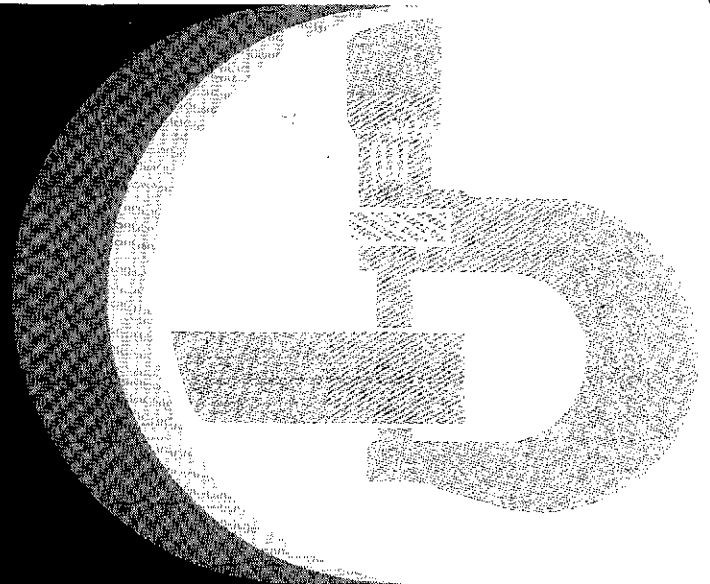


# **1350, 1550, 1750, 1850, 1850N, 1950 and 1950N Tractors**



**John Deere Werke Mannheim**  
**TM4437(Jan-91)**  
Printed in Germany (English)

## 1350, 1550, 1750, 1850, 1850 N, 1950 AND 1950 N TRACTORS TECHNICAL MANUAL TM4437 (JUN-90)

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- 15 – MC1 cab
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INHALT-LB402AE-010389

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## **SAFETY AND YOU**

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



**T 81389**

T81389;053;TMSAFE 19 07OCT85

## **IMPORTANT**

The IMPORTANT message identifies potential problems which may cause consequential damage to machine. Following recommended procedure will instruct technician how to avoid problem.

A68;N01;0000 19 U 05NOV82

## **NOTES**

The word NOTE is followed by a statement that identifies a qualification or exception to a previous statement. A "NOTE" may also identify nice-to-know information pertinent to, but not directly related to previous statement.

A68; N01;0000 19 V 05NOV82

## OBSERVE SAFETY RULES

Avoid loose clothing that can catch in moving parts and put you out of work.

Wear your safety glasses while on the job.

Avoid working on equipment with the engine running. If it is necessary to make checks with the engine running, **ALWAYS USE TWO PEOPLE** – with the operator, at the controls, able to see the person doing the checking. Also, put the transmission in neutral, set the brake, and apply safety locks provided. **KEEP HANDS AWAY FROM MOVING PARTS.**

Keep transmission and brake control units properly adjusted at all times. Before making adjustments, stop engine.

Before removing any housing covers, stop engine. Take all objects from your pockets which could fall into the opened housings. Don't let adjusting wrenches fall into opened housings.

Don't attempt to check belt tension while the engine is running.

Don't adjust the fuel system while the machine is in motion.

Before repairing the electrical system, or performing a major overhaul, make sure the batteries are disconnected.

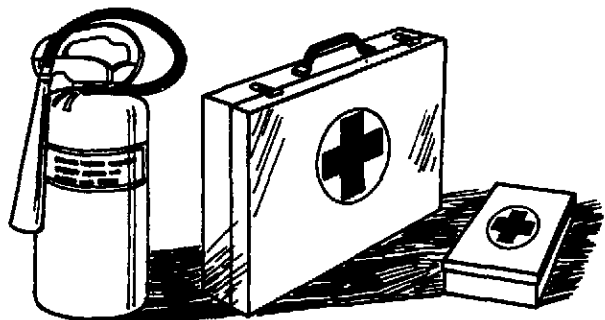
A68; N01;0000 19 S 05NOV82

## 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.



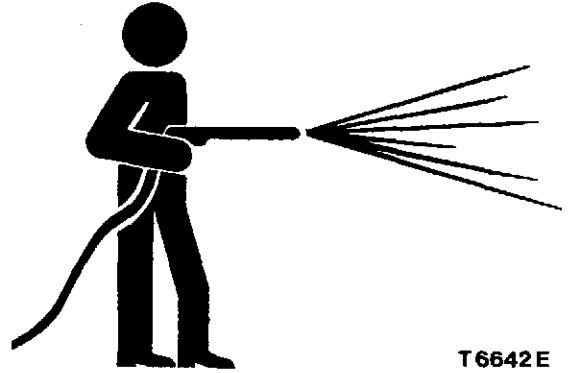
L 114 052

L114052;053;FIR2 19 15MAR89

## WORK IN CLEAN AREA

Before starting a job:

- Clean work area and machine.
- Make sure you have all necessary tools to do your job.
- Have the right parts on hand.
- Read all instructions thoroughly; do not attempt shortcuts.



