

SECTION **RSU**
 REAR SUSPENSION

A
 B
 C
 D

RSU

CONTENTS

SERVICE INFORMATION	2	Wheel Alignment Inspection	5	F
PRECAUTIONS	2	Component	7	
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	2	SHOCK ABSORBER	8	G
Precaution for Rear Suspension	2	Removal and Installation	8	
PREPARATION	3	COIL SPRING	10	H
Commercial Service Tool	3	Removal and Installation	10	
NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING	4	REAR SUSPENSION BEAM	11	I
NVH Troubleshooting Chart	4	Removal and Installation	11	
REAR SUSPENSION ASSEMBLY	5	SERVICE DATA AND SPECIFICATIONS (SDS)	12	J
On-Vehicle Inspection and Service	5	Wheel Alignment (Unladen*)	12	
		Wheelarch Height (Unladen*)	12	K
				L
				M
				N
				O
				P

PRECAUTIONS

< SERVICE INFORMATION >

SERVICE INFORMATION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000001703732

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

Precaution for Rear Suspension

INFOID:000000001703733

- When installing the rubber bushings, the final tightening must be done under unladen condition and with the tires on level ground. Oil will shorten the life of the rubber bushings, so wipe off any spilled oil immediately.
- Unladen condition means the fuel tank, engine coolant and lubricants are at the full specification. The spare tire, jack, hand tools, and mats are in their designated positions.
- After installing suspension components, check the wheel alignment.
- Caulking nuts are not reusable. Always use new caulking nuts for installation. New caulking nuts are pre-oiled, do not apply any additional lubrication.

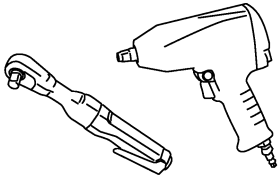
PREPARATION

< SERVICE INFORMATION >

PREPARATION

Commercial Service Tool

INFOID:000000001703734

Tool name	Description
Power tool  PBIC0190E	Removing wheel nuts

A

B

C

D

RSU

F

G

H

I

J

K

L

M

N

O

P

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SERVICE INFORMATION >

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:000000001703735

Use chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

Reference page		RSU-7	RSU-8	RSU-8	RSU-8	RSU-10	RSU-7	RSU-5	RSU-4	WT-4	WT-4	BR-4	PS-5
Possible cause and SUSPECTED PARTS		Improper installation, looseness	Shock absorber deformation, damage or deflection	Bushing or mounting deterioration	Parts interference	Spring fatigue	Suspension looseness	Incorrect wheel alignment	REAR AXLE	TIRES	ROAD WHEEL	BRAKES	STEERING
Symptom	Noise	x	x	x	x	x	x		x	x	x	x	x
	Shake	x	x	x	x		x		x	x	x	x	x
	Vibration	x	x	x	x	x			x	x			x
	Shimmy	x	x	x	x			x	x	x	x	x	x
	Judder	x	x	x					x	x	x	x	x
	Poor quality ride or handling	x	x	x	x	x		x	x	x	x		

x: Applicable

REAR SUSPENSION ASSEMBLY

< SERVICE INFORMATION >

REAR SUSPENSION ASSEMBLY

On-Vehicle Inspection and Service

INFOID:000000001703736

Make sure the mounting conditions (looseness, backlash) of each component and component conditions (wear, damage) are within specifications.

SHOCK ABSORBER INSPECTION

Check shock absorber for oil leakage, damage and replace it if necessary.

Wheel Alignment Inspection

INFOID:000000001703737

DESCRIPTION

Measure wheel alignment under unladen conditions.

NOTE:

“Unladen conditions” means that fuel, engine coolant, and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

PRELIMINARY

Check the following:

1. Tires for improper air pressure and wear.
2. Road wheels for runout. Refer to [WT-5](#).
3. Wheel bearing axial end play. Refer to [RAX-4, "On-Vehicle Inspection and Service"](#).
4. Shock absorber operation.
5. Each mounting part of suspension for looseness and deformation.
6. Rear suspension beam for cracks, deformation, and other damage.
7. Vehicle height (posture).

