PRELIMINARY INSPECTION INSTRUCTIONS
FOR
SPECIAL SERVICE CAMPAIGN
Rear Frame Cross Member &
Load Sensing Proportioning & By-Pass Valve Inspection
2000-2003 Model Year Tundra
I. OPERATION FLOW CHART

Verify Vehicle Eligibility
1. Check the VIN range.
2. Check the TIS Vehicle Inquiry System

Not Involved → No further action required.

Involved

Remove spare tire, and visually inspect rear cross-member for rust perforation.

CASE 1:
If there is no perforation or only minor perforation.
See Appendix for detail.

CASE 2:
If there is a perforation more than 30mm or more than 3 perforations with less than 30mm in center portion, and/or breakage/separation in rear arms.
See Appendix for detail.

CASE 3:
If there is a breakage/perforation with more than 2/3 of entire cross-section length in front arm or center portion, or any breakage/perforation in gusset.
See Appendix for detail.

Inspect LSPV & associated brake lines for any leakage and/or looseness.

Relocate spare tire, and inspect LSPV & associated brake lines for any leakage and/or looseness.

Inform customer that the rear cross-member will need replaced and provide them with a rental vehicle. Contact customer when parts become available.
Follow the Toyota Transportation Assistance Program (TTAP) guidelines for rentals. Rental sublet op code TBD.

No leakage and/or looseness.

If there are signs of leakage and/or looseness, replace affected parts.

Parts unavailable

Inform customer that brake parts are not available and provide them with a rental vehicle. Contact customer when parts become available.
Follow the Toyota Transportation Assistance Program (TTAP) guidelines for rentals. Rental sublet op code TBD.

Reinstall spare tire and return vehicle to customer.

Return vehicle to customer.

No leakage and/or looseness.
II. IDENTIFICATION OF AFFECTED VEHICLES

A. AFFECTED VIN RANGE

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

A. PARTS

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B. TOOLS & EQUIPMENT

- Standard hand tools
- Torque wrench
- Protective eye wear
- Flare nut wrench
- Paper or shop towels

IV. BACKGROUND

On certain 2000 through 2003 model year Tundra vehicles operated in cold climate areas with high road salt use (Severe Cold Climate States) excessive corrosion may be exhibited on the rear frame cross-member. In the worst case, the spare tire stowed under the truck bed may become separated from the rear cross-member. Eventually, excessive corrosion of the rear cross-member may also affect the functionality of the brake system Load Sensing Proportioning & By-Pass Valve and/or associated brake lines.

V. WORK PROCEDURE

A. Initial Pre-Hoist Frame Inspection

1. Visually inspect the frame for rust perforation.
   a. If NG, use a drive on vehicle lift for the inspection. **Do not lift vehicle by the frame.**
   b. If OK, you may use a frame contacting vehicle lift for the inspection.
   c. Proceed to rear frame cross member inspection procedure.

B. Visual Inspection of Rear Frame Cross Member

1. Inspect the rear frame cross member for rust perforation and ability to support spare tire.
   a. Using the decision criteria in Appendix, determine if the vehicle qualifies for Case 1, Case 2 or Case 3
      i. Case 1: The rear cross member is not perforated by rust; proceed to section D. Load Sensing Proportioning & By-Pass Valve and Associated Brake Line Inspection below.
      ii. Case 2: Proceed to section C. Spare Tire Relocation.
      iii. Case 3: Inform customer that rear cross member will require replacement and provide customer with a rental vehicle.
C. Spare Tire Relocation

Figure 1

1. Selecting the spare tire relocation site.
   a. Select a location on the bed of the truck that will accommodate the customer’s needs while still allowing access to one of the four rope hooks.
   b. Go to step 2

Figure 2

2. Preparing the ratcheting tie-downs.
   a. Follow the instructions included with the tie-downs to make sure that they are ready to be used with the truck and tire.

   NOTE:
   - Improperly loading the ratcheting mechanism can lead to the failure of the locking function.

   b. Go to step 3
3. Placing the tire in the bed of the truck.
   a. Place the tire in the customer's preferred location.