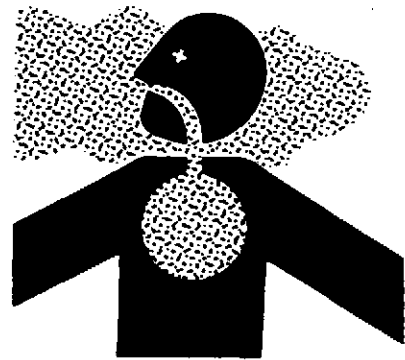
T 6642 E

T6642E;053;CLEAN 19 19JAN88

## 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.



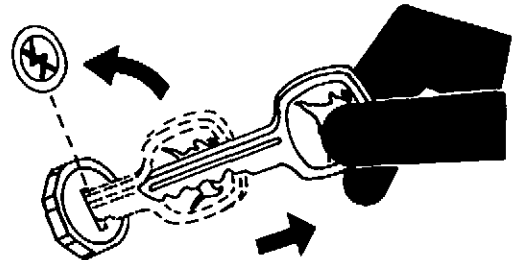
TS 220

TS220;053;AIR 19 05JAN88

## PARK MACHINE SAFELY

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.



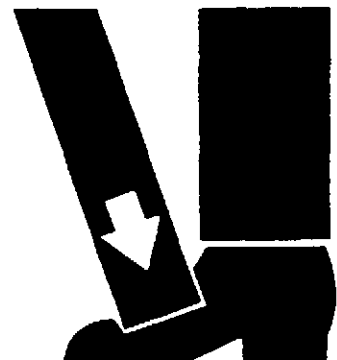
TS 230

TS230;053;PARK 19 05JAN88

## USE PROPER LIFTING EQUIPMENT

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



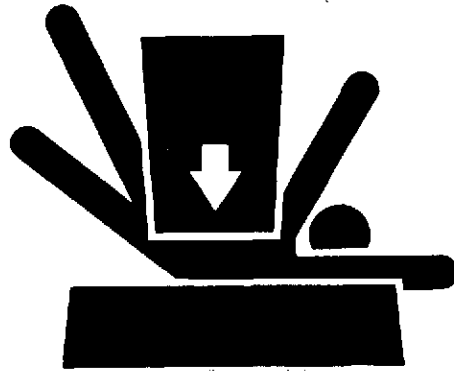
TS 226

TS226;053;LIFT 19 05JAN88

## SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

Do not support the machine on cinder blocks, hollow tiles or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

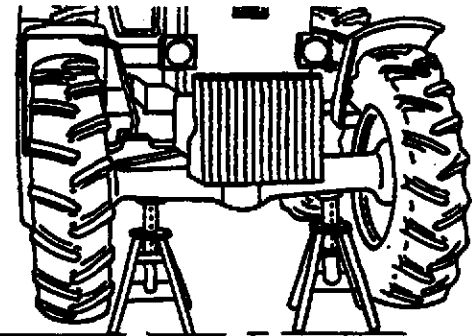


TS 229

TS229;053;LOWER 19 21DEC87

## SERVICE FRONT-WHEEL DRIVE TRACTOR SAFELY

When servicing front-wheel drive tractor with the rear wheels supported off the ground and rotating wheels by engine power, always support front wheels in a similar manner. Loss of electrical power or transmission/hydraulic system pressure will engage the front driving wheels, pulling the rear wheels off the support if front wheels are not raised. Under these conditions, front drive wheels can engage even with switch in disengaged position.



L114050

L114050-ESPDAE-140388

## PREVENT MACHINE RUNAWAY

Avoid possible injury or death from a machine runaway.

Do not start the 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 the transmission in neutral or "Park".



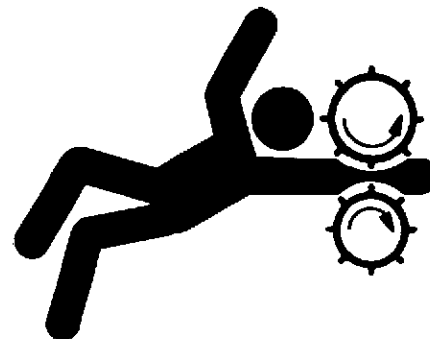
TS177

TS177;053;BYPAS 19 21MAY85

## SERVICE MACHINE SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



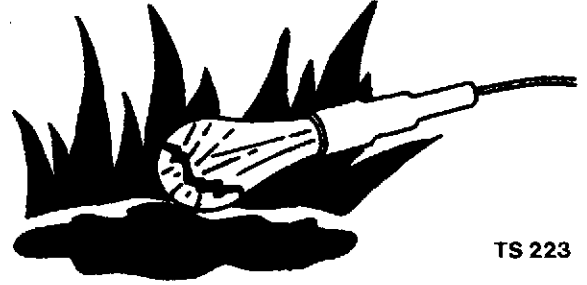
TS 228

TS228;053;LOOSE 19 21DEC87

## UNDERSTAND CORRECT SERVICE

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.

Catch draining fuel, oil, or other fluids into suitable containers. Do not use food or beverage containers that may mislead someone into drinking from them. Wipe up spills at once.



TS 223

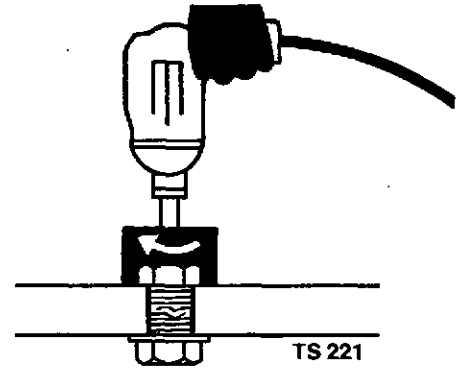
TS223.053;LIGHT 19 23FEB88

## USE TOOLS PROPERLY

Use tools appropriate to the work. Makeshift tools, parts, and procedures will not make good repairs.

Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use such tools to tighten fasteners, especially on light alloy parts.

Use only replacement parts meeting John Deere specifications.



TS 221

TS221.053;REPAIR 19 21DEC87

## 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.



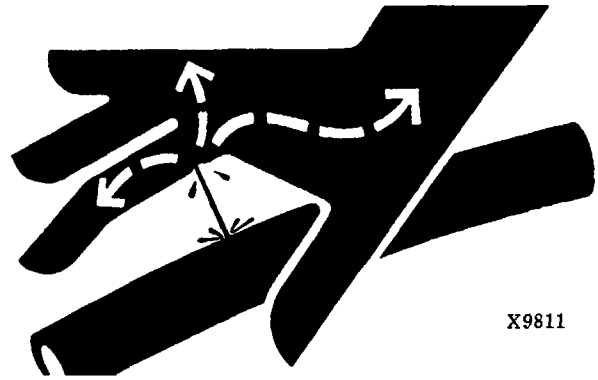
TS 227

TS227.053;FLAME 19 05JAN88

## AVOID HIGH-PRESSURE FLUIDS

Escaping fluid (fuel or hydraulic oil) under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard to search for leaks.

If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury, or gangrene may result.



X9811

X9811;053;FLUID 19 18SEP87

## REMOVE PAINT BEFORE WELDING OR HEATING

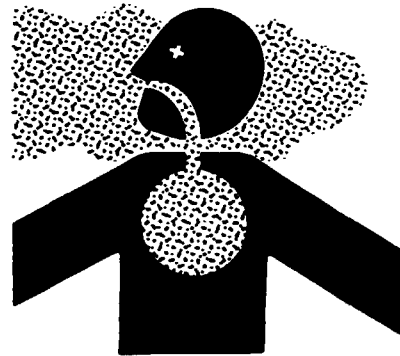
Avoid potentially toxic fumes and dust.

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

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- 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.



TS 220

TS220-ESPD AE-040690

## 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 lines or other flammable materials.

Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area. Install fire resisting guards to protect hoses or other materials.



TS 953

TS953-ESPAE-040690

## AVOID HARMFUL ASBESTOS DUST

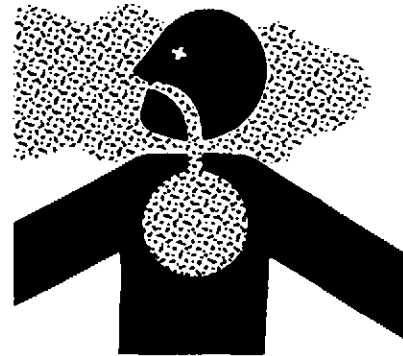
Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

Components in John Deere products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding of asbestos-containing materials. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, wet the asbestos-containing materials with a mist of oil or water.

Keep bystanders away from the area.

Please note designations on spare parts.



TS 220



L 114 051

TS220,L114051;053;DUST 19 14APR88

## 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:

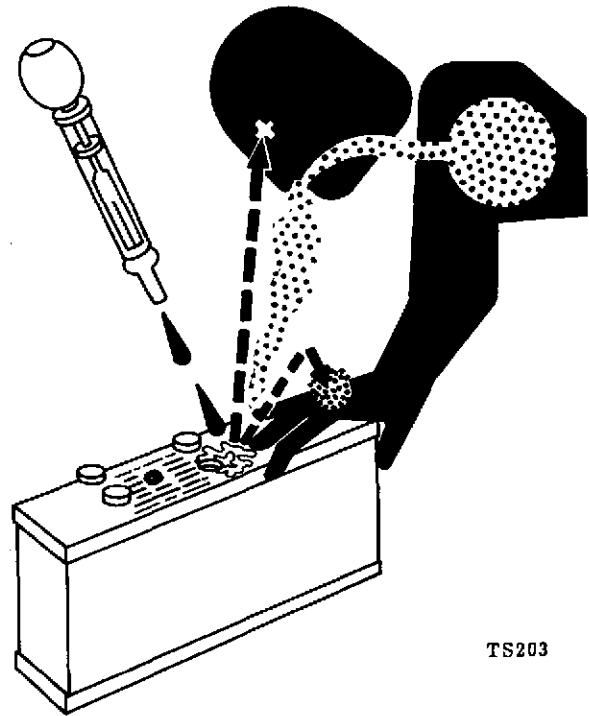
1. Filling the batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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 10 – 15 minutes.
- Get medical attention immediately.

If acid is swallowed:

1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs or vegetable oil.
3. Get medical attention immediately.



