OWNER’S MANUAL

Safety, Assembly, Operating, and Maintenance Instructions

Model MT (20.0 / 25.0 HP)
(Covers Serial Numbers 95-21329 and on)

Please Read and Save These Instructions
For Safety, Read All Safety and Operation Instructions Prior to Operating Machine

Effective Date: 08-14-98
P/N 8000-1
Price $5.00
Foreword

Thank you... for purchasing a Walker mower. Every effort has been made to provide you with the most reliable mower on the market, and we are sure you will be among our many satisfied customers. If for any reason this product does not perform to your expectations, please contact us at (970) 221-5614. Every customer is important to us. Your satisfaction is our goal.

Please... read this manual thoroughly! This manual is to be used in conjunction with the engine manufacturer's manual for the specific engine on the mower model you have purchased. Before you operate your new mower, please read this entire manual. Some of the information is crucial for proper operation and maintenance of this mower - it will help protect your investment and ensure that the mower performs to your satisfaction. Some of the information is important to your safety and must be read and understood to help prevent possible injury to the operator or others. If anything in this manual is confusing or hard to understand, please call our service department, at (970) 221-5614, for clarification before operating or servicing this mower.

This manual covers Model MT with the Kohler Command CH20 (20.0 HP) gasoline engine, or optional Kohler Command CH25 (25.0 HP) gasoline engine.

All shields and guards must be in place for the proper and safe operation of this machine. Where they are shown removed in this manual, it is for illustration purposes only. Do not operate this machine unless all shields and guards are in place.

Specifications given are based on the latest information available at the time this manual was produced.

Walker Mfg. Co. is continually striving to improve the design and performance of its products. We reserve the right to make changes in specifications and design without thereby incurring any obligation relative to previously manufactured products.

Sincerely,

WALKER MANUFACTURING COMPANY

Bob Walker, President
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General Information

HIGHLIGHTED INFORMATION

Walker Manufacturing recommends that any service requiring special training or tools be performed by an authorized Walker Mower Dealer. There are several general practices to be aware of in the area of safety. Most accidents associated with the operation or maintenance of a Walker Mower are caused by disregarding basic safety precautions or specific warnings. Such accidents, in most cases, can be prevented by being aware of the dangers present.

Information of special importance has been highlighted in bold type in this manual. Refer to Safety Instructions for the meanings of DANGER, WARNING, CAUTION, IMPORTANT, and NOTE.

GLOSSARY

There are many terms that are either unique to this equipment or that are used as acronyms. The following terms and their definitions will help while using this manual:

- DECK is the mowing attachment mounted on the front of the tractor which includes the carrier frame, deck housing, blade drive gearboxes, and cutter blades.
- FORWARD SPEED CONTROL (FSC) controls the maximum forward speed of the tractor; functioning as a cruise control.
- GRASS HANDLING SYSTEM (GHS®) collects mowed material and deposits it in the catcher.
- GRASS-PAK® SWITCH is mounted on the grass delivery spout (in the catcher) and activates the “full” signal horn when the grass catcher is full.
- GROUND DRIVE refers to the dual hydrostatic transmissions which drive the main wheels.
- HYDROSTATIC TRANSMISSION transmits and controls power from the ground drive belt to the main drive wheel.
- LEFT HAND (LH) refers to the left-hand side of the tractor when the operator is seated facing forward in the tractor seat.
- POWER TAKE-OFF (PTO) transmits engine power to run the cutter blades and GHS blower.
- POWERFIL® spreads the mowed material throughout the interior of the grass catcher by an oscillating delivery spout.
- RIGHT HAND (RH) refers to the right-hand side of the tractor when the operator is seated facing forward in the tractor seat.
- SIDE DISCHARGE (SD) mows but does not collect the mowed material.
- STEERING LEVERS steer the tractor by controlling the dual hydrostatic transmissions.
- TRACTOR is the prime mover, including the engine, drive train, operator seat, and controls to operate the mower.
- TRANSMISSION LOCKOUT releases the hydrostatic transmissions to permit freewheeling the tractor.

IDENTIFYING NUMBER LOCATIONS

The tractor serial number plate is affixed to the tractor body just below the left rear corner of the seat. The mower deck serial number plate is affixed alongside the angle iron framing on the RH side of the RH mower blade drive. Model and serial numbers are helpful when obtaining replacement parts and maintenance assistance. For ready reference, please record these numbers in the space provided.

Tractor Model No. _______________________
Tractor Serial No. _______________________
Deck Serial No. _______________________
Engine Model No. _______________________
Engine Serial No. _______________________
Date of Purchase _______________________

Fill In By Purchaser
SERVICING OF ENGINE AND DRIVETRAIN COMPONENTS

The detailed servicing and repair of the engine, hydrostatic transmission, and gearboxes are not covered in this manual. Only routine maintenance and general service instructions are provided. For the service of these components during the limited warranty period, it is important to find a local, authorized servicing agent of the component manufacturer. Any unauthorized work done on these components during the warranty period may void the warranty. If you have any difficulty finding an authorized outlet or obtaining warranty service, please contact our Service Department for assistance:

Walker Manufacturing Company  
5925 E. Harmony Road  
Fort Collins, CO 80528  
1-970-221-5614

Service manuals are available for each of these components from their respective manufacturers as follows:

Kohler Engines  
Kohler Company  
Kohler, WI 53044

Hydrostatic Transmissions  
Eaton Corporation  
15151 Highway 5  
Eden Prairie, MN 55344

Gearboxes (Deck)  
Tecumseh Products Co.  
900 North Street  
Grafton, WI 53024

ENGINE SERIAL NUMBER LOCATION

Refer to the engine manual that accompanies this manual for the location of the engine serial number. For the mower model covered by this manual, an engine manual is available covering the Kohler CH20 and CH25 gasoline engines.
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<td>44.0 cu. in. (725 cc)</td>
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<td>API SF, SG, or SH Grade Oil Only with 10W-30 Viscosity above 0°F (-18°C), or 5W-20 or 5W-30 Viscosity below 32°F (0°C)</td>
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<td>Blade Spindle</td>
<td>Manual Belt Tightener Clutch and Band Brake (Stops Blades within Five (5) Seconds of Disengagement)</td>
<td>Manual Belt Tightener Clutch and Band Brake (Stops Blades within Five (5) Seconds of Disengagement)</td>
</tr>
<tr>
<td>Blade Drive Clutch and Brake</td>
<td>2400 RPM [15700 FPM (4785 m/min)]</td>
<td>2400 RPM [15700 FPM (4785 m/min)]</td>
</tr>
<tr>
<td>Max. Blade Speed [25 in. (64 cm) Blade] @ 3600 RPM Engine</td>
<td>2.80/2.50-4 Pneumatic (4-Ply)</td>
<td>2.80/2.50-4 Pneumatic (4-Ply)</td>
</tr>
<tr>
<td><strong>TIRE SIZE</strong></td>
<td>8.25 x 2.75 Semi-Pneumatic</td>
<td>8.25 x 2.75 Semi-Pneumatic</td>
</tr>
<tr>
<td>Deck Caster Wheel (Optional)</td>
<td>18 x 9.50-8 (4-Ply)</td>
<td>18 x 9.50-8 (4-Ply)</td>
</tr>
<tr>
<td>Drive</td>
<td>13 x 5.00-6 (4-Ply)</td>
<td>13 x 5.00-6 (4-Ply)</td>
</tr>
<tr>
<td>Rear (Dual)</td>
<td>2400 RPM [15700 FPM (4785 m/min)]</td>
<td>2400 RPM [15700 FPM (4785 m/min)]</td>
</tr>
</tbody>
</table>
## Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MT 20.0 HP</th>
<th>MT 25.0 HP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TIRE PRESSURE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deck Caster Wheel</td>
<td>20 PSI (137 kPa)</td>
<td>20 PSI (137 kPa)</td>
</tr>
<tr>
<td>Drive</td>
<td>15 PSI (103 kPa)</td>
<td>15 PSI (103 kPa)</td>
</tr>
<tr>
<td>Rear</td>
<td>20 PSI (137 kPa)</td>
<td>20 PSI (137 kPa)</td>
</tr>
<tr>
<td><strong>DIMENSIONS (Tractor and Mower)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>91 in. (231 cm)</td>
<td>91 in. (231 cm)</td>
</tr>
<tr>
<td>Width</td>
<td>49 in. (124 cm)</td>
<td>49 in. (124 cm)</td>
</tr>
<tr>
<td>Height</td>
<td>44 in. (112 cm)</td>
<td>44 in. (112 cm)</td>
</tr>
<tr>
<td>Wheel Base (Tractor)</td>
<td>42-1/4 in. (107 cm)</td>
<td>42-1/4 in. (107 cm)</td>
</tr>
<tr>
<td>Tread Width (Tractor)</td>
<td>29-3/4 in. (76 cm)</td>
<td>29-3/4 in. (76 cm)</td>
</tr>
<tr>
<td><strong>MOWER DECK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of Cut SD/GHS</td>
<td>42 or 48 in. (107 or 122 cm)</td>
<td>42 or 48 in. (107 or 122 cm)</td>
</tr>
<tr>
<td>Cutting Height</td>
<td>1 to 4 in. (3 to 10 cm)</td>
<td>1 to 4 in. (3 to 10 cm)</td>
</tr>
<tr>
<td>Height Adjustment</td>
<td>7 Positions - 1/2 in. (1 cm) Increment Hitch Pins Installed in Multi-Position Deck Support</td>
<td>7 Positions - 1/2 in. (1 cm) Increment Hitch Pins Installed in Multi-Position Deck Support</td>
</tr>
<tr>
<td><strong>Blade Size (Typical)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 in. (107 cm) SD</td>
<td>22 in. (56 cm)</td>
<td>22 in. (56 cm)</td>
</tr>
<tr>
<td></td>
<td>2 in. (5 cm) Center Overlap (Two Blades, CW Rotation)</td>
<td>2 in. (5 cm) Center Overlap (Two Blades, CW Rotation)</td>
</tr>
<tr>
<td>48 in. (122 cm) GHS</td>
<td>25 in. (64 cm)</td>
<td>25 in. (64 cm)</td>
</tr>
<tr>
<td></td>
<td>2 in. (5 cm) Center Overlap (Two Blades, Counter Rotate)</td>
<td>2 in. (5 cm) Center Overlap (Two Blades, Counter Rotate)</td>
</tr>
<tr>
<td>Deck Suspension</td>
<td>Torsion-Flex Frame with Caster Wheels and Counterweight Springs</td>
<td>Torsion-Flex Frame with Caster Wheels and Counterweight Springs</td>
</tr>
<tr>
<td><strong>CURB WEIGHT (Approximate)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD Tractor Only</td>
<td>660 lb (299 kg)</td>
<td>665 lb (302 kg)</td>
</tr>
<tr>
<td>GHS Tractor Only</td>
<td>760 lb (345 kg)</td>
<td>765 lb (347 kg)</td>
</tr>
<tr>
<td>Tractor and Mower*</td>
<td>965 lb (438 kg)</td>
<td>970 lb (440 kg)</td>
</tr>
</tbody>
</table>

*Dimensions and weight shown are for 48 in. (122 cm) GHS Model (typical). Dimensions for Tractor and Mower with 42 in. (107 cm) deck are:
Length = 88 in. (224 cm)
Width = 43 in. (110 cm)
For SD Models, subtract 7 in. (18 cm) from the height.
Deck weight for 48 in. (122 cm) Tilt-Up deck = 205 lb (93 kg). Deck sizes range from 42 to 62 in. (107 to 157 cm), with corresponding deck weights ranging from 170 to 300 lb (77 to 136 kg).
Optional (9.5 Bushel) Grass Catcher adds approx. 5 lb (2 kg) and 5 in. (13 cm) in Height.
## Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MT 20.0 HP</th>
<th>MT 25.0 HP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DRIVE BELTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine PTO</td>
<td>Walker P/N 8230</td>
<td>Walker P/N 8230</td>
</tr>
<tr>
<td>Jackshaft Drive</td>
<td>Gates 3VX355 (or Walker P/N 6231)</td>
<td>Gates 3VX355 (or Walker P/N 6231)</td>
</tr>
<tr>
<td>Ground Drive, Micro-V</td>
<td>Walker P/N 7248</td>
<td>Walker P/N 7248</td>
</tr>
<tr>
<td>Blower (GHS Model)</td>
<td>Gates 3VX280 (or Walker P/N 7234)</td>
<td>Gates 3VX280 (or Walker P/N 7234)</td>
</tr>
<tr>
<td><strong>GHS SYSTEM (Optional)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blower</td>
<td>4 x 10 x 1/4 in. (10 x 25 x 1 cm)</td>
<td>4 x 10 x 1/4 in. (10 x 25 x 1 cm)</td>
</tr>
<tr>
<td></td>
<td>Three-Blade Paddle Wheel (Driven by Mower Engine)</td>
<td>Three-Blade Paddle Wheel (Driven by Mower Engine)</td>
</tr>
<tr>
<td>Blower Brake</td>
<td>Band Brake (Works in Combination with PTO Clutch, Stops Blower within Five (5) Seconds of PTO Disengagement)</td>
<td>Band Brake (Works in Combination with PTO Clutch, Stops Blower within Five (5) Seconds of PTO Disengagement)</td>
</tr>
<tr>
<td>Max. Blower Speed</td>
<td>3600 RPM</td>
<td>3600 RPM</td>
</tr>
<tr>
<td>Grass Catcher Capacity</td>
<td>65 Gallons (246 liters)/ 7.0 Bushels</td>
<td>65 Gallons (246 liters)/ 7.0 Bushels</td>
</tr>
<tr>
<td>Optional Grass Catcher Capacity</td>
<td>76 Gallons (335 liters)/ 9.5 Bushels</td>
<td>76 Gallons (335 liters)/ 9.5 Bushels</td>
</tr>
<tr>
<td>Full Signal</td>
<td>Oscillating Vane Switch Mounted on Grass Delivery Spout Triggers Horn Signal</td>
<td>Oscillating Vane Switch Mounted on Grass Delivery Spout Triggers Horn Signal</td>
</tr>
<tr>
<td>Powerfil®</td>
<td>Oscillating Delivery Spout Driven by 12 Volt Electric Gearmotor Spreads Material throughout Interior of Catcher @ 25 Cycles/Minute</td>
<td>Oscillating Delivery Spout Driven by 12 Volt Electric Gearmotor Spreads Material throughout Interior of Catcher @ 25 Cycles/Minute</td>
</tr>
<tr>
<td><strong>SEAT</strong></td>
<td>Contour-Molded, with Nylon Backed Vinyl Cover and Integral Foam Cushion</td>
<td>Contour-Molded, with Nylon Backed Vinyl Cover and Integral Foam Cushion</td>
</tr>
<tr>
<td><strong>FRAME/BODY CONSTRUCTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame</td>
<td>All Welded Unitized Steel Chassis</td>
<td>All Welded Unitized Steel Chassis</td>
</tr>
<tr>
<td>Body</td>
<td>14 Gauge Steel</td>
<td>14 Gauge Steel</td>
</tr>
<tr>
<td>Deck</td>
<td>11 Gauge Steel</td>
<td>11 Gauge Steel</td>
</tr>
<tr>
<td>GHS Catcher and Chutes</td>
<td>Molded Cross-Linked Polyethylene (UV Stabilized)</td>
<td>Molded Cross-Linked Polyethylene (UV Stabilized)</td>
</tr>
</tbody>
</table>

**NOTE:** The manufacturer reserves the right to make changes in specifications shown herein at any time without notice or obligation.
Component Identification

NOTE: Control Identification shown in Operating Instructions section.

Catcher Door Safety Latch

Turbine Precleaner

Grass Handling System 7.0 Bushel Catcher

Anti-Scuff Roller

Transmission Control Rod Adjustment Nut (RH)

Deck Support Arms

Deck Lift Handle (Cutting Height Adjustment)

Catcher Lift / Dump Handle

Deck Lift Handle

Tilt-Up Hook

Deck Support Pins and Height Adjustment Hitch Pins

Footrests

Tilt-Up Deck Handle

Catcher Door

Safety Latch

Spring Clip

Deck Support Pins

Fuel Tank and Cap

Counterweight Spring and Protective Cover

Transmission Control Rod Adjustment Nut (LH)

Deck Casters Wheels

Tilt-Up Latch

Turbine

Precleaner

Front View and Right Side View
Component Identification

- Catcher Door
- Gas Spring
- Instrument Panel
- Guard
- Instrument Panel Box (Shock Mounted)
- Deck Lift Rod
- Left Hand Drive Wheel
- Muffler
- Tailpipe
- Oil Drain Plug
- Oil Filter
- Tailwheel Fork and Wheels
- Removable Grass Catcher Screen (Not Visible)
- Catcher Exhaust Deflector
- Catcher Lift / Dump Handle
- Catcher Door Handle
- Dump Plate
- Anti-Scuff Roller

Rear View and Left Side View
Component Identification

Top View (Engine Compartment)
Safety Instructions

Pay particular attention to any information labeled **DANGER**, **WARNING**, **CAUTION**, **IMPORTANT**, and **NOTE** in this manual.

When you see the Safety Alert Symbol (⚠️), read, understand, and follow the instructions. Failure to comply with safety instructions may result in personal injury.

The seriousness or degree of importance of each type of information is defined as follows:

<table>
<thead>
<tr>
<th>Label</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DANGER</strong></td>
<td>An IMMEDIATE hazard that WILL result in severe personal injury or DEATH, if warning is ignored and proper safety precautions are not taken.</td>
</tr>
<tr>
<td><strong>WARNING</strong></td>
<td>A POTENTIAL hazard that COULD result in severe personal injury or DEATH, if warning is ignored and proper safety precautions are not taken.</td>
</tr>
<tr>
<td><strong>CAUTION</strong></td>
<td>Possible hazards or unsafe practices that MAY result in MODERATE personal injury or property damage, or machine damage, if warning is ignored and proper safety precautions are not taken.</td>
</tr>
</tbody>
</table>

**IMPORTANT**: Identifies mechanical information demanding special attention, since it deals with the possibility of damaging a part or parts of the machine.

**NOTE**: Identifies information worthy of special attention.

Walker Manufacturing cannot predict every potentially dangerous situation. Therefore, items labeled as such in this manual do not cover all conceivable situations. Any person using procedures, tools, or control techniques not recommended by Walker Manufacturing must take full responsibility for safety.

