

12PB, 12SB, 14PB, 14SB and 14SE 21-Inch Walk-Behind Rotary Mowers



JOHN DEERE

OPERATORS MANUAL

12PB, 12SB, 14PB, 14SB and 14SE 21-Inch
Walk-Behind Rotary Mowers

OMM79671 L9 English

(SERIAL NO. XXXXXX010001-)

John Deere
Lawn & Grounds Care Division
OMM79671 L9
(This manual replaces OMM79671 H9)

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. File numbers in a secure place.

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 OPBV,A 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.



Model 12PB, 2-Cycle Engine

M61526 -UN-01SEP88



Model 14SB, 4-Cycle Engine

M61525 -UN-01SEP88

Contents

	Page
Safety	2
Controls	8
Operation	9
Fuels and Lubricants	18
Troubleshooting	20
Service	22
Storage	38
Assembly	39
Specifications	42

All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

OMM79671 L9-19-28NOV89

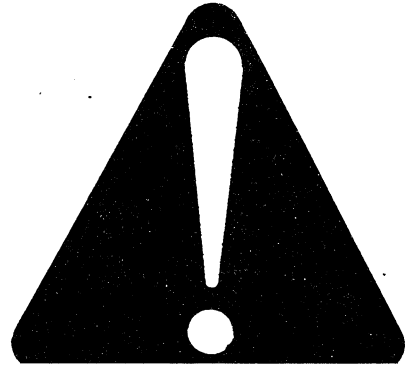
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Safety

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.



O53,ALERT -19-16JUN87

T81389 -UN-07DEC88

UNDERSTAND SIGNAL WORDS

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

Safety signs with signal word DANGER or WARNING are typically near specific hazards.

General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

⚠ DANGER

⚠ WARNING

⚠ CAUTION

O53,SIGNAL -19-07OCT85

TS187 -19-30SEP88

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.

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.



O53,READ -19-23APR87

TS201 -UN-23AUG88



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.



O53,CERT1 -19-27APR88

-19-07OCT88

TS288

INSPECT MOWER REGULARLY

Check hardware often. Keep it tight.

Clean engine often, especially cooling fins.

Discharge chute or rear bag must be in good condition, and in place.

Door (on top of bag) must be working properly and in place.



MX,SABV,A -19-10AUG88

-UN-06SEP88

M41506

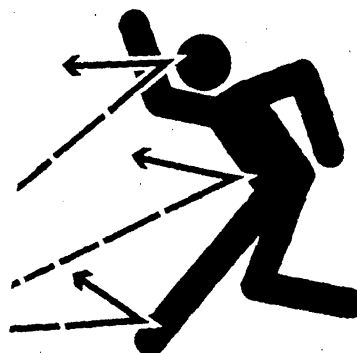
PROTECT FROM THROWN OBJECTS

Before you mow, clear mowing area of objects that might be thrown.

Discharge clippings away from people.

Discharge chute or grass bag must be in place.

Do not lift or block door open when blade is ENGAGED.



MX,SABV,C -19-25MAY89

-UN-30AUG88

M41423

PROTECT PEOPLE AND PETS

Keep people and pets out of mowing area.

Do not let children or untrained persons operate mower.

Do not leave mower unattended.



MX,SABV,B -19-10AUG88

-UN-01SEP88

M61473



OPERATE MOWER SAFELY

Do not run engine indoors unless there is good ventilation.

Be sure of footing. Walk—do not run.

Do not use mower for anything other than its original design.

Mow across face of slopes—not up and down.

Be especially careful when you change direction on slope.

Avoid sudden starts and stops.

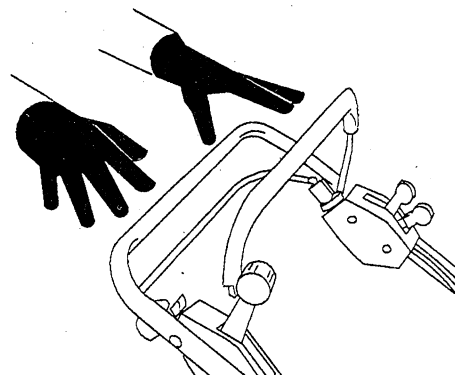
Do not leave mower on slope. Put mower on level surface.

MX,SABV,C1 -19-10AUG88

EMERGENCY STOP

Release handle and levers:

- Mower will stop.
- Blade will stop.
- Engine will NOT stop.



MX,SABV,D -19-10AUG88

M61445 -UN-01SEP88

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.

Wait until engine is cool before you add fuel.

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

Do not store mower with fuel in tank in a building where fumes may reach an open flame or spark.



MX,SABV,D1 -19-02NOV89

TS202 -UN-23AUG88

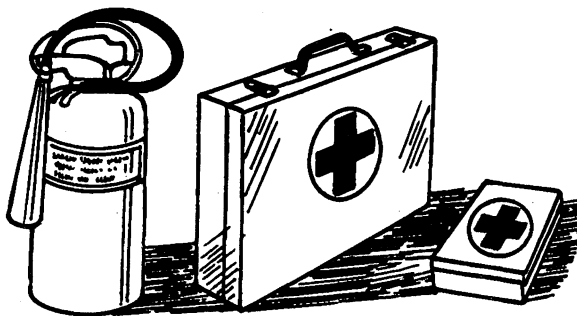


PREPARE FOR EMERGENCIES

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.



O53,FIRE2 -19-03MAR88

TS291 -UN-23AUG88

WEAR RIGHT CLOTHING AND EQUIPMENT

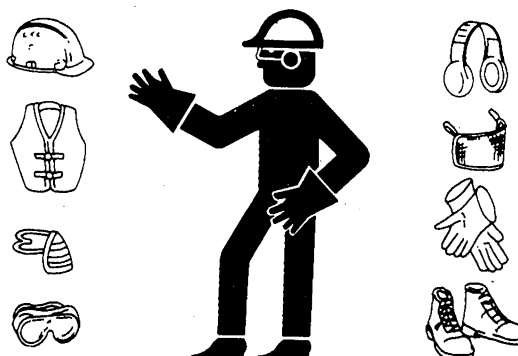
Wear close fitting clothing and safety equipment.

Wear safety glasses, goggles, or eye shield:

- When you operate mower.
- When you adjust or service mower.

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.



MX,SABV,E -19-25MAY89

TS206 -UN-23AUG88

AVOID INJURY FROM MOVING PARTS

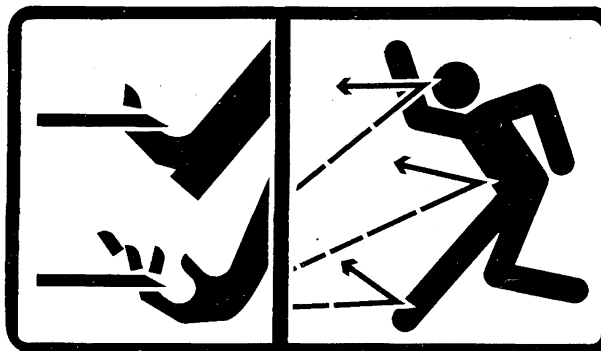
Keep hands, feet, and clothing away from mower deck and discharge chute when blade is turning.

Do not make adjustments while engine is running, unless procedure is approved. If adjustments are to be made, STOP ENGINE.

Stop mower blade:

- Before you move between jobs.
- Before you cross gravel road, path, or sidewalk.
- When you are not mowing.

Stop engine before you lift door.



M41447 -UN-30AUG88

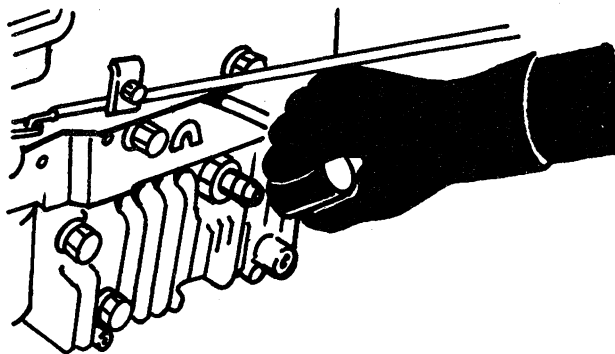
MX,SABV,F -19-10AUG88



SERVICE MOWER SAFELY

Before you service under deck:

- Put mower on level surface
- Stop engine. Let it cool.
- Disconnect spark plug wire.



M41584 -UN-06SEP88

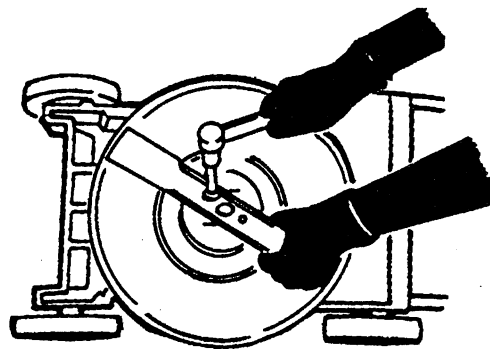
MX,SABV,G -19-10AUG88

Wear gloves when you service blade.

Keep parts in good condition, fastened in place.

Replace worn or damaged parts immediately.

If you hit an object, stop mower. Fix damage before you operate.



M61532 -UN-01SEP88

MX,SABV,H -19-10AUG88



READ SAFETY SIGNS

CAUTION
HELP AVOID INJURIES

- Pick up objects that blade may hit and throw
- Keep children and bystanders far away
- Stop engine before adjusting cutting height
- Read operator's manual

DANGER

ROTATING BLADE

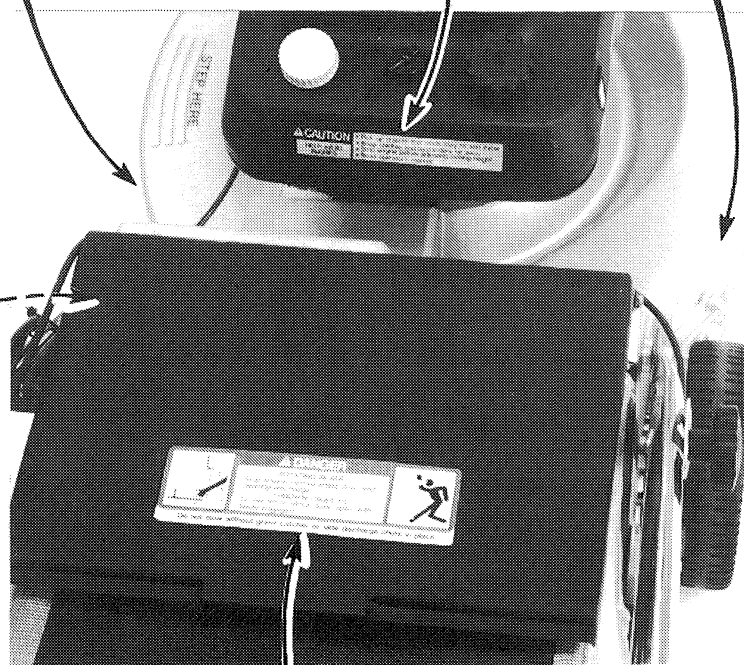
DO NOT PUT HANDS OR FEET UNDER OR INTO MOWER WHEN ENGINE IS RUNNING

DANGER
KEEP HANDS and FEET AWAY

CUTTING BLADES

CAUTION

- BAG IS SUBJECT TO WEAR AND DETERIORATION
- CHECK BAG FREQUENTLY, REPLACE WHEN NECESSARY
- USE JOHN DEERE BAG OR EQUIVALENT TO COMPLY WITH SAFETY SPECIFICATIONS



DANGER

ROTATING BLADE
Stop engine before lifting door and clearing discharge

THROWN OBJECTS
Do not lift or block door open with blade engaged

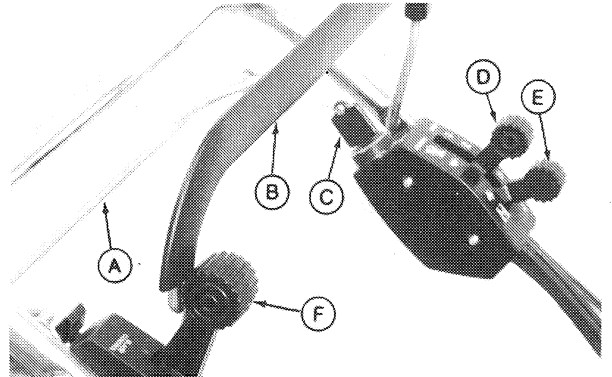
Do not mow without grass catcher or side discharge chute in place