TS203

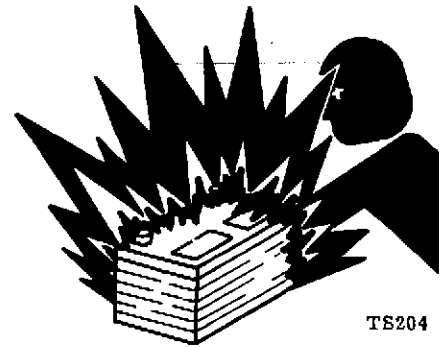
TS203;053;POISON 19 21DEC87

## 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

TS204;053;SPARKS 19 28JUN88

## SERVICE TIRES SAFELY

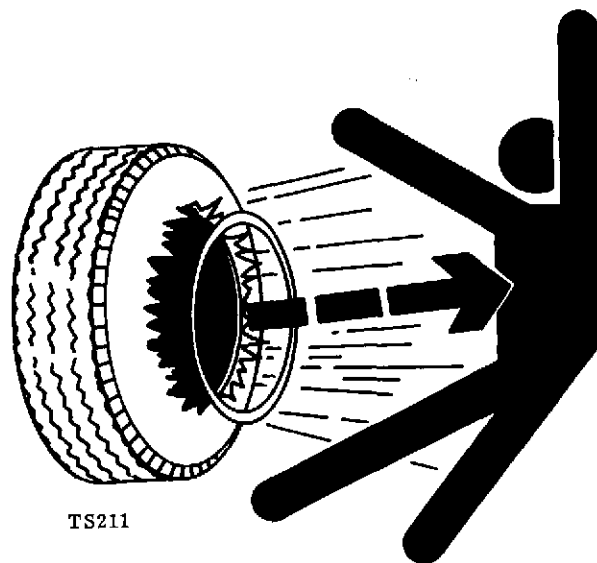
Explosive separation of a tire and rim parts can cause serious injury or death.

Only attempt to mount a tire if you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate tires above the recommended pressure.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



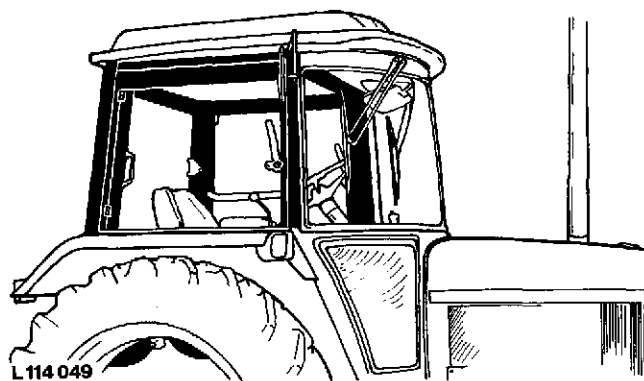
TS211

TS211;053;RIM 19 21DEC87

## KEEP CAB/ROPS INSTALLED PROPERLY

Make certain all parts are reinstalled correctly if the cab or roll-over protective structure (ROPS) is loosened or removed for any reason. Tighten mounting bolts to specified torque.

Protection offered by cab or ROPS is impaired if subjected to structural damage, is involved in an overturn incident or is altered in any way by welding, bending, drilling or cutting. A damaged cab or ROPS should be replaced, not reused.



L 114 049

L114049;053;ROPS 19 15MAR89

## REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



TS201

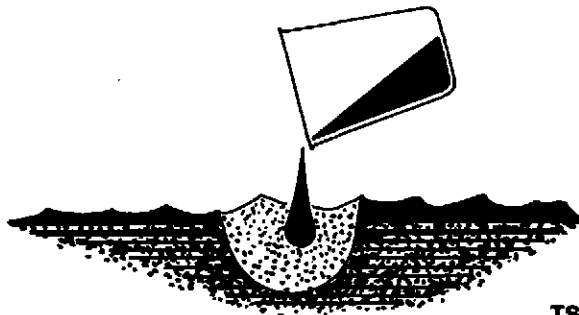
TS201;053;SIGNS1 19 22DEC87

## **OBSERVE ENVIRONMENTAL PROTECTION REGULATIONS**

Be mindful of the environment and ecology.

Before draining any fluids, find out the correct way of disposing of them.

Observe the relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters and batteries.



