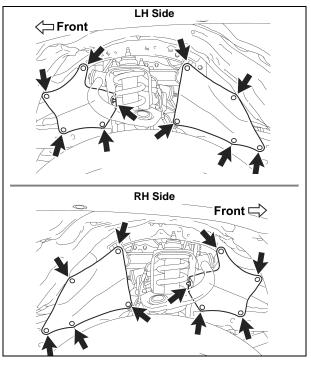
#### 22. DISCONNECT THE GROUND WIRE (1GR-FE ONLY)

a) Remove the bolt and disconnect the clamp and the ground wire.

#### 23. DISCONNECT THE ENGINE WIRE HARNESS

- a) Disconnect the clamp.
- b) 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

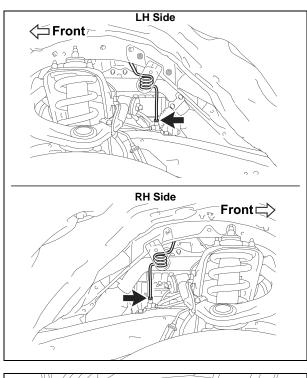
#### 4WD, Pre-Runner Only (Shown):

a) Remove the 20 clips and 4 front fender apron seals.

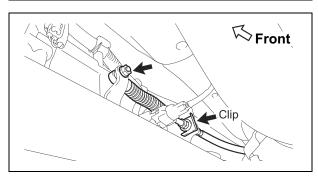
#### 2WD Only:

b) Remove the 22 clips and 4 front fender apron seals.

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



# Bolt A Bolt B



Matchmarks

#### 27. DISCONNECT THE FRONT BRAKE TUBES

- a) Disconnect the front brake tube.
- b) 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.

- a) Make sure the front wheels are in a straight-ahead position and the steering wheel is centered.
- b) Using the seat belt, hold the steering wheel in position as shown in the illustration, to prevent damage to the spiral cable.
- c) Place match marks on the steering sliding yoke and No.2 intermediate shaft.
- d) Loosen bolt (A) and remove bolt (B).
- e) 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.

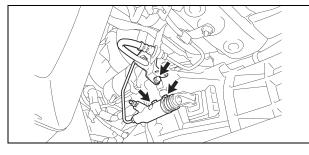
#### 29. DISCONNECT THE SHIFT CABLE (AUTO TRANS ONLY) Cable Type:

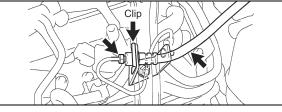
- a) Remove the clip.
- b) Remove the nut and disconnect the shift cable.

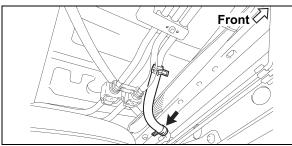
#### Rod Type:

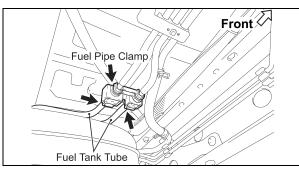
c) Remove the pin and clip, disconnect the shift cable.

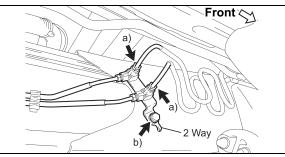
NOTE: Use precaution when performing this step, as you will need to work underneath the vehicle.

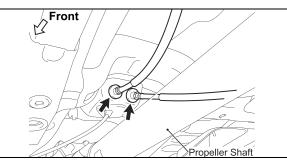












#### 30. DISCONNECT THE CLUTCH RELEASE CYLINDER ASSY (2TR -FE MANUAL TRANS ONLY)

- 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.

41

#### **36. REMOVE THE FOLLOWING PARTS**

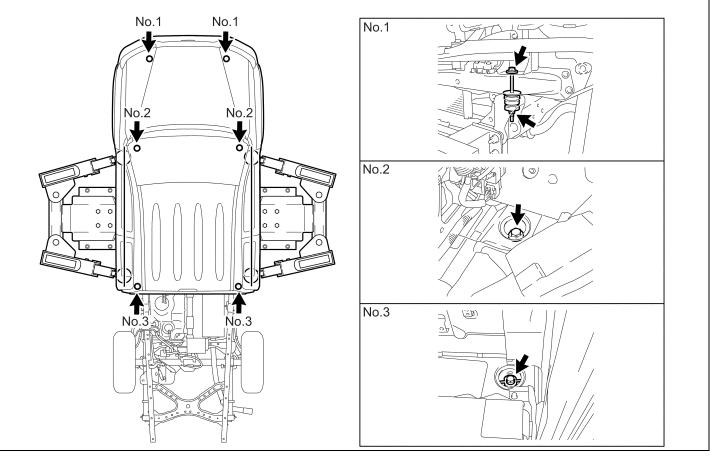
- Floor Board No.1/No.2 (Access Cab Only)
- Seat Floor Box (Access Cab Only)
- Rear Floor Side Service Hole Cover LH/RH (Access Cab Only)
- Luggage Compartment Side Tray (Double Cab Only)
- No.1 w/ Box Speaker Assy (If Equipped)

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

- a) Remove the 6 nuts and 6 washers.
- b) Set the lift arms under the cab body assy so they **DO NOT** interfere with the frame or cab mounts.
- c) Check that all wire harnesses, hoses, cables and the steering shaft are disconnected.
- d) Mark the location of the tires so it will be easier to install the cab onto the new frame.
- e) Lift the cab assy up slowly, making sure it does not interfere with anything while being raised.
- f) Raise the cab assy high enough so that the top of the engine clears the lowest point of the cab assy.
- g) Pull the frame assy out from under the vehicle.
- h) 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.



#### F. DISASSEMBLE THE FRAME

# 1. PLACE THE FRAME ON A LIFT

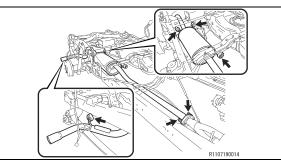
- a) Place the frame on the lift, and secure it with a ratcheting tie down strap. This will prevent the frame from tilting or falling off as parts are removed.
  - Ratcheting Tie Downs: Qty 1 (Length: 2 in X 27 ft and Min. Work Load Capacity: 3,000 lbs)

# 2. REMOVE THE FOLLOWING PARTS

- Wheels
- Front Propeller Shaft Assy (4WD Only)
- Rear Propeller Shaft Assy

- Propeller Shaft Heat Insulator (If Equipped)
   Evaluate Direct Company Data List (Company)
- Exhaust Pipe Stopper Bracket (If Equipped)
- Insert SST 09325-40010 into trans after the Rear Prop Shaft is removed to prevent oil leakage (2WD Only)

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



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

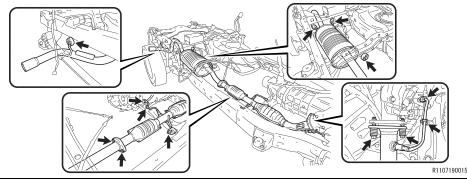
- a) Remove the 2 bolts and 4 exhaust pipe supports.
- b) Remove the center exhaust pipe assy and exhaust pipe supports.
- c) Remove the exhaust pipe gasket.
- d) Disconnect the 2 oxygen sensor connectors.
- e) Remove the 6 nuts and 2 exhaust pipe supports.
- f) Remove the front exhaust pipe assy and exhaust pipe supports.
- g) Remove the 2 exhaust pipe gaskets.

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

- a) Remove the 2 bolts and 4 exhaust pipe supports.
- b) Remove the center exhaust pipe assy and exhaust pipe supports.

R1107190013

- c) Remove the exhaust pipe gasket.
- d) Disconnect the 2 oxygen sensor connectors.
- e) Disconnect the 2 oxygen sensor wire harness clamps.
- f) Remove the 2 bolts and exhaust pipe support.
- g) Remove the front exhaust pipe assy and exhaust pipe supports.
- h) 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

#### 6. REMOVE AND SET ASIDE THE POWER STEERING PUMP ASSY

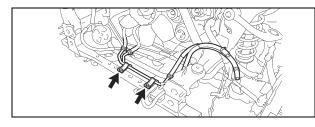
- a) Disconnect the connector.
- b) Disconnect the clamp. (1GR-FE Only)
- c) Remove the bolt and disconnect the ground wire. (1GR-FE Only)
- d) Remove the 2 bolts and the power steering vane pump.

#### 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)



LH Side

4WD Only

- 8. DISCONNECT THE OIL COOLER TUBE (AUTO TRANS ONLY)
  - a) Remove the bolts and disconnect the oil cooler tube.

#### 9. REMOVE THE ENGINE AND TRANSMISSION ASSY

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

Fuel Tank

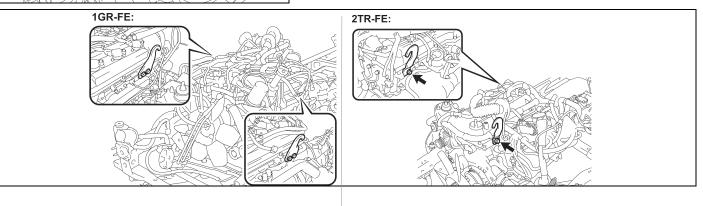
Charcoal Canister Assy

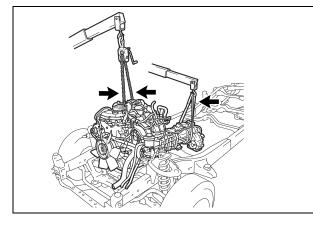
#### For 1GR-FE:

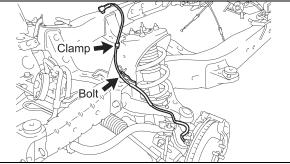
12281-31060 = No.1 Engine Hanger 12282-31040 = No.2 Engine Hanger 90119-08A87 = 4 Bolts

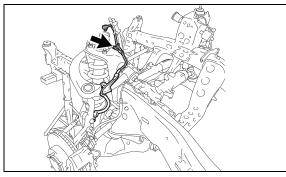
For 2TR-FE:

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









e) Remove the engine and transmission assy.

