

TO-60000 UAZ-SGR

Repair instructions number
00505

Repair instructions name
TO-60000 UAZ-SGR

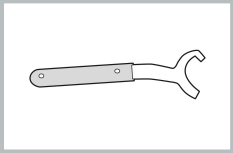
Applies to
UAZ 220695000046204
...

Model
BUS

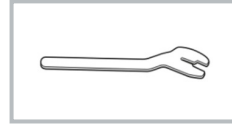
Production period
all

Modification
Not selected

Special tools

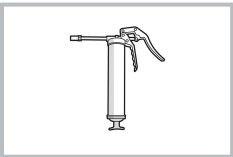


Wrench for holding the water pump shaft
005500000404900

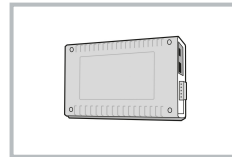


Fan viscous clutch removal key
005500000355600

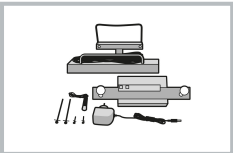
General equipment



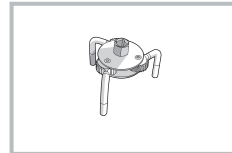
Grease gun



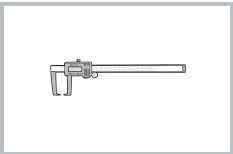
Diagnostic system UAZ



A device for measuring the total backlash of the steering



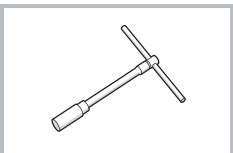
Oil filter remover



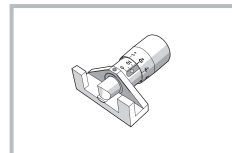
Caliper



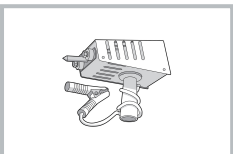
Tire pressure gauge



Spark plug wrench



Universal belt tension tester



Load fork

Materials



Sealant-gasket

Refer to the instructions - COMBI - Car installation on lift (C) (00410)

Refer to the instructions - UAZ SANITARY CAR FOR MEDICAL SERVICES, BUS, GLAZED VAN, HATCH, RIGID VEHICLE - Right engine mudguard - Removal / Installation (C) (28011)

1. Work outside the car:

IMAGE



OPERATION DESCRIPTION

1. Check by inspection for chips, cracks and foci of corrosion of the body paintwork.

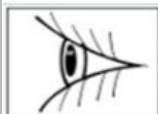
The presence of chips, cracks and centers of corrosion of the body paintwork is not allowed.

Img 1



2. Check by inspection for chips, cracks on glass and rear-view mirrors, lighting and light signaling devices.

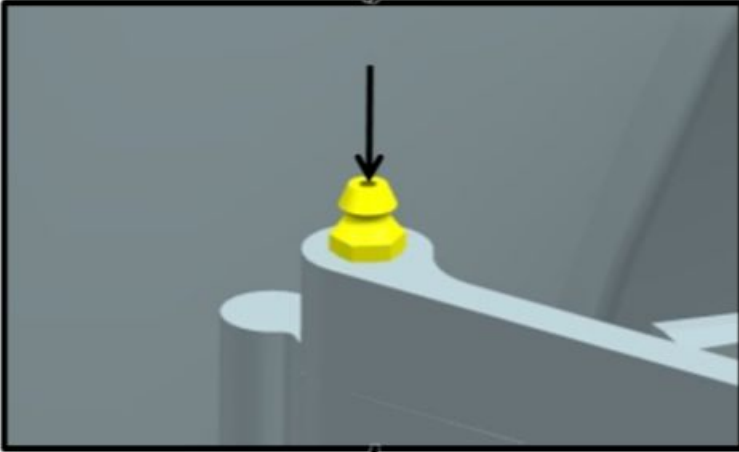
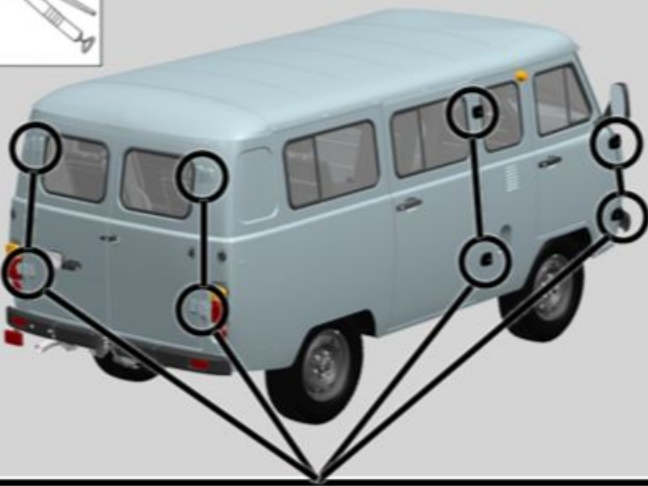
The presence of chips, cracks on glass and rear-view mirrors, lighting and light signaling devices is not allowed.



Img 2



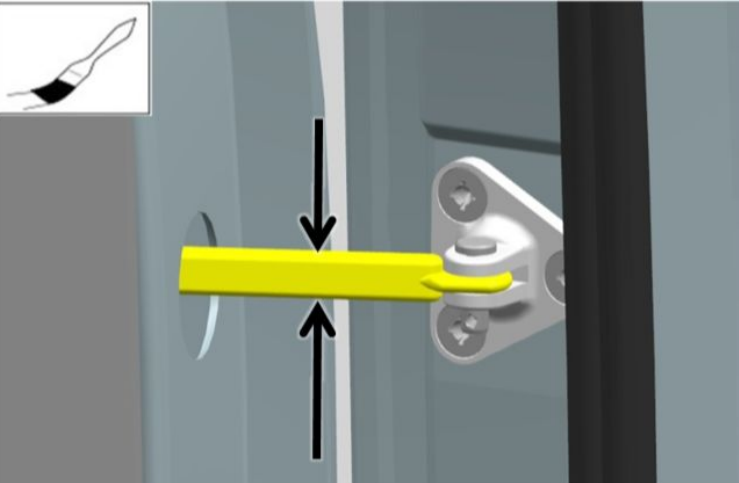
3. Apply grease to the door hinges.



Img 3

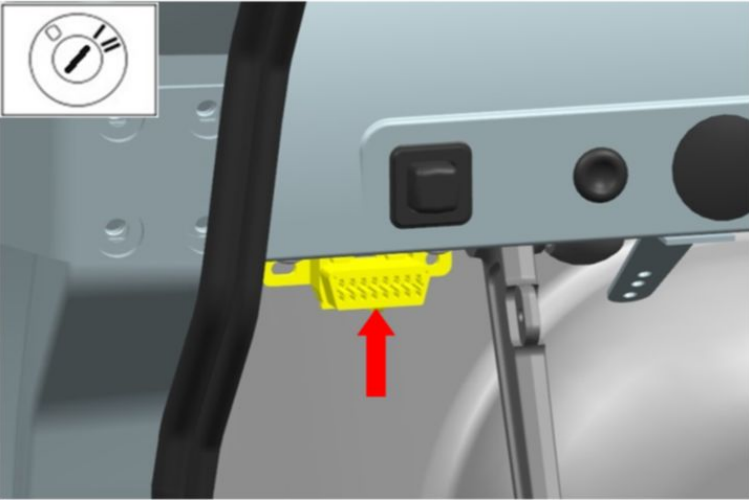


4. Apply grease to the front door stops.



Img 4

2. Work inside the car:



Img 1

1. Connect the UAZ diagnostic system to the OBD-2 connector.

2. Switch on the ignition.

3. Check for DTCs in the ECM.

4. Check for fault codes in the ABS control unit.



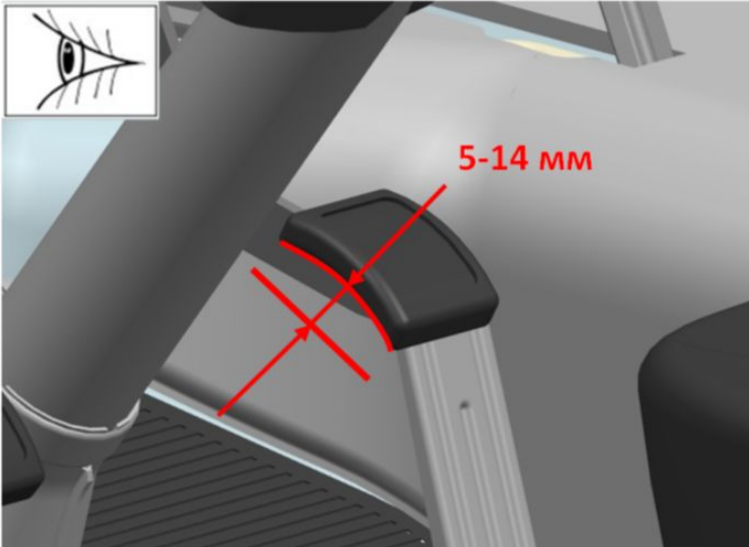
5. Install the parts of the device for measuring the total backlash of the steering on the steering wheel and on the left front wheel of the car.

6. Check the total backlash of the steering according to the operating instructions of the device.

The total backlash should not exceed 20 degrees.



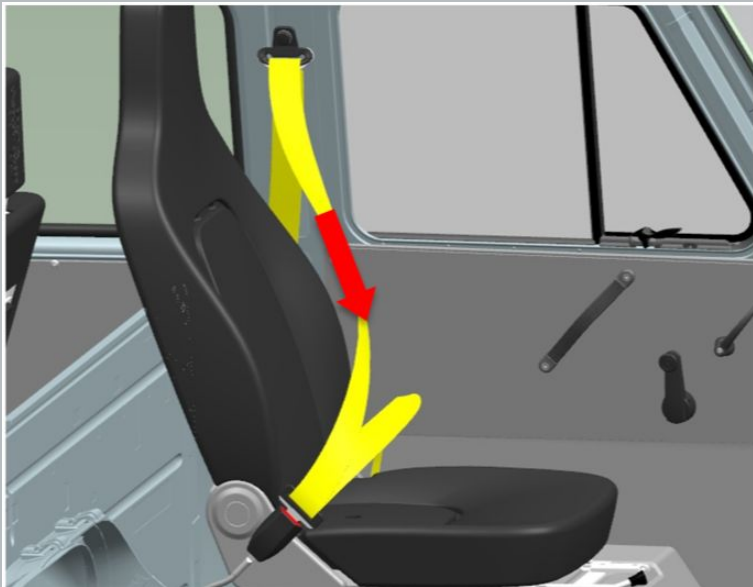
Img 2



7. Check the free play of the brake pedal.

The amount of free travel of the brake pedal should be 5-14 mm.

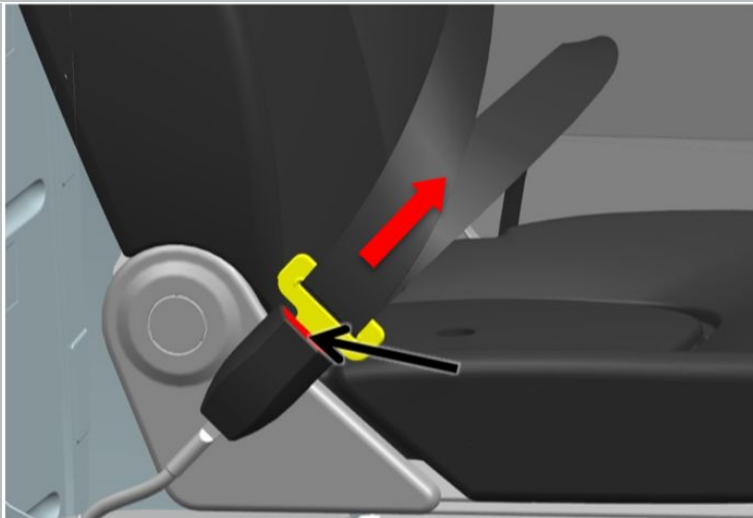
Img 3



8. Check the operation of the seat belt retractor.
The device should wind the belt around the reel easily and without jamming.

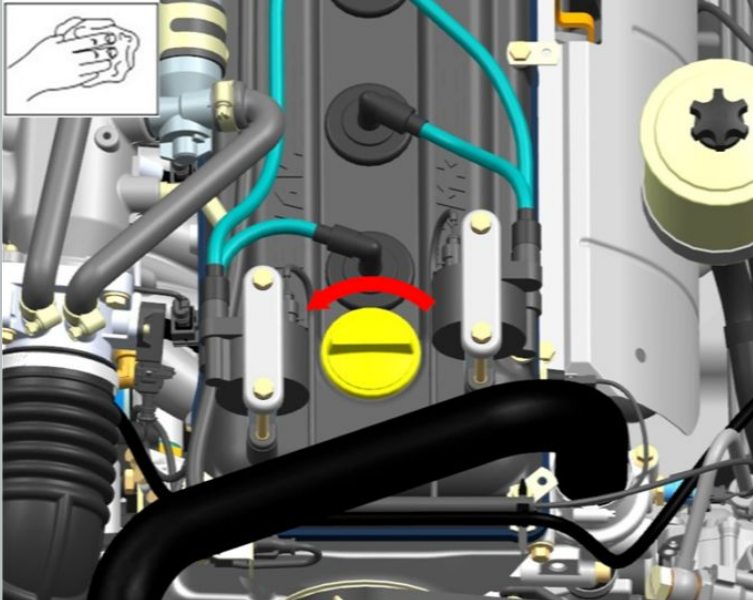
9. Check the functionality of the inertia reel of seat belts.
When pulling sharply at different lengths, the inertial coil should block the change in the length of the belt.

Img 4



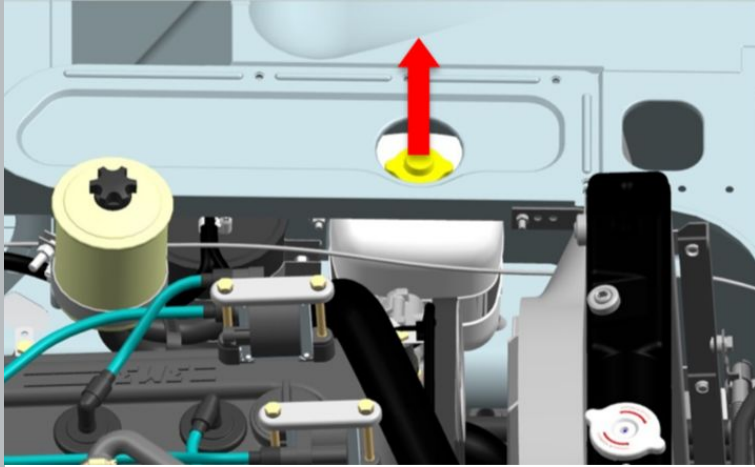
10. Check the operation of the seat belt locking device.
The belt buckle must fit securely in the device. When unlocking, the buckle must be thrown out of the locking device.

Img 5



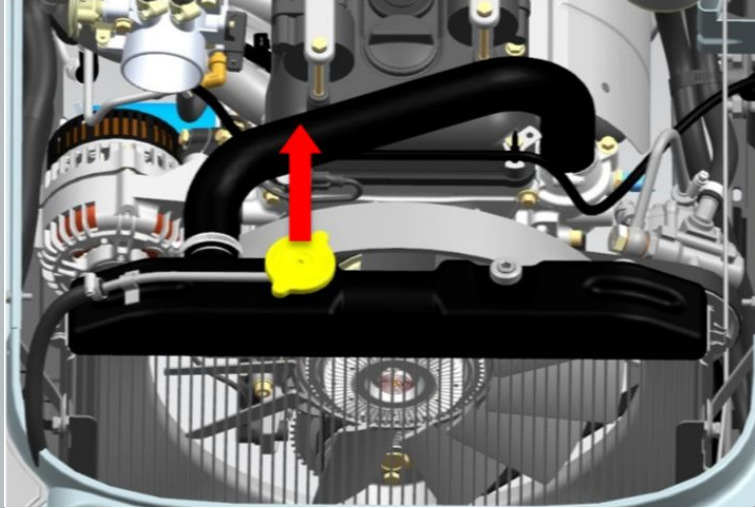
11. Warm up the engine to operating temperature.
12. Remove the engine oil filler cap.

Img 6



Img 7

13. Remove the cover from the expansion tank.

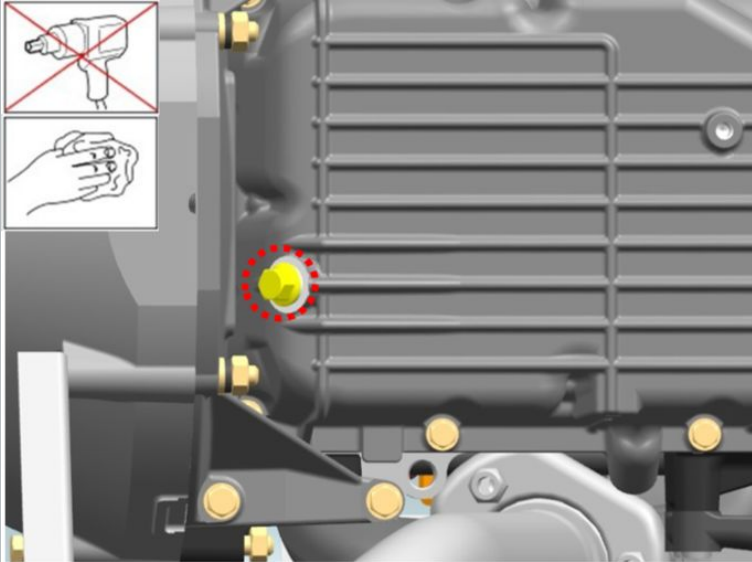


Img 8

14. Open the radiator cap.

3. Work under the car bottom:

IMAGE



Img 1

OPERATION DESCRIPTION

1. Place a container under the oil sump to drain the oil.

2. Unscrew the drain plug on the engine crankcase.

tightening torque- 28 N·m

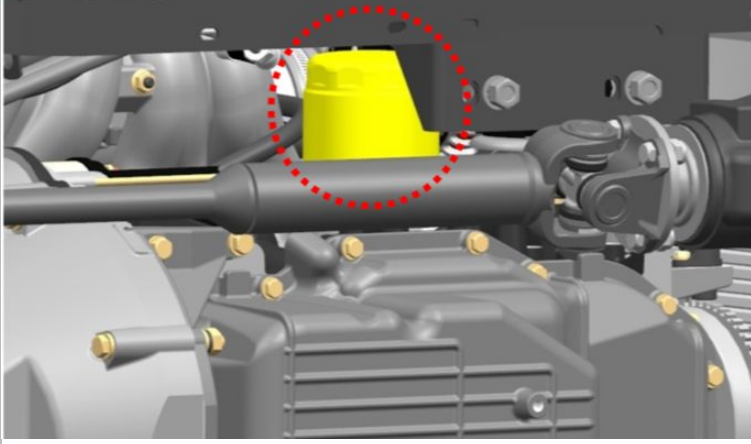
⚠ NOTIFICATION: Reuse of the O-ring is not permitted.

3. Let the oil drain.

Waiting time is 3-5 minutes.

4. Close the drain plug.

tightening torque- 28 N·m

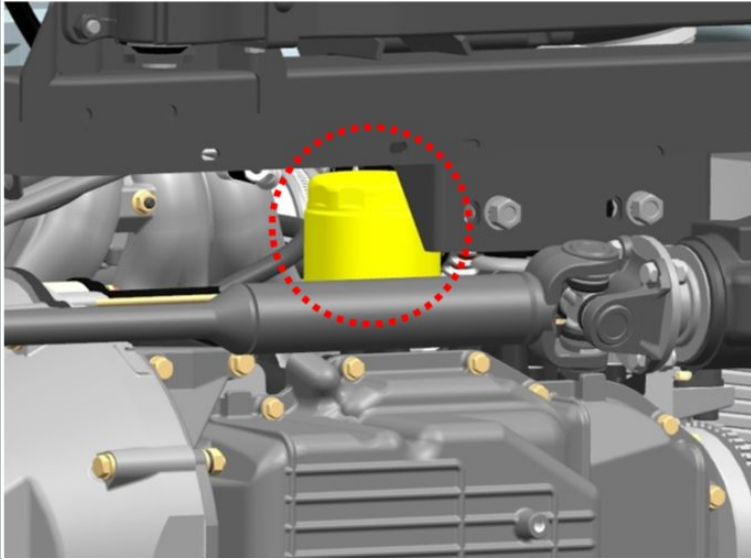


Img 2

5. Unscrew the oil filter.
tightening torque- 20 N·m

Make sure the filter O-ring is not left on the heat exchanger.