**TS 222**

TS222-ESPDAE-140388

## Section 10 GENERAL

### 05 – SPECIFICATIONS

|                                              |       | 1350 | 1550 | 1750 | 1850 | 1850N | 1950 | 1950N |
|----------------------------------------------|-------|------|------|------|------|-------|------|-------|
| Specifications .....                         | 05-1  | x    | x    | x    | x    | x     | x    | x     |
| – Serial number plates .....                 | 05-1  | x    | x    | x    | x    | x     | x    | x     |
| – Product identification number .....        | 05-1  | x    | x    | x    | x    | x     | x    | x     |
| – Engine serial number .....                 | 05-1  | x    | x    | x    | x    | x     | x    | x     |
| – Transmission serial number .....           | 05-2  | x    | x    | x    | x    | x     | x    | x     |
| – Front wheel drive axle serial number ..... | 05-2  | x    | x    | x    | x    | x     | x    | x     |
| – MC1 cab serial number .....                | 05-3  |      | x    | x    | x    |       | x    |       |
| – Model serial numbers .....                 | 05-3  | x    | x    | x    | x    | x     | x    | x     |
| – Engine .....                               | 05-4  | x    | x    | x    | x    | x     | x    | x     |
| – Engine clutch .....                        | 05-6  | x    | x    | x    | x    | x     | x    | x     |
| – Cooling system .....                       | 05-6  | x    | x    | x    | x    | x     | x    | x     |
| – Fuel system .....                          | 05-6  | x    | x    | x    | x    | x     | x    | x     |
| – Electrical system .....                    | 05-6  | x    | x    | x    | x    | x     | x    | x     |
| – Synchronized transmission .....            | 05-6  | x    | x    | x    | x    | x     | x    | x     |
| – Collar shift transmission .....            | 05-6  | x    | x    | x    | x    |       |      |       |
| – Hi-Lo shift unit .....                     | 05-7  | x    | x    | x    | x    | x     | x    |       |
| – Creeper transmission .....                 | 05-7  | x    | x    | x    | x    | x     | x    |       |
| – Differential and final drives .....        | 05-7  | x    | x    | x    | x    | x     | x    |       |
| – Differential lock .....                    | 05-7  | x    | x    | x    | x    | x     | x    |       |
| – Independent PTO .....                      | 05-7  | x    | x    | x    | x    | x     | x    |       |
| – Continuous-running PTO .....               | 05-7  | x    | x    | x    | x    |       |      |       |
| – Front PTO .....                            | 05-8  |      |      |      |      |       | x    |       |
| – PTO speeds .....                           | 05-8  | x    | x    | x    | x    | x     | x    |       |
| – Front wheel drive .....                    | 05-8  |      | x    | x    | x    | x     | x    |       |
| – Power steering .....                       | 05-8  |      | x    | x    | x    | x     | x    |       |
| – Manual steering .....                      | 05-8  | x    | x    | x    | x    | x     | x    |       |
| – Foot brakes .....                          | 05-8  | x    | x    | x    | x    | x     | x    |       |
| – Hand brake .....                           | 05-9  | x    | x    | x    | x    | x     | x    |       |
| – Hydraulic system .....                     | 05-9  | x    | x    | x    | x    | x     | x    |       |
| – Rockshaft .....                            | 05-9  | x    | x    | x    | x    | x     | x    |       |
| – Ground travel speeds .....                 | 05-9  | x    | x    | x    | x    | x     | x    |       |
| – Front and rear wheels .....                | 05-9  | x    | x    | x    | x    | x     | x    |       |
| – Dimensions and weights .....               | 05-9  | x    | x    | x    | x    | x     | x    |       |
| – Capacities .....                           | 05-10 | x    | x    | x    | x    | x     | x    |       |
| – Standard torques for hardware .....        | 05-11 | x    | x    | x    | x    | x     | x    |       |

ALLGEM-LB41001AE-010389

# 10 – PREDELIVERY, DELIVERY AND AFTER-SALES INSPECTIONS

|                              |       | 1350 | 1550 | 1750 | 1850 | 1850N | 1950 | 1950N |
|------------------------------|-------|------|------|------|------|-------|------|-------|
| Special tools .....          | 10-1  | x    | x    | x    | x    | x     | x    | x     |
| Specifications .....         | 10-1  | x    | x    | x    | x    | x     | x    | x     |
| Capacities .....             | 10-2  | x    | x    | x    | x    | x     | x    | x     |
| Torques for hardware .....   | 10-3  | x    | x    | x    | x    | x     | x    | x     |
| Predelivery inspection ..... | 10-4  | x    | x    | x    | x    | x     | x    | x     |
| Delivery inspection .....    | 10-25 | x    | x    | x    | x    | x     | x    | x     |
| After-sales inspection ..... | 10-26 | x    | x    | x    | x    | x     | x    | x     |

# 15 – LUBRICATION AND SERVICE

|                                                              |       |   |   |   |   |   |   |   |
|--------------------------------------------------------------|-------|---|---|---|---|---|---|---|
| Capacities and service intervals .....                       | 15-1  | x | x | x | x | x | x | x |
| Lubricants and service intervals .....                       | 15-2  | x | x | x | x | x | x | x |
| General .....                                                | 15-3  | x | x | x | x | x | x | x |
| Engine oil .....                                             | 15-3  | x | x | x | x | x | x | x |
| Transmission/hydraulic oil .....                             | 15-4  | x | x | x | x | x | x | x |
| Oil for front wheel drive axle .....                         | 15-4  |   | x | x | x | x | x | x |
| EP multi-purpose grease .....                                | 15-5  | x | x | x | x | x | x | x |
| Storing lubricants .....                                     | 15-5  | x | x | x | x | x | x | x |
| Engine coolant .....                                         | 15-6  | x | x | x | x | x | x | x |
| Checking engine oil level .....                              | 15-6  | x | x | x | x | x | x | x |
| Changing engine oil .....                                    | 15-7  | x | x | x | x | x | x | x |
| Changing engine oil filter .....                             | 15-7  | x | x | x | x | x | x | x |
| Checking fuel filter .....                                   | 15-8  | x | x | x | x | x | x | x |
| Replacing fuel filter .....                                  | 15-8  | x | x | x | x | x | x | x |
| Replacing coolant .....                                      | 15-9  | x | x | x | x | x | x | x |
| Checking transmission/hydraulic<br>system oil level .....    | 15-10 | x | x | x | x | x | x | x |
| Changing transmission/hydraulic oil .....                    | 15-11 | x | x | x | x | x | x | x |
| Replacing transmission/hydraulic oil<br>filter element ..... | 15-12 | x | x | x | x | x | x | x |
| Replacing hydraulic oil return<br>flow filter .....          | 15-12 | x | x | x | x | x | x | x |