#### NOTE:

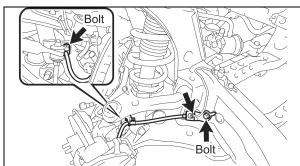
- ALWAYS use 2 engine hoists/cranes to lift it.
- DO NOT use 1 engine hoist/crane to lift the engine & transmission assy, as the unbalanced weight may lead to an accident or injury.
- ONLY use engine hoists/cranes that can properly support the weight of the engine and transmission assy.
- Carefully adjust 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)
  - a) Remove the bolt, disconnect the clamp and skid control sensor wire harness.
  - b) Repeat the procedure on the opposite side.
- 11. DISCONNECT THE FRONT SKID CONTROL SENSOR WIRE HARNESS (4WD, PRE-RUNNER ONLY)
  - a) Remove the bolt and disconnect the skid control sensor wire harness.
  - b) Repeat the procedure on the opposite side.

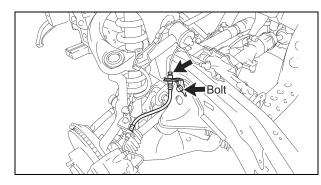
# 12. DISCONNECT THE FRONT BRAKE HOSE (2WD ONLY)

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

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

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





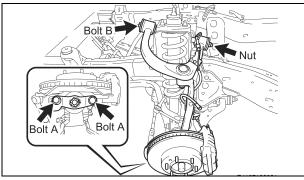
#### 14. REMOVE THE FOLLOWING PARTS

- 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.

# Nut Nut Bolt A Bolt A R1108010062

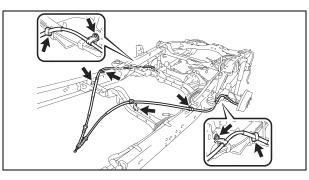


#### **17. REMOVE THE FOLLOWING PARTS**

- Front Drive Shaft Assy (4WD Only) \*
- Front Suspension Member Brace Sub-Assy
- Front Stabilizer Bar
- Front Shock Absorber Assy
  - ° \*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.



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

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

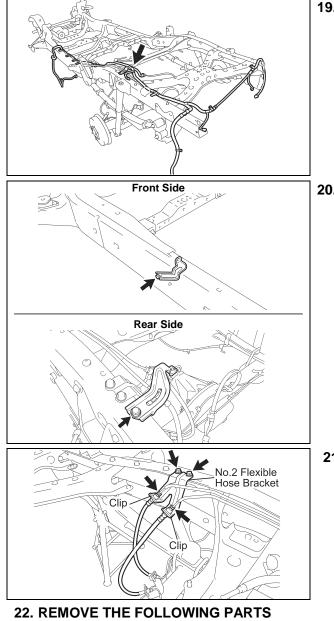
#### 16. REMOVE THE FRONT SUSPENSION UPPER ARM AND STEERING KNUCKLE ASSY (4WD, PRE-RUNNER ONLY)

- a) Remove the 2 bolts (A).
- b) Remove the bolt (B), nut, 2 washers and front suspension upper arm w/ steering knuckle.
- c) 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.

- Power Steering Link Assy w/ Pump
- Front Differential Carrier (4WD Only)
- Lower Ball Joint\*\*
- Front Spring Bumper\*\*\*

- **18. REMOVE THE PARKING BRAKE CABLES** 
  - a) Remove the 8 bolts and parking brake cables.



#### **19. REMOVE THE FRAME WIRE HARNESS**

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

#### NOTE:

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

#### 20. REMOVE THE HARNESS BRACKETS

a) Remove the 2 bolts and 2 brackets.

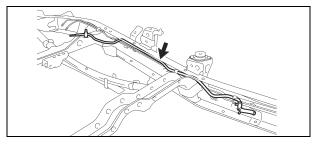
# 21. DISCONNECT THE BRAKE HOSE

- a) Disconnect the No.5 rear brake tube.
- b) Disconnect the No.6 rear brake tube.
- c) Remove the 2 clips and 2 bolts, disconnect the brake hose and the No.2 flexible hose bracket.
- Rear Stabilizer Bar (If Equipped)
  - Rear Shock Absorber Assy

- Rear Differential Assy
- No.1 Rear Spring Bumper (2WD Only)

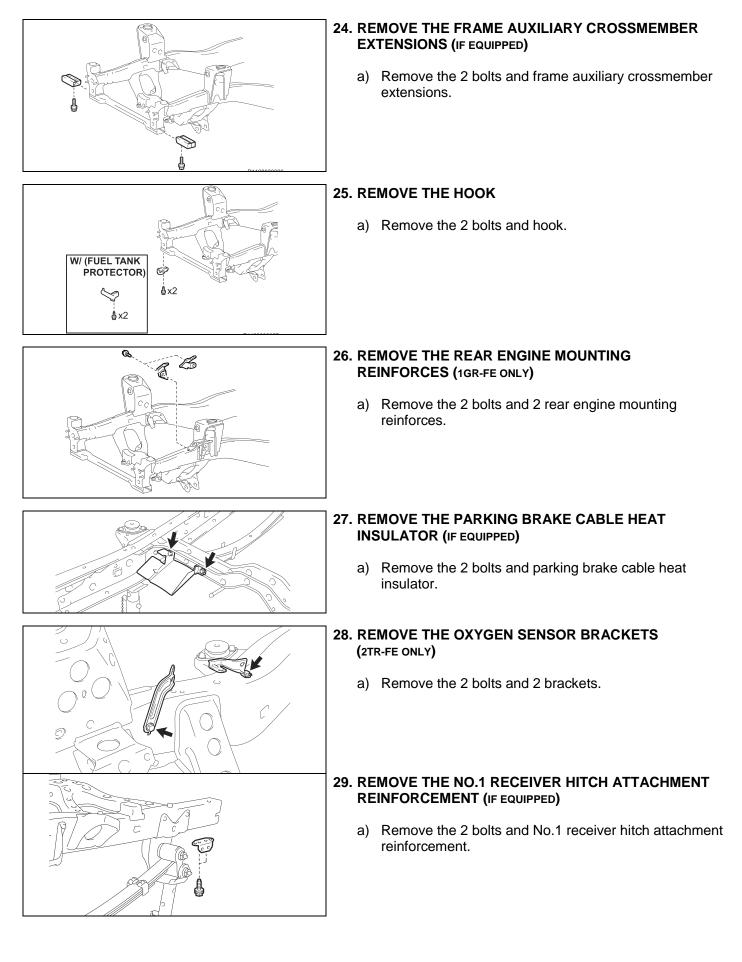


4WD and PreRunner vehicles will not have leaf springs replaced or will have them replaced under E02. If the vehicle already had E02 performed there is no need to separate the rear differential from the leaf springs, remove the leaf springs and rear diff as an assembly.

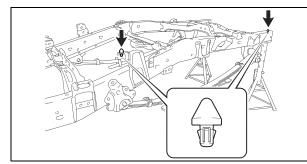


#### 23. REMOVE THE NO.2 CHARCOAL CANISTER PIPE

a) Disconnect the clamps and remove the No.2 charcoal canister pipe.



