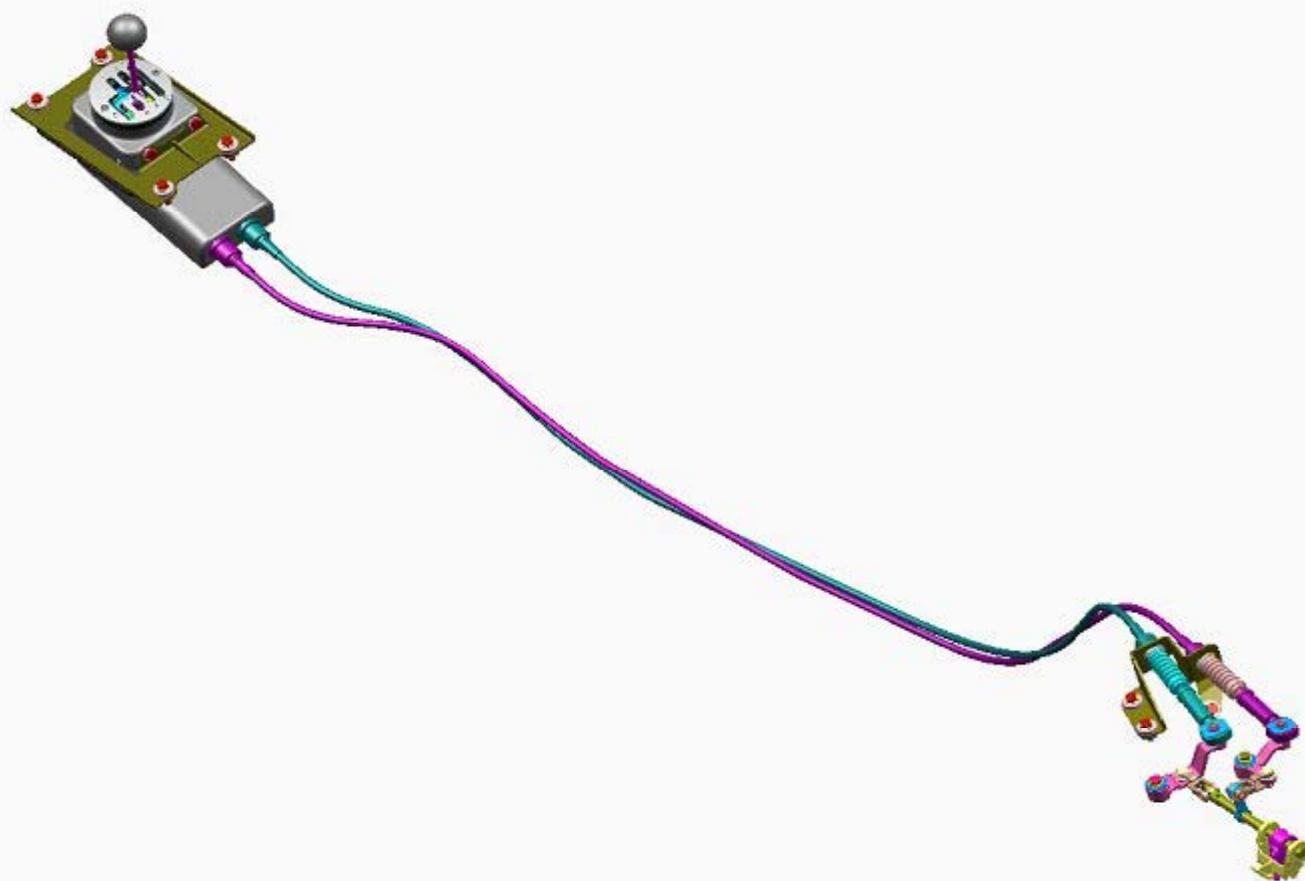


MAINTENANCE

MANUAL GEARBOX

On board shift control lever adjustment



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MAINTENANCE

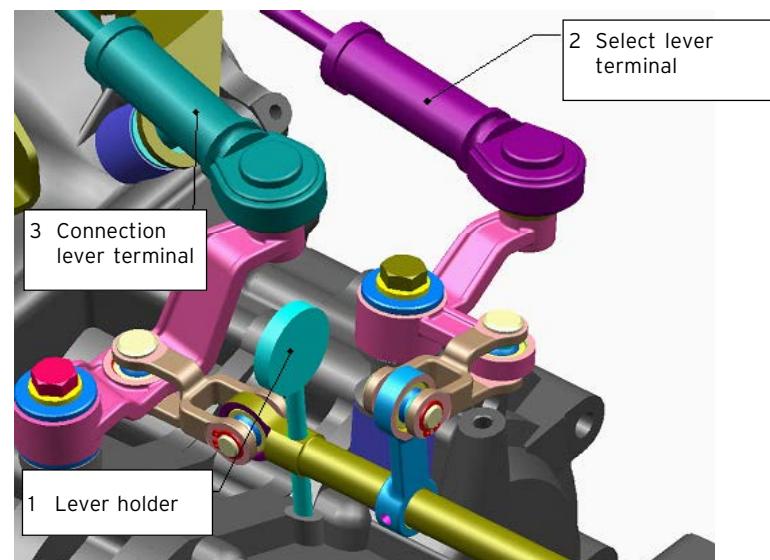
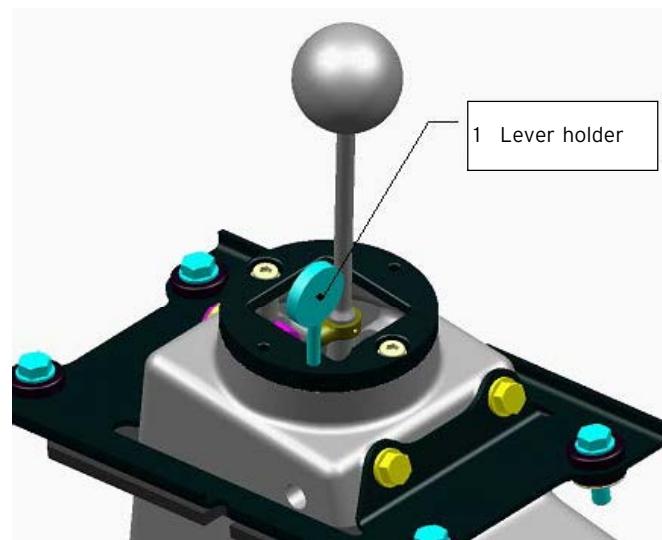
MANUAL GEARBOX



On board shift control lever adjustment

Phase 1

1. Check both terminals (1 and 2) (selection and connection) are armoured (not blocked at the end of the cables). The terminals get armoured by pressing the spring and by doing a small rotation so that the hoop doesn't get blocked.