The Walker Rider Lawnmower has been designed with many safety features to protect the operator from personal harm or injury. However, it is necessary for the operator to use safe operating procedures at all times. **Failure to follow safety instructions contained in this manual may result in personal injury or damage to equipment or property.**

If you have any questions concerning setup, operation, maintenance, or safety, please contact your authorized Walker Mower Dealer or call Walker Manufacturing Company at (970) 221-5614.

**BEFORE OPERATING**

1. **Read and understand the contents of this Owner’s Manual before starting and operating the machine.** Become thoroughly familiar with all machine controls and how to stop the machine and disengage the controls quickly. Replacement Owner’s Manuals are available by sending the Model and Serial Number to:

   Walker Manufacturing Company
   5925 East Harmony Road
   Fort Collins, CO 80528

2. **Never allow children to operate rider mower.** Do not allow adults to operate without proper instruction.

3. **Clear the area to be mowed of any foreign objects** which may be picked up and thrown by cutter blades. Pick up all sticks, stones, wire, and any other debris.

4. Keep everyone, especially children and pets, a safe distance away from the area being mowed. **Do not mow with bystanders in the area.**

5. Do not operate the machine barefoot or wearing sandals, sneakers, tennis shoes, or similar lightweight footwear. **Wear substantial protective footwear.**
Safety Instructions

6. Do not wear loose fitting clothing that could get caught in moving parts. Do not operate this machine while wearing shorts; **always wear adequate protective clothing**, including long pants. Wearing safety glasses, safety shoes, and a helmet is advisable and required by some local ordinances and insurance regulations.

7. Prolonged exposure to loud noise can cause impairment or loss of hearing. **Operator hearing protection is recommended**; particularly for continuous operation of the GHS Model due to blower noise level. Wear a suitable hearing protective device, such as earmuffs or earplugs.

8. **Keep all protective shields and safety devices in place.** If a protective shield, safety device, or decal is damaged, unusable, or missing, repair or replace it **before** operating the machine.

9. **Be sure interlock switches are functioning correctly,** so the engine cannot be started unless the Forward Speed Control lever is in the **NEUTRAL-PARK** position, and the PTO clutch is in the **DISENGAGED** position. Also, the engine should stop if the operator lifts off the seat with the PTO clutch in the **ENGAGED** position.

10. **Handle gasoline with care.** Gasoline is highly flammable and its vapors are explosive:
   
   a. Use an approved fuel container.
   
   b. Never add fuel to a running engine or hot engine (allow hot engine to cool several minutes).
   
   c. Keep matches, cigarettes, cigars, pipes, open flames, or sparks away from the fuel tank and fuel container.
   
   d. Always fill the fuel tank outdoors using care. Fill to about one inch from the top of the tank. Use a funnel or spout to prevent spilling.
   
   e. Replace the machine fuel cap and container cap securely and clean up any spilled fuel before starting the engine.

11. **Never attempt to make any adjustments while the engine is running,** except where specifically instructed to do so.

12. The electrical system battery contains sulfuric acid. Avoid any contact with skin, eyes, and clothing. Keep the battery and acid out of reach of children.

**OPERATING**

1. **Operate the mower only in daylight** or in good artificial light with good visibility of the area being mowed.

2. Sit on the seat when starting the engine and operating the machine. Keep feet on the deck footrests at all times when the tractor is moving and/or mower blades are operating.

3. For a beginning operator, **learn to steer (maneuver) the tractor with a slow engine speed before attempting any mowing operation.** Be aware that, with the front mounted mower configuration, the back of the tractor swings to the outside during turns.

4. Remember, for an emergency stop, the forward motion of the tractor can always be stopped by pulling the Forward Speed Control (FSC) into the **NEUTRAL-PARK** position.

5. Disengage the blade clutch and put the FSC in the **NEUTRAL-PARK** position before starting the engine (an ignition interlock switch normally prevents starting of the machine if these controls are in the **OPERATING** position).

6. **Do not run the engine in a confined area without adequate ventilation.** Exhaust fumes are hazardous and can be deadly.

7. **Do not carry passengers** - maximum seating capacity is one (1) person.

8. Watch for holes, rocks, and roots in the terrain and for other hidden hazards. When mowing tall grass, mow higher than desired to expose any hidden obstacles. Then, clean the area and mow to the desired height.

9. **Avoid sudden starts or stops.** Before backing the machine up, look to the rear to be sure no one is behind the machine. Watch carefully for traffic when crossing or working near roadways.
Safety Instructions

10. Disengage the blade drive when transporting the machine across drives, sidewalks, etc. Never raise the mower deck while blades are rotating.

11. The maximum recommended side slope operating angle is 20 degrees or 33% grade. When operating the machine on a slope, reduce speed and use caution to start, stop, and maneuver. To prevent tipping or loss of control of the machine, avoid sharp turns or sudden changes in direction.

12. Never adjust cutting height with the engine running. Before adjusting cutting height or servicing, disengage the blade clutch (PTO), stop the engine, and remove the ignition key. Wait for all movement to stop before getting off the seat.

   NOTE: A blade/blower brake should normally stop drive line rotation within five (5) seconds of disengaging the PTO clutch.

13. For side discharge mower decks, do not operate with the grass deflector chute removed. Keep the deflector in the lowest possible position.

14. For tractors equipped with tilt-up deck, observe the following recommendations:
   a. Do not move tractor with deck in tilt-up position.
   b. Never tilt body forward with deck in tilt-up position.

15. For GHS equipped models, do not operate the machine with the grass catcher in the DUMP position or with the back door OPEN. Dangerous projectiles may be thrown out of the discharge chute or the back of the grass catcher.

16. For GHS equipped models, use care when closing the grass catcher door. Keep fingers and hands away from the hinge and pinch points when the door is being closed. Also, keep fingers and hands clear of the door frame. The door is held closed with springs and the door may slam shut with considerable force.

17. In case of a clogged or plugged mower deck or GHS catching system:
   a. Disengage the blade clutch (PTO) and turn the engine off before leaving the seat.
   b. LOOK to make sure blade drive shaft and blower drive pulley movement has stopped before trying to unclog the system.
   c. Disconnect the spark plug wires.
   d. Never place hands under the deck or in the GHS blower - use a stick or similar tool to remove clogged material.

18. If the cutting blades strike a solid object or the machine begins to vibrate abnormally, immediately disengage the blade clutch (PTO), stop the engine, and wait for all moving parts to stop. To prevent accidental starting, disconnect the spark plug wires. Thoroughly inspect the mower and repair any damage before restarting the engine and operating the mower. Make sure cutter blades are in good condition and blade nuts are torqued to 60 ft-lb (81.3 N·m).

19. Do not touch the engine or muffler while the engine is running or immediately after stopping the engine. These areas may be hot enough to cause serious burns.

20. When leaving the machine unattended, disengage the blade clutch (PTO), stop the engine, and remove the key.

MAINTENANCE

1. To prevent accidental starting of the engine when servicing or adjusting the machine, remove the key from the ignition switch and disconnect the spark plug wires.

2. To reduce fire hazards, keep the engine free of grass, leaves, excessive grease, and dirt.

3. Keep all nuts, bolts, and screws tight to ensure the machine is in a safe, working condition. Check the blade mounting nuts frequently, making sure they are tight.
4. **Perform only maintenance instructions described in this manual.** Unauthorized maintenance operations or machine modifications may result in unsafe operating conditions.

5. If the engine must be running to perform a maintenance adjustment, keep hands, feet, and clothing away from moving parts. **Do not wear jewelry or loose clothing.**

6. **Always use the proper engine service manual when working on the engine.** Unauthorized maintenance operations or modifications to the engine may result in unsafe operating conditions.

7. Altering the equipment or engine in any manner which adversely affects its operation, performance, durability, or use will **VOID the warranty** and may cause hazardous conditions.

8. Never attempt to disconnect any safety devices or defeat the purpose of these safety devices.

9. Do not change the engine governor settings or overspeed the engine. The governor has been factory-set for maximum-safe engine operating speed.

10. **Use genuine factory replacement parts.** Substitute parts may result in product malfunction and possible injury to the operator and/or others.

11. **Use care when charging the battery** or performing maintenance on the battery and electrical system:
   
a. Make sure the battery charger is unplugged before connecting or disconnecting cables to the battery.

b. Charge the battery in a well-ventilated space, so gases produced while charging can dissipate. Make sure the battery vents in the caps are open.

c. Keep sparks, flames, and smoking materials away from the battery at all times. To avoid sparks, use care when removing battery cables from posts.

d. Disconnect both battery cables before unplugging any wiring connectors or making repairs on the electrical system.

**IMPORTANT:** Keep all applicable manuals immediately accessible to anyone who may operate or service this machine.
SAFETY, CONTROL, AND INSTRUCTION DECALS

Safety, Control, and Instruction Decals are installed on the machine; if any are missing, illegible, or damaged, a replacement should be ordered and installed before putting the machine into operation. The Decal Part Number is listed below and in the Parts Manual.

DANGER

ROTATING CUTTING BLADES
- Do not put hands or feet under or into any part of this mower deck or discharge chute
- Objects may be thrown from mower
  ▶ Clear lawn of debris and objects
  ▶ Do not mow with bystanders in area

NO STEP

Each End of Mower Deck (5808)

DANGER

Adjacent to Blower Discharge Chute through Body (5804)

DANGER

ROTATING BLOWER BLADES
- Do not put hands into discharge chute
  -- Blades may continue to spin after disengaging clutch
- Do not operate mower with grass catcher in dump position – objects may be thrown from discharge chute

DANGER

ON BODY ADJACENT TO CLUTCH CONTROL LEVER (5806)

WARNING

Read and understand owner's manual before operating this machine.

Keep all guards in place.

Operator wearing protective gear is recommended for continuous operation of any model.

Not equipped with auxiliary parking brake - check wheels if parked on slope.

Front Body Adjacent to RH Steering Lever (7818)

Hydrostat Oil Reservoir (5810)

WARNING

Before removing cap, clean cap and reservoir.

For servicing use Mobile DTE 10B Hydraulic Oil, or equivalent. Fill to lower line. Use owner's manual for additional information.

BLADE CLUTCH

WARNING

Do not engage clutch with PTO shaft disconnected.

On Body Adjacent to Clutch Control Lever (5806)

Engine Shroud (5855)

REMOVAL SCREEN FOR CLEANING

To release and remove screen, open catcher door and use knobs to push back of screen forward and down

Engine Shroud (5855)

IMPORTANT - ENGINE COOLING SYSTEM MAINTENANCE

Check and clean engine rotating inlet screen and static screen guard daily (every 4 hours) or more often in dirty conditions. Cylinder head cooling fins should be checked and cleaned by removing engine shroud every 100 hours.

Rear of Grass Catcher Exhaust Screen (5869)

IMPORTANT

Close front body before lowering back.

Rear Cross Member of Front Body (8825)
SAFETY, CONTROL, AND INSTRUCTION DECALS

Safety, Control, and Instruction Decals are installed on the machine; if any are missing, illegible, or damaged, a replacement should be ordered and installed before putting the machine into operation. The Decal Part Number is listed below and in the Parts Manual.

SAFETY, CONTROL, AND INSTRUCTION DECALS

**Jackshaft Support Adjacent to Dipstick (7827)**

**Danger**

DO NOT OPERATE MOWER WITH DECK IN TILT-UP POSITION

**Deck Carrier Frame (8647)**

**Important**

TIGHTEN BLADE MOUNTING NUTS TO 60 FT-LBS. DO NOT UNDERTORQUE OR OVERTORQUE, FOR PROPER SHOCK LOAD PROTECTION, USE TORQUE WRENCH.

**Deck Carrier Frame (5865)**

**Top of Blower Housing (5819)**

**Danger**

SPRING LOADED DOOR PINCH POINT

KEEP HANDS CLEAR OF DOOR HINGE BARS AND DOOR FRAME WITH THE DOOR OPEN.

**Catcher Door Hinge Bar, LH and RH Sides (5868)**

**Instrument Panel (8823)**

**Fender, RH Side (7802)**

**Deck Gearbox Cover (5807-1)**

**Gear Axle (5810-1)**

**Catcher Safety Latch, RH Side (5874)**

**Deck Carrier Frame (8653)**

**On Engine (6810)**

**Right Side, Below Operator Seat (7809)**

**Left Side of Operator Seat (8819)**

**Forward Speed Control**

- Fast
- Slow
- Neutral - Park

1. To Go
   - Adjust Lever Forward to Desired Ground Speed

2. To Stop
   - Pull Steering Levers to Neutral Before Moving Speed Control to Neutral

3. Emergency Lift Lever to Engage On

**Important**

- Engage Clutch with No More than 1/2 Engine Speed
- Move Lever Slowly and Smoothly to Engage Clutch

---

**SAFETY, CONTROL, AND INSTRUCTION DECALS**

**Safety Instructions**

**Check Oil Every 25 Hours Fill with 90 EP Gear Oil**

**Danger**

**DO NOT OPERATE MOWER WITH DECK IN TILT-UP POSITION**

**Deck Carrier Frame (8647)**

**Important**

TIGHTEN BLADE MOUNTING NUTS TO 60 FT-LBS. DO NOT UNDERTORQUE OR OVERTORQUE, FOR PROPER SHOCK LOAD PROTECTION, USE TORQUE WRENCH.

**Deck Carrier Frame (5865)**

**Top of Blower Housing (5819)**

**Danger**

SPRING LOADED DOOR PINCH POINT

KEEP HANDS CLEAR OF DOOR HINGE BARS AND DOOR FRAME WITH THE DOOR OPEN.

**Catcher Door Hinge Bar, LH and RH Sides (5868)**

**Instrument Panel (8823)**

**Fender, RH Side (7802)**
**SETUP INSTRUCTIONS**

Walker Mowers are shipped partially assembled. After uncrating the tractor and mower deck, initial setup is required.

**NOTE:** During the process of unpacking, any damaged or missing parts should be noted and reported to the delivering carrier immediately (put in writing within 15 days). The carrier will provide directions for proceeding with a claim to receive compensation for damage.

**Tire Installation (Tractor)**

- Install the drive tires using the eight (8) lug bolts that are supplied with the owner’s packet of materials. Drive tires are 18 x 9.50-8, 4-ply; rear tires are 13 x 5.00-6, 4-ply.

- Check and adjust the inflation of the tires. The tire inflation recommendations are:
  
  **Drive** = 15 PSI (103 kPa)
  **Rear** = 20 PSI (137 kPa)

**Battery Service**

Raise front mower body up for battery access (refer to Front Body Latch Release in Operating Instructions). Check the battery for electrolyte level and charge. The electrolyte level should be at the bottom of the vent wells [1/4 to 1/2 in. (6 to 13 mm) above plates]. If the specific gravity is less than 1.225, the battery needs charging. If the battery has been shipped dry, or is wet but needs service, refer to the following instructions.

**Wet Battery Service**

If the battery has been shipped wet, but the electrolyte level is low or the battery needs to be charged then:

1. Fill each battery cell with drinking water to the bottom of the vent wells.

2. Charge battery. Refer to Battery Charging in this section.

**Dry Battery Service**

To fill (activate) battery with electrolyte (if battery has been shipped dry):

1. Remove the battery hold down bar, disconnect the battery cables and lift the battery out of the tray.

**DANGER**

Activating a battery can be dangerous. The battery should be taken to a reliable service station, battery store, or power equipment dealer where a trained technician can activate the battery safely. DO NOT attempt to activate the battery unless you are experienced in battery service work. The following activation and charging instructions are provided for use by a trained battery technician.

**DANGER**

Battery electrolyte is a poisonous and corrosive sulfuric acid solution.

- Avoid spillage and contact with skin, eyes, and clothing - causes severe burns.

- To prevent accidents, wear safety goggles and rubber gloves when working with electrolyte.

- Neutralize acid spills with baking soda and water solution.

To fill (activate) battery with electrolyte (if battery has been shipped dry):

1. Remove the battery hold down bar, disconnect the battery cables and lift the battery out of the tray.

**IMPORTANT:** Battery must be removed from the mower before filling with electrolyte.

**IMPORTANT:** Obtain and use only battery grade sulfuric acid electrolyte with a 1.265 specific gravity to activate the battery. **DO NOT** use water or any other liquid during initial activation.

2. Remove the filler caps and carefully fill each cell until the electrolyte is just above the plates.
Assembly Instructions

3. After the battery is filled with electrolyte, replace the filler caps and charge the battery. Refer to Battery Charging.

Battery Charging

**DANGER**

**BATTERIES PRODUCE EXPLOSIVE GASES**

- Charge the battery in a well-ventilated area, so that gases produced while charging can dissipate.
- Keep sparks, flames, and smoking materials away from the battery at all times.
- Make sure the battery cap vents are open after the battery is filled with acid (check manifold vent on each cap).
- Make sure the battery charger is unplugged before connecting or disconnecting cables to the battery.

1. Charge the battery at 15 amps for 10 minutes. **DO NOT** exceed 20 amps maximum recommended charging rate. Charge until specific gravity is at least 1.250. Total charging time should not exceed one (1) hour.

2. After charging the battery, adjust the electrolyte level to the bottom of the vent wells [1/4 to 1/2 in. (6 to 13 mm) above the plates].

**IMPORTANT: DO NOT** overfill the battery. Electrolyte will overflow through the vented caps onto parts of the machine and WILL result in severe corrosion.

3. Install battery.

Battery Installation

Install the battery in the mower as shown in Battery Installation photo. Connect the positive and negative cables to the proper battery terminal (red cable and boot connects to the Positive (+) terminal). Slide the rubber boot up and over the battery post, making sure it covers the post completely to prevent an electrical short.

**WARNING**

Make sure the battery cap vents are open. Improper venting of the battery COULD cause a battery explosion.

**WARNING**

Make sure the battery cap vents are open. Improper venting of the battery COULD cause a battery explosion.

Mower Deck Assembly

**Deck Caster Wheels Installation**

1. Remove the bolt, nut, axle spacer tube, and spacer washers from each deck caster wheel fork.

**NOTE:** Spacer washers are used only when the optional semi-pneumatic deck wheels (8.25 x 2.75) are installed.

2. Fit the axle spacer tube through the wheel hub, position the spacer washer on each side of the hub (if used), and fit the assembly into the wheel fork.