GENERAL INFORMATION AND RECOMMENDATIONS

1. A Four-Wheel Thrust Alignment should be performed.
 - This type of alignment is recommended for any NISSAN vehicle.
 - The four-wheel “thrust” process helps ensure that the vehicle is properly aligned and the steering wheel is centered.
 - The alignment machine itself should be capable of accepting any NISSAN vehicle.
 - The alignment machine should be checked to ensure that it is level.
2. Make sure the alignment machine is properly calibrated.
 - Your alignment machine should be regularly calibrated in order to give correct information.
 - Check with the manufacturer of your specific alignment machine for their recommended Service/Calibration Schedule.

THE ALIGNMENT PROCESS

IMPORTANT: Use only the alignment specifications listed in this Service Manual. Refer to [RSU-12, "Wheel Alignment \(Unladen*\)"](#).

1. When displaying the alignment settings, many alignment machines use “indicators”: (Green/red, plus or minus, Go/No Go). **Do NOT use these indicators.**
 - The alignment specifications programmed into your alignment machine that operate these indicators may not be correct.
 - This may result in an ERROR.
2. Some newer alignment machines are equipped with an optional “Rolling Compensation” method to “compensate” the sensors (alignment targets or head units). **Do NOT use this “Rolling Compensation” method.**
 - Use the “Jacking Compensation” method. After installing the alignment targets or head units, raise the vehicle and rotate the wheels 1/2 turn both ways.
 - See Instructions in the alignment machine you are using for more information.

CAMBER INSPECTION

A
B
C
D

RSU

F
G
H
I

J
K
L

M
N
O
P

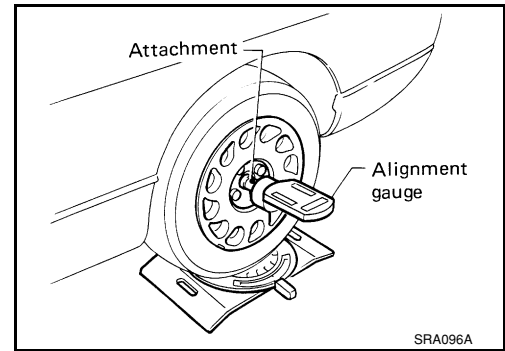
REAR SUSPENSION ASSEMBLY

< SERVICE INFORMATION >

- Measure camber of both right and left wheels with a suitable alignment gauge.

Camber : Refer to [RSU-12, "Wheel Alignment \(Unladen*\)"](#) .

- If it is out of the specification value, inspect and replace any damaged or worn rear suspension parts.



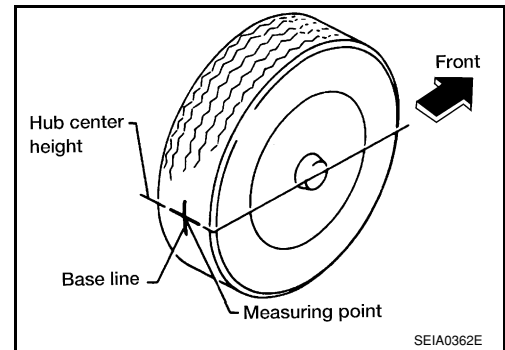
TOE-IN INSPECTION

Measure toe-in using following procedure. If it is out of the specification, inspect and replace any damaged or worn rear suspension parts.