2. Insert lever holder (1) in the proper opening on the gear turret and levers placed on the gear. Check the gear control lever can only perform the connection motion.
3. Disarm the select lever terminal (2) and verify that both terminal and cable are braced between each other. In this way the gear selection setting will have been done.



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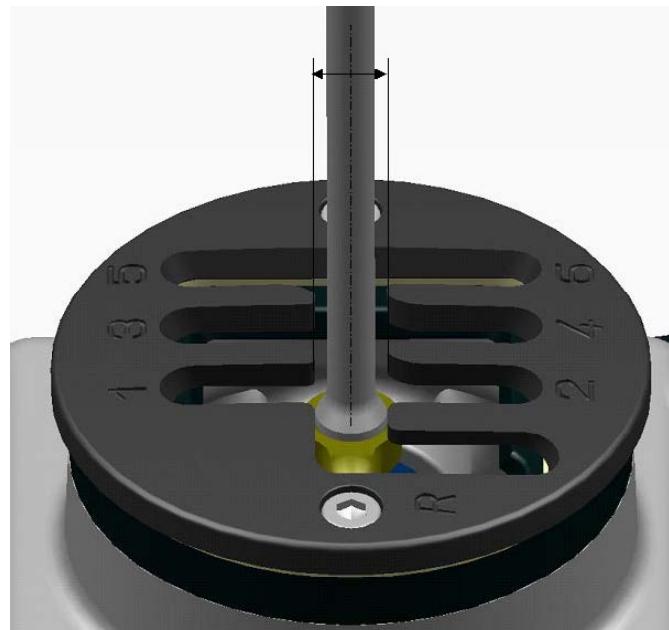
MAINTENANCE