-19-20JUN89
M62531

Controls

HANDLE CONTROLS

- | | |
|--|--|
| A—Traction Clutch Lever (Self-Propelled Models Only) | D—Gear Shift Lever (All Models Except 12PB and 14PB) |
| B—Blade Lockout/Stop Lever (All Models) | E—Throttle Lever (All Models) |
| C—Key (Model 14SE only) | F—Blade Engagement Lever (All Models) |

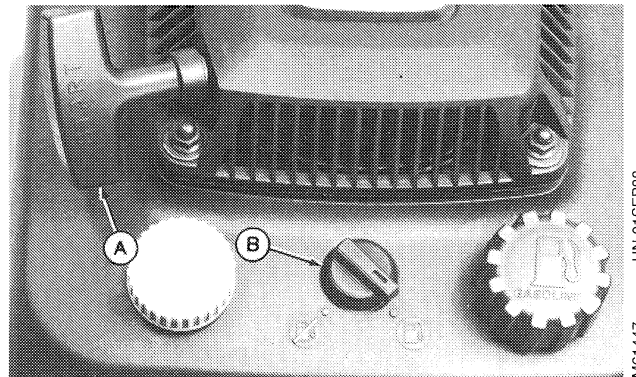


MX,CTBV,A -19-10AUG88

M61446 -UN-01SEP88

4-CYCLE ENGINE CONTROLS

- | | |
|------------------|---------------------|
| A—Starter Handle | B—Fuel Shutoff Knob |
|------------------|---------------------|

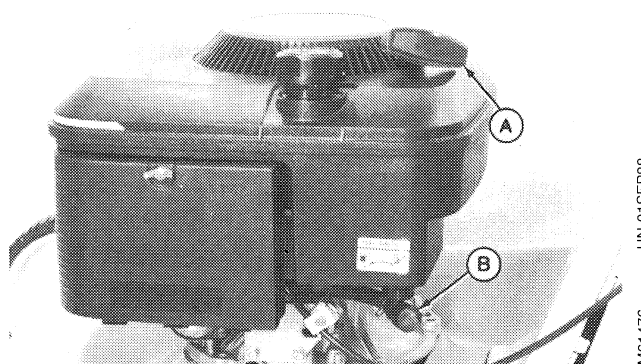


MX,CTBV,B -19-10AUG88

M61447 -UN-01SEP88

2-CYCLE ENGINE CONTROLS

- | | |
|------------------|---------------------|
| A—Starter Handle | B—Fuel Shutoff Knob |
|------------------|---------------------|

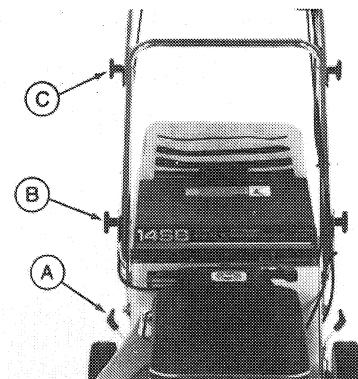


MX,CTBV,C -19-10AUG88

M61476 -UN-01SEP88

MOWER CONTROLS

- | | |
|------------------------|--------------------|
| A—Cutting Height Lever | C—Fold-Handle Knob |
| B—Handle Height Knob | |



MX,CTBV,D -19-10AUG88

M61448 -UN-06OCT88

Operation

ADJUSTING CUTTING HEIGHT

CAUTION: Before you adjust levers, stop engine.

IMPORTANT: Adjust all levers to same height except when you mow in LOWEST (1/2-in. or 13-mm) position.

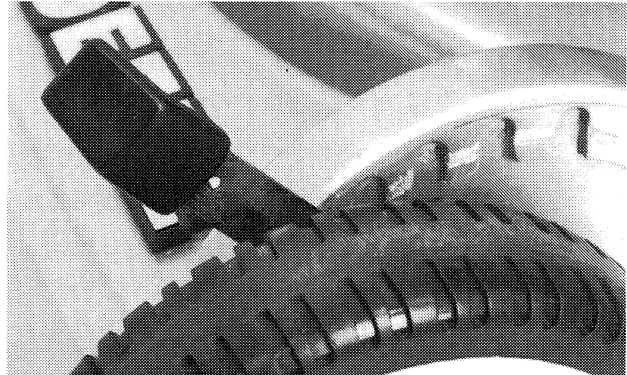
For LOWEST position:

—Put front wheel levers in 1/2-in.

(13-mm) notch: first rear notch.

—Put rear wheel levers in 1-in. (25-mm)

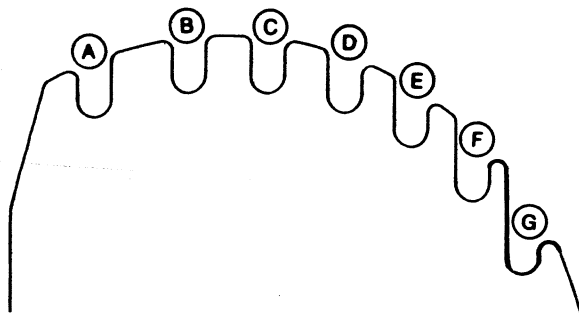
notch: second rear notch.



M61449 -UN-01SEP88

Move each wheel lever to desired position. See drawing below.

MX,OPBV,A -19-10AUG88



A—1/2 in. (13 mm)
B—1 in. (25 mm)

C—1-1/2 in. (38 mm)
D—2 in. (50 mm)

E—2-1/2 in. (64 mm)
F—3 in. (75 mm)

G—3-1/2 in. (90 mm)

Right Side of Mower

Cutting height range: 1/2—3-1/2 in. (13—90 mm).

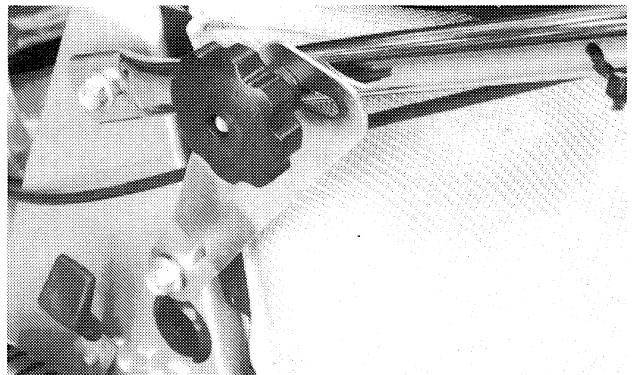
To change cutting height 1/2 in. (13 mm), move lever one notch.

MX,OPBV,A1 -19-15NOV89

M73111 -UN-21NOV89

ADJUSTING HANDLE HEIGHT

1. Loosen knob on each side.
2. Adjust handle to desired position.
3. Tighten knobs.



M61450 -UN-13OCT88

MX,OPBV,B -19-10AUG88

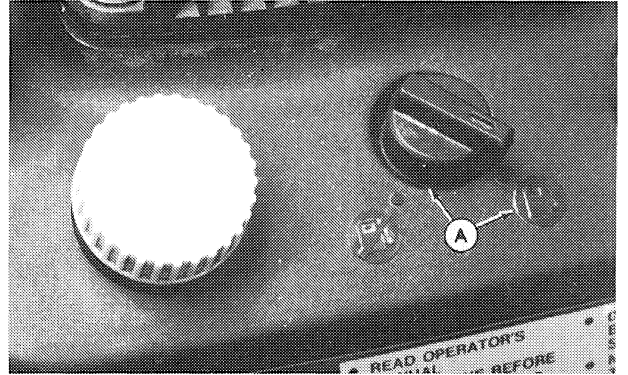
ELECTRIC STARTING—MODEL 14SE ONLY



CAUTION: Wear close-fitting clothing and safety equipment. Keep hands, feet, and clothing away from deck when engine is running.

IMPORTANT: Use only clean, fresh regular or unleaded gasoline. Be sure choke and throttle controls are in good condition and adjusted correctly.

1. Open fuel shutoff valve (A).



M61451 -UN-01SEP88

MX,OPBV,C -19-10AUG88

2. COLD ENGINE: Move throttle lever (A) to CHOKE position.

WARM ENGINE: Move throttle lever to FAST position.

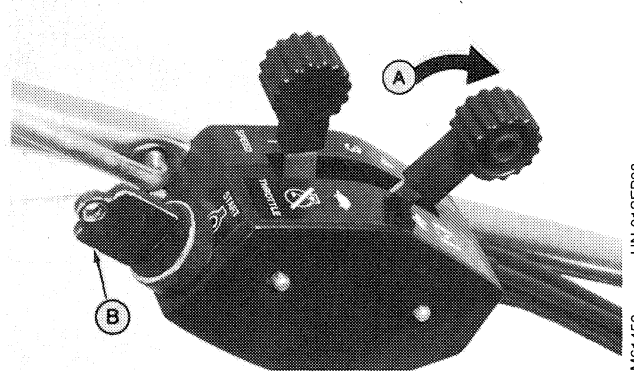
NOTE: If battery is low, start engine with recoil starter. See MANUAL STARTING in this section.

3. Turn key (B) to START position:
 - Crank engine 5 seconds.
 - If engine does not start, wait 10 seconds.
 - Crank engine again 5 seconds.
 - Repeat this procedure if necessary.

4. Release key when engine starts.

NOTE: Key will not stop engine. To stop engine, pull throttle all the way to rear.

5. Move throttle lever slowly down to HALF-THROTTLE position after engine starts.



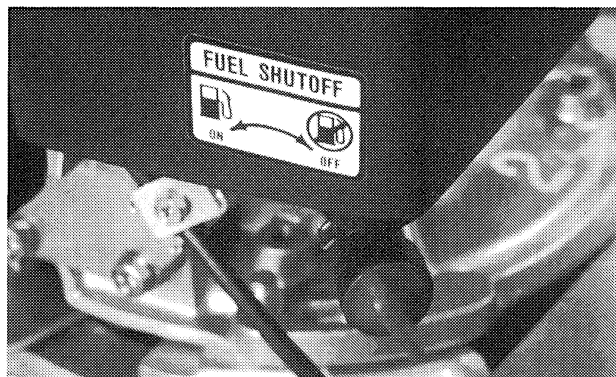
M61452 -UN-01SEP88

MX,OPBV,D -19-10AUG88

MANUAL STARTING

CAUTION: Wear close-fitting clothing and safety equipment. Keep hands, feet, and clothing away from deck when engine is running.

1. Open fuel shutoff valve:
—4-Cycle engine: See ELECTRIC STARTING in this section.
—2-Cycle engine: Shown at right.



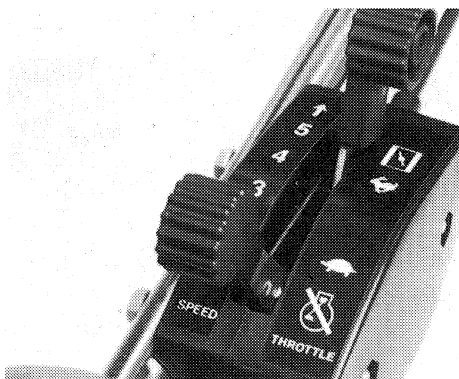
MX,OPBV,E -19-10AUG88

M61478 -UN-01SEP88

2. COLD ENGINE: Move throttle lever to CHOKE position as shown.

WARM ENGINE: Move throttle lever to FAST position (rabbit).

3. Put foot on foot pad (top, left side of deck).
4. Pull starter handle until you feel resistance. Then pull fast and steady.
5. When engine starts:
—Return rope slowly.
—Move throttle lever slowly down to HALF-THROTTLE.

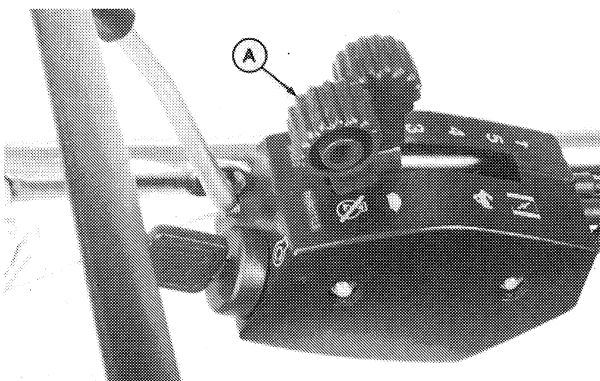


MX,OPBV,F -19-10AUG88

M61480 -UN-01SEP88

STOPPING ENGINE

To stop engine, pull throttle lever (A) to STOP position.



MX,OPBV,F1 -19-25MAY89

M61556 -UN-07DEC88

BLADE OPERATION

CAUTION: Keep hands, feet and clothing away from blade when engine is running. If blade does not stop within 3 seconds after you release lever, see your John Deere dealer.