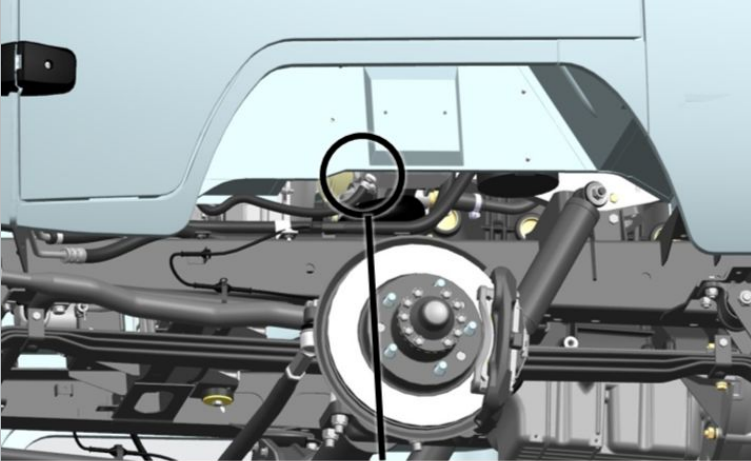
⚠ NOTIFICATION: Filter reuse is not allowed.



Img 3

6. Screw on the filter.

Screw in the filter until the O-ring touches the plane on the heat exchanger, and then turn the filter 3/4 turn.



Img 4

7. Loosen the clamp.

S=7

tightening torque- 3 N·m

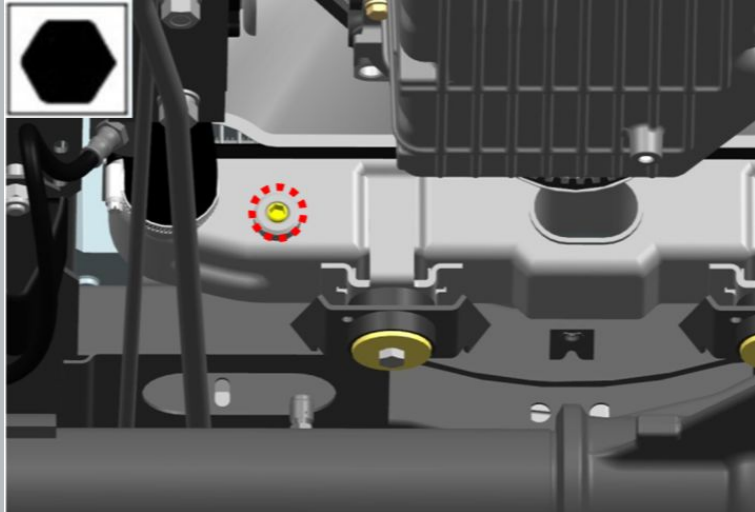
8. Disconnect the hose.

9. Drain the coolant into a container.

10. Install the hose.

11. Tighten the clamp.

tightening torque- 3 N·m



Img 5

12. Remove the radiator drain plug.

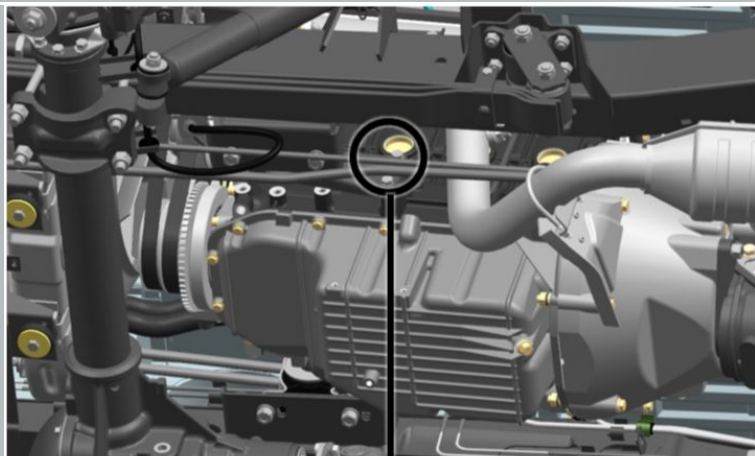
SW=8

tightening torque- 23 N·m

13. Drain the coolant into a container.

14. Install the radiator drain plug.

tightening torque- 23 N·m



15. Remove the drain plug on the engine block.

S=14

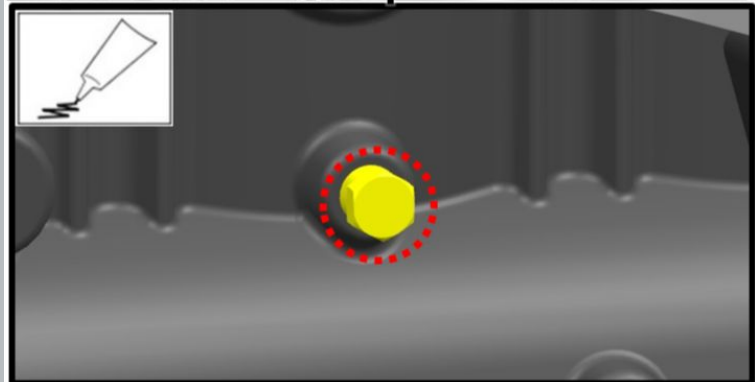
tightening torque- 26 N·m

16. Drain the coolant into a container.

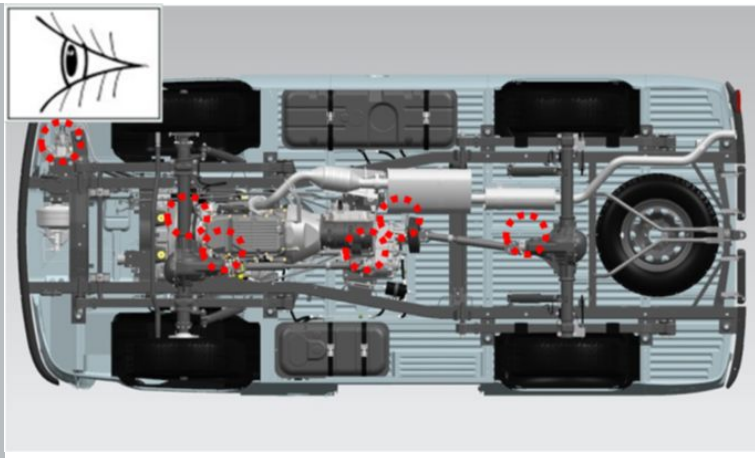
17. Screw in the drain plug of the engine block.

tightening torque- 26 N·m

Before installing, apply a sealing compound to the screwed part of the plug.



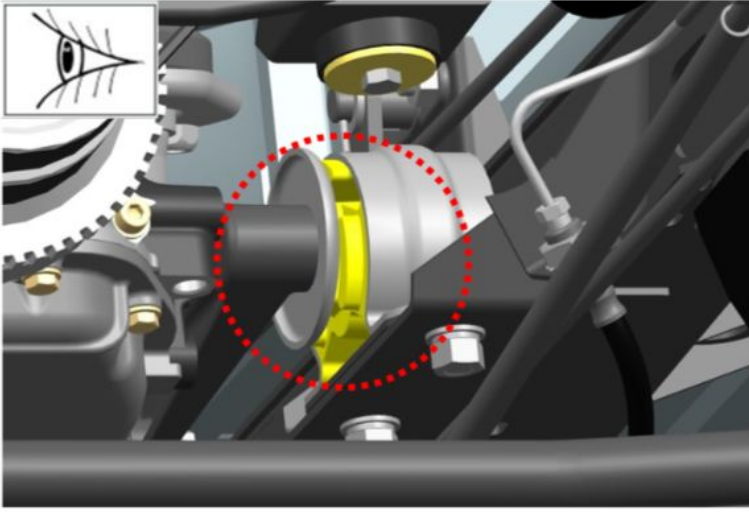
Img 6



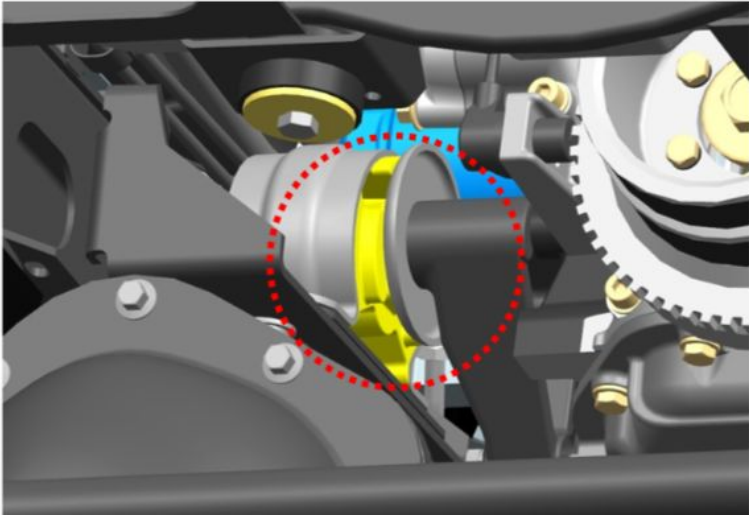
Img 7

18. Visually inspect the gaskets and seals of the engine, transfer case, steering gear, front and rear axles.

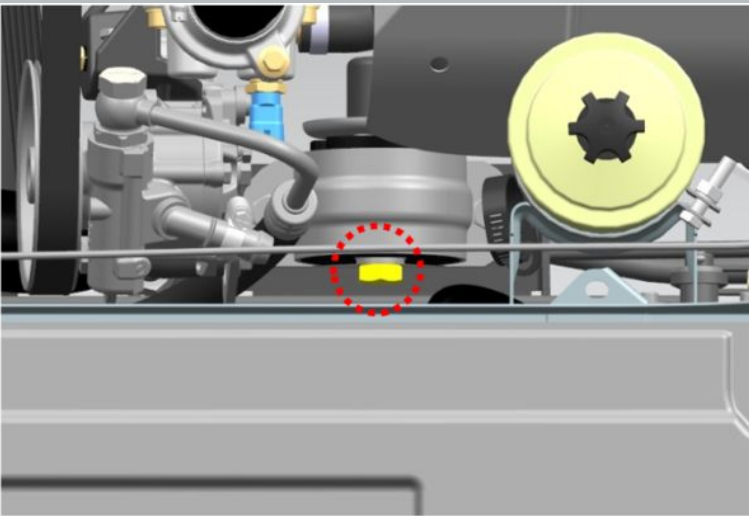
Oil leakage and ejection are not allowed.



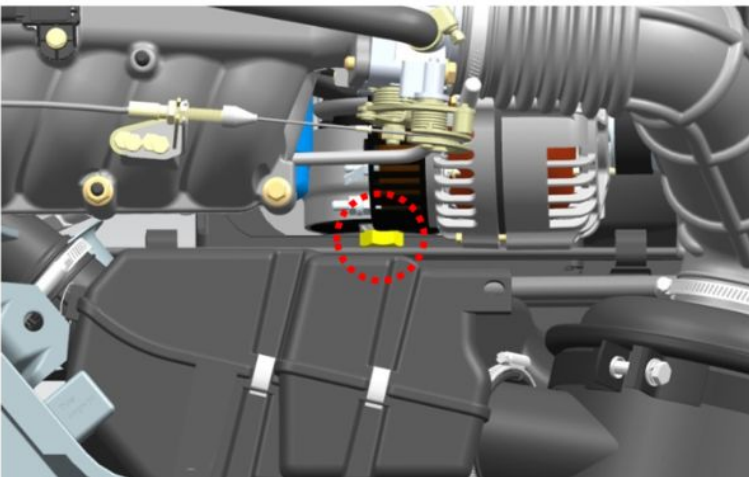
19. Inspect the engine mounts, brackets installed on the engine.
No delamination or rupture of engine mount cushions is allowed.



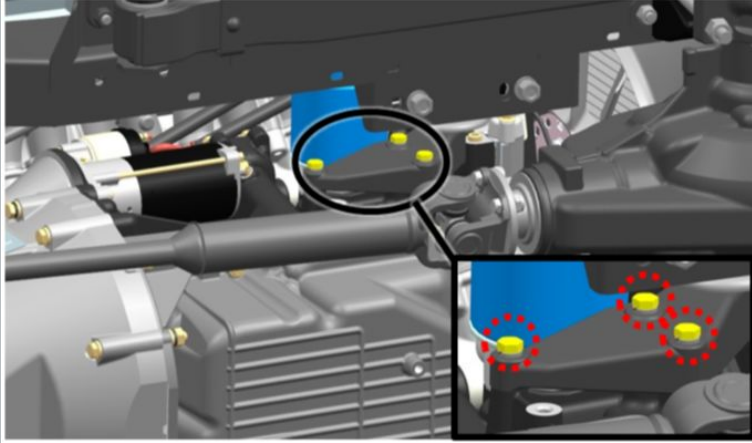
Img 8



20. Tighten the bolts securing the front engine mounts to the brackets.
S=22
tightening torque- 100 N·m



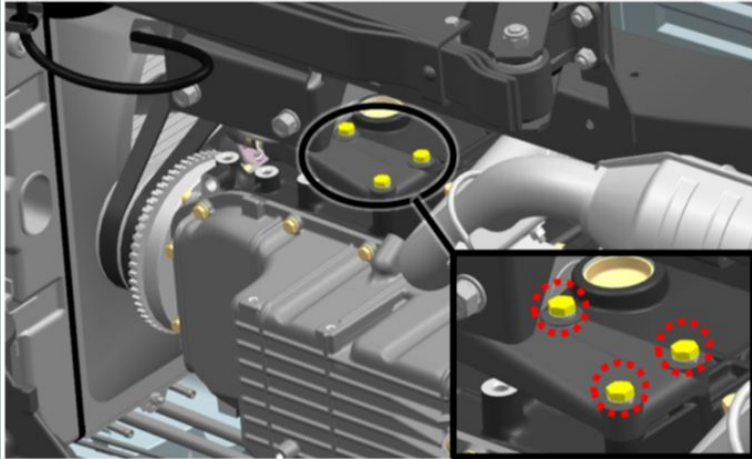
Img 9



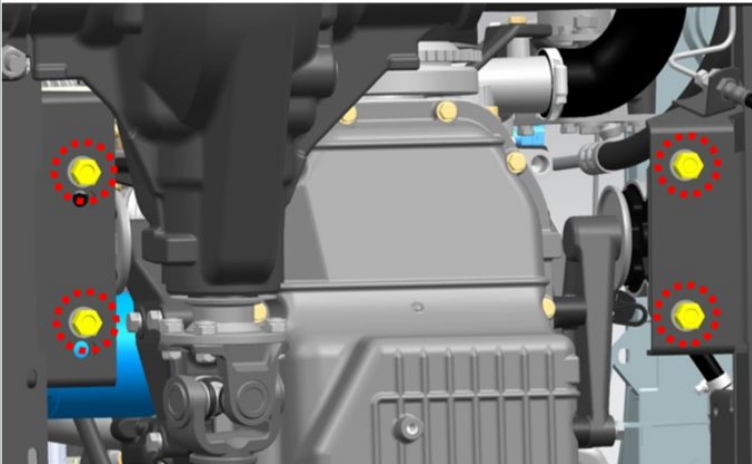
21. Tighten the bolts securing the brackets of the front engine mounts to the cylinder block.

S=14

tightening torque- 32 N·m



Img 10



22. Tighten the nuts securing the front engine mounts to the frame brackets.

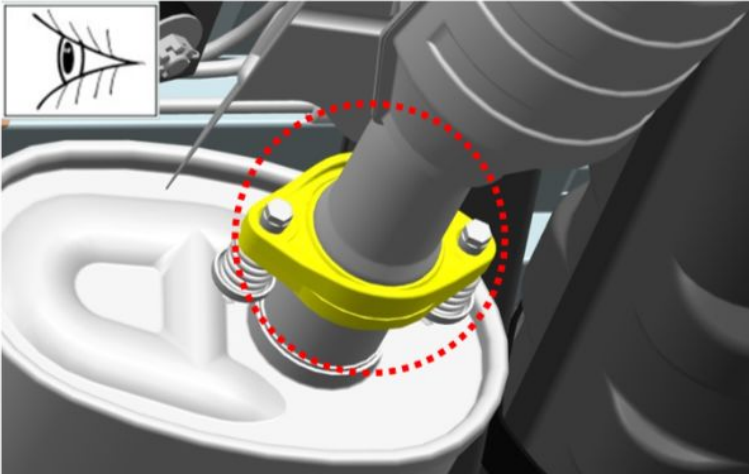
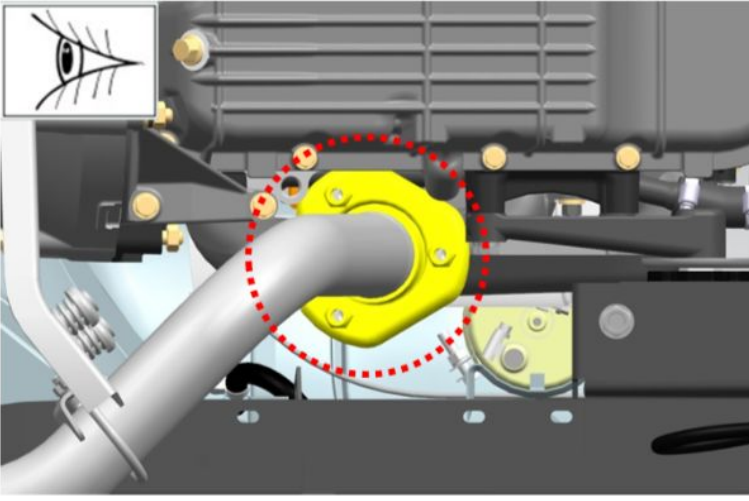
S=17

S=19

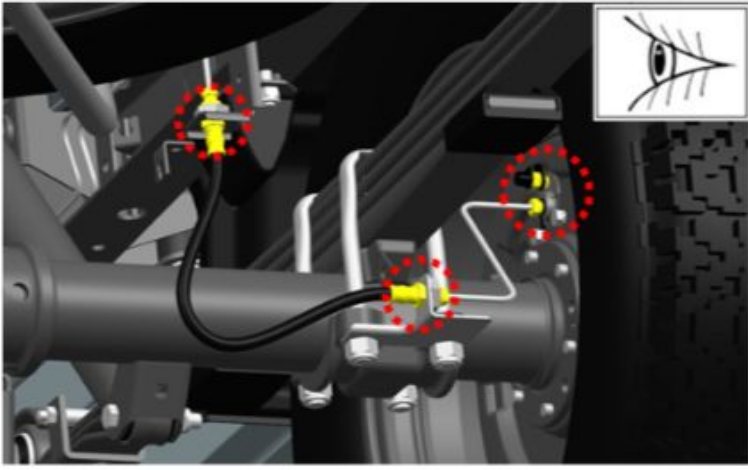
tightening torque- 56 N·m

Img 11

23. Visually check the connections of the exhaust system for leaks.

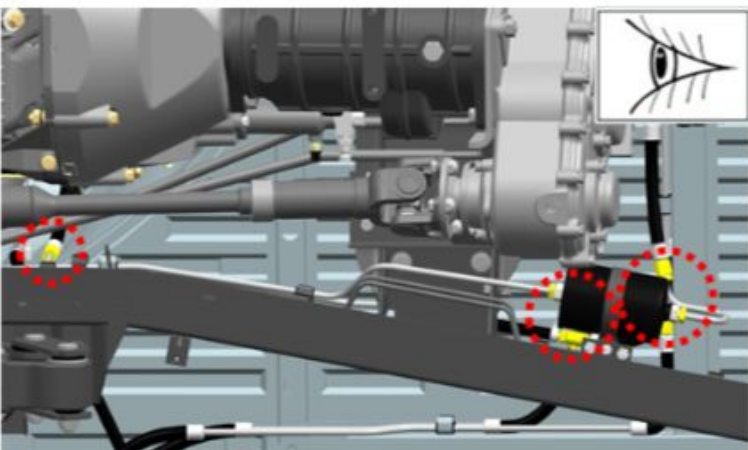
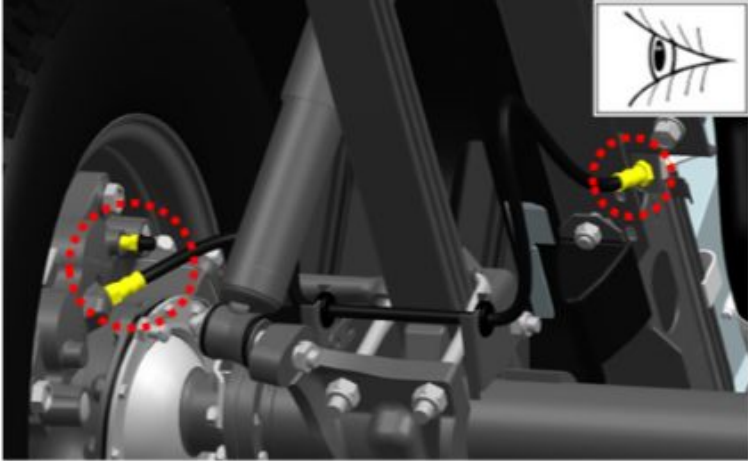


Img 12

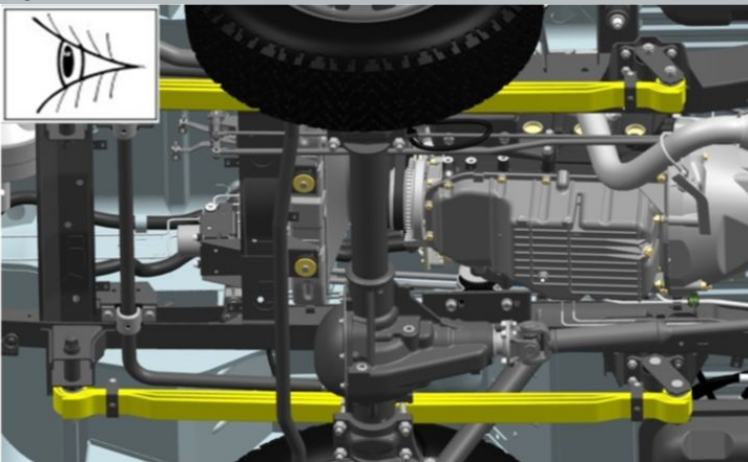


24. Visually check the connections of pipelines of cooling systems, heating, power supply, hydraulic brake drive, vacuum take-off system from the vacuum brake booster, condition of pipes and hoses.