# **30. REMOVE THE CLIPS**



# 31. REMOVE THE FOLLOWING PARTS

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

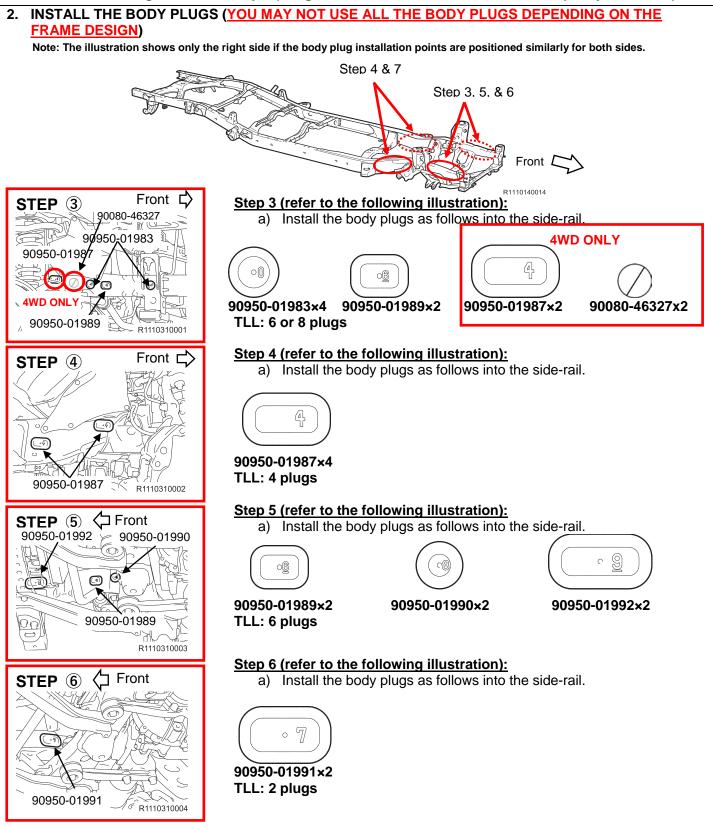
# 32. REMOVE THE FRAME FROM THE LIFT

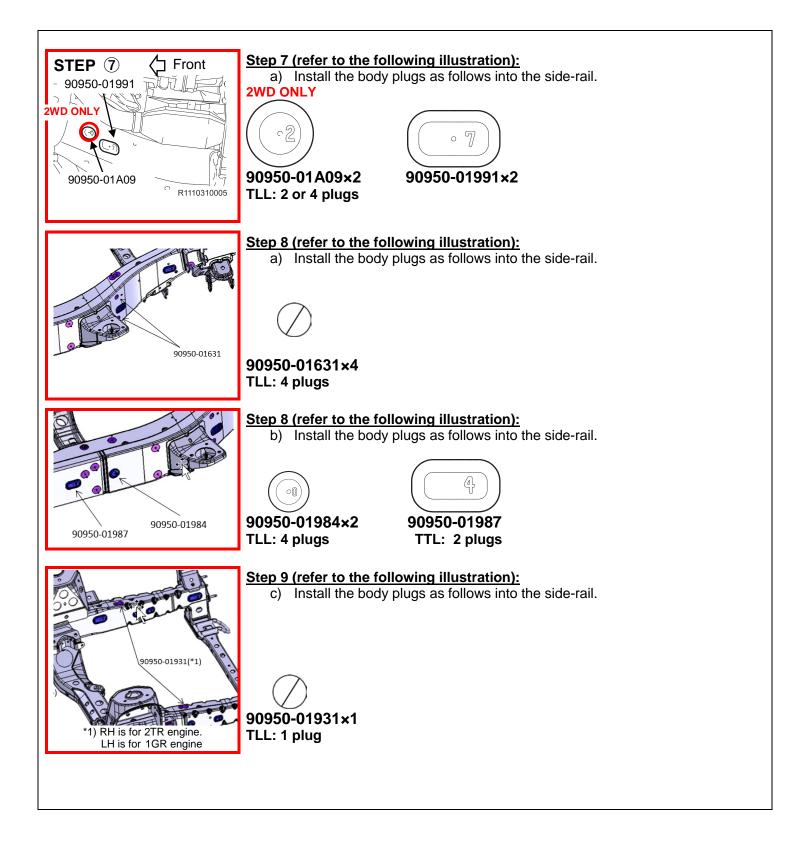
a) Remove the ratcheting tie down strap and the frame from the lift.

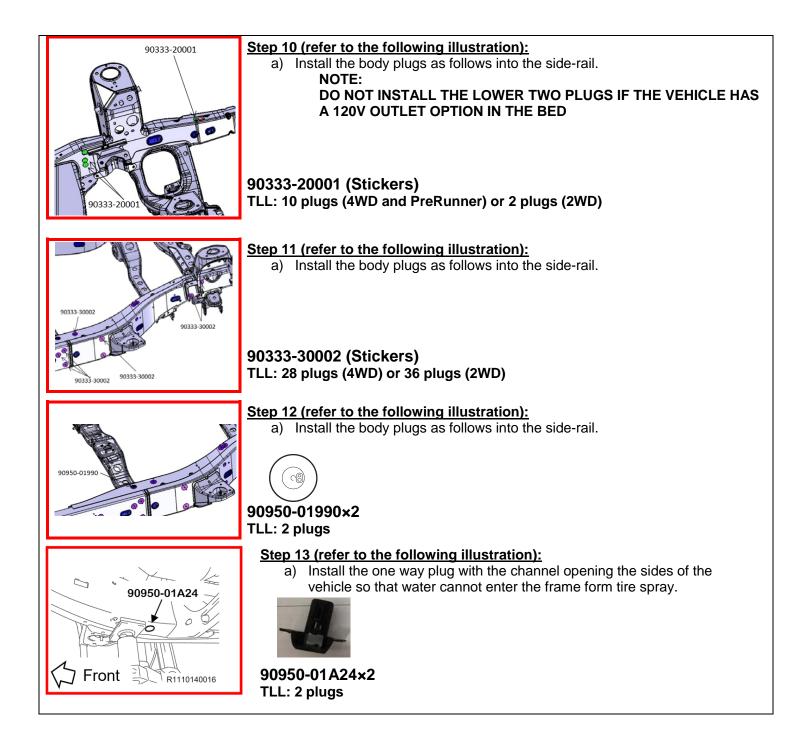
#### G. PLUG HOLES IN REPLACEMENT FRAME

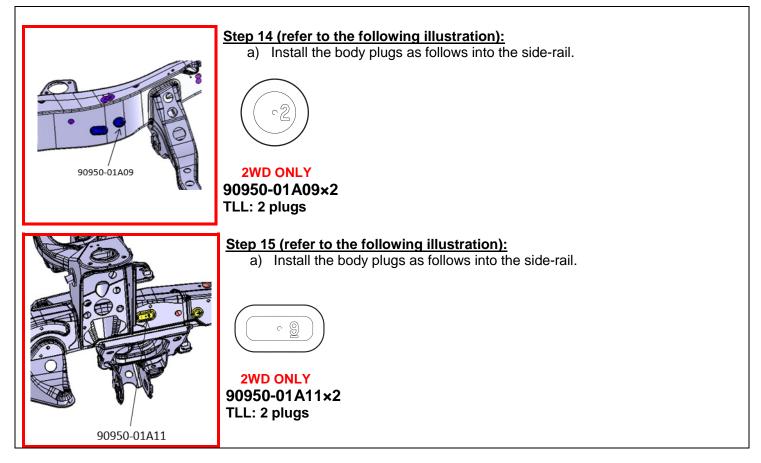
#### 1. PLACE THE NEW FRAME ON THE LIFT

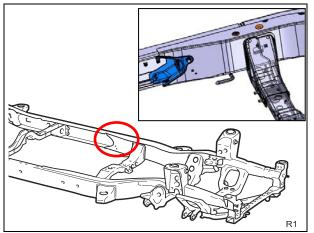
- Place the **NEW** frame on the lift, and secure it with a ratcheting tie down strap.
  - Ratcheting Tie Downs: Qty 1 (Length: 2 in X 27 ft and Min. Work Load Capacity: 3,000 lbs)







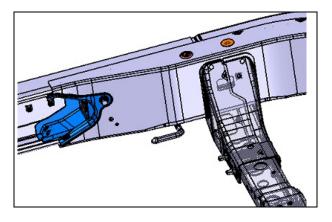




#### 3. INSTALL FRAME RAIL SEAL

- a) Inspect the replacement frame on both sides with the frame seal temporally installed as identified in the picture. Depending on when the service frame was produced will determine if the following are present:
  - Predrilled hole w/weld nut: Proceed to step b)
  - Predrilled hole w/o weld nut: Proceed to step c)
  - No hole is present: Proceed to step d)

Note: Both sides of the frame must be inspected because the hole status may differ from side to side.



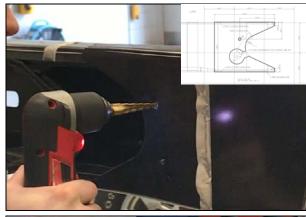
- b) Install Frame Seal with Predrilled Hole with Weld Nut
  - Install the frame seal with the bolt. Torque Spec: 29 N·m (21.5 ft·lbf)

Part #	Part Name	Qty
90119-A0170	Bolt, Flange	2

2. Skip to step #4 on page 55











- c) Install Frame Seal with Predrilled Hole w/o Weld Nut
  - 1. Using tape secure bolt and washer to the back of the frame as shown.
  - **Note:** Using the tape will prevent the bolt from falling back into the frame rail when installing the seal and will prevent the bolt from spinning when torqueing the nut.

Part #	Part Name	Qty
90119-A0170	Bolt, Flange	2
90178-A0024	Nut	2

- 2. Install the frame seal and torque the nut to spec Torque Spec: 18.5 N·m (14.0 ft·lbf)
- 3. Skip to Step #4 on page 55

- d) Install Frame Seal with No Hole in Frame
  - 1. Using the template in the appendix of this TI mark the hole on the inner frame rail for both the left and right side frame rail.
  - 2. Use a center punch to give the drill bit a pilot to prevent wandering while drilling.
  - 3. Drill the frame with a 10mm bit (3/8").
  - 4. Debur the hole to remove all the sharp metal burrs.

#### Note: A deburring tool was previously provided for safety recall D0C. This tool works well to remove these sharp burrs.

5. Using tape secure bolt and washer to the back of the frame as shown.

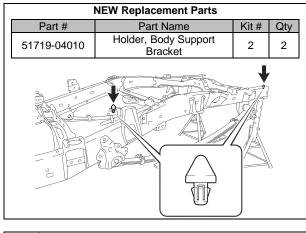
# Note: Using the tape will prevent the bolt from spinning when torqueing the nut.

Γ	Part #	Part Name	Qty
Γ	90119-A0170	Bolt, Flange	2
	90178-A0024	Nut	2

6. Install the frame seal and torque the nut to spec.

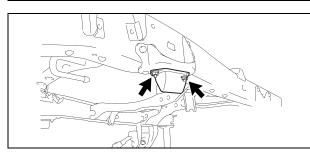
#### Torque Spec: 18.5 N·m (14.0 ft·lbf)

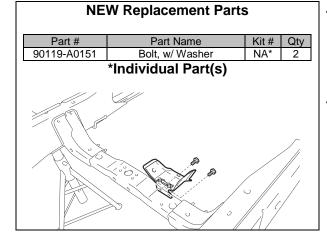
#### H. ASSEMBLE THE FRAME

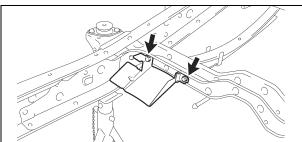












#### 2. REINSTALL THE NO.1 RECEIVER HITCH ATTACHMENT REINFORCEMENT (IF EQUIPPED)

a) 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)

