

**LX172, LX176,
LX178 and LX186
Lawn Tractors**
(Serial No. 010,001-)

**John Deere Horicon Works
OMM111804 Issue H0**

LITHO IN U.S.A.
ENGLISH

Introduction

THANK YOU for purchasing a John Deere product.

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are U.S. customary units and their metric equivalents.

RIGHT-HAND AND LEFT-HAND sides are determined by facing in the direction of forward travel.

WRITE IDENTIFICATION NUMBERS in the Specifications section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when

you order parts. If this manual is kept on the machine, also file the identification numbers in a secure place off the machine.

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate which you should have received from your dealer.

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied. Setting fuel delivery above specifications or otherwise overpowering machines will result in such action.



M72170
-UN-24JUL90

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A John Deere ILLUSTRATION™ Manual

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Safety

OPEI CERTIFICATION

This OPEI Label on your mower indicates that this model has been certified by an independent laboratory for compliance with American National Standard B-71.1-1986, "Safety Specifications" for Power Lawn Mowers, Lawn and Garden Tractors, and Lawn Tractors.



DX,CERT1 -19-04JUN90

TS288 -19-07OCT88

RECOGNIZE SAFETY INFORMATION

This is the 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.



DX,ALERT -19-04JUN90

T81389 -UN-07DEC88

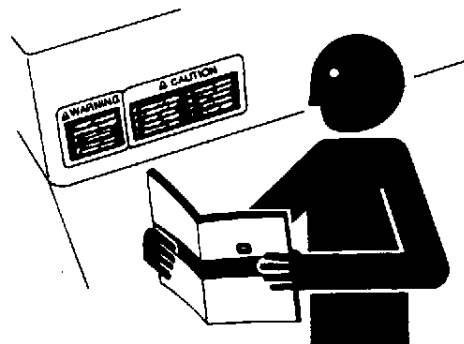
FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.



DX,READ -19-04JUN90

TS201 -UN-23AUG88



UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

▲ DANGER

▲ WARNING

▲ CAUTION

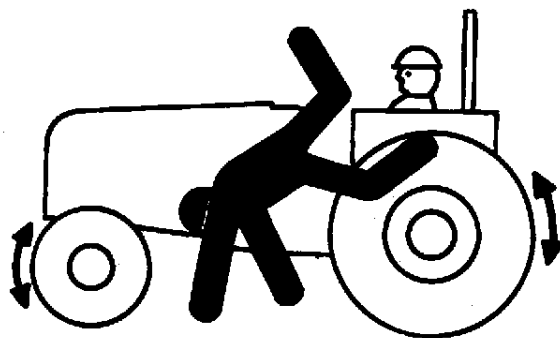
DX,SIGNAL -19-04JUN90

TS187 -19-30SEP88

KEEP RIDERS OFF MACHINE

Only allow the operator on the machine. Keep riders off.

Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.



DX,RIDER -19-04JUN90

TS290 -UN-23AUG88

PROTECT CHILDREN

Keep children and others away when you operate machine.

BEFORE YOU BACK UP:

- Stop the PTO.
- Look behind tractor for children.

Do not let children operate tractor.

Never carry children. Do not let children ride on tractor, mower, or any attachment.



MX,SAFM,A -19-07AUG90

MA1274 -UN-06SEP88



AVOID TIPPING

Do not drive where machine could slip or tip.

Stay alert for holes, rocks, and roots in the terrain, and other hidden hazards. Keep away from drop-offs.

Slow down before you make a sharp turn.

Use care when pulling loads or using heavy equipment.

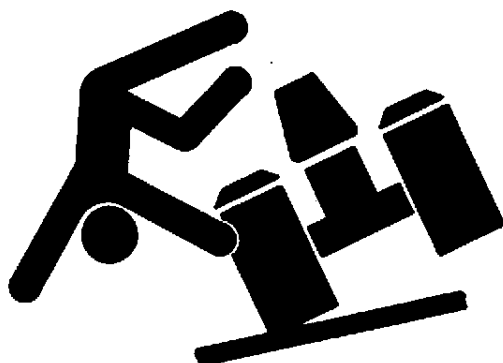
- Use only approved drawbar hitch points.
- Limit loads to those you can safely control.
- Use counterweights or wheel weights when suggested in this operator's manual.

Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing direction on slopes.

Do not stop or start suddenly when going uphill or downhill.

If machine stops going up hill:

- Stop the PTO.
- Back down slowly.



M41275 -UN-06SEP88

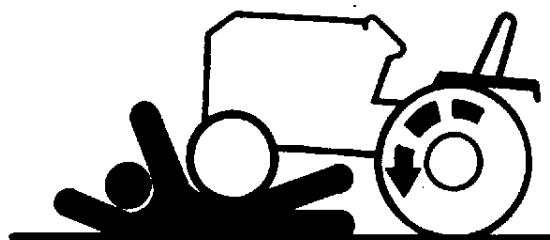
MX,SAFM,B -19-07AUG90

PARK TRACTOR SAFELY

To park tractor safely:

1. Stop tractor forward or rearward travel.
2. Disengage PTO's.
3. Lower equipment to the ground.
4. Engage park brake.
5. Stop the engine.
6. Remove ignition key.

Before you leave the operator's seat, wait for engine and attachment parts to stop moving.



M41273 -UN-06SEP88

MX,SAFM,C -19-07AUG90

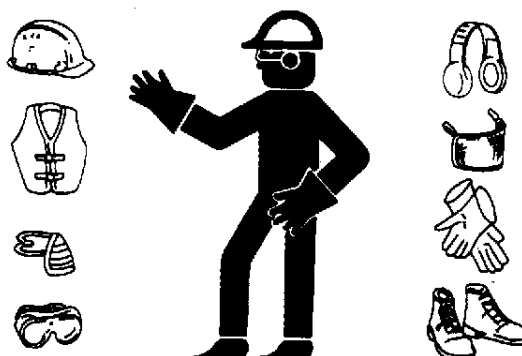


WEAR PROTECTIVE CLOTHING

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.



DX,WEAR -19-04JUN90

TS206 -UN-23AUG88

HANDLE FUEL SAFELY—AVOID FIRES

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.



DX,FIRE1 -19-04JUN90

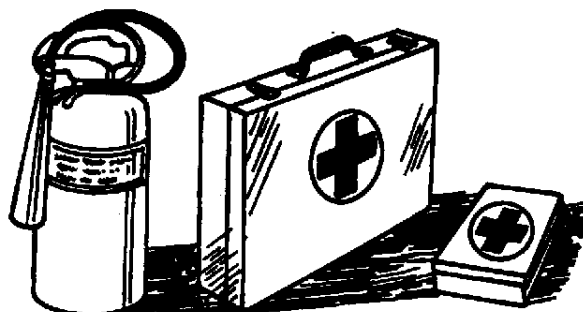
TS202 -UN-23AUG88

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.



DX,FIRE2 -19-04JUN90

TS291 -UN-23AUG88



PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate or service machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



DX,SERV -19-04JUN90

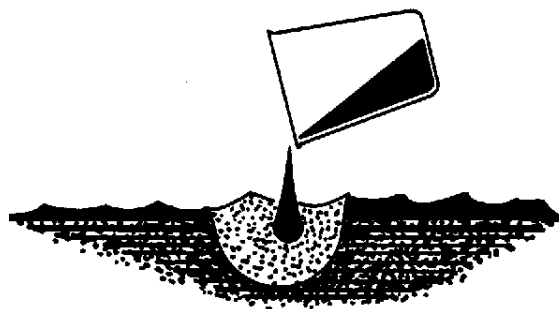
TS218 -UN-23AUG88

DISPOSE OF FLUIDS PROPERLY

Improperly disposing of fluids can harm the environment and ecology. Before draining any fluids, find out the proper way to dispose of waste from your local environmental agency.

Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

DO NOT pour oil into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, and other harmful waste.



DX,DRAIN -19-05JUN90

TS222 -UN-23AUG88



ILLUMINATE WORK AREA SAFELY

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.