**15 – LUBRICATION AND SERVICE (Contd.)**

|                                                                                                | <b>1350</b> | <b>1550</b> | <b>1750</b> | <b>1850</b> | <b>1850N</b> | <b>1950</b> | <b>1950N</b> |
|------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|--------------|-------------|--------------|
| Cleaning hydraulic pump filter strainer . . . . . 15-13                                        | x           | x           | x           | x           | x            | x           | x            |
| Checking axle housing oil level . . . . . 15-13                                                |             | x           | x           | x           | x            | x           | x            |
| Checking oil level in wheel hub housings . . . . . 15-13                                       |             | x           | x           | x           | x            | x           | x            |
| Changing front axle oil . . . . . 15-14                                                        |             | x           | x           | x           | x            | x           | x            |
| Cleaning lubricating points . . . . . 15-14                                                    | x           | x           | x           | x           | x            | x           | x            |
| Lubricating clutch throw-out bearing . . . . . 15-14                                           | x           | x           | x           | x           | x            | x           | x            |
| Lubricating front axle and front wheels . . . . . 15-15                                        | x           | x           | x           | x           | x            | x           | x            |
| Lubricating universal-jointed drive shaft<br>(tractors with front wheel drive) . . . . . 15-16 |             | x           | x           | x           | x            | x           | x            |
| Lubricating rear axle bearings . . . . . 15-16                                                 | x           | x           | x           | x           | x            | x           | x            |
| Lubricating three-point hitch . . . . . 15-16                                                  | x           | x           | x           | x           | x            | x           | x            |
| Lubricating front PTO . . . . . 15-17                                                          |             |             |             |             |              | x           |              |

**20 - TUNE-UP**

|                                                           |       | 1350 | 1550 | 1750 | 1850 | 1850 N | 1950 | 1950 N |
|-----------------------------------------------------------|-------|------|------|------|------|--------|------|--------|
| Specifications .....                                      | 20-1  | x    | x    | x    | x    | x      | x    | x      |
| Preliminary engine testing .....                          | 20-3  | x    | x    | x    | x    | x      | x    | x      |
| Checking air cleaner element .....                        | 20-4  | x    | x    | x    | x    | x      | x    | x      |
| Checking air intake system connections<br>for leaks ..... | 20-3  | x    | x    | x    | x    | x      | x    | x      |
| Checking crankcase vent tube for<br>dirt .....            | 20-4  | x    | x    | x    | x    | x      | x    | x      |
| Cleaning radiator side panels and<br>grille screens ..... | 20-4  | x    | x    | x    | x    | x      | x    | x      |
| Cleaning radiator and oil cooler .....                    | 20-5  | x    | x    | x    | x    | x      | x    | x      |
| Checking radiator cap .....                               | 20-5  | x    | x    | x    | x    | x      | x    | x      |
| Checking cooling system for leaks .....                   | 20-5  | x    | x    | x    | x    | x      | x    | x      |
| Checking thermostat .....                                 | 20-6  | x    | x    | x    | x    | x      | x    | x      |
| Checking fuel transfer pump .....                         | 20-6  | x    | x    | x    | x    | x      | x    | x      |
| Checking fuel filter .....                                | 20-6  | x    | x    | x    | x    | x      | x    | x      |
| Checking fuel tank .....                                  | 20-7  | x    | x    | x    | x    | x      | x    | x      |
| Checking water trap .....                                 | 20-7  | x    | x    | x    | x    | x      | x    | x      |
| Checking fuel injection pump<br>adjustment .....          | 20-7  | x    | x    | x    | x    | x      | x    | x      |
| Checking engine slow and fast<br>idle speeds .....        | 20-8  | x    | x    | x    | x    | x      | x    | x      |
| Checking speed control linkage<br>adjustment .....        | 20-8  | x    | x    | x    | x    | x      | x    | x      |
| Checking batteries .....                                  | 20-9  | x    | x    | x    | x    | x      | x    | x      |
| Checking fan belt tension .....                           | 20-9  | x    | x    | x    | x    | x      | x    | x      |
| Checking operation of start safety<br>switch .....        | 20-10 | x    | x    | x    | x    | x      | x    | x      |
| Checking operation of starting<br>motor .....             | 20-10 | x    | x    | x    | x    | x      | x    | x      |
| Checking lighting system .....                            | 20-10 | x    | x    | x    | x    | x      | x    | x      |
| Final engine check .....                                  | 20-11 | x    | x    | x    | x    | x      | x    | x      |
| Checking tractor operation .....                          | 20-11 | x    | x    | x    | x    | x      | x    | x      |