3. Insert the 3/8-16 x 4-1/2 in. bolt through the wheel fork with the bolt head to the outside and install the 3/8-16 in. Keps nut.

4. Tighten the bolt and nut until the axle spacer tube bottoms against the inside of the wheel fork (will not turn) while the wheel and spacer washers (if used) spin freely without binding.
Assembly Instructions

**NOTE:** If semi-pneumatic wheels are installed, make sure the spacer washers fit over the spacer tube and are not caught between the fork and the end of the tube. The washers should move freely on the axle spacer tube.

5. Grease the caster wheel bearings and caster pivot bearings - one grease fitting for each wheel and each pivot.

**Deck Discharge Chute Installation (GHS Rear Discharge Models Only)**

Mount the discharge chute hinge on top of the deck discharge opening using the 1/4-20 x 1/2 in. socket button head bolt and 1/4-20 ESNA nut. Position the bolt with the head inside of the chute and the nut on the outside.

**WARNING**

DO NOT operate the machine without the grass deflector chute attached and in the lowest possible position.

**Deck Caster Wheel Installation**

**Deck Discharge Shield Installation (Side Discharge Models Only)**

Attach the deck side discharge shield by positioning the shield hinge lug in **front** of the deck mount and fastening with two 3/8-16 x 1-1/4 in. bolts, 3/8-16 ESNA nuts, and 3/8 in. wave spring washers. The wave washers fit between the two hinging surfaces. Tighten the nuts until the shield moves freely but is not loose.

**Discharge Chute and PTO Shaft Guard Installation on Rear Discharge Deck**

**PTO Shaft Guard Installation**

Position the shaft guard as shown and mount with two 1/4-20 x 1/2 in. bolts.

**Mower Deck Installation on Tractor**

1. Lightly grease each deck support arm (2) on the tractor. Refer to **Mower Deck Installation** photo on next page for location of deck support arm.

2. Engage the deck carrier frame tube sockets on the tractor support arms (refer to **Discharge Chute and PTO Shaft Guard Installation** photo for socket location). Slide the deck onto the support arms: all the way if SD equipped model, approximately 3 in. (76 mm) if GHS equipped model.
Assembly Instructions

NOTE: When installing the DSD52 or DSD62 Mower deck, make sure to retract the dolly wheel after mounting the deck on the tractor.

3. If the deck is rear discharge (GHS equipped model), the rear discharge chute will need to be aligned and connected to the blower inlet during the last 2 in. (51 mm) of slide action on the support arms.

NOTE: Raising the mower body may be helpful in fitting and guiding the deck chute into the blower.

4. Install the hitch pin through the hole on the end of each support arm to lock the deck in place (refer to Deck Counterweight Spring Installation photo). Two (2) hitch pins are included in the owner’s packet of materials.

5. Connect the mower deck PTO drive shaft assembly to the tractor with the splined quick disconnect coupler. This coupler simplifies shaft alignment and installation.
   a. Use the arrows on the shaft and tube to align and slide the PTO quick coupler onto the deck rectangular shaft.
   b. Reaching under the tractor, pull the ring back on the coupler, slide onto the spline shaft on the tractor, and release the ring.

IMPORTANT: To prevent damage to the mower, make sure the PTO shaft assembly is securely locked on the tractor, with the locking balls fully seated in the groove and the ring in the full forward position (refer to the Coupler Ring “Locked” Position photo). After installation, pull on the shaft to check for security.

6. Raise the front mower body (instead of lifting the front of deck) and clip the counterweight springs to the receptacle on front of body. Lower the front body to tension the springs. (Refer to Deck Counterweight Spring Installation Photo.)

7. With the counterweight springs connected, the weight on the deck caster wheels should be 15 to 25 lb (6.8 to 11.3 kg). Check this weight by lifting on the front of the deck carrier frame. If required, the spring tension can be adjusted by tightening or loosening the elastic stop nuts located underneath the lower spring hook. Refer to Deck Counterweight Spring Installation photo.
Assembly Instructions

Deck Counterweight Spring Installation

Deck Leveling

1. Position mower on a smooth, level surface. Set the cutting height to the highest position - 4 in. (102 mm) - for easy access under the deck to measure blade height. Refer to ADJUSTING CUTTING HEIGHT in Operating Instructions.

NOTE: A block of wood cut 4 in. (102 mm) high is a convenient gauge to measure blade height above ground during the leveling process.

NOTE: The mower deck and support frame are jig welded; within normal tolerances, very little, if any, shimming should be required to level the deck. Tire pressure will influence the levelness of the deck. Check the tire pressure as a possible cause of the deck not being level.

2. Check the side-to-side level. Rotate each blade sideways and measure the distance from blade tip to ground on each side. If measurements vary more than 1/8 in. (3 mm), add a washer shim under the deck support pins on the low side to level the deck.

3. Check the front-to-rear level. Rotate the blades to point forward. Measure the distance from blade tip to ground on the front and rear. The rear of the blade should be 1/8 to 1/4 in. (3 to 6 mm) higher than the front of the blade; shim the rear (or front) deck support pins equally to achieve at least 1/8 in. (3 mm) difference.

WARNING

The machine must be shut off during this procedure.
PREOPERATING CHECKLIST

Before operating the mower for the first time, and as a routine before daily operations, it is important to make sure the mower is properly prepared and ready for operation. The following is a list of items to be checked. (For a mower with frequent operation, some of these items will not need to be checked every day, but the operator should be aware of the condition of each.)

For proper fuels and lubricants refer to Specifications.

☐ FILL FUEL TANK

Fill the fuel tank using clean, fresh automotive grade unleaded gasoline (87 octane rating minimum).

**DANGER**

Handle gasoline with care. Gasoline is highly flammable and its vapors are explosive. Use safe refueling procedures:

- **DO NOT** fill fuel tank with the engine running.
- If the engine is hot, allow to cool before refueling.
- Use an approved fuel container.
- Fuel the mower outdoors.
- **DO NOT** smoke while refueling.
- Avoid spilling fuel; use a funnel or spout.
- **DO NOT** overfill the fuel tank; fill up to about 1 in. (25 mm) below the top of tank.

**IMPORTANT:** **DO NOT** permit dirt or other foreign matter to enter the fuel tank. Wipe dirt from around the filler cap before removing. Use a clean fuel storage container and funnel.

**IMPORTANT:** **DO NOT** mix oil with gasoline. Always use fresh, automotive grade gasoline. **DO NOT** use premium, white, or high-test gasoline. **DO NOT** use additives, such as carburetor cleaners, deicers, or moisture removing agents. **DO NOT** use gasoline blended with methyl alcohol.

☐ CHECK ENGINE CRANKCASE OIL LEVEL

Check the engine crankcase oil level before use and **after each 5 hours** of continuous operation. Refer to **LUBRICATION** for Checking Engine Crankcase Oil Level in Maintenance Instructions.

☐ CHECK AND SERVICE ENGINE AIR CLEANER SYSTEM

- Check air restriction gauge to make sure there is no red indication showing.
- Check condition, cleanliness, and security of the complete air cleaner system (clean primary air filter **every 100 hours**). For detailed procedures, refer to **CLEANING** the Engine Air Cleaner System in Maintenance Instructions.

☐ ADJUST CARBURETOR (Initial Start-up Only)

Refer to **ADJUSTMENTS** of Carburetor in Maintenance Instructions.

☐ CHECK ENGINE COOLING SYSTEM

Check that the engine cooling air intake screen is free of obstruction by grass clippings or debris and clean if required. Also, cylinder head cooling fins should be inspected and cleaned if any build-up of debris is noted [remove two (2) cylinder head access panels to inspect and clean].

Check performance of the cooling system by starting the engine, holding a hand adjacent to the cylinder heads, and feeling the cooling airflow.

**DANGER**

Make sure to keep hands clear of exhaust pipe, muffler, and moving parts when checking airflow.
Assembly Instructions

☐ CHECK GEAR AXLE OIL LEVEL
Refer to Gear Axle Lubrication in Maintenance Instructions.

☐ INSPECT FOUR (4) DRIVE BELTS
Engine PTO Drive, Jackshaft Drive, Hydrostatic Ground Drive, and GHS Blower Drive (if equipped).

☐ CHECK HYDROSTATIC TRANSMISSION OIL LEVEL
Refer to LUBRICATION for Checking Hydrostatic Transmission Fluid Level in Maintenance Instructions.

☐ CHECK BATTERY ELECTROLYTE LEVEL
Refer to CHECKING/SERVICING the Battery in Maintenance Instructions.

☐ CHECK FUNCTIONS OF INSTRUMENT PANEL AND WARNING HORN
Turn the ignition key to the RUN position. Voltmeter, Oil Pressure Light, and Warning Horn should all operate, indicating normal function.

☐ CHECK TIRE PRESSURE
Deck Caster Wheel = 20 PSI (137 kPa)
Drive = 15 PSI (103 kPa)
Rear = 20 PSI (137 kPa)

☐ CHECK AND CLEAN GRASS BUILDUP UNDERNEATH MOWER DECK (and inside GHS blower, if equipped)
Refer to CLEANING the GHS Blower in Maintenance Instructions for blower cleaning information.

NOTE: Mower deck is secured in raised position for cleaning and changing blades by hooking the deck lift rod into the body bracket below the counterweight spring clip. The rod is hinged and is stowed along the footrest of the deck carrier frame. A hitch pin on the end of the rod is used to secure it in place with the deck raised.

DANGER
Never operate cutter blades with deck in raised position because it is hazardous.

If equipped, the tilt-up deck can be secured in the raised position by unlocking the deck lock levers on each side of the carrier frame and inserting the deck hook into the tilt-up latch on the tractor body. Before operating the tractor, make sure to re-engage the deck lock levers after lowering the deck to the normal operating position.

Deck Secured in UP Position (Non-Tilting)

Deck Secured in TILT-UP Position
Assembly Instructions

- **CAUTION**
  - Do not operate machine with deck tilt-up pivot joint unlocked.

- **DANGER**
  - Do not operate the mower with deck in tilt-up position. Do not move the tractor with the deck in the tilt-up position.

- **CHECK MOWER BLADE CONDITION, SHARPNESS, AND SECURITY OF MOUNTING**

  The blade mounting nut should be tightened to 60 ft-lb (81.3 N⋅m). If blade sharpening is required, refer to **CHECKING/SERVICING** for **Sharpen Mower Blades** in Maintenance Instructions.

- **ADJUST MOWER CUTTING HEIGHT, IF REQUIRED**

  Position the hitch pins in the four deck support pins. Refer to the “Cutting Height Adjustment” decal on the deck gearbox cover.

- **PERFORM ANY ADDITIONAL PROCEDURES called for on the **MAINTENANCE SCHEDULE CHART** in Maintenance Instructions.**
CONTROL IDENTIFICATION, LOCATION, AND FUNCTION

Operating Controls

**Engine Choke**

The choke control lever (black knob) is located on the left side of the seat. To start a cold engine, move the choke control forward to the **ON** position. After engine starts, move the choke control toward the **OFF** position, keeping enough choke to allow the engine to run smoothly as it warms up. As soon as possible, move the choke to the **OFF** position. A warm engine requires little or no choke for starting.

**IMPORTANT:** Make sure the choke is in the **OFF** position during normal engine operation; running with the choke in the **ON** position **CAN** damage the engine.

Before operating the mower, become familiar with the location and function of all operator controls. Knowing the location, function, and operation of these controls is important for safe and efficient operation of the mower.
Operating Instructions

Choke and Throttle Location

Engine Throttle

The throttle control lever (red knob) is located on the left side of the seat and is used to control engine speed. Moving the lever forward toward the FAST position increases engine speed; moving it backward toward the IDLE position decreases engine speed.

Forward Speed Control (FSC)

Forward Speed Control (FSC) has two functions: One is to set forward travel speed, and the other is to establish the NEUTRAL-PARK position. When the FSC lever is moved into the FORWARD position, a friction lock holds any forward speed setting from 0 to 5 mph (0 to 8 km/h). The ground speed is proportional to the lever position; the further the lever is advanced forward, the faster the tractor moves. It is not necessary to hold the FSC in position since the friction lock maintains the selected lever position. Pulling back on the steering levers overrides the FSC setting and slows or stops forward travel. Releasing the steering levers allows the tractor to resume forward travel at the speed set by the FSC lever. To stop and park the machine, the FSC lever is moved backward to the NEUTRAL-PARK position.

NOTE: Pushing forward on the steering levers will not cause any change in tractor motion - there will be no steering lever reaction and there will be no machine damage.

Blade Clutch (PTO)

The blade clutch lever has two positions. Pulling the lever UP engages the PTO that drives the mower blades. Pushing the lever DOWN disengages the PTO and engages the blade brake.

NOTE: On GHS equipped models, the Powerfil® motor and Grass-Pak® full signal switch are activated by engaging the blade clutch. Refer to Using the GHS Catcher in this section for a complete description of GHS operation.

Parking Brake

The parking brake functions by locking a pin into the hydrostatic transmission pinion gear teeth. Moving the lever FORWARD engages the parking brake; moving the lever BACKWARD releases the brake.

IMPORTANT: Stop the tractor completely before engaging the parking brake. The parking brake uses a positive mechanical lock similar to the PARK position on an automotive automatic transmission. If the tractor is moving when the brake is engaged, it will result in sudden stoppage and possible internal damage to the axle drive.

NOTE: If pressure on the parking brake pin (e.g. parked on a hill) makes it impossible to release the parking brake with the parking brake lever, move the mower gently forward or backward to release the pin.

Steering Levers

Each drive wheel is controlled by its own independent steering lever, for both steering function and FORWARD/REVERSE motion. The FSC lever sets the maximum forward speed, and also sets the forward position of the steering levers. The steering levers operate only with a backward pulling movement of the lever, which causes the drive wheel for that lever to first slow down, stop, and then reverse with a full backward lever stroke. The levers are released to the FORWARD position for “straight-ahead” ground travel.
Operating Instructions

Front Body Latch Release

The front portion of the tractor body hinges forward for maintenance access and is latched down in the OPERATING position. To raise the body, move the latch release forward.

NOTE: The transmission plunger on the side of the transmission case (activated by the LOCKOUT LEVER) must be completely released during operation of the mower, otherwise operation of the transmission will be erratic.

Optional Cold Start Lever (Jackshaft Drive Belt Release)

The cold start lever is used for starting the machine in cold weather [below 40° F (4° C)]. Pulling the lever UP disengages the jackshaft drive belt. When the jackshaft drive belt is released, the hydrostatic transmissions are removed from the engine starter cranking load.

Transmission Lockout Levers

The transmission lockout levers disengage the hydrostatic transmissions. By lifting the lever on top of the transmission and locking it into place with the lockout cam, the hydrostatic transmissions are released to permit freewheeling. By releasing the cam and lowering the lever, the transmissions are engaged for normal operation. The transmission lever in the LOCKOUT position is used to enable moving the machine without the engine running (e.g., for service). Refer to TRANSMISSION LOCKOUT in this section for operating instructions.

Lockout Lever Location
Operating Instructions

The Forward Speed Control also Establishes the Neutral-Park Position of the Steering Levers

LEFT WHEEL STEERING LEVER

Forward Position (No Control Change)

Neutral-Park Position

Reverse Drive Wheel Motion Position

RIGHT WHEEL STEERING LEVER

FORWARD SPEED CONTROL LEVER (FSC)

Full Forward Ground Speed Position

Intermediate Ground Speed Position

Neutral-Park Position

Disengaged Position

Engaged Position

BLADE CLUTCH (PTO)
Pull Up to Engage

Engaged Position

Disengaged Position

Operating Controls (Top View from Drivers Point of View)
Operating Instructions

Instrument Panel

This illustration shows the configuration of the switches and indicators located on the instrument panel.
Operating Instructions

**Hourmeter**

The hourmeter displays *operating time* accumulated while the ignition switch is in the **ON** position.

**Voltmeter**

The voltmeter displays battery and charging system voltage. An indication of low or high voltage (below 11.5 volts or above 15.5 volts) indicates an *electrical system failure*. The cause of the failure should be determined and corrected.

**Oil Pressure Warning Light**

The oil pressure warning light indicates that engine oil pressure is below the safe operating range [below 3 to 5 PSI (21 to 34 kPa)]. This *light (and warning horn)* will come on when the ignition is turned **ON**, but should go off after the engine is started. If the light fails to come on when the ignition switch is turned **ON**, it could indicate a burned out bulb. If the light comes on during engine operation, stop the engine immediately and correct the source of the problem before further engine operation.

**IMPORTANT:** Continued operation of the engine with an illuminated oil pressure warning light **MAY** cause severe engine damage (if a low oil pressure condition exists).

**Over Temperature Warning Light**

The over temperature warning light indicates that engine oil temperature and/or cylinder head temperature are above the safe operating limit and the engine is overheating [above 305° F (152° C) oil or 450° F (232° C) cylinder head]. If this light comes on, there may be a problem with:

- Engine cooling system (material packed into cylinder head cooling fins, clogged air intake screen)
- Low oil level in crankcase

Stop the engine and correct the source of the problem before further operation.

**IMPORTANT:** Continued operation of the engine with an illuminated over temperature warning light **MAY** cause severe engine damage (if a high oil temperature or head temperature condition exists).

**Ignition Switch**

The ignition switch is used to start and stop the engine. The switch has three positions: “**O**” is the **OFF** position, **RUN** is the position the key returns to after starting, and “**S**” is the **START** position. When starting the engine, turn the key clockwise to the “**S**” position. Do not hold the key in the “**S**” position longer than 10 seconds. If the engine does not start, return the key to the “**O**” position for at least 60 seconds before making a restart attempt. Prolonged cranking can damage the starter motor and shorten battery life. Release the key when the engine starts, and it will return to the “**RUN**” position. To stop the engine, rotate the key counterclockwise to the “**O**” position.
Operating Instructions

STARTING THE ENGINE

⚠️ **CAUTION**

Before operating the mower, read and understand all Safety Instructions and Operating Instructions.

⚠️ **WARNING**

NEVER run the engine in an enclosed or poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.

1. Before attempting to start the engine, make sure the operator is in the seat, the Forward Speed Control is in NEUTRAL-PARK position, and the blade clutch and parking brake are DISENGAGED.

**NOTE:** Release parking brake to prevent extra load on the starter if the transmission neutral is slightly out of adjustment.