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

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

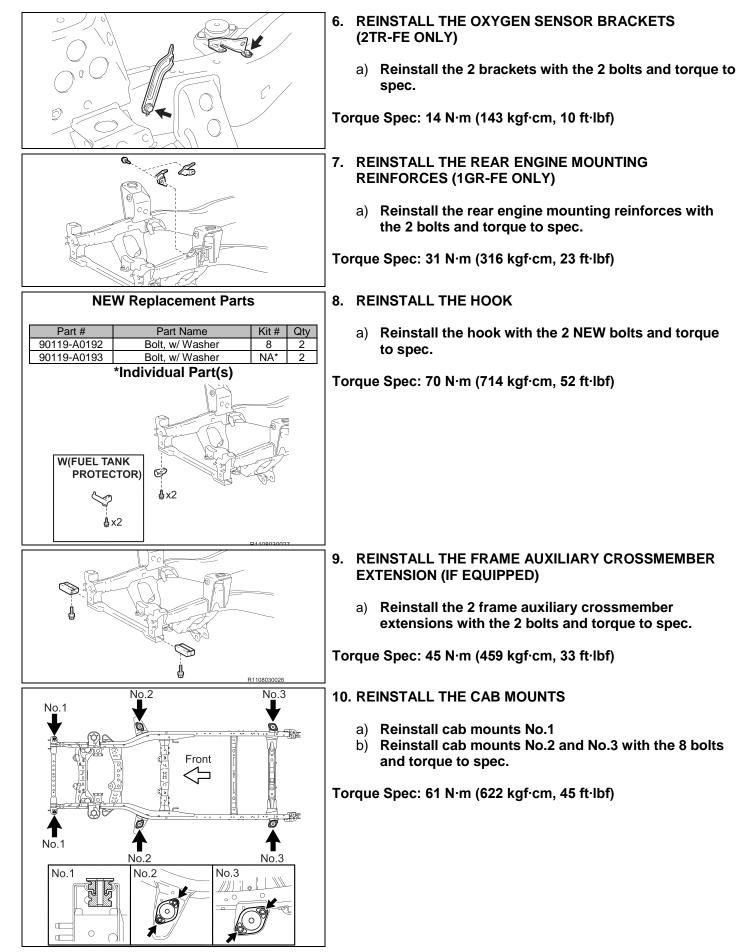
Torque Spec: 15 N·m (153 kgf·cm, 11 ft·lbf

- 4. REINSTALL THE PROPELLER SHAFT HEAT INSULATOR (IF EQUIPPED)
  - a) 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)

- 5. REINSTALL THE PARKING BRAKE CABLE HEAT INSULATOR (IF EQUIPPED)
  - a) 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)



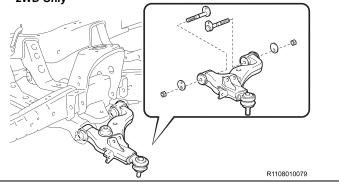
#### 11. INSTALL THE NEW FRONT SUSPENSION LOWER ARM (2WD ONLY)

a) 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. <sub>2WD Only</sub>

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

b) 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)					



#### 12. 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.

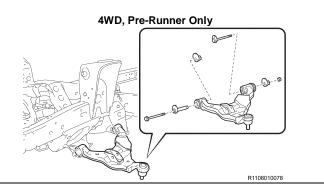
#### Torque Spec: 135 N·m (1377 kgf·cm, 100 ft·lbf)

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)		

**NEW Replacement Parts (2WD Only)** 

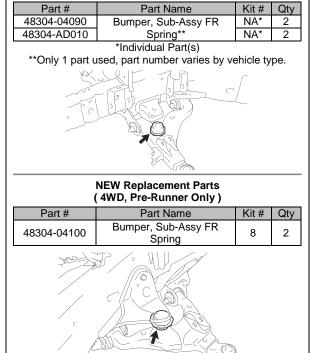


#### 13. INSTALL THE NEW FRONT SPRING BUMPER

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.

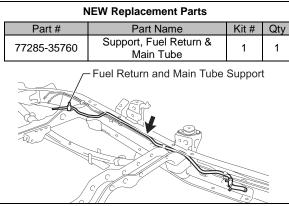


#### 14. INSTALL THE NEW REAR BRAKE TUBES

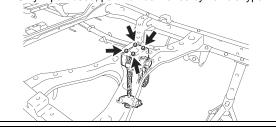
a) Install the **NEW** rear brake tubes with the **NEW** clamp(s).

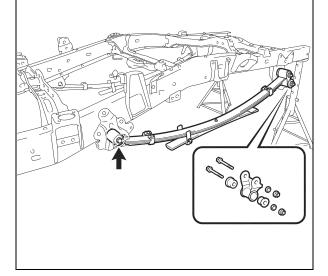
#### **NEW Replacement Parts**

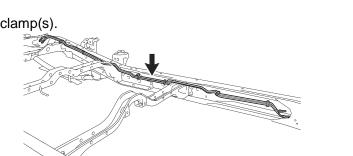
Part #	Part Name	Kit #	Qty			
47325-****	Tube, RR Brake, No.5**	NA*	1			
47326-****	Tube, RR Brake, No.6**	NA*	1			
90469-A0004	90469-A0004 Clamp (Regular Cab)					
90469-A0004 Clamp (Access Cab)		NA*	3			
90469-A0004 Clamp (Double Cab)		NA*	4			
90949-A1006	2	3				
	*Individual Part(s)					



	////	$\sim$				
NEW Replacement Parts						
Part # Part Name Kit # Qty						
90119-A0169	2	4				
51900-35410	51900-35410 Carrier Assy, Spare		1			
81900-35420	NA*	1				
*Individual Part(s)						
**Only 1 part us	sed, part number varies by ve	hicle typ	be.			







# 15. REINSTALL THE NO. 2 CHARCOAL CANISTER PIPE

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

# 16. INSTALL THE NEW SPARE TIRE CARRIER ASSY

a) 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)

# **17. INSTALL LEAF SPRINGS**

#### 4WD and PreRunner

a) Reinstall leaf springs and shacke and torque to spec.

#### Torque Spec: 120 N·m (1224 kgf·cm, 89 ft·lbf) 2WD

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

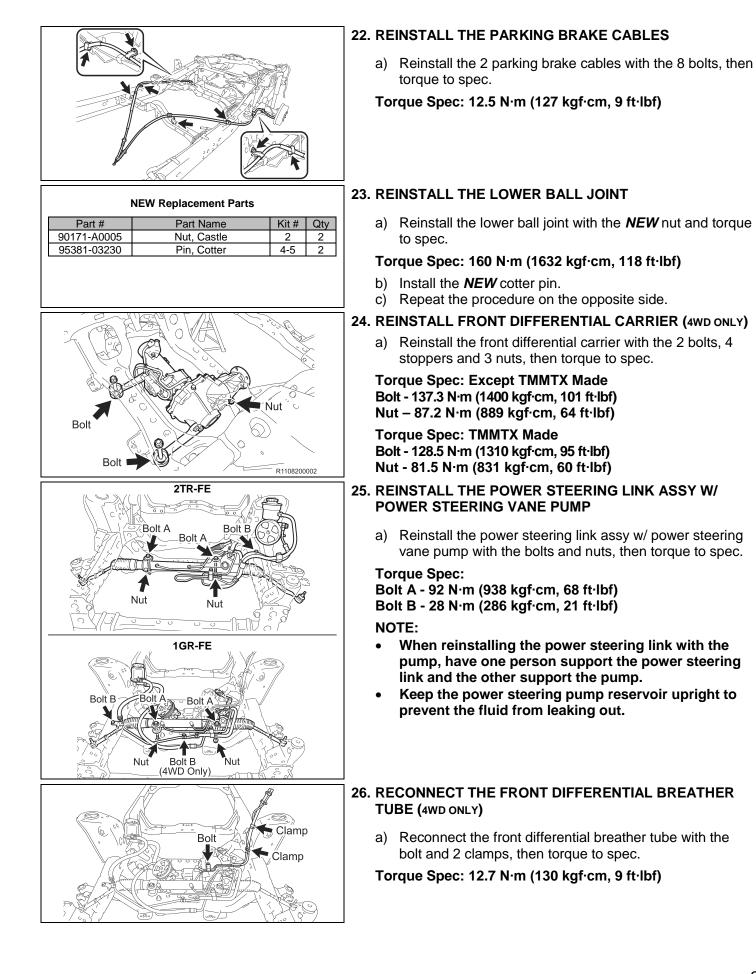
# Torque Spec: 120 N·m (1224 kgf·cm, 89 ft·lbf)

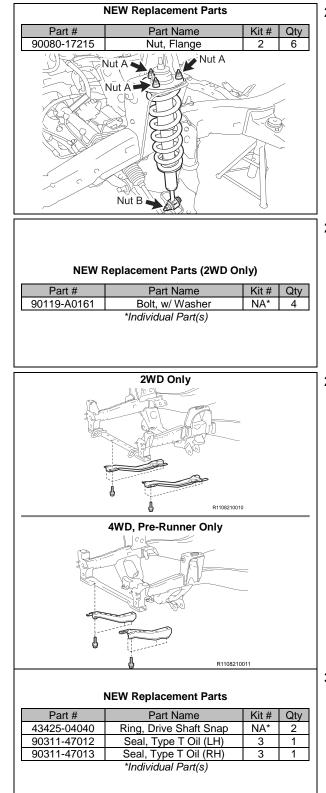
 -			,
Part #	Part Name	Kit #	Qty
04483-04080	2	2	
90080-10138	Bolt, Flange	2	2
90178-A0050	Nut, Flange	2	2
94622-51400	Washer, Plain	1	2
Varies**	Spring Assy, RR RH	NA*	1
Varies**	Spring Assy, RR LH	NA*	1

c) Repeat the procedure on the opposite side.