**25 – TRACTOR SEPARATION**

|                                                         |       | <b>1350</b> | <b>1550</b> | <b>1750</b> | <b>1850</b> | <b>1850M</b> | <b>1950</b> | <b>1950M</b> |
|---------------------------------------------------------|-------|-------------|-------------|-------------|-------------|--------------|-------------|--------------|
| Special tools .....                                     | 25-1  | x           | x           | x           | x           | x            | x           | x            |
| Specifications .....                                    | 25-6  | x           | x           | x           | x           | x            | x           | x            |
| Torques for hardware .....                              | 25-6  | x           | x           | x           | x           | x            | x           | x            |
| Capacities .....                                        | 25-8  | x           | x           | x           | x           | x            | x           | x            |
| Standard torques for hardware .....                     | 25-9  | x           | x           | x           | x           | x            | x           | x            |
| Important notes .....                                   | 25-12 | x           | x           | x           | x           | x            | x           | x            |
| Removing tractor front end .....                        | 25-13 | x           | x           | x           | x           | x            | x           | x            |
| Installing tractor front end .....                      | 25-20 | x           | x           | x           | x           | x            | x           | x            |
| Separating between engine and clutch housing .....      | 25-22 | x           | x           | x           | x           | x            | x           | x            |
| Joining tractor between engine and clutch housing ..... | 25-30 | x           | x           | x           | x           | x            | x           | x            |
| Removing engine .....                                   | 25-33 | x           | x           | x           | x           | x            | x           | x            |
| Installing engine .....                                 | 25-34 | x           | x           | x           | x           | x            | x           | x            |
| Removing clutch housing .....                           | 25-35 | x           | x           | x           | x           | x            | x           | x            |
| Installing clutch housing .....                         | 25-38 | x           | x           | x           | x           | x            | x           | x            |
| Removing transmission .....                             | 25-39 | x           | x           | x           | x           | x            | x           | x            |
| Installing transmission .....                           | 25-49 | x           | x           | x           | x           | x            | x           | x            |
| Removing final drives .....                             | 25-53 | x           | x           | x           | x           | x            | x           | x            |
| Installing final drives .....                           | 25-60 | x           | x           | x           | x           | x            | x           | x            |
| Removing rockshaft .....                                | 25-64 | x           | x           | x           | x           | x            | x           | x            |
| Installing rockshaft .....                              | 25-69 | x           | x           | x           | x           | x            | x           | x            |
| Removing front axle .....                               | 25-71 | x           | x           | x           | x           | x            | x           | x            |
| Installing front axle .....                             | 25-72 | x           | x           | x           | x           | x            | x           | x            |
| Removing front wheel drive axle .....                   | 25-74 |             | x           | x           | x           | x            | x           | x            |
| Installing front wheel drive axle .....                 | 25-76 |             | x           | x           | x           | x            | x           | x            |
| Removing MC1 cab .....                                  | 25-79 |             | x           | x           | x           |              | x           |              |
| Installing MC1 cab .....                                | 25-89 |             | x           | x           | x           |              | x           |              |
| Removing front PTO .....                                | 25-91 |             |             |             |             |              | x           |              |
| Installing front PTO .....                              | 25-93 |             |             |             |             |              | x           |              |

## **SPECIFICATIONS**

### **SERIAL NUMBER PLATES**

The following illustrations show the serial number plates for tractor major components. The letters and figures on these plates are required for warranty claims and when ordering replacement parts.

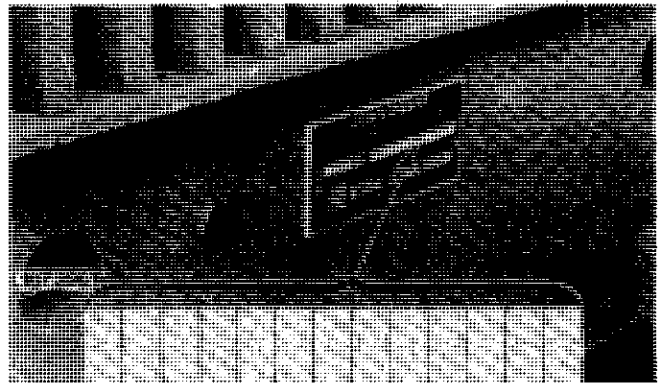
TECHDA-LA71005AE-180385

### **PRODUCT IDENTIFICATION NUMBER PLATE**

The product identification number plate is located on right-hand side of front axle carrier.

The chassis number is stamped in front axle carrier next to the identification number plate.

*NOTE: When ordering tractor parts (excluding engine parts), quote all letters and figures of serial number stamped on this plate.*

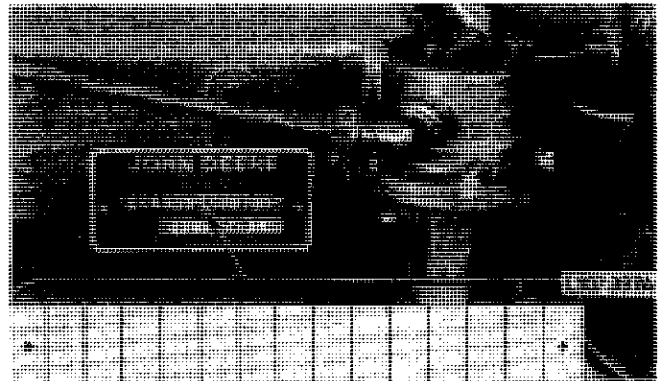


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### **ENGINE SERIAL NUMBER PLATE**

The engine serial number plate is located on right-hand side of engine block.

*NOTE: The engine serial number plate shows the engine type as well as the engine serial number. When ordering engine parts, quote all figures stamped on this plate.*



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### TRANSMISSION SERIAL NUMBER PLATE (Tractors Without Cab)

The transmission serial number plate is located on right-hand side of transmission case.

From tractor Serial No. 617 678L, an additional serial number plate is attached to left-hand side of dash.

