

# Tractors 6405 and 6605 Repair



D C G

**TECHNICAL MANUAL**  
**Tractors 6405 and 6605 Repair**  
TM4866 02APR02 (ENGLISH)

**John Deere Brasil**  
Impresso no Brasil



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# Section 05 Safety

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Hello dear friend!

Thank you very much for reading.

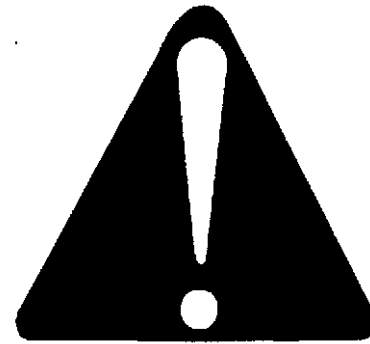
Enter the link into your browser.

The full manual is available for immediate download.

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### Acknowledge the safety Information

This is the Safety prevention symbol. When you see this on your machine or in this publication, always be aware of the risk of injury or accidents related to operating the equipment.



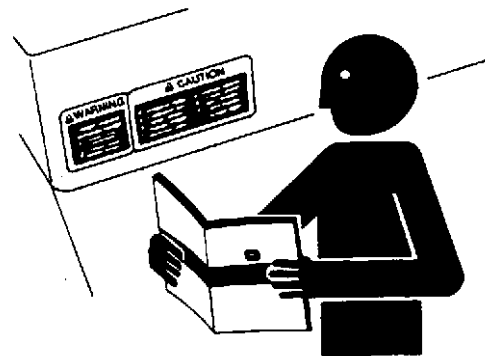
CQ.SGALERTA -19-14JUL98-1/1

T81389 -UN-07DEC88

### Observe the Safety Messages

Read the safety information in this publication and on your tractor carefully. Maintain the corresponding decals in good condition. Replace worn or missing decals. Get to know the operation of your Tractor and its Controls.

Always keep your tractor in good working condition. Any unauthorized modification to the tractor could result in reduced performance and/or safety, in addition to reducing its working life.

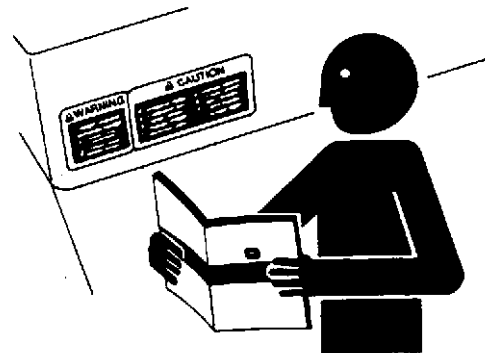


CQ.SGMENSEG -19-01OCT98-1/1

TS201 -UN-23AUG88

### Replace the Safety Stickers

Replace worn or missing stickers. Refer to the Operation Manual for their correct positions.



AG.LT04177,255 -19-29SEP98-1/1

TS201 -UN-23AUG88

### Safe Handling of Liquids and fuels

Handle fuels with caution as they are highly flammable. Do not smoke while refueling nor get near flames or sparks.

Turn the engine off before refueling. Refuel in an appropriate place and clean up any fuel that may have spilled. Do not puncture or incinerate any pressurized containers.

Do not store oil impregnated rags. They could spontaneously ignite.



TS227 -UN-23AUG88

CQ.SGLIQ -19-01OCT98-1/1

### Avoiding the Explosion of Battery Gasses

The gas released from the battery when opened or damaged is explosive. Always store them in a safe place far from any area where flames or sparks may occur.

Never test the battery charge by putting a metallic object across the terminals. Use a high discharge voltmeter or a densimeter.

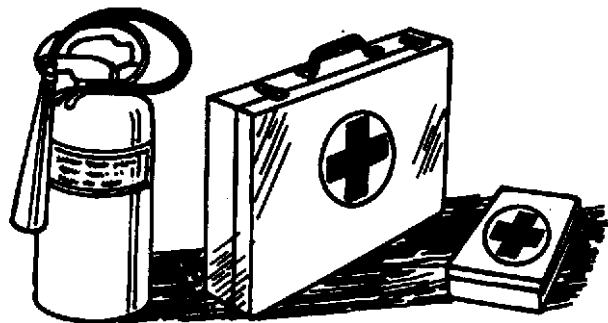


TS204 -UN-23AUG88

CQ.SGBAT -19-01OCT98-1/1

### Be Prepared in Case of Emergency

Be Prepared in Case of Emergency Have a first aid kit and a fire extinguisher close at hand.



TS291 -UN-23AUG88

CQ.SGEMERG -19-01OCT98-1/1

## Remove the Paint Before Welding or Applying Heat.

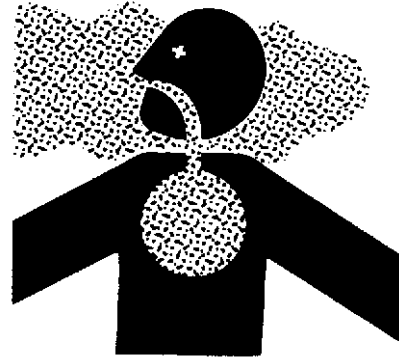
Avoid the inhalation of gasses and dust as they are potentially toxic.

Noxious gasses can be generated due to paint heating up while welding, either arc or oxyacetylene.

Carry out all work outdoors or in a well ventilated area. Store paint and solvent in an appropriate place.

Remove the Paint Before Applying Heat.

- When using a sand blaster or sander, avoid the inhalation of dust.
- If solvent has been used, clean the surface to be welded with soap and water before welding. Remove all solvent containers and any remaining inflammable materials. Ventilate the work area for 15 minutes before welding or applying heat.

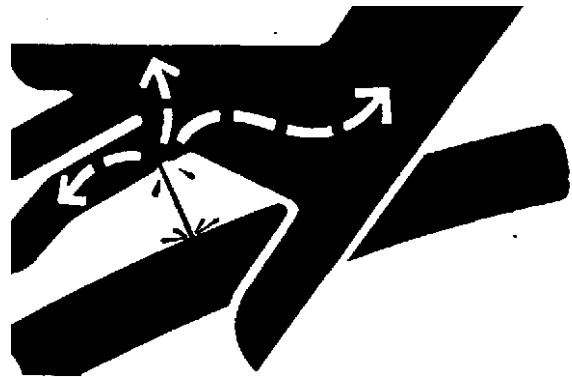


TS220 -UN-23AUG88

CQ,SGPINT -19-01OCT98-1/1

## Leaks in High Pressure Lines

Fluids under pressure that vent from the hydraulic system can have sufficient pressure to penetrate the skin causing serious injury. Therefore, it is essential to evacuate the pressure from the system before loosening or disconnecting any lines and to make sure that all connections and adapters are well tightened before pressurizing the system. Keep the body and hands clear of any high pressure leaks. It is difficult to find an hydraulic fluid leak if the hole is small. Use a piece of cardboard.