MANUAL GEARBOX

On board shift control lever adjustment



Phase 2



1. Remove lever holder (1) from the gear turret and connect the selector using the two screws.
2. Position the lever at the exact middle of the selector (see photo).
3. Disarm the connection lever terminal (3) and check both terminal and cable are braced together. By doing this the gear connection setting will be achieved.
4. Remove the lever holder (1) placed on the gear.
5. Check the proper functioning of the system by doing a few gear shifts.

MAINTENANCE

GEARBOX

Checking the gearbox and rear differential oil



- Lift the vehicle using an overhead crane.
- Use a suitable collection system for the gearbox and rear differential oil.
- Unscrew the plug (1, Fig. 1) and check that the oil level is near the lower edge of the hole.

If the oil level is high

- Drain the excess oil from the oil level checking hole.
- Clean the plug (1, Fig. 1) and reassemble it; tighten to **45 Nm**.

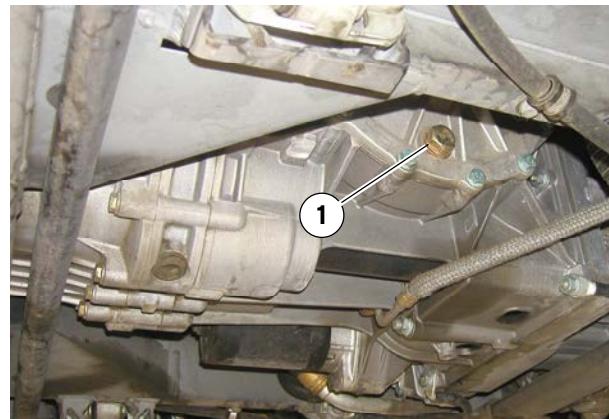


Fig. 1 Plug for checking the level of the transmission and rear differential oil

MAINTENANCE

GEARBOX



Checking the gearbox and rear differential oil

If the oil level is low

- Lower the vehicle and unscrew the gearbox and rear differential oil filling plug (2, Fig 2).
- Using a funnel and rubber hose, top up using a moderate amount of oil at a time until the oil starts to come out of the oil checking hole (1, Fig 1).
- Clean the plug (2, Fig 2) and screw it back on.
- Lift the vehicle, carefully clean the oil level checking hole (1, Fig 1) and then reassemble the plug; tighten it to **45 Nm**.

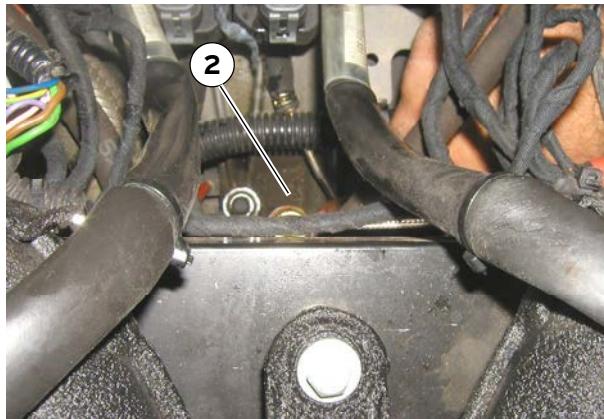


Fig. 2 Gearbox and rear differential oil filling plug



Protecting the environment

Dispose of the used transmission oil according to the laws in force.