⚠️ **CAUTION**

A safety interlock switch system PREVENTS CRANKING the engine with either the Forward Speed Control or the blade clutch (PTO) out of neutral. If the engine cranks otherwise, the safety system is not working and should be repaired or adjusted before operating the mower. DO NOT disconnect safety switches; they are for the operator's protection.

**NOTE:** For starting in cold weather [below 40° F (4° C)], use the optional cold start lever to release the jackshaft drive belt and remove the hydrostatic transmission from the starter cranking load. After the engine has been started and warmed up, lower the lever to re-engage the jackshaft drive belt.

2. Move the choke lever to the **ON** position and move the throttle 1/4 to 1/2 open (toward **FAST**). Turn the ignition switch to the **START** position to start the engine. Release the key to **RUN** position as soon as the engine starts.

**NOTE:** The choke may not be required if the engine is warm.

**IMPORTANT:** If the engine fails to start after approximately 10 seconds of cranking, the engine should be checked before further cranking. Turn the key to the **OFF** position and allow a 60 second cool-down period between starting attempts. Failure to follow these guidelines can damage the starter motor and shorten battery life.

3. After the engine starts, make sure the oil pressure light goes off. If not, stop the engine immediately and find the cause of the problem. Make sure the oil pressure light is off prior to engaging the mower blades and beginning operation.

4. Gradually move the choke to the **OFF** position, keeping enough choke on to allow the engine to run smoothly as it warms up. As soon as possible, move the choke to the **OFF** position.
Operating Instructions

**IMPORTANT:** Make sure the choke is in the OFF position during normal engine operation; running with the choke in the ON position CAN damage the engine.

**ADJUSTING GROUND SPEED AND STEERING**

**IMPORTANT:** If the DSD52 or DSD62 Mower deck is installed on the tractor, make sure the dolly wheel is retracted BEFORE moving.

**CAUTION**

Learn to START, STOP, and MANEUVER the mower in a large, open area.

If the operator has not operated a machine with LEVER STEERING OR DUAL HYDROSTATIC TRANSMISSIONS, steering and ground operation should be learned and practiced until the operator is completely comfortable handling the machine BEFORE ATTEMPTING TO MOW.

**DANGER**

Keep feet on footrests all times when the machine is moving.

1. Move the FSC out of NEUTRAL-PARK position to the desired forward speed. **DO NOT** hold forward on steering levers. It is not necessary to hold the FSC lever in position since a friction lock maintains the selected lever position (and forward travel speed).

**NOTE:** If the FSC lever will not stay in the selected position, the friction lock needs to be adjusted. Refer to **ADJUSTMENTS of Forward Speed Control Friction Lock** in Maintenance Instructions.

2. Steer by pulling the lever on the side of desired direction of turn, e.g., pull the LH lever to turn left. To minimize the possibility of overcontrol, use only one hand on both steering levers.

**Beginning Recommendations are:**

- Learn operation of the mower in an open area away from buildings, fences, and obstructions. Learn operation on flat ground BEFORE operating on slopes.
- Start maneuvering the mower with SLOW engine speed and SLOW Forward Speed Control setting until familiar with all operating characteristics.
- Remember it is not necessary to hold the steering levers forward (a unique Walker feature); always PULL on the levers for steering or for reverse motion of the mower.
- Learn to operate the mower with your left hand on the steering levers and right hand on Forward Speed Control. The use of two hands on the steering levers tends to cause overcontrol.
- Learn to operate the steering levers with smooth action. Jerky movements are hard on the transmission and lawn. For sharp turns, do not allow the inside wheel to stop and twist on the grass. Pull the steering lever controlling the inside wheel into reverse for a smooth “rolling” turn (one wheel rolling forward while the other rolls backward).
- Practice maneuvering the mower until you can make it go exactly where you are aiming.
- Remember, for an emergency stop, or in case of loss of control, machine movement can always be stopped quickly by pulling the Forward Speed Control into the NEUTRAL-PARK position.
Correct Operator Hand Position on the Controls

3. Reverse direction of the mower by pulling both levers backward.

   **NOTE:** Smooth action on the steering levers will produce smooth mower operation. Remember to keep the engine and ground speed slow until learning the control response.

4. The FSC may be adjusted forward for faster ground speed and backward for slower ground speed. When mowing, ground speed should be adjusted to match the load on the cutter blades, i.e., as the engine pulls down in heavy cutting, pull back on the FSC lever to reduce ground speed. Adjusting ground speed helps maintain a balance between engine power and blade speed for high-quality cutting action.

5. Stop ground travel by pulling both steering levers backward to the **NEUTRAL** position (tractor not moving) and then moving the FSC lever to the **NEUTRAL-PARK** position.

   **NOTE:** If the tractor creeps forward or backward with the FSC lever in the **NEUTRAL-PARK** position, the transmission control needs to be adjusted. Refer to **ADJUSTMENTS** of Transmission Control in Maintenance Instructions.

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**ENGAGING THE MOWER**

1. Set the engine throttle at about 1/3 speed. **Do not attempt to engage the blade clutch at high engine speeds.** This will drastically shorten drive belt life. Use only moderate engine speed when engaging the blade clutch.

2. Pull the blade clutch lever **SLOWLY** up to engage the mower blades.

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**CAUTION**

A safety interlock switch (seat switch) will cause the engine to stop if the blade clutch is engaged and the operator is not in the seat. The function of this switch should be checked by the operator raising off the seat and engaging the blade clutch; the engine should stop. If the switch is not working, it should be repaired or replaced before operating the mower. **DO NOT** disconnect the safety switches; they are for the operator’s protection.

**IMPORTANT:** **DO NOT** engage the blade clutch when transporting the mower across drives, sidewalks, loose materials, etc. **DO NOT** engage the blade clutch with the PTO shaft disconnected (the mower deck removed from tractor).

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**CAUTION**

If the cutting blades strike a stationary object while mowing, stop the mower immediately, disconnect the spark plug wires, lift the deck, and inspect the deck and blades thoroughly for damage. Make sure that the blade timing has not been disturbed (the blades should be at 90 degrees to each other). Refer to REPLACING/REPAIRING the Blade Overload Shear Bolts in Maintenance Instructions if blades are out of time. Also, make sure the blade retaining nuts are torqued to 60 ft-lb (81.3 N·m).
STOPPING THE MACHINE

1. Slow the engine to a fast idle; put the throttle in the 1/2 throttle position.

2. Pull the steering levers to the NEUTRAL position and then move the FSC lever backward to the NEUTRAL-PARK position.

3. Disengage the blade clutch.

4. Turn the ignition switch OFF. When stopping the engine, do not reduce the throttle below 1/2 speed. Since the engine is equipped with a shutdown solenoid, stopping at low idle may cause engine run-on or backfiring.

5. Engage the parking brake.

IMPORTANT: The hydrostatic transmissions lock to prevent the mower from rolling freely with the engine stopped. However, if the mower is parked on a slope, it is necessary to ENGAGE the parking BRAKE to prevent the mower from creeping. This is due to a small amount of slippage in the hydrostatic transmissions, especially when transmission fluid is warm.

IMPORTANT: DO NOT disengage the blade clutch with high engine speed (above 1/2 throttle) since the brake action on the blade drive will cause premature wear of the brake band.

A brake stops the cutter blades (and blower on GHS equipped models) from free-wheeling within five (5) seconds after disengaging the clutch. If the brake system malfunctions and the blades do not stop within five (5) seconds, the brake should be adjusted or repaired before operating the mower. Refer to ADJUSTMENTS of Blade Clutch (PTO) in Maintenance Instructions.

WARNING

Remove the key from the ignition switch when leaving the mower unattended. This will prevent children and inexperienced operators from starting the engine.
Operating Instructions

ADJUSTING CUTTING HEIGHT

**WARNING**

The engine must be stopped before adjusting cutting height. Disengage the blade clutch (PTO), stop the engine, and remove the ignition key. Wait for all movement to stop before getting off the seat.

Cutting height is adjusted by positioning the four retainer hitch pins in a series of seven vertical holes on the deck support pins. Lift handles have been provided on each end of the deck to assist in raising the deck while positioning the hitch pins. Cutting heights range from 1 in. (25 mm) [top holes] to 4 in. (102 mm) [bottom holes] in 1/2 in. (13 mm) increments.

1. Raise the front body.
2. Lift the transmission lockout lever on both the RH and LH transmissions and secure into place with the locking cam.
3. The mower will “freewheel” with the levers in the **LOCKOUT** position. The levers must be in the highest position to completely unlock the transmissions.

4. After moving the mower, release the locking cam, placing the lever **DOWN** in the normal **OPERATING** position. Make sure the transmission lockout plunger on the side of the transmission case (activated by the lockout lever) is completely released, otherwise the transmission operation will be erratic.

**TRANSMISSION LOCKOUT**

To move the mower with the engine **NOT** running (dead battery, maintenance, etc.), the hydrostatic transmissions are unlocked (released).

1. Raise the front body.
2. Lift the transmission lockout lever on both the RH and LH transmissions and secure into place with the locking cam.

**WARNING**

The engine must be stopped before adjusting cutting height. Disengage the blade clutch (PTO), stop the engine, and remove the ignition key. Wait for all movement to stop before getting off the seat.

**LOCKOUT LEVER - FREEWHEEL POSITION**

**LOCKOUT LEVER - NORMAL OPERATING POSITION**
RECOMMENDATIONS FOR MOWING

IMPORTANT: Operate the engine at full speed when mowing, to allow the engine to produce full horsepower and to increase efficiency of the engine cooling system.

- Keep the mower deck and discharge chute clean.
- Mow with sharp blades. A dull blade tears the grass (resulting in poor lawn appearance) and uses extra power (slowing the mowing speed).
- It is preferable to cut grass when it is dry and not too tall. Mow frequently and do not cut grass too short. (For best appearance, cut off 1/3 or less of existing grass height.)
- When mowing, operate the engine at or near full throttle for the best cutting action and performance of the grass handling system (GHS). Mowing with a lower engine RPM causes the mowing blade to not cut clean and tear the grass. The engine is designed to be operated at full speed.
- When mowing in adverse conditions (tall and/or wet grass), mow the grass twice. Raise the mower to the highest setting - 4 in. (102 mm) - for the first pass and then make a second pass cutting to the desired height.
- Use a slow setting on the FSC for trimming operations.
- Make sure the mower is leveled properly for a smooth cut. Refer to Deck Leveling in Assembly Instructions.
- Use an alternating stripe mowing pattern for best appearance and vary the direction of the stripe each time the grass is mowed to avoid wear patterns in the grass.
- Avoid damage to the grass by slipping and skidding of the drive tires. Use smooth control movements of the steering levers since the hydrostatic transmissions are “power boosted controls” and jerking the levers can easily slip the tires. For sharp turns, do not allow the inside wheel to stop and twist on grass; pull inside steering lever into reverse for a smooth “rolling” turn (one wheel rolling forward while the other rolls backward).

- When using a side discharge mower deck, the side discharge shield must not be removed and must be kept in the lowest possible position to deflect grass clippings and thrown objects downward. Orient the side discharge away from sidewalks or streets to minimize cleanup of clippings. When mowing close to obstacles, orient the side discharge away from obstacles to reduce the chance of damage to property by thrown objects.

Side Discharge Shield in Lowest Position

- When operating on a slope, reduce speed and use caution to start, stop, and maneuver. Avoid sharp turns or sudden changes in direction. The maximum recommended side slope operating angle is 20 degrees or 33% grade.

Maximum Recommended Side Slope - Do Not Operate on Steep Slopes
RECOMMENDATIONS FOR TILT-UP DECK OPERATION/TRANSPORT

To avoid potential deck and/or tractor damage while using the tilt-up deck, the following recommendations are offered:

- **Do not move the tractor** with the deck in the tilt-up position since both the roller wheels (on the back of the deck) and the GHS discharge chute may be damaged by moving the tractor. The tilt-up configuration should only be used when the tractor is parked.

- The tractor **body should never be tilted forward** with the deck in the tilt-up position. This can cause the deck to unhook from the tractor and fall with considerable force, potentially causing deck or tractor damage and/or bodily injury.

- When transporting a tractor with the deck in the tilt-up position (on a truck or trailer), the **deck should be secured** to the vehicle with a strap or rope (stop vertical movement). This will prevent the deck from bouncing on the rear roller wheels (causing breakage). This will also prevent the deck from unhooking from the tractor and falling, potentially causing deck or tractor damage. Damage to other items parked in front of the deck may also occur.
GRASS HANDLING SYSTEM (GHS)
GHS Model Only

GHS Flow and Components
Operating Instructions

General Information

The Grass Handling System (GHS) consists of a rear discharge mower deck connected to a 10 in. (25 cm) blower and a rear mounted grass catcher with 7.0 bushel (246 liters) capacity or optional 9.5 bushel (335 liters) capacity. The GHS blower operates any time the mower blade clutch is engaged and moves grass through the rear discharge deck chute into the grass catcher. Blower airflow is exhausted out the back of the grass catcher, through a filtering screen. When the grass catcher is full and needs to be emptied, a “full” signal horn alerts the operator. When the “full” signal horn sounds, it is important to stop mowing to prevent overfilling and clogging of the blower system.

IMPORTANT: Normally, the GHS blower operates with no maintenance or cleaning required. However, under certain operating conditions, the inside of the blower housing may accumulate a deposit of dirt, causing wear and binding of the blower wheel. Normally, dirt buildup occurs when mowing a combination of dirty and damp grass, especially in the springtime. When operating in these conditions, check the blower wheel frequently for binding and clean the blower housing as required. Refer to CLEANING the GHS Blower in Maintenance Instructions.

NOTE: In Autumn, when using the GHS mower to vacuum leaves, it is recommended to raise the front of the mower deck 2 to 3 notches [1 to 1-1/2 in. (25 to 38 mm)] higher than the rear. This will avoid “bulldozing” leaves, particularly when the leaves are piled in a thick layer. To make this adjustment, the hitch pins in the two (2) front deck support pins are repositioned 2 to 3 notches higher while leaving the rear pins in their original position.

NOTE: When a side discharge or mulching mower deck is installed on the GHS model, a blower intake cover should be installed in the blower intake tube. This cover “unloads” the blower and seals the intake to effectively eliminate power loss and blower noise when the blower is not being used.

DANGER

NEVER operate the GHS catcher with the back door open. Objects may be thrown out the back of the catcher with sufficient force to cause serious injury to bystanders or property damage.

CAUTION

NEVER leave grass clippings in the grass catcher after mowing. Damp clippings generate heat as they decompose. This MAY cause spontaneous combustion.

DANGER

ROTATING BLOWER BLADES

NEVER operate the GHS blower with the blower discharge chute uncovered (grass catcher in the dump position) since dangerous projectiles may be thrown. NEVER put hands into the blower discharge chute for any reason. Use a stick or similar instrument to remove any material if clogging has occurred.
Operating Instructions

Clogging Checklist

In case of clogging, there will be a distinct change in the sound of the blower, i.e., the blower sound will stop. Also, the mower deck will begin to leave a trail of grass clippings. When this occurs, stop the engine, disconnect the spark plug wires, and make sure all movement has stopped before attempting to unclog.

DANGER

NEVER place hands under the mower deck or in the GHS blower discharge chute. Use a stick or similar tool to remove any clogged material.

Normally, any clogging will first develop at the back of the mower deck in the discharge opening into the blower chute. Clogging at this point does not indicate a particular problem in this part of the system, but is a symptom of something restricting the flow of material throughout the entire system. The following list of items should be checked if a pattern of clogging begins to develop. All of these items are capable of causing clogging at the back of the deck.

• Check to see if the RH and LH mower blades are installed for the correct rotation - install blades so the cutting edges move toward each other.

• Check the amount of flat section remaining at blade tip. This is the area that is ground away (removed) when the blades are sharpened. If too much of the flat section is removed, the “air lift” performance or “shovel” effect of the blade deteriorates to the point that discharge of grass clippings into the blower chute is marginal. Replace cutter blades if less than 3/4 in. (19 mm) flat section remains at the blade tip.

• Check that the interior of the deck housing and baffling is reasonably clean and free of grass and dirt buildup. While some degree of material buildup can be tolerated, a point is finally reached where the flow of air and grass clippings is restricted. NOTE: One condition that quickly causes a buildup of material in the deck housing is mowing grass and/or weeds which are “juicy.” The material collects under the deck with sticky, green juice. Clover and weeds are especially a problem. The mower deck will need to be cleaned frequently when operating in these conditions.

• Check the deck cutting height setting. When working in thick, tall grass, lower deck settings (1 to 2 in. [25 to 51 mm] cutting heights) tend to restrict airflow from moving into and under the deck. Raising the deck cutting height will significantly increase airflow and reduce clogging when working in thick, tall grass.

• Check that the interior of the chute connecting the mower deck to the blower for smoothness and freedom from obstruction.

• Check the blower wheel for bent blades and excessive clearance between the blade tip and the blower housing. A clearance greater than 1/8 in. (3 mm) will cause a significant loss of blower performance.

• Check the blower discharge chute into the grass catcher for smoothness and freedom from obstruction.

• Check the elbow inside the grass catcher for a buildup of material in the radius of the elbow. In certain conditions (damp/dirty grass) a considerable “clump” of material can accumulate at this point, greatly restricting material and airflow.

Blade Rotation for GHS Mower Deck (view from underneath)
Operating Instructions

- Check that the openings in the removable air exhaust screen in the grass catcher are not plugged. If the screen is clogged, refer to Cleaning the GHS Exhaust Screen in this section.

Remember, anything that restricts airflow or material flow along the entire path from the mower deck to the grass catcher can cause clogging.

Using the Tilt-Up Deck

Refer to CLEANING of Grass Buildup in Mower Housing for Tilt-Up Decks in Maintenance Instructions.

Using the GHS Catcher

Powerfil®

The GHS catcher has an oscillating grass delivery spout (POWERFIL®) which is designed to spread grass clippings throughout the interior of the grass catcher (even when mowing wet, heavy grass). The oscillating action may be checked by turning the ignition switch to the ON position and moving the blade clutch to the ENGAGED position. The spout should oscillate approximately 25 cycles per minute.

NOTE: If the grass spout fails to oscillate, the clutch switch should be checked for function (the switch closure is adjustable).