Leakage of coolant, fuel, brake fluid, leaks in the vacuum hose (vacuum booster) are not allowed. Cracks and ruptures of the hydraulic brake hoses are not allowed. Operation of deformed pipes of the hydraulic drive of brakes, parts of the vacuum take-off system is not allowed.



Img 13



25. Inspect the front suspension springs.

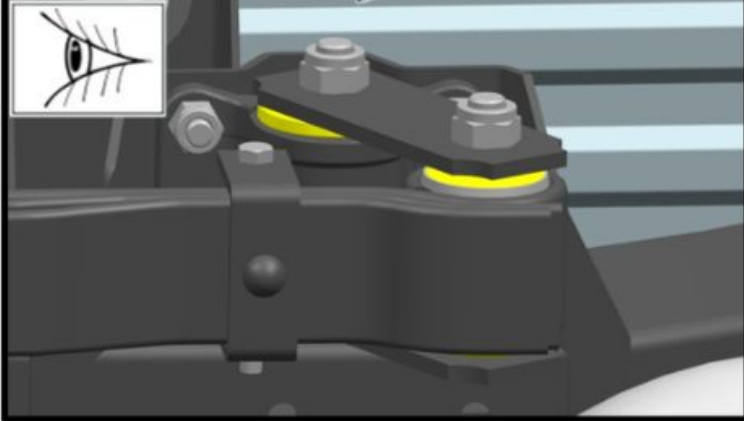
The springs should not have sheet cracks, their longitudinal or transverse displacement.

Img 14

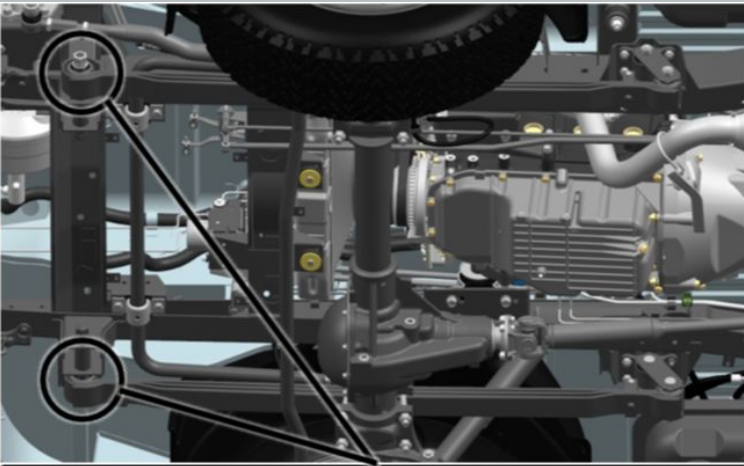


26. Inspect the hinges of the front suspension springs.

The hinges should not have cracks, breaks, undercutting and wear of rubber along the outer end of the hinge.



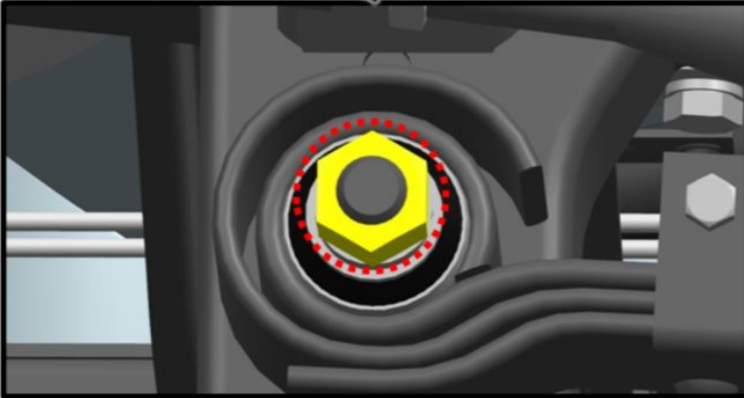
Img 15



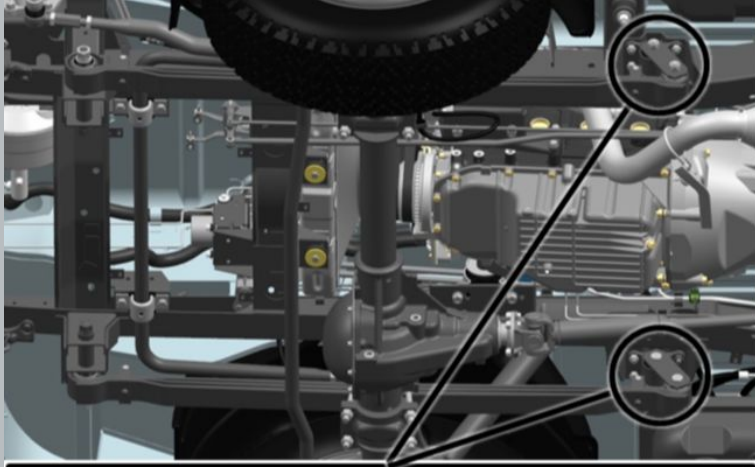
27. Tighten the nuts securing the axle of the front end of the spring.

S=27

tightening torque- 170 N·m



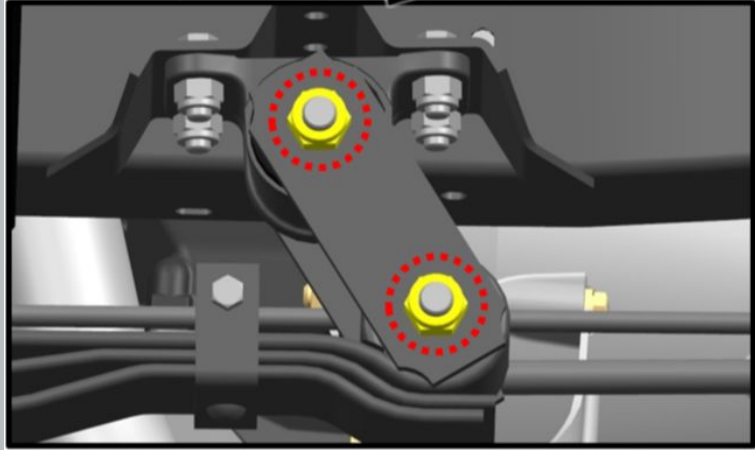
Img 16



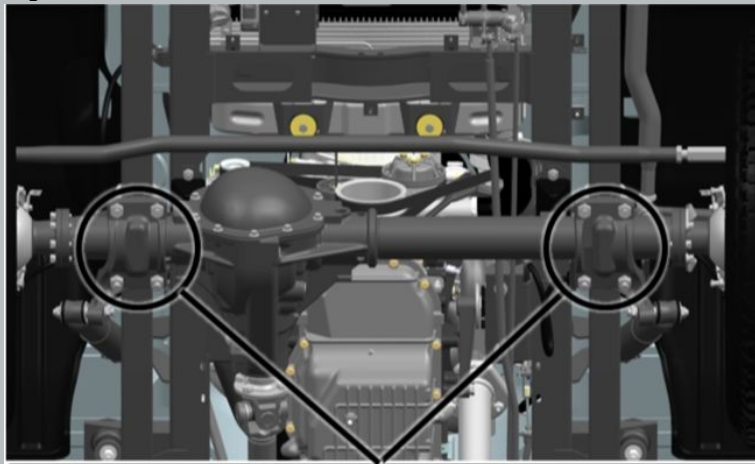
28. Tighten the nuts securing the spring shackles.

S=22

tightening torque- 90 N·m



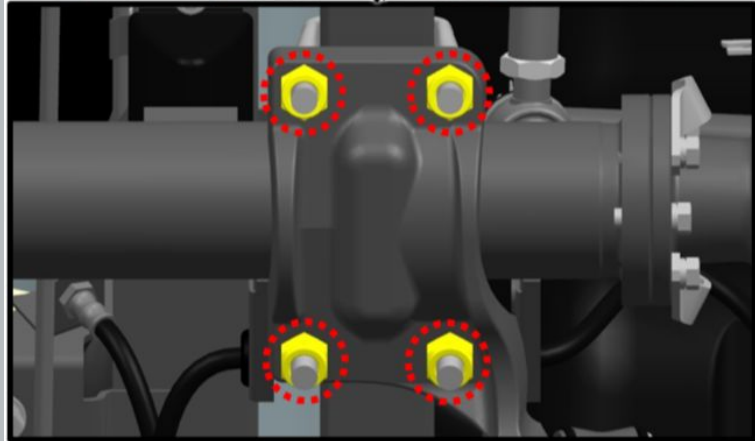
Img 17



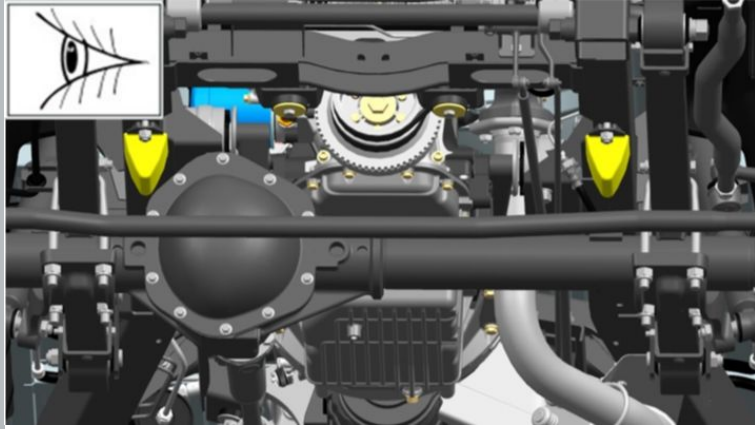
29. Tighten the nuts securing the spring ladders.

S=22

tightening torque- 90 N·m

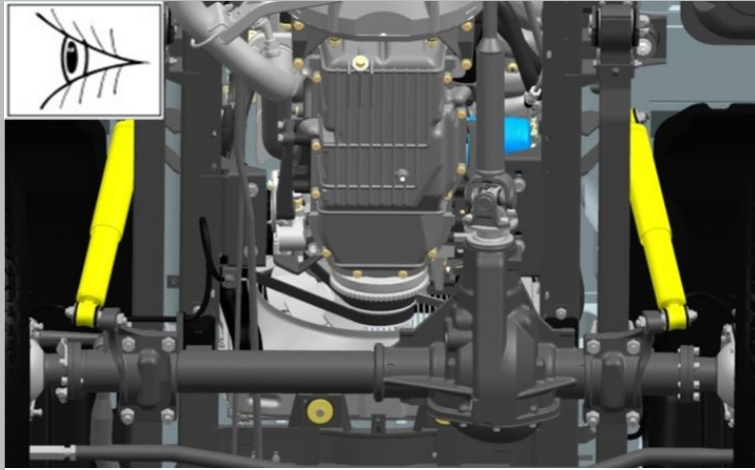


Img 18



Img 19

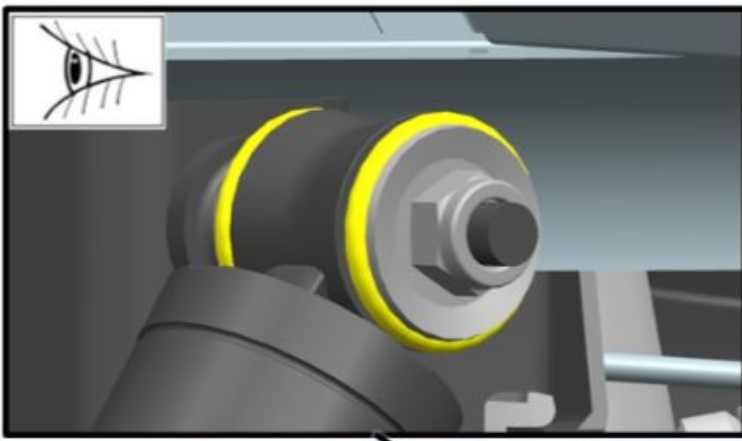
30. Inspect the front suspension compression bumpers.
Buffers should not have cracks, breaks and deformations.



Img 20

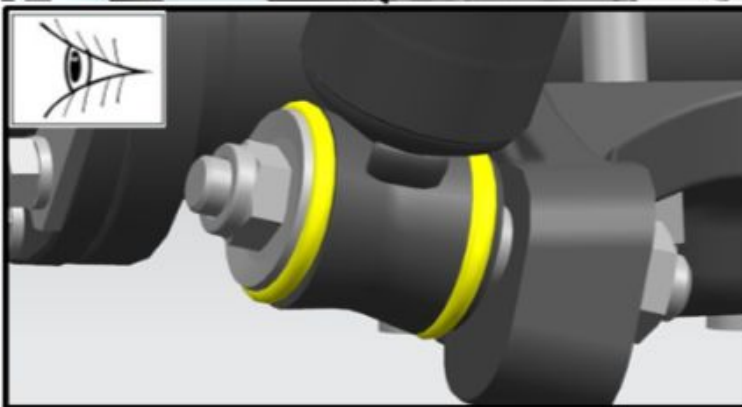
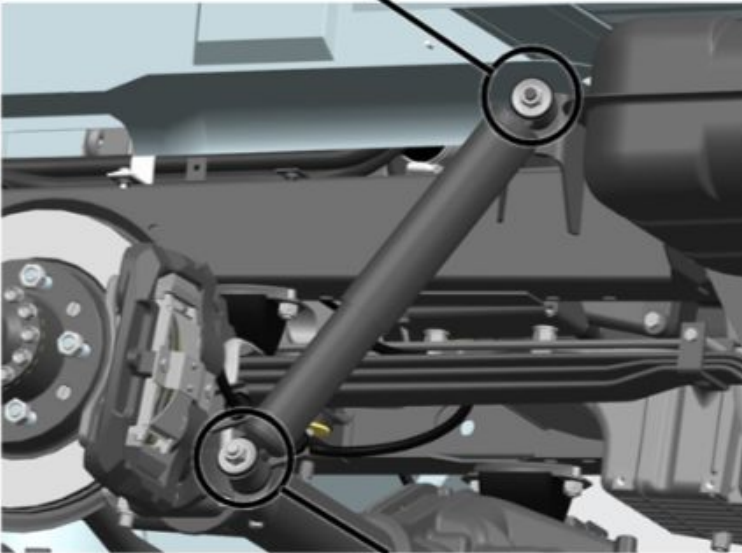
31. Inspect the front suspension shock absorbers.

Oil fogging of the shock absorber does not indicate a malfunction and is acceptable. The appearance of drips on the shock absorber body, indicating a loss of tightness, is not allowed.

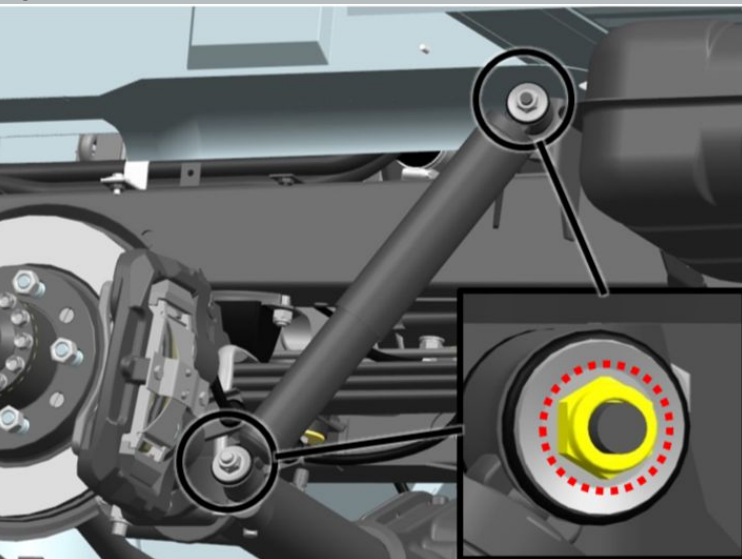


32. Inspect the front suspension shock absorber joints.

The hinges should not have cracks, breaks, undercutting and wear of rubber along the outer end of the hinge.