Important!

The top up must always be carried out using the prescribed oil only

Type: AGIP ROTRA LSX SAE 75W/50
Quantity 4 litres



Fig. 3 Topping up the gearbox and rear differential oil

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MAINTENANCE

GEARBOX

Gearbox and rear differential oil change



- Lift the vehicle using an overhead crane.
- Prepare a suitable collection system for the gearbox and rear differential oil.
- Unscrew the plug (1, Fig. 1) and drain the oil. Clean the plug and reassemble it; tighten to **45 Nm**.



Protecting the environment

Dispose of the drained oil according to the laws in force.

- Lower the vehicle and unscrew the gearbox and rear differential oil filling plug (2, fig. 2).



Fig. 1 Gearbox and rear differential oil draining plug

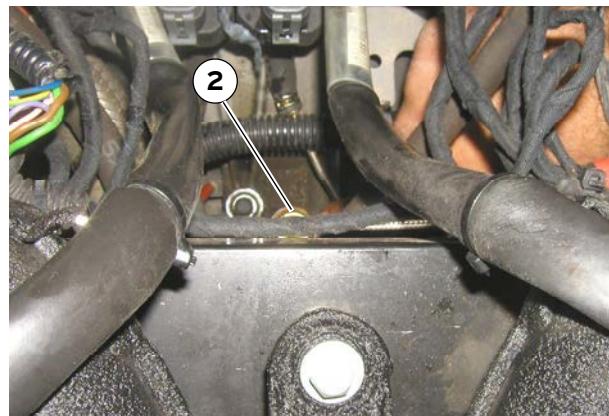


Fig. 2 Gearbox and rear differential oil filling plug

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MAINTENANCE

GEARBOX

Gearbox and rear differential oil change



- With the aid of a tube and a funnel (Fig. 3) fill with **4 litres** of the prescribed type of gearbox and rear differential oil; when completed screw the plug back on.

Gearbox and rear differential oil

Type: AGIP ROTRA LSX SAE 75W/50
Quantity 4 liters

- Check that the level is correct (see).



Fig. 3 Gearbox and rear differential oil filling

MAINTENANCE MANUAL GEARBOX

Removal and installation



Removal

- Disconnect the battery cables.
- Remove the engine finishing panel (see).
- Remove the engine compartment side finishing panels (see).
- Remove the rear bumper (see).
- Remove both exhaust silencers (see).

- Remove the engine compartment rear central cross member.



Fig. 1 Rear central cross member removal

- Disconnect the connector (1, Fig. 2), then remove the plate fastening the connector to the bulkhead by unscrewing the two screws (2, Fig 2).

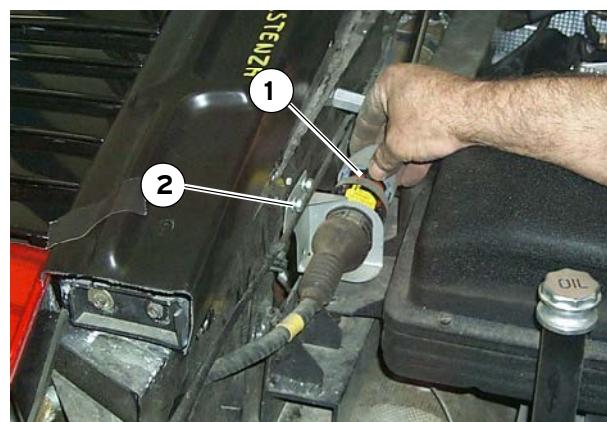


Fig. 2 Connector plate removal

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MAINTENANCE MANUAL GEARBOX

Removal and installation



- Loosen the clips fastening the intake to both DBWs.
- Remove the screws fastening the air filter support to the engine compartment side bulkheads (Fig. 3).



Fig. 3 Air filter support fastening screws removal

- Remove the air filter support (Fig. 4).