“Full” Signal Horn

The GHS catcher has a “full” signal horn to alert the operator to dump the catcher when it is full (to prevent overfilling and clogging). The “full” signal horn is activated by a vane switch (Grass-Pak® switch) mounted on the grass delivery spout. Oscillating action of the spout triggers the vane switch as grass begins to fill in around the spout when the catcher is almost full.

The “full” signal function may be checked by turning the ignition switch ON, engaging the blade clutch (engine not running), opening the catcher back door, and triggering the Grass-Pak® vane by hand as it oscillates. The horn should sound as the switch is moved in both directions.

The “full” signal horn is designed to operate (sound) when the grass catcher is almost full. The timing of the signal is adjustable by changing the position of the vane on the Grass-Pak® switch. If the signal is coming on too soon (catcher not completely full) or too late (grass clogging in catcher spout and delivery chute), refer to ADJUSTMENTS of GHS “Full” Signal Horn in Maintenance Instructions.

NOTE: The horn signal should be adjusted to sound BEFORE the catcher is completely full to give the operator time to react and stop mowing. An indication the horn signal is coming on too late (delayed too much) is if grass clippings are falling out of the grass catcher delivery chute when the catcher is dumped.

Cleaning the GHS Exhaust Screen

To remove the grass catcher screen for cleaning, open the catcher door, push forward and pull down on the grass catcher screen knobs (on either side of the screen), and slide the screen out. Use a high pressure washer or water spray and brush to clean the screen.

Keeping the catcher exhaust screen clean and open is essential to good performance of the catching system. In some mowing conditions, e.g., wet and dirty, it will be necessary to clean the screen frequently to avoid clogging the mower deck, blower, and chutes due to airflow restriction.
Operating Instructions

Dumping the Catcher

For dumping, the catcher either tailgate dumps into a disposal area or dumps into the optional dump bag. The dump bag is a reusable nylon fabric bag designed to conveniently move grass clippings from the catcher to a remote disposal area or container.

Tailgate Dumping

1. Open the back door by lifting on the door handle.

   NOTE: To prevent accidental door closure, a safety latch locks the door open in the fully opened position while the catcher is being dumped.

2. Tilt the catcher back to dump by lifting on the catcher lift handle on the lower front corner of the catcher.

3. Lower the catcher smoothly down to the normal operating position. DO NOT allow the catcher to drop down - the gas spring, that holds the catcher in the raised position, is not a shock absorber for lowering the catcher.

4. Close the door by holding the door handle with the left hand and releasing the safety latch on the door hinge mechanism with the right hand. The safety latch is released by pressing in on the top of the latch. Then, smoothly close the door, working against the spring pressure that holds the door closed. DO NOT let the door slam shut by releasing the door before it is closed.

DANGER

PINCH POINT - SPRING LOADED DOOR

When lowering the door on the GHS catcher, depress the safety latch on the side of the catcher. BE VERY CAREFUL to keep hands, fingers, etc. out of the hinging mechanism and away from the door frame as the door closes. The springs that hold the door closed during operation are very powerful, and the door can slam shut with considerable force.

Catcher Door Safety Latch

Using the Dump Bag (7.0 Bushel Catcher)

1. Open the back door by lifting on the door handle.

   NOTE: To prevent accidental door closure, a safety latch locks the door open in the fully opened position while the catcher is being dumped.

2. Orient the dump bag with one of the handle straps on the bag opening facing up.

Positioning Dump Bag on Catcher
Operating Instructions

3. Hook the bottom of the bag over the rear bumper while lifting on the handle strap.

4. Tilt the catcher back to dump into the bag by lifting on the catcher lift handle on the lower front corner of the catcher with the one hand while continuing to hold up on the bag strap with the other hand. Refer to photos for positioning the bag and dumping.

5. Lower the catcher smoothly down to the normal operating position. DO NOT allow the catcher to drop down - the gas spring, that holds the catcher in the raised position, is not a shock absorber for lowering the catcher.

6. Close the door by holding the door handle with the left hand and releasing the safety latch on the door hinge mechanism with the right hand. The safety latch is released by pressing in on the top of the latch. Then, smoothly close the door, working against the spring pressure that holds the door closed. DO NOT let the door slam shut by releasing the door before it is closed.

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**DANGER**

PINCH POINT - SPRING LOADED DOOR

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**Power Dump Option**

When equipped with the optional power dump system, the operator dumps the catcher while sitting in the seat. A toggle switch operating a power ram is used to raise and lower the catcher. The back door automatically opens and closes during the dump cycle.

Hold the toggle switch UP or DOWN to RAISE or LOWER the catcher. When the catcher reaches the full raised or lowered position, the power ram clutch will make a ratcheting sound. Release the toggle switch as soon as this sound is heard. DO NOT operate the ram with the clutch ratcheting for an extended time as this will cause extra wear on the clutch mechanism.

**CAUTION**

The operator should be in the seat and bystanders stay clear when the power dump is operating. The power dump is used ONLY for tailgate dumping. Do not attempt to use the optional dump bag or any other bag with the power dump.

**NOTE:** If grass tends to hang up in the catcher after raising the catcher with the power dump, “jiggle” the steering levers and make the tractor bounce a little to unstick the grass and make it slide out of the catcher.

**NOTE:** With the power dump mechanism in the normal operating position (catcher down), the catcher can be manually raised for access to the engine and the catcher can be manually dumped.
Operating Instructions

Power Dump Components
## Maintenance Instructions

### CAUTION

Maintenance procedures requiring special training or tools should be performed by a trained technician.

### MAINTENANCE SCHEDULE CHART - RECOMMENDED SERVICE INTERVALS - MODEL MT

<table>
<thead>
<tr>
<th>Service Item</th>
<th>Daily</th>
<th>25 Hours</th>
<th>100 Hours</th>
<th>200 Hours</th>
<th>Yearly</th>
<th>Every 2 Years</th>
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* More often in extremely dusty or dirty conditions (refer to notes about air cleaner element in IMPORTANT TIPS FOR CARE OF KOHLER ENGINE)

** Change PTO gearbox oil after first 100 hours of operation (break-in period)

∆ Primary air cleaner is remote mounted Donaldson Radialseal™ unit, secondary air cleaner is standard Kohler engine mounted unit, replace primary filter every year or after 6 cleanings

∆∆ Change engine oil and filter after first 5 hours of operation of a new engine (break-in period)

∆∆∆ Change every 2 years or 1000 hours
**IMPORTANT TIPS FOR CARE OF THE KOHLER ENGINE**

**Fuel System**
- Fuel must be clean - free from water, dirt, and organic material.
- Change fuel filter on a regular basis and when contamination is suspected or found in the fuel.

**Starting/Stopping**
- For starting in cold weather (below 40° F (4° C)), use the optional cold start lever to release the hydrostatic transmissions from the starter cranking load.
- Start engine with the throttle advanced off idle (1/4 to 1/2 throttle). This will aid starting, especially in cold weather.
- Keep the battery fully charged.
- Match crankcase oil viscosity to the ambient temperature, allowing the engine to crank faster and start easier.
- Use fast idle for stopping engine to avoid run-on or backfiring.

**Cooling System**
- Keep engine air intake screen and cylinder head fins free of grass clippings, chaff, and dirt. Inspect intake screen and cooling fins for cleanliness and no damage.
- Periodically remove two access panels in the engine shroud to inspect and clean cylinder head cooling fins.
- Check performance of the cooling system by starting the engine, holding a hand adjacent to the cylinder head, and feeling the cooling airflow.

**Air Cleaner System**
- Use only Kohler and Donaldson air cleaner elements. Aftermarket elements may not seal in the air cleaner housing, allowing dirt to enter the engine. Also, aftermarket filters often skimp on the filtration media and require more frequent cleaning and replacement (see following instructions).
- Use the air flow restriction gauge to indicate the need to service the primary air filter.
- Do frequently check the Turbine Precleaner for free movement of the internal fan.
- **DO NOT overservice** or frequently “disturb” either the primary or the secondary air filter. A dirty air filter actually cleans better than a new one. Changing and cleaning the air filter too often can actually reduce filter efficiency and increase the opportunity for traces of dust to enter the engine. For the primary filter, wait until the element really needs servicing as indicated by the air flow restriction gauge. The secondary air filter should be serviced **yearly** or if there are indications that the primary filter has failed.
- When the primary air filter element is removed or replaced, make sure all **dust is cleaned out** of the **air cleaner housing and hose**. Use a damp cloth and wipe the interior of the canister and hose clean (a little dirt left here will be sucked into the engine and reduce engine life). When the filter is reinstalled, make sure the **element is held tight and straight** in the canister for proper seating and sealing.
- Periodically check the air intake hose for cuts, nicks, etc., and the hose clamps for tightness.

**Oil**
- Use only multi-viscosity oils as specified with the viscosity matching ambient temperatures for the engine operating conditions. This will aid starting in cold weather and assure proper lubrication in hot weather.
- Use only Kohler oil filters. **Aftermarket filters may not seal properly** and/or have the incorrect pressure relief valve for proper lubrication.

**DANGER**

Make sure to keep hands clear of exhaust pipe, muffler, and moving parts when checking airflow.
LUBRICATION

**WARNING**

DO NOT attempt to lubricate the machine with the engine running. Disengage the PTO clutch, shut off the machine, and remove the ignition key.

Proper lubrication is an important maintenance procedure. It reduces wear and makes the machine quieter and easier to operate.

**Engine Oil**

*Engine Break-In Oil*

No special break-in oil is required. The engine is serviced with 10W-30, Service Class SG oil from the factory. Change the oil after the initial engine break-in period of 5 hours. Thereafter, change oil after every 100 hours of operation.

**Checking Engine Crankcase Oil Level**

Check the engine crankcase oil level before use and after each 8 hours of continuous operation.

**IMPORTANT:** The importance of checking and maintaining the proper crankcase oil level cannot be overemphasized. Check the oil level BEFORE EACH USE.

1. Park the mower on a level surface with the engine stopped. Also, make sure the engine is cool and oil has had time to drain into the sump [allow at least five (5) minutes after stopping the engine].

**IMPORTANT:** NEVER check or add oil with the engine running.

2. Before removing the dipstick, clean the area around the dipstick to keep any dirt or debris out of the engine.

3. Remove the dipstick, wipe off with a clean rag, then reinset the dipstick into the tube and press all the way down.

4. Remove the dipstick again and check the oil level on the dipstick. The oil level should be within the “Operating Range” on the dipstick (between the “L” mark and the “F” mark).

**IMPORTANT:** DO NOT operate engine without a sufficient oil supply in the crankcase. DO NOT operate with the oil level below the “L” mark or above the “F” mark on the dipstick.

5. If additional oil is needed, refer to Specifications for proper crankcase lubricant. Fill up to, but not above, the “F” mark on the dipstick.

**IMPORTANT:** DO NOT overfill the crankcase (oil above “F” mark) as this CAN result in engine overheating, loss of power, and possible engine damage.

**Dipstick Operating Range**

**Changing Engine Crankcase Oil/Oil Filter**

Change the engine crankcase oil after every 100 hours of operation and replace the oil filter every other oil change (every 200 hours of operation).
Maintenance Instructions

1. Park the mower on a level surface with the engine stopped. The engine oil should be warm before draining. If not warm from operation, start the engine and run a few minutes to warm the oil.

2. Remove the dipstick and the oil drain plug and drain the oil into a suitable container. Be sure to allow ample time for complete drainage.

3. Before removing the oil filter, clean the area around the filter to keep dirt and debris out of the engine.

4. Remove the old oil filter and wipe off the filter mounting surface on the engine.

5. Apply a thin coating of clean oil to the rubber gasket on the replacement oil filter.

**IMPORTANT:** Use ONLY oil filters from the engine manufacturer (Kohler 12-050-01). Aftermarket oil filters may not seal properly and/or may not have the correct pressure relief valve for proper lubrication.

6. Install the new oil filter on the engine. Turn the filter clockwise until the rubber gasket contacts the sealing surface, then tighten an additional 1/2 turn.

7. Reinstall the drain plug. Make sure it is tightened to 10 ft-lb (13.6 N-m).

8. Fill the crankcase through the oil filler tube (dipstick opening) with new, clean oil. Use only crankcase lubricants recommended by the engine manufacturer. Refer to Specifications in this manual or the engine owner’s manual. Use the recommended oil viscosity for the expected ambient temperature. Oil with the correct viscosity will aid starting in cold weather and assure proper lubrication in hot weather. **Fill up to, but not above, the “F” mark** on the dipstick. Crankcase capacity is 1.85 quarts (1.75 liters) plus 1/2 pint (.24 liters) for the new oil filter.

**IMPORTANT:** Check the dipstick reading before adding the last 1/2 pint of oil and fill only to the “F” mark. DO NOT overfill the crankcase (oil above “F” mark) as this CAN result in engine overheating, loss of power, and possible engine damage.

9. Start the engine and check for oil leaks around the oil filter. Stop the engine, recheck the oil level, and add oil if necessary. (When the engine is first operated with a new oil filter, the oil level drops slightly as the filter is filled with oil.)

**Grease Fitting and Oil Point Lubrication**

Lubricate the grease fittings and oil points after every 25 hours of operation. Lubricate more often when operating in dusty or dirty conditions. Use SAE general purpose lithium or molybdenum base grease for grease fittings and light machine oil (SAE 10) to lubricate oil points. **Lubricate the locations shown in the Chassis and Deck Lubrication Points illustration.**

**NOTE:** PTO universal joints (on the deck and tractor) require routine lubrication after every 8 hours of running time.
### Maintenance Instructions

#### LUBRICATION

<table>
<thead>
<tr>
<th>Ident No.</th>
<th>Location</th>
<th>Lubrication Type</th>
<th>No. Places</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Deck Caster Wheel Fork Pivot</td>
<td>Grease</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Deck Caster Wheel Bearing</td>
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<tr>
<td>4</td>
<td>Blade Drive Gearbox</td>
<td>Oil*</td>
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</tr>
<tr>
<td>5</td>
<td>PTO Shaft Guard Hinge</td>
<td>Oil</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Universal Joint Shaft Assembly</td>
<td>Grease**</td>
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<tr>
<td>7</td>
<td>Pivot Assembly, Tilt-Up Deck</td>
<td>Grease</td>
<td>4</td>
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<tr>
<td>8</td>
<td>Deck Support Arm Socket</td>
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<tr>
<td>9</td>
<td>Body Hinge Point</td>
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<tr>
<td>10</td>
<td>FSC Actuator Rod Pivot Pins</td>
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<td>FSC Lever Pivot</td>
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<td>12</td>
<td>FSC Lever Fork (Grease Slide Area)</td>
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<td>13</td>
<td>(FSC) Friction Body Pivot (Grease Slide Area)</td>
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<td>Steering Lever Pivot</td>
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<td>Deck Roller Wheel</td>
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<td>Deck Support Arm Pivot</td>
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<td>Deck-to-PTO Coupling (Grease Slide Area)</td>
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<td>18</td>
<td>Universal Joint Tube Assembly</td>
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<td>19</td>
<td>Universal Joint Quick Connect Spline (Grease Slide Area)</td>
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<td>PTO Clutch Lever Pivot</td>
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<td>Brake Actuator Rod and Brake Band Pivot Pins (Clevis)</td>
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<td>Anti-Scuff Roller Wheel</td>
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<td>Catcher Hinge Point</td>
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<td>Rear Wheel Bearings</td>
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<td>Choke Control Cable Ends</td>
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<td>Belt Tightener Pivot, Blower Drive (GHS Model Only)</td>
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<td>Throttle Control Pivot</td>
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<tr>
<td>40</td>
<td>Discharge Chute Hinge</td>
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</tbody>
</table>

* Gearboxes are permanently lubricated and sealed requiring no scheduled lubrication. Oil level should be checked only when an oil leak is noted. Refer to **Mower Deck Gearbox Lubrication** in this section.

** Grease every eight (8) hours.

*** Refer to **Gear Axle Lubrication, Engine Oil, Tractor PTO Gearbox Lubrication, and Hydrostatic Transmission Fluid** in this section.

NOTE: DGHS42 Tilt-Up Deck is shown for reference. For other Deck Lubrication Points, Refer to **Deck and Carrier Frame Illustrated Parts Manual**.
Chassis and Deck Lubrication Points
Mower Deck Gearbox Lubrication

NOTE: These instructions apply to all mower decks with gear-driven blades. Refer to **DSD52 or DSD62 Mower Deck Lubrication** in this section for the DSD52 or DSD62 deck with belt-driven blades.

The mower deck gearboxes (tee gearbox and blade drive gearboxes) are connected as a unitized assembly, and oil flows freely between them. The gearboxes are permanently lubricated (oil filled) and sealed requiring no scheduled lubrication. However, the gearbox oil seals should be checked every 25 hours for indication of an oil leak; particularly the lower seals on the blade drive gearboxes should be inspected, since they operate in a dirty environment. If an oil leak is noted, replace the oil seal and relubricate the gearbox assembly as follows:

1. Remove gearbox cover (footrest). Deck orientation should be the normal operating position.

2. Clean the area around the individual gearbox cover plates to prevent contaminants from entering the gearcase.

3. Remove the screws securing the cover plates on the blade drive gearboxes.

4. Check the level of lubricant in the gearboxes. If the lubricant is low, add SAE E.P. (Extreme Pressure) 90W oil until the oil level is up to (submerges) the horizontal shaft in the gearbox (shaft parallel to cover plate).

5. Check condition of the cover gasket and replace if worn or damaged. Reinstall gearbox cover plates; torque screws to 24 in-lb (2.7 N·m).

DSD52 or DSD62 Mower Deck Lubrication

There are several special lubrication requirements for the DSD52 or DSD62 mower deck in addition to the requirements detailed in the **Chassis and Deck Lubrication** illustration. Lubricate the locations shown in the **Blade Spindle Lubrication** and **Gearbox, Dolly Wheel, and U-Joint Lubrication** photos and check and maintain oil in the belt drive gearbox.

1. Lubricate the blade spindles every 25 hours with two (2) shots of SAE general purpose lithium or molybdenum base grease.
2. Check the oil level in the belt drive gearbox every 100 hours (or sooner if a visible oil leak has developed). With the deck in the normal operating position, remove the level plug in the side of the gearcase. Add SAE E.P. (Extreme Pressure) 90W oil to maintain the oil level to the plug. If the oil level is low, check the gearbox for any indication of an oil leak. If an oil leak is noted, the gearbox will need to be removed and rebuilt.