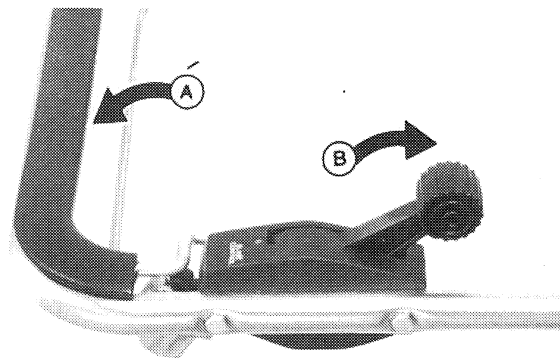
Do not engage blade in heavy grass or engine may stop.

To ENGAGE blade:

- Pull and hold lever (A) against handle.
- Push lever (B) quickly until it latches.

To DISENGAGE blade: Release lever (A).

CAUTION: Do not tape lever (A) to handle. If lever (B) does not latch, do not tape it or hold it in latch position. See your John Deere dealer.



M61453 -UN-01SEP88

MX,OPBV,G -19-10AUG88

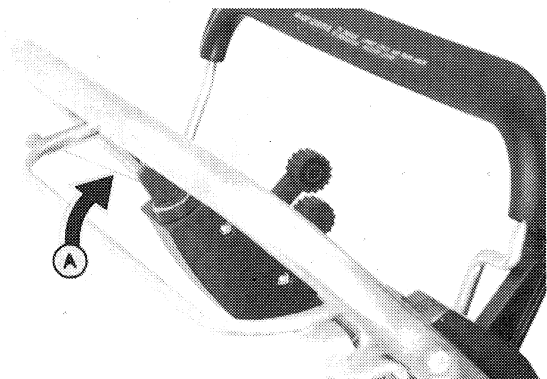
FORWARD TRAVEL OPERATION—SELF-PROPELLED MODELS

TO TRAVEL FORWARD: Pull lever (A) to handle and hold.

TO STOP FORWARD TRAVEL: Release lever.

Release lever before you turn.

NOTE: Rear wheels will make a clicking noise when you push mower forward. This means drivetrain is operating correctly.



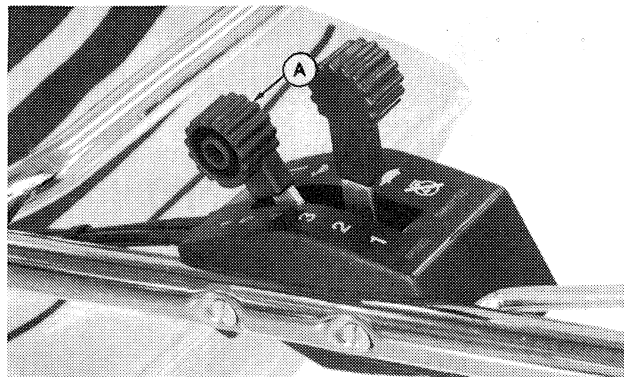
M61454 -UN-01SEP88

MX,OPBV,H -19-10AUG88

TRAVEL SPEEDS

To change travel speeds while you mow:

1. STOP FORWARD TRAVEL. See FORWARD TRAVEL OPERATION in this section.
2. Move gear lever (A) to desired position.
3. ENGAGE traction clutch lever.



Gear	Travel Speed mph/(kmh)
1	1.2 (1.9)
2	1.9 (3.0)
3	2.4 (3.7)
4	2.9 (4.6)
5	4.1 (6.6)

MX,OPBV,I -19-10AUG88

M61455 -UN-13OCT88

MOWING TIPS



CAUTION: Before you remove bag or inspect or unplug mower:

- Stop mower.
- Stop blade.
- Stop engine.

Mow at full throttle.

Mow when grass is dry.

Lawn care professionals suggest you mow high and often.

If cut is uneven:

- LOOK: All cutting height levers must be adjusted to same height.
- CHECK: Blade may be dull.

Check blade hardware often. Keep blade sharp.

To mow tall grass: First method:

- First pass: Adjust cutting height to cut grass to half height.
- Second pass: Adjust cutting height for desired height.

To mow tall grass: Second method:

- Mow at desired height at slow travel speed, full width OR
- Mow at desired height, half width.

Slow down on rough ground.

Release traction lever before you turn.

Use thatcher (available from John Deere dealer) in spring to pull up dead grass and areate ground.

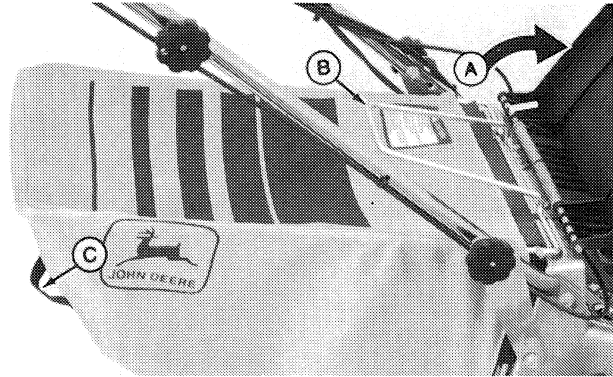
After you mow:

1. Stop engine. Let it cool (to prevent fire when you store mower).
2. Remove and shake bag to remove all clippings (to prevent deterioration of bag and fire).
3. Clean top of deck, engine, and chute with compressed air, if possible (to prevent buildup and fire).
4. Clean under deck with water from garden hose (to prevent buildup for better performance).
5. Install bag.
6. Put mower in safe storage.
7. Fold handle down, if desired.
8. Remove key, if equipped.
9. Close fuel shutoff valve

USING GRASS BAG

CAUTION: Do not operate mower without grass bag or chute (optional). Before you empty bag, STOP MOWER, BLADE, AND ENGINE.

1. Lift door (A).
2. Grasp handle (B). Lift bag off mower.
3. Grasp handle (C) to dump bag.



M61555 -UN-07DEC88

MX,OPBV,K -19-25MAY89

BAGGING TIPS

For best performance, bagger needs good airflow. To help increase airflow:

- Keep underside of deck and chute clean.
- Cut grass high.
- Mow at full throttle.
- Clean bag often with water from garden hose. Direct water from outside to inside of bag. Let bag dry before you use it.

Bag may wear and deteriorate. Check condition of bag frequently.

IMPORTANT: Do not leave clippings in bag:
—Moisture may damage bag.
—Damp clippings are fire hazard.

LOOK: Check level of clippings in bag often. When bag is full:

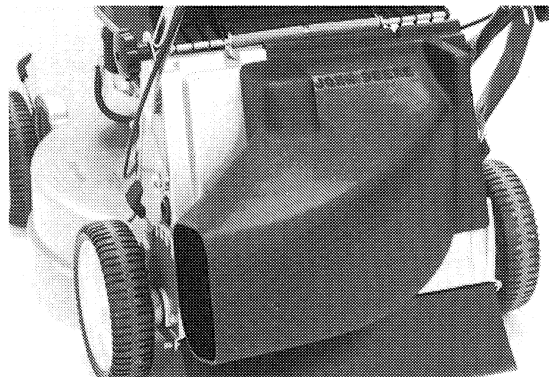
- Mower may leave a trail of clippings.
- Clippings may blow to side.
- Top of bag will deflate.

MX,OPBV,L -19-25MAY89

SIDE-DISCHARGE CHUTE—OPTIONAL

CAUTION: Do not operate mower without grass bag, chute, or mulcher plate.

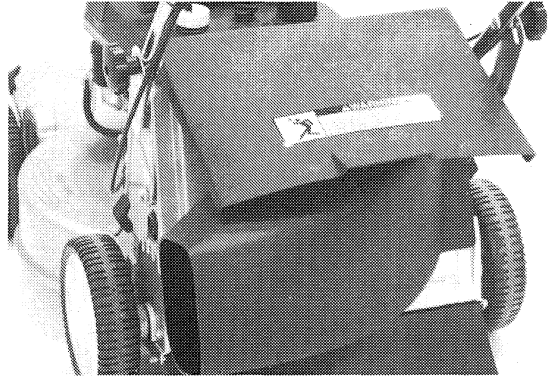
1. Stop engine. Lift door.
2. Remove grass bag.
3. Install chute.



M61527 -UN-19OCT88

MX,OPBV,M1 -19-15NOV89

4. Lower door to hold chute in place.



MX,OPBV,M2 -19-25MAY89

M61833 -UN-19OCT88

MULCHER PLATE—OPTIONAL



CAUTION: Do not operate mower without grass bag, chute, or mulcher plate.

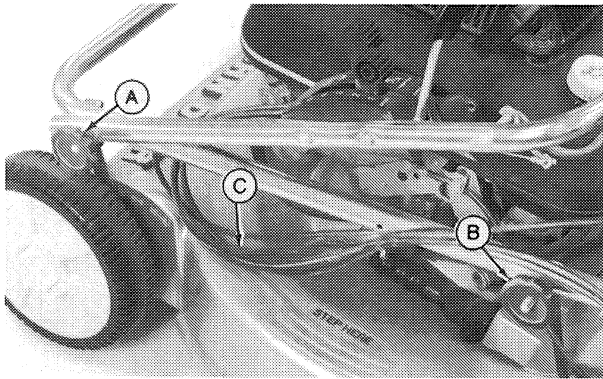
1. Stop engine. Lift door.
2. Install mulcher plate.
3. Lower door to hold plate in place.



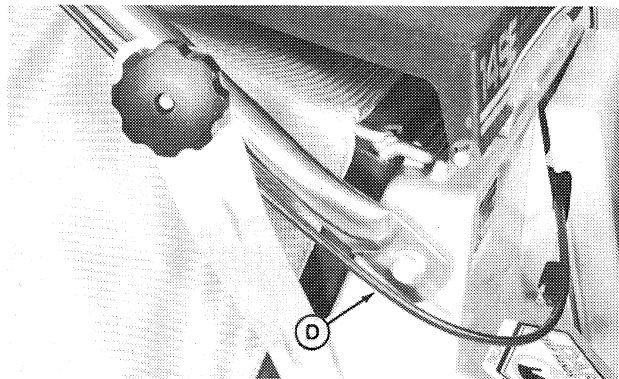
MX,OPBV,M3 -19-02NOV89

M73120 -UN-08NOV89

FOLDING AND UNFOLDING HANDLE



M61456 -JUN-06OCT88



M61557 -JUN-07DEC88

IMPORTANT: Be very careful not to crimp cables when you fold handle.

To fold handle:

1. Remove grass bag.
2. Loosen knob (A) 1 in. (25 mm) on each side. Leave bolt heads against handle. Do not push them in.
3. Remove knob and bolt (B) from each side.
4. Fold handle down CAREFULLY and guide cables (C) inside lower handle. DO NOT CRIMP CABLES.
5. Install knobs and bolts in handle.

IMPORTANT: Be very careful not to crimp cables when you unfold handle.

To unfold handle:

1. Check cables for kinks or other damage.

IMPORTANT: On right side **INSTALL CABLE INSIDE BRACKET** where it cannot catch on objects when you mow and be damaged.

2. Remove bolt and knob (B). Install bolt through bracket and handle on each side. On right side, put cable (D) **INSIDE BRACKET**: between bracket and mower deck. Put knob on each bolt.
3. Straighten handle. BE CAREFUL: DO NOT CRIMP CABLES. Tighten knob (A) on each side.

MX,OPBV,N -19-15NOV89

TRANSPORTING MOWER

IMPORTANT: Close fuel shutoff valve before you transport mower. Carburetor float may vibrate during transport and let fuel flow into engine: engine will be hard to start.

MX,OPBV,O -19-08JUN89

Fuels and Lubricants

HANDLING FUEL AND OIL



CAUTION: Avoid fires:

- Use approved containers.
- Wait until engine is cool before you add fuel.
- Fill fuel tank outdoors.
- Avoid spilling fuel.
- Wipe spilled fuel.
- Do not fill tank to top: allow room for fuel to expand.
- Do not smoke.
- Move mower away from fueling area before you start engine.
- Do not store mower with fuel in tank in a building where fumes may reach an open flame or spark.

Use only clean oil and fuel:

- To prevent engine damage.
- So engine can operate efficiently.

Use clean, approved containers and funnels.

Store oil and fuel in area protected from dust, moisture, and other contamination.

Close fuel shutoff valve.

MX,FLBV,A -19-25MAY89

4-CYCLE ENGINE FUEL

Use clean, fresh regular or unleaded gasoline.

Gasohol with no more than 10% ethyl alcohol may be used.

Gasoline with no more than 3% methanol can be used but is not recommended.

Do not use gasoline left over from previous mowing season.



M61528 -UN-01SEP88

MX,FLBV,B -19-10AUG88

4-CYCLE ENGINE OIL

John Deere PLUS-4 engine oil is recommended. PLUS-4 is available in 10W-30 and 10W-40 weights.