DX,LIGHT -19-04JUN90

TS223 -UN-23AUG88



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

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never heat or weld on a wheel and tire assembly. The heat will cause an increase in air pressure in the tire. A tire explosion could result.

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.



DX,TIRECP1 -19-30JUL90

TS952 -UN-12APR90



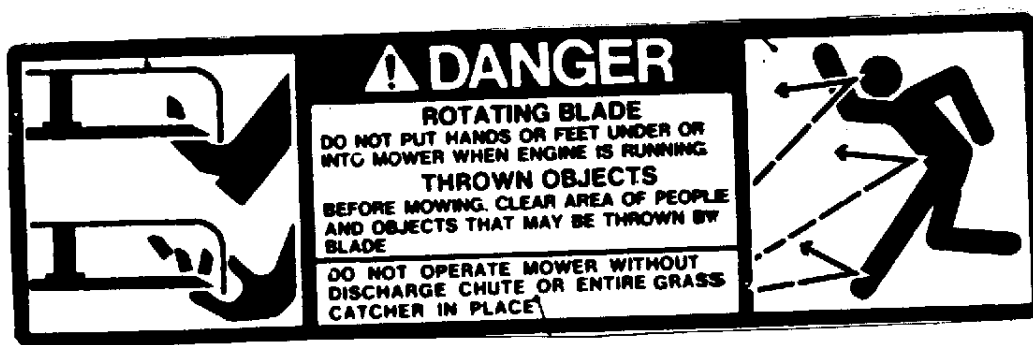
READ SAFETY SIGNS CAREFULLY



-19-10JUL90

M38614

Top, Left-Side of Mower Deck



-19-10JUL90

M38613

Top, Right-Side of Mower Deck Near Chute

Carefully read and follow all safety signs.

Danger signs identify the most serious hazards.

Keep safety signs in good condition. Replace any missing or damaged safety signs. Signs are attached to machine near specific hazard areas.

MX,SAFM,D -19-07AUG90



Caution signs call attention to safety messages in this manual.



Safety Sign on Tractor in Front of Seat

MX,SAFM,E -19-07AUG90

M72218 -19-24JUL90

Controls

OPERATOR PLATFORM CONTROLS

NOTE: LX172 Lawn Tractor illustrated.

- A—Mower Depth Control
- B—Throttle-Choke Lever
- C—Lift Lever
- D—Clutch Pedal (LX172 Tractor)
- E—Light Switch
- F—Brake Pedal (LX172 Tractor)
- G—PTO Switch
- H—Ignition Key Switch
- I—Park Brake Lever
- J—Gear Shift Lever (LX172 Tractor)



MX,CTFM,A -19-07AUG90

M72171 -UN-24JUL90

TRANSMISSION AND BRAKE CONTROL PEDALS ON LX176, LX178 AND LX186 TRACTORS

- A—Brake Pedal
- B—Forward Travel Pedal
- C—Reverse Travel Pedal



MX,CTFM,B -19-07AUG90

M72221 -UN-24JUL90

INDICATOR LIGHTS

NOTE: LX178 Tractor instrument panel illustrated.

- A—Battery Discharge Light (All Tractors)
- B—Engine Oil Pressure Light (LX178 and LX186 Tractors)
- C—Coolant Temperature Light (LX178 Tractor)



MX,CTFM,C -19-07AUG90

MT2222 -UN-24JUL90

FUEL SHUT-OFF VALVE

- A—Fuel Shut-Off Valve



MX,CTFM,D -19-07AUG90

MT2205 -UN-24JUL90

Operating the Engine

CHECKING ENGINE OIL LEVEL

1. Lift back of hood and tip hood forward for access to engine oil level dipstick (A) on LX178 Tractor or engine oil level dipstick (B) on LX172, LX176 or LX186 Tractors.
2. Check engine oil level when engine is cold before operating tractor. See Service section for checking and changing engine oil.



