

# 6120 to 6420 and 6120L to 6520L Tractors Repair

## TECHNICAL MANUAL 6120 to 6420 and 6120L to 6520L Tractors Repair

TM4647 01DEC05 (ENGLISCH)

For complete service information also see:

6120 to 6420 and 6120L to 6520L Tractors Operation and Tests .....	TM4646
6120 to 6420 and 6120L to 6520L Tractors Diagnostics .....	TM4733
Front-Wheel Drive Axles - AS and MS Series .....	CTM4687
Front-Wheel Drive Axles - 700 Series .....	CTM4820
POWERTECH™ Diesel Engines .....	CTM104
Mechanical Fuel Injection Systems .....	CTM207
Electronic Fuel Injection Systems (Level 4) .....	CTM170
Electronic Fuel Injection Systems (Level 1) .....	CTM284
Electronic Fuel Injection Systems (Level 11) .....	CTM220
Electronic Fuel Injection Systems (Level 12) .....	CTM331
Alternators and Starting Motors .....	CTM77

**John Deere Werke Mannheim**

North American Version  
LITHO IN U.S.A.

# Introduction

## Foreword

This "Repair" manual is valid for the following tractor types:

**6120, 6220, 6320 and 6420**

**6120L, 6220L, 6320L, 6420L, 6520L**

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.



This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to potential for personal injury.

Technical Manuals are concise guides for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing and repair.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.

LX24888,00004EE -19-01DEC02-1/1

## Version Date

**01 December 2005**

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# Section 05 SAFETY

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### Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



T81389 -UN-07DEC88

DX,ALERT -19-29SEP98-1/1

### ”Important” Information

Information marked as IMPORTANT points out problems that may lead to machine damage. By following the directions given, these problems can be avoided.

LX,CRA05 002885 -19-09APR92-1/1

### ”Note” Information

When marked with NOTE the information given is more detailed or contains restrictions to directions given previously. On the other hand useful information may be given belonging to certain instructions without being directly connected to them.

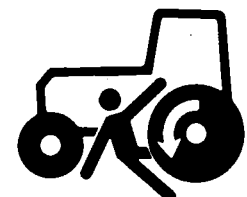
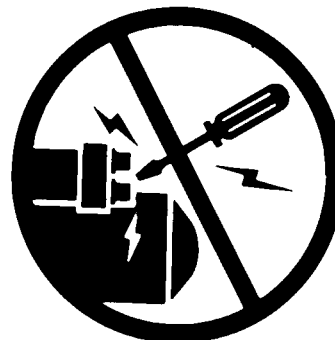
LX,CRA05 002886 -19-09APR92-1/1

### Prevent Machine Runaway

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator’s seat, with transmission in neutral or park.



TS177 -UN-11JAN89

DX,BYPAS1 -19-29SEP98-1/1

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### Handle Fluids Safely—Avoid Fires

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.



TS227 -UN-23AUG88

DX,FLAME -19-29SEP98-1/1

### Prevent Battery Explosions

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).



TS204 -UN-23AUG88

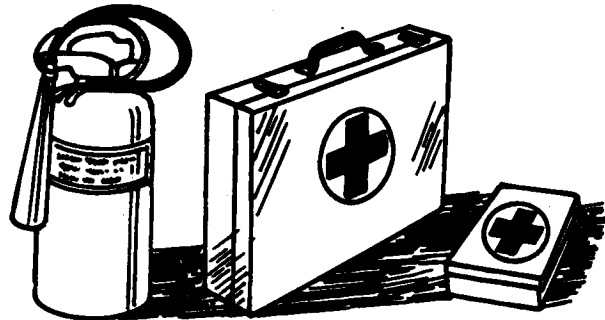
DX,SPARKS -19-03MAR93-1/1

### Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



TS291 -UN-23AUG88

DX,FIRE2 -19-03MAR93-1/1

## Prevent Acid Burns

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

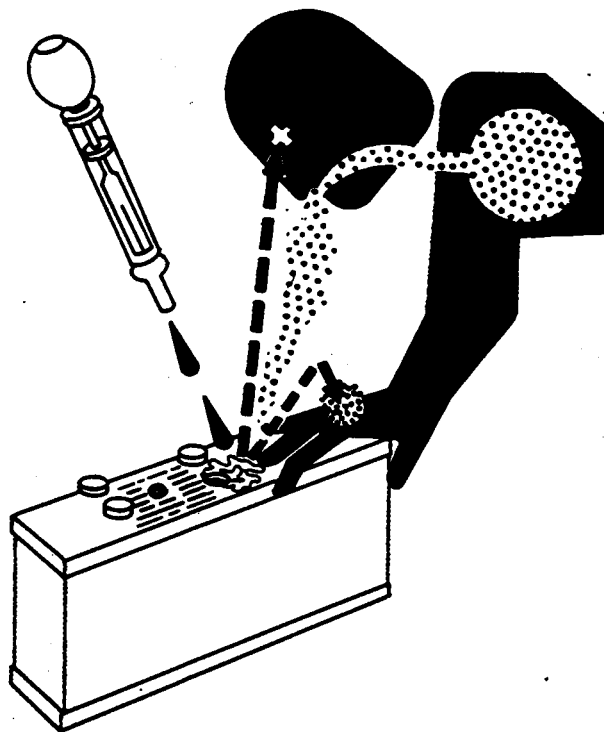
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 quarts).
3. Get medical attention immediately.