X9811 -UN-23AUG88

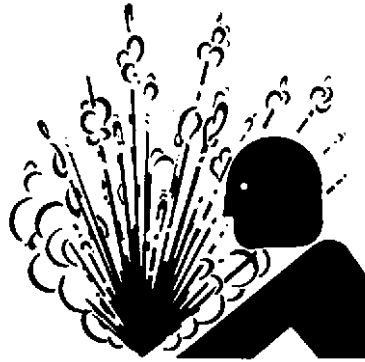
If, in spite of this precaution, the escaping high pressure fluid penetrates the skin, seek medical help immediately as these injuries can cause serious infection.

CQ,SGFUGAS -19-01OCT98-1/1

### Safe Maintenance of the Radiator

Danger of burns!

With the engine turned off, loosen the expansion tank cap to the first stage to release the pressure before removing it completely.



CQ.SGRADIAD -19-01OCT98-1/1

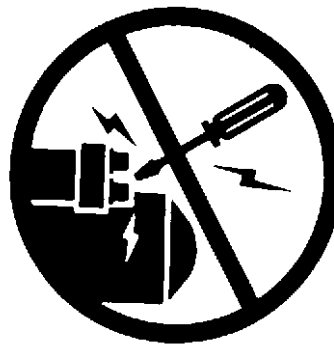
TS281 -JUN-23AUG88

### Avoid accidentally starting the machine.

Avoid possible accidents or death by accidentally starting the machine.

Do not start the machine by short circuiting the terminals.

NEVER start the engine while standing beside the machine. Start the engine only from the operator seat and with the transmission in neutral or park.



CQ.STBYPASS -19-11SEP98-1/1

TS177 -JUN-11JAN89

### Avoid applying heat near the pressurized fluid lines

Exposed flames close to the pressurized fluid lines can cause a flammable cloud of steam to develop, which, if ignited, can cause serious burns to anyone close by. Avoid applying heat with either arc or oxyacetylene near the pressurized fluid lines or any other line containing inflammable fluid. The lines can be accidentally cut by excessive heat given off by the welding torch.



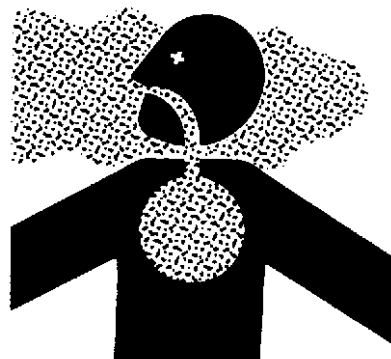
CQ.SGCALOR -19-01OCT98-1/1

TS953 -JUN-15MAY90

### Work in a well ventilated area

The ingestion of exhaust fumes can cause damage or death. If it is necessary to carry out work on the engine with it running, remove the exhaust gasses from the area with a extension pipe connected to the exhaust pipe.

If you do not have an extension pipe, open the doors and let the outside air circulate inside the work area.

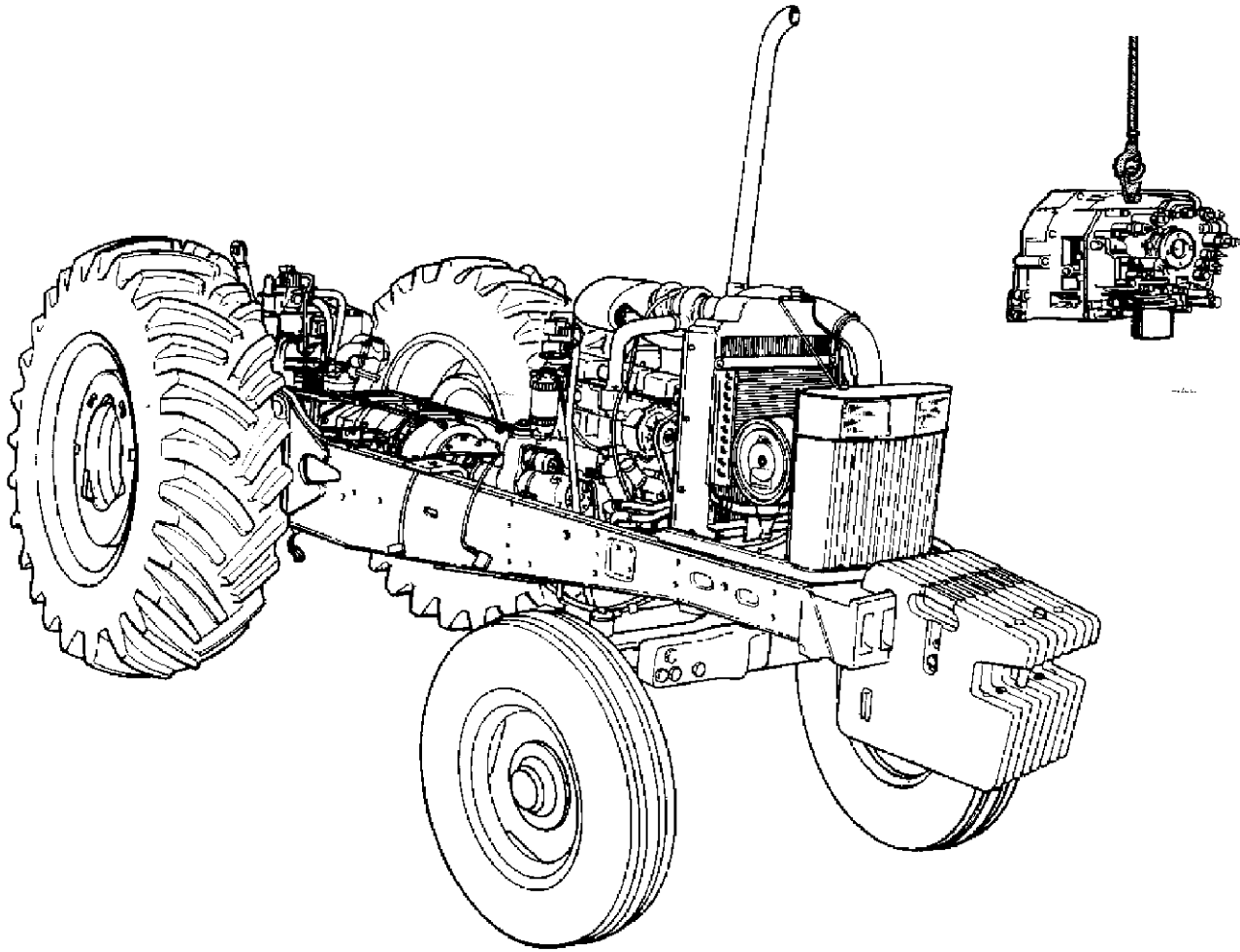


CQ.SGAR -19-14JUL98-1/1

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### Removing the clutch box

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CQ168140

CQ168140 -UN-02DEC98

AG,LT04177,359 -19-09NOV98-1/2

**IMPORTANT:** The removal of the clutch and the gear box can be done sequentially from under the tractor without removing the operation platform. For the group box, removal can be done by moving the carcass forwards after having removed the clutch and the gear box.

