

PRELIMINARY INSPECTION INSTRUCTIONS

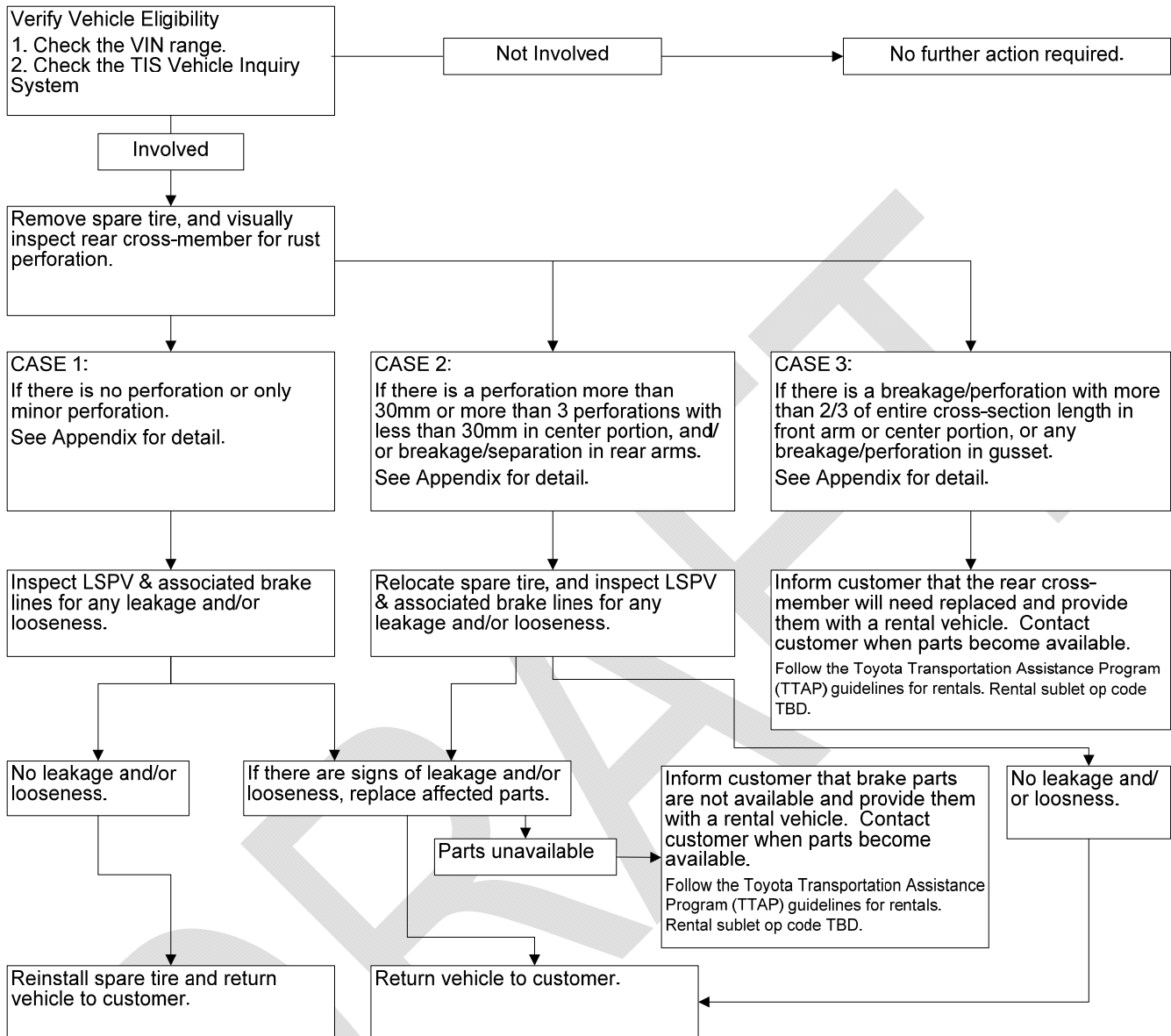
FOR

SPECIAL SERVICE CAMPAIGN

**Rear Frame Cross Member &
Load Sensing Proportioning & By-Pass Valve Inspection**

2000-2003 Model Year Tundra

I. OPERATION FLOW CHART



II. IDENTIFICATION OF AFFECTED VEHICLES

A. AFFECTED VIN RANGE

WMI	MY	VDS	START	FINISH
5TB	2000	BN441	S001001	S125840
		BN481	S001001	S001001
		BT441	S001001	S125901
		BT481	S001001	S125894
		JN321	S001001	S125878
		KN421	S001001	S123980
		KN441	S001001	S051314
		KT441	S001001	S125833
		RN341	S001001	S125859
		RN381	S001001	S001003
		RT341	S001001	S125904
		RT381	S001001	S125897
		2001	BN441	S125937
	BT441		S125905	S220327
	BT481		S064334	S220350
	JN321		S126112	S220343
	KN441		S064852	S064852
	KT421		S090565	S217964
	KT441		S125921	S220297
	RN341		S125909	S220341