*NOTE: In addition to serial number of transmission and transmission type, this serial number plate also specifies differential and front wheel drive gear ratios.*

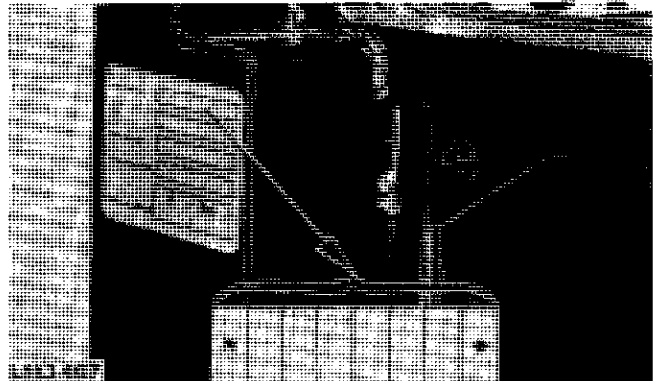


L112616, L119364-LB31005AE-010889

### TRANSMISSION SERIAL NUMBER PLATE (Tractors With MC1 Cab)

The transmission serial number plate is located on the right-hand side of the cowl and on the right-hand side of the transmission case.

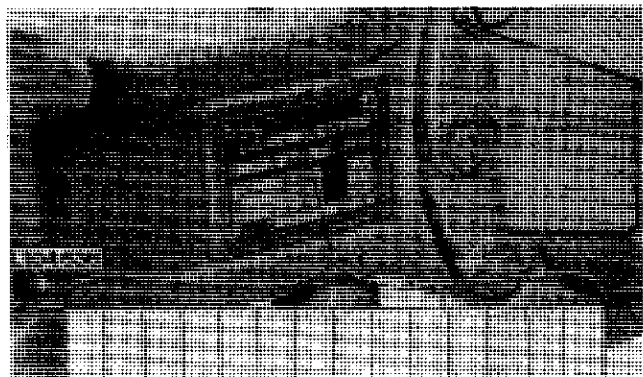
*NOTE: In addition to serial number of transmission and transmission type, this serial number plate also specifies differential and front wheel drive gear ratios.*



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### FRONT WHEEL DRIVE AXLE SERIAL NUMBER PLATE

Depending on the axle type, the front wheel drive axle serial number plate is located on rear of right-hand or left-hand axle half.



L104636-LB41005AE-010687

### **MC1 CAB SERIAL NUMBER PLATE**

The serial number plate is located on right-hand side of frame above the rear window.



L115039-LB31005AE-000287

### **MODEL SERIAL NUMBERS**

Fuel injection pump, fuel injection nozzles, alternator, starting motor and hydraulic pump have serial numbers to facilitate identification of different makes of a given unit.

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## ENGINE

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Number of cylinders .....                   | 3                                 |
| Cylinder liner bore .....                   | 106.5 mm (4.19 in.)               |
| Stroke .....                                | 110 mm (4.33 in.)                 |
| Displacement .....                          | 2940 cm <sup>3</sup> (179 cu.in.) |
| Compression ratio .....                     | 17.8 : 1                          |
| <b>Max. torque</b>                          |                                   |
| <b>With synchronized transmission</b>       |                                   |
| – 1350 at 1400 rpm .....                    | 134 Nm ( 98 ft-lb)                |
| – 1550 at 1300 rpm .....                    | 152 Nm (112 ft-lb)                |
| – 1750 at 1300 rpm .....                    | 185 Nm (136 ft-lb)                |
| – 1850 and 1850 N at 1300 rpm .....         | 195 Nm (143 ft-lb)                |
| – 1950 and 1950 N at 1500 rpm .....         | 230 Nm (170 ft-lb)                |
| <b>With collar shift transmission</b>       |                                   |
| – 1350 at 1400 rpm .....                    | 132 Nm ( 97 ft-lb)                |
| – 1550 at 1400 rpm .....                    | 150 Nm (110 ft-lb)                |
| – 1750 at 1400 rpm .....                    | 167 Nm (123 ft-lb)                |
| – 1850 and 1850 N at 1400 rpm .....         | 185 Nm (136 ft-lb)                |
| Firing order .....                          | 1–2–3                             |
| <b>Valve clearance (engine hot or cold)</b> |                                   |
| – Intake valve .....                        | 0.35 mm (0.014 in.)               |
| – Exhaust valve .....                       | 0.45 mm (0.018 in.)               |
| Slow idle speed .....                       | 750 to 850 rpm                    |
| <b>Fast idle speed</b>                      |                                   |
| <b>Synchronized transmission</b>            |                                   |
| – 1350, 1550, 1750, 1950 and 1950 N .....   | 2410 to 2510 rpm                  |
| – 1850 and 1850 N .....                     | 2510 to 2610 rpm                  |
| <b>Collar shift transmission</b>            |                                   |
| – 1350 and 1550 .....                       | 2510 to 2560 rpm                  |
| – 1750, 1850 and 1850 N .....               | 2610 to 2660 rpm                  |
| <b>Rated engine speed</b>                   |                                   |
| <b>Synchronized transmission</b>            |                                   |
| – 1350, 1550, 1750, 1950 and 1950 N .....   | 2300 rpm                          |
| – 1850 and 1850 N .....                     | 2400 rpm                          |
| <b>Collar shift transmission</b>            |                                   |
| – 1350 and 1550 .....                       | 2400 rpm                          |
| – 1750, 1850 and 1850 N .....               | 2500 rpm                          |

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