To remove the operation platform, see Section 90, Group 00.



CQ168060

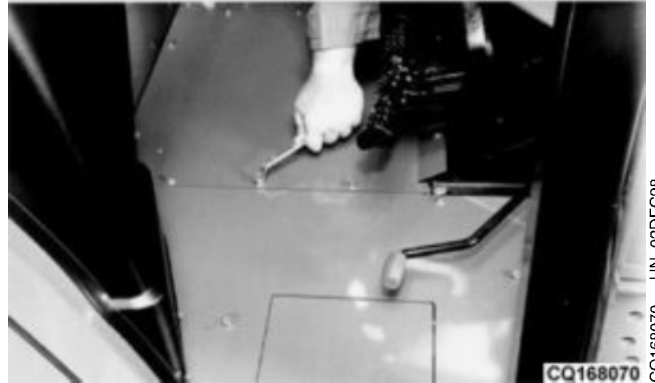
CQ168060 -UN-02DEC98

AG,LT04177,359 -19-09NOV98-2/2

### Removing the Transmission (without removing the platform)

Remove the bolts of the platform floorboard.

Remove the central plate of the floorboard.



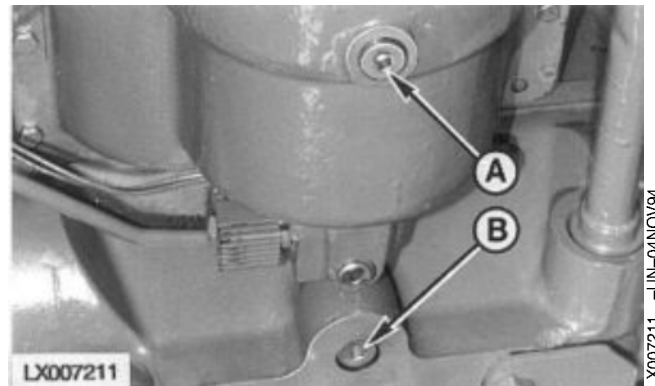
AG,LT04177,360 -19-09NOV98-1/10

Move the swaying draw bar backwards.

Remove the oil drainage bolts (A) and (B) and put the transmission oil in a suitable container.

Capacity:

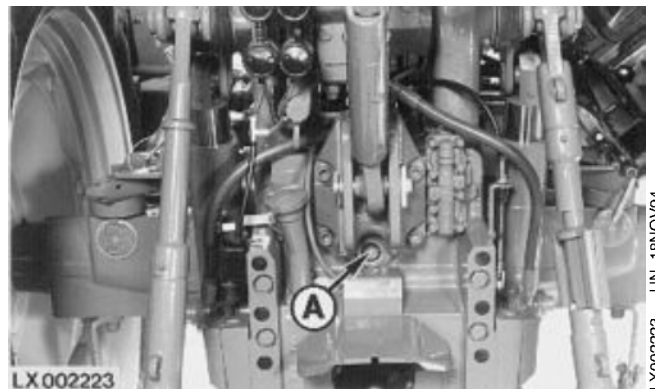
Oil change with filter..... 52 L. approx.



AG,LT04177,360 -19-09NOV98-2/10

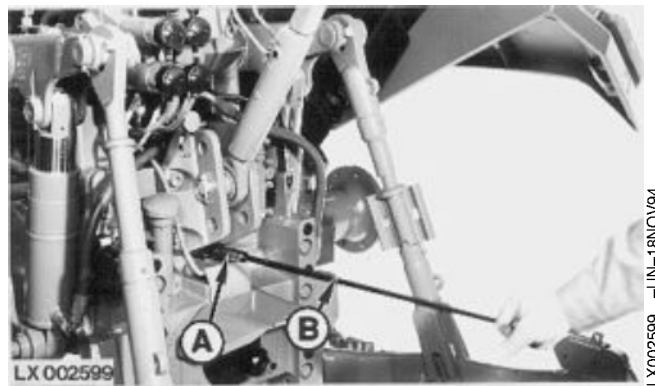
**CAUTION:** Perform this operation with the tractor on level ground, shift box in PARK and the engine turned off.

Remove the plug (A).



AG,LT04177,360 -19-09NOV98-3/10

Remove the PTO drive shaft (A) and then remove the pump drive shaft out of the box using the extractor KJD10173 (B).

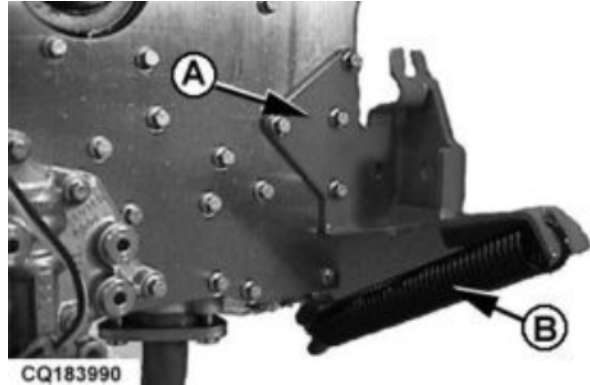


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AG,LT04177,360 -19-09NOV98-4/10

## Separating and Installing Transmission Components

Remove the clutch cable and the clutch spring (B) as well as the spring support (A) to free the set.