Img 21

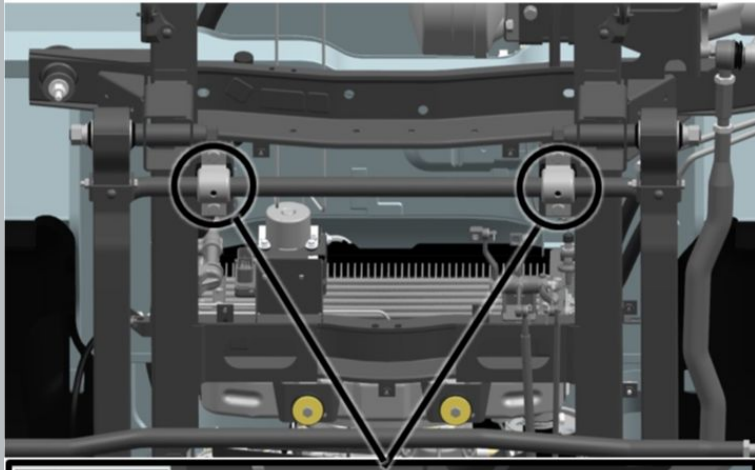


33. Tighten the front suspension shock absorber retaining nuts.

S=19

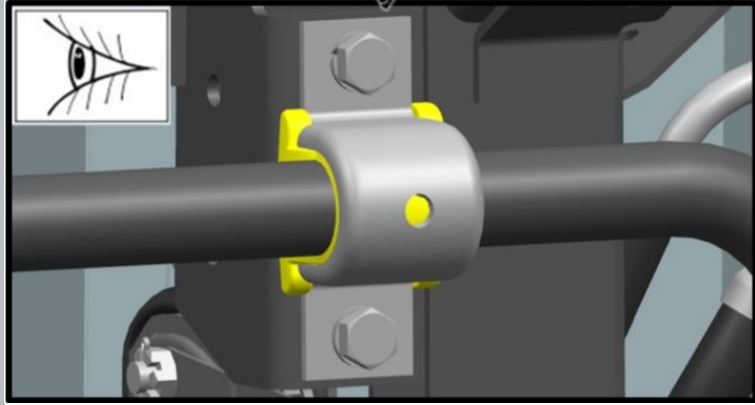
tightening torque- 58 N·m

Img 22

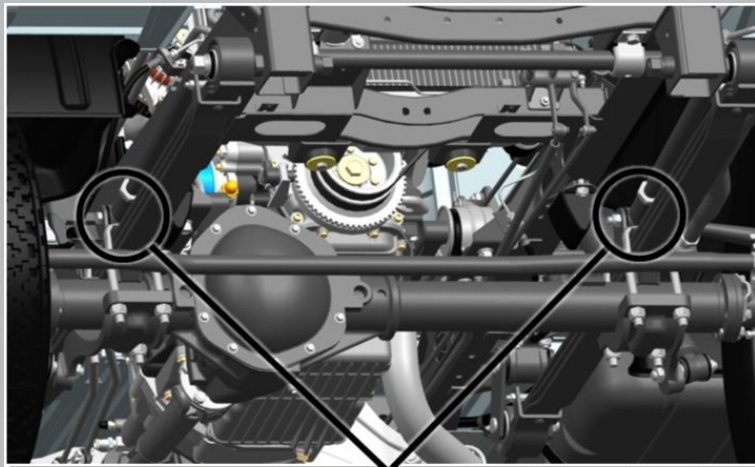


34. Inspect the anti-roll bar joints.

The hinges should not have cracks, breaks, undercutting and wear of rubber along the outer end of the hinge.

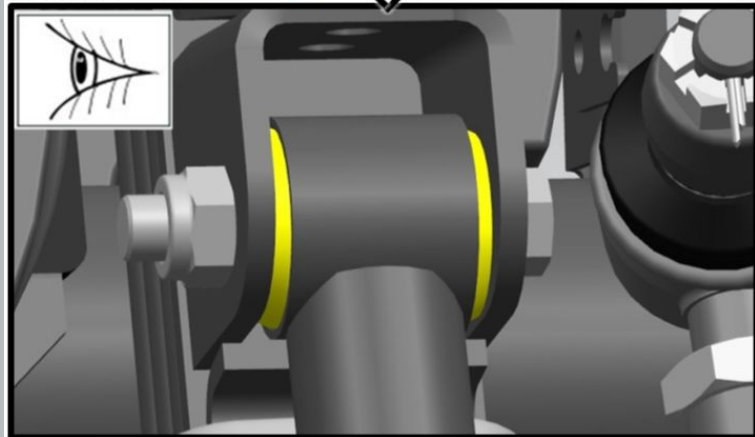


Img 23

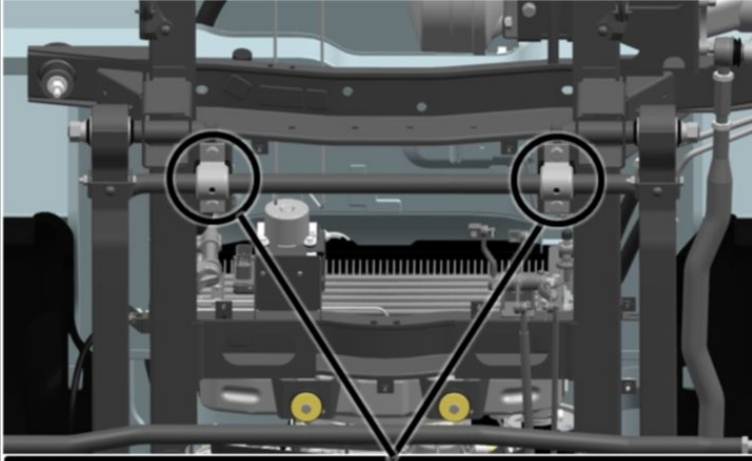


35. Inspect the anti-roll bar joints.

The hinges should not have cracks, breaks, undercutting and wear of rubber along the outer end of the hinge.



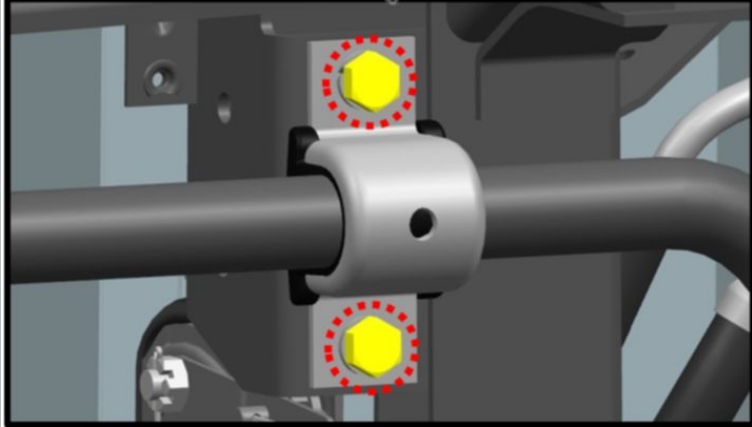
Img 24



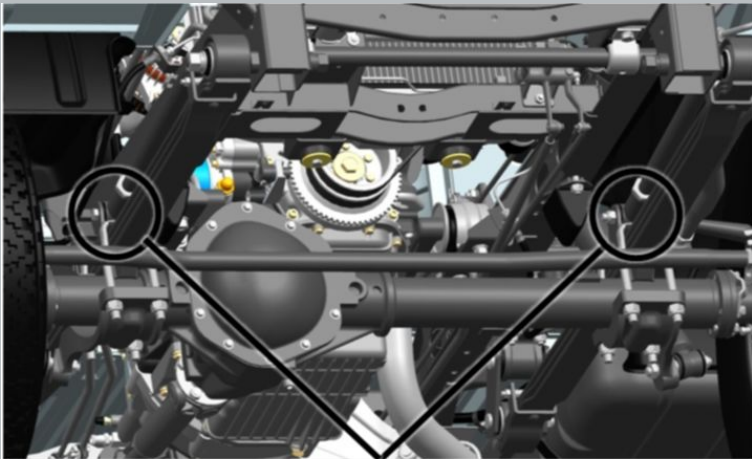
36. Tighten the anti-roll bar mounting bolts.

S=17

tightening torque- 50 N·m



Img 25

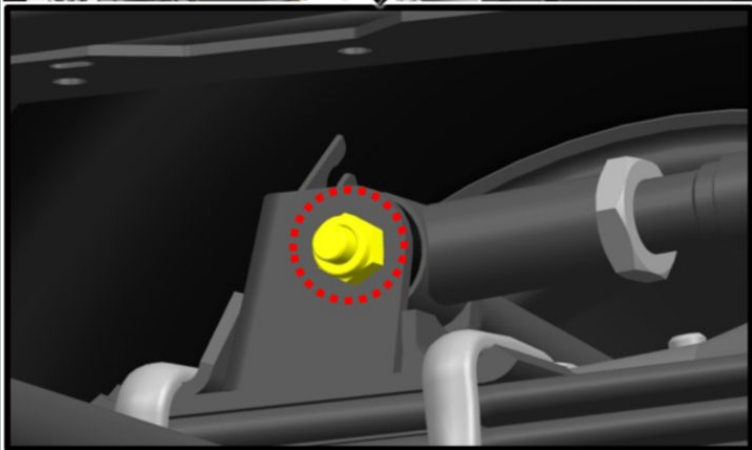


37. Tighten the anti-roll bar mounting nuts.

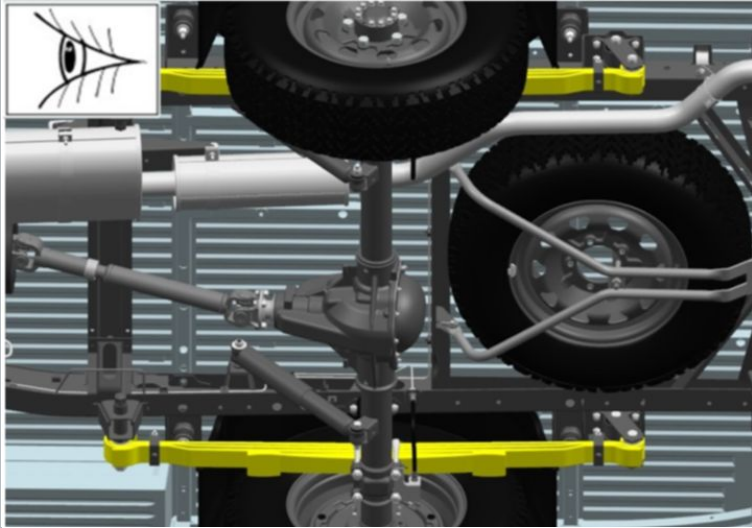
S=17

S=19

tightening torque- 58 N·m



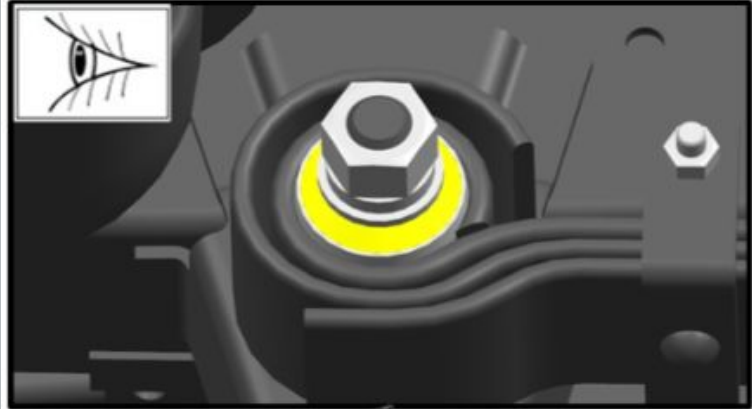
Img 26



Img 27

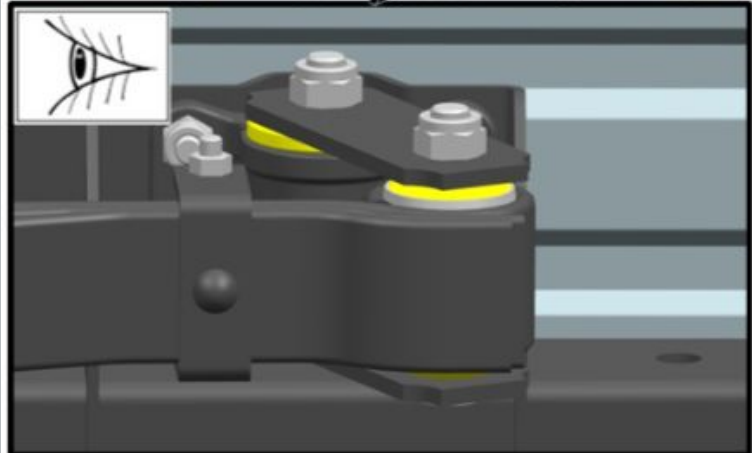
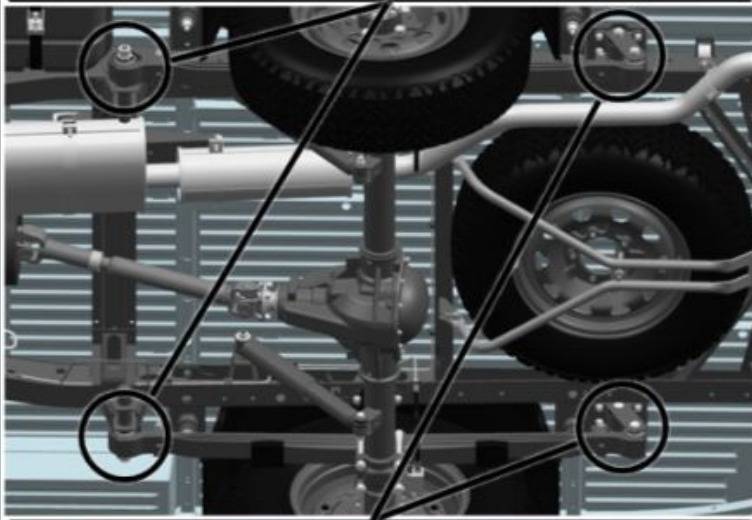
38. Inspect the rear suspension springs.

The springs should not have sheet cracks, their longitudinal or transverse displacement.

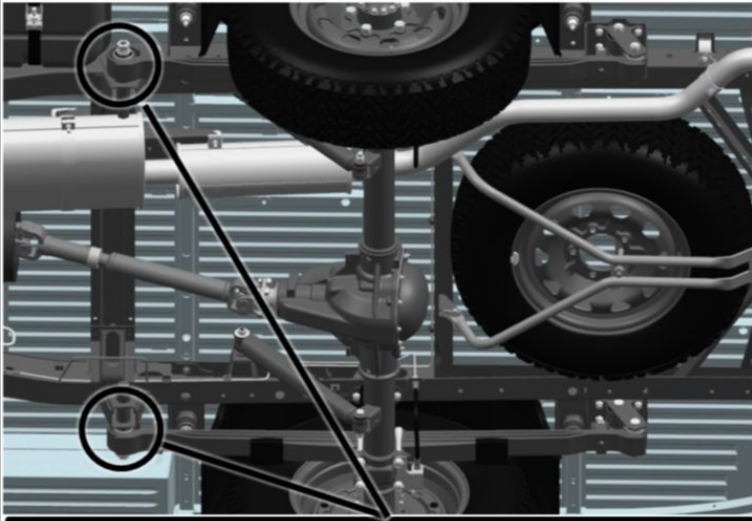


39. Inspect the hinges of the rear suspension springs.

The hinges should not have cracks, breaks, undercutting and wear of rubber along the outer end of the hinge.



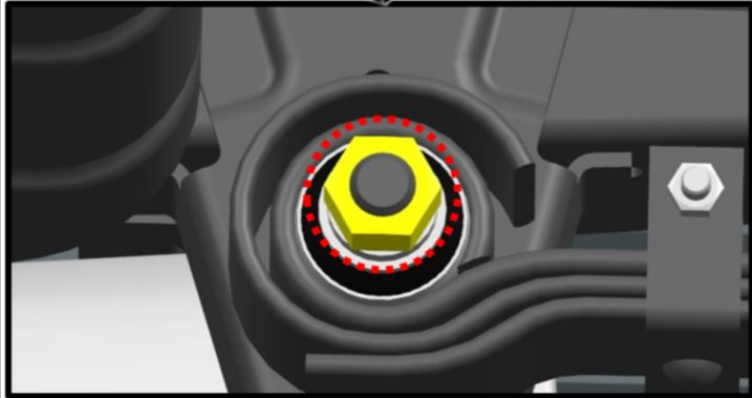
Img 28



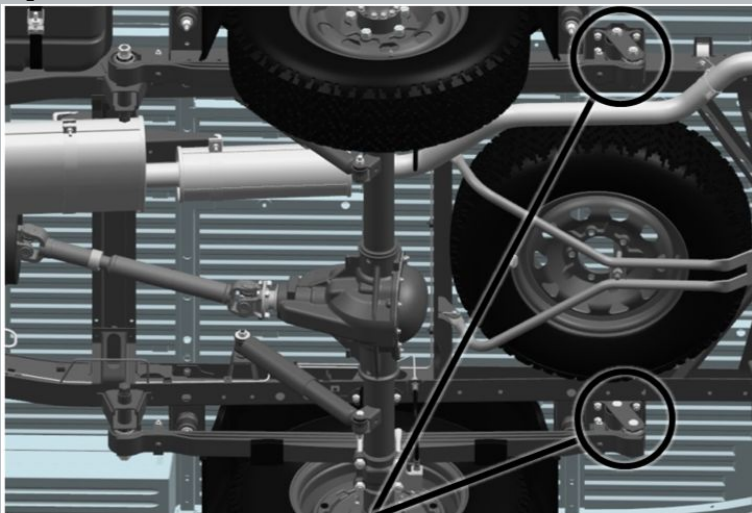
40. Tighten the nuts securing the axle of the front end of the spring.

S=27

tightening torque- 170 N·m



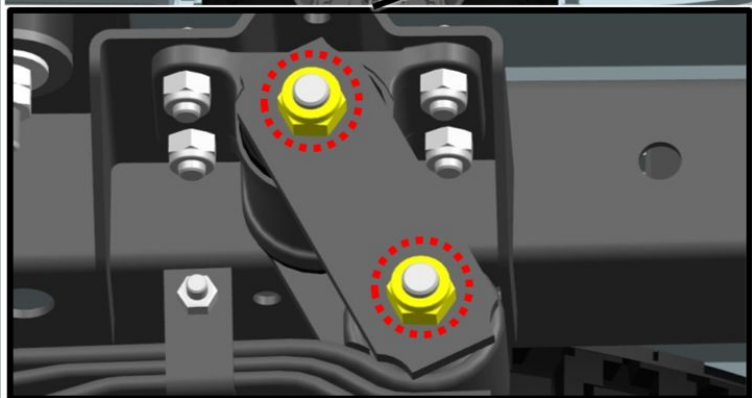
Img 29



41. Tighten the nuts securing the spring shackles.

S=22

tightening torque- 90 N·m

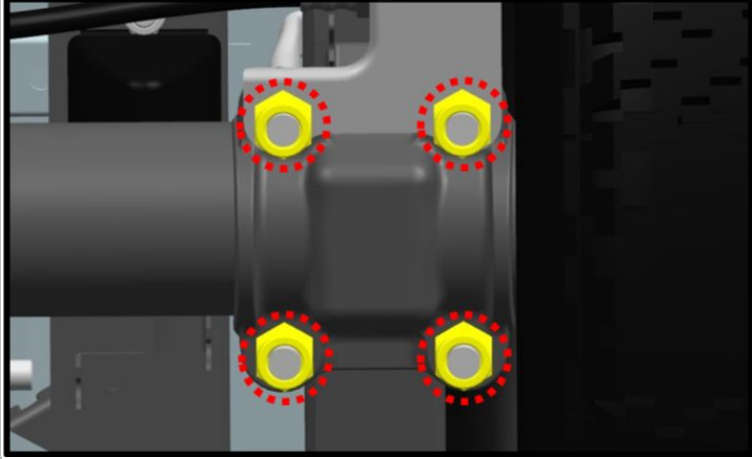


Img 30

42. Tighten the nuts securing the spring ladders.

S=22

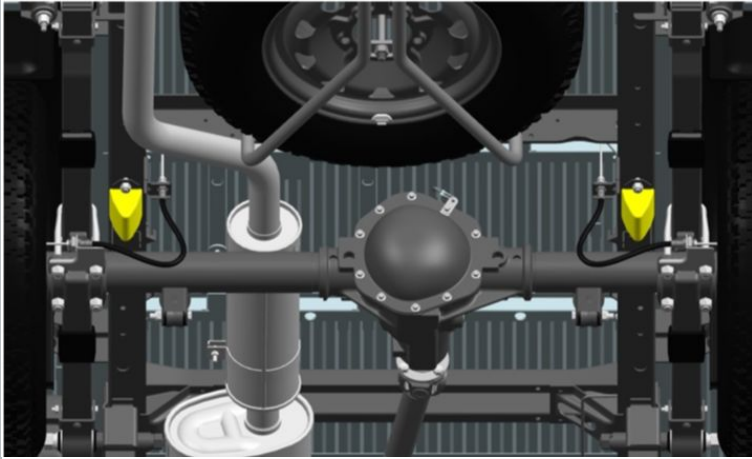
tightening torque- 93 N·m



Img 31

43. Inspect the rear suspension compression bumpers.

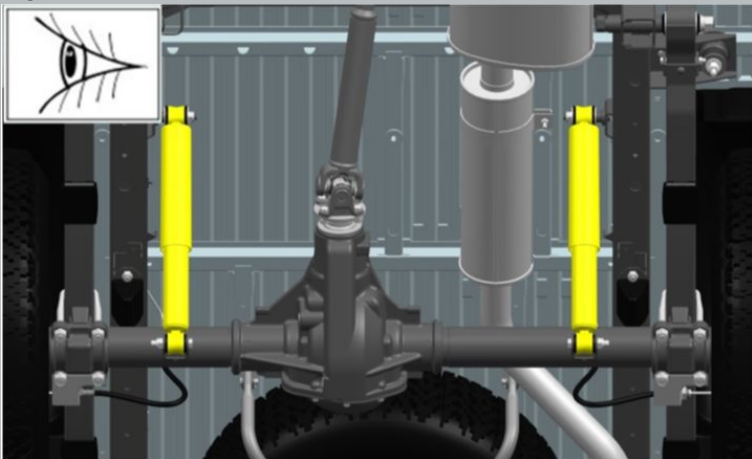
Buffers should not have cracks, breaks and deformations.