TS203 -UN-23AUG88

DX,POISON -19-21APR93-1/1

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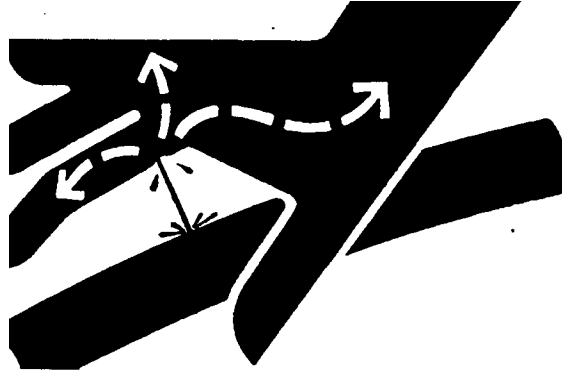
## Avoid High-Pressure Fluids

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811 -UN-23AUG88

DX,FLUID -19-03MAR93-1/1

## Service Cooling System Safely

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.



TS281 -UN-23AUG88

DX,RCAP -19-04JUN90-1/1

## Remove Paint Before Welding or Heating

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

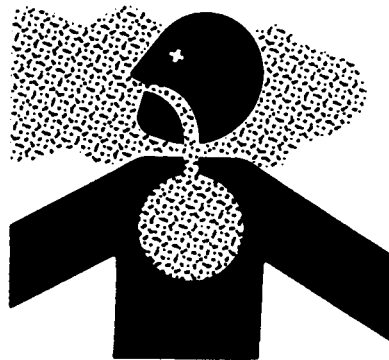
Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.

Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.



TS220 -UN-23AUG88

DX,PAINT -19-24JUL02-1/1

## Avoid Heating Near Pressurized Fluid Lines

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.



TS953 -UN-15MAY90

DX,TORCH -19-10DEC04-1/1

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### Work In Ventilated Area

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area



TS220 -UN-23AUG88

DX,AIR -19-17FEB99-1/1

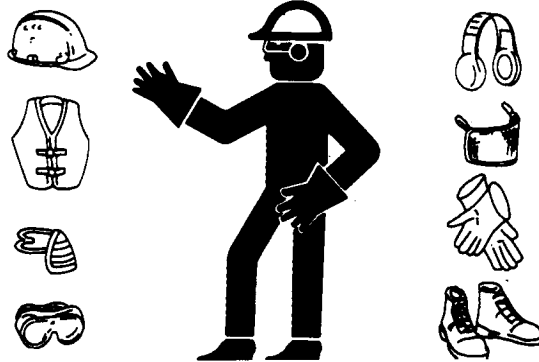
### Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



TS206 -UN-23AUG88

DX,WEAR -19-10SEP90-1/1

## **Tractor Operation Check**

Check power train, steering and brakes, hydraulic system and operator's cab as described in the Operator's Manual.

Refer to the relevant Group of the Technical Manual in the event of any malfunction.

AG,LX25458,216 -19-12JAN00-1/1

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*Tune-Up*

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## Predelivery Inspection

The first page in the Service Record, which is titled “Delivery Certificate”, when properly filled out and signed by the dealer and customer, verifies that predelivery and delivery services were satisfactorily performed.

When delivering the tractor, give the customer a “Service Record” booklet with a copy of the plate that bears the product identification number and sub-assembly serial numbers, plus the relevant Operator’s Manual. Be sure to explain their purposes to him.

Because of the shipping factors involved, plus extra finishing touches necessary to promote customer satisfaction, there are certain predelivery services that must be performed by the dealer. The page in the Service Record booklet titled “Predelivery Inspection” lists the checks, adjustments and service jobs already performed at the factory, which the dealer has to recheck.

Perform all the checks and service jobs listed, and tick them off on the page titled “Delivery Check List”. When completely filled out and signed, this page certifies that the proper delivery service has been carried out.

Make three copies of the plate that bears the product identification number and sub-assembly serial numbers.

The *first* copy is intended for the John Deere dealer, the *second* copy is for the servicing dealer and the *third* copy should be attached to the “Service Record” booklet.

The plate bearing the product identification number and sub-assembly serial numbers must be attached to the left-hand side (as viewed in direction of travel; see arrow).





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