CQ183990 -UN-12APR99

AG,LT04177,360 -19-09NOV98-5/10

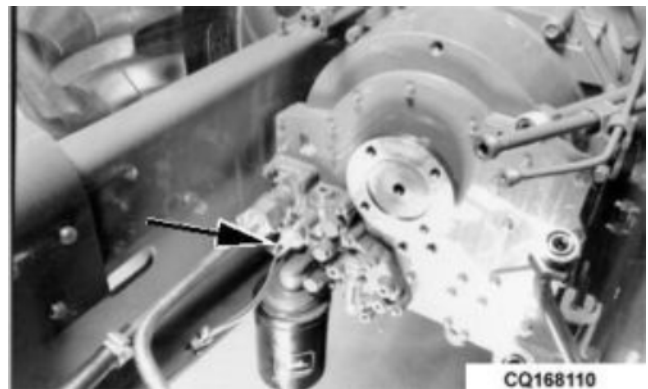
Separate the articulate transmission cardan shaft (see Section 56-05A).



CQ168100 -UN-02DEC98

AG,LT04177,360 -19-09NOV98-6/10

Disconnect the connector from the oil filter blockage sensor.



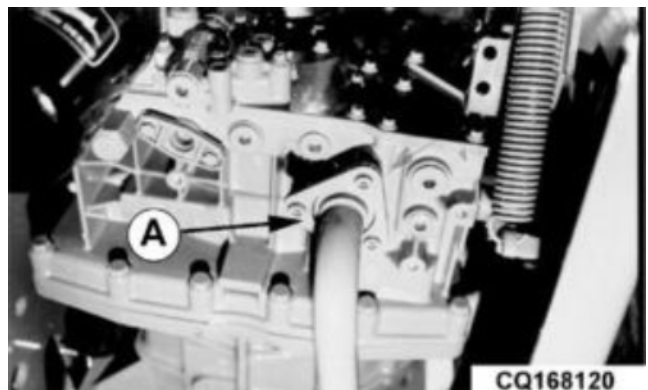
CQ168110 -UN-09DEC98

AG,LT04177,360 -19-09NOV98-7/10

Remove the three Allen bolts.

Disconnect the aspiration tubing (A) from the transmission oil pump on the clutch carcass.

Remove the tube by pulling it forward.



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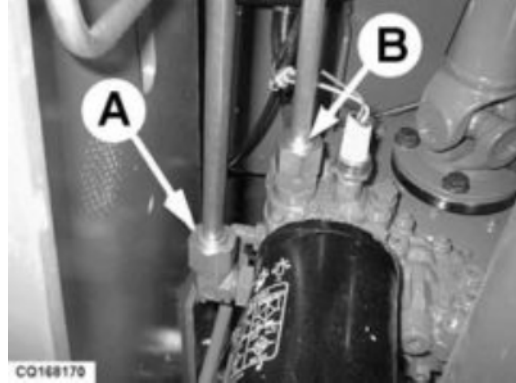
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## Separating and Installing Transmission Components

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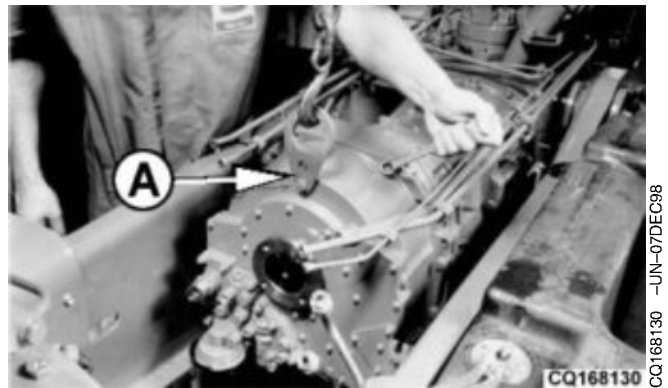
Disconnect the input and output tubing (A) and (B) to the oil cooler from the clutch box.



AG,LT04177,360 -19-09NOV98-9/10

Connect the lift ring JD244-1 (A) to the clutch carcass.  
Connect an adequate lifting device.  
Remove the bolts and then remove the clutch carcass.

**⚠ CAUTION: The clutch is heavy and difficult to handle. Therefore an adequate lifting device (tackle) is required, and when removing it from the tractor, get help from another person.**



AG,LT04177,360 -19-09NOV98-10/10

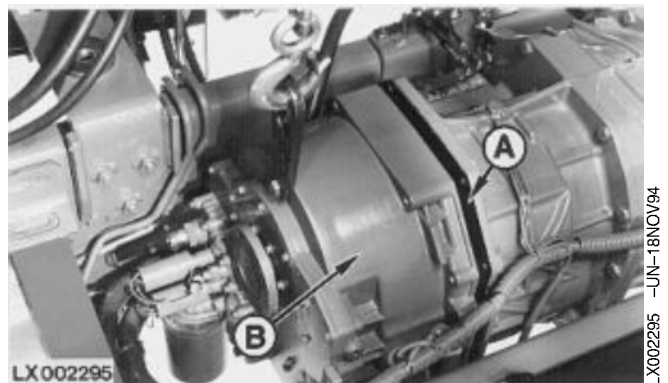
### Installing the Clutch Box

Install a new seal (A) on the clutch box. Place the clutch box (B) on the gear box by applying even pressure.

To help with the coupling operation, turning the cardan shaft coupling flange might be required.

*NOTE: Do not use the bolts to force closing when assembling. Closing must be done only by hand pressure.*

*NOTE: Using the two stud bolts assembled on the lower part of the gear box as a guide is possible.*

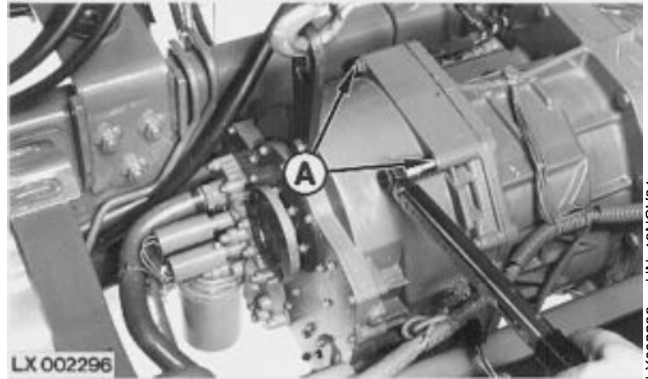


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AG,LT04177,362 -19-09NOV98-1/6

## Separating and Installing Transmission Components

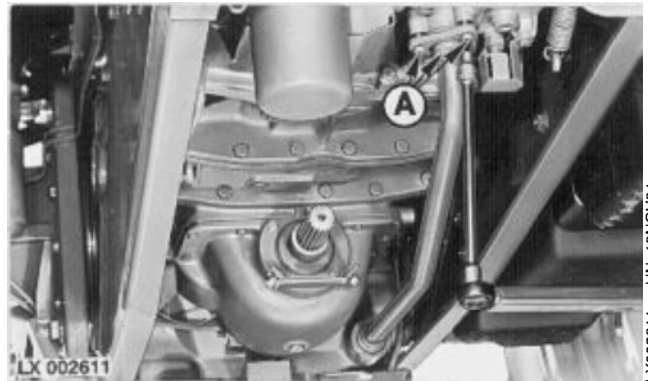
Place the bolts (A) and tighten to 5.0 Kg.m (50 N.m, 35 lb-ft).