M72223
-UN-24JUL90



M72179
-UN-30JUL90

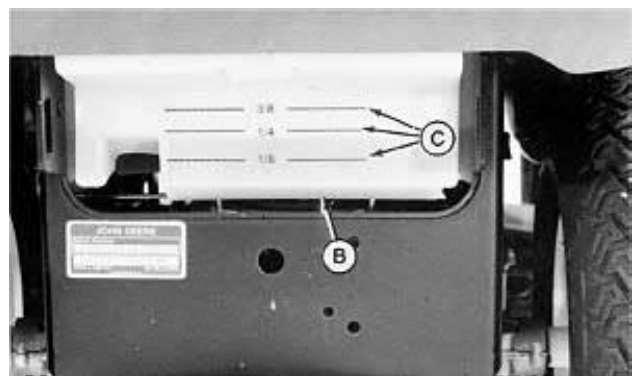
MX,OEFM,A -19-07AUG90

FILLING FUEL TANK

1. Tip seat forward for access to fuel tank cap (A).
2. Remove cap to fill fuel tank. The fuel tank (B) is translucent with graduated lines (C) showing how much fuel is in the tank. The engine is designed to use approximately one U.S. gallon of fuel per hour when mowing grass. See Fuels and Lubricants section for required fuel specifications.



M72189
-UN-24JUL90



M72188
-UN-24JUL90

MX,OEFM,B -19-07AUG90

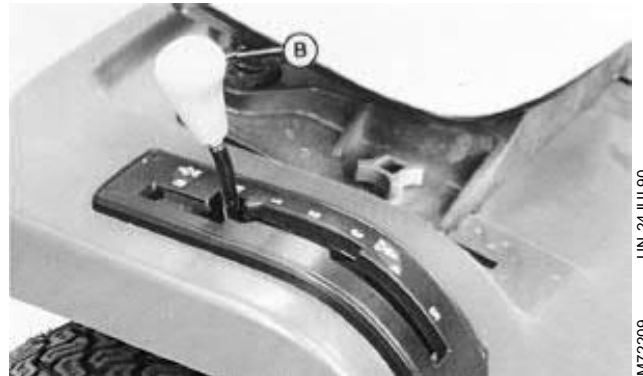
STARTING THE LX172 TRACTOR ENGINE

CAUTION: Start engine **ONLY** outdoors or in a well-ventilated place. Exhaust fumes are dangerous.

1. Lift rear of hood to open.
2. Turn knob (A) counterclockwise to position shown to open fuel shut-off valve. Close hood.
3. Move transmission shift lever (B) to N (neutral) position.



M72205
-UN-24JUL90



M72209
-UN-24JUL90

MX,OEFM,C -19-07AUG90

4. Push down on clutch pedal (A) and brake pedal (B). Hold pedals all the way down. Lift and hold park brake lever (C) to lock park brake. Remove feet from pedals and hand from park brake lever. Pedals should stay down and park brake lever should stay up in locked position.



M72204
-UN-24JUL90

MX,OEFM,D -19-07AUG90

NOTE: Your LX172 tractor has a neutral start safety switch. Engine will not start unless:

- PTO switch is OFF.
- Transmission shift lever is in N (neutral) position.

5. Push down on PTO switch lever (A) to OFF position.



M72207
-UN-24JUL90

MX,OEFM,E -19-07AUG90

NOTE: To attain choke position, push throttle lever (A) all the way up past detent in throttle lever mechanism.

6. Move throttle lever to choke position if engine is cold. Put throttle at half-speed position if engine is warm.



MX,OEFM,F -19-07AUG90

MT2174 -UN-24JUL90

IMPORTANT: Do not operate starter more than 20 seconds at a time or you may damage it. If engine does not start, wait 2 minutes before you try again. If engine will not start, see Troubleshooting section.

7. Turn key (A) to START (clockwise) position.
8. When engine starts, release key to RUN position.
9. Move throttle lever down to half-speed position.
10. Let engine run for a couple of minutes to warm-up before operating tractor.