WARNING:

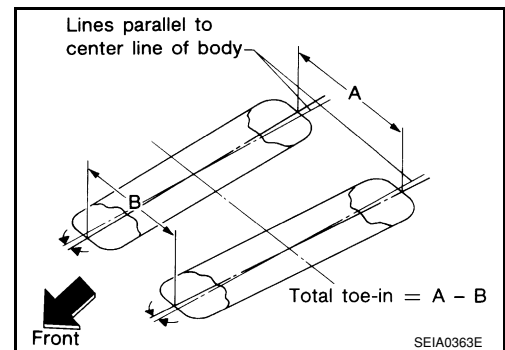
- **Always perform the following procedure on a flat surface.**
- **Make sure that no person is in front of vehicle before pushing it.**

1. Bounce the rear of vehicle up and down to stabilize the vehicle height (posture).
2. Push vehicle straight ahead about 5 m (16 ft).
3. Put a mark on base line of the tread (rear side) of both tires at the same height of hub center. These are measuring points.



4. Measure distance "A" (rear side).
5. Push vehicle slowly ahead to rotate wheels 180 degrees (1/2 turn). If wheels have rotated more than 180 degrees (1/2 turn), try the above procedure again from the beginning. Never push vehicle backward.
6. Measure distance "B" (front side).

Total toe-in : Refer to [RSU-12, "Wheel Alignment \(Unladen*\)"](#) .