AG,LT04177,362 -19-09NOV98-2/6

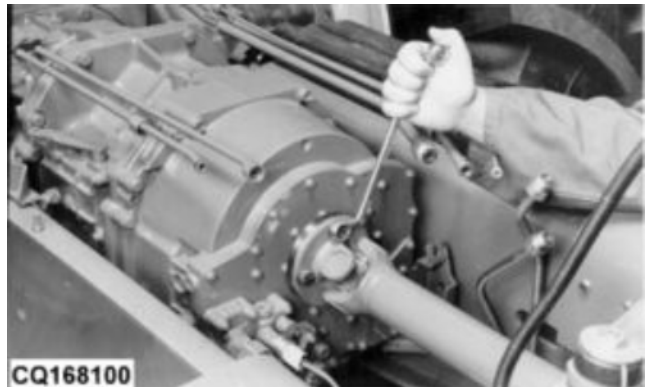
Place the aspiration tubing in the differential box and the clutch carcass using a new "O" ring.

Tighten the three Allen bolts (A) on the aspiration tubing to 2.5 Kg.m (25 N.m, 18 lb-ft).



AG,LT04177,362 -19-09NOV98-3/6

Reinstall the articulate transmission cardan shaft (see Section 56, Group 05A).



AG,LT04177,362 -19-09NOV98-4/6

**NOTE:** To finish the installation, invert the sequence of the separation steps.

Reinstall the platform (see Section 90, Group 00).

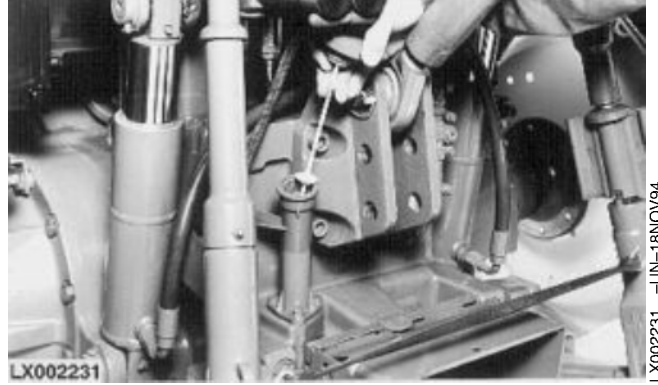


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AG,LT04177,362 -19-09NOV98-5/6

## Separating and Installing Transmission Components

Fill the transmission with oil. Check the level and add more oil if needed. (See the Operator Manual).

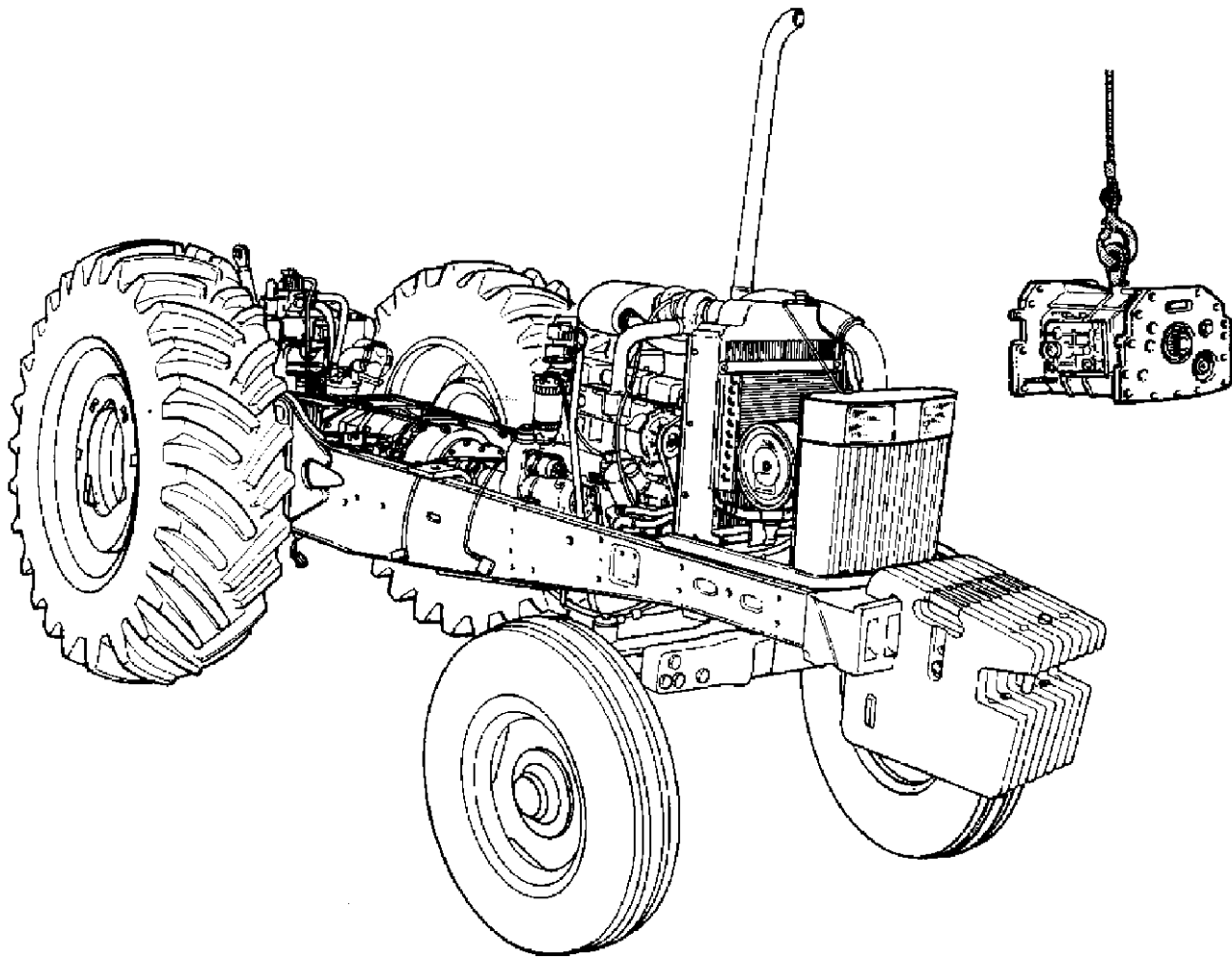


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## Removing the SyncroPlus Transmission Box

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## Separating the Clutch Box

Separate the clutch box, see "Separating the Syncroplus clutch box".