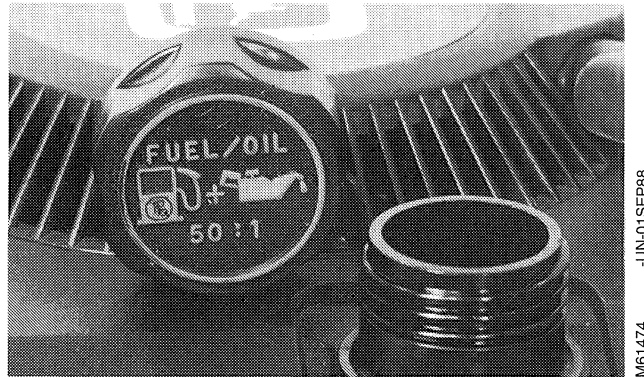
Other oils may be used if they meet the requirements of API Service Classification SF or SE.

TEMPERATURE RANGE

SAE 5W30		-33 to +50° F (-35 to +10°C)
SAE 10W		-4 to +50°F (-20 to +10°C)
SAE 10W30		-4 to +86°F (-20 to 30°C)
SAE 10W40		-4 to +104°F (-20 to +40°C)
SAE 30		32 to +122°F (0 to +50°C)

MX,FLBV,E -19-05DEC88

2-CYCLE ENGINE FUEL



M61474 -UN-01SEP88

IMPORTANT: Use correct gasoline:

- Leaded or unleaded.
- Not gasohol or alcohol blends.
- Not fuel stored long time.

John Deere 2-Cycle Engine Oil, 50:1 mix is recommended. (Not available in Canada.) This oil contains stabilizer to prevent varnish in fuel system.

Also approved:

- 2-Cycle oils containing ashless-type additives AND
- Certified by BIA for Service TC-W.



CAUTION: Mix fuel safely:

- Use approved container.
- Do not mix fuel in mower fuel tank.
- Mix fuel outdoors.

IMPORTANT: Use only 50:1 fuel-oil mixture:

- 1 gal (3.8 L) gas and 2.3 oz (60 mL) oil
- OR
- 1 Imperial gal (4.5 L) gas and 2.5 oz (74 mL) oil.

To mix fuel and oil:

- Fill container half full of gasoline.
- Add all oil. Fasten lid.
- Shake mixture.
- Add rest of gasoline.
- Shake again.
- Loosen cap to release pressure. Tighten cap.

MX,FLBV,D -19-25MAY89

GREASE

John Deere Moly High Temperature EP Grease and John Deere High Temperature EP Grease are recommended.

Other greases that may be used are:

- SAE Multipurpose EP Grease with 3 to 5% molybdenum disulfide.
- SAE Multipurpose EP Grease.

MX,FLBV,E -19-25MAY89

Troubleshooting

PROBLEM	SOLUTION	SECTION
ENGINE WILL NOT START.	Open fuel shutoff valve. Fill fuel tank. Use correct fuel. Use fresh fuel. Spark plug: —Connect wire. —Clean and gap or replace. Electric start model: Connect battery. Move throttle lever to correct position.	Operation Fuels Fuels Fuels Service Service Operation
ENGINE STARTS HARD OR LOSES POWER.	Drain and clean fuel tank. Fill tank with fresh fuel. Clean fuel cap vent. Clean or replace air cleaner element(s). Spark plug: —Connect wire. —Clean and gap or replace.	— Fuels Service Service Service
ENGINE RUNS ROUGH.	Adjust carburetor. Spark plug: —Connect wire. —Clean and gap or replace. Move throttle lever from CHOKE to FAST. Clean cooling fins. Clean or replace air cleaner element(s).	Service Service Operation Service Service
ENGINE OVERHEATS.	Clean blower housing and cooling fins.	Service
ENGINE VIBRATES TOO MUCH.	Tighten blade cap screws. Sharpen and balance blade.	Service Service
MOWER MOWS UNEVENLY.	Walk slower or adjust travel speed. Travel slower around corners. Change mowing pattern. Adjust all wheel levers to same position. Sharpen and balance blade.	Operation Operation Operation Operation Service
DISCHARGE CHUTE PLUGS.	Let grass dry. Raise cutting height. First pass: cut half of grass height. Second pass: cut at desired height Empty grass bag. Travel slower. Run engine at full throttle. Wash grass bag.	Operation Operation Operation Operation Operation Operation Operation

Troubleshooting

PROBLEM	SOLUTION	SECTION
MOWER PUSHES OR PULLS HARD.	Lubricate rear axle. Adjust traction clutch.	Service Service
MOWER JERKS OR WILL NOT SELF-PROPEL	Adjust traction clutch. Clean debris from top of transmission. Move gear shift lever slightly forward or back.	Service Service Operation

MX,TSBV,B -19-10AUG88

Service

SERVICE INTERVALS

BEFORE USE

- Check oil level

FIRST 5 HOURS

- Change 4-cycle engine oil and filter, if equipped.

25 HOURS

- Clean air cleaner elements.
- Tighten blade hardware
- Change 4-cycle engine oil.
- Lubricate rear axle bearings.
- Clean and gap spark plug.
- Clean top of transmission.

50 HOURS

- Change oil filter (optional).
- Adjust traction clutch.

100 HOURS

- Adjust blade brake clutch.

AS NECESSARY

- Check belt area.
- Clean fins.
- Adjust throttle cable: 2-cycle engine.
- Adjust choke: 4-cycle engine.
- Adjust slow idle: 4-cycle engine.
- Charge battery: Model 14SE
- Check and remove blade.
- Sharpen blade.
- Balance and install blade.
- Clean fuel cap vent: 4-cycle engine.
- Clean fuel cap vent: 2-cycle engine.

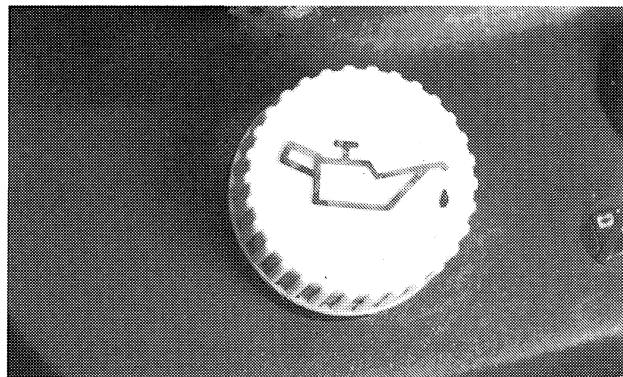
MX,SEBV,A -19-25MAY89

CHECKING OIL LEVEL—4-CYCLE—BEFORE USE

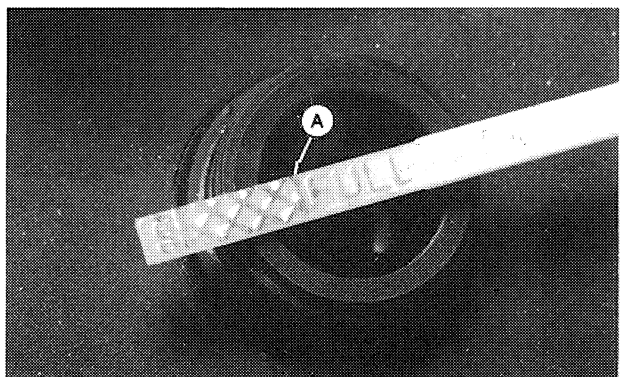
IMPORTANT: Change oil (and filter, if equipped) after first 5 hours of operation.

⚠ CAUTION: Before you check or add oil:
—STOP engine.
—Let it cool.

1. Stop engine. Put mower on level surface.
2. Remove dipstick. Wipe it.
3. Install dipstick. DO NOT TIGHTEN IT: LET THREADS REST ON TOP OF TUBE.
4. Add oil to bring level to FULL mark (A). See 4-CYCLE ENGINE OIL in Fuels and Lubricants section for correct oil.
5. Install and tighten dipstick.



M61458 -UN-01SEP88



M61459 -UN-20JUN89

MX,SEBV,A1 -19-10AUG88

CLEANING AIR CLEANER ELEMENTS—25 HOURS

NOTE: If you operate mower in dusty conditions, clean elements more often.



CAUTION: Before you remove elements:

- Stop engine.
- Let it cool.

IMPORTANT: Do not run engine without elements. If either element is damaged, replace it.

To clean foam element:

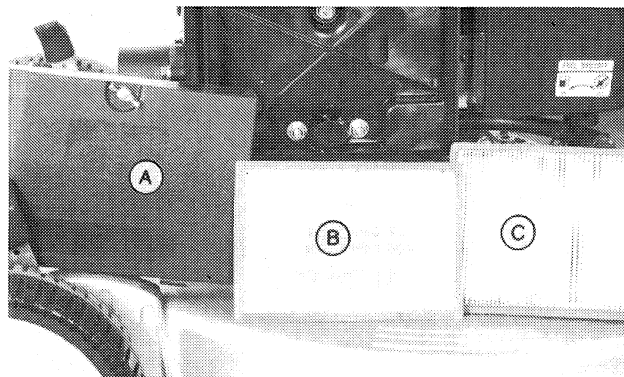
1. Remove cover (A).
2. Remove foam element (B) from paper element (C)
3. Wash foam element in non-flammable solvent or warm water-detergent solution. Rinse element. Let it dry.

IMPORTANT: Do not oil 2-cycle engine element.

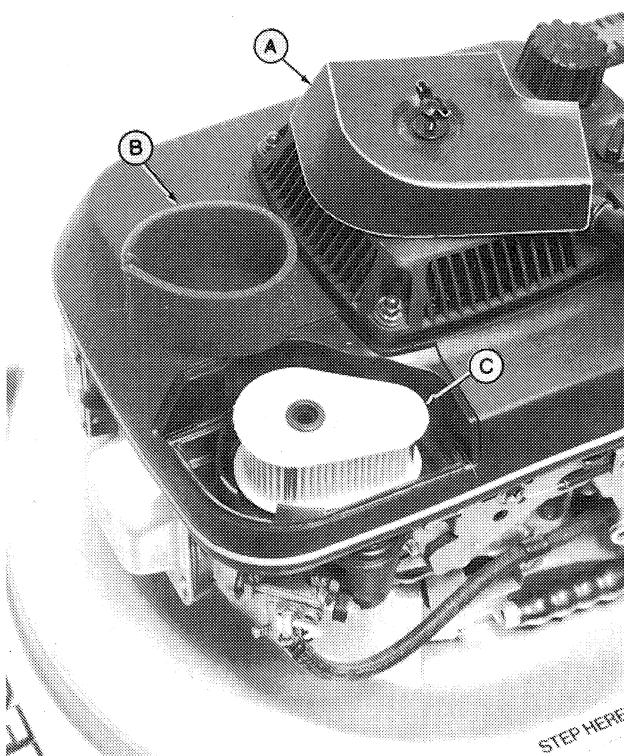
4. 4-cycle engine element: Put 10—15 drops clean engine oil on element. Squeeze element to distribute oil.

To clean paper element:

1. Use one or more of following ways of cleaning:
 - Dust element: Tap element on hard surface to loosen and remove dust.
 - Use compressed air under 30 psi (210 kPa). Direct air along pleats from inside to outside of element.
 - Wash element in warm water-detergent solution. Rinse element. Let it dry.
2. Install elements and cover.



2-Cycle Engine



4-Cycle Engine

TIGHTENING BLADE HARDWARE—25 HOURS



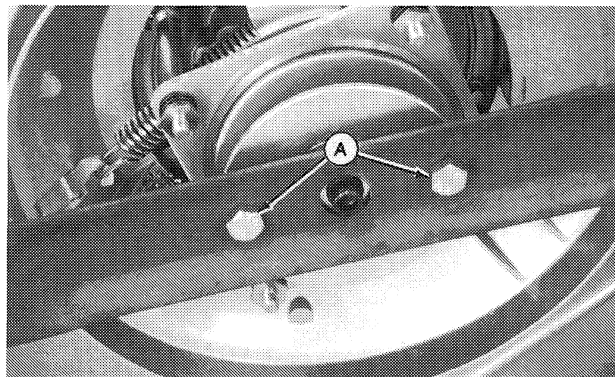
CAUTION: Service mower safely:

- Stop engine. Let it cool.
- Disconnect spark plug wire.
- Electric start model: disconnect battery.
- Wear gloves or wrap blade with rag.

IMPORTANT: Do not turn mower on left side:

- Oil or fuel mixture will run into air cleaner and carburetor.
- Air cleaner will be damaged.
- Engine will be hard to start.

IMPORTANT: Tighten hardware (A) to 55 lb-ft (75 N·m).