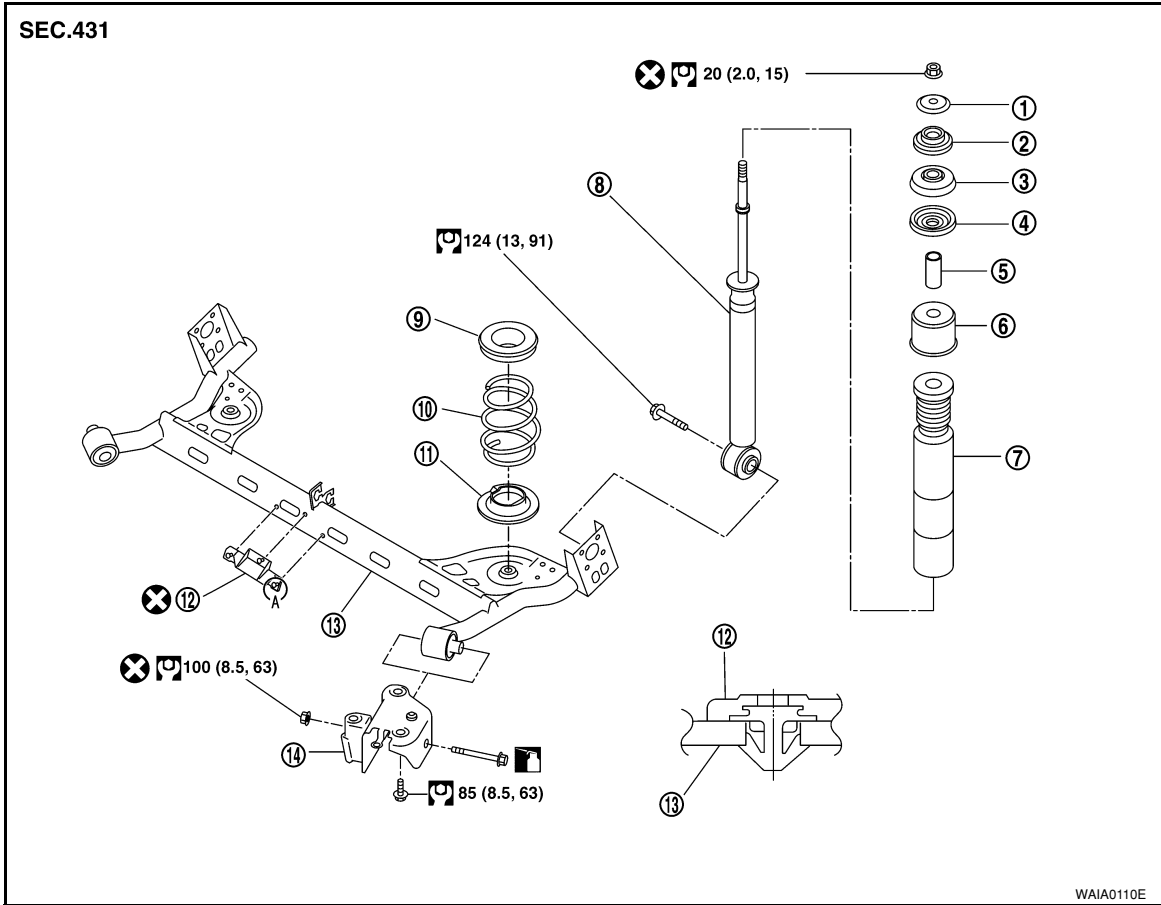


REAR SUSPENSION ASSEMBLY

< SERVICE INFORMATION >

Component

INFOID:000000001703738



- | | | |
|--------------------------|-------------------------------------|------------------------------------|
| 1. Washer (upper) | 2. Bushing (upper) | 3. Bushing (lower) |
| 4. Washer (lower) | 5. Distance tube | 6. Bound bumper cover |
| 7. Bound bumper | 8. Shock absorber | 9. Rear spring rubber seat (upper) |
| 10. Coil spring | 11. Rear spring rubber seat (lower) | 12. Brake tube protector |
| 13. Rear suspension beam | 14. Rear suspension beam bracket | |

A
B
C
D
RSU
F
G
H
I
J
K
L
M
N
O
P

SHOCK ABSORBER

< SERVICE INFORMATION >

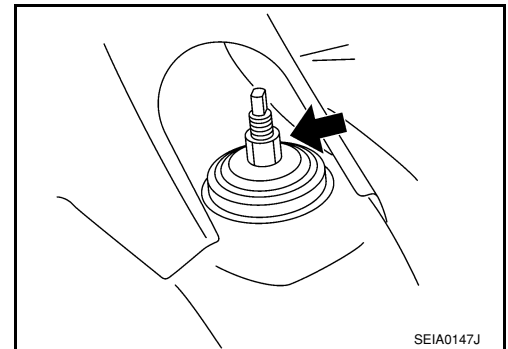
SHOCK ABSORBER

Removal and Installation

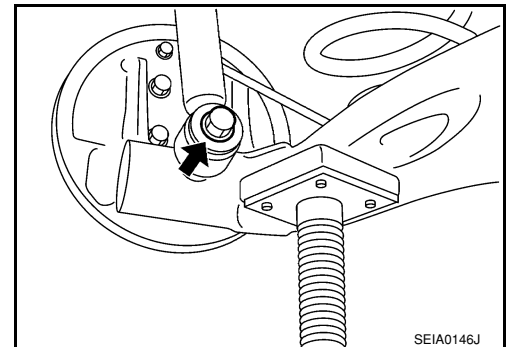
INFOID:000000001703739

REMOVAL

1. Remove rear tires from vehicle using power tool.
2. Remove wheel sensor from wheel hub and bearing assembly and rear suspension beam. Refer to [BRC-32](#).
CAUTION:
Do not pull on wheel sensor harness.
3. Remove shock absorber mask from trunk side finisher using a flat-bladed screwdriver. Refer to [EI-51](#).
CAUTION:
Wrap the tip of a screwdriver with cloth to avoid damaging components.
4. Set jack under rear suspension beam.
5. Remove upper nut of the shock absorber, and then remove washer (upper), bushing (upper) from shock absorber.



6. Remove shock absorber lower side bolt.
7. Gradually lower the jack, and remove the bushing (lower), washer (lower), distance tube, bound bumper cover, bound bumper and shock absorber from vehicle.



INSPECTION AFTER REMOVAL

Shock Absorber

Check the following:

- Shock absorber for deformation, cracks or damage, and replace if necessary.
- Piston rod for damage, uneven wear or distortion, and replace if necessary.

Bound Bumper and Bushing

Check bound bumper and bushing for cracks, deformation or other damage, and replace applicable parts if necessary.