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AG.LT04177,364 -19-09NOV98-1/4

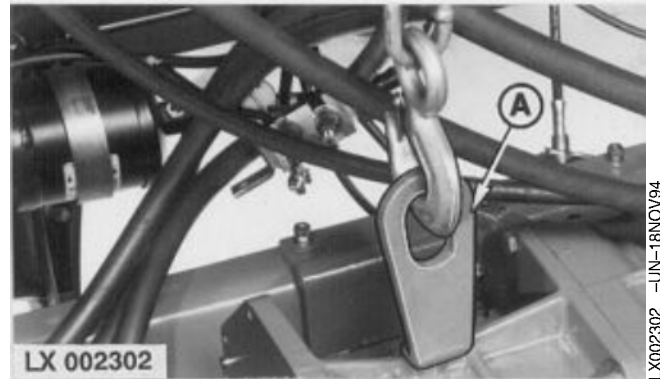
## Separating and Installing Transmission Components

Disconnect the return tubing (A) and the gearshift cover (B).



AG.LT04177.364 -19-09NOV98-2/4

Fix the JD244-2 (A) lifting ring to the gearshift box with a bolt.

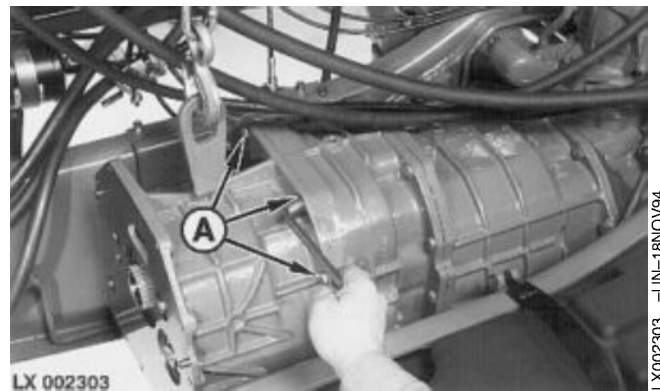


AG.LT04177.364 -19-09NOV98-3/4

**NOTE:** If the operation platform has not been removed, use either a chain or a rope to lower the shift box for there is an interference between the chain and the operation platform.

Connect the gear box to an adequate lifting device.

Remove the Bolts (A).



AG.LT04177.364 -19-09NOV98-4/4

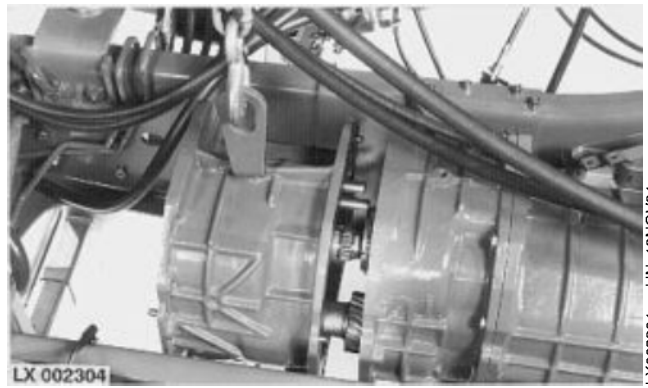
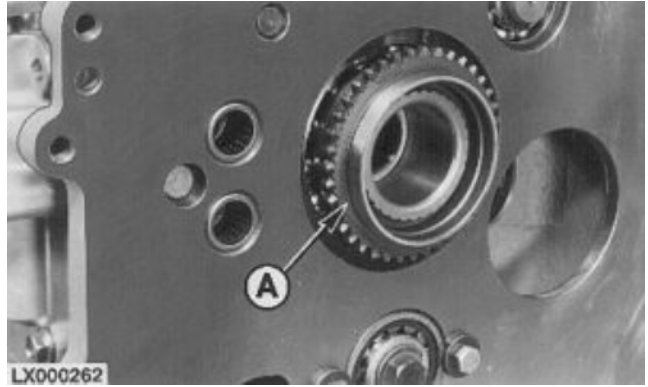
### Installing the SyncroPlus Transmission Box

*NOTE: Check and adjust (if needed) first the axial clearance of the coupling collar (A) (see Section 50, Group 15).*

**IMPORTANT: Use Vaseline paste to fix the 3rd gear synchronizing ring on the synchronizing set to keep it from falling during the assembly operation.**

Install a new joint on the shift box.

Apply even pressure to fit the shift box on the group box, never use the bolts to force closing.

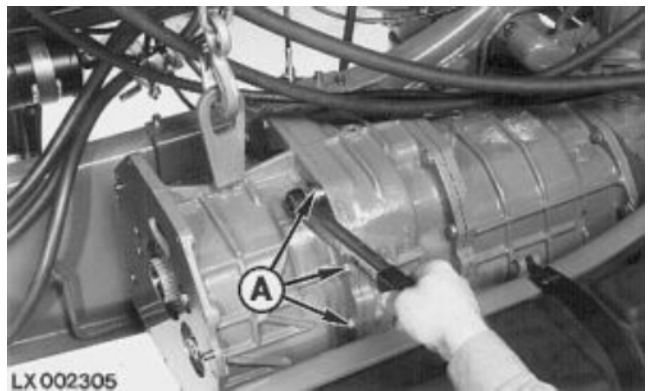


AG,LT04177,365 -19-10NOV98-1/5

Thread the bolts (A) and tighten them to the specified torque.

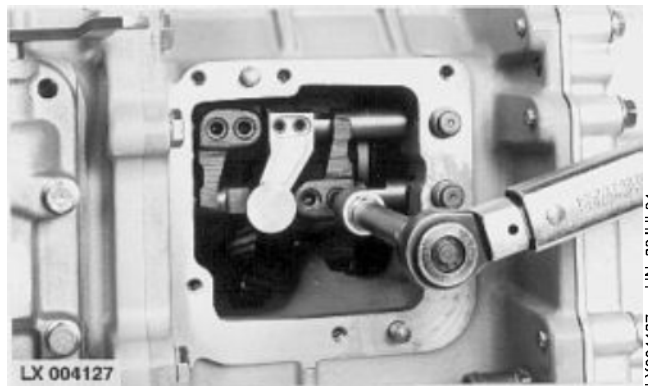
*NOTE: Pay attention when using the bolts with the indicated resistance grade.*

Resistance grade 8.8 5.5 Kg.m (55 N.m, 40 lb-ft)  
Resistance grade 10.9 7.0 Kg.m (70 N.m, 50 lb-ft)



AG,LT04177,365 -19-10NOV98-2/5

Adjusting the gear mechanism (see Section 50, Group 15).