! Important!

Plug the air inlet of both DBWs by using the appropriate plugs.



Fig. 4 Air filter support removal

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MAINTENANCE MANUAL GEARBOX

Removal and installation



- Remove the screws (1, Fig. 5) fastening the engine oil tank to the central cross member.



Fig. 5 Engine oil tank fastening screws removal

- Remove the screws fastening the central cross member to the frame, then remove the central cross member (Fig. 6).



Fig. 6 Central cross member removal



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MAINTENANCE

MANUAL GEARBOX



Removal and installation

- Disconnect the oxygen sensor connector of the right catalytic converter.
- Disconnect the right catalytic converter thermocouples.
- Loosen the screw of the clip fastening the right catalytic converter to the right exhaust manifold on wheel arch side (Fig. 7).



Fig. 7 Catalytic converter fastening clip loosening

- Remove the right catalytic converter (Fig. 8).
- Drain the engine oil (see).
- Drain the gear and rear differential oil (see).



Fig. 8 Right catalytic converter removal

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MAINTENANCE MANUAL GEARBOX



Removal and installation

- Disconnect the engine oil temperature sensor connector placed on oil tank (Fig. 9).
- Disconnect the engine oil tank input and output pipes and the relevant connections (Fig. 10).
- Place the oil tank as shown in the figure (Fig. 11).



Fig. 11 Engine oil tank positioning



Fig. 9 Engine oil temperature sensor disconnection



Fig. 10 Engine oil tank input and output pipes disconnection

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MAINTENANCE MANUAL GEARBOX



Removal and installation

- Disconnect the clutch oil hose from the gear low part (Fig.11)
- On the gear, remove the selector cables using the quick connection device and detach them from their related supports (Fig 12)



Fig. 11- Clutch hose disconnection



Fig. 12 - Selector cables removal

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MAINTENANCE MANUAL GEARBOX

Removal and installation



- Remove the axle shafts output protection from gear (Fig. 13).



Fig. 13 Axle shafts protection removal

- Disassemble the rear axle shafts and disconnect them from flanges on the rear differential (Fig. 14).



Fig. 14 Axle shafts disconnection

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MAINTENANCE MANUAL GEARBOX

Removal and installation



- Disconnect the gear oil delivery pipe (1, Fig. 15) and return pipe (2, Fig. 15) from the radiator.



- Disconnect the cables from starter (Fig. 16)



Fig. 15 Radiator gearbox oil pipes

Fig. 16 Starter cables disconnection

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MAINTENANCE MANUAL GEARBOX

Removal and installation



- Remove the screws fastening the gear supports to the frame (Fig.17)



Fig. 17 Gear supports screws removal

- Disconnect the engine speed sensor connector (Fig.18)

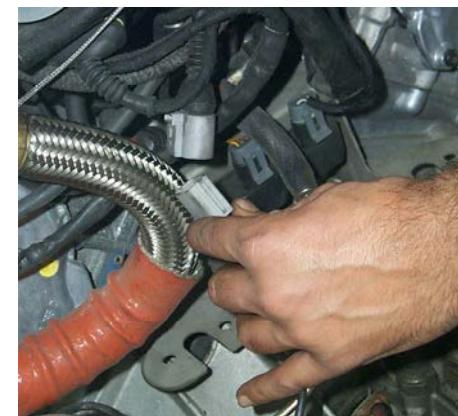


Fig. 18 Engine speed sensor connector disconnection

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MAINTENANCE MANUAL GEARBOX

Removal and installation



- Loosen the engine fastening bolts (Fig.19)
- Lift the gearbox to insert a thickness of about 5-6 cm between the engine rear area (gear side) and the frame lower cross member.
- Remove the bolts around the clutch cover.
- Sling the gear and remove it from the engine compartment with a specific lifting device (Fig.20).



Fig. 19 Loosen the engine fastening bolts



Fig. 20 Gear sling and lifting

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