	NEW Replacement Parts Rear Differential Assy Part Name Bolt, U** Nut, Flange Washer, Plain *Individual Part(s) used, part number varies by v Rear Shock Absorber Assy Part Name Nut, Lock Rear Stabilizer Bar Part Name Bolt, w/ Washer *Individual Part(s)	Kit #       Qty         NA*       4         NA*       4         NA*       4         2       8         1       8         rehicle type.         Kit #       Qty         2       2         Kit #       Qty         NA*       4	•	<ul> <li>Rear Differential Assy</li> <li>Reinstall with the 4 NEW U -bolts (2WD), 2 spring seats, 2 spring bumpers (<i>It Equipped</i>), 8 NEW flange nuts and 8 NEW plain washers, then torque to spec.</li> <li>Torque Spec: 50 N·m (510 kgf·cm, 37 ft·lbf)</li> <li>Rear Shock Absorber Assy</li> <li>Reinstall rear shock absorber assy with the bolt, nut and washer. (Lower side)</li> <li>Torque Spec: Nut - 58 N·m (591 kgf·cm, 43 ft·lbf)</li> <li>Reinstall the 3 retainers, 2 cushions and NEW nut, then torque to spec. (Upper side)</li> <li>Torque Spec: Nut - 20 N·m (204 kgf·cm, 15 ft·lbf)</li> <li>Repeat the procedure on the opposite side.</li> <li>Rear Stabilizer Bar (<i>It Equipped</i>)</li> <li>Reinstall with the 2 brackets and NEW 4 bolts, then torque to spec.</li> <li>Torque Spec: 27 N·m (275 kgf·cm, 20 ft·lbf)</li> <li>Reconnect the 2 stabilizer bar links with the 4 nuts, then torque to spec.</li> <li>Torque Spec: 65 N·m (663 kgf·cm, 48 ft·lbf)</li> </ul>
	NEW Replacement Parts			CONNECT THE BRAKE HOSE
Part #	Part Name	Kit # Qty	19. KE	CONNECT THE BRAKE HOSE
47355-04020	Bracket, Flexible Hose, No. 2	2 1	a)	Install the <b>NEW</b> No.2 flexible hose bracket with the 2 <b>NEW</b> bolts.
90119-A0169	Bolt, W/ Washer	13 or 2 NA*	b) c)	Reconnect the 2 brake hoses with the 2 <b>NEW</b> clips. Reconnect the No.5, No.6 rear brake tubes and torque to
90468-A0007	Clip *Individual Part(s)	2 2		spec.
	Clip	0.2 Flexible see Bracket	Fle	rque Spec: exible hose bracket - 29 N·m (296 kgf·cm, 21 ft·lbf) ear brake tube - 15.2 N·m (155 kgf·cm, 11 ft·lbf)
Front S	ide Real	r Side	a)	Reinstall the 2 brackets with the 2 bolt and torque to spec.
			10	rque Spec: 14 N·m (143 kgf·cm, 10 ft·lbf)
		Ø	a) b) To NC	EINSTALL THE FRAME WIRE HARNESS Reconnect the clamps to install the frame wire harness. Reconnect the ground wire with the bolt and torque to spec. rque Spec: 12.7 N·m (130 kgf·cm, 9 ft·lbf) DTE: The number of wire harness clamps will differ pending on the vehicle spec.

**18. REINSTALL THE FOLLOWING PARTS** 





#### 27. REINSTALL THE FRONT SHOCK ABSORBER ASSY

- a) Install the 3 *NEW* nuts (A) and torque to spec.
- b) 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)

c) Repeat the procedure on the opposite side.

## 28. REINSTALL THE FRONT STABILIZER BAR

- a) Reinstall the stabilizer bar with 2 brackets and 4 **NEW** bolts, then torque to spec. (2WD only)
- b) 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)

- 29. REINSTALL THE SUSPENSION MEMBER BRACE SUB-ASSY
  - a) Reinstall the suspension member brace sub-assy with 8 bolts *(2WD Only)* or 7 bolts *(4WD, Pre-Runner Only)*, then torque to spec.

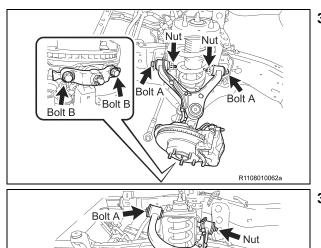
Torque Spec: 45 N·m (459 kgf·cm, 33 ft·lbf)

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

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



#### NEW Replacement Parts

R1107190021a

Bolt B

Bolt E

#### Tie Rod End

Tie Rod Elid						
Part #	Part Name	Kit #	Qty			
95381-03025	Pin, Cotter**	4	2			
95381-03225	,	5	2			
**Only 1 part u	sed, part number varies by ve	ehicle ty	pe.			
l	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)					
	HOASIN INAL	X				
n,		< _				
CAL CAL						

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

a) 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)

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

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

c) Repeat the procedure on the opposite side.

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

a) 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)

- b) Reinstall the 2 bolts (B), then torque to spec.
- Torque Spec: Bolt B 160 N·m (1632 kgf·cm, 118 ft·lbf)
- c) Repeat the procedure on the opposite side.

# **33. REINSTALL THE FOLLOWING PARTS**

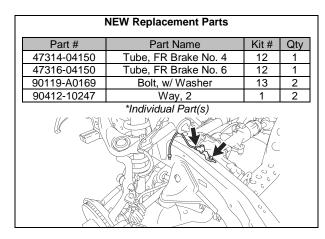
- Front Stabilizer Link (2WD Only)
  - Reinstall with 2 retainers, 2 cushions and nut, torque to spec.
  - ° Torque Spec: 19 N·m (194 kgf·cm, 14 ft·lbf)
  - ° Reinstall the nut, then torque to spec.
  - ° Torque Spec: 69 N·m (704 kgf·cm, 51 ft·lbf)
  - ° Repeat the procedure on the opposite side.
- Front Stabilizer Link (4WD, Pre-Runner Only)
  - $^\circ~$  Reinstall front stabilizer link with 2 nuts, torque to spec.
  - ° Torque Spec: 70 N·m (714 kgf·cm, 52 ft·lbf)
  - $^\circ\;$  Repeat the procedure on the opposite side.
- Tie Rod End
  - $^{\circ}\;$  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)
  - $^\circ~$  Temporarily reinstall the front axle nut.
  - $^\circ~$  Nut will be tightened when the vehicle is completed.
  - ° Repeat the procedure on the opposite side.

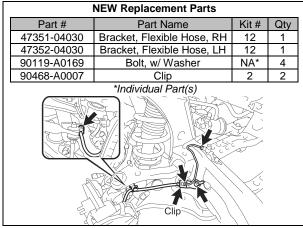
# 34. INSTALL THE NEW FRONT BRAKE TUBE AND NEW WAY (2WD ONLY)

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

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

c) Repeat the procedure on the opposite side.





#### **NEW Replacement Parts** Part Name Part # Kit # Qty 47353-04010 Bracket, Flexible Hose, No. 3 13 1 47354-04010 Bracket, Flexible Hose, N0. 4 13 1 90119-A0169 Bolt, w/ Washer 13 4 90468-A0007 Clip 2 2 Clip **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) Clamp 🔿 7 Bolt

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

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

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

c) Repeat the procedure on the opposite side.

# 36. REINSTALL THE FRONT BRAKE HOSE (2WD ONLY)

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

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

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

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

d) Reinstall the **NEW** bolt and torque to spec.

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

e) Repeat the procedure on the opposite side.

# 37. REINSTALL THE FRONT BRAKE HOSE (4wd, pre-runner ONLY)

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

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

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

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

d) Repeat the procedure on the opposite side.

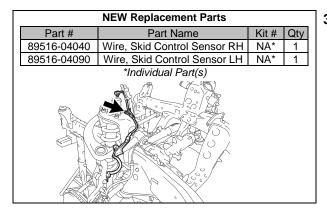
# 38. RECONNECT THE FRONT SKID CONTROL SENSOR WIRE HARNESS (2WD ONLY)

- a) Reconnect the clamp.
- b) 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)

c) 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 90179-10201 Nut 4 90910-03001 Bolt, Engine Mount 4 LH Side **RH Side NEW Replacement Parts** Part # Part Name Kit # Qty 91671-80814 Bolt, Flange w/ Washer 1 4

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

a) 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)

b) Repeat the procedure on the opposite side.

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

## 40. REINSTALL THE WHEELS

#### 41. REINSTALL THE ENGINE AND TRANSMISSION ASSY

a) Reinstall engine and transmission assy.

#### NOTE:

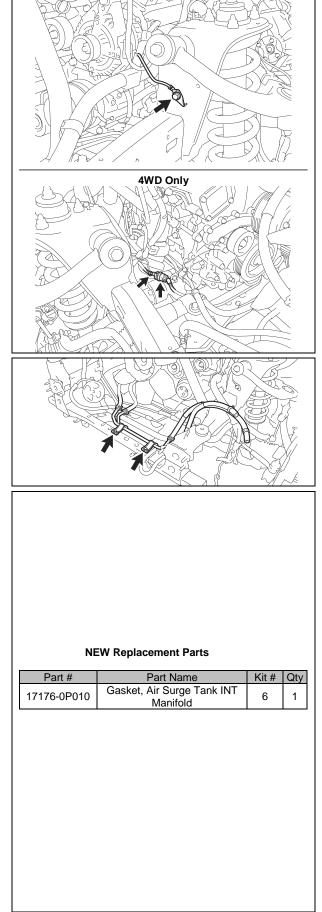
- Use 2 engine hoists/cranes to lift engine & trans assy.
- DO NOT use 1 engine hoist/crane to lift the engine & trans assy, the unbalanced weight may lead to an accident or injury.
- ONLY use engine hoists/cranes that can properly support the weight of the engine & trans.
- Carefully adjust the 2 engine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

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.



LH Side

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)

# 42. 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)

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

- a) Install a **NEW** gasket onto the intake air surge tank.
- b) 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)

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

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

d) 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)

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

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

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

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

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

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

a) 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)

- b) Tighten the hose clamp bolts.
- c) Reconnect the vacuum hose.
- d) Reconnect the No.2 ventilation hose.
- e) Reconnect the vacuum hose.
- f) Reconnect the wire harness clamp.
- g) Reconnect the pressure sensor connector.