   NOTE:
   - If the vehicle is not equipped with a tail gate, then the spare tire **can only** be secured to one of the two front rope hooks.

   b. Using 6 inches of standard heater core hose or equivalent, cut a slit down the middle and slide it over the center of the wheel where the strap will make contact.

   c. With the ratcheting mechanism located on the outer sidewall of the tire, route the ratcheting tie-down strap through the center of the wheel and over the cut hose.

   d. Hook both ends of the tie-down strap to the rope hook.

   e. Route the cable lock through center of the wheel and through the rope hook and lock.

   f. Go to step 4

4. Securing the tire to the bed of the truck.
   a. Wedge the tire firmly against the select sides of the truck.

   b. Keeping the tire firmly in place, tighten the ratcheting strap.

   c. Take the vehicle out for a test drive to verify proper installation

   NOTE:
   - Never operate the truck without the tire and lock being secured.

   d. Proceed to section **D. Load Sensing Proportioning & By-Pass Valve and Associated Brake Line Inspection** below.
D. Load Sensing Proportioning & By-Pass Valve and Associated Brake Line Inspection

Figure 5

1. Inspect the Load Sensing Proportioning & By-Pass Valve (LSP & BV) for excessive rust, looseness & normal function.

   a. If there are signs of excessive rust and/or any sign of brake fluid leakage, note that the valve will require replacement and continue inspection.

   b. With one hand using minimal force, attempt to wiggle the valve bracket (b).
      i. If the LSP & BV bracket is loose, note that the LSP & BV and bracket will require replacement and continue inspection.

   c. With one hand using minimal force, attempt to wiggle the valve body (c).
      i. If the LSP & BV body and/or associated components are loose or show any signs of leakage, note that the LSP & BV and bracket will require replacement.
VI. APPENDIX

A. CAMPAIGN PARTS DISPOSAL

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

B. REAR CROSS MEMBER INSPECTION CRITERIA (go to next page)
Guidelines for Rear Cross Member Replacement

Case 3: Vehicle should not be driven without rear cross member replacement

Gusset Area
Guideline: Any perforation in gusset area
- Rear LH Shock absorber mounting area
- LSP&BV Bracket installation area
Example of NG Condition: Replace Rear Cross Member

Rear Cross Member - Front Arm Area
Guideline: The length of perforation is more than 2/3 of the cross-section length
Example of NG Condition: Replace Rear Cross Member

NOTE: What is meaning of
The length of perforation is more than 2/3 of the cross-section length.

Approx. 2/3 of Length: Perforation

Cross-section Length (EX: 200mm (100%))

Total perforation percentage on Cross-Section Length (EX: total perforation 2/3 on length approx. 140mm (2/3) over

Total perforation diameter is over 2/3 on length
Case 3 (cont’d):
Vehicle should not be driven without rear cross member replacement

**Area: Rear Cross Member - Center Portion**

Guideline: The length of perforation is more than 2/3 of the cross-section length

Example of NG Condition: Replace Rear Cross Member

**NOTE** What is meaning of

The length of perforation is more than 2/3 of the cross-section length.

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**OK** Case 3 inspections pass. Move to Case 2 on next page.

**NG** Case 3 inspections fail. Inform customer that rear cross member will require replacement and provide them with rental vehicle. Contact Customer when parts become available.
Case 2
Vehicle can be driven without rear cross member replacement however; spare tire must be removed from carrier and secured in truck bed.

Area: Rear Cross Member - Center Portion
Guideline: **Perforation exceeds 30 mm diameter or more than 3 perforated spots in the center portion of the rear cross member.**
Example of NG Condition: Spare tire should be removed and secured in bed of truck.

NG Case 1: **perforation exceeds 30mm diameter**

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Single perforation over 30mm diameter
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NG Case 2: **more than 3 perforated spots in center portion of rear cross member**

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More than 3 perforated spots in center portion of cross member
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Area: Rear Cross Member - Front Arm Portion
Guideline: **if a complete breakage/separation from side rail is observed in rear arm of the cross-member, spare tire should be removed and secured in bed of truck.**
Example of NG Condition: Necessary to replace Rear Cross Member

Case 2 inspections pass; spare tire can remain stowed in carrier. Return spare to carrier and move to LSP&BV and associated brake line inspection.

Case 2 inspections fail; spare tire must be removed from carrier and secured in truck bed. Move to LSP&BV and associated brake line inspection.
Case 1
Spare tire can remain stowed in carrier and it is not necessary to replace rear cross member

Decision criteria: No "NG " results for Case 2 and Case 3 inspections.

Go to “LSPV & associate brake line inspection."