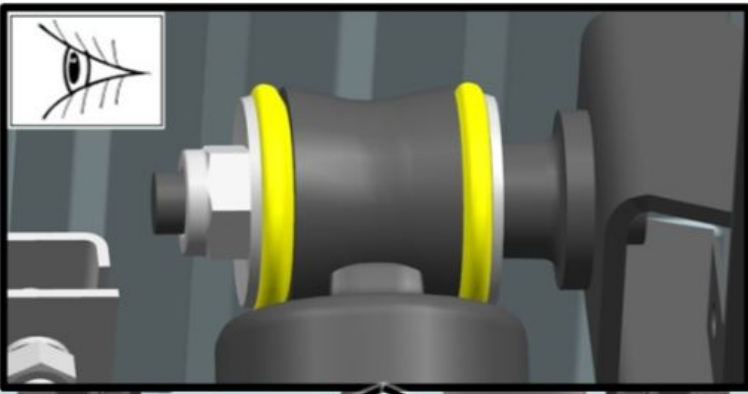
Img 32

44. Inspect the rear suspension shock absorbers.

Oil fogging of the shock absorber does not indicate a malfunction and is acceptable. The appearance of drips on the shock absorber body, indicating a loss of tightness, is not allowed.

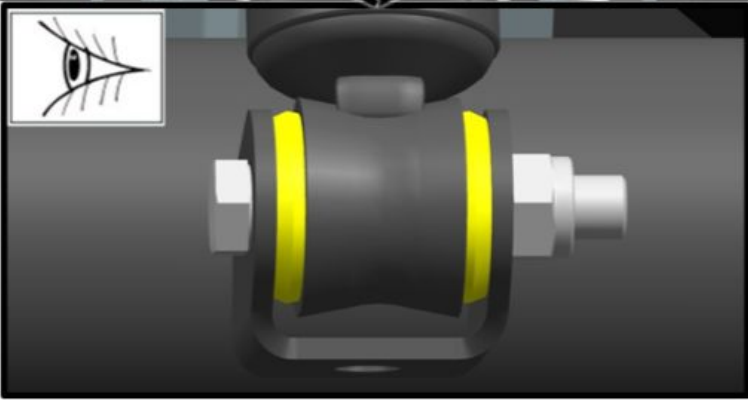
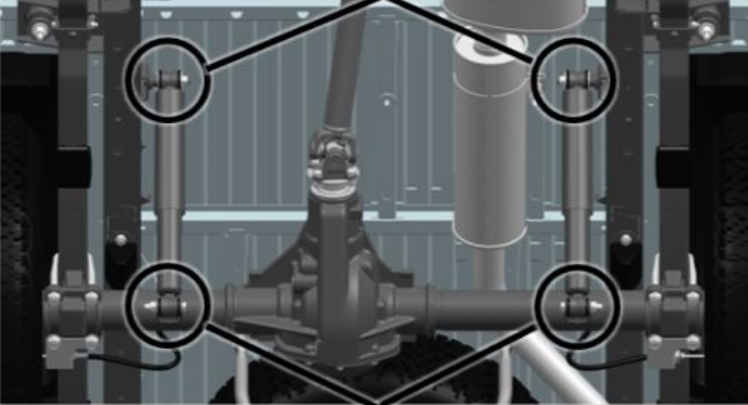


Img 33

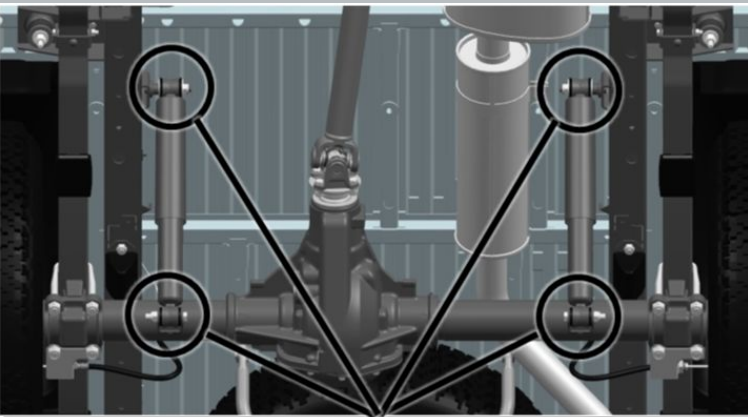


45. Inspect the rear suspension shock absorber joints.

The hinges should not have cracks, breaks, undercutting and wear of rubber along the outer end of the hinge.



Img 34

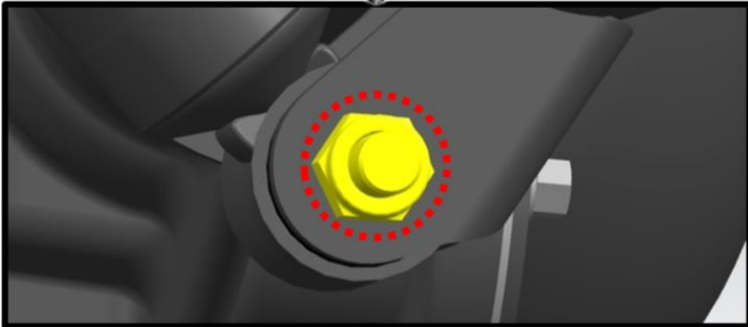


46. Tighten the rear suspension shock absorber retaining nuts.

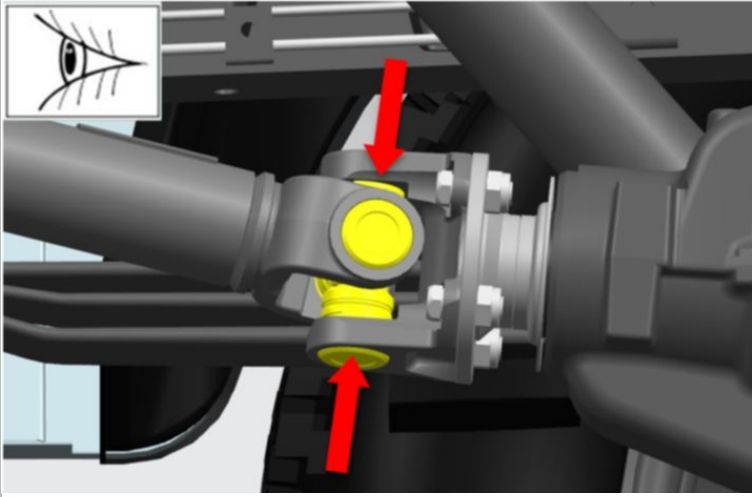
S=17

S=19

tightening torque- 58 N·m



Img 35



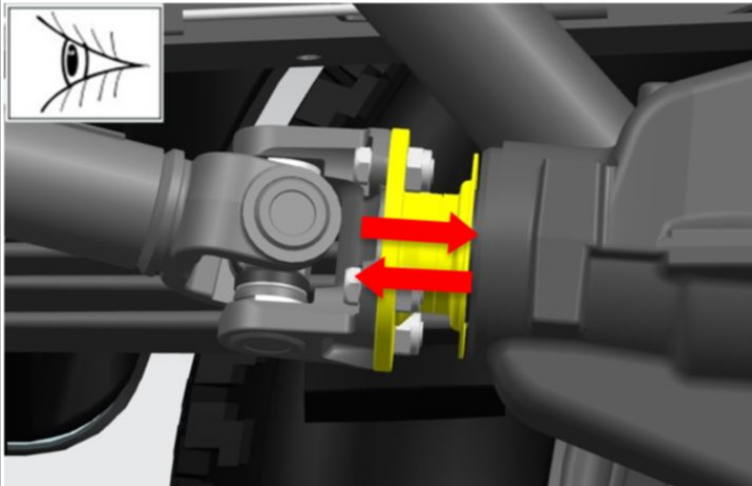
Img 36

47. Check the backlash in the crosspieces of the cardan shafts by applying an alternating hand force along the axes of the crosspieces.

Backlash in the crosspieces is not allowed.

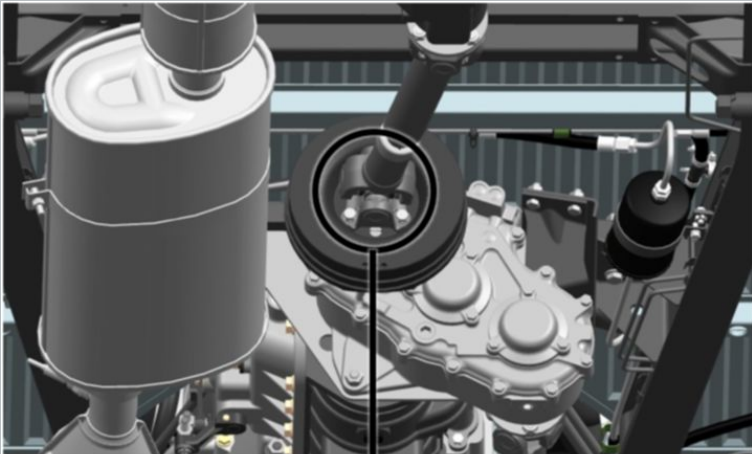
48. Rotate the crosspiece 90 degrees and recheck.

Backlash in the crosspieces is not allowed.



Img 37

49. Check the presence of axial play in the bearings of the main gears by moving the drive gear behind the propeller shaft flange.

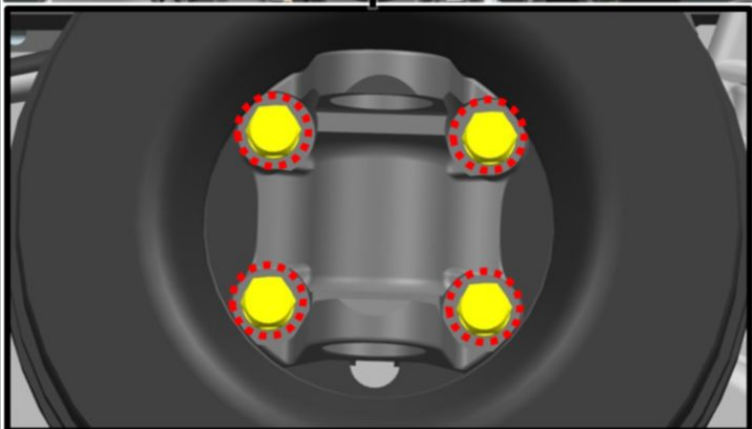


50. Remove the bolts securing the rear propeller shaft flange to the parking brake drum.

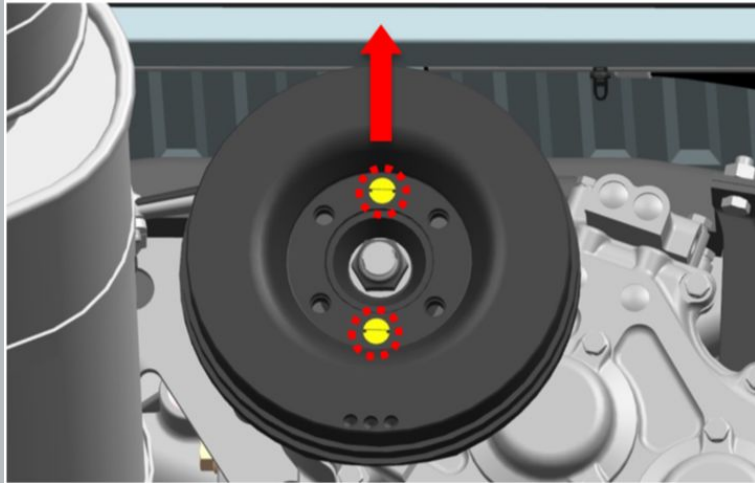
S=14

tightening torque- 50 N·m

51. Move the propeller shaft to one side and secure.



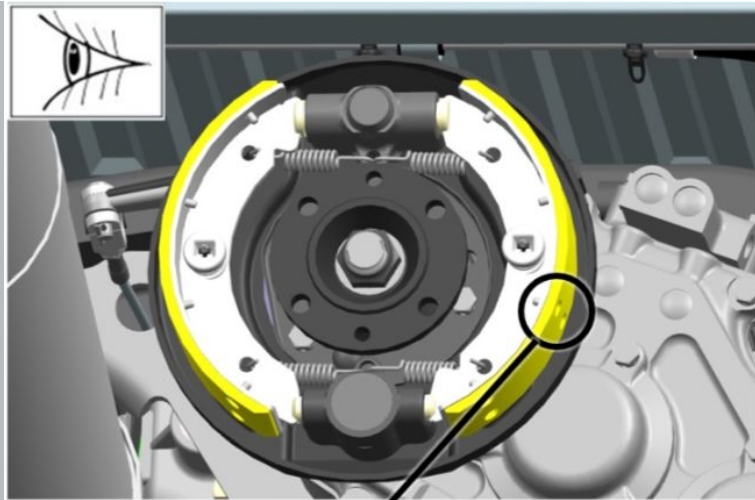
Img 38



Img 39

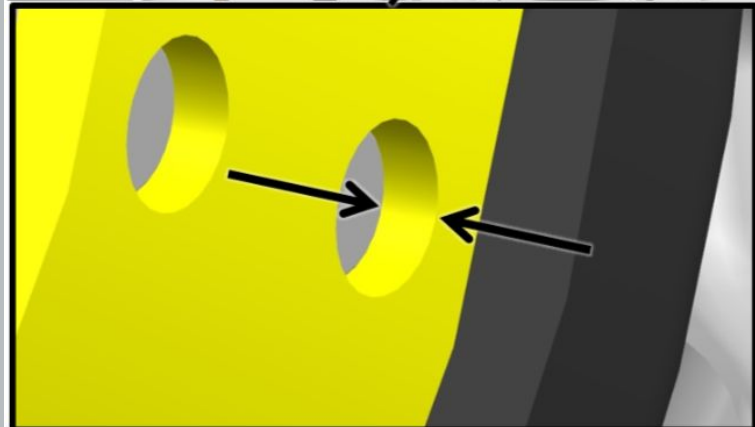
52. Remove the parking brake drum fastening screws.
tightening torque- 10 N·m

53. Remove the brake drum.



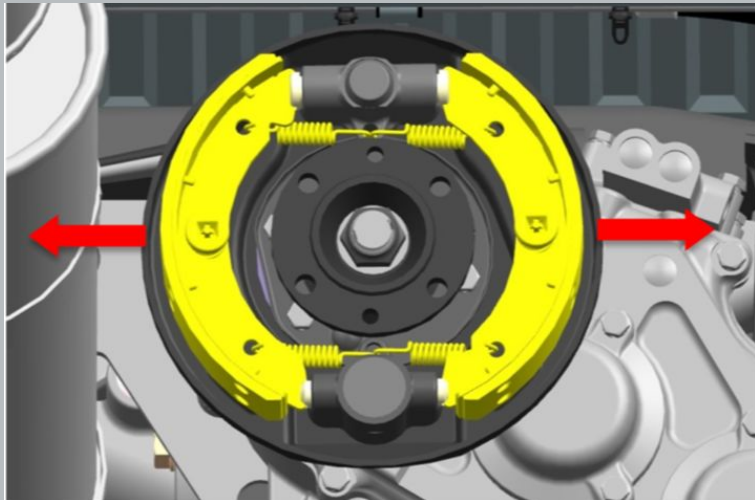
54. Inspect the parking brake linings.

When the pads are worn out (rivets sink less than 0.5 mm), the pads must be replaced.

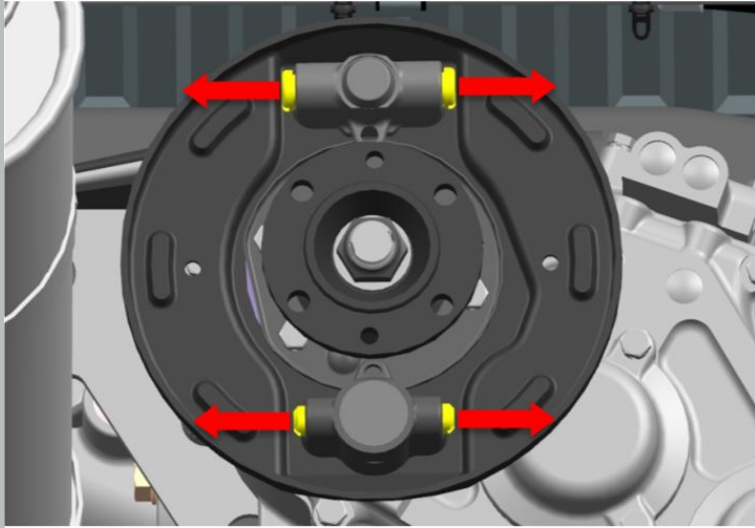


Img 40

55. Remove the brake pads.

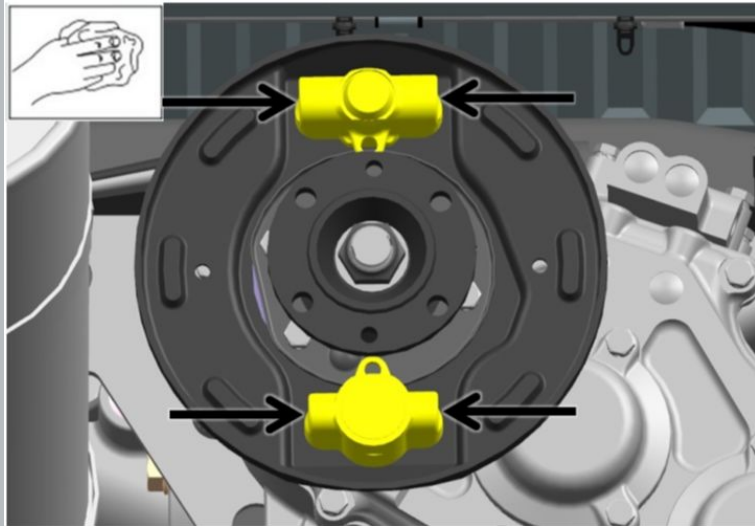


Img 41



Img 42

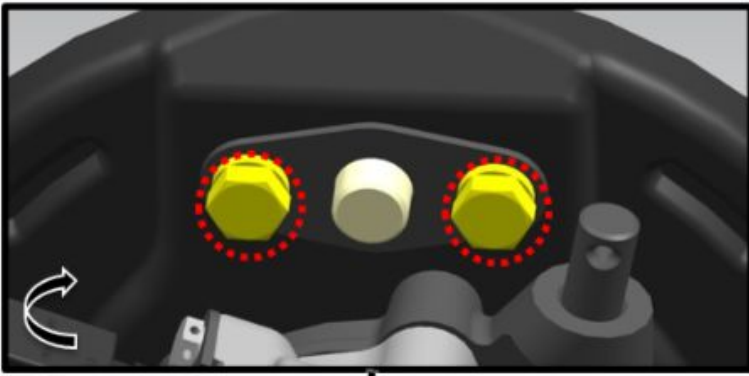
56. Remove the fingers of the expanding and adjusting mechanisms of the parking brake.