#### 45. REINSTALL THE POWER STEERING PUMP ASSY

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

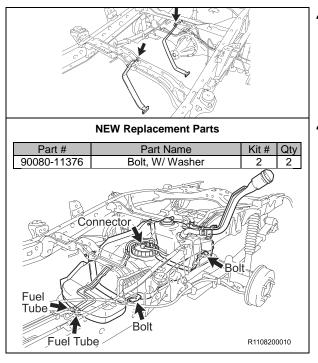
#### Torque Spec: 8.0 N·m (82kgf·cm, 71 in·lbf)

b) 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)

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

# 46. REINSTALL THE FAN AND GENERATOR V-BELT



## 47. REINSTALL THE FUEL TANK STRAPS

a) Reinstall the fuel tank straps with the 2 pins and 2 clips.

#### 48. REINSTALL THE FUEL TANK

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

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

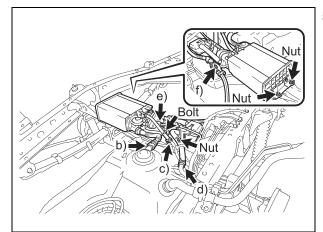
- b) Reinstall the 2 fuel tubes.
- c) Reconnect the connector.

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

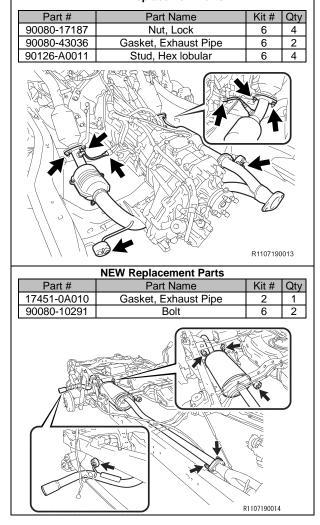
#### 50. REINSTALL THE NO.1 FUEL TANK PROTECTOR ASSY (IF EQUIPPED)

a) 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)



#### NEW Replacement Parts



#### 51. REINSTALL THE CHARCOAL CANISTER ASSY

a) 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)

- b) Reconnect the fuel tank vent hose.
- c) Reconnect the fuel hose.
- d) Reconnect the main tube support and reconnect the filter hose.
- e) Reconnect the connector.
- f) 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)

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

- a) Install the 2 NEW exhaust pipe gaskets.
- b) Reinstall the front exhaust pipe assy and 2 exhaust pipe supports.
- c) Install the 4 *NEW* nuts and torque to spec.
- d) 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.

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

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

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

#### **NEW Replacement Parts**

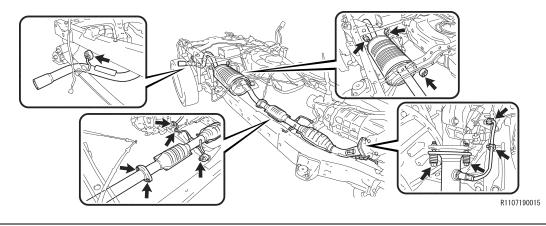
Part #	Part Name	Kit #	Qty
17451-0A010	Gasket, Exhaust Pipe	2	1
90080-10064	Bolt. Flange	7	2
90080-10291	Bolt. Flange	7	2
90080-43033	Gasket, Exhaust Pipe	7	1
90177-A0004	Nut, Lock	7	2

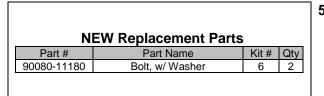
- a) Install the **NEW** exhaust pipe gasket.
- b) Reinstall the front exhaust pipe assy and exhaust pipe support.
- c) Install the 2 *NEW* bolts and 2 springs, then torque to spec.

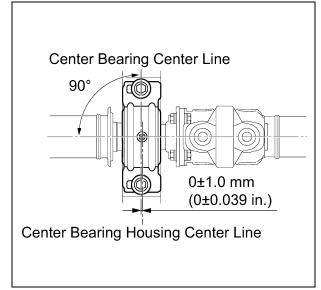
#### Torque Spec: 43 N·m (438 kgf·cm, 32 ft·lbf)

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

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







#### 54. REINSTALL THE EXHAUST PIPE STOPPER BRACKET (IF EQUIPPED)

a) 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)

#### 55. REINSTALL THE REAR PROPELLER SHAFT ASSY

- a) Remove the SST. (2WD Only)
- b) Referencing the matchmarks, reinstall the propeller shaft assy to the the transmission / transfer case.
- c) 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)

d) 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)

e) 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)

#### 56. REINSTALL THE FRONT PROPELLER SHAFT ASSY

a) 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)

#### 57. REINSTALL THE FOLLOWING PARTS

- Spare Tire
- Wheels

#### 58. REMOVE THE FRAME FROM THE LIFT

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

#### I. REINSTALL THE CAB BODY ASSY



Before lowering the cab assembly ensure that you install the NEW brakelines onto the bulk head.

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

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

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

#### 2. REINSTALL THE CAB BODY ASSEMBLY

- a) Raise the cab assy high enough so that the top of the engine clears the lowest point of the cab.
- b) Push the frame under the cab assy and line the tires up with the alignment marks.
- c) Lower the cab assy slowly, making sure it does not interfere with anything.
- d) Adjust the vehicle's frame as needed to align the cab mounts with the cab assy bolts.
- e) 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.

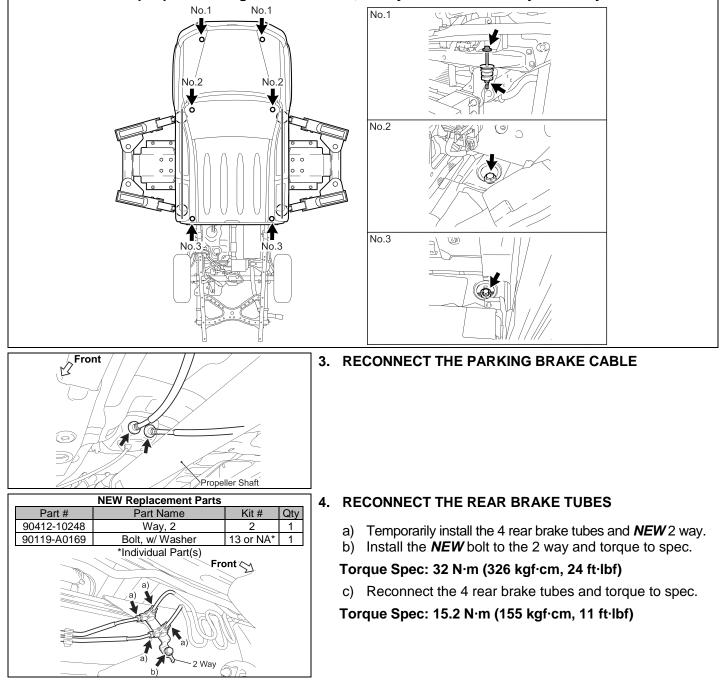
#### Torque Spec:

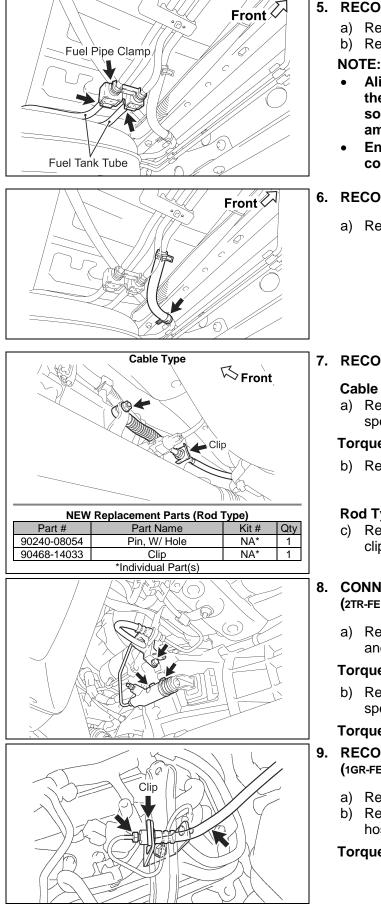
No.1 - 37.5 N·m (382 kgf·cm, 28 ft·lbf)

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.





# 5. RECONNECT THE FUEL TANK TUBES

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

a) Reconnect the No.2 fuel hose with the clip

# 7. RECONNECT THE SHIFT CABLE (AUTO TRANS ONLY)

# Cable Type:

a) Reconnect the shift cable with the nut and torque to spec.

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

b) Reinstall the clip.

# Rod Type:

c) Reconnect the shift cable with the **NEW** pin and **NEW** clip.

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

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

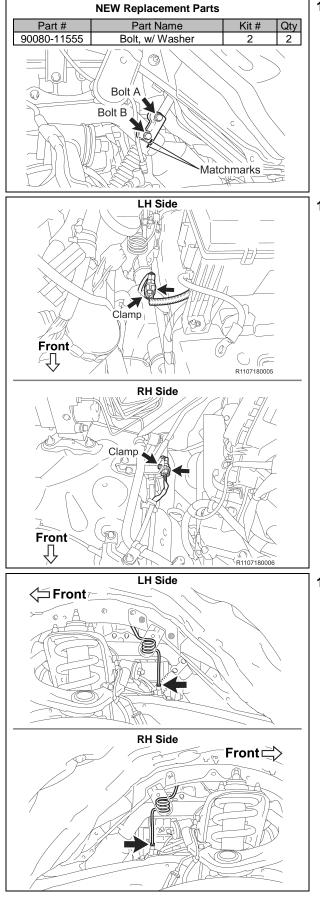
# Torque Spec: 11.8 N·m (120 kgf·cm, 9 ft·lbf)

b) Reconnect the clutch hose with the bolt and torgue 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)
  - a) Reconnect the clutch hose with the clip.
  - b) Reconnect the clutch release cylinder tube to the clutch hose.

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



#### **10. RECONNECT THE STEERING SLIDING YOKE**

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

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

e) Disconnect the seat belt that is holding the steering wheel.