	RT341		S125907	S220347
	RT381		S064333	S220345
	2002	BN441	S220394	S332707
		BT441	S219294	S332720
		BT481	S219295	S332685
		JN321	S220351	S332714
		KT421	S220380	S328382
		KT441	S220392	S332706
		RN341	S220353	S332719
		RT341	S220360	S332721
		RT381	S220365	S332666
	2003	BN441	S332744	S434010
		BT441	S316368	S439612
		BT481	S306031	S439613
		JN321	S332745	S436914
		KT421	S332818	S414089
KT441		S330788	S439601	
RN341		S307943	S436915	
RT341		S306032	S439732	
RT381		S308386	S439716	

- 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

Part Number	Part Description	Quantity
TBD		
TBD		
TBD		
TBD		
TBD		

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

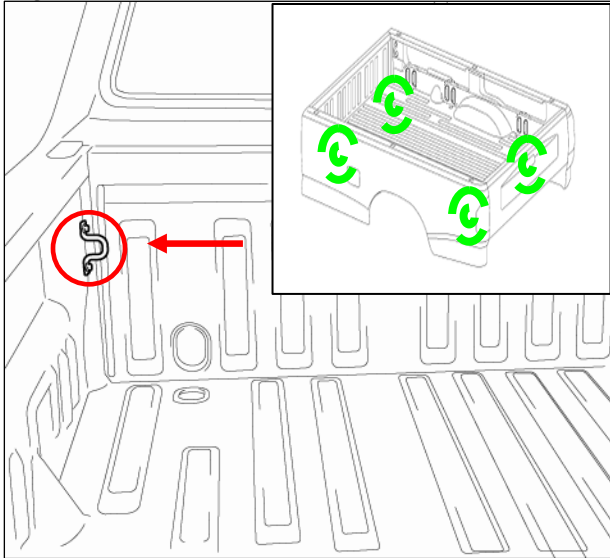
Figure 1.

See Appendix for Detailed Inspection Criteria

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.