Img 43

57. Clean the expanding and adjusting mechanisms from dirt.

58. Put grease into the housing of the expanding and adjusting mechanisms.

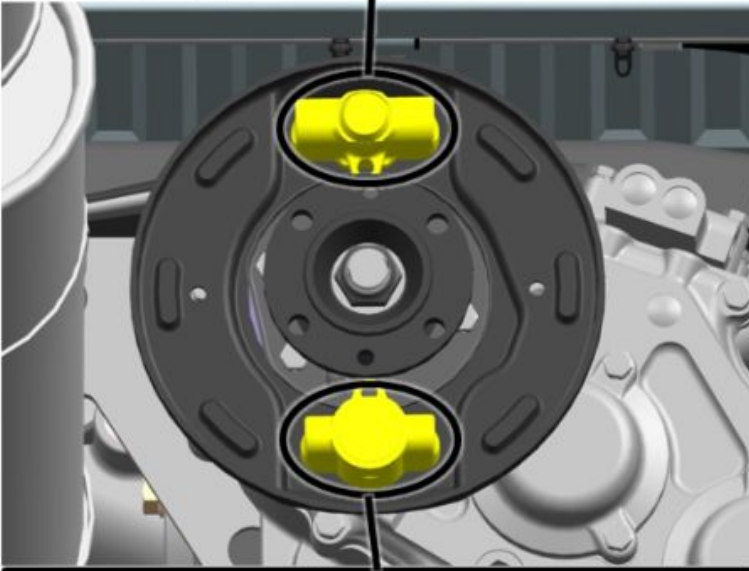


59. Tighten the fasteners of the adjusting and expanding mechanisms to the flap.

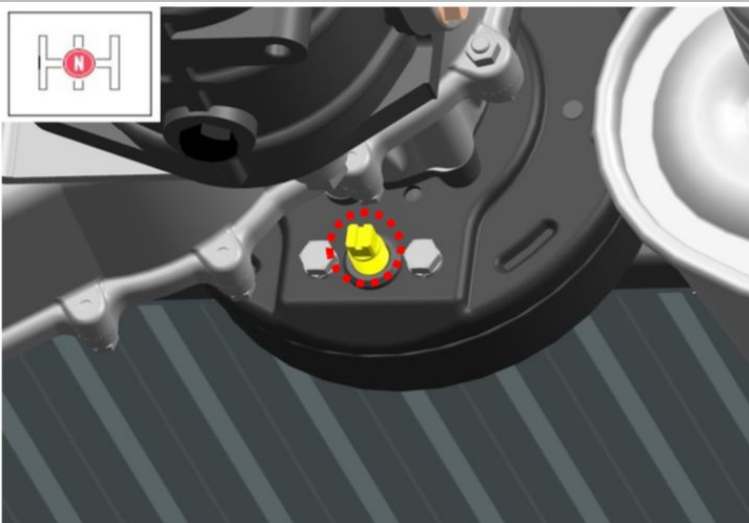
S=14

tightening torque- 35 N·m

60. Assemble the parking brake.



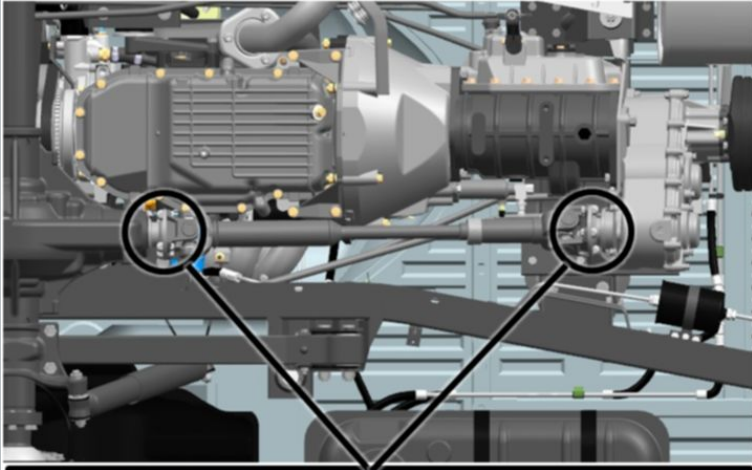
Img 44



61. Adjust the parking brake pads.

Adjust the parking brake pads with the transfer case lever in neutral. Screw in the adjusting screw while rotating the parking brake drum until the drum stops turning. Loosen the adjusting screw 1/3 - 1/2 turn (4 - 6 clicks) until the drum rotates freely.

Img 45

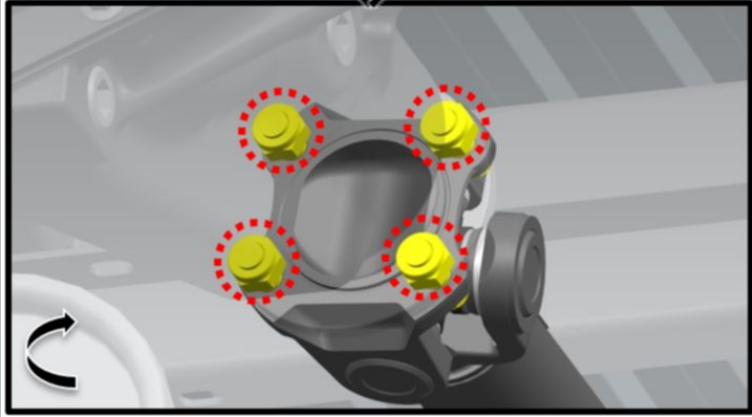


62. Tighten the nuts of the bolts securing the front propeller shaft flanges to the front axle and transfer case flanges.

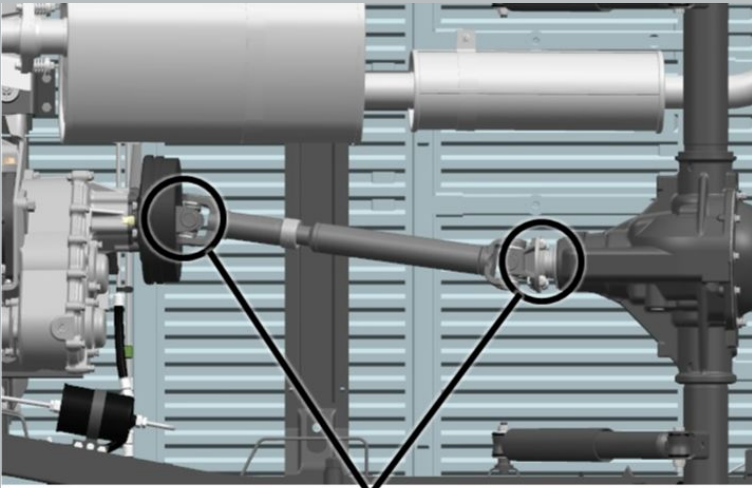
S=17

S=14

tightening torque- 50 N·m



Img 46

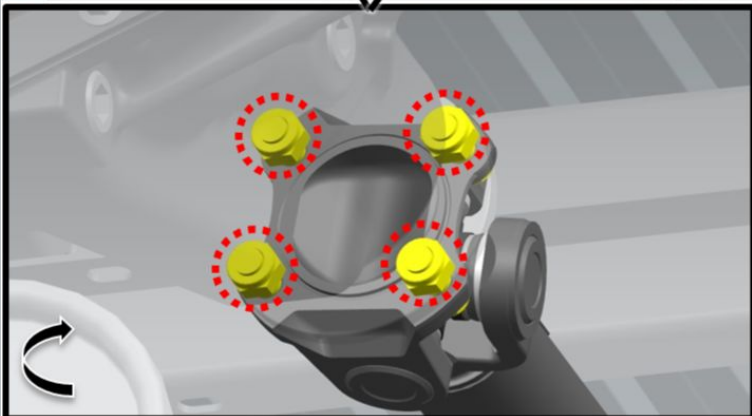


63. Tighten the nuts and bolts of the rear propeller shaft flanges to the parking brake and rear axle flanges.

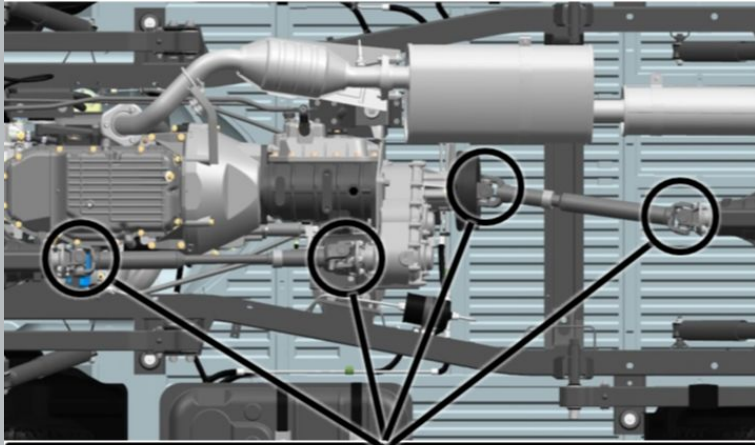
S=17

S=14

tightening torque- 50 N·m

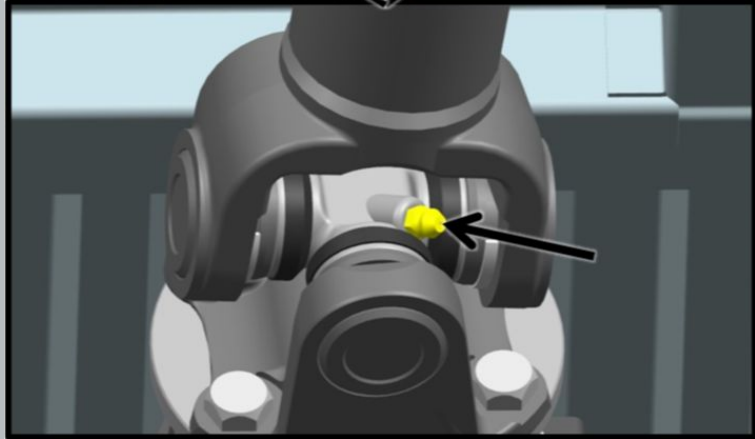


Img 47

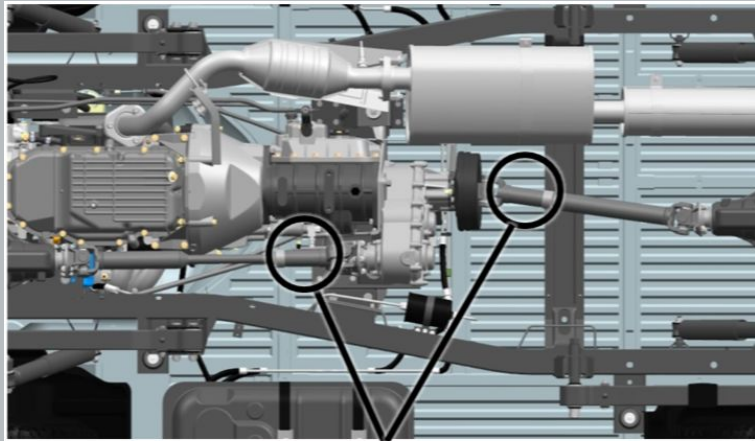


64. Lubricate the joints of the front and rear propeller shafts.

Lubricate until it comes out from under the working edges of the crosspiece cuffs.

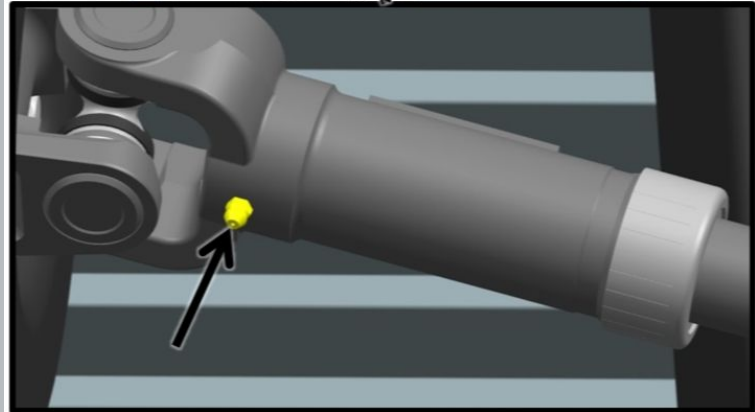


Img 48

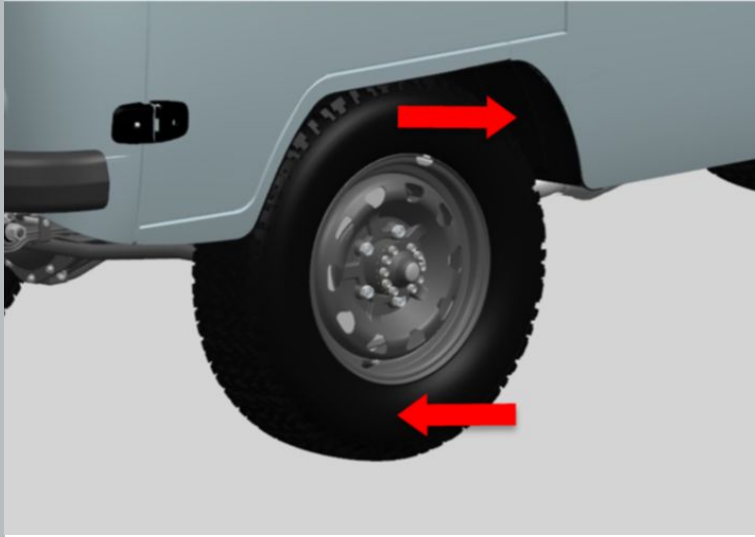


65. Lubricate the splines of the front and rear propeller shafts.

Make 3-5 strokes without waiting for the lubricant to come out.



Img 49



66. Check the play in the wheel hub bearings by swinging the wheels in a vertical plane.

No play in the hub bearings is allowed.

Img 50



67. Check the smoothness of rotation of the wheels.

Rolling of the hub bearings and wedging of the wheels during rotation is not allowed.

Img 51



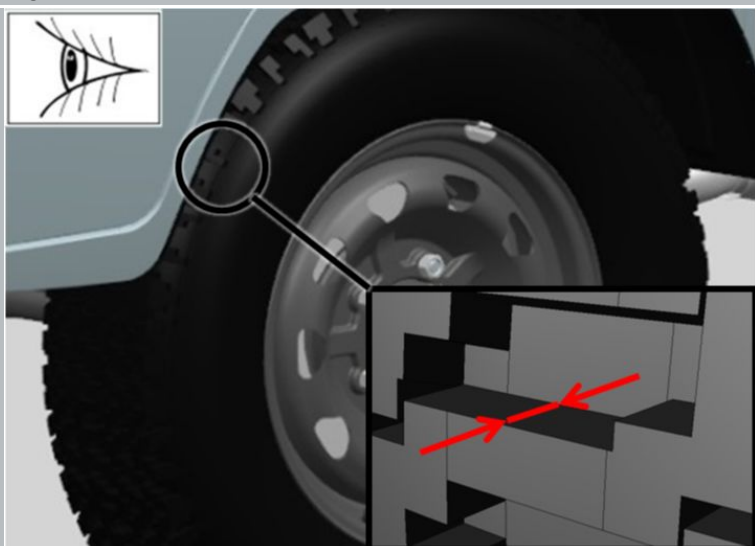
68. Inspect the tires of the wheels.

69. Inspect wheel disks.

70. Check the value of the pressure in the tires of the wheels.

Tire pressures must comply with the values in Table 1.

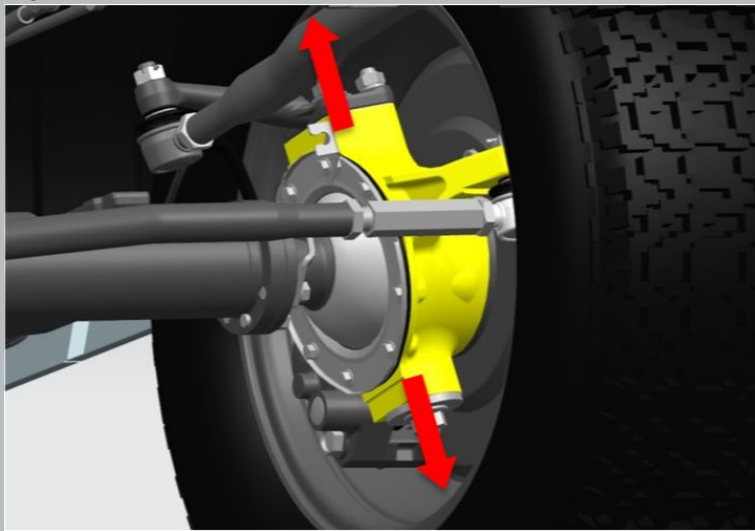
Img 52



71. Measure the residual depth of the tread pattern.

The residual tread depth must be more than 1.6 mm.

Img 53

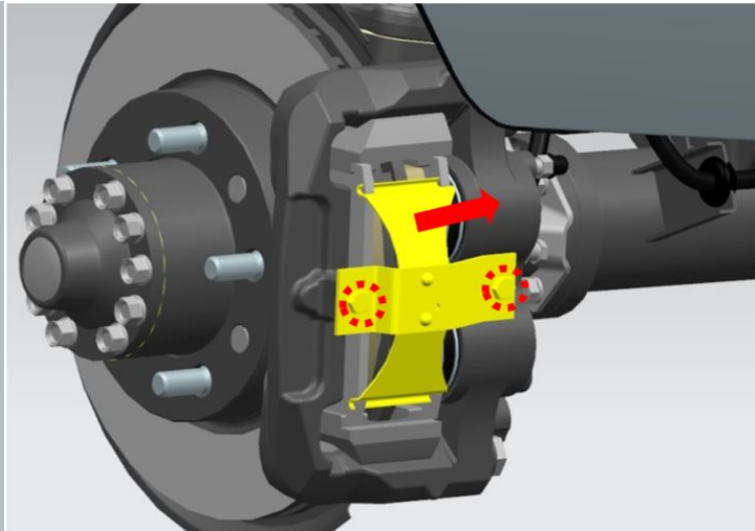


72. Check the backlash of the pivots of the steering knuckles.

If there is an axial clearance of the pivots, remove the clearance by tightening the clamping sleeve.

73. Remove the front wheels from the vehicle.

Img 54



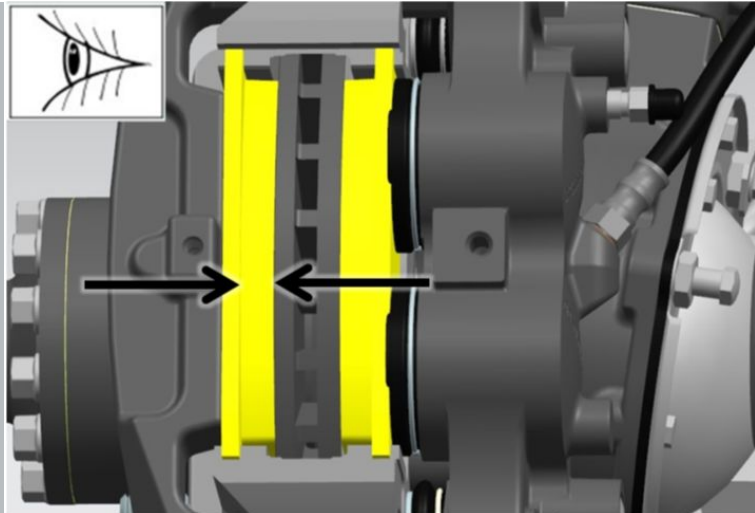
74. Remove the pads compression spring securing bolts.

S=12

tightening torque- 16 N·m

75. Remove the pad compression spring.

Img 55

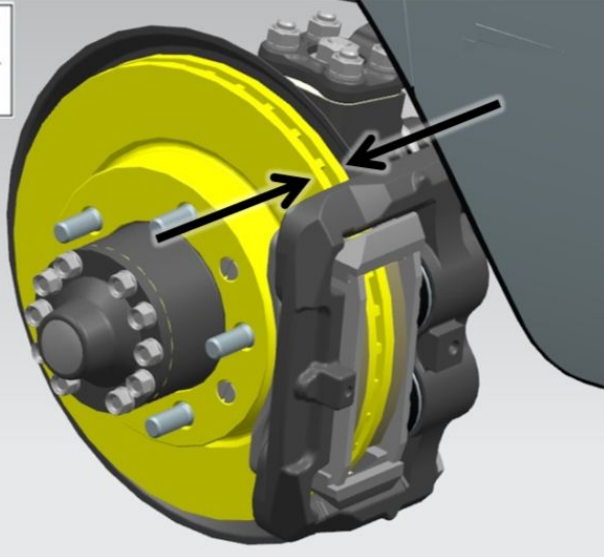


76. Inspect the pads through the window in the caliper.

77. Measure the thickness of the friction layer of the pads.

The maximum permissible minimum thickness of the friction layer of the pads is 1.5 mm.