#### 11. RECONNECT THE FRONT SKID CONTROL SENSOR WIRE HARNESS

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

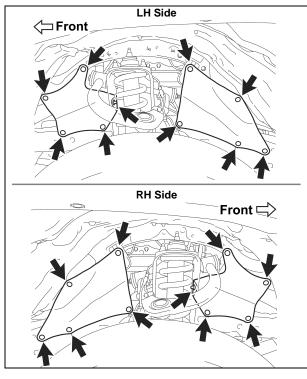
#### **12. RECONNECT THE FRONT BRAKE TUBES**

a) Reconnect the front brake tube and torque to spec.

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

b) Repeat the procedure on the opposite side.

NEW	Replacement Parts		
Part #			
1 all #	Part Name	Kit #	Qty
90210-A0002	Washer Seel	2	1
90210-A0004	Washer, Seal	2	1



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

- a) Install a **NEW** o-ring to the A/C discharge and suction hoses.
- b) 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)

c) 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

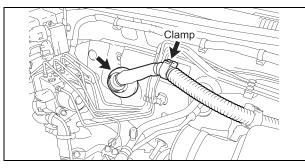
#### 4WD, Pre-Runner Only (Shown):

a) Reinstall the 4 front fender apron seals with the 20 clips.

#### 2WD Only:

b) Reinstall the 4 front fender apron seals with the 22 clips.

#### 15. RECONNECT THE WATER / HEATER HOSES, ENGINE SIDE



## Bolt No.1 Hose

#### **16. RECONNECT THE ENGINE WIRE HARNES**

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

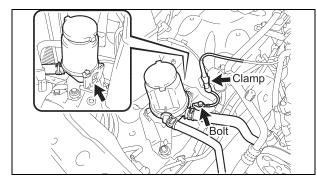
#### 17. RECONNECT THE NO.1 HOSE (2TR-FE ONLY)

a) Reconnect the No.1 hose.

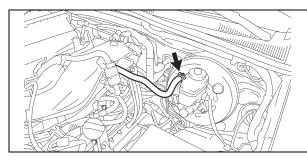
#### 18. RECONNECT THE GROUND WIRE (2TR-FE ONLY)

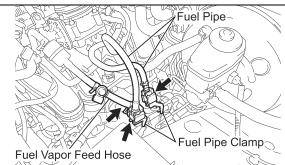
a) Reconnect the ground wire with the bolt.

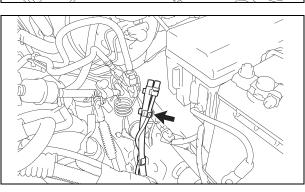
#### Torque Spec: 8.3 N·m (85 kgf·cm, 73 in·lbf)



NEW Replacement Parts						
Part # 90069-08019	Part Name	Kit # 2	Qty			
30003-06019	Ring, O	2				







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

a) Reconnect the power steering pump reservoir assy.

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

- a) Reconnect the ground wire with the bolt.
- b) Reconnect the clamp.

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

#### 21. REINSTALL THE FAN SHROUD

#### 22. REINSTALL THE RADIATOR

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

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

- d) Reinstall the automatic transmission cooler lines (Auto Trans Only).
- e) 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

a) Reconnect the vacuum hose.

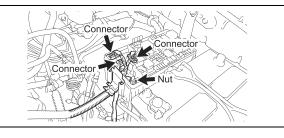
#### **25. RECONNECT THE FUEL PIPES**

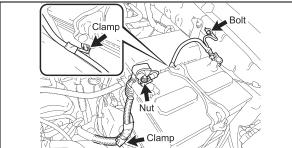
- a) Reconnect the No.1 and No.2 fuel pipe.
- b) Reinstall the 2 fuel pipe clamps.

#### 26. RECONNECT THE FUEL VAPOR FEED HOSE

- 27. RECONNECT THE FRONT DIFFERENTIAL BREATHER TUBES (4WD ONLY)
  - a) Reconnect the front differential breather tubes.

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



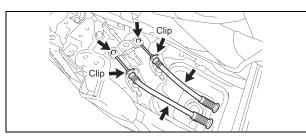


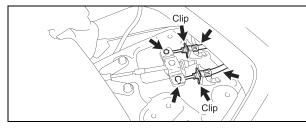
#### **29. REINSTALL THE FOLLOWING PARTS**

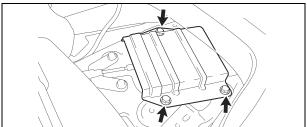
- Air Cleaner Hose and Air Cleaner Assy (1GR-FE Only)
  - **Torque Spec:** Air Cleaner Assy - 8.0 N·m (82 kgf·cm, 71 in·lbf) Air Cleaner Hose - 12 N·m (122 kgf·cm, 9 ft·lbf)
- Air Cleaner Hose and Air Cleaner Assy (2TR-FE Only) Torque Spec: 12 N·m (122 kgf·cm, 9 ft·lbf)
- V-Bank Cover (1GR-FE Only)
  - 0 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) No.1 w/ Box Speaker Assy (If Equipped)
- Seat Floor Box (Access Cab)
- Floor Board No.1/No.2 (Access Cab)







#### 28. RECONNECT THE NO.2 ENGINE WIRE HARNESS

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

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

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

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

- Luggage compartment Side Tray (Double Cab)

#### **31. RECONNECT THE PARKING BRAKE CABLES**

#### For Separate Seat Type:

- a) Reconnect the 2 parking brake cables.
- b) Reinstall the 2 clips.

#### For Bench Seat Type:

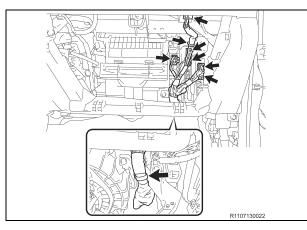
- c) Reconnect the 2 parking brake cables.
- d) Reinstall the 2 clips.
- e) Reinstall the parking brake cable joint protector with the 3 bolts and torque to spec.

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

Turn back the floor carpet. f)

#### 32. REINSTALL THE FOLLOWING PARTS

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

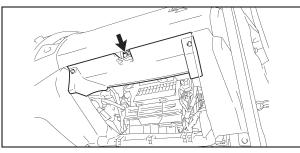


- Front Console Box
- Rear Console Box (for Separate Seat Type)

#### **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.

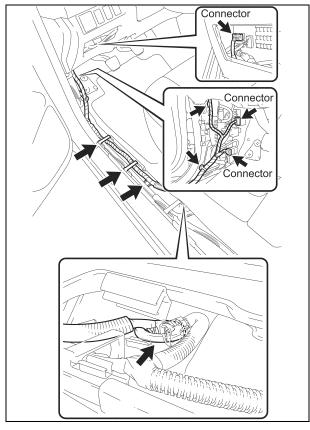


#### 34. REINSTALL THE GLOVE BOX AND THE LOWER INSTRUMENT PANEL FINISH PANEL

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

#### 35. RECONNECT THE FRAME WIRE HARNESS

- a) Insert the frame wire harness into the cab assy.
- b) Reinstall the frame wire harness grommet to the cab assy.
- c) Reconnect the 3 connectors.
- d) Reconnect the 3 harness clamps.
- e) Reconnect the 2 clamps.



#### **36. REINSTALL THE FOLLOWING PARTS**

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

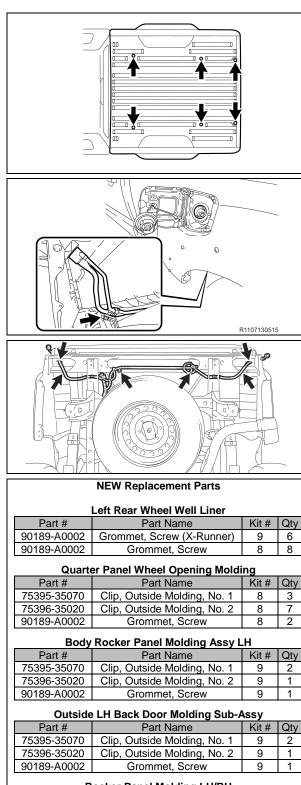
# NEW Replacement PartsFront No.2 Bumper Extension Sub-Assy LH/RHPart #Part NameKit #Qty90176-A0044Nut, Flange26

- Front Floor Footrest
- Front Door Scuff Plate LH/RH

#### **37. REINSTALL THE FOLLOWING PARTS**

- Front No.2 Bumper Extension Sub-assy LH/RH
  - Reinstall the No.2 front bumper extension with 6 *NEW* nuts and torque to spec.
  - Torque Spec: 58 N·m (591 kgf·cm, 43 ft·lbf)
- Front Bumper Reinforcement
  - Reinstall the front bumper reinforcement with 6 nuts and torque to spec.
  - ° Torque Spec: 58 N·m (591 kgf·cm, 43 ft·lbf)
- Front Bumper Assy
  - ° Reinstall with the 6 screws and 9 clips.
- Front Fender Mudguard LH/RH
- Front Bumper Filler LH/RH
- Radiator Grille

#### J. REINSTALL THE BED ASSY



#### Rocker Panel Molding LH/RH

Part #	Part Name	Kit #	Qty		
75395-04010	9	4			
75396-04010	396-04010 Clip, Outside Molding, No. 2		14		
Rear Bumper Assy					
Part #	Part Name	Kit #	Qty		

#### 1. REINSTALL THE BED ASSY

 a) Using a Torx<sup>®</sup> T55 Socket, reinstall the bed assy Torx <sup>®</sup> 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)