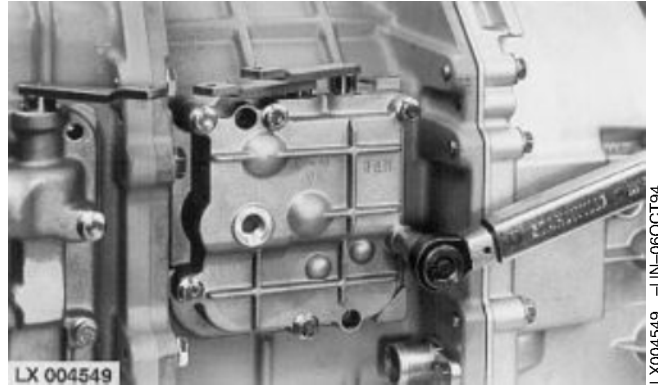
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AG,LT04177,365 -19-10NOV98-3/5

## Separating and Installing Transmission Components

Put a new joint (A) on the gearshift box cover and install the gearshift cover. Tighten the bolts to 3.0 Kg.m (30 N.m, 22 lb-ft).

Then adjust the engine starter safety switch (see Section 50, Group 15 ).



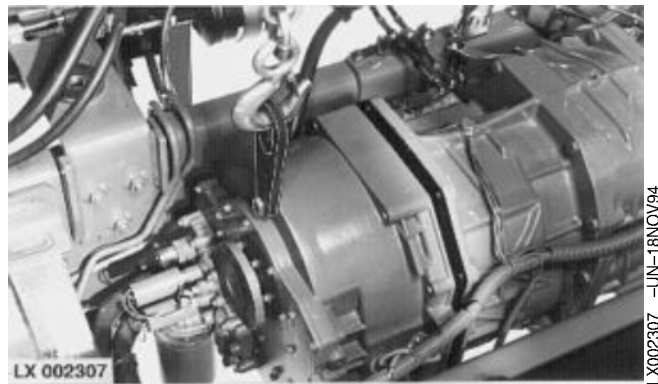
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Connect the transmission box return tubing.

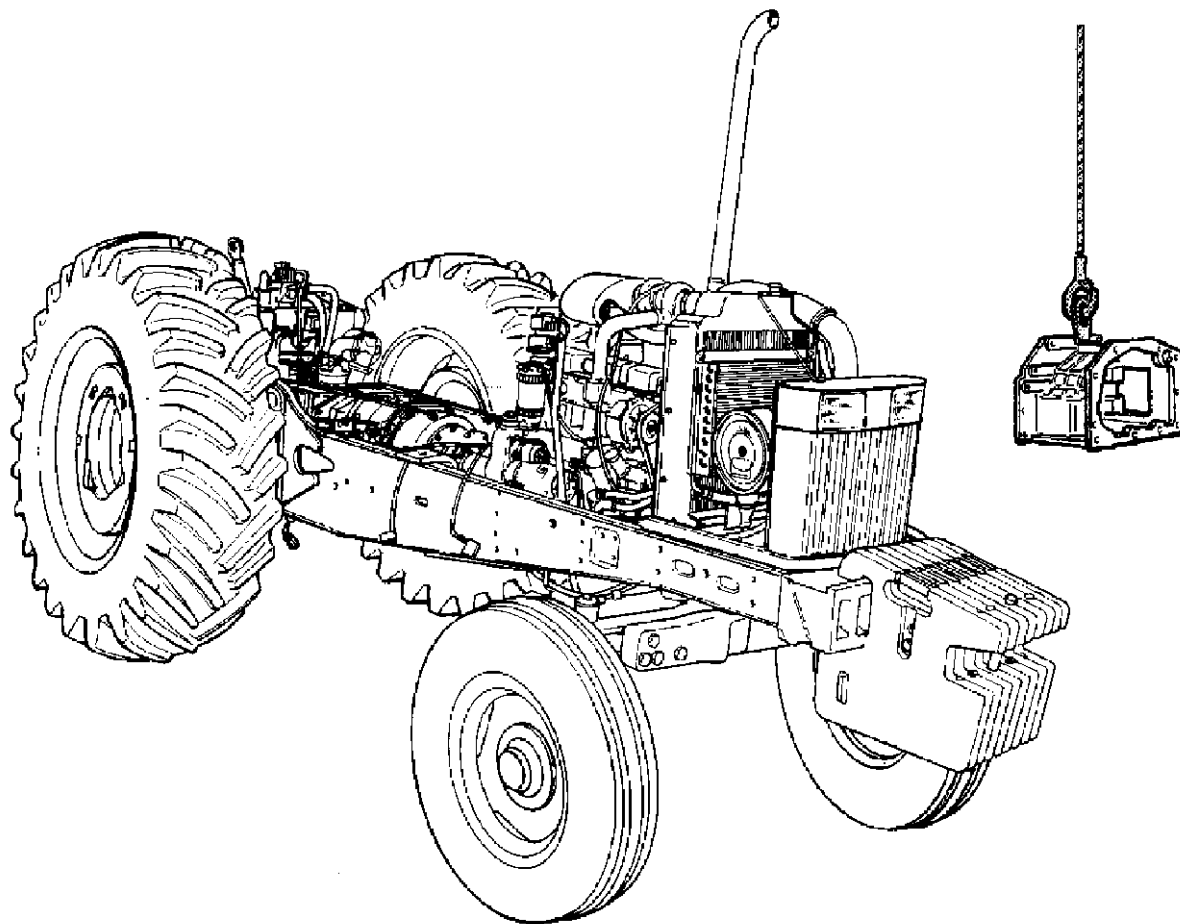
Install the clutch box. See "Installing the Synchroplus clutch box".



AG.LT04177,365 -19-10NOV98-5/5

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## Removing the Group Box



**CQ168160**

CQ168160 -UN-09DEC98

AG,LT04177,366 -19-10NOV98-1/1

## Removing the Group Box

Remove the gear box. See "Removing the Syncroplus Transmission Box" .

*NOTE: The group box removal operation is made easier by first removing the operation platform.*

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AG,LT04177,367 -19-10NOV98-1/2

Remove the front wheel drive clutch. See “Removing the front wheel drive clutch” in Section 56, Group 00.