Img 56

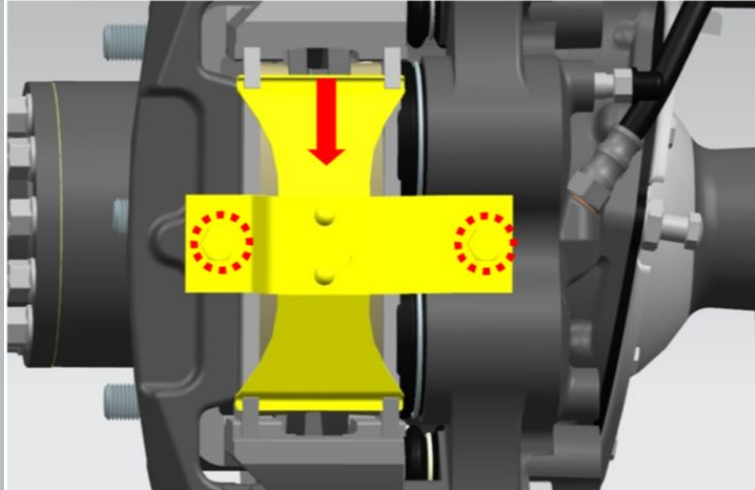


78. Inspect the front wheel brake discs.

79. Measure the thickness of the brake disc.

The maximum permissible minimum thickness of the brake disc is 20.4 mm. Measure the thickness of the disc, stepping back from the edge of the disc by 10-15 mm.

Img 57



80. Establish a spring of preloading of pads.

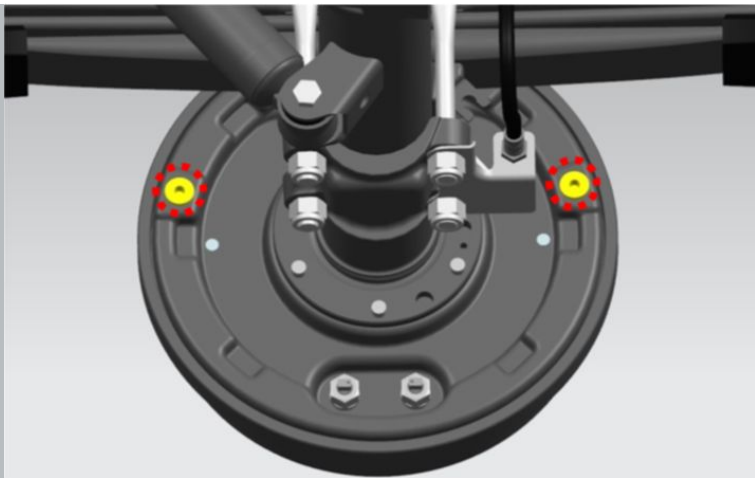
When installing, orient the spring as shown in the figure.

81. Tighten the spring retaining bolts.

tightening torque- 16 N·m

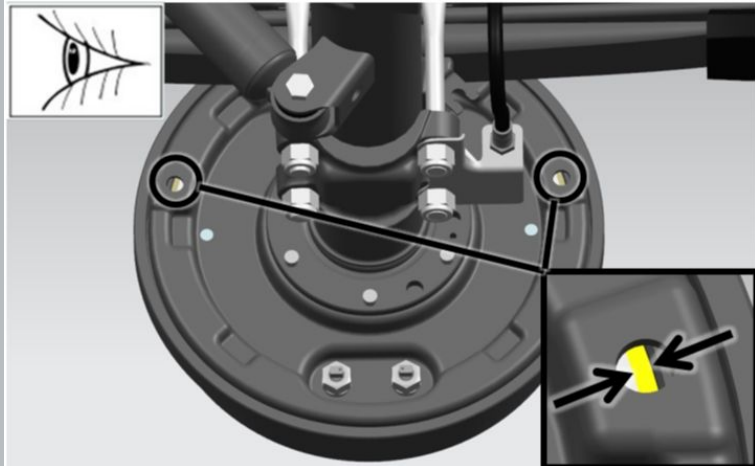
82. Install the front wheels on the vehicle.

Img 58



83. Remove the inspection hole plugs from the brake shield.

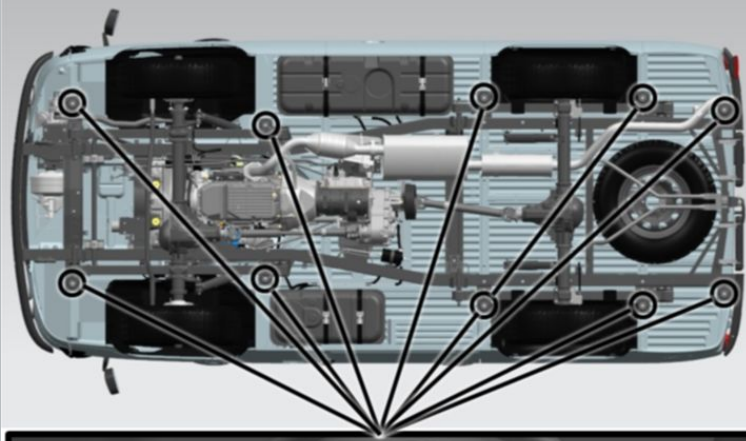
Img 59



84. Inspect the rear wheel lining.

The maximum permissible minimum thickness of the friction layer of the pads is 1.0 mm.

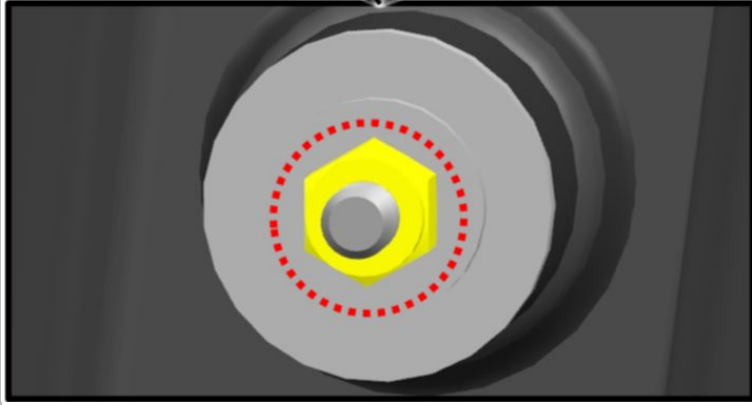
Img 60



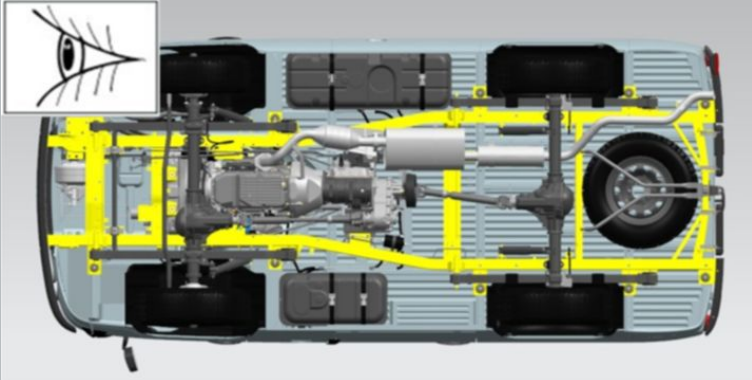
85. Tighten the nuts of the body-to-frame bolts.

S=17

tightening torque- 32 N·m



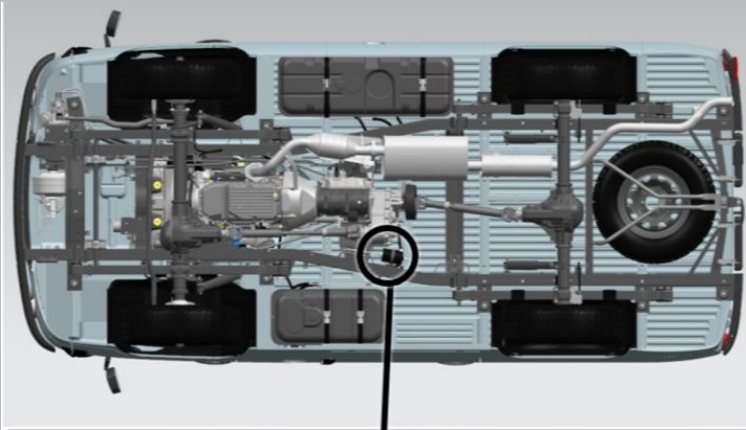
Img 61



86. Inspect the frame for paint chips, cracks and corrosion centers.

The presence of chips of paintwork, cracks and foci of corrosion of the frame is not allowed.

Img 62

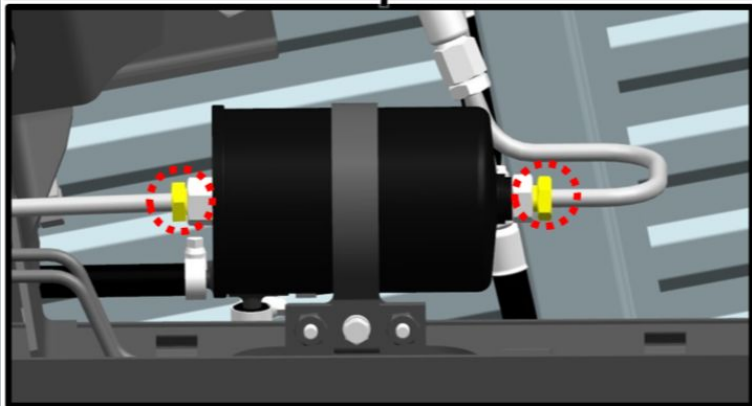


87. Unscrew the fittings of the fine fuel filter pipes.

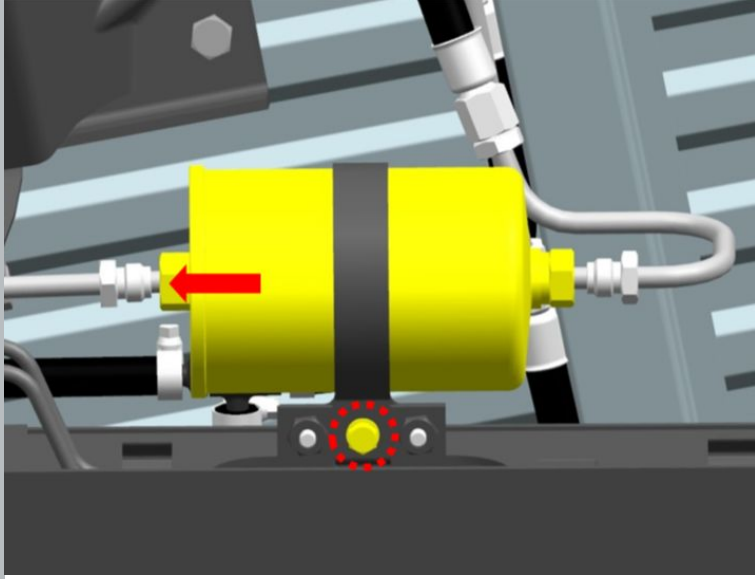
S=17

tightening torque- 20 N·m

Before performing the operation, depressurize the fuel system in accordance with datasheet 00155 (C).



Img 63



Img 64

88. Unscrew the bolt with a spring washer and a flat washer for the filter fastening.

S=10

tightening torque- 7 N·m

89. Replace the filter.

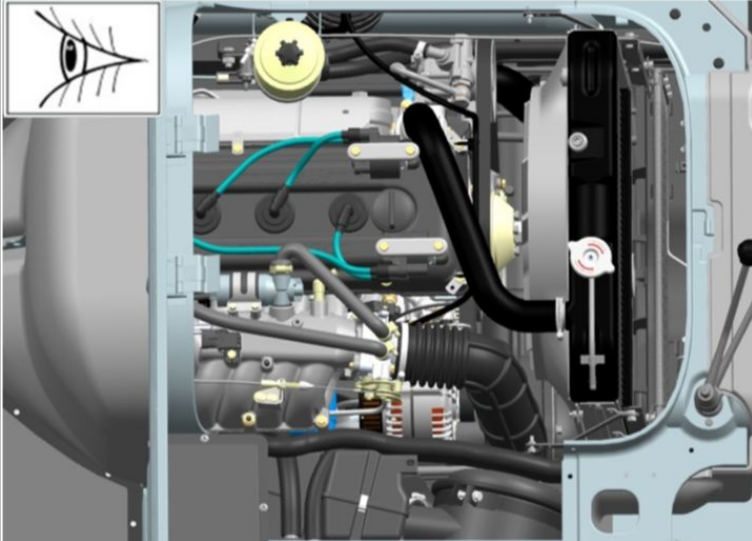
90. Tighten the bolt with a spring washer and a flat washer for the filter mounting clamp.

tightening torque- 7 N·m

Lower the car down on a lift.

4. Work in the engine compartment:

IMAGE

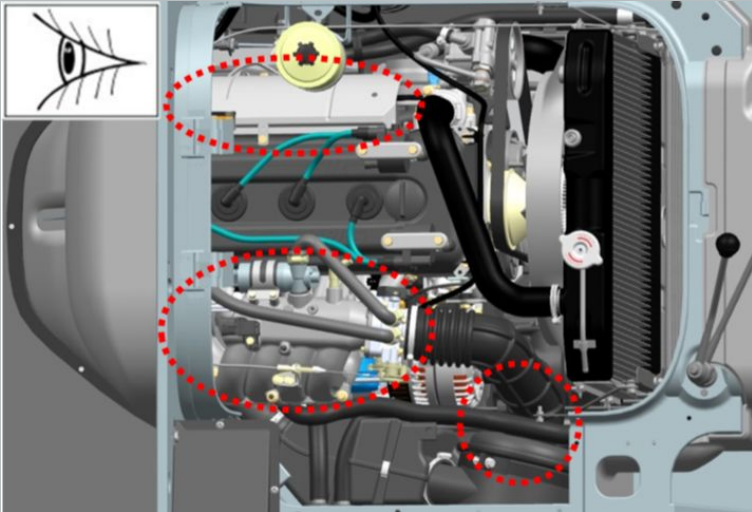


Img 1

OPERATION DESCRIPTION

1. Carry out an external inspection of hoses, branch pipes, pipes, engine wires.

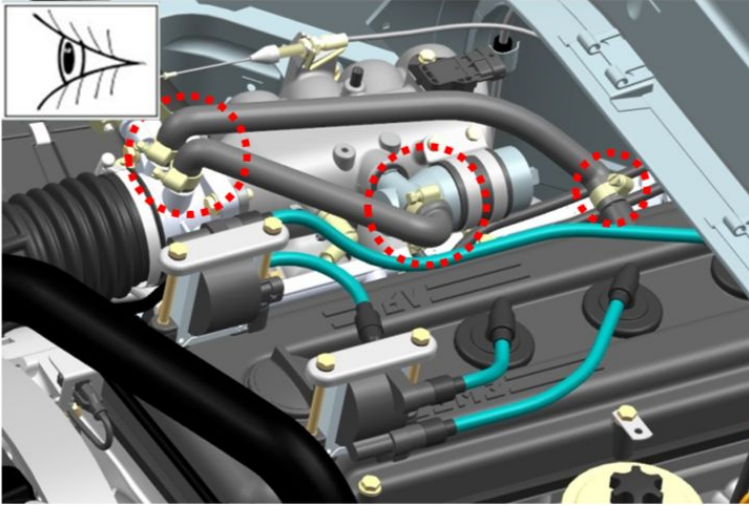
If there are traces of contact on the parts of the car, change their position relative to the engine. Scuffs and wear on hoses, branch pipes, pipes, wires are not allowed.



Img 2

2. Visually check the connections of the intake and exhaust systems for leaks.

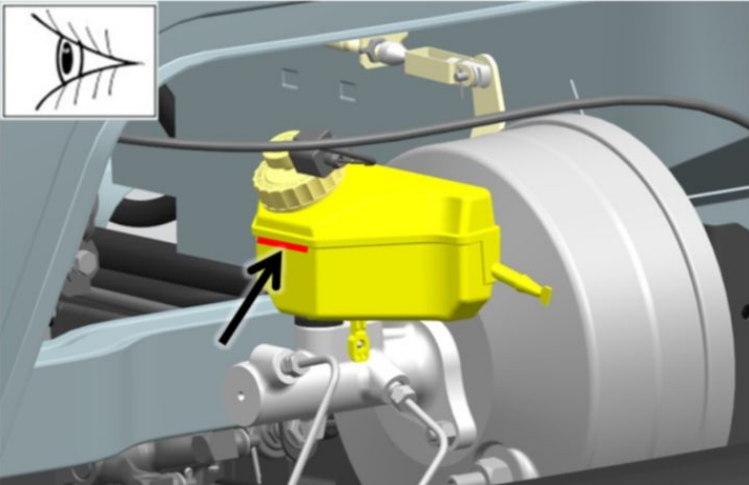
Leakage of connections is not allowed.



Img 3

3. Check visually the connections of hoses, branch pipes, pipes of the crankcase ventilation system for leaks.

Leakage of connections and damage to hoses are not allowed.



Img 4

4. Check the fluid level in the reservoir of the brake master cylinder.

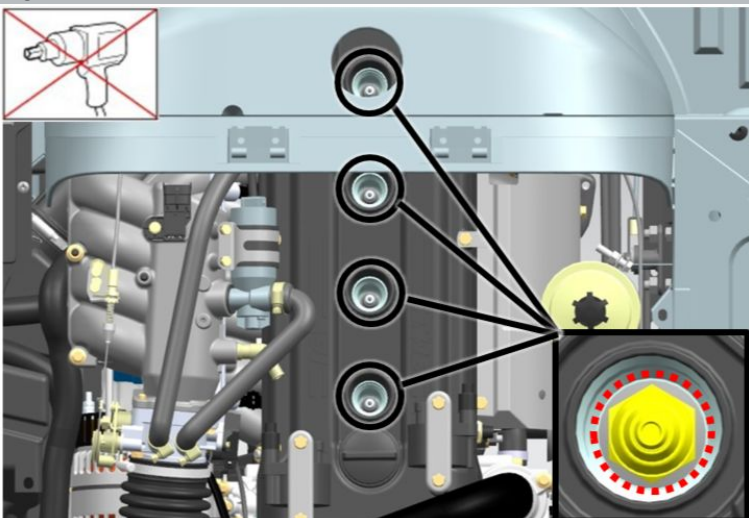
The brake fluid level should be at the "max" mark.



Img 5

5. Check the fluid level in the reservoir of the clutch master cylinder.

The brake fluid level should be 15-20 mm below the top edge of the reservoir.



Img 6

6. Remove the lugs of the high-voltage wires.

7. Unscrew the spark plugs with sealing rings.

tightening torque- 25 N·m

8. Install new spark plugs.

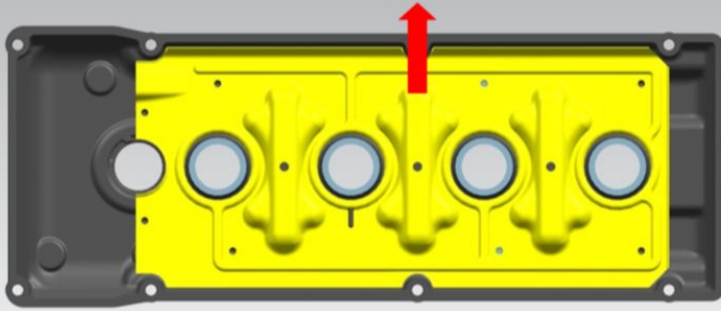
tightening torque- 25 N·m



Img 7

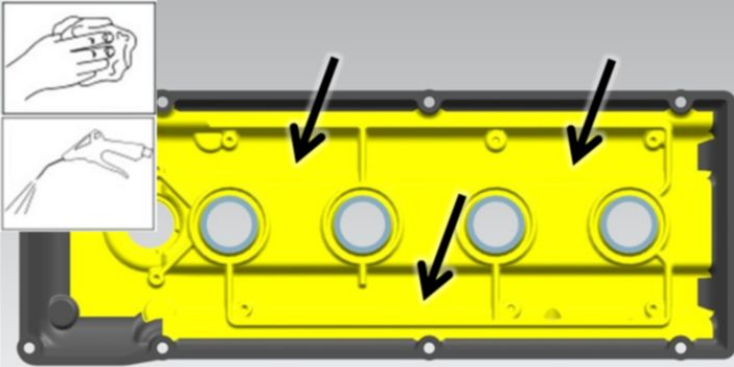
9. Remove the screws securing the oil deflector cover.