3. Lubricate the dolly wheel pivot every 25 hours with general purpose grease.

4. Lubricate the U-Joint in the drive shaft every 8 hours with SAE general purpose lithium or molybdenum base grease.

Gearbox, Dolly Wheel, and U-Joint Lubrication

Tractor PTO Gearbox Lubrication

Checking Gearbox Oil Level

Check the gearbox oil level every 25 hours, and if necessary, add oil [SAE E.P. (Extreme Pressure) 90W gear lube] to maintain oil level to the FULL mark on the dipstick.

IMPORTANT: DO NOT overfill the PTO gearbox to avoid oil leakage out of the dipstick standpipe.

If the oil level is low, check the gearbox for any indication of an oil leak. If an oil leak is noted, the gearbox will need to be removed and rebuilt.

Changing Gearbox Oil

The tractor PTO gearbox is oil filled and vented. No scheduled oil change is required. However, changing the oil after the first 100 hour break-in period will extend gearbox life and is recommended.

1. Remove the drain plug in the bottom of the gearcase, drain the oil, and reinstall the plug.

2. Refill the gearbox through the dipstick standpipe using 7 to 8 fl. oz. (21 to 24 cl) of SAE E.P. (Extreme Pressure) 90W gear lube.

3. Check that the oil level is at the FULL mark on the dipstick. DO NOT overfill.

Gear Axle Lubrication

• The gear axle oil lubrication is SAE 80W-90 (API GL-5) gear lube.

• Check the axle oil level after every 100 hours of operation by removing the oil level plug. If additional oil is needed, remove the breather vent on top of axle and fill until oil is at the level plug.

• Change axle oil every 1000 hours or two (2) years.
Hydrostatic Transmission Fluid

Checking Hydrostatic Transmission Fluid Level

Hydrostatic transmission fluid level should be checked every 25 hours of machine operation. It is preferable to check the fluid level when fluid is cold. Check fluid level as follows:

1. Park the mower on a level surface. Stop the engine and wipe dirt and contaminants from around the reservoir cap and air bleed plug.

   **IMPORTANT:** Before removing the reservoir cap, clean any dirt from around it. Any dirt or contaminants entering the transmission will accelerate wear and eventually cause loss of power to the drive wheels.

2. Remove the reservoir cap and check the level of the fluid. The reservoir has a fluid level COLD mark and HOT mark. The reservoir oil level should ALWAYS be at or above the COLD mark and NEVER above the HOT mark.

3. If the fluid is below the COLD mark (or the transmission is not performing properly), loosen the air bleed plug (located on the top of transmission case next to the plastic reservoir).

   a. If a small amount of fluid leaks from around the air bleed plug:
      * The transmission is full of fluid.
      * Tighten the plug and fill the reservoir to the COLD level mark.

   b. If no fluid leaks from around the air bleed plug:
      * Slowly add fluid into the reservoir until fluid starts to leak from around the plug. (Transmissions are serviced from the factory with Mobil DTE 18M hydraulic oil. When it is necessary to add fluid, refer to Specifications for the proper fluid. Any of the listed fluids may be used.)
      * As soon as there is fluid leaking from around the air bleed plug, tighten the plug and fill the reservoir to the COLD level mark. Wipe any excess oil off of the transmission housing.

   **IMPORTANT:** DO NOT overfill the transmission reservoir. This will result in oil leaking out of the reservoir cap vent when the transmission warms up. It is preferable to add fluid to the transmission when it is cold and make sure the oil is not above or below the COLD level mark.

   **IMPORTANT:** The transmission reservoir has a fine mesh screen in the bottom to trap dirt and foreign particles from entering the transmission. When filling the reservoir, fluid will flow quite slowly through this screen; so it is essential that there is fluid at the bleed plug before the transmission is considered full.

   **IMPORTANT:** Any attempt to remove or in any way alter the filtering screen in the transmission reservoir could cause damage to the transmission and will VOID any transmission warranty.

Changing Hydrostatic Transmission Fluid

The hydrostatic fluid should be changed every 1000 hours or two (2) years. Also, the fluid should be changed if the natural color of the fluid has become black or milky (indicating possible overheating or water contamination of fluid). The transmission may be refilled using any of the fluids listed in Specifications. The fluid is changed as follows:

1. Park the mower on a level surface and stop the engine.

2. Remove the lower drain plug and the air bleed plug. Allow the fluid to drain out.

   **IMPORTANT:** Clean any dirt from around the plugs and reservoir cap before removing them.
3. Reinstall the lower drain plug, making sure the rubber O-ring on the plug is in place and in good condition.

4. Refill the transmission through the air bleed plug hole until it is as full as possible.

**IMPORTANT:** Avoid fluid contamination when filling the reservoir. Use clean container, spout, funnel, etc. when pouring the fluid into the reservoir.

5. Rotate the transmission input shaft about five (5) revolutions to allow any trapped air to escape.

6. Before installing the air bleed plug, fill the reservoir with fluid allowing a small amount to leak out of the air bleed plug hole.

7. Install the air bleed plug and fill the reservoir to the COLD level line.

**CLEANING**

**Engine Air Cleaner System**

There are three main components in the engine air cleaner system: a turbine precleaner, a Donaldson Radialseal™ air cleaner, and the standard Kohler engine air cleaner. Each component is checked, cleaned and maintained on a different schedule based on the filtering action required. Working as the primary air filter, the Donaldson is serviced more frequently than the secondary Kohler engine air filter. Each component is serviced as follows:

![Engine Air Cleaner System Components Diagram]
**Turbine Precleaner**

The turbine precleaner is mounted on a remote air intake tube connected to the Donaldson air cleaner. A spinning fan driven by the intake airflow separates dust from the air, giving the initial stage of air cleaning. Dust particles are exhausted through a single small vent in the side of the housing. Since no dust is trapped, the precleaner operates without cleaning. The only maintenance required is to check the operation of the internal fan every 100 hours. Verify operation:

1. Look into the exhaust vent while shining a light into the intake.
2. Start the engine and watch the fan begin to spin as the throttle is advanced.

If the fan is not spinning, service or replace the precleaner as required.

**Donaldson Radialseal™ Air Cleaner (Primary)**

A remote mounted Donaldson Radialseal™ air cleaner provides the primary air filtering function (ahead of the standard Kohler engine air cleaner). The paper filter element slides over an outlet tube inside the air cleaner canister with radial sealing action, eliminating the possibility of dust leaks due to improper filter installation. Intake design, internal baffling, and a Vacuator™ valve provide dust separation and automatic precleaning action. Daily or frequent servicing of the air cleaner is not required.

Use the air restriction gauge on the air cleaner outlet to indicate when the air filter needs servicing -- a red flag will appear when the filter is overly restricting airflow into the engine.

**IMPORTANT:** Use only Donaldson air filter elements for replacement (Donaldson P822686 or Walker 5090-1). Aftermarket filters may not seal properly or filter efficiently.

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**Air Cleaner Components**

(Shown with cover being removed)

**Air Restriction Gauge Location**

Clean and inspect the paper element after every 100 hours of service and replace the element yearly or after six (6) cleanings (or when dirty or damaged). More frequent cleaning may be required when operating in extremely dusty conditions as indicated by the air restriction gauge. Service the air cleaner as follows:
1. Release the top and bottom cover latches and remove the air cleaner cover. Wash the cover and Vacuator™ valve. Check that these components are in good condition. The Vacuator™ valve is subject to wear and deterioration and should be replaced yearly or when damaged. The lips of the valve should close and fit together; any cracks, deformation, or wear in the valve is cause for replacement.

2. Remove the filter element by pulling it out of the canister. There will be some initial resistance as the filter seal breaks loose and slides off of the outlet tube. Gently move the end of the filter up and down and side to side or twist to loosen the seal. Use gentle action to minimize the amount of dust dislodged as the filter is removed.

3. Clean the filter element using low pressure compressed air [less than 100 PSI (689 kPa)]. Blow out the filter from the interior of the element while turning the element.

   NOTE: Washing the element in water or cleaning solution is not recommended. Replace the element if it does not clean up with compressed air.

4. Use a bright light inside the element to inspect for damage. Check the element very carefully for pin holes or other damage that will allow dirt to leak through the paper media. Replace element if necessary.

5. Check the condition and resilience of the radial sealing surface (inside of the open end) of the filter. Replace the filter if any cracks, tears, or other damage to the sealing surface are noted.

6. Use a clean, damp cloth and wipe the interior of the air cleaner canister clean. Use special care to clean both the inside and outside surfaces of the outlet tube.

   IMPORTANT: Any dust left on the inside of the outlet tube will go into the engine and cause wear.

7. Check the outside surface of the outlet tube for smoothness and cleanliness (this is the sealing surface).

8. Insert and seat the filter element carefully into the canister, applying pressure at the outer rim of the filter; not at the flexible center. Make sure the filter element is completely in place before installing the cover.

   IMPORTANT: DO NOT use the cover latches to force the filter into the canister -- the cover should fit on with no extra force.

   NOTE: DO NOT use petroleum based lubricants on the sealing surfaces of the filter; use talcum powder or dry silicone lubricants if required for filter installation.

9. Install the cover with the word “TOP” properly oriented to the top of the canister. Give the cover a slight twist as it reaches the canister to make sure the tab inside the cover goes into a slot, otherwise the cover will not fit properly. Make sure both the top and bottom cover latches are securing the cover in place.

10. Check the air intake hose for cuts, nicks, etc., and the hose clamps for tightness.

11. Reset the air restriction indicator (press button on top).
Kohler Air Cleaner (Secondary)

**NOTE:** The Kohler Air Cleaner should only be serviced more often than a yearly interval if there are indications that the Donaldson Radialseal™ (primary) has failed.

• **Foam Precleaner**

An oiled, foam precleaner surrounds the paper element of the Kohler engine air cleaner system. Clean and re-oil the foam precleaner yearly or more often in dusty or dirty conditions.

1. Unscrew the air cleaner cover mounting nut and remove the air cleaner cover.

2. Remove the foam precleaner by sliding it off the paper element.

**IMPORTANT:** Replace the foam precleaner if necessary. Use ONLY Kohler replacement part #24-083-02.

3. Wash the foam precleaner in warm water with detergent. Rinse thoroughly and squeeze out excess water (do not wring). Allow the precleaner to air dry.

4. Saturate the foam with clean engine oil. Squeeze to distribute and remove excess oil.

5. Reinstall the precleaner by sliding it over the paper element.

6. Reinstall the air cleaner cover and mounting nut.

• **Paper Element**

The Kohler engine uses a dry, high density paper air filter element. Check the element (located under the foam precleaner) yearly or more often in dusty or dirty conditions. Replace the element if it is dirty, bent, or damaged.

**IMPORTANT:** Use ONLY Kohler part #47-083-03. Aftermarket filters may not seal properly or filter efficiently.

**IMPORTANT:** Kohler does not recommend cleaning the paper element and reinstalling. **DO NOT** wash the element or use pressurized air to clean as this will damage the element. **NEVER** apply oil to the paper element.

1. Unscrew the air cleaner cover mounting nut and remove the air cleaner cover and rubber seal on the air cleaner stud.

2. Remove the foam precleaner from the paper element. Replace if necessary.

3. Unscrew the element cover mounting nut and remove the element cover and the paper element.

4. Use a bright light and inspect the inside of the element for dirt or damage. Check very carefully for pin holes or other damage that will allow dirt to leak through the paper. Replace the element if necessary.

5. Check the condition and resilience of the element gaskets. If the gaskets have hardened or cracked or if there is evidence of a gasket not seating evenly, replace the element.

6. Check the air cleaner base plate. Make sure it is secure and not bent or damaged. Check the condition of the rubber seal on the air cleaner stud. Also, check the element cover for damage. Replace any damaged components.

7. Reinstall the paper element, cover, mounting nut, and foam precleaner. Tighten, but do not overtighten, the mounting nut (tightly 1/2 to 1 turn after contacting the cover).

**NOTE:** A light coating of grease on the filter gaskets is recommended to enhance sealing and prevent dust leaks.

8. Check the security of the element. Make sure the element is positioned properly and sealed tightly against the air cleaner base plate and element cover.

9. Reinstall the rubber seal on the stud, the air cleaner cover, and mounting nut.
Air Filter Reinstallation

Engine Cooling System

Air Intake System

To prevent engine overheating and possible engine damage, clean grass clippings, chaff, and dirt from the rotating engine air intake screen after every 8 hours of operation. In certain mowing conditions (dry grass, leaves, tree “cotton”, etc.), it may be necessary to check and clean the screen several times each day to prevent engine overheating.

CAUTION

Operating the engine with a blocked air intake screen, dirty or plugged cooling fins, and/or cooling shrouds removed will cause engine damage from overheating.

Cylinder Head Cooling Fins

It is essential for performance and longevity of the air-cooled engine to keep the cylinder head cooling fins clean and free of obstruction. After every 8 hours of operation, check the performance of the cooling system by starting the engine, holding a hand adjacent to the cylinder head, and feeling the cooling airflow. If there is little or no airflow, clean the cooling fins as described below.

DANGER

Make sure to keep hands clear of exhaust pipe, muffler, and moving parts when checking airflow.

Every 100 hours, inspect and clean the cooling fins (more often when operating in extremely dusty, dirty conditions). Remove the two (2) cooling fin access panels in the engine shroud and clean the cooling fins and external surfaces using compressed air. Make sure to reinstall the access panels before operating the engine.

NOTE: Some Kohler engines have not been equipped with the cooling fin access panels. Kohler kit #25-755-21 installs the panels if they are missing.
Maintenance Instructions

Grass Buildup in Mower Housing

Non-Tilting Decks

**DANGER**

| Counterweight Spring Clip | Deck Lift Rod | Body Bracket |

Before raising or removing the mower deck for cleaning, stop the engine, remove the ignition key, and disconnect the spark plug wires.

1. Raise the deck and secure it in the UP position by hooking the deck lift rod into the body bracket below the counterweight spring clip. The rod is hinged and is stowed along the footrest of the deck carrier frame. A hitch pin on the end of the rod is used to secure it in place with the deck raised.

**DANGER**

| Deck Lift Rod |

NEVER operate cutter blades with the deck in the raised position.

2. Clean grass buildup underneath the deck using a pressure washer (and scraper if required).

**NOTE:** If the buildup is severe, it may be easier to clean the deck by removing the deck assembly from the tractor and standing the deck assembly on its “nose”.

Tilt-Up Decks

**DANGER**

| Counterweight Spring Clip | Tilt-Up Latch | Tilt-Up Hook on Deck | Deck Lock Lever |

Before raising or removing the mower deck for cleaning, stop the engine, remove the ignition key, and disconnect the spark plug wires.

1. Raise the deck lock lever handle on each side of the carrier frame and pull out to release carrier frame for tilting action.

2. Using the carrier frame lift handle, raise deck to the TILT-UP position and insert the deck hook into the tilt-up latch on the tractor body.

**DANGER**

Do not operate the mower with deck in tilt-up position. Do not move the tractor with the deck in the tilt-up position.

3. Clean grass buildup underneath the deck using a pressure washer (and scraper if required).
NOTE: While some degree of material buildup in the mower deck housing can be tolerated, a point is finally reached where cutting quality deteriorates and clogging begins to occur because of too much buildup on the baffling and housing.

4. Lower the deck to the normal operating position and re-engage the deck lock levers.

|
| CAUTION |

Do not operate machine with deck tilt-up pivot joint unlocked.

GHS Blower

Normally, the GHS blower operates with no maintenance or cleaning. However, when mowing grass that is dirty and damp (especially springtime mowing), a deposit of dirt may accumulate inside the blower housing, causing wear and binding of the blower wheel. When operating in these conditions, inspect the blower frequently for dirt buildup.

NOTE: A visual clue of binding of the blower wheel is the blower blade tips are polished from rubbing on dirt.

When a dirt deposit is found, use a high pressure washer or water spray to clean the inside of the housing as follows:

|
| DANGER |

Before attempting to wash the blower, stop the engine, remove the ignition key, and disconnect the spark plug wires.

1. Remove the GHS blower drive belt by unhooking the belt tension spring from the hook on the chassis frame (located above the blower pulley). Lift the belt tightener idler pulley up and roll the belt off of the blower pulley. The belt should be clear of the blower pulley, allowing free movement of the blower wheel.

IMPORTANT: With the belt removed, the blower wheel must spin freely. Any binding or dragging of the wheel is an indication of dirt buildup. This buildup must be cleaned to avoid abrasive wear of the blower blades, excessive power loss and eventual loss of blower performance (clogging).

2. Use a pressure washer or water spray, and direct the spray inside the blower housing against the blower blades. Water pressure will cause the blower wheel to begin to spin and the combination of spinning action and water will effectively wash the inside of the housing. Spray may be directed against the blower blades vertically and horizontally to cause rotation in both directions for thorough washing action. Wash blower until the blower wheel spins freely in both directions.

3. Reinstall the GHS blower drive belt by reversing the removal procedure.

| Collapse Blower Belt Tightener to Remove GHS Blower Drive Belt |

GHS Exhaust Screen

Refer to Cleaning the GHS Exhaust Screen in Operating Instructions.
Hydrostatic Transmission Cooling Fins

Keeping the cooling fins on the hydrostatic transmissions clean and free of obstruction is essential to avoid overheating the transmission fluid and shortening transmission life. The cooling fins should be checked every 100 hours; and cleaned if necessary.

To clean the fins, use compressed air and/or a pressure washer. The cooling fins extend all the way around the housing -- the fins underneath need to be clean as well as the more visible fins above. Also, pay close attention to the area under the drive pulley.

IMPORTANT: In case an oil leak develops on the input shaft, the cooling fan blowing dusty air and oil on the transmission will quickly pack the cooling fins with oily dirt. If this condition occurs, replace the seal immediately to avoid overheating and damaging the transmission. The input shaft assembly and seal are easily replaced without removing the transmission from the machine.

An additional procedure in maintaining transmission cooling is to inspect the cooling fans. Replace the fan(s) if blades are missing or damaged.

CHECKING/SERVICING

DANGER

To prevent accidental starting of the engine when servicing or adjusting the machine, remove the key from the ignition switch and disconnect the spark plug wires.