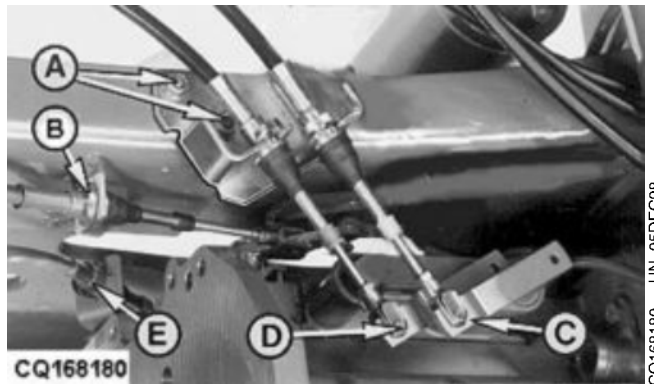


AG.LT04177,367 -19-10NOV98-2/2

### Removing the Activating Cables

Disconnect the activating cables from the gearshift box cover levers.

- A - Support
- B - PARK cables
- C - Groups A and B
- D - Groups C and D



AG.LT04177,368 -19-10NOV98-1/3

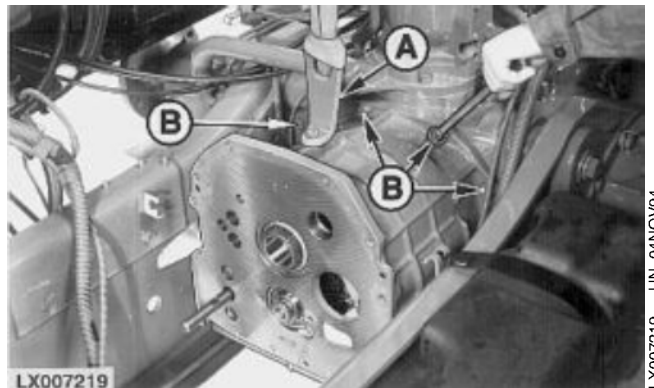
Remove the gearshift cover (A) and loosen the shift fork Allen bolts.



AG.LT04177,368 -19-10NOV98-2/3

Fix the JD244-2 (A) lifting ring to the group box with bolt. Remove the bolts (B) and remove the box forward.

**⚠ CAUTION: The group box is heavy and difficult to handle. Therefore an adequate lifting device (tackle) is required, and when removing it from the tractor, get help from another person.**



AG.LT04177,368 -19-10NOV98-3/3

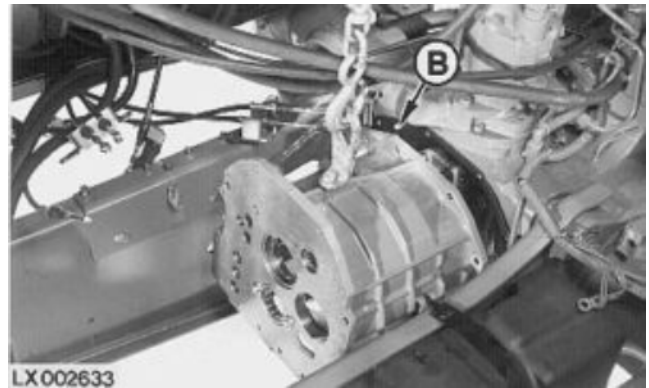
## Installing the Group Box

Thoroughly clean the sealing surfaces. Put a new joint (A).

*NOTE: Before reinstalling the group box it is recommended that the front wheel drive clutch flange be cleaned*

Using an adequate lifting device, move the group box towards the differential box.

Apply even pressure and push the differential box center pins (B) into the corresponding housings on the group box.



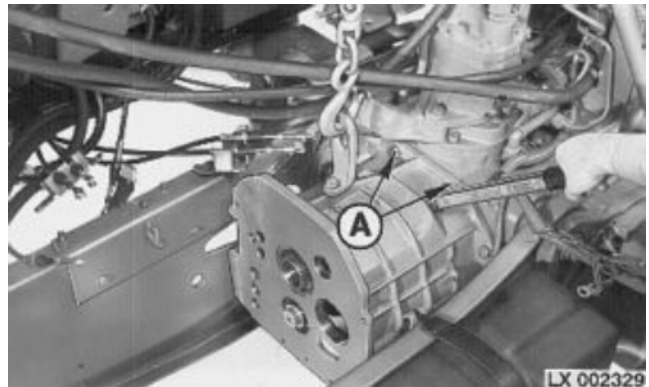
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Thread the bolts (A) and tighten them to the specified torque.

*NOTE: Pay attention when using the bolts with the indicated resistance grade.*

Resistance grade 8.8.....5.5 Kg.m (55 N.m, 40 lb-ft)

Resistance grade 10.9 7.0.....Kg.m (70 N.m, 50 lb-ft)



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## Gearshift Forks

To adjust the gearshift shafts and forks (see Group 30 in this section).

Continued on next page

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**Suggest:**

**If the above button click is invalid.**

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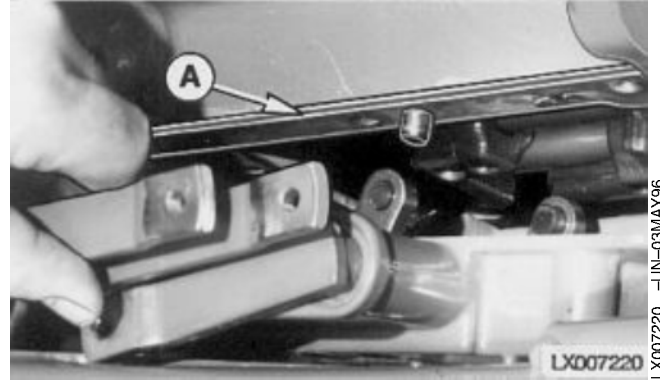
**Thank you so much for reading**

## Separating and Installing Transmission Components

Install a new joint (A) for the gearbox gearshift cover.

Install the shift cover. Tighten the bolts to 3.0 kg.m (30 N.m, 22 lb-ft).

**NOTE:** Look through the open window on the front wheel drive clutch box and see if the control shaft pivots are correctly housed in the spaces provided on the group box forks.



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Install the gear box. See “Installing the Synchroplus Transmission Box” .



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Install the front wheel drive (MFWD) shaft, if fitted. See Section 56, Group 00).

**NOTE:** Use LOCTITE 574 liquid sealant.

**IMPORTANT: Do not use silicone glue to seal between the parts.**

To finish the installation, invert the sequence of the separation steps.

The tightening torque for the MFWD clutch bolts to the group box is of 40 Nm (4 Kg.m; 30 lb-ft).



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