To carry out the operation, refer to the data sheet Valve cover - Removal / Refitting (C) (10045).



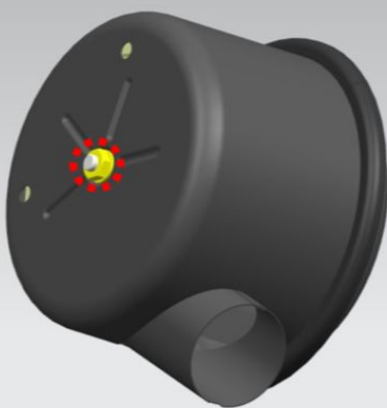
Img 8

10. Remove the oil deflector cover.



Img 9

11. Remove tarry deposits, rinse and blow with compressed air the valve cover and oil deflector.



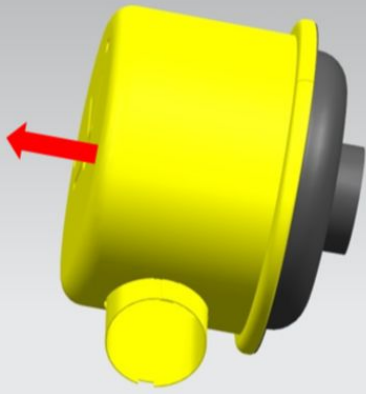
Img 10

12. Unscrew the nut with the washer securing the air filter housing.

S=17

tightening torque- 6 N·m

To perform the operation, refer to the data sheet Air filter - Removal / Installation (C) (11018).



Img 11

13. Remove the air filter housing.

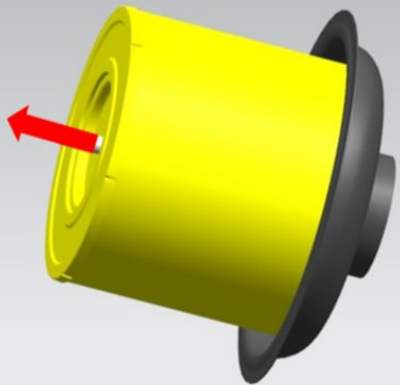


Img 12

14. Unscrew the nut with the washer securing the filter element.

S=17

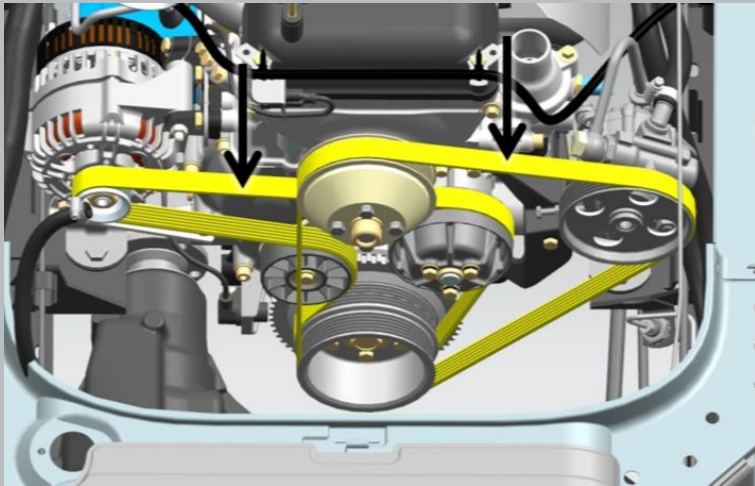
tightening torque- 6 N·m



Img 13

15. Replace the filter element.

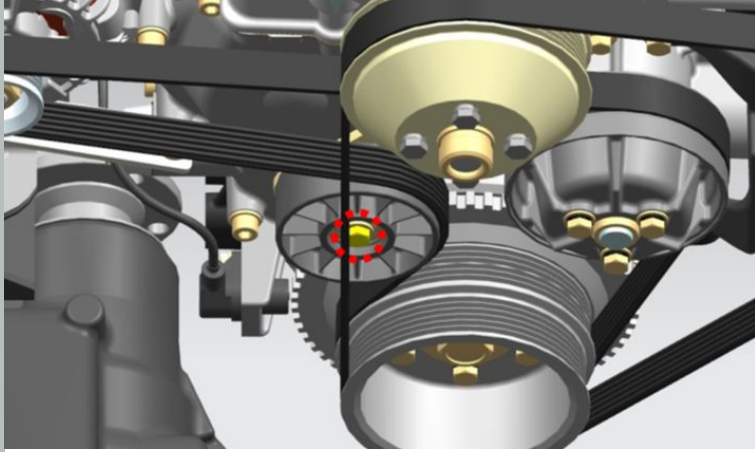
Before installing, make sure that there is no packaging and foreign objects on the surface of the filter element.



Img 14

16. Check the tension of the accessory and fan drive belts.

The deflection of the accessory drive belt should be 13-15 mm with a load of 80 N. The deflection of the fan drive belt should be 5-8 mm with a load of 40 N. Damage or excessive stretching of the belts is not allowed.



Img 15

17. Tighten the accessory drive belt tensioner roller bolt.

S=12

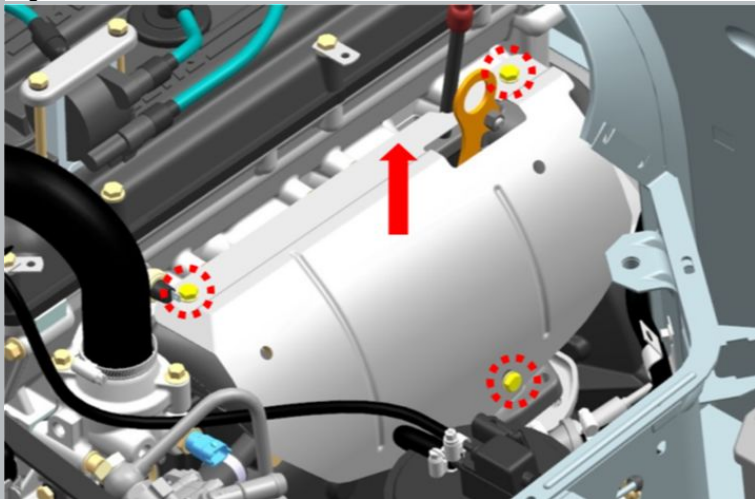
tightening torque- 16 N·m



Img 16

18. Tighten the fan clutch mount.

tightening torque- 55 N·m



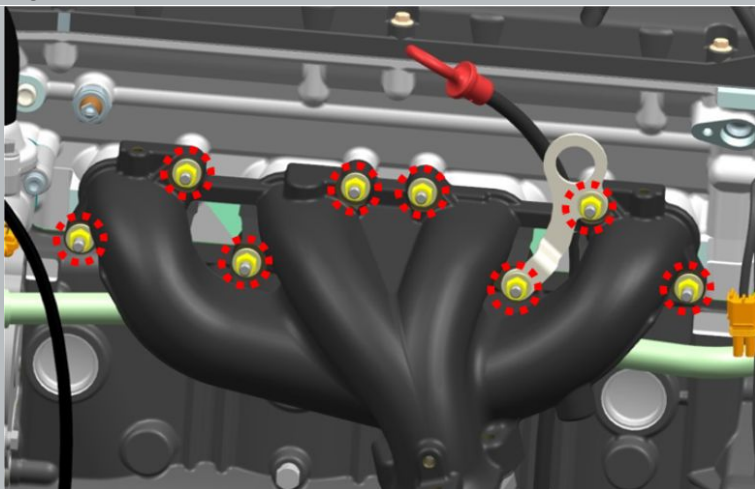
Img 17

19. Remove the bolts with washers securing the exhaust manifold shield.

S=12

tightening torque- 16 N·m

20. Remove the exhaust manifold shield.

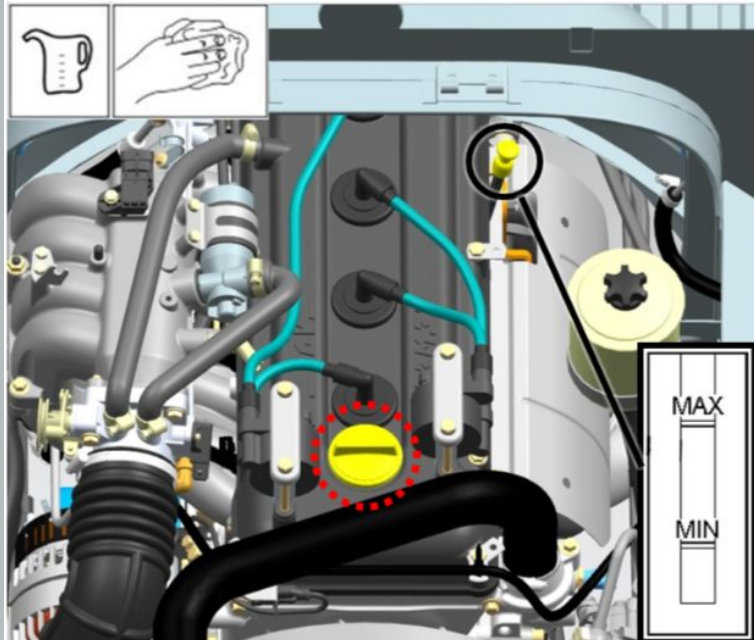


Img 18

21. Tighten the exhaust manifold retaining nuts.

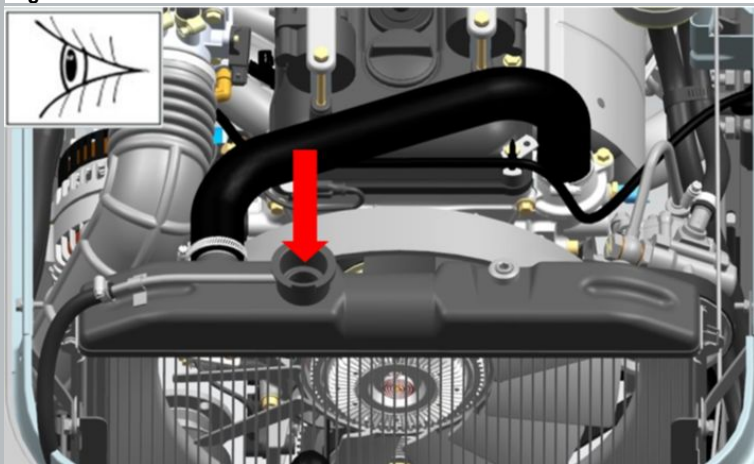
S=12

tightening torque- 23 N·m



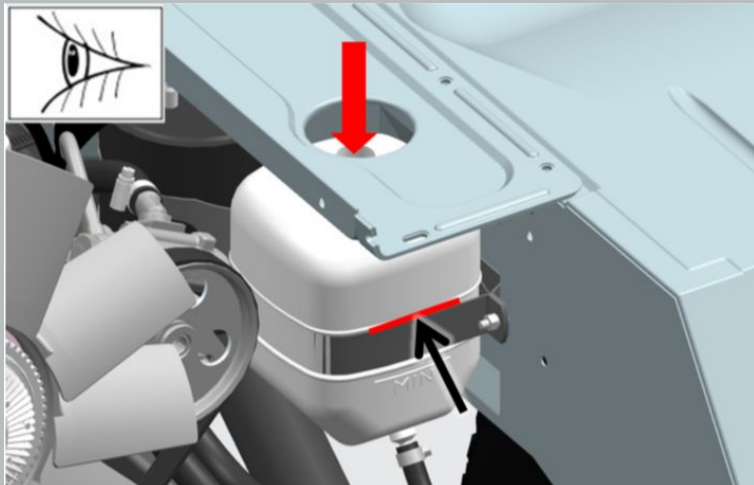
22. Fill the engine with oil up to the upper mark on the oil level indicator.

Img 19



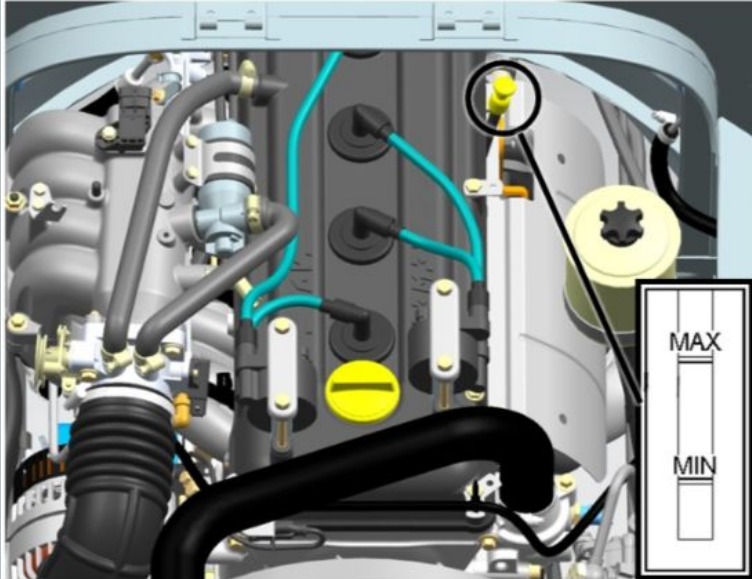
23. Pour coolant into the system through the radiator neck.
The liquid level in should be 10-15 mm below the radiator neck.

Img 20



24. Fill the system with coolant through the neck of the expansion tank.
The liquid level in the expansion tank should be 3-4 cm above the "min" mark.

Img 21



25. Start the engine.

After reducing the liquid level in the upper radiator tank, add coolant to it, to a level 10 - 15 mm below the neck, close the radiator cap. Warm up the engine to operating temperature.

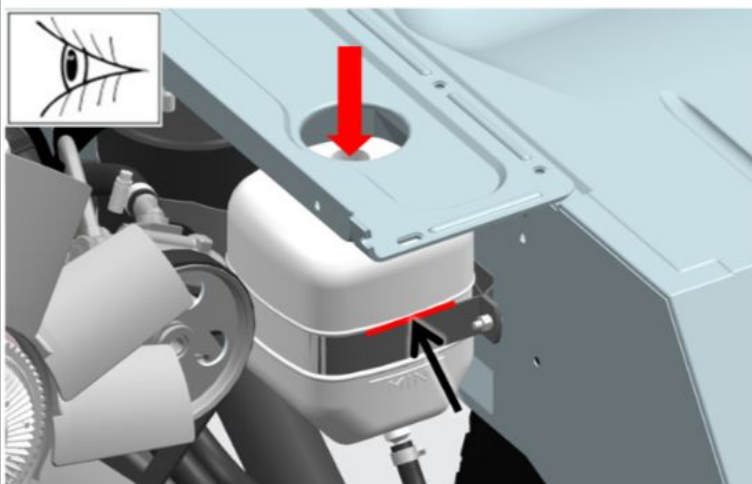
26. Stop the engine.

27. Check the oil level.

Check the oil level after 2 - 3 minutes. after stopping the engine. If necessary, add oil to the upper mark.

28. Add liquid to the expansion tank to the level.

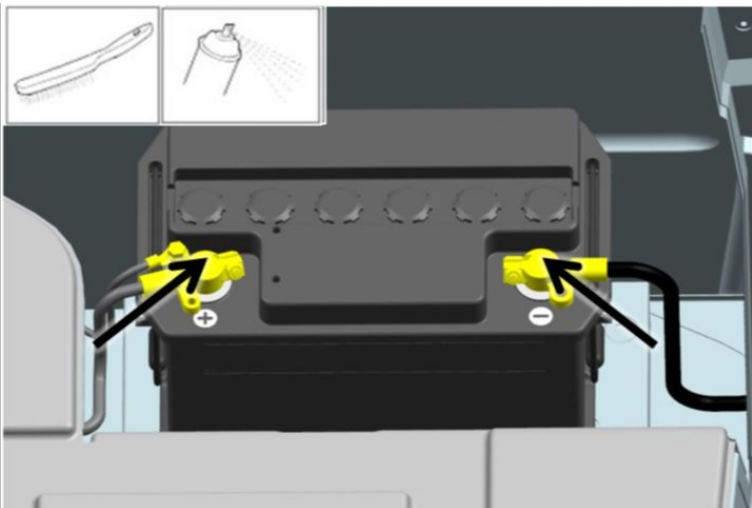
The liquid level in the expansion tank should be 3-4 cm above the "min" mark.



Img 22

29. Clean the leads and cable lugs from oxides.

30. Treat leads and wire ends with a means to protect electrical contacts.



Img 23

31. Connect the terminal of the load plug with "plus" to the same terminal of the battery.

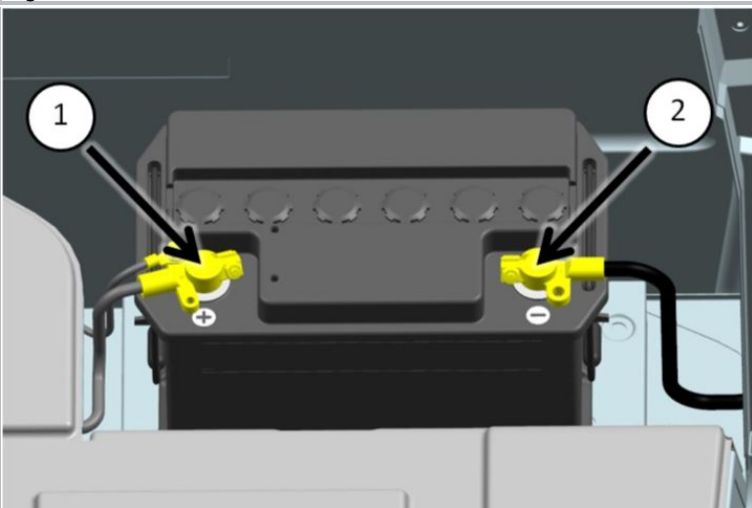
Make the connection without turning on the load coil.

32. Touch the negative pin on the case of the load plug to the negative terminal of the battery.

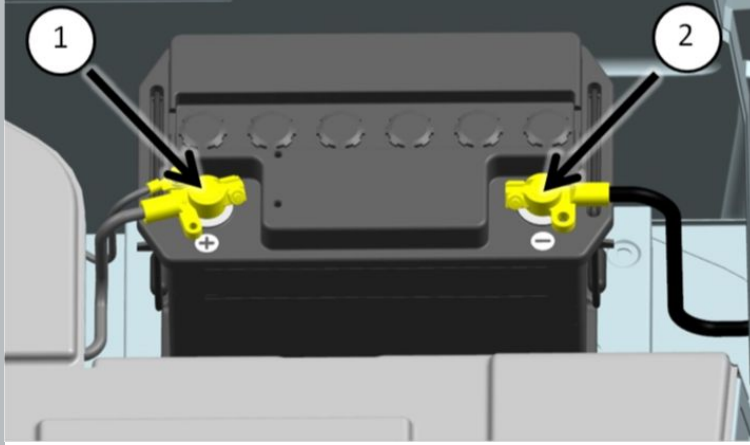
Record voltmeter readings.

33. Compare the obtained data with the value in Table 2.

If the battery is more than 75% charged, measure under load. If the battery is less than 75% charged, it must be charged.



Img 24



Img 25

34. Switch on the load coil in the load plug, connect its terminal with "plus" to the same terminal of the battery.

35. Touch the negative pin on the case of the load plug to the negative terminal of the battery, and fix the voltmeter readings at the 5th second.

⚠ NOTIFICATION: DO NOT measure for more than 5 seconds.

36. Compare the obtained data with the value in Table 3 and take the recommended actions.



Img 26

37. Fill in the TO-60000 Card for UAZ-SGR vehicles, Table 4.