Security of Air Filtration Components

NOTE: The following inspection is only an external inspection and should be done without “disturbing” the filtration components.

On a daily basis, visually inspect the external condition of the complete air cleaner system. The following items should be inspected:

1. Check the security of the engine air cleaner cover and inspect it for damage and make sure it seals properly with the engine baseplate. Improper sealing may be caused by a bent baseplate.

2. Check the Donaldson Radialseal™ air cleaner canister for damage. Make sure the cover is in place and the cover latches are secure - do not run the engine without the air cleaner cover in place and secure.

3. Inspect both air intake hoses for cracks, nicks, cuts, etc., and check the hose clamps for tightness.

Battery

NOTE: For initial battery service during setup, refer to Battery Service in Assembly Instructions.

Electrolyte Level

The battery electrolyte level should be checked after every 25 hours of operation. To check electrolyte level:

1. Remove battery cell filler caps.

2. Check the electrolyte level. If the level is below the bottom of the vent well, fill with drinking water to the bottom of the vent wells [1/4 to 1/2 in. (6 to 13 mm) above the plates].
3. Replace filler caps.

**IMPORTANT: DO NOT** overfill the battery. Electrolyte will overflow through the vented caps onto parts of the machine and **WILL** result in severe corrosion.

**Cleaning the Terminals**

If battery terminals are corroded, remove battery from the mower. Using a wire brush, remove corrosion with a solution of **one part baking soda and four parts water**. Rinse with clean water. Coat the terminals with petroleum jelly or terminal protector spray to retard further corrosion.

**Charging the Battery**

Check the battery charge by measuring the specific gravity of electrolyte; if specific gravity is less than 1.225, the battery will need to be charged as follows:

1. Charge the battery at 15 amps for 10 minutes. **DO NOT** exceed 20 amps maximum recommended charging rate. Charge until specific gravity is at least 1.250. Total charging time should not exceed one (1) hour.

2. After charging the battery, use drinking water to adjust the electrolyte level to the bottom of the vent wells [1/4 to 1/2 in. (6 to 13 mm) above the plates].

**Tire Pressure**

Inflate tires to pressures shown below:

- Deck Caster Wheel = 20 PSI (137 kPa)
- Drive = 15 PSI (103 kPa)
- Rear = 20 PSI (137 kPa)

**Sharpen Mower Blades**

Check mower blade(s) for straightness, sharpness, condition of the cutting edge, and balance every 10 hours of operation (or more often when mowing abrasive type grass or operating on sandy soils). **Replace blades if worn, bent, cracked, or otherwise damaged** (refer to REPLACING/REPAIRING the Mower Blades in this section). Use the following procedure to check and sharpen blades:

**NOTE:** Keep blades sharp - cutting with dull blades not only yields a poor mowing job but slows the cutting speed of the mower and causes extra wear on the engine and blade drive by pulling hard.

1. Stop the engine, remove ignition key, and disconnect the spark plug wires before raising the mower deck to service blades.

2. Raise the deck and secure it in either the UP position using the deck lift rod (non-tilt deck) or in the TILT-UP position. Refer to CLEANING the Grass Buildup in Mower Housing in this section for deck raising instructions.

3. Check the blades for straightness by marking the blade tip position inside the deck housing, and then rotating the opposite end of the blade to the same position and comparing. If the difference in blade tip track is **more than 1/8 in. (3 mm)**, the blade is bent and should be replaced.

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**DANGER**

**BATTERIES PRODUCE EXPLOSIVE GASES**

- Charge the battery in a well-ventilated area, so that gases produced while charging can dissipate.
- Keep sparks, flames, and smoking materials away from the battery at all times.
- Make sure the battery cap vents are open (check manifold vent on each cap).
- Make sure the battery charger is unplugged before connecting or disconnecting cables to the battery.

**DANGER**

**NEVER** operate cutter blades with the deck in the raised position.
4. If the blade cutting edge is dull or nicked, it should be sharpened. Remove blades for sharpening by grasping the end of the blade using a rag or a thick, padded glove, while loosening and removing the nut, lock washer, and flat washer that mounts the blade.

5. Grind cutting edge at the same bevel as the original. Sharpen only the top of the cutting edge to maintain sharpness.

**NOTE:** Blades can be sharpened with an electric blade sharpener, conventional electric grinder, or a hand file.

6. Check blade balance by positioning the blade horizontally on a blade balancer or use a nail or shaft through the center hole. If either end of the blade rotates downward, grind (remove) metal on that end until the blade will balance. The blade is properly balanced when neither end drops. Balance of a blade is generally maintained by removing an equal amount of material from each end of the blade when sharpening.

7. Mount the blade with wing tips pointing up into the housing. Reinstall the blade, washer, lock washer, and nut. **Tighten the nut to 60 ft-lb (81.3 N·m).**

**NOTE:** When reinstalling blades on GHS models, remember, the blades turn toward each other (counter-rotate) and the RH and LH blade cannot be switched. Check for proper blade rotation before installing blades on the deck. Refer to Blade Rotation for GHS Mower Deck Illustration shown in Clogging Checklist in Operating Instructions for correct blade rotation.

**Drive Belts**

Raise the body and inspect the condition of the four (4) belts (3 belts on SD models) every 25 hours of operation - engine PTO drive, jackshaft drive, hydrostatic ground drive, and GHS blower drive. If the belts show signs of cracking or deteriorating, the belts should be replaced. Refer to REPLACING/REPAIRING the Drive Belts in this section.
Mower Deck Gearbox Oil Seals

The mower deck gearbox seals should be inspected every 25 hours for evidence of oil leaking; particularly the lower oil seal on the blade drive gearbox. This seal is protected by the trash guard on the blade hub and seal protector plate on the housing, but is still vulnerable to seal damage due to operating in an adverse environment. The mower blade must be removed for inspection of the seal, so it is recommended to inspect the gearbox seals when blades are removed for sharpening. If an oil leak is noted, the seal should be replaced and the gearbox assembly relubricated. Refer to Mower Deck Gearbox Lubrication in this section.

Spark Plugs

Every 200 hours of operation, remove the spark plugs, inspect, clean, and reset the gap (or replace with new plugs). Before removing the spark plugs, clean the area around the base of the plugs to keep dirt and debris out of the engine. Clean spark plugs with a wire brush. DO NOT use an abrasive grit type cleaner. If the electrodes are burned short or pitted, replace plugs with Champion® type RC12YC (or equivalent). Check spark plug gap with a wire-type feeler gauge and set the gap at 0.030 in. (.76 mm). Reinstall and tighten to between 18 and 22 ft-lb (24.4 to 29.8 N·m).

Fuel Lines and Clamps

Every year, inspect the fuel supply line from the tank to engine for deterioration or damage. Also, inspect the fuel line clamps for tightness. Good preventive maintenance calls for complete replacement of fuel lines and clamps every two (2) years.

Engine Starter

Yearly or every 500 hours disassemble and clean the solenoid shift starter. Refer to the Kohler Service Manual for this procedure or contact an authorized Kohler engine dealer to perform this service.

Blade Brake Action

Check the function of the cutter blade brake (and blower brake on GHS models) by engaging the blade clutch (PTO), operating the engine at full throttle, then disengaging the clutch and measuring how quickly the blades stop. Watch the rotation of the blade drive shaft and blower pulley as a visual indication that movement has stopped. If the brake is working properly, all rotation will stop five (5) seconds after disengagement of the clutch. If the brake system malfunctions - blades do not stop in five (5) seconds - adjust or repair the brake before operating the mower. Refer to ADJUSTMENTS of Blade Clutch (PTO) in this section.

REPLACING/REPAIRING

IMPORTANT: ALWAYS use genuine factory replacement parts. Substitute parts CAN result in product malfunction and possible injury to the operator and/or others.

Drive Belts

There are four (4) individual belts on GHS models or three (3) belts on SD models:

- Jackshaft Drive Belt
- Engine PTO Drive Belt (3 Groove Power Band)
- GHS Blower Drive Belt (GHS Model Only)
- Hydrostatic Ground Drive Belt

The belts may be removed and replaced using the procedures described on the following pages.
Belt Locations

- Jackshaft Drive Belt
- Engine PTO Belt
- GHS Blower Belt (GHS Model Only)
- Hydrostatic Ground Drive Belt

Maintenance Instructions

REPLACING/REPAIRING
**Engine PTO Drive Belt (3 Groove Power Band)**

1. To remove the engine PTO drive belt:
   
   a. Remove the jackshaft drive belt from its idler pulley (by pushing down on idler pulley) and let the belt drop down out of the way.
   
   **NOTE:** Step (a) is not essential to removing the PTO belt, but it makes more room to work with the PTO belt.

   b. Push the clutch idler pulley down (until the PTO belt tightener stop block contacts the frame) and then shift the belt off the idler pulley (to the inside).

   c. Raise the clutch lever (engage position) to lift the clutch idler away from the belt.

   d. Next remove the belt from the engine pulley and then the PTO drive pulley.

2. Install the PTO drive belt by reversing the removal procedure.

**IMPORTANT:** Make sure the belt is installed **inside** the four (4) belt guide pins.

Refer to **ADJUSTMENTS of Blade Clutch (PTO)** in this section to check and make the following adjustments:

a. Clutch engagement for proper belt tension

b. Clutch disengagement and brake action
**Jackshaft Drive Belt**

1. To remove the jackshaft drive belt:
   a. Remove the engine PTO drive belt, as described in previous section.
   b. Relax the belt by depressing the spring-loaded idler arm.
   c. Roll the belt off the jackshaft pulley and remove.

2. Reverse the removal procedure to replace the jackshaft drive belt.
GHS Blower Drive Belt

1. Remove the GHS blower drive belt by unhooking the belt tension spring from the hook on the chassis frame (located above the blower pulley). Lift the belt tightener idler pulley up and roll belt off the pulleys.

2. Reverse the procedure to install the GHS blower drive belt and spring.
Hydrostatic Ground Drive Belt

1. To remove the hydrostatic ground drive belt:
   a. Raise the spring-loaded belt tightener arm and idler pulley to relax belt.
   b. Slide belt off pulleys, then release the idler.

2. Reverse the procedure to install the hydrostatic ground drive belt.
Fuel Filter

Model MT is equipped with an in-line fuel filter. Visually inspect the filter periodically, and replace the filter yearly.

Fuel Filter Location

IMPORTANT: Replace the fuel filter only in a clean area where the fuel line and connections will not be contaminated by any dust and dirt.

![In-Line Fuel Filter]

**DANGER**

Gasoline is extremely flammable and can be highly explosive. To minimize danger:

- Use only an approved fuel container for gasoline.
- DO NOT allow open flames or sparks near the machine while performing maintenance or refueling; DO NOT smoke while working with fuel.
- Wipe up spilled gasoline immediately and completely.

1. Close the fuel tank shut-off valve.
2. Expand and slide clamps on either side of the filter away from filter and pull fuel lines off filter.
3. Replace filter.
4. Open fuel tank shut-off valve.

Blade Overload Shear Bolts

NOTE: Shear bolts are not used on the DSD62 mower deck.

The cutting blade is keyed to the blade hub by **two (2) shear bolts** (10-24 x 5/8 in. stainless steel machine screws). These bolts are designed to shear and protect the blade drive gearbox from damage if the blade encounters a shock load.

![Cutting Blade Shear Bolts]

**NOTE:** Tightening the 5/8-18 blade mounting nut to **60 ft-lb (81.3 N•m)** is also important for proper shock load protection. It is important to **not overtighten** the mounting nut since this defeats (overrides) the function of the shear bolts.

If these bolts shear, remove the blade and install new bolts. Refer to **CHECKING/SERVICING** in this section for **Sharpen Mower Blades** which describes the blade removal and installation procedure.
After reinstalling the blade, check blade timing by moving blades through one (1) complete revolution. Make sure blade tips pass clear of each other. If timing is incorrect, refer to Mower Deck Gearbox Replacement in this section.

Mower Blades
Mower blades are removed and remounted as described in Sharpen Mower Blades instructions. During the course of sharpening and inspecting mower blades, if there are any of the following conditions of wear or damage, blades should be replaced for reasons of safety and performance of the machine:

- An excessive amount of the flat section of the blade has been ground away (removed) when the blade is sharpened. Replace the blade when less than a 3/4 in. (19 mm) flat section remains at the blade tip.

- Examine ends of the blade carefully, especially the intersection where the flat section of the blade turns up to form the “wing tip” (refer to Mower Blade Profile for Sharpening illustration in Sharpen Mower Blades instructions). Since sand and abrasive material can wear metal away in this area, the blade should be replaced when metal thickness has worn to 1/16 in. (1.6 mm) or less.

- Check the blades for straightness by marking blade tip position inside the deck housing and then rotating the opposite end of the blade to the same position and comparing. If the difference in blade tip track is more than 1/8 in. (3 mm), the blade is bent and should be replaced.

- Inspect the blade surface, especially in formed areas, for cracks. Replace the blade if any cracks are found.

**WARNING**

DO NOT try to straighten a blade that is bent. NEVER weld a broken or cracked blade. ALWAYS replace with a new blade to assure safety.

Reinstall the blades following procedure from Sharpen Mower Blades instructions. If blades are replaced, always use Walker original equipment blades to ensure safety and optimum performance. The quality and performance of replacement blades offered by other manufacturers cannot be guaranteed, they could be dangerous.

**CAUTION**

ALWAYS use genuine factory replacement parts. Substitute parts CAN result in product malfunction and possible injury to the operator.

Mower Deck Gearbox Replacement

NOTE: Deck gearbox(es) may be changed with the deck mounted on the tractor. However, the deck may be removed from the tractor making the overall job of removing the gearbox assembly easier. Refer to Deck Installation in Assembly Instructions and reverse the procedure to remove the deck.

To replace the mower deck gearbox(es), use the following procedure:

1. Remove mower blades. Refer to procedure in Sharpen Mower Blade instructions.

2. Remove gearbox cover (two machine screws) and PTO shaft guard (two 1/4-20 bolts).

3. Remove two (2) 3/8-16 mounting bolts from each blade drive gearbox and lift the entire gearbox assembly from the deck (including PTO drive shaft).

4. Remove the screws securing the cover plates on the gearboxes and remove the covers. Remove all covers to be sure oil is completely drained from all gearboxes.
**NOTE:** With oil flow throughout the unitized gear drive assembly; if one gearbox has internal damage or excessive wear, the remaining gearboxes and connector tubes should be completely disassembled and thoroughly flushed out with solvent before reassembly.

5. Drain and properly dispose of oil.

6. Remove the four (4) bolts mounting the gearbox to the connector tube and slide the gearbox off the splined drive shaft coupling.

7. Install the new gearbox on the spline coupling of the drive shaft. Establish correct timing of the blade drive gearboxes by setting flats on the output shaft at 90 degrees when connecting the gearbox(es) to the spline coupling. Make sure the timing is correct before proceeding with assembly.

8. Reinstall the four (4) bolts mounting the gearbox to the connector tube but **do not tighten** them at this time; leave connector tube bolts finger-tight.

9. Position the gear drive assembly on the deck and install the 3/8-16 bolts mounting the entire assembly. Leave the mount bolts finger-tight.

10. Torque all the connector tube bolts to 80 in-lb (9 N-m); then tighten the deck mount bolts.

**NOTE:** This fastener tightening sequence aligns the gearbox assembly with the deck housing and eliminates the possibility of mounting the unitized assembly in a bind.

11. Fill gearbox assembly with oil. Refer to **Mower Deck Gearbox Lubrication** in this section for instructions.

12. Reassemble remaining items onto deck to complete installation. After installing blades, check that the blade timing is correct by moving the blades through **one (1) complete revolution**. Make sure blade tips pass clear of each other.

**GHS Blower Assembly Removal**

1. Remove the mower deck. Refer to *Deck Installation* in *Assembly Instructions* and reverse the procedure to remove the deck.

**Remove Skid Bar for GHS Blower Removal**

2. Remove the blower faceplate by removing six (6) 1/4-20 nuts.

3. Remove the GHS blower drive belt. Refer to **REPLACING/REPAIRING** the Drive Belts in this section for instructions.
4. Remove the blower assembly from the chassis as follows:
   a. Remove the blower skid bar by removing front and rear mounting bolts from the skid bar (underneath the blower) and removing the bolt connecting the blower housing to the skid bar.
   b. Remove the blower belt tightener idler arm assembly by removing the pivot bolt.
   c. Remove two (2) bolts mounting the blower housing to the frame.
   d. Lower the blower assembly straight down out of the chassis frame and remove.

**Blower Wheel Removal**

When required, replace the blower wheel using the following procedure:

1. Loosen blower pulley set screws and remove the pulley using a wheel puller.

2. Remove the locking collar from the back bearing (closest to the pulley) by loosening the set screw and rotating the collar counterclockwise (use punch to drive).

3. Press blower wheel out of the housing using a wheel puller hooked to lugs on the bearing housing. The bearings have been secured in the housing with a retaining compound - Loctite® RC/680, and considerable force will be required to break this bond. After the bearings have “broken loose” from the housing, only light pressure should be required to remove the wheel assembly out of the housing.

**NOTE:** It may or may not be possible to remove the front bearing from the blower wheel without damaging it. If the bearing is damaged, it will need to be replaced along with the wheel.

**Blower Wheel Installation**

1. To install the blower wheel, reverse the removal procedures. The front bearing is mounted on the blower wheel shaft, secured by a locking collar. Drive the locking collar clockwise with a punch, and tighten the set screw.

2. Press blower wheel and front bearing into the blower housing. Use Loctite® RC/680 retaining compound on the outer bearing race and inside the bearing housing.

3. Press the rear bearing into place, using Loctite® on both the outer bearing race and the housing.

4. Install the locking collar on the rear bearing and install the blower pulley to complete the blower assembly. Torque the blower pulley set screws to 250 in-lb (28.3 N⋅m).

**GHS Blower Assembly Installation**

Reinstall the blower assembly into the mower using the reverse procedures of GHS Blower Assembly Removal.
ADJUSTMENTS

Contents

ADJUSTMENTS

Safety Switches

There are three (3) safety interlock switches on the tractor. Use the panel nuts on the switch body to position the switch for proper activation of the switch. The adjustment procedure for each switch is:

Seat Switch

Adjust switch position in body panel to achieve a 1/32 to 1/16 in. (.79 mm to 1.59 mm) air gap between the switch plunger and seat frame with no weight on the seat. Test for proper operation.