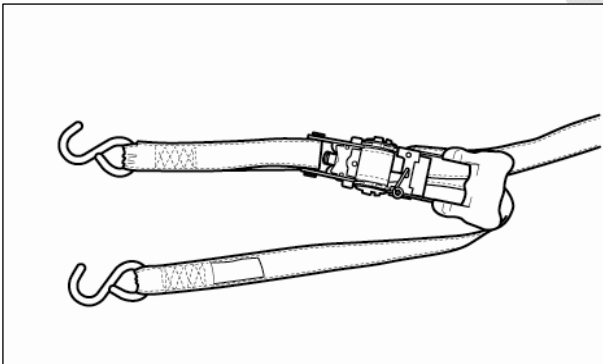
C. Spare Tire Relocation

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

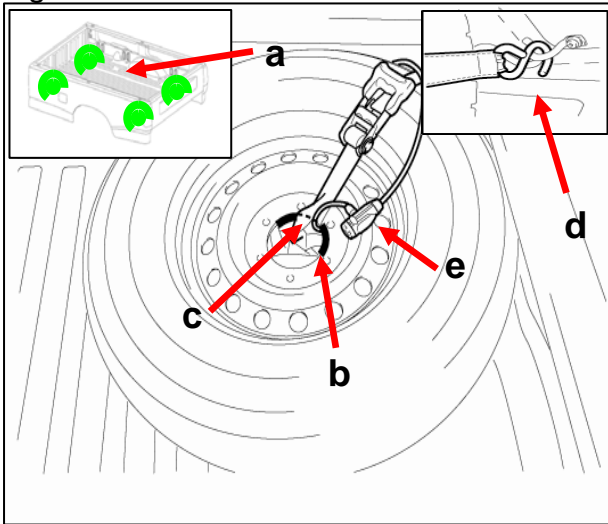


2. Preparing the ratcheting tie-downs.
 - a. Follow the instructions included with the tie-downs to make sure that they are ready to be used with the truck and tire.

NOTE:

 - Improperly loading the ratcheting mechanism can lead to the failure of the locking function.
 - b. Go to step 3

Figure 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.

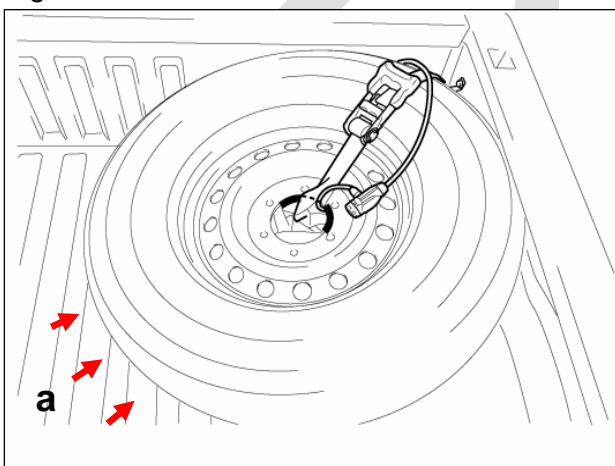
- c. Take the vehicle out for a test drive to verify proper installation

NOTE:

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

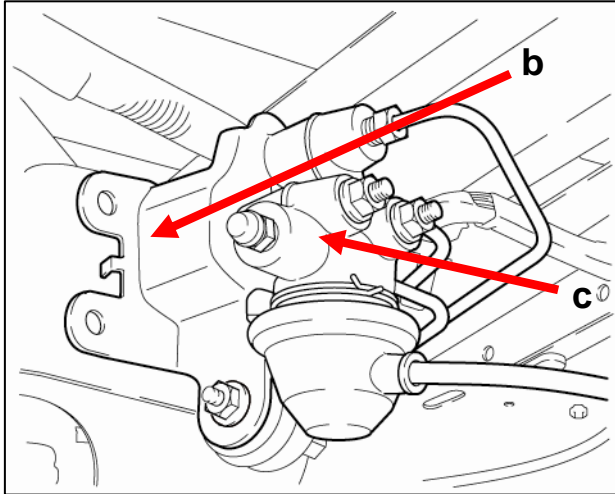
- d. Proceed to section *D. Load Sensing Proportioning & By-Pass Valve and Associated Brake Line Inspection* below.