M61462 -JN-06OCT88

MX,SEBV,C -19-10AUG88

CHANGING 4-CYCLE ENGINE OIL—25 HOURS

NOTE: Oil filter kit for 4-cycle engine is available at John Deere dealer. If you install kit, change oil every 50 hours.

IMPORTANT: Change oil after first 5 hours of operation. If you do not run mower 25 hours during mowing season, change oil before you store mower.

1. Install drain hose shown (included with mower) on oil drain fitting.

IMPORTANT: Do not overtighten drain fitting or you may damage it.

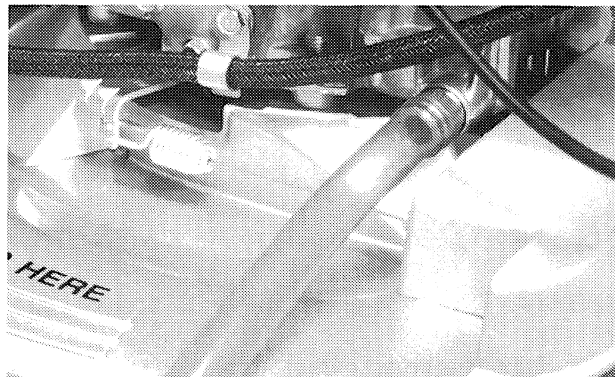
2. Turn fitting counterclockwise to open drain. Drain oil into container. Tighten fitting. Remove hose.

3. Add 1-1/4 pt (0.6 L) oil through dipstick tube. See 4-CYCLE ENGINE OIL in Fuels and Lubricants section for correct oil

4. Install dipstick. DO NOT TIGHTEN IT: LET THREADS REST ON TOP OF TUBE.

5. Check oil level. If necessary, add oil to bring level to FULL MARK.

6. Install and tighten dipstick.

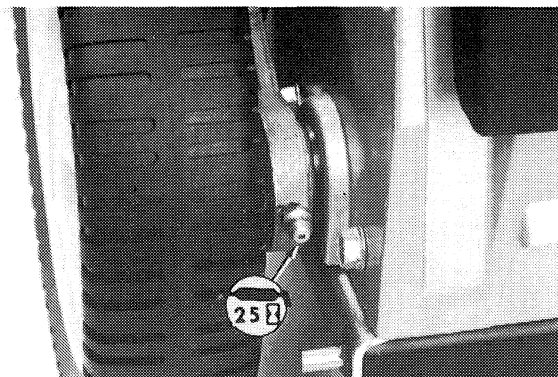


M62532 -UN-20JUN89

MX,SEBV,D -19-08JUN89

LUBRICATING REAR AXLE BEARINGS—MODELS 12SB, 14SB, AND 14SE—25 HOURS

Lubricate bearings with one shot of John Deere Multipurpose Grease or equivalent.



M61549 -UN-07DEC88

MX,SEBV,D1 -19-10AUG88

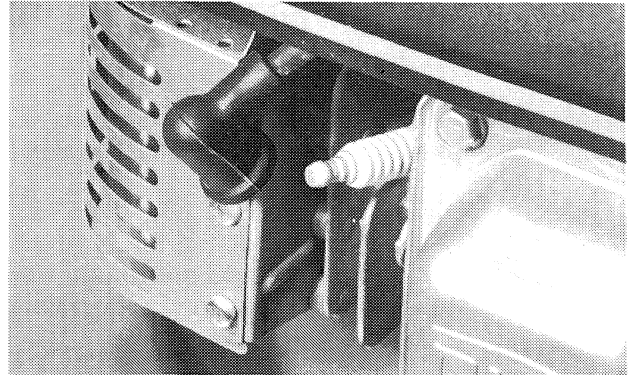
CLEANING AND GAPPING SPARK PLUG—ALL MODELS—25 HOURS

CAUTION: Before you remove plug:
—Stop engine.
—Let it cool.

1. Disconnect spark plug wire. Remove plug.

IMPORTANT: Do not clean plug with abrasives.

2. Carefully wire brush carbon from plug.
3. Inspect plug for damage. Replace damaged plug.
4. Adjust gap: 0.030 in. (0.76 mm).
5. Install and tighten plug to 15 lb-ft (20 N·m)
6. Connect wire to plug.



4-Cycle Engine

M61522
-UN-01-SEP88

MX,SEBV,E -19-10AUG88

CLEANING TOP OF TRANSMISSION—MODELS 12SB, 14SB, AND 14SE—25 HOURS

CAUTION: Before you remove shield:
—Stop engine.
—Let it cool.

1. Remove belt shield. See ADJUSTING TRACTION CLUTCH in this section.

2. Check top of transmission for buildup of clippings or debris.
3. Use a brush or compressed air to remove buildup.
4. Install shield.

MX,SEBV,E2 -19-17OCT88

CHANGING OIL FILTER (OPTIONAL)—4-CYCLE ENGINE—50 HOURS

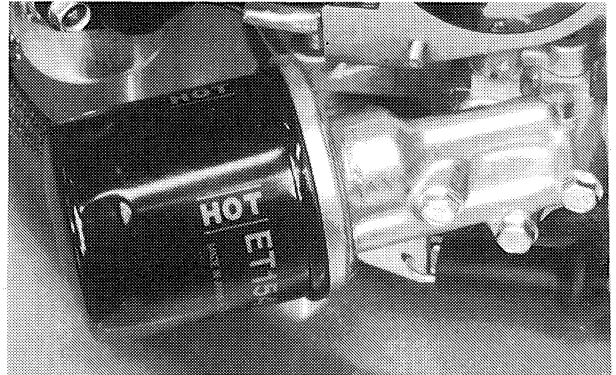
IMPORTANT: Change oil and filter after first 5 hours of operation. After that, change filter every 50 hours or yearly, whichever comes first.



CAUTION: Before you remove filter:

- Stop engine.
- Let it cool.

1. Drain Oil. See CHANGING ENGINE OIL in this section. Remove filter: turn it counterclockwise.
2. Apply film of clean engine oil to new filter gasket.
3. Install filter:
 - Turn filter clockwise until gasket contacts filter base.
 - Tighten filter with hands about 3/4 turn.
4. Add oil. See CHANGING ENGINE OIL. Run engine 3 minutes. Check for leaks around filter.
5. Stop engine. Check oil level. See CHECKING OIL LEVEL in this section.
6. Install and tighten dipstick.



M61553 -UN-07DEC88

MX,SEBV,E1 -19-26MAY89

ADJUSTING TRACTION CLUTCH—SELF-PROPELLED UNITS—50 HOURS OR AS NECESSARY

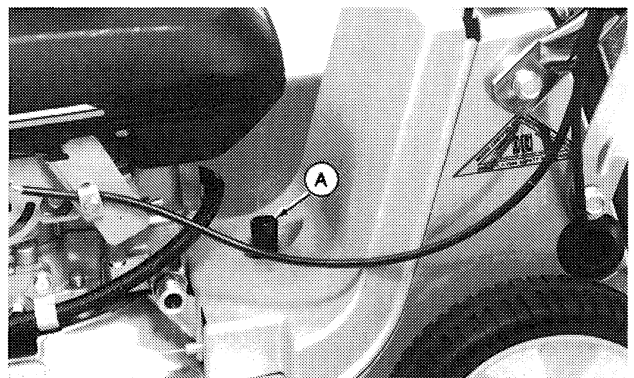
Adjust clutch before 50 hours if mower slows as it goes uphill.



CAUTION: Do not operate mower without belt shield. Before you adjust clutch:

- Stop engine.
- Let it cool.
- Keep people and pets away from mower.
- Keep away from belt area when engine is running.

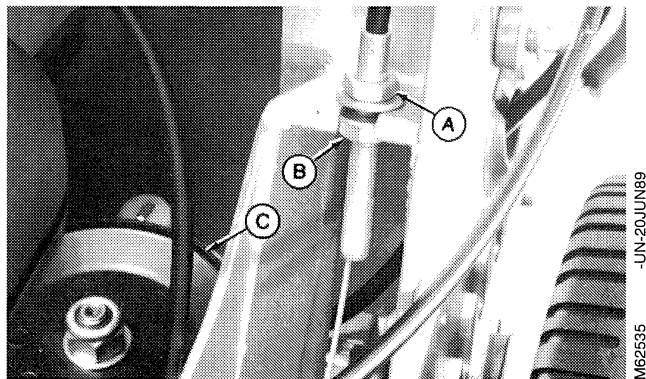
1. Remove knob (A) and shield.



M62533 -UN-20JUN89

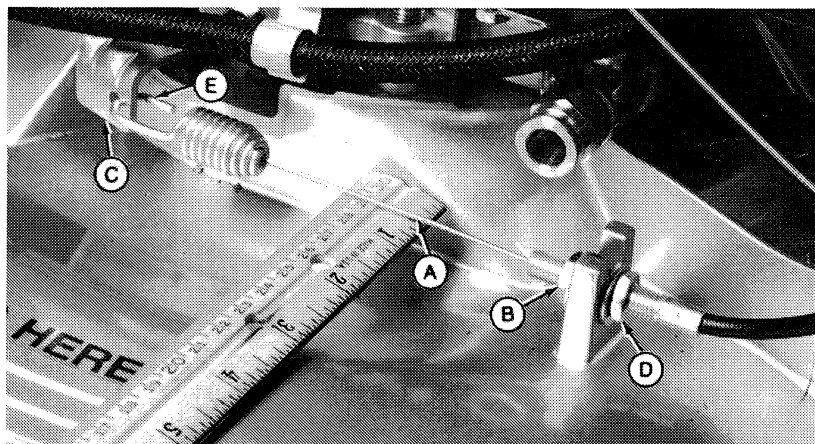
MX,SEBV,F -19-08JUN89

2. Loosen nut (A).
3. Turn nut (B) down 1/4 in. (6 mm).
4. Tighten nut (A).
5. Start engine.
6. ENGAGE traction clutch lever to check clutch action.
7. If clutch needs more tension, repeat steps 2 and 3.
8. LOOK: Pulley (C) should not turn when engine is running and clutch lever is disengaged. If pulley turns, turn nuts (A and B) up.



MX,SEBV,G -19-08JUN89

ADJUSTING BLADE BRAKE CLUTCH—100 HOURS OR YEARLY



CAUTION: Do not operate mower without belt shield.

Adjust clutch:

—If blade does not stop within 3 seconds after you release lever.

—If you can pull clutch cable outward from mower deck more than 1 in. (25 mm). See steps below.

1. CHECK: Blade engagement lever on handlebar must be all the way to rear.

2. Measure from vertical deck wall to cable (A).

3. Pull cable horizontally away from deck wall, and measure again. Distance should be less than 1 in (25 mm).

4. If distance is more than 1 in. (25 mm), adjust cable:

—Remove belt shield. See ADJUSTING TRACTION CLUTCH in this section.

—Loosen nut (B).

—Pull to rear on threaded fitting to remove slack from cable. Do not move blade clutch arm (C) to rear.

—Turn nut (D) against deck fork.

—Tighten nut (B).

—CHECK: Spring hook (E) should be loose in hole. If it is tight, loosen nut (D) and tighten nut (B).

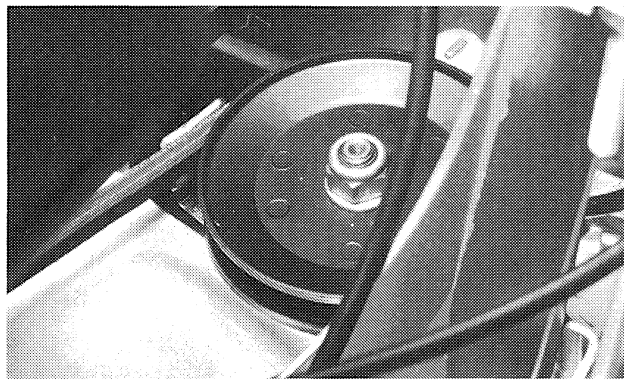
—Install shield.

MX,SEBV,H -19-07JUN89

CHECKING BELT AREA—MODELS 12SB, 14SB, AND 14SE—AS NECESSARY

⚠ CAUTION: Before you remove shield:
—Stop engine.
—Let it cool.

1. Remove belt shield. See ADJUSTING TRACTION CLUTCH in this section.
2. Remove grass buildup from belt area shown, and especially from transmission area.
3. Install shield.