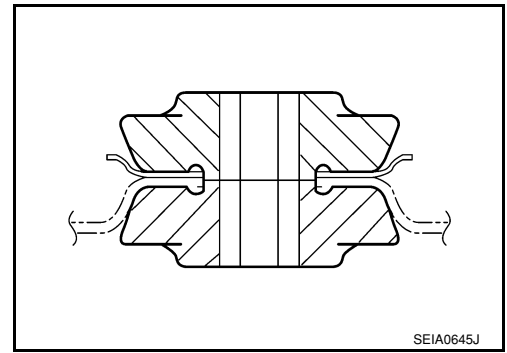
INSTALLATION

- Installation is in the reverse order of removal. For tightening torque, refer to [RSU-7, "Component"](#).

SHOCK ABSORBER

< SERVICE INFORMATION >

- When installing body side bushing (upper), install the projection to the body side hole securely.



A
B
C
D

RSU

F
G
H
I
J
K
L
M
N
O
P

COIL SPRING

< SERVICE INFORMATION >

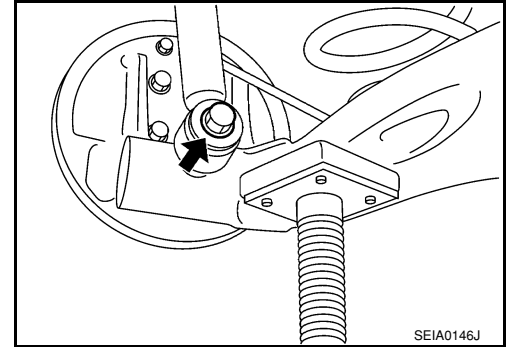
COIL SPRING

Removal and Installation

INFOID:000000001703740

REMOVAL

1. Remove rear tires from vehicle using power tool.
2. Remove wheel sensor from wheel hub and bearing assembly. Refer to [BRC-32](#) .
CAUTION:
Do not pull on wheel sensor harness.
3. Separate brake tube from wheel cylinder. Refer to [BR-10](#) .
4. Set jack under rear suspension beam.
5. Remove shock absorber lower side bolt. Refer to [RSU-8](#) .
6. Gradually lower the jack, and then remove coil spring and rear spring rubber seat (upper and lower).

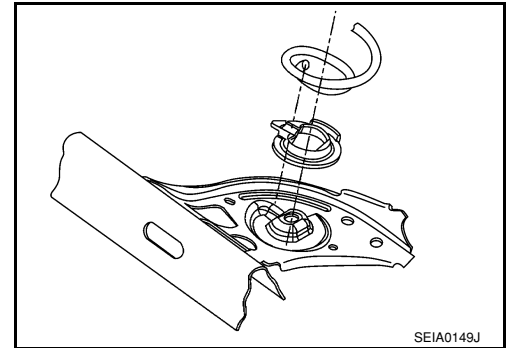


INSPECTION AFTER REMOVAL

Check coil spring and spring rubber seat for deformation, cracks, and damage, and replace it if a malfunction is detected.

INSTALLATION

- Installation is in the reverse order of removal. For tightening torque, refer to [RSU-7, "Component"](#) .
- When installing spring, be sure to securely install the spring end position aligned to flush of rear spring rubber seat (lower) as shown.