#### 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.

#### 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)

#### K. FINAL ASSEMBLY

#### 1. REINSTALL THE NEGATIVE (-) BATTERY TERMINAL

	2. R	EFILL THE FOLLOWING FLUIDS
NEW Replacement Parts Front Differential Part # Part Name Kit # Qty 12157-10010 Gasket, Drain Plug 3 1 90430-24003 Gasket 3 1		<ul> <li>Brake Fluid</li> <li>Remove the brake tubes from the master cylinder.</li> <li>Refill with Toyota Dot 3 Brake Fluid.</li> <li>Bleed the master cylinder.</li> <li>Reinstall the brake tubes to the master cylinder and torque to spec.</li> <li>Torque Spec: 15.2 N·m (155 kgf·cm, 11 ft·lbf)</li> <li>Refill with Toyota Dot 3 Brake Fluid.</li> <li>Bleed the brake system at each wheel and torque the bleeder screws to spec.</li> <li>Torque Spec: 10.8 N·m (110 kgf·cm, 8 ft·lbf)</li> <li>Clutch Fluid (<i>1GR-FE Manual Trans Only</i>)</li> <li>Refill with Toyota Dot 3 Brake Fluid.</li> <li>Bleed the clutch system and torque the bleeder screws to spec.</li> <li>Torque Spec: 10.8 N·m (110 kgf·cm, 8 ft·lbf)</li> <li>Clutch Fluid Trans uses master cylinder eservoir for clutch.</li> <li>Coolant</li> <li>Refill with Toyota Long Life Coolant.</li> </ul>
	•	<ul> <li>Bleed the cooling system.</li> <li>Front Differential</li> </ul>
		<ul> <li>Install <i>NEW</i> drain plug washer and torque to spec.</li> <li>Torque Spec: 64.7 N·m (660 kgf·cm, 48 ft·lbf)</li> <li>Refill with Hypoid Gear Oil API GL-5 75W-90.</li> </ul>
		<ul> <li>Install a NEW filler plug washer and torque to spec.</li> <li>Torque Spec: 39.2 N·m (400 kgf·cm, 29 ft·lbf)</li> </ul>

#### 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

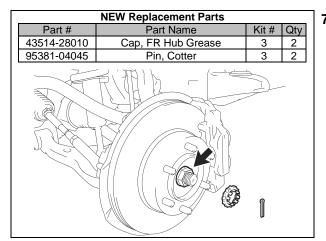
#### 4. RECHARGE THE A/C SYSTEM AND CHECK FOR PROPER OPERATION AND REFRIGERANT LEAKS

#### 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 thouroughly 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



#### 8. PERFORM A WHEEL ALIGNMENT

#### 9. CHECK THE HEADLIGHT AIM AND ADJUST AS NEEDED

NEW Replacement Parts				
Purt Number	Purt Name	Kit #	Qty	
90080-11373	Bolt, w/ Washer	8	8	
		-		

#### 11. CHECK FOR DTC'S AND REPAIR AS NEEDED

#### 12. PERFORM INITIALIZATION

#### **13. FINAL INSPECTION**

- a) Check the operation of the following systems:
- 4WD System (4WD Only)
- Interior Lights
- Exterior Lights
- HVAC System
- Audio System

- Power Windows
- Power Door Locks
- All Gauges, Indicators and Warning Lights
- Cooling Fans
- Etc.

torque to spec.

#### 14. TEST DRIVE THE VEHICLE AND DOCUMENT FINAL REPAIR STATUS

 a) Test drive the vehicle and perform final repair sign off with the <u>Frame Replacement Inspection Sheet</u>. This must be performed and signed off by an MDT, Shop Foreman or Service Manager and retained with Final R.O.

#### 15. RECORD THE FRAME SERIAL NUMBER

a) Log into the frame tracker website using your dealer code and password.

URL: https://zh-frame-tracker.imagespm.info/

Default password: xxxxx

	<b>ΦΤΟΥΟΤΑ</b>
ZH Frame Tracker: DEALER Site	
Login Complete all required (*) fields below.	
* User ID: 82450 * Password: ••••• Login Forgot Password?	

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

- a) Remove the front wheels.
- b) Torque the front axle nut to spec.

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

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

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

**10. REINSTALL THE ENGINE UNDER COVERS** 

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

NOTE: If the holes for the cotter pin are not aligned, tighten the axle nut further, up to  $60^{\circ}$ .

a) Reinstall the engine under cover with 8 NEW bolts and

b)	Select 2005 to 2010 Tacoma ZH6 from	m the pick list.
	ZH Frame Tracker: DEALER Site	
	Toyota Administrator	Search Another Vin   Print Screen   Log Out
	Prompt Vehicle Type	
	Select the vehicle type that is having the frame	replaced under the WEP.
	Vehicle Type	
	2005 to 2010 Tacoma (ZH6)	
	<ul> <li>2007 to 2008 Tundra (ZH7) camp</li> <li>2005 to 2007 Sequola (ZH8) camp</li> <li>2008 Sequola (ZH9) campaign will</li> </ul>	paign will launch at a later date
	2006 Sequoia (ZH9) campaign wi	naunch oc a later aute
	Next	
c)	Enter the VIN of the vehicle. ZH Frame Tracker. DEALER Site	
		Courts Another Min J Pulat Courts 1 Line C
	Toyota Administrator	Search Another Vin   Print Screen   Log C
	Prompt VIN	
	Please scan, or type in, the VIN for this vehicle	e. If scanner doesn't populate the VIN field, place mouse cursor in that text box and try again.
	Vehicle Type (Campaign): 2005 to 2010 Tacoma (2H6)	Scan the MIN
	VIN:	Ocan the And
	Submit	
d)	Enter the frame serial off of the case I	label along with the R.O. number and Approved Frame Inspection Case
	Number.	
	ZH Frame Tracker: DEALER Site	
	Toyota Administrator	Search Another Vin   Print Screen   Log Out
	Prompt for Repair Data for	r Vehicle in Campaign
	1.12 2015 11 2014 1. mm 12 1	ase Label on the replacement frame into the field below. It is a unique serial number that must be matched
	to each VIN during repair.	
	For the 2005 to 2010 Tacoma , the case label car	n be located on the Driver's side outer frame rail behind the front cab mount.
	Vehicle Type (Campaign): 2005 to 2010 Tacoma (ZH6)	Sample Case Label
	VIN: 5TEJU62NX9Z593626	Location of Label on frame
	Case Label (8 characters eg AA111111):	G7042206
		G <sup>2</sup>
	R.O. Number:	

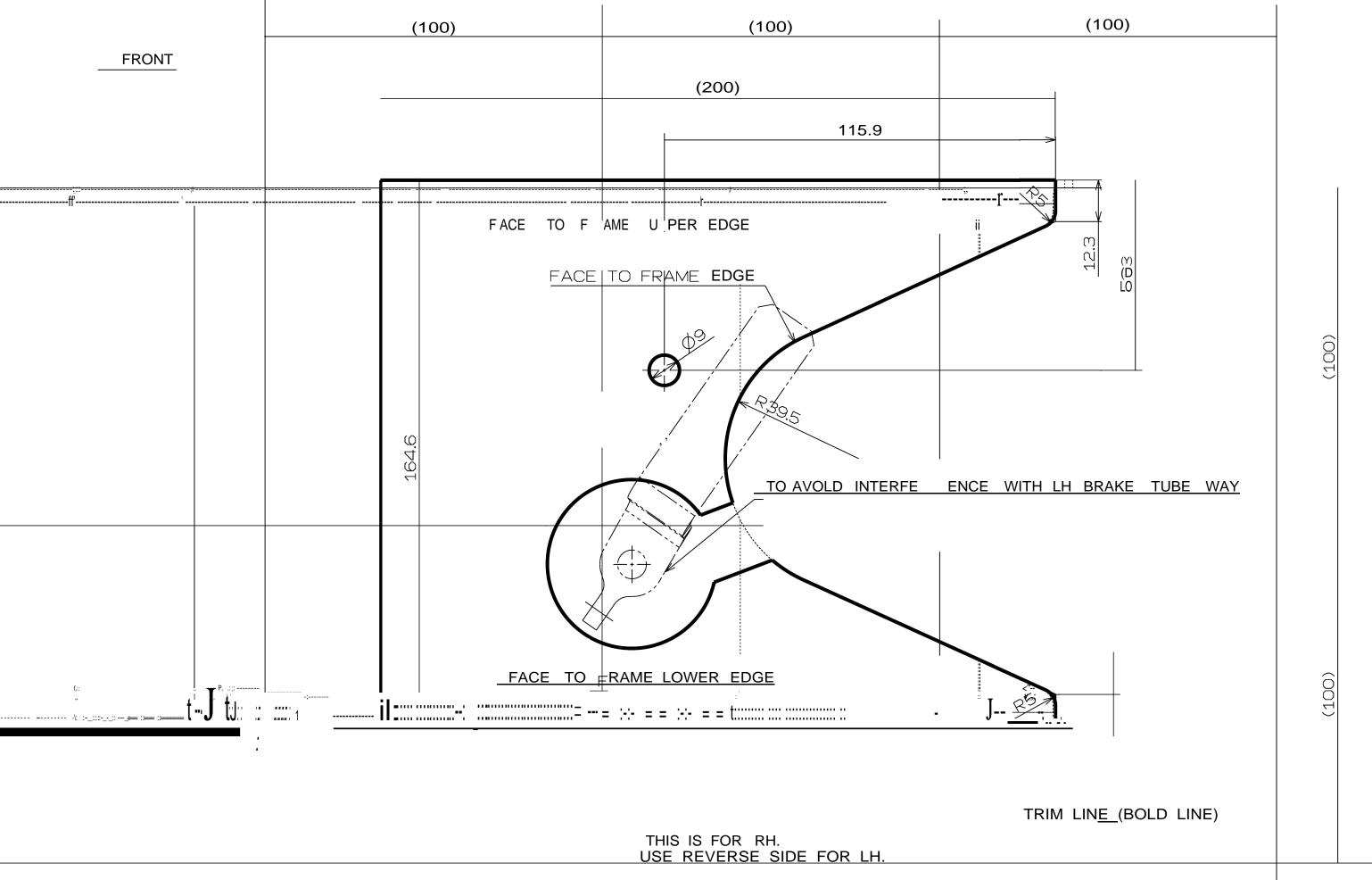
e) Press submit and print a copy of the serial number and file with the R.O.

Submit

TIS Frame Application Inspection Number (10 characters eg FI00000011):

#### 1. 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.



SIZE - A3