M62534 -UN-20JUN89

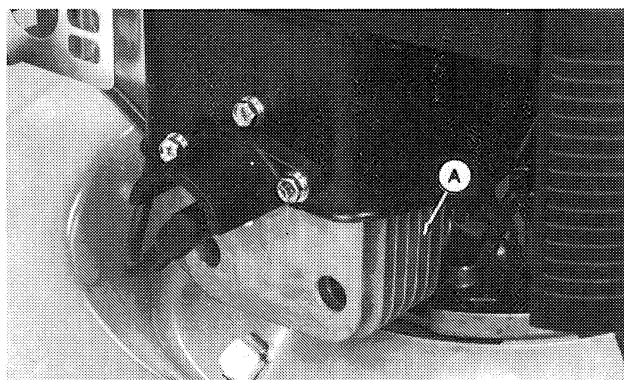
MX,SEBV,H1 -19-08JUN89

CLEANING FINS—AS NECESSARY

IMPORTANT: Keep fins clean or engine may overheat.

Clean fins with brush, rag, or compressed air.

Blow compressed air under shroud.



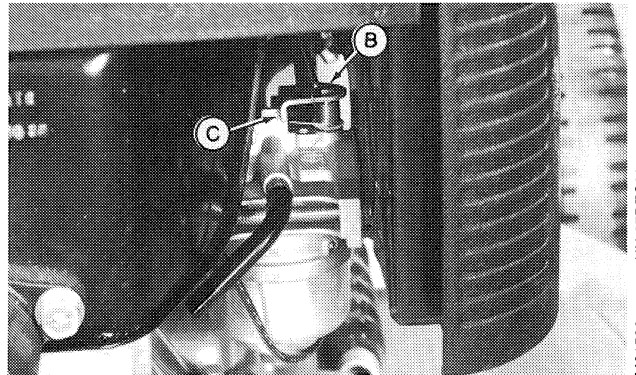
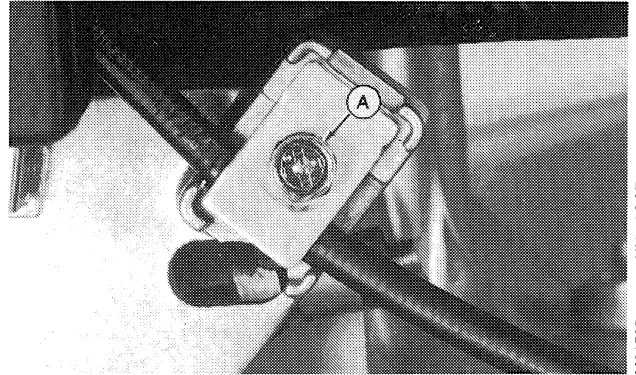
M61548 -UN-06OCT88

2-Cycle Engine

MX,SEBV,H2 -19-10AUG88

ADJUSTING THROTTLE CABLE—2-CYCLE ENGINE—AS NECESSARY

1. Move throttle lever to FAST position.
2. Loosen screw (A).
3. Hold choke plate (B). Move cable in clamp to take up slack in linkage.
4. Tighten screw.
5. CHECK:
 - Put throttle lever in FAST position: tab (C) should point to right of mower.
 - Put throttle lever in CHOKE position: tab should point to front.



MX,SEBV,I -19-26MAY89

ADJUSTING THROTTLE CABLE—4-CYCLE ENGINE—AS NECESSARY

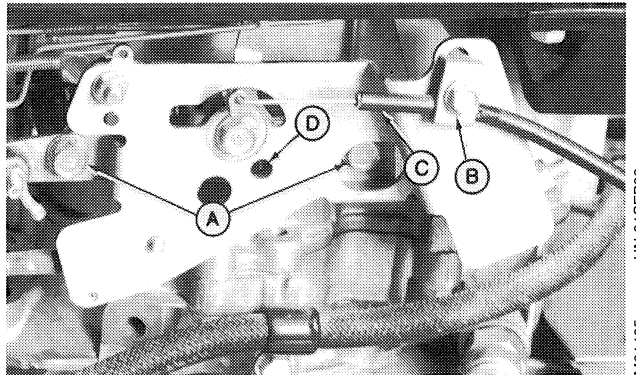
IMPORTANT: Do not move screws (A) or you will change governor adjustment.

CHECK:

- Move throttle lever to FAST (rabbit) position.
- LOOK: Hole (D) in lever should be in line with hole in bracket.

To adjust cable:

1. Move throttle lever to FAST position.
2. Loosen screw (B).
3. Move cable cover (C) until holes (D) are in line.
4. Tighten screw.



A—Screws
B—Screw

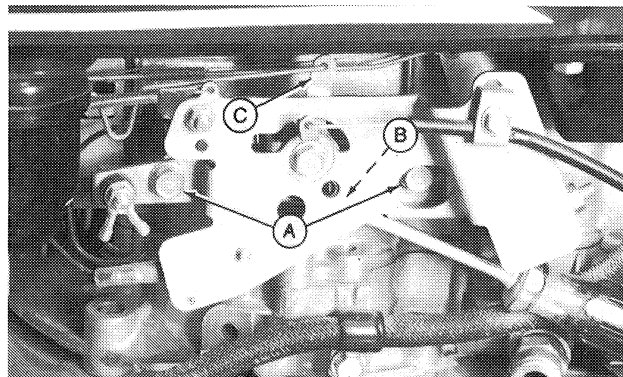
C—Cable Cover
D—Hole

MX,SEBV,K -19-26MAY89

ADJUSTING CHOKE—4-CYCLE ENGINE—AS NECESSARY

IMPORTANT: Do not move screws (A) or you will change governor adjustment.

1. Adjust throttle cable. See ADJUSTING THROTTLE CABLE in this section.
2. Turn screw (B) clockwise until lever (C) begins to move. If lever moves when you first turn screw, back off screw and start step 2 again.
3. Move throttle lever to CHOKE position.
4. Move lever (C). There should be no free play.
5. If necessary, repeat step 2.



M61466 -UN-01SEP88

MX,SEBV,L -19-26MAY89

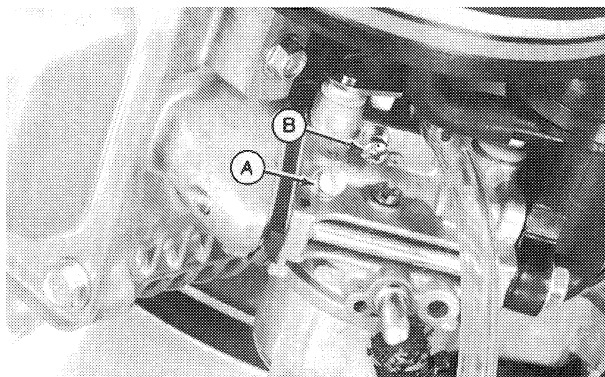
ADJUSTING SLOW IDLE—4-CYCLE ENGINE—AS NECESSARY

1. Turn screw (A) clockwise until you feel needle lightly contact seat. Back out screw one turn.

2. Warm engine at half-throttle, no load.

CAUTION: Be careful: Engine is HOT, and will burn you if you touch it.

3. Move throttle lever to SLOW position.
4. Adjust screw (B) until engine runs smoothly.
5. Adjust screw (A) to get maximum rpm. Back screw out 1/4 turn.
6. Adjust screw (B) until engine runs smoothly.



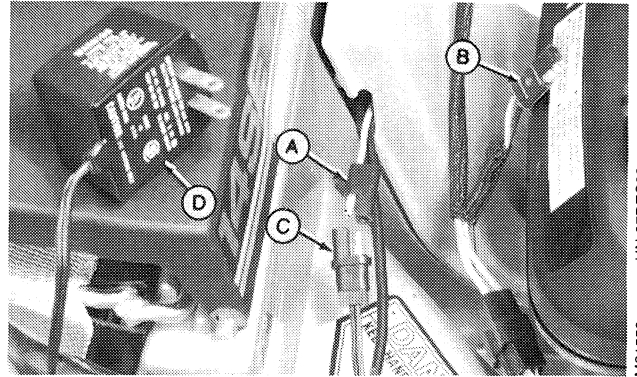
M61470 -UN-13OCT88

MX,SEBV,M -19-26MAY89

CHARGING BATTERY—MODEL 14SE—AS NECESSARY

IMPORTANT: Use only charger supplied with mower. Other chargers may permanently damage battery.

1. Disconnect battery wire connector (A) from engine wire connector (B).
2. Connect charger cord connector (C) to battery wire connector.
3. Plug charger (D) into 115-volt house receptacle.
4. For new or discharged battery: Charge battery 24—36 hours.
5. Unplug cord from house receptacle, then from battery.
6. Connect battery wire connector to engine wire connector.



M61558 -UN-07DEC88

MX,SEBV,N -19-26MAY89

CHECKING AND REMOVING BLADE—AS NECESSARY



CAUTION: Service mower safely:

- Check or remove blade when fuel tank is almost empty.
- Stop engine. Let it cool.
- Disconnect spark plug wire.
- Electric start model: disconnect battery.
- Wear gloves or wrap blade with rag.

IMPORTANT: Do not turn mower on left side:

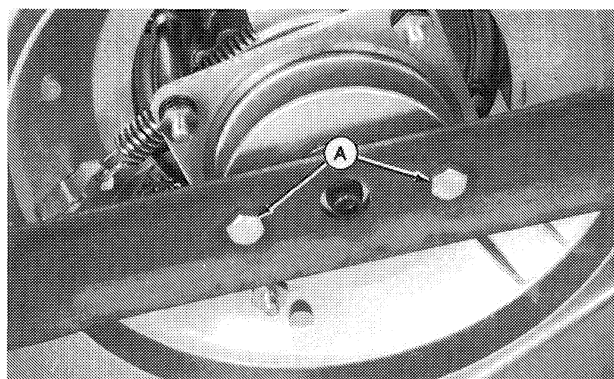
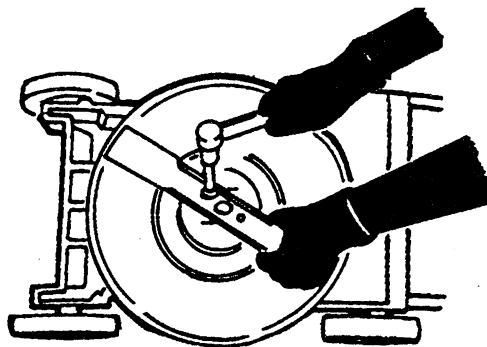
- Oil or fuel mixture will run into air cleaner and carburetor.
- Air cleaner will be damaged.
- Engine will be hard to start.

To check blade:

1. Turn mower on right side.
2. Check blade for damage and sharpness:
 - Replace damaged blade.
 - Sharpen dull blade. See SHARPENING BLADE in this section.

To remove blade:

1. Turn screws (A) counterclockwise. Remove screws.
2. Remove blade. Note position of blade: Wing (bend) should be toward deck.
3. Clean and inspect blade. Replace damaged blade.



M61532 -UN-01SEP88

M61462 -UN-06OCT88

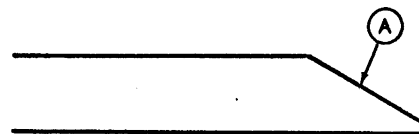
SHARPENING BLADE—AS NECESSARY

CAUTION: Wear gloves when you handle blade.

1. Sharpen blade: Keep original bevel (A).

IMPORTANT: Balance blade after you sharpen it.
Unbalanced blade may cause excessive vibration.

2. Balance blade. See BALANCING AND INSTALLING BLADE in this section.



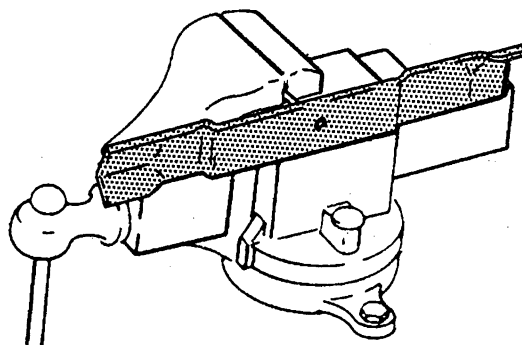
MX,SEBV,Q -19-26MAY89

M61830 -UN-19OCT88

BALANCING AND INSTALLING BLADE—AS NECESSARY

CAUTION: Wear gloves when you handle blade.

1. Clean blade.
2. Put blade on nail in vise or wall. Heavy end of blade will drop. Grind bevel of heavy end. Do not change bevel.
3. Install blade and screws. Tighten screws to 55 lb-ft (75 N·m).