MX,OEFM,G -19-07AUG90

MT2199 -UN-24JUL90

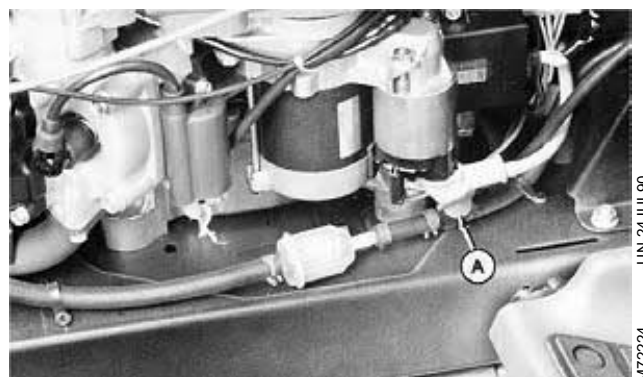
STARTING THE LX176, LX178 AND LX186 TRACTOR ENGINE

NOTE: LX178 Tractor illustrated.



CAUTION: Start engine **ONLY** outdoors or in a well-ventilated place. Exhaust fumes are dangerous.

1. Lift rear of hood to open.
2. Turn knob (A) counterclockwise (vertical position) to open fuel shut-off valve. Close hood.



MX,OEFM,H -19-07AUG90

MT2224 -UN-24JUL90

Operating the Engine

NOTE: You must hold brake pedal down, or lock park brake, before you can start engine.

3. Push down park brake pedal (A). Hold pedal all the way down and lift park brake lever (B) to lock park brake. Remove foot from pedal and hand from park brake lever. Pedal should stay down and park brake lever should stay locked up.



MX,OEFM,I -19-07AUG90

MT2225 -UN-24JUL90

4. Push PTO switch (A) down to OFF position.

NOTE: Engine will not start unless PTO switch (A) is in OFF (down) position.



MX,OEFM,J -19-07AUG90

MT2207 -UN-24JUL90

NOTE: To attain choke position, push throttle lever (A) all the way up past detent in throttle lever mechanism.

5. Move throttle lever to choke position if engine is cold. Put throttle at half-speed position if engine is warm.



MX,OEFM,K -19-07AUG90

MT2174 -UN-24JUL90

IMPORTANT: Do not operate starter more than 20 seconds at a time or you may damage it. If engine does not start, wait 2 minutes before you try again. If engine will not start, see Troubleshooting section.

6. Turn key (A) to START (clockwise) position.
7. When engine starts, release key to RUN position.
8. Move throttle lever down to half-speed position.
9. Let engine run for a couple of minutes to warm-up before operating tractor.



M72199 -UN-24JUL90

MX,OEFM,L -19-07AUG90

COLD WEATHER STARTING (ALL TRACTORS)

1. Push throttle choke lever all the way up to CHOKE position.
2. Turn key to START position to crank engine.
 - Crank engine 5 seconds.
 - If engine does not start, wait 10 seconds.
 - Crank engine again 5 seconds.
 - Repeat this procedure if necessary.
3. When engine starts, release key to RUN position.
4. Move throttle lever to HALF-SPEED position as soon as it will continue running without choke.

MX,OEFM,L1 -19-07AUG90



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CHECKING INDICATOR LAMPS

NOTE: All LX Series Tractors are equipped with a battery discharge light (A). The LX178 and LX186 Tractors are also equipped with engine oil pressure light (B). The LX178 Tractor is equipped with lights (A) and (B) and a coolant temperature light (C).

After engine starts:

Oil pressure light (B) should go out within 5 seconds.

Battery discharge light (A) should go out within 10 seconds. If not, move throttle lever to 3/4 position.

Coolant temperature light (C) should not come on unless engine is overheated. If light comes on, stop engine immediately and determine cause before operating engine.

If indicator lights stay on longer than given time, stop engine. Find and correct problem.



MT2222 -UN-24JUL90

MX,OEFM,M -19-07AUG90

WARMING AND IDLING ENGINE

WARMING ENGINE

Run Engine at half speed for 2 to 3 minutes.

IDLING ENGINE

1. The engine is air-cooled on LX172, LX176 and LX186 Tractors and needs a large volume of air to keep cool. Keep grille, louvers, and screen (A) on top of engine clean. The engine is liquid cooled on the LX178 Tractor. (See CLEANING RADIATOR AND SCREENS in Service section.)

2. Avoid unnecessary engine idling.



MT2180 -UN-24JUL90

MX,OEFM,N -19-07AUG90

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