Figure 4



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)

DRAFT

Guidelines for Rear Cross Member Replacement

Case 3:

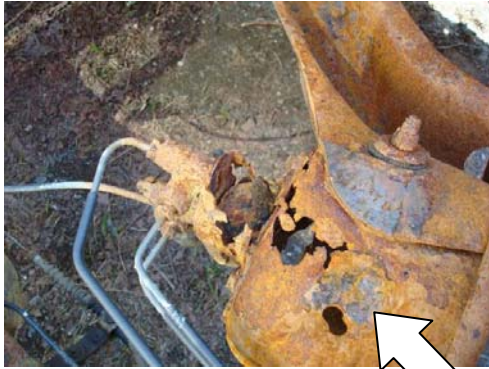
Vehicle should not be driven without rear cross member replacement

Gusset Area

Guideline: Any perforation in gusset area

- Rear LH Shock absorber mounting area
- LSP&BV Bracket installation area

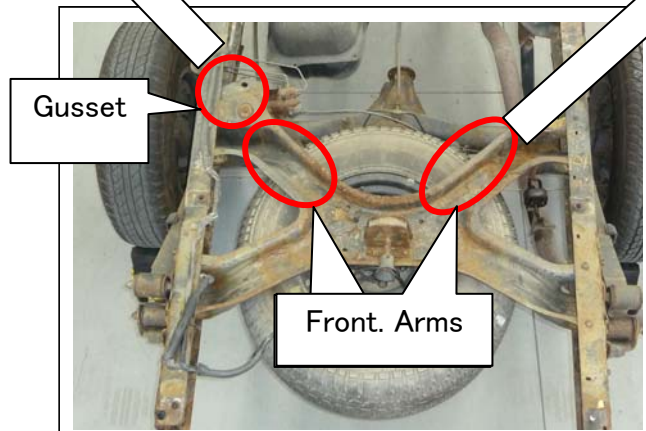
Example of NG Condition: Replace Rear Cross Member



Rear Cross Member - Front Arm Area

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

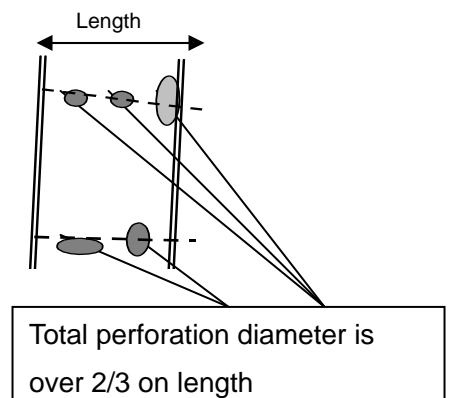
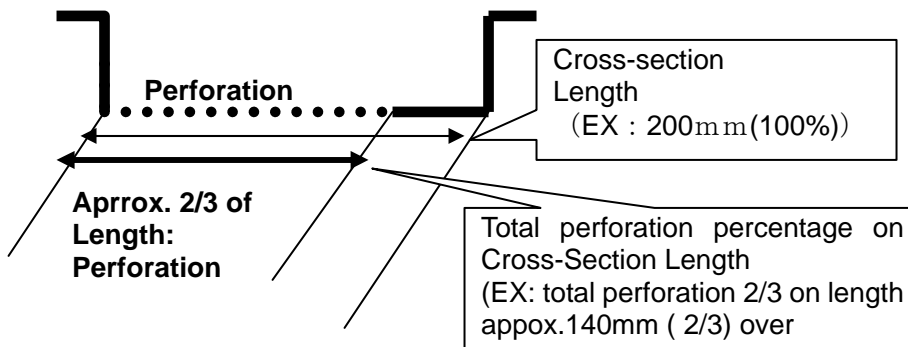
Example of NG Condition: Replace Rear Cross Member



《NOTE》 What is meaning of

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

Rr. Cross - Member Cross - Section



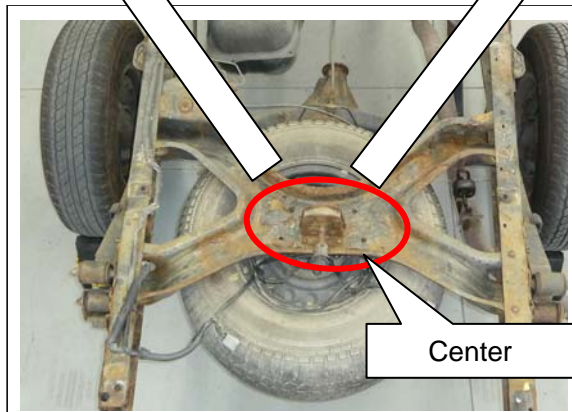
Case 3 (cont'd):