MX,SEBV,R -19-10AUG88

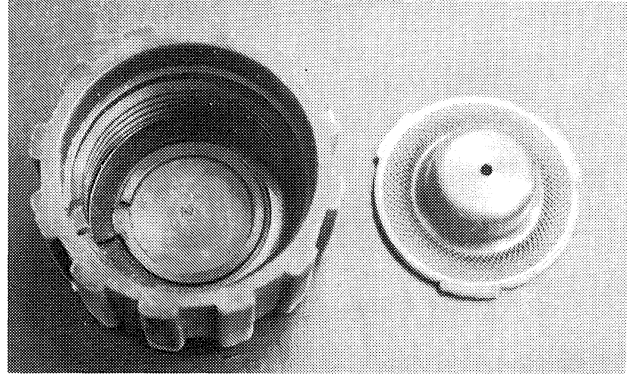
M61524 -UN-01SEP88

CLEANING FUEL CAP VENT—4-CYCLE ENGINE—AS NECESSARY



CAUTION: Before you remove cap:
—Stop engine. Let it cool.
—Do not smoke while you work on fuel system.

1. Remove cap.
2. Remove rubber vent from cap.
3. Clean cap and vent in nonflammable solvent.
4. Install vent and cap.



M61468 -UN-01SEP88

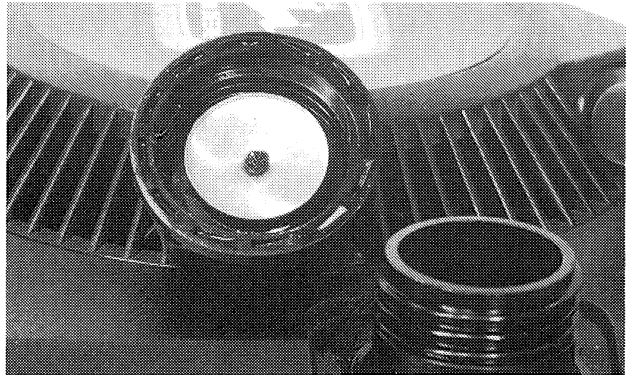
MX,SEBV,S -19-10AUG88

CLEANING FUEL CAP VENT—2-CYCLE ENGINE—AS NECESSARY



CAUTION: Before you remove cap:
—Stop engine. Let it cool.
—Do not smoke while you work on fuel system.

1. Remove cap.
2. Clean cap in nonflammable solvent.
3. Install cap.



M61475 -UN-01SEP88

MX,SEBV,T -19-10AUG88

Storage

STORING MOWER



CAUTION: Fuel is highly flammable. Do not smoke while you service fuel system. Wipe up spilled fuel immediately.

IMPORTANT: Use gasoline stabilizer: It helps prevent varnishing and plugging of carburetor jets. Either of these could cause engine to run lean, and result in piston seizure and engine failure. Follow directions on stabilizer can.

1. Use John Deere Gasoline Storage Stabilizer or equivalent. Follow directions on can.

2. Replace spark plug but leave plug wire disconnected.

3. Lubricate rear axle bearings.

4. Fold handle down, if desired. See FOLDING HANDLE in Operation section.

5. Close fuel shutoff valve.

6. Do not store mower with fuel in tank in a building where fumes may reach an open flame or spark.

MX,STBV,A -19-10AUG88

REMOVING FROM STORAGE

1. Unfold and tighten handle.

2. Fill fuel tank with fresh fuel-oil mixture or fresh gasoline. See Fuels and Lubricants section for correct fuel.

3. Check 4-cycle engine oil level.

4. Inspect mower:

—Shields and safety devices must be fastened in place and in good condition.

—Hardware must be tight: none missing.

5. Lubricate rear axle bearings.

6. Open fuel shutoff valve.

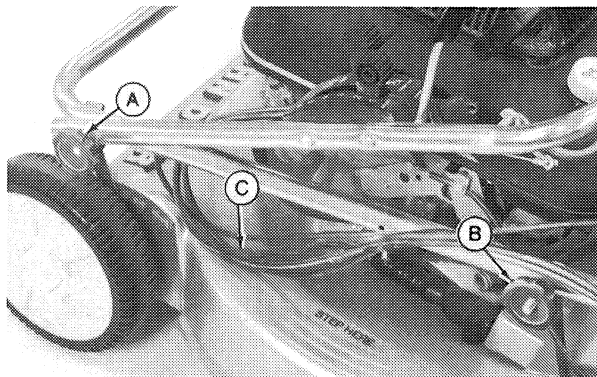
7. Run engine at half throttle 2—3 minutes before you mow.

MX,STBV,B -19-10AUG88

Assembly

REMOVE HANDLE HARDWARE

1. Loosen knob (A) on each side.
2. Remove knob (B) and bolt from each side.
3. Cables (C) should be inside handle.



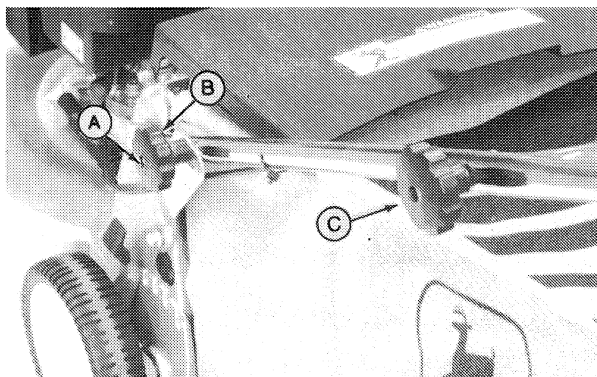
MX,ASBV,A -19-10AUG88

M61456 -UN-06OCT88

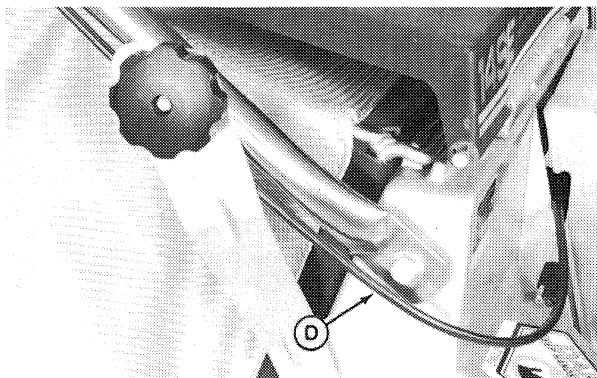
UNFOLD HANDLE

IMPORTANT: On right side **INSTALL CABLE INSIDE BRACKET** where it cannot catch on objects when you mow and be damaged.

1. Install bolt (A) through bracket and handle on each side. On right side install cable (D) **INSIDE BRACKET**: between bracket and mower deck.
2. Install knob (B) on each bolt.
3. Hold handle in straight position and tighten knob (C) on each side.



M61531 -UN-13OCT88



M61557 -UN-07DEC88

MX,ASBV,B -19-10AUG88

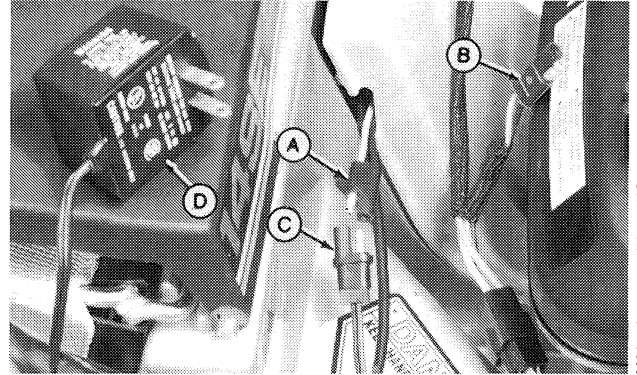
CHARGE BATTERY

IMPORTANT: Use only charger supplied with mower. Other chargers may permanently damage battery.

1. Disconnect battery wire connector (A) from engine wire connector (B).
2. Connect charger cord connector (C) to battery wire connector.
3. Plug charger (D) into 115-volt house receptacle.

IMPORTANT: To help battery last longer, charge battery 24—36 hours before first battery use.

4. Charge battery 24—36 hours.
5. Unplug cord from house receptacle, then from battery.
6. Connect battery wire connector to engine wire connector.



M61558 -UN-07DEC88

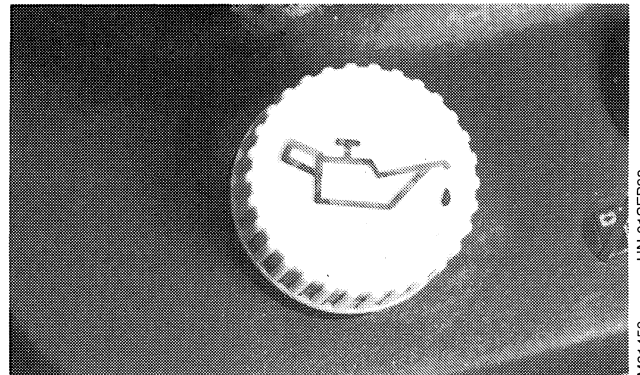
MX,ASBV,C -19-26MAY89

ADD ENGINE OIL—4-CYCLE ENGINE

IMPORTANT: Engine is shipped without oil. You must add oil before you run engine.

1. Remove dipstick shown.
2. Add 1-1/4 pt (0.6 L) oil through dipstick tube. See ENGINE OIL in Fuels and Lubricants section for correct oil.
3. Check oil level:
—Install dipstick. DO NOT TIGHTEN IT: LET THREADS REST ON TOP OF TUBE.
—Check oil on dipstick: Oil should be to FULL mark. If not, add oil.
4. Install and tighten dipstick.
5. Remove NO OIL tag.

IMPORTANT: Change oil (and filter, if equipped) after first 5 hours of operation.



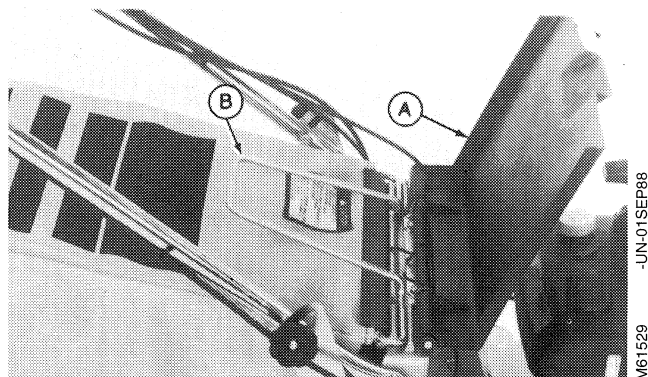
M61458 -UN-01SEP88

MX,ASBV,E -19-10AUG88

INSTALL GRASS BAG

CAUTION: Do not operate mower without grass bag or chute (optional).

1. Lift door (A).
2. Grasp handle (B).
3. Install bag.



MX,ASBV,F -19-10AUG88

M61529 -UN-01SEP88

TEST MOWER OPERATION

1. Put enough fuel in tank to test mower operation. See Fuels and Lubricants section for correct fuel.
2. Start engine and check mower operation. See Operation section.
3. Close fuel shutoff valve.

MX,ASBV,G -19-14OCT88

Specifications

MOWER SPECIFICATIONS

Cutting height range	1/2—3-1/2 in. (13—90 mm)
Number of cutting heights in 1/2-in. (13 mm) steps	7
Blade hardware torque	55 lb-ft (75 N·m)
Self-propelled models:	
—Travel speed range	1.2—4.1 mph (1.9—6.6 kmh)
—Number of travel speeds	5
—Drive	V-belt off engine
Safety system	Blade-brake clutch
Wheel diameter	8 in. (200 mm)
Bagger capacity	2.5 bu (3.1 cu ft)
Shipping weight (approximate)	100 lb (45 kg)

(Specifications and design subject to change without notice)

MX,SPBV,A -19-10AUG88

BRIGGS AND STRATTON 2-CYCLE ENGINE FOR MODELS 12PB AND 12SB

Horsepower	4 hp (3 Kw)
Operating range	3000—3200 rpm
Idle speed	1750 rpm
Fuel tank capacity	2 qt (1.9 L)
Fuel/Oil mixture	50:1
Spark plug	Champion RJ19LM
Spark plug gap	0.030 in. (0.76 mm)
Spark plug torque	15 lb-ft (20 N·m)

MX,SPBV,B -19-10AUG88

KAWASAKI 4-CYCLE ENGINE FOR MODELS 14PB, 14SB, AND 14SE

Horsepower	4.5 hp (3.4 Kw)
Operating Range	3000—3150 rpm
Idle speed	1500 rpm
Engine oil capacity w/o filter	1-1/4 pt (0.60 L)
Fuel tank capacity	1.4 qt (1.3 L)
Spark plug	NGK-BP6ES
Spark plug gap	0.030 in. (0.76 mm)
Spark plug torque	15 lb-ft (20 N·m)

MX,SPBV,C -19-10AUG88

MACHINE NUMBERS

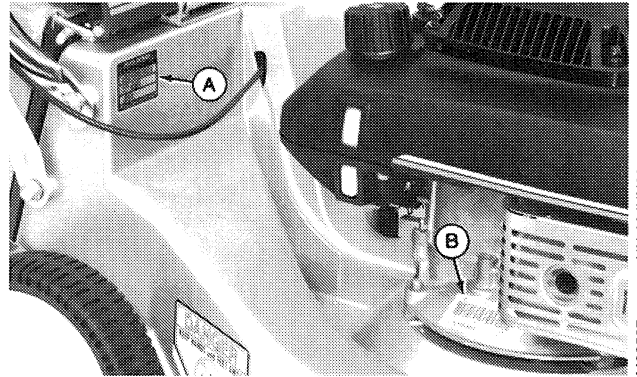
Write numbers below. Your John Deere dealer needs these numbers when you order parts.