FSC Neutral-Park Switch

1. Place the FSC in NEUTRAL-PARK position.
2. Adjust switch to the point where the starter engages when the ignition switch is turned to the start position.
3. Adjust switch position forward an additional 1/2 to 1 turn of the panel nuts.
   
   NOTE: If the switch cannot be adjusted forward enough to achieve proper function, it may be necessary to bend the switch mounting bracket slightly.

PTO Switch

With the PTO engaged, adjust switch to achieve a 1/64 to 1/32 in. (.40 mm to .79 mm) gap (plunger extension) between the switch body and the actuator plate.

Tail Wheel Bearing Preload

Preload the tail wheel bearings by tightening the axle nut until the wheel begins to tighten as it turns (not spin freely), then loosen the nut 1/2 to 1 turn. The wheel should spin freely without excessive end play. Lock the axle nut with the set screw in the nut.

DANGER

If the engine must be running to perform a maintenance adjustment, keep hands, feet, and clothing from moving parts. DO NOT wear jewelry or loose clothing.
Blade Clutch (PTO)

Clutch Engagement/Belt Tension

The clutch engagement and PTO belt tension are adjusted using the clutch actuator rod. Initially, after installing a new PTO belt, **after 10 hours and every 100 hours** thereafter, check and adjust for the two dimensions in the clutch actuator rod as shown in the PTO Clutch Engaged and PTO Clutch Disengaged illustrations.

Adjust the bolt head clearance [1/4 in. to 3/8 in. (6.35 mm to 9.53 mm)] first (clutch engaged), then adjust uncompressed spring length (clutch disengaged). The spring must be adjusted to an uncompressed overall length of 2-1/8 in. (54 mm). If adjustments are needed more frequently than every 100 hours to maintain the linkage dimensions, it may suggest problems with pulley wear or belt misalignment.
**Clutch Disengagement/Brake Action**

**WARNING**

It is important to check and maintain blade brake action for safe operation of the machine.

The **declutched or disengaged** position of the blade clutch idler pulley is adjustable and is set to give belt release **without excessive slack** and to apply the blade brake. The blade brake is activated by the brake actuator rod linkage to the clutch idler pulley mechanism. The brake is designed to stop the blades within five (5) seconds after disengaging the clutch.
Use the following procedures to check and adjust clutch disengagement and brake action:

**Stop Block Eccentric Adjustment - Step 1**

Use the stop block attached to PTO belt tightener arm to set the bottom position of the clutch idler pulley in the disengaged position. The stop block should contact the chassis to stop the clutch idler pulley from moving further down in the disengaged position. **If the stop block is not contacting the chassis** in the disengaged position, it will be necessary to **loosen the brake band adjustment nut**. The stop block is an “eccentric” block that will allow four adjustment positions from 5/16 in. (8 mm) to 11/16 in. (17 mm).

**Clutch Idler Pulley Travel Adjustment**

**Blade Brake Band Adjustment - Step 3**

After the pulley travel is set, make the following adjustment as needed:

1. Adjust the blade brake band, using the adjustment nut until there is a gap of approximately 1/8 in. (3 mm) between the PTO belt tightener stop block and chassis. If there are not enough threads on the brake band for adjustment, lengthen the brake actuator rod.

**NOTE:** The importance of this adjustment is if the pulley travel is excessive and the bolt develops too much slack, the belt will derail when disengaged.
Blade Brake Band Adjustment

NOTE: The length of the actuator rod is adjusted by disconnecting the bottom clevis and shortening or lengthening accordingly. The standard pre-set length of the actuator rod is set at the factory at 8-1/4 in. (209 mm).

Brake Actuator Rod Adjustment

2. After adjustments are complete, check blade brake action as described in CHECKING/SERVICING the Blade Brake Action in this section. If blades do not stop within five (5) seconds, check the following:

   a. Recheck 1/8 in. (3 mm) gap between stop block and chassis.
   b. Make sure clutch and brake linkage are working freely (no binding).
   c. Check the brake band lining.
   d. Check the brake drum on the pulley. If excessive wear is present, it will be necessary to replace worn parts.

Transmission Control

IMPORTANT: The proper adjustment of the transmission control stops is essential for efficient operation and life of the transmission. These stops are properly adjusted at the factory and should only require readjustment if the transmission or related control linkage is removed or changed.

NOTE: It would not be unusual for a new machine, after initial 5 or 10 hours of operation, to begin to not travel straight (this is due to the break-in of the transmissions). In this case, proceed to Straight Ground Travel Adjustment - Step 4.

IMPORTANT: The following adjustment procedures are sequential. Check and adjust each function in the order given.

Set Forward Travel Limit (Stop) - Step 1

1. Move the Forward Speed Control (FSC) lever to the most FORWARD position.

2. Check clearance of the RH and LH steering actuator arms with the frame and adjust forward stop bolt so each lever clears the frame by at least 1/16 in. (1.6 mm). Clearance of the arm to the frame should be checked while applying pressure back on the arm to remove any slack in the linkage.
3. Tighten the jam nut on the forward travel stop adjusting bolt.

**CAUTION**

NEVER attempt to disconnect any safety devices or defeat the purpose of these safety devices.

Neutral Function Adjustment

3. If drive wheels are moving, stop the engine and adjust the FSC neutral stop by adjusting the FSC actuator clevis (see Neutral Function Adjustment photo for clevis location). If the drive wheels are moving backward, remove the cotter pin and clevis pin and screw the clevis forward. If the drive wheels are moving forward, screw the clevis backward. Restart the engine and check for wheel movement (several “trial and error” adjustments may be required). At this point it may not be possible to adjust both wheels stationary since the differential adjustment has not been made. (This is covered by the Straight Ground Travel Adjustment - Step 4.) In this case, the neutral adjustment should be made for one wheel stationary and the other moving forward slightly.

4. Check and adjust the neutral safety switch for closure and function with the FSC in neutral (the engine will not start when the switch is open). Use panel nuts on the switch body to adjust switch position for closure in neutral. Refer to adjustment description for Safety Switches in this section.

**IMPORTANT:** If the adjustment nut is too loose (end play exists) excessive loads are placed on transmission internal control stops. If the adjustment nut is too tight (preferred condition), the maximum forward travel speed is reduced.

Neutral Function Adjustment - Step 3

1. Move the FSC lever to the NEUTRAL-PARK position (rear travel limit).

2. Start the engine (operate first at idle and then normal operating speeds) and check for movement of the drive wheels.

**NOTE:** If the engine will not start, check and adjust the neutral safety switch (see item 4 below).
Straight Ground Travel Adjustment - Step 4

1. Sit in the seat, start the engine (operate at normal speed), and with the FSC in the NEUTRAL-PARK position check for forward movement of either drive wheel (if either wheel moves backward, refer back to Neutral Function Adjustment - Step 3 and readjust). Tighten the steering lever adjustment nut on the side of the mower with the wheel moving forward until wheel movement stops.

2. Check for straight ground track on a level surface (with hands off the steering levers). Set the FSC at several different speeds and observe if the mower moves in a straight line (use cement joint or other line on the ground for reference).

   NOTE: The final tracking adjustment is made with the mower moving, since the adjustment is quite sensitive and is more easily “fine tuned” when moving.

3. If travel is not straight, tighten the adjustment nut that is on the same side of the mower as the wheel that is moving too fast, e.g., the mower tracks to the right, indicating the LH wheel is moving too fast, tighten the LH adjustment nut.

Forward Speed Control Friction Lock

The FSC friction lock is adjusted to hold the selected forward speed when the steering levers are moved and yet the friction is not too heavy to make moving the control difficult (too much friction). The procedure for checking and adjusting the FSC friction lock is as follows:

   1. Place the FSC in the full FORWARD position and pull both steering levers back; the FSC lever should not move. If the FSC lever moves back when the steering levers are pulled back, the friction needs to be increased.

   2. With the steering levers held back, move the FSC lever back from the FORWARD position. With a proper amount of friction adjusted, the FSC lever should move back with a slight amount of resistance (friction). If the FSC lever movement is “stiff”, the friction needs to be decreased.

   3. The FSC friction is increased or decreased by tightening or loosening the friction adjustment nut. Loosen or tighten the nut and check the control function until conditions of both steps 1 and 2 (above) are met.
Tilt-Up Deck Adjustable Stop

When the carrier frame hinge joint is properly adjusted, the deck lock levers should move in and out of the engaged and disengaged positions freely. All four hitch pins used for height adjustment should sit flush on the washers above the deck pin bushing. On a level surface, if any pin is sticking up (likely the front pins), tighten the opposite side or loosen the existing side to lower the pin. Adjustments are made by loosening the jam nut and tightening or loosening the set screws on the Deck Mount Pivot Brackets. Retighten the jam nut when the adjustment is complete.

The fixed main jet carburetor is designed to deliver the correct fuel-to-air mixture to the engine under all operating conditions. The high idle is set at the factory and cannot be adjusted. The low idle mixture screw is also set at the factory and normally does not need adjustment. The only adjustment normally made to the carburetor is to set the idle speed. However, if the engine exhibits any of the following symptoms, it may be necessary to adjust or service the carburetor: black, sooty exhaust smoke; lack of power; engine miss or backfire; hard to start; rough running; stalls at low idle speed.

NOTE: Due to the technical requirements of modern carburetors, refer to the Kohler Service Manual or contact an authorized Kohler engine dealer for carburetor adjustments and service not described in this section.

Since the carburetor main jet is non-adjustable, for operation above 5000 ft (1,524 m) above sea level, it may be necessary to change the carburetor main jet for best fuel economy and power. Contact an authorized Kohler dealer to change the carburetor main jet.

Engine Idle Adjustment

IMPORTANT: Some emission certified engines may not have an adjustable idle mixture needle valve; it is fixed from the factory and the adjustable screw is "capped". In this case, only the idle speed is adjustable and only Step 4 of the instructions below applies.

1. Gently close the idle mixture needle valve by turning it clockwise until it bottoms lightly.

IMPORTANT: The needle valve and carburetor seat may be damaged by turning the adjustment screw too tight.
Maintenance Instructions

ADJUSTMENTS

2. Preliminary Setting: Turn the idle mixture needle valve out (counterclockwise) 1-1/2 turns from the closed position. This initial adjustment will allow the engine to be started and warmed up prior to the final adjustment.

GHS “Full” Signal Horn with Grass-Pak® Switch

If the GHS “full” signal horn is not sounding or is not adjusted to sound when the catcher is full, the following troubleshooting and adjustment instructions apply:

Troubleshooting (When Horn Fails to Operate)

1. Check the horn.
   a. Disconnect the two wires from the Grass-Pak® switch electric connector plug and make a jumper wire connection between these wires (bypassing switch).
   b. Turn the ignition switch ON and move the blade clutch to the ENGAGED position (engine not running) to make the horn sound.
   c. If the horn does not sound, the horn is bad and needs to be replaced.
   d. If the horn does sound, proceed to step 2.
2. Check the Grass-Pak® switch.
   a. Reconnect the wires to the Grass-Pak® switch electric connector plug.
   b. Turn the ignition switch ON and move the blade clutch to the ENGAGED position (engine not running).
   c. Open the catcher back door and trigger the Grass-Pak® vane by hand as it oscillates.
   d. The horn should sound as the switch is moved in both directions. If the horn does not sound, the switch is bad and needs to be replaced.

DANGER

The engine must be running to adjust the carburetor for engine idle. To guard against injury, keep hands, feet, face, and other parts of body away from the muffler/exhaust pipe, other hot parts of the engine, and moving or rotating parts of the engine.

Carburetor Adjustment

WARNING

PINCH POINT - SPRING LOADED DOOR

When lowering the door on the GHS catcher, depress the safety latch on the side of the catcher as the door closes. The springs that hold the door closed during operation are very powerful, and the door CAN slam shut with considerable force.

d. The horn should sound as the switch is moved in both directions. If the horn does not sound, the switch is bad and needs to be replaced.

3. Start the engine and allow it to warm up by running at 1/2 throttle for approximately five (5) minutes. The engine must be warm before making final settings.

4. Move the throttle to the idle position. Adjust idle speed for 1200 rpm (± 75 rpm) by adjusting the idle speed screw. Check the idle speed using a tachometer.

5. With the engine idling, adjust the idle mixture by turning the idle mixture needle valve in (slowly) from the preliminary setting until engine speed decreases and then back out approximately 3/4 to 1 turn to obtain the best low speed performance.

6. Recheck idle speed after the final idle mixture adjustment.

Low Idle Mixture Needle Valve (May be Non-Adjustable)

Idle Speed Screw

Fixed Main Jet Under Shutdown Solenoid

391x234 to 425x258
Maintenance Instructions

**ADJUSTMENTS/ ELECTRICAL SYSTEM**

**WARNING**

DO NOT test the Grass-Pak® switch with the engine running. Projectiles CAN be thrown out of the grass delivery spout and CAN cause serious injury to bystanders or property damage.

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**Checking the Grass-Pak® Switch**

Adjustment (When Horn Sounds at the Wrong Time)

Very little, if any, adjustment to the Grass-Pak® switch is required. However, to fine tune the timing of the full signal, **the vertical position of the switch vane is adjustable approximately 3/4 in. (1.9 mm)**.

1. Loosen the screw mounting the vane on the switch and adjust the position of the vane as follows:
   a. Move the vane UP to **delay** the signal.
   b. Move vane DOWN to **advance** the signal.

2. Retighten the screw.

**NOTE:** It will not be possible to adjust the switch to give a signal at the precise instant the catcher is full for a wide variety of mowing conditions. For example, wet heavy grass will fill the catcher differently than dry, fluffy grass, causing the signal to come on a little sooner or later than usual. Primarily, the switch should be adjusted to give the “full” signal with a **little advance warning before overfilling and clogging** of the grass delivery chute begins (regardless of mowing conditions).

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**Grass-Pak® Switch Vane Adjustment**

**ELECTRICAL SYSTEM**

For troubleshooting, refer to **Wiring Diagram**.

**IMPORTANT:** Disconnect both battery cables before unplugging any wiring connectors or making repairs on the electrical system.

**IMPORTANT:** Disconnect the battery cables before unplugging and removing the instrument panel.

**Circuit Breakers**

A master circuit breaker is mounted on a bracket behind the battery. The circuit breaker may have either the manual or automatic reset function -- both types have been used. See **Circuit Breaker Location** photo.

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**Circuit Breaker Location**

30 Amp Circuit Breaker Mounting Bracket
LIMITED WARRANTY
FOR
WALKER
COMMERCIAL RIDER MOWER

1. WHAT THIS WARRANTY COVERS, AND FOR HOW LONG:
Walker Manufacturing company will, at its option, repair or replace, without charge, any part covered by this warranty which is found to be defective in material and/or workmanship within one (1) year* after date of sale to the original retail purchaser unless the product is used for rental purposes, in which case this warranty is limited to ninety (90) days. At Walker's request, customer will make the defective part available for inspection by Walker and/or return the defective part to Walker, transportation charges prepaid. All parts and components of the Walker Mower are covered by this warranty except the following components which are warranted separately by their respective manufacturers:

- Kohler Engine
- Kubota Engine
- Kawasaki Engine
- Eaton Hydraulic Transmission
- Peerless Gearboxes
- Battery
- Tires

The available warranties covering these items are furnished with each mower. Walker does not assume any warranty obligation, liability or modification for these items, which are covered exclusively by the stated warranty of the respective manufacturers noted above.

* An extended three (3) year warranty is offered on the Walker P/N 6200 Gear Axle Assembly.

2. WHAT THIS WARRANTY DOES NOT COVER:
A. This warranty does not cover defects caused by depreciation or damage caused by normal wear, accidents, improper maintenance, improper use or abuse of the product, alterations, or failure to follow the instructions contained in the Owner’s Manual for operation and maintenance.
B. The customer shall pay any charges for making service calls and/or for transporting the mower to and from the place where the inspection and/or warranty work is performed.

3. HOW TO OBTAIN SERVICE UNDER THIS WARRANTY:
Warranty service can be arranged by contacting the dealer where you purchased the mower or by contacting Walker Manufacturing Company, 5925 East Harmony Road, Ft. Collins, CO 80528. Proof of the date of purchase may be required to verify warranty coverage.

4. WARRANTY LIMITATION:
A. THERE IS NO OTHER EXPRESS WARRANTY. ANY WARRANTY THAT MAY BE IMPLIED FROM THIS PURCHASE INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IS HEREBY LIMITED TO THE DURATION OF THIS WARRANTY AND TO THE EXTENT PERMITTED BY LAW ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.
B. WALKER WILL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES AND/OR EXPENSES IN CONNECTION WITH THE PURCHASE OR USE OF THE MOWER. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation(s) or exclusion(s) may not apply to you.
C. Only the warranty expressed in this limited warranty shall apply and no dealer, distributor, or individual is authorized to amend, modify, or extend this warranty in any way. Accordingly, additional statements such as dealer advertising or presentations, whether oral or written, do not constitute warranties by Walker, and should not be relied upon.
D. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.
Sound - Model MT20

Sound Test

Sound test conducted was in accordance with 79/113/EEC and was performed on 22 March 96 under the conditions listed:

General Condition: Clear
Temperature: 50°F (10°C)
Wind Speed: < 5 mph (< 8 kmh)
Humidity: 52%
Barometric Pressure: 24.9" Hg (759 mm Hg)

OPERATOR

Lwa
104
Lpa
96

Vibration - Model MT20

Vibration Level

Vibration levels at the operators handles were measured in the vertical, lateral, and longitudinal directions using calibrated vibration test equipment.

Tests were performed on 22 March 96 under the conditions listed:

General Condition: Clear
Temperature: 50°F (10°C)
Wind Speed: < 5 mph (< 8 kmh)
Humidity: 52%
Barometric Pressure: 24.9" Hg (759 mm Hg)

OPERATOR

Vibration - Model MT25

Vibration Level

Vibration levels at the operators handles were measured in the vertical, lateral, and longitudinal directions using calibrated vibration test equipment.

Tests were performed on 22 March 96 under the conditions listed:

General Condition: Clear
Temperature: 50°F (10°C)
Wind Speed: < 5 mph (< 8 kmh)
Humidity: 52%
Barometric Pressure: 24.9" Hg (759 mm Hg)