Vehicle should not be driven without rear cross member replacement

Area: Rear Cross Member - Center Portion

Guideline: The length of perforation is more than $\frac{2}{3}$ of the cross-section length

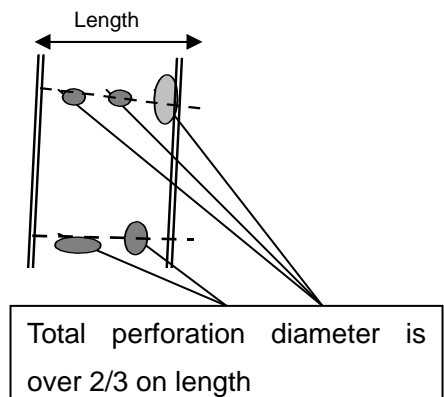
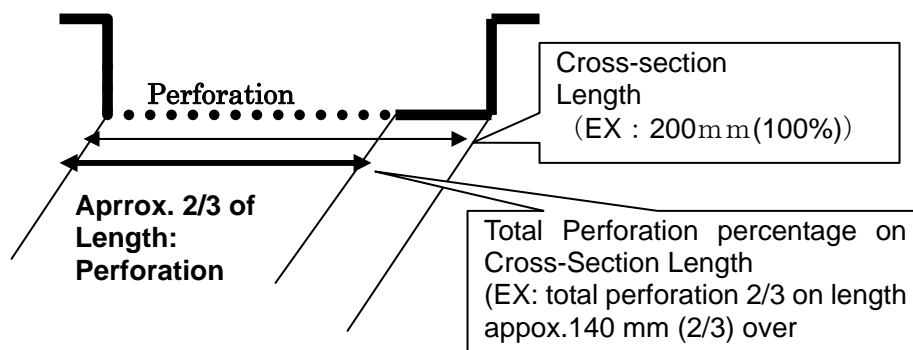
Example of NG Condition: Replace Rear Cross Member



«NOTE» What is meaning of

The length of perforation is more than $\frac{2}{3}$ of the cross-section length.

Rr. Cross - Member Cross - Section



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

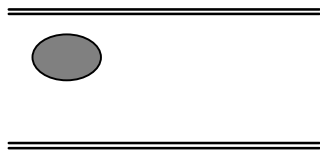
Vehicle can be driven without rear cross member replacement however; spare tire must be removed from carrier and secured in truck bed.

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.**

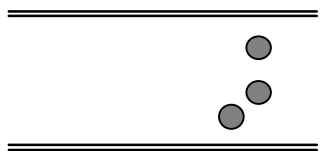
Example of NG Condition: Spare tire should be removed and secured in bed of truck.

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



Single perforation over 30mm diameter

NG Case 2: **more than 3 perforated spots in center portion of rear cross member**

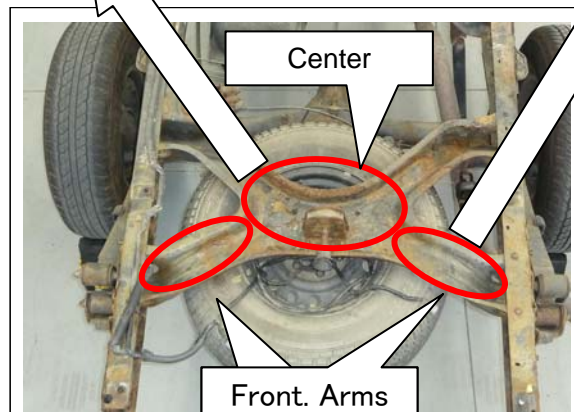


More than 3 perforated spots in center portion of cross member

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



OK

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.

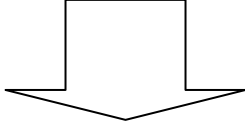
NG

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.

Case1

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.