Mower Model _____

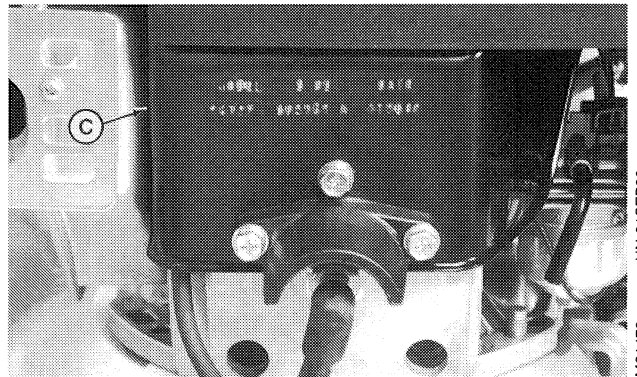
Mower Serial Number (A) _____

4-Cycle Engine Serial Number (B) _____

2-Cycle Engine Model, Type,
and Date Numbers (C) _____



M62537 -JUN-20JUN89



M61479 -UN-01SEP88

MX,SPBV,D -19-08JUN89

Index

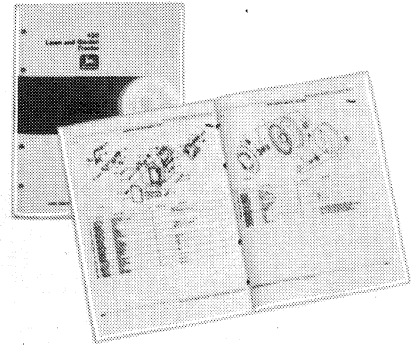
	Page		Page
A		Cutting Height, Adjust	9
Adjusting Blade Brake Clutch	30	D	
Adjusting Choke	33	Discharge Chute (Optional)	15
Adjusting Cutting Height	9	E	
Adjusting Handle Height	9	Electric Starting	10
Adjusting Slow Idle	33	Elements, Air Cleaner	24
Adjusting Throttle Cable	32	Engine Controls	8
Adjusting Traction Clutch	28	Engine Oil Change	26
Air Cleaner	24	Engine Oil Level	23
Assembly Section	39	Engine Oil Specifications	18
Axle Bearings, Lubricate	26	Engine Specifications	43
B		Engine Starting	10
Bag, Grass	15	Engine, Stopping	11
Bagging Tips	15	F	
Balancing Blade	36	Filter, Oil (Optional)	28
Battery Charging	34	Fins, Cleaning	31
Belt Area, Cleaning	31	Folding Handle	17
Blade Brake Clutch, Adjust	30	Forward Travel Lever	12
Blade Control Lever	12	Fuel Cap Vent, Cleaning	37
Blade Hardware	25	Fuel, Mixing	19
Blade, Balance	36	Fuels	18
Blade, Check and Remove	35	Fuels and Lubricants Section	18
Blade, Install	36	G	
Blade, Sharpening	36	Gapping Spark Plug	27
C		Grass Bag	15
Carburetor, Adjust	33	Grass Buildup	31
Changing Engine Oil	26	Grease	19
Changing Oil Filter (Optional)	28	H	
Charging Battery	34	Handle Controls	8
Checking Belt Area	31	Handle Height, Adjust	9
Checking Blade	35	Handle, Folding and Unfolding	17
Checking Oil Level	23	Hardware Blade	25
Choke, Adjust	33	I	
Chute, Discharge (Optional)	15	Idle Speed, Adjust	33
Cleaning Air Cleaner Elements	24	Installing Blade	36
Cleaning Fins	31		
Cleaning Fuel Cap Vent	37		
Cleaning Spark Plug	27		
Cleaning Top of Transmission	22, 27		
Clutch, Blade Brake	30		
Clutch, Traction	28		
Controls Section	8		
Controls, Engine	8		
Controls, Handle	8		
Controls, Mower	8		

	Page		Page
L		Specifications, Engine	43
Lubricants	18	Specifications, Mower	42
Lubricating Axle Bearings	26	Speeds, Travel	13
		Starting Engine with Battery	10
M		Starting Engine Manually	11
Machine Numbers	44	Stopping Engine	11
Manual Starting	11	Storage Section	38
Mixing 2-Cycle Engine Fuel	19	Storing Mower	38
Mower Controls	8		
Mower Specifications	42	T	
Mowing Tips	14	Test Mower Operation	41
Mulcher Plate (Optional)	16	Throttle Cable, Adjust	32
		Tightening Blade Hardware	25
N		Tips for Mowing	14
Numbers, Serial	44	Tips For Bagging	15
		Traction Clutch, Adjust	28
O		Transmission, Cleaning Top	22, 27
Oil Change	26	Transporting Mower	17
Oil Filter (Optional)	28	Travel Speeds	13
Oil Level, Engine	23	Troubleshooting Section	20
Oil Specifications	18		
Operation Section	9	U	
Operation, Test Mower	41	Unfolding Handle	17
P		V	
Plate, Mulcher (Optional)	16	Vent, Fuel Cap	37
R			
Rear Axle Bearing, Lubricate	26		
Removing Blade	35		
S			
Safety Section	2		
Self-Propelled Travel	12		
Serial Numbers	44		
Service Interval Chart	22		
Service Section	22		
Sharpening Blade	36		
Slow Idle, Adjust	33		
Spark Plug	27		
Specifications Section	42		

John Deere Service Literature

PARTS CATALOG

The parts catalog lists service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.



O53,PARTS -19-27NOV85

TS189 -UN-17JAN89

OPERATOR'S MANUAL

The operator's manual provides safety, operating, maintenance, and service information about John Deere machines.

An extra copy of the operator's manual is important if the copy furnished with your machine is misplaced.



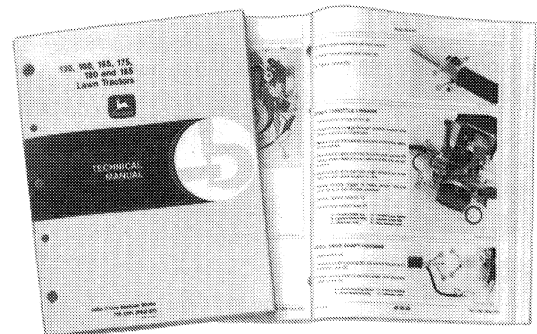
O53,OM -19-27NOV85

TS190 -UN-17JAN89

TECHNICAL AND SERVICE MANUALS

Technical and service manuals are service guides for your machine. Included in the manual are specifications, diagnosis, and adjustments. Also illustrations of assembly and disassembly procedures, hydraulic oil flows, and wiring diagrams.

Component technical manuals are required for some products. These supplemental manuals cover specific components.

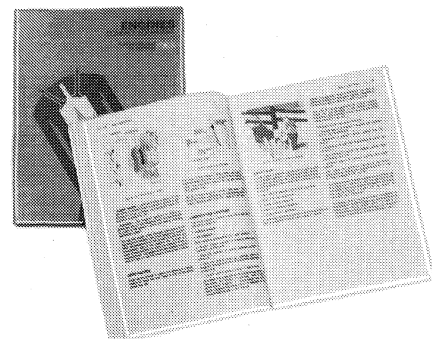


O53,TM -19-21DEC87

TS224 -UN-17JAN89

FUNDAMENTALS OF SERVICE MANUALS

These basic manuals cover most makes and types of machines. FOS manuals tell you how to service machines. Each manual starts with basic theory and is fully illustrated with colorful diagrams and photographs. Both the "whys" and "hows" of adjustments and repairs are covered in this reference library.



O53,CPFOS -19-27NOV85

TS194 -UN-02DEC88

John Deere Service Literature

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Prices subject to change without notice.
SP-317 Aug-89

MX,SLIT,79671 -19-10AUG88

John Deere Service Keeps You on the Job



John Deere is at your service when you need it

John Deere takes pride in providing superior service. We'll be around when you need us. To help minimize downtime, we maintain a large and varied parts inventory. Precision tools and testing equipment enable our dealerships to locate and correct troubles quickly. We hold regular training schools for service technicians so they know your equipment and how to maintain it. Our goal is to provide prompt, efficient service through competent dealerships.

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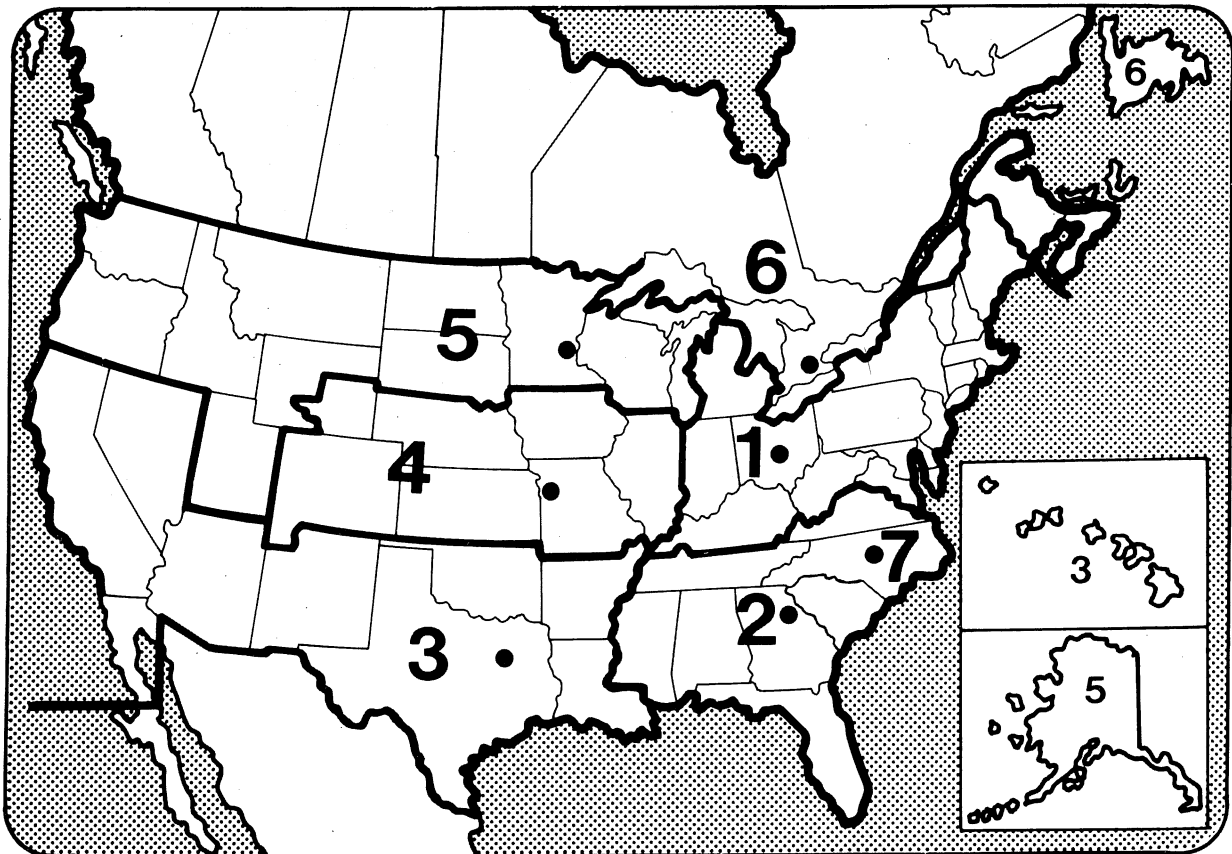
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Raleigh, NC 27609-6203
919-850-0123
(U.S. Residential Dealers)

Should you experience any difficulty obtaining satisfactory parts or service:

- Discuss your problem with your dealership service manager.
- If still unable to properly resolve, see the dealership manager.
- If you have a persistent problem that your dealership is unable to satisfy, contact the John Deere sales branch in the area in which you live. (See the map below to locate the sales branch.) The sales branch will also help you locate the dealership nearest you.



TS-301 (Jun-89)

O53,IBC,3 -19-29NOV88

TS301 -19-31MAY89