REAR SUSPENSION BEAM

< SERVICE INFORMATION >

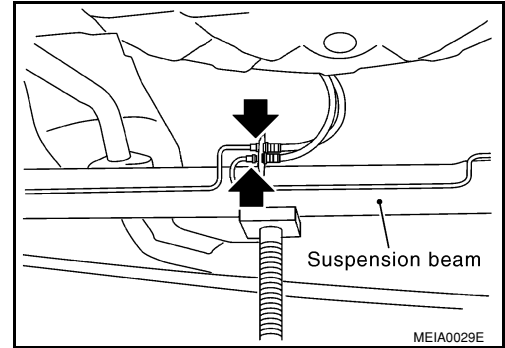
REAR SUSPENSION BEAM

Removal and Installation

INFOID:000000001703741

REMOVAL

1. Remove rear tires from vehicle using power tool.
2. Separate parking brake rear cable from rear drum brake and rear suspension beam. Refer to [PB-4](#).
3. Remove wheel sensor and wheel sensor harness from wheel hub and bearing assembly and rear suspension beam. Refer to [BRC-32](#).
4. Remove lock plate and separate brake tube from brake hose. Refer to [BR-10](#).
5. Remove wheel hub and bearing assembly and back plate. Refer to [RAX-4](#).
6. Set jack under rear suspension beam.
7. Remove coil spring (left/right). Refer to [RSU-10. "Removal and Installation"](#).
8. Remove bolts between body and rear suspension beam bracket. Refer to [RSU-7. "Component"](#).
9. Gradually lower the jack, and then remove rear suspension beam from vehicle.
10. Remove the rear suspension beam bracket bolt and nut, and then remove rear suspension beam bracket from rear suspension beam. Refer to [RSU-7. "Component"](#).
11. Remove brake tube protector from rear suspension beam..

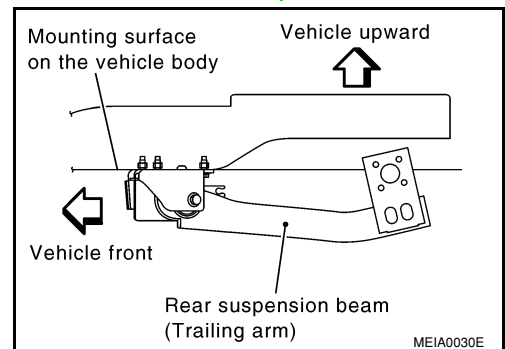


INSPECTION AFTER REMOVAL

Check components for deformation, cracks, and other damage, and replace if necessary.

INSTALLATION

- Installation is in the reverse order of removal. For tightening torque, refer to [RSU-7. "Component"](#).
- Perform final tightening of rear suspension beam and rear suspension beam bracket (rubber bushing) under unladen conditions with tires on level ground.
- Refill with new brake fluid and bleed air. Refer to [BR-8. "Bleeding Brake System"](#).
- Check the following after finishing work.
 - Parking brake operation (stroke): Refer to [PB-4. "On-Vehicle Service"](#).
 - Wheel sensor harness for proper connection: Refer to [BRC-32](#).



SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE INFORMATION >

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel Alignment (Unladen*)

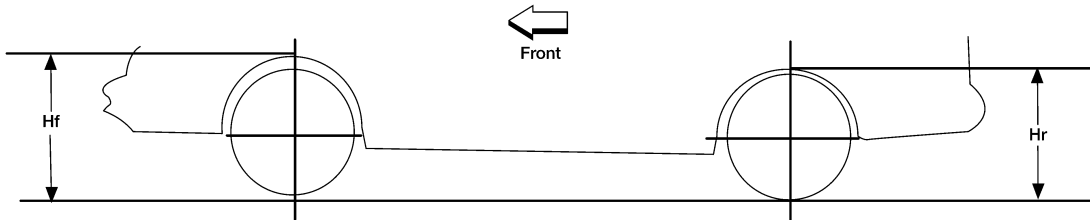
INFOID:000000001703742

Camber Degree minute (Decimal degree)		Minimum	- 2° 01' (- 2.02°)
		Nominal	- 1° 31' (- 1.52°)
		Maximum	- 1° 01' (- 1.02°)
Total toe-in	Distance (A - B)	Minimum	1.0 mm (0.039 in)
		Nominal	5.0 mm (0.197 in)
		Maximum	9.0 mm (0.354 in)
	Angle (A - B) Degree minute (Decimal degree)	Minimum	0° 3' (0.05°)
		Nominal	0° 14' (0.23°)
		Maximum	0° 24' (0.41°)

*: Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

Wheelarch Height (Unladen*)

INFOID:000000001703743



LEIA0085E

Applied model	185/65R15
Front (Hf)	686 mm (27.01 in)
Rear (Hr)	684 mm (26.97 in)

*: Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.